



Git Course Syllabus

1. Introduction to Git

- What is Git?
- Difference between Git and other version control systems
- Git's role in DevOps and software development
- Installing and configuring Git:
 - Setting up Git on various platforms (Windows, Linux, macOS)
 - Configuring user name and email

2. Getting Started with Git

- Initializing a Git repository
- Basic Git commands:
 - git init, git add, git commit, git status
- Understanding the Git three-stage workflow:
 - Working directory, staging area, and repository
- Viewing commit history with git log

3. Working with Branches

- Understanding branches in Git
- Creating, switching, and deleting branches
- Merging branches
- Resolving merge conflicts

4. Remote Repositories

- What are remote repositories?
- Cloning a repository
- Adding a remote repository
- Pushing and pulling changes
- Fetching updates from a remote repository

- Syncing local and remote repositories

5. Collaborative Workflow

- Understanding collaboration in Git
- Forking a repository
- Making pull requests
- Reviewing code in pull requests
- Handling changes from multiple collaborators

6. Undoing Changes

- Undoing changes in the working directory
- Reverting commits
- Resetting commits (soft, mixed, and hard resets)
- The Git stash for temporary storage

7. Advanced Git Features

- Git tags:
 - Creating and managing tags
- Cherry-picking commits
- Git hooks:
 - Pre-commit and post-commit hooks
- Rebasing in Git
- Squashing commits

8. Working with Git Tools

- Setting up SSH for Git authentication
- Using Git GUI clients (e.g., Sourcetree, GitKraken)
- Integrating Git with IDEs