

## TASK 5 –Maven Creation

### Step 1: Creating folder

Create a folder and clone the repository

```
root@suganth-debian:~# $ sudo su
[sudo] password for suganth:
root@suganth-debian:~# mkdir maven
root@suganth-debian:~# cd maven
root@suganth-debian:~# apt install git
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
git is already the newest version (1:2.39.5-0+deb12u2).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
```

### Step 2: Installing maven

Installing maven using `--` `sudo apt install maven`

```
root@suganth-debian:/home/suganth/maven# ls
root@suganth-debian:/home/suganth/maven# git clone https://github.com/AranganathanPrakash/spring-framework-petclinic.git
Cloning into 'spring-framework-petclinic'...
remote: Enumerating objects: 7359, done.
remote: Counting objects: 100% (1119/1119), done.
remote: Compressing objects: 100% (86/86), done.
remote: Total 7359 (delta 1062), reused 1033 (delta 1033), pack-reused 6240 (from 1)
Receiving objects: 100% (7359/7359), 3.12 MiB | 3.71 MiB/s, done.
Resolving deltas: 100% (3602/3602), done.
root@suganth-debian:/home/suganth/maven# ls
spring-framework-petclinic
root@suganth-debian:/home/suganth/maven# cd spring-framework-petclinic
root@suganth-debian:/home/suganth/maven/spring-framework-petclinic# apt install openjdk-17-jdk -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
openjdk-17-jdk is already the newest version (17.0.14+7-1-deb12u1).
```

### Step 3: Testing

Test the maven

```
root@suganth-debian:/home/suganth/maven/spring-framework-petclinic# mvn test
[INFO] Scanning for projects...
Downloading from central: https://repo.maven.apache.org/maven2/com/fasterxml/jackson/jackson-bom/2.16.1/jackson-bom-2.16.1.pom
Downloaded from central: https://repo.maven.apache.org/maven2/com/fasterxml/jackson/jackson-bom/2.16.1/jackson-bom-2.16.1.pom (18 kB at 41 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/com/fasterxml/jackson/jackson-parent/2.16/jackson-parent-2.16.pom
Downloaded from central: https://repo.maven.apache.org/maven2/com/fasterxml/jackson/jackson-parent/2.16/jackson-parent-2.16.pom (6.5 kB at 167 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/com/fasterxml/oss-parent/56/oss-parent-56.pom
Downloaded from central: https://repo.maven.apache.org/maven2/com/fasterxml/oss-parent/56/oss-parent-56.pom (24 kB at 26 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/springframework/data/spring-data-bom/2023.1.1/spring-data-bom-2023.1.1.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/springframework/data/spring-data-bom/2023.1.1/spring-data-bom-2023.1.1.pom (5.5 kB at 138 kB/s)
[INFO]
[INFO] ----- org.springframework.samples.spring-framework-petclinic -----
[INFO] Building Spring Framework Petclinic 6.1.4
[INFO] ----- war -----
Downloading from central: https://repo.maven.apache.org/maven2/org/jacoco/jacoco-maven-plugin/0.8.11/jacoco-maven-plugin-0.8.11.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/jacoco/jacoco-maven-plugin/0.8.11/jacoco-maven-plugin-0.8.11.pom (4.2 kB at 121 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/jacoco/org.jacoco.build/0.8.11/org.jacoco.build-0.8.11.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/jacoco/org.jacoco.build/0.8.11/org.jacoco.build-0.8.11.pom (44 kB at 718 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/ow2/asm/asm-bom/9.6/asm-bom-9.6.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/ow2/asm/asm-bom/9.6/asm-bom-9.6.pom (3.2 kB at 92 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/ow2/ow2/1.5.1/ow2-1.5.1.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/ow2/ow2/1.5.1/ow2-1.5.1.pom (11 kB at 297 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/jacoco/jacoco-maven-plugin/0.8.11/jacoco-maven-plugin-0.8.11.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/jacoco/jacoco-maven-plugin/0.8.11/jacoco-maven-plugin-0.8.11.jar (57 kB at 1.3 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-enforcer-plugin/3.4.1/maven-enforcer-plugin-3.4.1.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-enforcer-plugin/3.4.1/maven-enforcer-plugin-3.4.1.pom (7.7 kB at 193 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/enforcer/enforcer/3.4.1/enforcer-3.4.1.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/enforcer/enforcer/3.4.1/enforcer-3.4.1.pom (9.1 kB at 286 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/40/maven-parent-40.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/40/maven-parent-40.pom (49 kB at 1.2 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/apache/30/apache-30.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/apache/30/apache-30.pom (23 kB at 581 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/junit/junit-bom/5.10.0/junit-bom-5.10.0.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/junit/junit-bom/5.10.0/junit-bom-5.10.0.pom (5.6 kB at 171 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-enforcer-plugin/3.4.1/maven-enforcer-plugin-3.4.1.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-enforcer-plugin/3.4.1/maven-enforcer-plugin-3.4.1.jar (39 kB at 126 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-resources-plugin/3.3.1/maven-resources-plugin-3.3.1.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-resources-plugin/3.3.1/maven-resources-plugin-3.3.1.pom (8.2 kB at 227 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/39/maven-plugins-39.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/39/maven-plugins-39.pom (8.1 kB at 225 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/39/maven-parent-39.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/39/maven-parent-39.pom (48 kB at 1.1 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/apache/29/apache-29.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/apache/29/apache-29.pom (21 kB at 545 kB/s)
```

