

Estimated time: 15 minutes

## Objectives

After completing this lab you will be able to:

1. Create a branch
2. Commit changes to a child branch
3. Open a pull request
4. Merge a pull request into the main branch

## Prerequisites

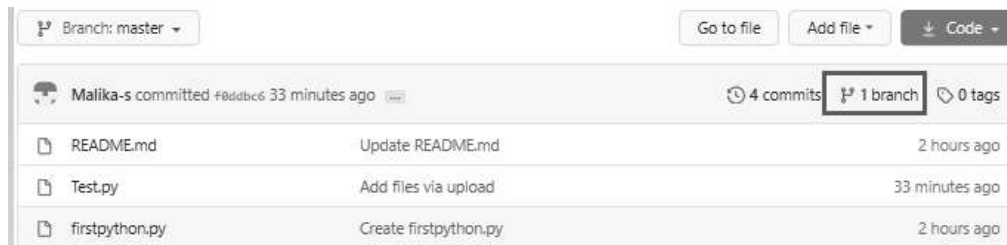
This hands-on lab requires you to have created a GitHub account and added a project to it, as covered in the [Getting started with GitHub](#) lab.

NOTE: In the past the default branch in your GitHub repo used the name `master`. Effective Oct 1, 2020, all new GitHub repositories use the more inclusive term `main` as the name of the default branch instead of `master`.

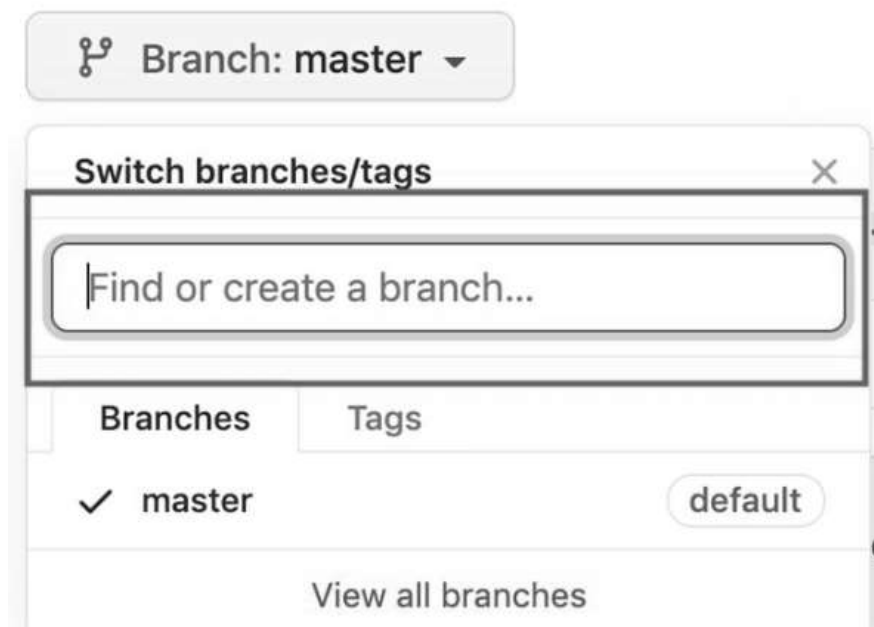
### 1. Create a branch

You can create or delete branches using your repository's GitHub web page. To add a branch to your repository, complete the following steps:

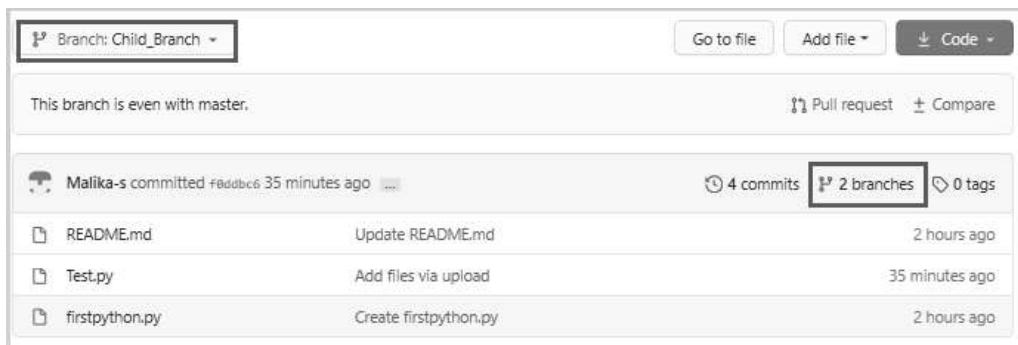
1. Go to your repository's main page. Note that when you created your repository, the **main** branch was created for you:



2. At the top of the file list, locate the **Branch** drop-down menu. (By default, the menu displays **Branch: main**.) Click the drop-down menu, type the name of the branch you want to create, and press Enter on your keyboard.



