Dashboard > simple-web > Configuration

Define your Pipeline using Groovy directly or pull it from source control.

Configure

- General
- Triggers
- **Pipeline**
- Advanced

Definition

Pipeline script ⌄

Script ?

```
1  pipeline {
2      agent any
3
4      stages {
5          stage('SCM') {
6              steps {
7                  git 'https://github.com/nandhu6804/devops_main.git'
8              }
9          }
10     }
11 }
12
```

☑ Use Groovy Sandbox ?

Pipeline Syntax

Advanced

[Save] [Apply]

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4      stages {
5          stage('SCM') {
6              steps {
7                  git 'https://github.com/nandhu6804/devops_main.git'
8              }
9          }
10         stage('Build'){
11             steps {
12                 bat 'mvn clean install'
13             }
14         }
15     }
16 }
17
```

☑ Use Groovy Sandbox ?

Pipeline Syntax

Advanced

[Save] [Apply]

Define your Pipeline using Groovy directly or pull it from source control.

Configure

- General
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- **Pipeline**
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Definition

Pipeline script ▾

Script ?

```
4        stages {
5            stage('SCM') {
6                steps {
7                    git 'https://github.com/nandhu6804/devops_main.git'
8                }
9            }
10           stage('Build'){
11               steps {
12                   bat 'mvn clean install'
13               }
14           }
15           stage('build to images'){
16               steps{
17                   script{
18                       bat 'docker build -t nandhita22cse126/mysimplewebapp .'
19                   }
```

☑ Use Groovy Sandbox ?

Pipeline Syntax

Advanced

Save   Apply

Define your Pipeline using Groovy directly or pull it from source control.

Configure

- General
- Triggers
- **Pipeline**
- Advanced

Definition

Pipeline script ▾

Script ?

```
11               steps {
12                   bat 'mvn clean install'
13               }
14           }
15           stage('build to images'){
16               steps{
17                   script{
18                       bat 'docker build -t nandhita22cse126/mysimplewebapp .'
19                   }
20               }
21           }
22           stage('push to hub'){
23               steps{
24                   script{
25                       withDockerRegistry(credentialsId: 'My_Credential', toolName: 'docker', url: 'https://index.docker.io/v1/') {
26                           bat 'docker push nandhita22cse126/mysimplewebapp'
27                   }
```

☑ Use Groovy Sandbox ?

Pipeline Syntax

Advanced

Save   Apply

Jenkins

Dashboard > simple-web > #6

- Status
- Changes
- Console Output
- Edit Build Information
- Delete build '#6'
- Timings
- Git Build Data
- Pipeline Overview
- Pipeline Console
- Restart from Stage
- Replay
- Pipeline Steps
- Workspaces
- Previous Build

#6 (Mar 18, 2025, 4:17:15 PM)

Add description   Keep this build forever

Started by user Nandhitha Prakasan

Started 52 sec ago
Took 39 sec

This run spent:

- 48 ms waiting;
- 39 sec build duration;
- 39 sec total from scheduled to completion.

Revision: 44ef7fee7556e37b6815d88330614fec8fdff1ac
Repository: https://github.com/nandhu6804/devops_main.git

- refs/remotes/origin/master

No changes.

localhost:8888/job/simple-web/6/ws

Jenkins

Dashboard > simple-web > #2

- Status
- Changes
- Console Output
- Edit Build Information
- Delete build '#2'
- Timings
- Git Build Data
- Pipeline Overview
- Pipeline Console
- Restart from Stage
- Replay
- Pipeline Steps
- Workspaces
- Previous Build

#2 (Mar 18, 2025, 2:05:32 PM)

Add description   Keep this build forever

Started by user Nandhitha Prakasan

Started 5 min 25 sec ago
Took 48 sec

This run spent:

- 51 ms waiting;
- 48 sec build duration;
- 48 sec total from scheduled to completion.

Revision: 44ef7fee7556e37b6815d88330614fec8fdff1ac
Repository: https://github.com/nandhu6804/devops_main.git

- refs/remotes/origin/master

No changes.

Pipeline Overview
Pipeline Console
Restart from Stage
Replay
Pipeline Steps
Workspaces

```
Cloning the remote Git repository
Cloning repository https://github.com/nandhu6804/devops_main.git
 > git.exe init C:\ProgramData\Jenkins\.jenkins\workspace\simple-web # timeout=10
Fetching upstream changes from https://github.com/nandhu6804/devops_main.git
 > git.exe --version # timeout=10
 > git --version # 'git version 2.47.1.windows.1'
 > git.exe fetch --tags --force --progress -- https://github.com/nandhu6804/devops_main.git +refs/heads/*:refs/remotes/origin/* # timeout=10
 > git.exe config remote.origin.url https://github.com/nandhu6804/devops_main.git # 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/master^{commit}" # timeout=10
Checking out Revision 44ef7fee7556e37b6815d88330614fec8fdff1ac (refs/remotes/origin/master)
 > git.exe config core.sparsecheckout # timeout=10
 > git.exe checkout -f 44ef7fee7556e37b6815d88330614fec8fdff1ac # timeout=10
 > git.exe branch -a -v --no-abbrev # timeout=10
 > git.exe checkout -b master 44ef7fee7556e37b6815d88330614fec8fdff1ac # timeout=10
Commit message: "first commit"
First time build. Skipping changelog.
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

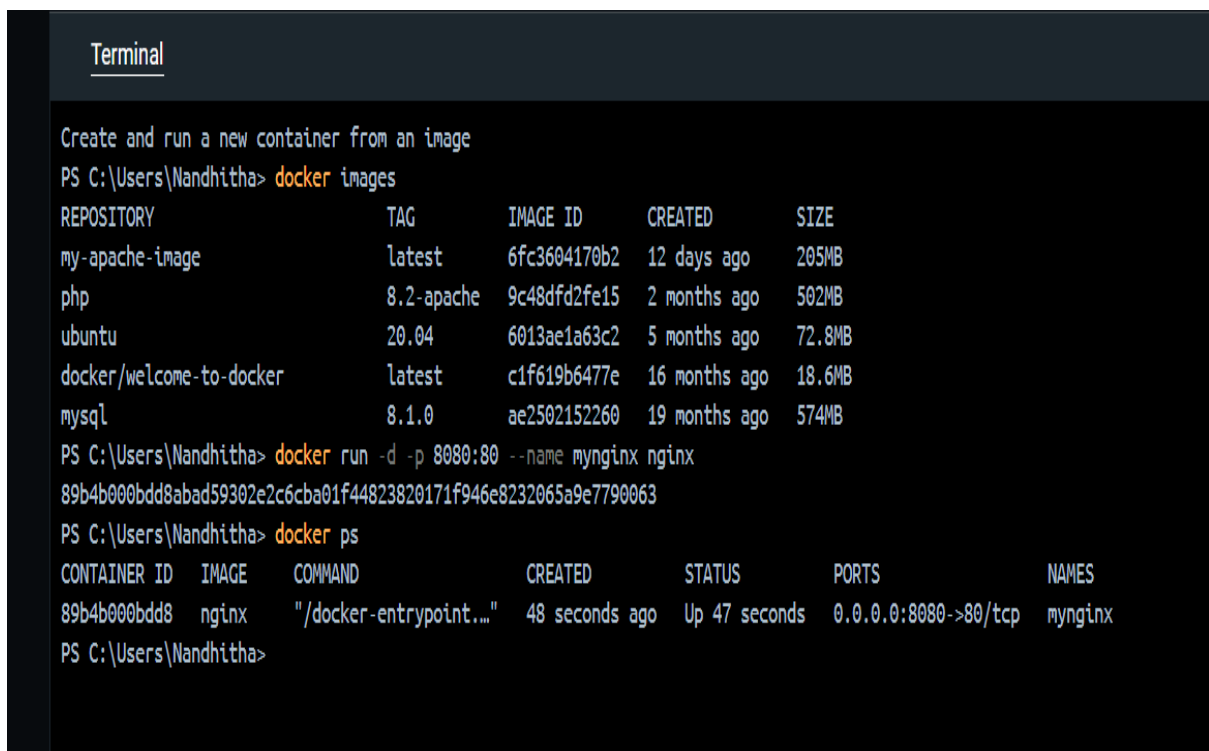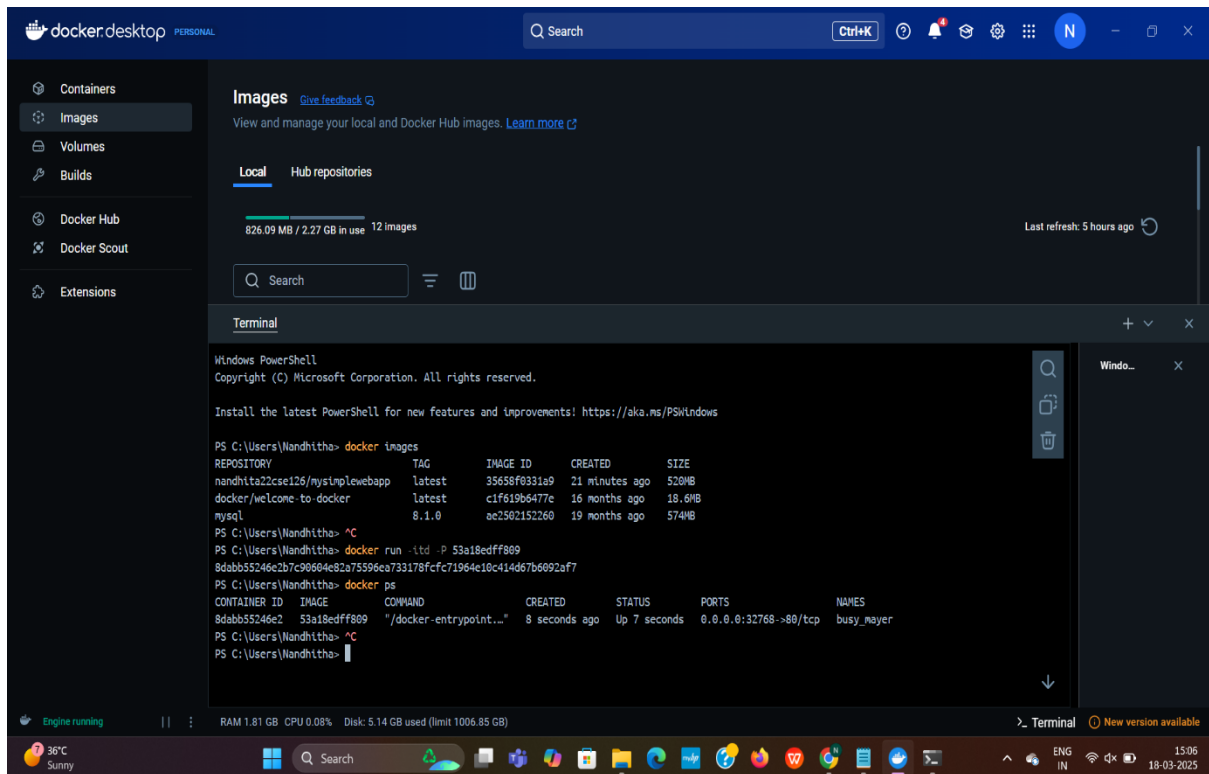REST API   Jenkins 2.492.2

