

✍️ Hands-On Git Collaboration: Version Control System in Action

👉 Project Overview

This project demonstrates the practical use of a **Version Control System (VCS)** in a collaborative software development environment using **Git** and **GitHub**. It simulates a team scenario where multiple contributors work on different sections of a web project while preserving each other's work, resolving conflicts, and managing pull requests.

👥 Team Roles

- 👤 **Oluwaseunoa**: Project Owner & Developer
- 🔒 **Seuntrial**: Collaborator Developer (Feature Contributor)
- 👀 **Jirosecurities**: Reviewer (Code Reviewer)

🔧 Project Setup

☑ Step 1: Oluwaseunoa Creates the Repository

- Create a repository **02. Git-Version-Control-Basics** on [GitHub](#)

The screenshot shows a GitHub repository page for 'DevOps-Projects'. The repository has 3 commits:

- 01. Tech Environment Setup: Initial commit of Tech Environment Setup project completion (yesterday)
- 02. Git-Version-Control-Basics: Added initial commit of the AI website (19 minutes ago) - This commit is highlighted with a red arrow.
- README.md: Initial commit of Tech Environment Setup project completion (yesterday)

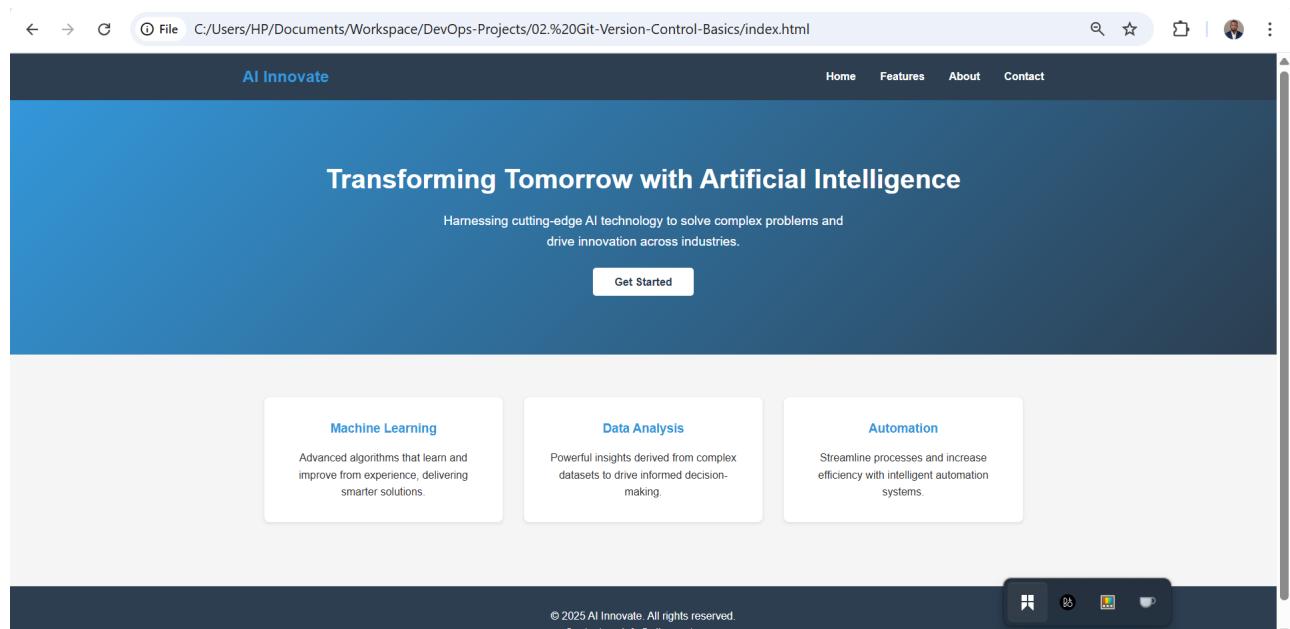
The repository has 1 branch (main), 0 tags, and 0 forks. The 'About' section indicates 'No description, website, or topics provided.' and shows 0 stars, 1 watching, and 0 forks. The 'Releases' section shows 'No releases published' and a link to 'Create a new release'. The 'Package' section shows 'No packages published'.

