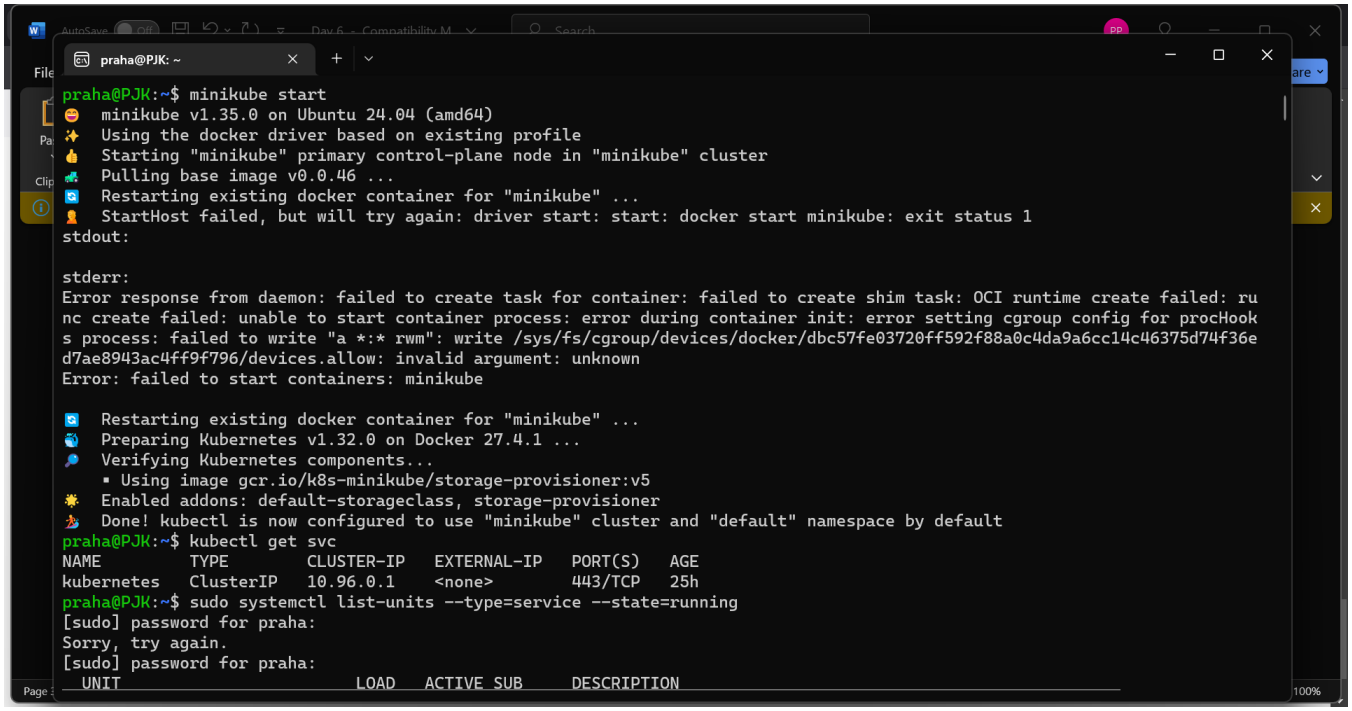
DevOps DAY -5

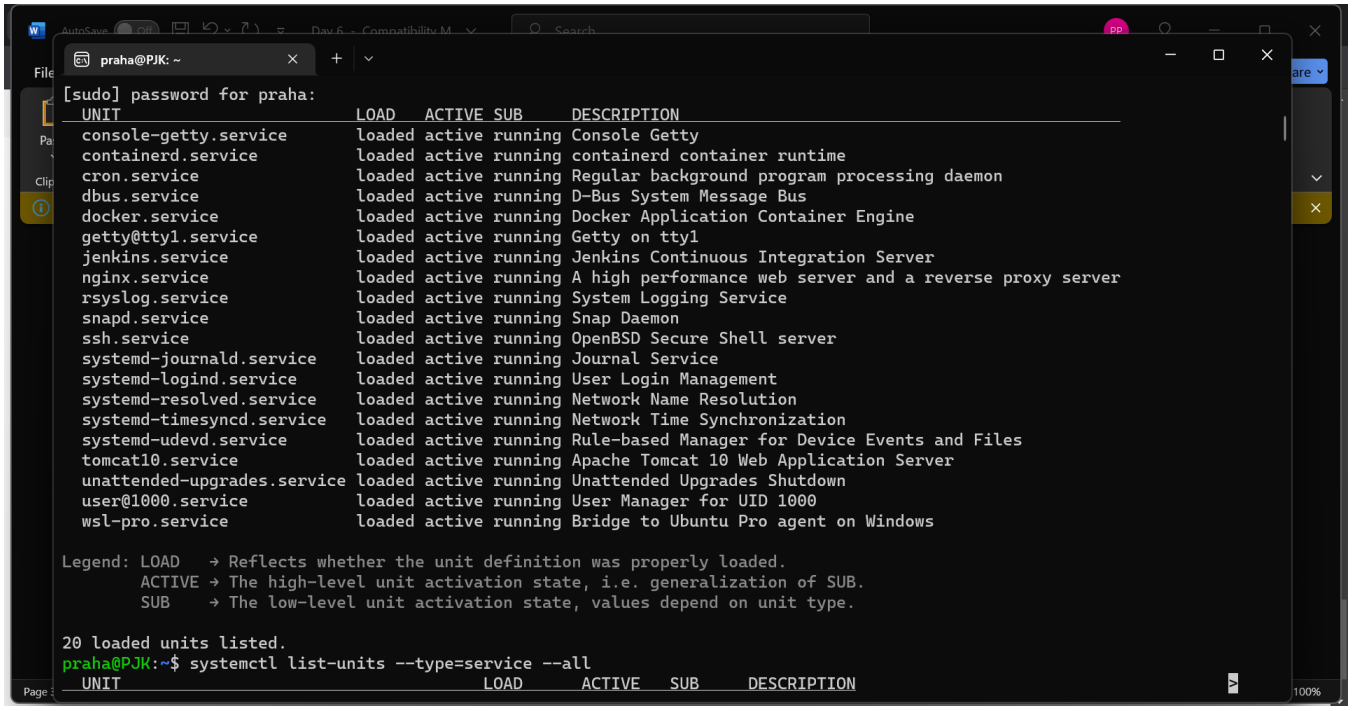
deployment.yml

```yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: my-deploy
  namespace: my-bank
  labels:
    name: my-deploy
spec:
  replicas: 1
  selector:
    matchLabels:
      apptype: web-backend
  strategy:
    type: RollingUpdate
  template:
    metadata:
      labels:
        apptype: web-backend
    spec:
      containers:
      - name: my-web
        image: prahalath99/my-image:latest
        ports:
        - containerPort: 9001

---

apiVersion: v1
kind: Service
metadata:
  name: my-service
  namespace: my-bank
  labels:
    app: my-service
spec:
  type: NodePort
  ports:
    - port: 9001
      targetPort: 8080
```

```
    nodePort: 30007
  selector:
    apptype: web-backend
```

Minikube




praha@PJK: ~
[sudo] password for praha:
UNIT LOAD ACTIVE SUB DESCRIPTION
console-getty.service loaded active running Console Getty
containerd.service loaded active running containerd container runtime
cron.service loaded active running Regular background program processing daemon
dbus.service loaded active running D-Bus System Message Bus
docker.service loaded active running Docker Application Container Engine
getty@tty1.service loaded active running Getty on tty1
jenkins.service loaded active running Jenkins Continuous Integration Server
nginx.service loaded active running A high performance web server and a reverse proxy server
rsyslog.service loaded active running System Logging Service
snapd.service loaded active running Snap Daemon
ssh.service loaded active running OpenBSD Secure Shell server
systemd-journald.service loaded active running Journal Service
systemd-logind.service loaded active running User Login Management
systemd-resolved.service loaded active running Network Name Resolution
systemd-timesyncd.service loaded active running Network Time Synchronization
systemd-udevd.service loaded active running Rule-based Manager for Device Events and Files
tomcat10.service loaded active running Apache Tomcat 10 Web Application Server
unattended-upgrades.service loaded active running Unattended Upgrades Shutdown
user@1000.service loaded active running User Manager for UID 1000
wsl-pro.service loaded active running Bridge to Ubuntu Pro agent on Windows
Legend: LOAD → Reflects whether the unit definition was properly loaded.
ACTIVE → The high-level unit activation state, i.e. generalization of SUB.
SUB → The low-level unit activation state, values depend on unit type.
20 loaded units listed.
praha@PJK:~$ systemctl list-units --type=service --all
UNIT LOAD ACTIVE SUB DESCRIPTION

