GitHub is a code hosting platform for version control and collaboration. It lets you and others work together on projects from anywhere.

Version control and why it is important:
Version control is a system that records changes to a file or a set of files over time so that you can recall specific versions later if needed. It allows you to revert selected files back to a previous state, revert the entire project back to a previous state, compare changes over time, see who last modified something that might be causing a problem, who introduced an issue and when, and more.

This tutorial teaches you GitHub essentials like *repositories*, *branches*, *commits*, and *Pull Requests,* as well as cloning a repository on your local machine.

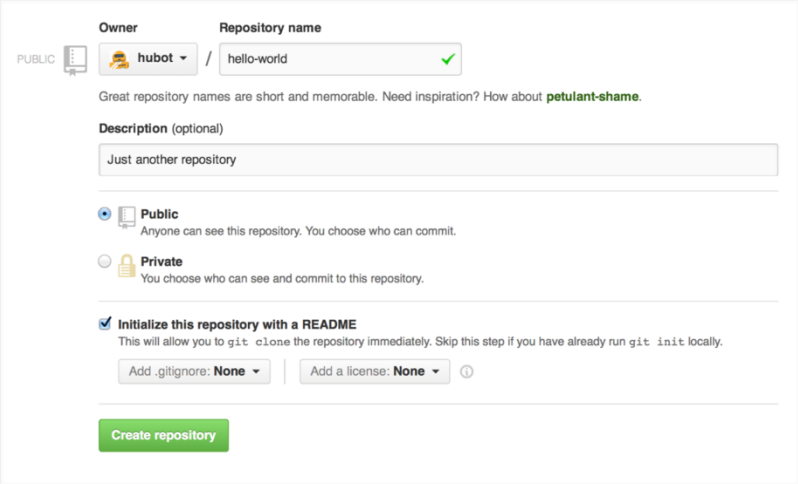
Essential Github operations:

- Create a repository.
- Upload files, make changes and push them as commits
- Create and merge pull requests
- Create and manage another branch

1. **Create a repository and upload files**

   Repositories can contain folders and files, images, videos, spreadsheets, and data sets – anything your project needs. We recommend including a *README*, or a file with information about your project.

   - In the upper right corner select **New repository**.
   - Name your repository.
   - Write a short description.
   - Select **Initialize this repository with a README**.



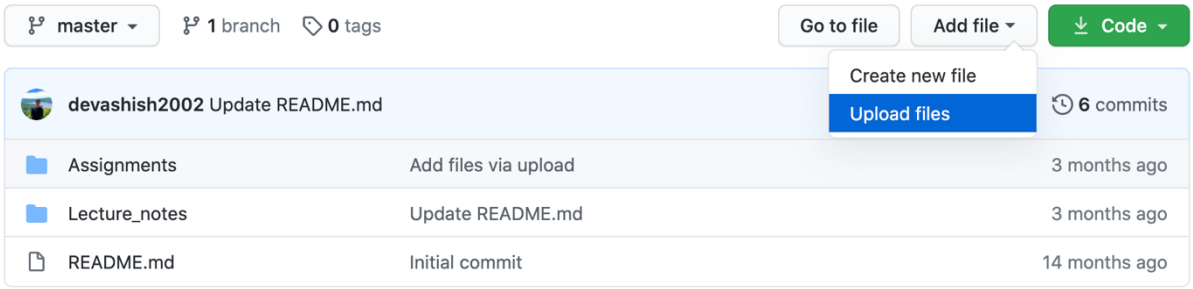
2. **Make changes to files and push them as commits**

   - Click the file you want to make changes to, for example ‘README.md’

- Click the pencil icon in the upper right corner of the file view to edit.
- In the editor, make the required changes.
- Write a commit message that describes your changes (not necessary).
- Click **Commit changes** button.

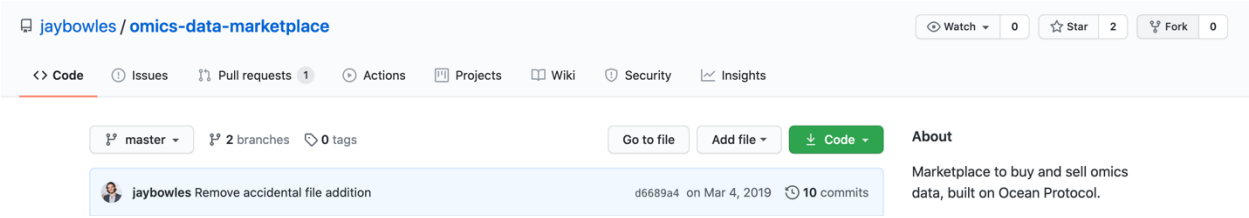
Upload files:

To upload new files to your repository, click on 'Add file' on the upper right and then click 'Upload files'. Then upload the desired files from the prompt. Write commit messages if needed.



