

[CT-Linux+]: CompTIA® Linux+® (Exam XK0-004)

Length : 5 Days
Delivery Method : Instructor-led (Classroom)

Course Overview

For many years, Linux has dominated the server install base in the business world—and it will continue to do so in the foreseeable future. Linux's popularity has led to a greater need for information technology (IT) professionals who can manage servers that run some form of the Linux kernel. The Official CompTIA® Linux+® courseware builds on your existing experience with systems operations and administration to provide you with the knowledge and skills required to configure, manage, operate, and troubleshoot a Linux environment by using security best practices, scripting, and automation.

Audience Profile

This course is designed for IT professionals whose primary job responsibility is the management of servers and other devices running the Linux operating system. A typical student in this course should have at least nine months of hands-on Linux experience and at least one and a half years of IT experience in other computing environments. The target student should wish to expand their skillset to support their career in Linux system administration and operation.

This course is also designed for students who are seeking the CompTIA Linux+ certification and who want to prepare for Exam XK0-004. The Linux+ certification can validate the student's understanding and skill in configuring, monitoring, and supporting Linux systems.

At Course Completion

- Perform basic Linux tasks.
- Manage users and groups.
- Manage permissions and ownership.
- Manage storage.
- Manage files and directories.
- Manage kernel modules.
- Manage the Linux boot process.
- Manage system components.
- Manage devices.
- Manage networking.
- Manage packages and software.
- Secure Linux systems.
- Write and execute Bash shell scripts.
- Automate tasks.
- Plan and perform a Linux installation.

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Pre-Requisites

To ensure your success in this course, you should have at least foundational experience with general systems administration procedures, some hands-on exposure to one or more Linux distributions, as well as knowledge of computing hardware and basic networking and cybersecurity concepts.

You can obtain this level of skills and knowledge by taking the following official CompTIA courses:

- The Official CompTIA® A+® Core 1 and 2 Student Guide (Exams 220-1001 and 220-1002)
- The Official CompTIA® Network+® Student Guide (Exam N10-007)
- The Official CompTIA® Security+® Student Guide (Exam SY0-501)

Note: These prerequisites might differ significantly from the prerequisites for the CompTIA certification exams. For the most up-to-date information about the exam prerequisites, complete the form on this page: <https://certification.comptia.org/training/exam-objectives>

Course Outline

Module 1: Performing Basic Linux Tasks

Lessons

- Identify the Linux Design Philosophy
- Enter Shell Commands
- Get Help with Linux

Module 2: Managing Users and Groups

Lessons

- Assume Superuser Privileges
- Create, Modify, and Delete Users
- Create, Modify, and Delete Groups
- Query Users and Groups
- Configure Account Profiles

Module 3: Managing Permissions and Ownership

Lessons

- Modify File and Directory Permissions
- Modify File and Directory Ownership
- Configure Special Permissions and Attributes
- Troubleshoot Permissions Issues

Module 4: Managing Storage

Lessons

- Create Partitions
- Manage Logical Volumes

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- Mount File Systems
- Manage File Systems
- Navigate the Linux Directory Structure
- Troubleshoot Storage Issues

Module 5: Managing Files and Directories

Lessons

- Create and Edit Text Files
- Search for Files
- Perform Operations on Files and Directories
- Process Text Files
- Manipulate File Output

Module 6: Managing Kernel Modules

Lessons

- Explore the Linux Kernel
- Install and Configure Kernel Modules
- Monitor Kernel Modules

Module 7: Managing the Linux Boot Process

Lessons

- Configure Linux Boot Components
- Configure GRUB 2

Module 8: Managing System Components

Lessons

- Configure Localization Options
- Configure GUIs
- Manage Services
- Troubleshoot Process Issues
- Troubleshoot CPU and Memory Issues

Module 9: Managing Devices

Lessons

- Identify the Types of Linux Devices
- Configure Devices
- Monitor Devices
- Troubleshoot Hardware Issues

Module 10: Managing Networking

Lessons

- Identify TCP/IP Fundamentals
- Identify Linux Server Roles
- Connect to a Network
- Configure DHCP and DNS Client Services
- Configure Cloud and Virtualization Technologies

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- Troubleshoot Networking Issues

Module 11: Managing Packages and Software

Lessons

- Identify Package Managers
- Manage RPM Packages with YUM
- Manage Debian Packages with APT
- Configure Repositories
- Acquire Software
- Build Software from Source Code
- Troubleshoot Software Dependency Issues

Module 12: Securing Linux Systems

Lessons

- Implement Cybersecurity Best Practices
- Implement Identity and Access Management Methods
- Configure SELinux or AppArmor
- Configure Firewalls
- Implement Logging Services
- Back Up, Restore, and Verify Data

Module 13: Working with Bash Scripts

Lessons

- Customize the Bash Shell Environment
- Identify Scripting and Programming Fundamentals
- Write and Execute a Simple Bash Script
- Incorporate Control Statements in Bash Scripts

Module 14: Automating Tasks

Lessons

- Schedule Jobs
- Implement Version Control Using Git
- Identify Orchestration Concepts

Module 15: Installing Linux

Lessons

- Prepare for Linux Installation
- Perform the Installation

Appendix A: Mapping Course Content to CompTIA® Linux+® (Exam XK0-004)

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