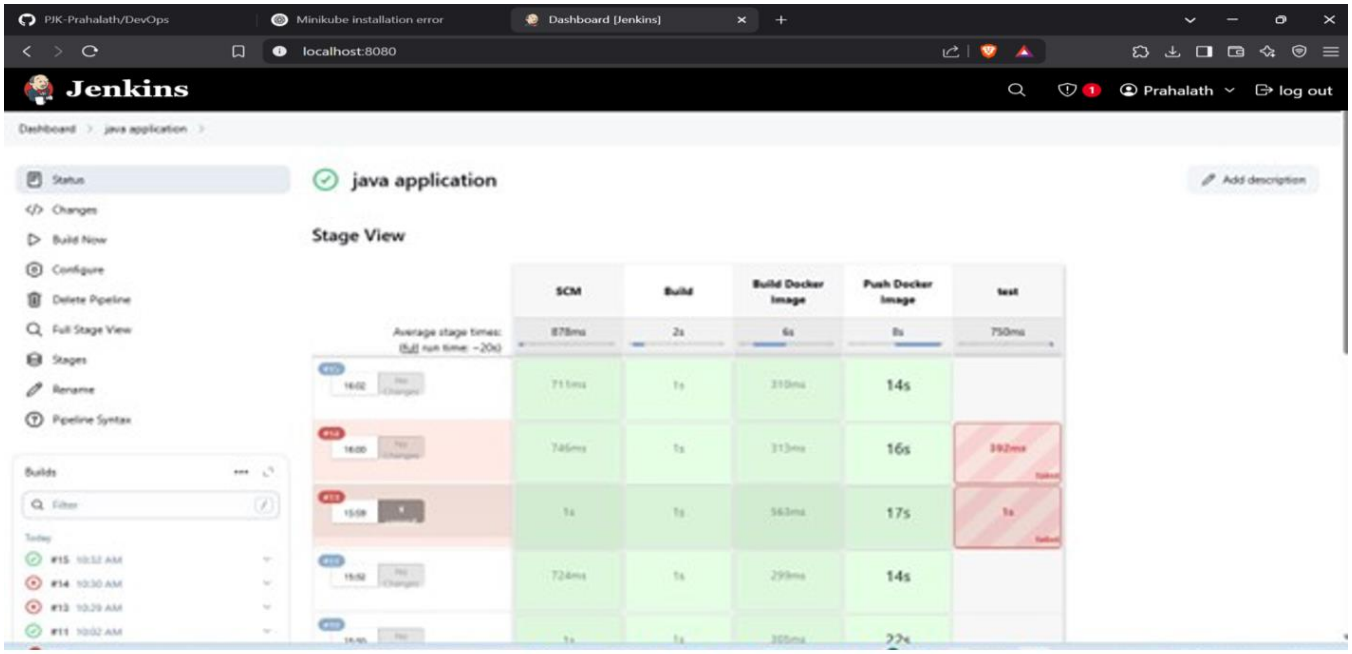
Pipeline script – jenkins

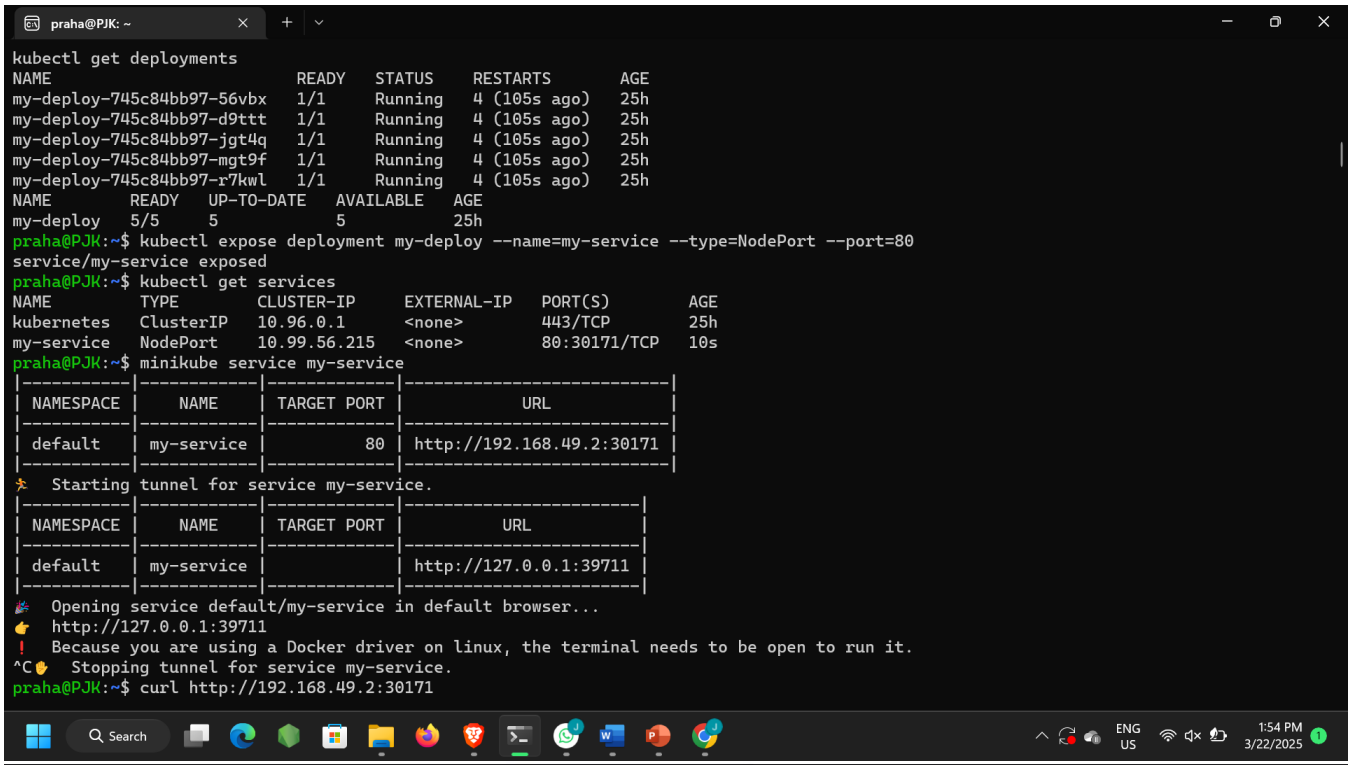
JAVA Application pipeline

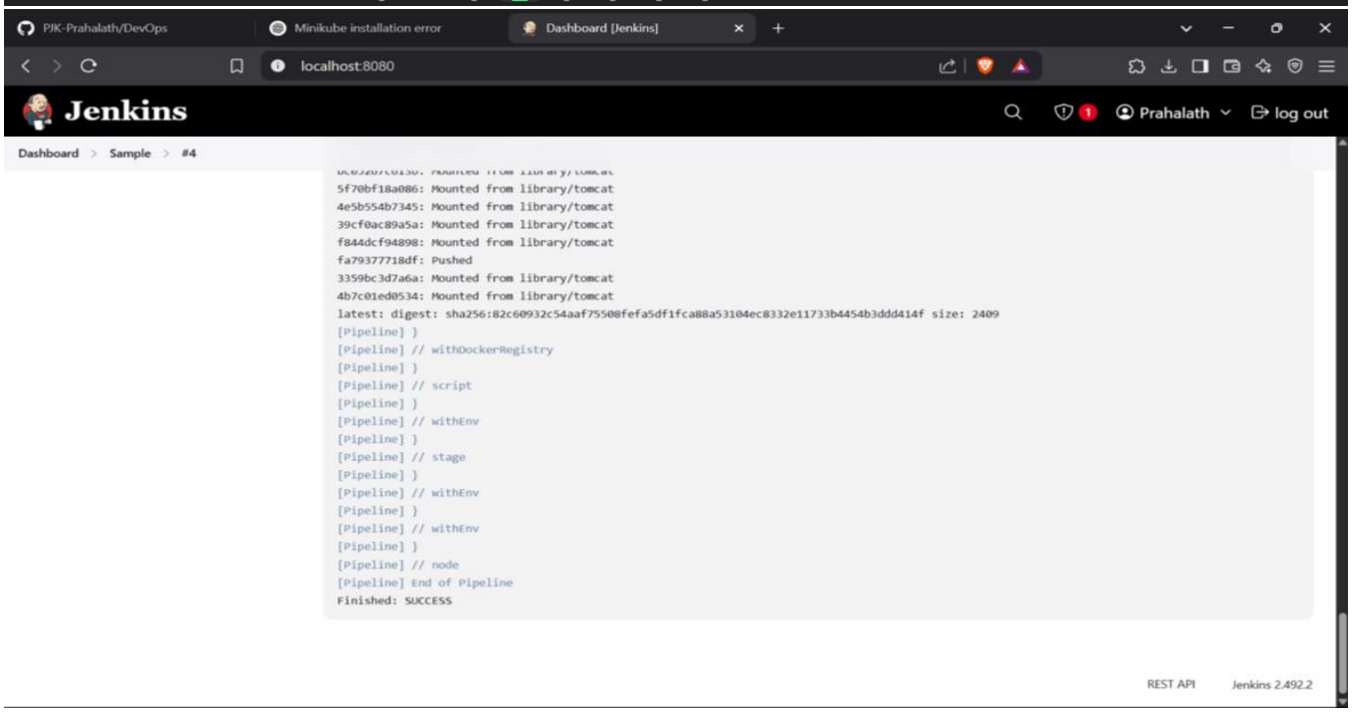
```
{
        agent any


        stages { stag
           ('scm') {
              steps {
           git branch: ''
              }
           }
           stage('builb-clean') {
              steps {
                 sh "mvn clean"
    }
    }
           stage('build-validate') {
              steps {
                 sh "mvn validate"
    }
    }
           stage('build-com') {
              steps {
                 sh "mvn compile"
    }
    }
```

