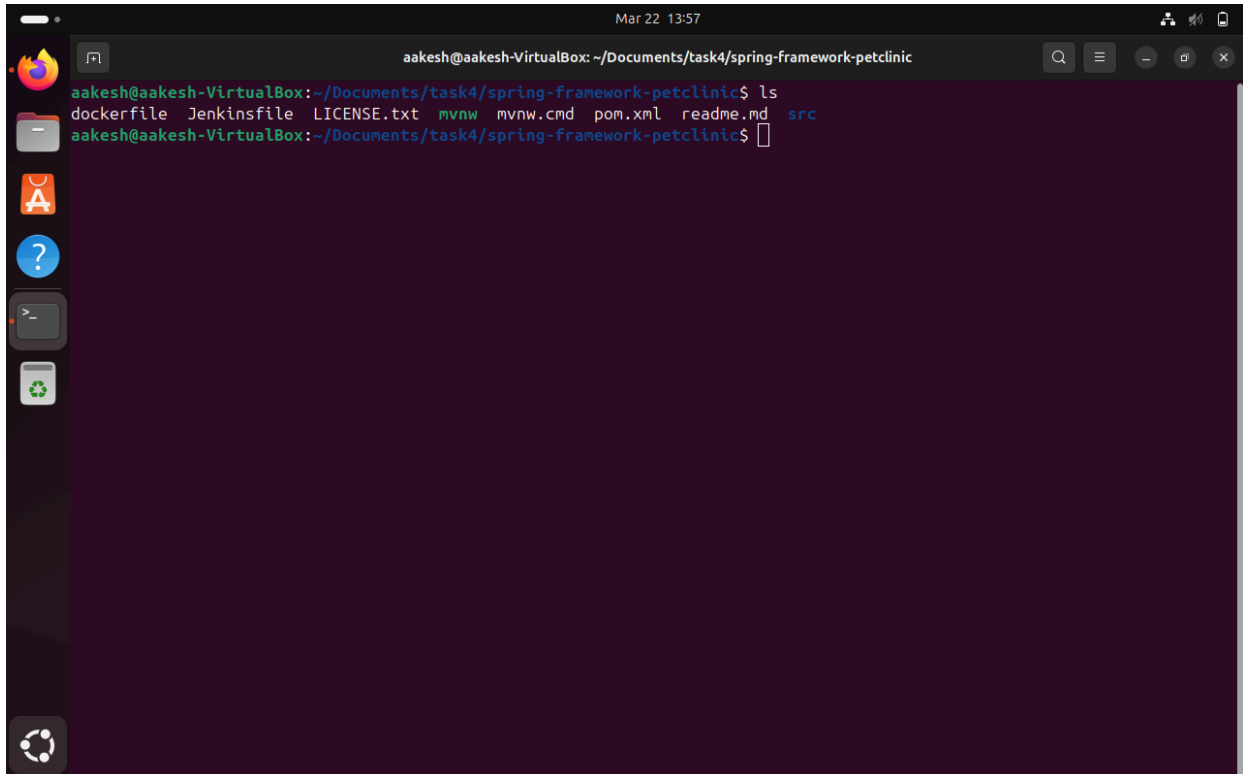


Used a sample springboot project:



The image shows a terminal window titled "aakesh@aakesh-VirtualBox: ~/Documents/task4/spring-framework-petclinic". The terminal output shows the command `ls` being executed, resulting in a listing of files: `dockerfile Jenkinsfile LICENSE.txt mvnw mvnw.cmd pom.xml readme.md src`. The terminal has a dark purple background and a sidebar on the left with various application icons. The window's title bar includes standard Linux window controls and a system clock showing "Mar 22 13:57".

```
aakesh@aakesh-VirtualBox: ~/Documents/task4/spring-framework-petclinic
aakesh@aakesh-VirtualBox:~/Documents/task4/spring-framework-petclinic$ ls
dockerfile Jenkinsfile LICENSE.txt mvnw mvnw.cmd pom.xml readme.md src
aakesh@aakesh-VirtualBox:~/Documents/task4/spring-framework-petclinic$
```

