# Intermediate Linux

***Duration:*** *2 Day(s)*

## Course 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.

Review this course online at https://www.alta3.com/courses/TTLX2104

## Objectives

- Enhance proficiency in Linux file system organization and navigation commands.
- Develop shell programming skills using sh, bash, and ksh.
- Utilize advanced shell features for improved script performance.
- Master text and file processing utilities to efficiently manipulate data.

## Who Should Attend

- Intermediate Linux users
- System administrators
- DevOps engineers
- IT professionals

## Prerequisites

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.

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

## Course Outline

### Review of the File System

1. File System Organization
2. File Types
3. File and Directory Naming Rules and Conventions
4. Commands for Navigating the File System
5. Introduction to Inodes
6. Ownership, Permissions, and Dates
7. Manipulating Files and Links
8. Manipulating Directories
9. Determining Disk Usage
10. Other File System Utilities

## Introduction to Shells: sh, bash, and ksh

11. Shell Functions
12. I/O Redirection and Pipes
13. Command Separation and Grouping
14. Background Execution
15. Filename Expansion
16. Shell Variables
17. Command Substitution
18. Quoting and Escaping Metacharacters
19. Bash Shell Features
20. Korn Shell Features
21. Command Execution
22. Startup Files
23. Customizing the User Environment

## Shell Programming

24. Shell Script Features and Capabilities
25. Creating and Running a Script
26. Working With Variables
27. Environment Variables
28. Working With Data Types
29. Formatting
30. Base Conversion
31. Setting Special Attributes
32. Input/Output Techniques
33. Conditional Constructs
34. if/then
35. else/elif
36. Looping Constructs
37. for, while, until
38. Math Operators

## Advanced Shell Features

39. Manipulating Strings
40. Writing and Calling Functions
41. Controlling Process Priorities
42. Interpreting Command Line Arguments
43. Making Scripts Interactive
44. Special Shell Variables
45. Advanced I/O with Streams
46. Improving Performance of Scripts

## Text Manipulation Utilities

47. Editing a File from a Script
48. Scripting with ed or sed
49. UNIX and Linux Utilities to Manipulate Files
50. Regular Expressions
51. grep and egrep
52. The Stream Editor sed
53. Sorting in Scripts
54. Generating Reports with awk
55. Splitting Large Files
56. Counting Words, Lines, and Characters
57. Transforming File Contents

## File Processing Utilities

58. Examining and Comparing Files
59. Reporting Differences Between Files
60. Comparing Files of Any Format
61. Displaying Data in Octal and Hex
62. Compressing Data
63. Converting File Formats
64. Extracting Text Strings

## Multitasking and Batch Processing

65. Multitasking
66. Scheduled Execution Using cron
67. The at and batch Commands

## Regular Expressions

68. Regular Expression Overview
69. Regular Expression Implementations
70. Regular Expressions
71. RE Character Classes
72. Regex Quantifiers
73. RE Parenthesis