

Introduction to Github

Topics:

1. What is Github?
2. Difference between Git and Github.
3. Why Github?
4. Creating an Account in Github
5. Using Github with an Example
6. Merging projects

What is GitHub?

Definition:

- GitHub is a web-based platform that utilizes Git for version control.
- It provides tools for managing and collaborating on code projects.

Purpose:

- Collaboration: Enables developers to work together on projects from anywhere.
- Tracking Changes: Keeps a history of changes made to code and files.

- **Code Management:** Offers features to manage code effectively.

Git vs. GitHub

Git:

- A distributed version control system created by Linus Torvalds in 2005.
- **Functionality:** Manages changes to your code locally. Allows for tracking version history, branching, merging, etc.
- **Usage:** Use Git for local code management and version control.

Github:

- A cloud-based platform for hosting Git repositories and enabling collaboration.
- **Functionality:** Centralized repository with tools for code review, issue tracking, and continuous integration.

- **Usage:** Use GitHub for sharing code, collaborating with others, and managing projects online.

Why GitHub?

Version Control:

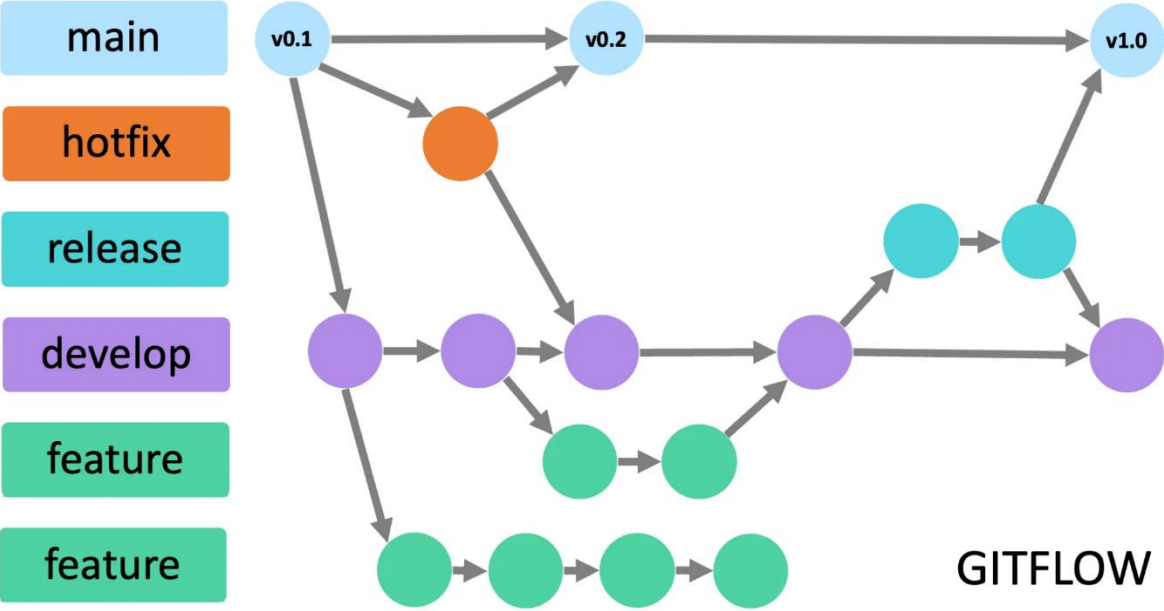
- Tracks changes to your code and allows you to revert to previous versions if needed.

Collaboration:

- Multiple people can work on the same project simultaneously.
- Facilitates merging changes and resolving conflicts.

Visibility:

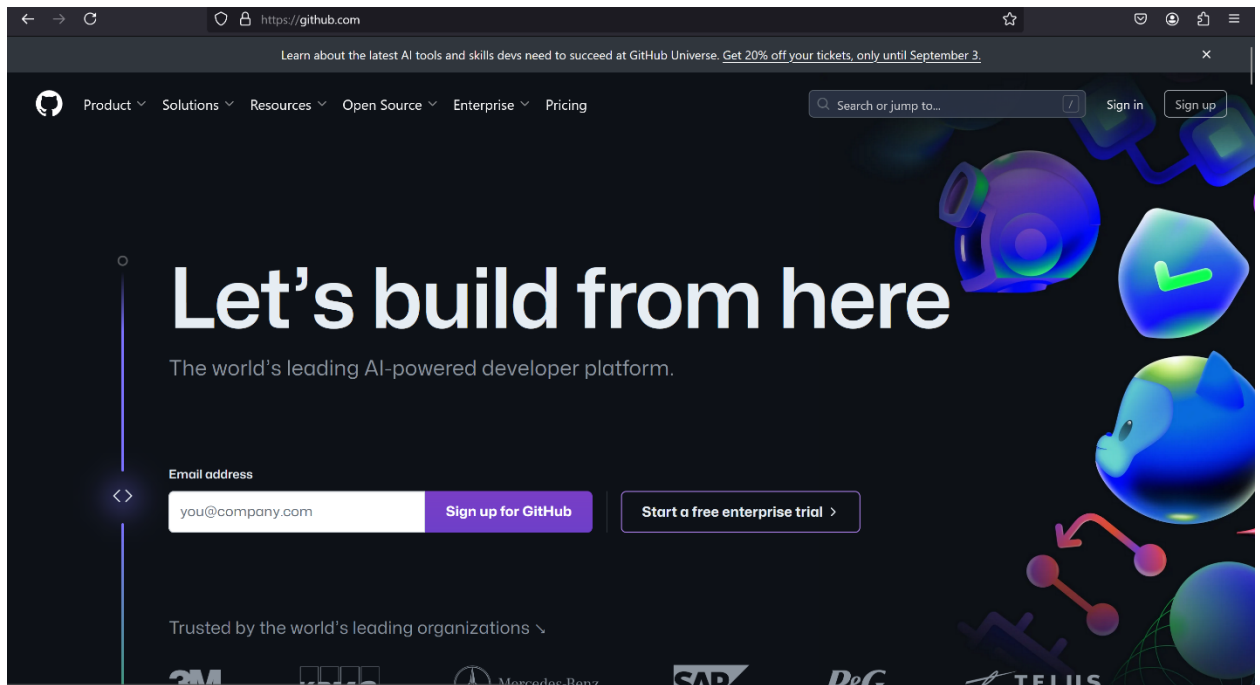
- Share your projects with the community or within your organization.
- Contribute to open-source projects and showcase your work.



Creating a Github Account:

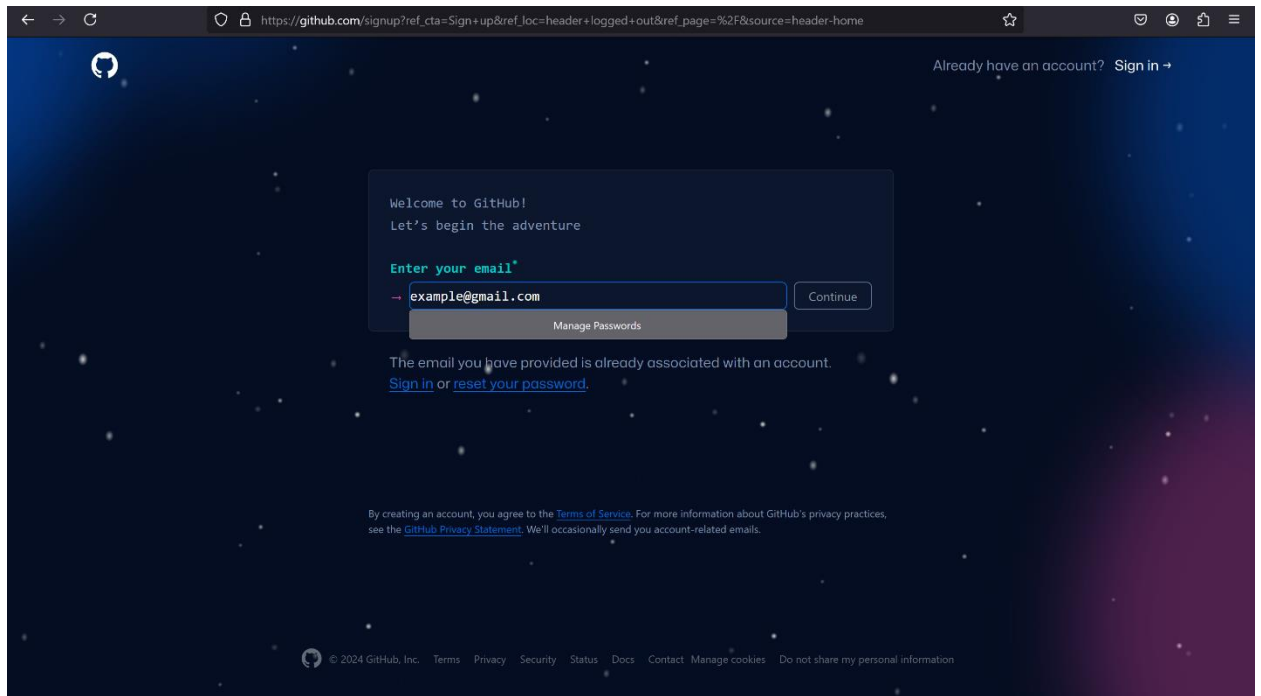
Visit GitHub's Website:

- Go to Github.com.



Click "Sign up":

- Enter your email address, choose a username, and set a password.



Verify Email:

- Follow the instructions sent to your email to verify and complete the setup.

Set Up Your Profile(Optional)

Add a Profile Picture:

- Choose an image that represents you.

Write a Short Bio:

- Briefly describe yourself and your interests.

