TUTORIAL 1 : SETTING UP THE REPOSITORY

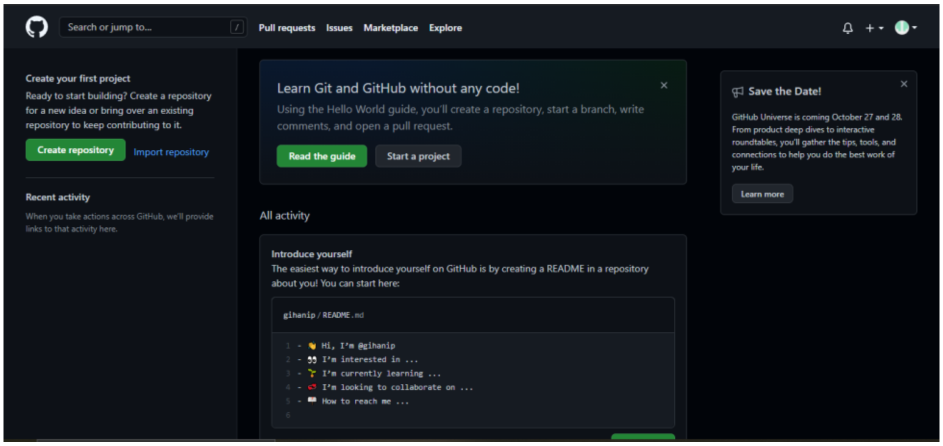
This tutorial will take you through setting up the design repository for your project work. Design repository (or repo) is a part of any software or hardware design company which keeps the records of different versions of your design. These versions can be accessed later when needed.

1 CONTENTS

1.1 FAMILIARIZING WITH GITHUB

Github.com is an online hosting platform which can be used free of charge (maximum three users for the basic version). It lets you and your team work collaboratively from any where in the world. This part of the tutorial is based on https://guides.github.com/activities/hello-world/ . Please go though the complete tutorial, if needed better explanations in some parts and for step by step guidelines.

- Step 1 : Create your github account
  - Visit www.github.com
  - Create your account with a good username as you may need to use it in your future work



Create your first project

Ready to start building? Create a repository for a new idea or bring over an existing repository to keep contributing to it.

Recent activity

When you take actions across GitHub, we'll provide links to that activity here.

Learn Git and GitHub without any code!

Using the Hello World guide, you'll create a repository, start a branch, write comments, and open a pull request.

Save the Date!

GitHub Universe is coming October 27 and 28. From product deep dives to interactive roundtables, you'll gather the tips, tools, and connections to help you do the best work of your life.

All activity

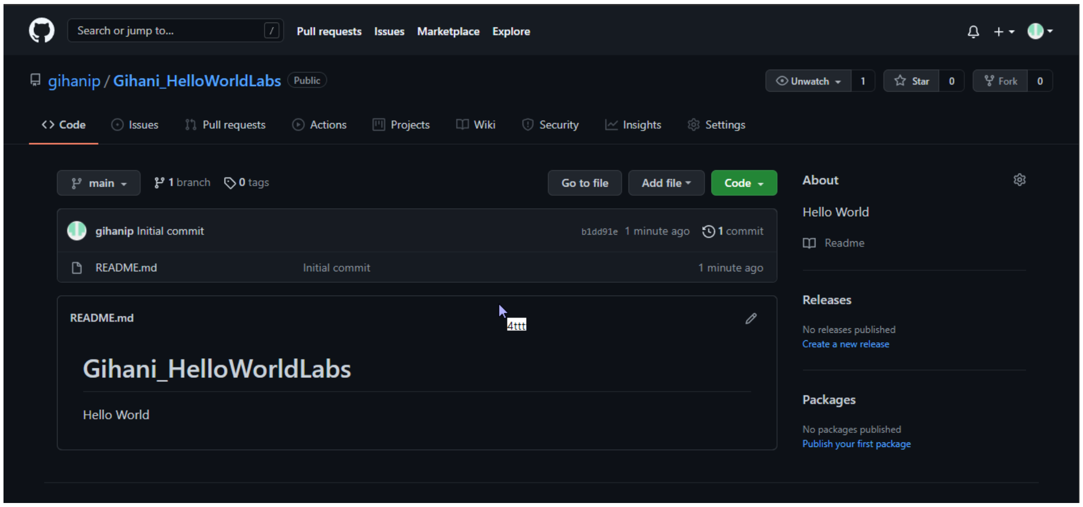
Introduce yourself

The easiest way to introduce yourself on GitHub is by creating a README in a repository about you! You can start here:

```
gihanip / README.md

- 👋 Hi, I'm @gihanip
- 👀 I'm interested in ...
- 🌱 I'm currently learning ...
- 💞️ I'm looking to collaborate on ...
- 📫 How to reach me ...
```

- Step 2 : Create a repository
    - A repository is used to host a single project which can contain any type of data including folders.
    - Login to your github.com page
    - By selecting '+' and New repository
    - Name of the repository "YourFirstName_HelloWorldLabs", Use a meaningful name with no spaces
    - Add a short description. Try to describe the project in short
    - Select "Initialize this repository with a README"
    - Click create repository



gihanip / Gihani_HelloWorldLabs

gihanip Initial commit b1dd91e 1 minute ago 1 commit

README.md Initial commit 1 minute ago

README.md

Gihani_HelloWorldLabs

Hello World

About

Hello World

Readme

Releases

No releases published

Create a new release

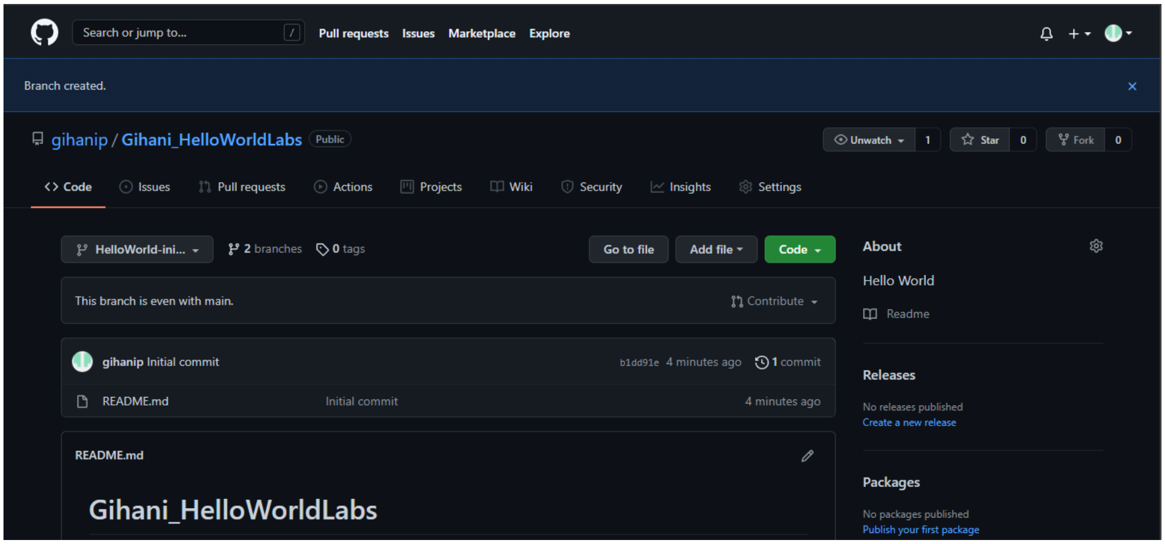
Packages

No packages published

Publish your first package

- Step 3: Branching
    - This is the way to work on different versions of a project.
    - The master branch is considered to be the working project which can be branched, edited and tested before committing back to the master branch. In this way master branch contains a working set of design files all the time. Your branch is independent from someone else's. Therefore it is possible to work simultaneously in developing different features of the same project.

- Create a new branch named “HelloWorld-Initial”
- Now we have two branches named “master “ and “HelloWorld-Initial”



Branch created.

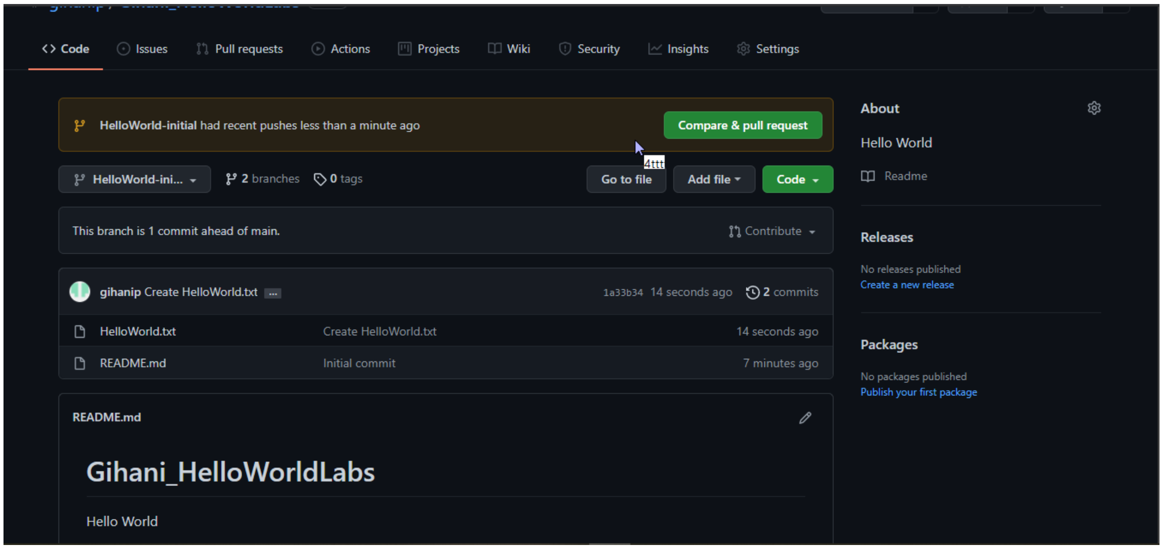
This branch is even with main.

gihanip Initial commit		b1dd91e 4 minutes ago 1 commit
README.md	Initial commit	4 minutes ago

README.md

Gihani_HelloWorldLabs

- Step 4: Commit changes
  - Now you can start editing the files in your branch
  - Add a new file named “HelloWorld.txt”
  - Write some text in the “HelloWorld.txt”
  - Then click “Commit changes”



HelloWorld-initial had recent pushes less than a minute ago

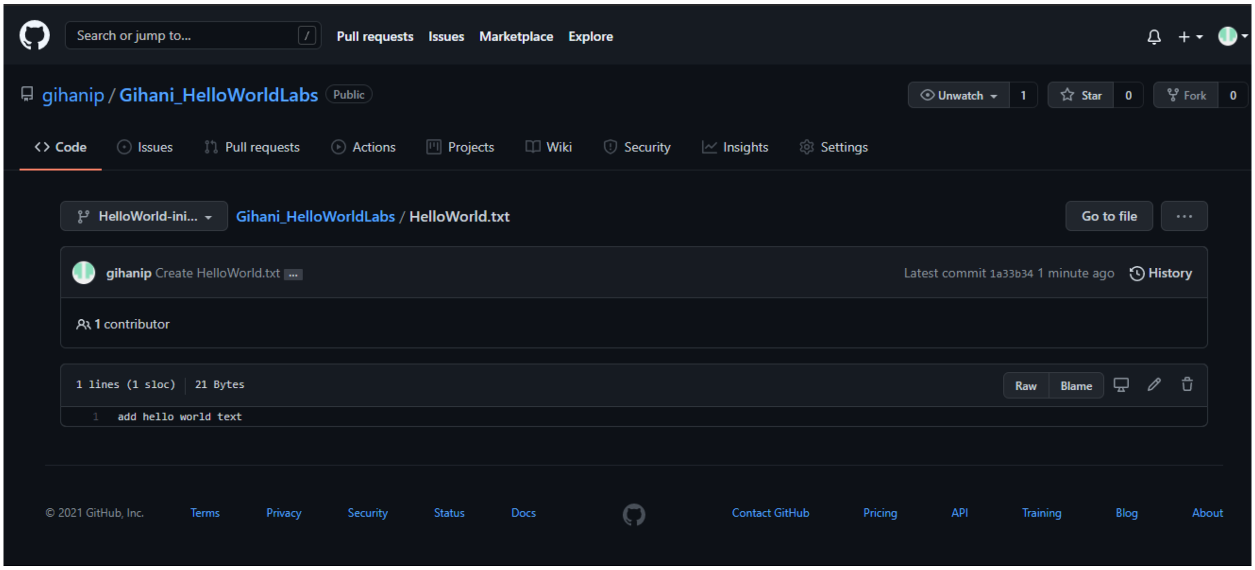
This branch is 1 commit ahead of main.

gihanip Create HelloWorld.txt		1a33b34 14 seconds ago 2 commits
HelloWorld.txt	Create HelloWorld.txt	14 seconds ago
README.md	Initial commit	7 minutes ago