- Clone the repository locally

```
MINGW64:/c/Users/HP/Documents/Workspace/DevOps-Projects
HP@DESKTOP-I9M74R1 MINGW64 ~/Documents/Workspace/DevOps-Projects (main)
$ git clone https://github.com/Oluwaseun0/DevOps-Projects.git
```

- Add an `index.html` file

- Preview website in a browser



- Stage, commit, and push the changes:

```
git add .
git commit -m "Added initial commit of the AI Website"
git push
```

Step 2: Add Collaborators

- Add **Seuntrial** and **Jirosecurities** from the repository settings

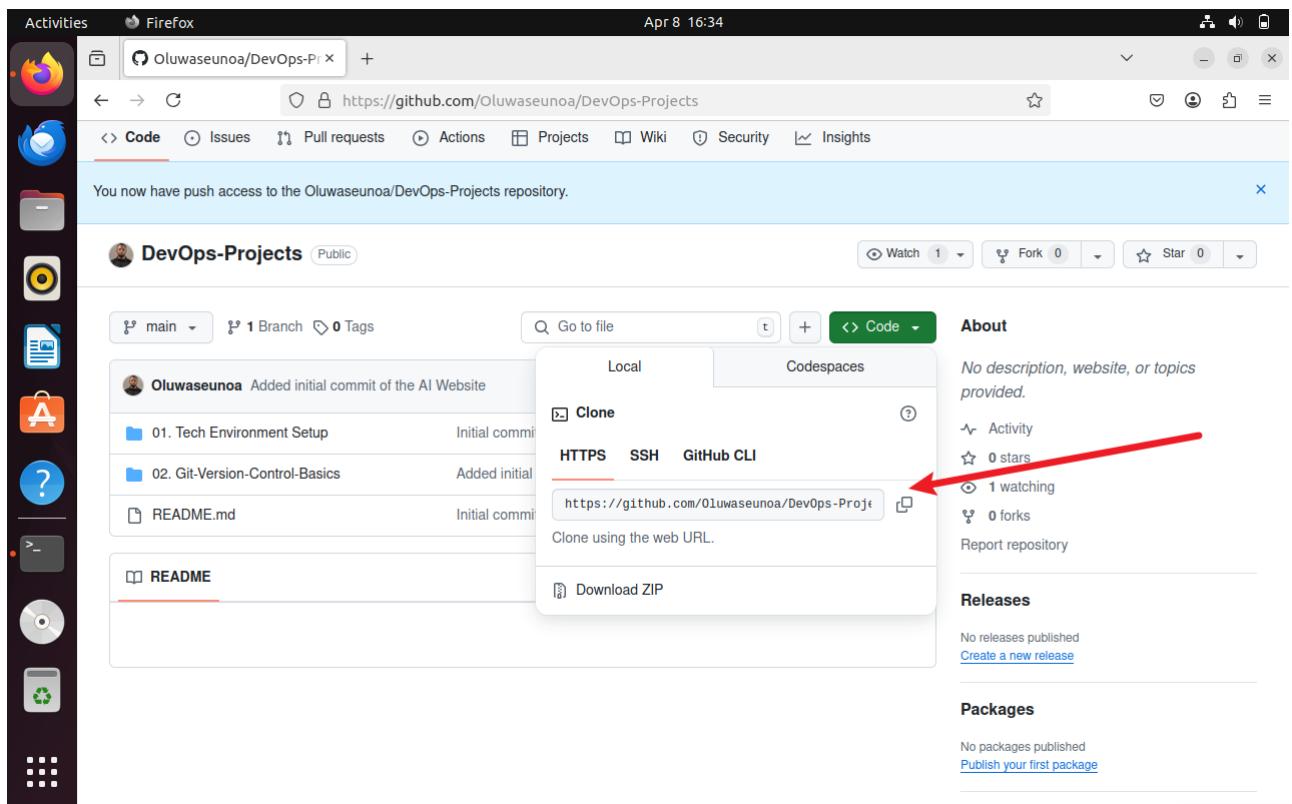
The screenshot shows two screenshots of the GitHub repository settings page for the repository `github.com/Oluwaseunoa/DevOps-Projects`.

Screenshot 1 (Top): The 'Access' section is selected, showing the 'Collaborators' tab. It indicates that the repository is a 'Public repository'. Below it, the 'Direct access' section shows that no collaborators have access yet. A large button labeled 'Add people' is prominent.

Screenshot 2 (Bottom): The 'Moderation options' section is selected. The 'Direct access' section now shows that 2 users have access. It lists two pending invitations: **Jirosecurities** and **seun-trial**. Each invitation includes a 'Pending Invite' button and a trash icon.

Step 3: Seuntrial Clones the Repository and Creates a Branch

- Locate repo [here](#)
- Copy repo link



- Clone, navigate, and create a new branch:

```
git clone https://github.com/Oluwaseunoa/DevOps-Projects.git
cd DevOps-Projects
git checkout -b update-navigation
cd '02. Git-Version-Control-Basics'
```

