**1. Define the Inventory**

Create or update your Ansible inventory file to include the Apache and NGINX server groups.

**Create or update /etc/ansible/hosts (or your inventory file):**

[apache]

Slave1 ansible\_ssh\_host=<slave ip address>

Slave2 ansible\_ssh\_host==<slave ip address>

[nginx]

Slave3 ansible\_ssh\_host=<slave ip address>

Slave4 ansible\_ssh\_host==<slave ip address>

**2. Create Ansible Roles**

You will need three roles:

1. **Apache Role**
2. **NGINX Role**
3. **Java Role**

**Apache Role**

**Create Role Directory Structure:**

**mkdir -p roles/apache/tasks**

**mkdir -p roles/apache/files**

**Create roles/apache/tasks/main.yml:**

---

- name: Update package index

  apt:

    update\_cache: yes

- name: Install Apache2

  apt:

    name: apache2

    state: present

- name: Ensure Apache2 service is running

  service:

    name: apache2

    state: started

    enabled: yes

- name: Copy Apache HTML file

  copy:

    src: apache\_info.html

    dest: /var/www/html/index.html

- name: Post installation message for Apache

  debug:

    msg: "Apache installation complete and running on {{ ansible\_host }}"

**Create roles/apache/files/apache\_info.html:**

<!DOCTYPE html>

<html>

<head>

    <title>Apache Server</title>

</head>

<body>

    <h1>Welcome to Apache Server</h1>

    <p>Server: {{ ansible\_host }}</p>

</body>

</html>

**NGINX Role**

**Create Role Directory Structure:**

**mkdir -p roles/nginx/tasks**

**mkdir -p roles/nginx/files**

**Create roles/nginx/tasks/main.yml:**

---

- name: Update package index

  apt:

    update\_cache: yes

- name: Install NGINX

  apt:

    name: nginx

    state: present

- name: Ensure NGINX service is running

  service:

    name: nginx

    state: started

    enabled: yes

- name: Copy NGINX HTML file

  copy:

    src: nginx\_info.html

    dest: /var/www/html/index.html

- name: Post installation message for NGINX

  debug:

    msg: "NGINX installation complete and running on {{ ansible\_host }}"

**Create roles/nginx/files/nginx\_info.html:**

<!DOCTYPE html>

<html>

<head>

    <title>NGINX Server</title>

</head>

<body>

    <h1>Welcome to NGINX Server</h1>

    <p>Server: {{ ansible\_host }}</p>

</body>

</html>

**Java Role**

**Create Role Directory Structure:**

mkdir -p roles/java/tasks

**Create roles/java/tasks/main.yml:**

---

- name: Update package index

  apt:

    update\_cache: yes

- name: Install Java

  apt:

    name: openjdk-11-jdk

    state: present

- name: Ensure Java installation is successful

  command: java -version

**3. Create the Main Playbook**

Create a playbook to apply the Apache and NGINX roles and install Java on Apache servers.

**Create site.yml:**

---

- name: Configure Apache servers

  hosts: apache

  become: yes

  roles:

    - apache

- name: Configure NGINX servers

  hosts: nginx

  become: yes

  roles:

    - nginx

- name: Install Java on Apache servers

  hosts: apache

  become: yes

  roles:

    - java

**4. Run the Ansible Playbook**

Execute the playbook to configure Apache and NGINX servers and install Java on Apache servers:

**ansible-playbook site.yml**

