

Course: SLE301v15 SUSE Linux Enterprise Server 15 Advanced Administration

Training Level:

Intermediate

Duration:

4 days

Course Overview

The course SUSE Linux Enterprise Server 15 Advanced Administration builds upon the SUSE Linux Enterprise Server 15 Administration course and teaches advanced system administration tasks on SLES 15.

Attending students should have a good working knowledge of general system configuration and working with the Linux command line. After attending the course, the student should be capable of administering SLES15 and be able to deal with specialized networking and storage configuration. They should also have a solid understanding of basic Bash scripting.

This course helps prepare students for the SUSE Certified Engineer in Enterprise Linux 15 certification exam.

Key Objectives

During this course you will learn:

- System Optimization
- Control Groups
- Manage encryption
- Use the Shell efficiently and create Shell scripts
- Manage Hardware and Drivers
- Advanced Networking configuration
- iSCSI and Multipath IO
- Centralized Authentication
- Packaging software and managing system updates
- Configuration Management using Salt

Audience

The course is designed for those who already have experience with Linux, including general system configuration and using the command line. The course is ideal for those seeking advanced administration skills on SUSE Linux Enterprise Server 15, those who have completed the SUSE Linux Enterprise Server 15 Administration (SLE201v15) course and those preparing to take the SUSE Certified Engineer in Enterprise Linux 15 certification exam.

Prerequisites

Before attending this course, it is highly recommended that students have a good working knowledge of Linux and should be able to:

- Perform partitioning and file system setup and maintenance
- Perform system configuration including network setup and user management
- Manage software packages
- Work on the command line including file management and text editing

This knowledge can be gained through the SUSE Linux Enterprise 15 Administration Course (SLE201v15).

Course Outline

Section 1: Advanced System Administration

YaST Security Module
Understand and use the YaST Security Module
Backup and Recovery
Understand and Use Snapper
Software Libraries
Understand Software Libraries in Linux
General Server Health
Gather Server Health and Performance Information
Monitoring Overview
Monitoring Methodology
What are Optimization Tools?
The Optimization Process
System Optimization Tools
Control Groups
Understand Linux Control Groups

Section 02: Encryption

SSL/TLS
Understand SSL/TLS Concepts
openssl
GPG
Understand GPG Concepts
Perform GPG Key Creation and Management
Perform GPG Key Distribution

Section 03: Shell Scripting

Use Basic Script Elements
Use Control Structures
Read User Input
Use Arrays
Use Shell Functions
Use Command Options in Scripts
Test File Types and Compare Values

Section 04: Hardware

Hardware Info
Display Hardware Information
Drivers
Understand Linux Drivers
Use Driver Management Utilities

Section 05: Advanced Networking

Advanced Network Interface Types
Bridges
Virtual Ethernet Devices
VLANs
Network Namespaces
Understand Linux Network Namespaces
Work with Linux Network Namespaces
IPv6
Understand IPv6
Configure IPv6

Section 06: Advanced Storage Administration

iSCSI
Understand iSCSI Concepts
Configure and Manage the LIO iSCSI Target
Configure and Manage the iSCSI Initiator
MPIO
Understand MPIO
Configure and Manage Device Mapper Multipath I/O

Section 07: Centralized Authentication

PAM
Understand PAM
Configure PAM
SSSD
Understand SSSD
Deploy SSSD

Section 08: Advanced Software Management

RPM
Manage RPM Packages
Build RPM Packages
Understand the RPM spec file
Sign RPM Packages with GPG
Repositories
Understand Software Repository Concepts
Create a Software Repository with [createrep](http://createrep.org) www.suse.com
Sign RPM-MD Software Repositories

Manage Software Repositories with libzypp
RMT

Understand the Repository Mirroring Tool (RMT)

Install and Configure an RMT Server

Mirror Software Repositories with RMT

Configure SMT Clients

Section 9: Configuration Management with Salt

Salt Overview

Install and Configure Salt

Understand Execution Modules

Understand the Salt State System