- Update the navigation section in `index.html`

```
$ git clone https://github.com/Oluwaseunoa/DevOps-Projects.git
Cloning into 'DevOps-Projects'...
remote: Enumerating objects: 32, done.
remote: Counting objects: 100% (32/32), done.
remote: Compressing objects: 100% (28/28), done.
remote: Total 32 (delta 1), reused 28 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (32/32), 4.09 MiB | 922.00 KiB/s, done.
Resolving deltas: 100% (1/1), done.

$ ls
Desktop Documents Music Public Templates
DevOps-Projects Downloads Pictures snap Videos
$ cd DevOps-Project
sh: 18: cd: can't cd to DevOps-Project
$ cd DevOps-Projects
$ ls
'01. Tech Environment Setup' '02. Git-Version-Control-Basics' README.md
$ cd 02. Git-Version-Control-Basics
sh: 21: cd: can't cd to 02.
$ cd `02. Git-Version-Control-Basics` 
sh: 1: 02.: not found
$ cd '02. Git-Version-Control-Basics'
sh: 23: cd: can't cd to 02. Git-Version-Control-Basics
$ ls
Desktop Documents Music Public Templates
DevOps-Projects Downloads Pictures snap Videos
$ pwd
/home/seun
$ cd DevOps-Projects
$ ls
'01. Tech Environment Setup' '02. Git-Version-Control-Basics' README.md
$ cd '02. Git-Version-Control-Basics'
$ ls
index.html
$ cd

Activities Terminal Apr 8 16:41 root@Ubuntu: /home
```

Activities Visual Studio Code Apr 8 16:52

File Edit Selection View Go ...

EXPLORER

02. GIT-VERSION-CONTROL-BASICS

index.html

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>AI Innovate - Transforming the Future</title>
    <style>
      * {
        margin: 0;
        padding: 0;
        box-sizing: border-box;
        font-family: Arial, sans-serif;
      }

      body {
        background-color: #f5f5f5;
        color: #333;
        line-height: 1.6;
      }
    /* Navigation */
  
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

TERMINAL

```
$ pwd
/home/seun/DevOps-Projects/02. Git-Version-Control-Basics
$ git checkout -b update-navigation
Switched to a new branch 'update-navigation'
```

- Save changes, commit, and push:

```
git add index.html
git commit -m "Updated navigation bar"
git push origin update-navigation
```

A screenshot of the Visual Studio Code interface. The left sidebar shows a file tree with a folder named '02.GIT-VERSION-CONTROL-BASICS' containing an 'index.html' file. The main editor area displays the content of 'index.html'. Below the editor is a terminal window showing the output of a git command. A red arrow points from the text 'To https://github.com/Oluwaseunoa/DevOps-Projects.git * [new branch] update-navigation -> update-navigation' in the terminal to the URL 'https://github.com/Oluwaseunoa/DevOps-Projects.git'.

```
Counting objects: 100% (7/7), done.  
Delta compression using up to 2 threads  
Compressing objects: 100% (3/3), done.  
Writing objects: 100% (4/4), 364 bytes | 364.00 KiB/s, done.  
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0  
remote: Resolving deltas: 100% (2/2), completed with 2 local objects  
remote:  
remote: Create a pull request for 'update-navigation' on GitHub by visiting:  
remote:   https://github.com/Oluwaseunoa/DevOps-Projects/pull/new/update-navigation  
remote:  
To https://github.com/Oluwaseunoa/DevOps-Projects.git  
 * [new branch] update-navigation -> update-navigation
```

⌚ Code Review Process

Step 4: Seuntrial Creates a Pull Request (PR)

- Open PR to merge **update-navigation** into **main** and assign a reviewer

The image shows two screenshots of a GitHub repository page and a pull request creation interface.

Screenshot 1: Repository Overview

This screenshot shows the main repository page for "DevOps-Projects". A yellow callout box highlights the "Compare & pull request" button. A red arrow points from the top right towards this button. The page displays recent activity, a commit history, and a README file.

Screenshot 2: Pull Request Creation

This screenshot shows the "Comparing main...update" pull request creation interface. A red arrow points from the bottom right towards the "Create pull request" button. The interface includes fields for a title, description, reviewers (set to "Jirosecurities"), assignees, labels, projects, milestones, and development notes.

Step 5: Code Review by Jirosecurities

- Reviewer checks the PR, adds comments, and approves the changes

Update the navigation #1

Open seun-trial wants to merge 1 commit into `main` from `update-navigation`

Conversation 0 Commits 1 Checks 0 Files changed 1 +2 -2

Commits on Apr 8, 2025

Update the navigation
seun-trial committed 18 minutes ago

f1607bf

Review in codespace Review changes

Finish your review

This is just as requested. Well done!

Write Preview H B I E C I E S S E @ ↻

Markdown is supported Paste, drop, or click to add files

Comment Submit general feedback without explicit approval.

Approve Submit feedback and approve merging these changes.

Request changes Submit feedback that must be addressed before merging.

