

Linux (RHEL, Debian, Ubuntu and SLES) : Basics

Presentation

Objectives : Master the basics of Red Hat Enterprise Server, Debian Linux, SUSE Linux Enterprise Server and Ubuntu 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, Debian 8, SLES 12 and Ubuntu 16.04 Virtual Machines.

Cursus

- **File Hierarchy System**

- Directory Contents
- Directory Structure
- File Types
- The mount command
 - Command Line Switches
- The /etc/fstab file
 - Understanding the /etc/fstab file
 - Mountpoint Options
- The umount command
 - Command Line Switches
- Unix File Systems
 - Superblock

- Inodes
- Data Blocks
- Hard (Physical) Links
- Soft (Symbolic) Links
- **Commands:** mount, umount.

- **The Visual Editor**

- Presentation
- Creating, Opening and Closing files with VI
 - Commands
 - LAB #1 - Creating a new file with VI
 - LAB #2 - Opening a file in read-only mode using view
 - LAB #3 - Opening a file in read-write mode using VI
- The set Command
 - Commands
 - LAB #4 - Turning on line numbering using set
- Moving around within the file
 - Commands
- Inserting Text
 - Commands
 - LAB #5 - Inserting text
- Searching for Text
 - Commands
 - LAB #6 - Searching for and replacing text
- Deleting Text
 - Commands
 - LAB #7 - Deleting lines
- Copy, Cut and Paste
 - Commands
 - LAB #8 - Copying, Cutting and pasting text
- Configuring a Personalised Interface
- **Commands:** view, vi

- **Help and Documentation**

- Help on external commands

- Help on built-in commands
- The man command
 - Command Line Switches
- The apropos command
 - Command Line Switches
- The makewhatis and whatis Commands under RHEL/CentOS 6
 - Command Line Switches
- The mandb and whatis commands with RHEL/CentOS 7
 - Command Line Switches
- The info command
 - Command Line Switches
- **Commands:** help, man, info, apropos, makewhatis, mandb, whatis.

- **Basic Shell Commands and Text Manipulation Tools**

- Use of Basic Shell Commands
 - The stty Command
 - Command Line Switches
 - The date command
 - Command Line Switches
 - The who Command
 - Command Line Switches
 - The df Command
 - Command Line Switches
 - The free Command
 - Command Line Switches
 - The whoami Command
 - Command Line Switches
 - The pwd Command
 - Command Line Switches
 - The cd Command
 - Command Line Switches
 - The ls Command
 - Command Line Switches
 - The lsof Command

- Command Line Switches
- The touch Command
 - Command Line Switches
- The echo Command
 - Command Line Switches
- The cp Command
 - Command Line Switches
- The file Command
 - Command Line Switches
- The cat Command
 - Command Line Switches
- The mv Command
 - Command Line Switches
- The mkdir Command
 - Command Line Switches
- The rmdir Command
 - Command Line Switches
- The rm Command
 - Command Line Switches
- The sort Command
 - Command Line Switches
- The more Command
 - Command Line Switches
- The less Command
 - Command Line Switches
- The find Command
 - Command Line Switches
- The su Command
 - Command Line Switches
- The updatedb and locate Commands
 - Command Line Switches
- The whereis Command
 - Command Line Switches
- The which Command

- Command Line Switches
- The uptime Command
 - Command Line Switches
- The w Command
 - Command Line Switches
- The uname Command
 - Command Line Switches
- The du Command
 - Command Line Switches
- The clear Command
- The exit Command
 - Command Line Switches
- The logout Command
 - Command Line Switches
- The sleep Command
 - Command Line Switches
- The wall Command
- The seq Command
 - Command Line Switches
- The screen Command
 - Command Line Switches
- Switches and Arguments
- 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
- 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
 - nounset
- Basic Shell Scripting
 - Execution
 - The read command
 - 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.