Name :- Komal Mhetre
Role :- DevOps Engineer
Task :- Configuration Automation using Ansible

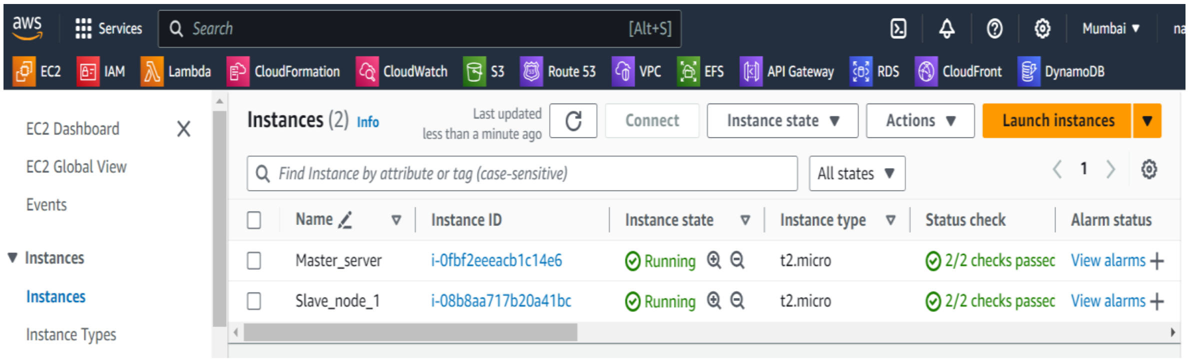
Assignments Configuration Automation using Ansible : -

1. L1 - Create and Execute Ansible Playbook to Setup Java Maven Application Build Server.

Prerequisites:-

1. **Ansible Installed: -** Make sure Ansible is installed on your local machine.
2. **Target Server** :- You should have access to a target server where the Java Maven Application Build Server will be set up. Ensure the server is accessible via SSH.
3. **SSH Key Setup** :- Ensure that SSH keys are set up correctly between your control machine and the target server.

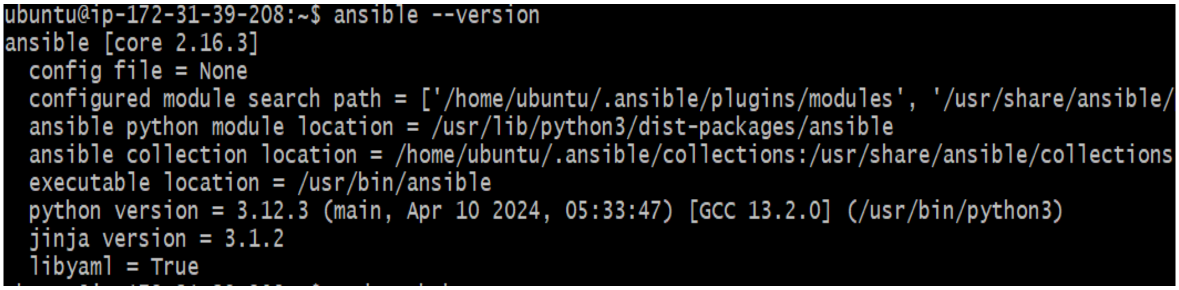
I. **Launch two EC2 instances**:- Name one instance master and the second slave_node_1.



□	Name	Instance ID	Instance state	Instance type	Status check	Alarm status
□	Master_server	i-0fbf2eeeacb1c14e6	Running	t2.micro	2/2 checks passec	View alarms +
□	Slave_node_1	i-08b8aa717b20a41bc	Running	t2.micro	2/2 checks passec	View alarms +

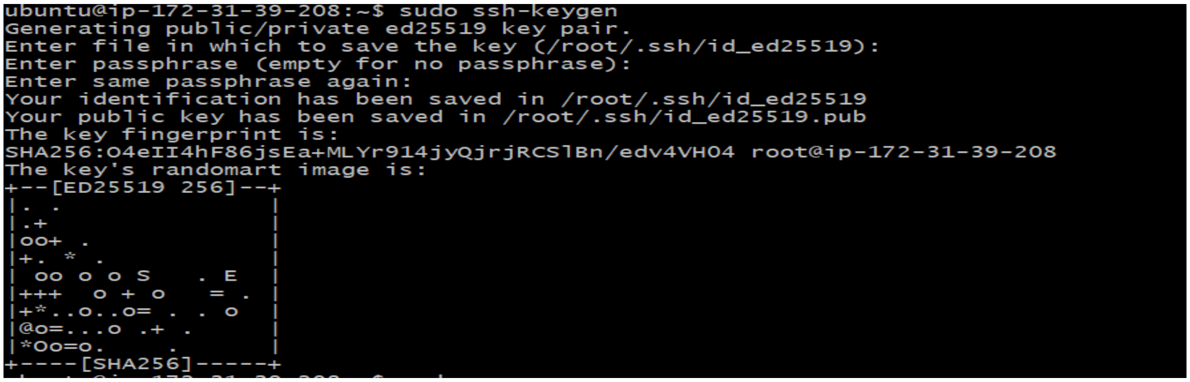
- **Connect Master Instance.**
  Update the package and intall ansible
  Sudo yum update -y
  Sudo yum install ansible –y
  And then check the version of Ansible using the command below.

- **Ansible –version**

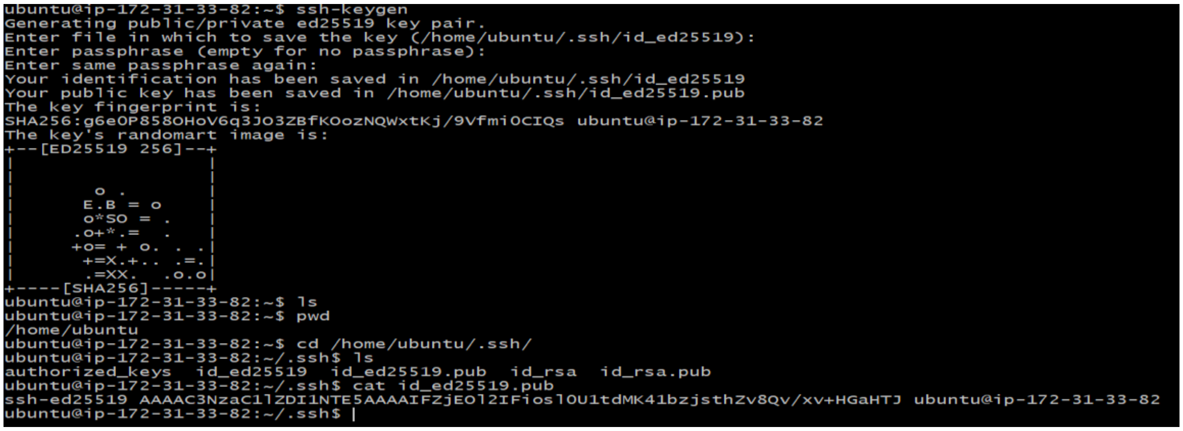


```
ubuntu@ip-172-31-39-208:~$ ansible --version
ansible [core 2.16.3]
  config file = None
  configured module search path = ['/home/ubuntu/.ansible/plugins/modules', '/usr/share/ansible/
  ansible python module location = /usr/lib/python3/dist-packages/ansible
  ansible collection location = /home/ubuntu/.ansible/collections:/usr/share/ansible/collections
  executable location = /usr/bin/ansible
  python version = 3.12.3 (main, Apr 10 2024, 05:33:47) [GCC 13.2.0] (/usr/bin/python3)
  jinja version = 3.1.2
  libyaml = True
```

- **Generate SSH Key on Master Node:-**
  ssh-keygen –t rsa
  cat /root/.ssh/id_rsa.pub
  /root/.ssh/id_rsa.pub: This is the path to the file containing the public SSH key for the root user.

