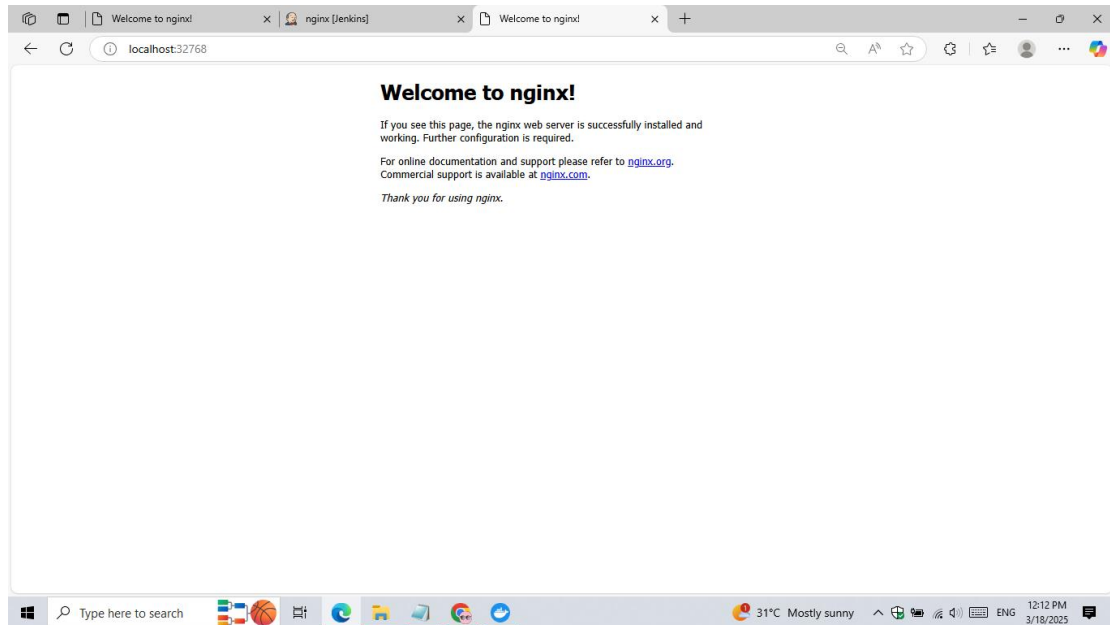


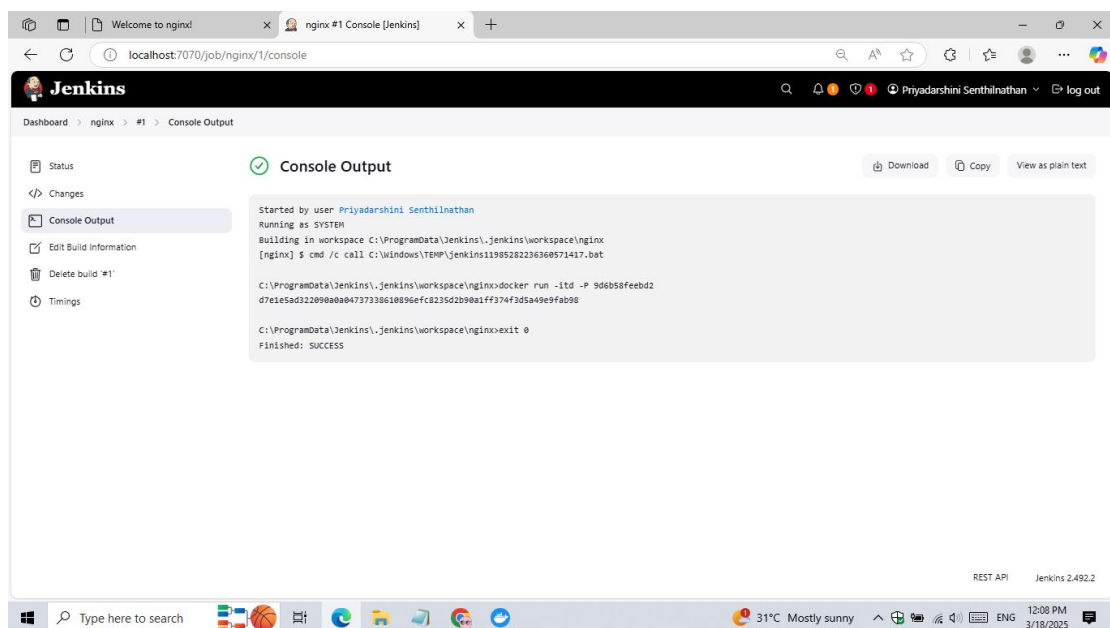
# DEVOPS DAY-2

DATE:18.02.2025

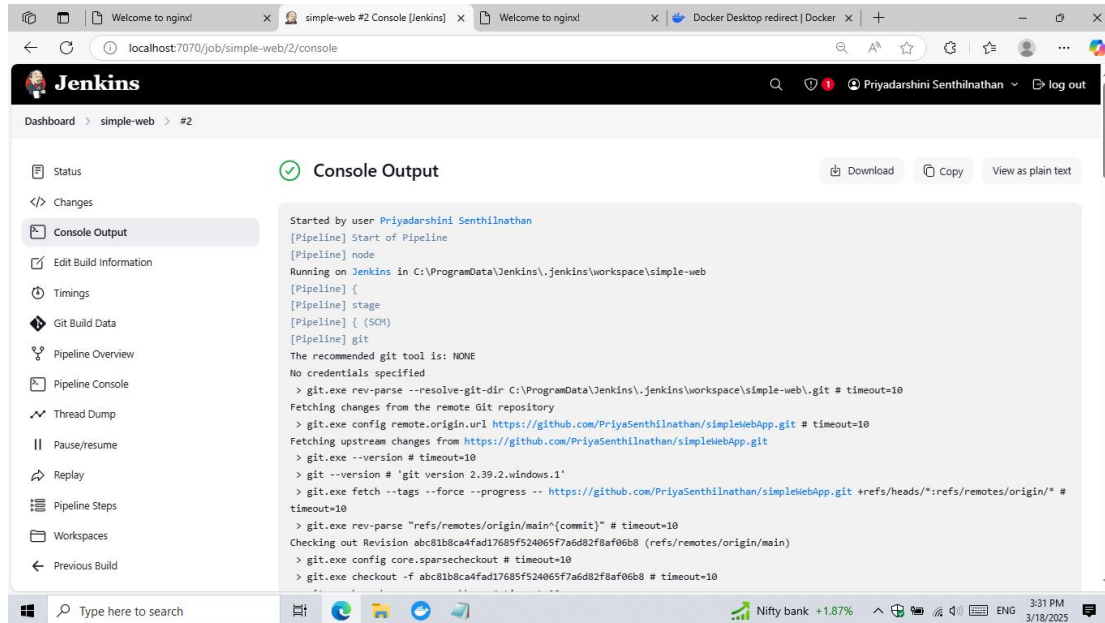
## 1. nginx using Jenkins



## 2. Console output for nginx using Jenkins

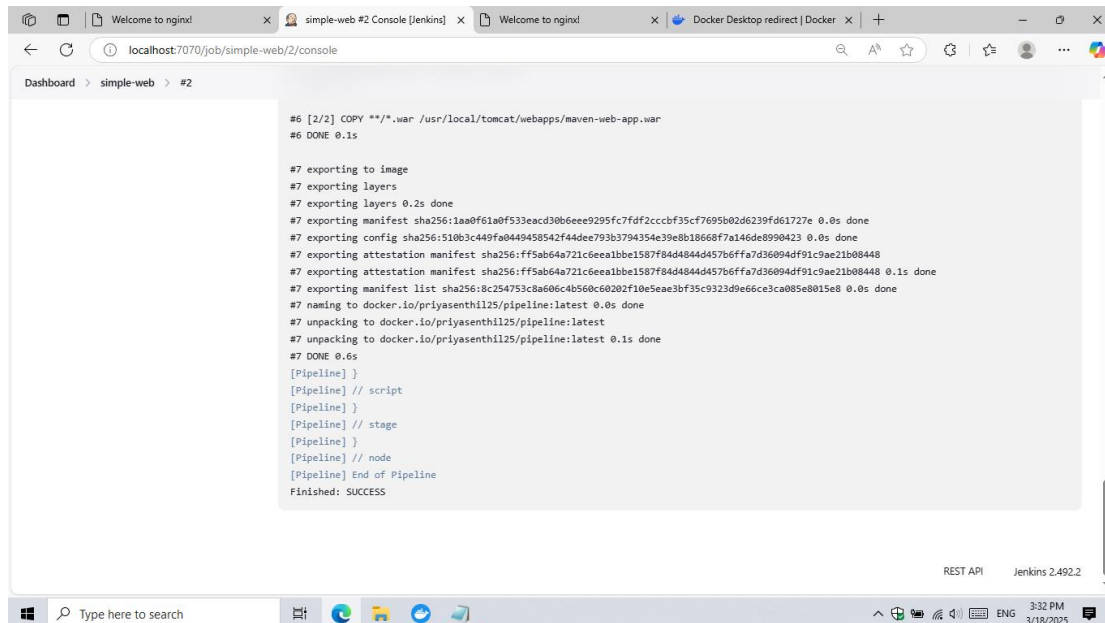


### 3. Pushing image from Jenkins to Docker



The screenshot shows the Jenkins web interface at localhost:7070. The left sidebar contains a list of navigation items: Status, Changes, Console Output (selected), Edit Build Information, Timings, Git Build Data, Pipeline Overview, Pipeline Console, Thread Dump, Pause/resume, Replay, Pipeline Steps, Workspaces, and