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Batch – B3 Devops

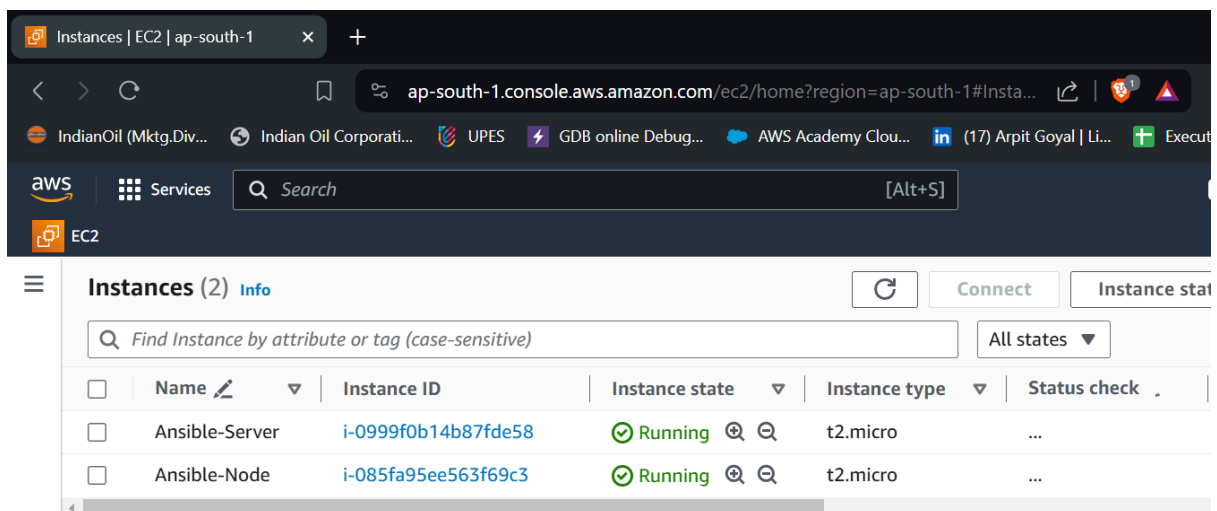
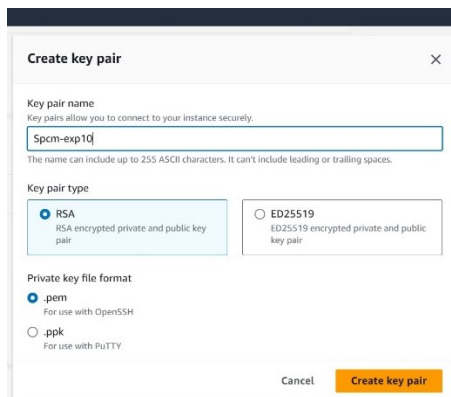
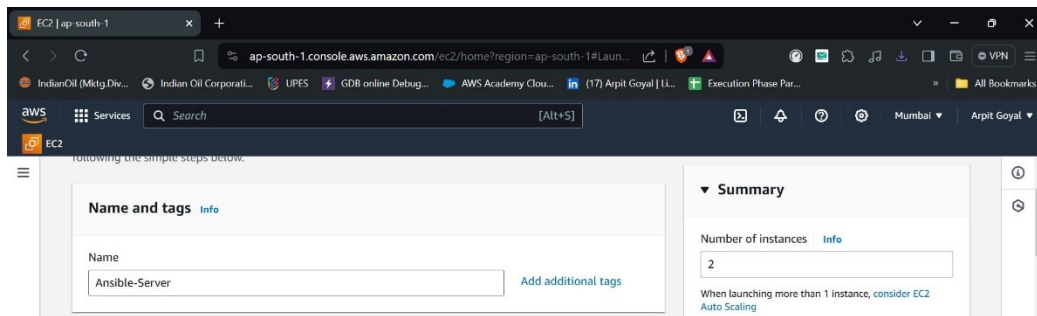
Roll no – R2142210148

Sap id - 500094790

Experiment 11 – Configure Ansible Setup In Linux:

Steps:

