Linux Foundation Certified System Administrator (LFCS), 3rd Edition

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This comprehensive video training that will teach you core Linux concepts and usage along with clear explanations on the objectives of the LFCS exam. To offer this course in a way that is most efficient for you, the contents have been developed to build on your existing Linux knowledge. You will then dive into the core part of the LFCS exam and managing storage, security, SSH services, and virtualization. It covers Advanced Systems Management; security; storage; containers and virtualization; and open-source solutions.

Module 1: Advanced Systems Management

Lesson 1: Shell Scripting Basics

- 1.1 Understanding Shell Scripts
- 1.2 Essential Shell Script Components
- 1.3 Using Loops in Shell Scripts
- 1.4 Shell Scripting Basics

Lesson 2: The Kernel

- 2.1 Understanding the Kernel
- 2.2 Managing Kernel Modules
- 2.3 Tuning the Kernel
- 2.4 Managing Devices

Lesson 3: Advanced Systemd Features

- 3.1 Modifying Systemd Units
- 3.2 Managing Systemd Sockets
- 3.3 Managing Systemd Timers
- 3.4 Understanding Systemd Cgroups
- 3.5 Managing Systemd Unit Dependencies
- 3.6 Configuring Systemd Self-Healing

Lesson 4: Networking

- 4.1 Managing Runtime Configuration for Network Interfaces
- 4.2 Managing Persistant Configuration for Network Interfaces
- 4.3 Managing Static Routes
- 4.4 Managing Hostnames

- 4.5 Setting the Local Hostname

Lesson 5: Logging

- 5.1 Understanding Linux Logging
- 5.2 Making the Journal Persistent
- 5.3 Configuring rsyslogd
- 5.4 Managing Logrotate

Lesson 6: Processes

- 6.1 Applying Resource Limits
- 6.2 Managing IPC
- 6.3 Managing OOM
- 6.4 I/O Monitoring and Tuning

Lesson 7: The Boot Procedure

- 7.1 Understanding the Boot Procedure
- 7.2 Managing Systemd Targets
- 7.3 Passing Parameters on the GRUB Boot Prompt
- 7.4 Editing Grub Configuration
- 7.5 Understanding Init and Upstart
- 7.6 Troubleshooting the Boot Procedure
- 7.7 Using a Rescue Disk

Module 2: Managing Security

Lesson 8: Managing Local Security

- 8.1 File Access Control Lists
- 8.2 Filesystem Attributes
- 8.3 Pluggable Authentication Modules

Lesson 9: Firewall Management

- 9.1 Understanding Linux Firewalling
- 9.2 Opening Ports and Services with Firewalld
- 9.3 Working with Zones
- 9.4 Using Rich Rules
- 9.5 Configuring NAT and Port Forwarding
- 9.6 Using UFW

Lesson 10: SELinux and Apparmor

- 10.1 Understanding Mandatory Access Control
- 10.2 Confining Services with AppArmor
- 10.3 Understanding SELinux

- 10.4 Applying Labels to Manage SELinux File Access
- 10.5 Applying Labels to Manage SELinux Port Access
- 10.6 Configuring Booleans
- 10.7 Troubleshooting SELinux Access

Module 3: Managing Storage

Lesson 11: Partitions

- 11.1 Disk Storage Options
- 11.2 MBR and GPT Partitions
- 11.3 Creating MBR Partitions
- 11.4 Creating GPT Partitions

Lesson 12: Filesystems and Mounts

- 12.1 Linux and Filesystems
- 12.2 Ext4 Filesystems
- 12.3 XFS Filesystems
- 12.4 Swap Filesystems
- 12.5 Persistently Mounting Filesystems
- 12.6 UUIDs and Labels
- 12.7 Systemd Mounts
- 12.8 Systemd Automounts

Lesson 13: Logical Volume Manager

- 13.1 Understanding LVM
- 13.2 Creating Logical Volumes
- 13.3 Resizing Logical Volumes

Lesson 14: Backups

- 14.1 Creating Backups with tar
- 14.2 Compressing Backups
- 14.3 Using rsync
- 14.4 Using dd

Module 4: Containers and Virtualization

Lesson 15: Containers

- 15.1 Containers and Linux
- 15.2 Container Images
- 15.3 Running Containers
- 15.4 Using Storage, Variables, and Ports

Lesson 16: Virtual Machines

- 16.1 Understanding KVM Architecture
- 16.2 Using virt-manager to run a Virtual Machine
- 16.3 Using cloud-init to Customize Images

Module 5: Using Essential Open Source Solutions

Lesson 17: LDAP

- 17.1 Understanding LDAP
- 17.2 Setting up an LDAP Server
- 17.3 Using LDAP for Authentication

Lesson 18: Git

- 18.1 Understanding Git
- 18.2 Understanding Git Authentication
- 18.3 Creating a Git Repository
- 18.4 Using a Git Repository
- 18.5 Working with Branches

Module 6: Practice Exam

Lesson 19: Sample Exam

- 19.1 Questions Overview
- 19.2 Working with Files
- 19.3 Managing Users and Permissions
- 19.4 Managing Storage
- 19.5 Scheduling Tasks
- 19.6 Protecting Files
- 19.7 Running Containers
- 19.8 Managing Services
- 19.9 Command Line Usage
- 19.10 Storage Management
- 19.11 Swap Management
- 19.12 Setting the Hostname
- 19.13 Writing a Script
- 19.14 Systemd Journal Management
- 19.15 Configuring Authentication