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.

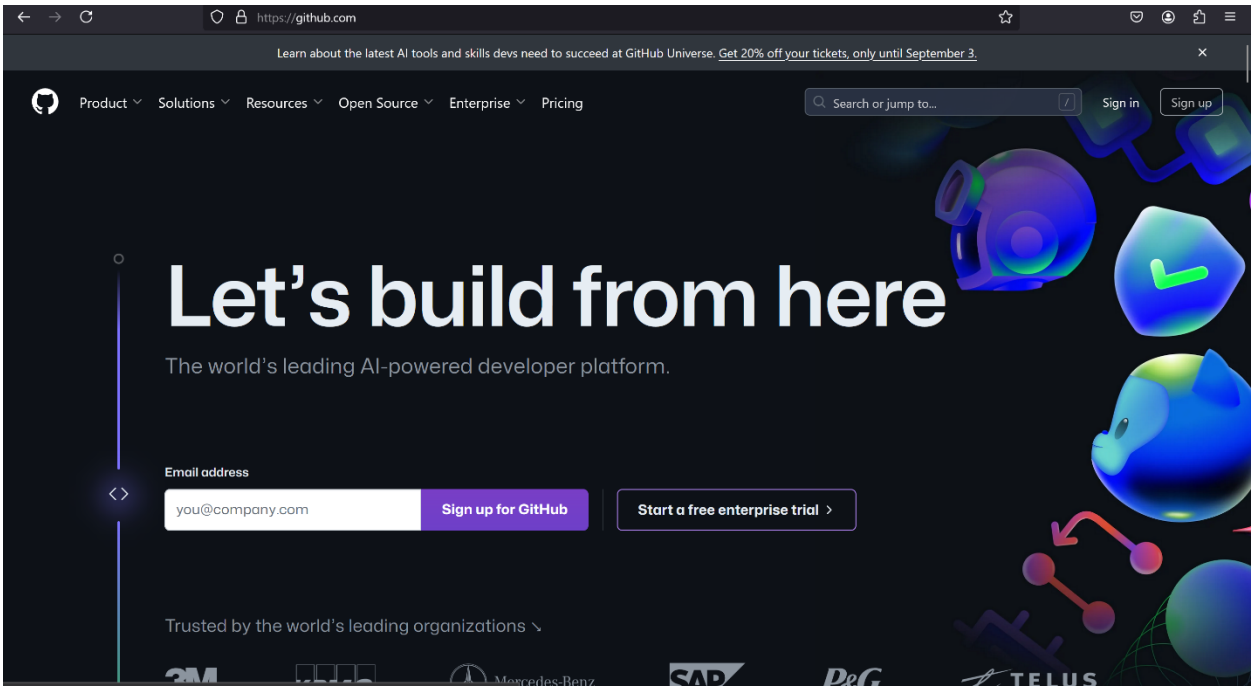
Visibility:

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

Creating a Github Account:

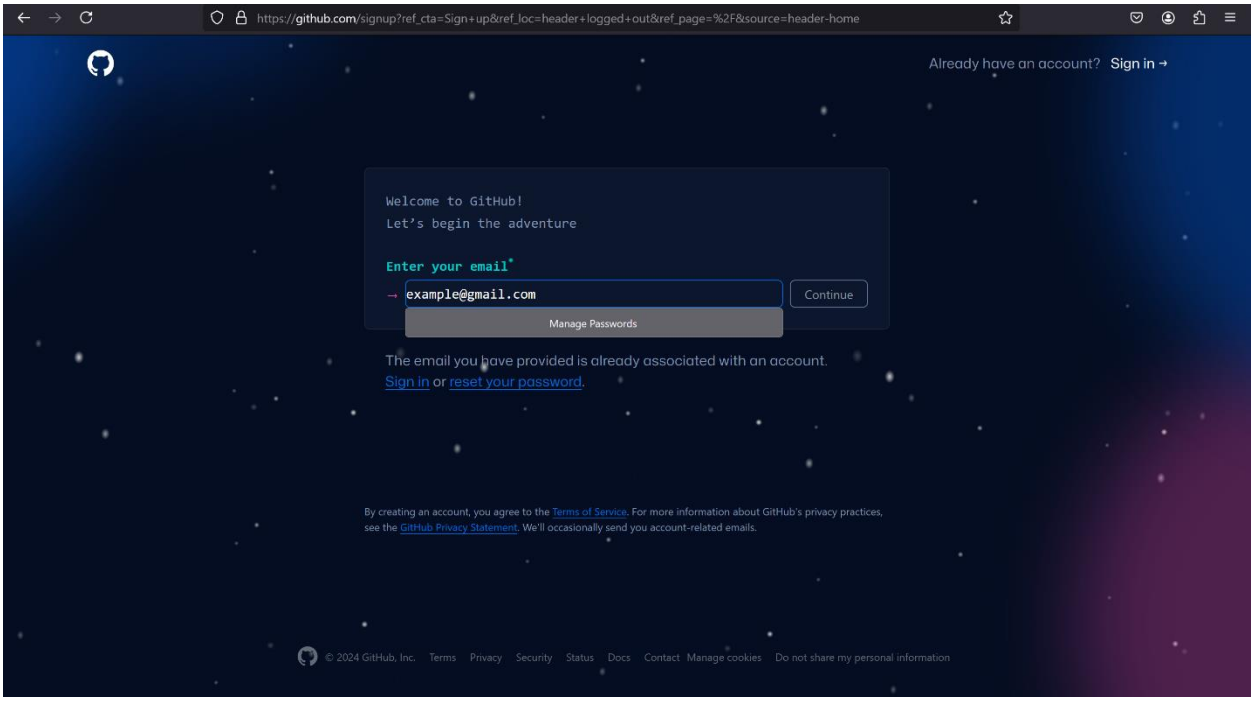
Visit GitHub's Website:

- 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.

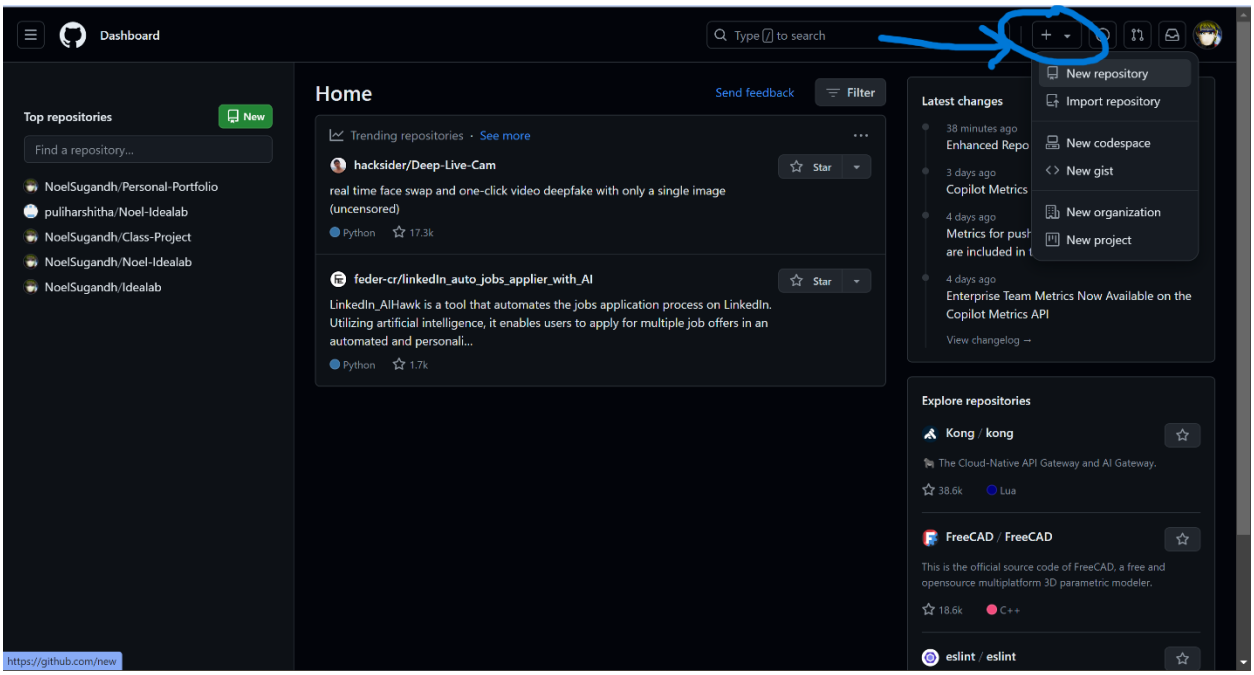
Include Links:

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

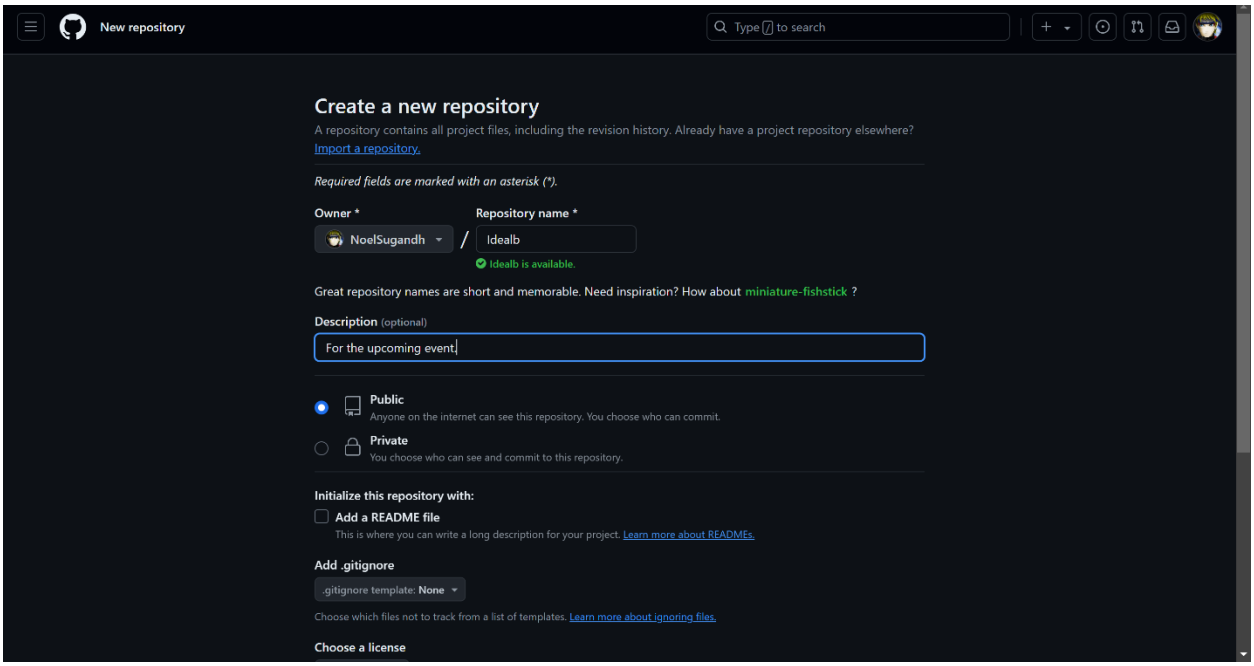
Using Github with an example:

Create a New Repository:

