Module 5: Ansible Assignment - 1

Tasks To Be Performed:

1. Setup Ansible cluster with 3 nodes

2. On slave 1 install Java

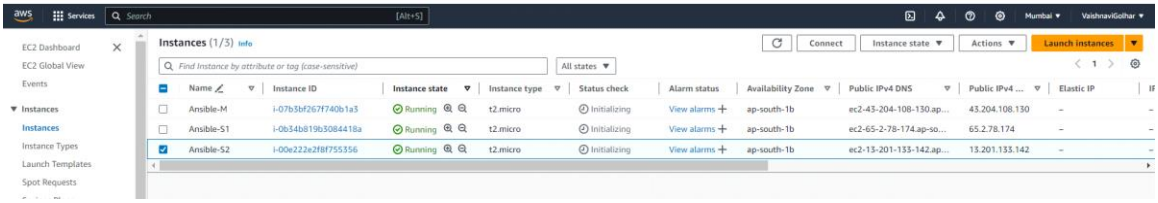
3. On slave 2 install MySQL server

Do the above tasks using Ansible Playbooks

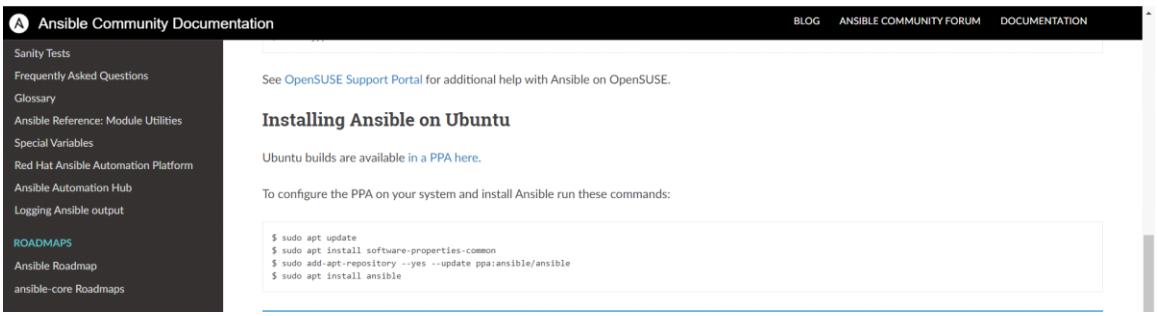
SOLUTION:

step1: Provision AWS EC2 Instances

You need to create three EC2 instances (one master and two slaves) running Ubuntu. Ensure you have the necessary security group settings to allow SSH access between the instances.



step2: **Install Ansible on the Master Node**



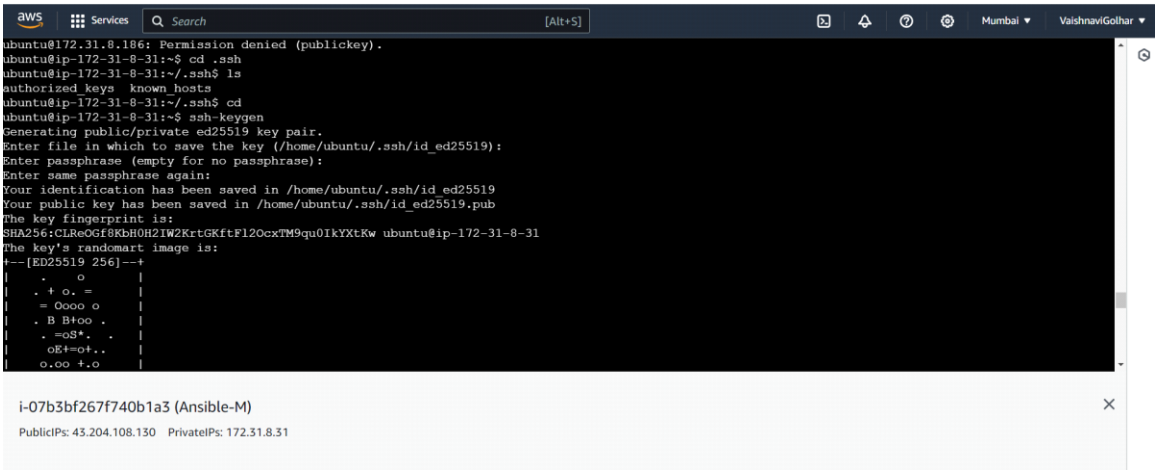
```
ubuntu@ip-172-31-8-31:~$ history
    1  sudo apt update
    2  sudo apt install software-properties-common
    3  sudo add-apt-repository --yes --update ppa:ansible/ansible
    4  history
ubuntu@ip-172-31-8-31:~$
```

