Introduction to Git, GitHub and TortoiseGit for Developers - TTDV7558

Gain the skills required to achieve seamless collaboration, better project management, increased productivity, and efficient teamwork.

Duration: 2 Days
Skill Level: Introductory
Available Format: Instructor-Led Online ; On Public Schedule

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What You'll Learn

Overview

Discover the power of Git, GitHub, and TortoiseGit in our immersive **two-day hands-on course** designed for users new to the world of version control and collaboration. Unlock the potential of distributed version control systems and learn how to leverage the GitHub platform for efficient project management, collaboration, and seamless integration with TortoiseGit, a user-friendly interface for Windows. This comprehensive training will not only introduce you to essential concepts and workflows but also provide you with practical experience that will prove invaluable in your day-to-day job.

Throughout the course you will explore the foundations of Git, GitHub, and TortoiseGit, ensuring you understand the core concepts and terminology. You will gain hands-on experience working with branches, merging pull requests, resolving conflicts, and managing repositories, all while using the intuitive TortoiseGit interface.

Mastering Git, GitHub, and TortoiseGit will transform the way you work by streamlining collaboration, simplifying version control, and improving overall code quality. By incorporating these tools into your daily tasks, you will be able to collaborate more

effectively with your team, manage changes with ease, and maintain a detailed history of your projects, ultimately enhancing productivity and reducing the likelihood of errors.

Working in a **hands-on learning environment**, you'll be able to practice these new skills in real-world scenarios, solidifying your knowledge and building your confidence. With the knowledge and skills acquired from this course, you'll be empowered to tackle complex projects with confidence.

Objectives

This course combines engaging instructor-led presentations and useful demonstrations with valuable hands-on labs and engaging group activities. Throughout the course you will learn:

- Fundamental Git concepts, such as version control, repositories, commits, branches, and merging, enabling them to work effectively with Git and GitHub.
- How to leverage the GitHub platform for project management, issue tracking, and collaboration, improving team communication and coordination.
- How to use TortoiseGit, a user-friendly Git client for Windows, to perform Git operations and interact with GitHub repositories seamlessly.
- How to manage branches and merge pull requests: Attendees will develop the skills to create, switch, and manage branches, as well as merge pull requests, ensuring smooth collaboration and minimizing conflicts in their codebase.
- How to identify and resolve merge conflicts using TortoiseGit, enabling them to maintain a clean and consistent codebase throughout the development process.
- Best practices for using Git, GitHub, and TortoiseGit, such as creating custom aliases and using Git reset, helping them to optimize their version control and collaboration workflows for increased productivity and efficiency.

If your team requires different topics, additional skills or a custom approach, our team will collaborate with you to adjust the course to focus on your specific learning objectives and goals.

Audience

This course is geared for individuals who are new to version control systems, seeking to improve their collaboration skills, and interested in enhancing their project management capabilities. Professionals from various roles and industries can greatly benefit from attending this course, as Git, GitHub, and TortoiseGit are valuable tools for managing projects and collaborating on code. Some roles that might benefit include Software

Developers, Project Managers, Quality Assurance Engineers, Web Designers, Data Analysts and other IT Professionals.

Pre-Requisites

To ensure a smooth learning experience and maximize the benefits of attending this course, you should have the following prerequisite skills:

- Familiarity with Text Editors: Attendees should be familiar with using a text editor, such as Notepad or Visual Studio Code, as they will need to edit code and text files during the hands-on exercises.
- Understanding of Basic Programming Concepts: Participants should have a basic understanding of programming concepts, such as variables, loops, and functions, as they will be working with code throughout the course.
- Knowledge of Command-Line Interface (CLI): Although not mandatory, having some experience with using command-line interfaces (such as Windows Command Prompt or PowerShell) can be helpful for understanding Git commands and concepts.
- Experience with Software Development or Project Management: While not strictly required, some experience in software development or project management can help participants better understand the context and application of Git, GitHub, and TortoiseGit in their day-to-day work.

Related Git / GitHub / GitLab Training Courses

The following is a small subset of our related courses. Please see our catalog for a complete list.

