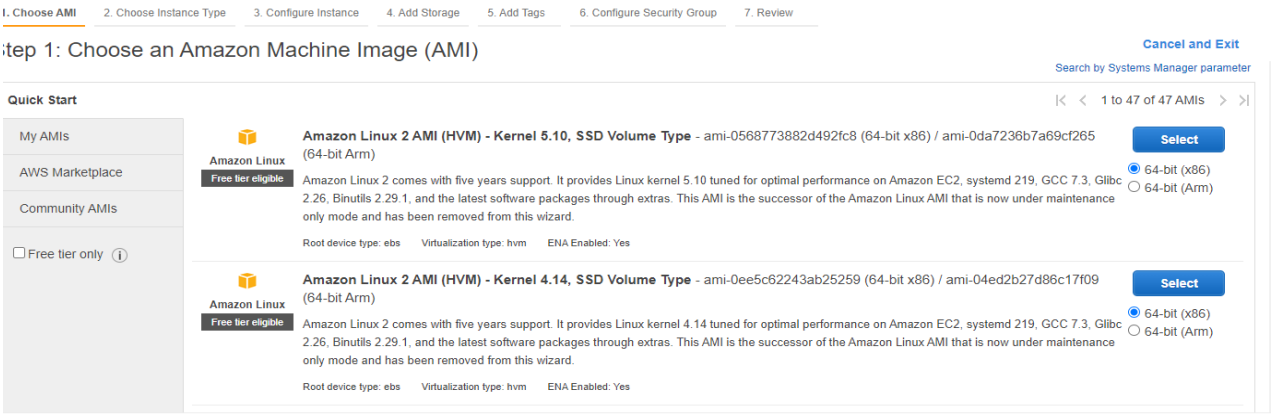
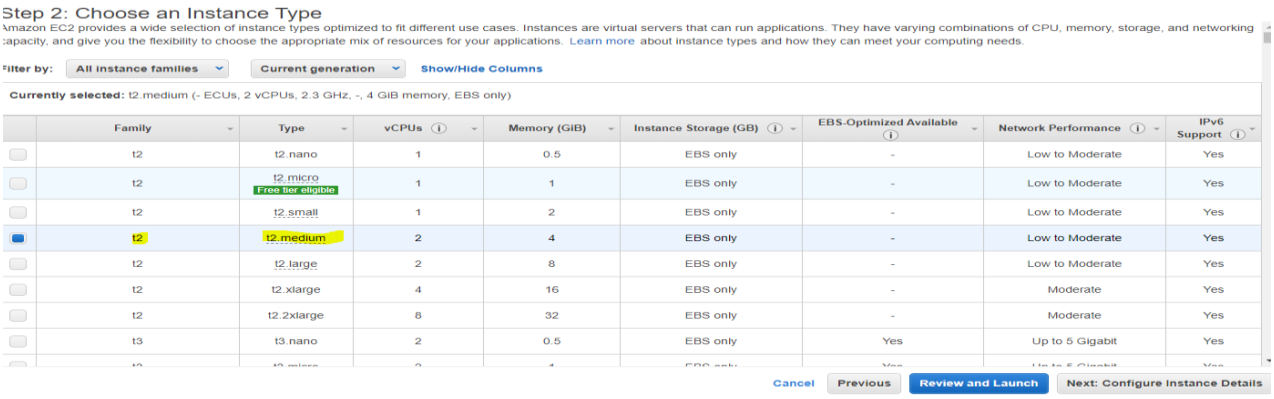
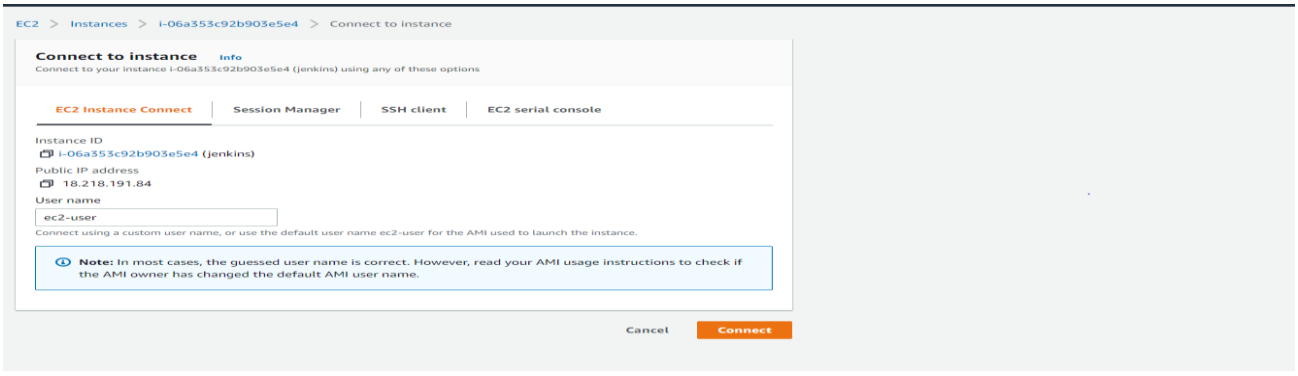
JAVA Project Automation Process Jenkins with Docker