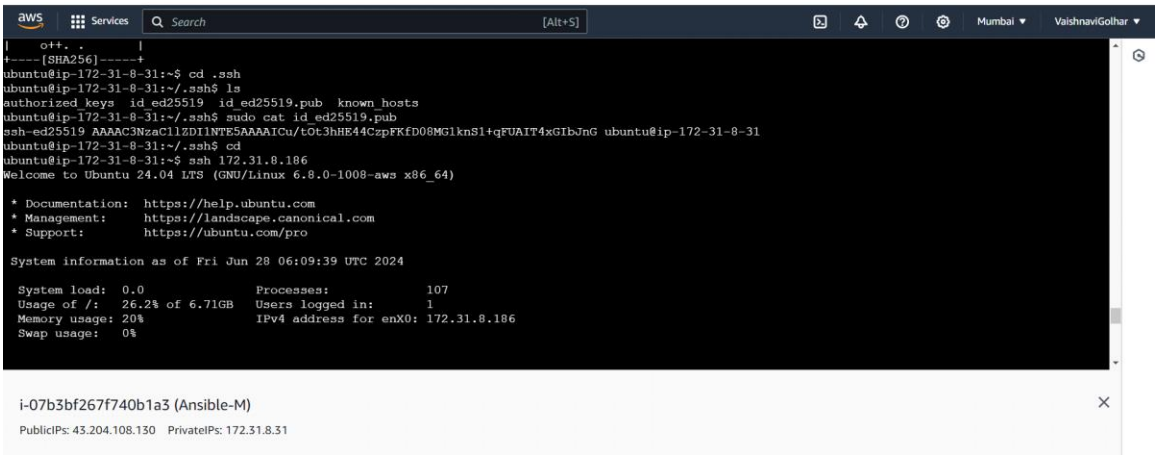
i-07b3bf267f740b1a3 (Ansible-M)

PublicIPs: 43.204.108.130 PrivateIPs: 172.31.8.31

step 3: Set Up SSH Keys

```
ubuntu@ip-172-31-8-31:~$ ssh 172.31.8.186
The authenticity of host '172.31.8.186 (172.31.8.186)' can't be established.
ED25519 key fingerprint is SHA256:ypKYhGleWqos+8pB5dS6rJyzWSWMufoy7JaXrdA/MSo.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '172.31.8.186' (ED25519) to the list of known hosts.
ubuntu@172.31.8.186: Permission denied (publickey).
```