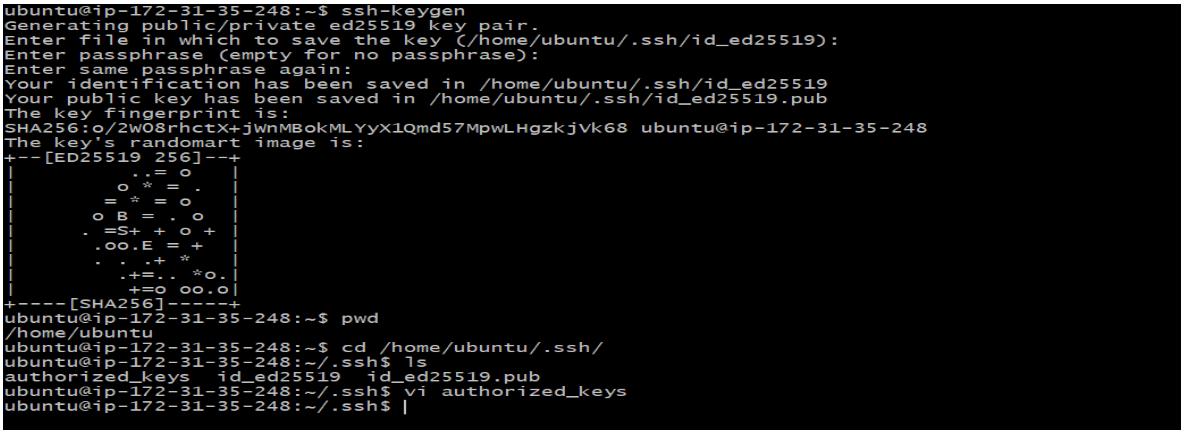


```
ubuntu@ip-172-31-39-208:~$ sudo ssh-keygen
Generating public/private ed25519 key pair.
Enter file in which to save the key (/root/.ssh/id_ed25519):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /root/.ssh/id_ed25519
Your public key has been saved in /root/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:O4eII4hF86jsEa+MLYr914jyQjrjRCSlBn/edv4VHO4 root@ip-172-31-39-208
The key's randomart image is:
+--[ED25519 256]--+
|. .              |
|.+               |
|oo+ .            |
|+. * .           |
| oo o o S   . E  |
|+++  o + o   = . |
|+*..o..o= . . o  |
|@o=...o .+ .     |
|*Oo=o.    .      |
+----[SHA256]-----+
```

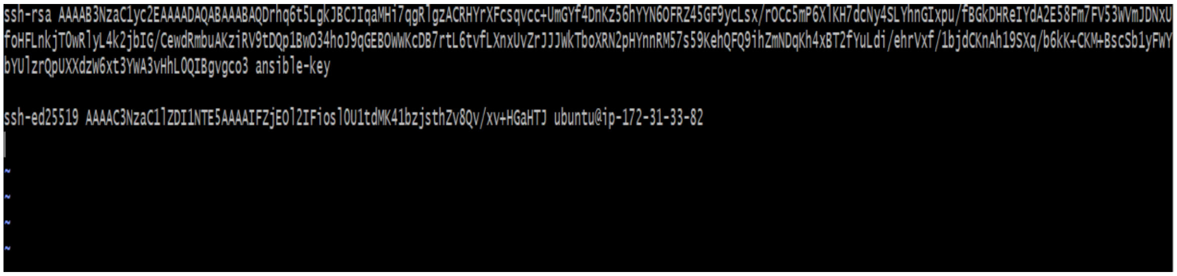


```
ubuntu@ip-172-31-33-82:~$ ssh-keygen
Generating public/private ed25519 key pair.
Enter file in which to save the key (/home/ubuntu/.ssh/id_ed25519):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ubuntu/.ssh/id_ed25519
Your public key has been saved in /home/ubuntu/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:g6eOP858OHoV6q3JO3ZBfKOozNQWxtKj/9VfmiOCIQs ubuntu@ip-172-31-33-82
The key's randomart image is:
+--[ED25519 256]--+
|                 |
|                 |
|      o .        |
|     E.B = o     |
|     o*SO = .    |
|    .o+*.=  .    |
|    +o= + o.  . .|
|     +=X.+..  .=.|
|     .=XX.   .o.o|
+----[SHA256]-----+
ubuntu@ip-172-31-33-82:~$ ls
ubuntu@ip-172-31-33-82:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-33-82:~$ cd /home/ubuntu/.ssh/
ubuntu@ip-172-31-33-82:~/.ssh$ ls
authorized_keys  id_ed25519  id_ed25519.pub  id_rsa  id_rsa.pub
ubuntu@ip-172-31-33-82:~/.ssh$ cat id_ed25519.pub
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIFZjEOl2IFiosl0U1tdMK41bzjsthZv8Qv/xv+HGaHTJ ubuntu@ip-172-31-33-82
ubuntu@ip-172-31-33-82:~/.ssh$ |
```

- First Connect slave_node_1.
  Sudo su
  Yum update –y
  Copy the public key from the master and paste it into the authorized_keys file on the slave node.

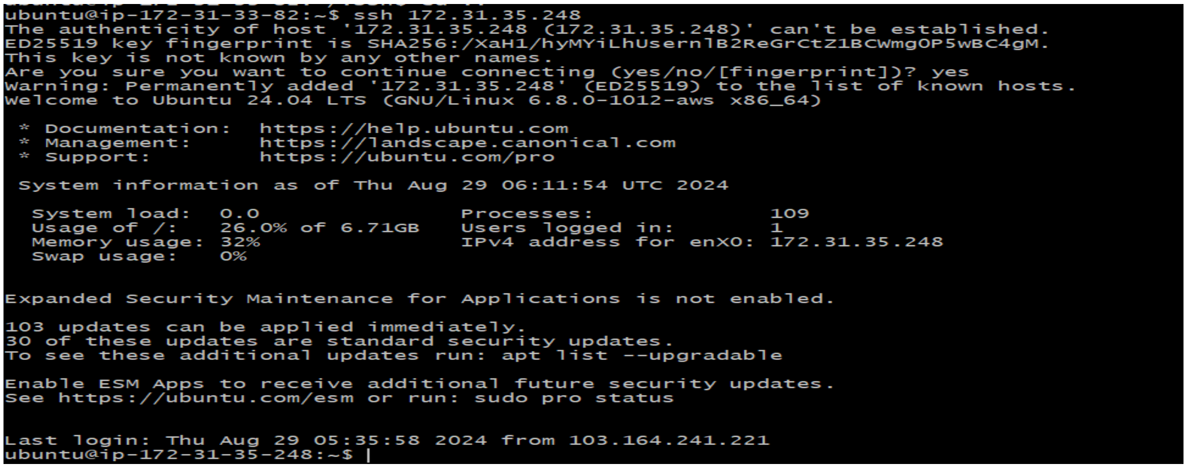


```
ubuntu@ip-172-31-35-248:~$ ssh-keygen
Generating public/private ed25519 key pair.
Enter file in which to save the key (/home/ubuntu/.ssh/id_ed25519):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ubuntu/.ssh/id_ed25519
Your public key has been saved in /home/ubuntu/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:o/2WO8rhctX+jWnMBokMLYyX1Qmd57MpwLHgzkjVk68 ubuntu@ip-172-31-35-248
The key's randomart image is:
+--[ED25519 256]--+
|         ..= o   |
|        o * = .  |
|       = * = o   |
|      o B = . o  |
|     . =S+ + o + |
|      .oo.E = +  |
|      . .  .+ *  |
|        .+=.. *o.|
|         +=o oo.o|
+----[SHA256]-----+
ubuntu@ip-172-31-35-248:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-35-248:~$ cd /home/ubuntu/.ssh/
ubuntu@ip-172-31-35-248:~/.ssh$ ls
authorized_keys  id_ed25519  id_ed25519.pub
ubuntu@ip-172-31-35-248:~/.ssh$ vi authorized_keys
ubuntu@ip-172-31-35-248:~/.ssh$ |
```



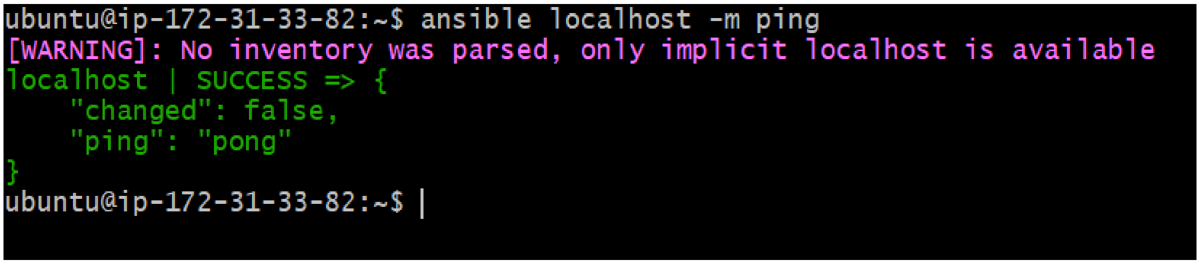
```
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQDrhq6t5LgkJBCJIqaMHi7qgRlgzACRHYrXFcsqvcc+UmGYf4DnKz56hYYN6OFRZ45GF9ycLsx/rOCc5mP6XlKH7dcNy4SLYhnGIxpu/fBGkDHReIYdA2E58Fm7FV53WVmJDNxU
foHFLnkjTOwRlyL4k2jbIG/CewdRmbuAKziRV9tDQp1BwO34hoJ9qGEBOWWKcDB7rtL6tvfLXnxUvZrJJJWkTboXRN2pHYnnRM57s59KehQFQ9ihZmNDqKh4xBT2fYuLdi/ehrVxf/1bjdCKnAh19SXq/b6kK+CKM+BscSb1yFWY
bYUlzrQpUXXdzW6xt3YWA3vHhLOQIBgvgco3 ansible-key

ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIFZjEOl2IFioslOU1tdMK41bzjsthZv8Qv/xv+HGaHTJ ubuntu@ip-172-31-33-82

~
~
~
~
```

