

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

TUTORIAL 1 : SETTING UP THE REPOSITORY.....	1
1.1 familiarizing with Github.....	1
1.2 Github GUI	3
1.3 Collaboration.....	5
1.4 Tasks.....	6

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
- 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

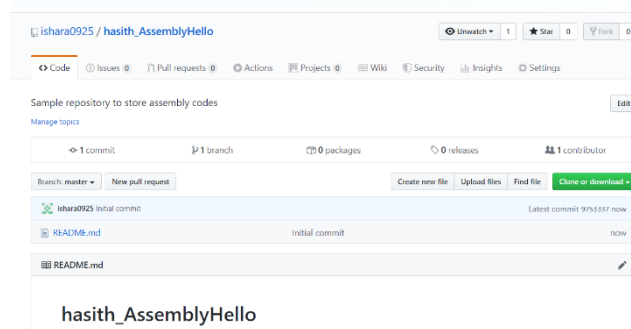


Figure 1: Repository home page

- 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"
- 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"
- 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"
- 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.

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
- Step 2 : Managing the repository
 - Clone the repository your created at Github.com to your computer
 - Now view the repository in file explorer
 - 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.
 - verilog: 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

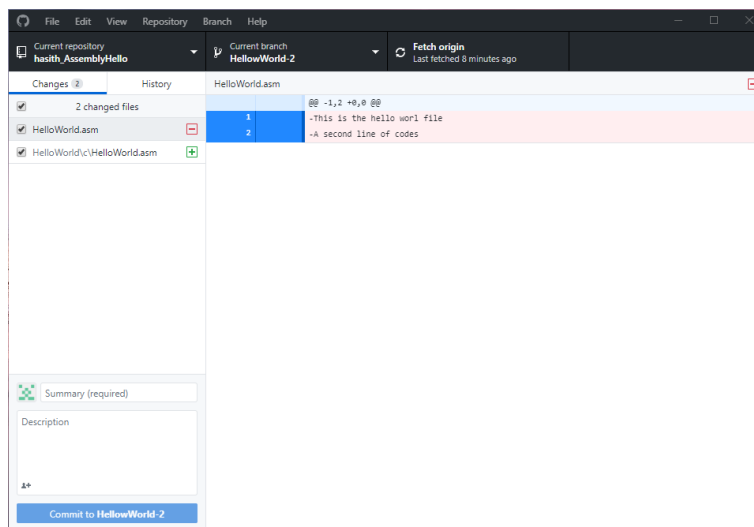


Figure 2 : Github GUI Changes

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

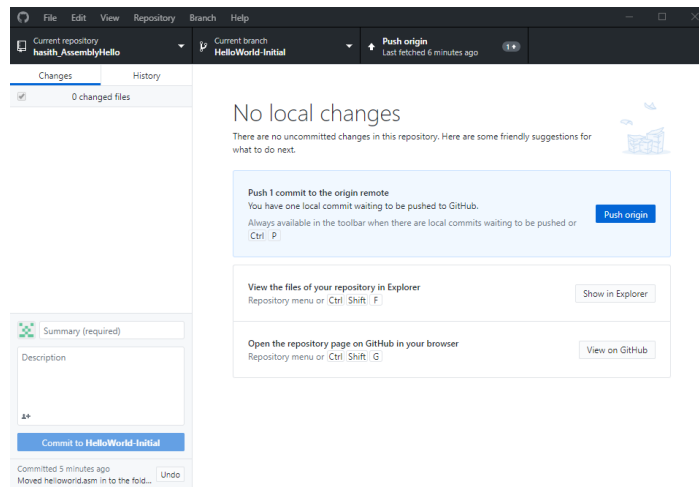


Figure 3 : Commit in Github desktop

- Click push origin to upload these changes to your online repository.
- 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.

