The Definitive Guide to SUSE Linux Enterprise Server 12

Sander van Vugt

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This book is dedicated to Alex. It's the joy in your eyes that inspires me to do great things in my life.

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About the Author

Sander van Vugt is a Linux expert working from the Netherlands as an author, technical trainer, and consultant for clients around the world. Sander has published several books about different Linux distributions and is a regular contributor to major international Linux-related web sites. As a consultant, he is specialized in Linux high availability and performance optimization. As a technical trainer, Sander is an authorized trainer for SUSE Linux Enterprise Server and Red Hat Enterprise Linux. More information about the author can be found at his web site at www.sandervanvugt.com.

About the Technical Reviewer

Stewart Watkiss graduated from the University of Hull, UK, with a master's degree in electronic engineering. He has been a Linux user since first installing it on a home computer during the late 1990s. Stewart has worked in the IT industry for 18 years, including positions in computer networking, IT security, and as a Linux system administrator.

While working as a Linux system administrator, he was awarded Advanced Linux Certification (LPIC 2) in 2006 and Novell Certified Linux Administrator for SUSE Linux Enterprise 11 in 2010. He created the PenguinTutor web site to help others learning Linux and working toward Linux certification (www.penguintutor.com).

Stewart also volunteers as a STEM ambassador, going into local schools to help support the teachers and to teach programming to teachers and children.

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Introduction

This book is about SUSE Linux Enterprise Server 12. It is intended for readers who already have basic Linux skills, so you won't find information on how to perform really basic tasks. Some elementary skills are briefly explained, after which, in a total of 18 chapters, the specifics of working with SUSE Linux Enterprise Server are touched upon.

While writing this book, I have decided it should not be just any generic Linux book that happens by accident to be about SUSE Linux Enterprise Server. Instead, I have focused on those tasks that are essential for Linux professionals who need to know how specific tasks are performed in an SUSE environment. That is why the SUSE administration tool YaST plays an important role in this book. YaST was developed to make administering SUSE Linux easy. In previous versions of SUSE Linux, YaST had a bad reputation, as on some occasions, it had overwritten configurations that the administrator had carefully built manually. On SUSE Linux Enterprise Server (SLES) 12 that doesn't happen anymore, and that is why YaST provides an excellent tool to build the basic configurations that are needed to do whatever you want to do on your Linux server. That is why many chapters begin with an explanation of how tasks are accomplished through YaST.

I am also aware, however, that using YaST alone is not sufficient to build a fully functional SLES server. That is why after explaining how to accomplish tasks with YaST, you'll learn which processes and configuration files are used behind them, which allows you to manually create the exact configuration you require to accomplish whatever you need to accomplish on your server.

As I am a technical trainer myself, I have also included exercises throughout this book. These exercises help readers apply newly acquired skills in SLES and also help those who are preparing for the SUSE CLA and CLP exams. I have not written this book as a complete course manual for these exams, however, although it will serve as an excellent guide to preparing for these exams.

This book is organized in four different parts. The first parts briefly touch on basic skills. In Chapter 1, you'll learn how SUSE relates to other Linux distributions, and Chapter 2 covers the SUSE Linux Management basics. In this chapter, you'll learn how YaST is organized and what you can do to make the best possible use of it.

The second part is about Linux administration basics. You'll first learn about file systems, including the new Btrfs file system and its features, in Chapter 3. Following that, you'll learn how to create users, configure permissions, apply common tasks, and harden SLES. The last two chapters in this section are about virtualization and management of hardware, the kernel, and the boot procedure, which includes the new systems process that takes care of everything that happens while booting.

The third part is about networking SLES. You'll learn how to use the new wicked tool to configure networking and how to set up essential services that are used in a network context, including firewalling, SSL managing, DNS, DHCP, LDAP, LAMP, NFS, and FTP. This section should help you get going, no matter which network services you want to configure.

The fourth and final part of this book is about advanced administration tasks. You'll learn how to write and read shell scripts, how to optimize performance, how to build a high-availability cluster, how to configure an installation server, and how to manage SUSE Linux using SUSE Manager.