Your repository now has two branches: **Main** and **Child\_Branch**. You can click the drop-down menu to see your branches.

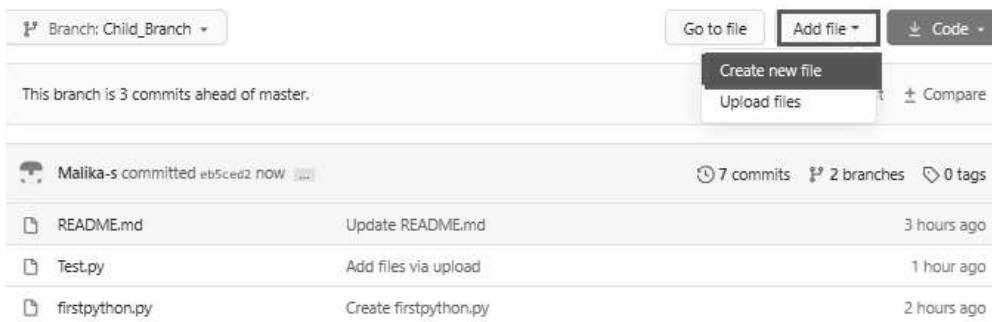


Any files that were in the **main** branch have now been copied to **Child\_Branch**. Note that when you add or edit a file in **Child\_Branch**, that change will not automatically be made in the **main** branch.

## 2. Add a file to a branch

To add a file to your new branch, ensure that **Child\_Branch** (or whatever name you gave your branch) is displayed in the **Branch** drop-down menu and complete the following steps:

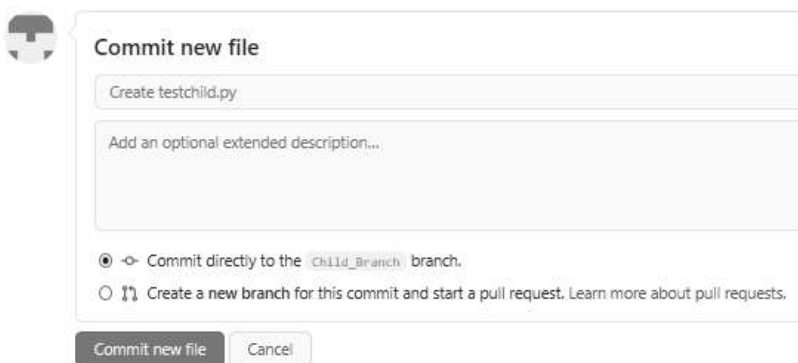
1. Click **Add file** > **Create new file** to create a file in the repository.



2. Type a name and extension for the file – for example, `testchild.py` – and add the following lines to the body of the new file:



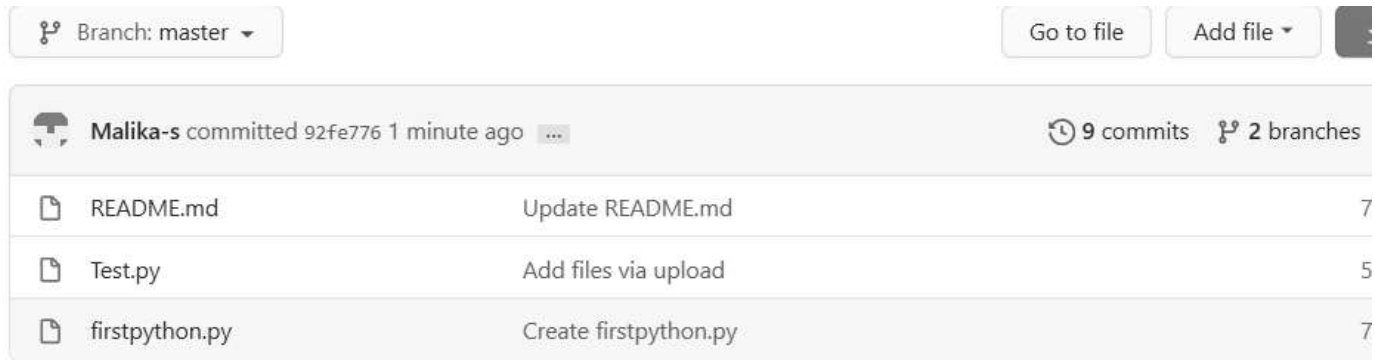
3. Scroll to the bottom of the page, add a description of the file you are about to add (note that the description is optional), and click **Commit**.