Jenkins

Nandhitha Prakasan ⌄   log out

Status
Changes
Console Output
Edit Build Information
Delete build '#1'
Timings
Git Build Data
Pipeline Overview
Pipeline Console
Restart from Stage
Replay
Pipeline Steps
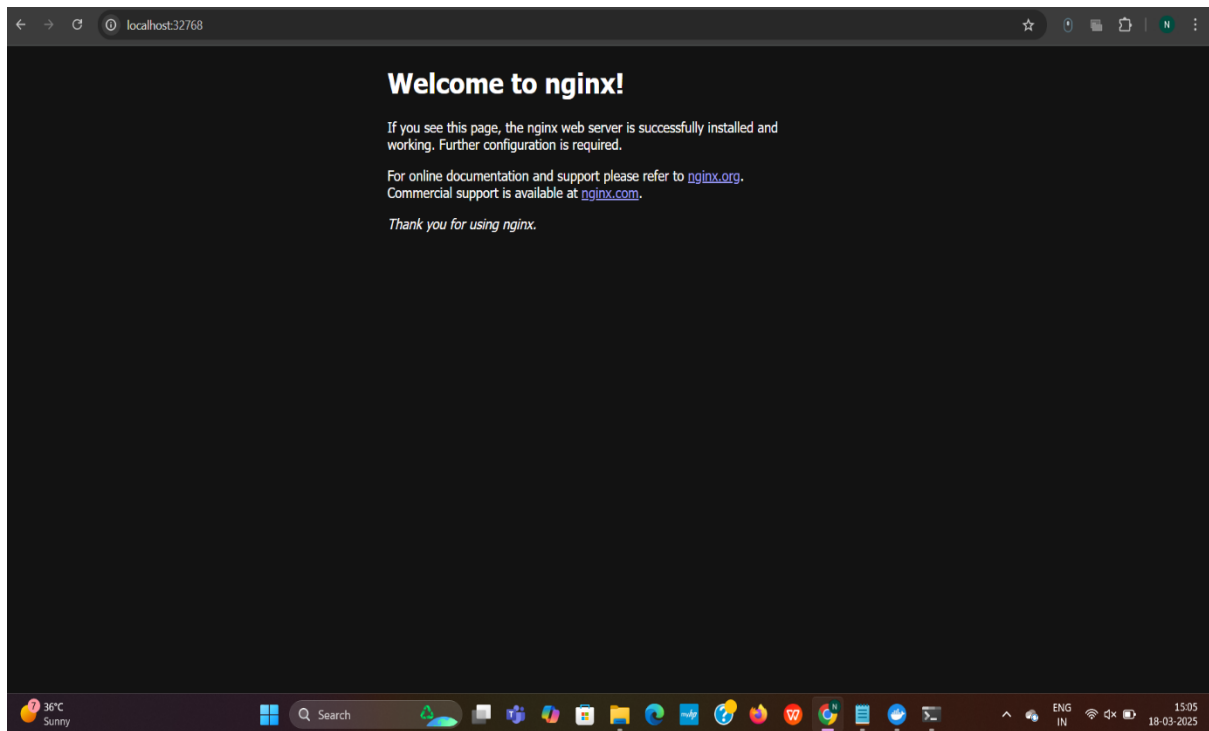Workspaces

✓ Console Output

Download   Copy   View as plain text

```
Started by user Nandhitha Prakasan
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in C:\ProgramData\Jenkins\.jenkins\workspace\simple-web
[Pipeline] {
[Pipeline] stage
[Pipeline] { (SCM)
[Pipeline] git
The recommended git tool is: NONE
No credentials specified
Cloning the remote Git repository
Cloning repository https://github.com/nandhu6804/devops_main.git
 > git.exe init C:\ProgramData\Jenkins\.jenkins\workspace\simple-web # timeout=10
Fetching upstream changes from https://github.com/nandhu6804/devops_main.git
 > git.exe --version # timeout=10
 > git --version # 'git version 2.47.1.windows.1'
 > git.exe fetch --tags --force --progress -- https://github.com/nandhu6804/devops_main.git +refs/heads/*:refs/remotes/origin/* # timeout=10
 > git.exe config remote.origin.url https://github.com/nandhu6804/devops_main.git # 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/master^{commit}" # timeout=10
Checking out Revision 44ef7fee7556e37b6815d88330614fec8fdff1ac (refs/remotes/origin/master)
 > git.exe config core.sparsecheckout # timeout=10
```

Docker Desktop - Images view

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Nandhitha> docker images
REPOSITORY                          TAG       IMAGE ID       CREATED         SIZE
nandhita22cse126/mysimplewebapp     latest    35658f0331a9   21 minutes ago  520MB
docker/welcome-to-docker            latest    c1f619b6477e   16 months ago   18.6MB
mysql                               8.1.0     ae2502152260   19 months ago   574MB
PS C:\Users\Nandhitha> ^C
PS C:\Users\Nandhitha> docker run -itd -P 53a18edff809
8dabb55246e2b7c90604e82a75596ea733178fcfc71964e10c414d67b6092af7
PS C:\Users\Nandhitha> docker ps
CONTAINER ID   IMAGE          COMMAND              CREATED        STATUS       PORTS                     NAMES
8dabb55246e2   53a18edff809   "/docker-entrypoint…"  8 seconds ago  Up 7 seconds 0.0.0.0:32768->80/tcp     busy_mayer
PS C:\Users\Nandhitha> ^C
PS C:\Users\Nandhitha>
```

Terminal