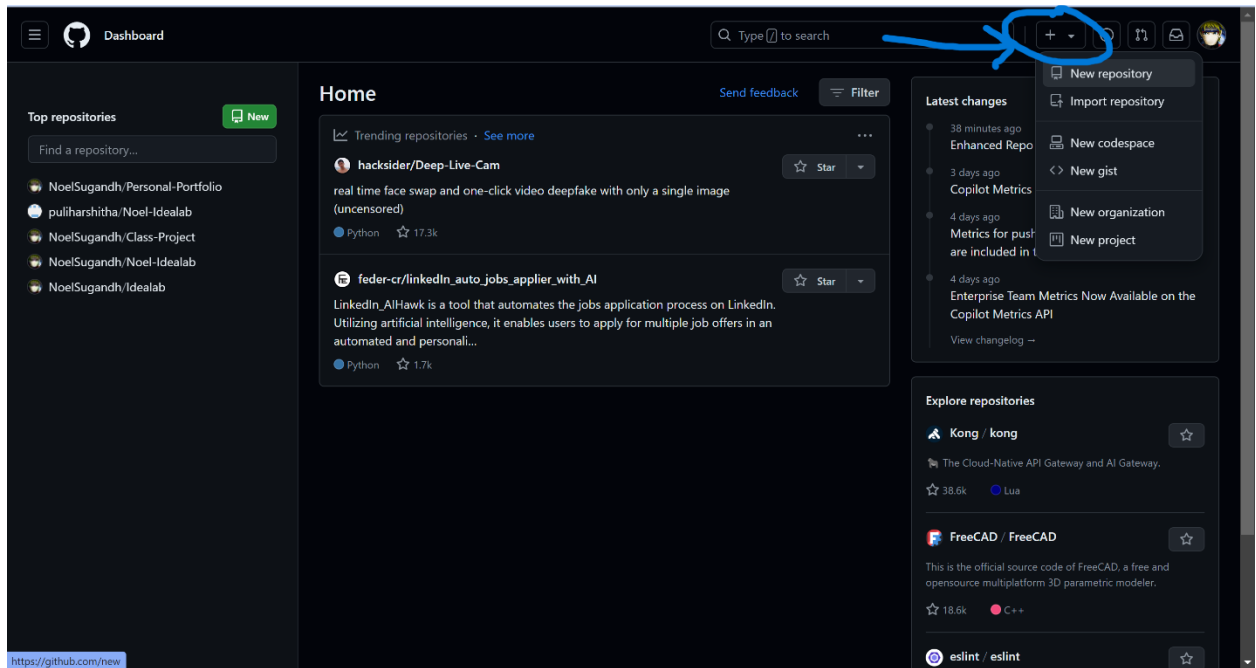
Include Links:

- Add links to your personal website or social media profiles if desired.

Using Github with an example:

Create a New Repository:

- Click the "+" icon in the top-right corner and select “New repository.”



- **Name your repository. E.g. “New website”**
- **Provide a Description: Briefly describe what your repository will contain.**
- **Choose Visibility: Select Public (anyone can see) or Private (only you and collaborators can see).**
- **Initialize with README: Check this option to add a README file which will help describe your project.**

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Required fields are marked with an asterisk ().*

Owner * **Repository name ***

NoelSugandh / Idealb

✔ Idealb is available.

Great repository names are short and memorable. Need inspiration? How about [miniature-fishstick](#) ?

Description (optional)

For the upcoming event

☒ **Public**
Anyone on the internet can see this repository. You choose who can commit.

☐ **Private**
You choose who can see and commit to this repository.

Initialize this repository with:

☒ **Add a README file**
This is where you can write a long description for your project. [Learn more about READMEs.](#)

Add .gitignore

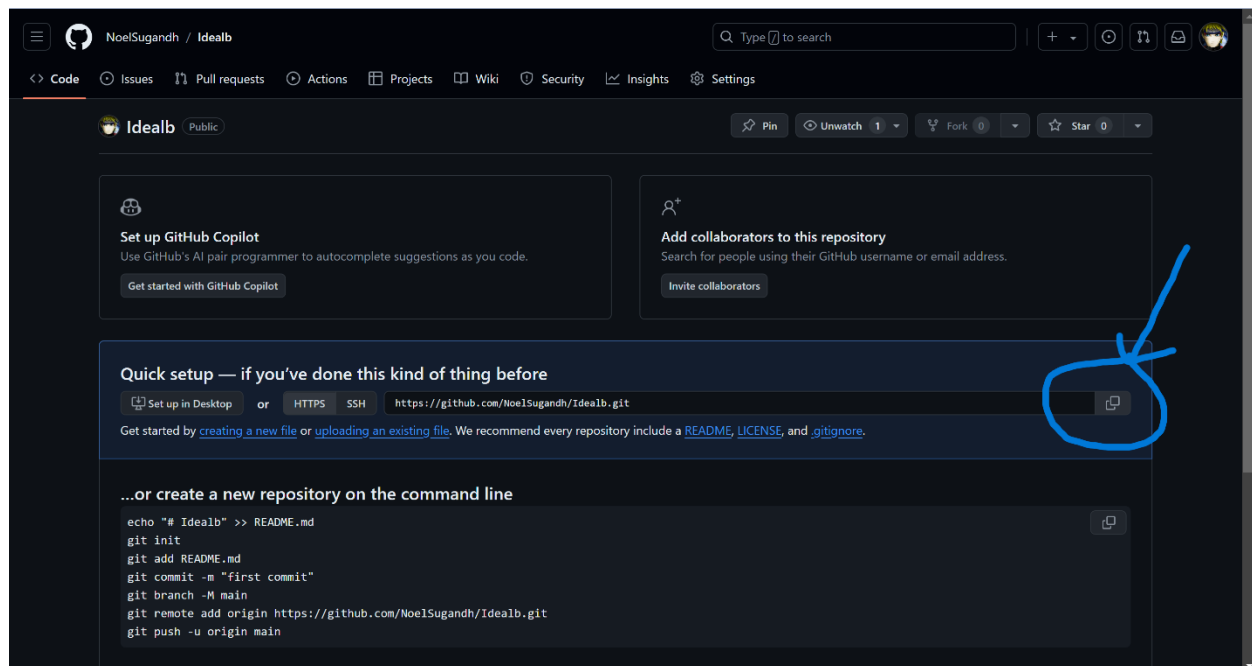
.gitignore template: None

Choose which files not to track from a list of templates. [Learn more about ignoring files.](#)

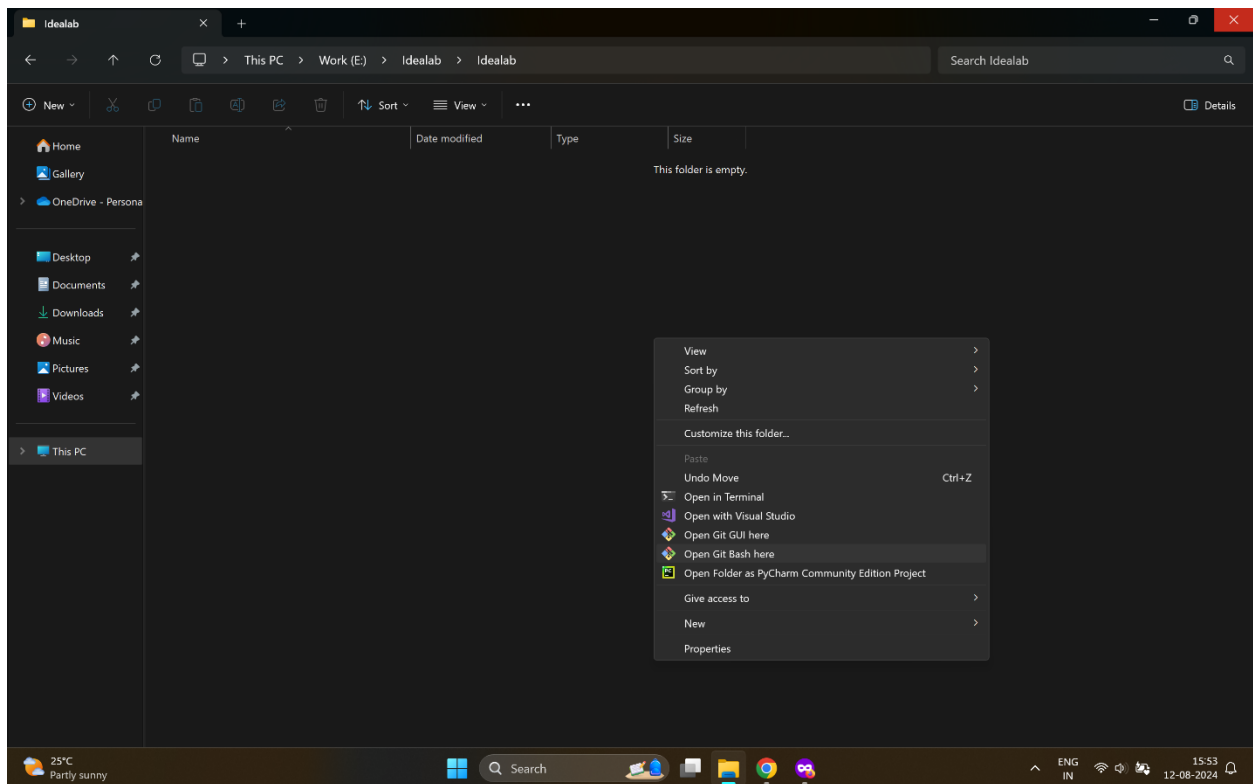
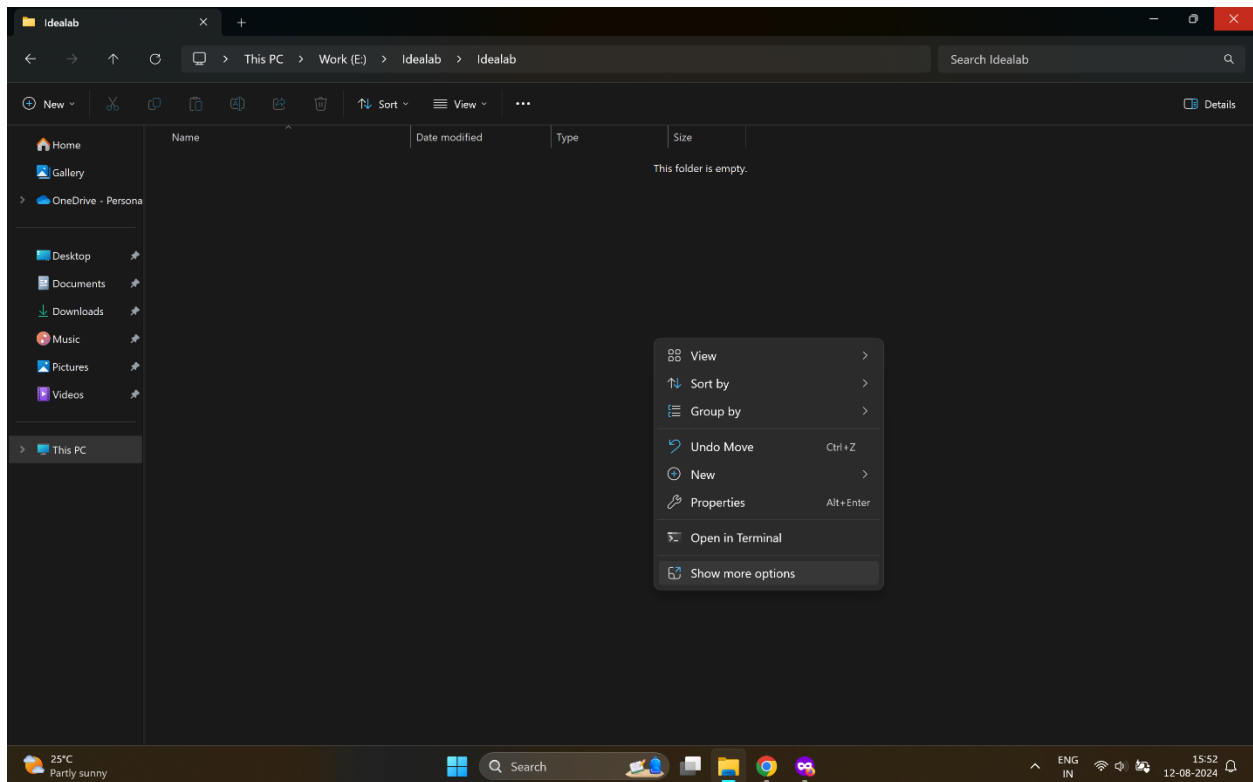
Choose a license