- On the master server run the command ssh <<private_Ip of slave server>>

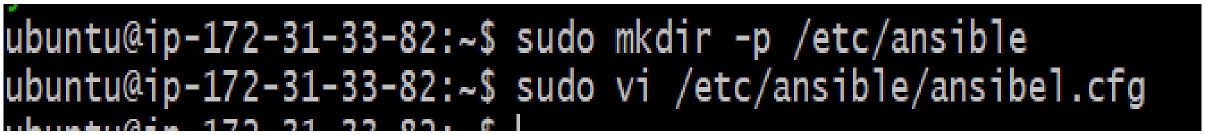


```
ubuntu@ip-172-31-33-82:~$ ssh 172.31.35.248
The authenticity of host '172.31.35.248 (172.31.35.248)' can't be established.
ED25519 key fingerprint is SHA256:/XaH1/hyMYiLhUsernlB2ReGrCtZ1BCWmgOP5wBC4gM.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '172.31.35.248' (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 Thu Aug 29 06:11:54 UTC 2024

  System load:  0.0               Processes:             109
  Usage of /:   26.0% of 6.71GB   Users logged in:       1
  Memory usage: 32%               IPv4 address for enX0: 172.31.35.248
  Swap usage:   0%


Expanded Security Maintenance for Applications is not enabled.

103 updates can be applied immediately.
30 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

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


Last login: Thu Aug 29 05:35:58 2024 from 103.164.241.221
ubuntu@ip-172-31-35-248:~$ |
```

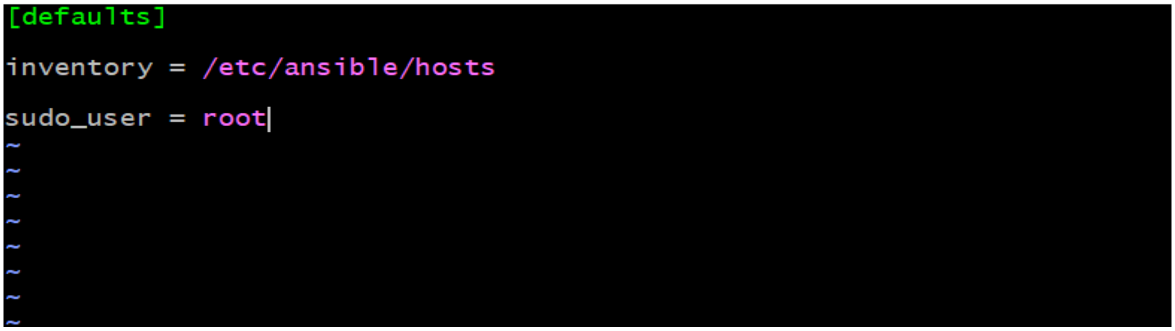
- Verify using ping :-
  Ansible localhost –m ping



```
ubuntu@ip-172-31-33-82:~$ ansible localhost -m ping
[WARNING]: No inventory was parsed, only implicit localhost is available
localhost | SUCCESS => {
    "changed": false,
    "ping": "pong"
}
ubuntu@ip-172-31-33-82:~$ |
```

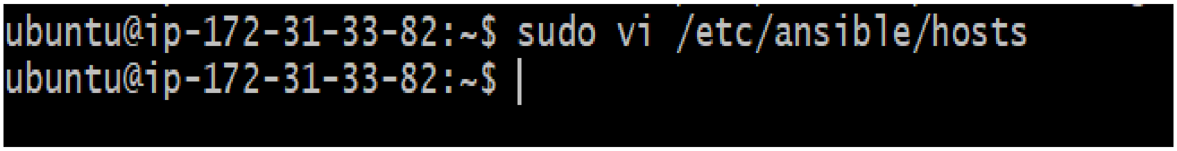


```
ubuntu@ip-172-31-33-82:~$ sudo mkdir -p /etc/ansible
ubuntu@ip-172-31-33-82:~$ sudo vi /etc/ansible/ansibel.cfg
```



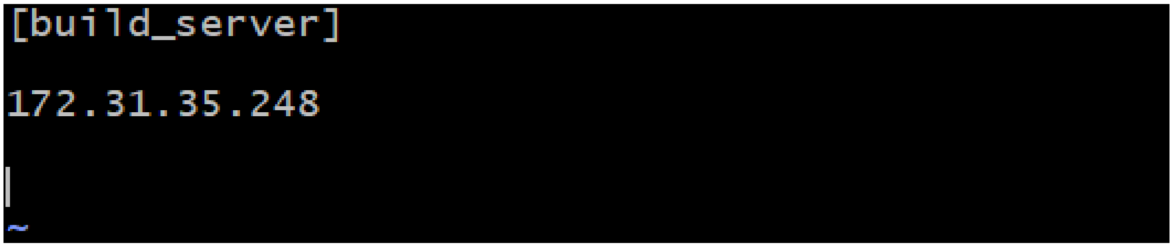
```
[defaults]
inventory = /etc/ansible/hosts
sudo_user = root
~
~
~
~
~
~
~
~
```

- **Create an Inventory File:-**
  The inventory file lists the servers where Ansible will run the playbook.



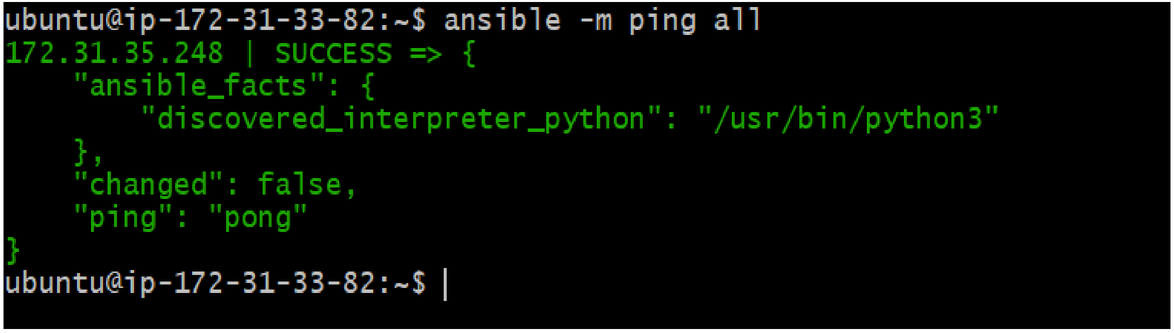
```
ubuntu@ip-172-31-33-82:~$ sudo vi /etc/ansible/hosts
ubuntu@ip-172-31-33-82:~$
```

- **You can provide ip address of slave_node_1 inside the hosts file.**



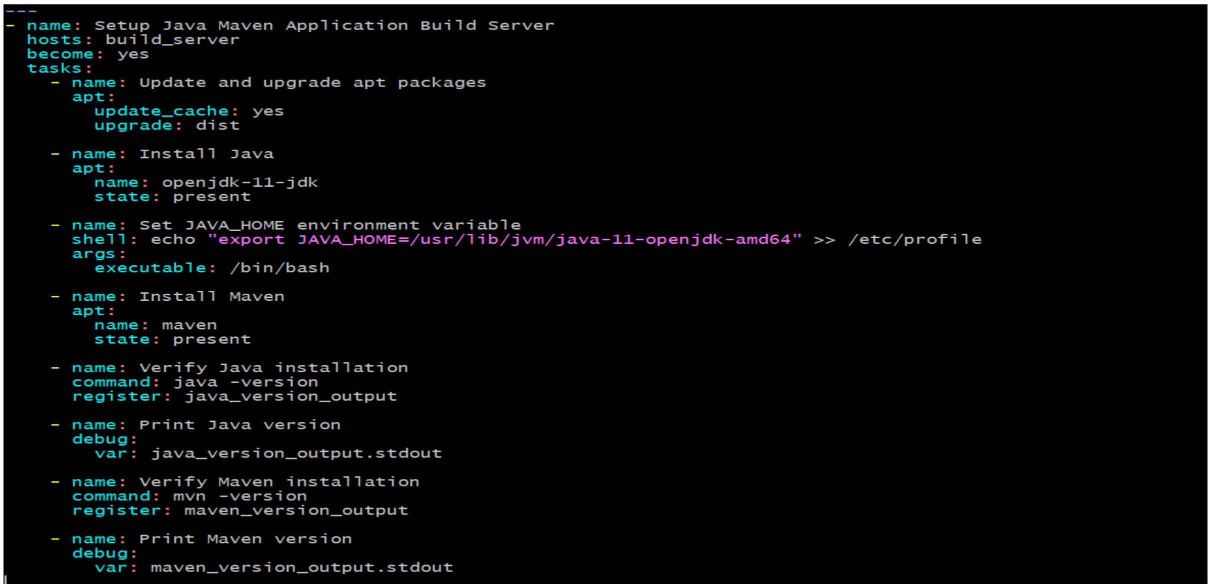
```
[build_server]

172.31.35.248


~
```