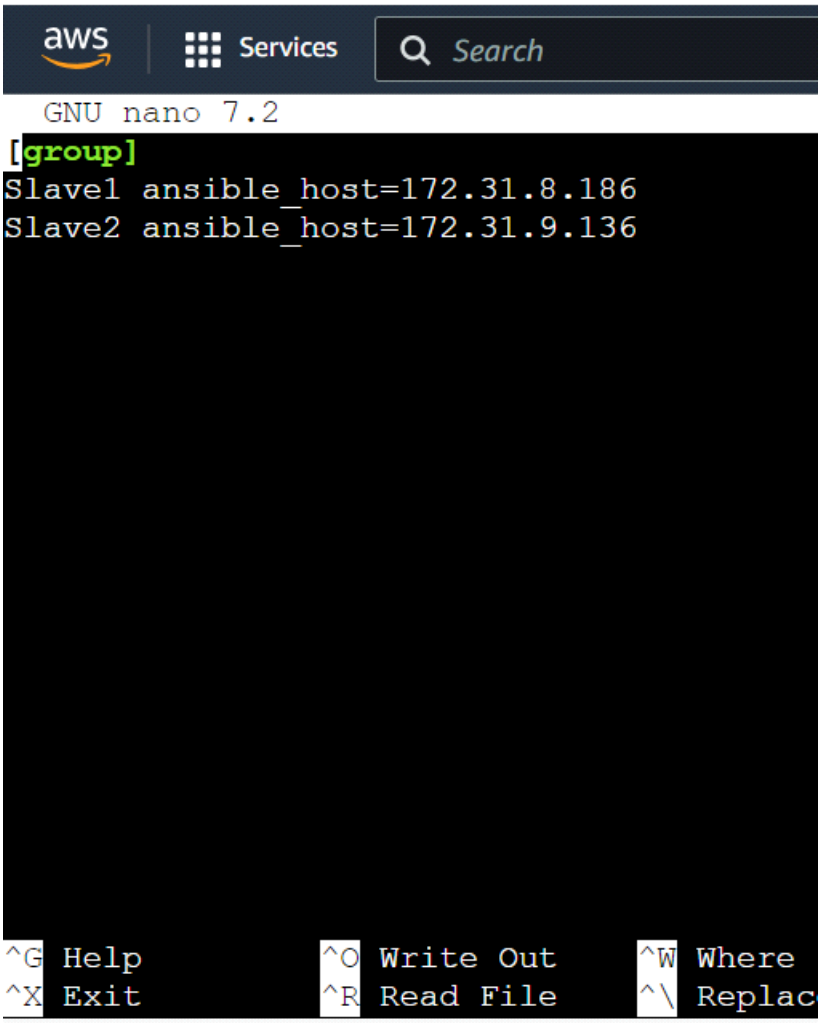


step 4: Create the Inventory File

```
ubuntu@ip-172-31-8-31:~$ cd/etc/ansible
-bash: cd/etc/ansible: No such file or directory
ubuntu@ip-172-31-8-31:~$ cd /etc/ansible
ubuntu@ip-172-31-8-31:/etc/ansible$ ls
ansible.cfg  hosts  roles
ubuntu@ip-172-31-8-31:/etc/ansible$ sudo nano hosts
ubuntu@ip-172-31-8-31:/etc/ansible$
```

i-07b3bf267f740b1a3 (Ansible-M)

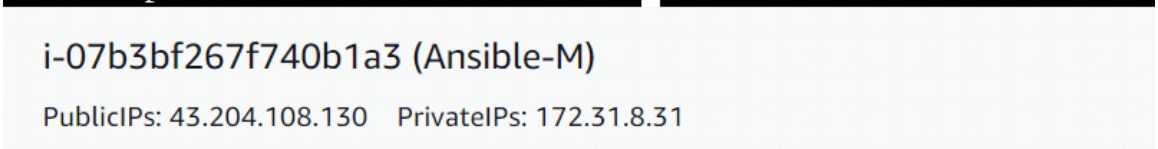
PublicIPs: 43.204.108.130 PrivateIPs: 172.31.8.31



