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UX001 - Course Presentation

Contents

- **UX001 - Course Presentation**

- Contents
- Prerequisites
 - Hardware
 - Software
 - Internet
- Training Program
- Skills Assessment

Prerequisites

Hardware

- A computer running either MacOS, Linux, Windows™ or Solaris™,
- QWERTY US Keyboard,
- 4 GB of RAM,
- Headphones,
- A mic (optional).

Software

- Web Chrome version 72+ or
- Microsoft Edge version 79+ or
- Firefox version 65+.

Internet

- A fast, **direct** (no proxy or VPN), Internet connection (4G minimum),

Training Program

- **LCE400 - Course Presentation**

- Prerequisites
 - Hardware
 - Software
 - Internet
- Training Program

- **LCE401 - File Hierarchy System**

- Linux File Hierarchy System
- File Types
- The mount Command
- The /etc/fstab file
 - Understanding the /etc/fstab file
 - Mount Options
- The umount Command
- Unix File Systems
 - Superblock
 - Inodes
 - Data Blocks
 - Hard (Physical) Links

- Soft (Symbolic) Links

- **LCE402 - The VIsual Editor**

- Presentation
- LAB #1 - Creating, Opening and Closing files with VI
 - 1.1 - Commands
 - 1.2 - Creating a new file with VI
 - 1.3 - Opening a file in read-only mode using view
 - 1.4 - Opening a file in read-write mode using VI
- LAB #2 - The set Command
 - 2.1 - Commands
 - 2.2 - Turning on line numbering using set
- LAB #3 - Moving around within the file
 - 3.1 - Commands
- LAB #4 - Inserting Text
 - 4.1 - Commands
 - 4.2 - Inserting text
- LAB #5 - Searching for Text
 - 5.1 - Commands
 - 5.2 - Searching for and replacing text
- LAB #6 - Deleting Text
 - 6.1 - Commands
 - 6.2 - Deleting lines
- LAB #7 - Copy, Cut and Paste
 - 7.1 - Commands
 - 7.2 - Copying, Cutting and pasting text
- LAB #8 - Configuring a Personalised Interface

- **LCE403 - 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

- **LCE404 - Basic Shell Commands and Text Manipulation Tools**

- LAB #1 - Use of Basic Shell Commands
 - 1.1 - The stty Command
 - 1.2 - The date command
 - 1.3 - The who Command
 - 1.4 - The df Command
 - 1.5 - The free Command
 - 1.6 - The whoami Command
 - 1.7 - The pwd Command
 - 1.8 - The cd Command
 - 1.9 - The ls Command
 - 1.10 - The lsof Command
 - 1.11 - The touch Command
 - 1.12 - The echo Command
 - 1.13 - The cp Command
 - 1.14 - The file Command
 - 1.15 - The cat Command
 - 1.16 - The mv Command
 - 1.17 - The mkdir Command
 - 1.18 - The rmdir Command
 - 1.19 - The rm Command
 - 1.20 - The sort Command
 - 1.21 - The more Command
 - 1.22 - The less Command
 - 1.23 - The find Command
 - 1.24 - The su Command
 - 1.25 - The updatedb and locate Commands

- 1.26 - The whereis Command
- 1.27 - The which Command
- 1.28 - The uptime Command
- 1.29 - The w Command
- 1.30 - The uname Command
- 1.31 - The du Command
- 1.32 - The clear Command
- 1.33 - The exit Command
- 1.34 - The logout Command
- 1.35 - The sleep Command
- 1.36 - The wall Command
- 1.37 - The seq Command
- 1.38 - The screen Command
- LAB #2 - Switches and Arguments
- LAB #3 - Regular Expressions
 - BREs
 - EREs
- Manipulating Text Files
 - Text-search Utilities
 - The grep Command
 - The egrep Command
 - The fgrep Command
 - LAB #4 - Using grep, egrep and fgrep
 - The Stream EDitor SED
 - LAB #5 - 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
- LAB #3 - Using awk
- LAB 7 - Other Useful Commands
 - 7.1 - The expand Command
 - 7.2 - The unexpand Command
 - 7.3 - The cut Command
 - 7.4 - The uniq Command
 - 7.5 - The tr Command
 - 7.6 - The paste Command
 - 7.7 - The split Command
 - 7.8 - The diff Command
 - 7.9 - The cmp Command
 - 7.10 - The patch Command
 - 7.11 - The strings Command
 - 7.12 - The comm Command
 - 7.13 - The head Command
 - 7.14 - The tail Command
- LAB #8 - Use the grep, tr and cut commands to extract your IPv4 address from the output of ifconfig
- LAB #9 - Use the grep, awk and sed commands to extract your IPv4 address from the output of ip

