

This course provides a comprehensive introduction to the full range of UNIX user commands and utilities. Students will develop shell programming and vi editing skills.

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

Prerequisites: None

Number of Days: 4 days

- 1. 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
- 2. The File System - Files**
 - What is a File?
 - The ls Command
 - The cat Command
 - The more and pg Commands
 - The head and tail Commands
 - The cp Command
 - The mv Command
 - The rm Command
 - File names
- 3. The File System - Directories**
 - Hierarchical File System
 - Pathnames
 - The pwd Command – Print Working Directory
 - The cd Command – Change Directory
 - The mkdir Command – Make Directories
 - The rmdir Command – Remove Directories
 - The cp Command (again) – Copy Files
 - Two useful directory names – . and ..
- 4. Editing With vi**
 - What is vi?
 - The vi Buffering Process
 - Command Mode and Insert Mode
 - Modes Diagram
- 5. More Editing With vi**
 - 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
 - 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
- 6. 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
- 7. 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
- 8. File System Security**
 - File Permissions
 - The chmod Utility
 - Directory Permissions
 - The umask Command
- 9. File System Management Utilities**
 - The find Utility
 - The df Utility
 - The du Utility
 - Compressing Files
 - The ln Utility
 - The ulimit Utility
 - The tar Utility
- 10. Communication Utilities**
 - The write and talk Utilities
 - The mesg Utility
 - Mail Overview
 - The mail Utility
 - The mailx Utility
- 11. 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
- 12. Filename Generation**
 - Filename Generation
 - The ? special Character
- The * special Character
- The [] special Characters
- The ! special Characters
- 13. 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
- 14. Shell Programming Concepts**
 - What is a Shell?
 - What is a Shell Script?
 - Why Use Shell Scripts?
- 15. Flow Control**
 - The Exit Status of Commands
 - Command Line Examples
 - The test Command
 - The if-then-else Construct
 - The elif Construct
 - A loop Example
- 16. Variables**
 - User Created Variables
 - The read Command
 - The Shell Environment
 - The export Command
 - Sub-shells
 - Command Substitution
 - Quoting Mechanisms
 - Assigning Variables – Summary
- 17. Special Variables**
 - Command Line Arguments
 - \$# - Number of Arguments
 - The shift Command
 - \$* - All Arguments
 - \$\$ - PID of Shell
- 18. More Flow Control**
 - The for Loop
 - The while Loop
 - The Case Construct
- 19. Appendix – Korn Shell Features**
 - Viewing your Command History
 - Editing and Re-executing Commands
 - Aliases