

Module-6: Ansible Assignment - 1

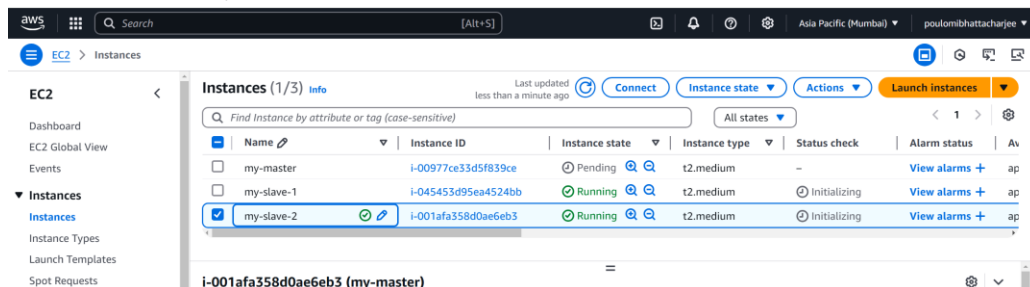
You have been asked to:

- Setup Ansible cluster with 3 nodes
- On slave1 install java
- On slave 2 install mysql-server

Do the above tasks using Ansible playbooks

Solution :

- 1) Create 3 instances, master and 2 slaves.



- 2) Connect 3 of them and update package.

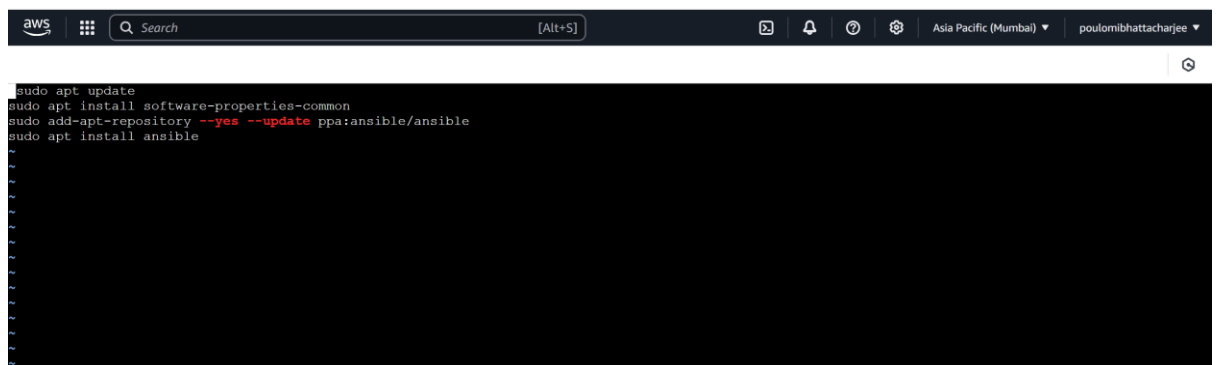
- 3) In master install ansible by creating shell script.

Create shell script > Sudo vi master.sh

Enter the ansible installation commands > save and exit

Execute the shell script > bash master.sh

Check version > ansible --version



```
ubuntu@ip-172-31-47-65:~$ ansible --version
ansible [core 2.17.9]
  config file = /etc/ansible/ansible.cfg
  configured module search path = ['/home/ubuntu/.ansible/plugins/modules', '/usr/share/ansible/plugins/modules']
  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, Nov 6 2024, 18:32:19) [GCC 13.2.0] (/usr/bin/python3)
  jinja version = 3.1.2
  libyaml = True
ubuntu@ip-172-31-47-65:~$
```

i-00977ce33d5f839ce (my-master)

PublicIPs: 13.201.37.166 PrivateIPs: 172.31.47.65

- 4) To create a cluster we need to generate a key . so we create a key in master .

Cd .ssh > ssh-keygen > enter 3 times > key image is generated with path

```

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:XQ6TW37je+DbDG8o7jyOQ33iY4iRo37bC5h/Xl8OFGU ubuntu@ip-172-31-47-65
The key's randomart image is:
--[ED25519 256]--+
      E|
      . o |
      + o . |
      . O . |
      S.o.o + |
      o+ . o+o. |
      o..= o..+o. |
      ..oo++*.oXo|
      ...o+=B++++=|
-----[SHA256]-----+
ubuntu@ip-172-31-47-65:~/ssh$

```

i-00977ce33d5f839ce (my-master)

PublicIPs: 13.201.37.166 PrivateIPs: 172.31.47.65

5) Copy the key

Sudo cat < path >

```

The key's randomart image is:
+--[ED25519 256]--+
|      E|
|      . o |
|      + o . |
|      . O . |
|      S.o.o + |
|      o+ . o+o. |
|      o..= o..+o. |
|      ..oo++*.oXo|
|      ...o+=B++++=|
+-----[SHA256]-----+
ubuntu@ip-172-31-47-65:~/ssh$ sudo cat /home/ubuntu/.ssh/id_ed25519.pub
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIJvzWYe1F56wZ+cbh6F5ZURUX7RGC3t/ZZGBYMPbvBgF ubuntu@ip-172-31-47-65
ubuntu@ip-172-31-47-65:~/ssh$