README.md

Gihani_HelloWorldLabs

Hello World



gihanip / Gihani_HelloWorldLabs Public

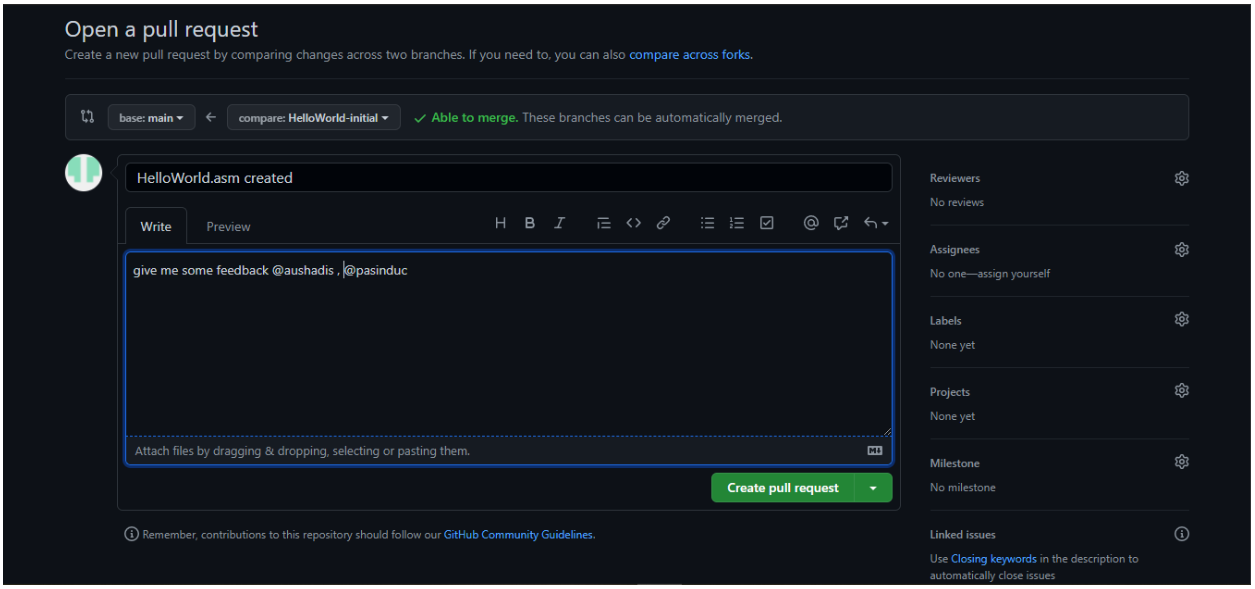
HelloWorld-ini... Gihani_HelloWorldLabs / HelloWorld.txt

gihanip Create HelloWorld.txt ... Latest commit 1a33b34 1 minute ago

1 contributor

```
1 lines (1 sloc)  21 Bytes
add hello world text
```

- Step 5: Open a pull request
  - Using pull requests, you can ask someone to review your contributions before merge them to the master branch or some other branch.
  - It is possible open a pull request as soon as you make a commit.
  - You can use “mention” system to ask someone to give feedback
  - It is possible to open up pull requests yourself and merge them yourself.
  - Create a pull request and give it the title “HelloWorld.asm created”



Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also compare across forks.

base: main ← compare: HelloWorld-initial ✓ Able to merge. These branches can be automatically merged.

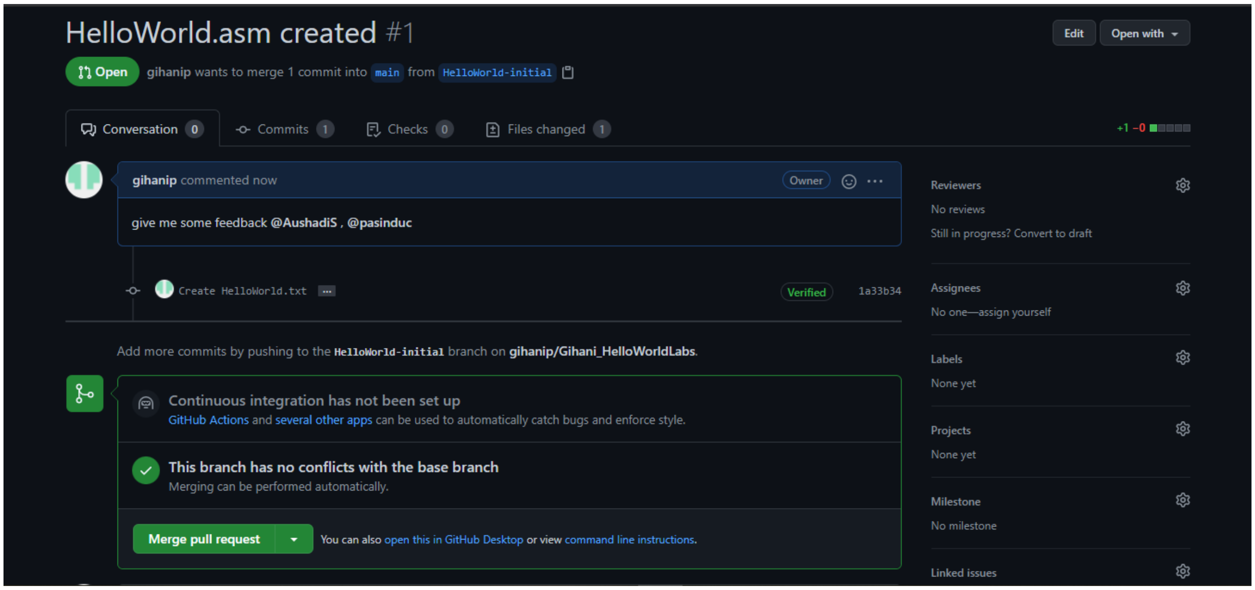
HelloWorld.asm created

give me some feedback @aushadis , @pasinduc

Attach files by dragging & dropping, selecting or pasting them.

Reviewers: No reviews
Assignees: No one—assign yourself
Labels: None yet
Projects: None yet
Milestone: No milestone
Linked issues: Use Closing keywords in the description to automatically close issues

Remember, contributions to this repository should follow our GitHub Community Guidelines.



HelloWorld.asm created #1

Open gihanip wants to merge 1 commit into `main` from `HelloWorld-initial`

gihanip commented now

give me some feedback @AushadiS , @pasinduc

Create HelloWorld.txt

Add more commits by pushing to the **HelloWorld-initial** branch on **gihanip/Gihani_HelloWorldLabs**.

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.

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

No reviews

Still in progress? Convert to draft

No one—assign yourself

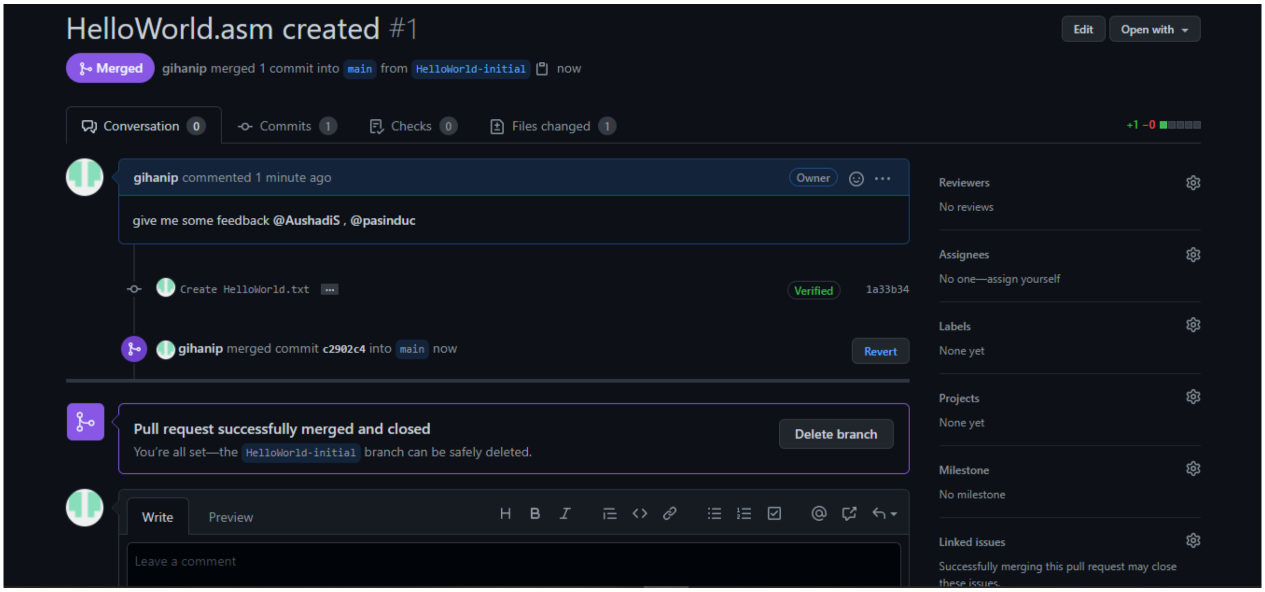
None yet

None yet

No milestone

- Step 6: Merge the pull request
  - Once you finish testing your branch it can be merged to the master branch

  - It shows if there are any conflicts of the edited files. If two users edit the same file from two locations, there can be conflicts.
  - Click Merge pull request and confirm the merge
  - You can delete the branch as the changes are already incorporated.



HelloWorld.asm created #1

Merged gihanip merged 1 commit into `main` from `HelloWorld-initial` now

gihanip commented 1 minute ago

give me some feedback @AushadiS , @pasinduc

Create HelloWorld.txt

gihanip merged commit c2902c4 into `main` now

Pull request successfully merged and closed

You're all set—the `HelloWorld-initial` branch can be safely deleted.

Leave a comment

No reviews

No one—assign yourself

None yet

None yet

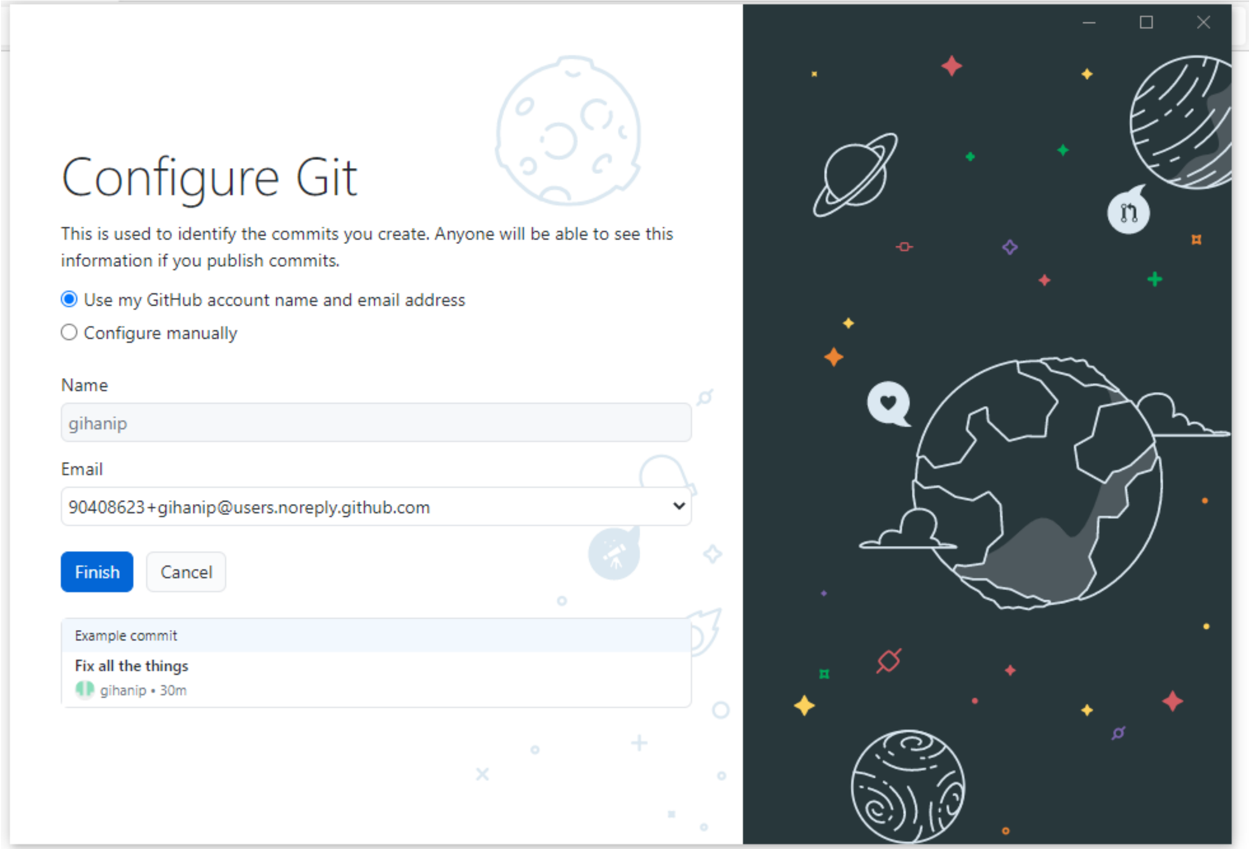
No milestone

Successfully merging this pull request may close these issues.

1.2 GITHUB GUI

You can manage your codes locally with the help of command line arguments or with the Github GUI. Following instructions are to setup the Github GUI in your computer.

- Step 1 : Installing Github desktop
    - https://desktop.github.com/ download and install Github desktop from here
    - Login using your Github account login details



Configure Git

This is used to identify the commits you create. Anyone will be able to see this information if you publish commits.

