Training America Corporation

UNIX Fundamentals
Course Outline (5 days)

Course Description: This course introduces the Information Technology (IT) professional to the UNIX Operating System. They will learn to use both UNIX shell commands and on disk utilities to perform basic user tasks, to customize the user environment and execute applications. Course labs put special emphasis on using the Korn shell and UNIX utilities to automate recurring tasks.

Audience: Application developers, database administrators, system administrators, network managers, webmasters, and any other IT professional who is new to working with the UNIX Operating System.

Prerequisites: Student should have a basic understand of computers and the ability to use the keyboard. No prior knowledge or experience with UNIX is expected.

Hardware/Software Requirements: This course is designed to be delivered on contemporary UNIX operating systems including HP-UX, Solaris, AIX and Linux.
- One UNIX server per classroom (host for student account)
- CD-ROM for installation of course files
- One telnet capable workstation per student (login terminals for students)
- Local area network between server and clients

Course Objectives:
- Describe the UNIX Operating System
- Log in and log out using text terminals
- Describe and navigate the UNIX file system
- Manage files and directories
- Manage access permissions for files and directories
- Create text files using vi editor
- Use Korn shell interactive features
- Use Korn shell to control environment
- Use Korn shell advanced features
- Write Korn shell scripts
- Use Korn flow control constructors
- Compress, archive, restore and uncompress files
- Access network services: telnet, rlogin, ftp, rcp
- Monitor and control user processes
- Create and schedule background jobs

Course Content:

Module 1: Understanding the UNIX OS
- Structure and Architecture of UNIX OS
- UNIX Advanced Features
- UNIX Supported Hardware
- History of UNIX

Module 2: Getting Started with UNIX
- UNIX users
- Logging in to the UNIX system
- Command line processing
- Changing the user password
- Getting on-line help
- Logging out of the system

Module 3: About the UNIX Files System
- UNIX File System
- UNIX Directories and Files
- Creating and Removing Directories
- Navigating the File System
- Accessing File System Information

Module 4: Managing UNIX Files
- Understanding UNIX Files
- Accessing File Information
- Accessing File Contents
- Managing Files

Module 5: Directory and File Permissions
- Understanding Access Permissions
- Types of Access
- Displaying Permissions
- Managing Access

Module 6: vi Editor – Just the Basics
- Basic vi Editor Concepts
- Basic vi Command Literacy

Module 7: Korn Shell Basics
- Role and Operation of the Korn Shell
- Korn Shell Interactive Features

Module 8: Korn Shell User Environment
- Understanding User Processes
- Working with Shell Variables
- Controlling the Environment
- Korn Shell Startup Files

Module 9: Korn Shell Advanced Features
- File Name Generation Metacharacters
- Quoting Characters
- Command Substitution
- Input / Output Redirection
- Pipes And Filter Commands

Module 10: Korn Shell Scripts – Part I
- General Form of Script
- Sequential Execution
- Passing Arguments
- Debugging Scripts

Module 11: Korn Shell Scripts – Part II
- Selective Execution
- Iterative Execution

Module 12: vi Editor – Power Features
- ex Editor Commands
- Configuring the vi Editor
- Customizing the vi Editor

Module 13: Archive and Restore
- Compressing/Uncompressing Files
- File Backup/Restore with tar
- File Backup/Restore with cpio

Module 14: Network Services
- UNIX Network Concepts
- Remote User Sessions
- Remote File Transfer
- Trusted Hosts

Module 15: Controlling User Processes
- Monitoring Processes
- Background Execution
- Scheduling Processes

Appendix A: Common Desktop Environment
- Getting Started with CDE
- Front Panel
- Managing Workspaces
- On-Line Help
- File Manager Application
- Text Editor Application