

## SUSE Linux System Administration (SCA)

Duration: 5 Days    Course Code: SLSA

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### Overview:

#### SUSE Linux System Administration (SCA) Course Overview

**English - Please note this course is only available in English.**

Nederlands - Let op: deze training is alleen in het Engels beschikbaar.

Français - Veuillez noter que ce cours est uniquement disponible en anglais.

This instructor led SUSE Linux System Administration (SCA) training course is designed to teach the key administration, security

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### Target Audience:

#### Who will the Course Benefit?

The SUSE Linux System Administration (SCA) training course is suitable for novice Linux System Administrators, Programmers and other technical IT staff who need to acquire administration knowledge of the key administrative, networking, performance and security tasks required on a SUSE Linux operating system within the Enterprise.

An ideal course for delegates who will be working in an environment using several different Linux distributions and therefore knowledge of skills common to all the different Linux distributions is required. For the purpose of practical exercises, SUSE Linux will be used.

Note: Should the delegate only require knowledge of Red Hat Linux then they should instead consider attending our range of Red Hat Linux Administration courses.

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### Objectives:

- Course Objectives
  - On completion of this course the delegate will have the required technical knowledge to administer a SUSE Linux server within the Enterprise. They will have gained practical experience of configuring administrative, networking, performance and security aspects of a SUSE Linux Enterprise system (SLES).
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### Prerequisites:

■ This SUSE Linux System Administration (SCA) course assumes good knowledge of the Linux operating system in an Enterprise environment to the level covered in the Linux Introduction course. Alternatively, relevant experience of UNIX or Linux servers is required, preferably within an enterprise environment.

Knowledge of Linux Shell Programming to the level covered on the Linux Shell Programming course would also be beneficial.

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## Follow-on-Courses:

### Further Learning

- SUSE Linux Advanced System Administration (SCA)
  - Linux Automation with Ansible
  - Linux Advanced Shell Programming Tools
  - Linux System Security
  - Apache Web Server
  - Oracle SQL
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## Content:

### SUSE Linux System Administration (SCA) Training Course Course Contents - DAY 1

#### Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

#### Session 1: FILE SYSTEM CONFIGURATION

- File system types
- The Linux I/O stack
- MBR vs GPT partition tables
- Partitioning a disk
- Comparison of Linux filesystems
- Creating Btrfs, XFS and EXT filesystems
- Displaying disk usage
- Mounting and unmounting file systems
- Configuring labels and UUIDs
- Locating files in use
- Exercise

#### Session 2: ADVANCED FILE SYSTEM OPERATIONS

- Logical Volume Management
- Checking and repairing the file system
- Growing file systems
- Filesystem debugging and defragmentation
- Listing swap areas
- Creating and removing swap areas
- Exercise SUSE Linux System Administration (SCA) Training Course Course Contents - DAY 2

#### Session 3: USER ACCOUNT MANAGEMENT

- User Private Group scheme
- Files used in creating a user
- Adding users via the command line and YaST
- Managing groups
- Password administration
- Bash Shell environment
- Configuring user limits
- Extended permissions
- Configuring Privilege Delegation via sudo
- Sudo aliases and groups
- Monitoring login activity
- Exercise

#### Session 4: PACKAGE MANAGEMENT

- The Red Hat Package Manager (rpm)
- Verifying Software
- Querying installed and uninstalled packages
- Installing and removing packages
- Upgrade mechanism
- Converting rpm packages to cpio format
- Transferring files via cURL
- The libzypp package manager

#### Session 8: PROCESS MONITORING AND SCHEDULING

- Monitoring processes
- Graphical monitoring tools
- Utilising terminal multiplexers
- Monitoring with watch
- Shared libraries
- Scheduling processes with at
- The cron configuration files
- Scheduling processes with cron
- crontab command options
- Managing anacron
- Exercise