- Now we can test the connection between Ansible-master and Ansible-slave server through Ansible.
  Ansible –m ping all



```
ubuntu@ip-172-31-33-82:~$ ansible -m ping all
172.31.35.248 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
ubuntu@ip-172-31-33-82:~$
```

II. **Create the ansible playbook.**
Create a playbook file named setup_java_maven.yml



```
---
- name: Setup Java Maven Application Build Server
  hosts: build_server
  become: yes
  tasks:
    - name: Update and upgrade apt packages
      apt:
        update_cache: yes
        upgrade: dist

    - name: Install Java
      apt:
        name: openjdk-11-jdk
        state: present

    - name: Set JAVA_HOME environment variable
      shell: echo "export JAVA_HOME=/usr/lib/jvm/java-11-openjdk-amd64" >> /etc/profile
      args:
        executable: /bin/bash

    - name: Install Maven
      apt:
        name: maven
        state: present

    - name: Verify Java installation
      command: java -version
      register: java_version_output

    - name: Print Java version
      debug:
        var: java_version_output.stdout

    - name: Verify Maven installation
      command: mvn -version
      register: maven_version_output

    - name: Print Maven version
      debug:
        var: maven_version_output.stdout
```

Explanation of the Playbook…

Update and Upgrade:- The playbook starts by updating the apt package list and upgrading all installed packages to ensure your server is up-to-date.

Install Java:- The playbook installs the OpenJDK 11, which is required for building Java applications.

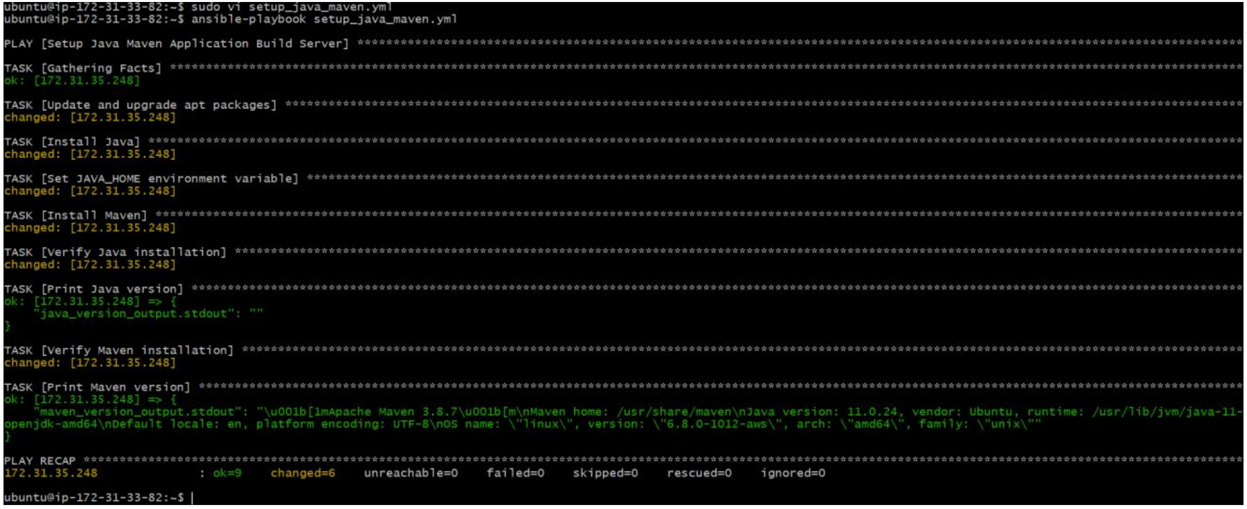
Set JAVA_HOME:- It sets the JAVA_HOME environment variable to the Java installation path.

Install Maven:- The playbook installs Maven, a tool used for building and managing Java projects.

Verify Installation:- The playbook verifies the installation of Java and Maven by running java -version and mvn -version commands and prints the output.

III. **Execute the Ansible Playbook**…using below command

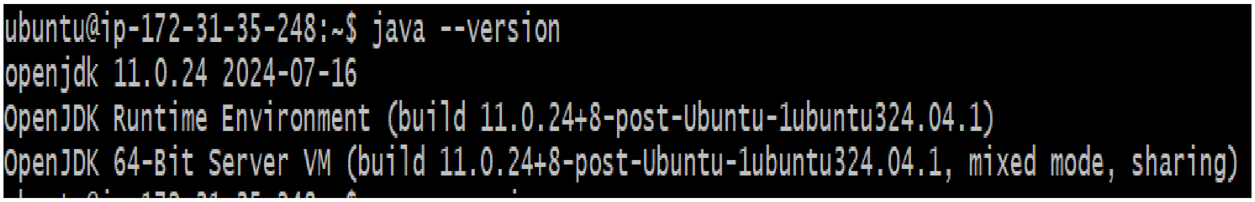
ansible-playbook setup_ java_maven.yml



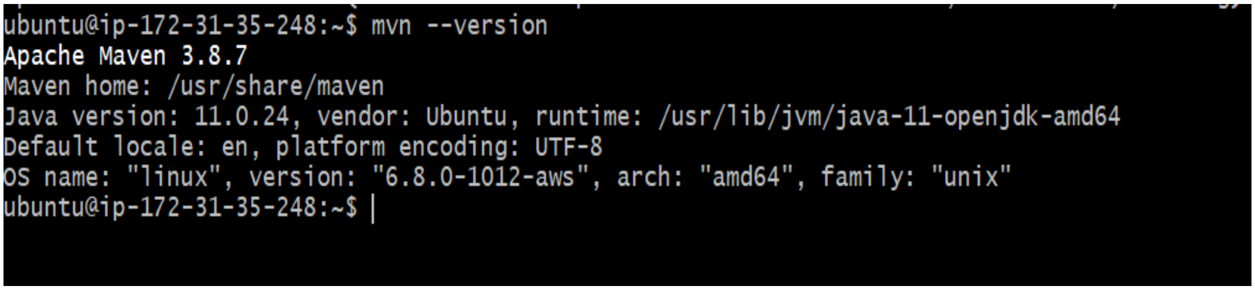
```
ubuntu@ip-172-31-33-82:~$ sudo vi setup_java_maven.yml
ubuntu@ip-172-31-33-82:~$ ansible-playbook setup_java_maven.yml

PLAY [Setup Java Maven Application Build Server] ********************************************************************************

TASK [Gathering Facts] ********************************************************************************************************
ok: [172.31.35.248]

TASK [Update and upgrade apt packages] **************************************************************************************
changed: [172.31.35.248]

TASK [Install Java] **********************************************************************************************************
changed: [172.31.35.248]

TASK [Set JAVA_HOME environment variable] ***********************************************************************************
changed: [172.31.35.248]

TASK [Install Maven] *********************************************************************************************************
changed: [172.31.35.248]

TASK [Verify Java installation] *********************************************************************************************
changed: [172.31.35.248]

TASK [Print Java version] ****************************************************************************************************
ok: [172.31.35.248] => {
    "java_version_output.stdout": ""
}

TASK [Verify Maven installation] ********************************************************************************************
changed: [172.31.35.248]

TASK [Print Maven version] ***************************************************************************************************
ok: [172.31.35.248] => {
    "maven_version_output.stdout": "\u001b[1mApache Maven 3.8.7\u001b[m\nMaven home: /usr/share/maven\nJava version: 11.0.24, vendor: Ubuntu, runtime: /usr/lib/jvm/java-11-openjdk-amd64\nDefault locale: en, platform encoding: UTF-8\nOS name: \"linux\", version: \"6.8.0-1012-aws\", arch: \"amd64\", family: \"unix\""
}

PLAY RECAP *******************************************************************************************************************
172.31.35.248              : ok=9    changed=6    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

ubuntu@ip-172-31-33-82:~$ |
```

IV. Verify the setup …

After running the playbook, SSH into your target server and manually verify the installation.

