

DAY2:

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
```

DOCKER COMPOSE COMMANDS:

Install Docker Compose

```
sudo apt install docker-compose -y
```

Download the latest version of Docker Compose

```
sudo curl -L "https://github.com/docker/compose/releases/latest/download/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
```

Make Docker Compose executable

```
sudo chmod +x /usr/local/bin/docker-compose
```

Check Docker Compose version

```
docker-compose --version
```

Example docker-compose.yml file

```
version: '3'
```

```
services:
```

```
  web:
```

```
    image: nginx:latest
```

```
    ports:
```

```
      - 80:80
```

db:

image: mysql:latest

environment:

- MYSQL_ROOT_PASSWORD=secret

Start services using Docker Compose

docker-compose up -d

Execute a shell inside the database container

docker exec -it david-db-1 /bin/bash

Access MySQL inside the container

mysql -u root -p

KUBERNETES COMMAND:

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

JENKINS:

Jenkins is an open-source automation server widely used for Continuous Integration (CI) and Continuous Delivery (CD). It helps developers build, test, and deploy software efficiently by automating repetitive tasks

```
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
```

```

1.0-SNAPSHOT.war
[INFO] Installing C:\ProgramData\Jenkins\jenkins\workspace\pile\pom.xml to C:\Windows\system32\config\systemprofile\m2\repository\com\mycompany\app\my-app\1.0-SNAPSHOT\my-app-1.0-
1.0-SNAPSHOT.pom
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 9.578 s
[INFO] Finished at: 2025-03-18T14:24:07+05:30
[INFO] -----
Pipeline] }
Pipeline] // stage
Pipeline] stage
Pipeline] { (Build Docker Image)
Pipeline] script
Pipeline] {
Pipeline] bat
C:\ProgramData\Jenkins\jenkins\workspace\pile>docker build -t ashlin20/mysimpleapplication .
#0 building with "default" instance using docker driver

#1 [internal] load build definition from Dockerfile
#1 transferring dockerfile: 111B 0.0s done
#1 DONE 0.1s


#2 [internal] load metadata for docker.io/library/tomcat:9
#2 DONE 2.6s

#3 [internal] load .dockerignore
#3 transferring context: 2B done
#3 DONE 0.0s

#4 [1/2] FROM docker.io/library/tomcat:9@sha256:8299f3e2f559f57c683a38ff903b0caff1d789a2932686d30422f9cd99c130e
#4 DONE 0.0s


#5 [internal] load build context

```


 docker hub


Explore


My Hub


 Search Docker Hub


ctrl+K









 ashlin20
Docker Personal

Repositories

Settings

Default privacy

Notifications

Billing


Usage

Pulls

Storage



Repositories

All repositories within the ashlin20 namespace.

 Search by repository name

All content

Create a repository

Name 	Last Pushed 	Contains	Visibility	Scout
ashlin20/mysimpleapplication	4 minutes ago	IMAGE	Public	Inactive

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Jenkins

🔍

🔒

👤 ASHILIN B S

🚪 log out

Dashboard > mavenm > #2

Status

</> Changes

📄 Console Output

📄 Edit Build Information

🗑️ Delete build #2

🕒 Timings

🔗 Git Build Data

⬅️ Previous Build

✅ #2 (Mar 18, 2025, 1:43:16 PM)

Add description

Keep this build forever

🕒 Started by user ASHILIN B S

🕒 This run spent:

- 7 ms waiting
- 2 min 55 sec build duration
- 2 min 55 sec total from scheduled to completion.

🔗 Bit

Revision: c033960491922686943eba9ea170ec6306c34bd

Repository: <https://github.com/ashilins/DevOps.git>

refs/remotes/origin/main

</> No changes.

Started 4 hr 18 min ago

Took 2 min 55 sec

localhost:7070/job/mavenm/2/console

Dashboard > mavenm > #2 > Console Output

```
Progress (2): 91/239 kB | 145/233 kB
Progress (2): 107/239 kB | 145/233 kB
Progress (2): 107/239 kB | 161/233 kB
Progress (2): 124/239 kB | 161/233 kB
Progress (2): 124/239 kB | 178/233 kB
Progress (2): 140/239 kB | 178/233 kB
Progress (2): 140/239 kB | 194/233 kB
Progress (2): 140/239 kB | 210/233 kB
Progress (2): 156/239 kB | 210/233 kB
Progress (2): 156/239 kB | 227/233 kB
Progress (2): 173/239 kB | 227/233 kB
Progress (2): 173/239 kB | 233 kB

