

CompTIA XK0-006 Linux Server Prep 2026

CompTIA XK0-006 Linux+ 2026. Kernel management, shell scripting, and teaching resources for instructors.

IT Certifications Instructor: Nick Williams • 5 sections • 48 lessons • 17.25h total

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About this course

Preparing to teach the next generation of Linux administrators? This course gives you a structured, up-to-date path to the XK0-006 exam objectives for 2026. We move beyond memorization and focus on the real skills your students need in the classroom and on the job.

You will get a lesson-by-lesson breakdown, hands-on lab ideas, and ways to explain complex topics like kernel management and shell scripting. We include real case studies from enterprise environments, downloadable teaching templates, and practice questions that mirror the exam style.

Course curriculum

Foundations: Aligning with XK0-006 Objectives

- **Navigating the 2026 XK0-006 Exam Objectives (12m)**
We'll break down the official CompTIA exam blueprint, highlighting key changes for 2026 and mapping them to your lesson plans.
- **Setting Up a Modern Linux Lab Environment (18m)**
Learn how to configure virtual machines for your students using VirtualBox or KVM, ensuring a stable and consistent lab experience.
- **The Command Line Mindset: Teaching Efficiency (15m)**
A step-by-step guide to getting students comfortable in the terminal, focusing on core navigation and help commands (man, --help).
- **User and Group Management Fundamentals (22m)**
Demonstrate how to create, modify, and manage local users and groups, a core skill tested heavily in the performance-based questions.
- **File System Permissions and Ownership (25m)**
Explain chmod, chown, and chgrp with real-world scenarios, moving beyond rote memorization to practical understanding.
- **Storage Concepts: Partitions vs. Logical Volumes (20m)**
A clear explanation of MBR vs. GPT, and an introduction to LVM for flexible storage management.
- **Process Management Basics (14m)**
Teach students how to view, manage, and prioritize processes using ps, top, and kill commands effectively.

Core Concepts: System & Service Administration

- **Package Management (RPM vs. DEB) (28m)**
A deep dive into YUM/DNF and APT, including managing repositories and resolving dependency issues for your students.
- **Systemd: Managing Services Like a Pro (31m)**
Learn to enable, disable, and troubleshoot services with systemctl, including creating simple service unit files.
- **Network Configuration and Troubleshooting (35m)**
Cover IP addressing, netplan vs. NetworkManager, and essential tools like ip, ss, and ping for diagnosing connectivity.
- **Automating Tasks with Cron and At (16m)**
Show students how to schedule jobs and create automated scripts for routine maintenance tasks.
- **Introduction to Shell Scripting (24m)**
A practical lesson on writing basic scripts for automation, covering variables, loops, and conditional statements.

- **Securing the SSH Server (19m)**
Best practices for configuring SSH, including key-based authentication and hardening the configuration file.
- **Log Management and Analysis (17m)**
Using journalctl and reviewing /var/log entries to diagnose system events and security alerts.
- **Introduction to Firewalld and UFW (21m)**
A teacher's guide to explaining basic firewall concepts and managing rules for incoming and outgoing traffic.
- **Working with Archives and Compression (13m)**
How to use tar, gzip, and zip for backups and file transfers, a common task in server administration.
- **SELinux and AppArmor Fundamentals (26m)**
Demystify mandatory access control systems and teach students how to check contexts and troubleshoot denials.

Deep Dive: Advanced Server Management

- **Configuring Web Servers (Apache & Nginx) (32m)**
Step-by-step guide to setting up basic web servers and managing virtual hosts for multiple sites.
- **Setting Up FTP and Samba Shares (29m)**
Real case study analysis: Configuring file shares for both Linux and Windows clients in a mixed environment.
- **DNS Server Configuration with BIND (38m)**
A challenging but critical topic, broken down into manageable lessons on forward and reverse lookups.
- **Introduction to Containerization: Docker Basics (27m)**
Prepare students for the modern datacenter by teaching them how to run and manage basic containers.
- **Advanced Filesystem Management (23m)**
Working with ext4, xfs, and btrfs, including mounting options and filesystem checks.
- **Kernel Tuning and Module Loading (20m)**
How to manage kernel modules and make basic runtime parameter adjustments using sysctl.
- **Troubleshooting Boot Issues (34m)**
A problem-solving session covering GRUB2 configuration, rescue mode, and single-user mode.

Advanced Application: Security & Automation

- **Infrastructure as Code: Ansible Basics (36m)**
Introduce automation at scale by teaching students to write simple Ansible playbooks for configuration management.
- **Implementing RAID Arrays (25m)**
Software RAID setup and management, explaining the trade-offs between RAID 0, 1, 5, and 10.
- **Advanced SSH: Port Forwarding and Tunnels (22m)**
Teach secure remote access techniques for accessing services behind a firewall.

- **Scripting for Security Audits (18m)**
A practical scripting lesson to create a tool that checks for common misconfigurations and insecure permissions.
- **Managing MariaDB/MySQL Databases (30m)**
Basic administration tasks: creating databases, user management, and performing simple backups via the command line.
- **Email Server Concepts (Postfix basics) (15m)**
An overview of Mail Transfer Agents to help students understand the flow of email on a Linux server.
- **Using Strace for Deep Troubleshooting (21m)**
A powerful tool for advanced debugging. Learn how to trace system calls to find the root cause of errors.
- **Configuring iSCSI Initiators and Targets (26m)**
A practical guide to network storage, connecting servers to block-level storage devices.
- **NFS Server and Client Configuration (19m)**
Setting up network file systems for sharing directories across multiple Linux servers.
- **Time Synchronization with Chrony and NTP (10m)**
Ensuring accurate timekeeping across your infrastructure, critical for logging and authentication.
- **Building a Custom Kernel (33m)**
An advanced lesson for top-tier students, covering the download, configuration, and compilation of a Linux kernel.
- **Introduction to TCP Wrappers (9m)**
Using `hosts.allow` and `hosts.deny` for a legacy but still relevant layer of service access control.

Implementation: Exam Prep & Teaching Strategy

- **Creating Effective Practice Questions (14m)**
How to write multiple-choice and performance-based questions that truly test understanding, not just memory.
- **Designing Hands-On Lab Exercises (23m)**
A framework for building labs that simulate real-world tasks your students will face on the job.
- **Student Pitfalls: Common Mistakes in XK0-006 (16m)**
A problem-solving session covering the top 5 areas where students get stuck and how to explain them clearly.
- **The PBQ (Performance-Based Question) Strategy (28m)**
Downloadable templates and a step-by-step approach to solving the complex, multi-step questions on the exam.
- **Review Session: Security & Troubleshooting (20m)**
A mock exam segment focusing on the heaviest weighted domains, with detailed explanations for each answer.
- **Review Session: System Architecture & Services (19m)**
Targeted review of kernel, storage, and service management topics to ensure full coverage.
- **Review Session: Scripting & Automation (15m)**
Walkthrough of common scripting scenarios and command-line tools found on the test.

- **Time Management During the Exam (11m)**
Tips for pacing yourself and your students to ensure all questions are answered within the time limit.
- **Setting Up a Mock Exam Environment (17m)**
How to use practice tests effectively and simulate the pressure of the real testing environment.
- **Career Paths for Linux+ Certified Professionals (12m)**
Help your students understand where this certification can take them, from SysAdmin to DevOps roles.
- **Final Q&A: Your Questions Answered (30m)**
A comprehensive session addressing common teacher questions about curriculum design and student assessment.
- **Course Wrap-Up and Next Steps (8m)**
A summary of key takeaways and resources for continuing your professional development as an IT instructor.

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