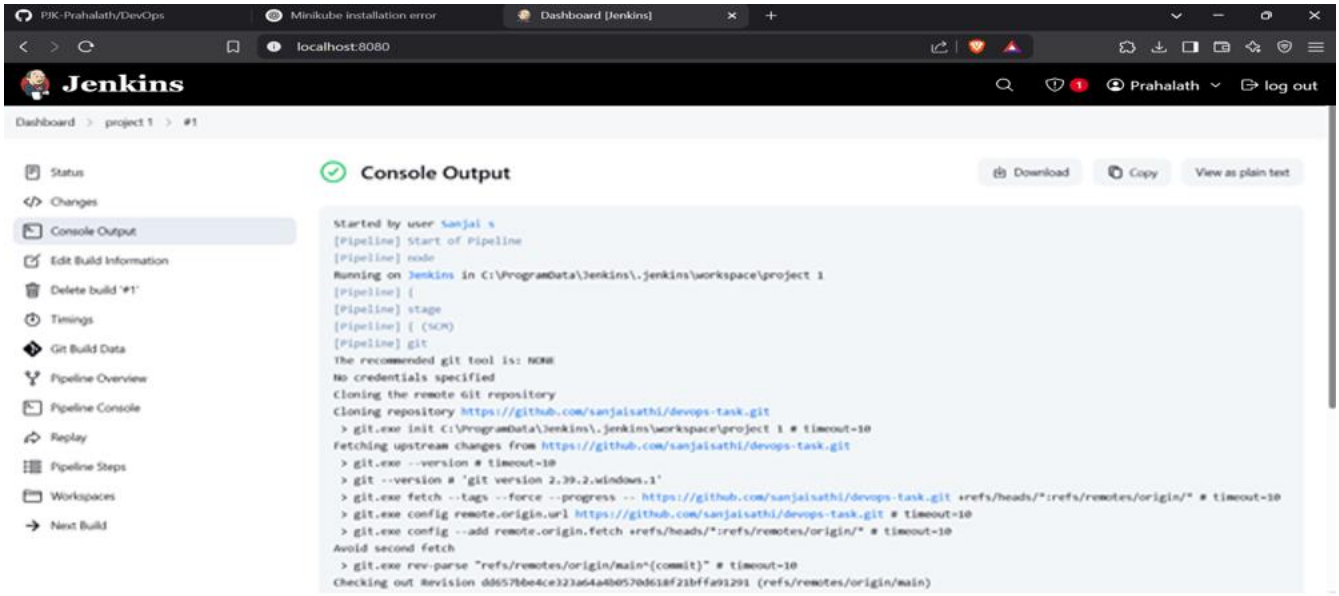
```
        stage('build-test') {
            steps {
              sh "mvn test"
}
}
        stage('build-install') {
            steps {
              sh "mvn package"
}
}
stage('build to images') {
            steps {
              script{
                sh 'docker build -t  .'
              }
    }
}
stage('push to hub') {
            steps {
              script{
                withDockerRegistry(credentialsId: 'Docker_cred', url: 'https://index.docker.io/v1/') {
                 sh 'docker push '
              }
            }
            }
```