Step:- 1

Launch an T3 medium EC2 instance for install Java+maven+Jenkins+Git

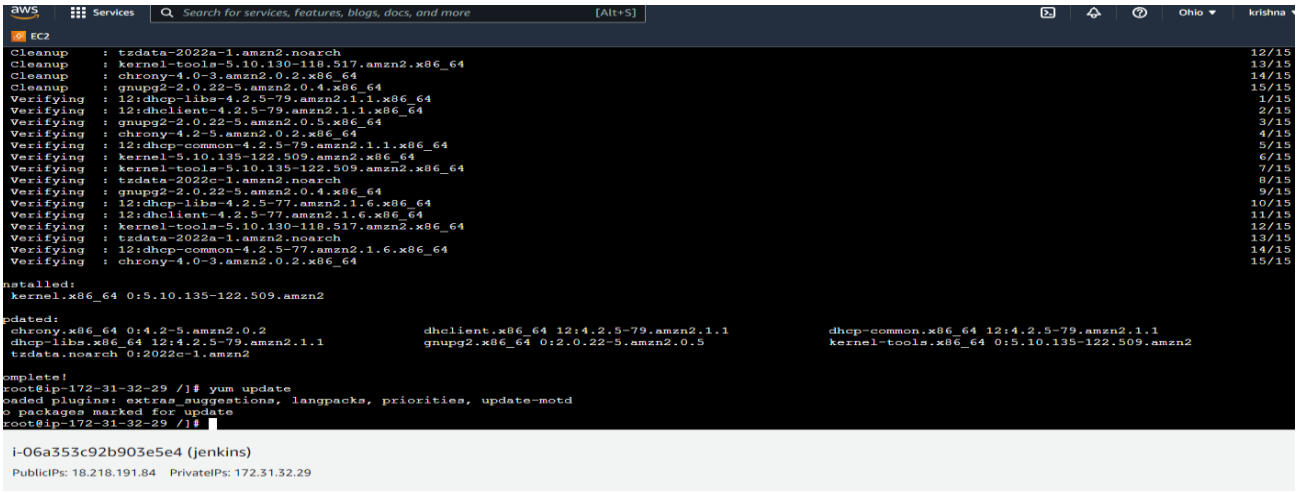




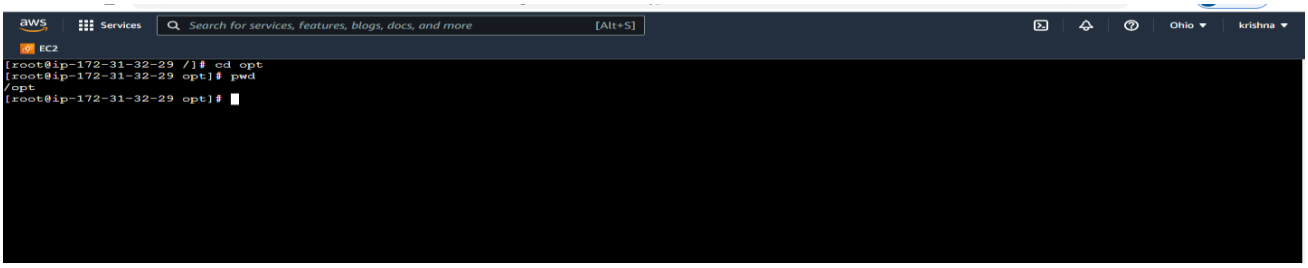


1.Sudo -I

2. yum update



3.cd /opt



4. yum install java-1.8*

5. java -version

6. cd /opt/

7. wget https://dlcdn.apache.org/maven/maven-3/3.8.6/binaries/apache-maven-3.8.6-bin.tar.gz

