

DEVOPS

DAY 2-TASK

DOCKER COMMANDS:

Install Docker

```
sudo apt install docker.io -y
```

Restart Docker service

```
sudo service docker restart
```

Check Docker status

```
sudo service docker status
```

Add current user to the Docker group

```
sudo usermod -aG docker $USER
```

Verify Docker installation

```
docker images
```

```
docker ps
```

Fix permission issues with Docker socket

```
sudo chmod 666 /var/run/docker.sock
```

MAVEN INSTALLATION:

- Download Apache Maven from the official website.
- Extract and set environment variables (MAVEN_HOME, PATH).
- Verify installation using mvn -version.

JENKINS:

JENKINS INSTALLATION:

- Install Java (JDK 8 or higher).
- Download and install Jenkins (WAR or package-based).
- Start Jenkins: `java -jar jenkins.war` or use a service (`systemctl start jenkins`).
- Access Jenkins via `http://localhost:8080`.
- Unlock Jenkins using the admin password from the log.

```
chirinbanum@ChirinAnifa:~$ git clone https://github.com/chirinbanum/Jenkins.
```

```
git
```

```
Cloning into 'Jenkins'...
```

```
remote: Enumerating objects: 14, done.
```

```
remote: Counting objects: 100% (14/14), done.
```

```
remote: Compressing objects: 100% (10/10), done.
```

```
remote: Total 14 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
```

```
Receiving objects: 100% (14/14), done.
```

```
chirinbanum@ChirinAnifa:~$ ls
```

```
DevOps_code Jenkins docker-compose.yaml
```

```
chirinbanum@ChirinAnifa:~/Jenkins$ mvn clean install
```

Dashboard > simpletomcatapplication > #9

```
43c9f8a1dd61: Mounted from library/tomcat
bc05267c613b: Mounted from library/tomcat
4e5b554b7345: Mounted from library/tomcat
5f70bf18a086: Mounted from library/tomcat
f844dcf94898: Mounted from library/tomcat
3359bc3d7a6a: Mounted from library/tomcat
7658f076a062: Pushed
39cf0ac89a5a: Mounted from library/tomcat
4b7c01ed0534: Mounted from library/tomcat
latest: digest: sha256:03adda7f7345d3ae9e145bb20631508254d99bffa7d51f319c16d63bcf26a175a size: 2409
[Pipeline] }
[Pipeline] // withDockerRegistry
[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

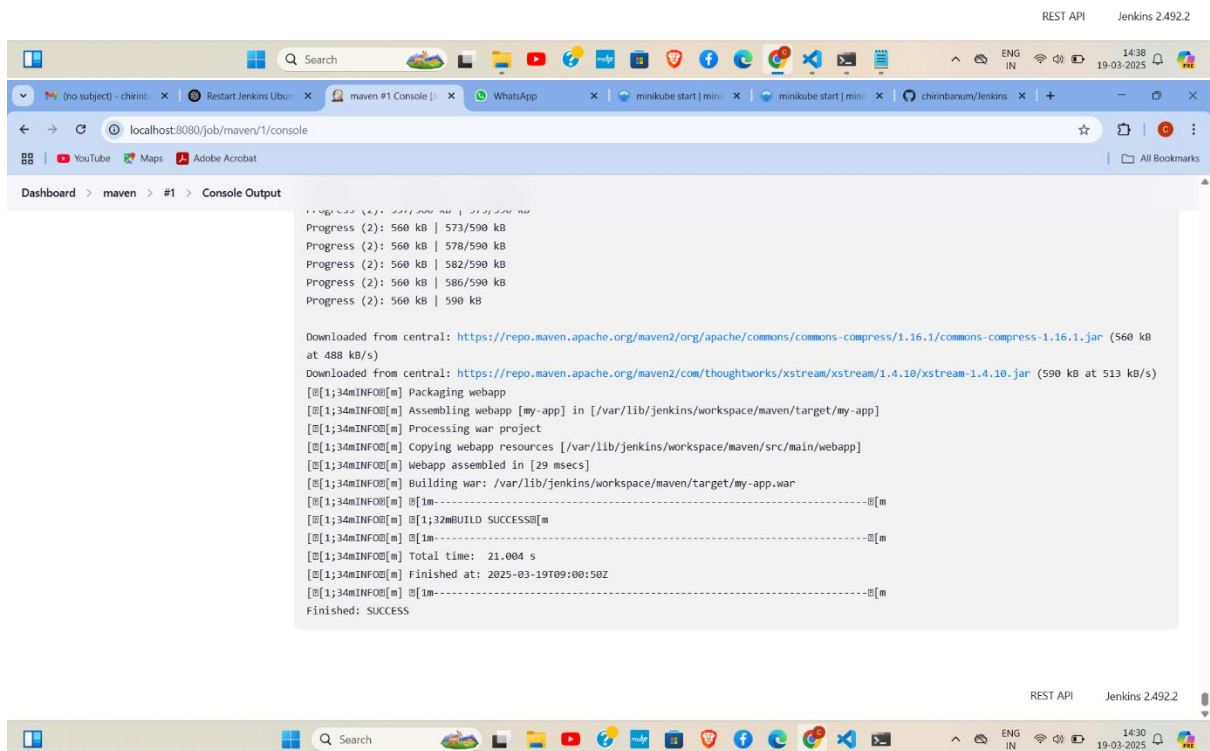
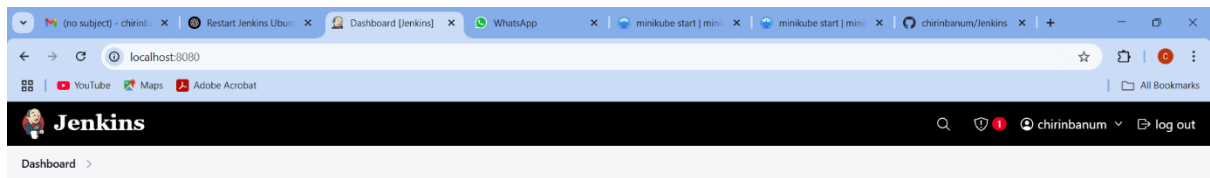
REST API Jenkins 2.492.2

Dashboard > maven > #1 > Console Output