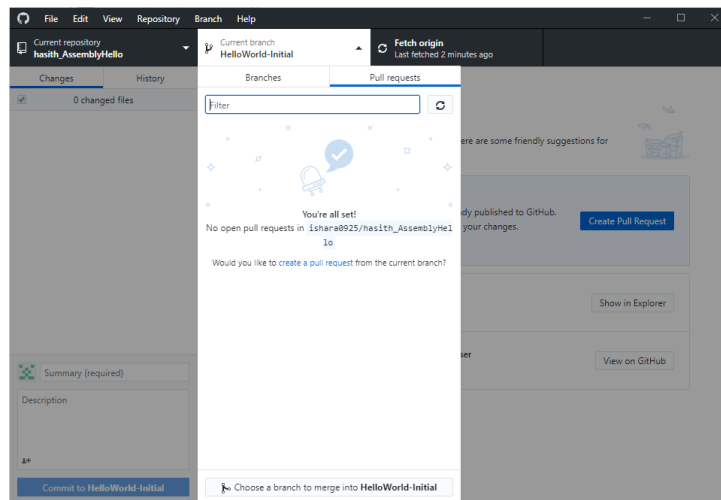


Figure 4 : Pull request

- 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
 - Use a shortened name as the repository name
 - Create this repository without any files by the group leader
- 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.