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

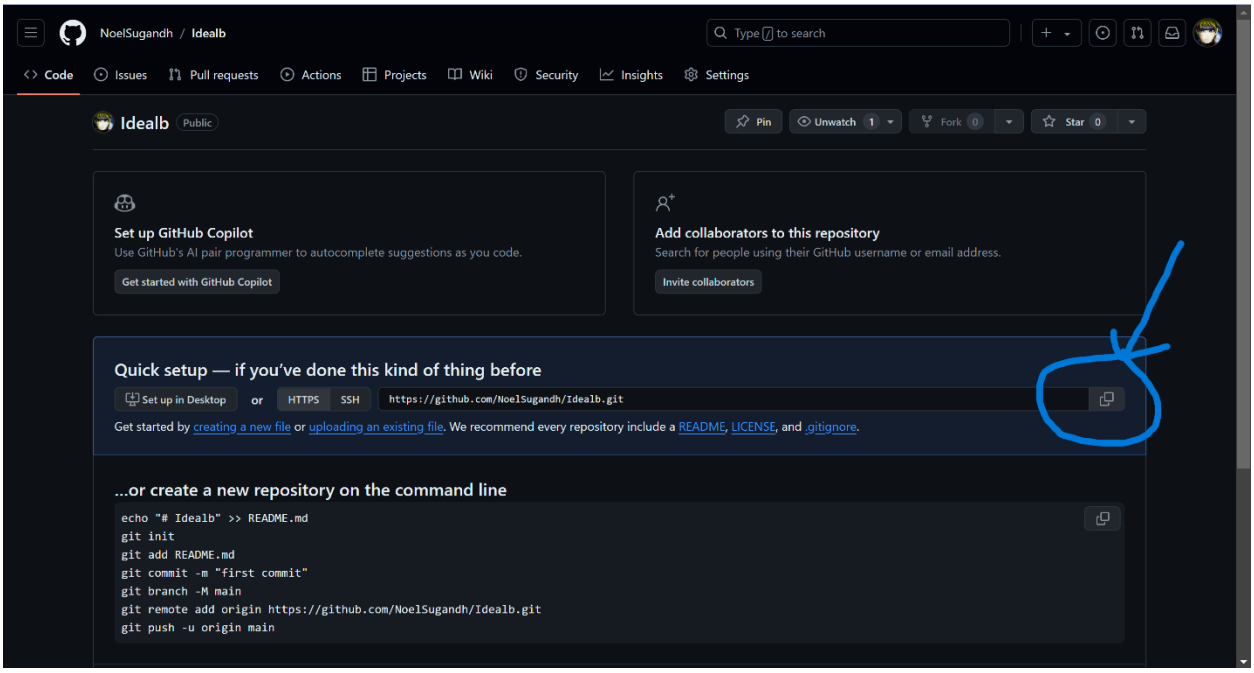


- **Name your repository. E.g. “New website”**
- **Provide a Description: Briefly describe what your repository will contain.**
- **Choose Visibility: Select Public (anyone can see) or Private (only you and collaborators can see).**
- **Initialize with README: Check this option to add a README file which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

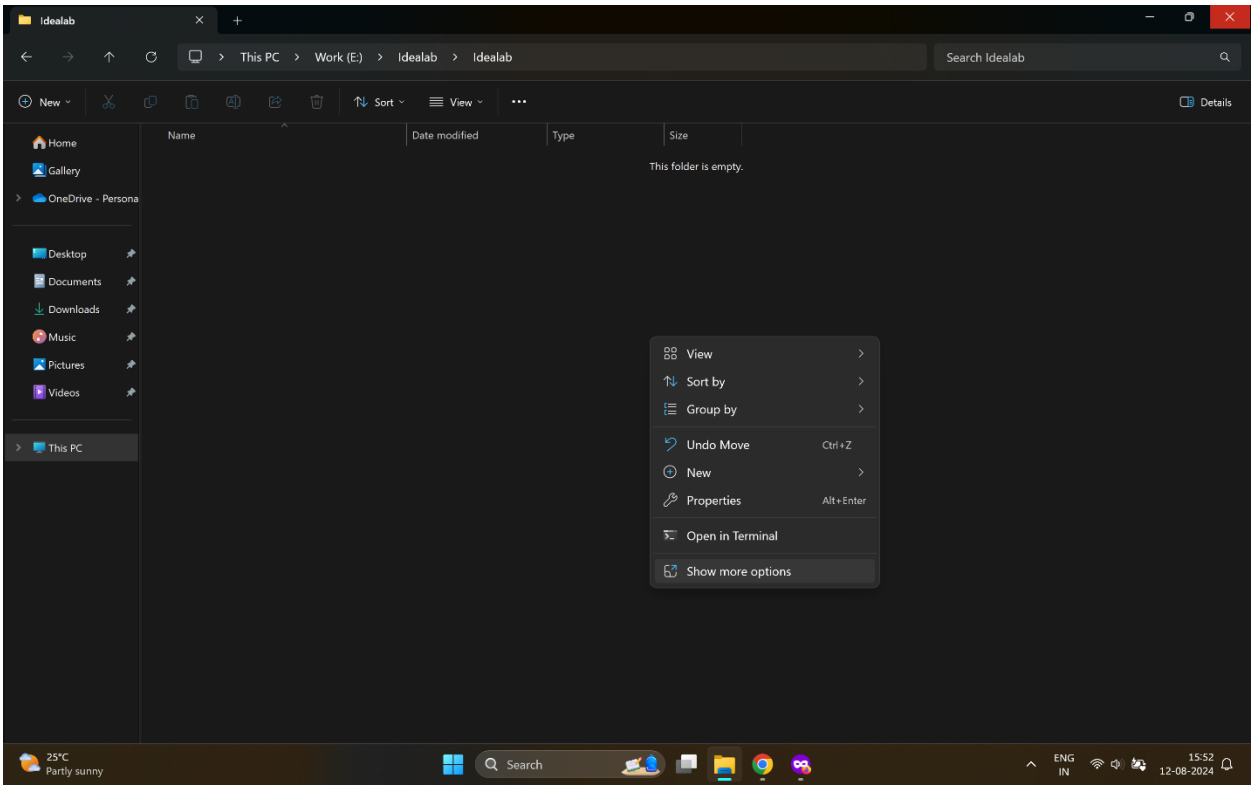


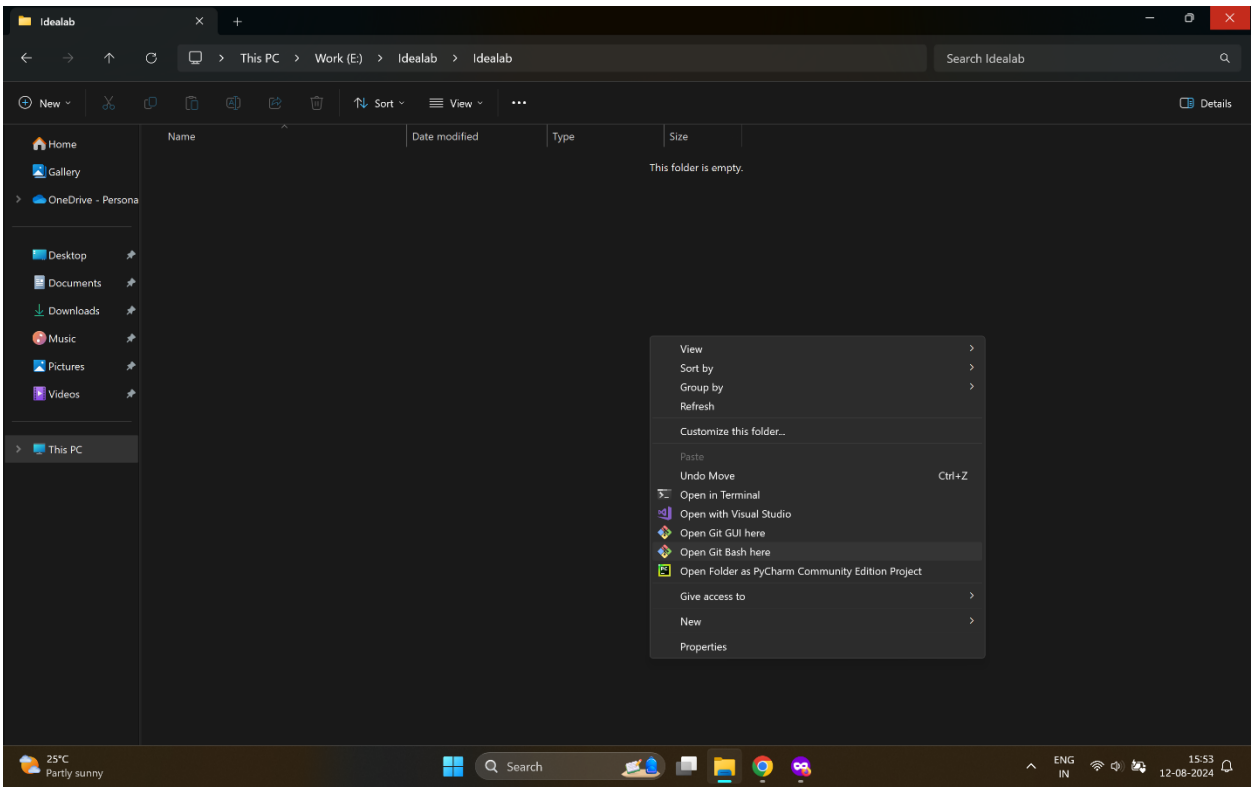
Clone the Repository:

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



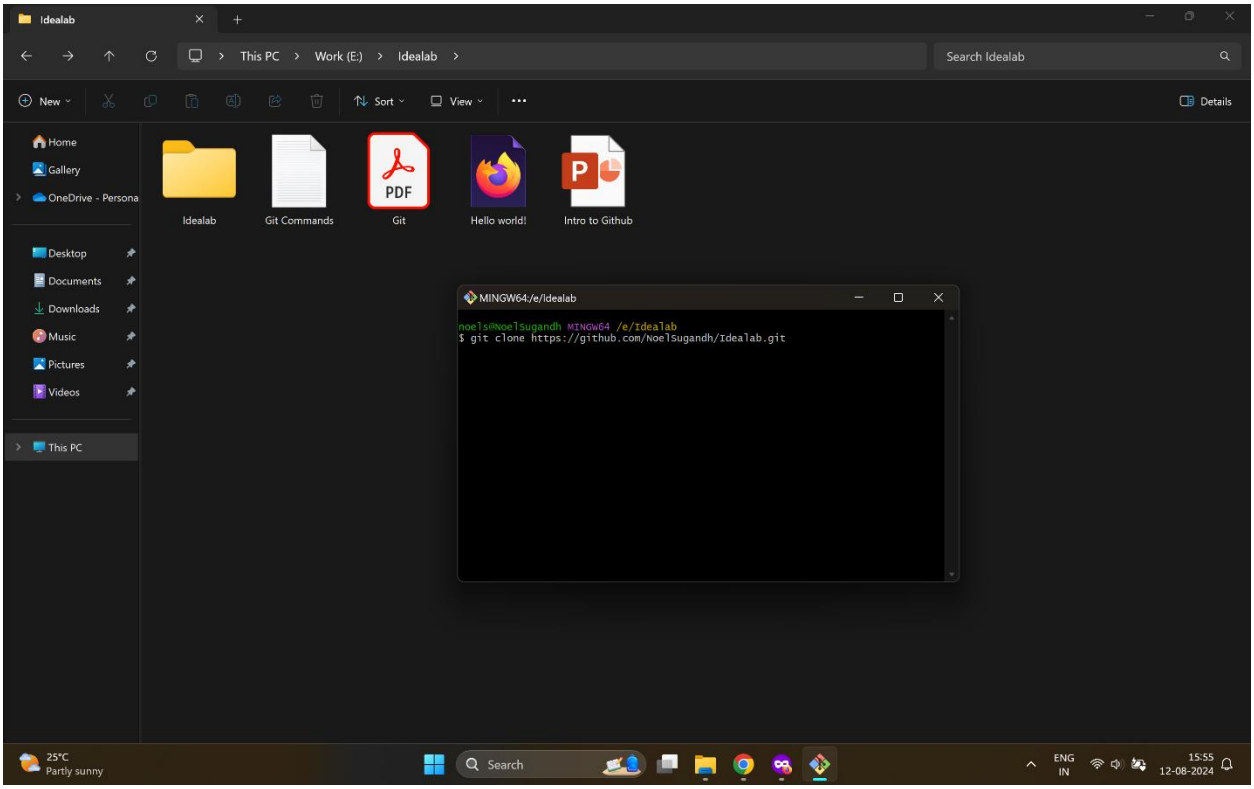
- Open the file explorer and open the folder that you want your repository in.
- Right click > Show More Option >Open Git Bash Here