Downloaded from central: https://repo.maven.apache.org/maven2/commons-codesc/commons-codesc/1.6/commons-codesc-1.6.jar (233 kB at 122 kB/s)
Progress (1): 189/239 kB
Progress (1): 206/239 kB
Progress (1): 222/239 kB
Progress (1): 238/239 kB
Progress (1): 239 kB

Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0.15/plexus-utils-3.0.15.jar (239 kB at 132 kB/s)
[INFO] Installing C:\ProgramData\jenkins\workspace\mavenm\target\my-app\war to C:\Windows\system32\config\systemprofile\file.m2\repository\com\mycompany\app\my-app\1.0-SNAPSHOT\my-app-1.0-SNAPSHOT.war
[INFO] Installing C:\ProgramData\jenkins\workspace\mavenm\pom.xml to C:\Windows\system32\config\systemprofile\file.m2\repository\com\mycompany\app\my-app\1.0-SNAPSHOT\my-app-1.0-SNAPSHOT.pom
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 02:48 min
[INFO] Finished at: 2025-03-18T13:46:11+05:30
[INFO] -----
[INFO] Finished: SUCCESS
```

Jenkins

🔍 🔒 👤 ASHILIN B S 🚪 log out

Dashboard > nginx1 >

Status

</> Changes

📄 Workspace

▶ Build Now

⚙️ Configure

🗑️ Delete Project

✎ Rename

✅ nginx1

Add description

Permalinks

- Last build (#2), 5 hr 56 min ago
- Last stable build (#2), 5 hr 56 min ago
- Last successful build (#2), 5 hr 56 min ago
- Last completed build (#2), 5 hr 56 min ago

BUILDS

Filter

Today

- ✅ #2 12:06 PM
- ✅ #1 12:06 PM

localhost:7070/job/nginx1/2/

Dashboard > nginx1 > #2

Status

</> Changes

📄 Console Output

📄 Edit Build Information

🗑️ Delete build #2

🕒 Timings

⬅️ Previous Build

✅ #2 (Mar 18, 2025, 12:06:45 PM)

Add description

Keep this build forever

🕒 Started by user ASHILIN B S

🕒 This run spent:

- 11 ms waiting
- 1.2 sec build duration
- 1.2 sec total from scheduled to completion.

</> No changes.

Started 5 hr 56 min ago

Took 1.2 sec


```

error: remote origin already exists.
ashilin@ASHILIN:~/DevOps$ git add Jenkinsfile
ashilin@ASHILIN:~/DevOps$ git commit -m "Added Jenkinsfile for CI/CD pipeline"
[main 8725aee] Added Jenkinsfile for CI/CD pipeline
 4 files changed, 35 insertions(+), 2 deletions(-)
 create mode 160000 DevOps
 create mode 100644 Jenkinsfile
ashilin@ASHILIN:~/DevOps$ git push origin main
Username for 'https://github.com': ashilinbs
Password for 'https://ashilinbs@github.com':
remote: Support for password authentication was removed on August 13, 2021.
remote: Please see https://docs.github.com/get-started/getting-started-with-git/a
modes of authentication.
fatal: Authentication failed for 'https://github.com/ashilinbs/DevOps.git/'
ashilin@ASHILIN:~/DevOps$ AshilinBenjamin@123
AshilinBenjamin@123: command not found
ashilin@ASHILIN:~/DevOps$ git push origin main
Username for 'https://github.com': ashilinbs
Password for 'https://ashilinbs@github.com':
remote: Support for password authentication was removed on August 13, 2021.
remote: Please see https://docs.github.com/get-started/getting-started-with-git/a
modes of authentication.
fatal: Authentication failed for 'https://github.com/ashilinbs/DevOps.git/'
ashilin@ASHILIN:~/DevOps$ git push origin main
Username for 'https://github.com': ashilinbs
Password for 'https://ashilinbs@github.com':
remote: Support for password authentication was removed on August 13, 2021.
remote: Please see https://docs.github.com/get-started/getting-started-with-git/a
modes of authentication.
fatal: Authentication failed for 'https://github.com/ashilinbs/DevOps.git/'
ashilin@ASHILIN:~/DevOps$ git push origin main
Username for 'https://github.com': ashilinbs
Password for 'https://ashilinbs@github.com':
Enumerating objects: 12, done.
Counting objects: 100% (12/12), done.
Delta compression using up to 8 threads
Compressing objects: 100% (6/6) done

```

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ashilin20 Docker Personal

Repositories Settings Default privacy Notifications Billing Usage Pulls Storage

Repositories

All repositories within the ashilin20 namespace.

Search by repository name All content Create a repository

Name	Last Pushed ↑	Contains	Visibility	Scout
ashilin20/app	4 minutes ago	IMAGE	Public	Inactive
ashilin20/mysimpleapplication	1 day ago	IMAGE	Public	Inactive

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