

UNIX[®]: A Comprehensive Hands-On Introduction - 4 Days

Course 428 Overview

- You Will Learn How To**
- Manage data, execute commands and customize your UNIX environment
 - Locate files by name, owner, type and other characteristics
 - Navigate the UNIX directory hierarchy, manipulate files and control file access
 - Interact with and customize the KornShell
 - Extract and process information with filters and pipes
 - Develop shell scripts to simplify and automate frequent tasks

Course Benefits UNIX is a highly reliable multiuser, multitasking operating system for environments ranging from mission-critical clusters and servers to workstations and desktops. It has become the operating system of choice for servers on the Internet. In this course, you gain the fundamental knowledge and skills necessary to take full advantage of this powerful and flexible system.

Who Should Attend User and application support specialists, software developers, and those working toward becoming an effective system, network or database administrator on the UNIX platform.

Hands-On Training Throughout this course, a series of hands-on exercises provides you with valuable experience using UNIX. Exercises include:

- Making, removing and navigating directories
- Copying, renaming, comparing and viewing files
- Changing file access permissions
- Customizing the KornShell environment
- Accessing a UNIX server
- Locating files with **find**
- Searching, sorting and restructuring data with filter commands
- Creating and executing shell scripts

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Course 428 Outline

The Role of UNIX

- Origins, current uses and applications
- The UNIX family: Solaris, HP-UX, AIX, Tru64, Linux, BSD and others

Interacting with UNIX

Graphical user interfaces

- Accessing a remote desktop
- CDE, GNOME, Java Desktop System, others

The command line interface

- Launching the Terminal Emulator
- Entering commands to the shell

Browsing online documentation

- Displaying **man** pages
- Accessing web reference sources

Managing Files

Essential file housekeeping tools

- Copying: **cp**
- Renaming: **mv**
- Removing: **rm**
- Linking: **ln**
- Editing: **vi**
- Printing: **lp, lpr**

Displaying and interpreting file attributes

- Listing files with **ls** and **ls -l**
- Identifying file type, owner, group, size, modification time and index number

Establishing access permissions with **chmod**

- Symbolic notation
- Octal notation

Navigating Directories

The UNIX directory hierarchy

- Home, current and parent directories
- Root directory and subdirectories

Maintaining directories

- Changing directory with **cd**
- Making and removing directories

Locating files with **find**

- Searching using file attributes
- Operating on found files

Working with the KornShell

Command history facility

- Listing past commands

- Recalling and editing a previous command

Employing KornShell tips and tricks

- Filename "wildcards": *, ?, []
- Command substitution: `...`

Personalizing your shell

- Defining command aliases
- Updating the start-up scripts
- Setting shell variables and options

Accessing UNIX Servers from UNIX and Windows

Logging into a remote server

- Secure Shell
- PuTTY
- Telnet
- Cygwin
- Others

Uploading and downloading files

- Secure FTP
- **scp**
- FTP
- WinSCP
- Others

Taming Information with Filters

The UNIX tool-building philosophy

- Filtering data streams through pipelines
- Redirecting standard input, output and error streams

Extracting and restructuring data

- Searching: **grep**
- Sorting: **sort**
- Editing: **sed**
- Trimming: **head** and **tail**
- Selecting: **awk**
- Counting; **wc**

Matching patterns with regular expressions

- Metacharacter examples with **grep**
- Substituting patterns with **sed**
- Refining selections with **awk**

Developing and Executing Scripts

Writing a simple script

- Storing commands in a file
- Marking the file as executable

Applying special variables

- Parsing command line arguments

- Examining command exit status

Controlling flow of execution

- Iterating through loops with **for** and **while**
- Testing conditions with **if/else**
- Choosing alternatives with **case**

Monitoring and Customizing Your System

Administering users and groups

- Adding and changing a user account
- Assigning users to groups

Querying UNIX system status

- Measuring disk space usage
- Initiating and terminating daemons