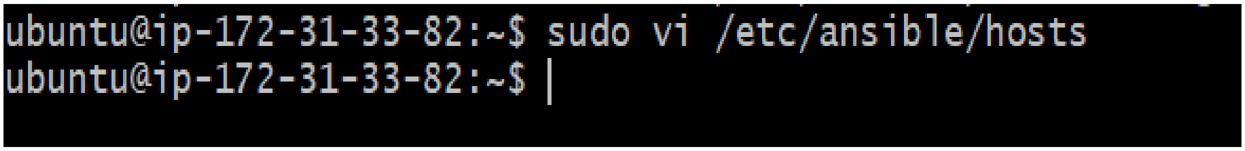


```
ubuntu@ip-172-31-35-248:~$ java --version
openjdk 11.0.24 2024-07-16
OpenJDK Runtime Environment (build 11.0.24+8-post-Ubuntu-1ubuntu324.04.1)
OpenJDK 64-Bit Server VM (build 11.0.24+8-post-Ubuntu-1ubuntu324.04.1, mixed mode, sharing)
```



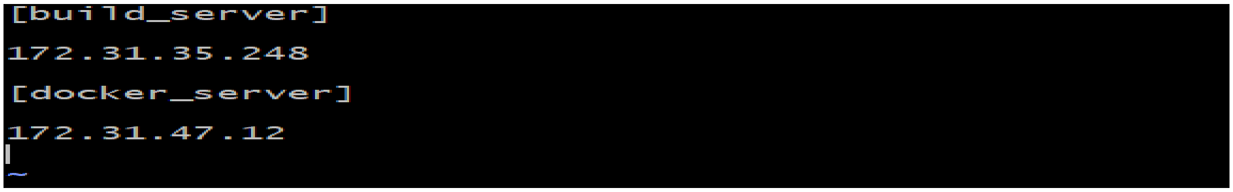
```
ubuntu@ip-172-31-35-248:~$ mvn --version
Apache Maven 3.8.7
Maven home: /usr/share/maven
Java version: 11.0.24, vendor: Ubuntu, runtime: /usr/lib/jvm/java-11-openjdk-amd64
Default locale: en, platform encoding: UTF-8
OS name: "linux", version: "6.8.0-1012-aws", arch: "amd64", family: "unix"
ubuntu@ip-172-31-35-248:~$ |
```

L2 - Create and Execute Ansible Playbook to Install Docker and Run the Docker Application Image created in Docker Module



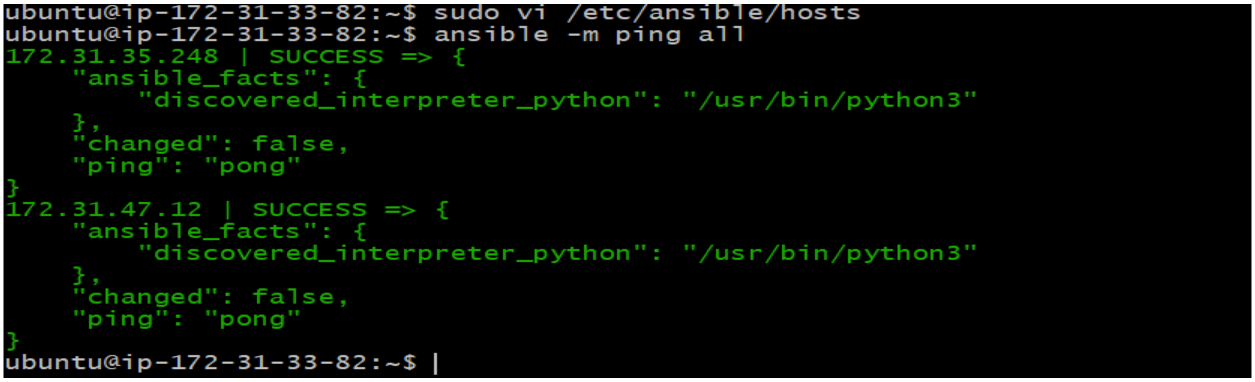
```
ubuntu@ip-172-31-33-82:~$ sudo vi /etc/ansible/hosts
ubuntu@ip-172-31-33-82:~$ |
```

- You can provide ip address of slave_node_2 inside the hosts file.



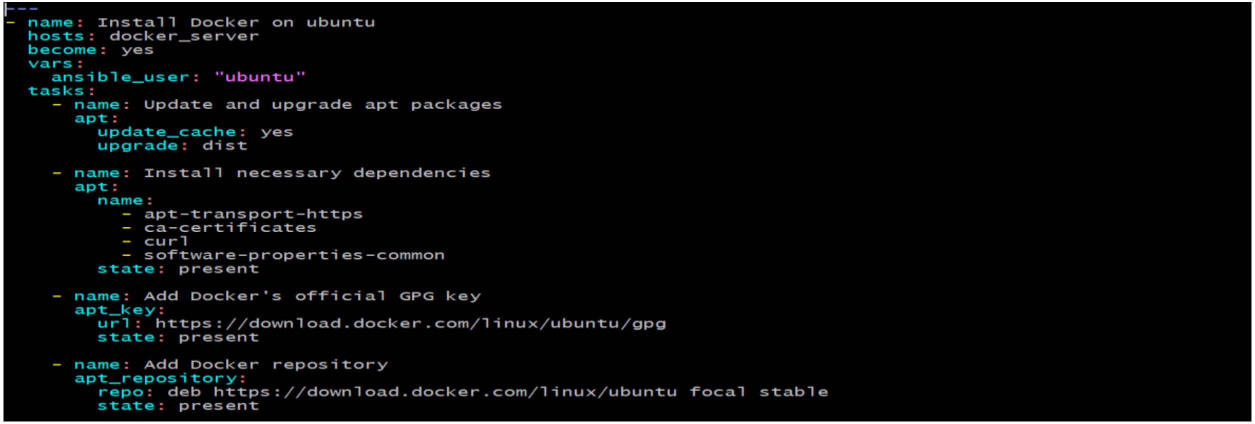
```
[build_server]
172.31.35.248
[docker_server]
172.31.47.12

~
```

- And check the connection between Ansible_Master and Slave_Nodes as given below.

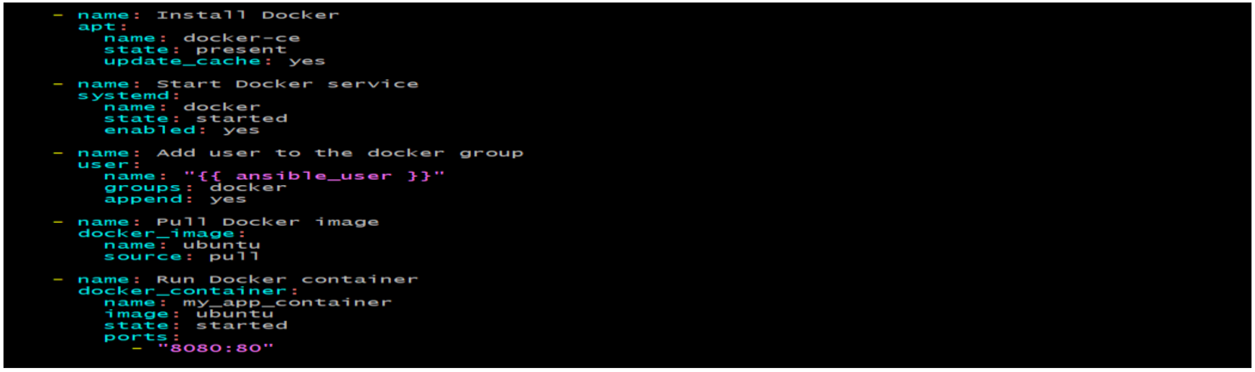


```
ubuntu@ip-172-31-33-82:~$ sudo vi /etc/ansible/hosts
ubuntu@ip-172-31-33-82:~$ ansible -m ping all
172.31.35.248 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
172.31.47.12 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
ubuntu@ip-172-31-33-82:~$ |
```

