JENKINS ANSWERS

1. **Write a Multi Stage Jenkins Declarative Pipeline.**

Ans:

```
pipeline {
   agent any
   stages {
      stage ("MUSTAFA") {
         steps {
            echo "This is stage-1"
         }
      }
      stage ("devops") {
         steps {
            echo "we are learning devops"
         }
      }
      stage ("aws") {
         steps {
            echo "we are learning AWS also"
         }
      }
   }
}
```

2. Write a Jenkins Scripted Pipeline to get the code from GitHub and build the code using maven

Ans:

```
node {
    stage ("Code") {
        git "https://github.com/devops0014/one.git"
    }
    stage ("Build") {
        sh 'mvn clean package'
    }
}
```

3. Explain the following post build actions in Jenkins Pipeline.

Ans:

FIXED : This block runs when the current status is success and the previous one was failed or unstable

REGRESSION: This block runs when the current status is anything except success but the previous one was successful

ABORTED: This block runs when the build process is aborted.

UNSUCCESSFUL: This block runs when the current status is anything except success.

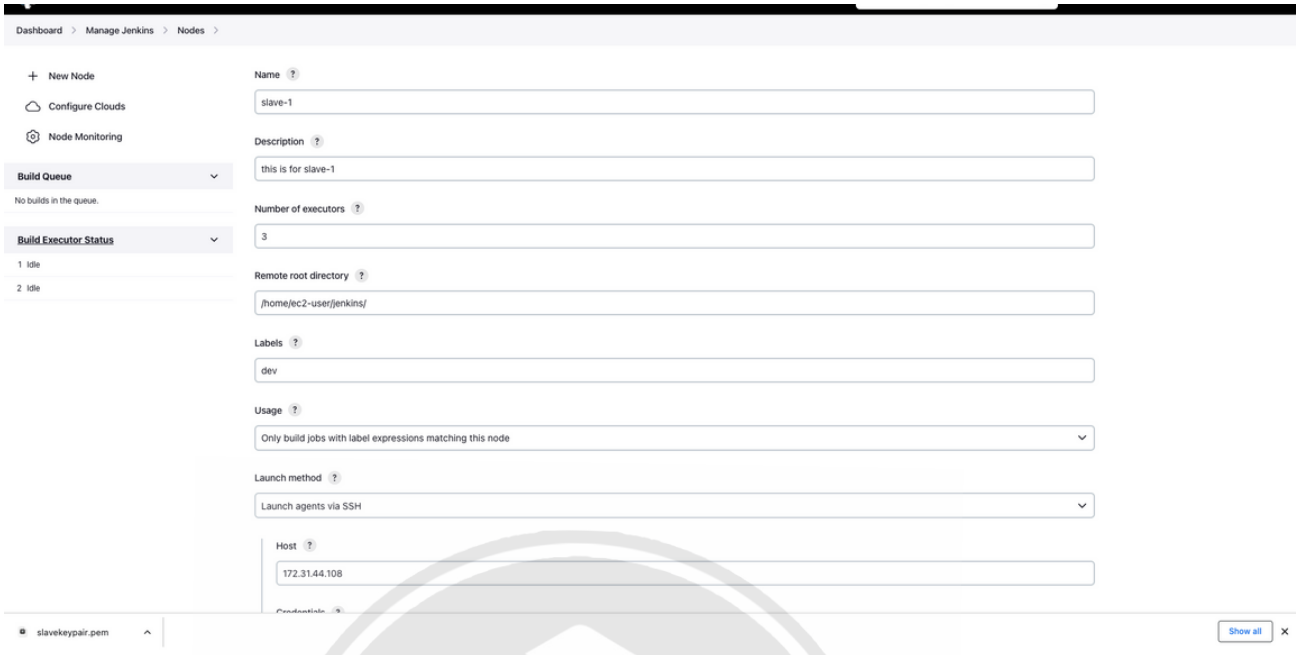
CHANGED: This block runs when the current status is different than the previous one

