

# INTRODUCTION TO UNIX

Course Code: 100878

Learn the core UNIX/Linux and Shell skills for everyday tasks.

This course provides you with the skills for using UNIX/Linux commands and utilities. You'll learn file manipulation, program execution and control, and the effective use of the shell and desktop environments. We'll review the concepts required to understand how UNIX works and the system's most commonly used commands. Data manipulation utilities and shell syntax for synthesizing command pipelines are emphasized. Bourne shell, Bash shell, and Korn shell programming techniques are taught so you can read and modify existing shell scripts and create your own. Desktop environments are explored from a user's perspective, including common window managers, Open Office utilities, and an introduction to configuration tools.

## What You'll Learn

Join an engaging hands-on learning environment, where you'll learn:

- Navigating the file system
- Controlling file access
- File and directory naming rules and conventions
- Manipulating files and links
- Controlling the Terminal
- Working with vi
- Monitoring and controlling processes
- Using command line editing
- Command substitution, quoting and escaping
- Using backup commands
- Submitting and controlling print jobs
- Communicating over the network
- Remote access with password authentication
- Working with secure shells
- Using GNOME and KDE GUI environments
- How to write and run shell scripts
- Using conditional constructs to control script execution
- Manipulating strings
- Command-line processing
- Using regular expressions

- String processing utilities: sed,grep and awk
- Counting words, lines and characters
- Working with compression utilities
- Writing functions
- Using the ksh and bash commands
- Working with UNIX I/O streams

This course has a 50% hands-on labs to 50% lecture ratio with engaging instruction, demos, group discussions, labs, and project work.

## Who Needs to Attend

Professionals who want to learn core UNIX skills to perform daily tasks.

## Prerequisites

Before attending this course, you should have:

- Basic Linux experience
- Be comfortable working with the command line
- Experience with common UNIX/Linux user-level commands, such as moving, copying, and editing files
- Experience with the vi editor (recommended)

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VIRTUAL CLASSROOM LIVE

\$3,505 CAD

5 Day

## Virtual Classroom Live Outline

### Introduction to UNIX

- Design Philosophy
- System Components
- The Shell and Command Entry
- Documentation

### Basic User Commands

- Logging In and Logging Out
- Command Line Editing
- Navigating the File System
- Viewing and Copying Files
- Controlling the Terminal
- Sending and Receiving Mail

### Text Editing

- Types of Editors
- From ed to ex to vi
- Basic Editor Tasks with vi
- Editing Multiple Files
- Named Buffers
- vi Startup File

### UNIX Processes

- The UNIX Process Model
- Process States
- Monitoring and Controlling Processes

### 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

### **Printing**

- Printing Under AT&T UNIX
- Printing Under BSD UNIX

### **Multitasking and Batch Processing**

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

### **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
- Extracting Text Strings

### **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

### **Backing Up Files**

- Backup Media
- UNIX Device Names
- tar and cpio
- File Transport and Conversion with dd

### **Networking Commands**

- UNIX Network Applications
  - ☒ Remote Execution Commands
  - ☒ Remote Activity Reporting
  - ☒ Communicating with Remote Users
- Internet Applications
  - ☒ ftp, tftp, telnet

- Remote Access Control Mechanisms
- Using the Secure Shell(ssh)



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PRIVATE GROUP TRAINING

5 Day

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