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# GitHub Pull Requests

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#### Overview

Pull requests let you tell others about changes you've pushed to a GitHub repository.

Once a pull request is sent, interested parties can review the set of changes, discuss potential modifications, and even push follow-up commits if necessary.

#### Collaborative Tool

Pull Requests are commonly used by teams and organisations collaborating using the **Shared Repository Model**.

This is where everyone shares a single repository, and seperate (topic) branches are used to develop features and isolate changes.

Many open-source projects on Github use pull requests to manage changes from contributors, as they are useful in providing a way to notify project maintainers about any changes made.

Once the project maintainer has been notified of a change via a pull requests, it opens the door for code review and general discussion about a set of changes.

This is really great, as it can be done before any changes are merged into the main branch.

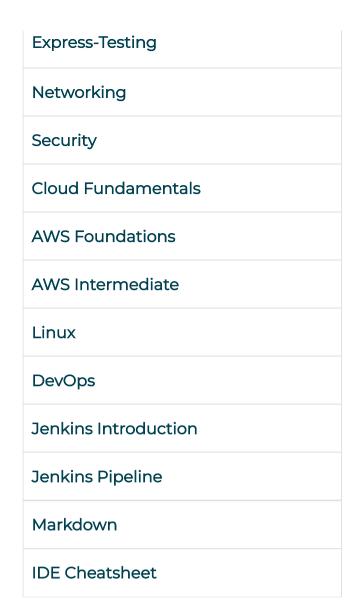
## Creating a Pull Request

There are 2 main flows when dealing with pull requests:

## 1) PR From a Branch Within a Repository Create a feature branch and push it to VCS

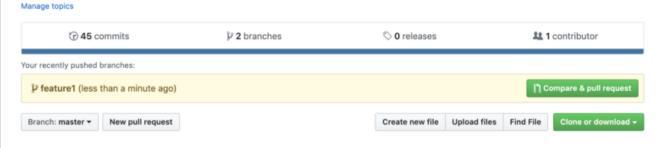
- 1. Clone a repository down using git clone [URL to repository] and cd into it
- 2. Create and switch to a new (feature) branch using git checkout -b [new branch name]
- 3. Make changes on your feature branch, and then use git add and git commit to stage your changes. You will need to configure your VCS email and username at this point, using git config (if you haven't already)
- 4. Push the feature branch up to git using git push origin [new branch name]
- 5. You new branch should now be reflected in your VCS

#### Create a Pull Request



This is done on your VCS GUI (in this example, we are using GitHub):

1. Go to the repository you're working with and click on the 'Compare and pull request' button:



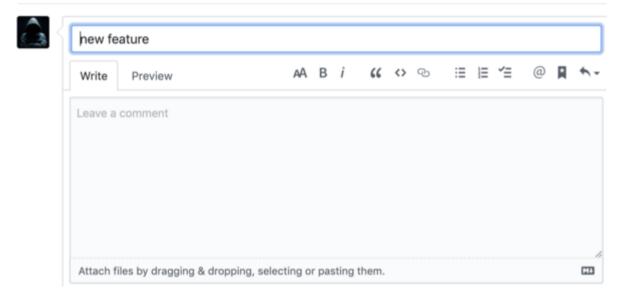
2. You will need to choose which branch you want the changes to eventualy be implemented on (base), and which branch the proposed changes are currently on (compare):

#### Open a pull request

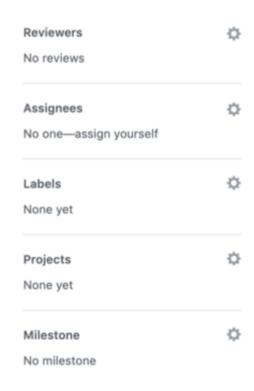
Create a new pull request by comparing changes across two branches. If you need to, you can also compare across forks.



3. At this point, you can give your pull request a title and add some comments, for context:



4. You can configure additional options on the right hand side, such as assigning a reviewer, adding a label, etc:



5. Click 'Create pull request':



## 2) PR from a Forked Repository Create a Pull Request

This is also done on your VCS GUI:

- 1. Ensure you have a forked repository, and have made some changes to it
- 2. Navigate to the repository from which you created your fork
- 3. Click on 'New pull request':



- 4. Amend your base and compare to reflect to correct branches
- 5. Click on 'compare accross forks':

# Compare changes Compare changes across branches, commits, tags, and more below. If you need to, you can also compare across forks. \$\tag{1}\$ base: master \(\div \) compare: master \(\div \)

6. Confirm that the base fork is the repository you'd like to merge changes into. Use the base drop-down menu to select the branch of the repository you'd like to merge changes into:

# 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 fork: octo-org/octo-repo 
base: master 
head fork: octocat/octo-repo 
compare: update-readme 
Able to merge. These branches can be automatically merged.

7. Use the head fork drop-down menu to select your forked repository, then use the compare branch drop-down menu to select the branch you made your changes in:

### Open a pull request

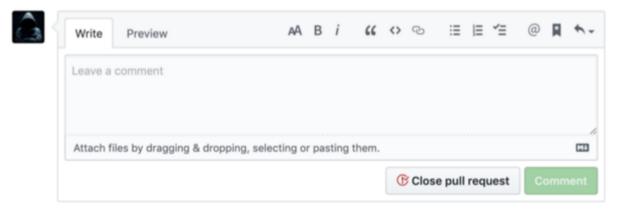
8. Insert a title and description for your pull request

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

- 9. Configure any other options you want on the right hand side
- 10. Click 'Create Pull Request'

# Closing a Pull Request

You can simply click on the "Close" button on the pull request page to close it:



You will be given the option to delete the branch directly at this point, should you wish to do so.

## After a Pull Request

Once a pull request has been opened, it can be reviewed by other collaborators and merged into the base branch you dictated earlier.

#### **Tutorial**

- Try to create a new feature branch from an existing GitHub project (or create a new project)
- Create a pull request to have the new feature merged into the project
- Fork a repository from GitHub this can be any repository you feel like
- Make some changes in the forked repository
- Create a pull request to have your feature merged into the original project

## **Exercises**

There are no exercises for this module.