Expert Cloud Consulting
Enhance Optimise & Scale
ASCP GPUonCLOUD Pvt Ltd

“Expert Cloud Consulting” -

SOP | GitHub

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“Expert Cloud Consulting” GitHub And Netflex

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2.0 General Information:

2.1 Document Purpose

GitHub documentation helps users understand GitHub features, use version control, collaborate on code, and solve common issues. It acts as a guide and reference for developers.

2.2 Document References

The following artifacts are referenced within this document. Please refer to the original documents for additional information.

Date	Document	Filename / Url
2.06.2025	Git Documentation	https://git-scm.com/doc
2.06.2025	GitHub Docs (Official GitHub Help)	https://docs.github.com

3.0 Document Overview:

GitHub is a web-based platform for version control and collaboration using Git. It allows developers to store code repositories, track changes, manage branches, and work together through pull requests. GitHub also supports issue tracking, project management, and integration with CI/CD tools for automated workflows. It's widely used for open-source and professional software development..

4.0 Steps / Procedure

4.1. Introduction to DevOps

DevOps is a combination of Development and Operations. Its goal is to shorten the software development lifecycle and provide continuous delivery with high software quality.

Main Goals:
- Faster delivery
- Automation
- Improved collaboration
- Continuous feedback

4.2. Key DevOps Concepts

Concept	Description
CI/CD	Continuous Integration and Continuous Deployment – automating testing and deployment
Automation	Reducing manual work using tools and scripts
Collaboration	Developers and operations work closely using tools like Git, GitHub, Jenkins

4.3. Version Control with Git

Git is a distributed version control system.

Key Concepts:
- Repository: Project directory containing code and history
- Commit: Saving changes with a message
- Branch: Copy of the code to work separately
- Merge: Combine branches
- Pull Request: Request to merge a feature into main code

4.4 GitHub Workflow Simulation

Repository Setup:
- Created GitHub repository: devops-project
- Initialized main branch Branches

Created:

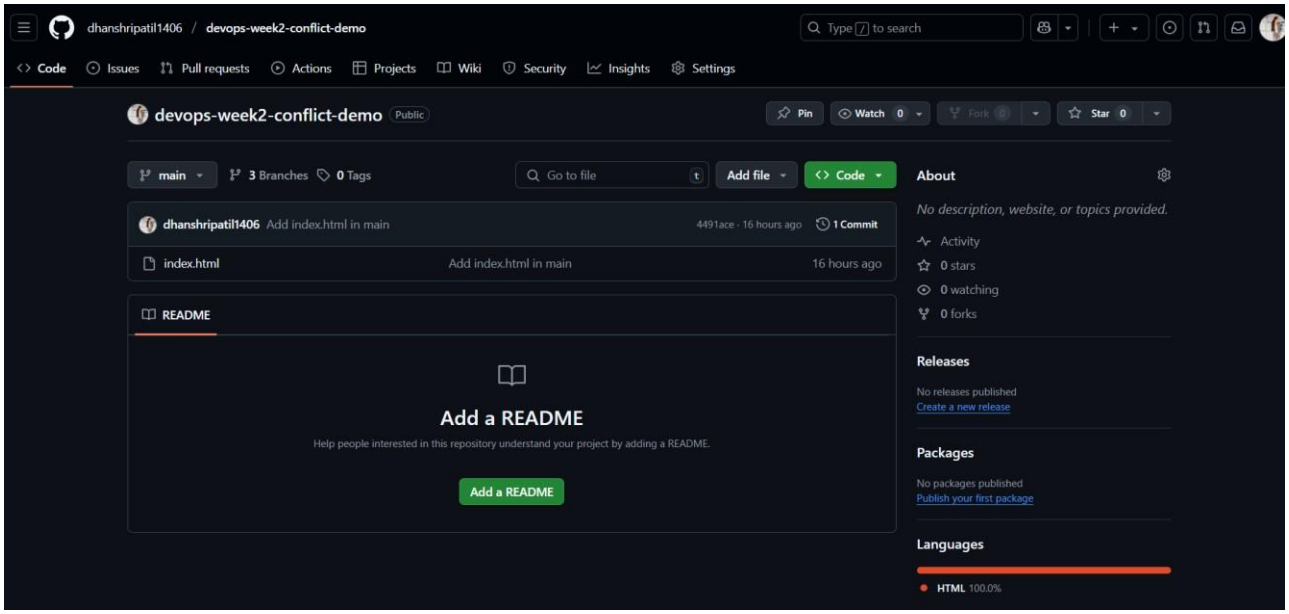
Branch Name	Purpose
main	Stable production code
dev	Development branch
feature/login-page	New login page feature
feature/signup	Payment gateway integration

