

## TASK 5

### PIPELINE SCRIPT

```
pipeline {  
    agent any  
  
    environment {  
        DOCKER_IMAGE = "dharsinijegadeesan/maven"  
        DOCKER_TAG = "latest"  
        DOCKER_CREDENTIALS_ID = "docker"  
        GITHUB_CREDENTIALS_ID = "github_seccred"  
        KUBECONFIG = "/var/lib/jenkins/.kube/config"  
        MAVEN_HOME = "/opt/maven" // Set the correct Maven path  
    }  
  
    stages {  
        stage('Checkout Code') {  
            steps {  
                git credentialsId: GITHUB_CREDENTIALS_ID, url:  
'https://github.com/dharsinijegadeesan/Task5-DevOps.git', branch: 'main'  
            }  
        }  
  
        stage('Build Application') {  
            steps {  
                script {  
                    sh "${MAVEN_HOME}/bin/mvn clean package -DskipTests"  
                }  
            }  
        }  
    }  
}
```

```
}
```

```
stage('Run Maven Tests') {  
  steps {  
    script {  
      catchError(buildResult: 'SUCCESS', stageResult: 'FAILURE') {  
        sh "${MAVEN_HOME}/bin/mvn test"  
      }  
    }  
  }  
}
```

```
stage('Build Docker Image') {  
  steps {  
    script {  
      sh "docker build -t ${DOCKER_IMAGE}:${DOCKER_TAG} ."  
    }  
  }  
}
```

```
stage('Push Docker Image') {  
  steps {  
    withDockerRegistry([credentialsId: DOCKER_CREDENTIALS_ID, url: ""]) {  
      sh "docker push ${DOCKER_IMAGE}:${DOCKER_TAG}"  
    }  
  }  
}
```

```

// Uncomment this stage when Kubernetes deployment is ready

// stage('Deploy to Kubernetes') {

//   steps {

//     script {

//       sh '''

//         chmod +x scripts/deploy.sh

//         ./scripts/deploy.sh

//       '''

//     }

//   }

// }

}

post {

  success {

    echo "🎉 Deployment Successful!"

  }

  failure {

    echo "🚫 Deployment Failed!"

  }

}

}

```

## BUILD THE PIPELINE:

The screenshot shows the Jenkins web interface in a browser. The top navigation bar includes the Jenkins logo, a search icon, and the user name 'Dharsini Jegadeesan' with a 'log out' button. The main content area is titled 'project-pipeline' and shows a 'Status' tab with a green checkmark. Below this, there's a 'Stage View' section with a table of stages and their durations. The table has columns for 'Checkout Code', 'Build Application', 'Run Maven Tests', 'Build Docker Image', 'Push Docker Image', and 'Declarative: Post Actions'. The stages are listed as follows:

Stage	Checkout Code	Build Application	Run Maven Tests	Build Docker Image	Push Docker Image	Declarative: Post Actions
#1	1s	33s	32s	2min 29s	45s	171ms

The 'Builds' section on the left shows a list of builds with a search filter. The 'Permalinks' section at the bottom provides links to the build details.

