

CompTIA Linux+

Days: 5

Prerequisites: 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 220-1101 and 220-1102)
- 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>

Audience: 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.

Description: 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.

Course Objectives:

- 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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OUTLINE:

LESSON 1: PERFORMING BASIC LINUX TASKS

Topic A: Identify the Linux Design Philosophy
Topic B: Enter Shell Commands
Topic C: Get Help with Linux

LESSON 2: MANAGING USERS AND GROUPS

Topic A: Assume Superuser Privileges
Topic B: Create, Modify, and Delete Users
Topic C: Create, Modify, and Delete Groups
Topic D: Query Users and Groups
Topic E: Configure Account Profiles

LESSON 3: MANAGING PERMISSIONS AND OWNERSHIP

Topic A: Modify File and Directory Permissions
Topic B: Modify File and Directory Ownership
Topic C: Configure Special Permissions and Attributes
Topic D: Troubleshoot Permissions Issues

LESSON 4: MANAGING STORAGE

Topic A: Create Partitions
Topic B: Manage Logical Volumes
Topic C: Mount File Systems
Topic D: Manage File Systems
Topic E: Navigate the Linux Directory Structure
Topic F: Troubleshoot Storage Issues

LESSON 5: MANAGING FILES AND DIRECTORIES

Topic A: Create and Edit Text Files
Topic B: Search for Files
Topic C: Perform Operations on Files and Directories
Topic D: Process Text Files
Topic E: Manipulate File Output

LESSON 6: MANAGING KERNEL MODULES

Topic A: Explore the Linux Kernel
Topic B: Install and Configure Kernel Modules
Topic C: Monitor Kernel Modules

LESSON 7: MANAGING THE LINUX BOOT PROCESS

Topic A: Configure Linux Boot Components
Topic B: Configure GRUB 2

LESSON 8: MANAGING SYSTEM COMPONENTS

Topic A: Configure Localization Options
Topic B: Configure GUIs
Topic C: Manage Services
Topic D: Troubleshoot CPU and Memory Issues

LESSON 9: MANAGING DEVICES

Topic A: Identify the Types of Linux Devices
Topic B: Configure Devices
Topic C: Monitor Devices
Topic D: Troubleshoot CPU and Memory Issues

LESSON 10: MANAGING NETWORKING

Topic A: Identify TCP/IP Fundamentals
Topic B: Identify Linux Server Roles
Topic C: Connect to a Network
Topic D: Configure DHCP and DNS Client Services
Topic E: Configure Cloud and Virtualization Technologies
Topic F: Troubleshoot Networking Issues

LESSON 11: MANAGING PACKAGES AND SOFTWARE

Topic A: Identify Package Managers
Topic B: Manage RPM Packages with YUM
Topic C: Manage Debian Packages with APT
Topic D: Configure Repositories
Topic E: Acquire Software
Topic F: Build Software from Source Code
Topic G: Troubleshoot Software Dependency Issues

LESSON 12: SECURING LINUX SYSTEMS

Topic A: Implement Cybersecurity Best Practices
Topic B: Implement Identity and Access Management Methods
Topic C: Configure SELinux or AppArmor
Topic D: Configure Firewalls
Topic E: Implement Logging Services
Topic F: Back Up, Restore, and Verify Data

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LESSON 13: WORKING WITH BASH SCRIPTS

Topic A: Customize the Bash Shell Environment

Topic B: Identify Scripting and Programming Fundamentals

Topic C: Write and Execute a Simple Bash Script

Topic D: Incorporate Control Statements in Bash Scripts

LESSON 14: AUTOMATING TASKS

Topic A: Schedule Jobs

Topic B: Implement Version Control Using Git

Topic C: Identify Orchestration Concepts

LESSON 15: INSTALLING LINUX

Topic A: Prepare for Linux Installation

Topic B: Perform the Installation