



LinuxCertified LPI Level 1 Courseware

- Exams 101 and 102

Welcome to LinuxCertified's courseware for LPI Level 1 Exams.

This courseware is divided in two books:

Linux Fundamentals

Linux System and Network Administration

Audience

LPI Level 1 is targeted towards Junior to mid-level Linux System Administrators, who are able to perform following tasks:

- Work at the Linux command line
- Perform easy maintenance tasks: help out users, add users to a larger system, backup & restore, shutdown & reboot
- Install and configure a workstation (including X) and connect it to a LAN, or a stand-alone PC via modem to the Internet.

While the certification and the courseware are primarily targeted towards system administrators, some developers who primarily work on Linux systems and maintain their own systems would also find these useful.

Pre-requisites

The *Linux Fundamentals* courseware assumes general knowledge of computers. Work experience in any operating environment for six to twelve months is assumed. While no prior knowledge of Linux is assumed, three months of user-level experience on any UNIX environment would be very helpful.

The *Linux System and Network Administration* courseware assumes six to twelve months of user-level UNIX environment experience. This experience is equivalent to objectives covered in the *Linux Fundamentals* Courseware.

Linux Fundamentals

Table of Contents (LPI Objectives Covered)

Module 1: Linux Commands and Text Editing

LPI Exam 101

1.103.1 Work on the command line

1.103.2 Process text streams using filters

1.103.3 Perform basic file management

1.103.8 Perform basic file editing operations using vi

Module 2: Using the Shell

LPI Exam 101

1.103.4 Use streams, pipes, and redirects

1.109.1 Customize and use the shell environment

Module 3: Shell Scripts

LPI Exam 101

1.109.2 Customize or write simple scripts

Module 4: Linux File Management

LPI Exam 101

1.104.5 Use file permissions to control access to files

1.104.6 Manage file ownership

1.104.7 Create and change hard and symbolic links

1.104.4 Managing disk quota

Module 5: Text Processing

LPI Exam 101

1.103.7 Search text files using regular expressions

Module 6: Fundamentals of Networking

LPI Exam 102

Topic 112 Networking Fundamentals

1.112.1 Fundamentals of TCP/IP

1.112.3 TCP/IP configuration and troubleshooting

1.112.4 Configure Linux as a PPP client

Linux System & Network Administration

Table of Contents (LPI Objectives Covered)

Module 1: Installation & Configuration

LPI Exam 101

- 1.102.1 Design hard disk layout**
- 1.102.5 Use Debian package management**
- 1.102.6 Use Red Hat Package Manager (RPM)**
- 1.104.1 Create partitions and filesystems**
- 1.104.2 Maintain the integrity of filesystems**
- 1.104.3 Control mounting and unmounting filesystems**

LPI Exam 102

- 1.111.1 Manage users and group accounts and related system files**
- 1.111.2 Tune the user environment and system environment variables**

Module 2: Linux Development Environment

LPI Exam 101

- 1.102.3 Make and install programs from source**
- 1.102.4 Manage shared libraries**

Module 3: Linux Kernel and Boot Loaders

LPI Exam 101

- 1.102.2 Install a boot manager**

LPI Exam 102

- 1.105.1 Manage/Query kernel and kernel modules at runtime**
- 1.105.2 Reconfigure, build, and install a custom kernel and kernel modules**
- 1.106.1 Boot the system**

Module 4: System Management

LPI Exam 101

- /proc related objectives of Topic 101**
- 1.103.5 Create, monitor, and kill processes**
- 1.103.6 Modify process execution priorities**
- 1.110.1 Install & Configure XFree86**
- 1.110.2 Setup a display manager**
- 1.110.4 Install & Customize a Window Manager Environment**

LPI Exam 102

- 1.108.5 Notify users on system-related issues**
- 1.106.2 Change runlevels and shutdown or reboot system**
- 1.111.4 Automate system administration tasks by scheduling jobs to run in the future**
- 1.111.6 Maintain system time**
- 1.111.3 Configure & use system log files to meet administrative & security needs**
- 1.111.5 Maintain an effective data backup strategy**

Module 5: Networking Services

LPI Exam 102

- 1.113.1 Configure and manage inetd, xinetd, and related services**
- 1.113.2 Operate and perform basic configuration of sendmail**
- 1.113.3 Operate and perform basic configuration of Apache**
- 1.113.4 Properly manage the NFS, smb, and nmb daemons**
- 1.113.5 Setup and configure basic DNS services**

Module 6: Applied Linux Security

LPI Exam 102

- 1.113.1 Configure and manage inetd, xinetd, and related services**
- 1.113.7 Set up secure shell (OpenSSH)**
- 1.114.1 Perform security administration tasks**
- 1.114.2 Setup host security**
- 1.114.3 Setup user level security**

Module 7: Hardware Configuration & Misc. Topics

LPI Exam 101

- 1.101.1 Configure Fundamental BIOS Settings**
- 1.101.3 Configure Modem and Sound cards**
- 1.101.4 Setup SCSI Devices**
- 1.101.5 Setup different PC expansion cards**
- 1.101.6 Configure Communication Devices**

LPI Exam 102

- 1.101.7 Configure USB devices**
- 1.107.2 Manage printers and print queues**
- 1.107.3 Print files**
- 1.107.4 Install and configure local and remote printers**
- 1.108.1 Use and manage local system documentation**