Commit review

Step 6: PR Merge by Oluwaseunoa

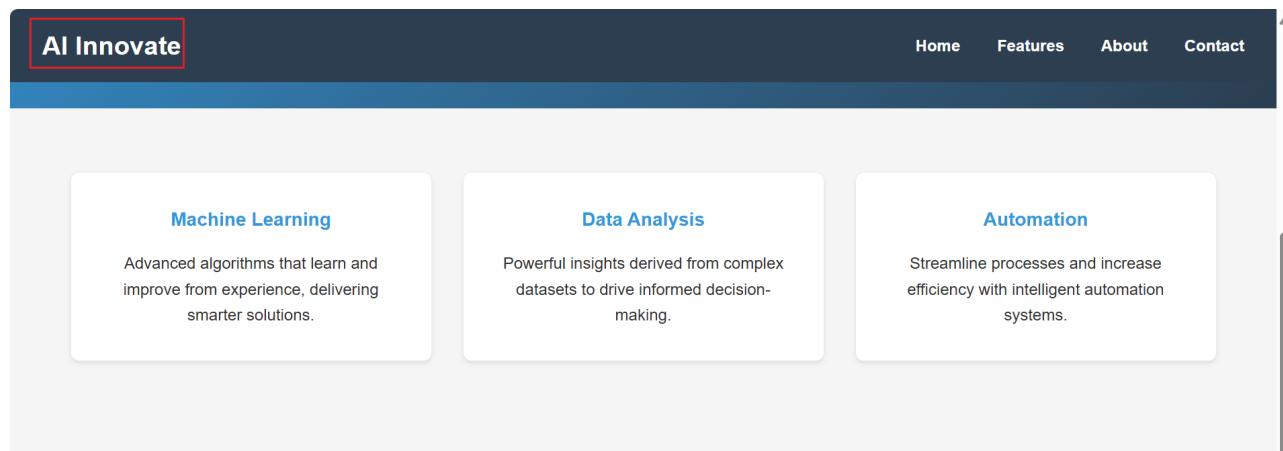
- Project owner merges the PR into `main`

The screenshot shows a GitHub pull request interface. At the top, it says "Update the navigation #1" and "seun-trial wants to merge 1 commit into `main` from `update-navigation`". A red arrow points to the "Merge pull request" button, which is highlighted with a dropdown menu showing "Merge pull request" and "You can also merge this with the command line. [View command line instructions.](#)". Below this, there's a "Changes reviewed" section with "1 approving review by reviewers with write access" and a "No conflicts with base branch" section. A comment box contains the message "Will now be merged. Thank you all!". The bottom part shows the merged pull request details with a "Merged" status, "Oluwaseunoa merged 1 commit into main from update-navigation now", and a summary of 1 commit, 0 checks, and 1 file changed.

🤝 Simulating Another Contributor

Step 7: Oluwaseunoa Creates Another Branch ([add-contact-info](#))

- Pull latest changes, create new branch, update footer with contact info:



This screenshot shows a code editor interface with a terminal at the bottom. The terminal window displays a Git session:

```

PS C:\Users\HP\Documents\Workspace\DevOps-Projects\02. Git-Version-Control-Basics> git checkout main
Switched to branch 'main'
Your branch is behind 'origin/main' by 2 commits, and can be fast-forwarded.
  (use "git pull" to update your local branch)
PS C:\Users\HP\Documents\Workspace\DevOps-Projects\02. Git-Version-Control-Basics> git pull origin main
From https://github.com/Oluwaseunolu/DevOps-Projects
 * branch      main       -> FETCH_HEAD
Updating c34ffff..e49fe83
Fast-forward
 02. Git-Version-Control-Basics/index.html | 4 +---
 1 file changed, 2 insertions(+), 2 deletions(-)
PS C:\Users\HP\Documents\Workspace\DevOps-Projects\02. Git-Version-Control-Basics> git checkout add-contact-info

