

Docker with GitHub Integration

Static Website Development & Deployment Pipeline

localhost:8080

Pull Requests

GitHub Actions

Collaborative DevOps

localhost:8080

Welcome to My Website

This is a simple static HTML site served from Docker 🚀

localhost:8080/thank-you

Thank you, Eng. Yasmine! ❤️

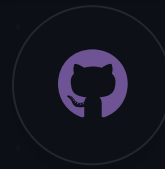
Thanks from Docker!



Development
Static HTML/CSS



Containerization
Docker & Nginx



Version Control
Team Collaboration



CI/CD Pipeline
GitHub Actions

Project Implementation

- ✓ Simple static website with thank-you page
- ✓ Nginx server in Docker container
- ✓ Multi-contributor GitHub workflow
- ✓ Automated Docker image builds

Team Members:

Yasmine AhmedMahmoud MostafaSafwat1521 AliBaraka923

Technical Implementation

Docker

```
# Dockerfile
FROM nginx:alpine
COPY ./website/
/usr/share/nginx/html
EXPOSE 80
```

Git Commands

```
$ git init
$ git add .
$ git commit -m "code_added"
$ git push origin main
```

Docker Run

```
$ docker build -t static-website .
$ docker run -p 8080:80 static-website
# Access at localhost:8080
```

Pull Requests

```
# PR 3: Update Index
# PR 4: Last Update
# PR 2: Update docker-image.yml
```



GitHub Actions

```
name: Docker Image CI
on: [push, pull_request]
jobs:
  build:
    runs-on: ubuntu-latest
    steps:
      - uses: actions/checkout@v3
      - name: Build the Docker image
        run: docker build . --tag static-website:$(date +%s)
```

</> Web Application Development

C:\Users\T1\Downloads\website\index.html

HTML CSS JavaScript Docker

Live Preview

Served via Docker

localhost:8080

localhost:8080

Welcome to My Website

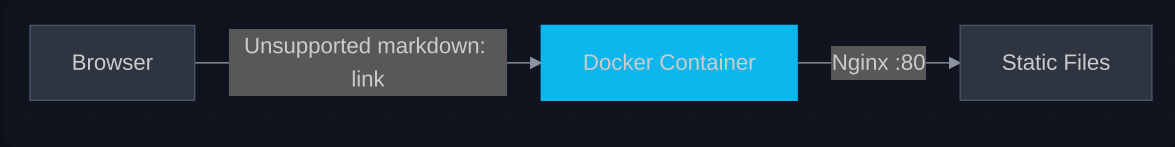
This is a simple static HTML site served from Docker 🚀

Click Me

localhost:8080/thank-you.html

Thank you, Eng. Yasmine! 💙

Thanks from Docker!



Source Code

HTML Static Content

index.html style.css Dockerfile

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Welcome to My Website</title>
</head>
<body>
  <h1>Welcome to My Website</h1>
</body>
```

Project Structure

EXPLORER OPEN EDITORS

website

index.html style.css thank-you.html

Dockerfile

FROM nginx:alpine

Dev Tools

HTML5 CSS3

VS Code

Code editor for development

Deployment

> Nginx web server

> Port mapping: 8080:80

Docker Containerization

Packaging and Deploying the Web Application

Docker Workflow



Dockerfile

