

Intermediate Linux | Shell, Bash, Text Manipulation, Multitasking & More

Explore File Systems, Shell Scripting, Text Manipulation Utilities, Multitasking and Batch Processing and More

Course Snapshot

- **Course: Intermediate Linux: Shell, Bash, Text Manipulation, Multitasking & More (TTLX2104)**
- **Duration:** 3 days
- **Audience & Skill Level:** This is an intermediate-level course for attendees with basic Linux experience.
- **Hands-on Learning:** This course is approximately 50% hands-on lab to lecture ratio, combining engaging expert lessons, demos and group discussions with real-world, skills-focused machine-based labs and exercises. Student machines are required.
- **Delivery Options:** This course is available for **onsite private classroom presentation, live online virtual presentation**, or can be presented in a **blended learning format**. Please also ask about our **Self-Paced / Video / QuickSkills** or **Mini-Camp / Short Course** flexible delivery options.
- **Public Schedule:** This course has active dates on our live-online open enrollment **Public Schedule**.
- **Customizable:** This course agenda, topics and labs can be further adjusted to target your specific training skills objectives, tools and learning goals. Please ask for details.

Overview

Intermediate Linux: Shell, Bash, Text Manipulation, Multitasking & More is a two-day course designed to provide you with hands-on experience using standard Linux commands and utilities used for day-to-day tasks including file manipulation, program execution and control, and effective use of the shell and desktop environments. Throughout the course you'll explore key concepts to Linux core functionality, while learning the system's most commonly used commands. You'll also learn the Bourne shell, Bash shell and Korn shell programming techniques you'll need to read and modify existing shell scripts, and create your own. Data manipulation utilities and shell syntax for synthesizing command pipelines are also emphasized throughout the course.

Learning Objectives

This skills-focused course combines expert instructor-led discussions with practical hands-on labs that emphasize useful, current techniques, best practices and standards. Working in this hands-on lab environment, guided by our expert practitioner, you'll learn about and explore:

- Review of the File System
- Introduction to Shells: sh, bash, and ksh
- Shell Programming
- Advanced Shell Features
- Text Manipulation Utilities
- File Processing Utilities
- Multitasking and Batch Processing
- Regular Expressions

Need different skills or topics? If your team requires different topics or tools, additional skills or custom approach, this course may be further adjusted to accommodate. We offer additional Unix, Linux, Scripting, administration, networking, programming, data science / machine learning and security courses which may be blended with this course for a track that best suits your learning objectives.

Audience & Pre-Requisites

This is an intermediate-level course for attendees with basic Linux experience. Attendees should have experience with common UNIX/Linux user-level commands, such as moving, copying and editing files. Experience with the vi editor is a plus.

Take Before:

- TTLX2103 Introduction to Linux Basics | Linux Essentials JumpStart – 3 days

Related Courses | UNIX/Linux Essentials Training Suite

- TTLX2100 Introduction to UNIX/Linux Fundamentals with Shell Scripting – 5 days
- TTLX2103 Introduction to Linux Basics | Linux Essentials JumpStart – 3 days
- TTLX2104 Intermediate Linux: Shell, Bash, Text Manipulation, Multitasking & More – 2 days
- TTLX2105 Next-Level Linux / Intermediate : Installation, Configuration, Management, Processes, Security & More – 3 days
- TTLX2200 Linux System Administration – 5 days
- Please contact us for recommendations for next steps in your learning journey based on your unique needs and goals.

Enhanced Learning Support: Please ask about our **Pre-Training Class OnRamps & Primer** offerings, **Skills Gap Assessment Services**, **Case Studies**, **Knowledge Check Quizzes**, **Skills Immersion Programs & Camps**, **Collaborative Mentoring Services** and **Extended Learning Support** services.

Course Topics / Agenda

Please note that this list of topics is based on our standard course offering, evolved from typical industry uses and trends. We will work with you to tune this course and level of coverage to target the skills you need most. Course agenda, topics and labs are subject to adjust during live delivery in response to student skill level, interests and participation.

1. Review of the File System

- File System Organization
- File Types
- File and Directory Naming Rules and Conventions
- Commands for Navigating the File System
- Introduction to Inodes
- Ownership, Permissions, and Dates
- Manipulating Files and Links
- Manipulating Directories
- Determining Disk Usage
- Other File System Utilities

2. Introduction to Shells: sh, bash, and ksh

- Shell Functions
- I/O Redirection and Pipes
- Command Separation and Grouping
- Background Execution
- Filename Expansion
- Shell Variables
- Command Substitution
- Quoting and Escaping Metacharacters
- Bash Shell Features
- Korn Shell Features
- Command Execution
- Startup Files
- Customizing the User Environment

3. Shell Programming

- Shell Script Features and Capabilities
 - Creating and Running a Script
 - Working With Variables
- Environment Variables
- Working With Data Types
 - Formatting
 - Base Conversion
 - Setting Special Attributes
- Input/Output Techniques
- Conditional Constructs
 - if/then
 - else/elif
- Looping Constructs
 - for, while, until
- Math Operators

4. Advanced Shell Features

- Manipulating Strings
- Writing and Calling Functions
- Controlling Process Priorities
- Interpreting Command Line Arguments
- Making Scripts Interactive
- Special Shell Variables
- Advanced I/O with Streams
- Improving Performance of Scripts

5. Text Manipulation Utilities

- Editing a File from a Script
- Scripting with `ed` or `sed`
- UNIX and Linux Utilities to Manipulate Files

- Regular Expressions
- `grep` and `egrep`
- The Stream Editor `sed`
- Sorting in Scripts
- Generating Reports with `awk`
- Splitting Large Files
- Counting Words, Lines, and Characters
- Transforming File Contents

6. File Processing Utilities

- Examining and Comparing Files
- Reporting Differences Between Files
- Comparing Files of Any Format
- Displaying Data in Octal and Hex
- Compressing Data
- Converting File Formats
- Extracting Text Strings

7. Multitasking and Batch Processing

- Multitasking
- Scheduled Execution Using `cron`
- The `at` and `batch` Commands

8. Regular Expressions

- Regular Expression Overview
- Regular Expression Implementations
- Regular Expressions
- RE Character Classes
- Regex Quantifiers

RE Parenthesis

Student Materials & Lab Environment

All course software (limited versions, for course use only), digital courseware files or course notes, labs / data sets and solutions (as applicable) are provided for you in our “easy access / no install required” high-speed remote lab environment. Our tech team works with every student to ensure everyone is set up with working access and ready to go prior to every course start date, ensuring a smooth delivery and great hands-on experience. Please ask for details.

For More Information

All courses can be presented **onsite** or **online**, or in a **combined / flex / blended learning format**, tailored to target your specific audience, needs and learning goals. We also offer focused, flexible **short courses**, **self-paced learning** options, **recorded sessions** and more. We train beginner to advanced skills in all areas we cover, and offer **New Hire / Cohort Training**, **Boot Camps**, **Skills Immersion Programs**, **Reskilling Programs**, **Skills Migration & Transition Programs**, and more. We collaborate with you to ensure all courses are truly targeted to meet your specific needs and learning skills, maximizing your valuable training time, as well as your important budget.

Please also visit our extensive **Public Training Schedule** for training for smaller groups or individuals. Please contact us for course details, **Corporate Rates** and **Special Discount Offers**.

For more information about our dedicated training services, collaborative coaching services, courseware licensing options, public course schedule, training management services, partner programs, or to see our complete list of course offerings and special offers please visit us at www.triveratech.com, email Info@triveratech.com or call us toll free at **844-475-4559**. Our pricing and services are always satisfaction guaranteed.

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