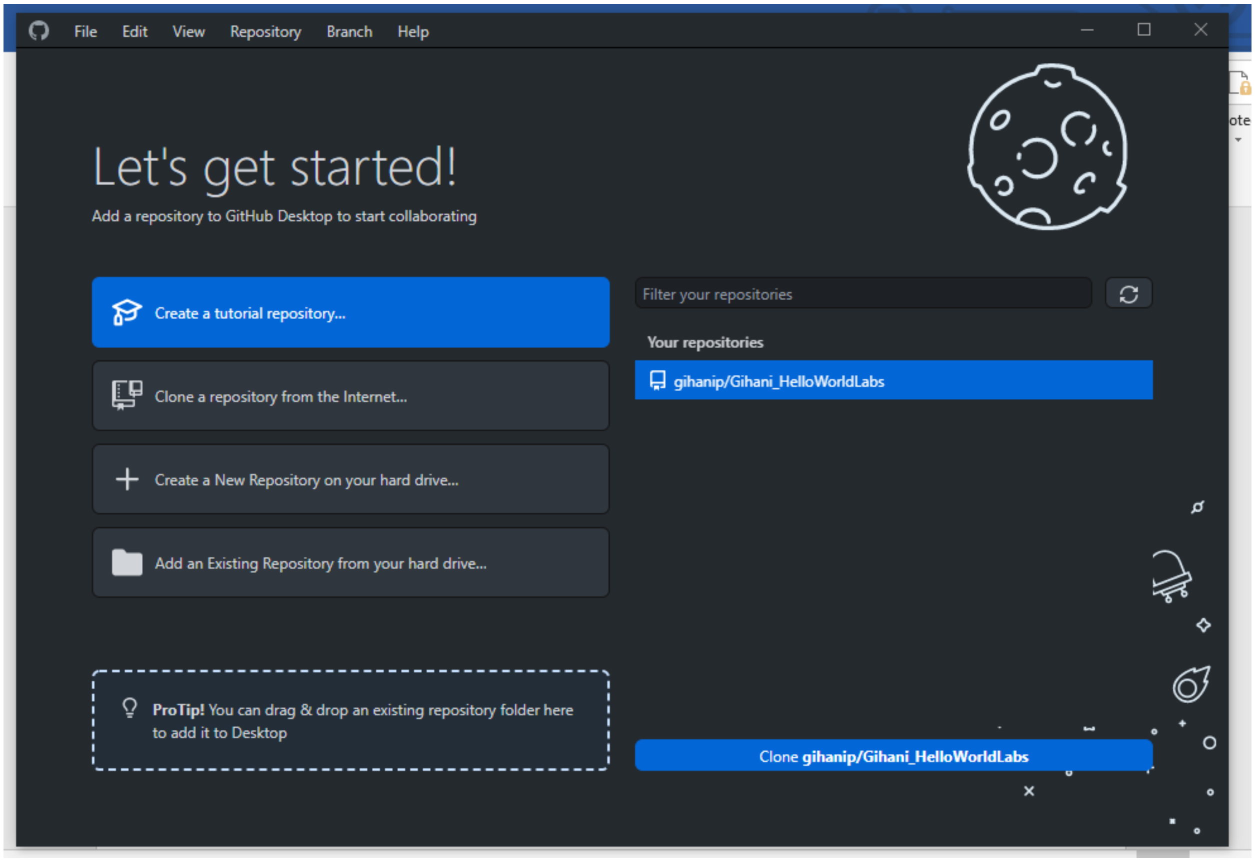
● Use my GitHub account name and email address

○ Configure manually

Name: gihanip

Email: 90408623+gihanip@users.noreply.github.com

- Step 2 : Managing the repository
    - Clone the repository your created at Github.com to your computer


File
Edit
View
Repository
Branch
Help

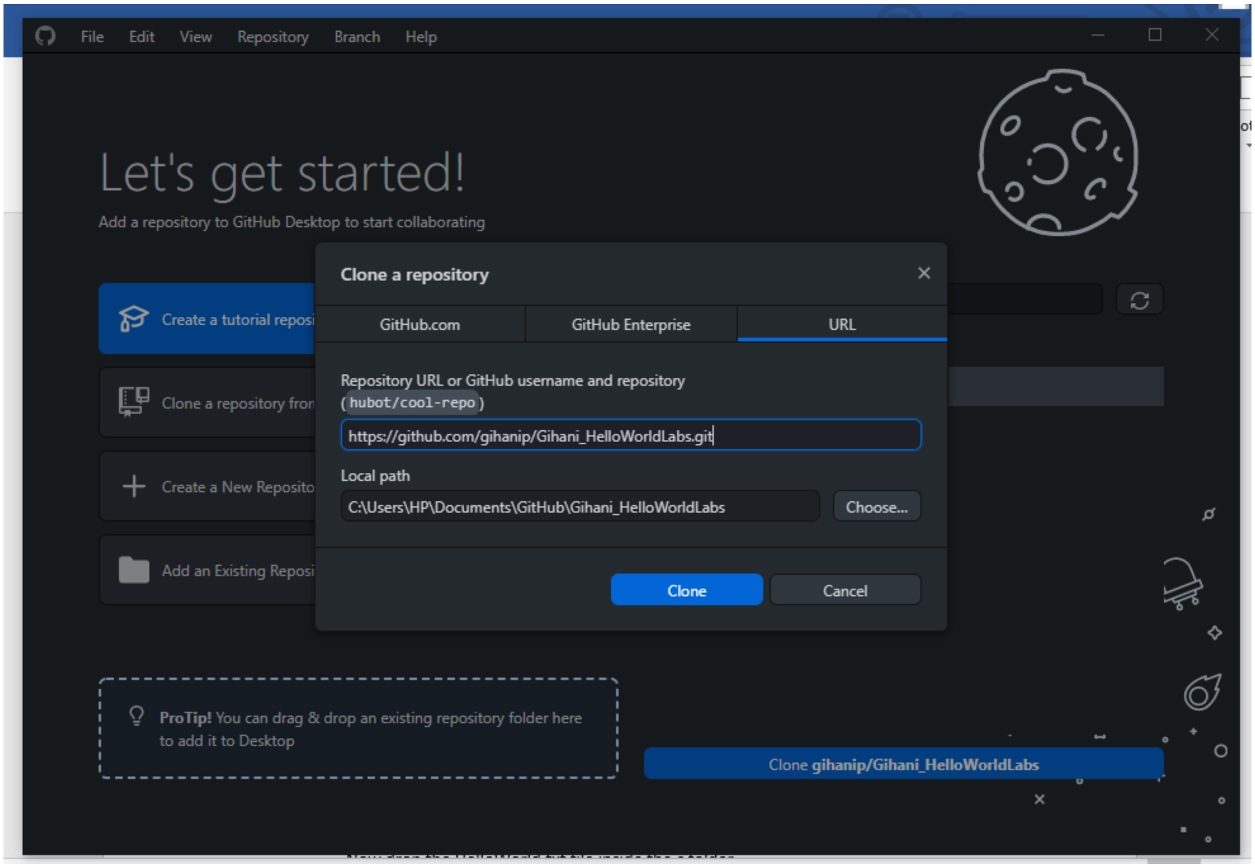
Let's get started!

Add a repository to GitHub Desktop to start collaborating

Create a tutorial repository...
Clone a repository from the Internet...
Create a New Repository on your hard drive...
Add an Existing Repository from your hard drive...
Filter your repositories
Your repositories
gihanip/Gihani_HelloWorldLabs

ProTip! You can drag & drop an existing repository folder here to add it to Desktop

Clone **gihanip/Gihani_HelloWorldLabs**



Let's get started!

Add a repository to GitHub Desktop to start collaborating

Clone a repository

Repository URL or GitHub username and repository (`hubot/cool-repo`)

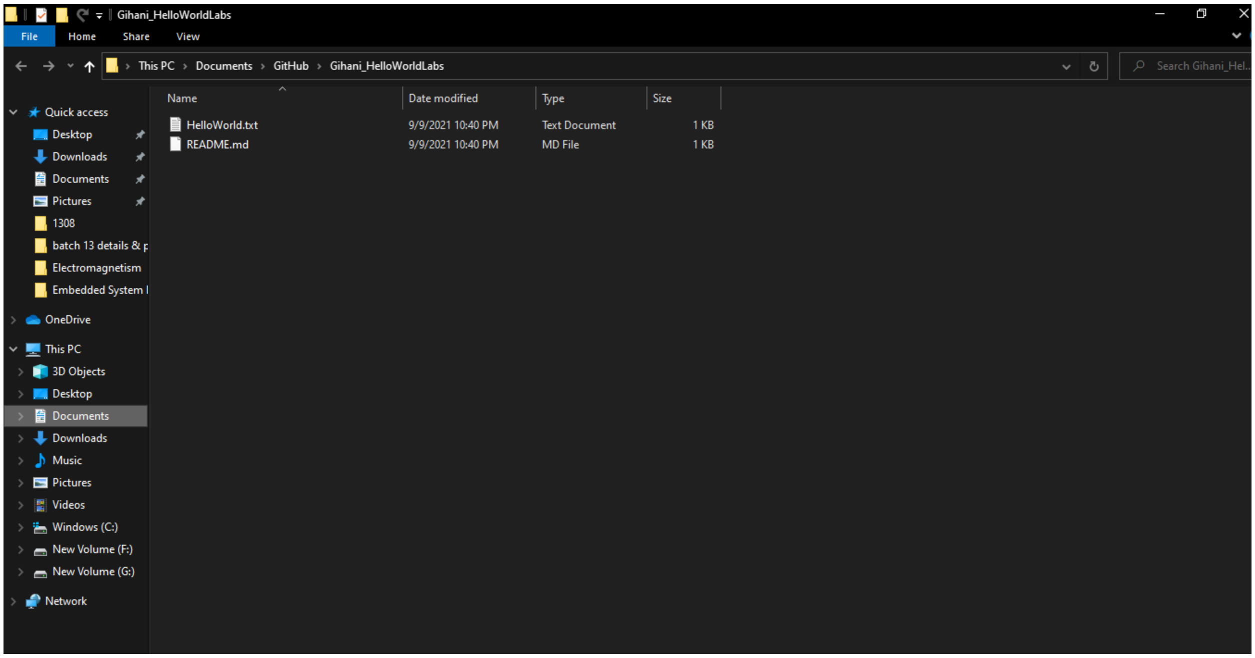
https://github.com/gihanip/Gihani_HelloWorldLabs.git

Local path

C:\Users\HP\Documents\GitHub\Gihani_HelloWorldLabs

ProTip! You can drag & drop an existing repository folder here to add it to Desktop

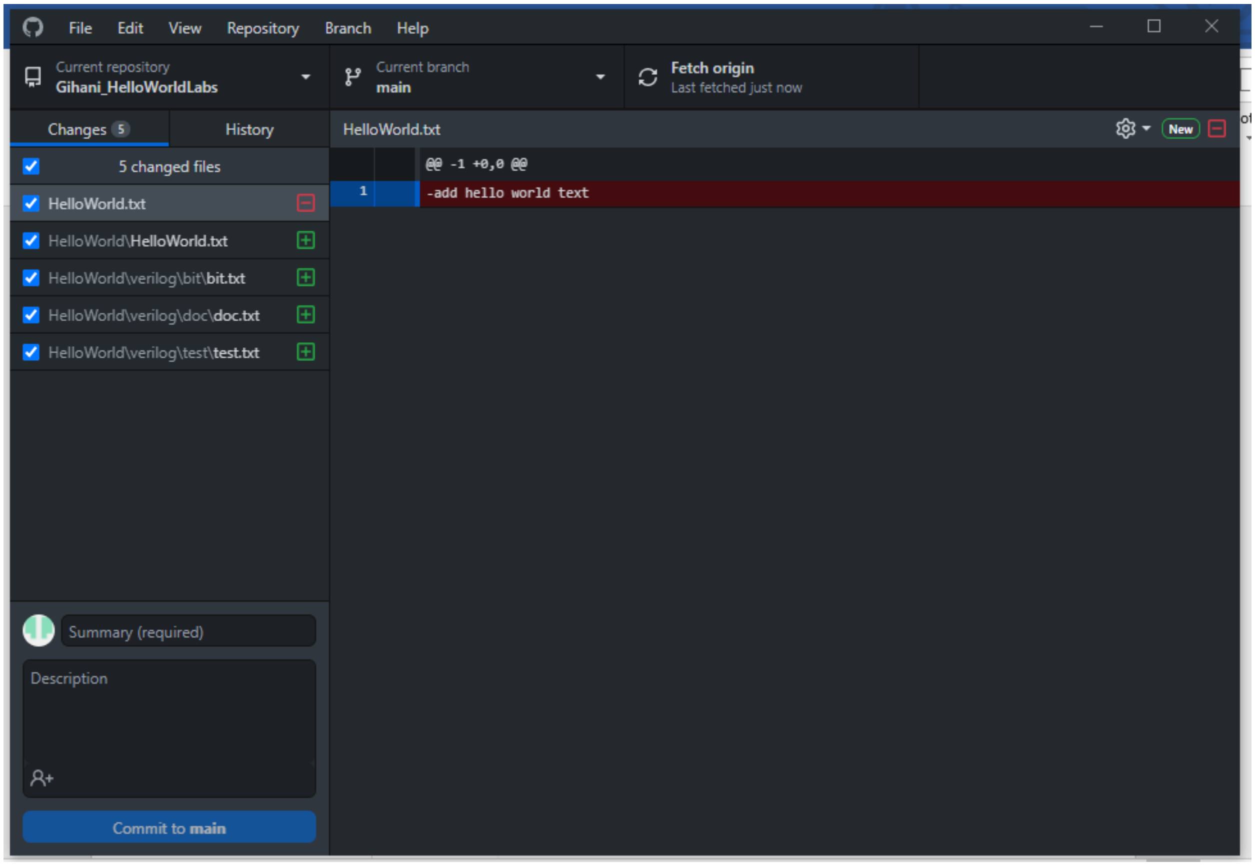
- ○ Now view the repository in file explorer



Name	Date modified	Type	Size
HelloWorld.txt	9/9/2021 10:40 PM	Text Document	1 KB
README.md	9/9/2021 10:40 PM	MD File	1 KB

- ○ Create the following folder structure in your github folder

        - HelloWorld
            - verilog
                - doc
                - test
                - bit
- Advantage of having a well-defined folder structure your project is that you don’t need to look again and again where some specific files are.
    - C: contains the main files, in this case HelloWorld.asm
    - Doc : Readme files on how to run the program
    - Test : A program or software simulation files which used to test your code
    - bit : bit file ready to be programmed on the FPGA
- Now drop the HelloWorld.txt file inside the c folder.
- Create some text files inside other folders as well
- Now on the GUI you can see these added files
- It shows that we have moved the HelloWorld.txt file



