ANSIBLE

Steps to install ANSIBLE on Amazon Linux 2

1. Enable password based authentication and restart sshd service

   vi /etc/ssh/ssh_config

   PasswordAuthentication yes
   #PasswordAuthentication no

   systemctl restart sshd

```
[root@ip-172-31-15-125 ~]#
[root@ip-172-31-15-125 ~]#
[root@ip-172-31-15-125 ~]# vi /etc/ssh/sshd_config
```

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

```
[root@ip-172-31-15-125 ~]#
[root@ip-172-31-15-125 ~]# systemctl restart sshd
[root@ip-172-31-15-125 ~]#
```

2. Provide limited admin access to ec2-user and set the password

   vi /etc/sudoers

   ec2-user ALL=NOPASSWD: ALL

   passwd ec2-user

```
[root@ip-172-31-15-125 ~]# vi /etc/sudoers
## Allow root to run any commands anywhere
root    ALL=(ALL)       ALL
ec2-user ALL=NOPASSWD: ALL
```

```
[root@ip-172-31-15-125 ~]# passwd ec2-user
Changing password for user ec2-user.
New password:
BAD PASSWORD: The password fails the dictionary check - it is based on a dictionary word
Retype new password:
passwd: all authentication tokens updated successfully.
[root@ip-172-31-15-125 ~]#
```

3. Generate the ssh public and private key for ec2-user and copy it to the tomcat server.

   ssh-keygen
   ssh-copy-id ec2-user@<slavePrivateIP>

```
[ec2-user@ip-172-31-15-125 ~]$
[ec2-user@ip-172-31-15-125 ~]$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ec2-user/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ec2-user/.ssh/id_rsa.
Your public key has been saved in /home/ec2-user/.ssh/id_rsa.pub.
```

```
[ec2-user@ip-172-31-15-125 ~]$
[ec2-user@ip-172-31-15-125 ~]$  ssh-copy-id ec2-user@172.31.11.20
/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/ec2-user/.ssh/id_rsa.pub"
The authenticity of host '172.31.11.20 (172.31.11.20)' can't be established.
ECDSA key fingerprint is SHA256:9I2Zn7HVNb03nkUwymtyNKYFYQMPKT4SyAXb4hnMcHk.
ECDSA key fingerprint is MD5:96:31:ec:af:5f:69:4f:f6:c7:d3:89:dd:c3:44:04:32.
Are you sure you want to continue connecting (yes/no)? yes
/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
ec2-user@172.31.11.20's password:

Number of key(s) added: 1

Now try logging into the machine, with:   "ssh 'ec2-user@172.31.11.20'"
and check to make sure that only the key(s) you wanted were added.
```

NOTE: Follow the steps from 1 to 3 on tomcat server. We will use tomcat server as slave node for ansible server.

4. Install the ansible using below commands

   `sudo amazon-linux-extras install epel`
   yum list | grep ansible
   yum install ansible -y

```
[root@ip-172-31-15-125 ~]# sudo amazon-linux-extras install epel
Installing epel-release
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Cleaning repos: amzn2-core amzn2extra-docker amzn2extra-epel amzn2extra-kernel-5.10
17 metadata files removed
6 sqlite files removed
```

```
[root@ip-172-31-15-125 ~]#
[root@ip-172-31-15-125 ~]#  yum list | grep ansible
ansible.noarch                          2.9.27-1.el7                    epel
ansible-doc.noarch                      2.9.27-1.el7                    epel
ansible-inventory-grapher.noarch        2.4.4-1.el7                     epel
ansible-lint.noarch                     3.5.1-1.el7                     epel
ansible-openstack-modules.noarch        0-20140902git79d751a.el7        epel
ansible-python3.noarch                  2.9.27-1.el7                    epel
ansible-review.noarch                   0.13.4-1.el7                    epel
ansible-test.noarch                     2.9.27-1.el7                    epel
kubernetes-ansible.noarch               0.6.0-0.1.gitd65ebd5.el7        epel
python2-ansible-runner.noarch           1.0.1-1.el7                     epel
python2-ansible-tower-cli.noarch        3.3.9-1.el7                     epel
vim-ansible.noarch                      3.2-1.el7                       epel
```

```
[root@ip-172-31-15-125 ~]#
[root@ip-172-31-15-125 ~]# yum install ansible -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
210 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
```

