Git and GitHub Essentials

- 2 Days
- Lecture and Hands-on Labs

Course Overview

This course covers the fundamentals necessary to utilize Git and GitHub, the web-based repository management service. As the single most popular public Software Control Management (SCM) platform, GitHub is superbly relevant as, at its core, it offers all persons tools to collaborate on projects. Repositories are typically associated with code, but many case uses exist. Be it vendor manuals, patches for network devices, 3D models, medical research, or the family's genealogy blog, the need to understand Git and GitHub has extended well beyond developers.

Review this course online at https://www.alta3.com/courses/github

Who Should Attend

- This course is applicable training for all persons looking to understand git and Software Control Management (SCM) techniques
- DevOps Engineers
- Software Developers
- Marketing and Sales Engineers
- Telecommunications Professionals
- Managers and Directors
- Quality Assurance & Site Reliability Professionals

What You'll Learn

By the conclusion of this course, attendees will learn to use Git and GitHub to view, create, and manage code, as well as:

- Building custom Continuous Integration (CI) and Continuous Deployment (CD) workflows
- Take control of projects with Git, as you check in Python, Java, and GoLang applications
- Practice team collaboration methods for projects and advancing code
- How Git and GitHub actions can trigger builds, testing, and deployment of container images to production environments, such as Azure App service, and Kubernetes
- AI LLM prompt engineering for relevant configuration snippets and solutions including coding with GitHub Copilot

Outline

AI LLM Toolkit

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

Core Git Concepts

- 🗩 Lecture: Software Control Management Software

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

GitHub

- 💬 Lecture: Overview of GitHub
- 🖥 Lecture + Lab: Revision Control with GitHub
- 💬 Lecture: Collaborating on GitHub
- 🖥 Lecture + Lab: Branches and Pull Requests
- 🖥 Lecture + Lab: Searching a GitHub Project
- 💬 Lecture: Markdown
- 🖥 Lecture + Lab: GitHub Pages and Markdown
- 🖥 Lecture + Lab: Additional GitHub Project Tools
- 🖥 Lecture + Lab: GitHub and Visual Studio Code
- 🖥 Lecture + Lab: Coding with Copilot

SSH and Tokens

- 💬 Lecture: GitHub Authentication and Authorization
- 🖥 Lecture + Lab: GitHub and SSH Keys
- 🖥 Lecture + Lab: GitHub and Tokens

Integration

- 💬 Lecture: Webhook - HTTP Notifications
- 🖥 Lecture + Lab: GitHub Webhooks
- 🖥 Lecture + Lab: GitHub Desktop

GitHub Actions

- 💬 Lecture: GitHub Actions for CI CD Workflows
- 🖥 Lecture + Lab: Secrets and GitHub
- 🖥 Lecture + Lab: GitHub Actions - Publish a Docker Container
- 🖥 Lecture + Lab: GitHub Actions - GitLeaks
- 🖥 Lecture + Lab: GitHub Actions - Terraform

Capstone

- 🖥 Lecture + Lab: GitHub Release-based Workflow

Appendix

- 🖥 Lecture + Lab: Git Merge Strategies
- 🖥 Lecture + Lab: Configure Git to use a Proxy
- 🖥 Lecture + Lab: Git Merge, Rebase, and Squash
- 💬 Lecture: Glossary

Next Courses

- Jenkins Automation Server Essentials (2 days) (https://alta3.com/courses/jenkins)
- Kubernetes Bootcamp (5 days) (https://alta3.com/courses/kubernetes)
- Python 201 - API and API Design (5 days) (https://alta3.com/courses/api)
- Go 101 - Go Programming (5 days) (https://alta3.com/courses/golang)