Development Workflow:

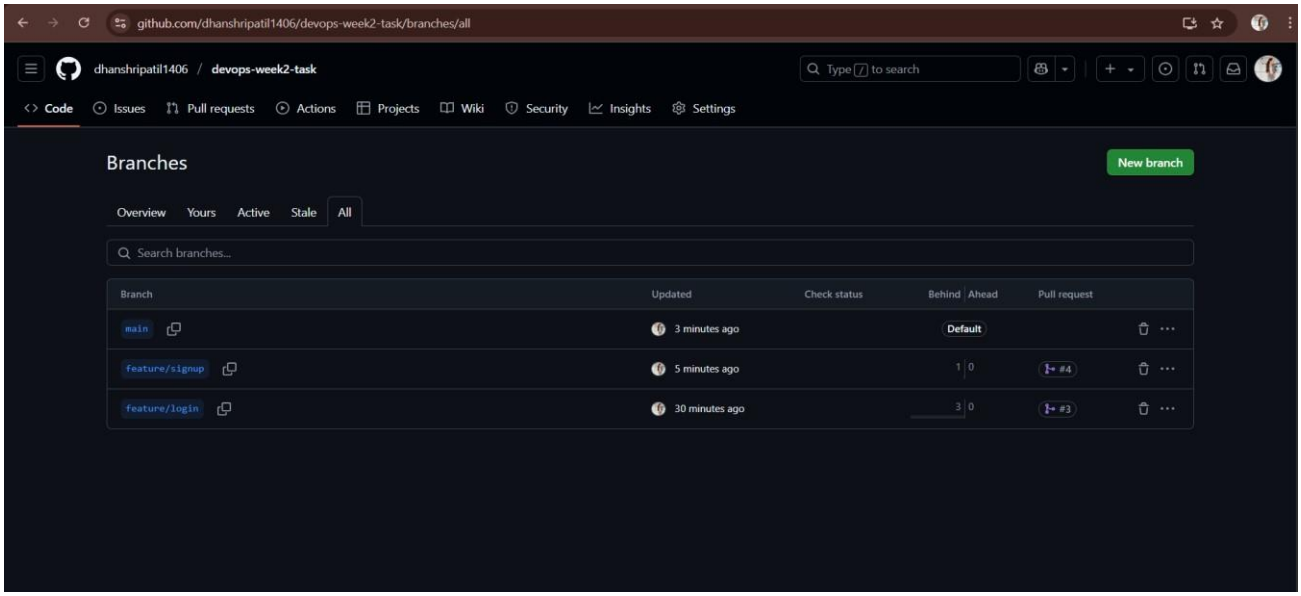
1. Create a new project folder:
   - cd devops-week2-conflict-demo
   - git init

2. Create a new Repository on github:
   - git remote add origin https://github.com/dhanshripatil1406/devops-week2-conflict-demo.git

3. Create a file on main branch:
   - echo "<h1>Original Page</h1>" > index.html
   - git add index.html
   - git commit -m "Add index.html in main"
   - git branch -M main
   - git push -u origin main



