

**Git and Bitbucket Fundamentals**

**Course Number:** GIT-116
**Duration:** 1 day

**Overview**

This live, private Git and Bitbucket Fundamentals training teaches attendees how to use Git and leverage Bitbucket as their repository hosting platform. Students learn the ins & outs of the pull request workflow, code reviews, and other best practices when collaborating as a team.

**Note:** The 1-day course can be taught over 2 half-days.

**Prerequisites**

No prior experience with Git or Bitbucket is presumed. Prior experience with other version control systems is helpful but not required.

**Materials**

All attendees receive comprehensive course materials.

**Software Needed on Each Student PC**

* Windows, Mac OS X, Linux, or Solaris, ideally on a machine with dual core or faster processor and 4GB RAM or higher
* Git 2.x or later (earlier versions taught upon request)
* Internet access for all attendees and the instructor
* Related software that Accelebrate would provide
* For classes delivered online, all participants need either dual monitors or a separate device logged into the online session so that they can do their work on one screen and watch the instructor on the other. A separate computer connected to a projector or large screen TV would be another way for students to see the instructor's screen simultaneously while working on their own.
* Students should register on Bitbucket.org prior to joining the class

**Objectives**

* Understand Git and Git fundamentals
* Review and edit the commit history
* Improve your daily workflow
* Branch, merge, and use remote repositories
* Learn collaboration best practices as a team leveraging Bitbucket
* Become comfortable with the Pull Request workflow

**Outline**

* Introduction to Source Code Management
	+ The Core Principles of Change Management
	+ The Power to Undo Changes
	+ Audit Trails and Investigations
	+ Reproducible Software
* Git Introduction and Basics
	+ Introduction to Git
	+ Trees and Commits
	+ Configuring Git
	+ Adding, Renaming, and Removing Files
* Reviewing and Editing the Commit History
	+ Reviewing the Commit History
	+ Revision Shortcuts
	+ Fixing Mistakes
* Improving Your Daily Workflow
	+ Simplifying Common Commands with Aliases
	+ Ignoring Build Artifacts
	+ Saving Changes for Later Use (Stashing)
* Branching
	+ Branching Basics
	+ Listing Differences Between Branches
	+ Visualizing Branches
	+ Deleting Branches
	+ Tagging
* Merging
	+ Merging Basics
	+ Merge Conflicts
	+ Merging Remote Branches
* Remote Repositories
	+ Remote Repositories
	+ Synchronizing Objects with Remotes
	+ Tracking Branches
* Centralizing and Controlling Access
	+ Introduction to Remotes (Bitbucket)
	+ Hosting your Git Repositories
	+ The Git Flow
	+ Collaborating as a team
	+ Pushing & Pulling branches
	+ Leveraging pull requests and code reviews
	+ Resolving remote conflicts
	+ Releasing via Bitbucket
* Workflows/Best Practices
	+ Branch strategies
	+ Remote strategies
	+ Tagging strategies
* Conclusion