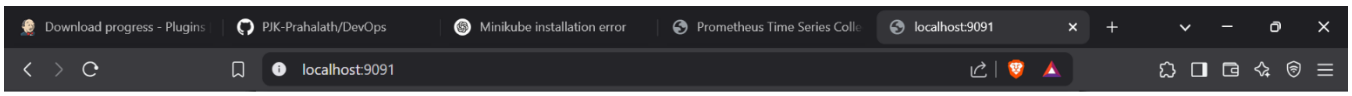
```
}
        stage('Deploy App') {
          steps {
            withKubeConfig(caCertificate: '', clusterName: 'minikube', contextName: 'minikube', credentialsId: 'mukubeconfig_011', namespace: '', restrictKubeConfigAccess: false, serverUrl: 'https://192.168.49.2:8443') {
              sh 'kubectl apply -f deployment.yml --validate=false'
          }
        }
        }
    stage('Test') {
      steps {
        withKubeConfig(caCertificate: '', clusterName: 'minikube', contextName: 'minikube', credentialsId: 'mukubeconfig_011', namespace: '', restrictKubeConfigAccess: false, serverUrl: 'https://192.168.49.2:8443') {

        sh 'minikube service my-service --url | xargs curl'
    }
}
}
}
}
```


PJK-Prahalath/DevOps
Minikube installation error
Dashboard [Jenkins]
localhost:8080
Jenkins
Prahalath
log out
Dashboard
java application
Status
Changes
Build Now
Configure
Delete Pipeline
Full Stage View
Stages
Rename
Pipeline Syntax
Builds
java application
Add description
Stage View
SCM
Build
Build Docker Image
Push Docker Image
test
Average stage times:
(Full run time: ~20s)
878ms
2s
6s
8s
750ms
14s
16s
17s
14s
22s


praha@PJK: ~
kubectl get deployments
NAME READY STATUS RESTARTS AGE
my-deploy-745c84bb97-56vbx 1/1 Running 4 (105s ago) 25h
my-deploy-745c84bb97-d9ttt 1/1 Running 4 (105s ago) 25h
my-deploy-745c84bb97-jgt4q 1/1 Running 4 (105s ago) 25h
my-deploy-745c84bb97-mgt9f 1/1 Running 4 (105s ago) 25h
my-deploy-745c84bb97-r7kwl 1/1 Running 4 (105s ago) 25h
NAME READY UP-TO-DATE AVAILABLE AGE
my-deploy 5/5 5 5 25h
praha@PJK:~$ kubectl expose deployment my-deploy --name=my-service --type=NodePort --port=80
service/my-service exposed
praha@PJK:~$ kubectl get services
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
kubernetes ClusterIP 10.96.0.1 <none> 443/TCP 25h
my-service NodePort 10.99.56.215 <none> 80:30171/TCP 10s
praha@PJK:~$ minikube service my-service
| NAMESPACE | NAME | TARGET PORT | URL |
| default | my-service | 80 | http://192.168.49.2:30171 |
Starting tunnel for service my-service.
| NAMESPACE | NAME | TARGET PORT | URL |
| default | my-service | | http://127.0.0.1:39711 |
Opening service default/my-service in default browser...
http://127.0.0.1:39711
Because you are using a Docker driver on linux, the terminal needs to be open to run it.
^C Stopping tunnel for service my-service.
praha@PJK:~$ curl http://192.168.49.2:30171
Search
ENG US
1:54 PM 3/22/2025


PJK-Prahalath/DevOps
Minikube installation error
Dashboard [Jenkins]
localhost:8080
Jenkins
Prahalath
log out
Dashboard > Sample > #4
5f70bf18a086: Mounted from library/tomcat
4e5b554b7345: Mounted from library/tomcat
39cf0ac89a5a: Mounted from library/tomcat
f844dcf94898: Mounted from library/tomcat
fa79377718df: Pushed
3359bc3d7a6a: Mounted from library/tomcat
4b7c01ed0534: Mounted from library/tomcat
latest: digest: sha256:82c60932c54aaf75508fefa5df1fca88a53104ec8332e11733b4454b3ddd414f size: 2409
[Pipeline] }
[Pipeline] // withDockerRegistry
[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
REST API
Jenkins 2.492.2




**Hello, Prahalath !**