

SUSE Linux Enterprise Server 12 SP5

SUSE Linux Enterprise Server 12 SP5

Lists the system requirements and guides you step-by-step through the installation of SUSE Linux Enterprise Server from DVD, or from an ISO image.

Use the following procedures to install a new version of SUSE® Linux Enterprise Server 12 SP5. This document gives a quick overview on how to run through a default installation of SUSE Linux Enterprise Server for the AMD64/Intel 64 architecture.

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1 Welcome to SUSE Linux Enterprise Server

For more detailed installation instructions and deployment strategies, see the SUSE Linux Enterprise Server Documentation at https://documentation.suse.com/ 2.

1.1 Minimum System Requirements

- any AMD64/Intel* EM64T processor (32-bit processors are not supported)
- 512 MB physical RAM (text mode installation only), 1 GB or more recommended
- 3.5 GB available disk space (more recommended)
- 800 x 600 display resolution (1024 x 768 or higher recommended)

1.2 Installing SUSE Linux Enterprise Server

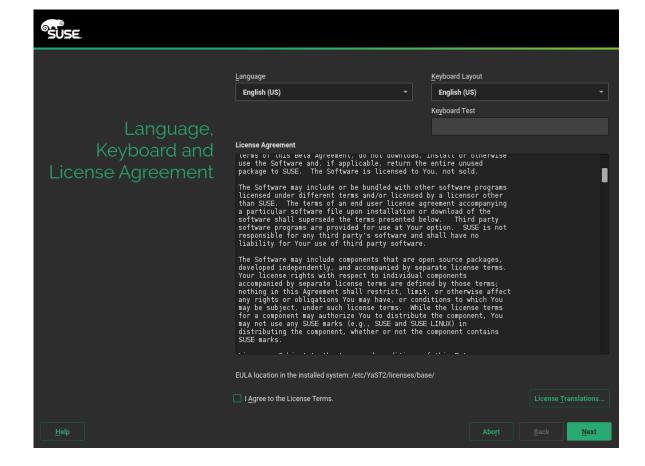
Use these instructions if there is no existing Linux system on your machine, or if you want to replace an existing Linux system.

1. Insert the SUSE Linux Enterprise Server DVD into the drive, then reboot the computer to start the installation program. On machines with a traditional BIOS you will see the graphical boot screen shown below. On machines equipped with UEFI, a slightly different boot screen is used. Secure boot on UEFI machines is supported.

Use F2 to change the language for the installer. A corresponding keyboard layout is chosen automatically. See Book "Deployment Guide", Chapter 6 "Installation with YaST", Section 6.2.2.1 "The Boot Screen on Machines Equipped with Traditional BIOS" or Book "Deployment Guide", Chapter 6 "Installation with YaST", Section 6.2.2.2 "The Boot Screen on Machines Equipped with UEFI" for more information about changing boot options.

	© USE					
		Boot from H	lard Disk			
		Installation				
		Upgrade				
		More		Þ	•	
F1 Help	F2 Language English (US)	F3 Video Mode Default	F4 Source DVD	F5 Kernel Default	F6 Driver No	

- 2. Select *Installation* on the boot screen, then press **Enter**. This boots the system and loads the SUSE Linux Enterprise Server installer.
- 3. The *Language* and *Keyboard Layout* are initialized with the language settings you have chosen on the boot screen. Change them here, if necessary.
 Read the License Agreement. It is presented in the language you have chosen on the boot screen. *License Translations* are available. You need to accept the agreement by checking *I Agree to the License Terms* to install SUSE Linux Enterprise Server. Proceed with *Next*.



4. A system analysis is performed, where the installer probes for storage devices, and tries to find other installed systems. If the network could not be automatically configured while starting the installation system, the *Network Settings* dialog opens.

After at least one network interface has been configured you can register your system at the SUSE Customer Center (SCC). Enter the e-mail address associated with your SCC account and the registration code for SUSE Linux Enterprise Server. A successful registration is a prerequisite for getting product updates and being entitled to technical support. Proceed with *Next*.

SUSE.		
		Network Configuration
Registration	SUSE Linux Enterprise Server 12 SP5	
	Please select your preferred method of registration.	
	Register System via scc.suse.com <u>E</u> -mail Address	
	Registration <u>C</u> ode	
	• Register System via local SMT Server Local Registration Server URL	
	https://smt.example.com 👻	
	O <u>S</u> kip Registration	
Help Release Notes	Abo <u>r</u> t	<u>B</u> ack <u>N</u> ext

Tip: Installing Product Patches at Installation Time

If SUSE Linux Enterprise Server has been successfully registered at the SUSE Customer Center, you are asked whether to install the latest available online updates during the installation. If choosing *Yes*, the system will be installed with the most current packages without having to apply the updates after installation. Activating this option is recommended.

Note: Release Notes

From this point on, the Release Notes can be viewed from any screen during the installation process by selecting *Release Notes*.

