



Module 5: Ansible Assignment - 5

Tasks To Be Performed:

1. Create a new deployment of Ansible cluster of 5 nodes
2. Label 2 nodes as test and other 2 as prod
3. Install Java on test nodes
4. Install MySQL server on prod nodes

Use Ansible roles for the above and group the hosts under test and prod.

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Amazon Machine Image (AMI)

Ubuntu Server 22.04 LTS (HVM), SSD Volume Type

Free tier eligible

ami-0a0e5d9c7acc336f1 (64-bit (x86)) / ami-070f589e4b4a3fece (64-bit (Arm))

Virtualization: hvm ENA enabled: true Root device type: ebs

Description

Ubuntu Server 22.04 LTS (HVM),EBS General Purpose (SSD) Volume Type. Support available from Canonical (<http://www.ubuntu.com/cloud/services>).

Architecture

AMI ID

Verified provider

64-bit (x86)

ami-0a0e5d9c7acc336f1

▼ Instance type

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Instance type

t2.micro

Free tier eligible

▼ Summary

Number of instances

Info

2

When launching more than 1 instance, consider EC2 Auto Scaling

Software Image (AMI)

Canonical, Ubuntu, 22.04 LTS, ...read more

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Virtual server type (instance type)

t2.micro

Firewall (security group)

default

Storage (volumes)

1 volume(s) - 8 GiB

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t2.micro

Free tier eligible

▼ Summary

Number of instances [Info](#)

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Summary

Number of instances

Info

2

When launching more than 1 instance, [consider EC2 Auto Scaling](#)

Software Image (AMI)

Canonical, Ubuntu, 22.04 LTS, ...[read more](#)

ami-0a0e5d9c7acc336f1

Virtual server type (instance type)

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Search

[Option+S]

EC2

Get:27 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.8 kB]
Get:28 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [16.5 kB]
Get:29 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [672 B]
Get:30 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:31 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1673 kB]
Get:32 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [279 kB]
Get:33 http://security.ubuntu.com/ubuntu jammy-security/main amd64 c-n-f Metadata [13.0 kB]
Get:34 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [2171 kB]
Get:35 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [372 kB]
Get:36 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 c-n-f Metadata [572 B]
Get:37 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [886 kB]
Get:38 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [173 kB]
Get:39 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [18.9 kB]
Get:40 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [37.2 kB]
Get:41 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [7588 B]
Get:42 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-n-f Metadata [228 B]
Fetched 32.8 MB in 6s (5373 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
19 packages can be upgraded. Run 'apt list --upgradable' to see them.
ubuntu@ip-172-31-37-154:~\$ cd .ssh
ubuntu@ip-172-31-37-154:~/.ssh\$ ls
authorized_keys
ubuntu@ip-172-31-37-154:~/.ssh\$ sudo nano authorized_keys
ubuntu@ip-172-31-37-154:~/.ssh\$ java --version
openjdk 11.0.23 2024-04-16
OpenJDK Runtime Environment (build 11.0.23+9-post-Ubuntu-1ubuntu122.04.1)
OpenJDK 64-Bit Server VM (build 11.0.23+9-post-Ubuntu-1ubuntu122.04.1, mixed mode, sharing)
ubuntu@ip-172-31-37-154:~/.ssh\$

i-04dedc29ac0ef93e5 (slave3)

PublicIPs: 52.71.55.167 PrivateIPs: 172.31.37.154

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Get:25 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 c-n-f Metadata [17.7 kB]
Get:26 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [2238 kB]
Get:27 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [384 kB]
Get:28 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 c-n-f Metadata [604 B]
Get:29 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1108 kB]
Get:30 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [258 kB]
Get:31 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [25.4 kB]
Get:32 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [43.3 kB]
Get:33 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [10.8 kB]
Get:34 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 c-n-f Metadata [444 B]
Get:35 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [67.1 kB]
Get:36 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [11.0 kB]
Get:37 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [388 B]
Get:38 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [116 B]
Get:39 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.8 kB]
Get:40 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [16.5 kB]
Get:41 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [672 B]
Get:42 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Fetched 32.8 MB in 6s (5367 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
19 packages can be upgraded. Run 'apt list --upgradable' to see them.
ubuntu@ip-172-31-36-69:~\$ cd .ssh
ubuntu@ip-172-31-36-69:~/.ssh\$ ls
authorized_keys
ubuntu@ip-172-31-36-69:~/.ssh\$ sudo nano authorized_keys
ubuntu@ip-172-31-36-69:~/.ssh\$ mysql --version
mysql Ver 8.0.37-0ubuntu0.22.04.3 for Linux on x86_64 ((Ubuntu))
ubuntu@ip-172-31-36-69:~/.ssh\$

i-09aa5f85d3bddbaf3 (slave4)