```
Progress (2): 560 kB | 573/590 kB
Progress (2): 560 kB | 578/590 kB
Progress (2): 560 kB | 582/590 kB
Progress (2): 560 kB | 586/590 kB
Progress (2): 560 kB | 590 kB

Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-compress/1.16.1/commons-compress-1.16.1.jar (560 kB
at 488 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/com/thoughtworks/xstream/xstream/1.4.10/xstream-1.4.10.jar (590 kB at 513 kB/s)
[01:34mINFO[m] Packaging webapp
[01:34mINFO[m] Assembling webapp [my-app] in [/var/lib/jenkins/workspace/maven/target/my-app]
[01:34mINFO[m] Processing war project
[01:34mINFO[m] Copying webapp resources [/var/lib/jenkins/workspace/maven/src/main/webapp]
[01:34mINFO[m] Webapp assembled in [29 msecs]
[01:34mINFO[m] Building war: /var/lib/jenkins/workspace/maven/target/my-app.war
[01:34mINFO[m] @1m-----@1m
[01:34mINFO[m] @1:32mBUILD SUCCESS[m]
[01:34mINFO[m] @1m-----@1m
[01:34mINFO[m] Total time: 21.004 s
[01:34mINFO[m] Finished at: 2025-03-19T09:00:50Z
[01:34mINFO[m] @1m-----@1m
Finished: SUCCESS
```

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chiribanum/jenkinsDashboard - JenkinsPipeline Syntax SnipDocker HubAMS(no subject) - chirinDocker Hub

hub.docker.com/repositories/chiribanu2710

YouTubeMapsAdobe Acrobat

NewIntroducing our new CEO Don Johnson - Read More

dockerhubExploreMy HubSearch Docker Hubctrl+K

chiribanu2710Docker Personal

RepositoriesSettingsDefault privacyNotificationsBillingUsagePullsStorage

Repositories

All repositories within the chiribanu2710 namespace.

Search by repository name

All content

Create a repository

Name	Last Pushed	Contains	Visibility	Scout
chiribanu2710/mysimpleapplication	3 minutes ago	IMAGE	Public	Inactive
chiribanu2710/docker	12 days ago		Public	Inactive

1-2 of 2

https://hub.docker.com/repositories

Search

chiribanum/jenkinsDashboard - JenkinsPipeline Syntax SnipDocker HubPersonal access tokAMS(no subject) - chirin

localhost:7070

YouTubeMapsAdobe Acrobat

chiribanumlog out

Dashboard

New ItemBuild HistoryManage JenkinsMy Views

Build Queue

No builds in the queue.

Build Executor Status

0/2

All

S	W	Name ↓	Last Success	Last Failure	Last Duration
✓	☁	maven	49 min #2	1 hr 0 min #1	54 sec
✓	☀	nginx1	4 hr 2 min #2	N/A	2.3 sec
✓	☁	pipeline	2 min 39 sec #16	4 min 31 sec #15	57 sec

Icon: SML

REST APIJenkins 2.501

chiribanum/jenkins x pipeline #16 Console Pipeline Syntax Snippets Docker Hub Personal access token AMS (no subject) - chiribanum All Bookmarks

localhost:7070/job/pipeline/16/console

Dashboard > pipeline > #16