```
Create and run a new container from an image
PS C:\Users\Nandhitha> docker images
REPOSITORY                  TAG          IMAGE ID       CREATED        SIZE
my-apache-image             latest       6fc3604170b2   12 days ago    205MB
php                         8.2-apache   9c48dfd2fe15   2 months ago   502MB
ubuntu                      20.04        6013ae1a63c2   5 months ago   72.8MB
docker/welcome-to-docker    latest       c1f619b6477e   16 months ago  18.6MB
mysql                       8.1.0        ae2502152260   19 months ago  574MB
PS C:\Users\Nandhitha> docker run -d -p 8080:80 --name mynginx nginx
89b4b000bdd8abad59302e2c6cba01f44823820171f946e8232065a9e7790063
PS C:\Users\Nandhitha> docker ps
CONTAINER ID   IMAGE   COMMAND              CREATED         STATUS         PORTS                   NAMES
89b4b000bdd8   nginx   "/docker-entrypoint…"  48 seconds ago  Up 47 seconds  0.0.0.0:8080->80/tcp    mynginx
PS C:\Users\Nandhitha>
```

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

Jenkins

Dashboard > maven > #1

Status

Changes

Console Output

Edit Build Information

Delete build '#1'

Git Build Data

✓ #1 (Mar 19, 2025, 9:00:11 AM)

Started by user Nandhitha Prakasan

git **Revision**: 44ef7fee7556e37b6815d88330614fec8fdff1ac
Repository: https://github.com/nandhu6804/devops_main.git

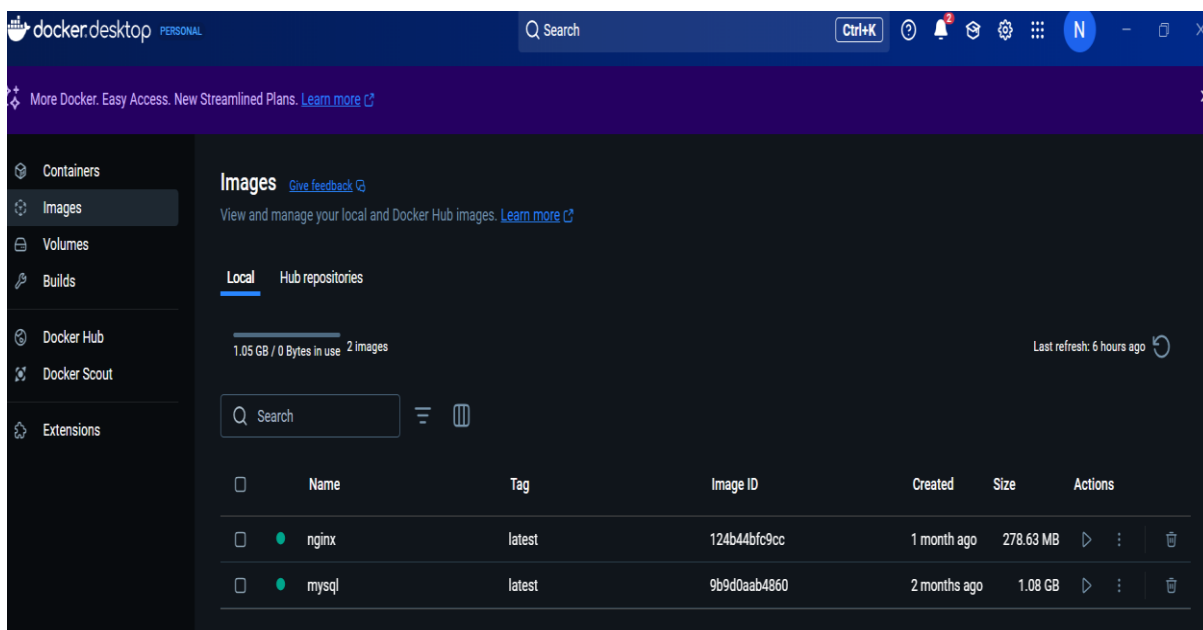- refs/remotes/origin/master

No changes.

