

Github Pull Request

Christian Külker

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A common way participating in software projects managed with git is the so called 'pull request' on certain services like <https://github.com> (It is called 'merge request on <https://gitlab.com>). This technique is very popular with git, as people often have a one time commitment and no write access to the repository. A 'pull request' is therefore a one time **write** exception to the repository. In traditional **VCS** a tar ball was send via mail for example and the repository maintainer would manually save the tar ball to the file system, extract the content and add the changes to the repository, review it, make a diff and decide if the changes would be included in the next repository commit to make a one time contribution possible. This was a labour intensive error prone process. Git and <https://github.com> use the concept of a 'pull request' and 'fork' to facilitate a half automatic method for one time write contribution. This section is about how to make a pull request (and fork) on <https://github.com> specific. As this is not a git feature as such, the web interface of <https://github.com> need to be used together with the command line.

1. Log into <https://github.com>
2. Go to the web page projects repository, press the fork button
3. Clone **your** fork of the repository

```
user@host:~$ git clone git@github.com:USER/REPOSITORY.git
```

4. Enter the REPOSITORY

```
user@host:~$ cd REPOSITORY
```

5. Switch to the master branch (your branch should be diverted from master) and look for the other branches, so that your new name do not conflict. For example.

```
user@host:~$ git checkout master
user@host:~$ git branch -a
* master
remotes/origin/HEAD -> origin/master
remotes/origin/SabineLoss-patch-1
remotes/origin/SabineLoss-patch-2
remotes/origin/master
```

6. Create a new self descriptive branch with a `BRANCHNAME`

```
git branch BRANCHNAME
```

7. Switch to the new branch

```
git checkout BRANCHNAME
```

The short form of the last 2 steps, create a self descriptive branch of intended change.

```
user@host:~$ git checkout -b BRANCHNAME
```

For example

```
user@host:~$ git checkout -b
  ↪ fix/typo-overview-security.md-identification-against
```

Make sure you are at your branch (example from above)

```
user@host:~$ git branch -a
* fix/typo-overview-security.md-identification-against
master
remotes/origin/HEAD -> origin/master
remotes/origin/SabineLoss-patch-1
remotes/origin/SabineLoss-patch-2
remotes/origin/master
```

8. Create very few commits with **good** commit messages

```
user@host:~$ sed -i -e 's%A%B%' file.md
user@host:~$ git commit -m 'typo (A -> B)' file.md
```

9. Cleanup the branch before pushing

10. Pushing the branch to `github.com`

When using just `git push` you will get an error message like this

```
user@host:~$ git push
fatal: The current branch BRANCHNAME has no upstream branch. To push the
current branch and set the remote as upstream, use

git push --set-upstream origin BRANCHNAME
```

However you can just push it with a one time statement

```
user@host:~$ git push origin BRANCHNAME
```

Example

```
user@host:~$ git push origin
  ↪ fix/typo-overview-security.md-identification-against
Counting objects: 6, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 604 bytes | 0 bytes/s, done.
Total 6 (delta 4), reused 0 (delta 0)
remote: Resolving deltas: 100% (4/4), completed with 2 local objects.
remote:
remote: Create a pull request for
      'fix/typo-overview-security.md-identification-against' on GitHub by
      visiting:
remote:   https://github.com/ckuelker/cwa-documentation/pull/new/\
      fix/typo-overview-security.md-identification-against
remote:
To github.com:ckuelker/cwa-documentation.git
* [new branch]      fix/typo-overview-security.md-identification-against
  ↪ -> \
      fix/typo-overview-security.md-identification-against
```

11. Request A Pull

The last commit already shows the URL to go `https://github.com/UPSTREAM-USER/UPSTREAM-REPO/pull`. Use the URL and press the green button “Compare & pull request”. Add a message.

1 Understanding The Remote Origin

```
user@host:~$ git remote show origin
```

Example

```
user@host:~$ git remote show origin
* remote origin
  Fetch URL: git@github.com:ckuelker/cwa-testresult-server
  Push  URL: git@github.com:ckuelker/cwa-testresult-server
  HEAD branch: master
  Remote branches:
    fix/no-nullable-result          tracked
    fix/typo-docs-architecture-overview.md-security tracked
    master                         tracked
  Local branch configured for 'git pull':
    master merges with remote master
  Local refs configured for 'git push':
    fix/typo-docs-architecture-overview.md-security pushes to \
      fix/typo-docs-architecture-overview.md-security (up to date)
    master                         pushes to master \
                                   (up to date)
```

2 Delete An Unused Branch

Sometimes while working on the pull request one realize that the name of the branch is not fit for the purpose, needs an addition. Usually the `-d` option is used.

```
user@host:~$ git branch -d BRANCHNAME
```

However if the branch is not merged `-D` needs to be used.

```
user@host:~$ git branch -D BRANCHNAME
```

3 Keeping Up-To-Date

See [managing forks](#) for details.

4 History

Version	Date	Notes
0.1.2	2022-06-23	Improve introduction
0.1.1	2022-05-31	Fix front matter, shell->bash
0.1.0	2020-06-08	Initial release

5 Disclaimer of Warranty

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