Linux Advanced Shell Programming Tools

Category: Infrastructure & IT Operations | **Vendor:** Linux Professional Institute

Duration: 24.00 hours (3 days) **19.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course 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.

About This Course

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.

Who Should Attend

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

Prerequisites & Entry Requirements

General Prerequisites:

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

Learning Outcomes

Upon successful completion of this course, participants will be able to:

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

The delegate will learn and acquire skills as follows:

- Backing up and restoring files with tar
- Advanced tar commands
- File compression
- Scheduling background jobs with crontab and at
- Comparing file contents
- Splitting files based on content and context
- Identifying and translating characters
- Use og grep and regular expressions
- Basic and advanced file editing with sed
- Creating AWK program-files and scripts
- Pattern matching with AWK
- AWK variables, operators and arithmetic functions
- AWK program control structures
- AWK functions
- AWK associative and multi-dimensional arrays
- Various miscellaneous commands

Detailed Course Outline

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

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

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

Skills You Will Learn:

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

The delegate will learn and acquire skills as follows:

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Frequently Asked Questions

Q: What delivery options are available for Linux Advanced Shell Programming Tools?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 3-day Linux Advanced Shell Programming Tools course provides up to 19.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Linux Advanced Shell Programming Tools training?

The training takes place over 3 day(s), with each day lasting approximately 24.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Linux Advanced Shell Programming Tools?

Yes, we provide corporate training, dedicated training, and closed classes for Linux Advanced Shell Programming Tools. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Linux Advanced Shell Programming Tools, Linux, LASP

Q: Why choose Nexus Human for Linux Advanced Shell Programming Tools?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Linux Advanced Shell Programming Tools training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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