5. Change the ownership of /etc/ansible/hosts file. Create the inventory file.

   chown ec2-user:ec2-user /etc/ansible/hosts

   vi /etc/ansible/hosts

```
[root@ip-172-31-15-125 ~]#
[root@ip-172-31-15-125 ~]# chown ec2-user:ec2-user /etc/ansible/hosts
```

```
[ec2-user@ip-172-31-15-125 ~]$ cd /etc/ansible/
[ec2-user@ip-172-31-15-125 ansible]$ ls
ansible.cfg  hosts  roles
[ec2-user@ip-172-31-15-125 ansible]$ vi hosts
```

```
## db-[99:101]-node.example.com
172.31.11.20
:wq!
```

6. Create the directory for the playbook and change the ownership.

```
[root@ip-172-31-15-125 ~]#
[root@ip-172-31-15-125 ~]# mkdir /opt/playbooks
[root@ip-172-31-15-125 ~]# chown -R  ec2-user:ec2-user /opt/playbooks/
[root@ip-172-31-15-125 ~]# cd /opt/playbooks/
[root@ip-172-31-15-125 playbooks]# su ec2-user
[ec2-user@ip-172-31-15-125 playbooks]$ vi copy.yml
```

7. Create the playbook named copy.yml

   vi copy.yml

```
- hosts: all
  become: true
  tasks:
   - name: copy the var file
     copy:
        src: /opt/playbooks/opt/playbooks/webapp/target/webapp.war
        dest: /opt/apache-tomcat-9.0.62/webapps
```

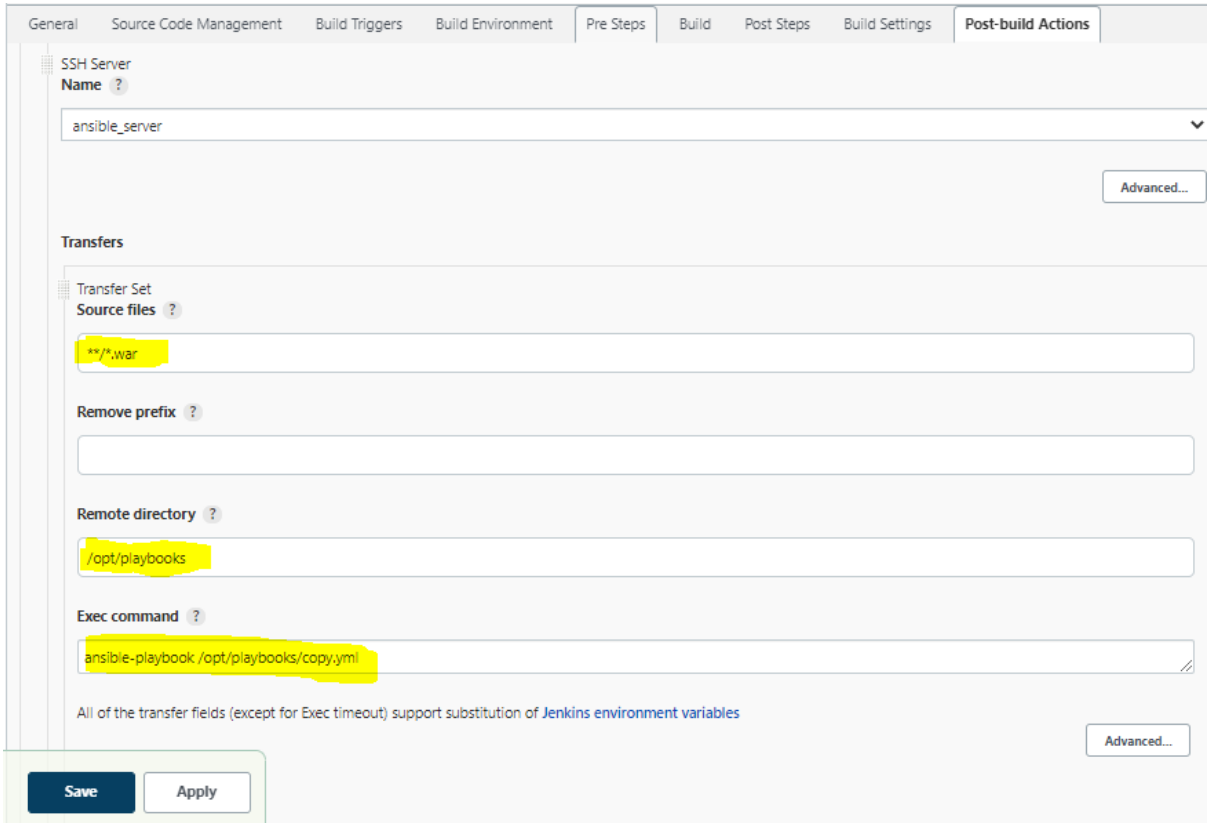
```
[ec2-user@ip-172-31-15-125 playbooks]$ cat copy.yml
---

- hosts: all
  become: true
  tasks:
  - name: copy the var file
    copy:
       src: /opt/playbooks/opt/playbooks/webapp/target/webapp.war
       dest: /opt/apache-tomcat-9.0.62/webapps
[ec2-user@ip-172-31-15-125 playbooks]$
```

