



# Linux Essentials for Developers Fast Track

- 2 Days
- Lecture and Hands-on Labs

#### Course Overview

This course is designed to empower developers to work more effectively in modern, cloud-native environments. It's not a sysadmin course, but one that teaches developers to use the Linux command line as a powerful tool to accelerate their workflow, troubleshoot issues independently, and understand the platform their code runs on.

#### Who Should Attend

- Software Developer/Engineer
- Junior/Entry-Level Developer
- Frontend Developer
- QA Engineer/Tester
- Solutions Architect

# What You'll Learn

- Master the Command Line: Use advanced CLI tools to improve personal productivity and workflow efficiency.
- Automate with Scripts: Write foundational Bash scripts to automate repetitive tasks and simplify daily
  operations.
- Understand the Platform: Learn the essential networking and systems concepts needed for better application design and troubleshooting.
- Work in a Modern World: Use version control and containerization to build, test, and deploy applications.

#### Outline

# The Developer's Command Line

- 🖳 Lecture + Lab: Shell Command
- 🖳 Lecture + Lab: man
- 🖳 Lecture + Lab: Dot Files
- 🖳 Lecture + Lab: File Management Tasks
- 🖳 Lecture + Lab: Finding Files

#### Essential Tools for Productivity

- \( \subseteq \text{Lecture} + \text{Lab: Using Vim to Edit Files} \)
- 🖳 Lecture + Lab: Using Tmux
- \( \subseteq \text{Lecture} + \text{Lab: Grep and Piping} \)
- 🖳 Lecture + Lab: I/O Redirection
- 🖳 Lecture + Lab: Bash Shortcuts

# Permissions and Ownership

- PLecture: Basic File Permissions
- \( \subseteq \) Lecture + Lab: Interacting with File Permissions
- 🖳 Lecture + Lab: Modify File and Directory Permissions
- 🖳 Lecture + Lab: Modify File and Directory Ownership

#### Advanced CLI Tools for Data and Workflow

- 🖳 Lecture + Lab: Set Special Permissions and Attributes
- \( \subseteq \text{Lecture} + \text{Lab: Watch} \)
- 🖳 Lecture + Lab: Advanced Text Processing with awk and sed

# Bash Scripting and Scheduling

- P Lecture: Bash Scripting Intro
- 🖳 Lecture + Lab: Bash Read CLI Vars
- P Lecture: Bash Conditional Statements
- \( \subseteq \text{Lecture} + \text{Lab: Bash Conditionals (if/else)} \)
- 🖳 Lecture + Lab: Bash While Loops
- 🖳 Lecture + Lab: Schedule Jobs

#### Managing Processes and Services

- 🖳 Lecture + Lab: Using HTOP
- P Lecture: Understanding Systemd
- \( \subseteq \text{Lecture} + \text{Lab: Managing Services with Systemctl} \)
- 🖳 Lecture + Lab: Manage Jobs and Background Processes

#### Networking from a Developer's Perspective

- \$\Bigsigs \text{Lecture: Essential IP2 Commands (ip -l ip -a, ip route, ss, netstat)}\$
- 🖳 Lecture + Lab: Managing IP Configuration

#### Containerization with Docker

- 🖳 Lecture + Lab: Running Python in a Container
- \( \subseteq \text{Lecture} + \text{Lab: Containerizing a Simple App with Docker} \)

# Additional Labs: Troubleshooting Disk Memory and Logs

- 🖳 Lecture + Lab: DF
- 🖳 Lecture + Lab: DU
- 🖳 Lecture + Lab: Free
- \( \subseteq \text{Lecture} + \text{Lab: Logs -f: Follow Flag} \)
- 🖳 Lecture + Lab: MTR
- 🖳 Lecture + Lab: IPerf

# Prerequisites

• Basic Keyboard Proficiency: Ability to efficiently navigate and use a keyboard, including typing and copy-pasting.

# Next Courses

- $\bullet\,$  Ansible Essentials (5 days)
- Ansible 202: Linux Admin Automation with Ansible
- Git and GitHub (2 days)
- Git and GitLab (2 days)