

TASK 1: Automate Code Deployment Using CI/CD Pipeline (GitHub Actions)

1. Step 1: Create a GitHub Repository

- > Create a new repository on [Github.com](https://github.com)
- > Clone it to your local system or directly work on GitHub, <https://github.com/dineshvaishnav8890/nodejs-ci-cd-demo.git>

>>

The screenshot shows the GitHub interface for a repository named 'nodejs-ci-cd-demo' owned by 'dineshvaishnav8890'. The repository is public. The top navigation bar includes links for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. Below the repository name, there are buttons for Pin and Unwatch. The main content area shows the repository's file structure and commit history. The current branch is 'main', and there is 1 branch and 0 tags. A search bar 'Go to file' is present. The commit history shows a recent commit 'Update index.js' by 'dineshvaishnav8890' 26 minutes ago, with 4 commits in total. The file list includes '.github/workflows', 'node_modules', 'Dockerfile', 'README.md', 'index.js', 'package-lock.json', and 'package.json'.

File	Commit Message	Time Ago
.github/workflows	Create main.yml	1 hour ago
node_modules	Upload	43 minutes ago
Dockerfile	Upload	43 minutes ago
README.md	Initial commit	2 hours ago
index.js	Update index.js	26 minutes ago
package-lock.json	Upload	43 minutes ago
package.json	Upload	43 minutes ago

>>> Add secrets in our git Hub Repo .

Environment secrets

This environment has no secrets.

Manage environment secrets

Repository secrets

New repository secret

Name ↕	Last updated
DOCKER_PASSWORD	1 hour ago
DOCKER_USERNAME	1 hour ago

>> Install Node js,

```
# Download and install nvm:
```

```
curl -o-
```

```
https://raw.githubusercontent.com/nvm-sh/nvm/v0.40.3/install.sh | bash
```

```
# in lieu of restarting the shell
```

```
\. "$HOME/.nvm/nvm.sh"
```

```
# Download and install Node.js:
```

```
nvm install 22
```

```
# Verify the Node.js version:
```

```
node -v
```

>> Install Docker

```
# apt install -y docker.io
```

>> Create a file [index.js](#)

```
const express = require('express');  
const app = express();  
const port = 3000;  
app.get('/', (req, res) => res.send('Hello, This is my First Task For Elevate Labs'));  
app.listen(port, () => console.log(`App listening at http://localhost:\${port}`));
```

>>> Create **package.json**

```
{  
  "name": "nodejs-ci-cd-demo",  
  "version": "1.0.0",  
  "main": "index.js",  
  "scripts": {  
    "start": "node index.js",  
    "test": "echo \"Running tests...\" && exit 0"  
  },  
  "dependencies": {  
    "express": "^4.18.2"  
  }  
}
```

>>> **Create a Dockerfile**

```
# Use Node.js official image  
FROM node:18  
  
# Set working directory inside the container  
WORKDIR /app  
  
# Copy package files and install dependencies  
COPY package*.json ./  
RUN npm install  
  
# Copy the rest of the code  
COPY . .  
  
# Expose port and define startup command  
EXPOSE 3000  
CMD ["npm", "start"]
```

Send our all Files on Git Hub .

```
sudo chown -R ubuntu:ubuntu /home/ubuntu/nodejs-ci-cd-demo
git config --global --add safe.directory /home/ubuntu/nodejs-ci-cd-demo
git add .
git commit -m "Upload"
git push origin main
```

Enter Here <Git hub User name >
For password > Git Hub PAT <

Step : Set Up GitHub Actions Workflow

```
name: CI/CD
Pipeline
```

```
on:
  push:
    branches: [ main ]

jobs:
  build:
    runs-on: ubuntu-latest
```

```
steps:

- name: Checkout code
  uses: actions/checkout@v3


- name: Set up Node.js
  uses: actions/setup-node@v3
  with:
    node-version: '18'


- name: Install dependencies
  run: npm install


- name: Run tests
  run: npm test


- name: Build Docker image
  run: docker build -t ${ secrets.DOCKER_USERNAME }/nodejs-app .


- name: Login to DockerHub
  run: echo ${ secrets.DOCKER_PASSWORD } | docker login -u ${ secrets.DOCKER_USERNAME } --password-stdin


- name: Push Docker image
  run: docker push ${ secrets.DOCKER_USERNAME }/nodejs-app
```

Login Our Docker Hub Account

Show Here Our Push Images.

My Hub
Search Docker Hub
CtrlK
?
🔔
🔄
⋮
D

Repositories

All repositories within the **dineshvaishnav** namespace.

All content ▾

Create a repository

Name	Last Pushed ↑	Contains	Visibility	Scout
dineshvaishnav/nodejs-app	16 minutes ago	IMAGE	Public	Inactive
dineshvaishnav/yii2-app	about 19 hours ago	IMAGE	Public	Inactive
dineshvaishnav/amazon	10 days ago	IMAGE	Public	Inactive

Pull Docker images on Our Ec2

```
docker pull dineshvaishnav/nodejs-app
```

```
docker run -d -p 3000:3000 dineshvaishnav/nodejs-app:latest
```

←
→
🔄
⚠ Not secure
13.234.76.128:3000

Hello, This is my First Task For Elevate Labs