Linux System Administrator (LFCS)

Course Duration: 5 Days
Exam Reference: LFCS

Course Overview

This course provides the essential knowledge and hands-on skills required to administer Linux systems in enterprise, cloud, and DevOps environments. It prepares learners to configure, manage, and troubleshoot Linux systems and focuses on practical, real-world administration tasks. Ideal for system administrators upgrading their skills, IT professionals transitioning to Linux roles, and those preparing for the LFCS certification exam.

Prerequisites

This course requires completion of one of the following:

- Basic familiarity with Linux recommended
- Completion of a Linux Fundamentals course or equivalent experience helpful

Course Objectives

- Install and configure Linux systems
- Manage users, groups, and system permissions
- Configure devices, file systems, and storage
- Maintain system services, networking, and security
- Manage software packages across major distributions
- Monitor system performance and logs
- Use shell scripting to automate administrative tasks
- Troubleshoot common Linux system issues
- Prepare effectively for the LFCS exam

Course Outline

Module 1: Introduction to Linux Administration

APPLIED TECHNOLOGY ACADEMY

Contact Us

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Connect With Us

- Review of Linux distributions and architecture
- Administrative responsibilities and tools
- Command-line efficiency and essential utilities

Module 2: System Installation & Configuration

- Installation procedures and initial setup
- Disk layout options and bootloaders
- System startup process and systemd management

Module 3: User & Group Administration

- Creating, modifying, and deleting users and groups
- Password policies and account restrictions
- Managing sudo privileges and access control

Module 4: Permissions, Ownership & Security Controls

- File and directory permissions (rwx)
- Advanced permissions: ACLs, special bits
- Basic security hardening practices

Module 5: Storage, Partitions & File Systems

- Creating and managing partitions
- Formatting and mounting file systems
- Swap, LVM, and RAID configuration
- Auto-mounting with fstab

Module 6: Package Management

- Using package managers (apt, yum, dnf, zypper)
- Repository configuration and updates
- Installing, removing, and verifying software

Module 7: Process & System Monitoring

- Viewing and controlling processes
- Job scheduling (cron, systemd timers)
- Resource monitoring with top, htop, sar

Module 8: Networking & System Services

- Network configuration and troubleshooting

- Managing services with systemd
- Firewalls and basic security filtering

Module 9: Device Management & Kernel Components

- Kernel modules and system configuration
- Managing devices and udev
- Sysctl tuning and persistent settings

Module 10: Logging & System Maintenance

- Understanding system logs and journalctl
- Log rotation and storage management
- Backup and restore strategies

Module 11: Shell Scripting & Automation

- Writing and executing shell scripts
- Variables, loops, conditionals
- Automating routine administrative tasks

Module 12: Troubleshooting & LFCS Exam Preparation

- Diagnosing common system issues
- Networking, storage, and process troubleshooting
- Practice scenarios aligned with LFCS domains