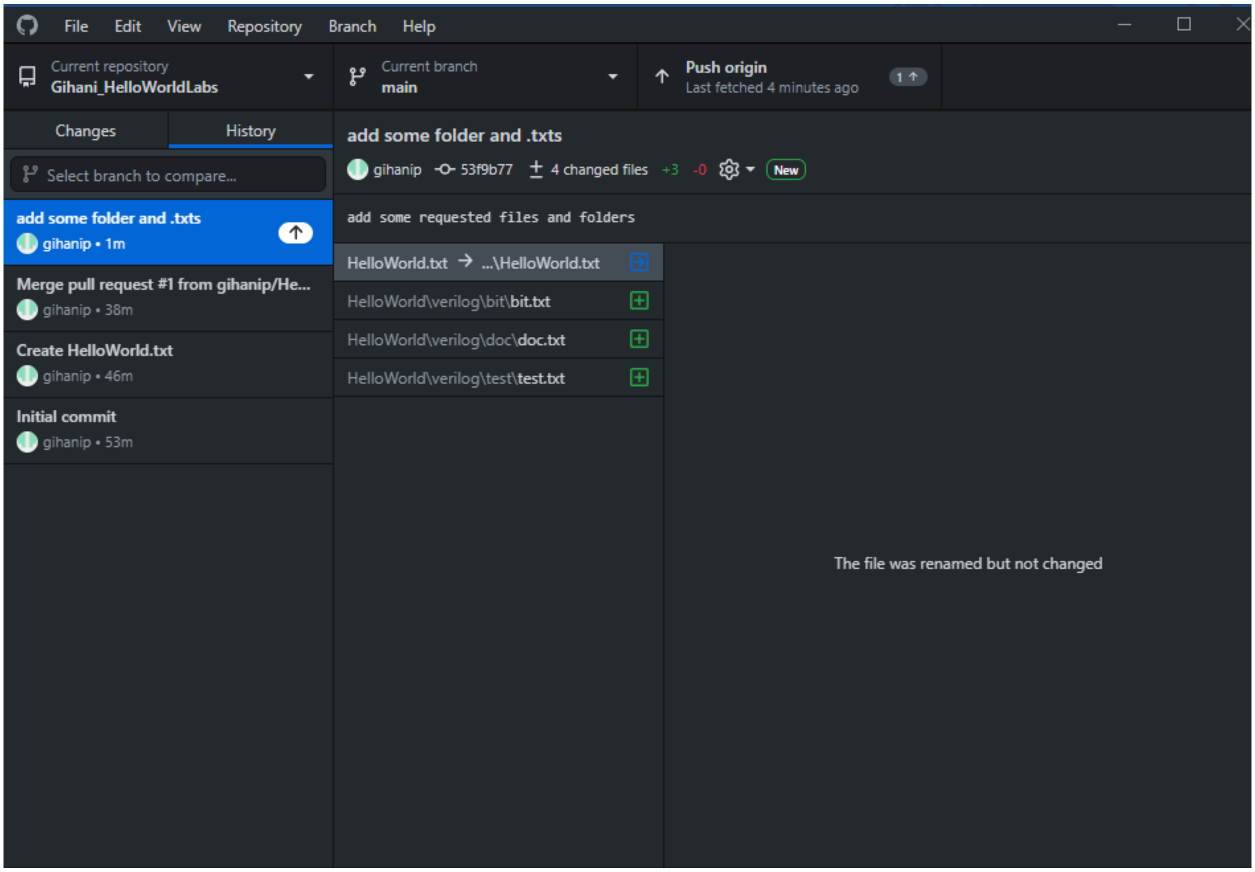
☑ 5 changed files

- ☑ HelloWorld.txt
- ☑ HelloWorld\HelloWorld.txt
- ☑ HelloWorld\verilog\bit\bit.txt
- ☑ HelloWorld\verilog\doc\doc.txt
- ☑ HelloWorld\verilog\test\test.txt

HelloWorld.txt

```
@@ -1 +0,0 @@
1   -add hello world text
```

- Add a “Summary” – Moved HelloWorld.txt file to the C folder



add some folder and .txts
gihanip • 1m

Merge pull request #1 from gihanip/He...
gihanip • 38m

Create HelloWorld.txt
gihanip • 46m

Initial commit
gihanip • 53m

add some folder and .txts

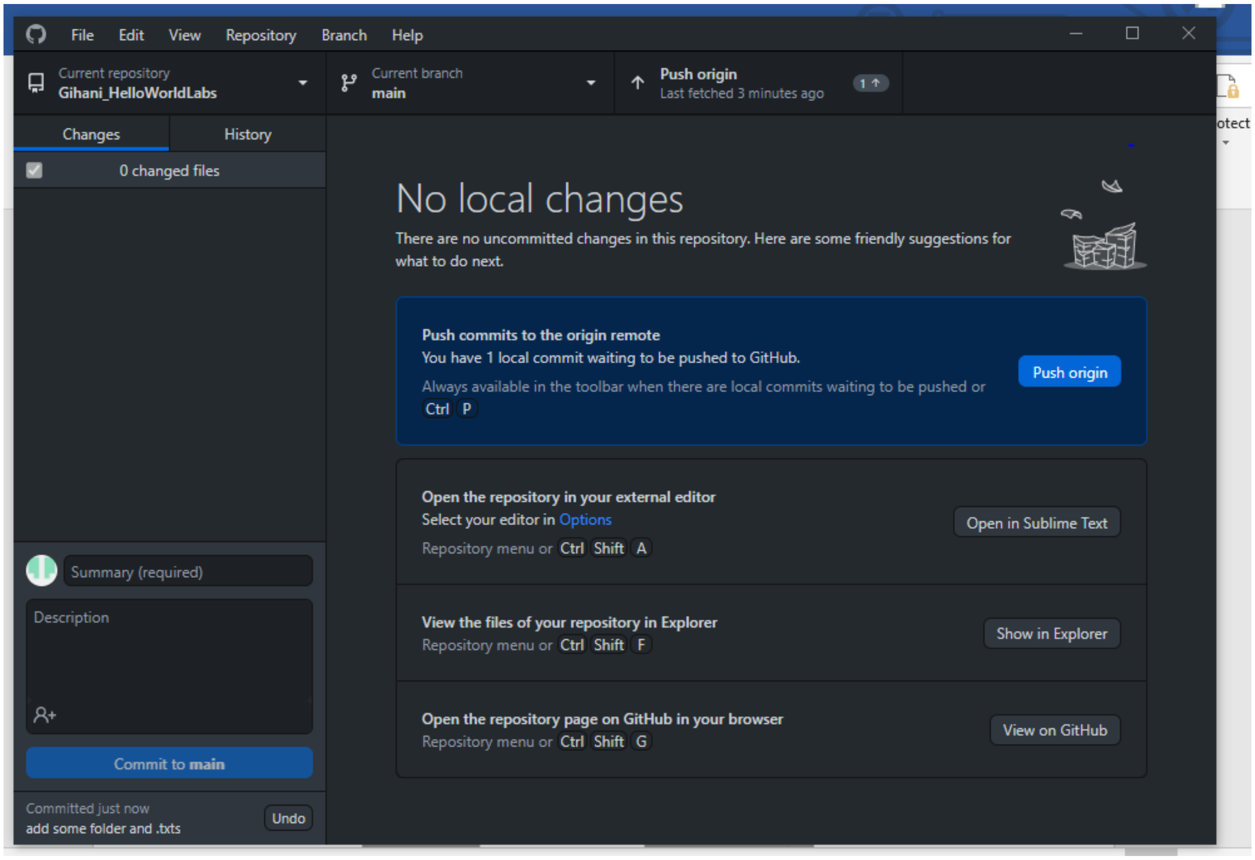
gihanip 53f9b77 4 changed files +3 -0

```
add some requested files and folders
```

HelloWorld.txt → ...\HelloWorld.txt
HelloWorld\verilog\bit\bit.txt
HelloWorld\verilog\doc\doc.txt
HelloWorld\verilog\test\test.txt

The file was renamed but not changed

- Now Commit to the Current branch
- Click push origin to upload these changes to your online repository.



Committed just now
add some folder and .txts

No local changes

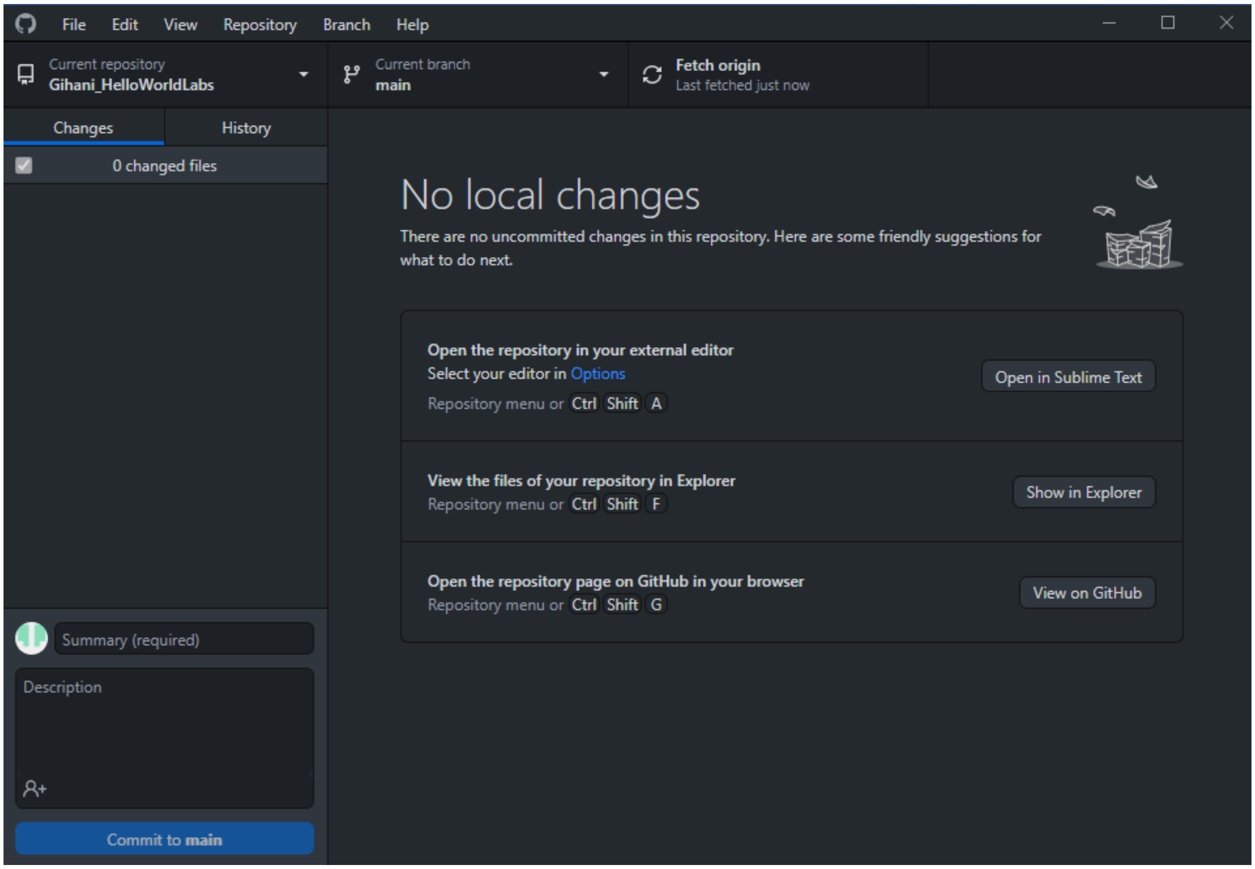
There are no uncommitted changes in this repository. Here are some friendly suggestions for what to do next.

Push commits to the origin remote
You have 1 local commit waiting to be pushed to GitHub.
Always available in the toolbar when there are local commits waiting to be pushed or Ctrl P

Open the repository in your external editor
Select your editor in Options
Repository menu or Ctrl Shift A

View the files of your repository in Explorer
Repository menu or Ctrl Shift F

Open the repository page on GitHub in your browser
Repository menu or Ctrl Shift G



No local changes

There are no uncommitted changes in this repository. Here are some friendly suggestions for what to do next.

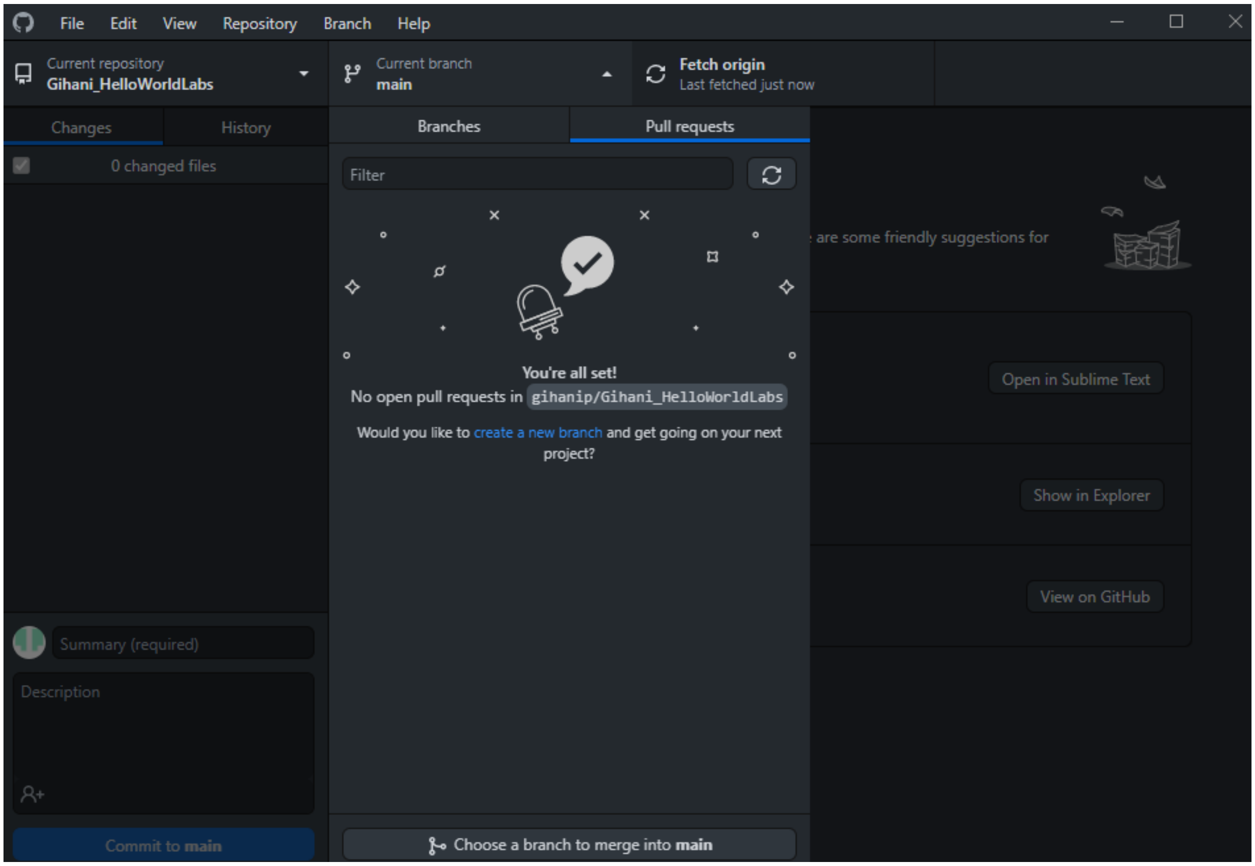
Open the repository in your external editor
Select your editor in Options
Repository menu or Ctrl Shift A

View the files of your repository in Explorer
Repository menu or Ctrl Shift F

Open the repository page on GitHub in your browser
Repository menu or Ctrl Shift G

- You can make a Pull request which will take you to the online repo from the Github desktop. Create your pull request as given in the first section.

