

## Linux Shell Programming

**Längd: 5 Days    Kurskod: LI01**

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### Sammanfattning:

This course is designed to teach the concepts required to create Shell scripts. As well as being a useful course for all users of Linux this course will be useful to anyone who will be using Linux in a development environment or who will be administering a Linux system.

The course is based on the Bourne, Korn and Bash shell. The course lasts for five days. It is divided into 50% instruction and 50% practical. The course will run with any version of Linux. Practical exercises or practical examples back each topic covered. The delegates are given a number of projects that are developed as the course proceed using the constructs and techniques investigated during the course. This course would be of benefit to users of Unix and Linux.

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### Målgrupp:

Students who can benefit from this course are system administrators, system programmers, Linux operators, database administrators, and Web administrators who wish to have a deeper understanding of shell scripting or wish to become more familiar with the advanced aspects of the shell. Not only will delegates learn how to program using the shell but will also learn how to use the command line more efficiently and more productively.

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### Målsättning:

- At the end of the course the delegates should have an understanding of how shell scripts work and be able to complete complex scripting tasks and use the shell command line to improve their use of the Linux system.
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### Förkunskaper:

The course assumes that the delegate has prior knowledge of Linux to basic user level. The delegate should have attended the Linux fundamentals course or have at least three months Linux experience. Simple use of a Linux editor would be an advantage.

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## Innehåll:

Create command line scripts and menu driven interactive scripts.

Develop precise, robust and maintainable scripts.

Review the role of the Kernel and the Shell

Examine the process life cycle looking at the fork() and exec() system calls.

Examine the use of in-built shell functions and their role in scripting.

Examine the concept of shell meta-characters and their use in shell scripting and command lines.

Look at file name meta-characters

- \*, ?, [range], [!range]

Perform redirection of I/O to/from files and connecting I/O to processes

- > Standard out
- < Standard in
- 2> Standard error
- | Pipes
- Using the tee command

Run scripts using the shell command and creating executable scripts

- Use of #! directive to define interpreter
- Use of the . construct to execute scripts
- Look at script access permissions

Create and use shell variables

- Create local and environment variables
- Use of the export command

Use of quotes to manipulate the command line

- Single quotes
- Double quotes
- Back quotes
- Back slash
- Use of \$(command)

Use of regular expressions including

- ^ \$ \ [range] . \* + \{n\} (a|b)

Use of positional parameters to pass command line arguments to scripts

- \$0 \${n} \$\* @\$ \$#
- Using the shift command with positional parameters
- The set command

Examine the exit status of commands

- Use the test command to evaluate strings and numbers
- Use the test command to perform file checks
- Use of [ ], [[ ]], and (( ))

Branching statements

- Using conditional statements
- if, else, elif
- Use of || and &&
- Command grouping using () and {}
- case

Creating loops using

- for
- while
- until

Create interactive scripts

- Create menus
- Prompt users for input

Perform arithmetic calculations within a script

- Use of the inbuilt arithmetic function
- Using expr

Create and use functions in a script.

- Passing arguments to functions
- Examine exit status from functions

Handle signals received by a script

- Use of the trap command

Look at Linux tools commonly used in scripts including

- awk
- sed
- cut
- tr
- grep

## Övrig information:

För mer information eller kursbokning, vänligen kontakta oss på telefon. 020-73 73 73

[info@globalknowledge.se](mailto:info@globalknowledge.se)

[www.globalknowledge.se](http://www.globalknowledge.se)

Vretenvägen 13, plan 3, 171 54 Solna