

Git & Github

Git : is a file system used to store all readjustments you do on your project's directors and files .

Git is a decentralized system allow you to make a lot of versions from your project .

>> git stored data as objects

Github : is a server allow you to store version from your project on internet .

Benefits of Git :

- Allow you to make versions from your project
- Facilitate team work collaboration

Structure :

The main director is called repository

The repository consists of :

- The hidden git folder
- Your project folders and files

>> the repository in your computer is called **local repository**

>> the repository in the github is called **remote repository**

How it work ?

Git is work by command lines you can install git to write git command lines

Or install git commands in your terminal

>> to know information about any command : git command -h

Or git command --help or git help command

How to initiate repo ?

Local :

git init

Remote :

By create a new repo as site instructions

The git workflow :

Working directory > staging area > local repo > remote repo

The Git commands :

Firstly you need to define who you are :

git config --global user.name "name"

git config --global user.email "email"

git config --list > to show saved data

From working directory to staging area :

git status > to show folders and files unstaged (red color)

git add folder or file > to add something

git add . > to add all (green color)

git rm --cached file.txt > to unstage file

git reset file.text > to unstage file

git reset . > to unstage all

From staging area to local repo :

git commit -m "message"

From local repo to remote repo :

Create repo on github without README.md file and copy the link

Go to project director in terminal

Steps are :

git init

echo "#test" > README.md

git add .

git commit -m "message"

git remote add origin https://repo_link

git pull

git push origin master

>> you can do the last 2 step in 1 step

git push -u origin master

From remote repo to local repo :

Create repo on github with README.md file

Copy link from clone or download button

Go to project director in terminal

Steps are :

git clone https://repo_link

git add .

git commit -m "message"

git push origin master

> git pull : used to pull and merge last changes on remote repo before push

> git fetch : used to just pull remote repo without merge

> git push origin master -f (or --force) : to force push but make sure that remote repo is empty because force push make overwrite

Branches :

> branch is created after commit

git branch -l > to know local branches

git branch -r > to know remote branches

git branch new > to create new branch

git checkout branch_name > to transfer work to specific branch

git checkout -b new > to create branch and work it in one step

To merge branches :

> go to the branch you want to merge other branches with it

As : git checkout master

To merge :

git merge new > merge new with master

git merge new new2 > merge new and new2 with master

To delete branch :

git branch -d branch_name > to delete merged branch

git branch -D branch_name > to force delete branch even unmerged

on github :

> you can create branch as explained on site

git push origin branch_name > to push to specific branch on github

git remote -v > to show remote repo you push to it

Branch on github :

Your account :

> make branch

> to merge make pull request and merge it to master

>> the same way if you are a contributor in the team

>> you can invite anyone to be a contributor in the project

Not your account :

> make a fork

> after end make pull request and wait until the project owner see your changes and merge it or refuse it

>> after making a fork you can make a branch from the fork and then merge it with the fork and then make pull request to the main project

- end -

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