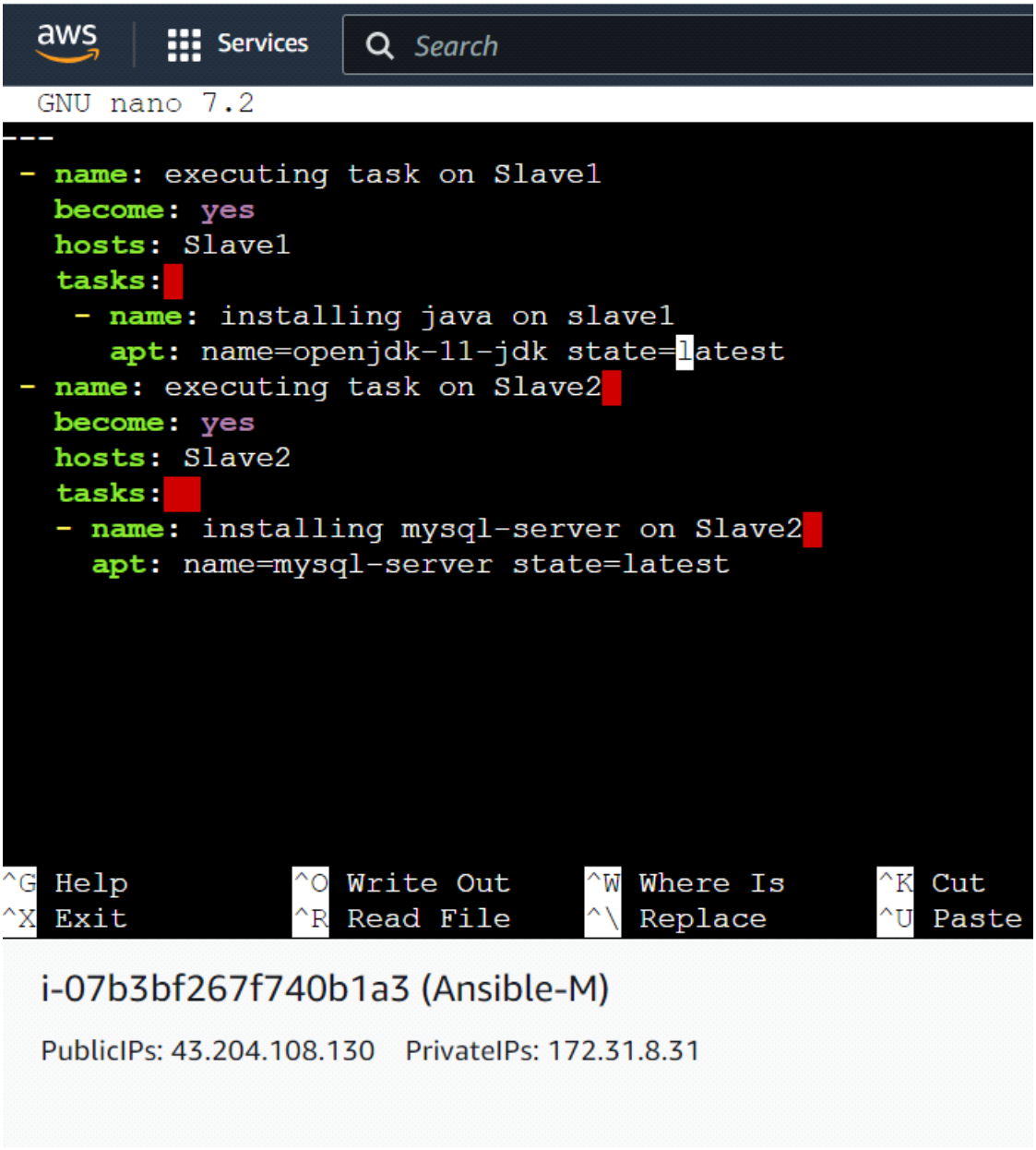
i-07b3bf267f740b1a3 (Ansible-M)

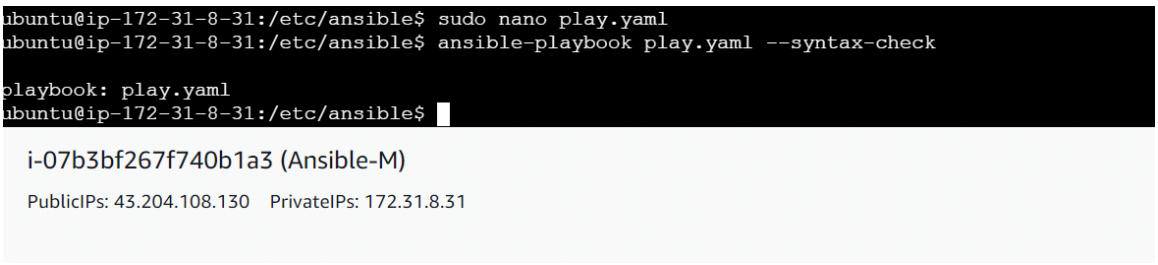
PublicIPs: 43.204.108.130 PrivateIPs: 172.31.8.31

```
ubuntu@ip-172-31-8-31:/etc/ansible$ ansible -m ping all
Slave2 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
Slave1 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
ubuntu@ip-172-31-8-31:/etc/ansible$
```



