LPIC-1: Linux Administrator

Duration: 48 Hours (6 Days)

Overview

The LPIC-1: Linux Administrator course is a comprehensive program designed to equip learners with the foundational skills and knowledge required to manage Linux systems. It covers essential topics necessary for the LPIC-1 certification exam and serves as a stepping stone for aspiring Linux professionals. The course is structured into modules that progress from basic to more advanced concepts. Starting with Module 1, learners will master the Command line, gaining proficiency in navigating and manipulating the Linux environment. In Module 2, they'll learn to effectively use Streams, pipes, and redirects to control data flow. Module 3 delves into File permissions and ownership, ensuring security and proper access control. As learners advance to Module 4, they'll acquire skills in File management, followed by Module 5, which focuses on Archives and compression techniques. Module 6 teaches the use of filters to process text streams, while Module 7 explores the power of Regular expressions for searching text files. Module 8 offers hands-on experience with the Vi editor, and Module 9 covers Process management. Module 10 introduces Package management using RPM, Yum, and Debian systems. Module 11 is dedicated to Partitions, filesystems, and disk quotas, with Module 12 shedding light on the Linux boot process. In Module 13, learners will determine and configure Hardware settings, and finally, Module 14 reinforces Linux fundamentals. This course prepares students for the LPIC-1 Linux Administrator certification, validating their ability to perform maintenance tasks, manage system installations, and configure Basic networking.

Audience Profile

The LPIC-1: Linux Administrator course offers foundational knowledge for managing Linux systems and prepares for LPIC-1 certification.

- IT professionals seeking Linux certification
- System administrators aiming to manage Linux servers
- Network administrators interested in Linux networking concepts
- Technical support specialists requiring Linux skills
- DevOps engineers needing Linux command line proficiency
- Software developers targeting Linux environments
- Computer science students specializing in systems management
- Data analysts and scientists using Linux-based tools
- Database administrators working on Linux servers
- IT enthusiasts wanting to learn about Linux administration
- Educational institutions' technical staff maintaining Linux systems
- IT managers overseeing Linux-based infrastructure

Course Syllabus

Curriculum

Topic 101: System Architecture

- 101.1 Determine and configure hardware settings

- 101.2 Boot the system
- 101.3 Change run levels/boot targets and shutdown or reboot system

Topic 102: Linux Installation and Package Management

- 102.1 Design hard disk layout
- 102.2 Install a boot manager
- 102.3 Manage shared libraries
- 102.4 Use Debian package management
- 102.5 Use RPM and YUM package management
- 102.6 Linux as a virtualisation guest

Topic 103: GNU and Unix Commands

- 103.1 Work on the command line
- 103.2 Process text streams using filters
- 103.3 Perform basic file management
- 103.4 Use streams, pipes and redirects
- 103.5 Create, monitor and kill processes
- 103.6 Modify process execution priorities
- 103.7 Search text files using regular expressions
- 103.8 Basic file editing

Topic 104: Devices, Linux Filesystems, Filesystem Hierarchy Standard

- 104.1 Create partitions and filesystems
- 104.2 Maintain the integrity of filesystems
- 104.3 Control mounting and unmounting of filesystems
- 104.4 Removed
- 104.5 Manage file permissions and ownership
- 104.6 Create and change hard and symbolic links
- 104.7 Find system files and place files in the correct location
- LPIC-1 Exam 102

Topic 105: Shells and Shell Scripting

- 105.1 Customise and use the shell environment
- 105.2 Customise or write simple scripts

Topic 106: User Interfaces and Desktops

- 106.1 Install and configure X11
- 106.2 Graphical Desktops
- 106.3 Accessibility

Topic 107: Administrative Tasks

- 107.2 Automate system administration tasks by scheduling jobs
- 107.3 Localisation and internationalisation

Topic 108: Essential System Services

- 108.1 Maintain system time

- 108.2 System logging
- 108.3 Mail Transfer Agent (MTA) basics
- 108.4 Manage printers and printing

Topic 109: Networking Fundamentals

- 109.1 Fundamentals of internet protocols
- 109.2 Persistent network configuration
- 109.3 Basic network troubleshooting
- 109.4 Configure client side DNS

Topic 110: Security

- 110.1 Perform security administration tasks
- 110.2 Setup host security
- 110.3 Securing data with encryption