

DevOps Project Report - CI/CD Pipeline with GitHub Actions & Docker

Introduction:

This project demonstrates the setup of a basic CI/CD pipeline using GitHub Actions and Docker. The goal was to automate the process of building, pushing, and deploying a static web app.

Abstract:

A minimal static HTML app is packaged using Docker, then automatically built and pushed to Docker Hub when changes are pushed to the GitHub repository using GitHub Actions.

Tools Used:

- GitHub
- GitHub Actions
- Docker
- Docker Hub
- HTML, NGINX

Steps Involved:

1. Created a simple HTML file (`index.html`) inside an `app/` folder.
2. Wrote a `Dockerfile` that copies files into an NGINX container.
3. Configured GitHub Actions with a workflow (`docker-ci.yml`) to:
 - Build Docker image
 - Authenticate with Docker Hub
 - Push the image to Docker Hub
4. Verified the image push at: <https://hub.docker.com/r/polankisravva/cicd-demo>
5. Tested the app locally using:

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```
docker pull polankisravva/cicd-demo:latest
```

```
docker run -d -p 8080:80 polankisravva/cicd-demo:latest
```

Conclusion:

This project successfully implemented a CI/CD pipeline using GitHub Actions and Docker. The image is built automatically and deployed efficiently. This setup showcases real-world DevOps automation.