## AFTER BUILD:

```
dharsini@Babu: /mnt/c/Users/Indian
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Indian> wsl
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 5.15.167.4-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Sat Mar 22 08:47:16 IST 2025

System load:  0.76               Processes:    43
Usage of /:   1.7% of 1006.85GB  Users logged in: 0
Memory usage: 8%                IPv4 address for eth0: 172.28.124.130
Swap usage:   0%

This message is shown once a day. To disable it please create the
/home/dharsini/.hushlogin file.
dharsini@Babu: /mnt/c/Users/Indian$ sudo systemctl start jenkins
[sudo] password for dharsini:
Sorry, try again.
[sudo] password for dharsini:
dharsini@Babu: /mnt/c/Users/Indian$ sudo systemctl enable jenkins
Synchronizing state of jenkins.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable jenkins
dharsini@Babu: /mnt/c/Users/Indian$ docker ps -a
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS
8df5f67f8856   dharsinijegadeesan/my-repo:latest   "docker-entrypoint.s..." 19 hours ago   Exited (255) 13 hours ago   0.0.0.0:3001->3000/tcp, [::]:3001->3000/tcp
af338ba1e17b   gcr.io/k8s-minikube/kicbase:v0.0.46 "/usr/local/bin/entr..." 47 hours ago   Exited (255) 13 hours ago   127.0.0.1:32771->8443/tcp, 127.0.0.1:32772->32443/tcp, 127.0.0.1:32768->22/tcp, 127.0.0.1:32769->2376/tcp, 127.0.0.1:32770->5000/tcp
dharsini@Babu: /mnt/c/Users/Indian$ docker run -it dharsinijegadeesan/maven:latest/bin/bash /usr/local/tomcat# ps aux | grep tomcat
docker: invalid reference format

Run 'docker run --help' for more information
dharsini@Babu: /mnt/c/Users/Indian$ docker run -it dharsinijegadeesan/maven:latest/bin/bash
root@8369f89b5e377:/usr/local/tomcat# ps aux | grep tomcat
root      11  100  0.0  6544  2288 pts/0    S+   03:30   0:00 grep --color=auto tomcat
root@8369f89b5e377:/usr/local/tomcat# ls -l /usr/local/tomcat
total 224
drwxr-xr-x 2 root root 4096 Mar  6 18:30 bin
-rw-r--r-- 1 root root 23821 Feb 28 15:54 BUILDING.txt
drwxr-xr-x 2 root root 4096 Feb 28 15:54 conf
-rw-r--r-- 1 root root 6166 Feb 28 15:54 CONTRIBUTING.md
-rw-r--r-- 1 root root 30936 Mar  6 18:30 filtered-KEYS
drwxr-xr-x 2 root root 4096 Mar  6 18:30 lib
```

```
dharsini@Babu: /mnt/c/Users/Indian
total 224
drwxr-xr-x 2 root root 4096 Mar 6 18:30 bin
-rw-r--r-- 1 root root 23821 Feb 28 15:54 BUILDING.txt
drwxr-xr-x 2 root root 4096 Feb 28 15:54
-rw-r--r-- 1 root root 6166 Feb 28 15:54 CONTRIBUTING.md
-rw-r--r-- 1 root root 30936 Mar 6 18:30 filtered-KEYS
drwxr-xr-x 2 root root 4096 Mar 6 18:30
-rw-r--r-- 1 root root 60517 Feb 28 15:54 LICENSE
drwxrwxrwt 2 root root 4096 Feb 28 15:54 logs
drwxr-xr-x 2 root root 4096 Mar 6 18:30 native-impls
-rw-r--r-- 1 root root 2333 Feb 28 15:54 NOTICE
-rw-r--r-- 1 root root 32018 Mar 6 18:30 upstream-KEYS
drwxr-xr-x 1 root root 4096 Mar 22 03:25
-rw-r--r-- 1 root root 6469 Feb 28 15:54 RELEASE-NOTES
-rw-r--r-- 1 root root 16109 Feb 28 15:54 RUNNING.txt
drwxrwxrwt 2 root root 4096 Mar 6 18:30 temp
-rw-r--r-- 1 root root 32018 Mar 6 18:30 upstream-KEYS
drwxr-xr-x 1 root root 4096 Mar 22 03:25
drwxr-xr-x 7 root root 4096 Feb 28 15:54 webapp-dist
drwxrwxrwt 2 root root 4096 Feb 28 15:54 work
root@9369f09b5e377:/usr/local/tomcat# /usr/local/tomcat/bin/catalina.sh start
Using CATALINA_BASE:   /usr/local/tomcat
Using CATALINA_HOME:   /usr/local/tomcat
Using CATALINA_TMPDIR: /usr/local/tomcat/temp
Using JRE_HOME:         /opt/java/openjdk
Using CLASSPATH:        /usr/local/tomcat/bin/bootstrap.jar:/usr/local/tomcat/bin/tomcat-juli.jar
tomcat started.
root@9369f09b5e377:/usr/local/tomcat# ps aux | grep tomcat
root      18  258  3.7 5726408 304664 pts/0    Sl    03:31   0:39 /opt/java/openjdk/bin/java -Djava.util.logging.config.file=/usr/local/tomcat/conf/logging.properties -Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager -Djdk.tls.ephemeralDHKeySize=2048 -Dorg.apache.catalina.security.SecurityListener.UNMASK=0027 --add-opens=java.base/java.lang=ALL-UNNAMED --add-opens=java.base/java.lang.reflect=ALL-UNNAMED --add-opens=java.base/java.io=ALL-UNNAMED --add-opens=java.base/java.util=ALL-UNNAMED --add-opens=java.rmi/sun.rmi.transport=ALL-UNNAMED --enable-native-access=ALL-UNNAMED -classpath /usr/local/tomcat/bin/bootstrap.jar:/usr/local/tomcat/bin/tomcat-juli.jar -Dcatalina.base=/usr/local/tomcat -Dcatalina.home=/usr/local/tomcat -Djava.io.tmpdir=/usr/local/tomcat/temp org.apache.catalina.startup.Bootstrap start
root      63  0.0  0.0  6544  2168 pts/0    Ss+   03:32   0:00 grep --color=auto tomcat
root@9369f09b5e377:/usr/local/tomcat# docker run -it -p 8080:8080 dharsinijegadeesan/maven:latest /bin/bash
bash: docker: command not found
root@9369f09b5e377:/usr/local/tomcat# ^C
root@9369f09b5e377:/usr/local/tomcat# ^C
root@9369f09b5e377:/usr/local/tomcat# exit
dharsini@Babu: /mnt/c/Users/Indian$ docker run -it -p 8080:8080 dharsinijegadeesan/maven:latest /bin/bash
docker: Error response from daemon: failed to set up container networking: driver failed programming external connectivity on endpoint dazzling_hellman (548096479f24203c0bfe9348fe662a7858a124280676bfab11fe3e55a0b3d): failed to bind host port for 0.0.0.0:8080:172.17.0.2:8080/tcp: address already in use

Run 'docker run --help' for more information
root@9369f09b5e377:/usr/local/tomcat# ^C
root@9369f09b5e377:/usr/local/tomcat# exit
dharsini@Babu: /mnt/c/Users/Indian$ docker run -d -p 9098:8080 --name my-app dharsinijegadeesan/maven
0ba0e907fd114df8c3b2d7e04caa5b6fe42ff6979502f95312381e92205d8cb8
dharsini@Babu: /mnt/c/Users/Indian$
```