Idealab
This PC
Work (E:)
Idealab
Idealab
Search Idealab
New
Sort
View
Details
Home
Gallery
OneDrive - Persona
Desktop
Documents
Downloads
Music
Pictures
Videos
This PC
Name
Date modified
Type
Size
This folder is empty.
View
Sort by
Group by
Undo Move Ctrl+Z
New
Properties Alt+Enter
Open in Terminal
Show more options
25°C
Partly sunny
Search
ENG
IN
15:52
12-08-2024


Idealab
This PC
Work (E:)
Idealab
Idealab
Search Idealab
New
Sort
View
Details
Home
Gallery
OneDrive - Persona
Desktop
Documents
Downloads
Music
Pictures
Videos
This PC
Name
Date modified
Type
Size
This folder is empty.
View
Sort by
Group by
Refresh
Customize this folder...
Paste
Undo Move Ctrl+Z
Open in Terminal
Open with Visual Studio
Open Git GUI here
Open Git Bash here
Open Folder as PyCharm Community Edition Project
Give access to
New
Properties
25°C
Partly sunny
Search
ENG
IN
15:53
12-08-2024

- Then clone the repository using the following code:

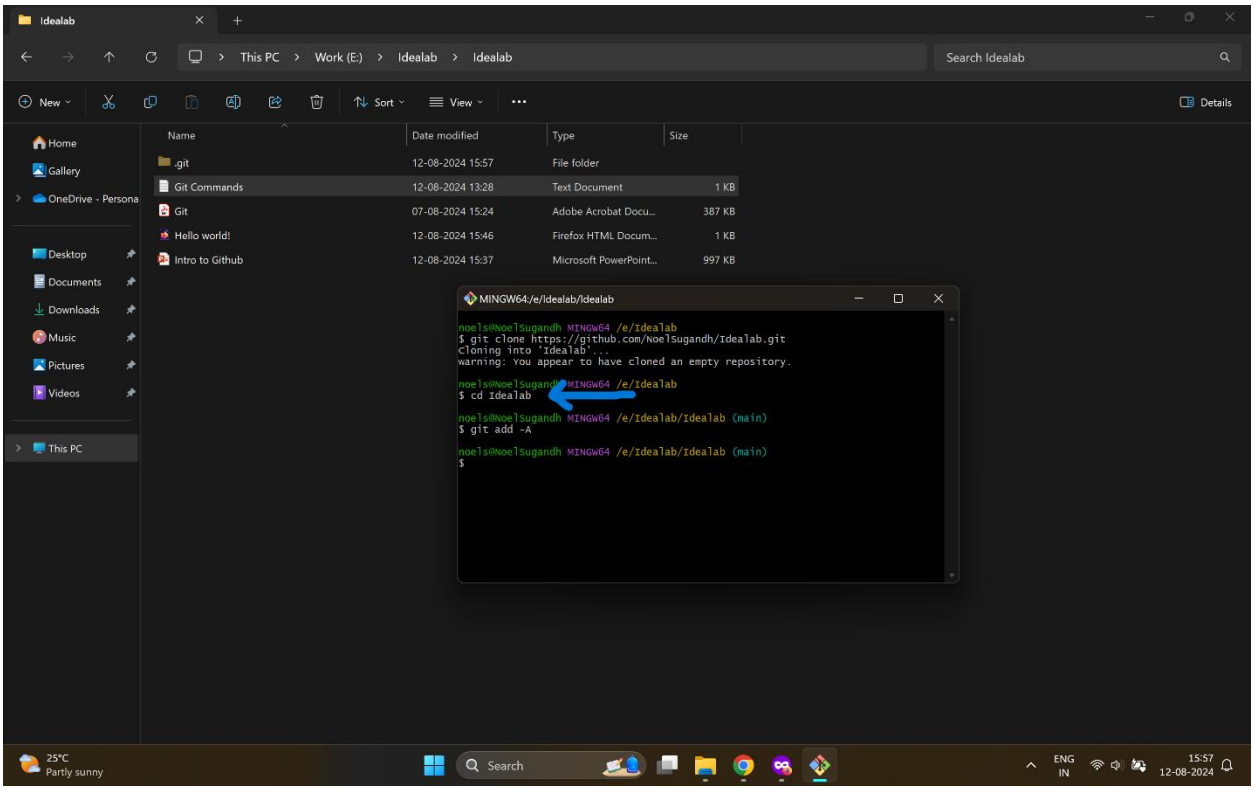
git clone <the url that you've copied from the github>



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

- **Navigate to your project directory:**

  cd <your repository name>



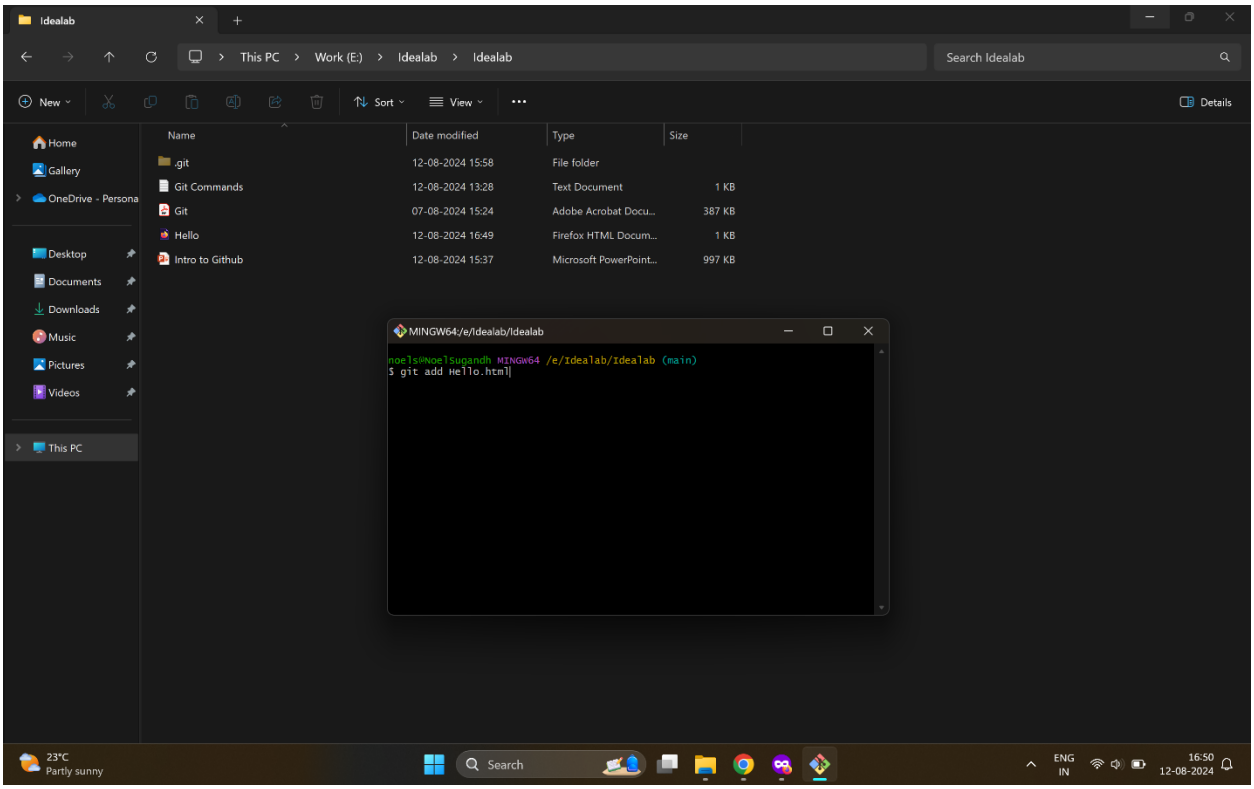
Adding and Committing Files

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

Stage Changes:

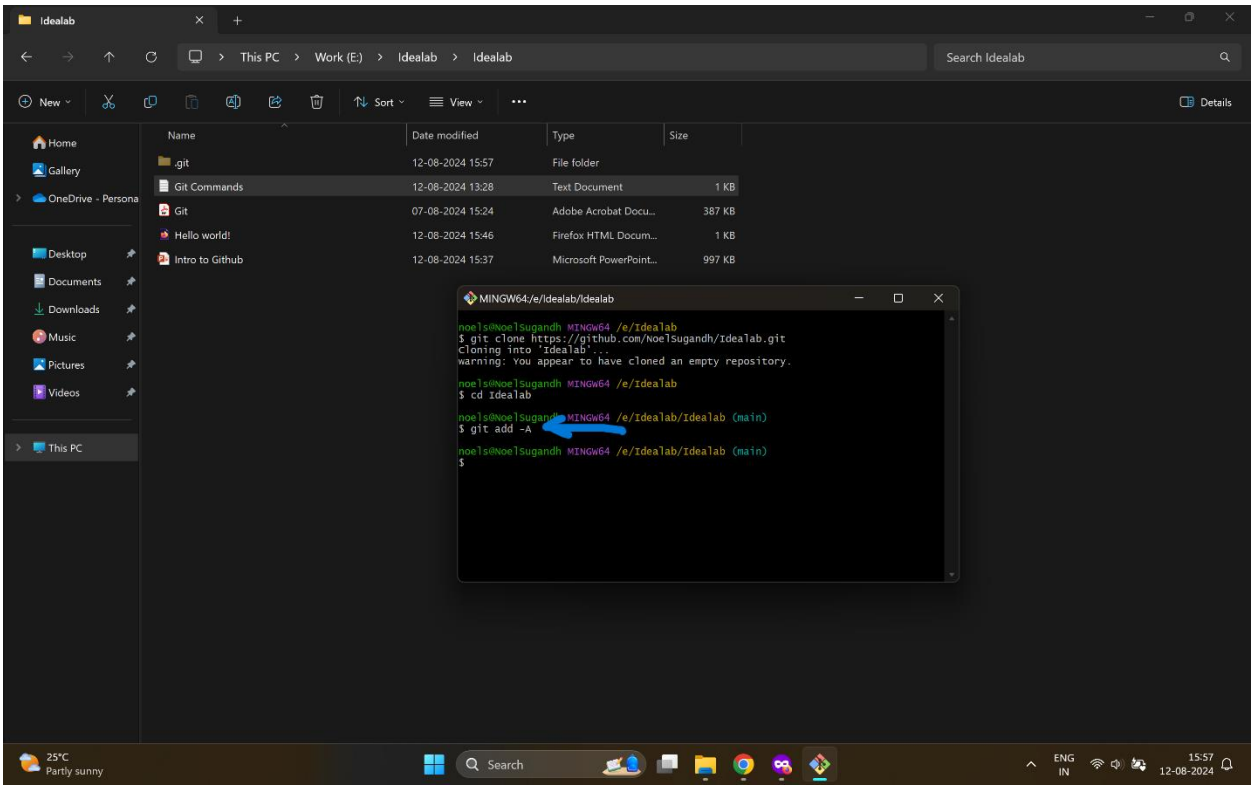
- Add files to the staging area:

  git add <file name with extension>



- You can also select all files in the folder by using:

