

Version : **2023.01**

Last updated : 2023/05/10 16:12

# LCE400 - Course Presentation

## Contents

- **LCE400 - Course Presentation**
  - Contents
  - What you will need
    - Hardware
    - Software
    - Internet
  - Training Program
  - Skills Assessment

## What you will need

### Hardware

- A computer running either MacOS, Linux, Windows™ or Solaris™ ,
- QWERTY Keyboard,
- 4 GB of RAM.

### Software

- Browser :

- Web Chrome version 72+ or,
  - Microsoft Edge version 79+ or,
  - Firefox version 65+.
- Oracle VM VirtualBox for :
  - [Windows\(tm\)](#) or,
  - [Linux](#) or,
  - [Mac](#) or,
  - [Solaris\(tm\)](#) or,
  - [Solaris 11 IPS](#).
- Virtual disk image :
  - OSBoxes - [CentOS 8.5.2111](#)

## Internet

- A fast, **direct** (no proxy or VPN), Internet connection (4G minimum),
- Access to ports 80 and 443 at <https://ittraining.network>.

## Training Program

- **LCE400 - Course Presentation**
  - Prerequisites
    - Hardware
    - Software
    - Internet
  - Training Program
  - Skills Assessment
- **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 8
  - 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

- **LCE406 - Training Evaluation and Validation**

- Course Materials
  - Reminder of the Training Program
    - Day #1
    - Day #2
  - Training Evaluation
  - Exam - Acquired knowledge
- 

Copyright © 2023 Hugh Norris - Non-contractual document. The Training Program may be modified without notice.