Built it, and got .war file:

```
Mar 22 14:00
aakesh@aakesh-VirtualBox: ~/Documents/task4/spring-framework-petclinic

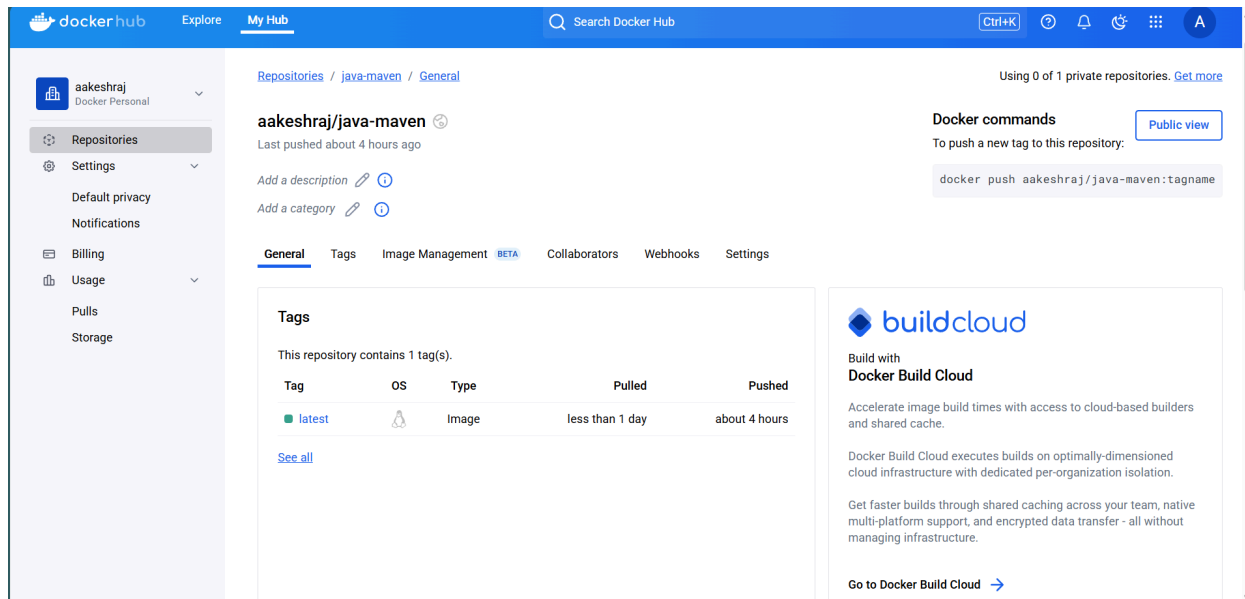
INFO MockServletContext - Initializing Spring TestDispatcherServlet ''
INFO TestDispatcherServlet - Initializing Servlet ''
INFO TestDispatcherServlet - Completed initialization in 1 ms
INFO MockServletContext - Initializing Spring TestDispatcherServlet ''
INFO TestDispatcherServlet - Initializing Servlet ''
INFO TestDispatcherServlet - Completed initialization in 0 ms
[INFO] Tests run: 4, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.345 s -- in org.springframework.samples.petclinic.web.VisitControllerTests
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 62, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] --- jacoco-maven-plugin:0.8.11:report (report) @ spring-framework-petclinic ---
[INFO] Loading execution data file /home/aakesh/Documents/task4/spring-framework-petclinic/target/jacoco.exec
[INFO] Analyzed bundle 'Spring Framework Petclinic' with 36 classes
[INFO]
[INFO] --- maven-war-plugin:3.4.0:war (default-war) @ spring-framework-petclinic ---
[INFO] Packaging webapp
[INFO] Assembling webapp [spring-framework-petclinic] in [/home/aakesh/Documents/task4/spring-framework-petclinic/target/petclinic]
[INFO] Processing war project
[INFO] Copying webapp resources [/home/aakesh/Documents/task4/spring-framework-petclinic/src/main/webapp]
[INFO] Building war: /home/aakesh/Documents/task4/spring-framework-petclinic/target/petclinic.war
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 01:45 min
[INFO] Finished at: 2025-03-22T13:59:41+05:30
[INFO] -----
aakesh@aakesh-VirtualBox:~/Documents/task4/spring-framework-petclinic$
```

Build Docker Image:

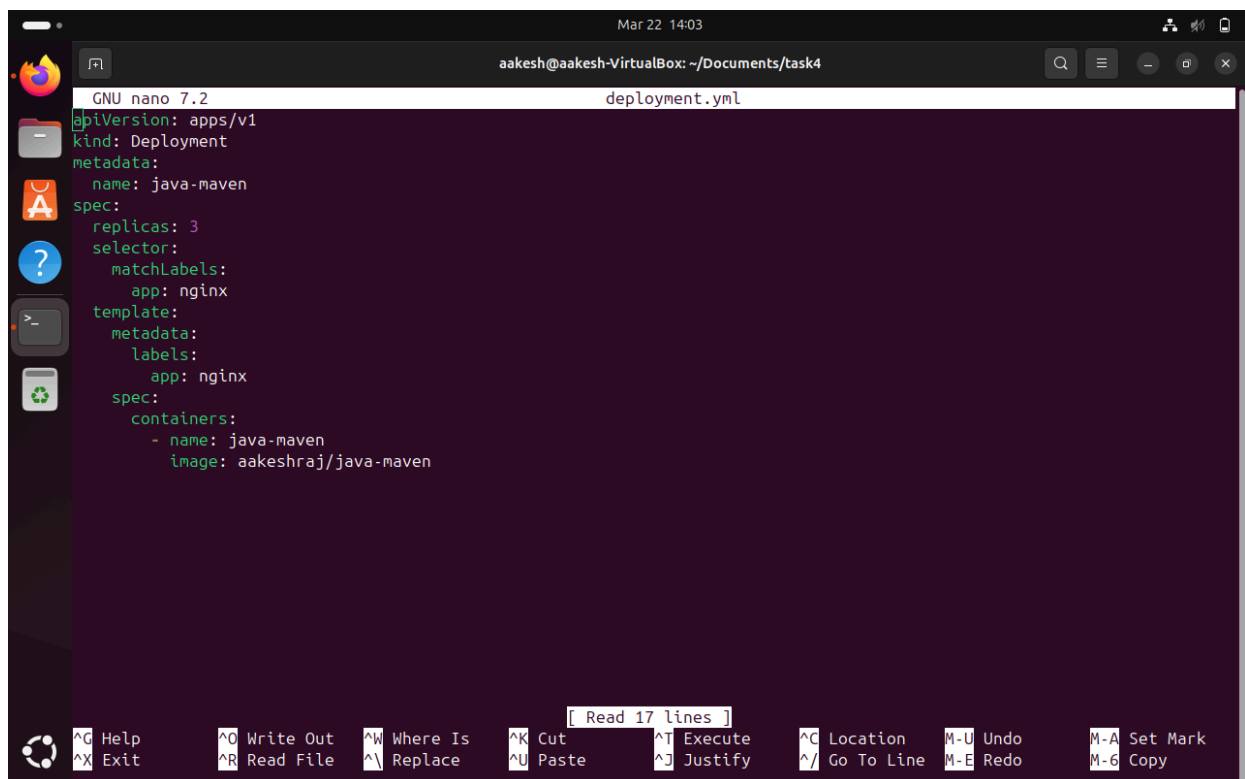
```
Mar 22 14:01
aakesh@aakesh-VirtualBox: ~/Documents/task4/spring-framework-petclinic

aakesh@aakesh-VirtualBox:~/Documents/task4/spring-framework-petclinic$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
aakeshraj/java-maven   latest             c863fcb568cd       24 hours ago       563MB
aakeshraj/home2        latest             a2c84755f6b0       2 days ago         47.9MB
aakeshraj/home1        latest             a6856040a2ca       2 days ago         47.9MB
aakeshraj/home         latest             66dd5c2a2e8a       2 days ago         78.1MB
aakeshraj/ecommerce    latest             1bb69cb11b72       2 days ago         195MB
htmlimg              latest             e653524f2112       3 days ago         48.2MB
aakeshraj/samplepy     10                0368dff2528d       3 days ago         149MB
aakeshraj/samplepy     9                 0368dff2528d       3 days ago         149MB
apping              latest             8c284d9c3740       3 days ago         575MB
aakeshraj/samplepy     1                 8c284d9c3740       3 days ago         575MB
aakeshraj/samplepy    latest             8c284d9c3740       3 days ago         575MB
hello-world           latest             74cc54e27dc4       8 weeks ago        10.1kB
gcr.io/k8s-minikube/kicbase v0.0.46           e72c4cbe9b29       2 months ago       1.31GB
aakesh@aakesh-VirtualBox:~/Documents/task4/spring-framework-petclinic$
```