4. Implement Master-Slave concept using Jenkins and deploy the application in slave server.

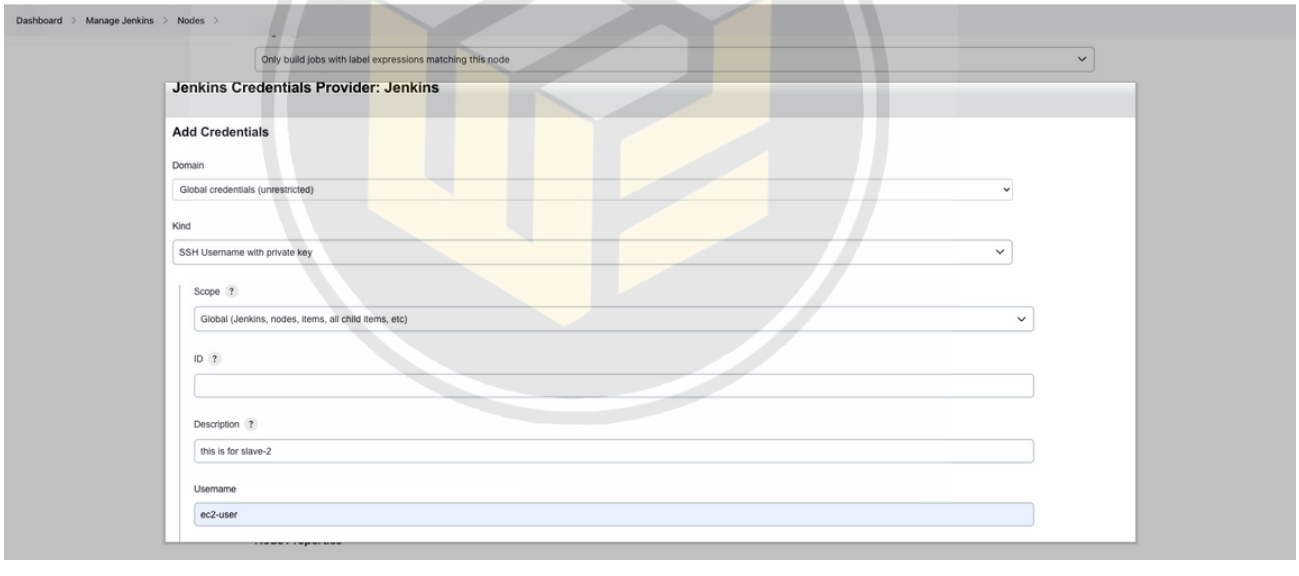
STEPS TO IMPLEMENT JENKINS MASTER-SLAVE:

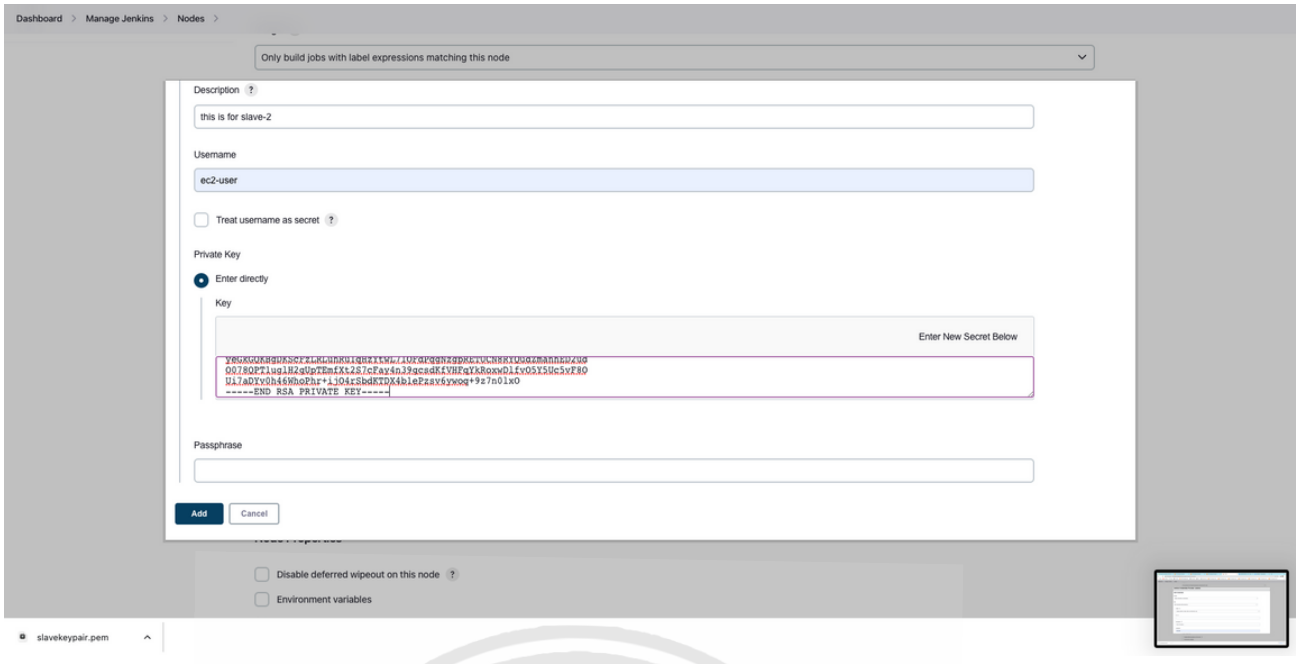
1. LAUNCH **3 INSTANCES** WITH **KEYPAIR** (PEM FILE)
   a. MASTER
   b. SLAVE-1
   c. SLAVE-3
2. SETUP **JENKINS IN MASTER**
3. install **JAVA11** on slaves (amazon-linux-extras install java-openjdk11 -y)

