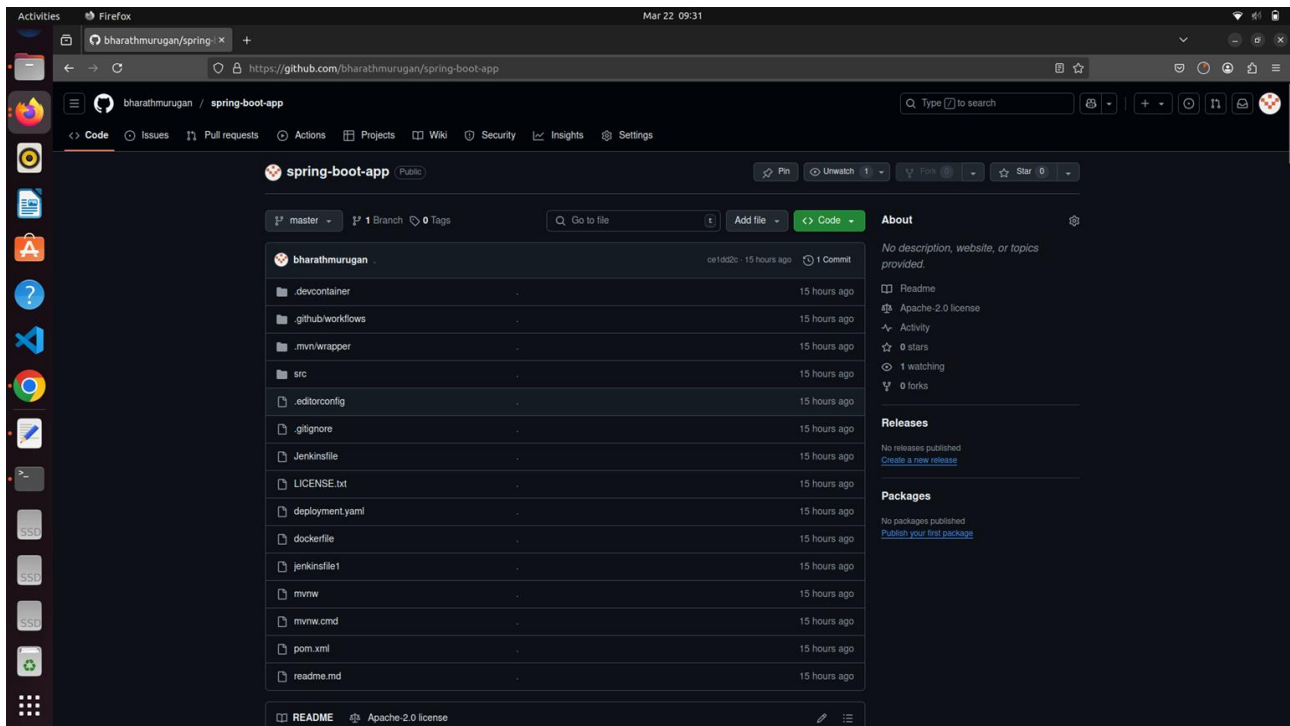


## Task 5-Spring Boot with Maven & Tomcat in Docker

<https://github.com/bharathmurugan/spring-boot-app>



### Plugins:

Maven Integration plugin

### Pipeline:

Maven plugin

### Tools:

Use maven 3.9.8 and Maven Home as /opt/home

### Configure – pipeline:

```
pipeline {
  agent any
  environment {
    DOCKER_IMAGE = "bharathm746/spring-boot-app"
    DOCKER_TAG = "latest"
    DOCKER_CREDENTIALS_ID = "docker"
    GITHUB_CREDENTIALS_ID = "github_secured"
    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/bharathmurugan/spring-boot-app', branch: 'master'
}
}
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!"
}
}