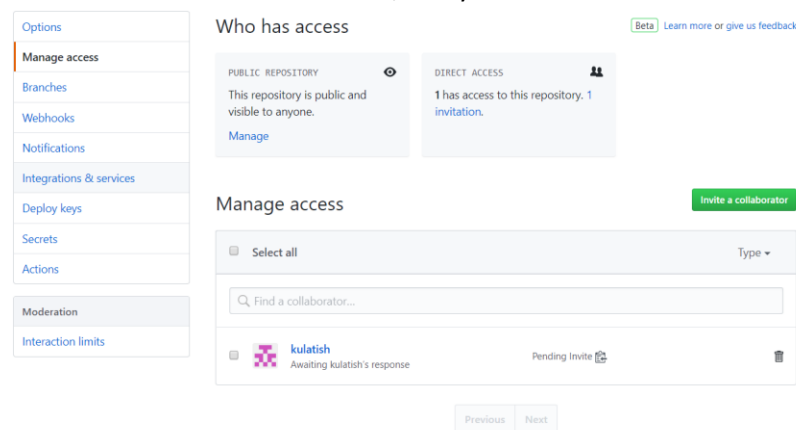


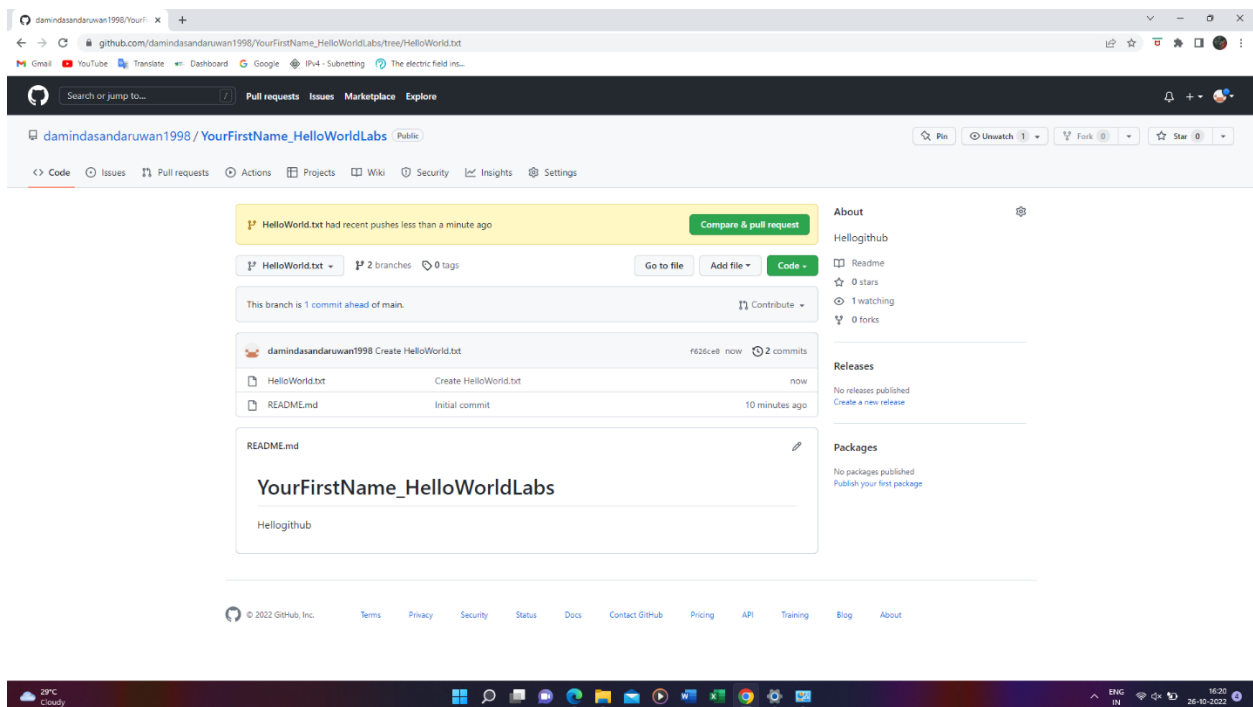
Figure 5: Project collaboration

- 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
- 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