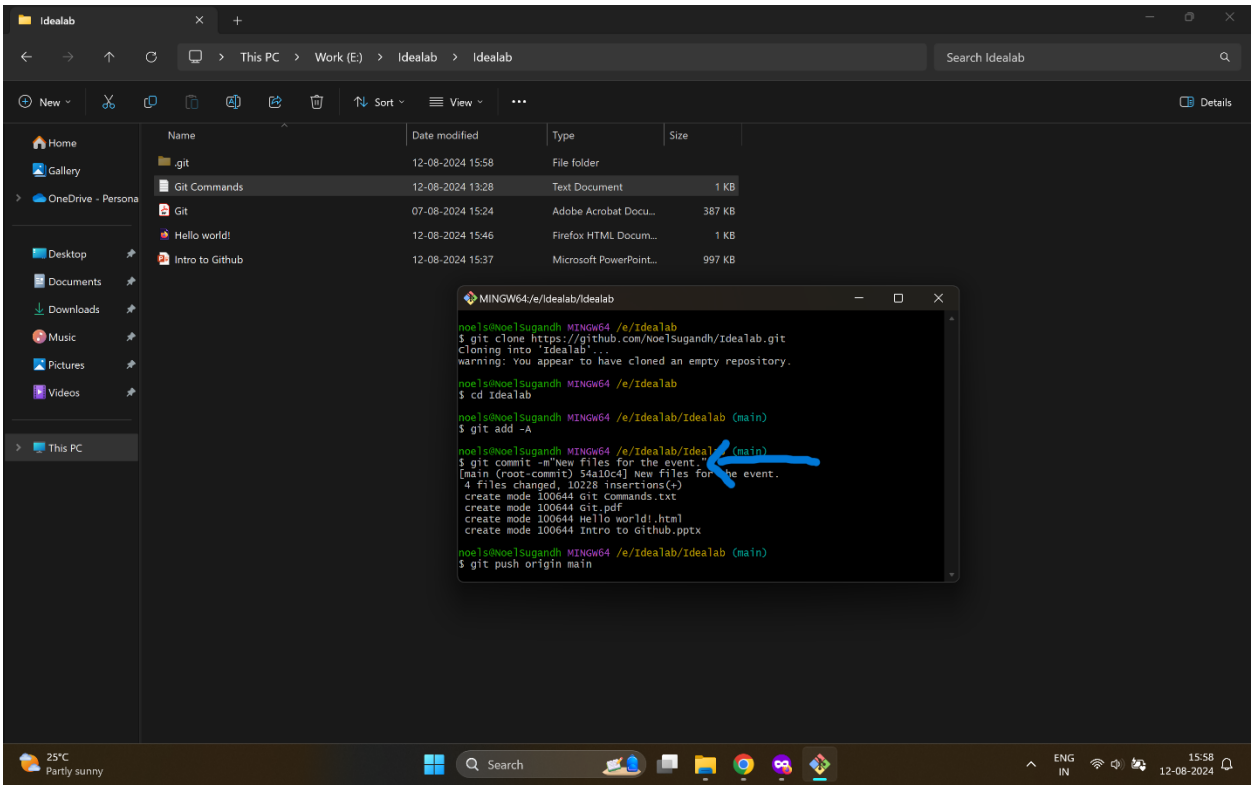
  git add -A



Commit Changes:

- Commit the changes with a descriptive message:

  git commit -m "Personalized message"



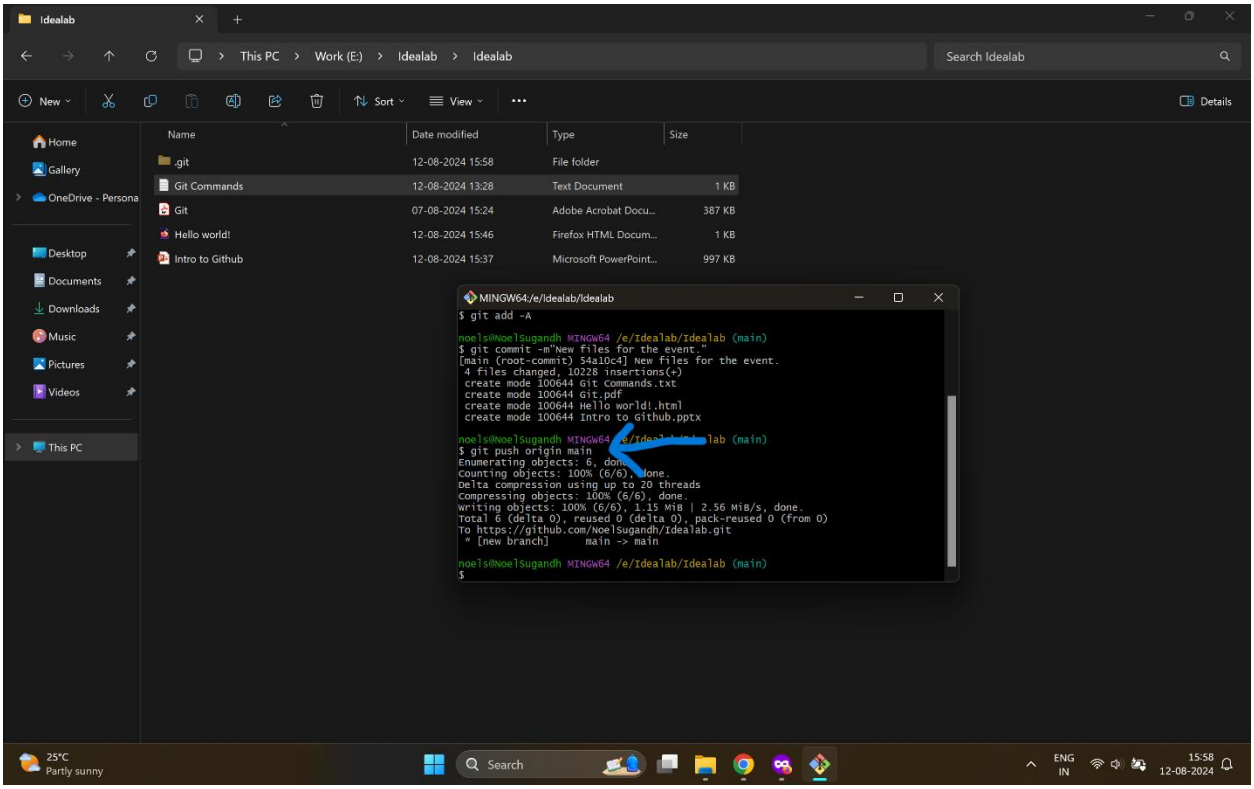
Push Changes:

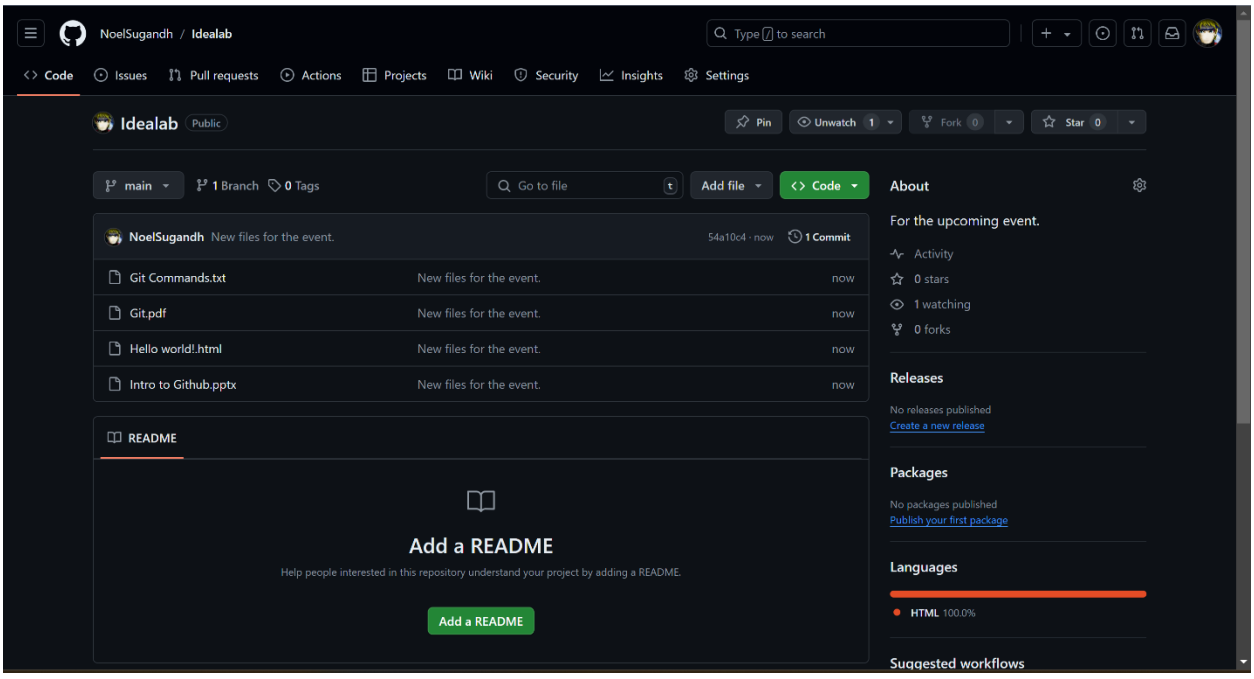
- Upload your changes to GitHub:

  git push origin main

View Your Project Online:

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

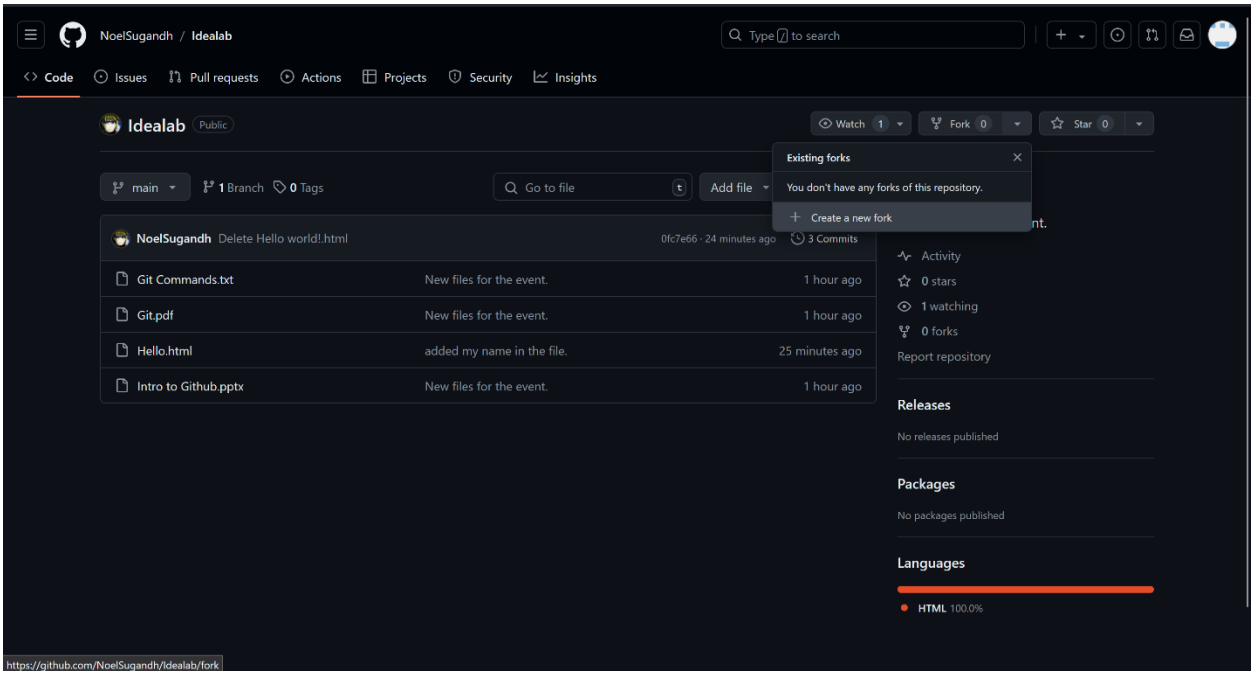

Idealab
This PC › Work (E:) › Idealab › Idealab
Search Idealab
New
Sort
View
Details
Home
Gallery
OneDrive - Persona
Desktop
Documents
Downloads
Music
Pictures
Videos
This PC
Name
Date modified
Type
Size
.git 12-08-2024 15:58 File folder
Git Commands 12-08-2024 13:28 Text Document 1 KB
Git 07-08-2024 15:24 Adobe Acrobat Docu... 387 KB
Hello world! 12-08-2024 15:46 Firefox HTML Docum... 1 KB
Intro to Github 12-08-2024 15:37 Microsoft PowerPoint... 997 KB
MINGW64:/e/Idealab/Idealab
$ git add -A
noels@NoelSugandh MINGW64 /e/Idealab/Idealab (main)
$ git commit -m"New files for the event."
[main (root-commit) 54a10c4] New files for the event.
4 files changed, 10228 insertions(+)
create mode 100644 Git Commands.txt
create mode 100644 Git.pdf
create mode 100644 Hello world!.html
create mode 100644 Intro to Github.pptx
$ git push origin main
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 20 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 1.15 MiB | 2.56 MiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/NoelSugandh/Idealab.git
* [new branch] main -> main
noels@NoelSugandh MINGW64 /e/Idealab/Idealab (main)
$
25°C
Partly sunny
Search
ENG
IN
15:58
12-08-2024