Clone the Repository:

- Go to your repository page and click "Code."
- Copy the URL provided.

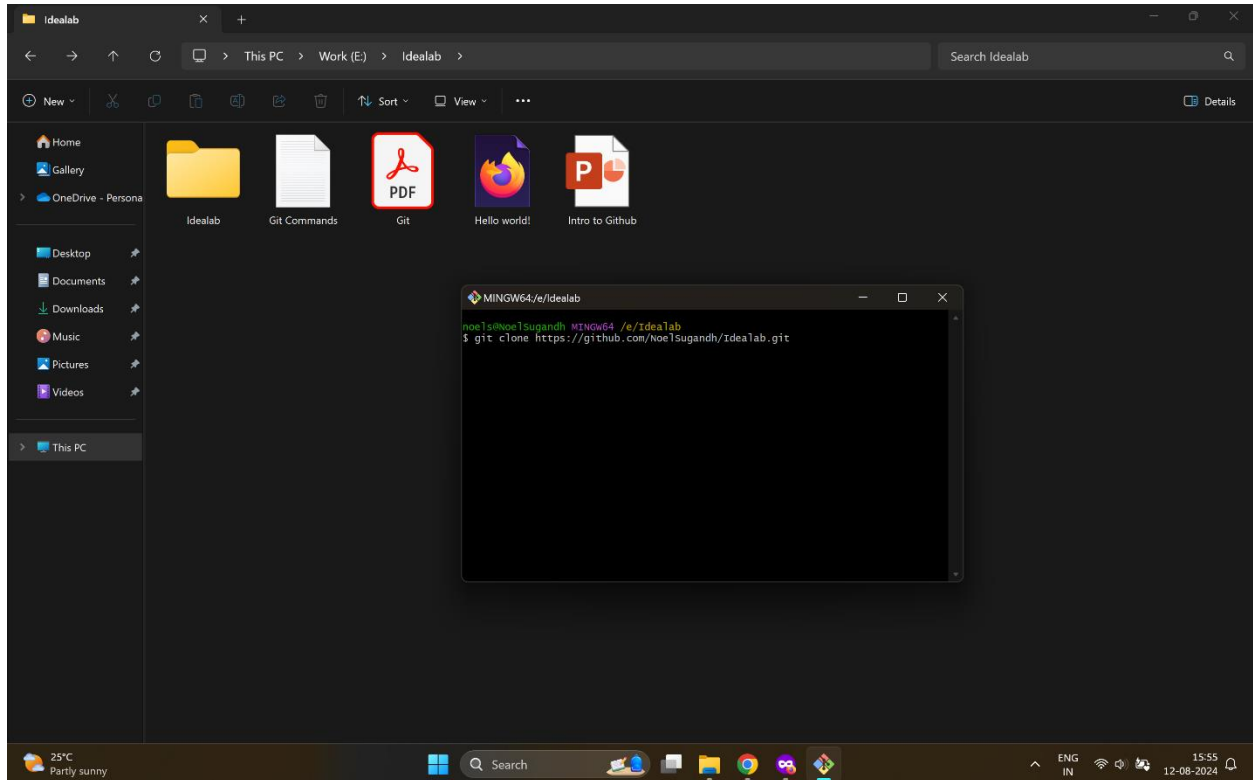


- Open the file explorer and open the folder that you want your repository in.
- Right click > Show More Option > Open Git Bash Here



- Then clone the repository using the following code:

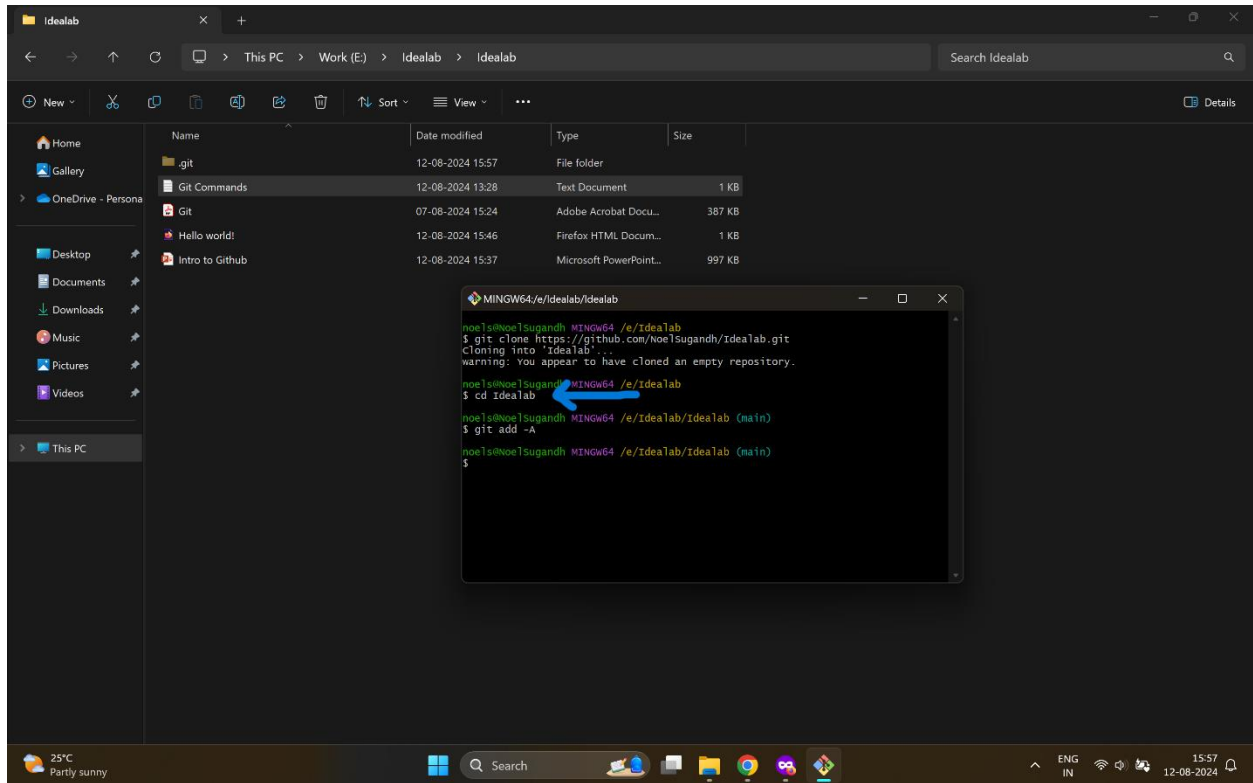
`git clone <the url that you've copied from the github>`



- This clones the repository to your computer where you can make changes.

