

BASH PROGRAMMING

Course Description

Students learn to read, write, and debug shell scripts, thus increasing productivity by taking full advantage of the bash shell.

Course Length: 3 Days

Course Tuition: \$750 (US)

Prerequisites

Fundamentals of UNIX or Fundamentals of Linux

Course Outline

- UNIX Processes
 - What is a Process?
 - Process Structure
 - The ps Utility
 - Options to the ps Utility
 - Background Commands (&)
 - Killing Background Processes
 - Redirecting the Standard Error
- Getting Started
 - What is a Shell?
 - Running Scripts
 - Specifying the Script's Interpreter
 - The PATH Environment Variable
 - Sub-shells
- Variables
 - Shell Variables
 - The read Command
 - The export Command
 - The Shell Environment
 - Variable Substitution
 - Command Substitution
- The Login Process
 - The Login Process
 - The System Profile Script
- Loops
 - The for Loop
 - The while Loop
 - Reading Lines From Files
 - Using Arrays with Loops
- Special Variables
 - \$\$ - PID of Shell
 - Command-Line Arguments
 - \$# - Number of Arguments
 - \$* - All Arguments
 - The shift Command
 - The set Command
 - Getting Options
- Quoting Mechanisms
 - Single vs. Double Quotes
 - What is a Here Document?
 - Using a Here Document
 - Here Document Quoting
 - Ignoring Leading Tabs
- Functions
 - Shell Functions
 - Passing Arguments to Functions
 - Returning Values from Functions
 - Function Declarations

Your .profile Script
The . Command
• Conditional Statements
The Exit Status of Commands
Command Line Examples
The test Command
The if-then-else Construct
The elif Construct
case Statements

- Advanced Programming

Shell Arithmetic
The select Statement
Terminal Independence in Scripts
The eval Command
• Debugging Techniques
Using echo
Using Standard Error
Options for Debugging
Script Tracing
Conditional Debugging