

## Linux Fundamentals

Cursusduur: 5 Dagen    Cursuscode: LF    Trainingsmethode: Virtual Learning

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### Beschrijving:

#### Linux Fundamentals Course Overview

This Linux Operating System and Bash Shell Programming training course introduces the delegate to the main concepts of the LINUX Operating System. The most commonly used commands are described in detail as are the command line wildcard and redirection facilities. The mechanisms by which a user acquires a login environment are discussed and the main features of the Bash shell are introduced. This course is designed to give delegates practical experience in developing and writing shell scripts. Most of the built-in Bash shell commands are introduced together with the main program control structures. This course is not suitable for C shell programmers. Similarly, the course is targeted to closely follow the official Linux Professional Institute (LPI) curriculum for certification. Exercises and examples are used throughout the course to give practical hands-on experience with the techniques covered.

#### Virtueel en Klassikaal™

Virtueel en Klassikaal™ is een eenvoudig leerconcept en biedt een flexibele oplossing voor het volgen van een klassikale training. Met Virtueel en Klassikaal™ kunt u zelf beslissen of u een klassikale training virtueel (vanuit huis of kantoor) of fysiek op locatie wilt volgen. De keuze is aan u! Cursisten die virtueel deelnemen aan de training ontvangen voor aanvang van de training alle benodigde informatie om de training te kunnen volgen.

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### Doelgroep:

#### Who will the Course Benefit?

There are no formal pre-requisites for the Linux Fundamentals course, although an understanding of and exposure to information technology is advantageous. Programmers, administrators and support personnel who need to understand the LINUX Operating system, existing shellscripts, automate procedures and write their own utilities.

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### Doelstelling:

- Course Objectives
  - To provide the skills needed to work productively in a LINUX environment to develop and customise shell programs.
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### Vereiste kennis en vaardigheden:

- There are no formal pre-requisites for this Linux Fundamentals training course, although an understanding of and exposure to information technology and an understanding of operating systems is required.
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### Vervolg cursussen:

#### Further Learning

- Linux System Administration (LPI)
  - Oracle SQL
  - Linux Advanced Shell Programming Tools
  - Linux Networking
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## Cursusinhoud:

### Linux Fundamentals Training Course Course Contents - DAY 1

#### Course Introduction

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

#### Session 1: INTRODUCTION TO THE LINUX OPERATING SYSTEM

- A brief history of UNIX / Linux
- The UNIX / Linux kernel
- The UNIX / Linux file system structure
- File and directory management commands
- Absolute vs Relative Pathnames
- Further basic commands
- Exercise: Navigating the file system

#### Session 2: BASIC COMMANDS

- Command line syntax
- Basic file handling commands
- Basic Directory handling commands
- Filename wildcard characters
- Using commands with logical AND and OR
- Sequential command execution
- Exercise: Manipulating files and directories

#### Session 3: REDIRECTION AND PIPES

- Input and Output redirection
- Redirecting errors
- Piping commands
- Exercise: Using redirection and pipe facilities Linux Fundamentals Training Course Course Contents - DAY 2

#### Session 4: INTRODUCTION TO THE vi/Vim EDITOR

- Overview of the vi/Vim editor
- The language of vi
- Undoing and Redoing changes
- Input Mode and Last Line Mode
- Further vi functions
- Executing commands within vi / Vim
- Customising the vi / Vim Environment
- Getting Help
- Exercises: Using the vi editor

#### Session 5: SEARCHING AND REPLACING TEXT

- Searching and replacing text using the vi/Vim editor
- Using regular expressions (regex)
- Using sed for search and replace
- Searching for text with grep, egrep and fgrep
- Exercises: Searching and Replacing Text

#### Session 8: FILTERING AND FORMATTING TEXT

- Overview
- The paste command
- The cut command
- An introduction to awk
- The nl command
- Exercises: Filtering Text

#### Session 9: PROCESSES

- What is a process?
- Monitoring processes
- Killing processes
- Background processes
- Job Control
- Grouping commands
- Exercise: Monitoring and controlling processes

#### Session 10: THE USER ENVIRONMENT

- Customising the .profile or .bash\_profile
- Customising the .kshrc or .bashrc
- Exercise: Setting up an environment

#### Session 11: MORE BASIC COMMANDS

- The find command
- Using xargs command
- The locate command
- The df command
- The cut command
- The sort command
- Finding duplicate content
- Number sequencing
- Exercise: More Basic Commands Linux Fundamentals Training Course Course Contents - DAY 4

#### Session 12: UNIX COMMAND REVIEW

- Basic Unix commands
- General commands
- File and directory handling commands
- Filename generation characters and regular expressions (regex)
- I/O Redirection features
- Other commands

#### Session 13: 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 14: USING VARIABLES

- Environment variables

#### Session 17: CONDITIONAL EXECUTION

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

#### Session 18: ADDITIONAL KORN, BASH ; POSIX SYNTAX

- Other test notations
- Default and substitute variables
- Exit status codes
- Exercise Linux Fundamentals Training Course Course Contents - DAY 5

#### Session 19: 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 20: MULTI-BRANCH DECISIONS

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

#### Session 21: FUNCTIONS

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

#### Session 22: INTERRUPT HANDLING

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

#### Session 23: ADDITIONAL FEATURES AND FACILITIES

- The exec commands
- The includes notation
- More about loops
- Arrays
- Here Documents
- Exercise: Create a here script

## Session 6: RECALLING AND EDITING COMMANDS

- Overview
- The bash shell
- The korn shell
- Exercises: Recall and Edit Commands

## Session 7: FILE PERMISSIONS AND ACCESS CONTROL

- Users and user groups
  - File access permissions
  - Changing file attributes
  - Switching users and user groups
  - Linking files
  - Exercise: Setting and access permissions
- Linux Fundamentals Training Course  
Course Contents - DAY 3

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

## Session 15: INTEGER ARITHMETIC

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

## Session 16: HANDLING RUN TIME DATA

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

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### Nadere informatie:

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

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