

Git Advanced

1 Day

Classroom, Webinar

The Clearvision Git advanced training course provides an understanding of advanced Git concepts and looks at configuration and functionality.

About this course

Is this course right for me?

This course is aimed at experienced Git users who want complete control over their repositories, code and history.

Objectives and outcomes

By the end of this advanced course, you'll be an expert in all things Git!

You'll have a deep understanding of Git objects and the impact they have on the repository.

You'll be able to manage and maintain a repository and understand *if*, and why something goes wrong.

You'll learn complex Git collaboration techniques while performing a number of advanced configurations.

Prerequisites

- Access to a laptop.

- Internet connection.

- Completion of the 'Git essentials' course.

Modules breakdown

Module 1: Git internals

Module Sections

1. Prerequisites
2. A rundown of the course
3. Git infrastructure in detail
 - Objects
 - Folder structure
 - The index file

Lab Exercises

1. Walk through the folder structure
2. Using plumbing commands to create objects

Module 2: Housekeeping

Module Sections

1. Repository size
2. File system check
3. Pruning
4. Filter-branch
5. Garbage collection

Lab Exercises

1. Garbage collection
2. Cleaning up data
3. Recovering lost data

Module 3: Git configuration

Module Sections

1. Global
 - Environment variables
2. Local (per repository)
 - Git-config
 - The config file
3. Attributes
4. Alias

Lab Exercises

1. Identify settings
2. Configure settings
3. Configure attributes
4. Set up an alias

Module 4: Identifying content

Module Sections

1. Finding content
 - Git describe
 - Git grep
2. Debugging
 - File annotation
 - Git blame
 - Bisect

Lab Exercises

1. Identify the cause of a bug
2. Debug the code

Module 5: Advanced collaboration

Module Sections

1. Configuring remotes
2. Refspecs
3. Archives (send and receive)
4. Patching
5. Sub-modules
6. Worktrees

Lab Exercises

1. Setting up remotes
2. Splitting up a repository
3. Archiving
4. Creating and applying patches

Module 6: Advanced merging

Module Sections

1. Rebase (skipped if following a fundamentals course)
2. Dry-runs
3. Cherry-picking
4. Octopus merges
5. Selecting a strategy

Lab Exercises

1. Rebasing
2. Cherry-picking
3. Performing an octopus merge