

Introduction to GitHub

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1) What is GitHub?



GitHub is a cloud-based platform that uses Git, a distributed version control system, at its core

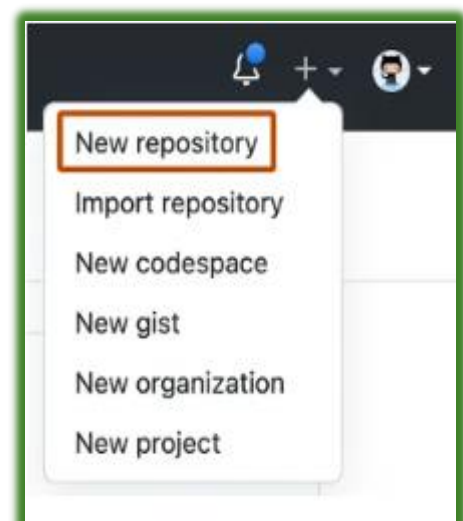
2) Introduction to Repositories

➤ What is Repository?

A repository contains all of your project's files and each file's revision history.

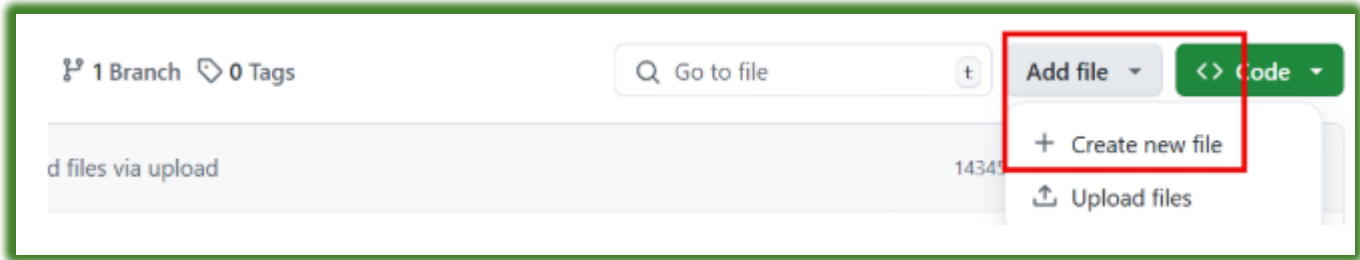
➤ How to create a repository?

You can create a new repository on your personal account or any organization where you have permissions.

The image shows the GitHub repository creation form. At the top, there are two fields: "Owner *" with a dropdown menu showing "octocat" and "github", and "Repository name *" with a text input field. Below these fields, there is a list of suggestions: "octocat" (checked) and "github". A hint text says "memorable. Need inspiration?". Below this, there is a text input field for the repository name, with "hello-world" entered and a green checkmark next to it. A hint text says "Great repository names are short and memorable. Need inspiration? How about vigilant-meme?". At the bottom, there is a text input field for the "Description (optional)".

➤ **How to add a file to your repository?**

In your repository, browse to the folder where you want to create a file by selecting the creating a new file link or uploading an existing file.



Select Commit changes.

➤ **What are Gists?**

Gists are a simplified way to share code snippets with others. Public gists are displayed publicly where people can browse new ones as they're created. Conversely, secret gists aren't searchable, but If you send the URL of a secret gist to a friend, they'll be able to see it.

➤ **What are wikis?**

Every repository on GitHub.com comes equipped with a section for hosting documentation, called a wiki. You can use your repository's wiki to share long-form content about your project, while a README file quickly tells what your project can do, you can use a wiki to provide additional documentation.

3) Components of the GitHub Flow

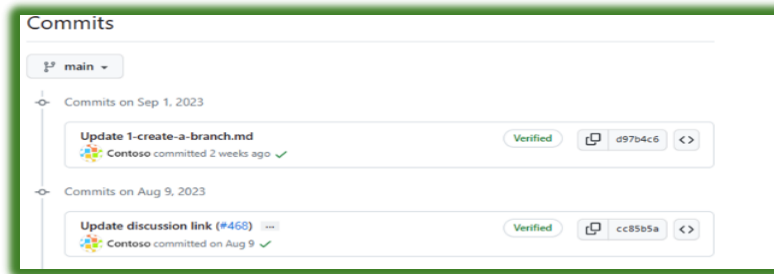
➤ **What are branches?**

Branches are an essential part to the GitHub experience, we can make changes without affecting the entire project we're working on. Your branch is a safe place to experiment with new features or fixes.