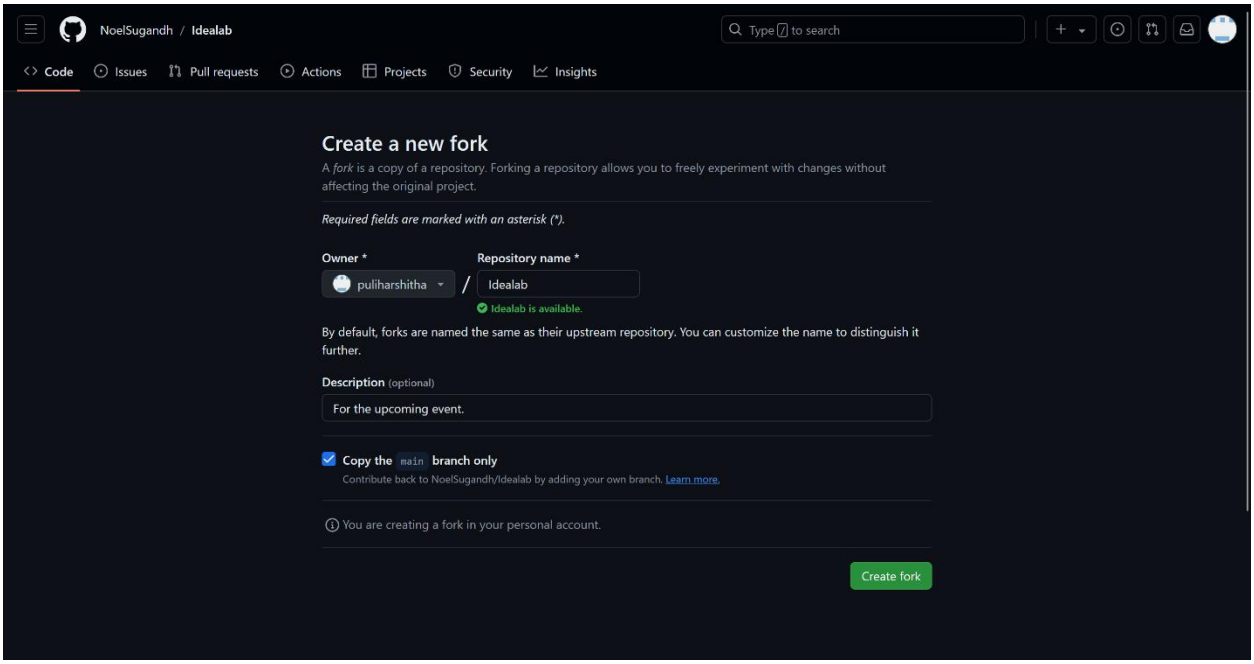

NoelSugandh / Idealab
Type / to search
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
Idealab
Public
Pin
Unwatch 1
Fork 0
Star 0
main
1 Branch
0 Tags
Go to file
t
Add file
Code
NoelSugandh New files for the event. 54a10c4 · now 1 Commit
Git Commands.txt New files for the event. now
Git.pdf New files for the event. now
Hello world!.html New files for the event. now
Intro to Github.pptx New files for the event. now
README
Add a README
Help people interested in this repository understand your project by adding a README.
Add a README
About
For the upcoming event.
Activity
0 stars
1 watching
0 forks
Releases
No releases published
Create a new release
Packages
No packages published
Publish your first package
Languages
HTML 100.0%
Suggested workflows

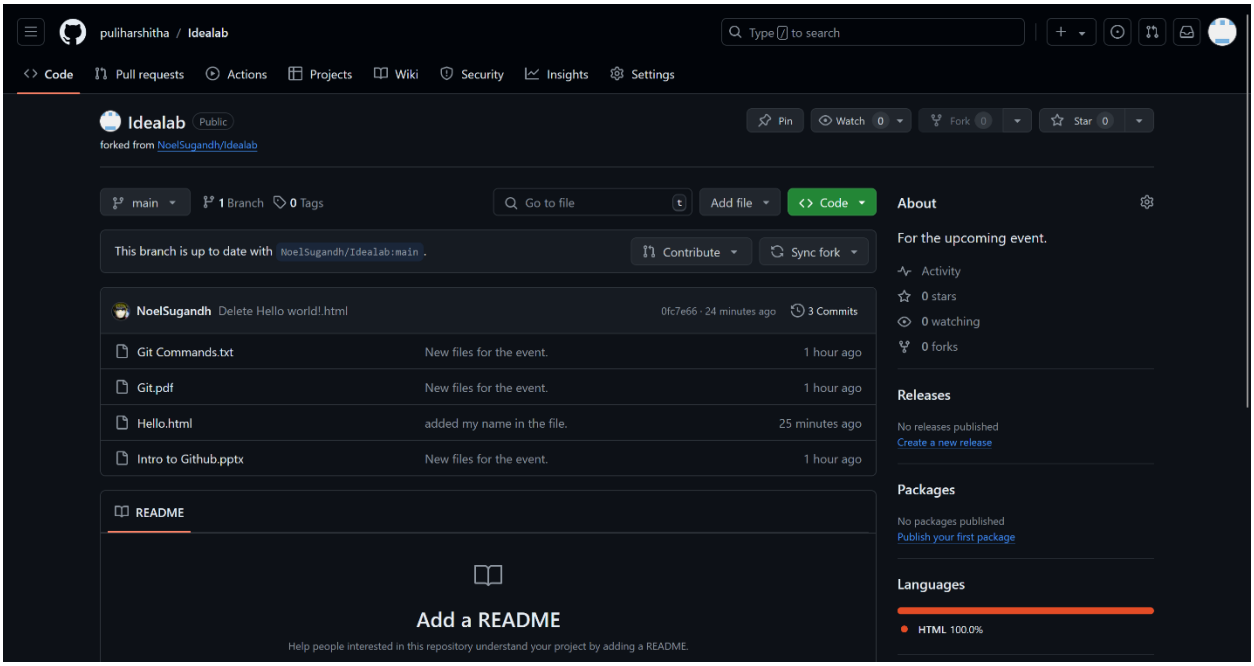
Collaboration Methods

Forking and Pull Requests:

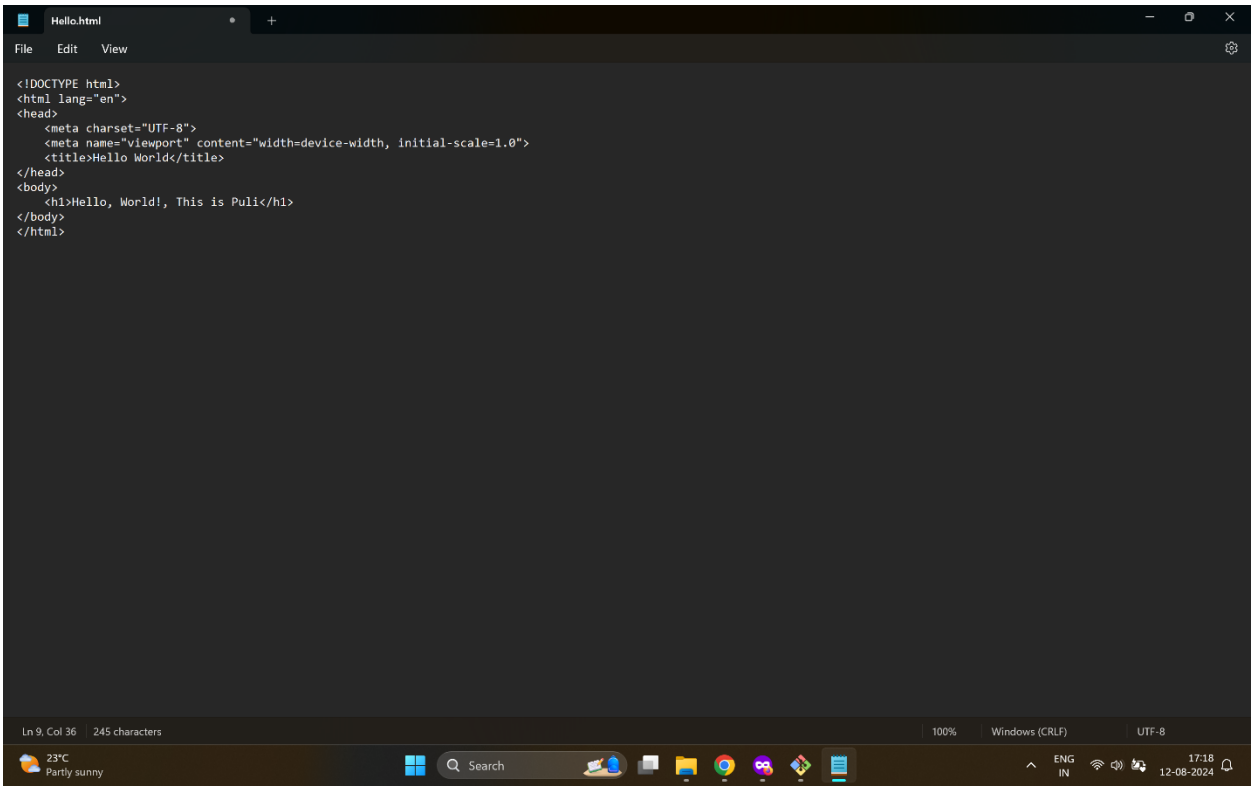
Forking: Create a personal copy of someone else's repository to make changes without affecting the original project.




NoelSugandh / Idealab
Type / to search
Code
Issues
Pull requests
Actions
Projects
Security
Insights
Create a new fork
A fork is a copy of a repository. Forking a repository allows you to freely experiment with changes without affecting the original project.
Required fields are marked with an asterisk (*).
Owner *
puliharshitha
/
Repository name *
Idealab
Idealab is available.
By default, forks are named the same as their upstream repository. You can customize the name to distinguish it further.
Description (optional)
For the upcoming event.
Copy the main branch only
Contribute back to NoelSugandh/Idealab by adding your own branch. Learn more.
You are creating a fork in your personal account.
Create fork


puliharshitha / Idealab
Type / to search
Code
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
Idealab
Public
forked from NoelSugandh/Idealab
Pin
Watch 0
Fork 0
Star 0
main
1 Branch
0 Tags
Go to file
t
Add file
Code
This branch is up to date with NoelSugandh/Idealab:main .
Contribute
Sync fork
NoelSugandh Delete Hello world!.html
0fc7e66 · 24 minutes ago
3 Commits
Git Commands.txt
New files for the event.
1 hour ago
Git.pdf
New files for the event.
1 hour ago
Hello.html
added my name in the file.
25 minutes ago
Intro to Github.pptx
New files for the event.
1 hour ago
README
Add a README
Help people interested in this repository understand your project by adding a README.
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%

