GIT Documentation

1. Introduction to Git

Git is a distributed version control system designed to handle everything from small to very large projects with speed and efficiency. It allows multiple developers to work on the same project simultaneously while tracking changes to the codebase.

2. Git vs GitHub

Git is a version control tool used to manage source code history. GitHub, on the other hand, is a web-based platform that hosts Git repositories online. While Git works locally on your system, GitHub enables collaboration and remote access to repositories.

3. Basic Git Commands

- Clones a remote repository to your local system git add
- Adds changes to the staging area git commit
- Saves the staged changes to the local repository git push
- Uploads local repository content to a remote repository git pull
- Fetches and integrates changes from a remote repository

4. Git Workflow

The typical Git workflow follows these stages:
Working Directory -> Staging Area -> Local Repository -> Remote Repository (e.g., GitHub)

[Diagram Placeholder: Git Workflow Diagram]

5. Uploading a Project to GitHub

1. Create a new repository on GitHub
2. Open your terminal and navigate to the project directory
3. Initialize Git: git initialize

4. Add remote: git remote add origin <repository-URL>

5. Add files: git add .

6. Commit changes: git commit -m "Initial commit"

6. Conclusion

Git is an essential tool for modern software development, enabling efficient version control and team collaboration. When combined with GitHub, it allows developers to work together seamlessly on projects from anywhere.