Alternatively, you can create a new branch and check it out by using git in a terminal. The command would be `git checkout -b newBranchName`

➤ **What are Commits?**

A commit is a change to one or more files on a branch. Every time a commit is created, it's assigned a unique ID and tracked along with the time and contributor.



The primary states for a file in a Git repository are **Untracked** and **Tracked**.

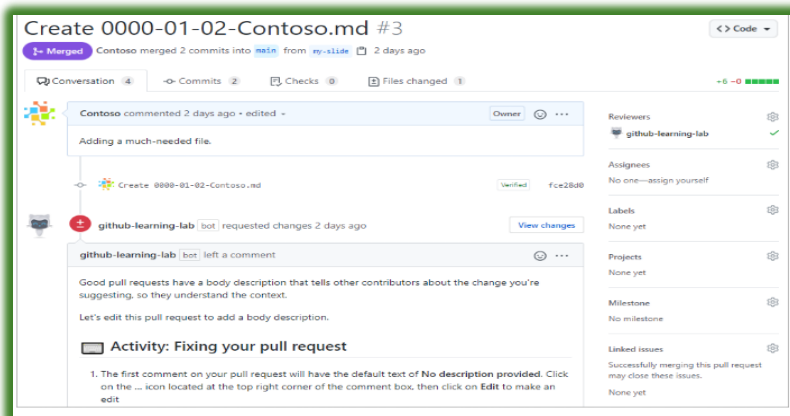
Untracked: An initial state of a file when it isn't yet part of the Git repository. Git is unaware of its existence.

Tracked: A tracked file is one that Git is actively monitoring. It can be in one of the following substates:

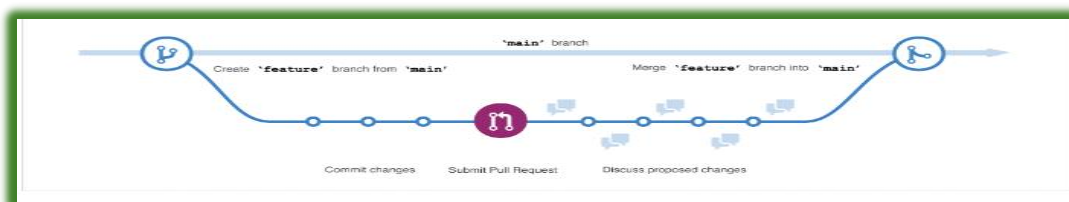
- **Unmodified:** The file is tracked, but it hasn't been modified since the last commit.
- **Modified:** The file has been changed since the last commit, but these changes aren't yet staged for the next commit.
- **Staged:** The file has been modified, and the changes have been added to the staging area (also known as the index). These changes are ready to be committed.
- **Committed:** The file is in the repository's database. It represents the latest committed version of the file.

➤ What are Pull Requests?

A pull request is the mechanism used to signal that the commits from one branch are ready to be merged into another branch.



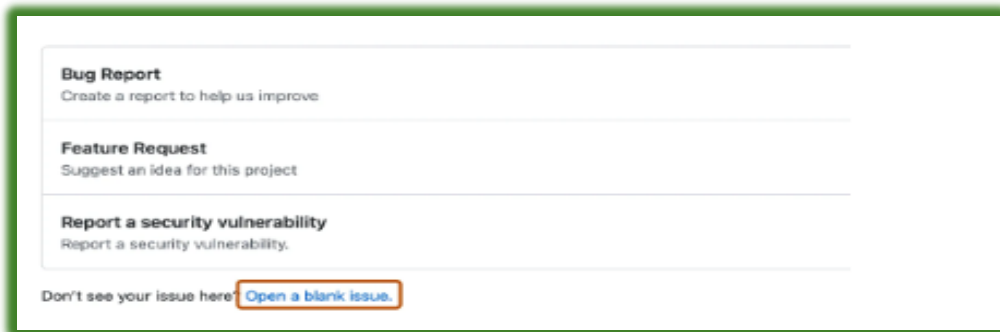
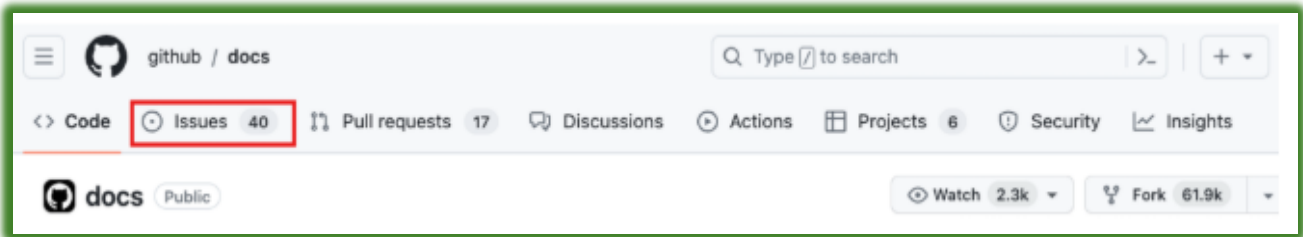
➤ The GitHub Flow