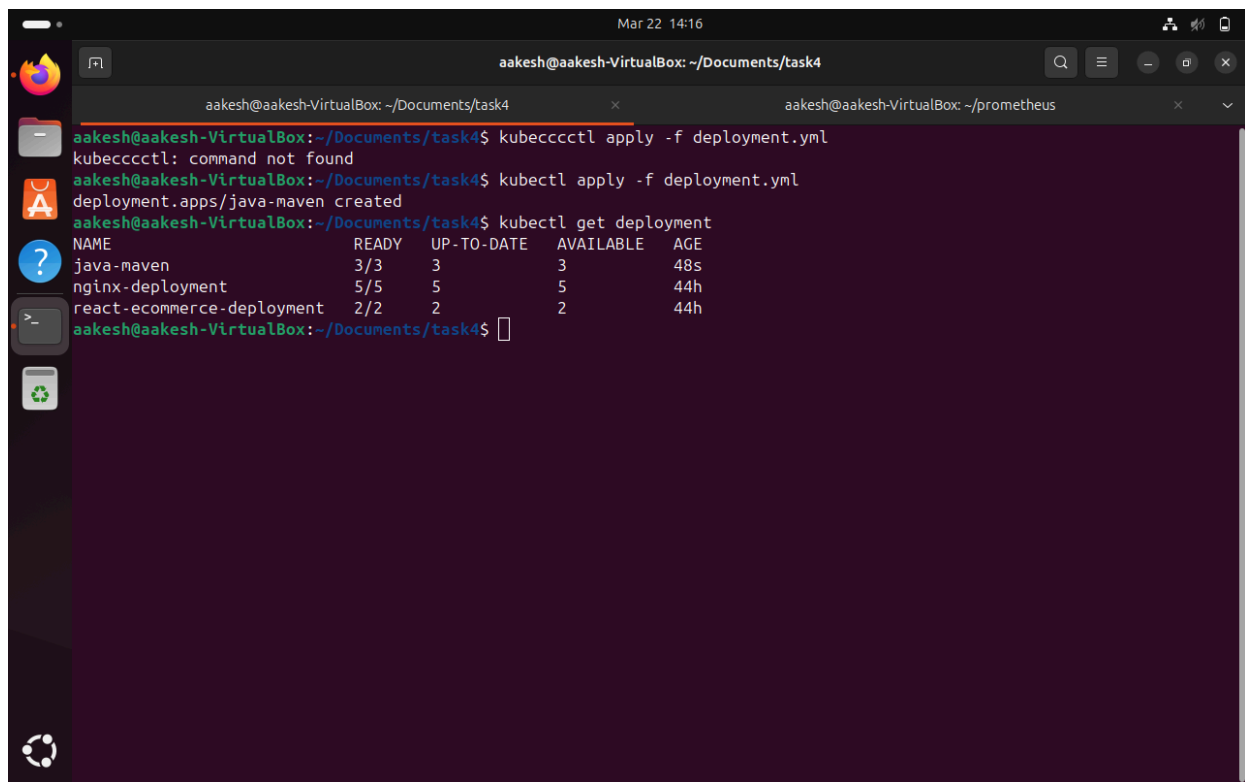
Pushed it to docker hub:



Written deployment.yml file:



Created deployment:



The screenshot shows a terminal window titled "aakesh@aakesh-VirtualBox: ~/Documents/task4". The user has executed the following commands and received the following output:

```
aakesh@aakesh-VirtualBox:~/Documents/task4$ kubectl apply -f deployment.yml
deployment.apps/java-maven created
aakesh@aakesh-VirtualBox:~/Documents/task4$ kubectl get deployment
```

NAME	READY	UP-TO-DATE	AVAILABLE	AGE
java-maven	3/3	3	3	48s
nginx-deployment	5/5	5	5	44h
react-ecommerce-deployment	2/2	2	2	44h

The terminal window also shows a sidebar with icons for file manager, application store, help, and system settings.

