

# Lab: Branching and Merging (Web UI)

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

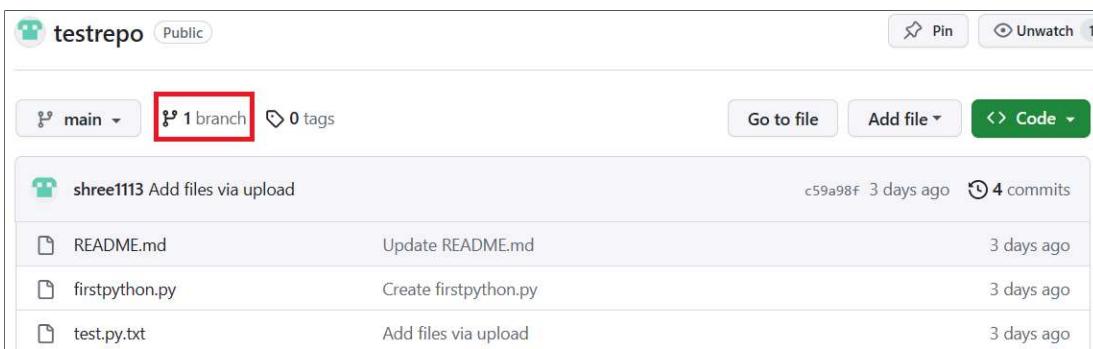
This hands-on lab requires you to have created a GitHub account with a repository in it, as covered in [Getting started with GitHub](#) lab.

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

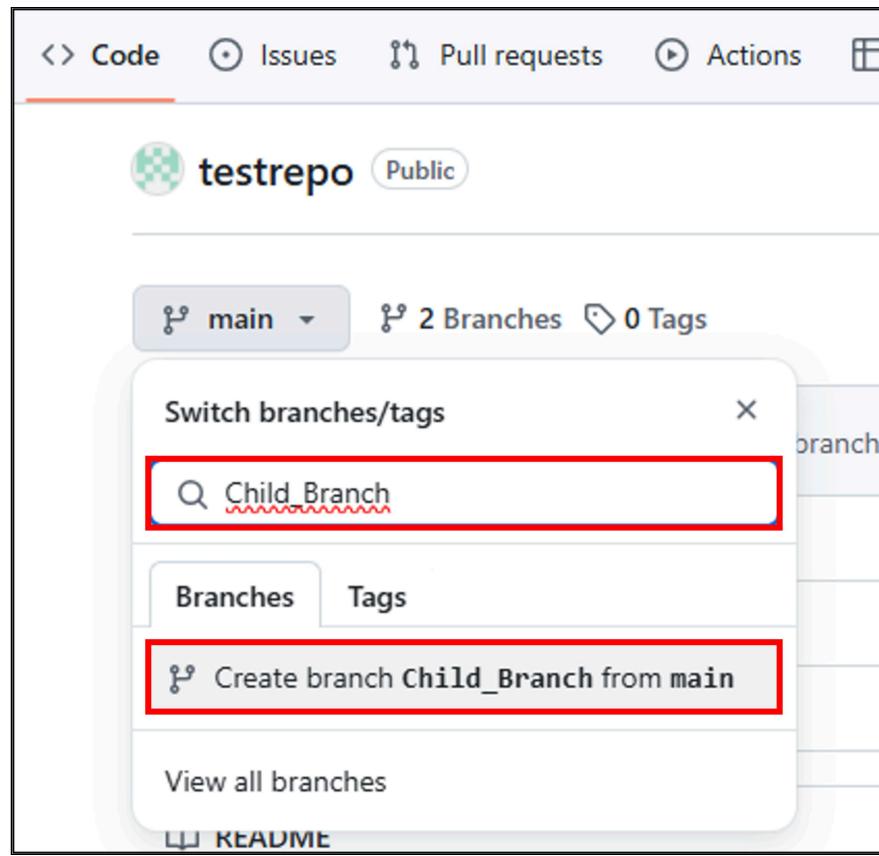
### 1. Create a branch

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 one branch named **main** 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, or click on the `Create branch from main` or hit `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.

The screenshot shows the "testrepo" repository page. The "Code" tab is active. At the top, there are links for "Issues", "Pull requests", "Actions", and a grid icon. The repository name "testrepo" is shown with a green icon and a "Public" badge. Below the repository name, there are buttons for "Pin" and "Unwatch 1". The "Branches" dropdown is set to "child", and the "2 branches" link is highlighted with a red box. The repository stats show "2 branches" and "0 tags". Below the stats, a message says "This branch is up to date with main." On the right, there are links for "Go to file", "Add file", and "Code". The commit history for the "child" branch is listed, showing four commits by user "shree1113" made 3 days ago. The commits are: "Add files via upload" (c59a98f), "Update README.md", "Create firstpython.py", and "Add files via upload".

