Deploy a website on an Apache Web Server on Multiple EC2 Instances using Ansible Playbook

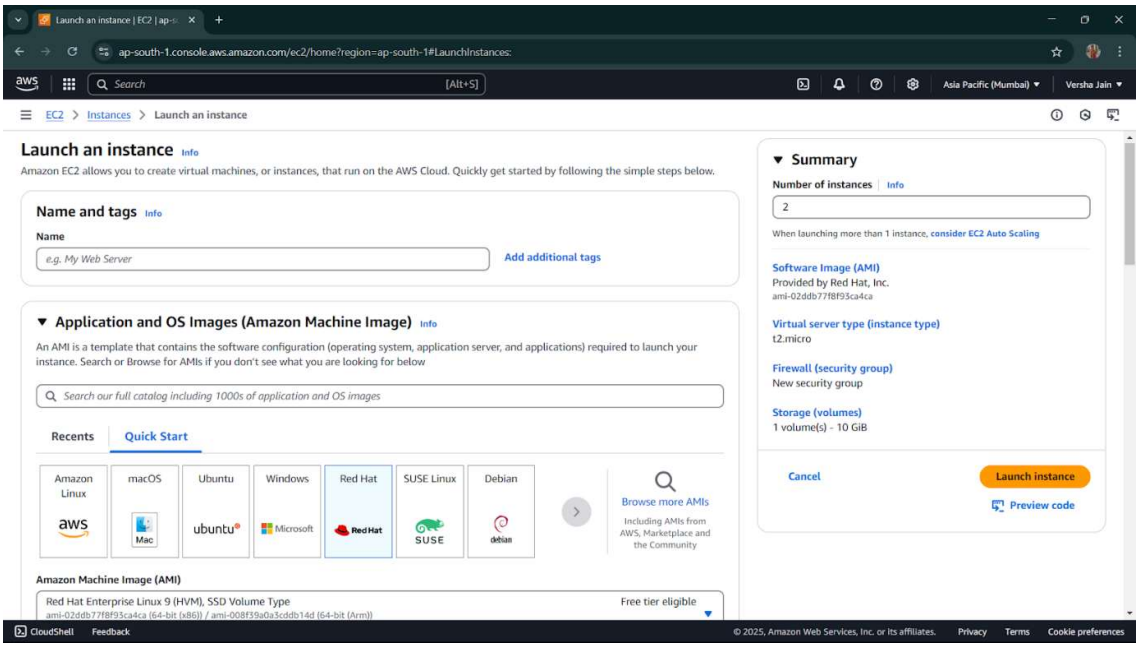
Overview

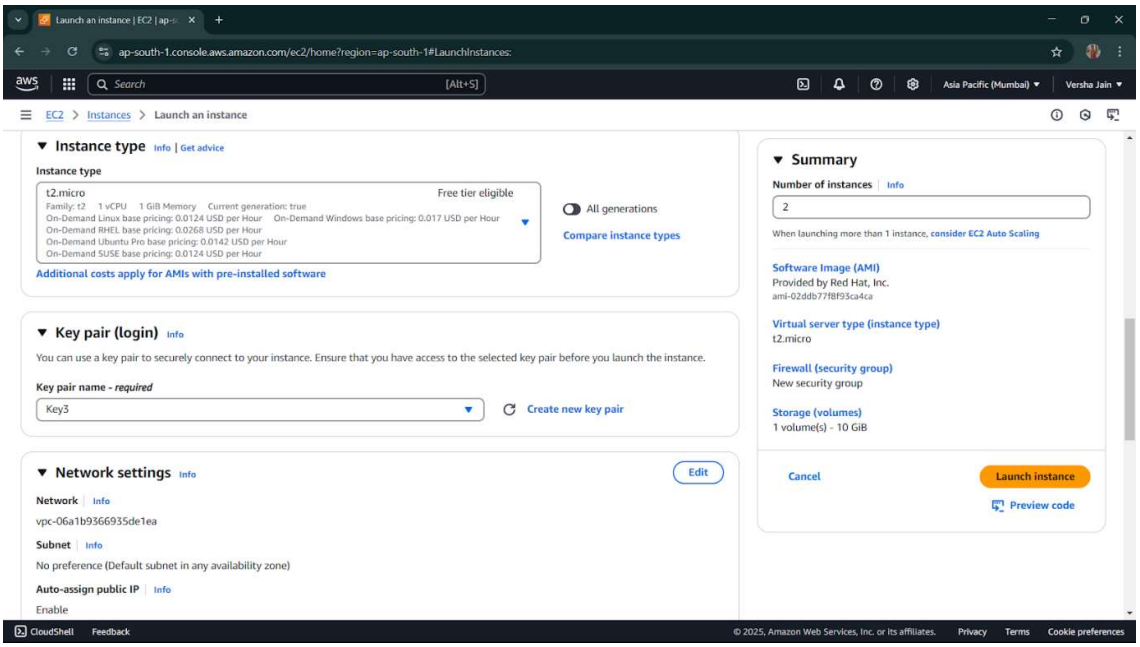
This is my Ansible project documentation. It provides a step-by-step guide to deploying a website on multiple EC2 instances using an Ansible playbook. It covers instance setup, security group configuration, Ansible role creation, and playbook execution.

