Over 35 Years Of Technology Training

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Learning Style: Virtual Classroom

Technology:

Difficulty: Intermediate

Course Duration: 2 Days

Next Course Date: July 23, 2026

Intermediate Linux | Shell, Bash, Text Manipulation, Multitasking & More (TTLX2104)

About This Course:

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 environment. 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.

Course Objectives:

- 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

Audience:

- 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.

Prequisites:

- Experience with the vi editor is a plus.

Course Outline:

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

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

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

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

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

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

Multitasking and Batch Processing

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

Regular Expressions

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