step5: Create playbook play1.yaml



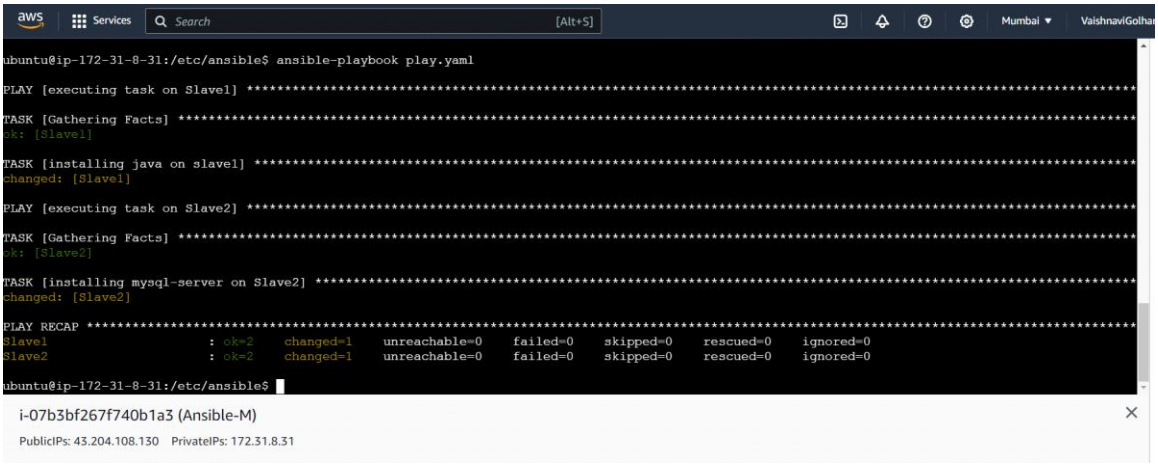


step6: Running the Playbooks

```
ubuntu@ip-172-31-8-31:/etc/ansible$ ansible-playbook play.yaml --check

PLAY [executing task on Slave1] ************************************************************************************************************************

TASK [Gathering Facts] *********************************************************************************************************************************
ok: [Slave1]

TASK [installing java on slave1] ***********************************************************************************************************************
changed: [Slave1]

PLAY [executing task on Slave2] ************************************************************************************************************************

TASK [Gathering Facts] *********************************************************************************************************************************
ok: [Slave2]

TASK [installing mysql-server on Slave2] ***************************************************************************************************************
changed: [Slave2]

PLAY RECAP *********************************************************************************************************************************************
Slave1                     : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
Slave2                     : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

ubuntu@ip-172-31-8-31:/etc/ansible$
```

i-07b3bf267f740b1a3 (Ansible-M)

PublicIPs: 43.204.108.130 PrivateIPs: 172.31.8.31



step7: Verify the Slave1 and Slave2

```
ubuntu@ip-172-31-8-186:~/.ssh$ cd
ubuntu@ip-172-31-8-186:~$ java --version
openjdk 11.0.23 2024-04-16
OpenJDK Runtime Environment (build 11.0.23+9-post-Ubuntu-1ubuntu1)
OpenJDK 64-Bit Server VM (build 11.0.23+9-post-Ubuntu-1ubuntu1, mixed mode, sharing)
ubuntu@ip-172-31-8-186:~$
```

i-0b34b819b3084418a (Ansible-S1)

PublicIPs: 65.2.78.174 PrivateIPs: 172.31.8.186

```
ubuntu@ip-172-31-9-136:~/.ssh$ cd
ubuntu@ip-172-31-9-136:~$ mysql-server --version
mysql-server: command not found
ubuntu@ip-172-31-9-136:~$ mysql -V
mysql  Ver 8.0.37-0ubuntu0.24.04.1 for Linux on x86_64 ((Ubuntu))
ubuntu@ip-172-31-9-136:~$
```

i-00e222e2f8f755356 (Ansible-S2)

PublicIPs: 13.201.133.142 PrivateIPs: 172.31.9.136