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SUSE Certified Engineer in SUSE Linux Certification Training

5 days (35 hours)

Overview

SUSE Linux Enterprise Server is an enterprise Linux distribution designed to run reliable and secure infrastructures. With YaST and Snapper, as well as its networking, storage, and automation tools, it enables you to master advanced system operations and develop the skills required for the official SUSE Certified Engineer in SUSE Linux Enterprise Server certification.

Our SUSE Certified Engineer in SUSE Linux Certification Training will help you go beyond the fundamentals to prepare for the Engineer-level exam and solidify your expertise in SUSE Linux Enterprise Server 15.

You'll learn how to diagnose performance issues, secure data transfers, automate tasks with Bash, and configure advanced networks, shared storage, and centralized authentication.

Upon completion of the training, you will be able to manage packages, repositories, and updates; deploy configurations using Salt; and justify your technical decisions in scenarios covered by the exam.

This preparation course combines hands-on workshops and a mock exam to identify areas for improvement. You'll have the opportunity to take the official exam, subject to registration requirements, to validate the skills covered by the certification.

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

Objectives

- Prepare for the SUSE Certified Engineer in SUSE Linux Enterprise Server exam topics and analyze certification questions
- Diagnose performance issues and master system recovery with Snapper
- Automate administrative tasks using Bash and Salt
- Configure advanced networking, iSCSI storage, and multiple paths
- Secure communications and integrate centralized authentication with PAM and SSSD
- Build and sign RPM packages, then manage repositories and their replication with RMT

Target Audience

- Linux System Administrator
- Linux systems engineer
- DevOps engineer
- Infrastructure consultant
- Production Engineer

Prerequisites

- Operational experience administering SUSE Linux Enterprise Server 15 or equivalent skills
- Proficiency with the Linux command line and common Bash commands
- Experience with partitioning, permissions, and user management in Linux
- Knowledge of network configuration and service management with systemd
- Experience with package and repository management using RPM and Zypper

Technical Requirements

- Computer equipped with at least 16 GB of RAM, 100 GB of free disk space, and a processor with hardware virtualization enabled
- KVM or VirtualBox hypervisor installed, with permissions to create virtual networks and additional disks
- Three virtual machines running SUSE Linux Enterprise Server 15 SP7 with administrator access and images prepared for the workshops
- Stable Internet connection allowing software updates, downloads, and access to the training platform
- A SUSE Customer Center account with evaluation or subscription privileges appropriate for the repository replication exercises

SUSE Certified Engineer in SUSE Linux Training Curriculum

[Day 1 - Morning]

Advanced Administration and System Recovery

- Overview of the SUSE Certified Engineer in SUSE Linux Certification Training and mapping of the SUSE Certified Engineer in SUSE Linux Enterprise Server domains
- Consolidating administrator skills: permissions, users, services, and package management
- Configuring local policies with the YaST Security module
- Managing Btrfs snapshots with Snapper and distinguishing between snapshots and backups
- Change analysis, file restoration, and conditions for system rollback
- Hands-on Workshop: Securing a lab machine, inducing a configuration error, and restoring it to a functional state using Snapper.

[Day 1 - Afternoon]

Diagnostics, Performance, and Hardware

- Diagnostic methodology: symptoms, hypotheses, measurements, and validation of fixes
- Analysis of CPU, memory, and I/O usage with system tools
- Managing cgroups and limiting service resources with systemd
- Hardware inventory, driver identification, and kernel module management
- Resolving library dependencies with ldd and ldconfig, collecting logs and supportconfig
- Hands-on workshop: Diagnosing a degraded service, applying resource limits, and compiling a technical evidence file.

[Day 2 - Morning]

Encryption and cryptographic identity management

- Principles of symmetric and asymmetric cryptography, digital fingerprints, and digital signatures
- TLS architecture, certificate chain, and service identity verification
- Key generation, certificate requests, and verification using OpenSSL
- Key generation, export, distribution, and revocation with GPG
- Analysis of test scenarios involving trust, confidentiality, and integrity
- Hands-on workshop: Create a lab certificate authority, verify a service certificate, and sign and verify a file with GPG.

[Day 2 - Afternoon] Robust

automation with Bash

- Mastering expansions, argument escaping, and redirection
- Building conditions, loops, and tests on files and values
- Organizing Scripts with Functions, Arrays, and Local Variables
- Managing parameters, user input, and options with getopt
- Handling return codes, logging, cleanup with trap, and debugging
- Hands-on workshop: Develop a configurable audit script that monitors multiple services and generates an actionable report with error handling.

[Day 3 - Morning]

Advanced Networking and Isolation

- Analysis of interfaces, routes, and name resolution using `ip` and diagnostic tools
- Configuring bridges and VLAN segments, validating connectivity
- Creating veth pairs and routing packets between virtual interfaces
- Network isolation using network namespaces and diagnosing communication paths
- IPv6 addressing, neighbor discovery, and troubleshooting routing issues
- Hands-on workshop: Build an isolated topology using namespaces, veth interfaces, and bridges, then diagnose an IPv6 connectivity outage.

[Day 3 - Afternoon]

iSCSI storage and multiple paths

- iSCSI architecture: targets, initiators, sessions, identifiers, and logical units
- Configuring an LIO target and presenting volumes to initiators
- Managing initiators with iscsiadm, authentication, and connection persistence
- Configuring Device Mapper Multipath, device identification, and path policies
- Fault Analysis and Consistency Checks Between Storage, Network, and Mounts
- Hands-on Workshop: Presenting an iSCSI volume via two paths, configuring multipath, and verifying behavior when a path fails.

[Day 4 - Morning]

Centralized authentication and access control

- Interrelationship between identification, authentication, authorization, and account management
- Organization of PAM stacks, module categories, and control indicators
- Configuring access policies and analyzing the effects of a PAM change
- SSSD architecture, identity providers, and integration with a laboratory directory
- Identity cache management, offline behavior, and troubleshooting login failures
- Hands-on workshop: Integrating a server with the provided directory, validating connections with SSSD, and correcting a PAM configuration error.

[Day 4 - Afternoon]

Packages, repositories, and update replication

- Analyzing an RPM package, verifying its integrity, and resolving dependencies
- Building a package with rpmbuild, spec file structure, and signing with GPG
- Creating an RPM-MD repository with createrepo and signing the metadata
- Managing repositories, priorities, and updates with Zypper and libzypp
- Installing RMT, selecting products, replicating repositories, and configuring clients

- Hands-on workshop: Building and signing a package, distributing it from a local repository, and connecting a client to a prepared RMT server.

[Day 5 - Morning]

Configuration management with Salt

- Salt architecture, master and minion roles, communication, and key management
- Installing components, associating nodes, and validating communications
- Using execution modules to query and manage systems
- Describing configurations with states, YAML syntax, and the top.sls file
- Dependency management, machine targeting, and idempotency verification
- Hands-on Workshop: Deploy a package, a configuration file, and a service to multiple minions, then verify convergence after a manual change.

[Day 5 - Afternoon]

Consolidation and final exam preparation

- Cross-domain summary of the SUSE Certified Engineer in SUSE Linux Enterprise Server certification
- Analysis of scenarios combining performance, networking, storage, security, and automation
- Techniques for reading questions, eliminating distractors, and managing time
- Planning the exam attempt, verifying eligibility requirements and remote proctoring requirements
- Developing a personalized study plan based on mistakes and skills that need improvement
- Hands-on workshop: Take a timed mock exam with original questions, analyze the answers, and reproduce configurations that were not fully mastered in a lab environment.

Target Companies

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

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 operation 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.