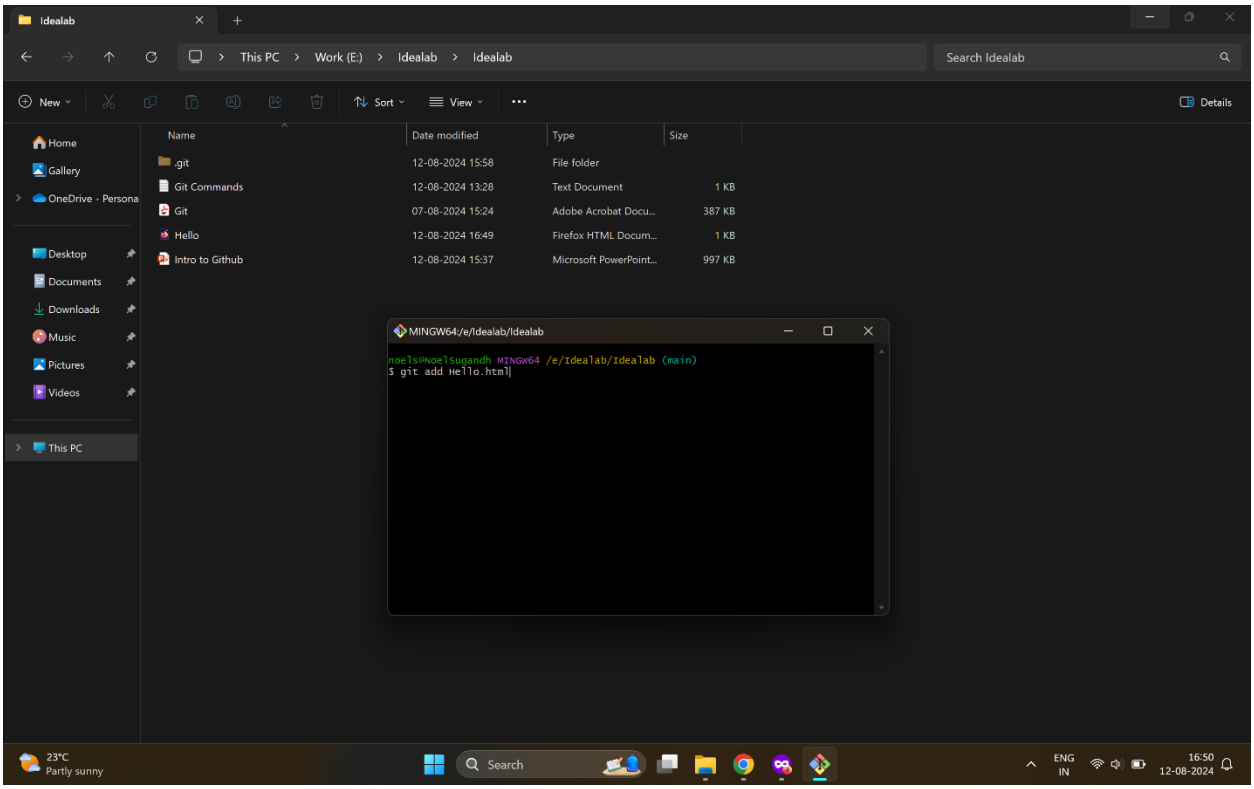
- Make changes to the file.



Stage Changes:

- Add files to the staging area:

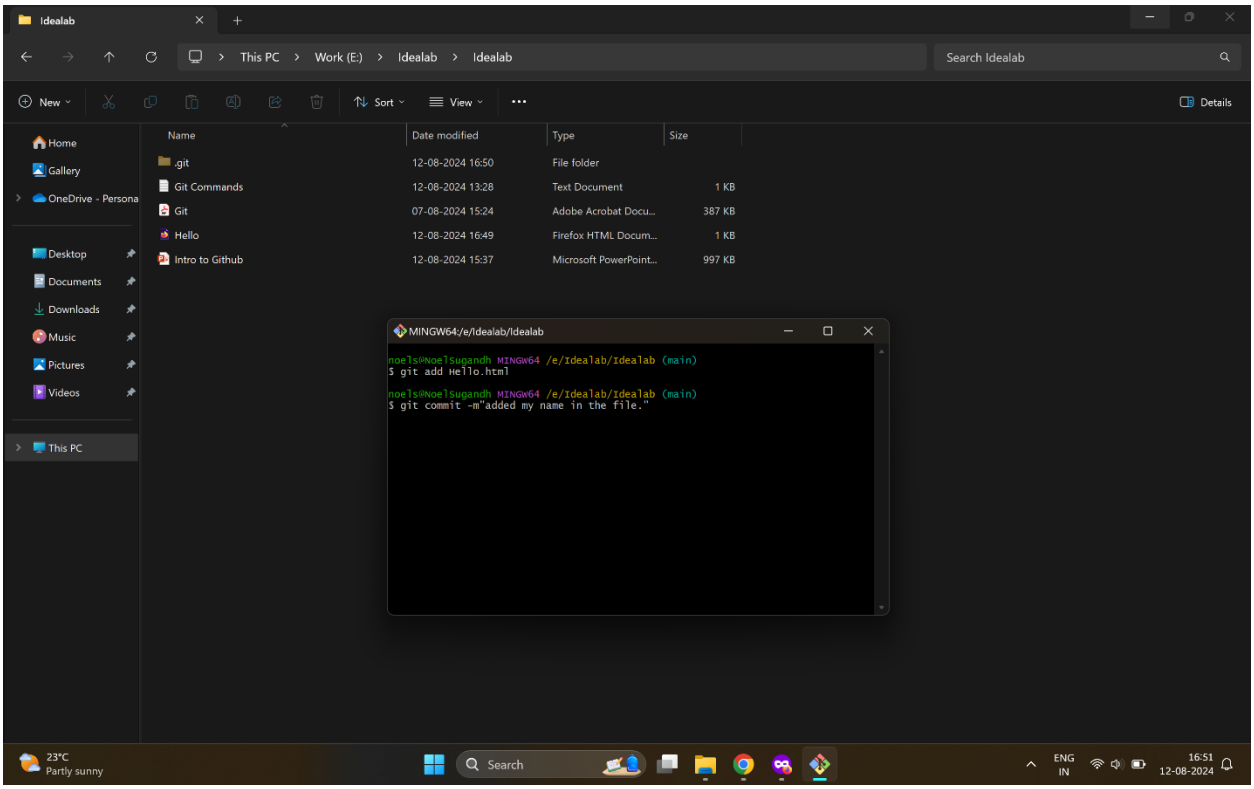
git add <file name with extension>



Commit Changes:

- Commit the changes with a descriptive message:

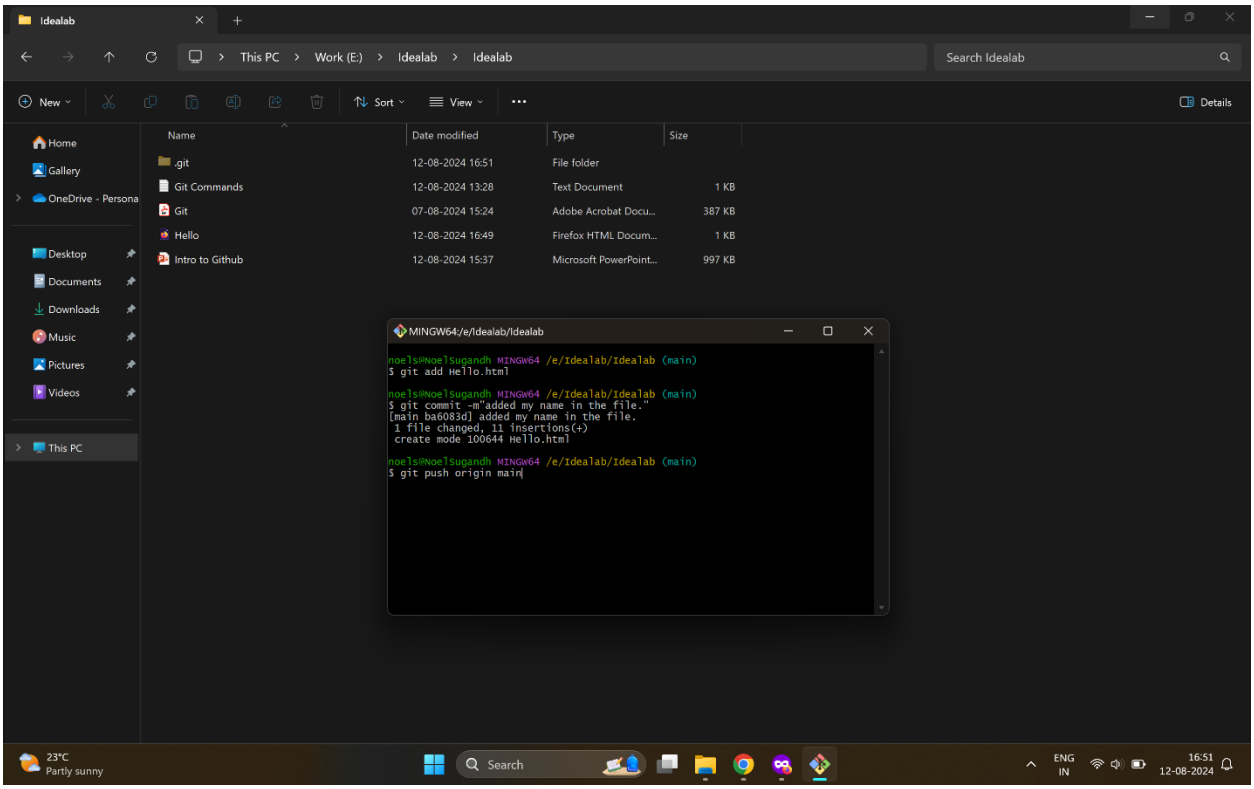
git commit -m "Personalized message"

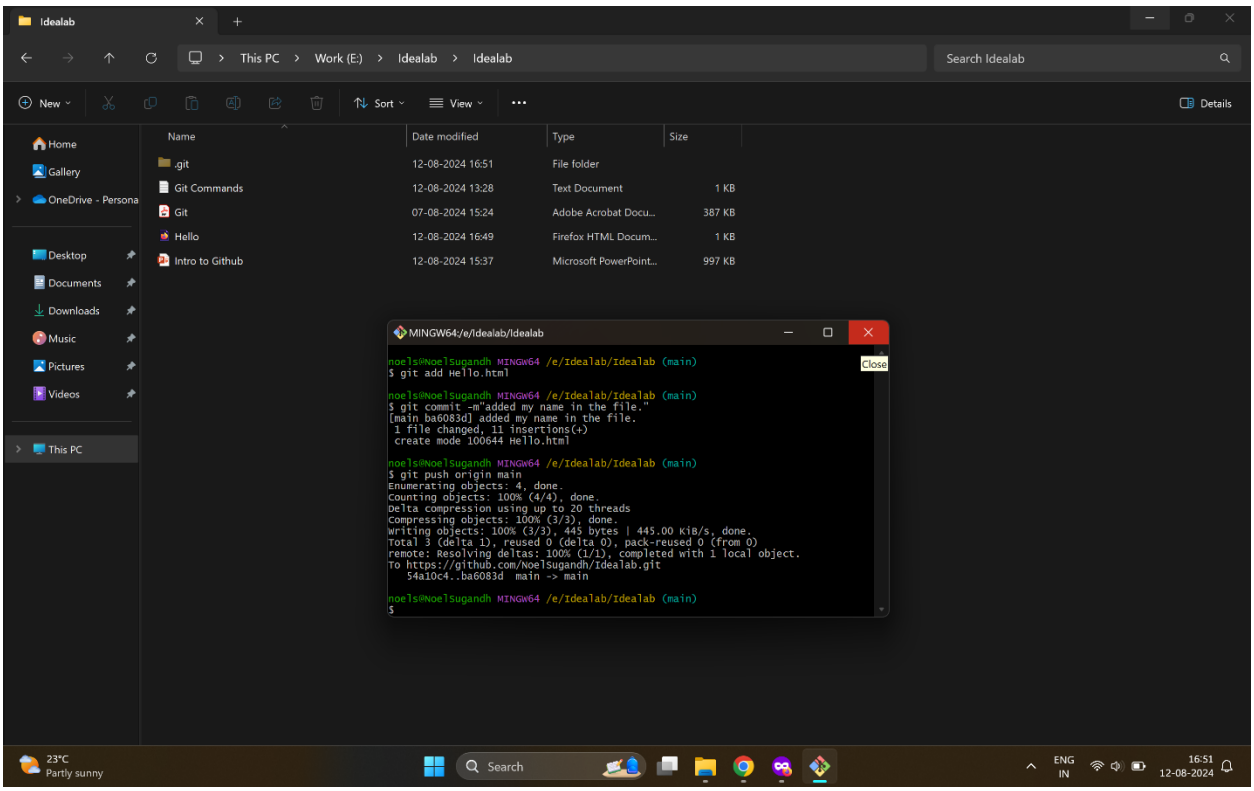


Push Changes:

- Upload your changes to GitHub:

  git push origin main


Idealab
This PC › Work (E:) › Idealab › Idealab
Search Idealab
New
Sort
View
Details
Home
Gallery
OneDrive - Persona
Desktop
Documents
Downloads
Music
Pictures
Videos
This PC
Name
Date modified
Type
Size
.git
12-08-2024 16:51
File folder
Git Commands
12-08-2024 13:28
Text Document
1 KB
Git
07-08-2024 15:24
Adobe Acrobat Docu...
387 KB
Hello
12-08-2024 16:49
Firefox HTML Docum...
1 KB
Intro to Github
12-08-2024 15:37
Microsoft PowerPoint...
997 KB
MINGW64:/e/Idealab/Idealab
noels@NoelSugandh MINGW64 /e/Idealab/Idealab (main)
$ git add Hello.html
noels@NoelSugandh MINGW64 /e/Idealab/Idealab (main)
$ git commit -m"added my name in the file."
[main ba6083d] added my name in the file.
1 file changed, 11 insertions(+)
create mode 100644 Hello.html
noels@NoelSugandh MINGW64 /e/Idealab/Idealab (main)
$ git push origin main
23°C
Partly sunny
Search
ENG
IN
16:51
12-08-2024


Idealab
This PC › Work (E:) › Idealab › Idealab
Search Idealab
New
Sort
View
Details
Home
Gallery
OneDrive - Persona
Desktop
Documents
Downloads
Music
Pictures
Videos
This PC
Name
Date modified
Type
Size
.git
12-08-2024 16:51
File folder
Git Commands
12-08-2024 13:28
Text Document
1 KB
Git
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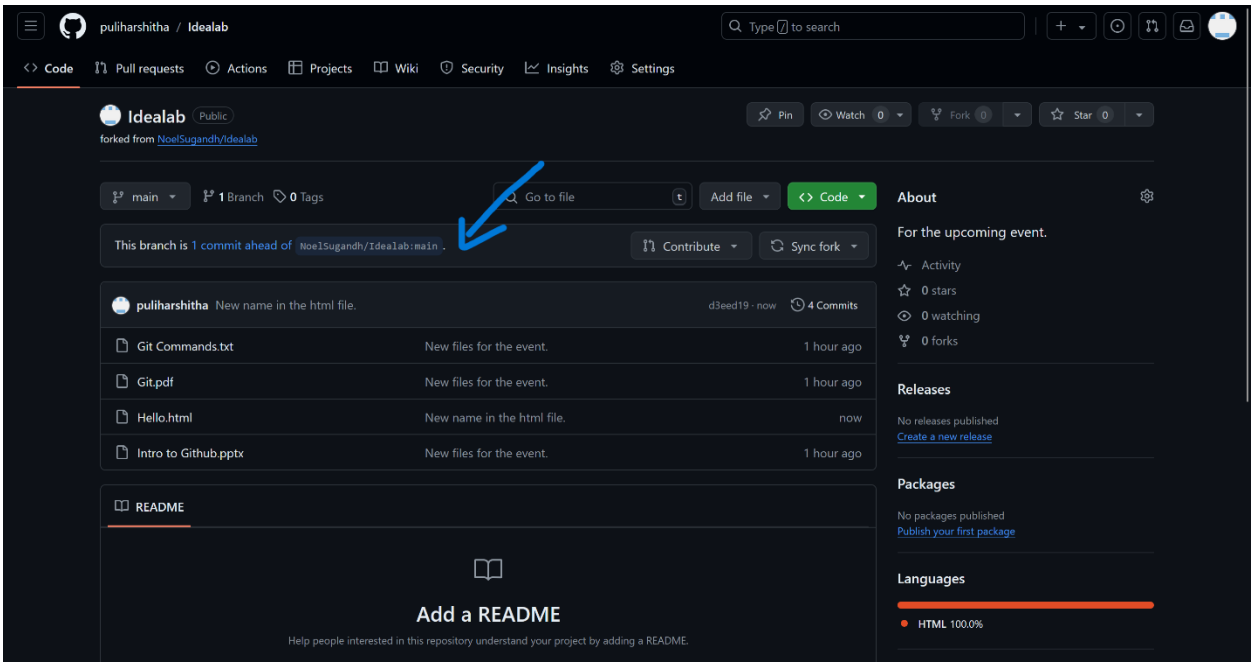
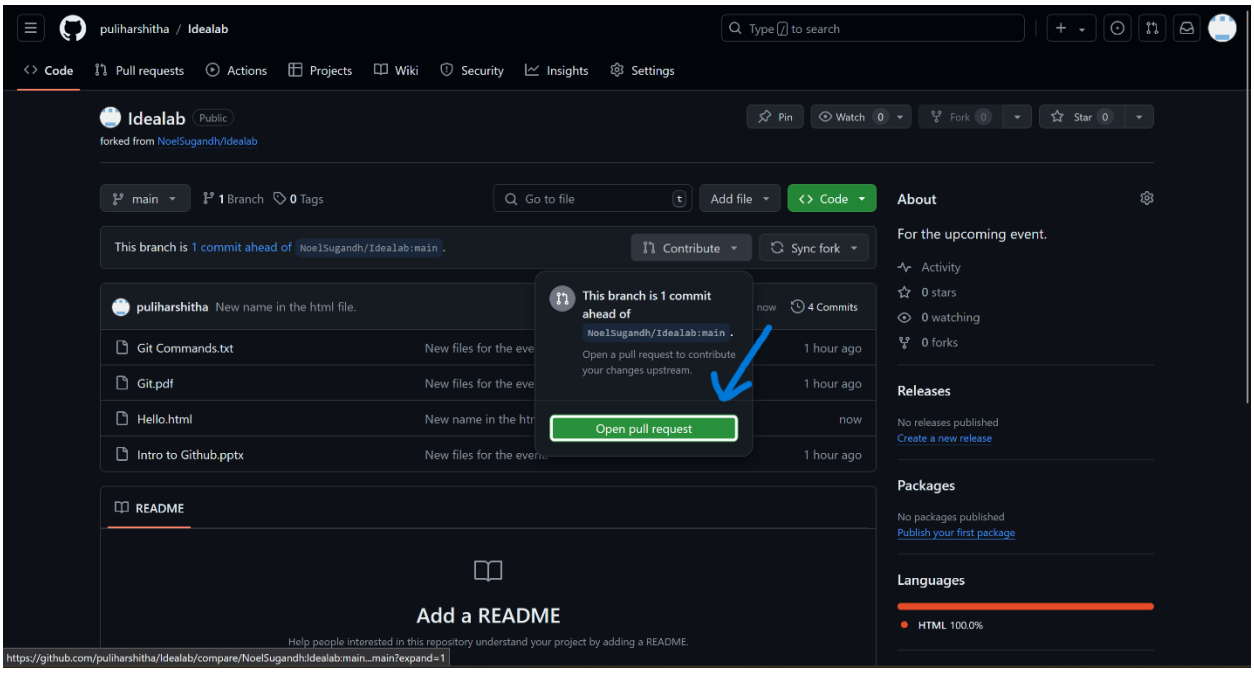
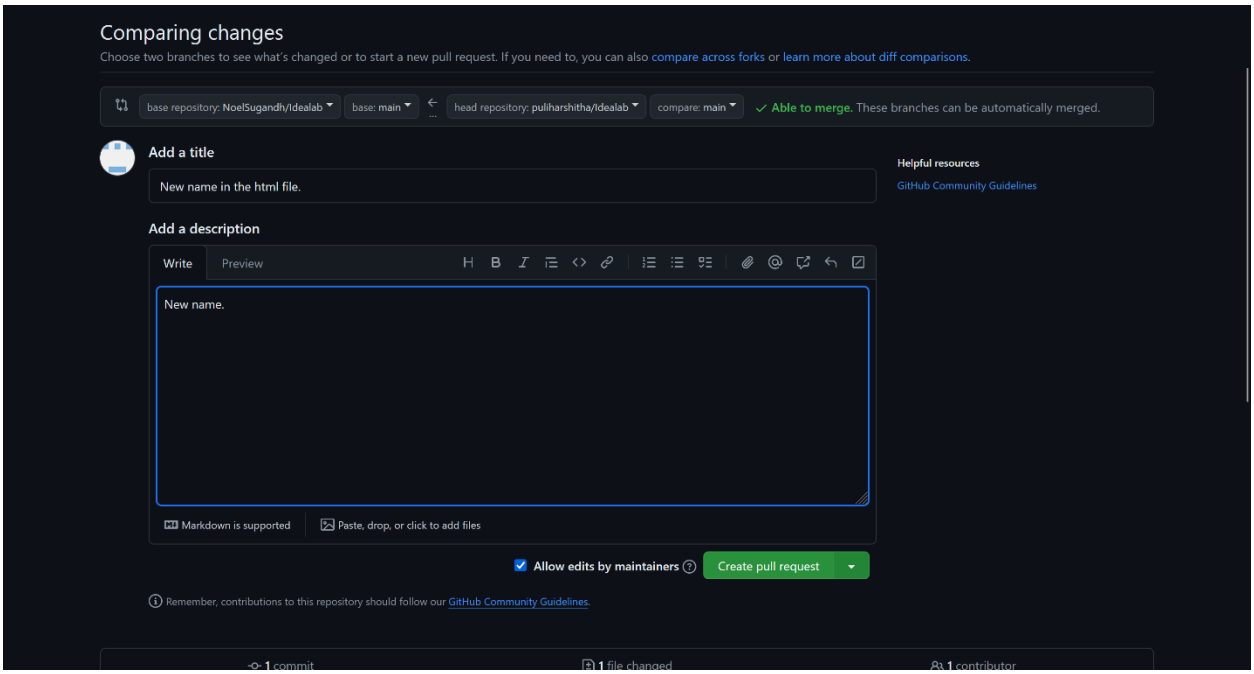
Adobe Acrobat Docu...
387 KB
Hello
12-08-2024 16:49
Firefox HTML Docum...
1 KB
Intro to Github
12-08-2024 15:37
Microsoft PowerPoint...
997 KB
MINGW64:/e/Idealab/Idealab
Close
noels@NoelSugandh MINGW64 /e/Idealab/Idealab (main)
$ git add Hello.html
noels@NoelSugandh MINGW64 /e/Idealab/Idealab (main)
$ git commit -m"added my name in the file."
[main ba6083d] added my name in the file.
1 file changed, 11 insertions(+)
create mode 100644 Hello.html
noels@NoelSugandh MINGW64 /e/Idealab/Idealab (main)
$ git push origin main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 20 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 445 bytes | 445.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/NoelSugandh/Idealab.git
54a10c4..ba6083d main -> main
noels@NoelSugandh MINGW64 /e/Idealab/Idealab (main)
$
23°C
Partly sunny
Search
ENG
IN
16:51
12-08-2024