```
# Use the official nginx image as a base
FROM nginx:alpine





# Set working directory
WORKDIR /usr/share/nginx/html

# Copy all files from the current directory to the working directory
COPY ./website/ .

# Expose port 80 for web traffic
EXPOSE 80

# Command to run when container starts
CMD ["nginx", "-g", "daemon off;"]
```

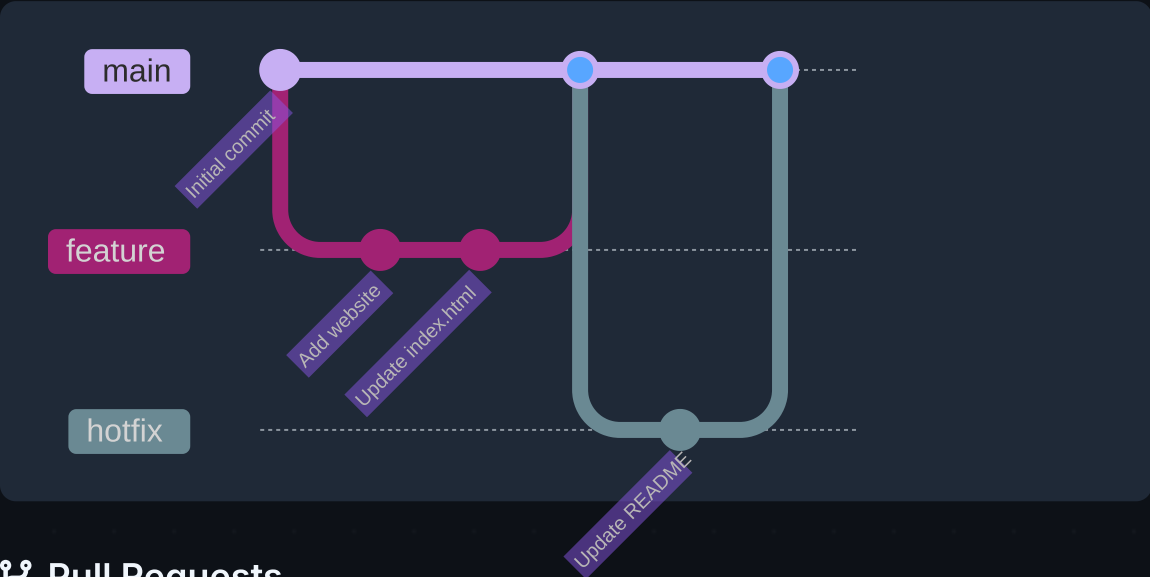
Container Benefits

-  **Environment Consistency**
Same behavior across all platforms
-  **Easy Deployment**
Quick setup on any Docker host
-  **Isolation**
Separated from host system
-  **Scalability**
Easy to scale with orchestration

GitHub Repository Management

Version Control & Team Collaboration

Collaborative Workflow



Pull Requests

Update Index #3

Open

MostafaSafwat1521 wants to merge 1 commit into main

MS No conflicts with base branch

Last Update #4

Open

AliBaraka923 wants to merge 2 commits into main

AB This branch has conflicts that must be resolved

Commit History

| Commits on May 15-17, 2025 | | | main |
|----------------------------|--|------------------|------|
| AM | Merge pull request #3 from MostafaSafwat1521/main AhmedMahmoud authored 3 minutes ago | Verified 577a4d3 | |
| MS | Update Index MostafaSafwat1521 committed 1 hour ago | c571e79 | |
| AM | code_added Ali Barakat committed yesterday | 29ca1c3 | |

Key GitHub Features

Branch Protection

Enforce code review and passing checks

Actions Workflow

Automated CI/CD pipelines

Code Review

Collaborative feedback and approvals

Releases & Tags

Version marking and organization

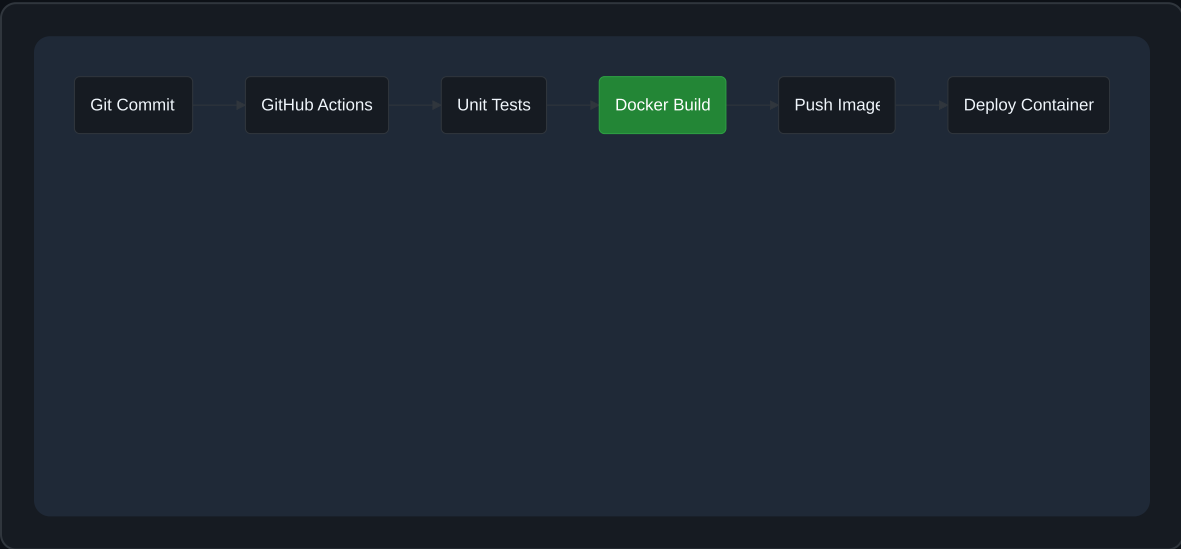
Multi-contributor Project

3 contributors: AhmedMahmoud, MostafaSafwat1521, AliBaraka923

GitHub Actions & CI/CD

Automating Build & Deployment Workflows

CI/CD Pipeline



Docker Image Workflow

✓ Update docker-image.yml #2

completed 8 minutes ago

success build (3m 24s)

✓ Set up job

2025-05-16T20:34:15Z Initializing runner...

2025-05-16T20:34:28Z Runner initialized

2025-05-16T20:34:30Z Setting up Docker envi...

2025-05-16T20:34:45Z Adding repository dire...

2025-05-16T20:34:46Z => Cloning repository...

2025-05-16T20:35:01Z => Building Docker im...

2025-05-16T20:35:12Z [+] Building 18.2s (8/...

2025-05-16T20:35:13Z => Successfully built...

2025-05-16T20:35:15Z => Pushing Docker ima...

2025-05-16T20:37:30Z => Successfully pushe...

✓ Run actions/checkout@v4

✓ Build the Docker image

✓ Complete job

Automation Benefits

Continuous Integration

Automatic builds & tests on each commit

Continuous Delivery

Automated Docker image builds & deployments

Branch Protection

Enforce passing workflows before merging

Notifications

Alerts on build success/failure

Workflow Configuration

```
</> .github/workflows/docker-image.yml

name: Docker Image CI

on:
  push:
    branches: [ "main" ]
  pull_request:
    branches: [ "main" ]

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