```

A red arrow points from the terminal output to the 'index.html' file in the code editor, which contains the following code:

```

<html lang="en">
  <body>
    <nav class="navbar">
      ...
    </nav>

    <section class="hero" id="home">
      <h1>Transforming Tomorrow with Artificial Intelligence</h1>
      <p>Harnessing cutting-edge AI technology to solve complex problems</p>
      <a href="#contact" class="btn">Get Started</a>
    </section>

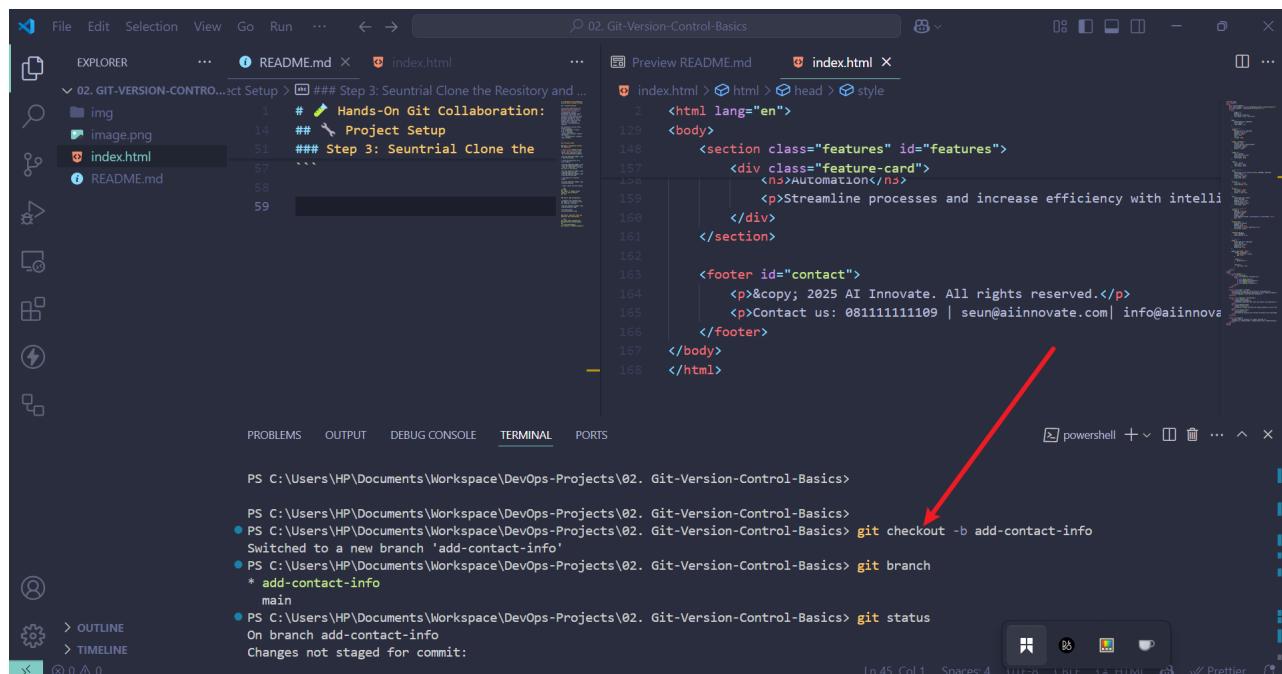
    <section class="features" id="features">
      <div class="feature-card">
        <h3>Machine Learning</h3>
        <p>Advanced algorithms that learn and improve from experience...</p>
      </div>
    </section>
  </body>
</html>

```

```

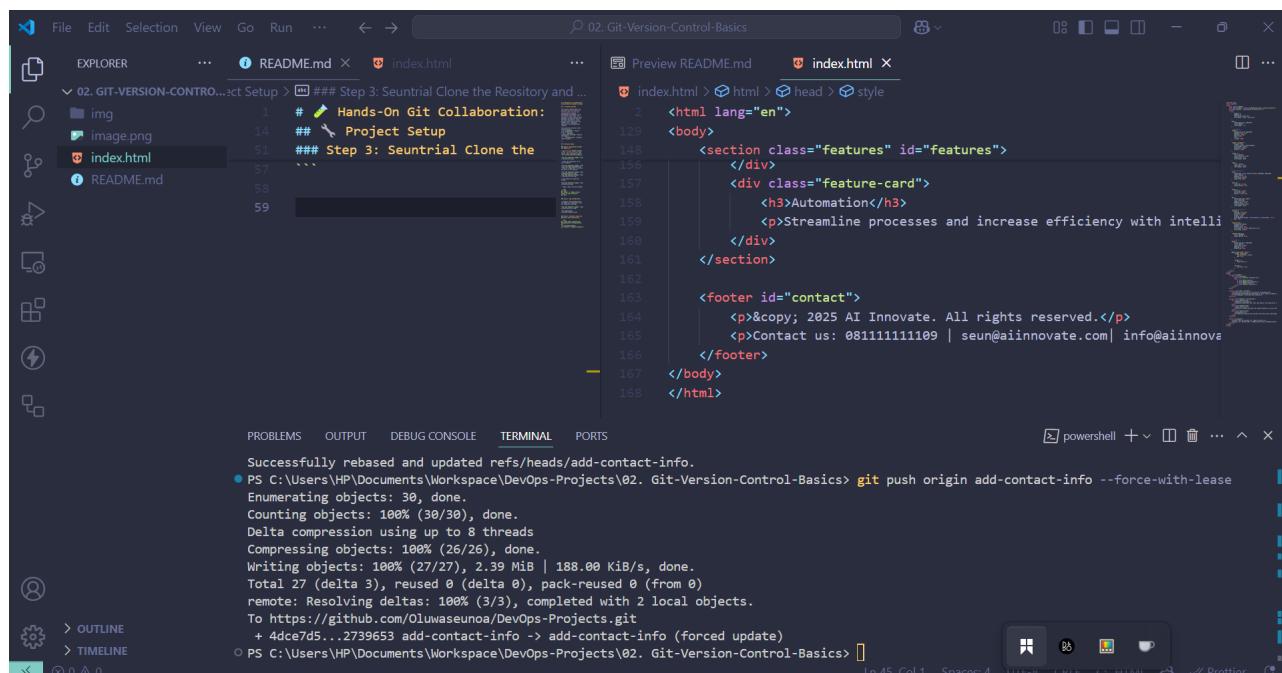
git checkout main
git pull origin main
git checkout -b add-contact-info
# Edit index.html to update footer
git add index.html
git commit -m "Added contact info to footer"
git push origin add-contact-info

