Goal: Understand Git workflow and work with repositories locally and remotely.

**Topics to Learn:**

* What is Git and GitHub
* Installing Git
* Git configuration (git config)
* Initializing a repository (git init)
* Cloning a repository (git clone)
* Checking status (git status)
* Adding files (git add)
* Committing changes (git commit)
* Viewing commit history (git log)
* Undoing changes (git restore, git reset)
* .gitignore file

**Practice**:

* Create a repo from scratch
* Make a few commits
* Push to GitHub

**✅ 2. Branching & Merging (Intermediate Level)**

Goal: Work with multiple features and avoid conflicts.

**Topics to Learn:**

* Creating branches (git branch, git checkout -b)
* Switching branches (git checkout, git switch)
* Merging branches (git merge)
* Resolving merge conflicts
* Deleting branches
* Remote branches and tracking

**Practice**:

* Create a feature/ branch
* Merge it into the main branch
* Try creating and solving a merge conflict

**✅ 3. Remote Repositories & Collaboration**

Goal: Work with teams using GitHub or GitLab.

**Topics to Learn:**

* Pushing and pulling changes (git push, git pull, git fetch)
* Forking and cloning other repos
* Pull Requests (PRs) on GitHub
* Code reviews and comments
* Upstream vs origin
* Fetching upstream changes

**Practice**:

* Contribute to an open-source GitHub project
* Collaborate with a friend using PRs

**✅ 4. Advanced Git**

Goal: Deep understanding of Git internals and better workflows.

**Topics to Learn:**

* Rebase (git rebase)
* Stashing changes (git stash)
* Cherry-pick commits (git cherry-pick)
* Reflog and recovering lost commits (git reflog)
* Git hooks (pre-commit, pre-push)
* Tagging releases (git tag)
* Submodules and monorepos
* Advanced .gitignore patterns