Figure 1 : Pull request



are some friendly suggestions for

You're all set!

No open pull requests in `gihanip/Gihani_HelloWorldLabs`

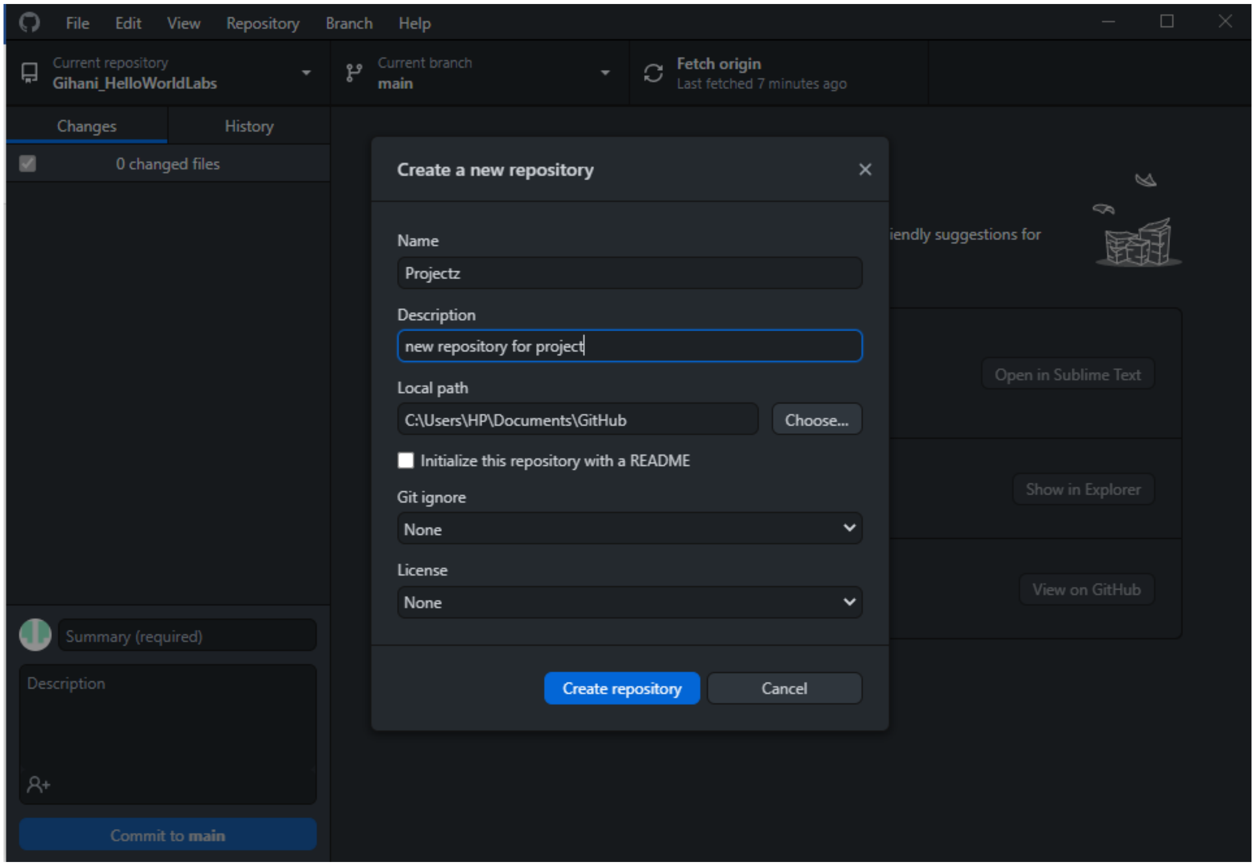
Would you like to create a new branch and get going on your next project?

- Step 3 : Familiar yourself with Github desktop
    - https://help.github.com/en/desktop Please refer to the help located in the given link to overcome any issue you face.
    - Also try to use the other features available in the GUI. Get familiarize with them.

1.3 Collaboration

Main advantage of Git repo is the possibility of working simultaneously on different parts of a project. Follow the steps to create your own repo to be shared between team members.

- Step 1: Creation of new repository
    - Create a public repo for your group project



Create a new repository

Name: Projectz

Description: new repository for project

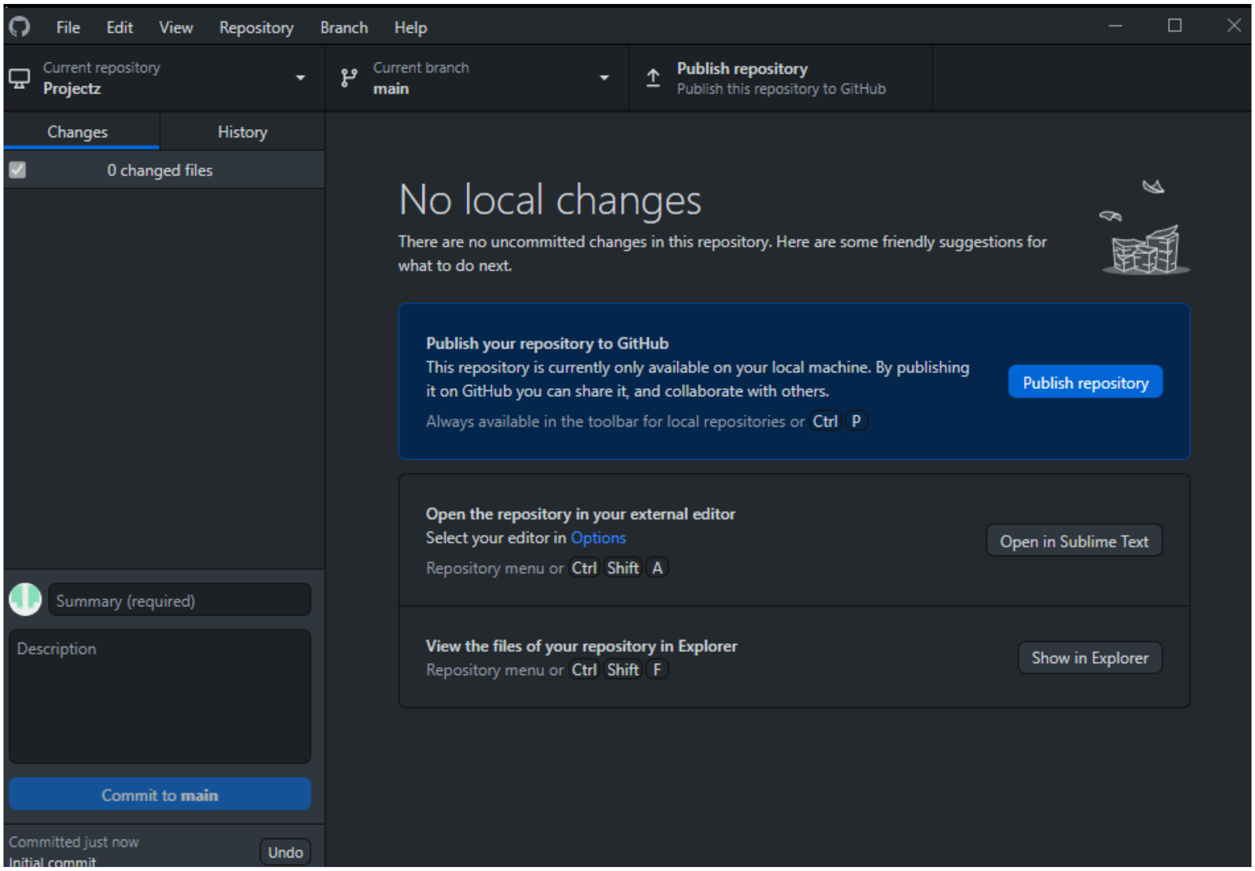
Local path: C:\Users\HP\Documents\GitHub

□ Initialize this repository with a README

Git ignore: None

License: None

- Use a shortened name as the repository name



No local changes

There are no uncommitted changes in this repository. Here are some friendly suggestions for what to do next.

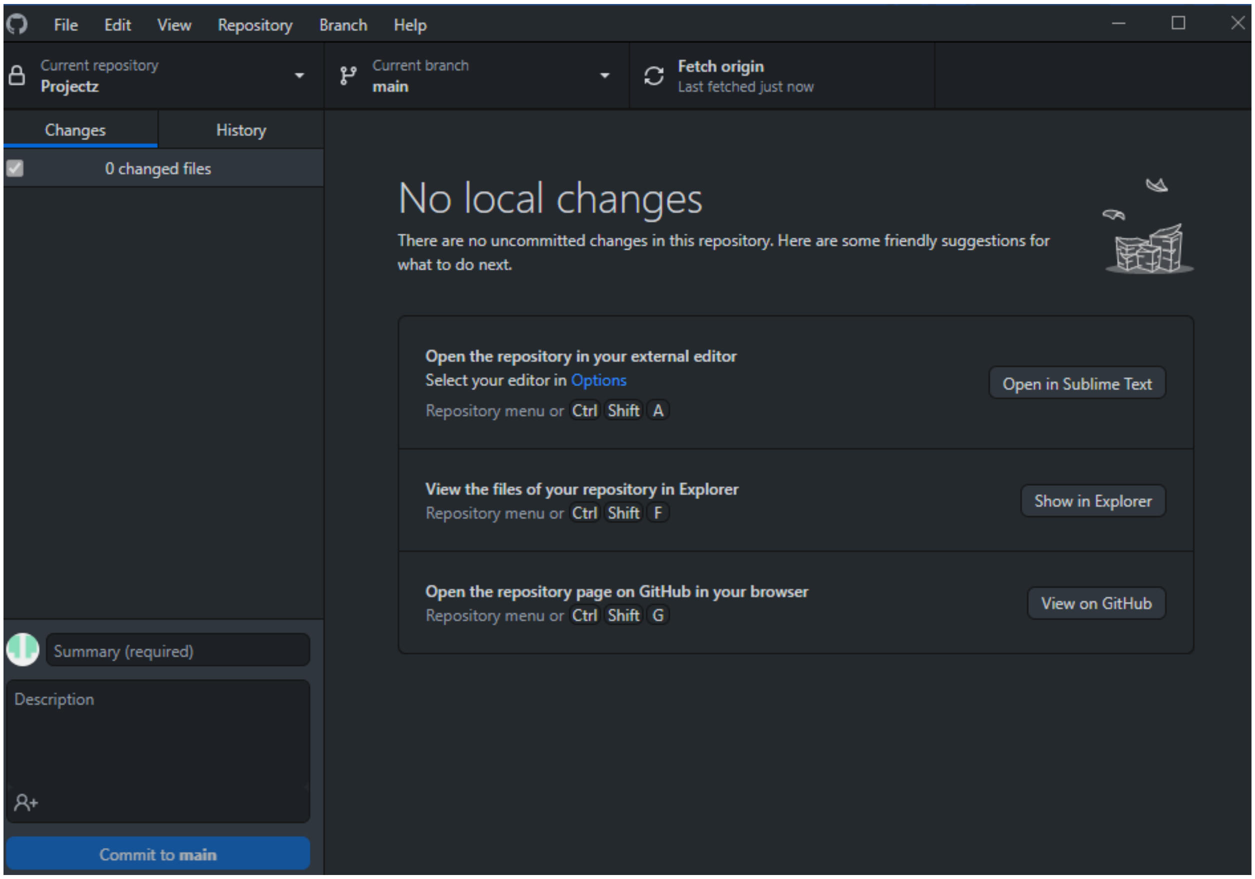
Publish your repository to GitHub
This repository is currently only available on your local machine. By publishing it on GitHub you can share it, and collaborate with others.
Always available in the toolbar for local repositories or Ctrl P

Open the repository in your external editor
Select your editor in Options
Repository menu or Ctrl Shift A

View the files of your repository in Explorer
Repository menu or Ctrl Shift F

Committed just now
Initial commit

- Create this repository without any files by the group leader



No local changes

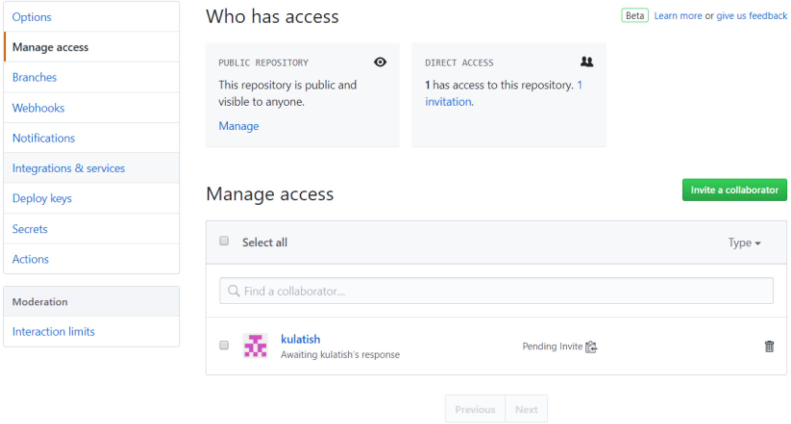
There are no uncommitted changes in this repository. Here are some friendly suggestions for what to do next.

