What is Git?

Git is a **distributed version control system (DVCS)** used for tracking changes in source code during software development. It helps developers collaborate efficiently, manage different versions of code, and track modifications over time.

What does Git do?

- Keeps a complete history of all modifications in files, allowing developers to revert to previous versions if needed.
- Enables developers to work with different versions of the same project without losing any progress.
- Allows developers to create separate branches for new features, bug fixes, or experiments, and later merge them into the main codebase.
- Developers can work on their local machines without an internet connection and sync changes with remote repositories (e.g., GitHub, GitLab, Bitbucket).
- Push local updates to the main project.

Why Git?

- Over 70% of developers use Git!
- Developers can work together from anywhere in the world.
- Developers can see the full history of the project.
- Developers can revert to earlier versions of a project.

What is GitHub?

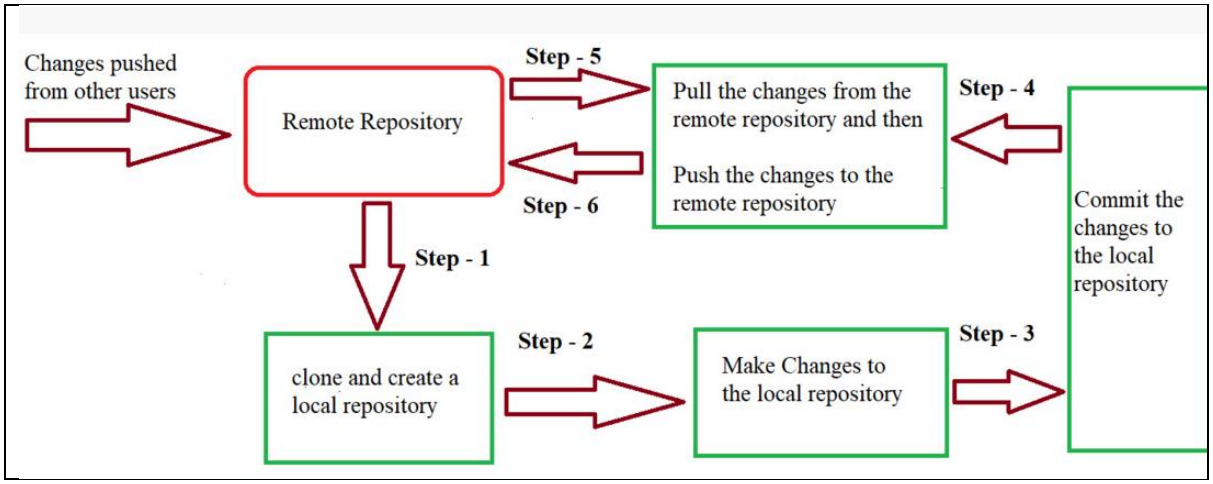
GitHub is a **web-based platform** for hosting and managing Git repositories. It provides tools for **collaboration, version control, and project management**, making it easier for developers to work together on software projects.

- Git is not the same as GitHub.
- GitHub makes tools that use Git.
- GitHub is the largest host of source code in the world, and has been owned by Microsoft since 2018.
- In this tutorial, we will focus on using Git with GitHub.

Difference between Git and GitHub:

Sr.No	Git	GitHub
1.	Git is a software.	GitHub is service
2.	Git is a command-line tool	It is graphical user interface
3.	It is installed locally on the system	GitHub is hosted on web
4.	Gi t is maintained by Linux	It is maintained by Microsoft
5.	Git was launched in 2005	GitHub was launched in 2008
6.	Git is focused on version control and code sharing.	GitHub is focused on centralized source code hosting.
7.	Git is a version control system to manage source code history.	GitHub is a hosting service for Git repositories.
8.	Git has no user management feature.	GitHub has a built-in user management feature.
9.	Git is open-source licensed.	GitHub includes a free-tier and pay-for-use tier.
10.	Git provides a Desktop interface named Git Gui.	GitHub provides a Desktop interface named GitHub Desktop.

Git Lifecycle:



Git Architecture: