

Linux Essentials

3 Days

COURSE OVERVIEW

This course introduces the delegate to the main concepts of the LINUX Operating System. The most commonly used commands are described in detail as are the command line wildcard and redirection facilities. The mechanisms by which a user acquires a login environment are discussed and the main features of the Bash Shell are introduced. The GNOME and KDE environments will also be explored.

COURSE OBJECTIVES

To provide the skills needed to work productively in a Linux environment. They will possess the fundamental skills required to begin their studies in achieving the LPI certification routes.

PREREQUISITES

Anyone who needs to understand and use the LINUX Operating System. Those students who will be looking to gain the LPI / RedHat certification paths.

There are no formal pre-requisites, although an understanding of and exposure to information technology is advantageous.

COURSE CONTENT

Introduction

- Administration and course materials
- Course structure and agenda
- Delegate and trainer introductions

Session 1 Introduction to the LINUX Operating System

- A brief history of UNIX and LINUX
- GNU project/ FSF
- GPL – GNU General Public license (Copyleft)
- Popular versions of LINUX available
- The LINUX kernel
- Overview of commands and utilities
- The graphical user interfaces available
- A LINUX login session from the command line
- Basic Syntax rules.
- Essential keyboard shortcuts

Session 2

- The LINUX GNOME/KDE Desktops
- The GNOME and KDE desktops and XWindows
- Configuring and switching between desktops

Web browsers
Office suites
File managers – Nautilus & konqueror

Session 3

Basic Commands
Basic file handling commands
Directory handling commands
Filename wildcard characters
Bash built in features
Locating files : locate,slocate
Getting Help – man pages, info, /usr/share/doc
Sources of information available on the WEB

Session 4

The LINUX File System
The file system structure
Directories and files
Pathnames : relative and absolute
Navigating the file system
Navigating using file managers –konqueror/nautilus
Backup and compression
Managing files : head,tail,less etc.
Managing floppy disk and filesystems

Session 5

File Access Control
Users and groups
User information commands
File access permissions
Changing file attributes
Default file permissions
Switching users and user groups
Extended file permissions

Session 6

Redirection and Pipes
Input and Output redirection
Association
Overwriting and appending redirection
Using pipes to connect processes together
Teeing output within pipelines
Combining redirection and pipes

Session 7

The vi/vim Editors
Introduction to text file editing
How to use the vim editor
Copying, moving, editing and deleting text
Search and replace features
Reading and writing files
Using regular expressions within vi/vim
Other graphical editors

Session 8

Processes
What is a process?

System and user processes
Process ancestry and states
Monitoring processes
Killing processes
Background processes
Using Job control
Altering Process scheduling priorities

Session 9

String Processing and Regular Expressions
Sort, uniq, cut diff & paste : string processing
Regular expressions
Using grep & sed with regular expressions
Other string processing commands

Session 10

The Bash Environment
What is an environment?
The Bash Shell environment
Environment variables and aliases
The system/user profile
The bash login sequence
Command line history and editing
Extended bash functionality

Session 11

Bash Shell Scripting Basics
Scripting basics
Creating and executing shell scripts
Handling input
Positional passed parameters
Simple testing constructs
If/then/else constructs

Session 12

Basic Networking Commands
Using the secure shell : ssh
Copying files with scp
Using ftp clients
Network diagnostic tools

Conclusion

Course summary
Course assessment