- **Navigate to your project directory:**

`cd <your repository name>`



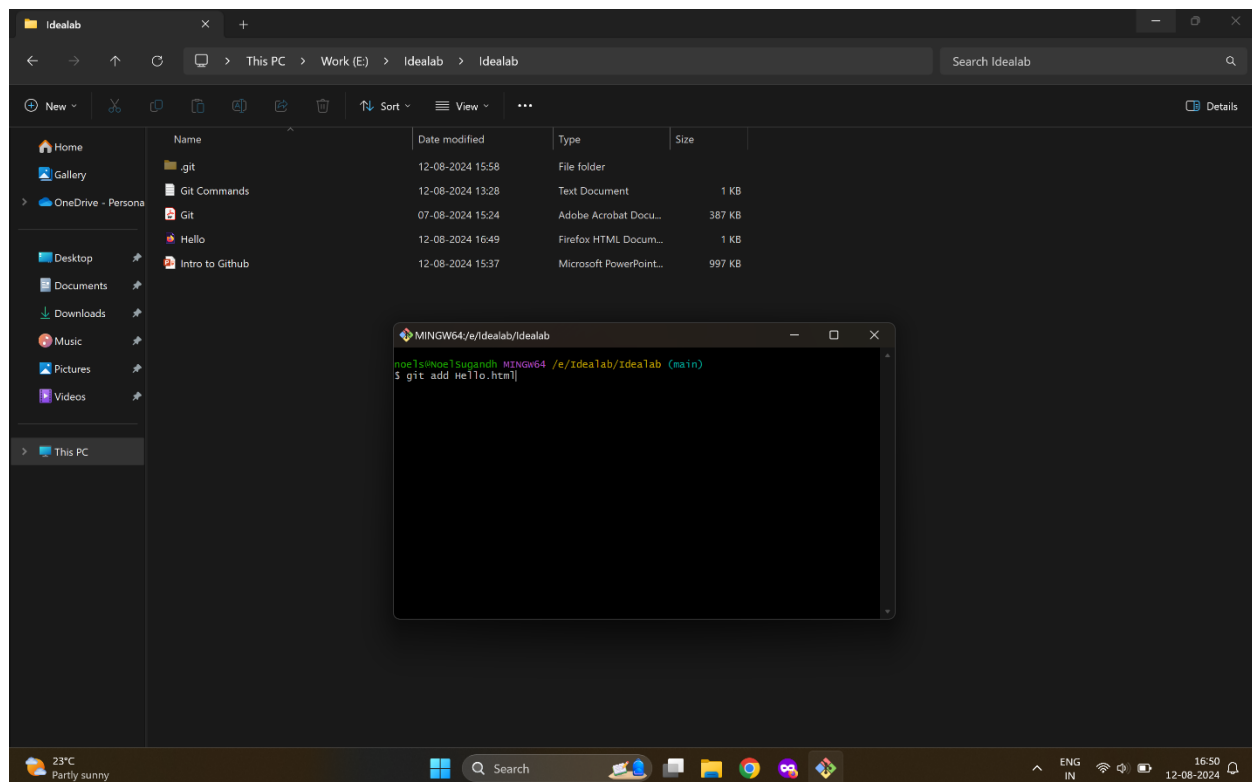
Adding and Committing Files

Create and edit files in your project directory. (e.g., index.html)

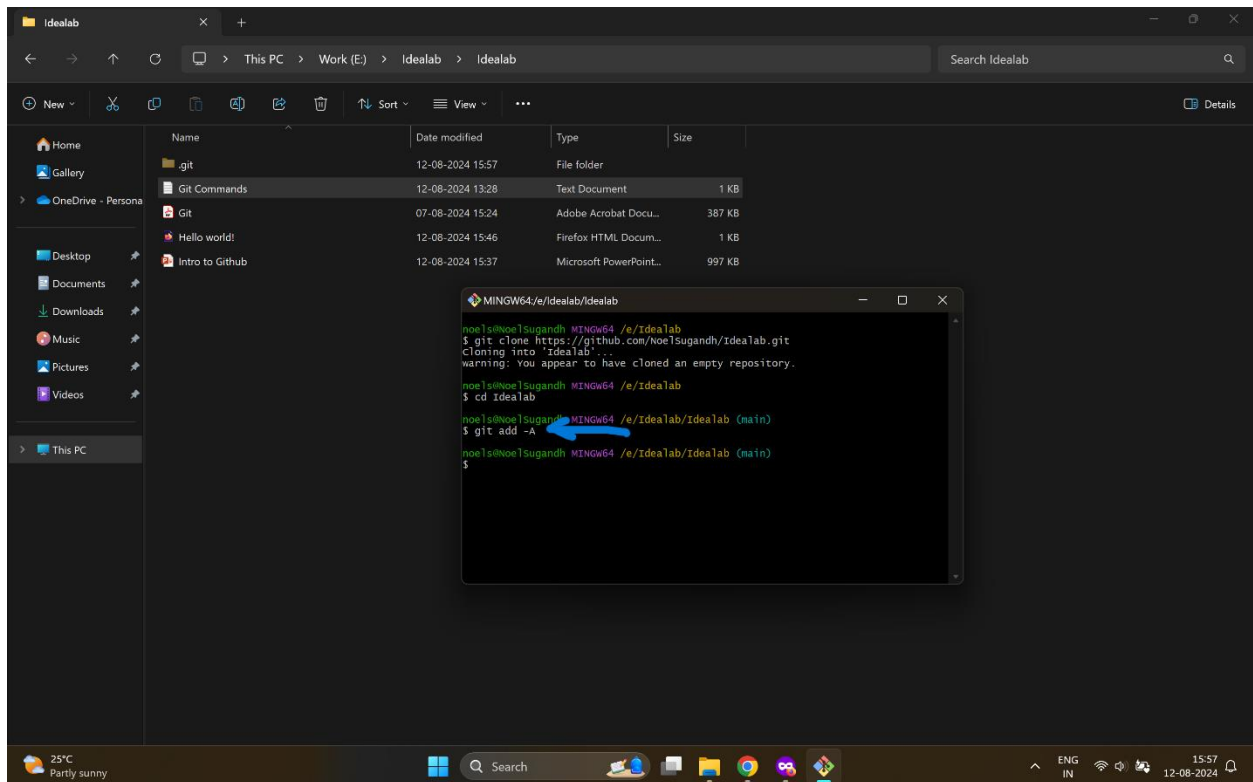
Stage Changes:

- Add files to the staging area:

`git add <file name with extension>`

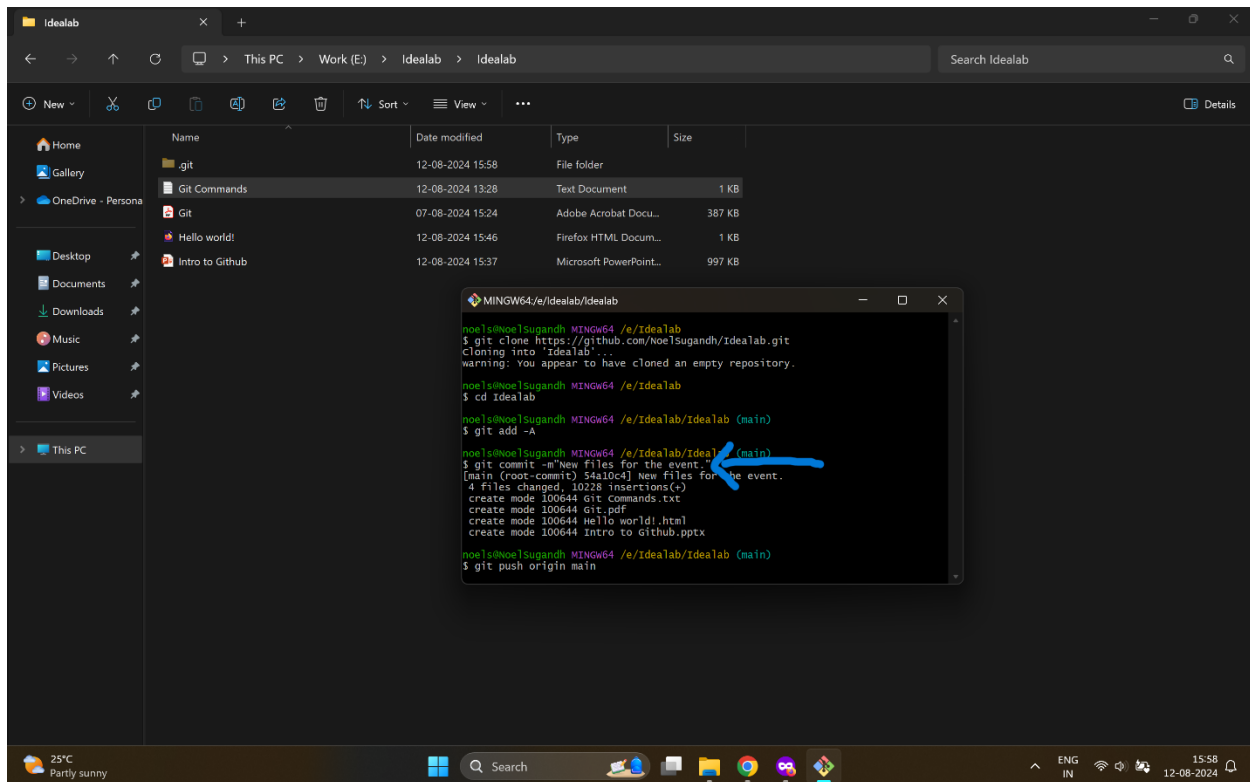


- You can also select all files in the folder by using:
`git add -A`



Commit Changes:

- Commit the changes with a descriptive message:
`git commit -m "Personalized message"`

