



Advanced Git and GitHub

Next Level Skills and Best Practices for Collaboration, Managing Repositories, Advanced Branching, Customization and More

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Course Snapshot

- **Course: Advanced Git and GitHub (TTDV7555)**
- **Duration:** 3 days
- **Skill-level:** Intermediate-level software development skills for Intermediate skilled team members.
- **Targeted Audience:** Software Developers, Data Scientists and Programmers.
- **Hands-on Learning:** This course is approximately 50% hands-on lab to lecture ratio, combining engaging expert lessons, demos and group discussions with real-world, skills-focused machine-based labs and exercises. Student machines are required.
- **Delivery Options:** This course is available for **onsite private classroom presentation, live online virtual presentation**, or can be presented in a **blended learning format**. Please also ask about our **Self-Paced / Video / QuickSkills** or **Mini-Camp / Short Course** flexible delivery options.
- **Public Schedule:** This course has active dates on our live-online open enrollment **Public Schedule**.
- **Customizable:** This course agenda, topics and labs can be further adjusted to target your specific training skills objectives, tools and learning goals. Please ask for details.

Overview

Geared for experienced GIT users, **Advanced Git and GitHub** is a comprehensive hands-on course designed to help you gain deeper insights into Git's architecture, its underlying concepts, behavior, and best practices.

Objectives

This course is approximately 50% hands-on lab to lecture ratio, combining engaging expert lessons, demos and group discussions with real-world, skills-focused machine-based labs and exercises. Working in a hands-on learning environment led by our expert team, students will explore:

- Project History
- Developing with Git and Working with branches
- Managing Your Worktree
- Collaborative Development with Git
- Managing remote repositories
- Advanced Branching Techniques
- Merging Changes Together
- Keeping History Clean
- Managing Subprojects – Building a Living Framework
- Customizing and Extending Git
- Git Administration, Repository Maintenance, Data Recovery and Troubleshooting
- Git Best Practices

Audience & Pre-Requisites

This class assumes some prior experience with Git, plus basic coding or programming knowledge.

Take Before: Attending students should have skills equivalent to those in the course(s) listed below or attend as a pre-requisite:

- TTDV7551 Introduction to GitHub for Developers

Related Git / GitHub / GitLab Training Courses:

- TTDV7550 Introduction to Git | Git Quick Start
- TTDV7551 Introduction to GitHub for Developers
- TTDV7553 Working with GitLab
- TTDV7555 Advanced Git and GitHub
- 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

Need different skills or topics? If your team requires different topics or tools, additional skills or custom approach, this course may be further adjusted to accommodate. We offer additional Git, DevOps, Docker, container, security, programming, and other related topics that may be blended with this course for a track that best suits your needs.

Enhanced Learning Services: Please also ask about our **Pre-Training Class OnRamp & Prep / Primer** offerings, **Skills Gap Assessment Services, Case Studies, Knowledge Check Quizzes, Skills Immersion Programs & Camps, Collaborative Mentoring Services** and **Extended Learning Support & Post Training** services.

Course Topics / Agenda

Please note that this list of topics is based on our standard course offering, evolved from typical industry uses and trends. We will 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 interests, participation, and skill-level.

- 1. Exploring Project History**
 - Directed Acyclic Graphs
 - Single revision selection
 - Selecting the revision range
 - Searching history
 - History of a file
 - Finding bugs with git bisect
 - Selecting and formatting the git log output
 - 2. Developing with Git**
 - Creating a new commit
 - Working with branches
 - 3. Managing Your Worktree**
 - Ignoring files
 - File attributes
 - Fixing mistakes with the reset command
 - Stashing away your changes
 - Managing worktrees and the staging area
 - Multiple working directories
 - 4. Collaborative Development with Git**
 - Collaborative workflows
 - Managing remote repositories
 - Transport protocols
 - Publishing your changes upstream
 - Chain of trust
 - 5. Advanced Branching Techniques**
 - Types and purposes of branches
 - Branching workflows and release engineering
 - Interacting with branches in remote repositories
 - 6. Merging Changes Together**
 - Methods of combining changes
 - Resolving merge conflicts
 - 7. Keeping History Clean**
 - An introduction to Git internals
 - Rewriting history
 - Amending history without rewriting
 - 8. Managing Subprojects – Building a Living Framework**
 - Managing library and framework dependencies
 - Managing large Git repositories
 - 9. Customizing and Extending Git**
 - Git on the command line
 - Graphical interfaces
 - Configuring Git
 - Automating Git with hooks
 - Extending Git
 - 10. Git Administration**
 - Repository maintenance
 - Data recovery and troubleshooting
 - Git on the server
 - Augmenting development workflows
 - 11. Git Best Practices**
 - Starting a project
 - Working on a project
 - Integrating changes
 - Other recommendations
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Student Materials & Lab Environment: All course software (limited versions, for course use only), digital courseware files or course notes, labs / data sets and solutions (as applicable) are provided for you in our “easy access / no install required” high-speed remote lab environment. Our tech team works with every student to ensure everyone is set up with working access and ready to go prior to every course start date, ensuring a smooth delivery and great hands-on experience. Please ask for details.

For More Information

For more information about our dedicated training services, collaborative coaching services, courseware licensing options, public course schedule, training management services, partner programs, or to see our complete list of course offerings and special offers please visit us at www.triveratech.com, email Info@triveratech.com or call us toll free at **844-475-4559**. Our pricing and services are always satisfaction guaranteed.

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