Comprehensive Git Training Course

**Objectives**

The goal of this class is for you to get super comfortable with Git. This is a comprehensive course for people not familiar with any other version control system. It starts with simple exercises for working in a local repository and finishes with practicing working in a team.

**Prerequisites**

Basic knowledge of project development and be comfortable with command-line

**Git Basics**

1. Introduction to Git
2. Git Repository
3. Recording Changes to Repository
4. Viewing the Commit History
5. Undoing Things
6. Tagging

**Git Branching**

1. Branching and Merging
2. Branch Management
3. Branching Workflows
4. Remote Branches
5. Rebasing

**Git on the Server**

1. The Protocols
2. Getting Git on a Server
3. Generating SSH Public Key
4. Setting up the Server
5. Public Access
6. Hosted Git (GitHUB)
7. Working with Remotes

**Distributed Git**

1. Distributed Workflows
2. Contributing to a Project
3. Maintaining a Project

**Git Tools**

1. Revision Selection
2. Interactive Staging
3. Rewriting History
4. Debugging with Git (bisect)
5. Submodules
6. Subtree Merging

**Customizing Git**

1. Git Configuration
2. Git Attributes
3. Git Hooks

**Git by Example**

1. Creating a Git repository on a shared server (git init)
2. Managing access control
3. Cloning a remote repository (git clone)
4. Adding files to a local Git repository (git add)
5. Checking for status of files in a local Git repository (git status)
6. Committing files to a local Git repository (git commit)
7. Pushing changes in a local git repository to a remote Git repository (git push)
8. Pulling files from a remote Git repository (git pull)
9. Looking at commit logs/history (git log)
10. Looking at file changes (git diff)
11. Merging files and dealing with conflicts (on git pull)
12. Moving and renaming files (git mv)
13. Deleting files (git rm)
14. Reverting files to their previous state (git checkout)
15. Tagging files (git tag)
16. Creating using branches (git checkout -b branch)
17. Fetching branches (git fetch)
18. Merging files across branches (git merge)
19. Dealing with conflicts on merge
20. Summary