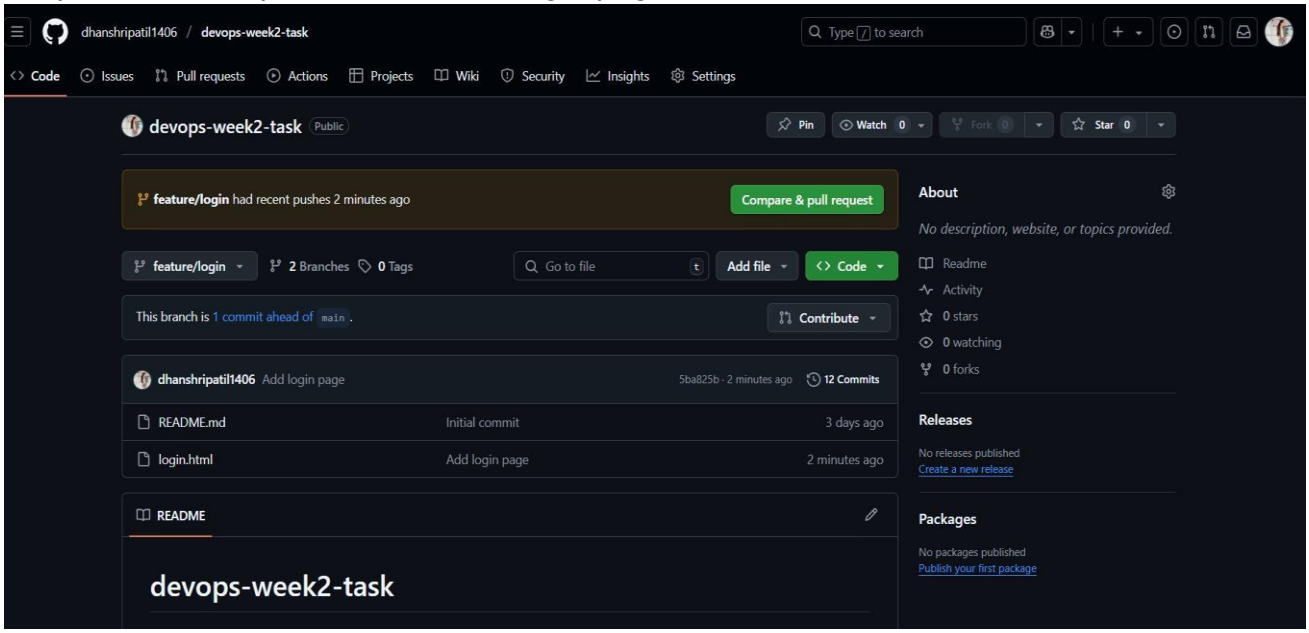
4. Create a new branches - feature/login-page and feature/signup-page
    - git checkout main
    - git checkout -b feature/login-page
    - git checkout -b feature/signup