```



VS Code interface showing the Explorer, Preview, and Terminal panes. The terminal shows the command `git checkout -b add-contact-info` being run, switching to a new branch named `add-contact-info`. The preview pane shows the `index.html` file with its code.

```
PS C:\Users\HP\Documents\Workspace\DevOps-Projects\02. Git-Version-Control-Basics>
PS C:\Users\HP\Documents\Workspace\DevOps-Projects\02. Git-Version-Control-Basics> git checkout -b add-contact-info
Switched to a new branch 'add-contact-info'
PS C:\Users\HP\Documents\Workspace\DevOps-Projects\02. Git-Version-Control-Basics> git branch
* add-contact-info
  main
PS C:\Users\HP\Documents\Workspace\DevOps-Projects\02. Git-Version-Control-Basics> git status
On branch add-contact-info
Changes not staged for commit:
```

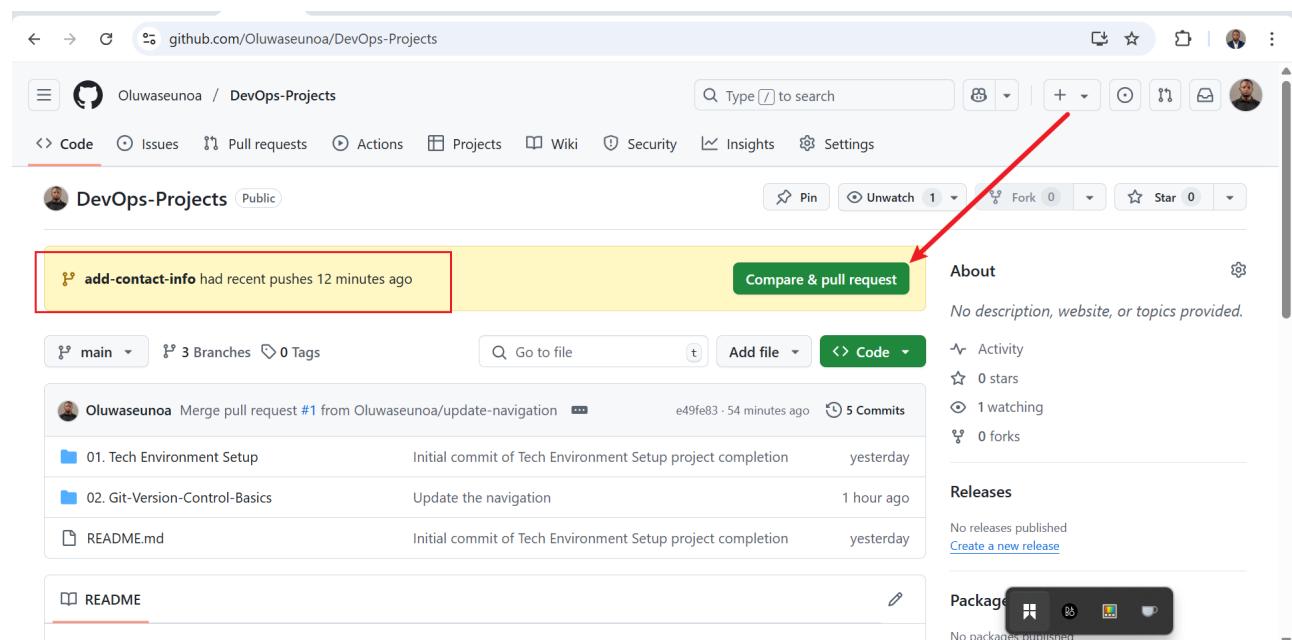


VS Code interface showing the Explorer, Preview, and Terminal panes. The terminal shows the command `git push origin add-contact-info --force-with-lease` being run, successfully rebasing and updating refs/heads/add-contact-info. The preview pane shows the `index.html` file with its code.

```
Successfully rebased and updated refs/heads/add-contact-info.
PS C:\Users\HP\Documents\Workspace\DevOps-Projects\02. Git-Version-Control-Basics> git push origin add-contact-info --force-with-lease
Enumerating objects: 30, done.
Counting objects: 100% (30/30), done.
Delta compression using up to 8 threads
Compressing objects: 100% (26/26), done.
Writing objects: 100% (27/27), 2.39 MiB | 188.00 KiB/s, done.
Total 27 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (3/3), completed with 2 local objects.
To https://github.com/Oluwaseunoa/DevOps-Projects.git
 + 4dce7d5...2739653 add-contact-info -> add-contact-info (forced update)
PS C:\Users\HP\Documents\Workspace\DevOps-Projects\02. Git-Version-Control-Basics>
```

