

# UNIX Introduction and Advanced Utilities

UNIX110

This course provides an introduction to all versions of the UNIX operating system environment (including *AIX*, *SUN/Solaris*, *HP-UX*, *SCO*, and *Linux*) for programmers, system administrators, and users who are familiar with computer use but new to a UNIX environment. The course also introduces advanced UNIX utilities for text and data manipulation, job handling, and user productivity features.

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## Audience

- Applications programmers
- System administrators
- Operations staff
- End users

## Prerequisites

- General knowledge of data processing and computer use

## Course Length

- Five days

## Learning Objectives

- Access a UNIX system and execute basic commands
- Utilize the features of the UNIX shell to maximize command efficiency and user productivity
- Achieve familiarity with UNIX utilities for file/directory, data, and text manipulation

## Teaching Methods

- A combination of presentation, discussion, and hands-on exercises (exercises constitute approximately 33% of class time).

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## Course Outline

CA2

### The UNIX Environment

- UNIX environment, features, tools
- The shell
- UNIX system versions

### Logging-In and Executing Commands

- Logging-in
- Basic commands (cat, more, pg, and more)
- The online User's Manual
- Changing your password & logging-off

### The UNIX File System

- Files, directories, and special files
- Pathnames
- File system organization
- File and directory commands: cd, pwd, ls, mkdir, rmdir, cp, mv, ln, rm

### The vi Screen Editor

### Command Line History and Editing

- The history and r commands
- Command line recall and editing using vi

### Shell Features

- Input/output redirection
- Diagnostic output and command pipelines
- Shell variables
- Background command execution

- Variable and command substitution
- Creating simple shell programs

### Managing UNIX Processes

- Monitoring processes with ps
- Controlling processes with kill and Job Control

### File Access Permissions

- Setting and changing permissions with chmod

### Customizing your Shell Environment

- Customizing special shell variables
- Customizing the .profile and ENV files

### Commands for Text and Data Manipulation

- grep, sed, awk, cut, sort, find

### Using TCP/IP Utilities in UNIX

- telnet, rlogin, rexec, and ftp

### Advanced UNIX Utilities

- stty, exec, tee, bc, calendar, mail & others

### Advanced Text Processing Utilities

- Advanced use of the grep commands
- Translate, paste, and compare files
- Advanced use of sed and awk

### Job Scheduling Using at and cron