



Git and GitLab Essentials

- 2 Day Course
- Lecture and Lab
- This course includes an opportunity to earn a certification from Alta3 Research, as well as preparation for passing GitLab Certifications.

Course Overview

This course covers the fundamentals necessary to utilize Git and GitLab for the management of software development lifecycling using continuous integration and continuous delivery (CI/CD). At its core, GitLab offers a web-based Git repository manager featuring issue tracking, analytics, and a wiki. Within the suite includes tools to trigger builds, run tests, and deploy code with each commit or push. Builds can target Docker containers or Virtual Machines. GitLab's ability to offer a DevOps platform in a single application makes it an attractive choice for enterprise users.

Review this course online at <https://www.alta3.com/courses/gitlab>

Who Should Attend

- DevOps Engineers
- Software Developers
- Telecommunications Professionals
- Architects
- Quality Assurance & Site Reliability Professionals

What You'll Learn

- Use Git and GitLab to view, create, and manage code, as well as the role GitLab can play in automating builds and shortening release of applications
- Git commands - including how to check code to repositories
- Team collaboration methods for projects and advancing code
- Merge requests and resolving conflicts
- Pipelines for GitLab CI / CD
- GitLab Runner for GitLab CI/CD
- GitLab Container Registry
- Project Webhooks
- GitLab for DevOps life cycle, from planning through to creation, build, verification, security testing, deployment to production environments, such as Kubernetes, and monitoring.
- AI LLM prompt engineering for relevant configuration snippets and solutions

Outline



Certification

-  Lecture + Lab: (OPTIONAL) - Git and GitLab Certification Project










AI LLM Toolkit

-  Lecture + Lab: Large Language Model toolkit for AI Solution Assistance







Core Git Concepts

-  Lecture + Lab: Introduction to Git
-  Lecture + Lab: Git Branching



GitLab

-  Lecture + Lab: Up and Running with GitLab
-  Lecture + Lab: Generating and Using SSH Keys
-  Lecture + Lab: Git and GitLab Interaction
-  Lecture + Lab: Fixing Merge Conflicts
-  Lecture + Lab: Writing Markdown in GitLab
-  Lecture + Lab: GitLab Project Wikis
-  Lecture + Lab: GitLab Collaboration
-  Lecture + Lab: GitLab Webhooks
-  Lecture + Lab: GitLab API Calls

GitLab CI CD

-  Lecture + Lab: Introduction to CI CD
-  Lecture + Lab: Building a Docker Image
-  Lecture + Lab: Creating gitlab-ci.yml
-  Lecture + Lab: Lifecycling a GoLang App with GitLab
-  Lecture + Lab: GitLab Container Repository
-  Lecture + Lab: GitLab Integration with Kubernetes Clusters

DevSecOps

-  Lecture + Lab: Intro to DevOps
-  Lecture + Lab: Intro to DevSecOps