#### Session 9: LINUX NETWORKING

- Basic network configuration
- IPv4 and IPv6 addressing
- Network protocols
- Network services and port numbers
- Configuring IPv4 and IPv6 with ip and Network Manager
- Configuration with systemd-networkd
- Managing network devices
- Resolving hostnames and DNS
- Searching domains
- Routing under Linux
- Exercise SUSE Linux System Administration (SCA) Training Course Course Contents - DAY 4

#### Session 10: INTERNET SERVICES

- Network services
- Managing services with systemd sockets
- Checking network service ports
- Analysing network packets
- Configuring and monitoring network time
- Configuring the hardware clock
- Remote administration
- Configuring Virtual Network Computing
- Exercise

#### Session 11: CONFIGURING PRINTERS

- The Common Unix Printing Service CUPS
- Printer devices and configuration
- Installing printers
- Configuring the CUPS server
- Printer options
- Print commands
- Managing print queues
- Exercise

#### Session 12: LOCALISATION

- Localisation overview
- Locale variables
- Converting character sets and encoding
- Configuring the locale and keymap
- Configuring the system and user time

Addendum: Reference Materials (provided within the course handbook for additional reading)

#### APPENDIX A - INSTALLING LINUX

- Installing Linux

#### APPENDIX B - ELECTRONIC MAIL

- Configuring Postfix and Sendmail
- Mail protocols
- Mail commands

#### APPENDIX C - LINUX DESKTOPS AND ACCESSIBILITY

- Configuring the X Windows GUI interface
- Display protocols
- The GNOME, KDE and Xfce desktops
- Configuring the desktop for disabled users

#### APPENDIX D - PACKAGE MANAGEMENT

- Additional software package management tools

#### APPENDIX E - DEPRECATED SERVICES

- The xinetd Daemon
- TCP Wrappers

#### APPENDIX F - ADDITIONAL COMMANDS

- Miscellaneous Shell commands

- Exercise

#### Session 5: SYSTEM LOGGING

- rsyslog configuration
- Configuring remote logging
- Testing using logger
- Managing logs with logrotate
- Basic and advanced journal queries
- Configuring the journal
- Exercise

#### Session 6: SYSTEM SECURITY AND ENCRYPTION

- Secure shell OpenSSH
- Public/private key authentication
- X11 forwarding
- The SUSE firewall
- Encryption with GNU Privacy Guard GPG
- Managing firewalld from the GUI and command line
- Exercise SUSE Linux System Administration (SCA) Training Course Course Contents - DAY 3

#### Session 7: SYSTEM STARTUP AND SHUTDOWN

- System startup process
- Startup script framework
- Managing services using YaST
- Starting and stopping services dynamically
- Creating Systemd services, timers and mount units
- Running transient units
- suseconfig and /etc/sysconfig
- Changing run levels and shutdown
- Exercise

zone

- Exercise

#### Session 13: VIRTUALISATION, CLOUD SERVICES AND CONTAINERS

- Configuring KVM virtualisation
- Installing virtual systems
- Understanding Linux Containers
- Creating and running Docker containers
- IaaS cloud
- Exercise SUSE Linux System Administration (SCA) Training Course Course Contents - DAY 5

#### Session 14: DEVICES UNDER LINUX

- Device services
- Device file naming conventions
- The /sys and /proc directories
- Examining hardware
- Hardware and software configuration messages
- ACPI service and Desktop Bus
- Managing disk parameters
- Detecting new hardware
- System overview: siga
- Exercise

#### Session 15: BACKUP AND RESTORE

- Archiving with tar and cpio
- Device cloning with dd
- Compressing files
- Archiving RAR files
- unar and other backup tools
- Exercise

#### Session 16: TROUBLESHOOTING

- Troubleshooting process
- Booting into maintenance mode
- Booting the rescue system
- The SLE Maintenance Model
- Generating information with supportconfig
- Exercise

### Further Information:

For More information, or to book your course, please call us on 0800/84.009

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[www.globalknowledge.com/en-be/](http://www.globalknowledge.com/en-be/)