```

}

Activities Firefox Mar 22 09:32

Firewall Authentication Kee: x Devops\_training/Maven: x maven [Jenkins] x Docker Image Configura: x PetClinic:: a Spring Fram: x +

localhost:8080/job/maven/

# Jenkins

bharathmurugan log out

Dashboard > maven >

Status

Changes

Build Now

Configure

Delete Pipeline

Full Stage View

Stages

Rename

Pipeline Syntax

maven

Add description

## Stage View

Average stage times: (full run time: ~1min 48s)

	Checkout Code	Build Application	Run Maven Tests	Build Docker Image	Push Docker Image	Declarative: Post Actions
#22	1s	6s	13s	3s	41s	54ms

09:10 No Changes

## Permalinks

- Last build (#22), 49 sec ago
- Last failed build (#21), 4 min 12 sec ago
- Last unsuccessful build (#21), 4 min 12 sec ago
- Last completed build (#21), 4 min 12 sec ago

BUILDS

Filter

Today

- #22 9:10 AM
- #21 9:07 AM
- #20 7:25 AM
- #19 7:12 AM

March 21, 2025

- #15 8:32 PM
- #10 7:53 PM

REST API Jenkins 2.492.2

Activities Firefox Mar 22 09:33

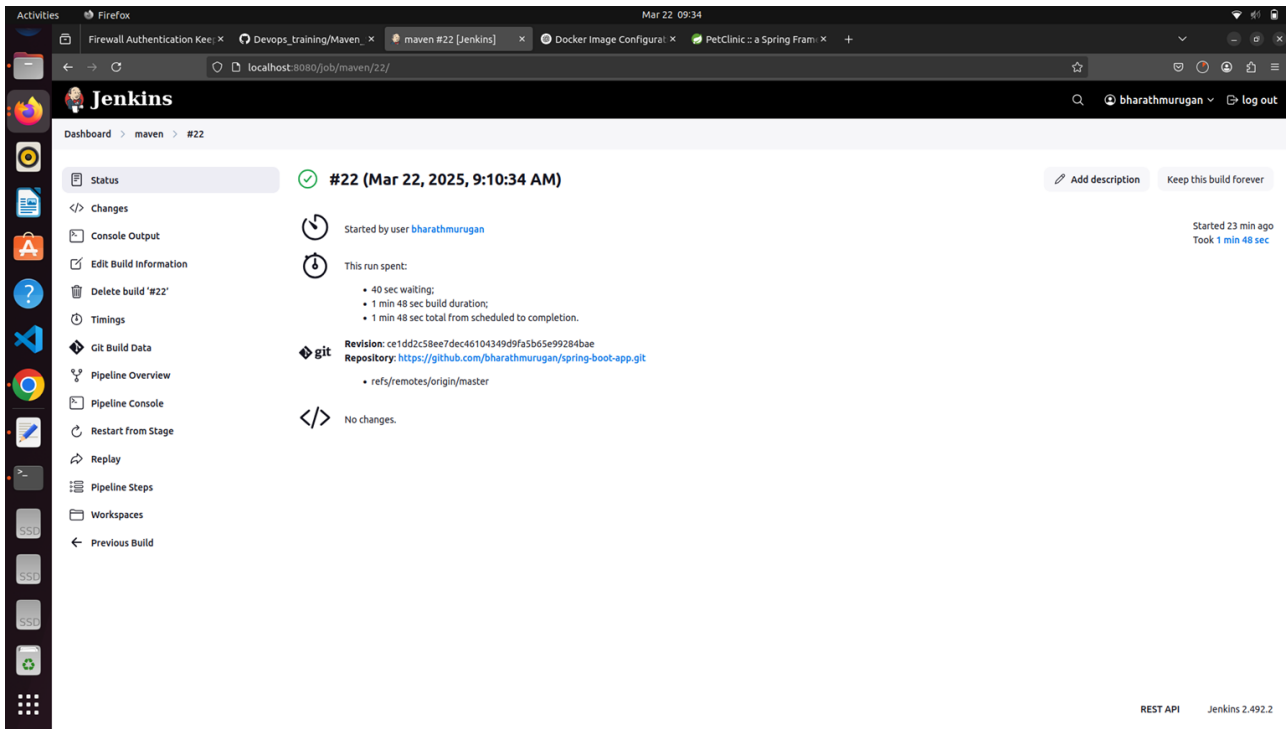
Firewall Authentication Kee: x Devops\_training/Maven: x maven #22 Console [Jen] x Docker Image Configura: x PetClinic:: a Spring Fram: x +

