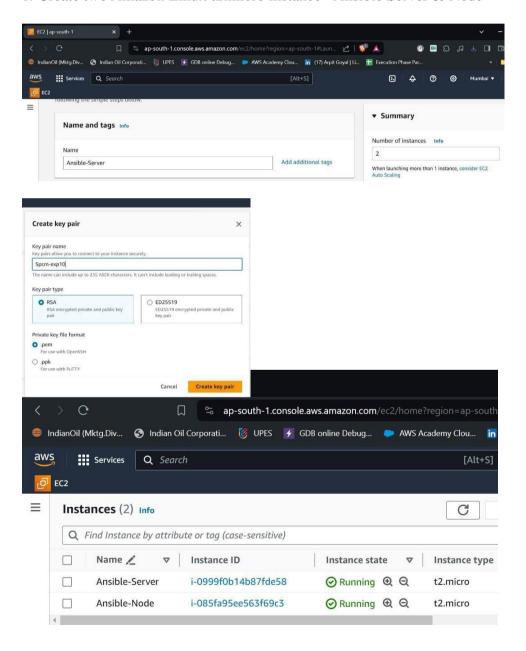Submitted by –RIDDHIMA RAI

Batch – DevopsB2

Roll no – R2142210634

Sap id - 500094024

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

```
       #
  ~\_  ####
 ~~ \_#####\
 ~~     \###|          Amazon Linux 2
 ~~      \#/ ___
   ~~     V~' '->       AL2 End of Life is 2025-06-30.
    ~~~         /
      ~~._.   _/        A newer version of Amazon Linux is available!
        _/ _/
       _/m/'             Amazon Linux 2023, GA and supported until 2028-03-15.
                           https://aws.amazon.com/linux/amazon-linux-2023/

[ec2-user@ip-172-31-42-231 ~]$ sudo su
[root@ip-172-31-42-231 ec2-user]# wget https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.rpm
--2024-04-25 09:15:04--  https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.rpm
Resolving dl.fedoraproject.org (dl.fedoraproject.org)... 38.145.60.22, 38.145.60.23, 38.145.60.24
Connecting to dl.fedoraproject.org (dl.fedoraproject.org)|38.145.60.22|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 15608 (15K) [application/x-rpm]
Saving to: 'epel-release-latest-7.noarch.rpm'

100%[================================================================>] 15,608      59.3KB/s   in 0.3s

2024-04-25 09:15:05 (59.3 KB/s) - 'epel-release-latest-7.noarch.rpm' saved [15608/15608]

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

```
[root@ip-172-31-42-231 ec2-user]# yum install  epel-release-latest-7.noarch.rpm
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Examining epel-release-latest-7.noarch.rpm: epel-release-7-14.noarch
Marking epel-release-latest-7.noarch.rpm to be installed
Resolving Dependencies
--> Running transaction check
---> Package epel-release.noarch 0:7-14 will be installed
--> Finished Dependency Resolution
amzn2-core/2/x86_64                                                                | 3.6 kB  00:00:00

Dependencies Resolved

===========================================================================================================
 Package                Arch              Version            Repository                          Size
===========================================================================================================
Installing:
 epel-release           noarch            7-14               /epel-release-latest-7.noarch       25 k

Transaction Summary
===========================================================================================================
Install  1 Package
```

i-0d60040e871530720 (Ansible-Server)

PublicIPs: 3.6.91.13   PrivateIPs: 172.31.42.231

```
Is this ok [y/d/N]: y
Downloading packages:
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : epel-release-7-14.noarch
  Verifying  : epel-release-7-14.noarch

Installed:
  epel-release.noarch 0:7-14


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

```
[root@ip-172-31-42-231 ec2-user]# yum update -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
229 packages excluded due to repository priority protections
Resolving Dependencies
--> Running transaction check
---> Package python-lockfile.noarch 1:0.9.1-4.amzn2 will be obsoleted
---> Package python-simplejson.x86_64 0:3.2.0-1.amzn2.0.2 will be obsoleted
---> Package python2-lockfile.noarch 1:0.11.0-17.el7 will be obsoleting
---> Package python2-simplejson.x86_64 0:3.11.1-1.el7 will be obsoleting
--> Finished Dependency Resolution

Dependencies Resolved
```

```
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: git-core = 2.40.1-1.amzn2.0.1 for package: git-2.40.1-1.amzn2.0.1.x86_64
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-0d60040e871530720 (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-0d60040e871530720 (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, DR

## 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            Q  ≡  –  ⌐  ×
[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

#PubkeyAuth
```

```
# 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 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

8. Connect to node server from ansible server


```
[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, GA and supported until 2028-03-15.
        _/m/'             https://aws.amazon.com/linux/amazon-linux-2023/

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