

UNIX has long been the operating system of many server and application environments in companies worldwide. This comprehensive hands-on course provides users the knowledge and skills needed to effectively use Unix. In this course you will learn how to use Unix user commands and develop shell scripts. This is also a first course for system administrators and programmers who are new to Unix and Linux

Course Objectives:

- Manage files and directories: create, copy, rename, remove, edit, and perform other operations.
- Create and modify files using the vi editor.
- Use many UNIX utilities for text file manipulation, personal workspace management, file system management, and communication with other users.
- Take advantage of UNIX security mechanisms to protect files and programs from unauthorized access and to configure shared access among work groups.
- Use the UNIX shell (command interpreter) to control the flow and processing of data through pipelines.
- Increase your productivity by generating file names using “wild card” pattern matching.
- Look up commands and other information in the on-line UNIX reference manuals.
- Explain the purpose of shell programs.
- Recognize applications for shell programs.
- Design and write shell programs of moderate complexity.
- Manage multiple concurrent processes to achieve higher utilization of UNIX.

Audience: End-users and programmers who are new to the UNIX environment.

Prerequisites: None

Number of Days: 4 days

<p>1. Course Introduction Course Overview Course Objectives Suggested References</p> <p>2. Getting Started What is UNIX? A Brief History of UNIX Logging In Logging Out Try a Few More Commands Changing Your Password Using Online Manuals</p> <p>3. The File System - Files What is a File? The ls Command</p>	<p>The cat Command The more and pg Commands The head and tail Commands The cp Command The mv Command The rm Command File names</p> <p>4. The File System - Directories Hierarchical File System Pathnames The pwd Command – Print Working Directory The cd Command – Change Directory</p>
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- The mkdir Command – Make Directories
- The rmdir Command – Remove Directories
- The cp Command (again) – Copy Files
- Two useful directory names – . and ..
- 5. Editing With vi**
 - What is vi?
 - The vi Buffering Process
 - Command Mode and Insert Mode
 - Modes Diagram
 - Getting Started
 - Moving the Cursor Around
 - Inserting Text
 - Deleting a Character or Line
 - Undo Last Command
 - Opening a New Line
 - Save Your Work or Abort the Session
 - Review of vi Commands
- 6. More Editing With vi**
 - Scrolling the Buffer
 - Cursor Motion Commands – w, W, b, B, e, E
 - Cursor Motion Commands - \$, ^, 0, G
 - Cursor Motion Commands – f, t, F, T
 - Delete Operator - d
 - Change Operator - c
 - Yank Operator - y
 - Put Commands – p, P
 - Searching For a Pattern - /, n, N, ?
 - The join Command
 - The file Command - :f
 - Edit file Command - :e
 - Cut and Paste Between Files
 - Read file Command - :r
 - Set options Command
 - Set options Command - .exrc file
- 7. Personal Utilities**
 - The date Utility
 - The bc Utility
 - The expr Utility
 - The cal Utility
 - The news Utility
 - The id Utility
 - The uname Utility
 - The finger Utility
- The script Utility
- The clear Utility
- The at Utility
- The crontab Utility
- 8. Text Handling Utilities**
 - The grep Utility
 - The tr Utility
 - The cut Utility
 - The paste Utility
 - The sort Utility
 - The wc Utility
 - The diff Utility
 - The lp Utility
- 9. File System Security**
 - File Permissions
 - The chmod Utility
 - Directory Permissions
 - The umask Command
- 10. File System Management Utilities**
 - The find Utility
 - The df Utility
 - The du Utility
 - Compressing Files
 - The ln Utility
 - The ulimit Utility
 - The tar Utility
- 11. Communication Utilities**
 - The write and talk Utilities
 - The msg Utility
 - Mail Overview
 - The mail Utility
 - The mailx Utility
- 12. Using the Shell**
 - What is a Shell?
 - Which Shell?
 - The Command Line
 - Standard Input, Standard Output and Standard Error
 - Using Default Standard In and Standard Output
 - I/O Redirection
 - Appending Output of a File
 - Pipes
 - The tee Utility
- 13. Filename Generation**

- Filename Generation
- The ? special Character
- The * special Character
- The [] special Characters
- The ! special Characters
- 14. UNIX Processes**
 - What is a Process?
 - Process Structure
 - The ps Utility
 - Options to the ps Utility
 - Background Commands (&)
 - Killing Background Processes
 - Redirecting the Standard Error
- 15. Shell Programming Concepts**
 - What is a Shell?
 - What is a Shell Script?
 - Why Use Shell Scripts?
- 16. Flow Control**
 - The Exit Status of Commands
 - Command Line Examples
 - The test Command
 - The if-then-else Construct
 - The elif Construct
 - A loop Example
- 17. Variables**
 - User Created Variables
 - The read Command
 - The Shell Environment
 - The export Command
 - Sub-shells
 - Command Substitution
 - Quoting Mechanisms
 - Assigning Variables – Summary
- 18. Special Variables**
 - Command Line Arguments
 - \$# - Number of Arguments
 - The shift Command
 - \$* - All Arguments
 - \$\$ - PID of Shell
- 19. More Flow Control**
 - The for Loop
 - The while Loop
 - The Case Construct
- 20. Appendix – Korn shell features**
 - Viewing your Command History
 - Editing and Re-executing Commands