



Linux Advanced Shell Programming Tools

Duration: 3 Days **Course Code: LASP** **Delivery Method: Company Event**

Overview:

The Linux Advanced Shell Programming Tools course is designed to give delegates practical experience using a range of Linux tools to manipulate text and incorporate them into Linux shell scripts.

Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

Target Audience:

Programmers, developers and system administrators who need to construct shell scripts and process text files using advanced text handling facilities.

The Linux Advanced Shell Programming Tools course assumes knowledge of the Linux Operating System to the level covered in the Linux Introduction course. Some shell programming experience to the level covered in Linux Shell Programming is also necessary.

Objectives:

- To provide the knowledge and skills to make effective use of a wide range of standard Linux programming and development tools.
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Prerequisites:

The Linux Advanced Shell Programming Tools course assumes knowledge of the Linux operating system to the level covered in the Linux Introduction course. Knowledge of Linux Shell Programming to the level covered on the Linux Shell Programming course is also a requirement. Alternatively, relevant experience of UNIX or Linux servers is required.

Follow-on-Courses:

- Linux System Administration (LPI & CompTIA) (LSA)
 - Oracle SQL (OSP)
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Content:

Linux Advanced Shell Programming Tools
Training Course Course Contents - DAY 1

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 Linux Advanced Shell Programming Tools Training Course Course Contents - DAY 2

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 Linux Advanced Shell Programming Tools Training Course Course Contents - DAY 3

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

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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