**SIMPLILEARN - PG DO - Configuration Management with Ansible and Terraform**

CI/CD Deployment Using Ansible CM Tool

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# **Steps to Perform:**

1. Configure Jenkins server as Ansible provisioning machine
2. Install Ansible plugins in Jenkins CI server
3. Prepare Ansible playbook to run Maven build on Jenkins CI server
4. Prepare Ansible playbook to execute deployment steps on the remote web container with restart of the web container post deployment

# Configure Jenkins server as Ansible provisioning machine

Option A:

Configure Jenkins using terraform (script in shared repo https://github.com/jitendrakumrhotmail/simplilearnDevopsProject.git) to get Jenkins up and running –

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Install Ansible Plugin as follows –

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Option B:

Ansible package can be installed on Master machine using amazon provided packages

$ sudo amazon-linux-extras install ansible2

To Check Ansible version on Amazon Linux EC2 Machine

$ ansible --version

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ansible version check

**Configure SSH User in Ansible Server**

useradd jitendra\_adm  
passwd \*\*\*\*\*\*\*  
  
visudo  
  
#Add this user  
jitendra\_adm ALL=(ALL) ALL  
  
vi /etc/ssh/sshd\_config  
# Change PasswordAuthentication no To PasswordAuthentication yes  
  
#Restart SSH Service

Copy Tomcat Server IP to Ansible Host files

echo "<Tomcat server IP>" >> /etc/ansible/hosts

**Configure SSH User in Tomcat Server**

useradd jitendra\_adm  
passwd \*\*\*\*\*\*\*  
  
visudo  
  
#Add this user  
jitendra\_adm ALL=(ALL) NOPASSWD:ALL  
  
vi /etc/ssh/sshd\_config  
# Change PasswordAuthentication no To PasswordAuthentication yes  
  
#Restart SSH Service  
service sshd restart

**Create SSH Keygen on Ansible Server**

Login as jitendra\_adm user on master (Ansible Server) and generate ssh key (Master)

ssh-keygen

Copy keys onto all ansible client (Tomcat Server) nodes (Master)

ssh-copy-id jitendra\_adm@<Tomcat Server IP>

# Install Ansible plugins in Jenkins CI server

Install Ansible Plugin as follows –

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Install “publish Over SSH”

* Manage Jenkins > Manage Plugins > Available > Publish over SSH

Enable connection between Ansible and Jenkins

* Manage Jenkins > Configure System > Publish Over SSH > SSH Servers
* SSH Servers:  
  Name: ansible\_server  
  Hostname: <Ansible ServerIP>  
  username: jitendra\_adm  
  password: \*\*\*\*\*\*\*

Test the connection “Test Connection”

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# Prepare Ansible playbook to run Maven build on Jenkins CI server

create a copywarfile.yml on Ansible under /home/jitendra\_adm/playbooks

vi copywarfile.yml

Copy the below code save and exit

- name: Ansible Copy WAR File Local to Remote  
 hosts: all  
 tasks:  
 - name: copying file with playbook  
 become: true  
 copy:  
 src: ~/target/sample-web.war  
 dest: /opt/apache-tomcat-9.0.55/webapps

**Create Jenkins job**

* Source Code Management:  
  Repository : https://github.com/jitendrakumrhotmail/simplilearnDevopsProject.git  
  Branches to build : \*/master
* Build:  
  Root POM : pom.xml  
  Goals and options : clean install package
* Add post-build steps  
  Send files or execute commands over SSH  
  SSH Server : ansible\_server  
  Source fiels : \*\*/\*.war  
  Remote directory : //

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# Prepare Ansible playbook to execute deployment steps on the remote web container with restart of the web container post deployment

Add post-build steps  
Send files or execute commands over SSH  
SSH Server : ansible\_server  
Exec command : ansible-playbook /home/jitendra\_adm/playbooks/copywarfile.yml

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