Linux System Administration: LPI Certification (Second Edition)

Course Specifications

Course length: 5.0 day(s)
Certification: Junior Level Administration, LPIC-1 (Exams 101 and 102)

Course Description

You already have a basic knowledge of computer hardware and system administration. Now you would like to focus on Linux® system administration and prepare to take the LPI 101 and 102 exams. In the Linux System Administrator: LPI Certification (Second Edition) course, you will acquire the skills to administer Linux systems and also gain the requisite knowledge to take the LPI 101 and 102 exams.

Course Objective: You will install, configure, and manage Linux systems**.**

Target Student: This course is designed for a person who has been performing basic system administration tasks and who needs to install, configure, and manage a Linux-based system. This course is also useful for individuals who desire to take the 101 and 102 exams of LPI leading to the Junior Level Administration (LPIC-1) certification.

Prerequisites: Students enrolling in this class should have basic computer skills and prior system administration experience of at least six months with any operating system. They should also have a working knowledge of Linux and should have performed basic user-level tasks on a Linux system. It is recommended that the students have taken the course titled A+ Certification: Core Hardware or possess equivalent knowledge.

Performance-Based Objectives

Upon successful completion of this course, students will be able to:

- Ensure that the preinstallation checks are performed before installing Linux and then you'll install the operating system on the computer.

- Use the Linux Command Line Interface to take advantage of the various commands that Linux provides. You will also get acquainted with accessing documentation in Linux with the help of the command line.

- Work in the Linux filesystem to explore the options and commands provided to manage files and directories. By doing this, you can access and organize the files and directories efficiently.

- Manage packages in Linux.
- Configure network connectivity to share data across a network.

- Manage users and groups.
- Configure the Graphical User Interface.

- Configure hardware devices to manage input and output data, efficiently.
- Configure software services.

- Work with the kernel.
- Automate tasks.

- Maintain filesystems.
- Maintain the system.

- Secure the system.

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Course Content

Lesson 1: Installing Linux
  Topic 1A: Perform Preinstall Tasks
  Topic 1B: Install a Linux Workstation

Lesson 2: Using the Linux Command Line
  Topic 2A: Use Linux Commands
  Topic 2B: Use the Command Line to Access Linux Documentation

Lesson 3: Working with the Linux Filesystem
  Topic 3A: Manage Files and Directories
  Topic 3B: Manage Links to a File
  Topic 3C: Edit Files
  Topic 3D: Redirect Content
  Topic 3E: Search Text Files Using Regular Expressions
  Topic 3F: Apply Filters to Text Streams

Lesson 4: Managing Packages
  Topic 4A: Manage Packages Using the RPM Package Manager
  Topic 4B: Manage Packages Using the Debian Package Manager

Lesson 5: Configuring Network Connectivity
  Topic 5A: Connect to a Network
  Topic 5B: Configure Network Services
  Topic 5C: Access a Remote Computer
  Topic 5D: Configure Hostname Lookup
  Topic 5E: Configure Routing
  Topic 5F: Debug Network Configuration Issues

Lesson 6: Managing Users and Groups
  Topic 6A: Configure User Profiles
  Topic 6B: Manage User Accounts
  Topic 6C: Manage Groups
  Topic 6D: Manage File Ownership
  Topic 6E: Manage File Access Rights

Lesson 7: Configuring the Graphical User Interface
  Topic 7A: Implement X
  Topic 7B: Customize the Display Manager
  Topic 7C: Customize the Window Environment

Lesson 8: Configuring Hardware Devices
  Topic 8A: Configure SCSI Devices
  Topic 8B: Configure I/O Devices
  Topic 8C: Configure Communication Devices

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Lesson 9: Configuring Software Services
Topic 9A: Configure the Boot Manager
Topic 9B: Set Up the Email Services
Topic 9C: Install an Executable Program from Source
Topic 9D: Configure the Apache Web Server
Topic 9E: Manage Shared Libraries
Topic 9F: Perform Process Management

Lesson 10: Working with the Kernel
Topic 10A: Customize Kernel Modules
Topic 10B: Manage the Kernel

Lesson 11: Automating Tasks
Topic 11A: Develop Shell Scripts
Topic 11B: Manage Shell Scripts
Topic 11C: Customize the Shell Environment
Topic 11D: Schedule Jobs

Lesson 12: Maintaining Filesystems
Topic 12A: Maintain a Local Filesystem
Topic 12B: Manage Disk Quotas
Topic 12C: Manage NFS
Topic 12D: Implement Samba

Lesson 13: Maintaining the System
Topic 13A: Back Up Data
Topic 13B: Restore Data
Topic 13C: Maintain System Logs
Topic 13D: Manage a Print Queue
Topic 13E: Maintain the System Time

Lesson 14: Securing the System
Topic 14A: Configure Host Security
Topic 14B: Configure User-Level Security
Topic 14C: Configure Network Security

Appendix A: History of Linux

Appendix B: Junior Level Administration (LPIC-1) — LPI Objectives

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