

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.

The screenshot shows the GitHub repository interface for 'testrepo'. At the top, there is a dropdown menu labeled 'main' with a red box around it. Next to it is a button labeled '1 branch' with a red box around it. Below the menu, there is a list of commits. The first commit is by 'shree1113' with the message 'Add files via upload'. The second commit is by 'README.md' with the message 'Update README.md'. The third commit is by 'firstpython.py' with the message 'Create firstpython.py'. The fourth commit is by 'test.py.txt' with the message 'Add files via upload'. At the bottom right of the commit list, there is a note indicating '4 commits'.

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.

The screenshot shows the GitHub repository interface for 'testrepo'. At the top, there is a dropdown menu labeled 'main' with a red box around it. Below the menu, there is a button labeled '2 Branches' and '0 Tags'. A modal window titled 'Switch branches/tags' is open. Inside the modal, there is a search bar containing 'Child_Branch' with a red box around it. Below the search bar, there are two tabs: 'Branches' (selected) and 'Tags'. Under the 'Branches' tab, there is a button labeled 'Create branch Child_Branch from main' with a red box around it. At the bottom of the modal, there is a link 'View all branches'.

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

This branch is up to date with main.

shree1113 Add files via upload c59a98f 3 days ago 4 commits

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

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.

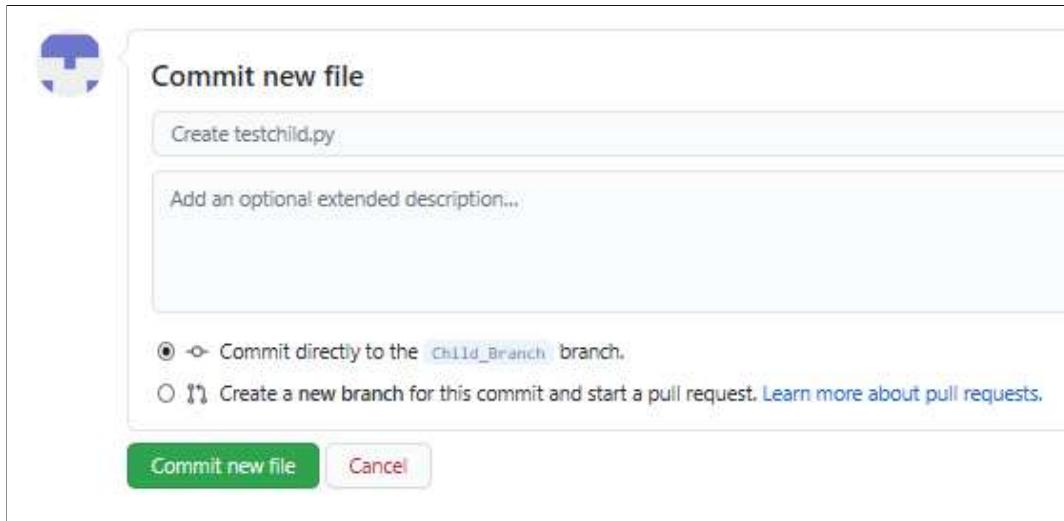
2. Type a name and extension for the file, for example, `testchild.py`, and add the following lines to the body of the new file:

```

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**.



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).

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.

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

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](#).

The screenshot shows the GitHub interface for creating a pull request. At the top, there are dropdown menus for 'base: main' and 'compare: Child_Branch'. A green checkmark next to the text 'Able to merge. These branches can be automatically merged.' indicates that the branches are compatible. Below this, there's a text area with 'Child branch' placeholder text and a 'Write' tab selected. A large text input field says 'Add your description here...'. At the bottom right, a green 'Create pull request' button is highlighted with a red box. A note at the bottom left reminds users to follow 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 interface for managing pull requests. The 'Pull requests' tab is selected and highlighted with a red box. A single pull request titled 'Create testchild.py' is listed, also highlighted with a red box. The pull request was opened 2 minutes ago by 'kaptin007'. At the top, there are various navigation tabs like Issues, Actions, Projects, Wiki, Security, Insights, and Settings. The 'New pull request' button is located at the top right. There are also filters for Open and Closed pull requests.

2. 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.)

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.

The screenshot shows a GitHub commit history for a repository. At the top, it displays 'main' (selected), 2 branches, and 0 tags. On the right, there are buttons for 'Go to file', 'Add file', and 'Code'. Below this, a commit from user 'malikasingla' is shown, committed 7a7c576 3 minutes ago. The commit details are as follows:

File	Action	Time Ago
README.md	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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