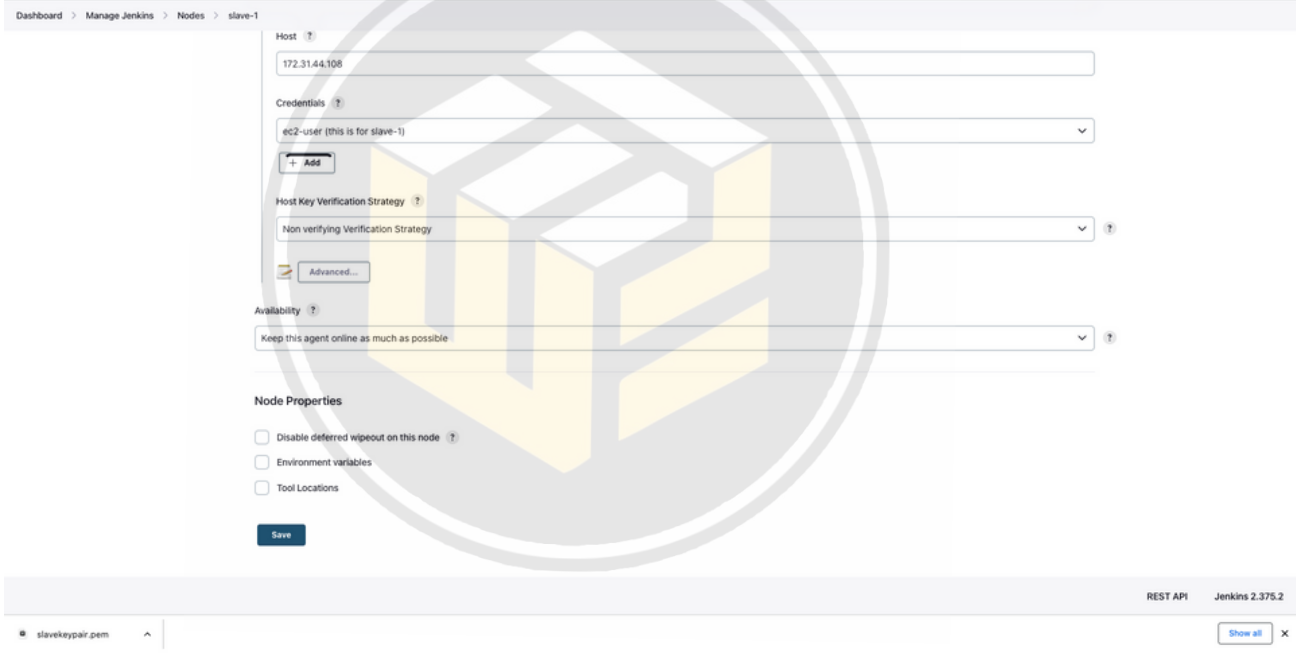
4. go to manage jenkins >> manage nodes and clouds >> new node --> give node name & select permanent agent



ADD CREDENTIALS:







CLICK ON SAVE

DEPLOYMENT REQUIREMENTS:

- LAUNCH 2 SERVER (jenkins, prod)
- GET THE CODE FROM THE DEVELOPERS
- SETUP JENKINS IN JENKINS SERVER
- SETUP TOMCAT IN PROD SERVER

PROCEDURE:

STEP-1: LAUNCH 2 INSTANCES WITH 8080 PORT

STEP-2: SETUP JENKINS IN SERVER

```
sudo wget -O /etc/yum.repos.d/jenkins.repo https://pkg.jenkins.io/redhat-stable/jenkins.repo
sudo rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io-2023.key
amazon-linux-extras install java-openjdk11 -y
yum install jenkins -y
systemctl restart jenkins
```

STEP-3: FORK THE GITHUB (https://github.com/devops0014/one.git)

STEP-4: INSTALL GIT IN OUR SERVER

```
yum install git -y
```

STEP-5:

CREATE JOB AND INTEGRATE GIT TO JENKINS AND BUILD IT.

ONCE WE BUILD THE JOB, FILES PRESENT IN MASTER BRANCH WILL COMES INTO CI SERVER

STEP-6: NEXT STEP IS BUILD THE SOURCE CODE WHICH ARE PRESENT IN CI SERVER. TO BUILD THE WE NEED TO USE MAVEN

INSTALL JAVA-1.8.0 & MAVEN IN OUR SERVER

```
yum install java-1.8.0-openjdk -y
yum install maven -y
```

STEP-7:

CONFIGURE THE SAME JOB AND CLICK ON **BUILD STEP** AND SELECT **ADD BUILD STEP**

SELECT **invoke top level maven targer.**

in the goal : **clean package**

SAVE THE JOB AND BUILD.

SO WE WILL GET A WAR FILE IN TARGET FOLDER.

STEP-8: SETUP THE TOMCAT SERVER IN PROD SERVER.

1. download tomcat file from dlcdn: wget https://dlcdn.apache.org/ tomcat/tomcat-9/v9.0.70/bin/apache-tomcat-9.0.70.tar.gz
2. untar the file: tar -zxvf apache-tomcat-9.0.70.tar.gz
3. go to the folder: cd apache-tomcat-9.0.70//webapps/manager/META-INF
4. open the context.xml in vim editor and make some change (delete 2 lines (21 and 22 lines))
5. go to three steps back: cd ../../../
6. and go to conf folder and open tomcat-user.xml file in vim editor

```
-->
  <role rolename="manager-gui"/>
  <role rolename="manager-script"/>
  <user username="tomcat" password="123456" roles="manager-gui, manager-script"/>
</tomcat-users>
```

7. go to one step back: cd ..

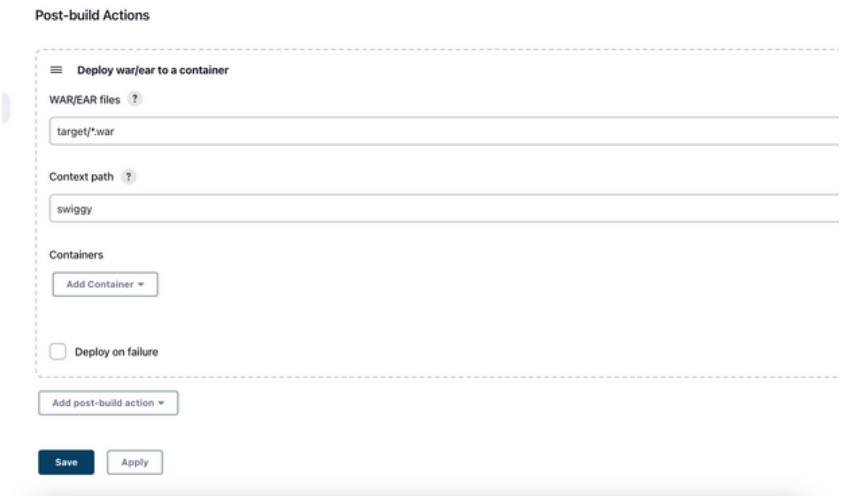
8. go to bin folder and execute startup.sh file