ANSIBLE

Prerequisites

- Two EC2 instances (t2.micro) launched in the **Mumbai region**.
- A **key pair** for SSH authentication.
- Security groups configured to allow **HTTP (port 80) and HTTPS (port 443)** traffic.
- Ansible installed on the control node.

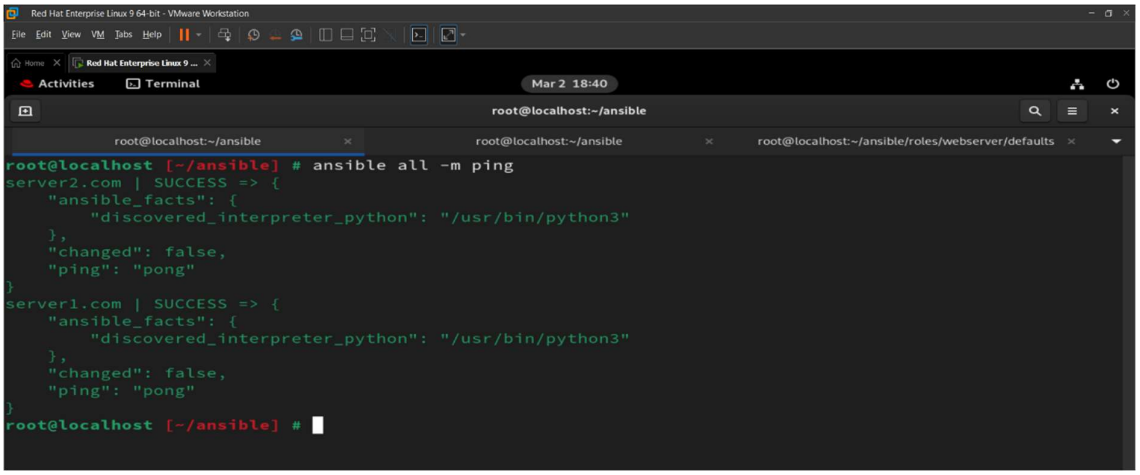




Step 1: Verify Connectivity

Ensure that Ansible can communicate with the EC2 instances:

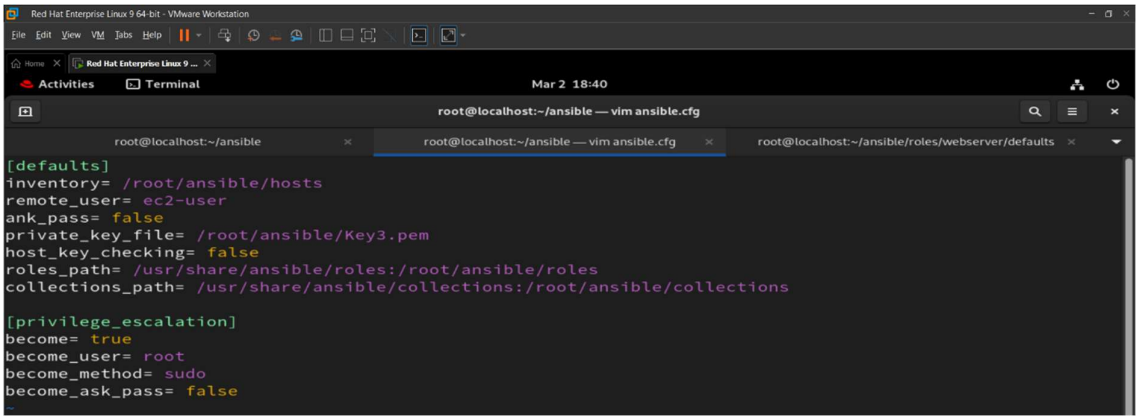
ansible all -m ping



Step 2: Configure Ansible on the Control Node

Navigate to the Ansible directory and configure ansible.cfg with the following settings:

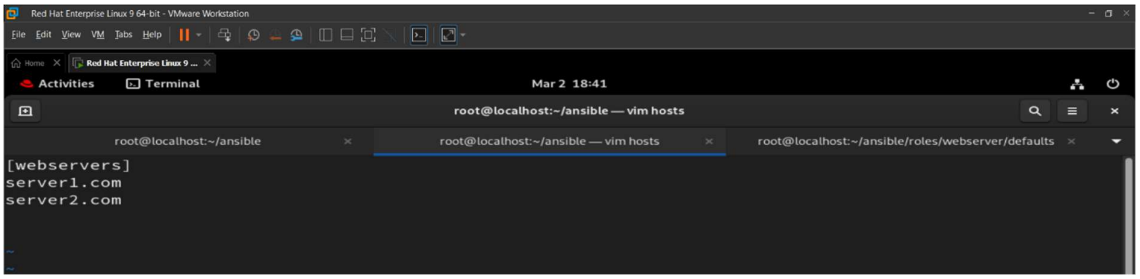
[defaults]
inventory= /root/ansible/hosts
remote_user= ec2-user
ask_pass= false
private_key_file= /root/ansible/Key3.pem



Step 3: Create an Inventory File (hosts)

Inside the Ansible folder, create an inventory file (hosts) with the following content:

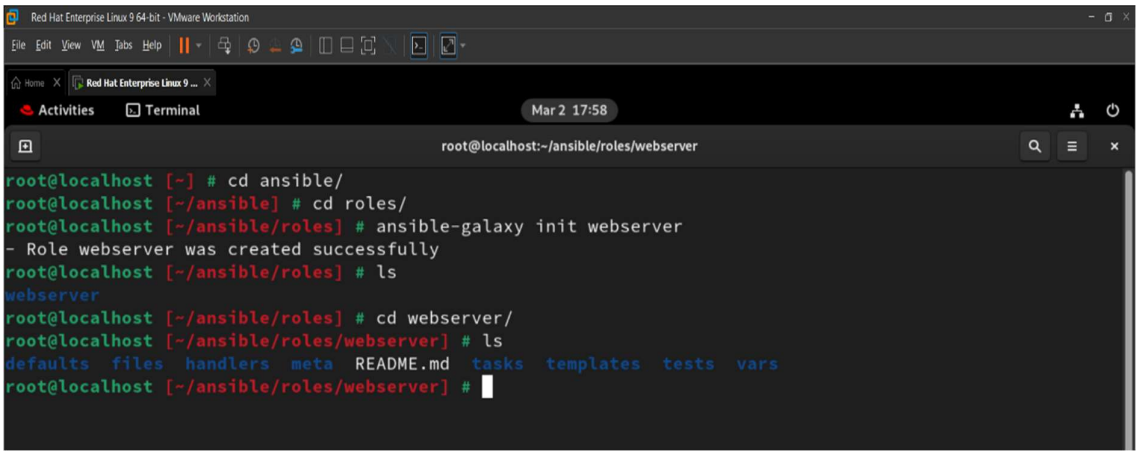
[webservers]
server1.com
server2.com



Step 4: Create the Web Server Role

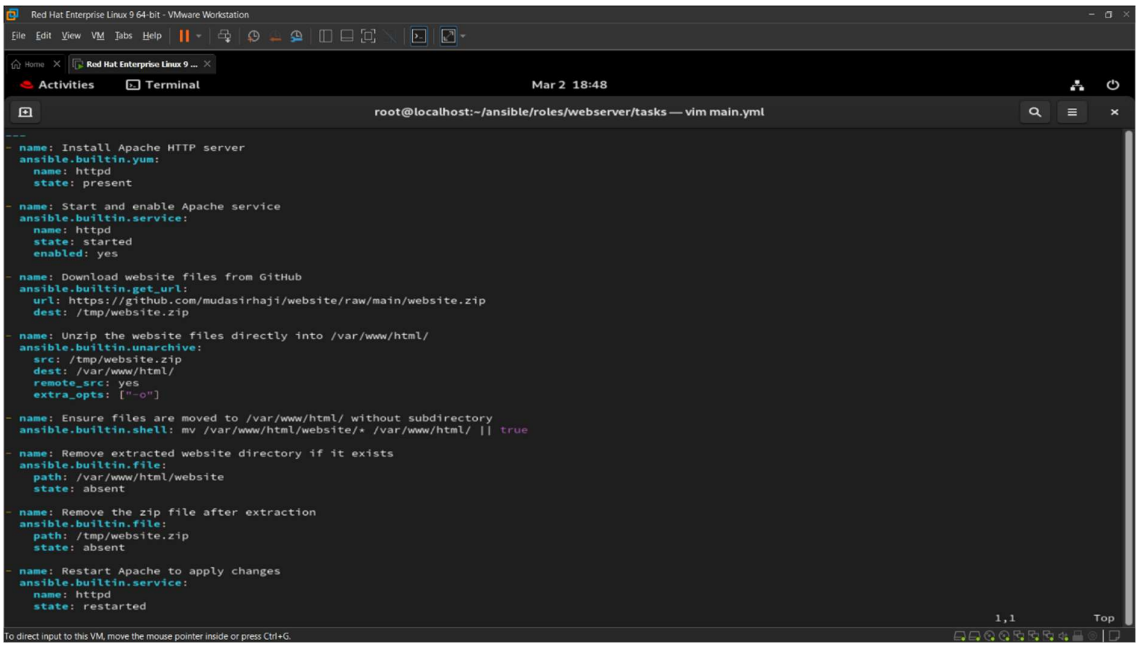
Generate the webserver role structure:

