

Git and GitHub Essential

FA-0489 · 3 Days

Software Development

Introduction

This course is designed to provide a comprehensive introduction to version control with Git and collaborative development using GitHub. Participants will learn the fundamental concepts and practical skills needed to effectively manage code, track changes, and collaborate with others. By the end of the course, students will be equipped to confidently use Git and GitHub for their software development projects.

Course Duration: 3 Days

Prerequisites

- Basic understanding of computer and file management.
- Familiarity with programming concepts (not mandatory but helpful).

Learning Outcome:

- Understand the fundamental concepts of version control and its importance in software development.
- Be proficient in using Git for tracking changes, creating branches, and managing repositories.
- Resolve conflicts and confidently merge code in collaborative Git environments.
- Familiarize themselves with GitHub and its role in facilitating collaborative development.
- Create, clone, and fork repositories on GitHub, and understand the GitHub workflow.
- Effectively contribute to open-source projects by submitting pull requests and participating in code reviews.
- Utilize GitHub Issues and project management features for organized development.
- Implement GitHub Actions for continuous integration (CI) and continuous deployment (CD).

- Adhere to Git best practices and workflows for efficient development.
- Customize Git using hooks and explore advanced Git features.
- Apply time-saving Git tips and tricks to enhance productivity in coding projects.

Training outline

1. Day 1: Introduction to Version Control and Git Basics

- Understanding version control and its importance
- Introduction to Git: What is Git and why use it?
- Setting up Git on your local machine
- Git basics: commits, branches, and repositories
- Creating and managing a Git repository

2. Day 2: Git Intermediate Concepts and Collaboration

- Working with branches: creating, switching, and merging
- Resolving conflicts in Git
- Collaborative development with Git: understanding remotes
- Cloning repositories from GitHub
- Pushing changes to a remote repository
- Pull requests and code reviews on GitHub

3. Day 3: GitHub and Advanced Git Topics

- Introduction to GitHub: what is GitHub and its role in development
- Forking repositories and contributing to open-source projects
- GitHub Issues and project management
- GitHub Actions for continuous integration (CI) and continuous deployment (CD)
- Git best practices and workflows
- Git hooks and customization