GIT

GIT ESSENTIALS: BASIC COMMANDS & FUNDAMENTALS

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What is GIT?

Git serves as a distributed version control system integral to tracking modifications in source code throughout the software development process. Git enables collaborative development by supporting parallel code additions and managing updates, bug fixes, and feature additions through version control. With features like branching, developers can work on updates separately and merge them with the main branch seamlessly, ensuring organization and synchronization across the team.

When a team works on real-life projects, git helps ensure no code conflicts between the developers. Furthermore, the project requirements change often. So, a git manages all the versions. If needed, we can also go back to the original code. The concept of branching allows several projects to run in the same codebase.

What is GIT HUB?

GitHub is a web-based platform and hosting service built around Git, the popular version control system. It serves as a central hub for software development projects, offering a collaborative environment where developers can store, manage, and share code repositories. GitHub provides a wide array of features to streamline the development process, including issue tracking, pull requests, code review, project management tools, and wikis. It is widely used by individuals, teams, and organizations to collaborate on both open-source and proprietary projects. With its social coding features, GitHub enables developers to discover, contribute to, and fork projects from a vast community of users worldwide.

Essential Git Commands: Simplifying Version Control

git init : Initializes a new Git repository in the current directory.

git clone [url] : Clones an existing Git repository from a specified URL to your local machine.

git add [file] : Adds a file to the staging area, preparing it to be committed.

git commit -m "commit message" : Commits the staged changes to the local repository with a descriptive message.

git status : Displays the current state of the working directory and staging area.

git pull : Fetches changes from the remote repository and merges them into the current branch.

git push : Pushes committed changes from the local repository to the remote repository

git push [variable name] master : This command sends the changes made on the master branch, to your remote repository.

git branch : Lists all the branches in the repository.

git checkout [branch-name] : Switches to the specified branch.

git merge [branch-name] : Merges changes from the specified branch into the current branch.

git log : Displays a list of commits in reverse chronological order.

git diff : Shows the differences between the working directory, staging area, and the last commit.