localhost:8080/job/maven/22/console

Dashboard > maven > #22

```
39cf0ac89a5a: Preparing
f844dcf94898: Preparing
3359bc3d7a6a: Preparing
4b7c01ed0534: Preparing
f844dcf94898: Waiting
39cf0ac89a5a: Waiting
3359bc3d7a6a: Waiting
4b7c01ed0534: Waiting
6fbd02a6a33: Layer already exists
49cblbc2daeb: Layer already exists
5f70bf18a086: Layer already exists
4e5b554b7345: Layer already exists
39cf0ac89a5a: Layer already exists
3359bc3d7a6a: Layer already exists
f844dcf94898: Layer already exists
4b7c01ed0534: Layer already exists
74b8a0ac7e07: Pushed
latest: digest: sha256:150c1a63a5948a0e804a85c3bf8a99ef1851ed38412d540133165376eb1145cf size: 2413
[Pipeline] }
[Pipeline] // withDockerRegistry
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Declarative: Post Actions)
[Pipeline] echo
[Pipeline] }
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

REST API Jenkins 2.492.2

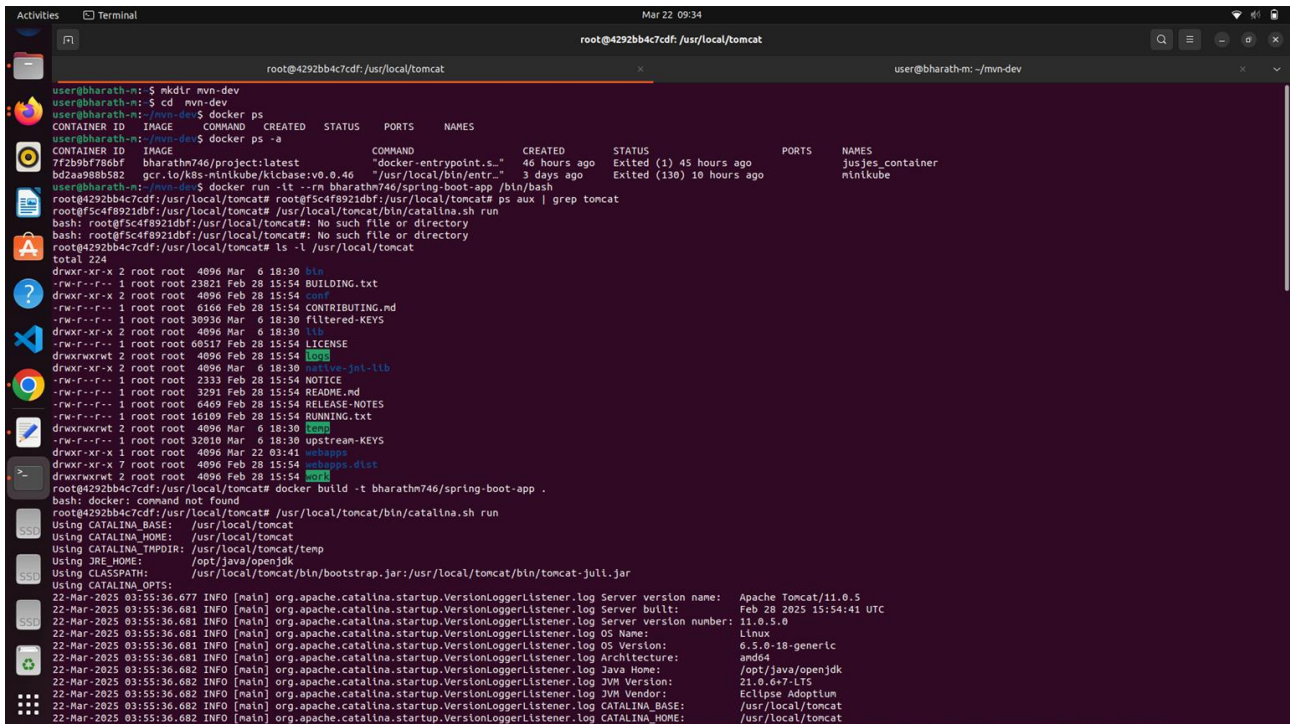


## After build:

docker ps -a docker run -it bharathm746/spring-boot-app:latest /bin/bash

root@f5c4f8921dbf:/usr/local/tomcat# ps aux | grep tomcat

root@f5c4f8921dbf:/usr/local/tomcat# /usr/local/tomcat/bin/catalina.sh run