```
nandhu2645@LAPTOP-1TVBND2B:~$ docker-compose down
WARN[0000] /home/nandhu2645/docker-compose.yml: the attribute `version
` is obsolete, it will be ignored, please remove it to avoid potential
 confusion
[+] Running 3/3
 ✔Container nandhu2645-web-1   R...                              0.7s
 ✔Container nandhu2645-db-1    Re...                             1.7s
 ✔Network nandhu2645_default   R...                              0.8s
nandhu2645@LAPTOP-1TVBND2B:~$ █
```
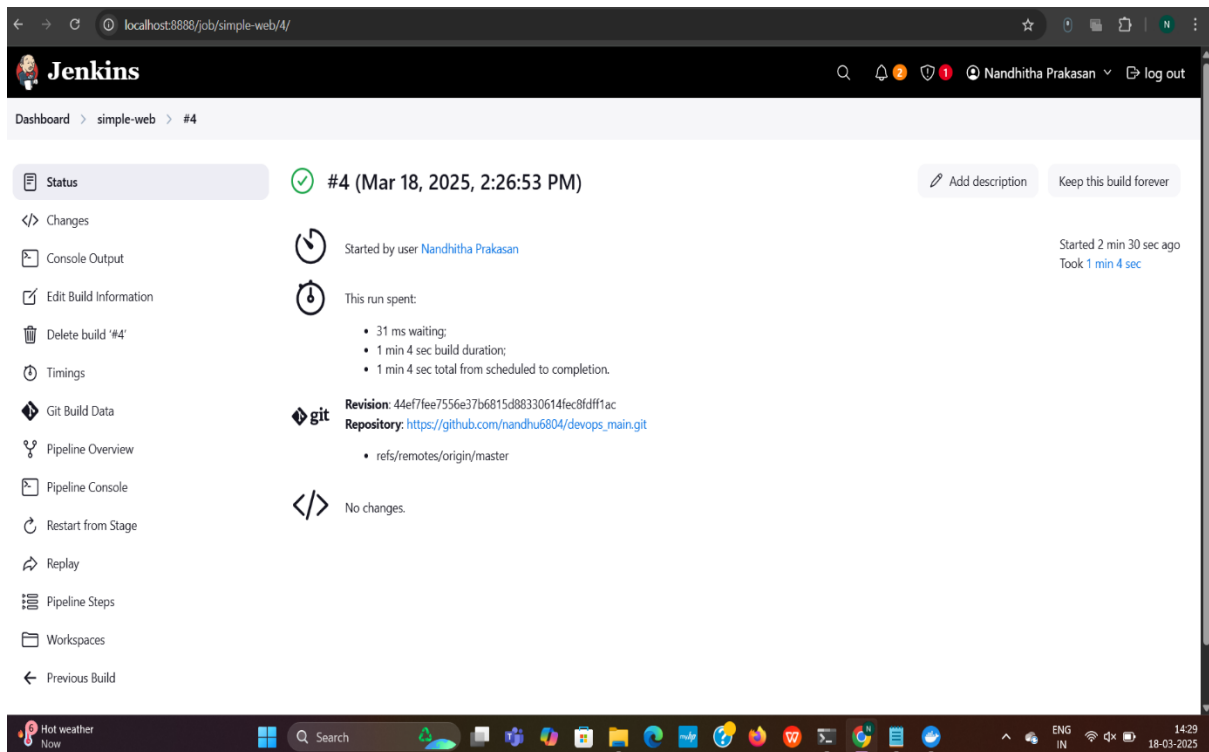
```
https://docs.docker.com/go/wsl2/