```

i-00977ce33d5f839ce (my-master)

PublicIPs: 13.201.37.166 PrivateIPs: 172.31.47.65

6) Go to slave 1 and slave 2 > cd.ssh > ls > vi authorized_key > paste the key > save and exit

```

ubuntu@ip-172-31-45-209:~$ cd .ssh
ubuntu@ip-172-31-45-209:~/ssh$ ls
authorized_keys
ubuntu@ip-172-31-45-209:~/ssh$ vi authorized_keys
ubuntu@ip-172-31-45-209:~/ssh$

```

i-045453d95ea4524bb (my-slave-1)

PublicIPs: 3.111.214.104 PrivateIPs: 172.31.45.209

```
ubuntu@ip-172-31-42-122:~$ cd .ssh
ubuntu@ip-172-31-42-122:~/.ssh$ ls
authorized_keys
ubuntu@ip-172-31-42-122:~/.ssh$ vi authorized_keys
ubuntu@ip-172-31-42-122:~/.ssh$
```

i-001afa358d0ae6eb3 (my-slave-2)

PublicIPs: 43.204.38.23 PrivateIPs: 172.31.42.122

- 7) In master add the private IP of both the slaves in hosts

Cd /etc/ansible > ls > vi hosts > paste the private IP of the slaves

```
ubuntu@ip-172-31-47-65:~$ cd /etc/ansible
ubuntu@ip-172-31-47-65:/etc/ansible$ ls
ansible.cfg  hosts  roles
ubuntu@ip-172-31-47-65:/etc/ansible$
```

i-00977ce33d5f839ce (my-master)

PublicIPs: 13.201.37.166 PrivateIPs: 172.31.47.65

```
## [openSUSE]
## green.example.com
## blue.example.com
[slave]
172.31.45.209
172.31.42.122
"hosts" 56L, 1210B
```

i-00977ce33d5f839ce (my-master)

PublicIPs: 13.201.37.166 PrivateIPs: 172.31.47.65

- 8) Check the connectivity between master and slaves

Ansible -m ping all


```

---
- hosts: slave2
  tasks:
    - name: Install MySQL server
      apt:
        name: mysql-server
        state: present
        become: yes

```

```

---
- hosts: slave2
  tasks:
    - name: Install MySQL server
      apt:
        name: mysql-server
        state: present
        become: yes

```

"install_sql.yml" 9L, 142B

i-00977ce33d5f839ce (my-master)

PublicIPs: 13.201.37.166 PrivateIPs: 172.31.47.65

11) Check syntax error

Ansible-playbook install_java.yml --syntax -check

Ansible-playbook install_sql.yml --syntax -check

```

ubuntu@ip-172-31-47-65:/etc/ansible$ ansible-playbook install_sql.yml --syntax -check

playbook: install_sql.yml
ubuntu@ip-172-31-47-65:/etc/ansible$ ansible-playbook install_java.yml --syntax -check

playbook: install_java.yml
ubuntu@ip-172-31-47-65:/etc/ansible$

```

i-00977ce33d5f839ce (my-master)

PublicIPs: 13.201.37.166 PrivateIPs: 172.31.47.65

12) Play the playbooks

ansible-playbook install_java.yml

```
ubuntu@ip-172-31-47-65:/etc/ansible$ ansible-playbook install_sql.yml

PLAY [slave2] *****

TASK [Gathering Facts] *****
[WARNING]: Platform linux on host 172.31.42.122 is using the discovered Python
Python interpreter could change the meaning of that path. See https://docs.ansi
core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.42.122]

TASK [Install MySQL server] *****
```

i-00977ce33d5f839ce (my-master)

PublicIPs: 13.201.37.166 PrivateIPs: 172.31.47.65

```
ubuntu@ip-172-31-47-65:/etc/ansible$ ansible-playbook install_java.yml

PLAY [slave1] *****

TASK [Gathering Facts] *****
[WARNING]: Platform linux on host 172.31.45.209 is using the discovered Python
Python interpreter could change the meaning of that path. See https://docs.ansi
core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [172.31.45.209]

TASK [Install Java] *****
```

i-00977ce33d5f839ce (my-master)

PublicIPs: 13.201.37.166 PrivateIPs: 172.31.47.65

- 13) Go to slave 1 and check java version

```
ubuntu@ip-172-31-45-209:~$ java --version
openjdk 17.0.14 2025-01-21
OpenJDK Runtime Environment (build 17.0.14+7-Ubuntu-124.04)
OpenJDK 64-Bit Server VM (build 17.0.14+7-Ubuntu-124.04, mixed mode, sharing)
ubuntu@ip-172-31-45-209:~$
```

i-045453d95ea4524bb (my-slave-1)

PublicIPs: 3.111.214.104 PrivateIPs: 172.31.45.209

- 14) Go to slave 2 and check sql version

```
mysql: command not found
ubuntu@ip-172-31-42-122:~$ mysql --version
mysql Ver 8.0.41-0ubuntu0.24.04.1 for Linux on x86_64 ((Ubuntu))
ubuntu@ip-172-31-42-122:~$
```

i-001afa358d0ae6eb3 (my-slave-2)

PublicIPs: 43.204.38.23 PrivateIPs: 172.31.42.122

