**Assignment 10 - Jenkins**

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CMPE 272 – Fall 2020

Code for both parts can be accessed here: <https://github.com/nikhilp93/assign10-cmpe272>

1.Build a Node.js and React app with npm

**Runnings Jenkins in mac:**

Step1:

docker network create Jenkins

step 2:

docker run --name jenkins-docker --rm --detach --privileged --network jenkins --network-alias docker --env DOCKER\_TLS\_CERTDIR=/certs --volume jenkins-docker-certs:/certs/client --volume jenkins-data:/var/jenkins\_home --publish 3000:3000 --publish 2376:2376 docker:dind

step 3:

(base) NPRATHAP-M-J18Z:node nprathap$ cat Dockerfile

FROM jenkins/jenkins:2.249.3-slim

USER root

RUN apt-get update && apt-get install -y apt-transport-https \

ca-certificates curl gnupg2 \

software-properties-common

RUN curl -fsSL https://download.docker.com/linux/debian/gpg | apt-key add -

RUN apt-key fingerprint 0EBFCD88

RUN add-apt-repository \

"deb [arch=amd64] https://download.docker.com/linux/debian \

$(lsb\_release -cs) stable"

RUN apt-get update && apt-get install -y docker-ce-cli

USER jenkins

RUN jenkins-plugin-cli --plugins blueocean:1.24.3

Step 4 :

docker build -t myjenkins-blueocean:1.1 .

step 5:

docker run --name jenkins-blueocean --rm --detach --network jenkins --env DOCKER\_HOST=tcp://docker:2376 --env DOCKER\_CERT\_PATH=/certs/client --env DOCKER\_TLS\_VERIFY=1 --publish 8080:8080 --publish 50000:50000 --volume jenkins-data:/var/jenkins\_home --volume jenkins-docker-certs:/certs/client:ro --volume "$HOME":/home myjenkins-blueocean:1.1

**Unlocking Jenkins:**

Step 1:

Graphical user interface, text, application

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Step 2:

(base) NPRATHAP-M-J18Z:node nprathap$ docker logs jenkins-blueocean

Jenkins initial setup is required. An admin user has been created and a password generated.

Please use the following password to proceed to installation:

d3e5d98820e548aabce24f40f6287f83

This may also be found at: /var/jenkins\_home/secrets/initialAdminPassword

Step 3:

Graphical user interface, application

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**Creating administrator User:**

Step1:

Graphical user interface

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Step 2:

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Step 3:

Graphical user interface, text, website

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**Stopping and restarting Jenkins**

Stopping:

(base) NPRATHAP-M-J18Z:node nprathap$ docker stop jenkins-blueocean jenkins-docker

jenkins-blueocean

jenkins-docker

(base) NPRATHAP-M-J18Z:node nprathap$

Graphical user interface

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Restarting:

(base) NPRATHAP-M-J18Z:node nprathap$ docker run --name jenkins-blueocean --rm --detach --network jenkins --env DOCKER\_HOST=tcp://docker:2376 --env DOCKER\_CERT\_PATH=/certs/client --env DOCKER\_TLS\_VERIFY=1 --publish 8080:8080 --publish 50000:50000 --volume jenkins-data:/var/jenkins\_home --volume jenkins-docker-certs:/certs/client:ro --volume "$HOME":/home myjenkins-blueocean:1.1

20567a0df3dda966834c204d027df1313c12eb639063ea525f5ea8a69e390f56

(base) NPRATHAP-M-J18Z:node nprathap$

Graphical user interface, application, website

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**Fork and clone the sample repository**

<https://github.com/nikhilp93/simple-node-js-react-npm-app>

(base) NPRATHAP-M-J18Z:node nprathap$ git clone https://github.com/nikhilp93/simple-node-js-react-npm-app.git

Cloning into 'simple-node-js-react-npm-app'...

remote: Enumerating objects: 66, done.

remote: Total 66 (delta 0), reused 0 (delta 0), pack-reused 66

Unpacking objects: 100% (66/66), 16.74 KiB | 281.00 KiB/s, done.

(base) NPRATHAP-M-J18Z:node nprathap$ ls

Dockerfile simple-node-js-react-npm-app

(base) NPRATHAP-M-J18Z:node nprathap$

**Create your Pipeline project in Jenkins**

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**Create your initial Pipeline as a Jenkinsfile**

(base) NPRATHAP-M-J18Z:simple-node-js-react-npm-app nprathap$ cat Jenkinsfile

pipeline {

agent {

docker {

image 'node:6-alpine'

args '-p 3000:3000'

}

}

stages {

stage('Build') {

steps {

sh 'npm install'

}

}

}

}

Graphical user interface, application, website

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Downloads the Node Docker image and runs it in a container on Docker.

