**SIMPLE DEVOPS PROJECT 2**

**ANSIBLE INSTALLATION AND CONFIGURATION IN AWS**

**Steps 1: (Ansible installation and DEVOPS CS 002)**

1.Create an instance for **Ansible Server** using Amazon Linux 2.

2.Create an instance for **Ansible Client** using Amazon Linux 2.

3.Using the public **IPV4 addresses** of both Ansible-Client and Ansible-Server create a connection using PuTTY. Open both the Ansible-Client & Server in separate PuTTY.

4.In Ansible-Client & Server make them as root using **sudo su –** command.

5.Then type **yum update -y** command on both Server & Client PuTTY.

6.Then on Ansible-Server install ansible using **amazon-linux-extras install ansible2** command.

7. After installing ansible check the ansible version using **ansible –-version** command

8. In Ansible-Client install java using **yum install java-1.8\* -y** command.

9.Then download the installation package of tomcat 8 by googling the tomcat 8 download. Then go to the 1st website and inside that **Binary Distributions » Core** then, copy the address of the **.tar.gz** file and inside the Ansible-Client PuTTY paste the address as

**wget https://dlcdn.apache.org/tomcat/tomcat-8/v8.5.79/bin/apache-tomcat-8.5.79.tar.gz**

10.Then check for the downloaded zip file using ls command. Then, unzip the downloaded file using **tar -xvzf /opt/apache-tomcat-8.5.79.tar.gz** command.

11. Then using ls command check for the folder as **apache-tomcat-8.5.79**.

12. Then, get into the folder using **cd apache-tomcat-8.5.79** inside that go to bin folder

13. There we can see **startup.sh and shutdown.sh**.

14. We are making those two script files to executable using **chmod +x /opt/apache-tomcat-8.5.79/bin/startup.sh shutdown.sh** command.

15. Now we are creating a softlink to star and stop the tomcat server, the command **ln -s /opt/apache-tomcat-8.5.79/bin/startup.sh usr/local/bin/tomcatup** as well as for shutdown use the command **ln -s /opt/apache-tomcat-8.5.79/bin/shutdown.sh usr/local/bin/tomcatdown** **(**After executing these commands we can just give tomcatup and tomcatdown to start and stop the server**).**

16. Next, we’re going to start the server using **tomcatup**.

17. Now inside the Ansible-Server PuTTY, type **useradd ansadmin**

18. Then type **visudo** and press enter

19. Inside visudo press i button for insert mode then, after root add

**ansible ALL=(ALL) NOPASSWD: ALL**

**ansadmin ALL=(ALL) NOPASSWD: ALL**

these two lines like this

20. Inside the Ansible-Client also add these two lines inside visudo.

21. Then, inside the Ansible-Server after **useradd ansadmin** type **passwd ansadmin** give a new password and retype the password after that it will show as passwd: all authentication tokens updated successfully.

22. Then, go to **cd /etc/ssh** and give ls command you’ll see files and folders in that edit the **ssh\_config** file using **vi ssh\_config**

Inside that use the i button for insert mode, then, remove the # for the **PasswordAuthentication yes** like this

23. Then, exit and save the file by pressing the esc buton and type **:wq**

24. Then, edit the **sshd\_config** file using vi command.

25. Inside that file **remove the # for PasswordAuthentication yes and add an # for PasswordAuthentication no**

26. Then, restart the service using **service sshd restart** command.

27. Do the same steps from **step 21 to 25 inside the Ansible-Client** also.

28. Inside the Ansible-Client also type **useradd ansadmin** and **passwd ansadmin**. Type the same password what you’ve gave inside the Ansible-Server and retype the same password.

29. Inside the Ansible-Server PuTTY I think we’re inside the **ssh** folder. Change from root to ansadmin using **su ansadmin** command.

30. Type **ssh-keygen** command

31. Now, get out of the ssh and etc folder using **cd ..** command.

32. Then, go inside the **cd /home/ansadmin** folder.

33. Type **ls -lsa** command to see the files folders and their permissions. Then, go to **.ssh** folder using **cd .ssh** command.

34. Then, type **ssh-copy-id 172.31.6.91** …[Ansible-Client’s private IPV4 address]……

35. Now, try logging into the machine, with: **ssh 172.31.6.91** and check to make sure that only the key(s) you wanted were added.

36. Now, you’ve noted that we’re inside the Ansible-Client’s server. Exit from that server using exit command

37. Now, type **sudo vi /etc/ansible/hosts** then, inside that delete all the contents inside that file then type web in 1st line and add the Ansible-Client’s private IPV4 address. Then, save and exit the file using esc button and **:wq**

38. Now, type **ansible all -m ping** Here, we’re trying to check whether the connection is stable or not by pinging the Ansible-Client like this

We’ve configured the **Ansible-Server & Ansible-Client** successfully……

39. Check if the connection is stable or not by connecting with the Ansible-Client using ssh followed by Ansible-Clients private IP address like

**ssh 172.31.6.91**

40. Now, ping the Ansible-Client using the command **Ansible all -m ping**

If the connection is stable it’ll show as **SUCCESS**.

41. Create **“copyfile.yml”** playbook inside /opt/playbooks

42. We need to **create a playbook to transfer file from Ansible-Server to Ansible-Client**.

43. Go to **Jenkins server (webpage)** **and install “publish over ssh” plugin**.

44. Enable connection between **Ansible and Jenkins**.

· **Manage Jenkins » Configure System » Publish Over SSH » SSH Servers**

o SSH Servers:

§ Hostname: **172.31.13.218**

§ username: **ansadmin**

§ password: \*\*\*\*\*\*\*\*

§ Test the connection "**Test Connection**"

45. Then, create a Jenkins job named as “**DEVOPS CS 002**”

· Source Code Management:

o Repository: **https://github.com/Bharath-77/CASE-STUDY.git** (GitHub URL)

o Branches to build: **\*/master**

· Build:

o Root POM: **pom.xml**

o Goals and options: **clean install package**

· Add post-build steps

o Send files or execute commands over SSH

§ SSH Server: **Ansible Server**

§ Source files: **webapp/target/\*.war**

§ Remote directory: **//opt//playbooks**

· Add post-build steps

o Send files or execute commands over SSH

§ SSH Server: **Ansible Server**

§ Exec command

**ansible-playbook /opt/playbooks/copyfile.yml**

46. Execute job and you should be able to see that the **build** has been deployed on **Tomcat server**.