

Linux Essentials (temario)

Introduction

The Linux Community and a Career in Open Source

- Linux Evolution and Popular Operating Systems
 - Key Knowledge Areas:
 - Desktop Applications
 - Server Applications
 - Development Languages
 - Package Management Tools and repositories
 - Terms and Utilities:
 - OpenOffice.org, LibreOffice, Thunderbird, Firefox, GIMP
 - Apache HTTPD, NGINX, MySQL, NFS, Samba
 - C, Java, Perl, shell, Python, Samba
 - dpkg, apt-get, rpm, yum
- Understanding Open Source Software and Licensing
 - Key Knowledge Areas:
 - Licensing
 - Free Software Foundation (FSF), Open Source Initiative (OSI)

- Terms and Utilities:
 - GPL, BSD, Creative Commons
 - Free Software, Open Source Software, FOSS, FLOSS
 - Open Source business models
 - ICT Skills and Working in Linux
 - Key Knowledge Areas:
 - Desktop Skills
 - Getting to the Command Line
 - Industry uses of Linux, Cloud Computing and Virtualization
 - Terms and Utilities:
 - Using a browser, privacy concerns, configuration options, searching the web and saving content
 - Terminal and Console
 - Password issues
 - Privacy issues and tools
 - Use of common open source applications in presentations and projects
-

Finding Your Way on a Linux System

- Command Line Basics
 - Key Knowledge Areas:
 - Basic shell
 - Command line syntax
 - Variables
 - Globbing
 - Quoting

- Terms and Utilities:
 - Bash
 - echo
 - history
 - PATH env variable
 - export
 - type
- Using the Command Line to Get Help
 - Key Knowledge Areas:
 - Man
 - Info
 - Terms and Utilities:
 - man
 - info
 - Man pages
 - /usr/share/doc/
 - locate
- Using Directories and Listing Files
 - Key Knowledge Areas:
 - Files, directories
 - Hidden files and directories
 - Home
 - Absolute and relative paths
 - Terms and Utilities:
 - Common options for ls
 - Recursive listings
 - cd
 - . and ..
 - home and ~
- Creating, Moving and Deleting Files
 - Key Knowledge Areas:
 - Files and directories
 - Case sensitivity
 - Simple globbing and quoting
 - Terms and Utilities:
 - mv, cp, rm, touch
 - mkdir, rmdir

The Power of the Command Line

- Archiving Files on the Command Line
 - Key Knowledge Areas:
 - Files, directories
 - Archives, compression
 - Terms and Utilities:
 - tar
 - Common tar options
 - gzip, bzip2
 - zip, unzip
- Searching and Extracting Data from Files
 - Key Knowledge Areas:
 - Command line pipes
 - I/O re-direction
 - Basic Regular Expressions ., [], *, ?
 - Terms and Utilities:
 - grep
 - less
 - cat, head, tail
 - sort
 - cut
 - wc
- Turning Commands into a Script
 - Key Knowledge Areas:
 - Basic shell scripting
 - Awareness of common text editors
 - Terms and Utilities:
 - #! (shebang)
 - /bin/bash
 - Variables

- Arguments
 - for loops
 - echo
 - Exit status
-

The Linux Operating System

- Choosing an Operating System
 - Key Knowledge Areas:
 - Windows, Mac, Linux differences
 - Distribution life cycle management
 - Terms and Utilities:
 - GUI versus command line, desktop configuration
 - Maintenance cycles, Beta and Stable
- Understanding Computer Hardware
 - Key Knowledge Areas:
 - Hardware
 - Terms and Utilities:
 - Motherboards, processors, power supplies, optical drives, peripherals
 - Hard drives and partitions, /dev/sd*
 - Drivers
- Where Data is Stored
 - Key Knowledge Areas:
 - Programs and configuration, packages and package databases
 - Processes, memory addresses, system messaging and logging
 - Terms and Utilities:
 - ps, top, free

- syslog, dmesg
 - /etc/, /var/log/
 - /boot/, /proc/, /dev/, /sys/
 - Your Computer on the Network
 - Key Knowledge Areas:
 - Internet, network, routers
 - Querying DNS client configuration
 - Querying Network configuration
 - Terms and Utilities:
 - route, ip route show
 - ifconfig, ip addr show
 - netstat, ip route show
 - /etc/resolv.conf, /etc/hosts
 - IPv4, IPv6
 - ping
 - host
-

Security and File Permissions

- Basic Security and Identifying User Types
 - Key Knowledge Areas:
 - Root and Standard Users
 - System users
 - Terms and Utilities:
 - /etc/passwd, /etc/group
 - id, who, w
 - sudo, su
- Creating Users and Groups
 - Key Knowledge Areas:
 - User and group commands
 - User IDs

- Terms and Utilities:
 - /etc/passwd, /etc/shadow, /etc/group, /etc/skel/
 - id, last
 - useradd, groupadd
 - passwd
- Managing File Permissions and Ownership
 - Key Knowledge Areas:
 - File/directory permissions and owners
 - Terms and Utilities:
 - ls -l, ls -a
 - chmod, chown
- Special Directories and Files
 - Key Knowledge Areas:
 - Using temporary files and directories
 - Symbolic links
 - Terms and Utilities:
 - /tmp/, /var/tmp/ and Sticky Bit
 - ls -d
 - ln -s