### Step 4: Clean

Clean the maven

```

[INFO] -----
root@suganth-debian:/home/suganth/maven/spring-framework-petclinic# mvn clean
[INFO] Scanning for projects...
[INFO]
[INFO] -----< org.springframework.samples:spring-framework-petclinic >-----
[INFO] Building Spring Framework Petclinic 6.1.4
[INFO] -----[ war ]-----
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/2.5/maven-clean-plugin-2.5.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/2.5/maven-clean-plugin-2.5.pom (3.9 kB at 876 B/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/22/maven-plugins-22.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/22/maven-plugins-22.pom (13 kB at 12 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/21/maven-parent-21.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/21/maven-parent-21.pom (26 kB at 123 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/apache/18/apache-18.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/apache/18/apache-18.pom (15 kB at 49 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/2.5/maven-clean-plugin-2.5.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/2.5/maven-clean-plugin-2.5.jar (25 kB at 66 kB/s)
[INFO]
[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ spring-framework-petclinic ---
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-plugin-api/2.0.6/maven-plugin-api-2.0.6.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-plugin-api/2.0.6/maven-plugin-api-2.0.6.pom (1.5 kB at 1.2 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven/2.0.6/maven-2.0.6.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven/2.0.6/maven-2.0.6.pom (9.0 kB at 18 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/5/maven-parent-5.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/5/maven-parent-5.pom (15 kB at 3.5 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/apache/3/apache-3.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/apache/3/apache-3.pom (3.4 kB at 889 B/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0/plexus-utils-3.0.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0/plexus-utils-3.0.pom (4.1 kB at 3.2 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/sonatype/spice/spice-parent/16/spice-parent-16.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/sonatype/spice/spice-parent/16/spice-parent-16.pom (8.4 kB at 3.3 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-plugin-api/2.0.6/maven-plugin-api-2.0.6.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-plugin-api/2.0.6/maven-plugin-api-2.0.6.jar (13 kB at 127 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0/plexus-utils-3.0.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0/plexus-utils-3.0.jar (226 kB at 744 kB/s)
[INFO] Deleting /home/suganth/maven/spring-framework-petclinic/target
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 20.873 s
[INFO] Finished at: 2025-03-22T09:08:52+05:30
[INFO] -----
root@suganth-debian:/home/suganth/maven/spring-framework-petclinic#

```

## Step 5: Login in docker

### Login in the docker using the username

```

root@suganth-debian:/home/suganth/maven/spring-framework-petclinic# docker login -u suganth07
Info - A Personal Access Token (PAT) can be used instead.
To create a PAT, visit https://app.docker.com/settings

Password:

WARNING! Your credentials are stored unencrypted in '/root/.docker/config.json'.
Configure a credential helper to remove this warning. See
https://docs.docker.com/go/credential-store/

Login Succeeded
root@suganth-debian:/home/suganth/maven/spring-framework-petclinic#

```

## Step 6: Push

### Push the image inside the docker

```

root@suganth-debian:/home/suganth/maven/spring-framework-petclinic# docker tag petclinic suganth07/petclinic
root@suganth-debian:/home/suganth/maven/spring-framework-petclinic# docker push suganth07/petclinic
Using default tag: latest
The push refers to repository [docker.io/suganth07/petclinic]
4c395033597f: Pushed
5f70bf18a086: Layer already exists
8fbd02a6a33: Layer already exists
49eb1bc2d0eb: Layer already exists
4e5b554b7345: Layer already exists
39cf0ac89a5a: Layer already exists
f844dcf94898: Layer already exists
33590c3d7a6a: Layer already exists
4b7c61ed0534: Layer already exists
latest digest: sha256:41e2b7f6cd1a1c53f8ed6722552a2b0820ds4fe701655c25628d3e73a58db07 size: 2413
root@suganth-debian:/home/suganth/maven/spring-framework-petclinic#

```

## Step 7: Minikube

### Start the minikube

```

minikube v1.35.0 on Debian 12.10
Using the docker driver based on existing profile
Starting "minikube" primary control-plane node in "minikube" cluster
Pulling base image v0.0.46 ...
Updating the running docker "minikube" container ...
Preparing Kubernetes v1.32.0 on Docker 27.4.1 ...
Verifying Kubernetes components...
  * Using image gcr.io/k8s-minikube/storage-provisioner:v5
  Enabled addons: storage-provisioner, default-storageclass
Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default

```

## Step 8: Deployment creation

Create a deployment named petclinic

```

suganth@suganth-mbp:~$ kubectl create deployment petclinic --image=suganth07/petclinic
deployment.apps/petclinic created

```

## Step 9: Deployment exposure

Expose the deployment in the kubectl

```

suganth@suganth-mbp:~$ kubectl expose deployment petclinic --port=8080
service/petclinic exposed

```

## Step 10: Service

Check the service of the petclinic webpage

```

NAME      TYPE        TARGET PORT  URL
-----
petclinic ClusterIP   No node port

service default/petclinic has no node port
Services [default/petclinic] have type "ClusterIP" not meant to be exposed, however for local development minikube allows you to access this !
Starting tunnel for service petclinic.

NAME      TYPE        TARGET PORT  URL
-----
petclinic ClusterIP   http://127.0.0.1:44929

Opening service default/petclinic in default browser...
http://127.0.0.1:44929
Because you are using a Docker driver on linux, the terminal needs to be open to run it.

```

## Step 11: Output

The output page is displayed in the localhost:44929