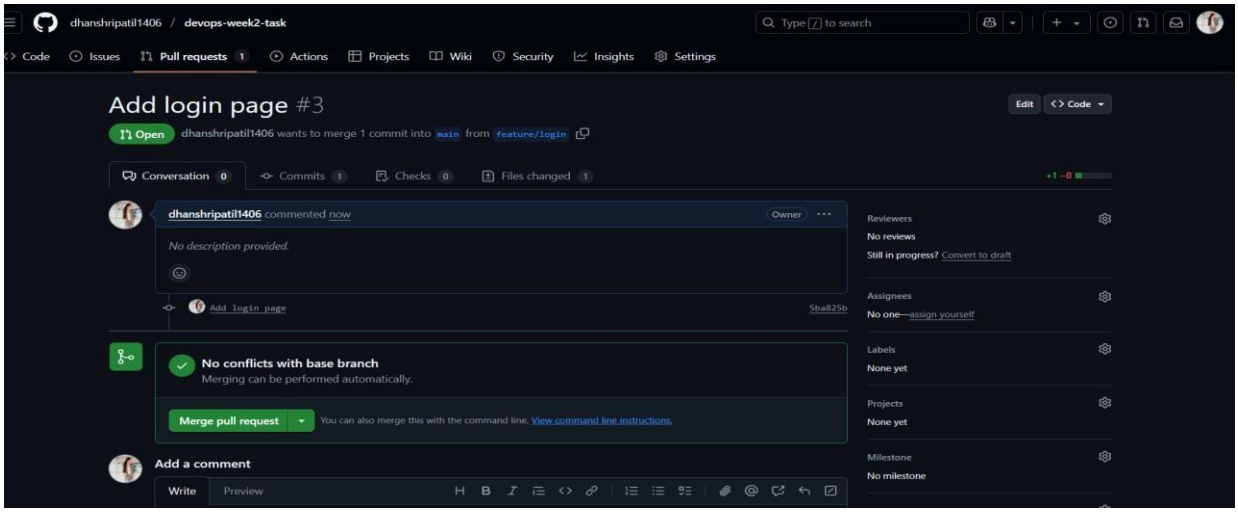


3. Stage & commit changes :
    - git add .
    - git commit -m "Added login page feature"

4. Push to GitHub :
    - git push origin feature/login-page
    - git push -u origin feature/signup

5. Open a Pull Request from feature/login-page :





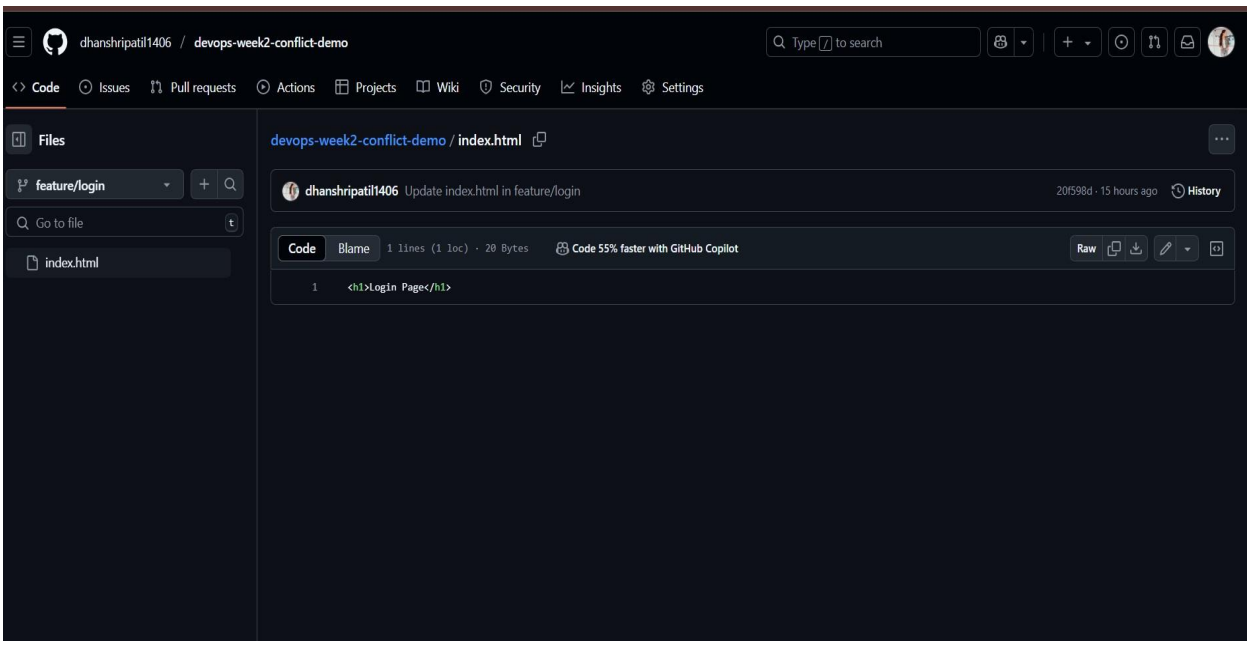
5. Merge Conflict Resolution

When two branches modify the same file/line, conflicts occur.

