Getting changes from a remote repository

In this article

You can use common Git commands to access remote repositories.

Options for getting changes

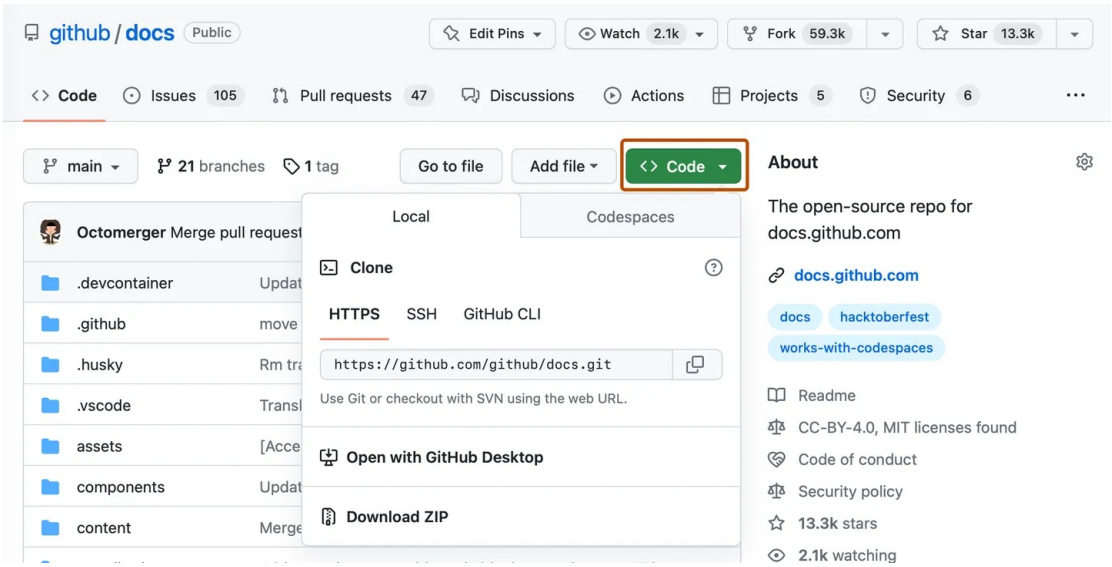
These commands are very useful when interacting with a remote repository. `clone` and `fetch` download remote code from a repository's remote URL to your local computer, `merge` is used to merge different people's work together with yours, and `pull` is a combination of `fetch` and `merge`.

Cloning a repository

To grab a complete copy of another user's repository, use `git clone` like this:

```
$ git clone https://github.com/USERNAME/REPOSITORY.git
# Clones a repository to your computer
```

You can choose from several different URLs when cloning a repository. While logged in to GitHub, these URLs are available on the main page of the repository when you click <> **Code**.



When you run `git clone`, the following actions occur:

- A new folder called `repo` is made
- It is initialized as a Git repository
- A remote named `origin` is created, pointing to the URL you cloned from
- All of the repository's files and commits are downloaded there
- The default branch is checked out

For every branch `foo` in the remote repository, a corresponding remote-tracking branch `refs/remotes/origin/foo` is created in your local repository. You can usually abbreviate such remote-tracking branch names to `origin/foo`.

Fetching changes from a remote repository

Use `git fetch` to retrieve new work done by other people. Fetching from a repository grabs all the new remote-tracking branches and tags *without* merging those changes into your own branches.

If you already have a local repository with a remote URL set up for the desired project, you can grab all the new information by using `git fetch *remotename*` in the terminal:

```
$ git fetch REMOTE-NAME
# Fetches updates made to a remote repository
```

Otherwise, you can always add a new remote and then fetch. For more information, see "Managing remote repositories."

Merging changes into your local branch

Merging combines your local changes with changes made by others.

Typically, you'd merge a remote-tracking branch (i.e., a branch fetched from a remote repository) with your local branch:

```
$ git merge REMOTE-NAME/BRANCH-NAME
# Merges updates made online with your local work
```

Pulling changes from a remote repository

`git pull` is a convenient shortcut for completing both `git fetch` and `git merge` in the

same command:

```
$ git pull REMOTE-NAME BRANCH-NAME
# Grabs online updates and merges them with your local work
```

Because `pull` performs a merge on the retrieved changes, you should ensure that your local work is committed before running the `pull` command. If you run into a merge conflict you cannot resolve, or if you decide to quit the merge, you can use `git merge --abort` to take the branch back to where it was in before you pulled.

Further reading

- "Working with Remotes" from the *Pro Git* book"
- "Troubleshooting connectivity problems"