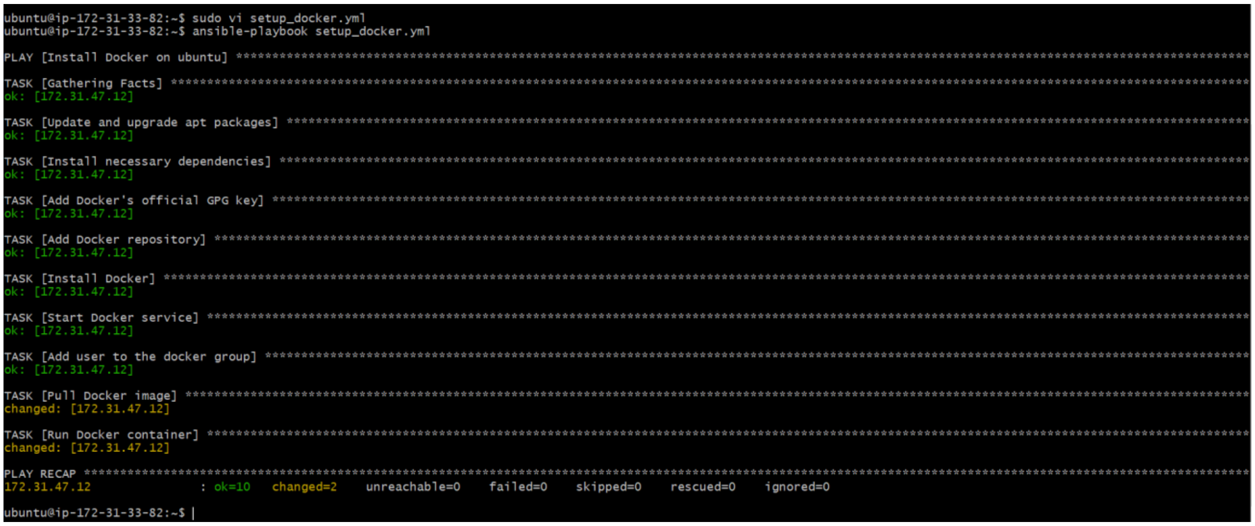
- Create a playbook file named setup_docker.yml
  And execute the playbook.



```
---
- name: Install Docker on ubuntu
  hosts: docker_server
  become: yes
  vars:
    ansible_user: "ubuntu"
  tasks:
    - name: Update and upgrade apt packages
      apt:
        update_cache: yes
        upgrade: dist

    - name: Install necessary dependencies
      apt:
        name:
          - apt-transport-https
          - ca-certificates
          - curl
          - software-properties-common
        state: present

    - name: Add Docker's official GPG key
      apt_key:
        url: https://download.docker.com/linux/ubuntu/gpg
        state: present

    - name: Add Docker repository
      apt_repository:
        repo: deb https://download.docker.com/linux/ubuntu focal stable
        state: present
```



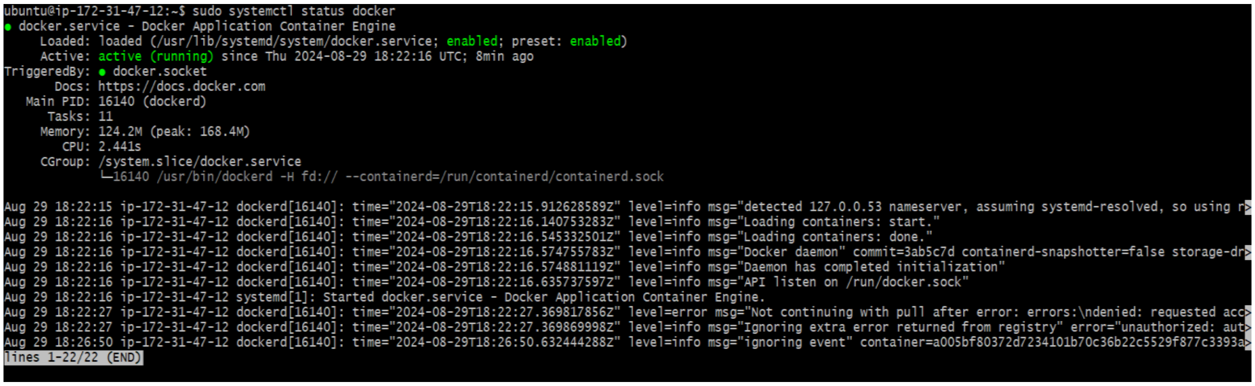
```
    - name: Install Docker
      apt:
        name: docker-ce
        state: present
        update_cache: yes

    - name: Start Docker service
      systemd:
        name: docker
        state: started
        enabled: yes

    - name: Add user to the docker group
      user:
        name: "{{ ansible_user }}"
        groups: docker
        append: yes

    - name: Pull Docker image
      docker_image:
        name: ubuntu
        source: pull

    - name: Run Docker container
      docker_container:
        name: my_app_container
        image: ubuntu
        state: started
        ports:
          - "8080:80"
```



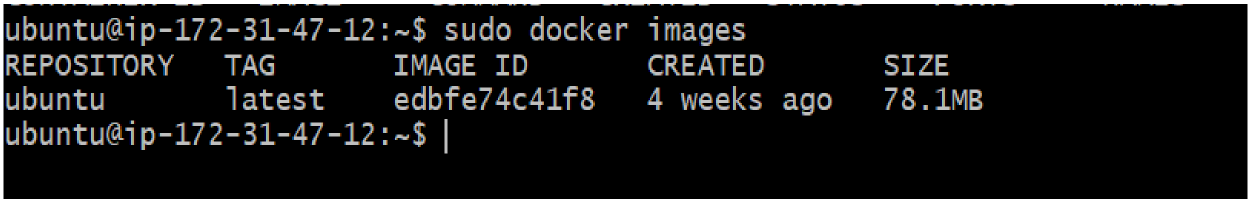
```
ubuntu@ip-172-31-33-82:~$ sudo vi setup_docker.yml
ubuntu@ip-172-31-33-82:~$ ansible-playbook setup_docker.yml

PLAY [Install Docker on ubuntu] ***********************************************************************************

TASK [Gathering Facts] ********************************************************************************************
ok: [172.31.47.12]

TASK [Update and upgrade apt packages] ****************************************************************************
ok: [172.31.47.12]

TASK [Install necessary dependencies] *****************************************************************************
ok: [172.31.47.12]

TASK [Add Docker's official GPG key] ******************************************************************************
ok: [172.31.47.12]

TASK [Add Docker repository] **************************************************************************************
ok: [172.31.47.12]

TASK [Install Docker] *********************************************************************************************
ok: [172.31.47.12]

TASK [Start Docker service] ***************************************************************************************
ok: [172.31.47.12]

TASK [Add user to the docker group] *******************************************************************************
ok: [172.31.47.12]

TASK [Pull Docker image] ******************************************************************************************
changed: [172.31.47.12]

TASK [Run Docker container] ***************************************************************************************
changed: [172.31.47.12]

PLAY RECAP ********************************************************************************************************
172.31.47.12               : ok=10   changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

ubuntu@ip-172-31-33-82:~$ |
```

- Once the playbook has been executed, you can verify that Docker is installed and running by:

1. SSH into the target server.
2. Sudo systemctl status docker
3. Run sudo docker images to see the running container.
4. Access the application via the web browser using the server's IP and the mapped port (http://localhost:8080).You will see the output.



```
ubuntu@ip-172-31-47-12:~$ sudo systemctl status docker
● docker.service - Docker Application Container Engine
     Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; preset: enabled)
     Active: active (running) since Thu 2024-08-29 18:22:16 UTC; 8min ago
TriggeredBy: ● docker.socket
       Docs: https://docs.docker.com
   Main PID: 16140 (dockerd)
      Tasks: 11
     Memory: 124.2M (peak: 168.4M)
        CPU: 2.441s
     CGroup: /system.slice/docker.service
             └─16140 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Aug 29 18:22:15 ip-172-31-47-12 dockerd[16140]: time="2024-08-29T18:22:15.912628589Z" level=info msg="detected 127.0.0.53 nameserver, assuming systemd-resolved, so using r>
Aug 29 18:22:16 ip-172-31-47-12 dockerd[16140]: time="2024-08-29T18:22:16.140753283Z" level=info msg="Loading containers: start."
Aug 29 18:22:16 ip-172-31-47-12 dockerd[16140]: time="2024-08-29T18:22:16.545332501Z" level=info msg="Loading containers: done."
Aug 29 18:22:16 ip-172-31-47-12 dockerd[16140]: time="2024-08-29T18:22:16.574755783Z" level=info msg="Docker daemon" commit=3ab5c7d containerd-snapshotter=false storage-dr>
Aug 29 18:22:16 ip-172-31-47-12 dockerd[16140]: time="2024-08-29T18:22:16.574881119Z" level=info msg="Daemon has completed initialization"
Aug 29 18:22:16 ip-172-31-47-12 dockerd[16140]: time="2024-08-29T18:22:16.635737597Z" level=info msg="API listen on /run/docker.sock"
Aug 29 18:22:16 ip-172-31-47-12 systemd[1]: Started docker.service - Docker Application Container Engine.
Aug 29 18:22:27 ip-172-31-47-12 dockerd[16140]: time="2024-08-29T18:22:27.369817856Z" level=error msg="Not continuing with pull after error: errors:\ndenied: requested acc>
Aug 29 18:22:27 ip-172-31-47-12 dockerd[16140]: time="2024-08-29T18:22:27.369869998Z" level=info msg="Ignoring extra error returned from registry" error="unauthorized: aut>
Aug 29 18:26:50 ip-172-31-47-12 dockerd[16140]: time="2024-08-29T18:26:50.632444288Z" level=info msg="ignoring event" container=a005bf80372d7234101b70c36b22c5529f877c3393a>
lines 1-22/22 (END)
```

