

## TASK 5 – MAVEN CREATION

## Step 1: Folder Creation

Create a folder named maven and install git in that folder.

```
trishga@LAPTOP-2IK4WZ21:~$ sudo su
root@LAPTOP-2IK4WZ21:/home/trishga# mkdir maven
root@LAPTOP-2IK4WZ21:/home/trishga# cd maven
root@LAPTOP-2IK4WZ21:/home/trishga/maven# apt install git
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
git is already the newest version (1:2.43.0-lubuntu7.2).
git set to manually installed.
```

## Step 2: Installing Java

Clone the repository inside the folder and install java openjdk-17-jdk -y

```
root@LAPTOP-2IK4WH22I:/home/thrisha/maven# ls
spring-framework-petclinic
root@LAPTOP-2IK4WH22I:/home/thrisha/maven# cd spring-framework-petclinic
bash: cd: spring-framework-petclinic: No such file or directory
root@LAPTOP-2IK4WH22I:/home/thrisha/maven# cd spring-framework-petclinic
root@LAPTOP-2IK4WH22I:/home/thrisha/maven/spring-framework-petclinic# ls
Jenkinsfile LICENSE.txt dockerfile mvnw mvnw.cmd pom.xml readme.md src
root@LAPTOP-2IK4WH22I:/home/thrisha/maven/spring-framework-petclinic# apt install openjdk-17-jdk -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  liblvm1764
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  also-topology-conf also-ucm-conf ca-certificates-java fonts-dejavu-extra java-common libasound2-data libasound2t64
  libatk-wrapper-java libatk-wrapper-java-jni libgif7 libice-dev libice6 libinput4 libinput-bin libinput-common libinput10
  libjpeg-turbo8 libjpeg-dev liblsb-dev libsm6 libx11-dev libxau-dev libxaw7 libxcb-shape0 libxcb1-dev libxdmcp-dev libxft2
  libxkbfile1 libxmu6 libxpm4 libxt-dev libxt6t64 libx11-libxft6dgal openjdk-17-jdk-headless openjdk-17-jre
  openjdk-17-jre-headless x11-utils x11proto-dev xorg-sgml-doctools xtrans-dev
Suggested packages:
  default-jre also-utls libasound2-plugins libice-doc pscd libsm-doc libx11-doc libxcb-doc libxt-doc openjdk-17-demo
  openjdk-17-source visualvm libnss-mdns fonts-ipafont-gothic fonts-ipafont-mincho fonts-wqy-microhei
  | fonts-wqy-zenhei fonts-indic mesa-utils
Recommended packages:
  luit
The following NEW packages will be installed:
  also-topology-conf also-ucm-conf ca-certificates-java fonts-dejavu-extra java-common libasound2-data libasound2t64
  libatk-wrapper-java libatk-wrapper-java-jni libgif7 libice-dev libice6 libinput4 libinput-bin libinput-common libinput10
  libjpeg-turbo8 libjpeg-dev liblsb-dev libsm6 libx11-dev libxau-dev libxaw7 libxcb-shape0 libxcb1-dev libxdmcp-dev libxft2
  libxkbfile1 libxmu6 libxpm4 libxt-dev libxt6t64 libx11-libxft6dgal openjdk-17-jdk openjdk-17-jdk-headless
  openjdk-17-jre openjdk-17-jre-headless x11-utils x11proto-dev xorg-sgml-doctools xtrans-dev
0 upgraded, 40 newly installed, 0 to remove and 11 not upgraded.
Need to get 123 MB/128 MB of archives.
After this operation, 298 MB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble/main amd64 libasound2-data all 1.2.11-1build2 [21.0 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 also-ucm-conf all 1.2.10-libutbus-5.4 [64.8 kB]
```

### Step 3: Maven test

Test the maven and check any errors present

```
[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 24 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 31 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 178 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 47 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 22 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 237 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 18 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 86 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 321 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.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 43 kB/s)
```

## Step 4: Maven Clean

Clean the maven and remove the unwanted items

```
[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 3.3 kB/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 40 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 101 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/apache/10/apache-10.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/apache/10/apache-10.pom (15 kB at 71 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 124 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 6.4 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 49 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 45 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 31 kB/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 14 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 64 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 31 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0/plexus-utils-3.0.jar (226 kB at 264 kB/s)
[INFO] Deleting /home/vishal/task5/spring-framework-petclinic/target
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 6.025 s
```

## Step 5: Login in Docker

Login into docker using the username and password of the docker hub.

```
root@LAPTOP-21K4H22I:/home/thrishal/maven/spring-framework-petclinic# docker login -u thrishal012

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
```

## Step 6: Push in Docker

Push the image inside the docker hub

```
thrishal@LAPTOP-21K4H22I:~/maven/spring-framework-petclinic$ docker push thrishal012/petclinic:latest
The push refers to repository [docker.io/thrishal012/petclinic]
1ee698a89932: Mounted from thrishal012/maven-dog
5f70bf18a086: Mounted from thrishal012/maven-dog
6fbd02a6a33: Mounted from thrishal012/maven-dog
49cb1bc2daeb: Mounted from thrishal012/maven-dog
4e5b554b7345: Mounted from thrishal012/maven-dog
39cf0ac89a5a: Mounted from thrishal012/maven-dog
f844dcf94898: Mounted from thrishal012/maven-dog
3359bc3d7a6a: Mounted from thrishal012/maven-dog
4b7c01ed0534: Mounted from thrishal012/maven-dog
latest: digest: sha256:261922085f15c5ff7768db6c15d1150514cadb63fc2f9ede9fad0d902a7928bac7 size: 2413
```

## Step 7: Minikube

Start the minikube using minikube start

```
thrishal@LAPTOP-21K4H22I:~/maven/spring-framework-petclinic$ minikube start
🐳 minikube v1.35.0 on Ubuntu 24.04 (amd64)
🔗 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

Create the deployment and expose it .Once it is exposed use minikube service to find the url of the webpage. Copy the url.

```
thrisha@LAPTOP-2IK4H22I:~/maven/spring-framework-petclinic$ kubectl create deployment petclinic --image=thrisha1012/petclinic
deployment.apps/petclinic created
thrisha@LAPTOP-2IK4H22I:~/maven/spring-framework-petclinic$ kubectl expose deployment petclinic --port=8080
service/petclinic exposed
thrisha@LAPTOP-2IK4H22I:~/maven/spring-framework-petclinic$ minikube service petclinic
```

NAMESPACE	NAME	TARGET PORT	URL
default	petclinic		No node port

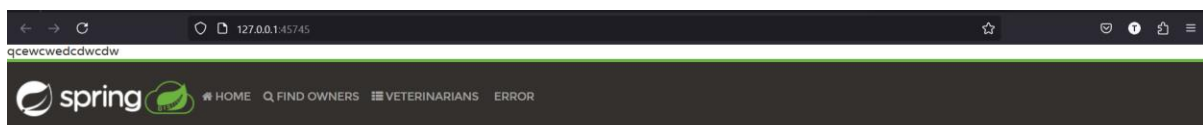
```
service default/petclinic has no node port
Services [default/petclinic] have type "ClusterIP" not meant to be exposed, however for local development minikube allows you to access this !
Starting tunnel for service petclinic.
```

NAMESPACE	NAME	TARGET PORT	URL
default	petclinic		http://127.0.0.1:45745

```
Opening service default/petclinic in default browser...
http://127.0.0.1:45745
Because you are using a Docker driver on linux, the terminal needs to be open to run it.
```

## Step 9: Output

Paste the url link in the browser and the output will be displayed.



???welcome Aranganathan 79998wdd???

