

What is the difference between origin and upstream on GitHub?

Asked 8 years, 5 months ago Active 9 months ago Viewed 139k times

What is the difference between `origin` and `upstream` on [GitHub](#)?

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When a `git branch -a` command is done, some branches have a prefix of `origin` (`remotes/origin/..`) while others have a prefix of `upstream` (`remotes/upstream/..`).

[git](#) [github](#) [git-branch](#)



245



edited Oct 19 '19 at 13:20



[ivanleonz](#)

3,988 3 39 40

asked Feb 13 '12 at 8:35



[jan](#)

4,481 4 13 5

3 Related: [Definition of "downstream" and "upstream"](#) in git. – [RBT](#) Aug 12 '17 at 2:51

1 Answer

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This should be understood in the context of [GitHub forks](#) (where you fork a GitHub repo on GitHub before cloning that fork locally).

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- `upstream` generally refers to the original repo that you have forked (see also "[Definition of "downstream" and "upstream"](#)" for more on `upstream` term)
- `origin` is your fork: your own repo on GitHub, clone of the original repo of GitHub



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From the GitHub page:



When a repo is cloned, it has a default remote called `origin` that points to your fork on GitHub, not the original repo it was forked from.

To keep track of the original repo, you need to add another remote named `upstream`

```
git remote add upstream git://github.com/<aUser>/<aRepo.git>
```

(with `aUser/aRepo` the reference for the original creator and repository, that you have forked)

You will use `upstream` to **fetch from the original repo** (in order to keep your local copy in sync with the project you want to contribute to).

```
git fetch upstream
```

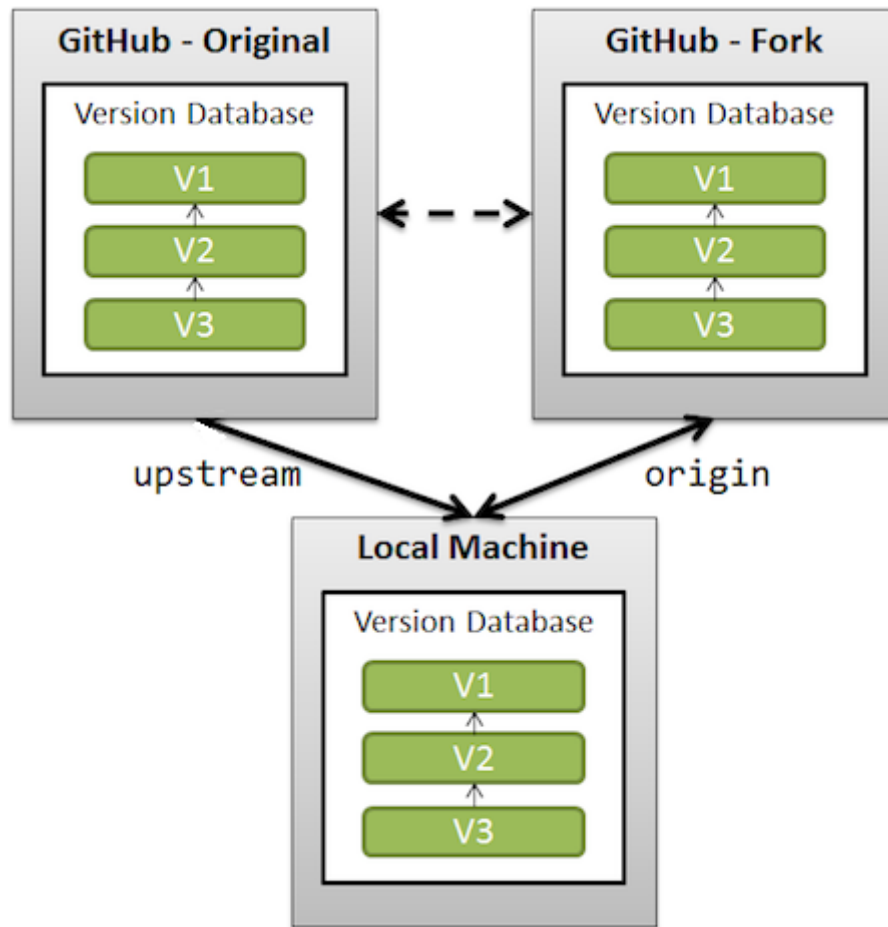
(`git fetch` alone would fetch from `origin` by default, which is not what is needed here)

You will use `origin` to **pull and push** since you can contribute to your own repository.



(again, without parameters, 'origin' is used by default)

You will contribute back to the `upstream` repo by making a [pull request](#).



edited Jun 3 '19 at 23:15

answered Feb 13 '12 at 9:10



VonC

967k

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- 11 It also helps knowing what `upstream` is generally: stackoverflow.com/questions/2739376/... – VonC Mar 10 '12 at 20:59
- 2 @MaxRydahlAndersen true, but I like using Git without wrapper, so I will keep that convention (`upstream` vs. `origin`) for now. – VonC Apr 3 '13 at 6:41
- 23 By far the best explanation of how forks work that I have seen. You get my upvote. – CodeChimp Jul 23 '15 at 13:02
- 10 Great work on the visual. Very straight forward and understandable answer. This was exactly what I was looking for. – tayopi Jul 20 '16 at 17:19
- 1 @iamrudra if `git remote -v` shows the same url for `origin` and `upstream`, then yes, you are pushing to the same remote repo. – VonC Aug 11 '16 at 7:08