

Linux

Duration: 40 Hours

■ Chapter 1: Installing Red Hat Enterprise Linux Server

In this chapter, you learn how to install Red Hat Enterprise Linux Server (RHEL). It also shows how to set up an environment that can be used for working on the labs and exercises in this book.

■ Chapter 2: Using Essential Tools

This chapter covers some of the Linux basics, including working with the shell and Linux commands. This chapter is particularly important if you're new to working with Linux.

■ Chapter 3: Essential File Management Tools.

In this chapter, you learn how to work with tools to manage the Linux file system. This is an important skill because everything on Linux is very file system oriented.

■ Chapter 4: Working with Text Files

In this chapter, you learn how to work with text files. The chapter teaches how to create text files, but also how to look for specific contents in the different text files.

■ Chapter 5: Connecting to a Red Hat Enterprise Linux 7

This chapter teaches about the different methods that can be used to connect to RHEL 7. It explains local login as well as remote log in, and the different terminal types used for this purpose as well.

■ Chapter 6: User and Group Management

On Linux, users are used as an entity that can be used by people or processes that need access to specific resources. This chapter explains how to create users and make user management easier by working with groups.

■ Chapter 7: Configuring Permissions

In this chapter, you learn how to manage Linux permissions through the basic read, write, and execute permissions, but also through the special permissions and access control lists.

■ Chapter 8: Configuring Networking

A server is useless if it isn't connected to a network. In this chapter, you learn the essential skills required for managing network connections.

■ Chapter 9: Managing Processes

As an administrator, you need to know how to work with the different tasks that can be running on Linux. This chapter shows how to do this, by sending signals to processes and by changing process priority.

■ Chapter 10: Working with Virtual Machines

Red Hat Enterprise Linux includes KVM, a complete solution that allows you to run virtual machines on top of RHEL. This chapter explains how to manage virtual machines.

■ Chapter 11: Managing Software

Red Hat offers an advanced system for managing software packages. This chapter teaches you how it works.

■ Chapter 12: Scheduling Tasks

In this chapter, you learn how to schedule a task for execution on a moment that fits you best.

■ Chapter 13: Configuring Logging

As an administrator, you need to know what's happening on your server. The rsyslogd and journald services are used for this purpose. This chapter explains how to work with them.

■ Chapter 14: Managing partitions

Storage management is an important skill of a Linux administrator. This chapter explains how hard disks can be organized in partitions, and how these partitions can be mounted in the file system.

■ Chapter 15: Managing LVM Logical Volumes

Dividing disks in partitions isn't very flexible. If you need optimal flexibility, you need LVM logical volumes, which are used by default while installing RedHat Enterprise Linux. This chapter shows how to create and manage those logical volumes.

■ Chapter 16: Basic Kernel Management

The kernel is the part of the operating system that takes care of handling hardware. This chapter explains how that works, and what an administrator can do to analyze the current configuration and manage hardware devices in case the automated procedure doesn't work well.

■ Chapter 17: Configuring a Basic Apache Server

Apache is the most commonly used service on Linux. This chapter shows how to set up Apache web services, including the configuration of Apache virtual hosts.

■ Chapter 18: Managing and Understanding the Boot Procedure

Many things are happening when a Linux server boots. This chapter describes the boot procedure in detail and zooms in on vital aspects of the boot procedure, including the GRUB 2 boot loader and the systemd service manager.

■ Chapter 19: Troubleshooting the Boot Procedure

Sometimes a misconfiguration might cause your server no longer to boot properly. This chapter teaches you some of the techniques that can be applied when normal server startup is no longer possible.

■ Chapter 20: Using Kickstart

If you want to install one server, you can go through a manual installation procedure. If you need to install many servers, you're better off using an installation server. This chapter teaches you how to set up such a server.

■ Chapter 21: Managing SELinux

Many Linux administrators only know how to switch it off, because SELinux is hard to manage and is often the reason why services cannot be accessed. In this chapter, you learn how SELinux works and what to do to configure it so that your services are still working and will be much better protected against possible abuse.

■ Chapter 22: Configuring a Firewall

Apart from SELinux, RHEL 7 comes with a firewall, which is implemented by the firewalld service. In this chapter, you learn how this service is organized and what you can do to block or enable access to specific services.

■ Chapter 23: Configuring Remote Mounts and FTP

While working in a server environment, managing remote mounts is an important skill. A remote mount allows a client computer to access a file system offered through a remote server. These remote mounts can be made through a persistent

mount in `/etc/fstab`, or by using the automount service. This chapter teaches how to set up either of them, and also shows how to configure an FTP server.

■ Chapter 24: Configuring Time Services

For many services, such as databases and Kerberos, it is essential to have the right time. That's why as an administrator you need to be able to manage time on Linux. This chapter teaches you how.

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