

NDG Introduction to Linux I

Scope and Sequence

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A course developed by NDG (Network Development Group) to teach Linux.

Target Audience

The NDG Introduction to Linux I curriculum is designed for individuals who want to learn Linux.

Prerequisites

NDG Linux Essentials is recommended as a prerequisite to NDG Introduction to Linux I.

Note: Institutions desiring to start learners with course content at a higher level of rigor may choose to bypass NDG Linux Essentials. For self-paced learners who are unfamiliar with Linux, NDG Linux Essentials is highly recommended as the starting place. NDG Introduction to Linux I is aligned to the LPI LPIC-1 / CompTIA Linux+ powered by LPI certification exams. As a course aligned to certification objectives, the amount of content rigor required by NDG Introduction to Linux I may be challenging for learners new to Linux.

Curriculum Description

This 27 chapter, 70 hour course covers the fundamentals of the Linux operating system, system architecture, installation, command line and file system. The goal of this course is to provide academic institutions, organizations and individual learners curriculum to help prepare for the exam objectives aligned to the Linux Professional Institute, LPI.org, LPIC-1 (or the CompTIA Linux+ powered by LPI) first certification exam. Individuals who complete this course should understand Linux system architecture, Linux installation and packages, Linux command line, device basics and the Linux file system.

This course implements a "practice as you read" approach to learning. Each learner has hands-on access to a Linux virtual machine to practice, explore and trial Linux command line concepts. The learner is also provided 24 prescriptive step-by-step labs. These labs provide a learning environment where students interact with the Linux operating system and build on their skills and knowledge as they progress through the course.

Curriculum Objectives

The NDG Introduction to Linux I course focuses on the basic Linux skills needed in preparation for the Linux Professional Institute LPIC-1 or CompTIA Linux+ powered by LPI certification. Learners will gain proficiency performing maintenance tasks on the command line, installing and configuring a computer running Linux and configuring basic networking. The course objectives align to the LPI LPIC-1 exam topics:

- System Architecture

- Linux Installation and Package Management
- GNU and Unix commands
- Devices, Linux Filesystems, Filesystem Hierarchy Standard

Course Outline

Title of Learning Module / Chapter	LPI.ORG LPIC-1 101 Exam Certification Objective
Before You Get Started	Course Introduction
1. Using the Shell	103.1 Work on the command line
2. Getting Help	103.1 Work on the command line
3. Text Utilities	103.2 Process text streams using filters
4. Configuring the Shell	103.1 Work on the command line
5. File Manipulation	103.3 Process basic file management
6. File Globbing	103.3 Process basic file management
7. Finding Files	103.3 Process basic file management
	104.7 Find system files and place files in the correct location
8. Regular Expressions	103.7 Search text files using regular expressions
9. The vi Editor	103.8 Perform basic file editing operations using vi
10. Standard Text Streams and Redirection	103.4 Use streams, pipes and redirects
11. Managing Processes	103.5 Create, monitor and kill processes
	103.6 Modify process execution priorities
12. Archive Commands	103.3 Process basic file management
13. File Permissions and Ownership	104.5 Manage file permissions and ownership
14. File Systems Links	104.6 Create and change hard and symbolic links
15. Hardware Configuration	101.1 Determine and configure hardware settings
16. The Boot Process	101.2 Boot the system
17. Bootloaders	102.2 Install a boot manager
18. Runlevels	101.3 Change runlevels and shutdown or reboot system
19. Designing a Scheme	102.1 Design hard disk layout
20. Creating Partitions	102.1 Design hard disk layout
	104.1 Create partitions and filesystems
21. Mounting Filesystems	102.1 Design hard disk layout
	104.3 Control mounting and unmounting of filesystems
22. Maintaining Integrity	104.2 Maintain the integrity of filesystems

23. Fixing Filesystems	104.2 Maintain the integrity of filesystems
24. Disk quotas	104.4 Manage disk quotas
25. RPM Package Management	102.5 Use RPM and YUM package management
26. Debian Software Management	102.4 Use Debian package management
27. Managing Shared Libraries	102.3 Manage shared libraries

Note: NDG Introduction to Linux I will repeat some content from NDG Linux Essentials. Why? LPI Linux Essentials certificate and LPI LPIC-1 certification exam objectives overlap. To cover all objectives, topics introduced in NDG Linux Essentials may be repeated in NDG Introduction to Linux I with more in-depth, high-rigor content. For further information, reference: <http://www.netdevgroup.com/content/lpi/documentation/LPICcertobjectives.pdf>

Minimum System Requirements

Learners utilize a web browser to access the NDG Introduction to Linux I content modules, lab exercises and virtual machines. The web based content viewer and Linux console viewer (virtual machine) require at least one of the following web browsers:

- Google Chrome 30+
- Safari 6.1+
- Mozilla Firefox 25+
- Internet Explorer 10+

Industry Certification

The NDG Introduction to Linux I curriculum helps individuals prepare for the [LPI LPIC-1 Exam 101](#) certification exam. To earn the LPI LPIC-1 certification, learners complete two certification exams. This is the first of two exams. The LPI LPIC-1 101 exam topics:

1. System Architecture
2. Linux Installation and Package Management
3. GNU and Unix Commands
4. Devices, Linux Filesystems, Filesystem Hierarchy Standard

For additional information about the LPI LPIC-1 certification, review the LPI certification website <http://www.lpi.org/linux-certifications>.

Note: This course also aligns to the [CompTIA Linux+ Powered by LPI](#) certification exam. Learners that earn the CompTIA Linux+ certification can receive “The 3-for-1 certification deal”, which documents certification for the CompTIA Linux+, LPI LPIC-1 and SUSE CLA certifications. To learn more, visit the [CompTIA website](#).