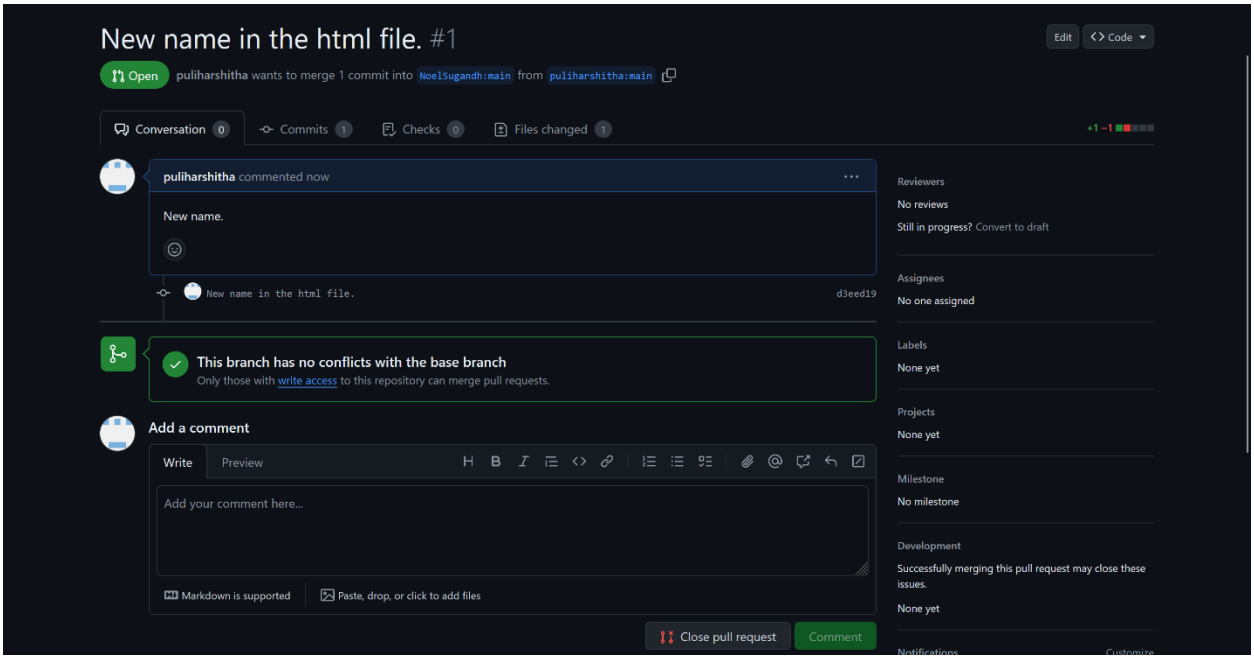
- This puts us ahead of the original repository.



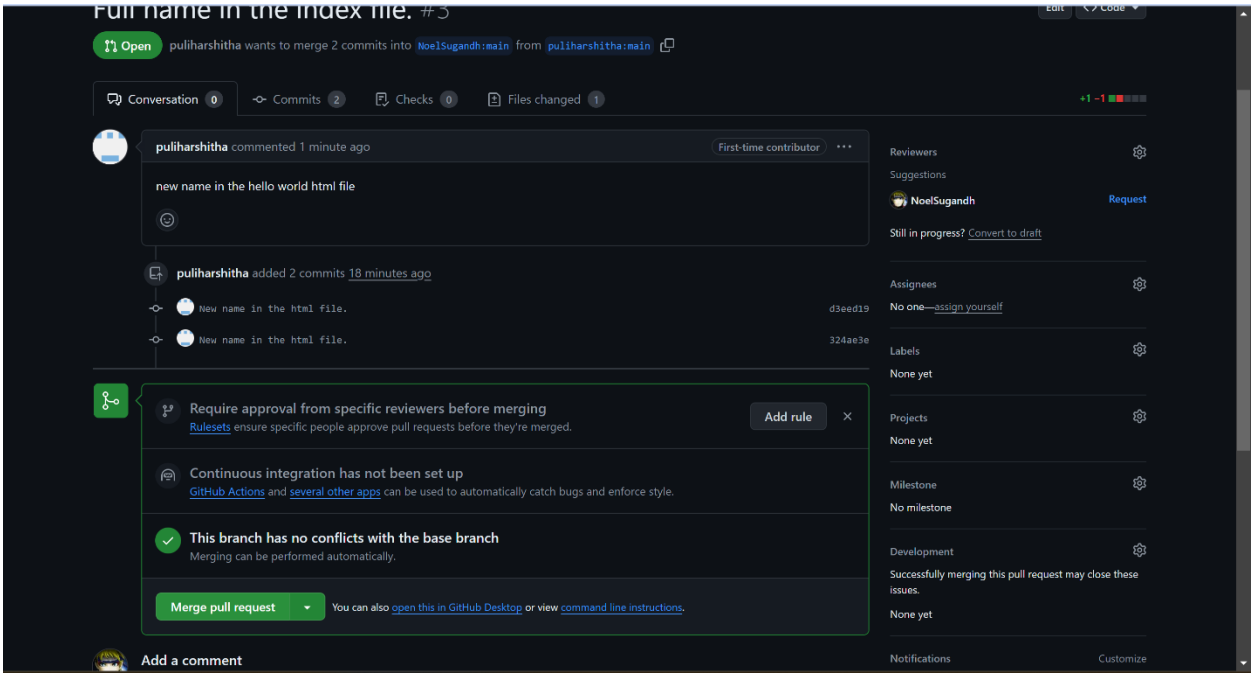
- So, we create a pull request in-order to contribute to the original repository, which would help other people.

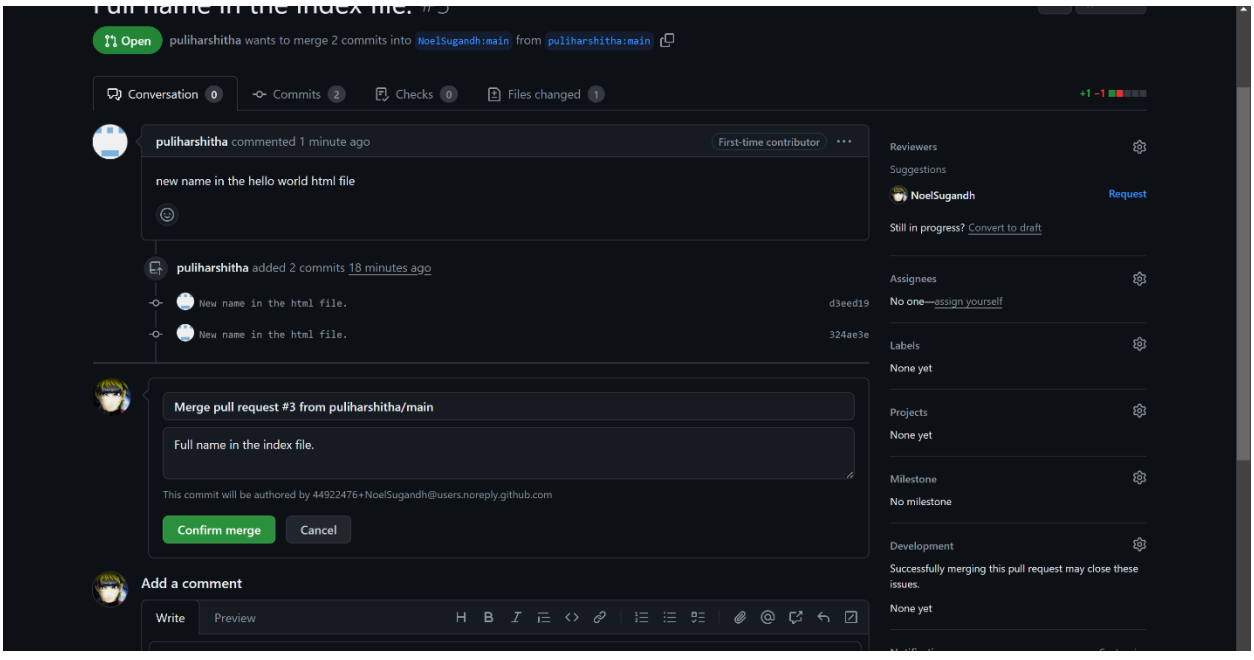

puliharshitha / Idealab
Type / to search
Code
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
Idealab
Public
forked from NoelSugandh/Idealab
Pin
Watch 0
Fork 0
Star 0
main
1 Branch
0 Tags
Go to file
Add file
Code
About
For the upcoming event.
This branch is 1 commit ahead of NoelSugandh/Idealab:main .
Contribute
Sync fork
Activity
0 stars
0 watching
0 forks
puliharshitha New name in the html file.
now
4 Commits
This branch is 1 commit ahead of NoelSugandh/Idealab:main .
Open a pull request to contribute your changes upstream.
Git Commands.txt
New files for the eve
1 hour ago
Releases
Git.pdf
New files for the eve
1 hour ago
Hello.html
New name in the htr
now
Open pull request
Intro to Github.pptx
New files for the even
1 hour ago
No releases published
Create a new release
README
Packages
No packages published
Publish your first package
Add a README
Help people interested in this repository understand your project by adding a README.
Languages
HTML 100.0%
https://github.com/puliharshitha/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: puliharshitha/Idealab
compare: main
Able to merge. These branches can be automatically merged.
Add a title
New name in the html file.
Helpful resources
GitHub Community Guidelines
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.
1 commit
1 file changed
1 contributor

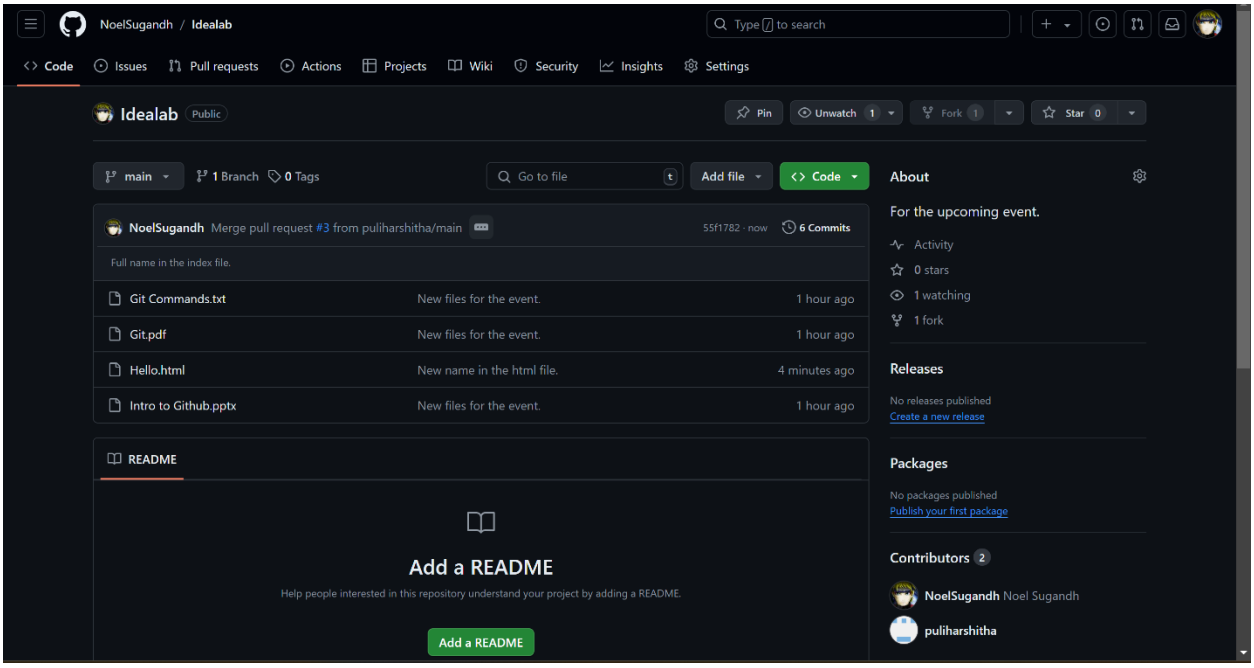


- If the owner of the original repository add you as a collaborator then you can directly merge it in the main branch or else you should wait until the owner accept your pull request.


Full name in the index file. #3
Edit
Code
Open
puliharshitha wants to merge 2 commits into NoelSugandh:main from puliharshitha:main
Conversation 0
Commits 2
Checks 0
Files changed 1
+1 −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
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.
Add a comment
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


Open
puliharshitha wants to merge 2 commits into NoelSugandh:main from puliharshitha:main
Conversation 0
Commits 2
Checks 0
Files changed 1
+1 −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
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

- 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.