Deploy Spring boot application using EC2 instance with Docker and Jenkin

1. Create Spring boot project (Development task).
2. Build the project (we will get the jar file).
3. Then create the Dockerfile
4. Then create the DockerCompose file(using docker compose we can run more than one container).
5. Jenkinsfile which is responsible to run Docker compose file.
6. Run spring boot application on different port number. Like 9090
7. We need to create EC2 instance
8. Open range of port number (8080-9090)
9. Install git
10. Install java
11. Install maven
12. Install docker
13. Install docker compose
14. Install Jenkin 8080
15. Once you install Jenkin we can open Jenkin dashboard using EC2 instance public IP Address.
16. <http://publicIpAddress:8080>
17. We need to create Jenkin pipe line job which is responsible to pull the project from git hub account and build the project. (we can run simple java, maven or docker)
18. In Jenkin pipe line job using Jenkinsfile we run Docker-compose file.

All required software installation steps in EC2 instance

1. Install git
   1. sudo yum install git -y
2. git --version
3. install java
   1. sudo yum install java-17
4. java –version
5. install maven
   1. sudo yum install maven
6. mvn --version
7. For installation for Jenkin need to follow below command
   1. sudo wget -O /etc/yum.repos.d/jenkins.repo <https://pkg.jenkins.io/redhat/jenkins.repo>
   2. sudo rpm --import <https://pkg.jenkins.io/redhat-stable/jenkins.io-2023.key>
   3. sudo yum install jenkins
8. We need to start the Jenkin software
   1. sudo service jenkins start
9. To check the status Jenkin is running or not
   1. sudo systemctl status jenkins

to come out cntr + C or Cntr +D

1. install the docker
   1. sudo yum install docker
2. docker –version
3. To start the docker
   1. sudo service docker start
4. Docker compose command installation
5. Download the current stable release of Docker Compose
   1. sudo curl -L https://github.com/docker/compose/releases/latest/download/docker-compose-$(uname -s)-$(uname -m) -o /usr/local/bin/docker-compose
6. Give the permission
   1. sudo chmod +x /usr/local/bin/docker-compose
7. docker-compose version
8. to run all software we need make one group and add these services under one group
   1. sudo usermod -a -G docker jenkins
   2. sudo usermod -a -G docker ec2-user

(ec2-user is user name of instance )

1. This command is use to run docker software through Jenkin pipe line job
   1. sudo chmod 777 /var/run/docker.sock
2. restart the jenkin software
   1. sudo service jenkins restart
3. Restart ec2-instance (reboot from ec2 instance dashboard)
4. Start the Jenkin start.
   1. sudo service jenkins start

After install all required software now you need to open the browser

Now open Jenkin dashboard

<http://publicIpAddress:8080>

1. to get Jenkin initial password you need to run below command
   1. sudo cat /var/lib/jenkins/secrets/initialAdminPassword

Create Jenkin pipe line job which is responsible to pull the project

From remote repository and build the project using Jenkinsfile with

Docker-compose