Exposed the port :

```
Mar 22 14:18
aakesh@aakesh-VirtualBox: ~/Documents/task4
aakesh@aakesh-VirtualBox: ~/Documents/task4$ kubectl expose deployment java-maven --port=8097 --type=NodePort
service/java-maven exposed
aakesh@aakesh-VirtualBox: ~/Documents/task4$ kubectl get service
NAME         TYPE        CLUSTER-IP   EXTERNAL-IP   PORT(S)          AGE
java-maven   NodePort    10.98.126.168 <none>        8097:32058/TCP   10s
kubernetes   ClusterIP   10.96.0.1    <none>        443/TCP          2d23h
aakesh@aakesh-VirtualBox: ~/Documents/task4$
```

Verified pods running:

```
Mar 22 14:19
aakesh@aakesh-VirtualBox: ~/Documents/task4
aakesh@aakesh-VirtualBox: ~/Documents/task4$ kubectl expose deployment java-maven --port=8097 --type=NodePort
service/java-maven exposed
aakesh@aakesh-VirtualBox: ~/Documents/task4$ kubectl get service
NAME         TYPE        CLUSTER-IP   EXTERNAL-IP   PORT(S)          AGE
java-maven   NodePort    10.98.126.168 <none>        8097:32058/TCP   10s
kubernetes   ClusterIP   10.96.0.1    <none>        443/TCP          2d23h
aakesh@aakesh-VirtualBox: ~/Documents/task4$ kubectl get pod
NAME                                READY   STATUS    RESTARTS   AGE
java-maven-c56b7bd64-gmb64          1/1     Running   0           4m36s
java-maven-c56b7bd64-q284q          1/1     Running   0           4m36s
java-maven-c56b7bd64-wfp67          1/1     Running   0           4m36s
nginx-deployment-5db9468-5rhnp       1/1     Running   2 (14m ago) 44h
nginx-deployment-5db9468-b87w2       1/1     Running   2 (14m ago) 44h
nginx-deployment-5db9468-c6gsh       1/1     Running   2 (14m ago) 44h
nginx-deployment-5db9468-w64qb       1/1     Running   2 (14m ago) 44h
nginx-deployment-5db9468-xbxl6       1/1     Running   2 (14m ago) 44h
react-ecommerce-deployment-b584d7d4c-kp2xv 1/1     Running   2 (14m ago) 44h
react-ecommerce-deployment-b584d7d4c-vvl2t 1/1     Running   2 (14m ago) 44h
aakesh@aakesh-VirtualBox: ~/Documents/task4$
```

Executed the service::

```
Mar 22 14:21
aakesh@aakesh-VirtualBox: ~/Documents/task4
aakesh@aakesh-VirtualBox: ~/Documents/task4
aakesh@aakesh-VirtualBox: ~/Documents/task4$ kubectl expose deployment java-maven --port=8097 --type=NodePort
service/java-maven exposed
aakesh@aakesh-VirtualBox: ~/Documents/task4$ kubectl get service
NAME         TYPE        CLUSTER-IP   EXTERNAL-IP   PORT(S)          AGE
java-maven    NodePort    10.98.126.168 <none>        8097:32058/TCP   10s
kubernetes    ClusterIP   10.96.0.1     <none>        443/TCP          2d23h
aakesh@aakesh-VirtualBox: ~/Documents/task4$ kubectl get pod
NAME                                READY   STATUS    RESTARTS   AGE
java-maven-c56b7bd64-gmb64          1/1     Running   0           4m36s
java-maven-c56b7bd64-q284q          1/1     Running   0           4m36s
java-maven-c56b7bd64-wfp67          1/1     Running   0           4m36s
nginx-deployment-5db9468-5rhnp       1/1     Running   2 (14m ago) 44h
nginx-deployment-5db9468-b87w2       1/1     Running   2 (14m ago) 44h
nginx-deployment-5db9468-c6gsh       1/1     Running   2 (14m ago) 44h
nginx-deployment-5db9468-w64qb       1/1     Running   2 (14m ago) 44h
nginx-deployment-5db9468-xbxl6       1/1     Running   2 (14m ago) 44h
react-ecommerce-deployment-b584d7d4c-kp2xv 1/1     Running   2 (14m ago) 44h
react-ecommerce-deployment-b584d7d4c-vvl2t 1/1     Running   2 (14m ago) 44h
aakesh@aakesh-VirtualBox: ~/Documents/task4$ minikube service java-maven
|-----|-----|-----|-----|
| NAMESPACE | NAME | TARGET PORT | URL |
|-----|-----|-----|-----|
| default | java-maven | 8097 | http://192.168.49.2:32058 |
|-----|-----|-----|-----|
🔗 Opening service default/java-maven in default browser...
aakesh@aakesh-VirtualBox: ~/Documents/task4$ Gtk-Message: 14:20:33.198: Not loading module "atk-bridge": The functionalit
y is provided by GTK natively. Please try to not load it.
^C
aakesh@aakesh-VirtualBox: ~/Documents/task4$
```