ansible-galaxy init webserver



Step 5: Configure the main.yml in roles/webserver/tasks/

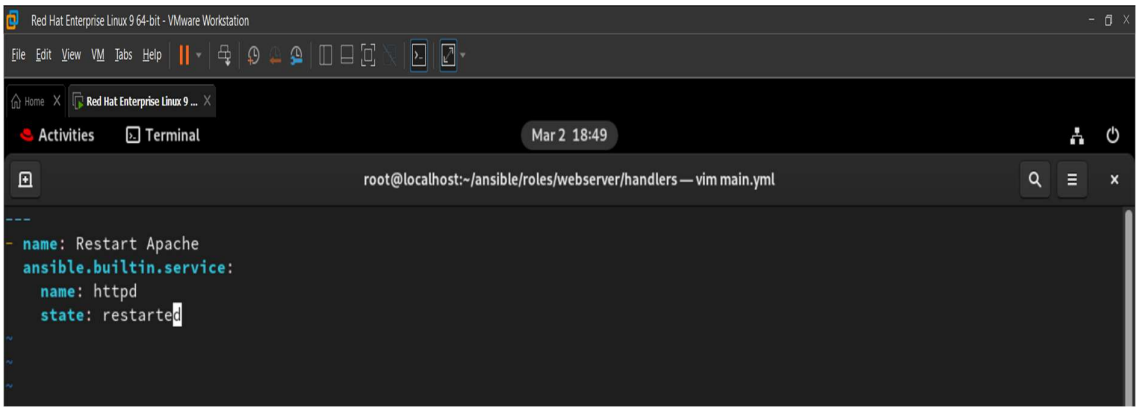
Create and edit main.yml inside roles/webserver/tasks/:



Step 6: Configure the main.yml : roles/webserver/handlers/

Create and edit main.yml inside roles/webserver/handlers/:

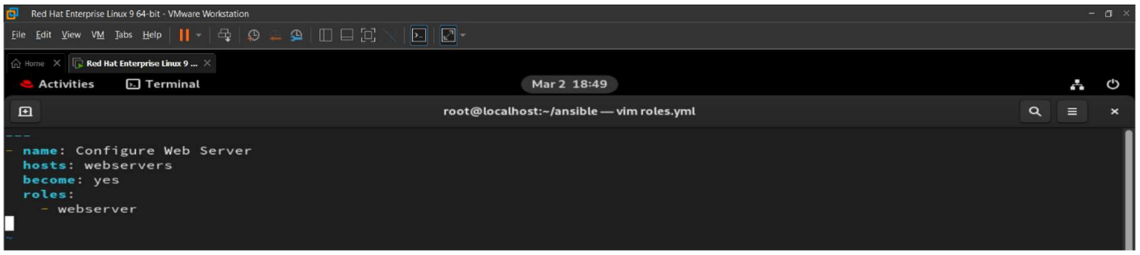
```
---
- name: Restart Apache
  ansible.builtin.service:
    name: httpd
    state: restarted
```



Step 7: Create the roles.yml Playbook

Navigate to the Ansible directory and create roles.yml with the following content:

```
---
- name: Configure Web Server
  hosts: webservers
  become: yes
  roles:
    - webserver
```

