BASH Scripts and Software tools

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LX6 - Version: 1

🕐 3 days Course

Description:

Shell scripts are an important and powerful tool in the Linux environment. This course teaches how to write shell scripts to solve a wide range of problems: from file management to backups, from creating users to monitoring the system. In addition to learning the syntax of the Linux programming shell, bash, you will learn shell mechanisms used in programming such as: the backquote, redirections, pipes, and using variables. However, a shell script is only as powerful as the commands it uses. The course will also teach some of the more powerful string manipulation and processing tools in Linux: nawk - a pattern scanning and processing language, and sed - stream editor. Whether you need a two-line script to manage your files or a 500 line script for backing up your disks this course will teach you how to do it.

Intended audience:

The course is meant for users, programmers, and system administrators who want to write shell scripts.
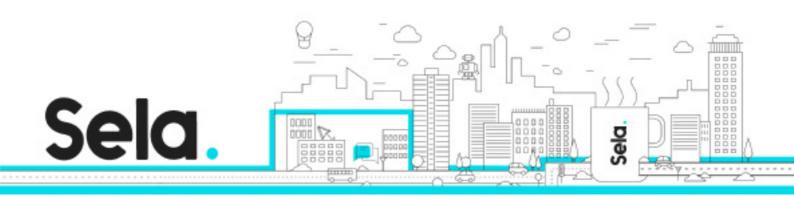
Prerequisites:

Programming experience - not mandatory
Knowledge of the basic Linux commands

Objectives:

Learning to design and write shell scripts
Mastering the nawk and sed commands for optimal utilization

Topics:

The Bash

- I/O redirection
- History
- Aliases

Working with bash

- Variables
- Predefined Variables
- Environment Variables

Bash Scripts

- Your first script
- Writing scripts
- Operators
- Case, select
- Loops interrupts
- Shift, arithmetic expressions

sed - A non-interactive stream editor

- Usage.
- General Syntax.
- Pattern Space.
- Various Editing Commands.

- Advanced Commands:
    º Change the flow control.
    º Hold Space.

nawk - A pattern scanning and processing language

- Usage
- Records, Fields, and Variables
- Parametrs
- Printing Function
- Conditions
- Regular Expressions
- Operators
- Condition commands and loops
- Associative Arrays
- Function Operators on Strings
- Arithmetic Functions
- More Built-in Functions
- Functions
- Built-in and User Functions.

cc – The C Compiler

- cc Options
- Options for the Preprocessor
- Options for the Link Editor
- Libraries
- Creating libraries – ar
- Using ar libraries

Make

- The idea behind make and makefiles.
- How to build an application.
- Syntax.
- How make works.
- Targets.
- Options.
- Macros.
- Conditional Macros.