- Make different changes in the index.html file in both branches

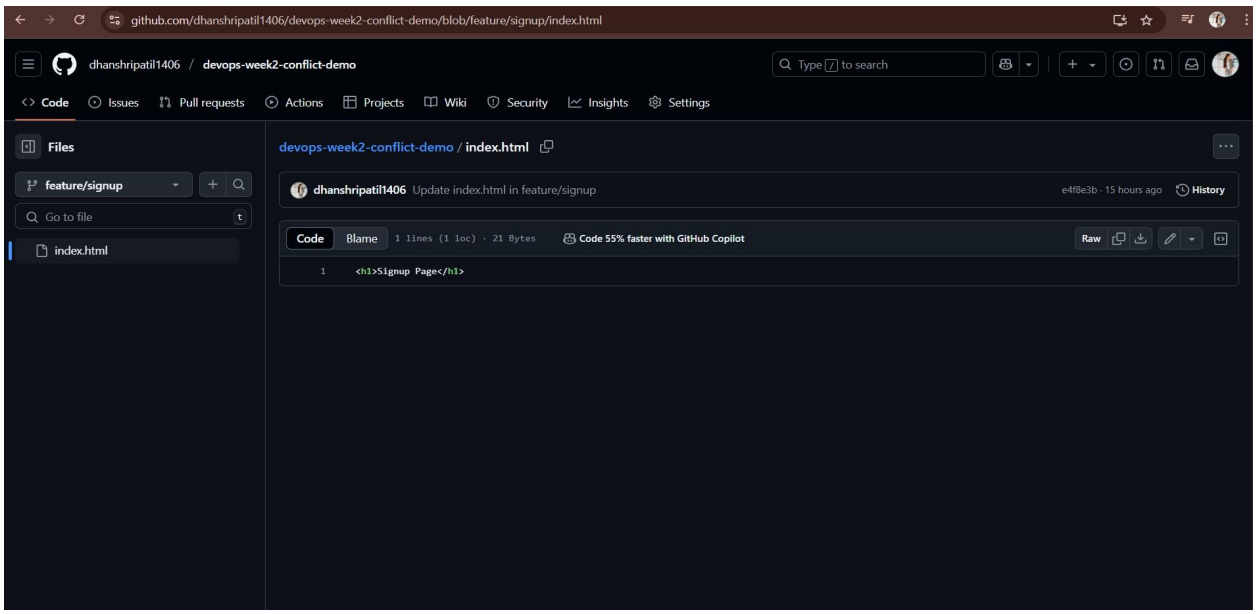
1.0 feature/login

- git checkout feature/login
- echo "<h1>Login Page</h1>" > index.html
- git add index.html
- git commit -m "Update index.html in feature/login"
- git push



2.0 feature/signup

- git checkout feature/signup
- echo "<h1>Signup Page</h1>" > index.html
- git add index.html
- git commit -m "Update index.html in feature/signup"
- git push



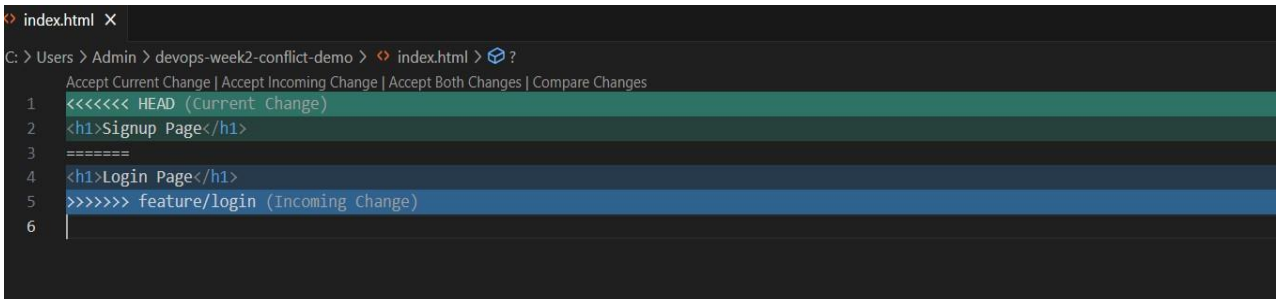

```
Admin@DESKTOP-VOPOUBK MINGW64 ~/devops-week2-task (feature/login)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.

Admin@DESKTOP-VOPOUBK MINGW64 ~/devops-week2-task (main)
$ git pull origin main
remote: Enumerating objects: 1, done.
remote: Counting objects: 100% (1/1), done.
remote: Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (1/1), 899 bytes | 4.00 KiB/s, done.
From https://github.com/dhanshripatil1406/devops-week2-task
 * branch            main       -> FETCH_HEAD
   cd58344..7dafd98  main       -> origin/main
Updating cd58344..7dafd98
Fast-forward
 login.html | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 login.html

Admin@DESKTOP-VOPOUBK MINGW64 ~/devops-week2-task (main)
$ git checkout -b feature/signup
Switched to a new branch 'feature/signup'

Admin@DESKTOP-VOPOUBK MINGW64 ~/devops-week2-task (feature/signup)
$ echo "<h1>Signup Page</h1>" > signup.html

Admin@DESKTOP-VOPOUBK MINGW64 ~/devops-week2-task (feature/signup)
$ git add signup.html
warning: in the working copy of 'signup.html', LF will be replaced by CRLF the next time Git touches it

Admin@DESKTOP-VOPOUBK MINGW64 ~/devops-week2-task (feature/signup)
$ git commit -m "Add signup page"
[feature/signup 22c2dff] Add signup page
 1 file changed, 1 insertion(+)
 create mode 100644 signup.html

Admin@DESKTOP-VOPOUBK MINGW64 ~/devops-week2-task (feature/signup)
$ git push origin feature/signup
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 16 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 326 bytes | 326.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: Create a pull request for 'feature/signup' on GitHub by visiting:
remote:      https://github.com/dhanshripatil1406/devops-week2-task/pull/new/feature/signup
remote:
To https://github.com/dhanshripatil1406/devops-week2-task.git
 * [new branch]      feature/signup -> feature/signup
```