Open the repository in your external editor
Select your editor in Options
Repository menu or Ctrl Shift A

View the files of your repository in Explorer
Repository menu or Ctrl Shift F

Open the repository page on GitHub in your browser
Repository menu or Ctrl Shift G

- Step 2: Collaboration
  - Now under the created repo goto Settings and select Manage access from the left sidebar
  - Now under Invite a collaborator, add your team members.



Who has access

PUBLIC REPOSITORY
This repository is public and visible to anyone.
Manage

DIRECT ACCESS
1 has access to this repository. 1 invitation.

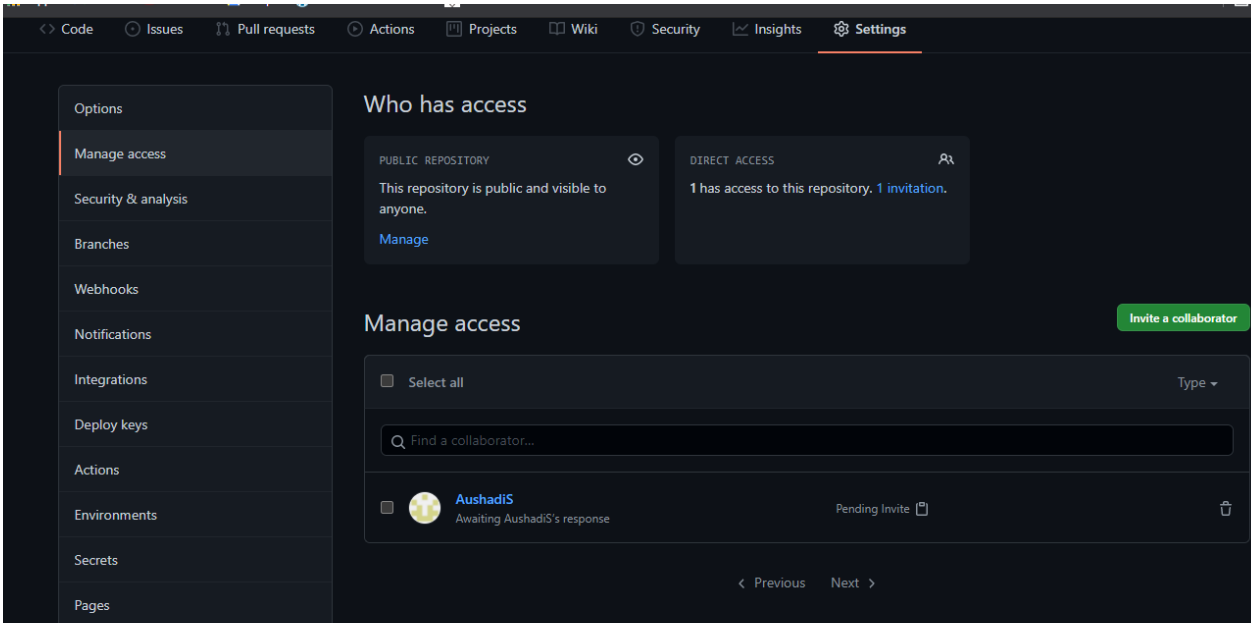
Manage access

kulatish
Awaiting kulatish's response
Pending Invite

Figure 2: Project collaboration

- Send the copied invitation link from the icon next to pending invite to your team members.

- ○ Team members can now accept the invitation to collaborate for the project



Who has access

PUBLIC REPOSITORY

This repository is public and visible to anyone.

Manage

DIRECT ACCESS

1 has access to this repository. 1 invitation.

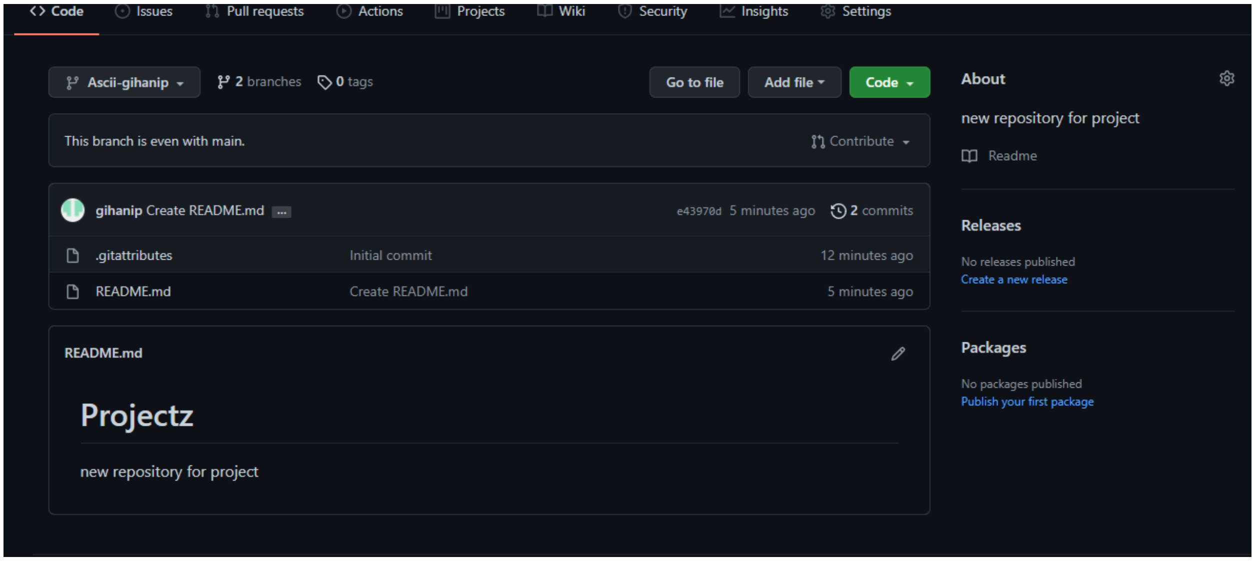
Manage access

□ Select all

Find a collaborator…

□ AushadiS
Awaiting AushadiS's response
Pending Invite

- Step 3: Project setup
  - ○ Please make sure to create a branch from the master. NEVR MAKE CHANGES TO THE MASTER.
  - ○ Distribute different possible modules among team members. Eg: 4:1 mux, 4-bit adder…etc.
  - ○ Create a branch with a title like “SubProjectName-‘yourfirstname’”, like that create different branch among team members



This branch is even with main.

gihanip Create README.md … e43970d 5 minutes ago 2 commits

.gitattributes	Initial commit	12 minutes ago
README.md	Create README.md	5 minutes ago

README.md

Projectz

new repository for project

About

new repository for project

Readme

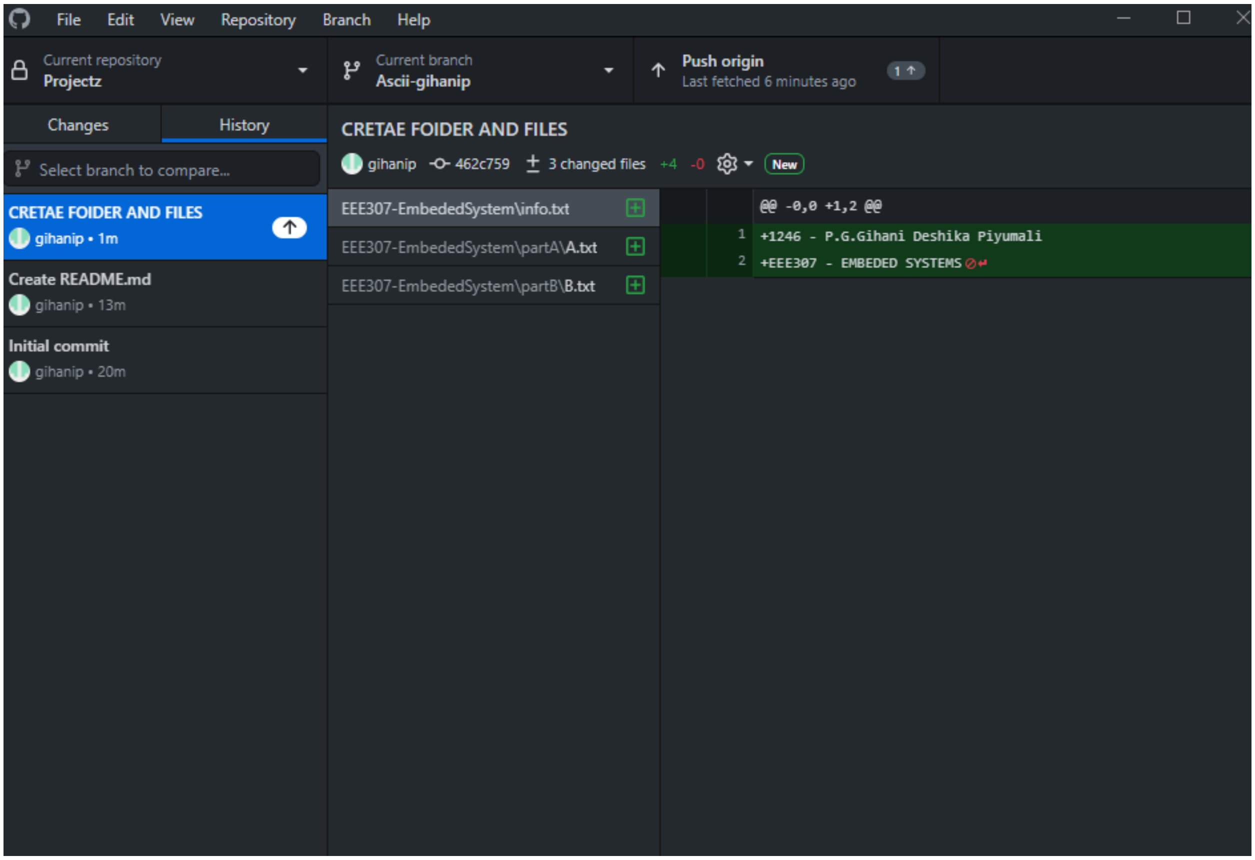
Releases

No releases published
Create a new release

Packages

No packages published
Publish your first package

- ○ Now create the folder structure for your chosen module. Module name is preferred to be short yet descriptive.
- ○ Create some text files inside the folders.



CRETAE FOIDER AND FILES
gihanip • 1m

Create README.md
gihanip • 13m

Initial commit
gihanip • 20m

CRETAE FOIDER AND FILES

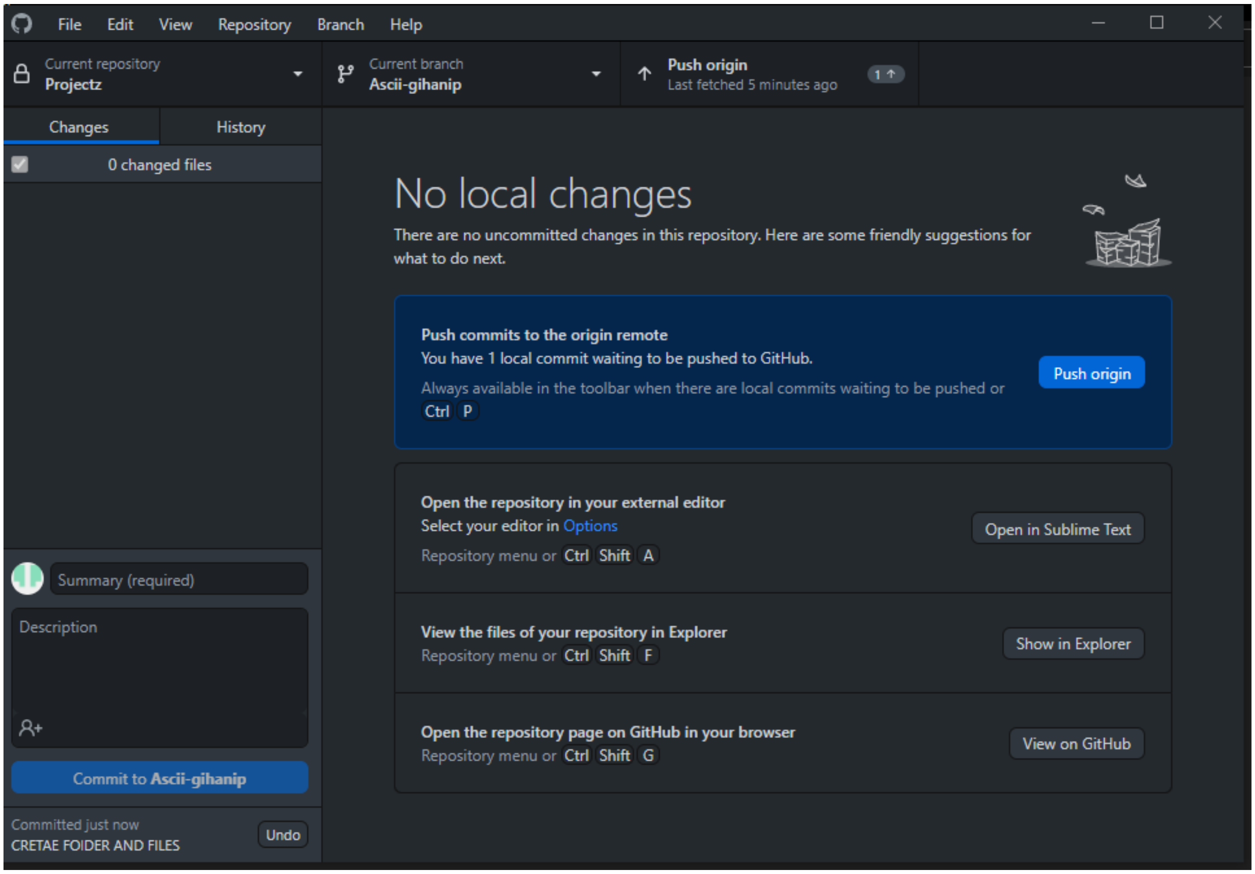
gihanip 462c759 3 changed files +4 -0

EEE307-EmbededSystem\info.txt

EEE307-EmbededSystem\partA\A.txt

EEE307-EmbededSystem\partB\B.txt

```
@@ -0,0 +1,2 @@
1 +1246 - P.G.Gihani Deshika Piyumali
2 +EEE307 - EMBEDED SYSTEMS
```



Current repository
Projectz

Current branch
Ascii-gihanip

Push origin
Last fetched 5 minutes ago
1 ↑

☑ 0 changed files

No local changes

There are no uncommitted changes in this repository. Here are some friendly suggestions for what to do next.

