Titania Ltd

Assignment

Q) Using Docker, create a deployment that automates spinning up a web server on AWS EC2

-We can create a deployment model using the docker file and docker-compose and spin the server.

-In another way, we can start a docker service in EC2 instance and write a Dockerfile by creating a new user and adding to the group. When we pass commands over SSH from Jenkins, triggers the Dockerfile to copy the path and by using it creates Docker image from war file and when we run Docker image it builds the Docker container.

The whole process is automated because we are passing commands from Jenkins by using publish over SSH and sending commands to Docker.

STEPS:

1. Launch an EC2 instance for the Docker host

2. Install docker on EC2 instance and start service

    yum install docker

    Service docker start(by using this command docker service is going to start)

3.Create a new user for Docker management and add him to Docker(default) group.

  useradd dockeradd

  passwd dockeradd

  usermod -aG docker dockeradd(adding User to the group)

4.Write a Docker file under /opt/docker

  mkdir /opt/docker

  ### vi Dockerfile

  # Pull base image

  From tomcat:8-jre8

  # Maintainer

  MAINTAINER "Pradeep"

  # copy war file on to container

  COPY ./webapp.war /usr/local/tomcat/webapps

 **/usr/local/tomcat/webapps-Default location of tomcat container

5. We need to log in to Jenkins console and add the Docker server to execute commands from Jenkins.

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

6.A. Source code management

Repository: https://github.com/pradeep19980/Docker-Maven.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 : webapp/target/*.war (we don't know the image name that's the reason for gave *)

Remove prefix : webapp/target

Remote directory : //opt//docker

Exec command[s] :

-If there is any previous container with the same it stops the container and remove the image

docker stop container name;

docker rm -f container name;

docker image rm -f image name;

cd /opt/docker;

docker build -t image name.(Creating a docker image)

D.send files or execute commands over SSH

Name: docker_host

Exec command : docker run -d --name container name -p 8090:8080 image name

The above command is used to create container out of docker image

7. Login to the Docker host and check images and containers. (no images and containers)

8. Execute Jenkins job.

9. Check images and containers again on the Docker host. This time an image and container get creates through Jenkins job

10. Access web application from the browser which is running on the container

<docker_host_Public_IP>:8090