

LPIC-1 Linux Administration Exam 102

Duration:

5 Days

What is the course about?

LPIC-1 is the first certification in LPI's multi-level Linux professional certification program. The LPIC-1 will validate the candidate's ability to perform maintenance tasks on the command line, install and configure a computer running Linux and configure basic networking. The LPIC-1 is designed to reflect current research and validate a candidate's proficiency in real world system administration. The objectives are tied to real-world job skills. To become LPIC-1 certified, you must pass both the 101 and 102 exams. This is a vendor neutral course, the delegates can use any flavour of Linux.

Duration

The course is run 5 days full time.

Technical Skill

No prior knowledge is required to take this course. This is the second course in becoming a Linux Administrator and is required as part of the LPIC-1 certification together with the LPI-101 course. You will need to start with the LPIC-101 course before taking this course. You will need to pass both exams in order to be a certified LPIC Level 1 Linux Server Administrator.

Private Training

The course can be offered privately onsite or on our premises. A minimum of 4 delegates is required to schedule the course. The course price is R9 500 onsite and R12 500 on our premises. There is no set date to run the course, we schedule the date that suits your team.

Public Training

This course is also offered publicly. The course runs at our offices in Cape Town or Johannesburg. A minimum of 4 delegates is required to run the course. A tentative date is set but the course will only be confirmed to run once we have 4 confirmed bookings. There is no set date as the course is run on demand.

Course Topics

Customize and use the shell environment

- Set environment variables (e.g. PATH) at login or when spawning a new shell
- Write Bash functions for frequently used sequences of commands
- Maintain skeleton directories for new user accounts
- Set command search path with the proper directory

Customize or write simple scripts

- Use standard sh syntax (loops, tests)
- Use command substitution
- Test return values for success or failure or other information provided by a command
- Perform conditional mailing to the superuser
- Correctly select the script interpreter through the shebang (!) line
- Manage the location, ownership, execution and suid-rights of scripts

SQL Data Management

- Use of basic SQL commands
- Perform basic data manipulation

Install and Configure X11

- Verify that the video card and monitor are supported by an X server
- Awareness of the X font server
- Basic understanding and knowledge of the X Window configuration file

Isetup a display manager

- Basic configuration of LightDM
- Turn the display manager on or off
- Change the display manager greeting
- Awareness of XDM, KDM and GDM

Accessibility

- Basic knowledge of keyboard accessibility settings (AccessX)
- Basic knowledge of visual settings and themes
- Basic knowledge of assistive technology (ATs)

Manage user and group accounts and related system files

- Add, modify and remove users and groups
- Manage user\group info in password\group databases
- Create and manage special purpose and limited accounts

Automate system administration task by scheduling jobs

- Manage cron and at jobs
- Configure user access to cron and at services
- Configure anacron

Localistion and internationalistaion

- Configure locale settings and environment variables
- Configure timezone settings and environment variables

Maintain system time

- Set the system date and time
- Set the hardware clock to the correct time in UTC
- Configure the correct timezone
- Basic NTP configuration
- Knowledge of using the pool.ntp.org service
- Awareness of the ntpq command

System Logging

Configuration of the syslog daemon
Understanding of standard facilities, priorities and actions
Configuration of logrotate
Awareness of rsyslog and syslog-ng

Mail Transfer Agent (MTA) Basics

Create e-mail aliases
Configure e-mail forwarding
Knowledge of commonly available MTA programs (postfix, sendmail, qmail, exim) (no configuration)

Manage Printers and Printing

Basic CUPS configuration (for local and remote printers)
Manage user print queues
Troubleshoot general printing problems
Add and remove jobs from configured printer queues

Fundamentals of internet Protocols

Demonstrate an understanding of network masks and CIDR notation
Knowledge of the differences between private and public "dotted quad" IP addresses
Knowledge about common TCP and UDP ports and services (20, 21, 22, 23, 25, 53, 80, 110, 123, 139, 143, 161, 162, 389, 443, 465, 514, 636, 993, 995)
Knowledge about the differences and major features of UDP, TCP and ICMP
Knowledge of the major differences between IPv4 and IPv6
Knowledge of the basic features of IPv6

Basic Network Configuration

Manually and automatically configure network interfaces.
Basic TCP/IP host configuration.
Setting a default route

Basic Network Troubleshooting

Manually and automatically configure network interfaces and routing tables to include adding, starting, stopping, restarting, deleting or reconfiguring network interfaces
Change, view, or configure the routing table and correct an improperly set default route manually
Debug problems associated with the network configuration

Configure client side DNS

Query remote DNS servers
Configure local name resolution and use remote DNS servers
Modify the order in which name resolution is done

Perform Security Administration Tasks

Audit a system to find files with the suid\sgid bit set
Set or change user passwords and password aging information
Being able to use nmap and netstat to discover open ports on a system
Set up limits on user logins, processes and memory usage

Determine which users have logged in to the system or are currently logged in
Basic sudo configuration and usage

Securing Data with Encryption

Manage access permissions on regular and special files as well as directories
Perform basic OpenSSH 2 client configuration and usage
Understand the role of OpenSSH 2 server host keys
Perform basic GnuPG configuration, usage and revocation
Understand SSH port tunnels (including X11 tunnels)

Setup Host Security

Awareness of shadow passwords and how they work
Turn off network services not in use
Understand the role of TCP wrappers

Find system files and place files in the correct location

Understand the correct locations of files under the FHS
Find files and commands on a Linux system
Know the location and purpose of important file and directories as defined in the FHS