**Git and GitHub**

**Git:**

It is VCS (Version Control System) tool. This has installed on the local system. Using which you can work with the local repositories. It will also use as local client for GitHub.

Link to download Git: <https://git-scm.com/downloads>

Installation Guide: <https://www.youtube.com/watch?v=4xqVv2lTo40>

**GitHub:**

It is a web application which provides cloud repository also known as remote repository

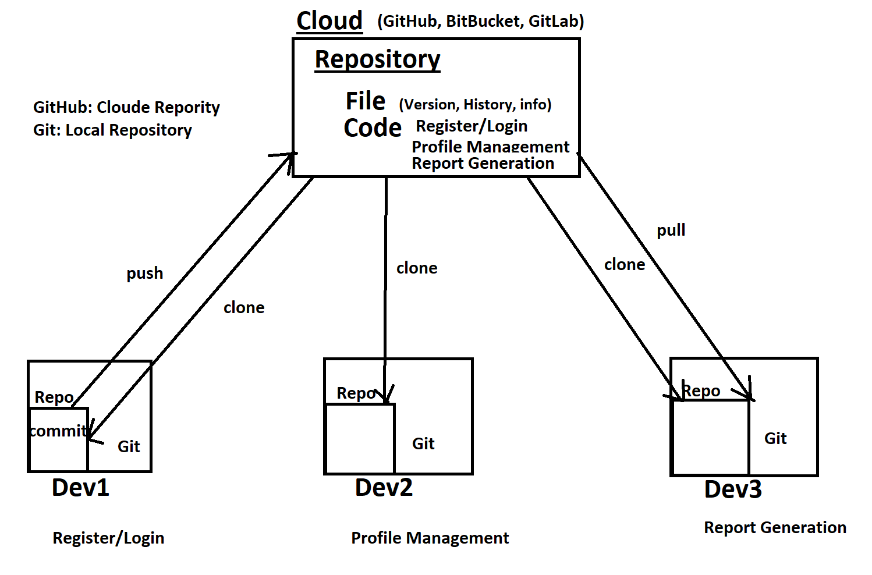
Create Account on GitHub: <https://github.com/signup?ref_cta=Sign+up&ref_loc=header+logged+out&ref_page=%2F&source=header-home>

**GitHub Desktop**

Installation Link:<https://desktop.github.com/>

**VCS (Version Control System)**

1. Version control System is use to create a backup of your files and maintains the version of the file.
2. You can easily switch between a versions.
3. It will also store all details related to version like owner, files, date time, message etc.
4. You can also compare file from two version easily.
5. It is an efficient and easy way to maintain a backup/version of your file.
6. There are 2 types of version control tool.
   1. Centralized VCS
      1. All the files, their version and their details will be store at the central system.
      2. There will be a single service to which other systems will be connected.
   2. Distributed VCS
      1. All file, version and details will store on all client system.
      2. Every client work as a client and server both.



**Git Command**

To execute any git command you can use Git Bash (Git Command Line Client)

**Create/Get Repository**

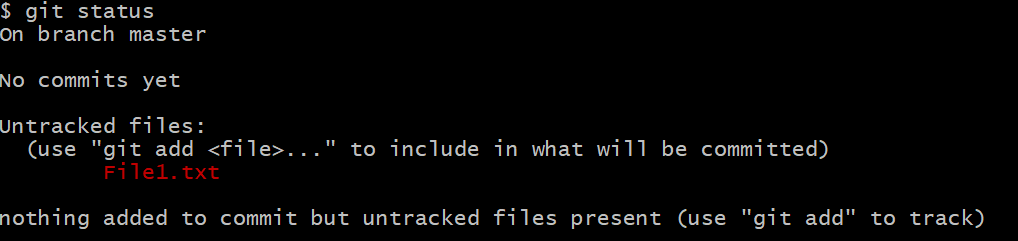
**Create Local Repository**

**git init :** This command is use to create a local repository.

Empty Repo will be create and .git folder will be created in local repo.

**File Level Operation inside Git.**

1. There are different stage of files
   1. Untrack File:- The file which is newly created and it not managed by git.
   2. Track File:- The file which is maintain by Git (known File to git). And the file version maintained by git. There are different status of track file like new file, modified file, renamed file, delete file.
   3. Staging Area: It is allocation where you are currently working
2. git status: Can see the status/stages of files

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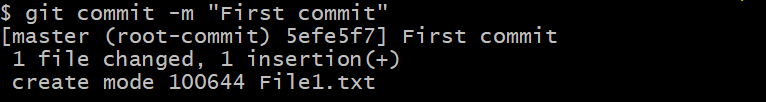
1. **git add:** Can add the changes and become ready for commit.

**git add <filename> : to add single file**

**git add . : to add all files at a time**

1. **git commit :** using this command git can start maintaining a version for this file, if version is already there then it will create a new version

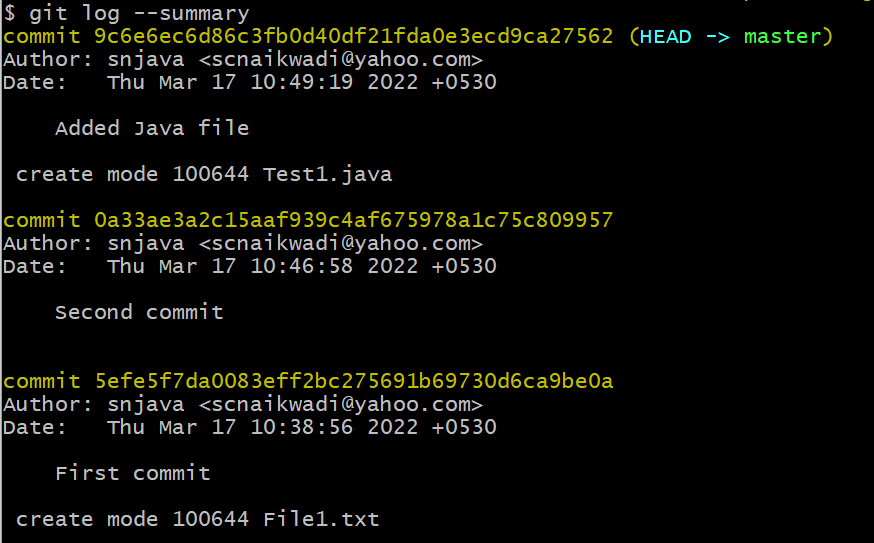
**git commit -**m “Message”

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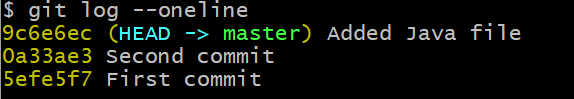
1. **git log:** is use to check the commit details

**git log**

**git log --summary**

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**git log --oneline**

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