Version: 2024.01

Last updated : 2024/05/16 12:16

RH124 - Course Presentation

Contents

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
- $\circ \ \, \text{Unix File Systems}$
 - 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 Is Command
 - 1.10 The Isof 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 my 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
 - o 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

• LCE501 - Managing Users and Groups

- Presentation
 - /etc/nsswitch.conf
 - The getent Command
 - The /etc/group and /etc/gshadow files
 - The /etc/passwd and /etc/shadow files
- Commands
 - Groups
 - groupadd
 - groupdel
 - groupmod
 - newgrp

- gpasswd
- Users
 - useradd
 - userdel
 - usermod
 - passwd
 - chage
- Configuration
- ∘ LAB #1 Managing Users and Groups
- ∘ LAB #2 su and su -
- sudo

• LCE502 - Package Management

- ∘ LAB #1 Compiling Software
 - 1.1 ./configure
 - 1.2 make
 - 1.3 make check
 - 1.4 make install
- ∘ LAB #2 The rpm Command
 - 2.1 Configuration
 - 2.2 Usage
- ∘ LAB #3 The dnf Command
 - 3.1 Presentation
 - 3.2 Configuration
 - 3.3 Repositories
 - 3.4 Searching for Packages
 - 3.5 Viewing Information on and Downloading a Package
 - 3.6 Installing a Package
 - 3.7 Updating Packages
 - 3.8 Deleting Packages
- Shared Libraries
 - Presentation
 - Introduction
 - Shared Object Locations

- Id-linux.so.2
- The Idd Command
- The /etc/ld.so.conf File
- The Idconfig Command

• LCE503 - Managing File Permissions

- 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

• LCE505 - Process Scheduling

- cron
 - The /etc/crontab file
 - Time Fields
 - User Crontabs
- anacron
- \circ at

• LCE507 - Process Management

- 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

• LCE508 - Managing Logs

- Presentation
- The dmesq Command
- Security Logging
 - The last Command
 - The lastlog Command
 - The lastb Command
 - The /var/log/secure File
- ∘ The /var/log/audit/audit.log File
 - Managing Audit Events
 - auditd
 - auditctl
 - Viewing Audit Events
 - The aureport Command
 - The ausearch Command
- The /var/log/messages File
- Applications
- rsyslog
 - Priorities
 - Facilitiess
 - The /etc/rsyslog.conf File

- Modules
- Global Directives
- Rules
 - Facility.Priority
 - Facility!Priority
 - Facility=Priority
 - Using the * Wildcard
 - n Facilities with Identical Priorities
 - n Selectors with Identical Actions
- The logger Command
- The logrotate Command
- journald
 - Using Journald
 - Application Specific Messages
 - Boot Messages
 - Priority Specific Messages
 - Messages from a Specific Date Range
 - Real Time Messages
 - Searching with Key Words

• LCE510 - System Startup and Shutdown

- System Startup
 - Boot Loader
 - BIOS Systems
 - EFI Systems
 - GRUB 2
 - The /boot/grub/grub.cfg File
 - ∘ The /etc/default/grub file
 - Files in the /etc/grub.d directory
 - Initramfs
 - The init Script
 - Kernel Booting Process
- Systemd
 - LAB #1 The systemctl Command

- LAB #2 Configuration Files
 - 2.1 Default Configuration Files
 - 2.1 Overloading Default Configuration Files
- LAB #3 The systemd-analyze Command
- LAB #4 Targets
 - 4.1 Checking the Target Dependencies
 - 4.2 The Default Target
 - Checking the Default Target
 - Changing the Default Target
 - Changing the Default Target for the Current Session
- LAB #5 Managing Services
 - 5.1 Single Service Instances
 - 5.2 Multiple Instance Services
 - 5.3 Disallowing Modifications to a Service Status
- ∘ LAB #6 System Shutdown
 - 6.1 The shutdown Command
 - 6.2 The reboot Command
 - 6.3 The halt Command
 - 6.4 The poweroff Command

• LCE603 - Managing the Network

- Presentation
 - The nmcli Command
- LAB #1 Configuring the Network
 - 1.1 Connections and Profils
 - 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 Asymetric Keys

Copyright © 2024 Hugh Norris - Non-contractual document. The Training Program may be modified without notice.