

Linux Shell : Scripting with Bash/Ksh

Presentation

Objectives : Master the basics of bash/ksh scripting under Linux.

Who can benefit : Anyone.

Prerequisites : Knowledge of another operating system.

Learning technique : Clear, theoretical course content divided into lessons and extensive LABS available on-line 24/24 7/7.

Duration : 21 hours.

Instructor : Certified **LPI**.

Student Progression : Student progression is monitored both in terms of effective course duration and in terms of student comprehension using self-assessment tests.

Resources : RHEL 7 or Debian 8 or Ubuntu 16.04 or SLES 12 Virtual Appliance.

Cursus

- **Text Manipulation Tools**

- Manipulating Text Files
 - Regular Expressions
 - BREs
 - EREs
 - Text-search Utilities
 - The grep Command
 - Command Line Switches
 - The egrep Command
 - Command Line Switches
 - The fgrep Command
 - LAB #1 - Using grep, egrep and fgrep
 - The Stream EDitor SED
 - Command Line Switches

- LAB #2 - Using sed
 - The Text Processor AWK
 - Presentation
 - Field Separation
 - Conditions
 - A regular expression applied to a record
 - A regular expression applied to a field
 - Comparisons
 - Logical Operators
 - Built-in Variables
 - Awk Scripts
 - The printf function
 - Control Statements
 - if
 - for
 - while
 - do-while
 - Command Line Switches
 - LAB #3 - Using awk
 - Other Useful Commands
 - The expand Command
 - Command Line Switches
 - La Commande unexpand
 - Command Line Switches
 - The cut command
 - Command Line Switches
 - The uniq Command
 - Command Line Switches
 - The tr Command
 - Command Line Switches
 - The paste Command
 - Command Line Switches
 - The split Command
 - Command Line Switches
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- The diff Command
 - Command Line Switches
- The cmp Command
 - Command Line Switches
- The patch Command
 - Command Line Switches
- The strings Command
 - Command Line Switches
- The comm Command
 - Command Line Switches
- The head Command
 - Command Line Switches
- The tail Command
 - Command Line Switches
- LAB #4 - Use the grep, tr and cut to extract your IP address from the output of ifconfig
- **Commands:** stty, date, who, df, free, whoami, pwd, cd, ls, touch, echo, cp, file, cat, mv, mkdir, rmdir, rm, sort, more, find, su, locate, updatedb, whereis, which, uptime, w, uname, du, lsmdu, modprobe, rmmod, modinfo, clear, exit, logout, sleep, grep, egrep, fgrep, sed, awk, tr, paste, cut, split, diff, cmp, uniq, patch, strings, comm, od, head, tail, wall, screen.

• Command Line Interface

- The Shell
- /bin/bash
 - Internal And External Commands
 - Aliases
 - The Prompt
 - The history Command
 - The TAB key
 - Metacharacters
 - The * Metacharacter
 - The ? Metacharacter
 - The [] Metacharacter
 - The extglob Option
 - ?(expression)
 - *(expression)

- +(expression)
- @(expression)
- !(expression)
- Protecting Metacharacters
- Exit Status
- Redirections
- Pipes
- Command Substitution
- Conditional Command Execution
- Environment Variables
 - Principal Variables
 - Internationalisation and Localisation
 - Special Variables
 - The env Command
- Bash Shell Options
 - noclobber
 - noglob
 - noundset
- Basic Shell Scripting
 - Execution
 - Code de retour
 - The IFS Variable
 - The test Command
 - Testing Files
 - LAB #1
 - Testing Strings
 - LAB #2
 - Testing Numbers
 - LAB #3
 - Expressions
 - LAB #4
 - Testing the User Environment
 - LAB #5

- The `[[expression]]` Command
 - LAB #6
- Shell Operators
 - LAB #7
- The `expr` Command
 - Maths
 - Comparisons
 - Logic
 - LAB #8
 - The `let` Command
 - Maths
 - Comparisons
 - Logic
 - Binary
 - LAB #9
 - Control Structures
 - If
 - case
 - Loops
 - for
 - while
 - Example
 - Start-up Scripts
 - LAB #10
 - `~/.bash_profile`
 - `~/.bashrc`
- **Commands:** type, alias, unalias, chsh, history, wc, tee, set, vi, script, read, test, expr, let, if, case, for, while.

- **Scripting Workshop**

- LAB #1 - Automating User Management
 - The **create_user** function
 - The **modif_user** function
 - The **show_user** function
 - The **create_list_user** function
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- The **create_group** function
 - The **modif_group** function
 - The **delete_group** function
 - The **show_group** function
 - Creating a menu
 - LAB #2 - Automating Backups,
 - The **archive_rep** function
 - The **restore_rep** function
 - The **show_archive** function
 - The **compress_archive** function
 - The **decompress_archive** function
 - Managing errors
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