The file is added to your child branch.

## 3. Open a pull request

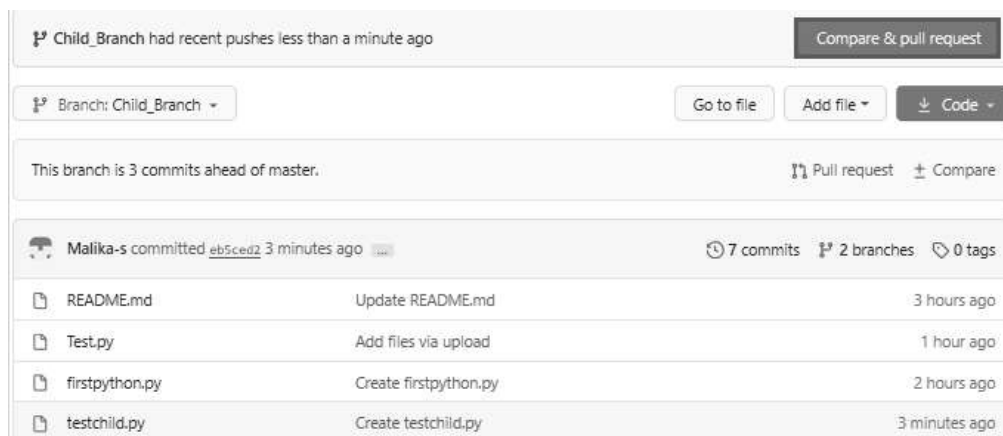
The file that you added to your child branch is not automatically added to the **main** branch. (You can check this by using the **Branch** drop-down menu to go to the **main** branch; note that there is no `testchild.py` file in the file list):



This screenshot shows the GitHub interface for the **main** branch. At the top, there's a branch selector set to **Branch: master** and buttons for **Go to file** and **Add file**. Below this, a commit by **Malika-s** is shown, committed 1 minute ago. To the right, it indicates **9 commits** and **2 branches**. The file list shows three files: `README.md` (Update README.md, 7 changes), `Test.py` (Add files via upload, 5 changes), and `firstpython.py` (Create firstpython.py, 7 changes).

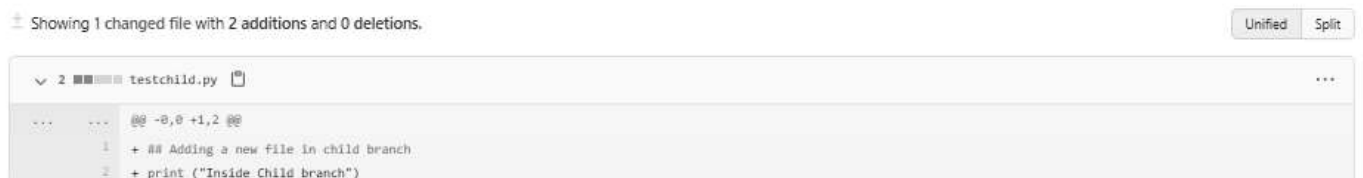
You can also compare the two branches and open a *pull request*, which will enable you to copy the changes that you've made in the child branch – in this case, adding a new file – to the **main** branch.

1. In **Child\_Branch**, click the **Compare & pull request** button.



This screenshot shows the GitHub interface for the **Child\_Branch**. At the top, it says "Child\_Branch had recent pushes less than a minute ago" with a **Compare & pull request** button. Below this, the branch selector is set to **Branch: Child\_Branch**, with **Go to file**, **Add file**, and **Code** buttons. A message states "This branch is 3 commits ahead of master." with links for **Pull request** and **Compare**. The commit history shows a commit by **Malika-s** 3 minutes ago. The file list includes `README.md` (3 hours ago), `Test.py` (1 hour ago), `firstpython.py` (2 hours ago), and `testchild.py` (3 minutes ago).

