

Shell Programming Ed 1

Duration: 5 Days

What you will learn

The Shell Programming course provides students with the skills to read, write, and debug UNIX shell scripts. The course begins by describing simple scripts to automate frequently executed commands and continues further by describing conditional logic, user interaction, loops, menus, traps, and functions.

This course is intended for system administrators who have mastered the basics of any flavor of the UNIX OS, such as Oracle Solaris and Oracle Linux, and would like to interpret the various boot scripts as well as create their own scripts to automate their day-to-day tasks.

Learn To:

Create scripts to automate system administration tasks.

Set local and environmental variables.

Automate tasks by using regular expression characters with the grep, sed, and awk utilities.

Create interactive scripts by using flow control constructs.

Perform string manipulation and integer arithmetic on shell variables.

Debug errors in scripts.

Benefits to You

The Shell Programming course provides you with the ability to identify various shells and automate system administration tasks through scripts. You learn to develop advanced scripts that involve using decision making algorithms, loops, variables, parameters and arguments lists.

The course also introduces you to functions that enable you to perform repetitive tasks and the various methods to debug scripts.

Finally, the course concludes by imparting some initial skills at developing useful scripts to automate system administration-related tasks.

Students are provided with the option to run the lab activities on either an Oracle Solaris or Oracle Linux environment.

Audience

Administrator

System Integrator

Related Training

Required Prerequisites

Able to manage files using vi.

Perform basic operating system routines such as system run levels.

Perform simple system administration routines like user creation and software installations.

Run basic system commands like rm, cp, man, more, mkdir, ps, chmod, pkgadd, pkgrm, and pkginfo on Oracle Solaris or similar UNIX platform.

UNIX and Linux Essentials Ed 1

Suggested Prerequisites

Oracle Solaris 11 System Administration Ed 5

Oracle Solaris 11 System Administration Ed 6

Course Objectives

Automate routine operations using loops

Describe the fundamentals of UNIX shells

shell scripts

and scripting

Set shell environment variables

Search information using regular expressions

Edit input streams using the sed editor

Create scripts using the nawk programming language

Include decision-making points within scripts using conditionals

Perform multiple operations using interactive scripts

Specify script options using the getopts statement

Create advanced scripts using variables

parameters

and argument lists

Automate tasks using functions

Debug shell scripts using the trap command

Develop some useful scripts for system administration-related tasks

Course Topics

Unix Shells

Describe the role of shells in the UNIX environment

Describe the various UNIX/Oracle Solaris shells

Shell Scripting

Describe the structure of a shell script

Create a simple shell script

Implement the various debugging options in a shell script

Shell Environment

Explain the role of startup scripts in initializing the shell environment

Describe the various types of shell variables

Explain command line parsing in a shell environment

Pattern Matching

Describe the grep command

Explain the role of regular expressions in pattern matching

The sed Editor

Describe the sed editor

Perform non-interactive editing tasks by using the sed editor

The nawk Programming Language

Describe nawk as a programming language

Display output by using the print statement

Perform pattern matching by using regular expressions

Use the nawk built-in and user-defined variables

Interactive Scripts

Display output by using the print and echo statements

Accept user input by using the read statement

Describe the role of file descriptors in file input and output

Variables and Positional Parameters

Describe the various types of scripting variables

Define positional parameters for accepting user input

Conditionals

Describe the role of the if statement in testing conditions

Describe the syntaxes for the if/then/else and if/then/elif/else statements

Choose from alternatives by using the case statement

Perform numeric and string comparisons

Compare data by using the &&, ||, and ! Boolean operators

Distinguish between the exit status and the exit statement

Loops

Describe the for, while, and until looping constructs

Create menus by using the select looping statement

Provide variable number of arguments to the script by using the shift statement

Describe the role of the getopts statement in parsing script options

Functions

Create user-defined functions in a shell script

Use the typeset and unset statements in a function

Autoload a function file into a shell script

Traps

Describe the role of shell signals in interprocess communication

Catch signals and user errors with the trap statement