Steps to integrate with Jenkins and create the job

1. Login to your Jenkins server and go to (manage Jenkins – configure system). Add the ssh server as below

2. Go to existing maven project and remove existing post build actions. Change the job configuration as below.



3. Build the job and see the console output. Access the webapp using url http://IPAddress:8090/webapp/

```
[INFO] [1;32mBUILD SUCCESS[m
[INFO] [1m------------------------------------------------------------------------[m
[INFO] Total time: 7.869 s
[INFO] Finished at: 2022-05-14T16:52:25Z
[INFO] [1m------------------------------------------------------------------------[m
Waiting for Jenkins to finish collecting data
[JENKINS] Archiving /var/lib/jenkins/workspace/maven_project/webapp/pom.xml to com.example.maven-project/webapp/1.0-SNAPSHOT/webapp-1.0-SNAPSHOT.pom
[JENKINS] Archiving /var/lib/jenkins/workspace/maven_project/webapp/target/webapp.war to com.example.maven-project/webapp/1.0-SNAPSHOT/webapp-1.0-SNAPSHOT.war
[JENKINS] Archiving /var/lib/jenkins/workspace/maven_project/server/pom.xml to com.example.maven-project/server/1.0-SNAPSHOT/server-1.0-SNAPSHOT.pom
[JENKINS] Archiving /var/lib/jenkins/workspace/maven_project/server/target/server.jar to com.example.maven-project/server/1.0-SNAPSHOT/server-1.0-SNAPSHOT.jar
[JENKINS] Archiving /var/lib/jenkins/workspace/maven_project/pom.xml to com.example.maven-project/maven-project/1.0-SNAPSHOT/maven-project-1.0-SNAPSHOT.pom
channel stopped
SSH: Connecting from host [ip-172-31-15-36.ap-south-1.compute.internal]
SSH: Connecting with configuration [ansible_server] ...
SSH: EXEC: completed after 4,005 ms
SSH: Disconnecting configuration [ansible_server] ...
SSH: Transferred 1 file(s)
Finished: SUCCESS
```

Welcome

Enter username:

Enter number of multiplication tables:

Submit