

## Course duration

- 2 days

## Course Benefits

- Start a Git repository from an existing project or clone a project hosted on the internet.
- Obtain a fundamental understanding of how to manage remote repositories.
- Learn the theory of and why branches are important.
- Learn about Git tools like stash and cherry-pick.
- Become knowledgeable with the GitHub portal and how to use it professionally.
- Participate in a Git collaborative project in class.

## Course Outline

1. Introduction
  1. What is Git?
  2. What is Version Control?
  3. Types of version control systems
  4. Is Git better than other similar tools?
2. Installing Git
  1. Installing Git on Windows
    1. Chocolatey
    2. Git for Windows
    3. Git Bash for Windows
  2. Installing Git on Mac
    1. Using Homebrew
    2. Using Xcode development tools
    3. Checking if Git is installed correctly
3. Git Fundamentals
  1. The File Status Lifecycle
    1. Untracked
    2. Tracked
    3. Modified
    4. Staged
  2. Visual Workflow
  3. Using the terminal
  4. Choosing a Code Editor
    1. Windows
    2. Mac
4. Starting with Git
  1. Basic Operations

2. History of the Project
3. Other Basic Operations
  1. Git move
  2. Git remove
  3. Git ignore
  4. Git diff
4. Undoing Things
  1. Git commit amend
5. Unstaging files
6. Discarding changes
  1. Changes to one file
  2. Changes to all files
7. Git Branches and Tags
  1. The commit history
  2. Merging branches
  3. Branching in action
  4. Merge conflicts
8. Rebasing
9. Interactive rebase
10. Tagging
5. Remote Repositories
  1. Setting up a Github account
  2. Creating SSH credentials
  3. Our first remote repository
  4. Remote repository operations
  5. Git fetch and Git pull
  6. Git remote branches and tags
6. Professional Git Workflow with Github
  1. What is a workflow?
  2. Code reviews
  3. Forking a repository
  4. Pull requests
7. Final Project
  1. The Global Restaurant Guide

## Class Materials

Each student will receive a comprehensive set of materials, including course notes and all the class examples.