- To create a conflict, merge feature/signup into feature/login.

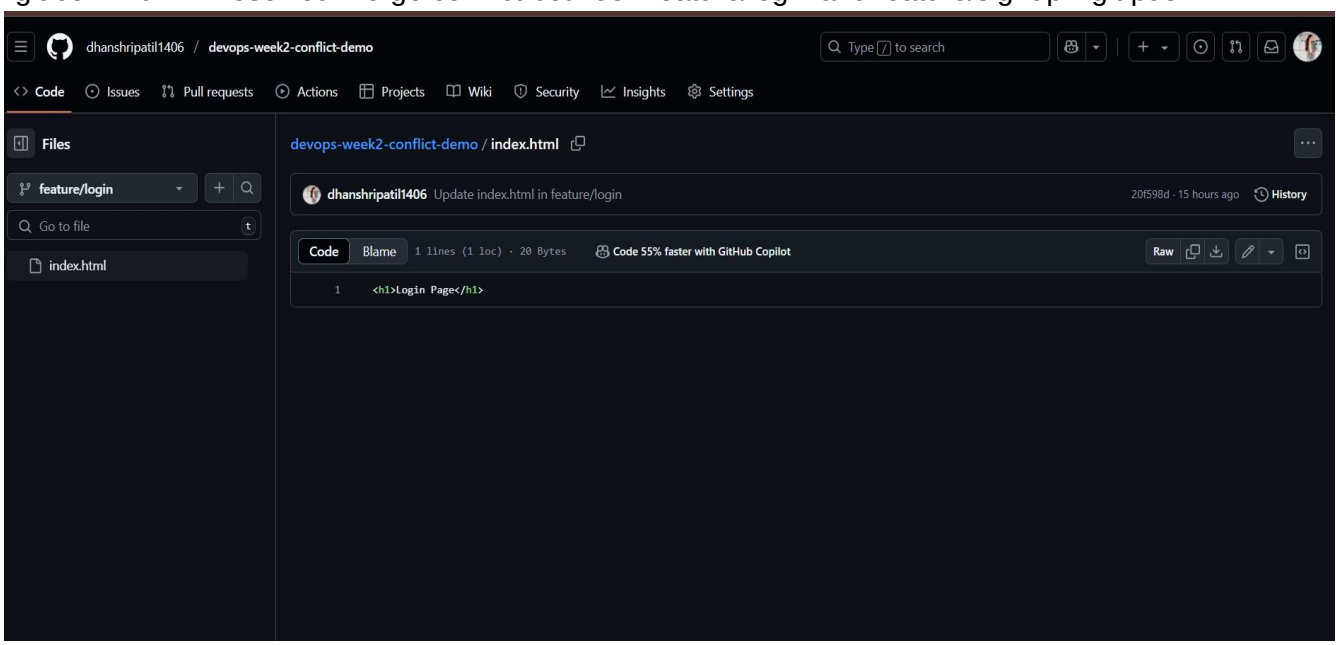
  git checkout feature/signup
  git merge feature/login

