

**Git** - Git is a distributed version control system designed for tracking changes in source code during software development. It allows multiple developers to work on a project simultaneously, maintaining a history of changes, branches, and merges. Git facilitates collaboration, code review, and the management of different versions of a project.

**GitHub** - GitHub is a web-based platform that builds on Git and provides hosting for software development projects. It offers a graphical interface for managing Git repositories, along with additional features such as issue tracking, pull requests, and project management tools. GitHub enhances collaboration by providing a central hub for developers to share, contribute to, and collaborate on projects, whether they are open source or private.

### Basic Git Commands

- `git init` initializes a brand new Git repository and begins tracking an existing directory
- `git clone` creates a local copy of a project that already exists remotely
- `git add` stages a change
- `git commit` saves the snapshot to the project history and completes the change-tracking process
- `git status` shows the status of changes as untracked, modified, or staged
- `git branch` shows the branches being worked on locally
- `git merge` merges lines of development together. This command is typically used to combine changes made on two distinct branches
- `git branch -d <branch_name>` Deletes the specified branch.

- git checkout switches to another branch and checks it out into your working directory
- git log shows all commits in the current branches history
- git push updates the remote repository with any commits made locally to a branch
- git pull updates the local line of development with updates from its remote counterpart