```
3359bc3d7a6a: Waiting
4b7c01ed0534: Waiting
5f70bf18a086: Mounted from library/tomcat
4e5b554b7345: Mounted from library/tomcat
43c9f8a1dd61: Mounted from library/tomcat
bc05267c613b: Mounted from library/tomcat
39cf0ac89a5a: Mounted from library/tomcat
d223f77fc0fc: Pushed
3359bc3d7a6a: Mounted from library/tomcat
f844dcf94898: Mounted from library/tomcat
4b7c01ed0534: Mounted from library/tomcat
latest: digest: sha256:1d2e684da570aed327475fbae52b5577d6dc820e6e6be542cca27b1402ce767 size: 2409
[Pipeline] }
[Pipeline] // withDockerRegistry
[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

REST API Jenkins 2.501

chiribanum/jenkins x Dashboard - Jenkins

localhost:7070

Jenkins

chiribanum log out

Dashboard >

+ New Item

Build History

Manage Jenkins

My Views

Build Queue

No builds in the queue.

Build Executor Status

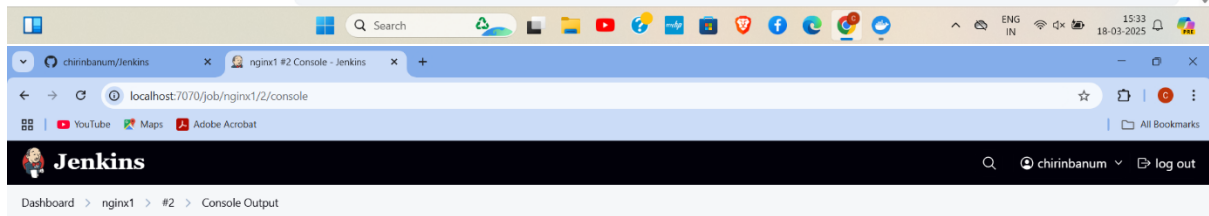
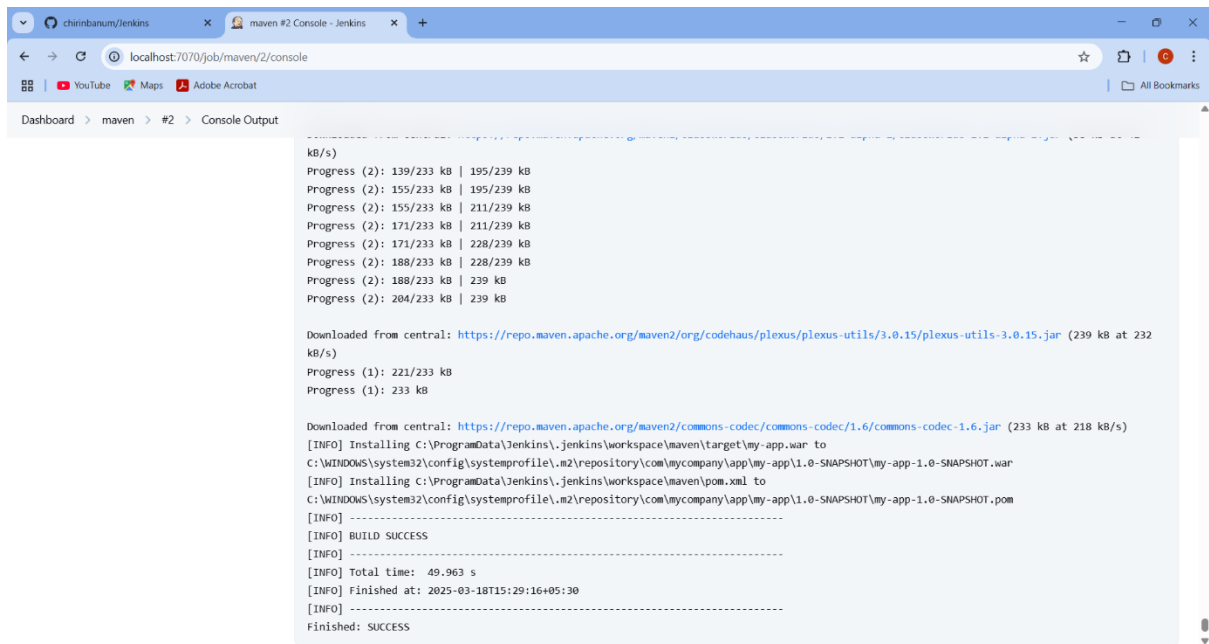
0/2