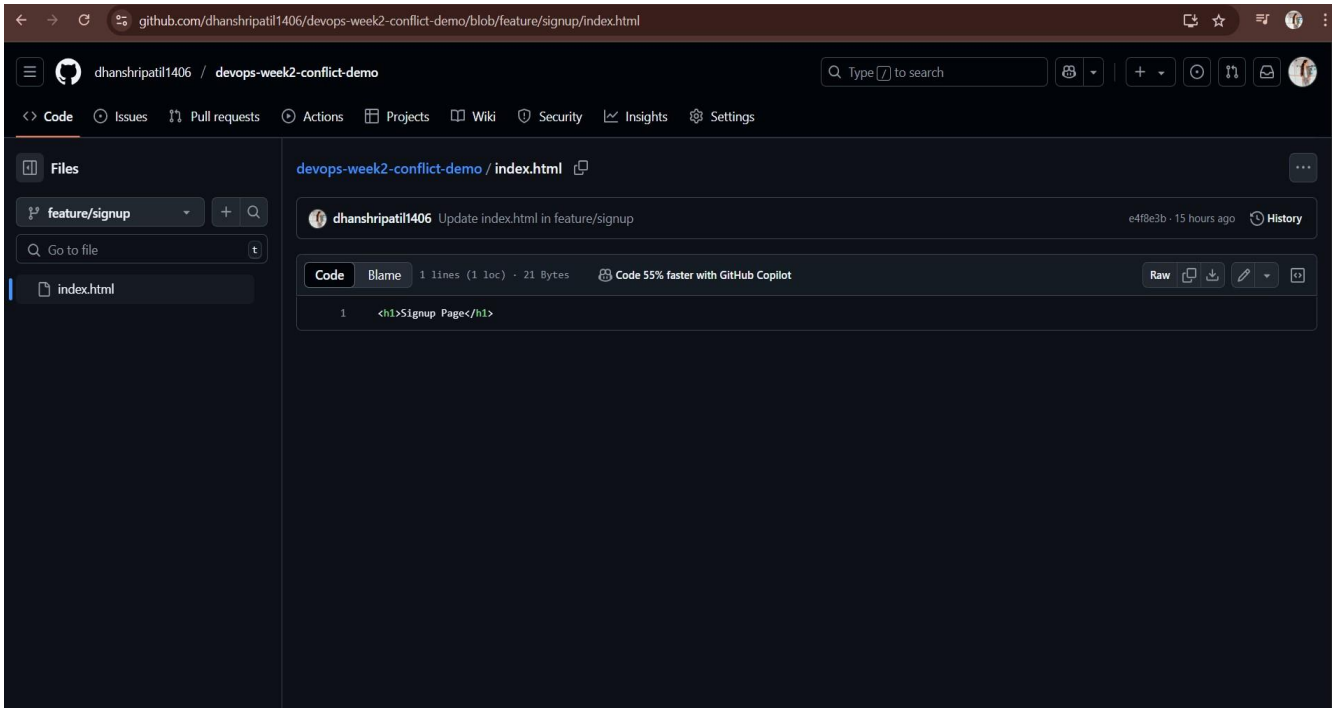
6. Conflict Resolve

Code index.html



- git add index.html
- git commit -m "Resolved merge conflict between feature/login and feature/signup" -git push




github.com/dhanshripatil1406/devops-week2-conflict-demo/blob/feature/signup/index.html
dhanshripatil1406 / devops-week2-conflict-demo
Type / to search
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
Files
feature/signup
Go to file
t
index.html
devops-week2-conflict-demo / index.html
dhanshripatil1406 Update index.html in feature/signup
e4f8e3b · 15 hours ago
History
Code
Blame
1 lines (1 loc) · 21 Bytes
Code 55% faster with GitHub Copilot
Raw
1 <h1>Signup Page</h1>