1. Create two Amazon Linux t2.micro instance - Ansible Server & Node



2. Install ansible on Ansible Server


```
Installed:
  python2-lockfile.noarch 1:0.11.0-17.el7                                python2-simplejson.x86_64 0:3.11.1-1.el7

Replaced:
  python-lockfile.noarch 1:0.9.1-4.amzn2                                python-simplejson.x86_64 0:3.2.0-1.amzn2.0.2

Complete!
```

```
EC2
[root@ip-172-31-42-231 ec2-user]# yum install git python python-pip openssl -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core | 3.6 kB 00:00:00
229 packages excluded due to repository priority protections
Package python-2.7.18-1.amzn2.0.8.x86_64 already installed and latest version
Package 1:openssl-1.0.2k-24.amzn2.0.12.x86_64 already installed and latest version
Resolving Dependencies
--> Running transaction check
--> Package git.x86_64 0:2.40.1-1.amzn2.0.1 will be installed
--> Processing Dependency: python2-pip for package: git-2.40.1-1.amzn2.0.1.x86_64
Complete!
Installed:
  git.x86_64 0:2.40.1-1.amzn2.0.1                                python2-pip.noarch 0:20.2.2-1.amzn2.0.5

Dependency Installed:
  git-core.x86_64 0:2.40.1-1.amzn2.0.1      git-core-doc.noarch 0:2.40.1-1.amzn2.0.1      perl-Error.noarch 1:0.17020-2.amzn2
  perl-Git.noarch 0:2.40.1-1.amzn2.0.1      perl-TermReadKey.x86_64 0:2.30-20.amzn2.0.2

Complete!
[root@ip-172-31-42-231 ec2-user]#
```

```
Complete!
[root@ip-172-31-42-231 ec2-user]# yum install ansible
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
229 packages excluded due to repository priority protections
Resolving Dependencies
--> Running transaction check
--> Package ansible.noarch 0:2.9.27-1.el7 will be installed
--> Processing Dependency: python-httplib2 for package: ansible-2.9.27-1.el7.noarch
--> Processing Dependency: python-paramiko for package: ansible-2.9.27-1.el7.noarch
--> Processing Dependency: sshpass for package: ansible-2.9.27-1.el7.noarch
--> Running transaction check
```

i-Od60040e871530720 (Ansible-Server)

PublicIPs: 3.6.91.13 PrivateIPs: 172.31.42.231

```
Installed:
  ansible.noarch 0:2.9.27-1.el7

Dependency Installed:
  python-paramiko.noarch 0:2.1.1-0.10.el7                                python2-httplib2.noarch 0:0.18.1-3.el7

Complete!
```

```
Complete!
[root@ip-172-31-42-231 ec2-user]# ansible --version
ansible 2.9.27
  config file = /etc/ansible/ansible.cfg
  configured module search path = [u'/root/.ansible/plugins/modules', u'/usr/share/ansible/plugins/modules']
  ansible python module location = /usr/lib/python2.7/site-packages/ansible
  executable location = /bin/ansible
  python version = 2.7.18 (default, Dec 18 2023, 22:08:43) [GCC 7.3.1 20180712 (Red Hat 7.3.1-17)]
[root@ip-172-31-42-231 ec2-user]#
```

3.Connect Node to Ansible Server and Add Private IP of node to the Ansible server's inventory file

```
[ec2-user@ip-172-31-42-231 ~]$ sudo su
[root@ip-172-31-42-231 ec2-user]# vi /etc/ansible/hosts
[root@ip-172-31-42-231 ec2-user]#
```

Ex 1: Ungrouped hosts, specify before any group headers.

```
[upes-lab11]
172.31.37.188
```

```
## green.example.com
## blue.example.com
## 192.168.100.1
## 192.168.100.10
```

-- INSERT --

14,14

Top

i-Od60040e871530720 (Ansible-Server)

PublicIPs: 3.6.91.13 PrivateIPs: 172.31.42.231

4. Create super user in both the machines

```
[ec2-user@ip-172-31-42-231 ~]$ sudo su
[root@ip-172-31-42-231 ec2-user]# vi /etc/ansible/hosts
[root@ip-172-31-42-231 ec2-user]# adduser ansible
[root@ip-172-31-42-231 ec2-user]# passwd ansible
Changing password for user ansible.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[root@ip-172-31-42-231 ec2-user]#
```

```
[ec2-user@ip-172-31-37-188 ~]$ sudo su
[root@ip-172-31-37-188 ec2-user]# adduser ansible
[root@ip-172-31-37-188 ec2-user]# passwd ansible
Changing password for user ansible.
New password:
BAD PASSWORD: The password is shorter than 7 characters
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[root@ip-172-31-37-188 ec2-user]#
```

