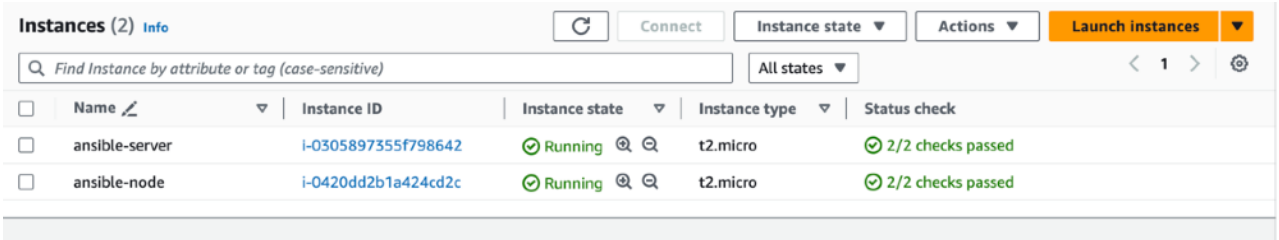
Lab Exercise 11– Configure Ansible Setup In Linux

Objective:

To configure Ansible Setup for Linux Environment.

Step 1: Spin up two amazon linux ec2 instances using was.



Step 2: Connect to the ansible server using SSH.

```
Last login: Fri Apr 26 13:17:16 on ttys000
You have new mail.
gauravbhandari@gauravs-MacBook-Air-2 ~ % cd downloads
gauravbhandari@gauravs-MacBook-Air-2 downloads % ssh -i "firstKey.pem" ec2-user@ec2-13-201-60-132.ap-south-1.compute.amaz
onaws.com
The authenticity of host 'ec2-13-201-60-132.ap-south-1.compute.amazonaws.com (13.201.60.132)' can't be established.
ED25519 key fingerprint is SHA256:4oIkodjAvtqDTQBS1hCN+PlpstEMVhWs3+zxToeJqCw.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? ye
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added 'ec2-13-201-60-132.ap-south-1.compute.amazonaws.com' (ED25519) to the list of known hosts.
   ,     #_
   ~\_  ####_        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/

-bash: warning: setlocale: LC_CTYPE: cannot change locale (UTF-8): No such file or directory
[ec2-user@ip-172-31-47-88 ~]$
```

Step 3: Switch to root user.

```
[[ec2-user@ip-172-31-47-88 ~]$ sudo su
```

Step 4: Run the following commands to install a few packages, dependencies and ansible itself.

```
[root@ip-172-31-47-88 ec2-user]# yum install  epel-release-latest-7.noarch.rpm
Failed to set locale, defaulting to C
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

Total size: 25 k
Installed size: 25 k
```

```
[root@ip-172-31-47-88 ec2-user]# yum install git python python-pip openssl -y
Failed to set locale, defaulting to C
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
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
--> Processing Dependency: git-core-doc = 2.40.1-1.amzn2.0.1 for package: git-2.40.1-1.amzn2.0.1.x86_64
--> Processing Dependency: perl-Git = 2.40.1-1.amzn2.0.1 for package: git-2.40.1-1.amzn2.0.1.x86_64
--> Processing Dependency: perl(Git) for package: git-2.40.1-1.amzn2.0.1.x86_64
--> Processing Dependency: perl(Term::ReadKey) for package: git-2.40.1-1.amzn2.0.1.x86_64
---> Package python2-pip.noarch 0:20.2.2-1.amzn2.0.5 will be installed
--> Running transaction check
---> Package git-core.x86_64 0:2.40.1-1.amzn2.0.1 will be installed
---> Package git-core-doc.noarch 0:2.40.1-1.amzn2.0.1 will be installed
---> Package perl-Git.noarch 0:2.40.1-1.amzn2.0.1 will be installed
--> Processing Dependency: perl(Error) for package: perl-Git-2.40.1-1.amzn2.0.1.noarch
---> Package perl-TermReadKey.x86_64 0:2.30-20.amzn2.0.2 will be installed
```

```
[root@ip-172-31-47-88 ec2-user]# yum update -y
Failed to set locale, defaulting to C
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Existing lock /var/run/yum.pid: another copy is running as pid 3388.
Another app is currently holding the yum lock; waiting for it to exit...
  The other application is: yum
    Memory : 362 M RSS (657 MB VSZ)
    Started: Fri Apr 26 08:00:48 2024 - 00:25 ago
    State  : Running, pid: 3388
Another app is currently holding the yum lock; waiting for it to exit...
  The other application is: yum
    Memory : 362 M RSS (657 MB VSZ)
    Started: Fri Apr 26 08:00:48 2024 - 00:27 ago
    State  : Running, pid: 3388
229 packages excluded due to repository priority protections
```

```
[root@ip-172-31-47-88 ec2-user]# yum install ansible
Failed to set locale, defaulting to C
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
---> Package python-paramiko.noarch 0:2.1.1-0.10.el7 will be installed
---> Package python2-httplib2.noarch 0:0.18.1-3.el7 will be installed
---> Package sshpass.x86_64 0:1.06-1.el7 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

========================================================================================================================
 Package                          Arch                    Version                         Repository              Size
========================================================================================================================
Installing:
 ansible                          noarch                  2.9.27-1.el7                    epel                    17 M
Installing for dependencies:
 python-paramiko                  noarch                  2.1.1-0.10.el7                  epel                   269 k
 python2-httplib2                 noarch                  0.18.1-3.el7                    epel                   125 k
 sshpass                          x86_64                  1.06-1.el7                      epel                    21 k

Transaction Summary
========================================================================================================================
```

```
[root@ip-172-31-47-88 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)]
```

