

Course Description: This course describes the Korn Shell. The shell as a programming language is featured. The course also thoroughly treats other shell functions such as the shell as the user interface, the shell as a customization tool for the user environment, and the shell as a front end for command customization. Labs are given throughout the course to reinforce the lectures.

Who Should Attend: The course is intended for UNIX users who wish to increase their productivity.

Prerequisites: Students must have completed the Introduction to UNIX, Introduction to Solaris, or Introduction to LINUX course or have equivalent knowledge.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Understand process creation.
- Recognize and use shell metacharacters.
- Recall commands for automatic execution (Korn and C Shell).
- Launch and control jobs (Korn and C Shell).
- Provide front ends to well known commands.
- Create and use shell environment variables.
- Customize your environment using many shell productivity aids.
- Write non-trivial shell scripts.
- Write shell functions (Korn and Bourne).

Course Outline:

Shell Initialization

User Interfaces
 Functions of the Shell
 History of the Shell
 Which Shell Am I Using?
 How is My Shell Started?
 Shell Startup Files
 Korn Shell Logic
 Spawning Processes
 Background Processing
 The kill and jobs command
 Suspending Jobs

Shell Variables

Standard Files
 Korn Shell Variables
 The typeset Command
 Arrays
 Built-in Shell Variables
 Creating Your Own Variables
 Special Shell Variables
 More on Arrays
 Variable Expansions
 Variable Substitutions
 Quoting
 File Name Generation Character

Productivity Aids

Command Line Editing
 Aliases
 The history Command
 Functions
 The set Command
 The User Environment

Programming The Shell

Perspective
 Creating a Script
 Sending Arguments to a Script
 Front Ends
 Decision Making
 The if Statement
 Operators
 if Variations
 Loops
 The for Loop
 The while Loop
 The until Loop
 The read Statement
 The case Statement
 break and continue

Miscellaneous

Korn Shell Arithmetic
 here Documents
 The getopts Command

The trap Command
 File I/O
 Debugging a Script

Examples Of Scripts

A Front End Example
 Swapping Two Files
 Count Files in Path Directories
 Frequency Count of Words in a File
 Add Values From Field n of a File
 Prototyping a Large Project

Tables

Built-in Shell Variables
 Built-in Shell Commands
 Control Flow Constructs
 Operators
 Variable Substitution
 Other Shells
 Comparison with C and Bourne Shells
 C Shell Control Flow Constructs
 Differences Between sh & ksh

Review Of Common Unix Filters

grep Command - Find Lines Matching a Pattern
 wc command - Count Words, Lines
 sort command - Sort Lines of a File
 head Command - Show First Few Lines of a File
 tail command - Show Last Few Lines of a File
 tr command - Translate Characters
 cut command - Cut chars or Fields
 od - Octal Dump a File
 paste Command - Paste Lines
 awk command - Data Retrieval Language
 sed Command - Stream Editor