HP-UX Advanced Shell Programming Tools

Course Outline

Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

Session 1: BACKUP AND RESTORE UTILITIES

- Backing-up and restoring files
- Basic and advanced use of tar
- Compression utilities gzip, bzip2, zip and compress
- Exercise: Backing up and restoring files using tar
- Exercises: Compressing files

Session 2: BACKGROUND JOB SCHEDULING

- Scheduling jobs with the cron command
- Scheduling jobs with the at command
- Exercises: Running background jobs

Session 3: COMMANDS FOR COMPARING FILES

- Compare two files with the cmp command
- Compare two files with the comm command
- Compare two files with the diff and sdiff commands
- Compare large files with the bdiff command
- Exercises: Identifying file differences

Session 4: SPLITTING FILES

- The split and csplit commands
- Exercises: Splitting files

Session 5: IDENTIFYING AND TRANSLATING CHARACTERS

- od - octal dump
- Use cat to display non-printing characters

- The expand and unexpand commands to convert between tab and space characters

- The tr command for character translation

- Exercises: Translating characters with tr

Session 6: REGULAR EXPRESSION NOTATION REVIEW

- Standard regular expressions

- Extended regular expressions

Session 7: THE STREAM EDITOR sed

- sed command line syntax

- sed script files

- sed command processing

- sed addresses and simple instructions

- sed pattern space and hold space

- Grouping sed commands

- Hold and get functions

- Advanced flow control

- Exercises: Text processing with sed

Session 8: FUNDAMENTALS OF AWK

- Basic AWK usage

- AWK program-files

- AWK scripts

- AWK variables

- Pattern matching with AWK

- AWK extended patterns

- AWK operators

- AWK arithmetic operations

- AWK output

- Formatting output with printf

- Exercises: Create awk scripts to extract selected data from a file and generate reports

Session 9: AWK PROGRAM CONTROL STRUCTURES

- The BEGIN and END functions

- The AWK if construct

- The AWK else if construct

- The AWK while construct

- Other program control statements

- The AWK break, continue and exit statements

- User defined functions

- Exercises: Create AWK scripts and program-files utilising program control structures

Session 10: AWK FUNCTIONS

- AWK string functions

- AWK length, tolower, toupper, index, sub, gsub, match, substr, split, sprintf, system and getline functions

- Exercises: Generate AWK scripts and program-files to extract and format data using AWK functions

Session 11: AWK ARRAYS

- AWK associative arrays

- Multi-dimensional arrays

- Exercises: Create AWK associative arrays to process text files and generate reports

Session 12: MISCELLANEOUS TOOLS

- bc (calculator)

- fuser (testing for files in use)

- getops (checking options passed to shell scripts)

- printf (formatting screen output)

- logger (script logging)

- xargs (generating arguments for a command)

- eval (re-evaluating variables)

- Exercises: Using tools within a shell script