# Github Tutorial

# Do I already have git on my OS?

Go to Terminal, enter *git version*

If a version is shown, you already have it.   
If not, go to the [Installation site](https://github.com/git-guides/install-git) and follow the instructions.

# How to clone a repository

1. Create repository online (or find one that you want to clone).
2. Clone link of repository:  
    Ein Bild, das Text enthält.

   Automatisch generierte Beschreibung
3. Open Windows+R, enter <cmd>
4. Go to folder where you want repository (or just navigate there)

**Commands in cmd-Window:**

* *cd..*  Go up one folder
* *cd folderName* Go to folder
* *dir* (Windows) / *ls* (Mac) See what’s in the folder  
   That’s an L and an S.

(You can also navigate to the folder and directly open a Terminal there.)

1. Clone the repository to your machine via git clone https://blabla...
2. Go to the folder, open the script/file you want to change and change stuff

# Commands for github in cmd-Window/Terminal:

|  |  |
| --- | --- |
| Command | What it does |
| git | Shows you all functions of git |
| git clone | Clone the repository onto a folder on your machine |
| git status | Get the status of your repository, i.e. find out if there is stuff that needs to be committed |
| git add “myFile.py” | Add files you want to commit with quotation marks |
| git add -A | Add all files in folder |
| git commit –m | Commit changes with a message in quotation |
| git push | Push changes to github.com |
| git pull | Pull down from github.com (only works when you’re in the right directory) |
| Esc + : + wq | How to get out of commit if you forgot to add a message |

# User settings for pushing changes

If you want to push changes, you have to provide your login details each time you do so, unless you save them permanently. GitHub will soon change the way you log in, and your normal GitHub password will no longer work. You will need to create tokens, which you then use as passwords.

Here’s an instruction on [**how to create a token**](https://docs.github.com/en/github/authenticating-to-github/keeping-your-account-and-data-secure/creating-a-personal-access-token)**.**

If you’ve been using your password up until now, you can delete it as per [**these instructions**](https://docs.github.com/en/get-started/getting-started-with-git/updating-credentials-from-the-macos-keychain).

If you want to save your new token permanently on your machine, you can cash it as per [**these instructions**](https://docs.github.com/en/get-started/getting-started-with-git/caching-your-github-credentials-in-git). Otherwise, you’ll have to enter it each time you push something.

# Branching

1. Necessary if people add different parts to the same script (e.g. someone writes feature 1 and another one writes feature 2 and eventually they get combined into the same script)
2. git branch Get a list of all branches there are
3. git branch NewFeature Creates new branch for NewFeature
4. git checkout NewFeature Go to NewFeature to make changes there that won’t affect the master branch
5. Add, commit and push changes
6. git merge master Take all changes that were done to master and merge them into the new feature. There should not  
   be any conflicts and if there are, they need to be fixed manually.
7. Go to Github, select new branch, click “compare & pull request”. Changes are shown in green. Click “Create Pull Request”, add message to person who should check your pull request. Somebody should click “merge pull request” and “confirm”, but that’s usually another person, not the one who created it. Then delete the branch.
8. git branch -d newFeature To delete a local branch.