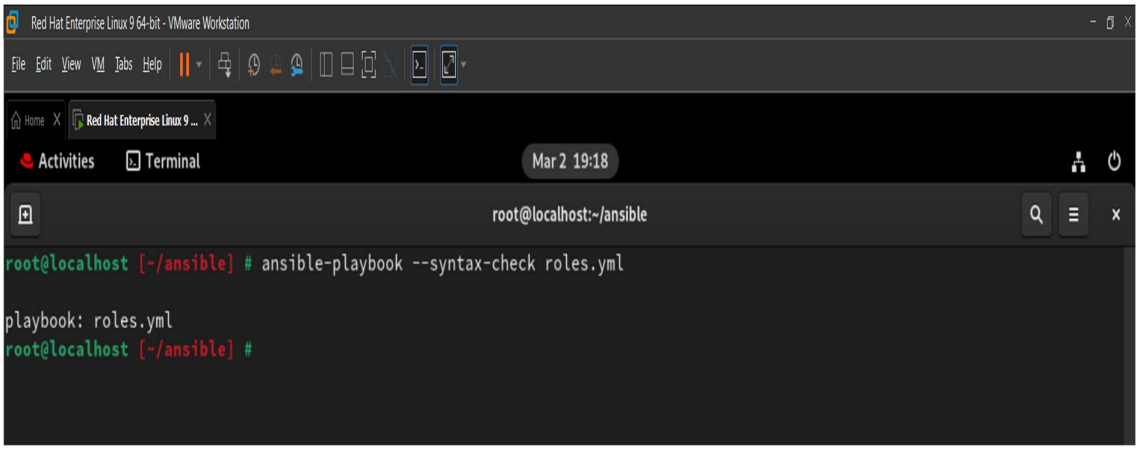


Step 8: Run the Playbook

Syntax Check

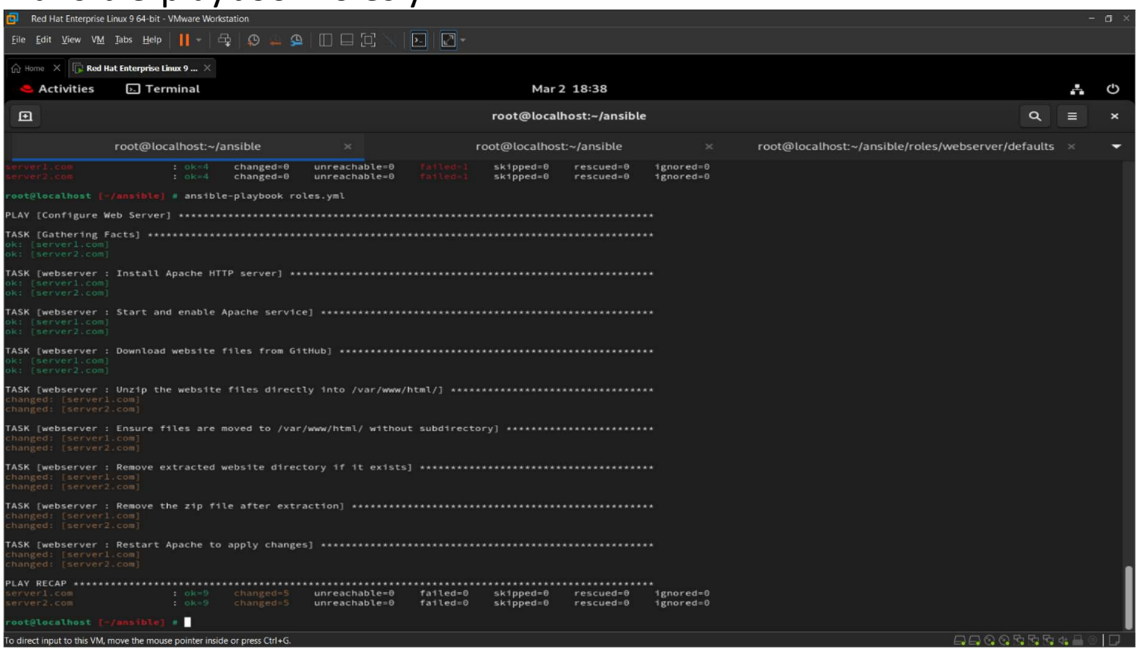
Before executing the playbook, verify the syntax:

```
# ansible-playbook --syntax-check roles.yml
```



Step 9: Run the Playbook

Deploy the website on the EC2 instances:
ansible-playbook roles.yml



Conclusion

This setup ensures Apache is installed, running, and serving website files on multiple EC2 instances automatically using Ansible. 🚀

The website is live on both hosts:
Server 1: http://15.207.110.253/
Server 2: http://3.108.215.38/