UNIX Shell Scripting (bash)

Duration: 6 weekends (Saturdays and Sundays)

Fee: Rs 10,500/- (plus service tax)

Course Overview

Shell Scripting Course is specifically designed to develop skills required for   automation on Unix / Linux Environment. This course focuses on the basic and intermediate level of Scripting. It provides training with hands on session to administer the UNIX shell.

Audience

- Linux/UNIX System Administrators
- Linux/UNIX support professionals
- UNIX Application support professionals
- UNIX programmers
- Database (Oracle/Sybase)developers working on UNIX platforms
- Database (Oracle/Sybase)Administrators

Prerequisites

- Knowledge in Unix / Linux Platform
- Basic Knowledge in Shell Commands
- Any Programming language

Course Outline

1. **Shell Variables**

    a. User defined variables

    b. How to assign value to a variable

    c. Rules for Naming variable name

    d. How to access the value of variable

    e. Variables are not declared

    f. How to capture output of a command in a variable

    g. Arithmetic on variables

2. **System variables**

    a. Importance of PATH variable

3. **Escape character and quotes**

    a. Backslash

    b. Back Quotes

    c. Single Quotes

    d. Double Quotes

4. **What happens when we login/logout**

    a. A New Shell is started

    b. .bash_profile is executed

    c. You are put in your HOME directory

5. **Introduction to Shell Programming**

    a. What is shell

        i. Shell types

        ii. sh or Bourne Shell

        iii. bash or Bourne Again shell

        iv. csh or C shell

        v. tcsh or TENEX C shell

        vi. ksh or the Korn shell

    b. What is Shell Script?

    c. When to write shell scripts

   i. Repeated Tasks

   ii. Occasional Tasks

   iii. Complex Manual Tasks

   iv. Special Tasks

  d. Our First Shell Script

6. **I/O Redirection and Pipes**

  a. What are standard input and standard output?

  b. Output redirection with >

  c. The append operator is >>

  d. Input Redirection

  e. Combining redirections

  f. Use of file descriptors

  g. Syntax of error redirection

  h. Here Document

  i. Redirection Summary

  j. Pipe Operator

7. **Accepting Input**

  a. The read command

  b. Getting input from user interactively

  c. Getting input from file (opened as stream)

8. **Exit Status**

9. **Control Statements**

  a. Arithmetic Operators

  b. String Operators

  c. File test operators

  d. The if...else statements

   i. if...fi statement

   ii. if...else...fi statement

   iii. if...elif...else...fi statement

  e. Combining conditions to produce one result

  f. -a and -o operators

g. Negating result of a test

h. The ! operator

i. Looping Statements

i. The while loop

ii. The for loop

iii. The infinite loop

j. break and continue statements

i. The break statement

ii. The continue statement

10. Command Line Arguments

11. Special Variables

12. Shebang

13. Functions

a. Creating Functions

b. Pass Parameters to a Function

c. Returning Values from Functions

d. Function Call from Prompt:

14. Automating file transfer using FTP

a. Automating FTP using shell script

15. Sending mails from scripts

a. Sending mail

16. Finding file on the filesystem

a. Find command with important options

17. Password-less access to other machine

a. Establishing trust between two machines

b. Establishing trust between you on your machine and the other user on other machine

c. Generating your identification

d. Copying the identification to other machine

18. Scheduling a task

a. Using crontab

b.   Install / Create / Edit Cronjobs

c.   Syntax of crontab (Field Description)

d.   How Do I Use Operators?

e.   How Do I Disable Email Output?

f.   How do I list existing cron jobs?

g.   Other Scheduling Techniques

19. Signal Trapping

a.   List of Signals

b.   Default Actions

c.   Sending Signals

d.   Trapping Signals

20. sed

21. awk

22. Useful Assignments

    a.   Shell Scripting Assignments for Linux Admins

       i.   Write a shell script for download a file from ftp server

      ii.   Check the status (ping) of the server by shell script. If IP is not specified give an error

     iii.   Write a shell script to Lock all users having UID Greater than 500 and and less than 530

     iv.   Write a shell script recycle log files in /var directory

         1.   remove oldest lines.

         2.   Put this in a crontab.

         3.   make sure that you leave atleast 1000 lines in the file.

      v.   Write a shell script to Reset passwords of all users listed in a file user.list

     vi.   Script to check the system load and notify the administrator

    vii.   Shell script to rename given file names to from uppercase to lowercase OR lowercase to uppercase

   viii.   Script to update user password in batch mode

    ix.   Shell Script to Monitor Apache Server

    x.   Script to take selective system backup.

b.   **Shell Scripting Assignments for Oracle Developers/DBAs**

    i.   Oracle database backup using RMAN

    ii.   Oracle user managed cold backup.

    iii. Loading data into Oracle tables using sql Loader

    iv.   Data Extraction from the database to generate a flat file

    v.   Oracle database User Administration using Shell script

    vi.   Monitoring tablespace consumption using Shell script

    vii. Listener and Database monitoring