 - 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.
- 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.

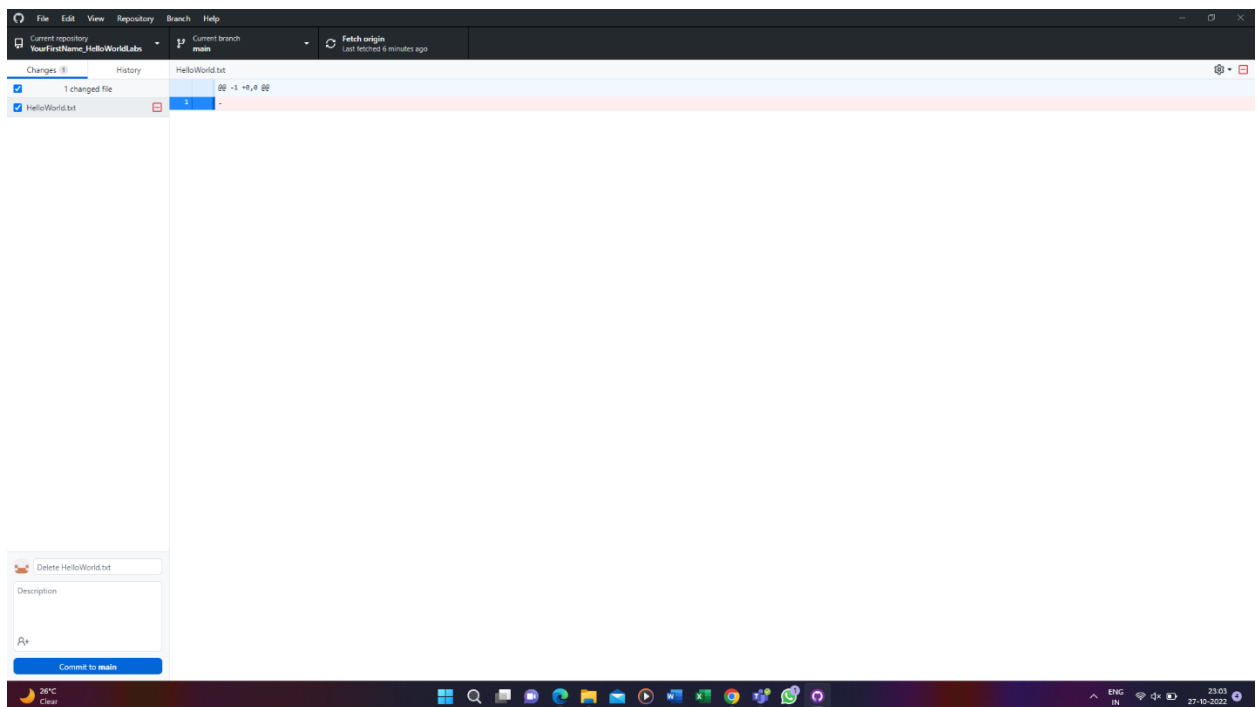
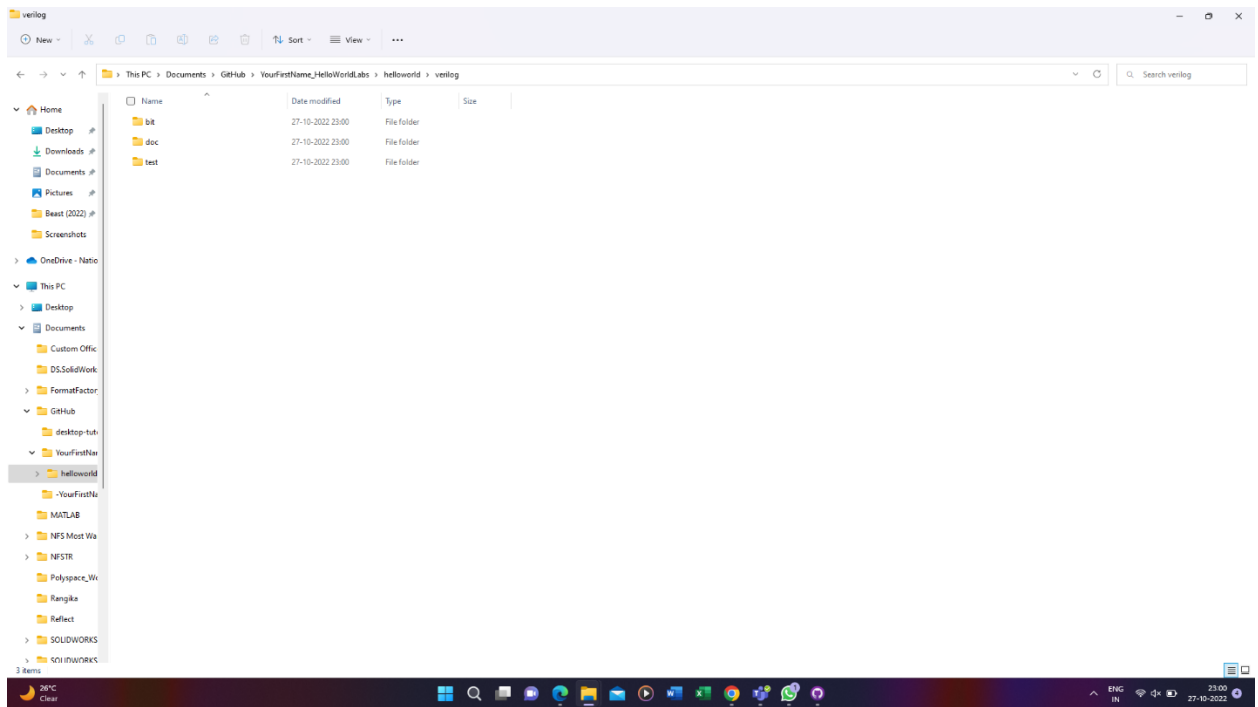
- Once accepted check the master branch and observe the differences.