9. ./startup.sh

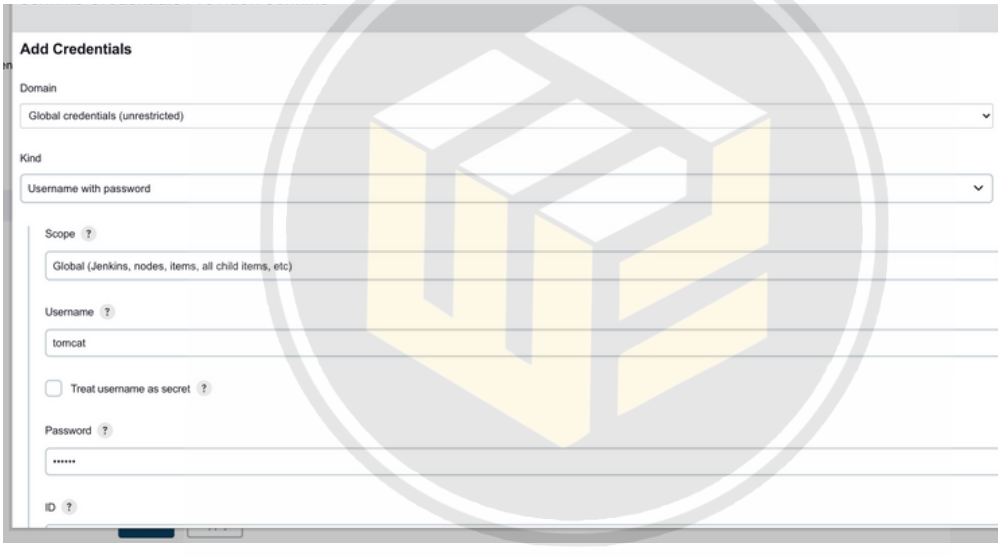
STEP-9: Go to manager apps and it will ask the user name and password enter it

STEP-10: go to jenkins dashboard

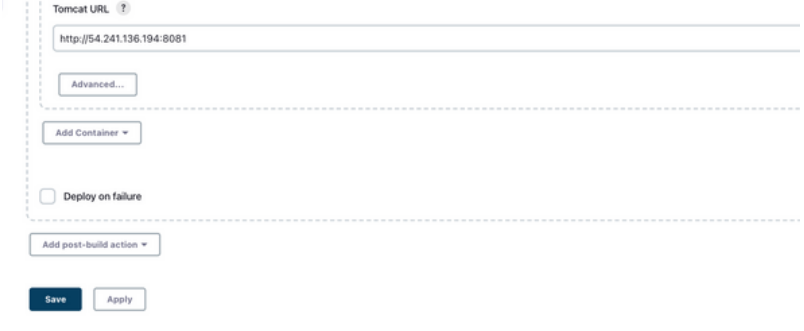
- install plugin (manage jenkins --> manage plugin --> available plugin --> deploy to container
- after installing the plugin go to our job and select post build actions --> add post build actions.
- select deploy war/ear to container



- click on add container(9th version). and add credentials (username & password of tomcat)