All +

S	W	Name ↓	Last Success	Last Failure	Last Duration
✓	☁	maven	5 min 12 sec #2	16 min #1	54 sec ▶
✓	☀	nginx1	3 hr 18 min #2	N/A	2.3 sec ▶
✓	☁	pipeline	3 min 54 sec #12	19 min #11	24 sec ▶

Icon: S M L

REST API Jenkins 2.501



Jenkins Pipeline Console Output:

```
[Pipeline] git
The recommended git tool is: NONE
No credentials specified
Cloning the remote Git repository
Cloning repository https://github.com/anto096/simple-web-app
> git.exe init c:\ProgramData\jenkins\jenkins\workspace\pipeline # timeout=10
Fetching upstream changes from https://github.com/anto096/simple-web-app
> git.exe --version # timeout=10
> git --version # 'git version 2.47.1.windows.1'
> git.exe fetch --tags --force --progress -- https://github.com/anto096/simple-web-app +refs/heads/*:refs/remotes/origin/* # timeout=10
> git.exe config remote.origin.url https://github.com/anto096/simple-web-app # timeout=10
> git.exe config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
Avoid second fetch
> git.exe rev-parse "refs/remotes/origin/main^(commit)" # timeout=10
Checking out Revision 4bad788b7240260fe12e302bdf75fa479c854f4d (refs/remotes/origin/main)
> git.exe config core.sparsecheckout # timeout=10
> git.exe checkout -f 4bad788b7240260fe12e302bdf75fa479c854f4d # timeout=10
> git.exe branch -a -v --no-abbrev # timeout=10
> git.exe checkout -b main 4bad788b7240260fe12e302bdf75fa479c854f4d # timeout=10
Commit message: "Update pom.xml"
First time build. Skipping changelog.
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

Jenkins Dashboard:

Dashboard > Build History

S	W	Name ↓	Last Success	Last Failure	Last Duration
✓	☀	maven	2 hr 14 min #1	N/A	26 sec
✓	☁	simpletomcatapplication	2 min 27 sec #9	4 min 37 sec #8	1 min 28 sec

Build Queue: No builds in the queue.

Build Executor Status: 0/2

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KUBERNETES COMMANDS:

Download kubectl

```
curl -LO https://dl.k8s.io/release/v1.32.0/bin/linux/amd64/kubectl
```

Install kubectl with correct permissions

```
sudo install -o root -g root -m 0755 kubectl /usr/local/bin/kubectl
```


Make kubectl executable

```
chmod +x kubectl
```

Create a local bin directory if it doesn't exist

```
mkdir -p ~/.local/bin
```

Move kubectl to the local bin directory

```
mv ./kubectl ~/.local/bin/kubectl
```

Verify kubectl installation

```
kubectl version --client
```