PublicIPs: 67.202.27.36 PrivateIPs: 172.31.36.69

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EC2

```
ubuntu@ip-172-31-45-233:/etc/ansible$ cd
ubuntu@ip-172-31-45-233:~$ cd .ssh
ubuntu@ip-172-31-45-233:~/.ssh$ sudo cat /home/ubuntu/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGDQqO8BtenfK54E2c7OBRbZP9HwMfsRzqjRxbTg4Tg3tRnp8PDDMgV+1ZyXld4Gn5OMQ9psOdMBDL/s12tOZqeHoiVy6IoRw9QGhxVJ
UJWdtci04e2pAR9y7naTPiSmkqeskPyaoykJ6WyRm7TA3oJNoPjz9bXRGZFMY4OKO9/JLWvMUZ0AIdLD3bD2vrwESgZVqPNvP5obGeHUEQpc0YBCipY8iBVeFepFWX4o6zEWra3gRtG
8/meWcyxwW8b2dh5rITGAVqQV7a2qFR4/LZ/v7K5KG0Jd50fka+eCmrVRb7acP1TW0vYXk+vroaq0okrjqYNWuKp+wEWP2ctUKpVmJ4EG4tH60Q9jiuV/AzdtZyj49MAfxtWS2mEmX6
EI62qqsresQWpwmfzqussnm8F6y2R4Pkkvs6Xv/ZTQP5mgTNXvmK78QsS5I1CFRFzk0nXv1LLzPdKlCRxdzSC/8UKGvqiHljl5JqulJv1MPI9EaWq6H6xFt/gIbTKsWjBvRQgc= ubu
ntu@ip-172-31-45-233
ubuntu@ip-172-31-45-233:~/.ssh$ cd
ubuntu@ip-172-31-45-233:~$ cd /etc/ansible
ubuntu@ip-172-31-45-233:/etc/ansible$ sudo nano hosts
ubuntu@ip-172-31-45-233:/etc/ansible$ ansible -m ping all
The authenticity of host '172.31.37.154 (172.31.37.154)' can't be established.
ED25519 key fingerprint is SHA256:6G+jAIufjrTBUvtlyztD0oofCnhmrxyS0AckuBvNWay.
This key is not known by any other names
The authenticity of host '172.31.36.69 (172.31.36.69)' can't be established.
ED25519 key fingerprint is SHA256:4gIqzeRdIeWxVPbzXpK+q9sCZugKOnkaQdKHJZZoeLg.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? 172.31.34.252 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
172.31.42.6 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
```

i-0489258e12cdf9968 (Ansible-master)

