Git and GitHub

Git is a version control system that allows developers to track changes in their code. GitHub is a web-based hosting service for git repositories.

Basic Terms and Definitions

Repository: A repository, or "repo," is a collection of files and version history(storage area).

Commit: It is used to record the changes in the repository

Branch:A branch is a parallel version of a repository. It allows multiple developers to work on different features simultaneously without affecting the main codebase.

Merge:Merging combines changes from different branches. It is a crucial step in collaborative development.

Pull Request:A pull request (PR) is a proposal to merge changes from one branch into another.

Basic Git Commands

- git init -Initializing a Repository
- git add <file>
- git commit -m "Commit message" committing changes
- git log –viewing commit history
- git branch <branch_name> -creating branch
- git checkout <branch_name> -switch branch
- git merge <branch_name> -merging branch
- git clone <repository_url> -cloning a repo

Concepts

GitHub:
GitHub is a web-based platform that uses Git for version control. It provides features like pull requests, code review, and issue tracking. It's widely used for open-source and collaborative projects.

GitLab:
GitLab is a web-based Git repository manager that includes features for continuous integration and deployment. It offers a complete DevOps platform, including project planning and monitoring.

Bitbucket:
Bitbucket is a Git repository hosting service by Atlassian. It supports both Git and Mercurial and provides features like pull requests, branching strategies, and integrations with other Atlassian tools.

Industrial Practices of Using Git

Git is a tool used for source code management. It is a free and open-source version control system used to handle small to very large projects efficiently. Git is used to tracking changes in the source code, enabling multiple developers to work together on non-linear development.