Previous Build. The main area displays the 'Console Output' for a build named 'simple-web #2'. The output text is as follows:

```
Started by user Priyadarshini Senthilnathan
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in C:\ProgramData\Jenkins\jenkins\workspace\simple-web
[Pipeline] {
[Pipeline] stage
[Pipeline] { (SOH)
[Pipeline] git
The recommended git tool is: NONE
No credentials specified
> git.exe rev-parse --resolve-git-dir C:\ProgramData\Jenkins\jenkins\workspace\simple-web\.git # timeout=10
Fetching changes from the remote Git repository
> git.exe config remote.origin.url https://github.com/PriyaSenthilnathan/simpleWebApp.git # timeout=10
Fetching upstream changes from https://github.com/PriyaSenthilnathan/simpleWebApp.git
> git.exe --version # timeout=10
> git --version # 'git version 2.39.2.windows.1'
> git.exe fetch --tags --force --progress -- https://github.com/PriyaSenthilnathan/simpleWebApp.git +refs/heads/*:refs/remotes/origin/* # timeout=10
> git.exe rev-parse "refs/remotes/origin/main^{commit}" # timeout=10
Checking out Revision abc81b8ca4fad17685f524065f7a6d82f8af06b8 (refs/remotes/origin/main)
> git.exe config core.sparsecheckout # timeout=10
> git.exe checkout -f abc81b8ca4fad17685f524065f7a6d82f8af06b8 # timeout=10
```



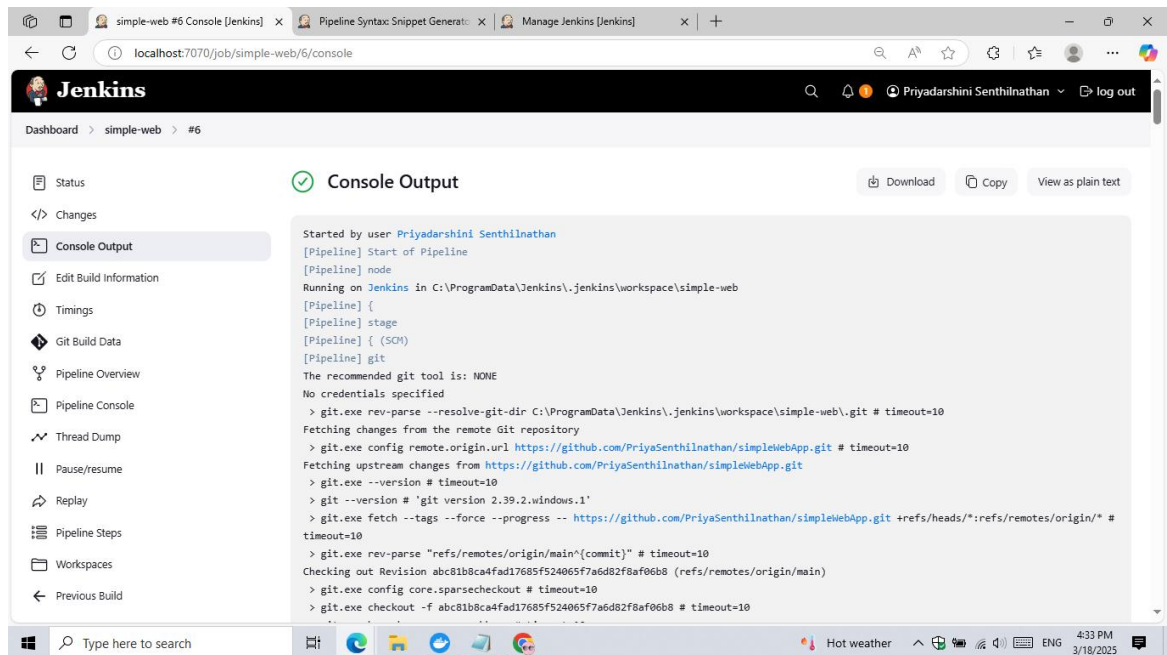
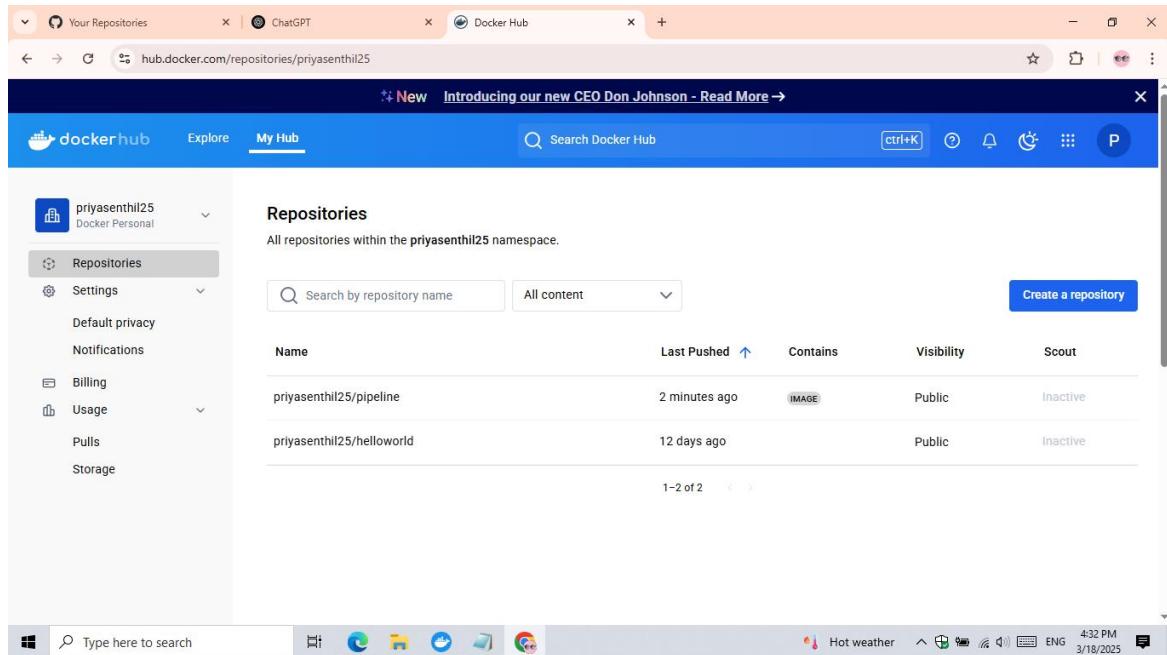
This screenshot shows the continuation of the Jenkins build process. The console output continues with the following text:

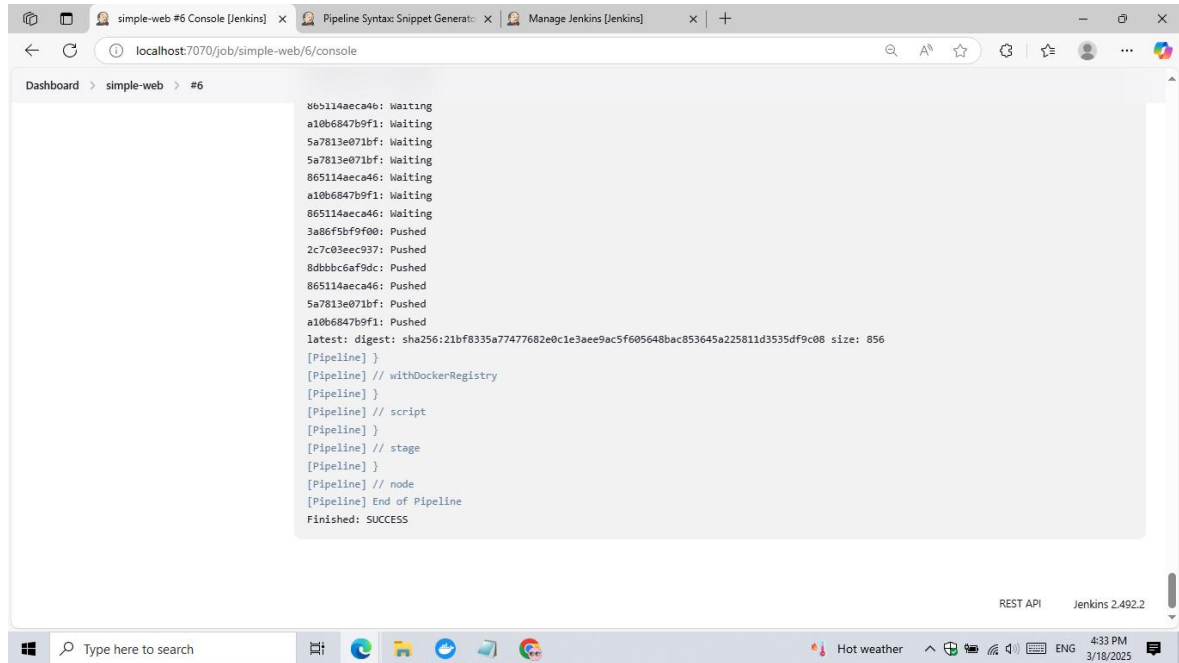
```
#6 [2/2] COPY **/*.war /usr/local/tomcat/webapps/maven-web-app.war
#6 DONE 0.1s

#7 exporting to image
#7 exporting layers
#7 exporting manifest sha256:1aa0f61a0f533eacd30b6eee9295fc77df2cccbf35cf7695b02d6239fd61727e 0.0s done
#7 exporting config sha256:510b3c449fa0449458542f44dee793b3794354e39e8b18668f7a146de8990423 0.0s done
#7 exporting attestation manifest sha256:ff5ab64a721c6eealbbe1587f84d4844d457b6ffa7d36094df91c9ae21b08448
#7 exporting manifest list sha256:8c254753c8a606c4b560c60202f10e5eae3bf35c9323d9e66ce3ca085e8015e8 0.1s done
#7 naming to docker.io/priyasenthil25/pipeline:latest 0.0s done
#7 unpacking to docker.io/priyasenthil25/pipeline:latest
#7 unpacking to docker.io/priyasenthil25/pipeline:latest 0.1s done
#7 DONE 0.6s
[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

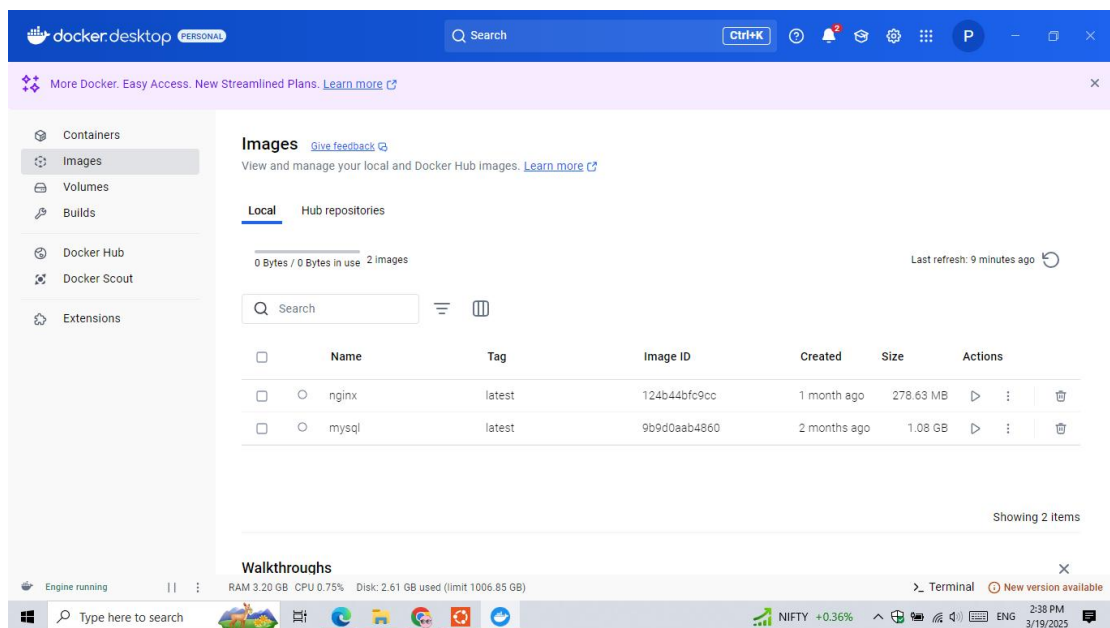
At the bottom right of the console output area, the text 'REST API Jenkins 2.492.2' is visible.

## 4. Pushing image from Jenkins to Docker Hub





## 5. Docker compose