8.ls

9 .tar -xzvf apache-maven-3.8.6-bin.tar.gz

10.ls

11. cd apache-maven-3.8.6/

12.export JAVA_HOME="/usr/lib/jvm/java-17-amazon-corretto.x86_64"

13.export PATH=$JAVA_HOME/bin:$PATH

14.export M2_HOME="/opt/apache-maven-3.8.6"

15.export PATH=$M2_HOME/bin:$PATH

16.echo $PATH

17.mvn --version

18. Yum update

19.wget -q -O - https://pkg.jenkins.io/debian-stable/jenkins.io.key | sudo apt-key add -

20.sudo sh -c 'echo deb http://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/jenkins.list'

21. yum update

22.yum install Jenkins

23. systemctl start jenkins

24.systemctl status jenkins

25. systemctl enable jenkins

26. Cat /var/lib/jenkins/secrets/initialAdminPassword

28. Ec2 Instance public ip:8080 type in browser

---------- Java Maven Git Integration----------

Step:2

- **Configure Jenkins**
- **The default Username is admin**
- **Grab the default password**
- **Password Location:/var/lib/jenkins/secrets/initialAdminPassword**
- **Skip Plugin Installation; We can do it later**
- **Change admin password**
- **Admin > Configure > Password**
- **Configure java path**
- **Manage Jenkins > Global Tool Configuration > JDK**
- **Create another admin user id**

- **Install maven plugin without restart**
- **Manage Jenkins > Jenkins Plugins > available > Maven Invoker**
- **(Update) Install "Maven Integration" Plugin as well**
- **Install maven Integration Plugin without restart**
- **Manage Jenkins > Jenkins Plugins > available > Maven Integration**
- **Configure java path**

- **Manage Jenkins > Global Tool Configuration > Maven**

- **Install git plugin without restart**
- **Manage Jenkins > Jenkins Plugins > available > github**
- **Configure git path**
- **Manage Jenkins > Global Tool Configuration > git**

Login to Jenkins console and add Docker server to execute commands from Jenkins
Manage Jenkins --> Configure system --> Publish over SSH --> add Docker server and Credentials

Install "publish Over SSH"

- **Manage Jenkins > Manage Plugins > Available > Publish over SSH**
- **Manage Jenkins > Configure System > Publish Over SSH > SSH Servers**
  - **SSH Servers:**
    - **Hostname:<ServerIP>**
    - **username: sivaram**
    - **password: *******

Test the connection "Test Connection"

---------- Create Jenkins Job----------

A) Source Code Management
Repository : https://github.com/sivaram6267/hello-world.git
Branches to build: */master

B) Build Root POM: pom.xml
Goals and options: clean install package

C) send files or execute commands over SSH Name: docker_host
Source files: target/*.war

Remove prefix: target

Remote directory: //opt//docker

Exec command[s] :

docker stop sivaram;
docker rm -f sivaram;
docker image rm -f sivaram;
cd /opt/docker;
docker build -t sivaram .

D) send files or execute commands over SSH
Name: docker_host
Exec command: docker run -d --name sivaram -p 8080:8080 sivaram

1. **Login to Docker host and check images and containers. (no images and containers)**
2. **Execute Jenkins job**
3. **check images and containers again on Docker host. This time an image and container get creates through Jenkins job**
4. **Access web application from browser which is running on container**

<docker_host_Public_IP>:8080

***Access web application from browser which is running on container**

**** <docker_host_Public_IP>:8080/LESM-Status-Monitor-0.0.1-SNAPSHOT**

Docker file by using jenkins process

-> Launch an EC2 instance for Docker host

***Install docker on EC2 instance and start services**

1.yum install docker -y

2.systemctl start docker

3. systemctl enable docker

-->create a new user for Docker management and add him to Docker (default) group

useradd dockeradmin

passwd dockeradmin

usermod -aG docker dockeradmin

--->*Write a Docker file under /opt/docker

mkdir /opt/docker

vi Dockerfile

 # Pull base image

From tomcat:8-jre8

 # Maintainer

MAINTAINER "sivaram"

 # copy war file on to container

COPY ./LESM-Status-Monitor.war /usr/local/tomcat/webapps

***vi etc/ssh/sshd_cofig**

 # To disable tunneled clear text passwords, change to no here!

PasswordAuthentication yes

***Login to Jenkins console and add Docker server to execute commands from Jenkins**

***Manage Jenkins --> Configure system --> Publish over SSH --> add Docker server and credentials**

permission denied:-

chown -R dockeradmin:dockeradmin /opt/docker