## BUILD SUCCESS OUTPUT:

Firewall Authentica...

dharsinijegadeesan/...

project-pipeline #3 C...

dharsinijegadeesan/...

Docker Command ls...

PetClinic = a Spring F...

localhost:8080/job/project-pipeline/3/console

Jenkins

Dashboard > project-pipeline > #3

Status

Changes

Console Output

Edit Build Information

Delete build '#3'

Timings

Git Build Data

Pipeline Overview

Pipeline Console

Restart from Stage

Replay

Pipeline Steps

Console Output

Skiping 165 KB. Full Log

Downloading from central: <https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus/5.1/plexus-5.1.pom>  
Progress (1): 16/23 kB  
Progress (1): 23 kB

Downloaded from central: <https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus/5.1/plexus-5.1.pom> (23 kB at 1.1 MB/s)

Downloading from central: <https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-filtering/3.3.1/maven-filtering-3.3.1.pom>  
Progress (1): 6.0 kB

Downloaded from central: <https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-filtering/3.3.1/maven-filtering-3.3.1.pom> (6.0 kB at 172 kB/s)

Downloading from central: <https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-shared-components/39/maven-shared-components-39.pom>  
Progress (1): 3.2 kB

Downloaded from central: <https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-shared-components/39/maven-shared-components-39.pom>

## FINAL OUTPUT:

