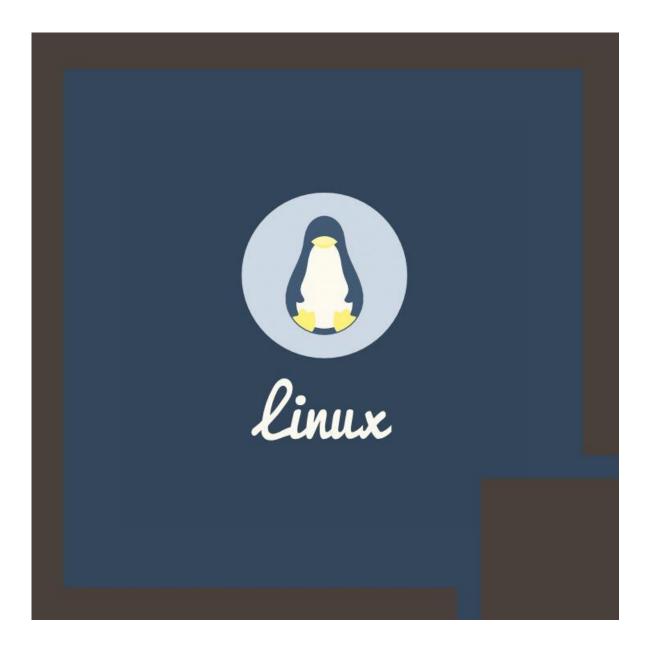# QUICKSTART

Over 35 Years Of Technology Training

Document Generated: 07/27/2024

Learning Style: Virtual Classroom

Provider: Linux Foundation

Difficulty: Intermediate

Course Duration: 5 Days

Linux Troubleshooting (L-314)

About this course:

The Linux Troubleshooting program is relevant and thorough, focused on a hands-on method to equipping learners with the necessary skills to efficiently solve issues in the Linux world. The Linux Troubleshooting program, being the ideal combination of tutorials, lectures, and lab training sessions, guides learners through different situations of variable difficulty to ensure they can establish techniques and provide solutions to multiple issues.

As the exercise pool is diverse, Linux Troubleshooting program learners will also have access to tricks, tricks and complete solutions to make learning simple, flexible and convenient.

Course objectives:

· Use Linux diagnostic resources like lsof, strace, ipcrm, ipcs, fuser, and ltrace to build appropriate and qualified solutions

· Systems are protected utilizing TCP wrappers and ipchains

· Troubleshooting Samba, Apache, FTP, Sendmail, and Squid

· Isolating issues with Linux by creating and applying troubleshooting strategy

· Troubleshooting that uses network testing resources like ifconfig, netstat, arp, nmap, tcpdump, and route

· Troubleshooting filesystem, LVM, LDAP directory, and Linux boot

Audience:

This program is designed for:

· Students participating in IT training opt

· Linux system administrators

Prerequisites:

· Understanding of Linux administration

· Experience and knowledge of Linux machines and operating system

· Experience and knowledge with process management, file manipulation, and Linux file system

Course Outline:

Troubleshooting Methodology

- The Troubleshooting Mindset
- Evaluating Possible Solutions
- Identifying and Implementing Change
- Define and Follow Policies
- Working with Others
- Finding Documentation
- Finding Help Online
- TROUBLESHOOTING TOOLS
- Common Troubleshooting Tools
- RPM Queries
- RPM Verification
- SRPM and spec Files
- Hardware Discovery Tools
- Configuring New Hardware with hwinfo
- strace and ltrace
- lsof and fuser
- ipcs and ipcrm
- iostat, mpstat, and vmstat
- Using hdparm to Measure
- Troubleshooting with the ip command
- Name Resolution
- ss/netstat and rpcinfo
- nmap
- Netcat
- tcpdump and wireshark
- LAB: Determining the System's Configuration
- Troubleshooting with rpm
- Process Related Tools
- Network Tools
- Rescue Environments
  - Diagnostic/Recovery
  - Rescue Procedures
  - Recovery: mount & chroot
  - Recovery Examples
  - Recovery: Network Utilities
  - LAB: Recovery Runlevels
  - Recovering Damaged MBR
  - Recover from Deleted Critical Files
- Topic Group 1
  - Linux Boot Process
  - System Boot Method Overview
  - systemd System and Service Manager
  - Using systemd
  - Booting Linux on PCs
  - Troubleshooting With GRUB 2
  - Boot Process Troubleshooting
  - Troubleshooting: Linux and Init
  - Process Management
  - Process Management Tools
  - Troubleshooting Processes: top