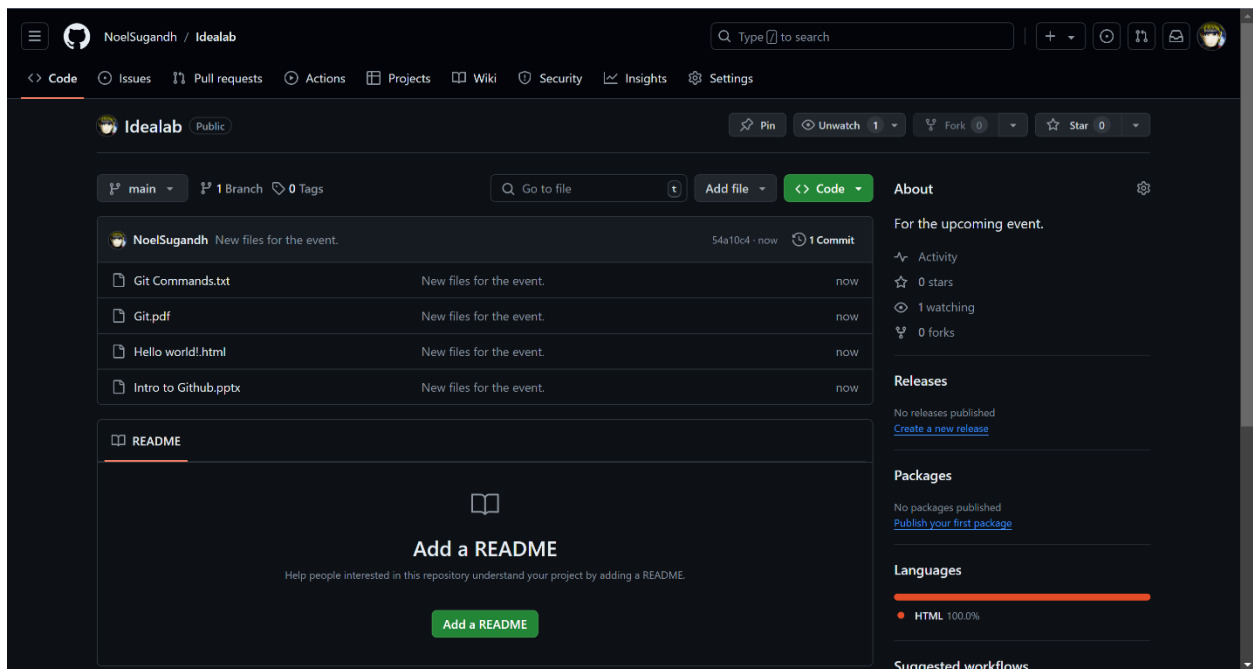
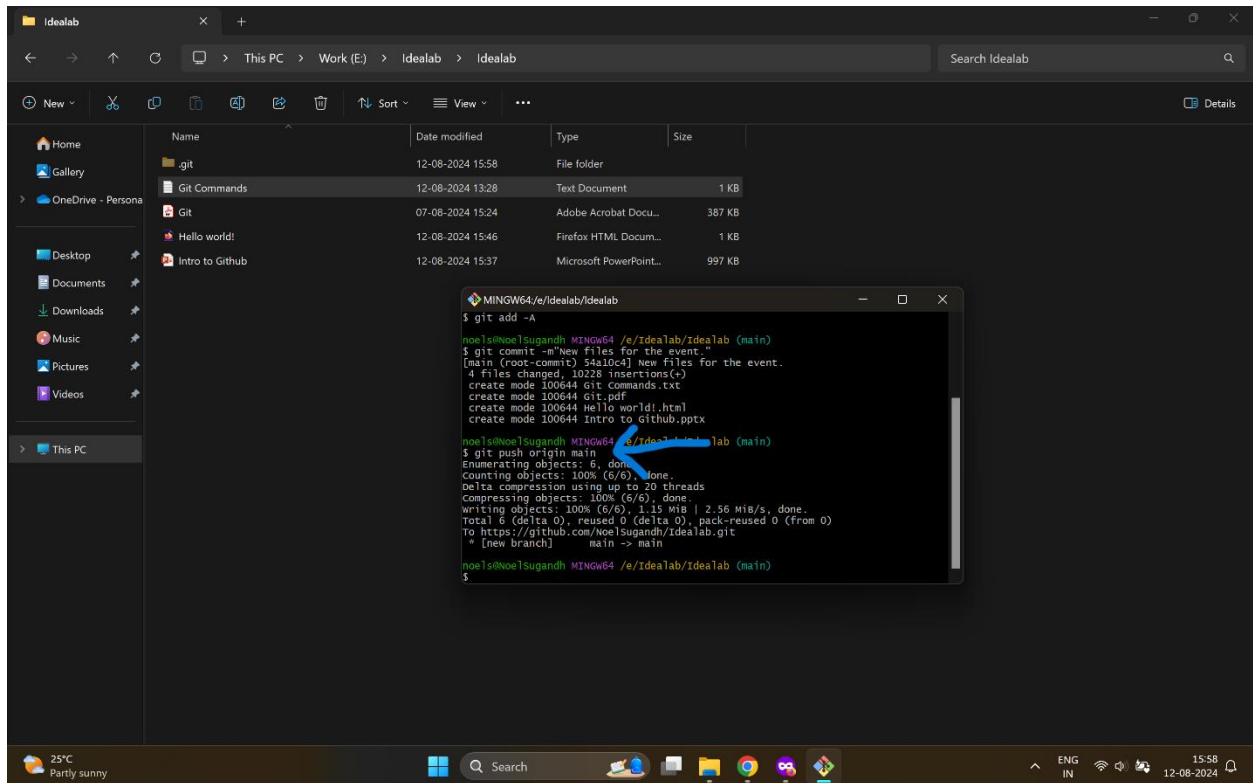


Push Changes:

- Upload your changes to GitHub:
git push origin main

View Your Project Online:

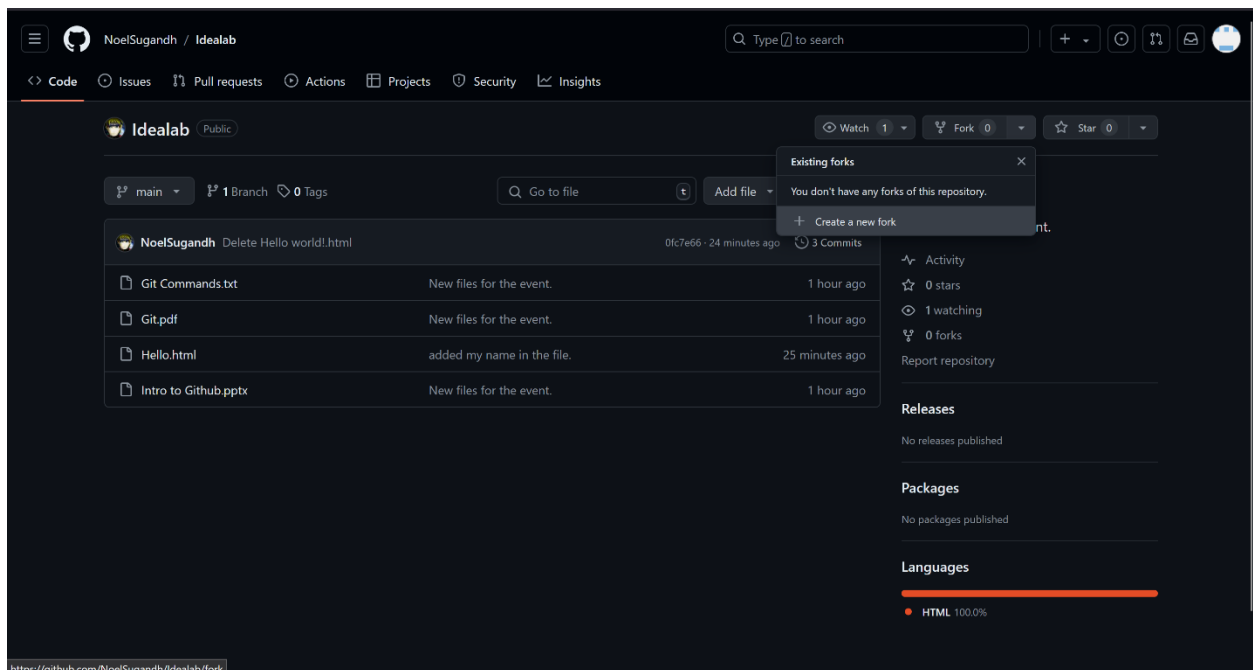
- Go to your GitHub repository page to see your files and the history of commits.