```
Activities Terminal Mar 22 09:34
Screenshot captured
You can paste the image from the clipboard.
user@bharath-m: ~/mnv-dev

root@4292bb4c7cdf:/usr/local/tomcat

Using JRE_HOME: /opt/java/openjdk
Using CLASSPATH: /usr/local/tomcat/bin/bootstrap.jar:/usr/local/tomcat/bin/tomcat-juli.jar
Using CATALINA_OPTS:
22-Mar-2025 03:57:45.604 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server version name: Apache Tomcat/11.0.5
22-Mar-2025 03:57:45.606 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server built: Feb 28 2025 15:54:41 UTC
22-Mar-2025 03:57:45.607 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server version number: 11.0.5.0
22-Mar-2025 03:57:45.607 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log OS Name: Linux
22-Mar-2025 03:57:45.607 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log OS Version: 6.5.0-18-generic
22-Mar-2025 03:57:45.607 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Architecture: amd64
22-Mar-2025 03:57:45.607 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Java Home: /opt/java/openjdk
22-Mar-2025 03:57:45.607 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log JVM Version: 21.0.6+7-LTS
22-Mar-2025 03:57:45.607 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log JVM Vendor: Eclipse Adoptium
22-Mar-2025 03:57:45.608 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log CATALINA_BASE: /usr/local/tomcat
22-Mar-2025 03:57:45.608 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log CATALINA_HOME: /usr/local/tomcat
22-Mar-2025 03:57:45.617 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager
22-Mar-2025 03:57:45.617 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djdk.tls.ephemeralDHKeySize=2048
22-Mar-2025 03:57:45.617 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Dorg.apache.catalina.security.SecurityListener.Umask=0027
22-Mar-2025 03:57:45.617 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: --add-opens=java.base/java.lang=ALL-UNNAMED
22-Mar-2025 03:57:45.618 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: --add-opens=java.base/java.lang.reflect=ALL-UNNAMED
22-Mar-2025 03:57:45.618 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: --add-opens=java.base/java.io=ALL-UNNAMED
22-Mar-2025 03:57:45.618 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: --add-opens=java.base/java.util=ALL-UNNAMED
22-Mar-2025 03:57:45.618 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: --add-opens=java.base/java.util.concurrent=ALL-UNNAMED
22-Mar-2025 03:57:45.618 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: --enable-native-access=ALL-UNNAMED
22-Mar-2025 03:57:45.618 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Dcatalina.base=/usr/local/tomcat
22-Mar-2025 03:57:45.618 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Dcatalina.home=/usr/local/tomcat
22-Mar-2025 03:57:45.619 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.io.tmpdir=/usr/local/tomcat/temp
22-Mar-2025 03:57:45.621 INFO [main] org.apache.catalina.core.AprLifecycleListener.lifecycleEvent Loaded Apache Tomcat Native library [2.0.8] using APR version [1.7.2].
22-Mar-2025 03:57:45.625 INFO [main] org.apache.catalina.core.AprLifecycleListener.initializeSSL OpenSSL successfully initialized [OpenSSL 3.0.13 30 Jan 2024]
22-Mar-2025 03:57:45.821 INFO [main] org.apache.coyote.AbstractProtocol.init Initializing ProtocolHandler ["http-nio-8080"]