Step 8: Oluwaseunoa Creates PR & Reviewer Responds

- Create another PR and assign reviewer



The screenshot shows a GitHub repository page for 'DevOps-Projects'. A red arrow points from the top right towards the 'Compare & pull request' button. The page displays recent pushes from a user named 'add-contact-info' and a merge pull request from 'Oluwaseunoa'.

Recent Pushes:

- add-contact-info had recent pushes 12 minutes ago
- Oluwaseunoa Merge pull request #1 from Oluwaseunoa/update-navigation e49fe83 · 54 minutes ago 5 Commits
- 01. Tech Environment Setup Initial commit of Tech Environment Setup project completion yesterday
- 02. Git-Version-Control-Basics Update the navigation 1 hour ago
- README.md Initial commit of Tech Environment Setup project completion yesterday

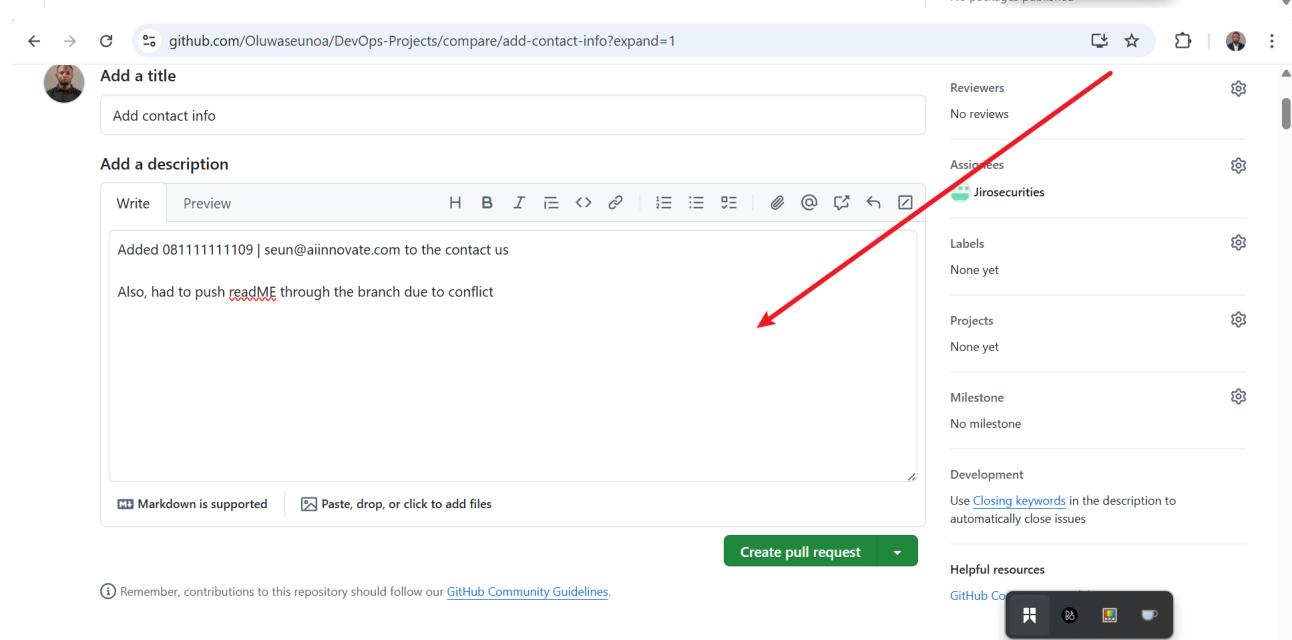
Compare & pull request

About: No description, website, or topics provided.

Activity: 0 stars, 1 watching, 0 forks

Releases: No releases published. Create a new release

Package: No packages published



The screenshot shows the GitHub pull request creation interface for the 'add-contact-info' branch. A red arrow points from the top right towards the 'Create pull request' button. The pull request title is 'Add a title' and the description contains two lines of text about adding contact info and pushing README through a branch due to conflict.