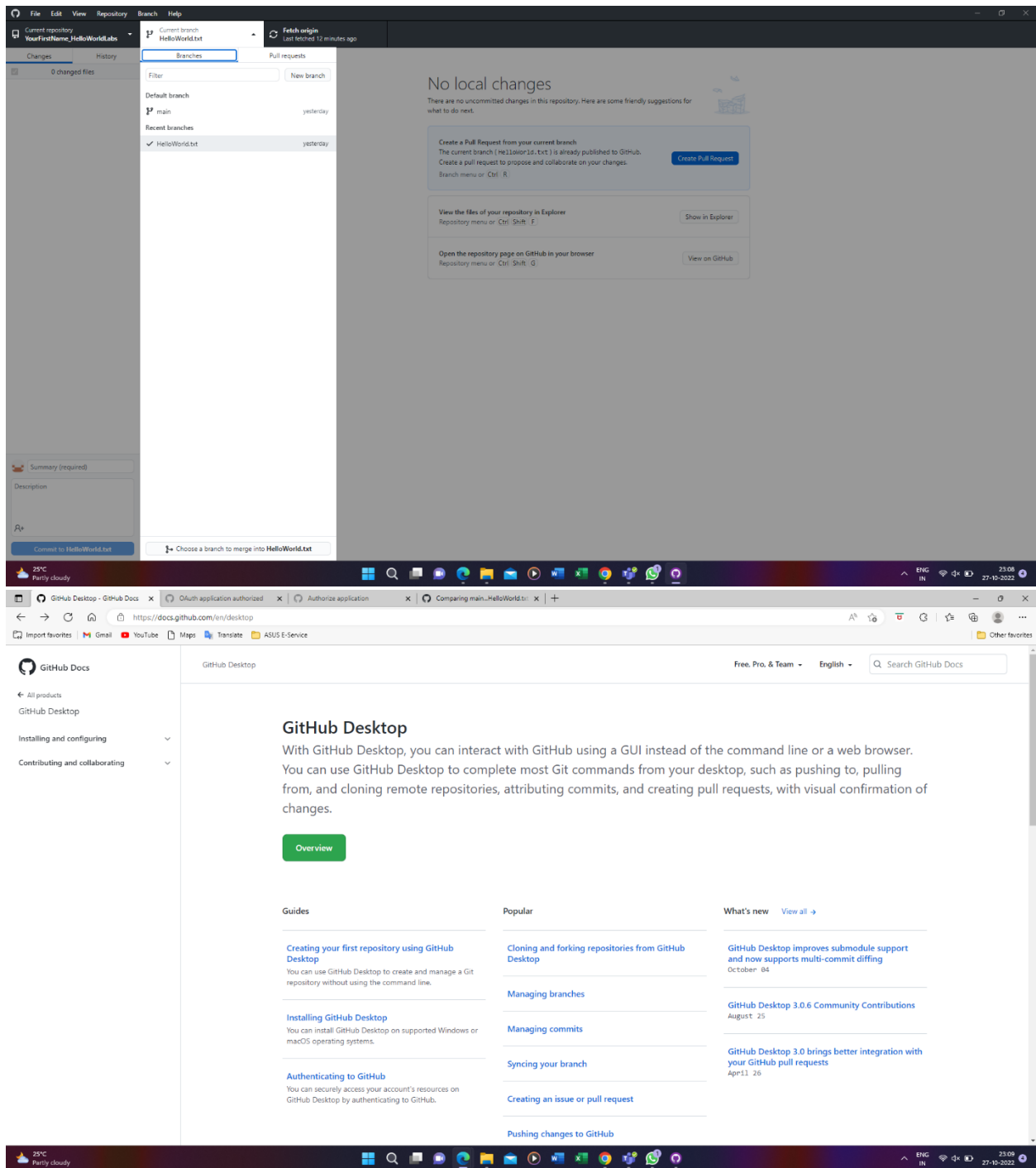
1.4 TASKS

1. Add “ishara0925” as a collaborator to your CLEAN project repository. This repository is the one you are going to use for your project.
2. Add screen shots of the repository folder structure to your project presentation. 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.



The screenshot shows a GitHub pull request page for the repository 'damindasandaruwan1998 / YourFirstName_HelloWorldLabs'. The pull request is titled 'Create HelloWorld.txt #1' and has been merged and closed. The commit message is 'Create HelloWorld.txt'. The pull request was merged by damindasandaruwan1998. The page includes a conversation section with a comment from damindasandaru... and a section for reviewers, assignees, labels, projects, milestones, development, and notifications.





TUTORIAL 1 - Repository Manu... OAuth application authorized x Authorize application x Manage access x +

https://github.com/damindasandaruwan1998/daminda/settings/access?guidance_task=

Import favorites | Gmail | YouTube | Maps | Translate | ASUS E-Service

Search or jump to... Pull requests Issues Marketplace Explore

KingSF97 has been added as a collaborator on the repository.

damindasandaruwan1998 / daminda Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

General

Access

Collaborators

Moderation options

Code and automation

Actions

Webhooks

Environments

Pages

Security

Code security and analysis

Deploy keys

Secrets

Integrations

GitHub apps

Email notifications

Who has access

PUBLIC REPOSITORY
This repository is public and visible to anyone.
[Manage](#)

DIRECT ACCESS
1 has access to this repository. 0 collaborators, 1 invitation.

Manage access

[Add people](#)

☐ Select all Type ▾

Find a collaborator...

<input type="checkbox"/>	KingSF97 Awaiting KingSF97's response	Pending invite	Remove
--------------------------	--	----------------	------------------------

[< Previous](#) [Next >](#)

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File Edit View Repository Branch Help

Current repository: YourFirstName_HelloWorldLabs

Current branch: test1-daminda

[Publish branch](#)
Publish this branch to GitHub

Changes History

0 changed files

No local changes

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

Publish your branch
The current branch (test1-daminda) hasn't been published to the remote yet. By publishing it to GitHub you can share it, open a pull request, and collaborate with others.
Always available in the toolbar or **Ctrl + P**. [Publish branch](#)

View the files of your repository in Explorer
Repository menu or **Ctrl + Shift + F**. [Show in Explorer](#)