```
praya0406@DESKTOP-D1U259G: ~
[+] Running 10/10 Pulling fs layer
db Pulled
  ea11c8a9f08 Download complete 217.9s
  8d11181893b8 Download complete 2.2s
  4a7e00d873b9 Download complete 2.2s
  8d73d2a73425 Download complete 125.9s
  27a2553d6a80 Download complete 204.3s
  1b51567ceb69 Download complete 2.2s
  e0a910cc8b04 Download complete 2.2s
  bc8c792ca89a Download complete 2.4s
  804bb8ae89de Download complete 120.7s
  69e76254f502 Download complete 3.0s
web Pulled
  c22eb46e071a Download complete 128.8s
  5eaa34f5b9c2 Download complete 2.2s
  97f5c0f51d43 Download complete 1.7s
  373fe654e984 Download complete 2.1s
  e7e0ca815e55 Download complete 2.0s
  6e909acd798 Download complete 85.0s
  417c4bcfcf34 Download complete 2.1s
[+] Running 3/3
Network priya0406_default Create... 0.3s
Container priya0406-web-1 Starte... 4.1s
Container priya0406-db-1 Starte... 4.1s
praya0406@DESKTOP-D1U259G:~$ docker-compose images
WARN[0000] /home/priya0406/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
CONTAINER REPOSITORY TAG IMAGE ID SIZE
priya0406-db-1 mysql latest 9b9d0aab4860 241MB
priya0406-web-1 nginx latest 124b44bfc9cc 72.2MB
praya0406@DESKTOP-D1U259G:~$ docker-compose ps
WARN[0000] /home/priya0406/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
NAME IMAGE COMMAND SERVICE CREATED STATUS PORTS
priya0406-db-1 mysql:latest "docker-entrypoint.s..." db 39 seconds ago Up 32 seconds 3306/tcp
priya0406-web-1 nginx:latest "docker-entrypoint..." web 39 seconds ago Up 32 seconds 0.0.0.0:80->80/tcp
praya0406@DESKTOP-D1U259G:~$ docker exec -it priya0406-db-1
'docker exec' requires at least 2 arguments.
See 'docker exec --help'.

Usage: docker exec [OPTIONS] CONTAINER COMMAND [ARG...]

Execute a command in a running container
praya0406@DESKTOP-D1U259G:~$ docker exec -it priya0406-db-1 /bin/bash
praya0406@DESKTOP-D1U259G:~$
```

## COMMANDS:

### I. Docker commands for Ubuntu

1. `sudo apt install docker.io -y`
2. `sudo service docker restart`
3. `sudo service docker status`
4. `sudo usermod -aG docker $USER`
5. `docker images`
6. `docker ps`
7. `sudo chmod 666 /var/run/docker.sock`

### II. Jenkins commands for Ubuntu

1. `sudo service Jenkins restart`
2. `sudo service Jenkins status`

### III. Docker compose

1. `sudo nano docker-compose.yml`
2. `docker-compose up -d`
3. `docker-compose images`
4. `docker-compose ps`
5. `docker-compose down`

## JENKINS

Jenkins is an open-source automation tool written in Java programming language that allows continuous integration.

Jenkins offers a straightforward way to set up a continuous integration or continuous delivery environment for almost any combination of languages and source code repositories using pipelines, as well as automating other routine development tasks.

The following are the main or most popular Jenkins use cases:

- Continuous Integration: With Jenkins pipelines, we can achieve CI for both applications and infrastructure as code.
- Continuous Delivery: You can set up well-defined and automated application delivery workflows with Jenkins pipelines.

Jenkins achieves CI (Continuous Integration) and CD (Continuous Deployment) with the help of plugins. Plugins are used to allow the integration of various DevOps stages. If you want to integrate a particular tool, you must install the plugins for that tool.

### **ADVANTAGES OF JENKINS:**

- It is an open-source tool.
- It is free of cost.
- It does not require additional installations or components. Means it is easy to install.
- Easily configurable.
- It supports 1000 or more plugins to ease your work. If a plugin does not exist, you can write the script for it and share with community.
- It is built in java and hence it is portable.
- It is platform independent. It is available for all platforms and different operating systems. Like OS X, Windows, or Linux.
- Easy support since its open source and widely used.
- Jenkins also supports cloud-based architecture so that we can deploy Jenkins in cloud-based platforms.