22-Mar-2025 03:57:45.831 INFO [main] org.apache.catalina.startup.Catalina.load Server Initialization in [323] milliseconds
22-Mar-2025 03:57:45.858 INFO [main] org.apache.catalina.core.StandardService.startInternal Starting service [Catalina]
22-Mar-2025 03:57:45.858 INFO [main] org.apache.catalina.core.StandardEngine.startInternal Starting Servlet engine: [Apache Tomcat/11.0.5]
22-Mar-2025 03:57:45.869 INFO [main] org.apache.catalina.startup.HostConfig.deployWAR Deploying web application archive [/usr/local/tomcat/webapps/ROOT.war]
22-Mar-2025 03:57:46.928 INFO [main] org.apache.jasper.servlet.TldScanner.scanJars At least one JAR was scanned for TLDs yet contained no TLDs. Enable debug logging for this logger for a complete list of JARs that were scanned but no TLDs were found in them. Skipping scanning can improve startup time and JSP compilation time.
INFO ContextLoader - Root WebApplicationContext: initialization started
INFO LogHelper - HH0000204: Processing PersistenceUnitInfo [name: petclinic]
INFO Version - HH0000412: Hibernate ORM core version 6.4.4.Final
INFO RegionFactoryInitiator - HH000025: Second-level cache region factory [org.hibernate.cache.jcache.internal.JCacheRegionFactory]
INFO SpringPersistenceUnitInfo - No LoadTimeWeaver setup: ignoring JPA class transformer
WARN deprecation - HH0000025: H2Dialect does not need to be specified explicitly using 'hibernate.dialect' (remove the property setting and it will be selected by default)
INFO Version - HH000001: Hibernate Validator 8.0.1.Final
INFO JtaPlatformInitiator - HH0000489: No JTA platform available (set 'hibernate.transaction.jta.platform' to enable JTA platform integration)
INFO LocalContainerEntityManagerFactoryBean - Initialized JPA EntityManagerFactory for persistence unit 'petclinic'
INFO ContextLoader - Root WebApplicationContext: initialization completed in 1995 ms
INFO DispatcherServlet - Initializing Servlet 'dispatcher'
INFO DispatcherServlet - Completed initialization in 334 ms
22-Mar-2025 03:57:49.427 INFO [main] org.apache.catalina.startup.HostConfig.deployWAR Deployment of web application archive [/usr/local/tomcat/webapps/ROOT.war] has finished in [3,558] ms
22-Mar-2025 03:57:49.430 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["http-nio-8080"]
22-Mar-2025 03:57:49.447 INFO [main] org.apache.catalina.startup.Catalina.start Server startup in [3614] milliseconds
```

## In new terminal -

docker run -d -p 9091:8080 bharathm746/spring-boot-app:latest

```
Activities Terminal Mar 22 09:34
Screenshot captured
You can paste the image from the clipboard.
user@bharath-m: ~/mnv-dev

root@4292bb4c7cdf:/usr/local/tomcat

user@bharath-m:~/mnv-dev$ docker run -d -p 8080:8080 --name spring-app bharathm746/spring-boot-app
d6944a55197947519c9555a448effcbe657deb4462a8069b57a2591cd20537
docker: Error response from daemon: failed to set up container networking: driver failed programming external connectivity on endpoint spring-app (450ea9b1585f98b5ed8ce5c0ec2a5d0848403b104ea8d36db6a8bb729
d7e5aac): failed to bind host port for 0.0.0.0:8080:172.17.0.3:8080/tcp: address already in use

Run 'docker run --help' for more information
user@bharath-m:~/mnv-dev$ docker run -d -p 9091:8080 bharathm746/spring-boot-app:latest
9538bd990b1cc4576cb9c05340c32f615507920f8f6505b53aed533c
user@bharath-m:~/mnv-dev$
```

