

uCertify

Course Outline

Linux Powered by LPI - Exam 1 (Course & Lab)



10 May 2024

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1. Course Objective

Prepare for the CompTIA Linux+ LX0-103 certification exam with the CompTIA Linux+ Powered by LPI-Exam1 course and lab. The lab simulates real-world, hardware, software, and command-line interface environments and can be mapped to any text-book, course, or training. The course and lab completely cover the LX0-103 exam objectives and include topics such as Linux command-line, basic maintenance and installing; and configuring workstations and networks.

2. Pre-Assessment

Pre-Assessment lets you identify the areas for improvement before you start your prep. It determines what students know about a topic before it is taught and identifies areas for improvement with question assessment before beginning the course.

3. Exercises

There is no limit to the number of times learners can attempt these. Exercises come with detailed remediation, which ensures that learners are confident on the topic before proceeding.



4. Quizzes

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.

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QUIZZES

5. flashcards

Flashcards are effective memory-aiding tools that help you learn complex topics easily. The flashcard will help you in memorizing definitions, terminologies, key concepts, and more. There is no limit to the number of times learners can attempt these. Flashcards help master the key concepts.

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FLASHCARDS

6. Glossary of terms

uCertify provides detailed explanations of concepts relevant to the course through Glossary. It contains a list of frequently used terminologies along with its detailed explanation. Glossary defines the key terms.

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**GLOSSARY OF
TERMS**

7. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

8. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

9. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

10. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been

recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**

1. Best Postsecondary Learning Solution

- **2015**

1. Best Education Solution
2. Best Virtual Learning Solution
3. Best Student Assessment Solution
4. Best Postsecondary Learning Solution
5. Best Career and Workforce Readiness Solution
6. Best Instructional Solution in Other Curriculum Areas
7. Best Corporate Learning/Workforce Development Solution

- **2016**

1. Best Virtual Learning Solution
2. Best Education Cloud-based Solution
3. Best College and Career Readiness Solution
4. Best Corporate / Workforce Learning Solution
5. Best Postsecondary Learning Content Solution
6. Best Postsecondary LMS or Learning Platform
7. Best Learning Relationship Management Solution

- **2017**

1. Best Overall Education Solution
2. Best Student Assessment Solution
3. Best Corporate/Workforce Learning Solution
4. Best Higher Education LMS or Learning Platform

- **2018**

1. Best Higher Education LMS or Learning Platform

2. Best Instructional Solution in Other Curriculum Areas
3. Best Learning Relationship Management Solution

- **2019**

1. Best Virtual Learning Solution
2. Best Content Authoring Development or Curation Solution
3. Best Higher Education Learning Management Solution (LMS)

- **2020**

1. Best College and Career Readiness Solution
2. Best Cross-Curricular Solution
3. Best Virtual Learning Solution

11. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

Syllabus

Chapter 1: Exploring Linux Command-Line Tools

- Understanding Command-Line Basics
- Using Streams, Redirection, and Pipes
- Processing Text Using Filters

- Using Regular Expressions
- Summary
- Exam Essentials

Chapter 2: Managing Software

- Package Concepts
- Using RPM
- Using Debian Packages
- Converting between Package Formats
- Package Dependencies and Conflicts
- Managing Shared Libraries
- Managing Processes
- Summary
- Exam Essentials

Chapter 3: Configuring Hardware

- Configuring the Firmware and Core Hardware
- Configuring Expansion Cards

- Configuring USB Devices
- Configuring Hard Disks
- Designing a Hard Disk Layout
- Creating Partitions and Filesystems
- Maintaining Filesystem Health
- Mounting and Unmounting Filesystems
- Summary
- Exam Essentials

Chapter 4: Managing Files

- Using File Management Commands
- Managing File Ownership
- Controlling Access to Files
- Managing Disk Quotas
- Locating Files
- Summary
- Exam Essentials

Chapter 5: Booting Linux and Editing Files

- Installing Boot Loaders
- Understanding the Boot Process
- The Initialization Process
- Using the SysV Initialization Process
- Using the systemd Initialization Process
- Using the Upstart Initialization Process
- Editing Files with vi
- Summary
- Exam Essentials

Videos and How To

uCertify course includes videos to help understand concepts. It also includes How Tos that help learners in accomplishing certain tasks.

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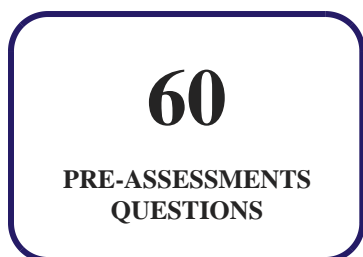
VIDEOS

02:01

HOURS

12. Practice Test

Here's what you get



Features

Each question comes with detailed remediation explaining not only why an answer option is correct but also why it is incorrect.

Unlimited Practice

Each test can be taken unlimited number of times until the learner feels they are prepared. Learner can review the test and read detailed remediation. Detailed test history is also available.