Add a title: Add contact info

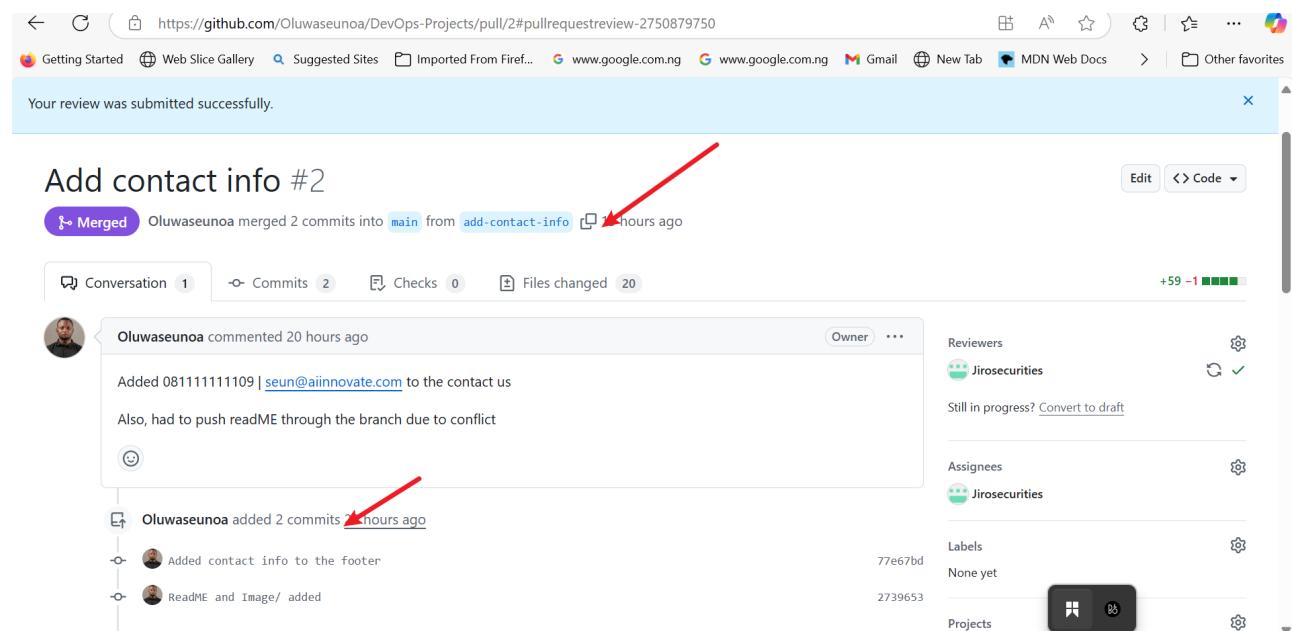
Add a description:

```
Added 08111111109 | seun@aiinnovate.com to the contact us
Also, had to push README through the branch due to conflict
```

Create pull request

Remember, contributions to this repository should follow our [GitHub Community Guidelines](#).

- Reviewer approves or flags conflicts



The screenshot shows the GitHub pull request review interface for pull request #2. A red arrow points from the top right towards the 'Edit' button. The review status is 'Merged' and it notes that Oluwaseunoa merged 2 commits into the 'main' branch from the 'add-contact-info' branch 1 hour ago.

Merged: Oluwaseunoa merged 2 commits into main from add-contact-info 1 hours ago

Conversation: 1

Commits: 2

Checks: 0

Files changed: 20

Reviewers: Jirosecurities

Assignees: Jirosecurities

Labels: None yet

Projects: None yet

Development: Use [Closing keywords](#) in the description to automatically close issues

Helpful resources: GitHub

Step 9: Final Merge and Project Completion

- Merge PR into **main**

The screenshot shows a GitHub pull request merge page. The title is "Add contact info #2". A purple "Merged" button is visible. A comment from "Oluwaseunoa" is shown, stating: "Added 08111111109 | seun@aiinnovate.com to the contact us. Also, had to push README through the branch due to conflict". The merge summary indicates 2 commits were merged from "add-contact-info" into "main". The review status is "Still in progress? Convert to draft".

- Final version of the project reflects combined contributions

The image contains two screenshots of the AI Innovate website. The top screenshot shows the original version of the footer, which includes a "Home" link, "Features", "About", and "Contact" links, followed by a copyright notice: "© 2025 AI Innovate. All rights reserved. Contact us: info@aiinnovate.com". The bottom screenshot shows the updated version, where the copyright notice has been moved to a red-bordered box at the bottom of the footer, and the footer links are now located above it.

- Branching strategy (`git checkout -b`)
 - Commit and push workflow
 - Pull Requests (PRs)
 - Reviewer feedback & approval
 - Merge conflict handling
 - Role-based collaboration
-

📁 Project Folder Structure

```
/DevOps-Projects/02. Git-Version-Control-Basics/  
└── index.html  
└── README.md
```

🌐 GitHub Repository

[View on GitHub](#)

🧠 What I Learned

This simulation provided hands-on experience in:

- Managing multiple contributors effectively
- Isolating features with branches
- Collaborating with feedback and code reviews
- Maintaining a clean, conflict-free codebase using Git