nandhu2645@LAPTOP-1TVBND2B:~$ docker-compose up -d
WARN[0000] /home/nandhu2645/docker-compose.yml: the attribute `version` is o
bsolete, it will be ignored, please remove it to avoid potential confusion
[+] Running 11/11
 ✔db Pulled                                                     41.9s
   ✔804bb8ae89de Pull complete                                  12.5s
   ✔1b515e7ceb69 Pull complete                                  12.5s
   ✔eaa11c0a9f08 Pull complete                                  12.6s
   ✔8d18181893b8 Pull complete                                  13.1s
   ✔e0a910cc8604 Pull complete                                  13.1s
   ✔bc0c792ca096 Pull complete                                  13.2s
   ✔8d73d2a73425 Pull complete                                  16.7s
   ✔4a7e00d873b9 Pull complete                                  16.8s
   ✔27a2553d6a80 Pull complete                                  35.4s
   ✔69e76254f502 Pull complete                                  35.5s
[+] Running 3/3
 ✔Network nandhu2645_default   Created                          0.2s
 ✔Container nandhu2645-db-1    Started                          3.9s
 ✔Container nandhu2645-web-1   Started                          3.9s
nandhu2645@LAPTOP-1TVBND2B:~$ docker-compose images
WARN[0000] /home/nandhu2645/docker-compose.yml: the attribute `version` is o
bsolete, it will be ignored, please remove it to avoid potential confusion
CONTAINER          REPOSITORY          TAG               IMAGE ID
    SIZE
nandhu2645-db-1    mysql               latest            fa262c3a6564
    797MB
nandhu2645-web-1   nginx               latest            53a18edff809
    192MB
nandhu2645@LAPTOP-1TVBND2B:~$ docker-compose ps
WARN[0000] /home/nandhu2645/docker-compose.yml: the attribute `version` is o
bsolete, it will be ignored, please remove it to avoid potential confusion
NAME               IMAGE          COMMAND                SERVICE    CREATED
         STATUS         PORTS
nandhu2645-db-1    mysql:latest   "docker-entrypoint.s…"  db         32 seco
nds ago   Up 25 seconds   3306/tcp, 33060/tcp
nandhu2645-web-1   nginx:latest   "/docker-entrypoint.…"  web        32 seco
nds ago   Up 25 seconds   0.0.0.0:80->80/tcp
nandhu2645@LAPTOP-1TVBND2B:~$ docker exec -it nandhu2645-db-1 /bin/bash
bash-5.1# nandhu2645@LAPTOP-1TVBND2B:~$ █
```

```
nandhu2645@LAPTOP-1TVBND2B:~$ minikube start
😄  minikube v1.35.0 on Ubuntu 24.04 (amd64)
E0319 08:21:01.665562     774 start.go:812] api.Load failed for minikube: fi
lestore "minikube": Docker machine "minikube" does not exist. Use "docker-ma
chine ls" to list machines. Use "docker-machine create" to add a new one.
✨  Using the docker driver based on existing profile
👍  Starting "minikube" primary control-plane node in "minikube" cluster
🚜  Pulling base image v0.0.46 ...
🔥  Creating docker container (CPUs=2, Memory=2200MB) ...
🐳  Preparing Kubernetes v1.32.0 on Docker 27.4.1 ...
    ▪ Generating certificates and keys ...
    ▪ Booting up control plane ...
    ▪ Configuring RBAC rules ...
🔗  Configuring bridge CNI (Container Networking Interface) ...
🔎  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
nandhu2645@LAPTOP-1TVBND2B:~$ minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured

nandhu2645@LAPTOP-1TVBND2B:~$ kubectl get pod
No resources found in default namespace.
nandhu2645@LAPTOP-1TVBND2B:~$ kubectl get node
NAME        STATUS    ROLES           AGE    VERSION
minikube    Ready     control-plane   70s    v1.32.0
nandhu2645@LAPTOP-1TVBND2B:~$ kubectl get pod
No resources found in default namespace.
nandhu2645@LAPTOP-1TVBND2B:~$ sudo nano docker-compose.yml
[sudo] password for nandhu2645:
nandhu2645@LAPTOP-1TVBND2B:~$ ls
docker-compose.yml
nandhu2645@LAPTOP-1TVBND2B:~$ sudo curl -L "https://github.com/docker/compos
e/releases/latest/download/docker-compose-$(uname -s)-$(uname -m)" -o /usr/l
ocal/bin/docker-compose
```

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.

PIPELINE CODE

```
pipeline {
  agent any

  stages {
    stage('SCM') {
      steps {
        git 'https://github.com/nandhu6804/devops_main.git'
      }
    }
    stage('Build'){
      steps {
        bat 'mvn clean install'
      }
    }
    stage('build to images'){
      steps{
        script{
          bat 'docker build -t nandhita22cse126/mysimplewebapp .'
        }
      }
```

```
      }
    stage('push to hub'){
      steps{
        script{
          withDockerRegistry(credentialsId: 'My_Credential', toolName: 'docker', url:
'https://index.docker.io/v1/') {
            bat 'docker push nandhita22cse126/mysimplewebapp'
          }
        }
      }
    }
  }
}
```