Each test set comes with learn, test and review modes. In learn mode, learners will attempt a question and will get immediate feedback and complete remediation as they move on to the next question. In test mode, learners can take a timed test simulating the actual exam conditions. In review mode, learners can read through one item at a time without attempting it.

13. Performance Based Labs

uCertify's performance-based labs are simulators that provides virtual environment. Labs deliver hands on experience with minimal risk and thus replace expensive physical labs. uCertify Labs are cloud-based, device-enabled and can be easily integrated with an LMS. Features of uCertify labs:

- Provide hands-on experience in a safe, online environment
- Labs simulate real world, hardware, software & CLI environment
- Flexible and inexpensive alternative to physical Labs
- Comes with well-organized component library for every task

- Highly interactive - learn by doing
- Explanations and remediation available
- Videos on how to perform

Lab Tasks

- Verifying the working directory
- Creating an environment variable
- Redirecting an output to a file
- Printing a file
- Performing reverse sort for a file
- Removing duplicate lines
- Displaying packages
- Listing, installing, and removing rpm packages
- Installing packages by resolving dependencies
- Upgrading and installing packages
- Configuring yum
- Removing a package with its configuration file
- Reconfiguring installed Debian packages
- Viewing dpkg configuration
- Displaying information and removing the samba package
- Converting an rpm package into the Debian package
- Displaying the shared library
- Dynamically linked libraries
- Getting information about processor
- Listing processes
- Listing all running screen processes
- Reporting virtual memory statistics
- Displaying currently running processes
- Viewing the IRQs
- Displaying PCI bus information
- Listing loaded kernel modules

- Removing a kernel module
- Displaying hardware information
- Dumping the physical USB device hierarchy
- Setting up a Linux swap area
- Running the fsck command
- Checking and repairing Linux file systems
- Unmounting a filesystem
- Storing information about mounted filesystems
- Listing Files in a Directory
- Maintaining backup of a hard disk
- Extracting an archive file
- Compressing files
- Modifying the ownership of a file
- Checking the file permission of a file
- Running an executable file with permissions
- Changing file attributes
- Making a script executable
- Listing contents of a directory
- Enabling and disabling user quotas for filesystems
- Checking user and group quotas
- Extracting quota information
- Displaying the last part of a file
- Storing Linux bootloader
- Setting devices to read only at boot time
- Functioning of Linux Loader
- Displaying messages from the kernel ring buffer
- Displaying boot log
- Choosing runlevel for the reboot command
- Identifying mode of runlevels
- Identifying runlevels
- Storing configuration parameters
- Checking runlevel

Here's what you get

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**PERFORMANCE BASED
LAB**

14. Live Labs

The benefits of live-labs are:

- Exam based practical tasks
- Real equipment, absolutely no simulations
- Access to the latest industry technologies
- Available anytime, anywhere on any device
- Break and Reset functionality
- No hardware costs

Lab Tasks

Exploring Linux Command-Line Tools

- Verifying the working directory
- Creating an environment variable
- Redirecting an output to a file
- Printing a file
- Performing reverse sort for a file
- Removing duplicate lines

Managing Software

- Displaying packages
- Listing, installing, and removing rpm packages
- Installing packages by resolving dependencies
- Upgrading and installing packages
- Configuring yum
- Removing a package with its configuration file
- Reconfiguring installed Debian packages
- Viewing dpkg configuration
- Displaying information and removing the samba package
- Converting an rpm package into the Debian package
- Displaying the shared library
- Dynamically linked libraries
- Getting information about processor
- Listing processes
- Listing all running screen processes
- Reporting virtual memory statistics
- Displaying currently running processes

Configuring Hardware

- Viewing the IRQs
- Displaying PCI bus information
- Listing loaded kernel modules
- Removing a kernel module
- Displaying hardware information
- Dumping the physical USB device hierarchy
- Setting up a Linux swap area
- Running the fsck command
- Checking and repairing Linux file systems
- Unmounting a filesystem
- Storing information about mounted filesystems

Managing Files

- Listing Files in a Directory
- Maintaining backup of a hard disk
- Extracting an archive file
- Compressing files
- Modifying the ownership of a file
- Checking the file permission of a file
- Running an executable file with permissions
- Changing file attributes
- Making a script executable
- Listing contents of a directory
- Enabling and disabling user quotas for filesystems
- Checking user and group quotas
- Extracting quota information
- Displaying the last part of a file

Booting Linux and Editing Files

- Storing Linux bootloader
- Setting devices to read only at boot time
- Functioning of Linux Loader
- Displaying messages from the kernel ring buffer
- Displaying boot log
- Choosing runlevel for the reboot command
- Identifying mode of runlevels
- Identifying runlevels
- Storing configuration parameters
- Checking runlevel

Here's what you get

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LIVE LABS

15. Post-Assessment

After completion of the uCertify course Post-Assessments are given to students and often used in conjunction with a Pre-Assessment to measure their achievement and the effectiveness of the exam.

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