

Git & Github

Cheat Sheet

Git and Github work hand in hand but are very different. Git is a version control system (VCS) and Github is a repository. Git exists on your local machine while Github is a internet based repository that can be accessed from anywhere via the internet.

Command line commands

Git version control download site: <https://git-scm.com>

Initializing a new git project/folder

```
>git init
```

To display git version

```
>git --version
```

Show current status

```
>git status
```

Show log

```
>git log
```

Global configuration of user information used at sign in on Github.

```
>git config --global user.name "Your username on github"  
>git config --global user.email "Your email"  
>git config --global user.password "Your password on github"
```

List all configurations

```
>git config --list
```

List all configurations and their origins

```
> git config --list --show-origin
```

Git & Github

Cheat Sheet

Handle remote connections

View existing remote connection names

>git remote *(lists existing remotes)*

View existing remote information

>git remote -v

Add a new remote

>git remote add <nameOfRemote> <remoteURL> *(remoteURL used for push and fetch(pull))*

Remove remote connection

>git remote remove <nameOfRemote>
or equivalent
>git remote rm <nameOfRemote>

Clone an existing repository

>git clone <url>, you can copy the url from the github repository you want to clone from the green button that says Code.

Fork a repository

From the top right corner in the repository you want to fork click on Fork and you will be able to chose where to fork the repository.

Add files to track, all new files have to be added if they should be tracked

>git add <file1name.xxx>, <file2name.xxx> *(list of individual files)*
>git add . *(adds all)*

Git & Github

Cheat Sheet

Files that don't need to be tracked

Use a ".gitignore" file where directories and files that shouldn't be tracked are listed.
Sample

obj/ - *(all files in the obj directory will not be tracked)*

anyFile.txt - *(anyFile.txt will not be tracked)*

files/anotherFile.txt - *(ontherFile.txt in the folder files will not be tracked but all other files in files will be)*

Commit files and changes

>git commit -m "Comment describing the changes and/or additions"

(needs a ">git add <file.xxx> or ." before commit command.)

>git commit -am "Comments as above" *(if all files are already tracked then this will commit changes without having to do a ">git add" command first.)*

Checking the changes in a file

>git diff <file1name.xxx>

Git Branches

View branches

>git branch *(Lists all branches, active branch denoted with an asterisk)*

Create new branch

>git branch <nameOfBranch>

>git checkout -b <nameOfBranch> *(switches to nameOfBranch branch, if it doesn't exist it will be created)*

Delete branch locally

>git branch -d <branchName>

>git branch -D <branchName> *(forces a delete of branchName)*

Delete remote branch

>git branch <nameOfRemote> --delete <branchName>

Git & Github

Cheat Sheet

Switch to branch ...

>git checkout <nameOfBranch>

View changes in last commit

>git show

View Commit history

>git log *(log has several options that can be used see the documentation at <https://git-scm.com/docs/git-log>)*

View changes in a particular commit

>git show <commitId>

Example:

>git show c26fc3019a662c46f61d6c5fc9c59d1be1ecef9 *(commit id can be found in ">git log" usually the first 4-6 digits will suffice here c26fc3)*

Merge branches locally

1. Change to the branch you want to merge into (>git checkout <branchName>)
2. Merge otherBranch into current branch (>git merge <theOtherBranchName>)
this creates a merge commit.

Revert things

Unstage a staged file

>git restore --staged <filename>

Revert changes in non-committed file to last commit

>git restore <filename> (*dangerous command since the file was just replaced with last committed or staged version, it's NOT reversible*)

Many more commands and more comprehensive coverage and explanations are available in the book Pro Git that can be downloaded at <https://git-scm.com/book/en/v2>