Any files that were in the **main** branch are reflected in the **Child\_Branch**. Note that when you add or edit a file in **Child\_Branch**, that change will not automatically reflect in the main branch.

## 2. Add a file to a branch

To add a file to your new branch, ensure that the name you gave the new branch (which in the case of the example showcased is **Child\_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.

This branch is up to date with main.

Add files via upload

- README.md** Update README.md 3 days ago
- firstpython.py** Create firstpython.py 3 days ago
- test.py.txt** Add files via upload 3 days ago

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:

```

1 ## Adding a new file in the child branch
2 print ("Inside Child branch")

```

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**.

Commit new file

Create testchild.py

Add an optional extended description...

Commit directly to the `Child_Branch` branch.

Create a new branch for this commit and start a pull request. [Learn more about pull requests.](#)

Commit new file Cancel

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).

The screenshot shows a GitHub repository page for the 'main' branch. At the top, it displays 'main' (with a dropdown arrow), '2 branches', and '0 tags'. On the right, there are buttons for 'Go to file', 'Add file', and a green 'Code' button. Below this, a commit from a user named 'gavin' is shown, committed 92fe776 1 minute ago. The commit message is 'Update README.md'. To the right of the commit, it says '9 commits' and '2 branches'. A list of files follows: 'README.md' (Update README.md), 'test.py.txt' (Add files via upload), and 'firstpython.py' (Create firstpython.py). The number '7' is displayed next to each file entry.

You can also compare the two branches and open a *pull request*, which will enable you to merge 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.

The screenshot shows the 'Child\_Branch' repository page. At the top, it displays 'Child\_Branch' (with a dropdown arrow), '2 branches', and '0 tags'. On the right, there are buttons for 'Go to file', 'Add file', and a green 'Code' button. A yellow banner at the top states 'Child\_Branch had recent pushes 8 minutes ago'. A red box highlights the green 'Compare & pull request' button.

2. Scroll to the bottom of the page and note that there is **1 changed file** listed and the changes are highlighted in green.

The screenshot shows a diff view for 'testchild.py'. It indicates 2 additions and 0 deletions. The diff shows the following code changes:

```

@@ -0,0 +1,2 @@
+## Adding a new file in child branch
+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**.

The screenshot shows the 'Open a pull request' dialog. At the top, it says 'base: main' and 'compare: Child\_Branch'. A red box highlights the 'compare' dropdown. To the right, a green checkmark indicates 'Able to merge. These branches can be automatically merged.' Below this, there's a text area for 'Add your description here...' and a 'Create pull request' button at the bottom right, which is also highlighted with a red box. A note at the bottom says 'Remember, contributions to this repository should follow our GitHub Community Guidelines.'

The pull request has been successfully created and is now ready to be merged by a repository administrator. For all the repositories that you create, you automatically have administrative rights.

## 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.

The screenshot shows the GitHub pull requests page with a single open pull request. The pull request is titled "Create testchild.py" and was opened 2 minutes ago by "Malika-s". The status bar at the bottom indicates "ProTip! Exclude everything labeled bug with -label:bug."

- Click the pull request that you want to merge into the main project. Review the changes, click **Merge pull request** to accept the pull request and merge the updates. (You can optionally add a comment.)

The screenshot shows the detailed view of the pull request "Create testchild.py". It includes a conversation from "Malika-s" stating "Want to change in the master branch.", a list of commits, and a CI status section. The "Merge pull request" button is highlighted with a red box.

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

The screenshot shows a pull request merge dialog. At the top, it says "Malika-s wants to merge 3 commits into `master` from `Child_Branch`". Below this are tabs for "Conversation 0", "Commits 3", "Checks 0", and "Files changed 1". A comment from "Malika-s" is shown: "Want to change in the master branch." Below the comment, the 3 commits added by Malika-s are listed: "Create testchild" (Verified, 9767921), "Delete testchild" (Verified, 48b4479), and "Create testchild.py" (Verified, eb5ced2). A note says "Add more commits by pushing to the `Child_Branch` branch on Malika-s/testrepo." At the bottom, there are fields for "Merge pull request #1 from Malika-s/Child\_Branch" and "Child branch", with "Confirm merge" and "Cancel" buttons.

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.

The screenshot shows a confirmation message: "Pull request successfully merged and closed". It says "You're all set—the `child_branch` branch can be safely deleted." There is a "Delete branch" button.

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

The screenshot shows the repository main branch. It lists 8 commits, 2 branches, and 0 tags. The commits are:

- `7a7c576` committed 3 minutes ago: Update README.md (3 hours ago)
- `test.py.txt` 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.

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