- add tomcat url

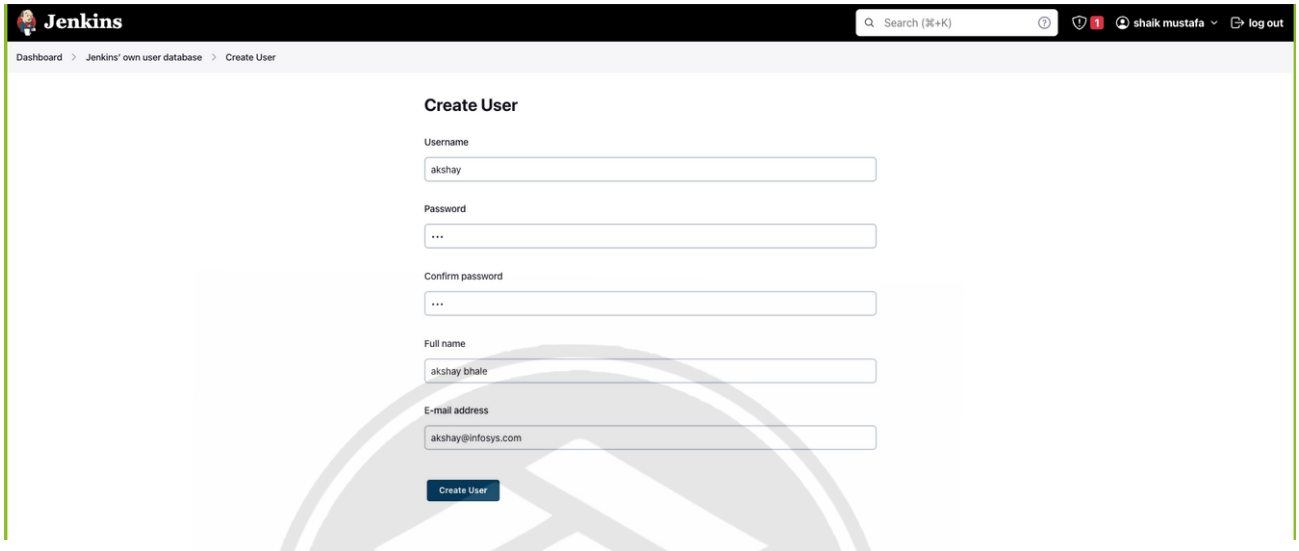


- save and build the job and go to tomcat

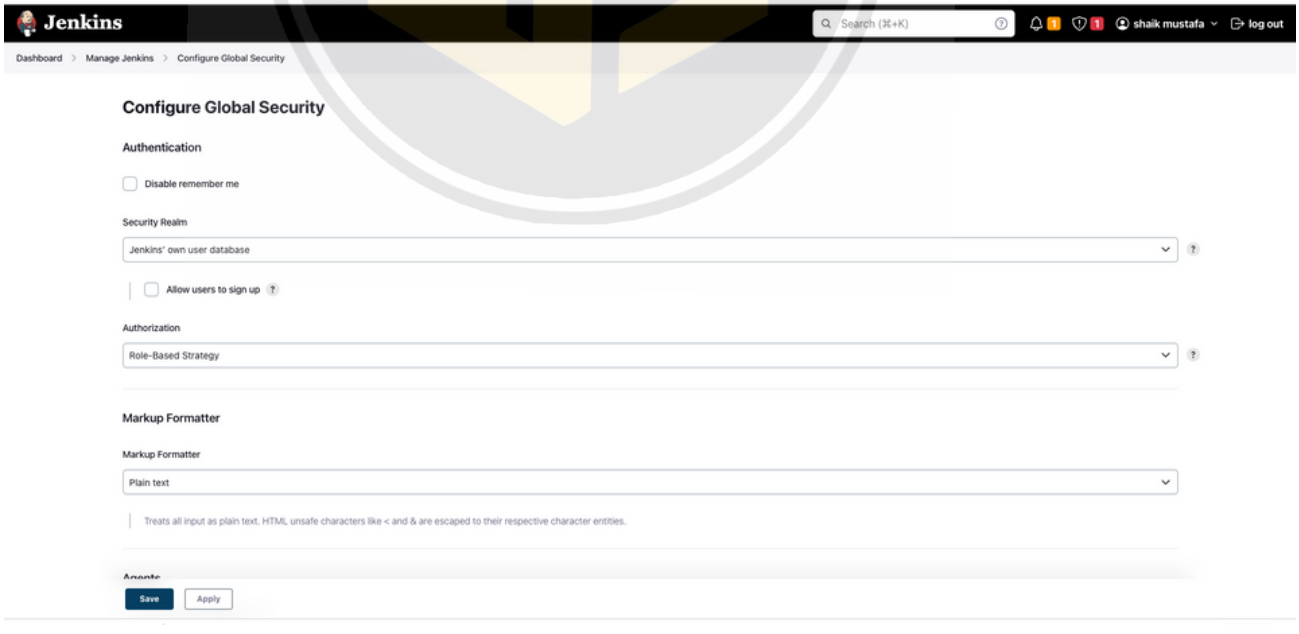
you will see swiggy folder. click on the folder you can access the client application.

5. **Create a user in Jenkins and give build permissions to all the jobs**

- INSTALL PLUGIN (role-based authorization strategy). INSTALL WITHOUT RESTART & RESTART JENKINS
- go to manage jenkins and select manage users.
- create user



- 4. Go to manage jenkins >> config global security and change the authorization to role based strategy and save it



- Go to manage jenkins >> manage and assign roles and select manage roles and select build roles.