PublicIPs: 54.147.249.148 PrivateIPs: 172.31.45.233

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```
"ansible_facts": {
  "discovered_interpreter_python": "/usr/bin/python3"
},
"changed": false,
"ping": "pong"
}
yes
172.31.36.69 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
ubuntu@ip-172-31-45-233:/etc/ansible$ cd roles
ubuntu@ip-172-31-45-233:/etc/ansible/roles$ ls
apache  nginx
ubuntu@ip-172-31-45-233:/etc/ansible/roles$ sudo ansible-galaxy init java
- Role java was created successfully
ubuntu@ip-172-31-45-233:/etc/ansible/roles$ sudo ansible-galaxy init mysql
- Role mysql was created successfully
ubuntu@ip-172-31-45-233:/etc/ansible/roles$ ls
apache  java  mysql  nginx
ubuntu@ip-172-31-45-233:/etc/ansible/roles$ cd java
ubuntu@ip-172-31-45-233:/etc/ansible/roles/java$ ls
README.md  defaults  files  handlers  meta  tasks  templates  tests  vars
ubuntu@ip-172-31-45-233:/etc/ansible/roles/java$ cd tasks
ubuntu@ip-172-31-45-233:/etc/ansible/roles/java/tasks$ ls
main.yml
ubuntu@ip-172-31-45-233:/etc/ansible/roles/java/tasks$ sudo nano install.yaml
```

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EC2

GNU nano 6.2

main.yml *

- include_tasks: install.yaml

^G Help

^O Write Out

^W Where Is

^K Cut

^T Execute

^C Location

M-U Undo

M-A Set Mark

^X Exit

^R Read File

^_ Replace

^U Paste

^J Justify

^/ Go To Line

M-E Redo

M-6 Copy

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GNU nano 6.2

install.yaml *

- name: insatll java

apt: name=mysql-server state=latest

^G Help

^O Write Out

^W Where Is

^K Cut

^T Execute

^C Location

M-U Undo

M-A Set Mark

^X Exit

^R Read File

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^U Paste

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GNU nano 6.2main.yml *

- include_tasks: install.yaml

^G Help

^X Exit

^O Write Out

^R Read File

^W Where Is

^_ Replace

^K Cut

^U Paste

^T Execute

^J Justify

^C Location

^/ Go To Line

M-U Undo

M-E Redo

M-A Set Mark

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ubuntu@ip-172-31-45-233:/etc/ansible/roles/mysql\$ cd tasks

ubuntu@ip-172-31-45-233:/etc/ansible/roles/mysql/tasks\$ ls

main.yml

ubuntu@ip-172-31-45-233:/etc/ansible/roles/mysql/tasks\$ sudo nano install.yaml

ubuntu@ip-172-31-45-233:/etc/ansible/roles/mysql/tasks\$ sudo nano main.yml

ubuntu@ip-172-31-45-233:/etc/ansible/roles/mysql/tasks\$ cd ../../..

ubuntu@ip-172-31-45-233:/etc/ansible\$ sudo nano play5.yaml

ubuntu@ip-172-31-45-233:/etc/ansible\$ ansible-playbook play5.yaml --syntax-check

playbook: play5.yaml

ubuntu@ip-172-31-45-233:/etc/ansible\$ ansible-playbook play5.yaml

PLAY [run java on test] *****

TASK [Gathering Facts] *****

ok: [172.31.37.154]

ok: [172.31.42.6]

TASK [java : include_tasks] *****

included: /etc/ansible/roles/java/tasks/install.yaml for 172.31.42.6, 172.31.37.154

TASK [java : install java] *****

changed: [172.31.42.6]

changed: [172.31.37.154]

PLAY [run mysql on prod] *****

TASK [Gathering Facts] *****

ok: [172.31.34.252]

ok: [172.31.36.69]

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GNU nano 6.2

play5.yaml *

- name: run java on test

hosts: test

become: true

roles:

- java

- name: run mysql on prod

hosts: prod

become: true

roles:

- mysql

^G Help

^O Write Out

^W Where Is

^K Cut

^T Execute

^C Location

M-U Undo

M-A Set Mark

^X Exit

^R Read File

^_ Replace

^U Paste

^J Justify

^/ Go To Line

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EC2

ok: [172.31.37.154]

ok: [172.31.42.6]

TASK [java : include_tasks] *****
included: /etc/ansible/roles/java/tasks/install.yaml for 172.31.42.6, 172.31.37.154

TASK [java : install java] *****
changed: [172.31.42.6]
changed: [172.31.37.154]

PLAY [run mysql on prod] *****

TASK [Gathering Facts] *****
ok: [172.31.34.252]
ok: [172.31.36.69]

TASK [mysql : include_tasks] *****
included: /etc/ansible/roles/mysql/tasks/install.yaml for 172.31.34.252, 172.31.36.69

TASK [mysql : insatll mysql] *****
changed: [172.31.34.252]
changed: [172.31.36.69]

PLAY RECAP *****
172.31.34.252 : ok=3 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0
172.31.36.69 : ok=3 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0
172.31.37.154 : ok=3 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0
172.31.42.6 : ok=3 changed=1 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0

ubuntu@ip-172-31-45-233:/etc/ansible\$

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```
102 cd .ssh
103 sudo cat /home/ubuntu/.ssh/id_rsa.pub
104 cd
105 cd /etc/ansible
106 sudo nano hosts
107 ansible -m ping all
108 cd roles
109 ls
110 sudo ansible-galaxy init java
111 sudo ansible-galaxy init mysql
112 ls
113 cd java
114 ls
115 cd tasks
116 ls
117 sudo nano install.yaml
118 sudo nano main.yml
119 cd ../../
120 cd mysql
121 ls
122 cd tasks
123 ls
124 sudo nano install.yaml
125 sudo nano main.yml
126 cd ../../../../
127 sudo nano play5.yaml
128 ansible-playbook play5.yaml --syntax-check
129 ansible-playbook play5.yaml
130 history
ubuntu@ip-172-31-45-233:/etc/ansible$
```

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