Push commits to the origin remote
You have 1 local commit waiting to be pushed to GitHub.
Always available in the toolbar when there are local commits waiting to be pushed or Ctrl P

Open the repository in your external editor
Select your editor in Options
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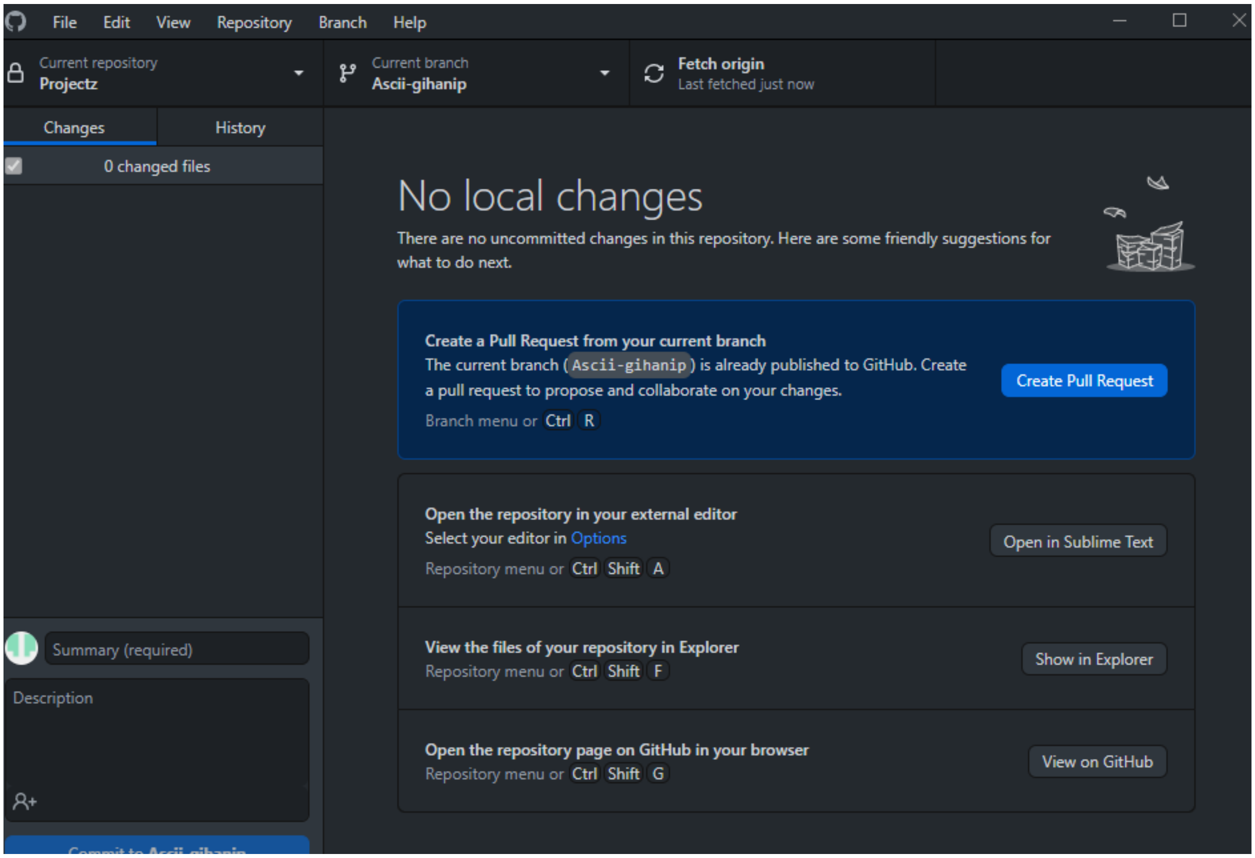
View the files of your repository in Explorer
Repository menu or Ctrl Shift F

Open the repository page on GitHub in your browser
Repository menu or Ctrl Shift G

Committed just now
CRETAE FOIDER AND FILES

- Step 4:
  - Commit your changes and create pull requests. Make sure to give a short description of the change you have done in the commit message.
  - Now the team leader can accept the pull requests if these changes are ok.
  - Once accepted check the master branch and observe the differences.



No local changes

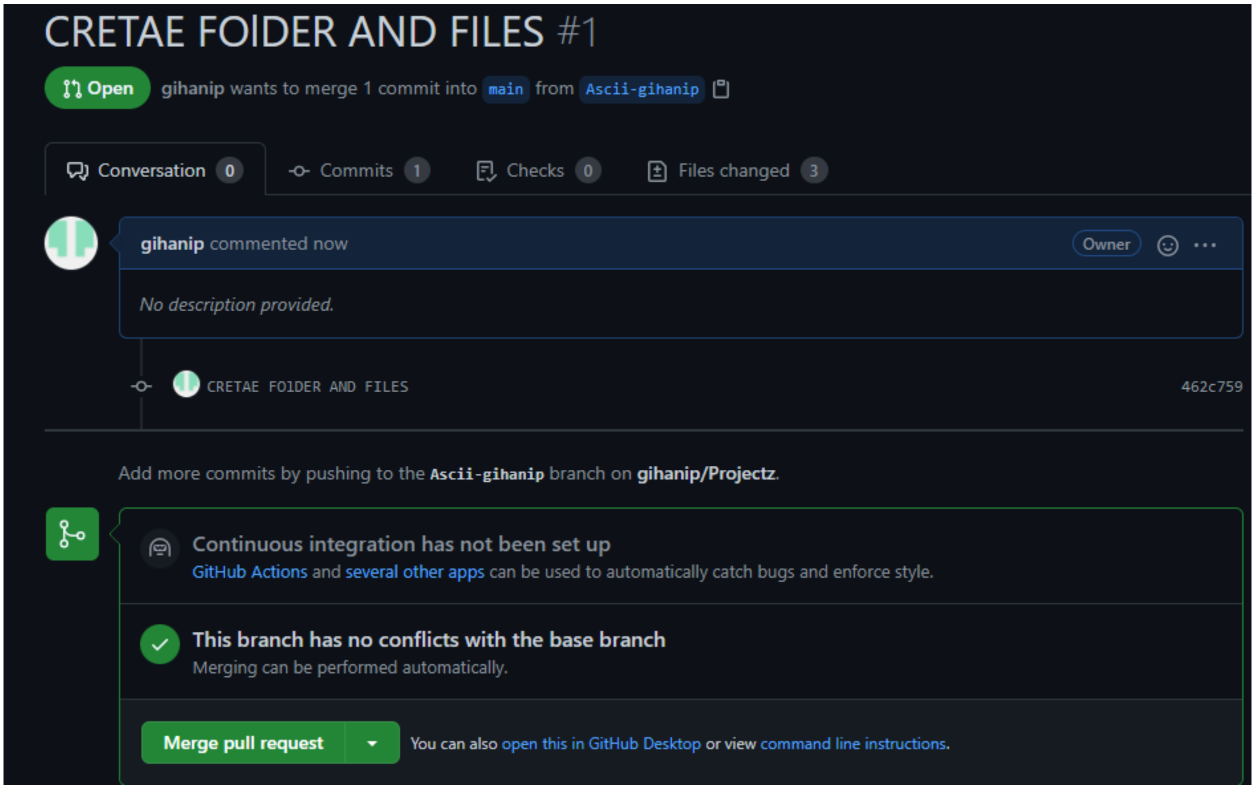
There are no uncommitted changes in this repository. Here are some friendly suggestions for what to do next.

Create a Pull Request from your current branch
The current branch (`Ascii-gihanip`) is already published to GitHub. Create a pull request to propose and collaborate on your changes.
Branch menu or Ctrl R

Open the repository in your external editor
Select your editor in Options
Repository menu or Ctrl Shift A

View the files of your repository in Explorer
Repository menu or Ctrl Shift F

Open the repository page on GitHub in your browser
Repository menu or Ctrl Shift G



CRETAE FOlDER AND FILES #1

gihanip wants to merge 1 commit into `main` from `Ascii-gihanip`

gihanip commented now

No description provided.

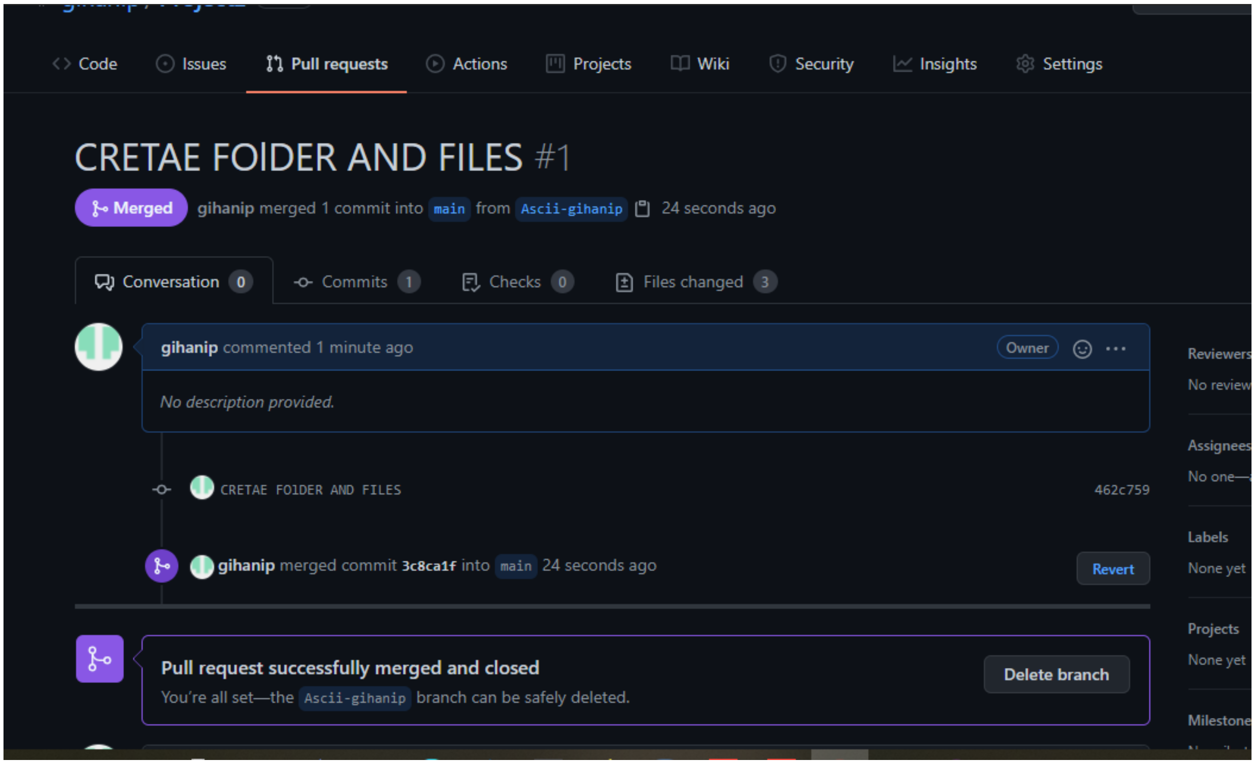
`CRETAE FOlDER AND FILES` 462c759

Add more commits by pushing to the **Ascii-gihanip** branch on **gihanip/Projectz**.

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.

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



CRETAE FOIDER AND FILES #1

Merged gihanip merged 1 commit into `main` from `Ascii-gihanip` 24 seconds ago

gihanip commented 1 minute ago

No description provided.

