

Price: R7,500.00 excl. VAT
Duration: 3 days
Code: SHELL

Linux Shell Scripting

Description

Whether you are a Linux system administrator, a developer or a power user, you spend a lot of time on repetitive tasks. You can increase your productivity and save hours by learning to write efficient shell scripts that automate simple and complex processes.

Objectives

After you have completed the Linux Shell Scripting course, you will be able to:

- Understand how you can use shell scripts to increase productivity.
- Read and write shell scripts that automate tasks.
- Read and write shell scripts that control command-line processes.
- Understand and use the power of regular expressions.
- Increase your daily productivity by using tools like sed and awk.

Intended Audience

You should attend the Linux Shell Scripting course if:

- You are a programmer working on Linux and you want to automate some of your processes.
- You are a Linux system administrator and you want to write shell scripts to automate tasks.
- You are a Linux power user and you want to be able to read and write shell scripts for your own work.

Prerequisites

Before you attend the Linux Shell Scripting course:

- You should have some experience using a command-line interface and a text editor.
- You should have some experience with the Linux operating system.
- It would be beneficial if you have some programming experience.

Course Contents

Introduction

- Posix standards, shell concepts and versions.
- Advantages and uses of shell scripts.
- Editors.
- Customising your shell.
- Basic shell commands and options.
- File and directory manipulation.
- Standard Input / Output / Error.
- Processes, pipes and redirection.
- Basic security model — permissions and file modes.

Script Basics

- Shells scripts vs an interactive shell.
- Creating and running a script.
- Console control.
- Creating portable scripts.

- I/O.
- Common pitfalls and good practices.

Scripting Syntax

- Comment syntax.
- Variables.
- Expressions.
- Operators: assignment, comparison, logical, arithmetic, string.
- Selection (conditional) statements.
- Iterative statements.
- Functions, parameters and return values.
- File globbing.

Regular Expressions

- Regular expression concepts and principles.
- Character classes.
- Anchors.
- Meta-characters.
- Escaping.
- Searching.
- Substitution.
- Splitting text.
- Translation.
- grep & map functions.

Programming with sed

- Basic syntax and commands.
- Special characters.
- Loops.
- Branches.
- Pattern buffer and pattern range.

Programming with awk

- Awk versions.
- Typical uses of awk.
- Awk workflow and commands.
- Standard variables.
- Operators.
- Control statements.
- Built-in and user-defined functions.
- Arrays.

Bash

- Bash extensions.
- Advanced parameter expansion.
- Conditional blocks.
- Arrays.

- I/O redirection.

Additional Programming Topics

- Perl.
- Python.
- GCC (GNU compiler).
- Make files.
- Compiling.
- Debugging.
- AutoConf and AutoMake.
- Libraries.
- Kernel compilation.
- Processes & threads.
- Socket programming.
- X programming.

*** The lecturer reserves the right to modify the contents of the course to suit the needs of the delegates.*