CompTIA Linux+ (XK0-004) Exam Prep 2026

CompTIA Linux+ XK0-004 2026. Kernel management, network security, and hands-on command labs.

IT Certifications Instructor: Jason Miller • 5 sections • 42 lessons • 10.75h total

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About this course

Preparing for the CompTIA Linux+ (XK0-004) exam can feel overwhelming with the breadth of topics from kernel management to network security. This course gives you a structured, practical path to readiness, focusing on the real skills and troubleshooting scenarios you will encounter on the test and in your daily role.

We will walk through each exam objective with clear explanations and hands-on demonstrations. You will get access to practice questions, step-by-step lab guides for key commands, and downloadable cheat sheets.

Course curriculum

1. Foundations and System Architecture

- Understanding the Linux Boot Process (12m)
  Trace the system from power-on to login prompt. We'll cover BIOS/UEFI, GRUB, and systemd targets to help you troubleshoot startup issues.
- the Filesystem Hierarchy Standard (9m)
  Learn what lives where. A practical guide to /etc, /var, /home, and other critical directories you'll use every day.
- Configuring and Managing Partitions (18m)
  Step-by-step walkthrough using fdisk and parted. We'll show you how to safely create, resize, and mount storage for your servers.
- Virtualization and Container Basics for Linux+ (15m)
  Get a handle on KVM, libvirt, and Docker. This lesson connects exam objectives to real-world deployment scenarios.
- Essential Command Line Navigation (8m)
  A quick but thorough review of cd, ls, pwd, and path management. Perfect for building speed and confidence before the exam.
- Working with Files and Directories (11m)
  Learn copy, move, delete, and find commands with practical examples and common pitfalls to avoid.
- User and Group Permission Fundamentals (14m)
  Understand chmod, chown, and the permission bits. We'll use real scenarios to explain how to set secure access correctly.

2. Core System Administration Skills

- Package Management: YUM vs. APT (16m)
  Learn to install, update, and remove software on RHEL and Debian-based systems. Includes repository configuration tips.
- Managing Services with Systemd (13m)
  Stop guessing and start controlling services. We'll cover systemctl, journalctl, and enabling services to start on boot.
- User Account Lifecycle Management (10m)
  A practical look at useradd, usermod, and userdel, including managing password policies and aging.
- Scheduling Tasks with Cron and At (9m)
  Automate your backups and jobs. We'll show you how to write crontabs and schedule one-off tasks correctly.
- Process Management and Monitoring (17m)
  Use ps, top, and kill to manage running processes. Learn to identify resource hogs and troubleshoot performance.
- Configuring SSH for Secure Access (12m)
  Set up key-based authentication and harden your SSH server. A must-know for any Linux professional.

- Log File Analysis and Rotation (14m)
  Where to find logs and how to read them. We'll configure logrotate to manage disk space effectively.
- Building a Basic Shell Script (20m)
  Write a simple automation script from scratch. Includes variables, conditionals, and making scripts executable.
- Using sed and awk for Text Processing (19m)
  Powerful tools for the exam and the job. We'll show you common search-and-replace and reporting tasks.

3. Security, Networking, and Troubleshooting

- Configuring the Local Firewall (15m)
  Hands-on guide to firewalld and iptables. Learn to open ports and block traffic with confidence.
- Implementing SELinux Contexts and Booleans (21m)
  Don't fear SELinux. We'll break down how to check status, change contexts, and troubleshoot access denials.
- Network Interface Configuration and Testing (16m)
  Use nmcli and ip commands to set up networking. Includes ping, netstat, and ss for connection diagnostics.
- Troubleshooting DNS Resolution (18m)
  A step-by-step method to fix name resolution issues using dig, host, and checking /etc/resolv.conf.
- Managing Storage Volumes with LVM (25m)
  From physical volumes to logical volumes. A deep dive into creating flexible storage that can grow with your needs.
- Mounting File Systems and Automount (10m)
  Learn to mount devices manually and configure /etc/fstab for persistent mounts across reboots.
- Securing File Permissions with SUID, SGID, and Sticky Bit (12m)
  Understand these special permissions and when to use them, with a focus on security best practices.

4. Advanced Topics and Performance

- Kernel Tuning and Module Management (19m)
  Learn to load, unload, and check kernel modules. We'll also touch on basic sysctl parameters for performance.
- Advanced Bash Scripting for Automation (28m)
  Functions, loops, and error handling. Build a more complex script to automate a multi-step admin task.
- Introduction to SQL for Linux Admins (15m)
  Basic queries to interact with databases. This lesson covers what you need for the exam objectives.
- Cloud Integration for Linux Systems (14m)
  Brief overview of working with Linux instances on major cloud platforms and managing cloud-init.
- Setting Up a Web Server (Apache/Nginx) (22m)
  Install and configure a basic web server. We'll cover virtual hosts and checking for common configuration errors.

- Configuring FTP and Samba Services (20m)
  Set up file sharing for legacy and Windows-compatible systems. Includes security considerations.
- Disaster Recovery: Backup and Restore Strategies (18m)
  Use tools like rsync and tar to create reliable backups. We'll also cover verifying and restoring from those backups.
- Performance Tuning: CPU, Memory, and I/O (24m)
  Identify bottlenecks using vmstat and iostat. Learn what to look for and what actions to take.
- Hardening Your Linux Server (16m)
  A checklist-style lesson covering key steps to secure a new server before putting it into production.

5. Exam Strategy and Final Review

- Building Your Personalized Study Plan (8m)
  How to structure your remaining study time effectively. We'll help you prioritize weak areas.
- Practice Exam Walkthrough: Part 1 (32m)
  We'll tackle a set of practice questions, explaining the reasoning behind each correct answer.
- Practice Exam Walkthrough: Part 2 (30m)
  Another set of challenging questions, focusing on performance-based scenarios and troubleshooting.
- Command Line Speed Drills (12m)
  Quick-fire exercises to build muscle memory for the most common exam commands.
- Common Exam Pitfalls to Avoid (11m)
  A list of the most frequent mistakes students make on the XK0-004 and how to sidestep them.
- Key Acronyms and Terminology Review (9m)
  A rapid-fire review of the acronyms you must know for the exam. Downloadable flashcard set included.
- Final Pre-Exam Checklist (7m)
  What to do the day before and day of the exam. From ID requirements to mental preparation.
- What to Expect on Exam Day (6m)
  A walkthrough of the testing environment, question types, and how to manage your time during the test.
- Beyond the Exam: Next Steps in Your Linux Career (10m)
  Where to go from here. We'll discuss specializations like DevOps, cloud engineering, and security.
- Course Wrap-Up and Thank You (5m)
  A quick summary of what you've accomplished and how to access the community and future updates.