3. Forking a repository

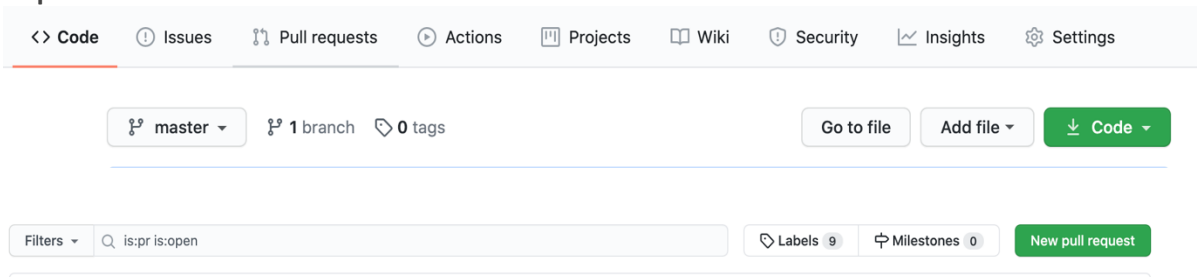
A fork is a copy of a repository. Forking a repository allows you to freely experiment with changes without affecting the original project.
To fork, go to a repository and click on the 'Fork' on the top right. It will then appear in your list of repositories in your profile. You can now change/add files in this repository.



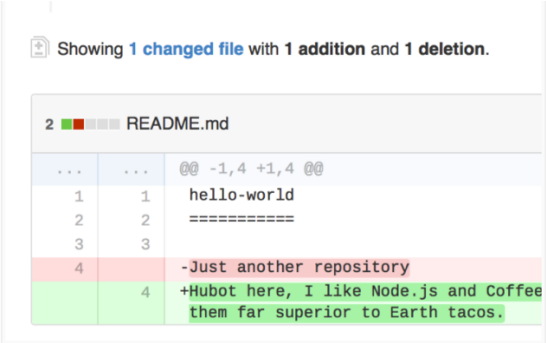
4. Create and merge a pull request

Pull requests are used for proposing your changes for another person's repository and requesting to merge your changes into their branch.
You can even open pull requests in your own repository and merge them yourself.

- Click the **Pull Request** tab, then from the Pull Request page, click the green **New pull request** button.



- Look over your changes in the diffs on the Compare page, make sure they're what you want to submit.



- Click the 'Create Pull request' button when satisfied with the changes.

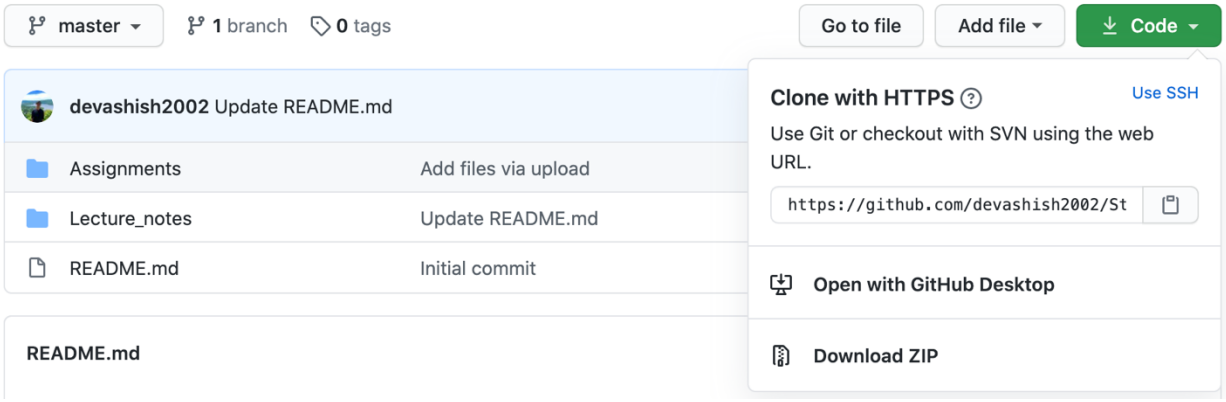
Merging a pull request

- Go to the 'Pull requests' option again on the main repository page.
- Click **Confirm merge** after reviewing the changes.

5. Clone a repository

Cloning simply means to download the repository to your local device or any cloud service.

To clone a repository, click the green 'Code' button and copy the link provided.



Then open the terminal on your local machine or cloud service and run following command:

```
git clone <link>
```

The whole repository will be downloaded as a folder.
Alternatively, you can also clone the repo on your local machine by clicking the 'Download ZIP' button.