What is Git, GitHub, and Git Bash?

Before learning commands or pushing files, it's important to understand *what these tools really are and how they work together.*

What is Git?

Git is a **Version Control System (VCS)** a tool that helps you keep track of changes made to your files or code over time.

Imagine you are working on a project and you keep making updates.
Git allows you to:

- Save versions of your project (called commits)
- Go back to older versions anytime
- Work in teams without overwriting each other's work

In simple words:

Git remembers every change you make in your project just like a "time machine" for your code.

Key Features of Git:

- Version Control: Keeps track of file changes and project history
- Branching and Merging: Lets you work on new features separately and later merge them
- Collaboration: Multiple developers can work on the same project without conflicts
- Offline Work: You can use Git even without the internet
- Speed: Very fast compared to older version systems like SVN

Example:

Let's say you're making a website. You made 5 updates last week.
If you use Git, you can easily switch back to how your code looked on Tuesday even if you changed everything by Friday

What is GitHub?

GitHub is an **online platform** where you can **store and share** your Git repositories.
It's like a **cloud home** for your Git projects.

Git works on your local computer,
but **GitHub** lets you **upload those projects online** so that others can:

- See your code
- Collaborate with you
- Suggest changes (via pull requests)
- Download or contribute

In simple words:

GitHub = Git + Cloud + Collaboration

It's the place where your local Git repositories live online.

Key Features of GitHub:

- **Repository Hosting:** Store your code online
- **Team Collaboration:** Work with others easily
- **Pull Requests:** Review and discuss code changes
- **Issues & Wiki:** Track bugs and documentation
- **Portfolio:** Show your projects publicly great for resumes and job interviews

Example:

When you push your project from your PC to GitHub, you can open GitHub.com and show your work to anyone, anywhere.
That's why developers call GitHub their **"project showcase."**

What is Git Bash?

Git Bash is a **command-line tool** (terminal) that lets you use **Git commands** on Windows.

Bash stands for **"Bourne Again Shell."**
It allows you to communicate with **Git** through commands instead of clicking buttons.

In simple words:

Git Bash is just the *tool that lets you talk to Git*, nothing more.

Git is the *real version* control system, Git Bash is how you use it.

Key Features of Git Bash:

- Run Git commands like git add, git commit, git push
- Works just like Linux terminal on Windows
- Lets you manage files, folders, and repositories through commands
- Lightweight and fast

Example:

When you type commands like:

- git status
- git commit -m "added new file"
- git push origin main

You're using **Git Bash** to send instructions to **Git**, which then communicates with **GitHub**.