Linux for Cloud Technicians (LFS303)

Introduction

- Linux Foundation

- Linux Foundation Training

- Linux Foundation Certifications

- Linux Foundation Digital Badges

- Laboratory Exercises, Solutions and Resources

- Things Change in Linux and Open Source Projects

- E-Learning Course: LFS203

- Distribution Details

- Labs

System Configuration from the Graphical Interface

- GUI or Command Line?

- System Settings

- Display Settings

- Network Manager

- NTP (Network Time Protocol)

- Graphical Software Package Management

- Console

- X Window System and Desktop Manager

- Labs

Boot Process and System Initialization

- Bootloader

- Linux Kernel and initramfs

- init and Services

- systemd

- systemctl

- Labs

Command-line Operations

- Command Line Operations and Options

- Logging In and Out, Rebooting and Shutting Down

- Setting Time and Date

- Locating Applications

- Directories and Paths

- Wildcards

- Searching for Files

- Command Prompt

- Package Management

- Labs

User Accounts and Environment

- User Accounts

- Groups

- Group Management

- Shell Startup Files

- Management of User Accounts

- Passwords

- File Ownership and Permissions

- SSH

- Environment Variables

- Key Shortcuts

- Command History

- Command Aliases

- Labs

Text Operations

- cat

- echo

- sed

- awk

- Miscellaneous Text Utilities

- Sorting, Cutting, Pasting, Joining, Splitting

- Regular Expressions and grep

- Labs

File Operations

- Filesystems

- Partitions and Mount Points

- Network File System (NFS)

- rsync

- Working with Files

- Comparing Files

- File Types

- Compressing Data

- Labs

Bash Shell Scripting

- Scripts

- Features

- Functions

- Command Substitutions and Arithmetic

- If Conditions and Tests

- Looping Structures

- Case Structure

- Debugging

- Creating Temporary Files and Directories

- Labs

Networking

- Addressing

- Networking Interfaces and Configuration

- Networking Utilities and Tools

- Labs

Working With Linux Filesystems

- Filesystem Basics

- Virtual Filesystem (VFS)

- Hard and Soft Links

- Available Filesystems

- Creating and formatting filesystems

- Checking and Repairing Filesystems

- Filesystem Usage

- Disk Usage

- Mounting filesystems

- NFS

- Mounting at Boot and /etc/fstab

- Labs

Virtualization Overview

- Introduction to Virtualization

- Hosts and Guests

- Emulation

- Hypervisors

- libvirt

- QEMU

- KVM

- Labs

Containers Overview

- Containers

- Application Virtualization

- Containers vs Virtual Machines

- Docker

- Docker Commands

- Podman

- Labs

Basic Troubleshooting

- Troubleshooting Levels

- Troubleshooting Techniques

- Networking

- File Integrity

- Boot Process Failures

- Filesystem Corruption and Recovery

- Virtual Consoles

- Labs

Introduction to GIT

- Revision Control

- Know Where the Code is Coming From: DCO and CLA

- Available Revision Control Systems

- Graphical Interfaces

- Documentation

- Labs

Using Git: an Example

- Basic Commands

- A Simple Example

- Signing Off on Commits

- master vs main

- Labs

DevOps and GitOps

- Introduction

- Cultural Philosophies and Methodologies

- Early Software Development Management Practice

- Modern Software Development

- DevOps Methodologies

- DevOps tools

Closing and Evaluation Survey

- Evaluation Survey