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Runs the Build stage (defined in the Jenkinsfile) on the Node container.

Graphical user interface, application

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The Blue Ocean interface turns green if Jenkins built your Node.js and React application successfully.

Graphical user interface, application, website

Description automatically generated

Blue ocean main interface

Graphical user interface, application

Description automatically generated

**Add a test stage to your Pipeline**

(base) NPRATHAP-M-J18Z:simple-node-js-react-npm-app nprathap$ cat Jenkinsfile

pipeline {

agent {

docker {

image 'node:6-alpine'

args '-p 3000:3000'

}

}

environment {

CI = 'true'

}

stages {

stage('Build') {

steps {

sh 'npm install'

}

}

stage('Test') {

steps {

sh './jenkins/scripts/test.sh'

}

}

}

}

Graphical user interface, text

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**Add a final deliver stage to your Pipeline**

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Graphical user interface, text, application

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<http://localhost:3000/>

Graphical user interface, application

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Graphical user interface

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Graphical user interface, application

Description automatically generated

2.Build a Java app with Maven

(base) NPRATHAP-M-J18Z:maven nprathap$ git clone https://github.com/nikhilp93/simple-java-maven-app.git

Cloning into 'simple-java-maven-app'...

remote: Enumerating objects: 91, done.

remote: Total 91 (delta 0), reused 0 (delta 0), pack-reused 91

Unpacking objects: 100% (91/91), 13.10 KiB | 159.00 KiB/s, done.

(base) NPRATHAP-M-J18Z:maven nprathap$ cd simple-java-maven-app/

(base) NPRATHAP-M-J18Z:simple-java-maven-app nprathap$ ls

README.md jenkins pom.xml src

(base) NPRATHAP-M-J18Z:simple-java-maven-app nprathap$

**Create your Pipeline project in Jenkins**

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Graphical user interface, application

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**Create your initial Pipeline as a Jenkinsfile**

(base) NPRATHAP-M-J18Z:simple-java-maven-app nprathap$ vi Jenkinsfile

(base) NPRATHAP-M-J18Z:simple-java-maven-app nprathap$ cat Jenkinsfile

pipeline {

agent {

docker {

image 'maven:3-alpine'

args '-v /root/.m2:/root/.m2'

}

}

stages {

stage('Build') {

steps {

sh 'mvn -B -DskipTests clean package'

}

}

}

}

(base) NPRATHAP-M-J18Z:simple-java-maven-app nprathap$ git add .

(base) NPRATHAP-M-J18Z:simple-java-maven-app nprathap$ git commit -m "Add initial Jenkinsfile"

[master 034a8b9] Add initial Jenkinsfile

1 file changed, 15 insertions(+)

create mode 100644 Jenkinsfile

(base) NPRATHAP-M-J18Z:simple-java-maven-app nprathap$ git push

Enumerating objects: 4, done.

Counting objects: 100% (4/4), done.

Delta compression using up to 8 threads

Compressing objects: 100% (3/3), done.

Writing objects: 100% (3/3), 422 bytes | 422.00 KiB/s, done.

Total 3 (delta 1), reused 0 (delta 0), pack-reused 0

remote: Resolving deltas: 100% (1/1), completed with 1 local object.

To https://github.com/nikhilp93/simple-java-maven-app.git

0d85b7e..034a8b9 master -> master

(base) NPRATHAP-M-J18Z:simple-java-maven-app nprathap$

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**Add a test stage to your Pipeline**

(base) NPRATHAP-M-J18Z:simple-java-maven-app nprathap$ cat Jenkinsfile

pipeline {

agent {

docker {

image 'maven:3-alpine'

args '-v /root/.m2:/root/.m2'

}

}

stages {

stage('Build') {

steps {

sh 'mvn -B -DskipTests clean package'

}

}

stage('Test') {

steps {

sh 'mvn test'

}

post {

always {

junit 'target/surefire-reports/\*.xml'

}

}

}

}

}

(base) NPRATHAP-M-J18Z:simple-java-maven-app nprathap$

Graphical user interface

Description automatically generated

**Add a final deliver stage to your Pipeline**

(base) NPRATHAP-M-J18Z:simple-java-maven-app nprathap$ cat Jenkinsfile

pipeline {

agent {

docker {

image 'maven:3-alpine'

args '-v /root/.m2:/root/.m2'

}

}

options {

skipStagesAfterUnstable()

}

stages {

stage('Build') {

steps {

sh 'mvn -B -DskipTests clean package'

}

}

stage('Test') {

steps {

sh 'mvn test'

}

post {

always {

junit 'target/surefire-reports/\*.xml'

}

}

}

stage('Deliver') {

steps {

sh './jenkins/scripts/deliver.sh'

}

}

}

}

(base) NPRATHAP-M-J18Z:simple-java-maven-app nprathap$

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