- Filesystem Concepts
- Filesystem Troubleshooting
- Backup Concepts
- Backup Troubleshooting
- Backup Troubleshooting
- LAB: Troubleshooting Problems: Topic Group 1
- Topic Group 2
  - Networking Tools
  - Linux Network Interfaces
  - Networking Commands Review
  - NetworkManager
  - Networking Troubleshooting
  - Networking Troubleshooting
  - Virtual Interfaces/IP Aliases
  - Network Teaming
  - Xinetd Concepts
  - Xinetd Troubleshooting
  - TCP Wrappers Concepts
  - TCP Wrappers Concepts
  - TCP Wrappers Troubleshooting
  - Netfilter/iptables Concepts
  - Netfilter/iptables Troubleshooting
  - LAB: Troubleshooting Problems: Topic Group 2
- Topic Group 3
  - X11 Concepts
  - X11 Server Operation
  - X11 Troubleshooting
  - Rsyslog Concepts
  - System Logging
  - systemd Journal
  - systemd Journal's journactl
  - Secure Logging with Journal's Log Sealing
  - Syslog Troubleshooting
  - RPM Concepts
  - RPM Troubleshooting
  - Common Unix Printing System (CUPS)
  - CUPS Troubleshooting
  - CUPS Troubleshooting
  - at & cron
  - at & cron Usage
  - at & cron Troubleshooting
  - LAB: Troubleshooting Problems: Topic Group 3
- Topic Group 4
  - Users and Groups
  - Users and Groups Troubleshooting
  - PAM Concepts
  - PAM Troubleshooting
  - Filesystem Quotas
  - Quotas Troubleshooting
  - File Access Control Lists

- FACL Troubleshooting
- SELinux Concepts
- SELinux Troubleshooting
- SELinux Troubleshooting Continued
- LAB: Troubleshooting Problems: Topic Group 4
- Topic Group 5
  - Kernel Modules
  - Kernel Modules Troubleshooting
  - Logical Volume Management
  - Creating Logical Volumes
  - LVM Deployment Issues
  - VG Migration, PV Resizing & Troubeshooting
  - Software RAID Overview
  - RAID Troubleshooting
  - Multipathing Overview
  - SAN Multipathing
  - Multipath Configuration
  - Multipathing Best Practices
  - LDAP and OpenLDAP
  - Troubleshooting OpenLDAP
  - NIS and NIS+ (YP)
  - NIS Troubleshooting Aids
  - LAB: Troubleshooting Problems: Topic Group 5
- Topic Group 6
  - DNS Concepts
  - DNS Troubleshooting
  - DNS Troubleshooting
  - Apache Concepts
  - Apache Troubleshooting
  - Apache Troubleshooting
  - FTP Concepts
  - FTP Troubleshooting
  - Squid Concepts
  - Squid Troubleshooting
  - LAB: Troubleshooting Problems: Topic Group 6
- Topic Group 7
  - Samba Concepts
  - Samba Troubleshooting
  - Postfix Concepts
  - Postfix Troubleshooting
  - Postfix Troubleshooting
  - IMAP & POP Concepts
  - IMAP/POP Troubleshooting
  - MariaDB
  - MariaDB Troubleshooting
  - LAB: Troubleshooting Problems: Topic Group 7

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