Open the repository page on GitHub in your browser
Repository menu or **Ctrl + Shift + G**. [View on GitHub](#)

Summary (required)

Description

[Commit to test1-daminda](#)

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github.com/damindasandaruwan1998/test1-sandaruwan/settings/access?guidance_task=

Search or jump to... Pull requests Issues Marketplace Explore

nirmalchamodya has been added as a collaborator on the repository.

damindasandaruwan1998 / test1-sandaruwan Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

General

Access

Collaborators

Moderation options

Code and automation

Actions

Webhooks

Environments

Pages

Security

Code security and analysis

Deploy keys

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This repository is public and visible to anyone.
[Manage](#)

DIRECT ACCESS
1 has access to this repository. 0 collaborators, 1 invitation.

Manage access

[Add people](#)

☐ Select all Type ▾

Find a collaborator...

<input type="checkbox"/>	nirmalchamodya Awaiting nirmalchamodya's response	Pending invite	Remove
--------------------------	---	----------------	------------------------

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File Edit View Repository Branch Help

Current repository: test1-sandaruwan Current branch: main [Publish branch](#) Publish this branch to GitHub

Changes History

0 changed files

No local changes

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

Publish your branch
The current branch (main) hasn't been published to the remote yet. By publishing it to GitHub you can share it, open a pull request, and collaborate with others. Always available in the toolbar or `Ctrl + P`. [Publish branch](#)

View the files of your repository in Explorer
Repository menu or `Ctrl + Shift + F`. [Show in Explorer](#)

Open the repository page in your browser
Repository menu or `Ctrl + Shift + G`. [View on GitHub](#)

Summary (required)

Description

[Commit to main](#)

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github.com/damindasandaruwan1998/test1-sandaruan/branches

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Branch nimsara will be created shortly.

damindasandaruwan1998 / test1-sandaruan Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

Search branches... Overview Yours Active Stale All branches New branch

Default branch

main Updated 2 minutes ago by damindasandaruwan1998 Default

Your branches

nimsara	Updated 2 minutes ago by damindasandaruwan1998	0 0	New pull request	
chandiya	Updated 2 minutes ago by damindasandaruwan1998	0 0	New pull request	

Active branches

nimsara	Updated 2 minutes ago by damindasandaruwan1998	0 0	New pull request	
chandiya	Updated 2 minutes ago by damindasandaruwan1998	0 0	New pull request	

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File Edit View Repository Branch Help

Current repository: test1-sandaruan Current branch: main Push origin: Last fetched 7 minutes ago (2:0)

Changes: 1 changed file

daminda/damindatext.txt	
-------------------------	--

No content changes found

Summary (required)

Description

Commit to main

Committed just now Create damindatext.txt Undo

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Create a New Repository

Google Translate

github.com/new

GmailYouTubeTranslateDashboardGoogleIPv4 - SubnettingThe electric field ins...

Search or jump to...Pull requestsIssuesMarketplaceExplore

Create a new repository

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

Owner *

Repository name *

damindasandarwan1998

/

clean

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

Description (optional)

this is my project

☒ 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:

Skip this step if you're importing an existing repository.

☐ Add a README file

This is where you can write a long description for your project. [Learn more.](#)

Add .gitignore

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

.gitignore template: None

Choose a license

A license tells others what they can and can't do with your code. [Learn more.](#)

License: None

You are creating a public repository in your personal account.

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27-10-2022

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damindasandarwan1998/clean

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Public

Pin

Unwatch 1

Fork 0

Star 0

Code

Issues

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Actions

Projects

Wiki

Security

Insights

Settings

main

1 branch

0 tags

Go to file

Add file

Code

About

damindasandarwan1998 Initial commit

c671c5b now

1 commit

README.md

Initial commit

now

README.md

clean

hellotext

hellotext

Readme

0 stars

1 watching

0 forks

Releases

No releases published

Create a new release

Packages

No packages published

Publish your first package

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27-10-2022

The screenshot shows the GitHub repository settings for 'damindasandaruwan1998 / cleanto'. The 'Collaborators' tab is selected, displaying a list of collaborators. 'ishara0925' is listed as a collaborator with the role 'Pending Invite'. The 'Who has access' section indicates that the repository is public and visible to anyone, and that there is 1 collaborator and 1 invitation. The 'Manage access' section shows a list of collaborators with a search bar and a 'Select all' button.