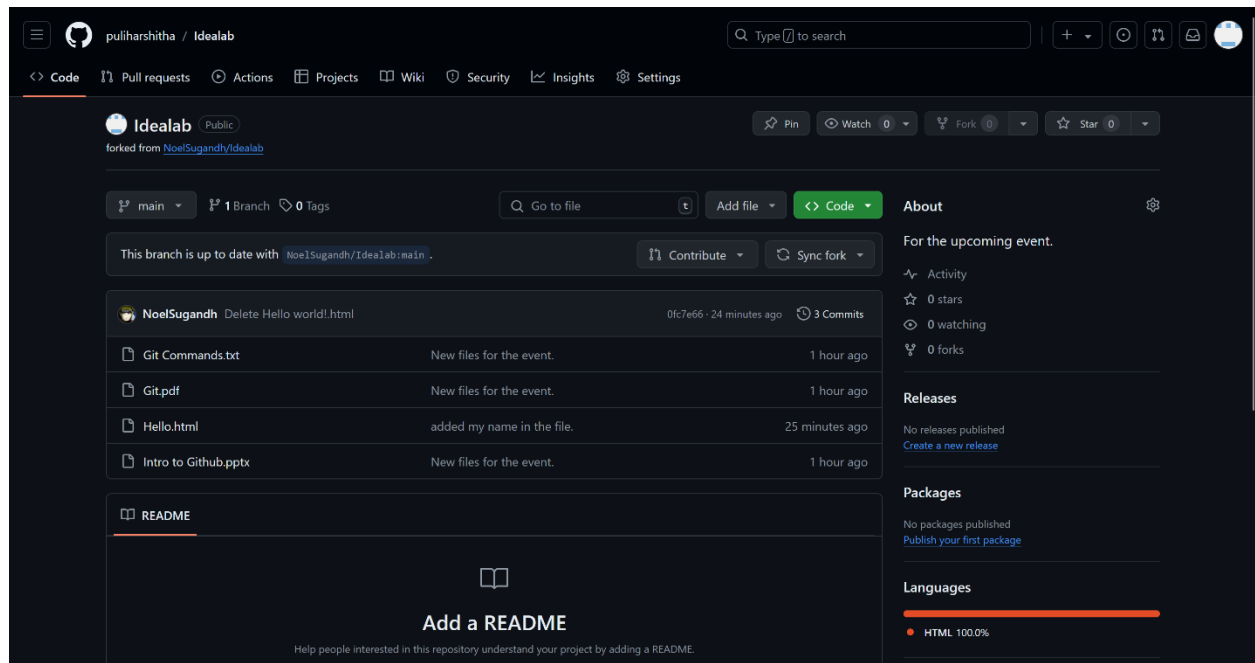


Collaboration Methods

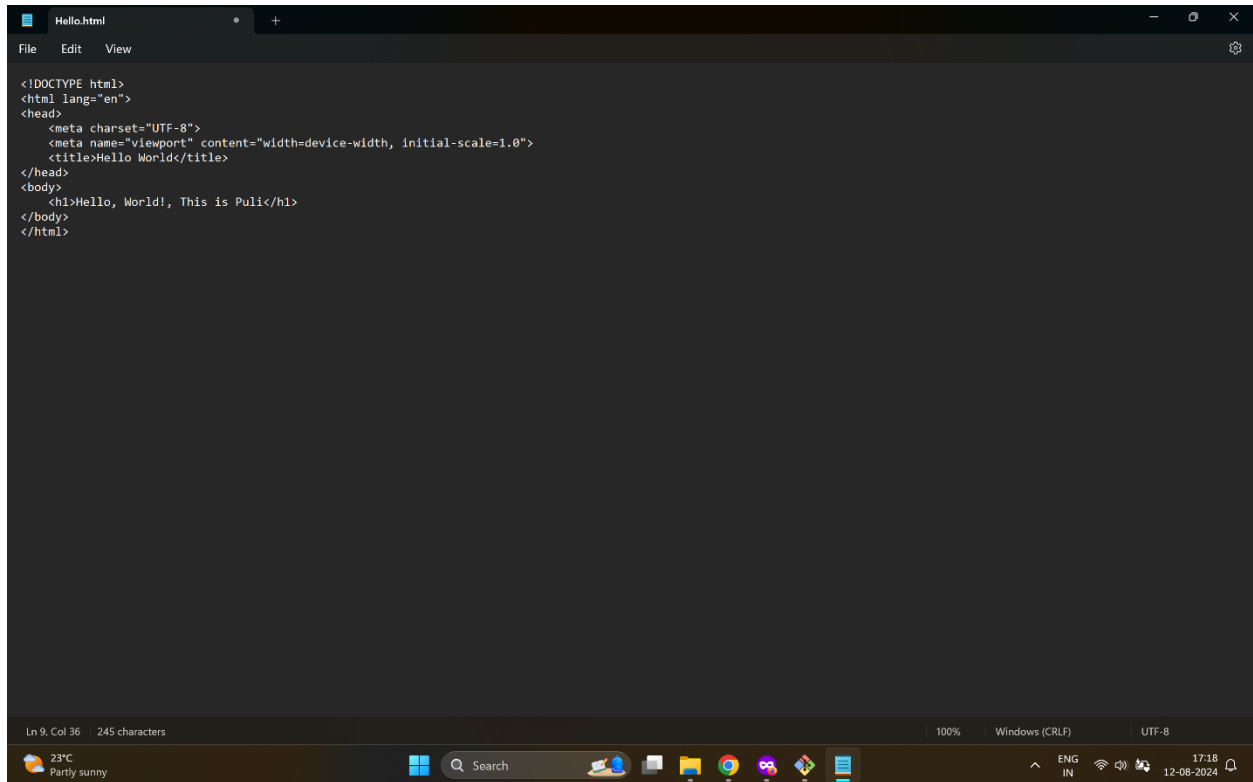
Forking and Pull Requests:

Forking: Create a personal copy of someone else's repository to make changes without affecting the original project.





- Make changes to the file.