- **LCE405 -Command Line Interface**

- Contents
- The Shell
- /bin/bash
 - Internal And External Commands
 - Aliases
 - The Prompt
 - The history Command

- The TAB key
- Metacharacters
- 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
 - The test Command
 - The [expression](#) Command
 - Shell Operators
 - The expr Command
 - The let Command
 - Control Structures
 - Loops
 - Start-up Scripts
 - LAB #1 - Start-up Scripts

- **LCE503 - Managing File Permissions**

- Contents
- Presentation
- Preparation

- LAB #1 - Basic Unix File Permissions
 - 1.1 - Changing Permissions with chmod
 - Symbolic Mode
 - Octal Mode
 - The umask Command
 - 1.2 - Changing the Owner or the Group with chown and chgrp
 - The chown Command
 - The chgrp Command
- LAB #2 - Advanced Unix Permissions
 - 2.1 - SUID/SGID bit
 - 2.2 - Inheritance Flag
 - 2.3 - Sticky bit
- LAB #3 - Extending Linux Permissions using ACLs and Attributes
 - 3.1 - ACLs
 - 3.2 - Attributes

- **LCE504 - Managing Disks and Filesystems**

- Contents
- Peripherals
- Partitions
- Partitioning
 - LAB #1 - Partitioning your Disk with the fdisk Command
 - LAB #2 - Modifier les Drapeaux des Partitions avec fdisk
- Logical Volume Manager (LVM)
 - LAB #3 - Linear Logical Volumes
 - Physical Volumes (PV)
 - Volume Groups (VG) and Physical Extents (PE)
 - Logical Volumes (LV)
 - LAB #4 - Grow a Volume
 - LAB #5 - Snapshots
 - LAB #6 - Deleting Volumes
 - LAB #7 - Mirrored Volumes
 - LAB #8 - Changing LVM Attributes
 - LAB #9 - Striped Volumes

- LAB #10 - Managing Meta-data
- Journaled Filesystems
 - Ext3
 - Managing Ext3
 - LAB #11 - Converting Ext3 to Ext2
 - LAB #12 - Converting Ext2 to Ext3
 - LAB #13 - Using another Partition for the Journal
 - LAB #14 - Changing the File System Check interval on an ext3 Filesystem
 - Ext4
 - LAB #15 - Creating an Ext4 Filesystem
 - LAB #16 - Adding a Label to an Ext4 Filesystem
 - LAB #17 - Converting Ext3 to Ext4
 - XFS
 - LAB #18 - Creating an XFS Filesystem
 - LAB #19 - Adding a Label to an XFS Filesystem
- **LCE507 - Process Management**
 - Contents
 - Presentation
 - Process Types
 - Process Commands
 - The ps Command
 - The pgrep Command
 - The pstree Command
 - The top Command
 - The fg, bg and jobs Commands
 - The wait Command
 - The nice Command
 - The renice Command
 - The nohup Command
 - The kill Command
 - The pkill Command

- **LCE513 - Managing the Network**

- Contents

- Presentation
 - The nmcli Command
- LAB #1 - Configuring the Network
 - 1.1 - Connections and Profiles
 - 1.2 - Name Resolution
 - 1.3 - Adding a Second IP Address to a Profile
 - 1.4 - The hostname Command
 - 1.5 - The ip Command
 - 1.6 - Manually Activating and Disactivating a Device
 - 1.7 - Static Routing
 - The ip Command
 - Disactivating/Activating Internal Routing on a Server
- LAB #2 - Diagnostics
 - 2.1 - The ping Command
 - 2.2 - The netstat Command
 - 2.3 - The traceroute Command
- LAB #3 - SSH
 - 3.1 - Presentation
 - SSH-1
 - SSH-2
 - 3.2 - Configuring the Server
 - 3.3 - Configuring the Client
 - 3.4 - SCP
 - Presentation
 - Usage
 - 3.5 - Authentication with Asymmetric Keys

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