Linux Bash Shell Programming

Cursusduur: 5 Dagen   Cursuscode: LBSP   Trainingsmethode: Maatwerk

Beschrijving:

Linux Bash Shell Programming Course Overview
The Linux Bash Shell Programming course is designed to give delegates practical experience in developing and writing Bash shell scripts. Most of the built-in shell commands are introduced together with the main program control structures. The course also gives practical experience using a range of Linux tools to manipulate text and incorporate into Linux Bash shell scripts.
Exercises and examples are used throughout the course to give practical hands-on experience with the techniques covered.

Maatwerk

Global Knowledge biedt zowel standaard- als maatwerkcursussen die zijn afgestemd op uw wensen en die als besloten cursus op uw eigen locatie of onze locatie gevolgd kunnen worden.

Doelgroep:

Who will the Course Benefit?
Programmers,developers and system administrators who need to construct shell scripts and process text files using advanced text handling facilities.
The Linux Bash Shell Programming course assumes knowledge of the Linux Operating System to the level covered in the Linux Introduction Course. Some programming experience may also prove advantageous.

Doelstelling:

- Course Objectives

- To provide the skills needed to develop and customise shell programs and to make effective use of a wide range of standard Linux programming and development tools.

Vereiste kennis en vaardigheden:

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The Linux Bash Shell Programming course assumes knowledge of the Linux Operating System to the level covered in the Linux Introduction course. Some programming experience may also prove advantageous.

Vervolgcursussen:

Further Learning

- Linux System Administration (LPI)
- Oracle SQL

Cursusinhoud:

Linux Bash Shell Programming Training Course Course Contents - DAY 1

Course Introduction

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

Session 1: UNIX COMMAND REVIEW

- Basic Unix commands
- General commands
- File and directory handling commands
- Filename generation characters
- I/O Redirection features
- Other commands

Session 2: GETTING STARTED

- What is a shell script?
- Development guidelines
- Creating and editing shell scripts
- Naming and storing shell scripts
- Executing shell scripts
- Exercise: Write a simple shell script

Session 3: USING VARIABLES

- Environment variables
- Local variables
- Assigning values to variables
- Assessing variable values
- Using quotes
- Delimiting variable names
- Echo control sequences
- Exercise: Add variables to a script

Session 4: INTEGER ARITHMETIC

- Using the expr command
- Using the (( )) notation
- Exercises: Add integer arithmetic to a shell script

Session 5: HANDLING RUN TIME DATA

- The read command
- Command line arguments
- Exercise: Writing a generic shell script
- Exercise: Writing an interactive shell script

Session 6: CONDITIONAL EXECUTION

- The if statement
- The test command
- Exercise: Adding validation to previous scripts

Session 7: ADDITIONAL KORN,BASH ; POSIX SYNTAX

Session 8: LOOP CONSTRUCTS

- The while loop
- The until loop
- The for loop
- The while true and until false loops
- Loop control commands
- Exercise: Enhancing the previously written scripts
- Exercise: Writing a script to copy files using a 'for' loop
- Exercise: Writing a script to generate numbers with the 'while' loop

Session 9: MULTI-BRANCH DECISIONS

- The case statement
- Menu driven applications
- Exercise: Developing and writing a menu system

Session 10: FUNCTIONS

- What is a function?
- Syntax
- Examples
- Creating a Function Library
- Exercise: Add a function to a script

Session 11: INTERRUPT HANDLING

- Interrupt signals
- Trapping interrupts
- Exercise: Adding traps to the menu script

Session 12: ADDITIONAL FEATURES AND FACILITIES

- The exec commands
- The includes notation
- More about loops
- Arrays
- Here Documents
- Exercise: Create a here script Linux Bash Shell Programming Training Course Course Contents - DAY 3

Session 13: 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 14: BACKGROUND JOB SCHEDULING

- Scheduling jobs with the cron command

Session 17: IDENTIFYING AND TRANSLATING CHARACTERS

- od - octal dump
- Use cat to display non-printing characters
- View and format files with nl
- The expand and unexpand commands to convert between tab and space characters
- The tr command for character translation
- Exercises: Translating characters with tr

Session 18: REGULAR EXPRESSION NOTATION REVIEW

- Standard regular expressions
- Searching with grep
- Metacharacters,positional characters and quantifiers
- Extended regular expressions
- POSIX character classes
- PERL expressions

Session 19: 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
- Write output to temporary files
- Exercises: Text processing with sed

Session 20: FUNDAMENTALS OF AWK

- Basic AWK usage
- AWK program-files
- AWK scripts
- AWK variables
- Pattern matching with AWK
- AWK extended patterns

Session 21: AWK OPERATORS

- 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 Bash Shell Programming Training Course Course Contents - DAY 5

Session 22: 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

- Other test notations
- Default and substitute variables
- Exit status codes
- Exercise   Linux Bash Shell Programming Training Course Course Contents - DAY 2

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

Session 15: COMMANDS FOR COMPARING FILES

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

Session 16: SPLITTING FILES

- The fold command
- Split files using context and content rules
- Exercises: Splitting files   Linux Bash Shell Programming Training Course Course Contents - DAY 4

- The AWK break,continue and exit statements
- User defined functions
- Exercises: Create AWK scripts and program-files utilising program control structures

Session 23: 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 24: AWK ARRAYS

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

Session 25: 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

Nadere informatie:

Neem voor nadere informatie of boekingen contact op met onze Customer Service Desk 030 - 60 89 444

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