Course 593: Shell Programming
(3 days)

Course Description…

This intense 3-day course provides attendees with a thorough understanding of shell programming in bash (Bourne Again) shell on Linux systems. At the end of the class, each student will know when and how to expertly use bash to automate repetitive tasks. Attendees will also learn the limitations and advantages of using a shell scripting language.

Each student will receive a cdrom with all class examples and documented real world programs. This class emphasizes ***learning by doing***!

Learning objectives…

- Professional script setup
- Correctly using command line options and parameters
- Techniques of debugging shell scripts
- How to use conditional and looping statements
- Advanced manipulation of shell variables
- Complete understanding of shell I/O
- How to build effective, reusable shell functions
- How to create function libraries

Who should attend…

System administrator, web administrators, and programmers

Prerequisites…

This course is delivered on a Linux platform. A basic understanding of the command line interface and a Linux editor (vi, emacs, gedit, nano) enhances the learning experience

See next page for a detailed course outline...

Course Outline

Getting Started

- Command Line vs. Shell Script?
- Review of Command Line
- Command Syntax
- Professional Shell Scripting Introduction
- echo and print Commands

Simple Variables

- Shell Variable Definition
- read Command
- export and typset Command
- Survey of Predefined Shell Variables
- More on Script Setup

Quoting Mechanisms

- Single vs. Double Quotes
- Variable Substitution
- Command Substitution

Shell I/O

- Input Redirection
- Output Redirection
- Here Documents

Debugging Techniques

- Using echo and Standard Error
- Options for Debugging
- Script Tracing
- Conditional Debugging

Conditional Statements

- The Exit Status of Commands
- test and [[ ]] and [ ] Commands
- if-then-else Construct
- elif Construct
- case Statements
- I/O Redirection on Conditional Statements

Loops

- for Loop
- while Loop
- break and continue Commands
- I/O Redirection on Loops
- Using Arrays with Loops

Command Line Options and Parameters

- Command-Line Parameters
- The shift Command
- Processing Command Line Options
- A trick with set

Functions

- Shell Functions
- Passing Arguments to Functions
- Returning Values from Functions
- Private Variables
- Function Libraries

Advanced Programming

- Shell Arithmetic
- Shell Variable Manipulation
- select Statement
- Terminal Independence in Scripts
- eval Command
- Job Control

Shell IPC

- Co-processes
- The print and read Commands
- Signals
- The trap Command
- Named Pipes
- The wait Command

Please contact your ROI representative to discuss course tailoring!!!