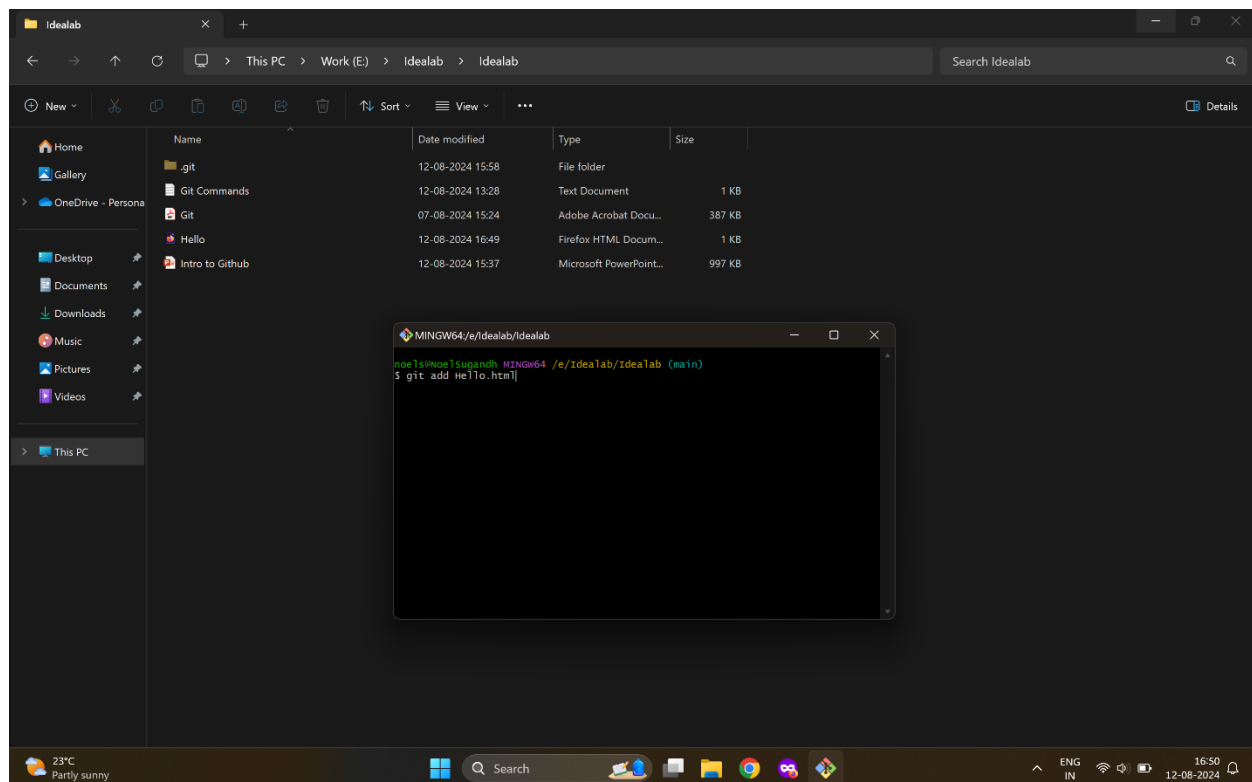
The screenshot shows a code editor window with a dark theme. The title bar at the top indicates the file is 'Hello.html'. The menu bar includes 'File', 'Edit', and 'View'. The code content is as follows:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Hello World</title>
</head>
<body>
  <h1>Hello, World!, This is Puli</h1>
</body>
</html>
```

The status bar at the bottom shows 'Ln 9, Col 36' and '245 characters'. On the right, it displays '100%', 'Windows (CRLF)', and 'UTF-8'. The Windows taskbar is visible at the very bottom, showing the search bar, task view button, and several application icons, along with the system clock indicating 17:18 on 12-08-2024.

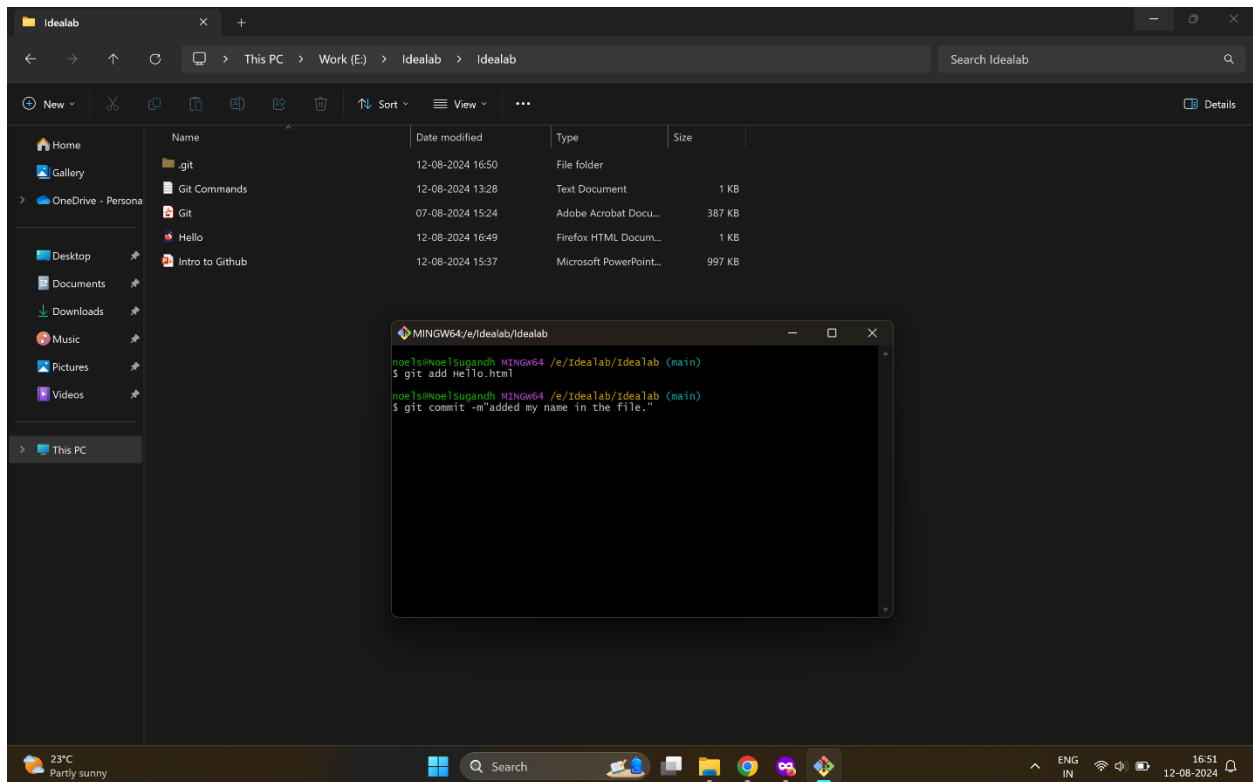
Stage Changes:

- Add files to the staging area:
git add <file name with extension>



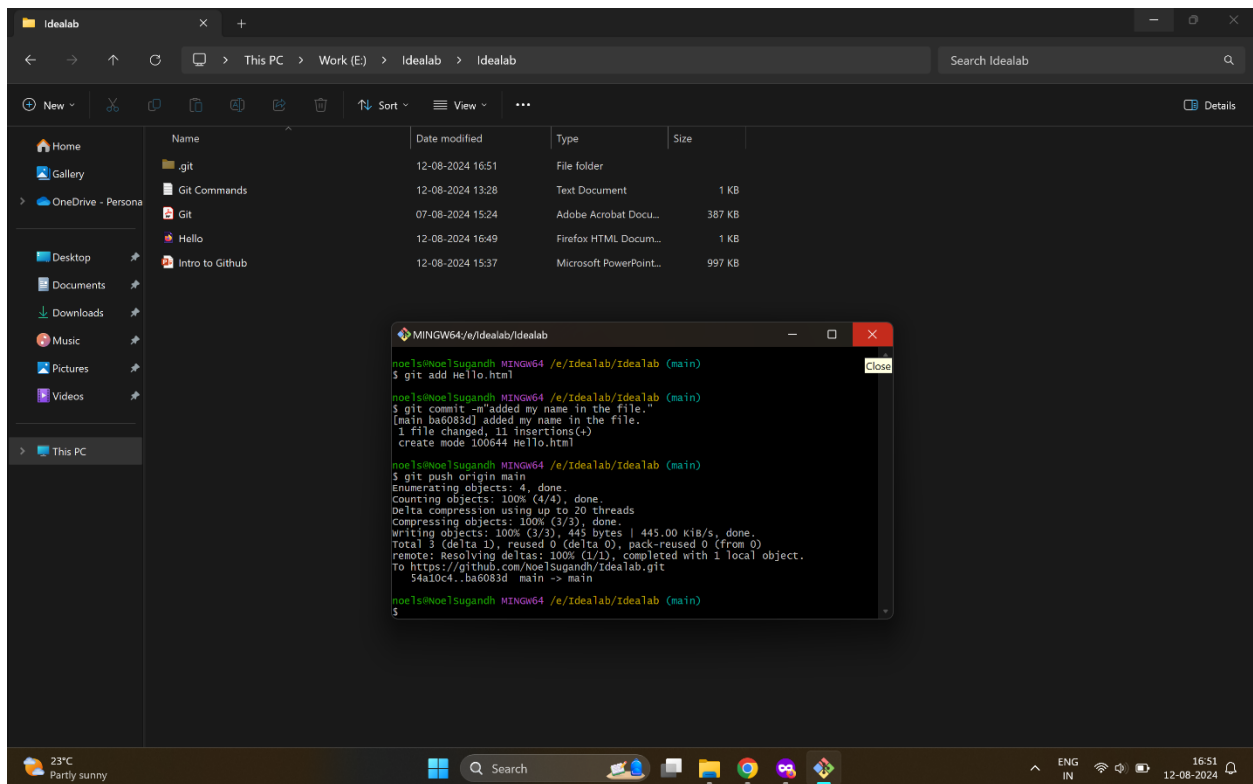
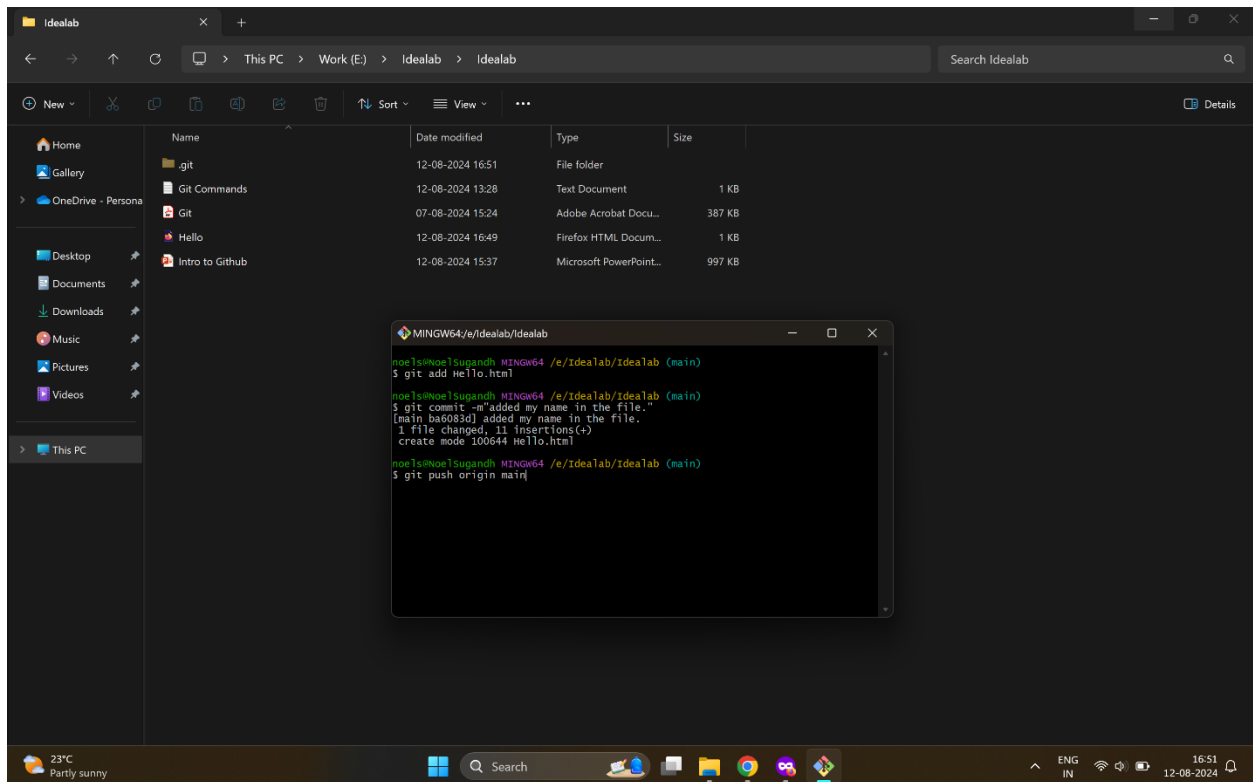
Commit Changes:

- Commit the changes with a descriptive message:
`git commit -m "Personalized message"`

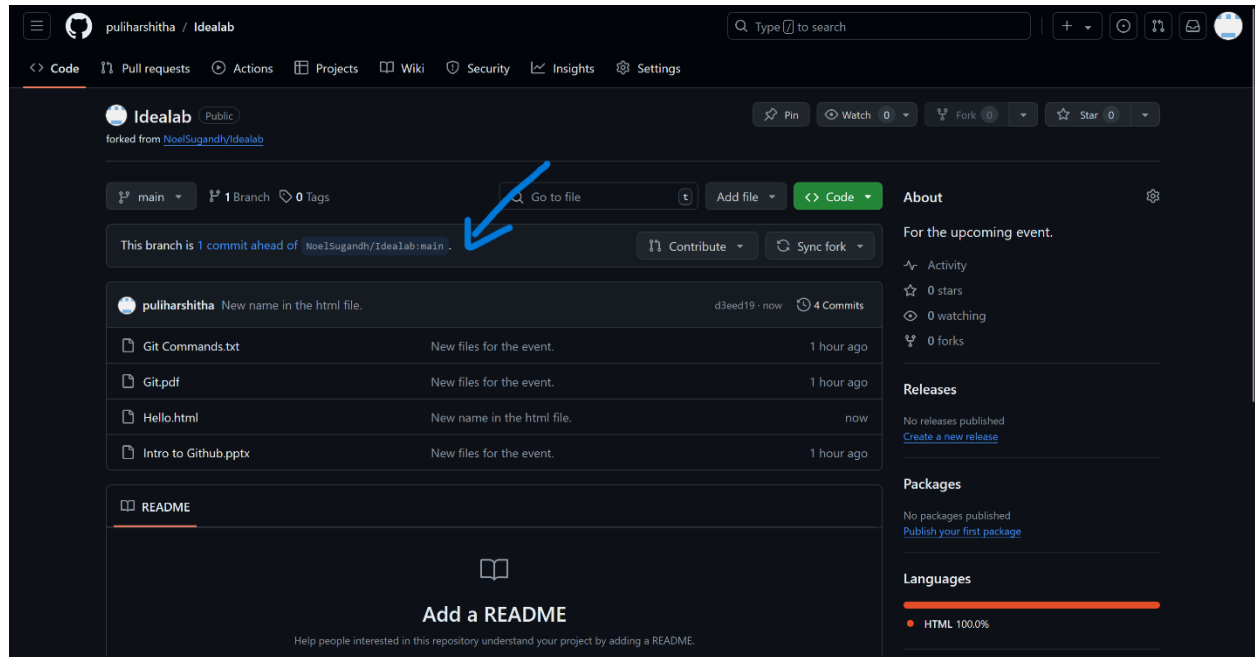


Push Changes:

- Upload your changes to GitHub:
`git push origin main`



- This puts us ahead of the original repository.



- So, we create a pull request in-order to contribute to the original repository, which would help other people.

GitHub repository page for **puilharshitha / Idealab**, forked from **NoelSugandh/Idealab**.

Navigation: Code, Pull requests, Actions, Projects, Wiki, Security, Insights, Settings.

Repository status: **main** branch, 1 Branch, 0 Tags. This branch is 1 commit ahead of **NoelSugandh/Idealab:main**.

Files:

- New name in the html file.** (now)
- Git Commands.txt** (New files for the eve... 1 hour ago)
- Git.pdf** (New files for the eve... 1 hour ago)
- Hello.html** (New name in the htr... now)
- Intro to Github.pptx** (New files for the eve... 1 hour ago)

Buttons: **Contribute**, **Sync fork**, **Open pull request** (highlighted with a blue arrow).

Right sidebar:

- About:** For the upcoming event. Activity, 0 stars, 0 watching, 0 forks.
- Releases:** No releases published. [Create a new release](#).
- Packages:** No packages published. [Publish your first package](#).
- Languages:** HTML 100.0%.

Footer: <https://github.com/puliarshitha/Idealab/compare/NoelSugandh:Idealab:main...main?expand=1>

Comparing changes

Choose two branches to see what's changed or to start a new pull request. If you need to, you can also [compare across forks](#) or [learn more about diff comparisons](#).

base repository: **NoelSugandh/Idealab** | base: **main** | head repository: **puilharshitha/Idealab** | compare: **main** | **✓ Able to merge.** These branches can be automatically merged.

