**Objective**

Deploy a Node.js web app automatically using a CI/CD pipeline via GitHub Actions → AWS EC2.

**Tools Used**

GitHub – hosts the repo & workflow

GitHub Actions – runs CI/CD

Docker – containerizes the app

AWS EC2 (Ubuntu) – acts as deployment server

DockerHub – stores built image

**STEP 1: Setup AWS EC2 Instance**

Loged in to AWS Console → EC2 → Launch Instance

Name: nodejs-cicd-server

OS: Ubuntu 22.04

Instance type: t2.micro (Free Tier)

Key pair: Create or use an existing one (download .pem file)

Allow inbound ports:

22 (SSH)

80 (HTTP)

3000 (App Port, optional)

Launched instance.

**STEP 2: Connected to EC2**

ssh -i "your-key.pem" ubuntu@<EC2-PUBLIC-IP>

**STEP 3: Installed Dependencies**

sudo apt update -y

sudo apt install docker.io -y

sudo usermod -aG docker ubuntu

sudo systemctl enable docker

sudo systemctl start docker

sudo apt install git -y

**STEP 4: Create Sample Node.js App**

mkdir nodejs-demo-app && cd nodejs-demo-app

npm init -y

npm install express

**step 5: created app.js file**

const express = require('express');

const app = express();

const PORT = process.env.PORT || 3000;

app.get('/', (req, res) => res.send('Hello from AWS EC2 CI/CD Pipeline!'));

app.listen(PORT, () => console.log(`App running on port ${PORT}`));

**step 6 : Created DockerFile**

FROM node:18

WORKDIR /app

COPY package\*.json ./

RUN npm install

COPY . .

EXPOSE 3000

CMD ["node", "app.js"]

**Step 7: Built an container and pushed to github**

git init

git remote add origin https://github.com/spandu-creative/devops-task-one.git

git add .

git commit -m "Initial commit"

git push origin main

**STEP 8: Test Deployment**

Visited:

http://<EC2\_PUBLIC\_IP>