

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

- **Objective:** Set up a CI/CD pipeline to build and deploy a web app.
- **Tools:** GitHub, GitHub Actions, Node.js, Docker
- **Deliverables:** GitHub repo with .yaml CI/CD workflow

Hints / Mini Guide:

- Use .github/workflows/main.yml to define the pipeline.
- Configure jobs for build and deployment.
- Use DockerHub for image deployment.
- Automate steps like test → build → push.
- Test using a sample Node.js app.
- Trigger on push to main.

Dataset/Repo: nodejs-demo-app

By completing this task, you will:

- You'll understand the complete CI/CD automation process.

Interview Questions Related To Above Task:

1. Interview Questions:
2. What is CI/CD?
3. How do GitHub Actions work?
4. What are runners?
5. Difference between jobs and steps.
6. How to secure secrets in GitHub Actions?
7. How to handle deployment errors?
8. Explain the Docker build-push workflow.
9. How can you test a CI/CD pipeline locally?

📌 Task Submission Guidelines

- 🕒 **Time Window:**

You can complete the task anytime between 10:00 AM to 10:00 PM on the given day. Submission link closes at 10 :00 PM

- 🔍 **Self-Research Allowed:**

You are free to explore, Google, or refer to tutorials to understand concepts and complete the task effectively.

- 🔧 **Debug Yourself:**

Try to resolve all errors by yourself. This helps you learn problem-solving and ensures you don't face the same issues in future tasks.

- 💰 **No Paid Tools:**

If the task involves any paid software/tools, do not purchase anything. Just learn the process or find free alternatives.

- 📁 **GitHub Submission:**

Create a new GitHub repository for each task.

Add everything you used for the task — code, datasets, screenshots (if any), and a short README.md explaining what you did.

📌 **Submit Here:**

After completing the task, paste your GitHub repo link and submit it using the link below:

- 👉 [[Submission Link](#)]

Best
of
Luck