Add a title

New name in the html file.

Add a description

Write | Preview

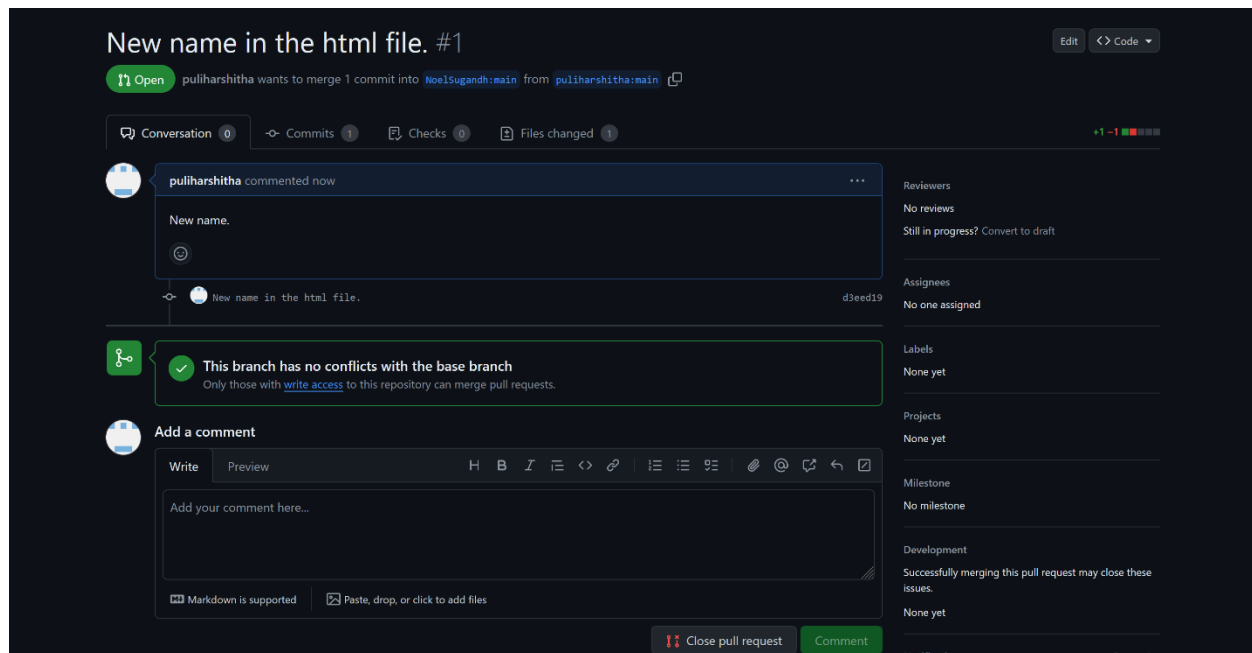
New name.

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

☒ Allow edits by maintainers | **Create pull request**

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

Footer: 1 commit | 1 file changed | 1 contributor



- If the owner of the original repository add you as a collaborator then you can directly merge it in the main branch or else you should wait until the owner accept your pull request.

Full name in the index file. #3

Open puliharshitha wants to merge 2 commits into NoelSugandh:main from puliharshitha:main

Conversation 0 Commits 2 Checks 0 Files changed 1

puliharshitha commented 1 minute ago First-time contributor

new name in the hello world html file

puliharshitha added 2 commits 18 minutes ago

- New name in the html file. d3eed19
- New name in the html file. 324ae3e

Require approval from specific reviewers before merging
Rulesets ensure specific people approve pull requests before they're merged. Add rule X

Continuous integration has not been set up
GitHub Actions and several other apps can be used to automatically catch bugs and enforce style.

This branch has no conflicts with the base branch
Merging can be performed automatically.

Merge pull request You can also open this in GitHub Desktop or view command line instructions.

Reviewers
Suggestions
NoelSugandh Request

Still in progress? Convert to draft

Assignees
No one—assign yourself

Labels
None yet

Projects
None yet

Milestone
No milestone

Development
Successfully merging this pull request may close these issues.

None yet

Notifications Customize

Full name in the index file. #3

Open puliharshitha wants to merge 2 commits into NoelSugandh:main from puliharshitha:main

Conversation 0 Commits 2 Checks 0 Files changed 1

puliharshitha commented 1 minute ago First-time contributor

new name in the hello world html file

puliharshitha added 2 commits 18 minutes ago

- New name in the html file. d3eed19
- New name in the html file. 324ae3e

Merge pull request #3 from puliharshitha/main

Full name in the index file.

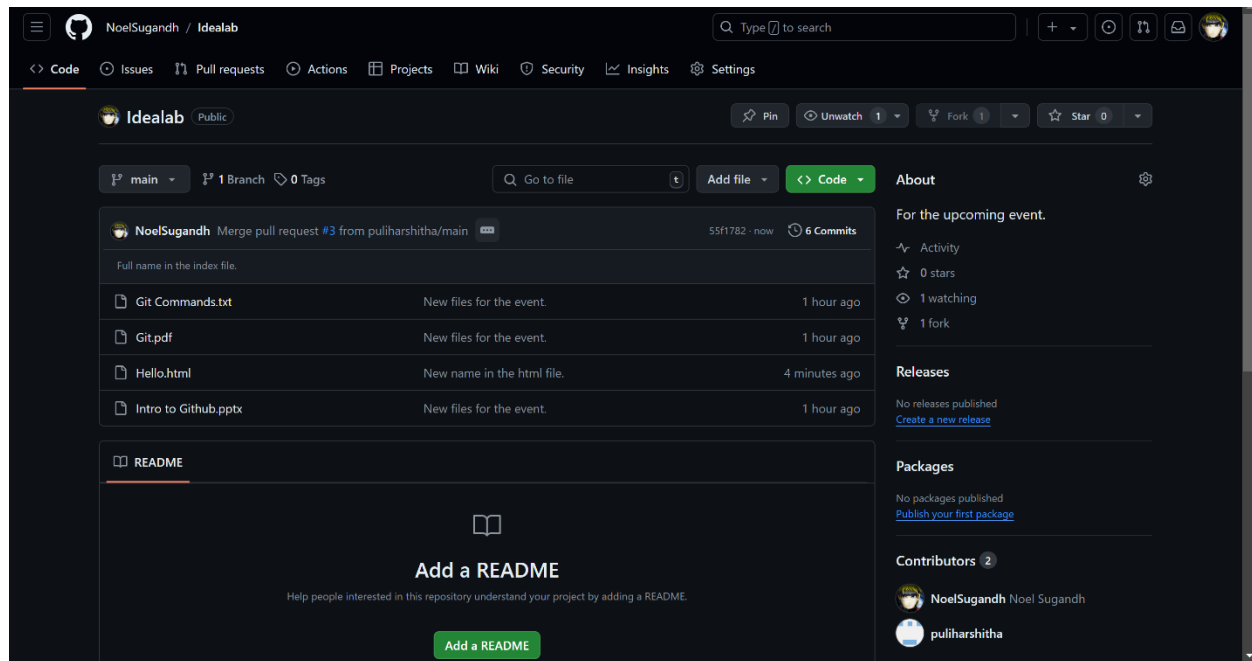
This commit will be authored by 44922476+NoelSugandh@users.noreply.github.com

Confirm merge Cancel

Add a comment

Write Preview H B I

- Then it shows up on the original repository where you first forked it from.



- Sometimes there are errors like the repository is updated after you cloned it. So then we use commands like
git fetch origin main --- shows the files that are in main branch
git pull origin main --- pulls the updated main branch into local.
to get the updated repository from the github.

