# Git vs GitHub

**Version Control System** is a management software responsible for managing changes to compute programs, documents, website code etc., It helps to recover files / folder easily and roll back to previous version.

There are three types of Version Control System. They are,

(i) Local VCS
(ii) Centralized VCS
(iii) Distributed VCS

**Local Version Control System**: Changes are stored in files along with filename/timestamp.

Eg: Laptop

**Drawbacks:**

(i) Corrupted

(ii) Hardware crash

**Centralized Version Control System:** It is a repository of files and folder where your codes are store in a remote place.

**Drawbacks:**

(i) Corrupted
(ii) Hardware crash
(iii) No local repository
(iv) It had only single repository

**Distributed Version Control System**: It contains multiple repositories. Each user has their own local repository and also there is a central repository. It provides full pack up of their codes. Eg: Git

**Git vs GitHub**:

Git is a free and open-source Distributed Version Control System. It helps developers keep track of the history of their code files by storing them in versions in the server repository. It stores snapshots of Projects.

GitHub is a cloud-based hosting service. It helps developers store and manage their codes. We can track or control the changes to the codes.

**Difference between Git and GitHub:**

| Git | GitHub |
|---|---|
| It is a tool to execute Version Control System | It is a platform which utilizes Git to carry out its work. |
| It is a software which needs to be installed. | It is a web based platform where we need to create our own accounts. |
| It is command line interface | It is a GUI |

**Git commands:**

| | |
|---|---|
| pwd | Present working directory |
| mkdir | Create a new directory |
| echo $? | This tells us our previous command is successful or not.<br>If it returns 0 then it represents successful. Other than 0 represents not successful. |
| clear/ctrl+l | Clear the screen |
| ls | It list the files & directories under the working directory |
| ll | Long list of the files & directories of the working directory |
| cd | Change directory |
| | cd . → current directory<br>cd .. → parent directory / one level directory up<br>cd ../.. → navigating 2 level up to the parent directory |
| cat/vi | create files |
| cp | copy & paste |
| mv | cut & paste |
| rm | remove a file<br>rm -i → ask to enter 'y' or 'n' to remove a file |
| git init | Initialize the directory |
| git status | Returns which branch you are, what files are committed |
| git help | get all git commands |
| git add . | adds a change in the working directory to the staging area |
| git commit | captures a snapshot of the project's currently staged changes |
| git push | used to upload local repository content to a remote repository |
| git log | to review and read a history of everything that happens to a repository |
| git remote remove | remove a remote branch |

**Git Lifecycle:**