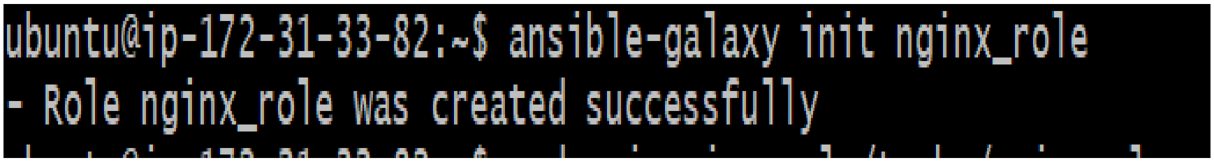


```
ubuntu@ip-172-31-47-12:~$ sudo docker images
REPOSITORY   TAG       IMAGE ID       CREATED       SIZE
ubuntu       latest    edbfe74c41f8   4 weeks ago   78.1MB
ubuntu@ip-172-31-47-12:~$ |
```

L3-Create Ansible Role to define the task, handler for Nginx Service Installation and invoke the role in Ansible playbook

I. First Create Role Structure :-

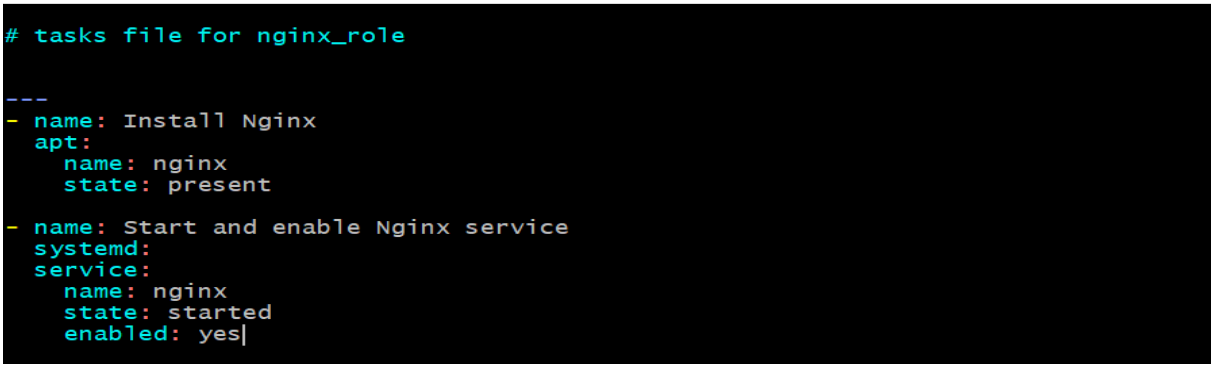
Generate a role structure using the ansible-galaxy command.



```
ubuntu@ip-172-31-33-82:~$ ansible-galaxy init nginx_role
- Role nginx_role was created successfully
```

II. Define Role Tasks…

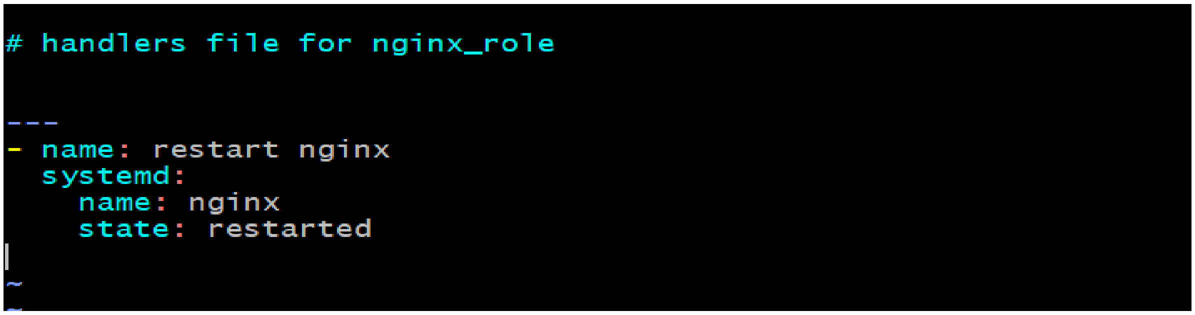
Edit the ‘nginx_role/tasks/main.yml’ file to include tasks for installing and starting Nginx.



```
# tasks file for nginx_role

---
- name: Install Nginx
  apt:
    name: nginx
    state: present

- name: Start and enable Nginx service
  systemd:
  service:
    name: nginx
    state: started
    enabled: yes
```

III. Define Role Handlers

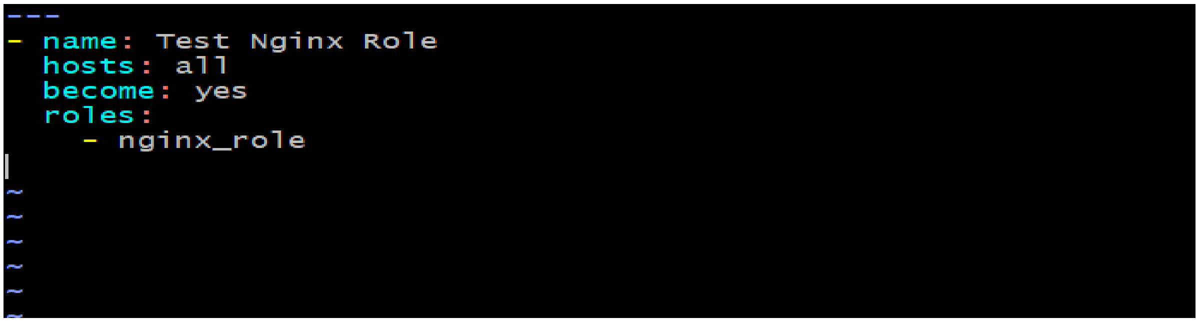
Edit the ‘nginx_role/handlers/main.yml’ file to include handlers if needed.



```
# handlers file for nginx_role

---
- name: restart nginx
  systemd:
    name: nginx
    state: restarted

~
```

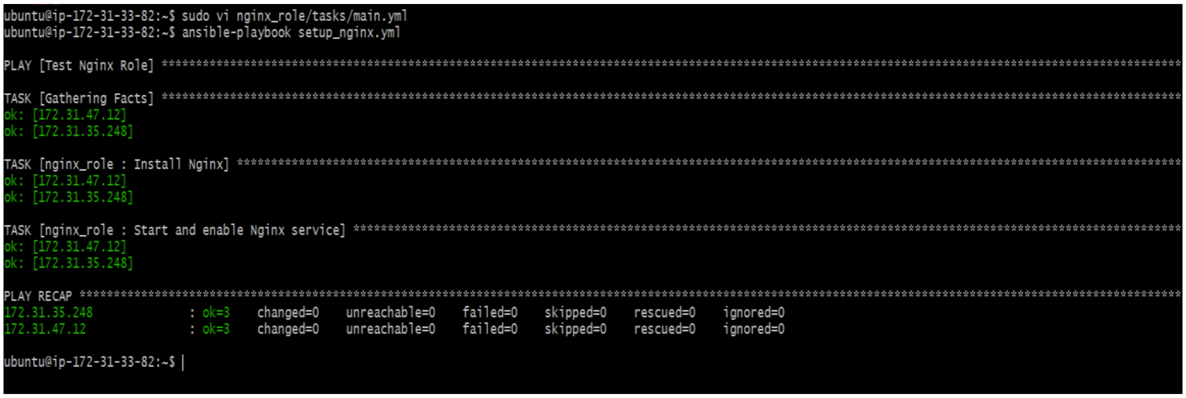
IV. Create Playbook to Use the Role

Create a playbook file named setup_nginx.yml.

