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LFCS Certification Training

5 days (35 hours)

Overview

The Linux Foundation Certified System Administrator (LFCS) certification validates your ability to administer Linux systems in real-world professional scenarios. Through a hands-on exam based on command-line tasks, it attests to skills that are directly applicable in operations and infrastructure.

Our LFCS Certification training course systematically prepares you for the official Linux Foundation Certified System Administrator (LFCS) exam. You will solidify the essential fundamentals of Linux administration and develop the reflexes required for a problem-solving-oriented exam.

You will learn to effectively use essential commands, manage users, groups, permissions, and processes, as well as configure boot, services, logs, and routine administrative tasks.

The training also covers the key exam topics: storage, file systems, logical volumes, networking, IP configuration, DNS, firewalls, and troubleshooting. The exercises are based on scenarios that closely resemble the tasks encountered by a Linux system administrator.

By the end of the course, you will be able to take the exam under real-world conditions, manage your time effectively, and perform Linux administration tasks from the terminal. You will have a structured preparation plan to help you achieve the official LFCS certification.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Master the Linux commands and administration tools required for the exam
- Configure and maintain system services, processes, logs, and scheduled tasks
- Administer users, groups, permissions, ACLs, and access mechanisms
- Manage Linux storage, file systems, mounting, and logical volumes
- Configure network services, filtering, and name resolution mechanisms
- Prepare for the hands-on tasks of the Linux Foundation Certified System Administrator (LFCS) certification

Target Audience

- Linux system administrators
- Systems and network engineers
- DevOps engineer
- Infrastructure Technician
- Linux Consultant

Prerequisites

- Familiarity with the fundamentals of a Linux system
- Ability to use the main Bash shell commands
- Understand the basics of IP addressing and how a network works
- Experience working with files, directories, users, and permissions in Linux

Technical Prerequisites

- Access to a Linux environment dedicated to training
- Sufficient privileges to administer the system and perform the configurations required during the exercises
- Access to the network services, storage volumes, and system resources required for the workshops
- Access to a terminal capable of running the commands and scripts used during the training
- A recent web browser and a stable Internet connection to access the lab environments

LFCS Training Program

[Day 1 - Morning]

Linux Fundamentals and Certification Strategy

- Understanding the role of the Linux Foundation Certified System Administrator (LFCS) certification and its hands-on approach
- Identify areas of expertise: essential commands, operations, storage, networking, users and groups
- Get familiar with the terminal, the Linux directory structure, and file management conventions

- Use commands for navigation, searching, copying, moving, archiving, and compressing
- Use redirection, pipes, substitutions, and regular expressions to process data

[Day 1 - Afternoon]

Essential Commands and File Manipulation

- Create, modify, and delete files, directories, hard links, and symbolic links
- Search for files and content using `find`, `grep`, `locate`, and text filters
- Managing access permissions with `chmod`, `chown`, `umask`, and ACLs
- Efficiently editing configuration files with `vi` and command-line editing tools
- Controlling the shell environment, variables, aliases, and command history
- Hands-on workshop: Implement a document management scenario including search, archiving, permissions, ACLs, and automation of command-line processes

[Day 2 - Morning]

Users, Groups, and Access Control

- Create and manage local accounts using `useradd`, `usermod`, `userdel`, and `passwd`
- Manage primary and secondary groups and the group memberships required for services
- Configure the `/etc/passwd`, `/etc/shadow`, and `/etc/group` files, as well as password expiration settings
- Implement special SUID, SGID, and sticky bit permissions as needed
- Delegate privileges in a controlled manner using `sudo`

[Day 2 - Afternoon]

System Operation and Service Management

- Analyze system status, resource usage, and hardware information
- Manage processes, priorities, and signals using `ps`, `top`, `kill`, and `nice`
- Administering services with `systemd`, `systemctl`, and service units
- View and filter logs with `journalctl` to diagnose an incident
- Schedule recurring tasks using `cron`, `at`, and `systemd` timers
- Hands-on workshop: Restoring an application server to service by creating a dedicated account, a `systemd` service, a scheduled task, and a log-based diagnostic procedure

[Day 3 - Morning]

Startup, Maintenance, and Deployment

- Understanding systemd targets, the boot sequence, and recovery modes
- Modifying boot settings and troubleshooting a system experiencing issues
- Install, update, and remove packages using the appropriate package managers for Linux distributions
- Configuring package repositories and verifying the integrity of installed software
- Managing environment variables, shell profiles, and simple administration scripts

[Day 3 - Afternoon]

Storage and File Systems

- Identify storage devices, partitions, UUIDs, and file systems
- Create and mount file systems temporarily and persistently via /etc/fstab
- Implement physical volumes, volume groups, and logical volumes with LVM
- Extend a logical volume and its file system without interrupting service
- Configure swap, on-demand mounts, and quotas as needed
- Hands-on workshop: Prepare storage space for an application by creating an LVM volume, a file system, a persistent mount, and capacity monitoring

[Day 4 - Morning]

Network Configuration and Infrastructure Services

- Configure interfaces, IPv4 addresses, routes, and default gateways
- Diagnose connectivity using `ip`, `ping`, `ss`, `traceroute`, and DNS tools
- Manage name resolution using DNS, /etc/hosts, and resolver configuration
- Set up persistent network settings using connection management tools
- Understand the principles of time synchronization using chrony and NTP

[Day 4 - Afternoon]

Network Security and Troubleshooting

- Apply filtering rules with firewalld and check exposed services
- Control remote access with SSH, public keys, and essential hardening settings
- Identifying issues with ports, routes, DNS, firewalls, and network services
- Read network and system logs to isolate the cause of an outage
- Structure a reproducible diagnostic process tailored to a time-sensitive task
- Hands-on workshop: Configure a server's network access, secure SSH, open only the required service in the firewall, and resolve a simulated DNS outage

[Day 5 - Morning]

Targeted review and troubleshooting methods

- Review the LFCS objectives by domain and prioritize skills with high practical value
- Use local documentation, man pages, and system files permitted in the exam environment
- Adopt a method for reading, executing, and validating technical instructions
- Manage time, incomplete tasks, and final checks during a practical exam
- Analyze common errors related to permissions, configurations, services, and networking

[Day 5 - Afternoon]

LFCS Certification Simulation

- Complete a series of cross-functional tasks covering commands, users, services, storage, and networking
- Validate each configuration with verification commands and functional tests
- Correct syntax, persistence, and access rights errors within a time limit
- Apply a prioritization strategy to maximize results during the exam
- Prepare the hardware and organizational requirements for taking the proctored online exam
- Hands-on workshop: Conduct a certification simulation with a set of timed tasks, then correct the configurations and debrief on problem-solving methods

Target Companies

This training is intended for both individuals and companies—large or small—that wish to train their teams in new, advanced IT technologies or to acquire specific industry knowledge or modern methodologies.

Entry-Level Assessment

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency level across various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth running of the training session.

Teaching Methods

Hands-On Training: 60% Practical, 40% Theoretical. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the instructor—supported by examples and reflection sessions—and group work.

Assessment

At the end of the session, a multiple-choice quiz is administered to verify that participants have successfully acquired the skills.

Certification

A certificate will be issued to each trainee who has completed the entire training program.