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Introduction to Git

Git is a distributed version control system that helps developers manage and track changes to their code over

time. It allows multiple developers to work on the same project simultaneously without interfering with each

other's work.

GitHub is a cloud-based hosting service for Git repositories. It allows users to store and manage their Git

repositories and collaborate on projects.

Git Basics Key Concepts:

Repository (Repo): A project folder that contains all your code and version history.

Commit: A snapshot of changes made to files. Commits are like save points in your project.

Branch: A parallel version of the repository, where developers can work on features independently.

Merge: Combining changes from different branches into a single branch.

Clone: A copy of a repository from GitHub to your local machine.

Using GitHub

Step 1: Create a GitHub Account

- Go to GitHub.com and sign up for a free account.

Step 2: Create a New Repository on GitHub

- Click on the New Repository button.
- Name the repository, set visibility, initialize with README if needed.
- Click Create Repository.

Step 3: Clone the Repository

- Click the green Code button and copy the HTTPS URL.
- Run: git clone <repository-url>

Step 4: Push Changes

- Edit/add/delete files.
- Use git add, git commit, and git push to update GitHub.

Git and GitHub Workflow

Basic Workflow:

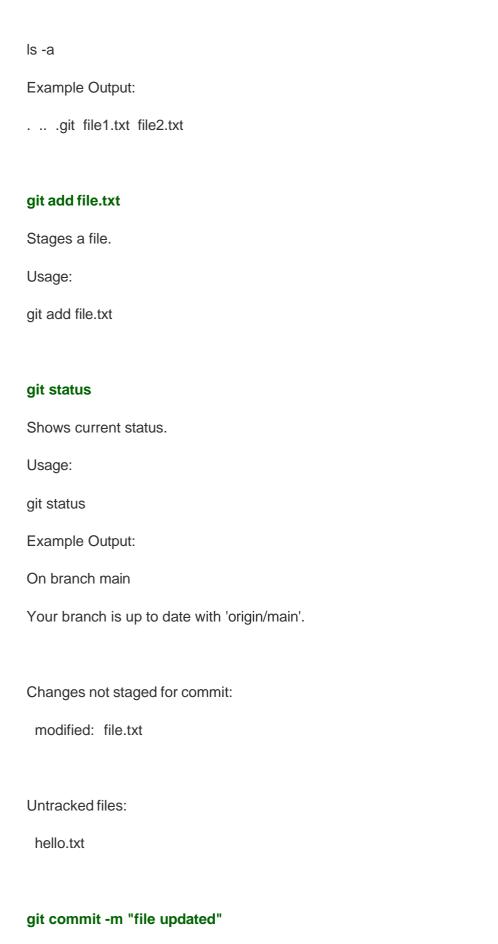
- Clone the repository
- Create a new branch
- Make changes, stage, and commit
- Push and create a Pull Request

Pull Request:

- A PR proposes changes to a repository.
- Review and merge via 'Compare & pull request' button.

Git Commands with Examples

gitversion
Displays the Git version.
Usage:
gitversion
Example Output:
git version 2.34.1
git configglobal user.name "Your Name"
Sets your Git username globally.
Usage:
git configglobal user.name "Your Name"
git configglobal user.email "youremail@example.com"
Sets your Git email globally.
Usage:
git configglobal user.email "youremail@example.com"
git init
Initializes a Git repository.
Usage:
git init
Is -a
Lists all files including hidden ones.
Usage:



Commits changes.

Usage:
git commit -m "file updated"
git checkout -f
Discards local changes.
Usage:
git checkout -f
git mv text.txt text1.txt
Renames or moves a file.
Usage:
git mv text.txt text1.txt
git Is-files
Lists tracked files.
Usage:
git Is-files
git log
Shows commit history.
Usage:
git log
Example Output:
commit 1234abcd5678efgh
Author: Your Name <youremail@example.com></youremail@example.com>

Date: Mon Oct 5 12:34:56 2025 -0400

file updated

git branch
Lists all branches.
Usage:
git branch
Example Output:
* main
develop
feature-xyz
git branch wipro
Creates a new branch.
Usage:
git branch wipro
git checkout wipro
Switches to the wipro branch.
Usage:
git checkout wipro
git merge wipro
Merges winto juto current branch

Usage:
git merge wipro
git branch -d wipro
Deletes the wipro branch.
Usage:
git branch -d wipro
To force delete: git branch -D wipro
git clone <repository-url></repository-url>
Clones a repository.
Usage:
git clone <repository-url></repository-url>
Example:
git clone https://github.com/username/repository.git
git rm hello.txt
Removes a file and stages deletion.
Usage:
git rm hello.txt
touch hello.txt
Creates a new empty file.
Usage:
touch hello.txt