CRETAE FOIDER AND FILES 462c759

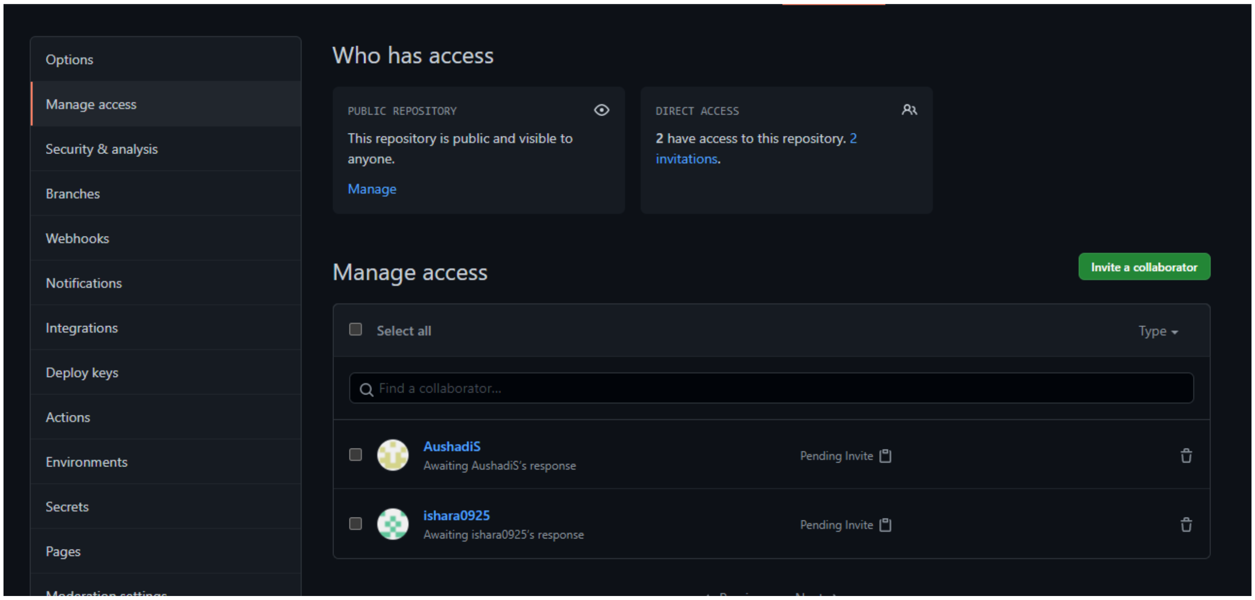
gihanip merged commit `3c8ca1f` into `main` 24 seconds ago

Pull request successfully merged and closed

You're all set—the `Ascii-gihanip` branch can be safely deleted.

1.4 Tasks

1. Add "ishara0925" as a collaborator to your CLEAN project repository. This repository is the one you are going to use for your project.



Who has access

PUBLIC REPOSITORY

This repository is public and visible to anyone.

Manage

DIRECT ACCESS

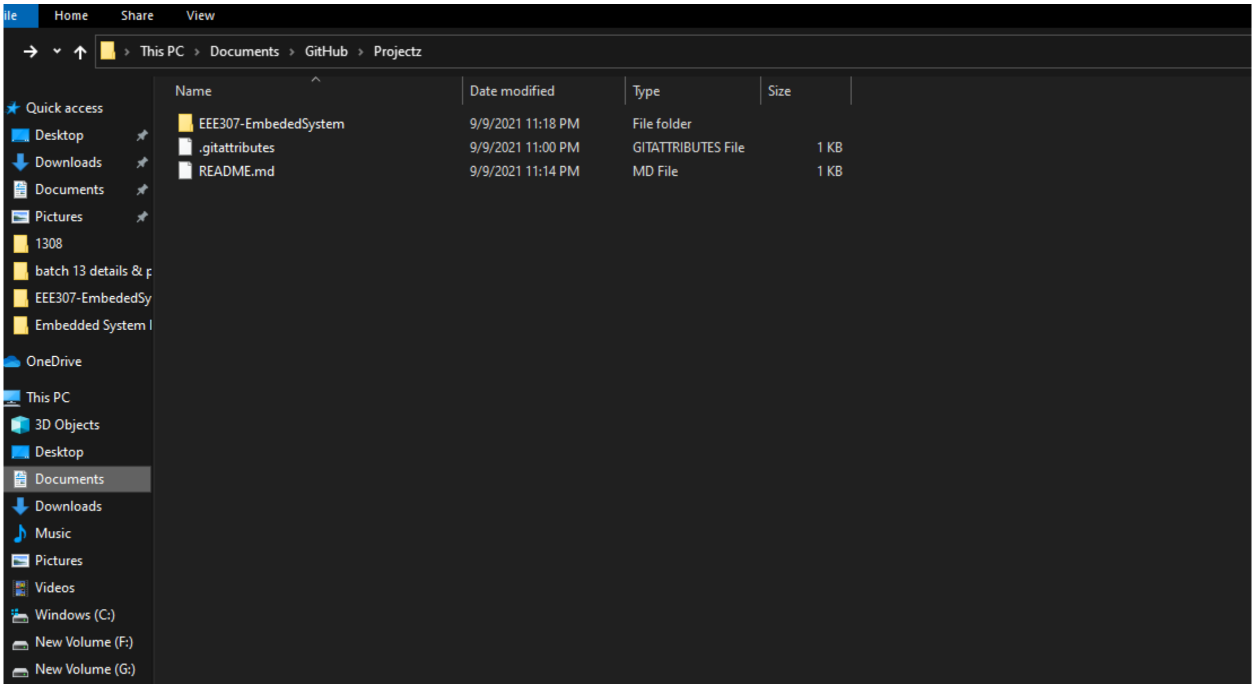
2 have access to this repository. 2 invitations.

Manage access

AushadiS Awaiting AushadiS's response Pending Invite

ishara0925 Awaiting ishara0925's response Pending Invite

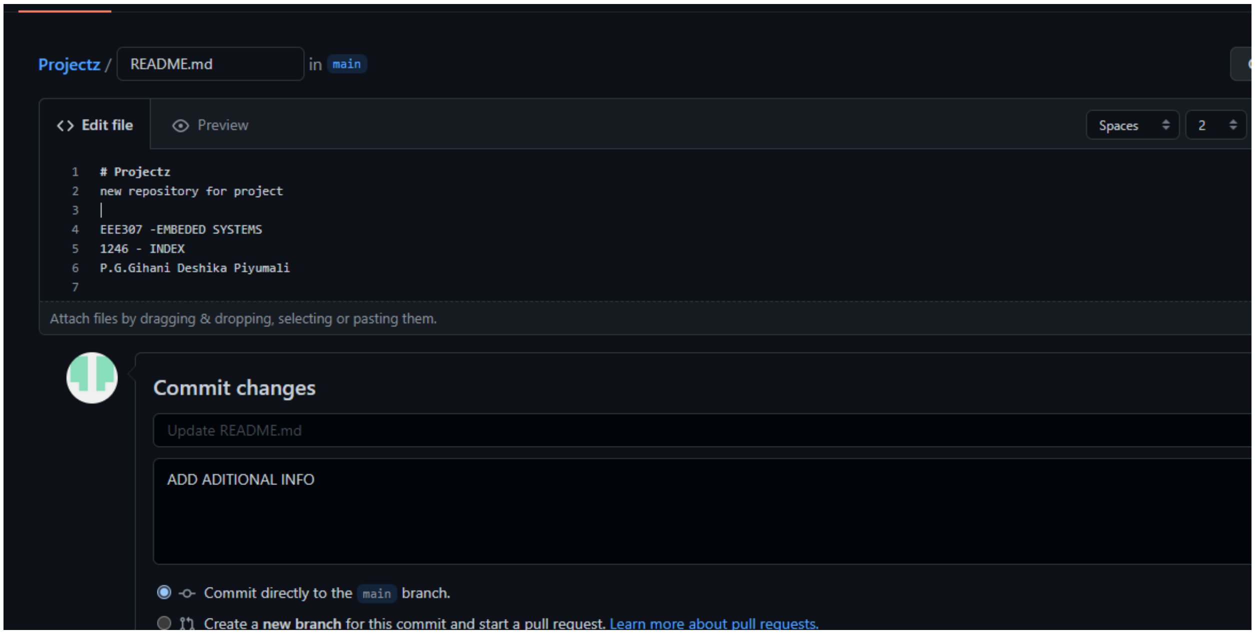
2. Add screen shots of the repository folder structure to your project presentation.



Name	Date modified	Type	Size
EEE307-EmbededSystem	9/9/2021 11:18 PM	File folder	
.gitattributes	9/9/2021 11:00 PM	GITATTRIBUTES File	1 KB
README.md	9/9/2021 11:14 PM	MD File	1 KB

Project presentation should be present inside the presentation folder in your project folder.

3. Add a short description of your project under the repository description.


Projectz / README.md in main
<> Edit file
Preview
Spaces
2

```
# Projectz
new repository for project

EEE307 -EMBEDED SYSTEMS
1246 - INDEX
P.G.Gihani Deshika Piyumali

```

Attach files by dragging & dropping, selecting or pasting them.
Commit changes

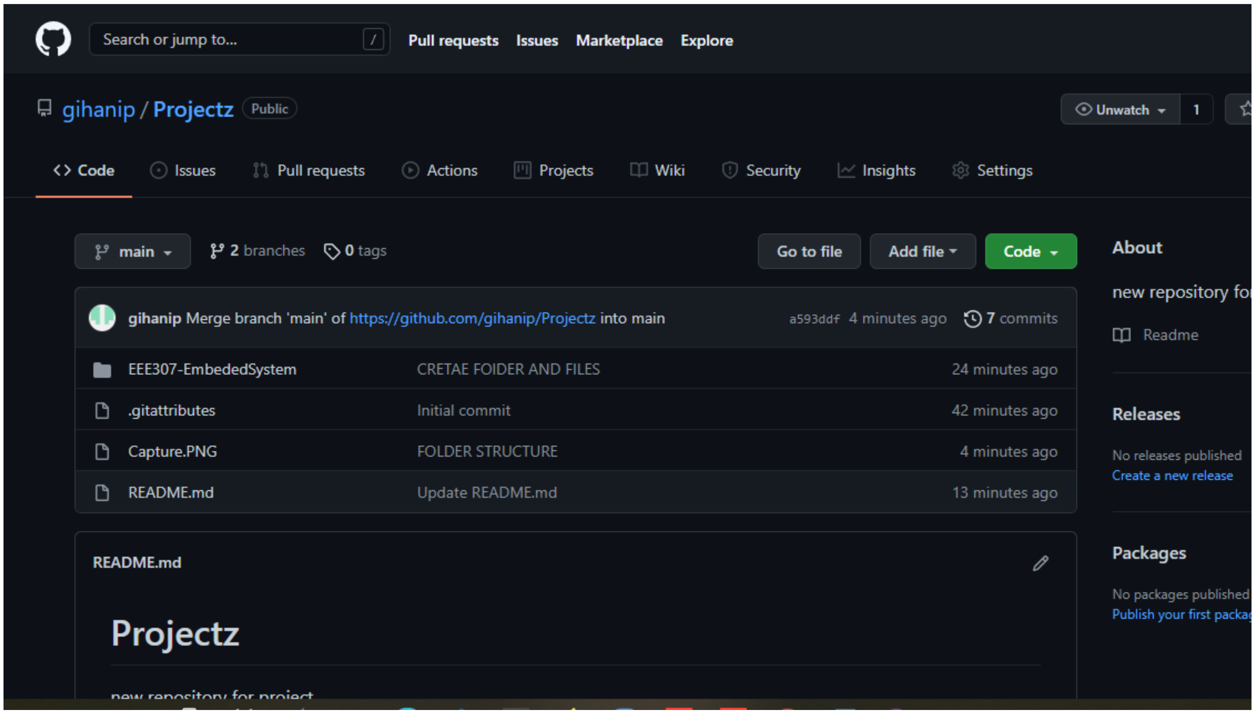
Update README.md

ADD ADITIONAL INFO

● Commit directly to the main branch.

○ Create a new branch for this commit and start a pull request. Learn more about pull requests.

MAIN



new repository fo

No releases published
Create a new release

No packages published
Publish your first packag

gihanip Merge branch 'main' of https://github.com/gihanip/Projectz into main a593ddf 4 minutes ago 7 commits

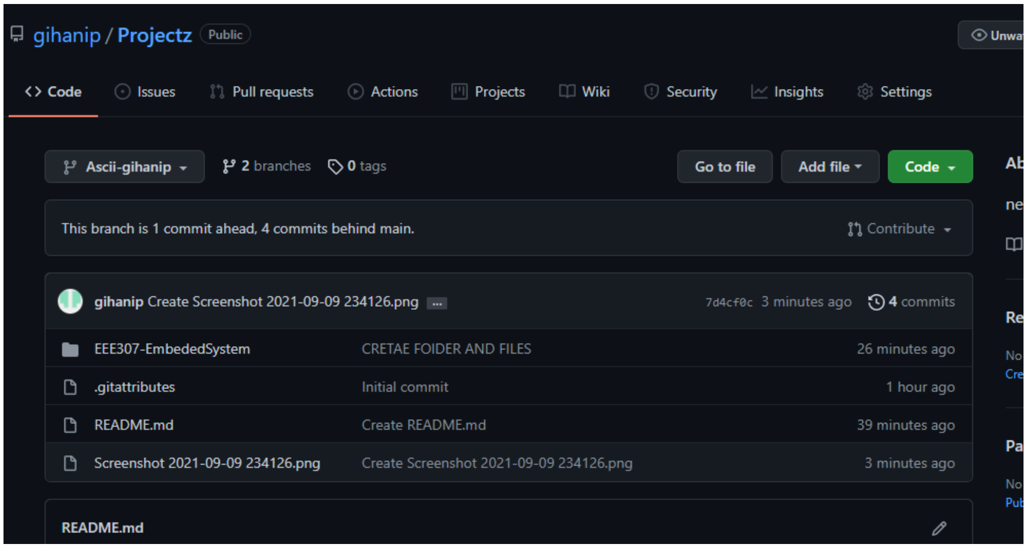
EEE307-EmbededSystem	CRETAE FOIDER AND FILES	24 minutes ago
.gitattributes	Initial commit	42 minutes ago
Capture.PNG	FOLDER STRUCTURE	4 minutes ago
README.md	Update README.md	13 minutes ago

README.md

Projectz

new repository for project

2ND BRANCH



This branch is 1 commit ahead, 4 commits behind main.

gihanip Create Screenshot 2021-09-09 234126.png ... 7d4cf0c 3 minutes ago 4 commits

EEE307-EmbededSystem	CRETAE FOIDER AND FILES	26 minutes ago
.gitattributes	Initial commit	1 hour ago
README.md	Create README.md	39 minutes ago
Screenshot 2021-09-09 234126.png	Create Screenshot 2021-09-09 234126.png	3 minutes ago

README.md

NOTE

REPOSITORY 1 URL : https://github.com/gihanip/Gihani_HelloWorldLabs

REPOSITPRY 2 URL : https://github.com/gihanip/Projectz

MY PROFILE URL : https://github.com/gihanip