2. Scroll to the bottom of the page and note that there is **1 changed file** listed.



This screenshot shows the GitHub diff view for the file `testchild.py`. It indicates "Showing 1 changed file with 2 additions and 0 deletions." and has **Unified** and **Split** view options. The diff shows two additions: a comment `## Adding a new file in child branch` and a print statement `print ("Inside Child branch")`.

3. Scroll up and note that GitHub is comparing the **main** and **Child\_Branch** branches and that there are no conflicts between the two. Optionally, you can add a comment to the pull request. Click **Create pull request**.

# 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: master ← compare: Child\_Branch

✓ Able to merge. These branches can be automatically merged.

Child branch

Write Preview H B I

Want to change in the master branch.

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

Create pull request

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

The pull request is created and can now be merged by a repository administrator.

## 4. Merge a pull request

To merge a pull request into a project, complete the following steps:

1. Click the **Pull requests** tab. A list of pending pull requests is displayed.
2. Click the pull request that you want to merge into the main project. If you are satisfied with the changes, click **Merge pull request** to accept the pull request and merge the updates. (You can add a comment if you choose.)

### Child branch #1

Open

Malika-s wants to merge 3 commits into master from Child\_Branch

Conversation 0

Commits 3

Checks 0

Files changed 1

Malika-s commented 2 minutes ago

Want to change in the master branch.

Malika-s added 3 commits 25 minutes ago

Create testchild

Verified

9767921

Delete testchild

Verified

48b4479

Create testchild.py

Verified

eb5ced2

Add more commits by pushing to the Child\_Branch branch on Malika-s/testrepo.

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.

3. When you click **Merge pull request**, a **Confirm merge** button is displayed. Click that button to complete the merge.

## Child branch #1

Open Malika-s wants to merge 3 commits into master from Child\_Branch

Conversation 0 Commits 3 Checks 0 Files changed 1

Malika-s commented 4 minutes ago

Want to change in the master branch.

Malika-s added 3 commits 27 minutes ago

- Create testchild Verified 9767921
- Delete testchild Verified 48b4479
- Create testchild.py Verified eb5ced2

Add more commits by pushing to the Child\_Branch branch on Malika-s/testrepo.

Merge pull request #1 from Malika-s/Child\_Branch

Child branch

Confirm merge Cancel

The pull request has now been merged successfully. Note that you can delete the child branch because your changes have been incorporated into the **main** branch.

Pull request successfully merged and closed

You're all set—the Child\_Branch branch can be safely deleted.

Delete branch

Check the list of files in the **main** branch to confirm that it now includes the file that you added in the pull request.

Branch: master

Go to file Add file Code

Malika-s committed 7a7c576 3 minutes ago 8 commits 2 branches 0 tags

README.md	Update README.md	3 hours ago
Test.py	Add files via upload	1 hour ago
firstpython.py	Create firstpython.py	3 hours ago
testchild.py	Create testchild.py	21 minutes ago

## Summary

Congratulations! You've now learned how to create a branch, edit and commit changes in that branch, open a pull request, and merge the pull request into your main project. We encourage you to continue to experiment with branches and pull requests to become more familiar with the concepts and processes.

## Tutorial details

### Author:

- Malika Singla

### Other contributor:

- Rav Ahuja

### Changelog:

Date	Version	Changed by	Change Description
2023-01-30	0.5	Lavanya Rajalingam	Fixed the link and minor corrections
2022-01-14	0.4	Rav Ahuja	Added note about main branch

<b>Date</b>	<b>Version</b>	<b>Changed by</b>	<b>Change Description</b>
2020-07-16	0.4	Malika Singla	Spell check, steps added
2020-07-14	0.3	Rav Ahuja	Changed logo, updated title, intro, objectives, added Effort, Authors and Changelog
2020-07-13	0.2	Malika Singla	Added to GitLab and made some formatting changes, added objectives, etc.
2020-06-30	0.1	Malika Singla	Drafted initial version