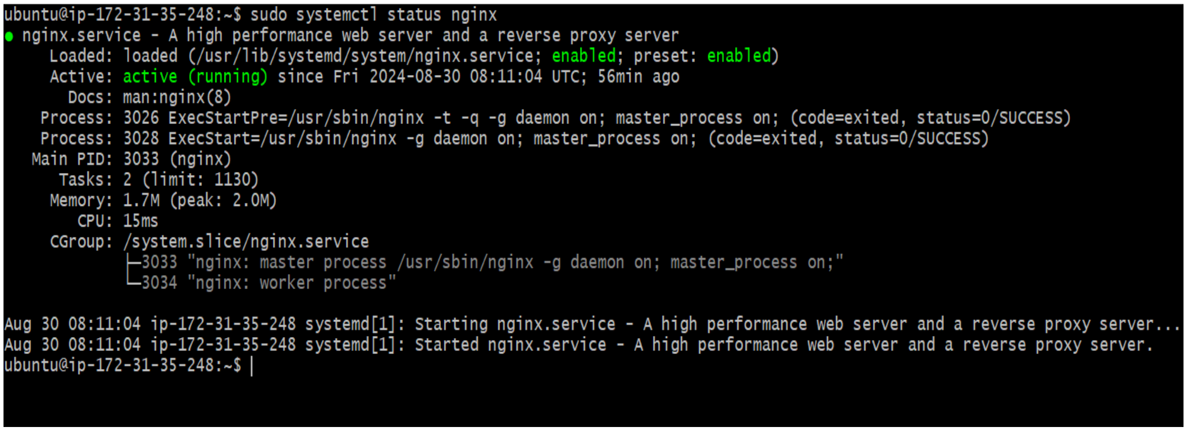


```
---
- name: Test Nginx Role
  hosts: all
  become: yes
  roles:
    - nginx_role

~
~
~
~
~
```

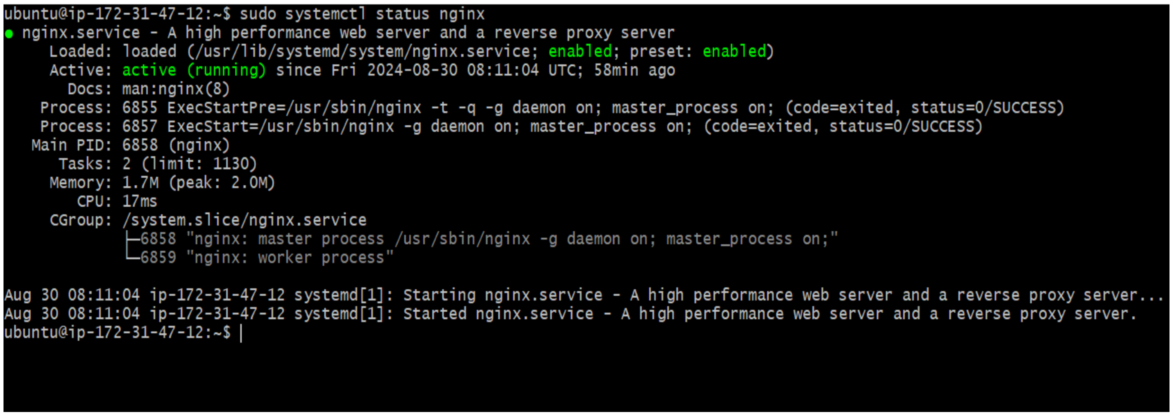
V. Execute the playbook



```
ubuntu@ip-172-31-33-82:~$ sudo vi nginx_role/tasks/main.yml
ubuntu@ip-172-31-33-82:~$ ansible-playbook setup_nginx.yml

PLAY [Test Nginx Role] ***************************************************************************************************************************

TASK [Gathering Facts] ***************************************************************************************************************************
ok: [172.31.47.12]
ok: [172.31.35.248]

TASK [nginx_role : Install Nginx] ****************************************************************************************************************
ok: [172.31.47.12]
ok: [172.31.35.248]

TASK [nginx_role : Start and enable Nginx service] ***********************************************************************************************
ok: [172.31.47.12]
ok: [172.31.35.248]

PLAY RECAP ***************************************************************************************************************************************
172.31.35.248              : ok=3    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
172.31.47.12               : ok=3    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

ubuntu@ip-172-31-33-82:~$ |
```

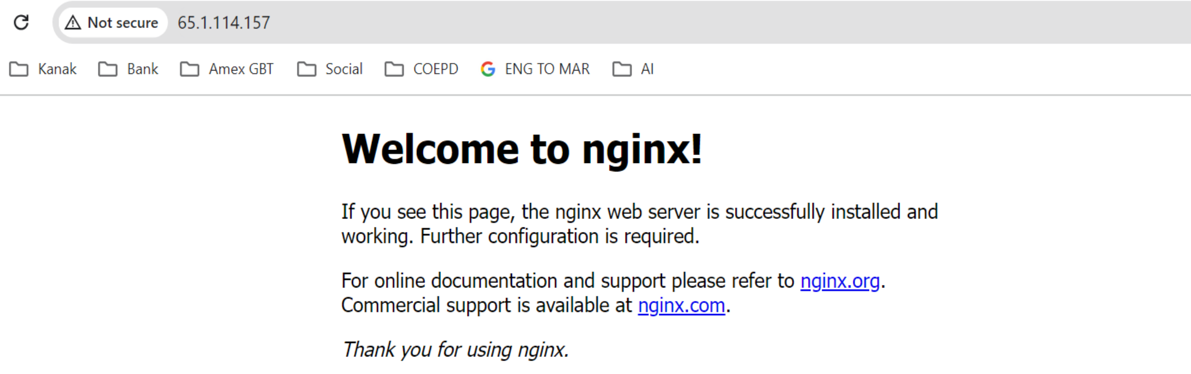


```
ubuntu@ip-172-31-35-248:~$ sudo systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
     Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
     Active: active (running) since Fri 2024-08-30 08:11:04 UTC; 56min ago
       Docs: man:nginx(8)
    Process: 3026 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
    Process: 3028 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
   Main PID: 3033 (nginx)
      Tasks: 2 (limit: 1130)
     Memory: 1.7M (peak: 2.0M)
        CPU: 15ms
     CGroup: /system.slice/nginx.service
             ├─3033 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             └─3034 "nginx: worker process"

Aug 30 08:11:04 ip-172-31-35-248 systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server...
Aug 30 08:11:04 ip-172-31-35-248 systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
ubuntu@ip-172-31-35-248:~$ |
```



```
ubuntu@ip-172-31-47-12:~$ sudo systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
     Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
     Active: active (running) since Fri 2024-08-30 08:11:04 UTC; 58min ago
       Docs: man:nginx(8)
    Process: 6855 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
    Process: 6857 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0/SUCCESS)
   Main PID: 6858 (nginx)
      Tasks: 2 (limit: 1130)
     Memory: 1.7M (peak: 2.0M)
        CPU: 17ms
     CGroup: /system.slice/nginx.service
             ├─6858 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             └─6859 "nginx: worker process"

Aug 30 08:11:04 ip-172-31-47-12 systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server...
Aug 30 08:11:04 ip-172-31-47-12 systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
ubuntu@ip-172-31-47-12:~$ |
```

Verify that Nginx is running by accessing both server's IP address in a web browser. You should see the default Nginx welcome page as the desired output.

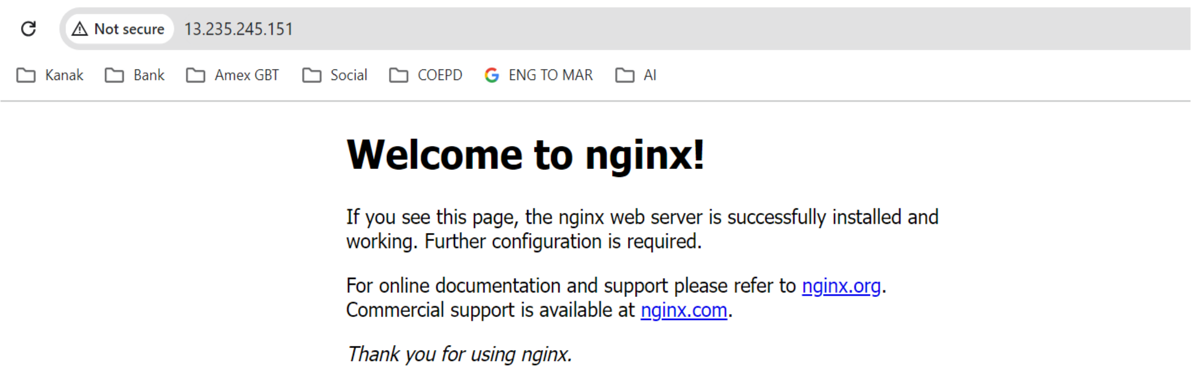


Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.



Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.