TASK 5 –Maven Creation

Step 1: Creating folder

Create a folder and clone the repository

```
vishal@LAPTOP-U45BV05I:~$ mkdir task5
vishal@LAPTOP-U45BV05I:~$ cd task5
vishal@LAPTOP-U45BV05I:~/task5$ git clone https://github.com/AranganathanPrakash/spring-framework-petclinic.git
Cloning into 'spring-framework-petclinic'...
remote: Enumerating objects: 7351, done.
remote: Counting objects: 100% (1110/1110), done.
remote: Compressing objects: 100% (80/80), done.
remote: Total 7351 (delta 1059), reused 1030 (delta 1030), pack-reused 6241 (from 1)
Receiving objects: 100% (7351/7351), 3.12 MiB | 5.07 MiB/s, done.
Resolving deltas: 100% (3600/3600), done.
vishal@LAPTOP-U45BV05I:~/task5$ ls
spring-framework-petclinic
```

Step 2: Installing maven

Installing maven using   --   sudo apt install maven

```
vishal@LAPTOP-U45BV05I:~/task5/spring-framework-petclinic$ sudo apt install maven
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
maven is already the newest version (3.8.7-2).
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
```

Step 3: Checking

See if the maven is installed or not

```
vishal@LAPTOP-U45BV05I:~/task5/spring-framework-petclinic$ mvn --version
Apache Maven 3.8.7
Maven home: /usr/share/maven
Java version: 17.0.14, vendor: Ubuntu, runtime: /usr/lib/jvm/java-17-openjdk-amd64
Default locale: en, platform encoding: UTF-8
OS name: "linux", version: "5.15.167.4-microsoft-standard-wsl2", arch: "amd64", family: "unix"
```

Step 4: Testing

Test the maven

```
vishal@LAPTOP-U45BV05I:~/task5/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 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 5: Clean

Clean the maven

```
vishal@LAPTOP-U45BV05I:~/task5/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 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
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/apache/maven/maven-plugin-api/2.0.6/maven-plugin-api-2.0.6.jar (13 kB at 31 kB/s)
Downloaded 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 6: Login in docker

Login in the docker using the username

```
vishal@LAPTOP-U45BV05I:~/task5/spring-framework-petclinic$ docker login -u vishal15276t

ℹ 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 '/home/vishal/.docker/config.json'.
Configure a credential helper to remove this warning. See
https://docs.docker.com/go/credential-store/

Login Succeeded
```

Step 7: Push

Push the image inside the docker

```
vishal@LAPTOP-U45BV05I:~/task5/spring-framework-petclinic$ docker push vishal15276t/petclinic
Using default tag: latest
The push refers to repository [docker.io/vishal15276t/petclinic]
38ccc1c087b0: Pushed
5f70bf18a086: Layer already exists
6fbdf02a6a33: Pushed
49cb1bc2daeb: Layer already exists
4e5b554b7345: Layer already exists
39cf0ac89a5a: Layer already exists
f844dcf94898: Pushed
3359bc3d7a6a: Pushed
4b7c01ed0534: Pushed
latest: digest: sha256:50a432cf884c30b2459a000ad02e664b7acf8bac4ed39762d0f2c86500c91948 size: 2413
```

Step 8: Minikube

Start the minikube

```
vishal@LAPTOP-U45BV05I:~/task5/spring-framework-petclinic$ minikube start
😄  minikube v1.35.0 on Ubuntu 24.04 (amd64)
    Using the docker driver based on existing profile

🧰  The requested memory allocation of 2200MiB does not leave room for system overhead (total system memory: 2901MiB). You may face stability issues.
❗  Suggestion: Start minikube with less memory allocated: 'minikube start --memory=2200mb'

🔥  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 9: Deployment creation

Create a deployment named petclinic

```
vishal@LAPTOP-U45BV05I:~/task5/spring-framework-petclinic$ kubectl create deployment petclinic --image=vishal15276t/petclinic
deployment.apps/petclinic created
```

Step 10: Deployment exposure

Expose the deployment in the kubectl

```
vishal@LAPTOP-U45BV05I:~/task5/spring-framework-petclinic$ kubectl expose deployment petclinic --port=8080
service/petclinic exposed
```

Step 11: Service

Check the service of the petclinic webpage

```
vishal@LAPTOP-U45BV05I:~/task5/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://127.0.0.1:44929 |
|-----------|-----------|-------------|------------------------|
🎉  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 12: Output

The output page is displayed in the localhost:44929