Step: open the file /etc/ansible/hosts and create a new group and in that group insert the IP of you ansible node.

```
[[root@ip-172-31-47-88 ec2-user]# vi /etc/ansible/hosts
```

```
# If you have multiple hosts following a pattern you can specify
# them like this:

## www[001:006].example.com

# Ex 3: A collection of database servers in the 'dbservers' group

## [dbservers]
##
## db01.intranet.mydomain.net
## db02.intranet.mydomain.net
## 10.25.1.56
## 10.25.1.57
[upes]
172.31.41.239
```

Step: Add a new user to the ansible server

```
[[root@ip-172-31-47-88 ec2-user]# adduser ansible
[[root@ip-172-31-47-88 ec2-user]# passwd ansible
 Changing password for user ansible.
[New password:
 BAD PASSWORD: The password is shorter than 8 characters
[Retype new password:
 Sorry, passwords do not match.
[New password:
 BAD PASSWORD: The password is shorter than 8 characters
[Retype new password:
 passwd: all authentication tokens updated successfully.
 [root@ip-172-31-47-88 ec2-user]#
```

Step: Connect to ansible node and create a new user by the same name as on the ansible server

```
   ~\_  ####_        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/

[ec2-user@ip-172-31-41-239 ~]$ sudo su
[root@ip-172-31-41-239 ec2-user]# adduser ansible
[root@ip-172-31-41-239 ec2-user]# passwd ansible
Changing password for user ansible.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@ip-172-31-41-239 ec2-user]#
```

Step : inside the ansible node over write the permission and grant all permissions to the new created user.

```
[root@ip-172-31-41-239 ec2-user]# visudo
[root@ip-172-31-41-239 ec2-user]#
```

```
##
## Allow root to run any commands anywhere
root    ALL=(ALL)       ALL
ansible ALL=(ALL) NOPASSWD:ALL
## Allows members of the 'sys' group to run networking, software,
## service management apps and more.
```

Do the similar in ansible server

```
## Allow root to run any commands anywhere
root    ALL=(ALL)       ALL
ansible ALL=(ALL) NOPASSWD= ALL
```

Step: from the server switch to the ansible user and generate a public ssh key.

```
[root@ip-172-31-47-88 ec2-user]# su - ansible
[ansible@ip-172-31-47-88 ~]$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ansible/.ssh/id_rsa):
Created directory '/home/ansible/.ssh'.
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 fingerprint is:
SHA256:/+dIM8Ix7Oa40kpx+78bg6n1Q3OQROjE1W66BMhoTuE ansible@ip-172-31-47-88.ap-south-1.compute.interna
The key's randomart image is:
+---[RSA 2048]----+
|         . +o.   |
|      .   + . .  |
|     . + + . o   |
|      E o.o o o  |
|     +. S +. +   |
|      .o = == .  |
|      ... Xo*+   |
|     .. .B =o*.  |
|      .o+.o.B*.  |
+----[SHA256]-----+
[ansible@ip-172-31-47-88 ~]$ ls -a
.  ..  .bash_logout  .bash_profile  .bashrc  .ssh
```

Step: the next step would be to register this key on the ansible node. So go to ansible node , switch to root user and then open /etc/ssh/sshd_config

```
[ansible@ip-172-31-41-239 ~]$ sudo su
[root@ip-172-31-41-239 ansible]# cd ..
[root@ip-172-31-41-239 home]# ls
ansible  ec2-user
[root@ip-172-31-41-239 home]# vi /etc/ssh/sshd_config
[root@ip-172-31-41-239 home]#
```

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

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

Step: Now copy the ssh id of the server into the node.

```
[ansible@ip-172-31-47-88 .ssh]$ ssh-copy-id ansible@172.31.41.239
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/ansible/.ssh/id_rsa.pub"
The authenticity of host '172.31.41.239 (172.31.41.239)' can't be established.
ECDSA key fingerprint is SHA256:DwCK5jsrTJP8Q7BPWIEKBvqwiOnVTSBIiYZo5wZXO8c.
ECDSA key fingerprint is MD5:ba:8b:f5:6a:d6:40:95:f7:93:e2:06:3a:5f:de:ff:bc.
Are you sure you want to continue connecting (yes/no)? yes
/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
ansible@172.31.41.239's password:

Number of key(s) added: 1

Now try logging into the machine, with:   "ssh 'ansible@172.31.41.239'"
and check to make sure that only the key(s) you wanted were added.
```

Step: for confirmation ssh the ansible node manually

```
[ansible@ip-172-31-47-88 .ssh]$ ssh ansible@172.31.41.239
Last login: Fri Apr 26 09:50:25 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/

[ansible@ip-172-31-41-239 ~]$
```