5. Give sudo user permissions to both users

```
[ec2-user@ip-172-31-42-231 ~]$ sudo su
[root@ip-172-31-42-231 ec2-user]# ls
ansible.sh  epel-release-latest-7.noarch.rpm
[root@ip-172-31-42-231 ec2-user]# visudo
[root@ip-172-31-42-231 ec2-user]#
```

```
## The COMMANDS section may have other options added to it.
##
## Allow root to run any commands anywhere
root    ALL=(ALL)        ALL
ansible ALL=(ALL)        NOPASSWD: ALL
## service management apps and more.
# %sys ALL = NETWORKING, SOFTWARE, SERVICES, STORAGE, DELEGATING, PROCESSES, LOCATE, DRIVERS

## Allows people in group wheel to run all commands
%wheel  ALL=(ALL)        ALL

root    ALL=(ALL)        ALL
ansible ALL=(ALL)        NOPASSWD: ALL
## Allows members of the 'sys' group to run networking, software,
## service management apps and more.
# %sys ALL = NETWORKING, SOFTWARE, SERVICES, STORAGE, DELEGATING, PROCESSES, LOCATE, DRIVERS

## Allows people in group wheel to run all commands
%wheel  ALL=(ALL)        ALL

## Same thing without a password
# %wheel    ALL=(ALL)        NOPASSWD: ALL

"/etc/sudoers.tmp" 120L, 4363B
```

i-0475fbb2fca6ed37a (Ansible-Node)

6. Edit the sshd_config file in the node server

```
root@ip-172-31-5-83:/home/ec2-user

[root@ip-172-31-5-83 ec2-user]# visudo
[root@ip-172-31-5-83 ec2-user]# nano /etc/ssh/sshd_config
[root@ip-172-31-5-83 ec2-user]#
```

```
#LogLevel INFO

# Authentication:

#LoginGraceTime 2m
PermitRootLogin yes
#StrictModes yes
#MaxAuthTries 6
#MaxSessions 10

#PubkeyAuthentication yes

# The default is to check both .ssh/authorized_keys and .ssh/

# Don't read the user's ~/.rhosts and ~/.shosts files
#IgnoreRhosts yes

# To disable tunneled clear text passwords, change to no here!
PasswordAuthentication yes
#PermitEmptyPasswords no
#PasswordAuthentication no
```

```
root@ip-172-31-5-83:/home/ec2-user

[root@ip-172-31-5-83 ec2-user]# visudo
[root@ip-172-31-5-83 ec2-user]# nano /etc/ssh/sshd_config
[root@ip-172-31-5-83 ec2-user]# service sshd restart
Redirecting to /bin/systemctl restart sshd.service
[root@ip-172-31-5-83 ec2-user]#
```

7. Generate key pair in Ansible server and copy the key to node server

```
ansible@ip-172-31-11-127:~

[ansible@ip-172-31-11-127 ~]$ ssh-key
-bash: ssh-key: command not found
[ansible@ip-172-31-11-127 ~]$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ansible/.ssh/id_rsa):
/home/ansible/.ssh/id_rsa already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ansible/.ssh/id_rsa.
Your public key has been saved in /home/ansible/.ssh/id_rsa.pub.
The key's fingerprint is:
SHA256:WciCBF7n9Wn5bE6bw5SX67C7unB6gD+qUFRBy2Zf0XI ansible@ip-172-31-11-127.ap-south-1.compute.internal
The key's randomart image is:
+---[RSA 2048]----+
| ..0 . . |
| . + + + + 0 |
| . + + * E |
| . 0 0 0 0 . . |
| B S . B 0 |
| * . 0 0 * + . |
| o o . o B . |
| . . + = |
| . oo+o. |
+---[SHA256]-----+
[ansible@ip-172-31-11-127 ~]$ ssh-copy-id ansiblenode@172.31.5.83
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/ansible/.ssh/id_rsa.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
ansiblenode@172.31.5.83's password:

Number of key(s) added: 1

Now try logging into the machine, with: "ssh 'ansiblenode@172.31.5.83'"
and check to make sure that only the key(s) you wanted were added.

[ansible@ip-172-31-11-127 ~]$
```

8. Connect to node server from ansible server

```
ansiblenode@ip-172-31-5-83:~

[ansible@ip-172-31-11-127 ~]$ ssh 'ansiblenode@172.31.5.83'
Last login: Sat Apr 20 20:51:54 2024

#_
~\  #####_      Amazon Linux 2
~~ \#####\
~~  \###|        AL2 End of Life is 2025-06-30.
~~   \#/  ---
~~    V~'  '->
~~~~
~~  _./  /      A newer version of Amazon Linux is available!
~~ _/_/
~~/_/

Amazon Linux 2023, 6A and supported until 2028-03-15.
https://aws.amazon.com/linux/amazon-linux-2023/

[ansiblenode@ip-172-31-5-83 ~]$
```