🚀 **STEP 1 — Launch EC2**
Instance type: t2.medium (4GB RAM recommended)
Security Group Inbound Rules:

Type	Port	Source
SSH	22	Your IP
Custom TCP	8080	0.0.0.0/0

🚀 **STEP 2 — Install Docker on EC2 (Host)**
SSH into EC2:
sudo apt update
sudo apt install docker.io -y

Enable & start Docker:
sudo systemctl enable docker
sudo systemctl start docker

Add ubuntu user to docker group:
sudo usermod -aG docker ubuntu

Logout and login again:
Exit

Reconnect to EC2.
Verify:
docker version
You should see Client & Server info ✅

🚀 **STEP 3 — Get Docker Group ID**
Run:
getent group docker
Example output:
docker:x:113:ubuntu
👉 GID = 113
(Remember your number)

🚀 **STEP 4 — Run Jenkins Container (Correct Way)**
Run this (replace 113 if different):

```
docker run -d \
  --name jenkins \
  -p 8080:8080 \
  -p 50000:50000 \
  -v jenkins_home:/var/jenkins_home \
  -v /var/run/docker.sock:/var/run/docker.sock \
  --group-add 113 \
  jenkins/jenkins:lts
```

This does:
✓ Runs Jenkins
✓ Mounts Docker socket
✓ Gives Docker permission
✓ Persists Jenkins data

🚀 **STEP 5 — Verify Jenkins Running**

docker ps
You should see Jenkins container running.

🚀 **STEP 6 — Get Jenkins Initial Password**
docker exec jenkins cat /var/jenkins_home/secrets/initialAdminPassword
Copy the password.

🚀 **STEP 7 — Open Jenkins in Browser**
http://<EC2-Public-IP>:8080
Paste password →
Install Suggested Plugins →
Create Admin User → Done ✅

🚀 **STEP 8 — Create Pipeline Job**
Create New Item →
Pipeline →
Paste your pipeline script.
Example working pipeline:

```
pipeline {
    agent any

    stages {
        stage('Git Clone') {
            steps {
                git branch: 'main', url: 'https://github.com/arununik/docker.git'
            }
        }

        stage('Build') {
            steps {
                sh 'mvn clean package'
            }
        }

        stage('Docker Build') {
            steps {
                sh 'docker build -t arununik/test1 .'
            }
        }
    }
}
```

🚀 **STEP 9 — Verify Docker Access Inside Jenkins**
Test inside container:
docker exec -it jenkins docker version
If it works → pipeline will work.

If docker not found error comes in console output
do below in git bash

docker exec -it --user root jenkins bash
root@a937cb2b3960:/# apt update
root@a937cb2b3960:/# apt install docker.io -y