4) Collaborative Platform GitHub

➤ Issues

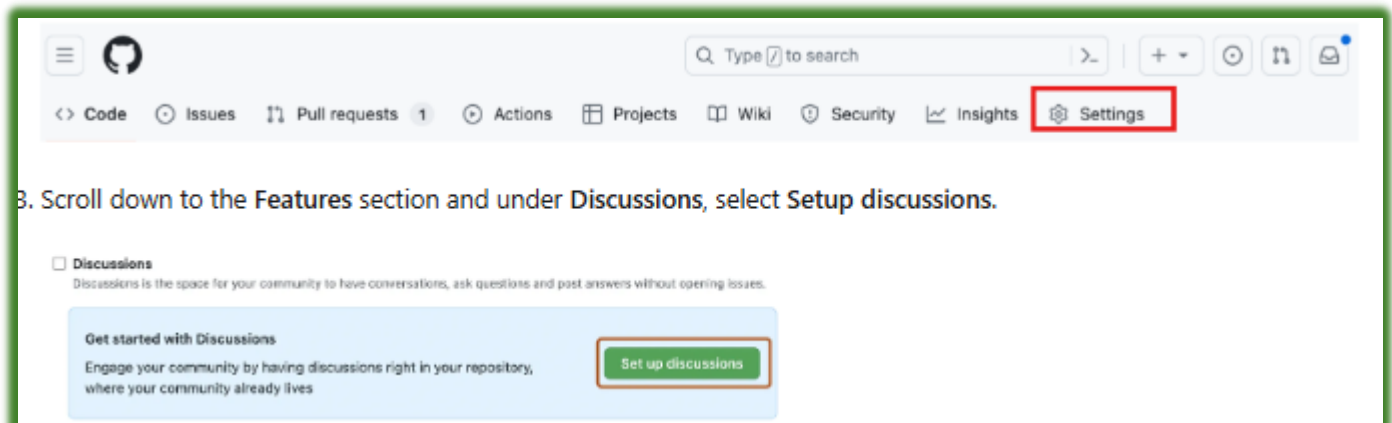
GitHub Issues were created to track ideas, feedback, tasks, or bugs for work on GitHub.



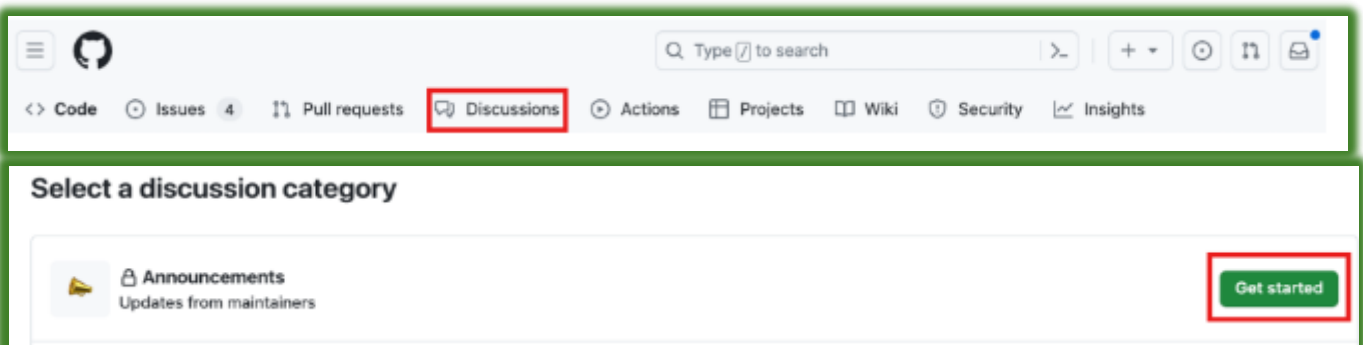
➤ Discussion

Discussions are for conversations that need to be accessible to everyone and aren't related to code.

▪ Enabling a discussion in your repository



▪ Create a new discussion



5)Resources

<https://learn.microsoft.com/en-us/training/modules/introduction-to-github/>