- TTDV7550 Introduction to Git | Git Quick Start
- TTDV7551 Introduction to GitHub for Developers
- TTDV7553 Working with GitLab
- TTDV7555 Advanced Git and GitHub
- TTDV7558 Introduction to Git, GitHub and TortoiseGit for Developers
- TTDV7560 Explore CI/CD, GIT, GIT Tools, Jenkins Integration, Functional Testing, Jenkins & More
- Please see our complete course catalog for additional Git and related course

TTDV7553 Introduction to GitLab

Agenda

Please note that this list of topics is based on our standard course offering, evolved from typical industry uses and trends. We'll work with you to tune this course and level of coverage to target the skills you need most. Topics, agenda and labs are subject to

change, and may adjust during live delivery based on audience skill level, interests and participation.

Day One

Getting Started with Collaboration

- What is GitHub?
- The GitHub Ecosystem
- What is Git?
- Introduction to TortoiseGit
- Lab: Getting Started with Git
- Lab: Getting Started with Collabortation

Understanding the GitHub Flow

- The Essential GitHub Workflow
- Lab: Understanding GitHub - Branch, Commit, Merge & Pull

Branching with Git and TortoiseGit

- Branching Defined
- Creating a Branch with GitHub and TortoiseGit

Local Git and TortoiseGit Configuration

- Checking your Git version
- Git Configuration Levels
- Viewing your configurations
- Configuring your username and email
- Configuring autocrif
- Installing and Configuring TortoiseGit

Working Locally with Git and TortoiseGit

- Creating a Local copy of the repo
- Our favorite Git command: git status
- Using Branches locally with TortoiseGit
- Switching branches
- Lab: Working Locally with Branching and Git

Collaborating on Your Code

- Pushing your changes to GitHub with TortoiseGit
- Creating a Pull Request

- Exploring a Pull Request

Merging Pull Requests

- Merge Explained
- Merging Your Pull Request with TortoiseGit
- Updating Your Local Repository
- Cleaning Up the Unneeded Branches
- Lab: Merge pull request and update local repo

Viewing Local Project History with TortoiseGit

- Using Git Log and TortoiseGit Log
- Lab: Examine project history using TortoiseGit

Day Two

Streamlining Your Workflow with Aliases

- Creating Custom Aliases

Workflow Review Project: GitHub Games

- User Accounts vs. Organization Accounts
- Introduction to GitHub Pages
- What is a Fork? Creating a Fork
- Workflow Review: Updating the README.md with TortoiseGit
- Lab: Actions and Workflows

Resolving Merge Conflicts with TortoiseGit

- Local Merge Conflicts
- Lab: Resolve a local merge conflict using TortoiseGit

Working with Multiple Conflicts

- Remote Merge Conflicts
- Exploring with TortoiseGit
- Lab: Working with GitBisect

Searching for Events in Your Code

- What is Git bisect?
- Finding the bug in your project with TortoiseGit

Reverting Commits with TortoiseGit

- How Commits are made
- Safe operations
- Reverting Commits
- Lab: Revert a commit using TortoiseGit

Helpful Git Commands

- Moving and Renaming Files with Git and TortoiseGit
- Staging Hunks of Changes
- Activity: Create GIT Managed Folder with Tortoise
- Activity: Clone a GitHub Repo with TortoiseGit
- Activity: Check out a Working Tree with TortoiseGit
- Activity: Committing Your Changes To The Repository
- Activity: Get Status Information
- Activity: Pull and Fetch Changes
- Activity: Pushing Changes
- Activity: Syncing Changes
- Activity: Starting a Git Daemon
- Activity: Browse all Refs
- Acitvity: GitHub Organization
- Activity: GitHub Profile

Viewing Local Changes with TortoiseGit

- Comparing changes with the Repository

Creating a New Local Repository)

- Initializing a new local repository with TortoiseGit

Fixing Commit Mistakes with TortoiseGit

- Revising your last commit

Rewriting History with Git Reset and TortoiseGit

- Understanding reset
- Reset Modes
- Reset Soft
- Reset Mixed
- Using Reset with TortoiseGit

Related Courses

TTDV7553	Introduction to GitLab

Setup Made Simple! Learning Experience Platform (LXP)

All applicable course software, digital courseware files or course notes, labs, data sets and solutions, live coaching support channels and rich extended learning and post training resources are provided for you in our “easy access, no install required” online **Learning Experience Platform (LXP),** remote lab and content environment. Access periods vary by course. We’ll collaborate with you to ensure your team is set up and ready to go well in advance of the class. Please inquire about set up details and options for your specific course of interest.

For More Information

Please contact us or call 844-475-4559 toll free for more information about our training services (instructor-led, self-paced or blended), coaching and mentoring services, public course enrollment or questions, partner programs, courseware licensing options and more.