5. After the system is successfully registered, YaST lists modules and extensions that are available for SUSE Linux Enterprise Server from the SUSE Customer Center. The list contains free modules, such as the SUSE Linux Enterprise SDK, or extensions requiring a registration key that is liable for costs. Click an entry to see its description. Optionally select a module or extension for installation by activating its check mark. Proceed with *Next*.

SUSE						
	Available Extensions and Modules Hide Beta Versions					
	SUSE Linux Enterprise High Availability Extension 12 SP4 x86_64					
	SUSE Linux Enterprise High Availability GEO Extension 12 SP4 x86_	64		- 11		
Extension and	SUSE Linux Enterprise Live Patching 12 SP4 x86_64					
Module Selection	SUSE Linux Enterprise Workstation Extension 12 SP4 x86_64					
	SUSE Manager Proxy 3.1 x86_64			- 11		
	SUSE Manager Proxy 3.2 x86_64			- 11		
	SUSE Manager Retail Branch Server 3.2 x86_64			- 11		
	SUSE Manager Server 3.1 x86_64			- U		
	SUSE Manager Server 3.2 x86_64			- H		
	SUSE OpenStack Cloud 9 x86_64					
	SUSE OpenStack Cloud Crowbar 9 x86_64					
	SUSE Linux Enterprise Software Development Kit 12 SP4 x86_64					
	SUSE Package Hub 12 SP4 x86_64					
	Details (English only)					
	Select an extension or a module to show details here					
Help Release Notes				Next		

6. The *Add-on Product* dialog allows you to add additional software sources (so-called "repositories") to SUSE Linux Enterprise Server, that are not provided by the SUSE Customer Center. Such add-on products may include third-party products and drivers or additional software for your system.

V

Tip: Adding Drivers During the Installation

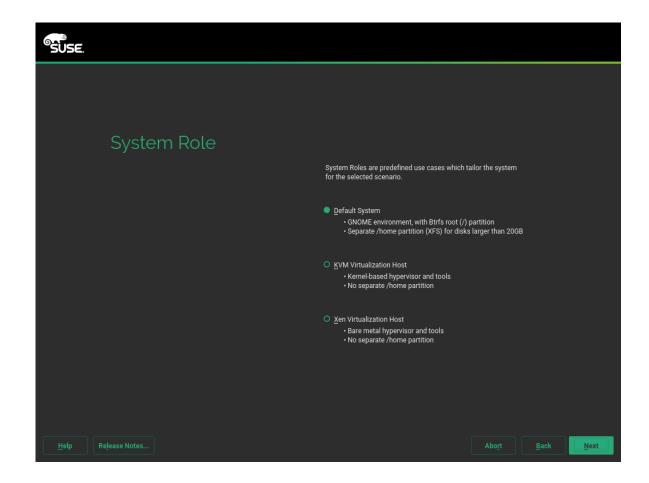
You can also add driver update repositories via the *Add-On Products* dialog. Driver updates for SUSE Linux Enterprise are provided at http://drivers.suse.com/ ↗. These drivers have been created via the SUSE SolidDriver Program.

If you want to skip this step, proceed with *Next*. Otherwise activate *I would like to Install an Add-on Product*. Specify a media type, a local path or a network resource hosting the repository and follow the on-screen instructions.

Check *Download Repository Description Files* to download the files describing the repository now. If deactivated, they will be downloaded after the installation has started. Proceed with *Next* and insert a medium if required. Depending on the product's content it may be necessary to accept additional license agreements. Proceed with *Next*. If you have chosen an add-on product requiring a registration key, you will be asked to enter it at the *Extension and Module Registration Codes* page.

SUSE.		
		Network Configuration
Add On Product		
(I would li <u>k</u> e to install an additional Add On Product	
	 Scan Using SLP Specify URL FTP HTTPS MH7TPS SMB/CIFS SFS <u>C</u>D <u>D</u>VD <u>Hard Disk</u> USB Mass Storage (USB Stick, Disk) Local Directory Local ISO Image 	
	☑ Download repository description files	
Help Release Notes		<u>B</u> ack <u>N</u> ext

7. Choose the *System Role* that meets your requirements best. Select *Default System* for physical machines or virtual guests. For a virtualization host that can run other virtual machines, select *KVM Virtualization Host* or *Xen Virtualization Host*.



8. Review the partition setup proposed by the system. If necessary, change it. You have the following options:

Edit Proposal Settings

Lets you change options for the proposed settings, but not the suggested partition layout itself.

Create Partition Setup

Select a disk to which to apply the proposal.

Expert Partitioner

Opens the *Expert Partitioner* described in *Book "Deployment Guide", Chapter 13 "Advanced Disk Setup", Section 13.1 "Using the YaST Partitioner".*

Warning: Disk Space Units

Note that for partitioning purposes, disk space is measured in binary units, rather than in decimal units. For example, if you enter sizes of <u>1GB</u>, <u>1GiB</u> or <u>1G</u>, they all signify 1 GiB (Gibibyte), as opposed to 1 GB (Gigabyte).

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Binary
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1 GiB = 1 073 741 824 bytes.

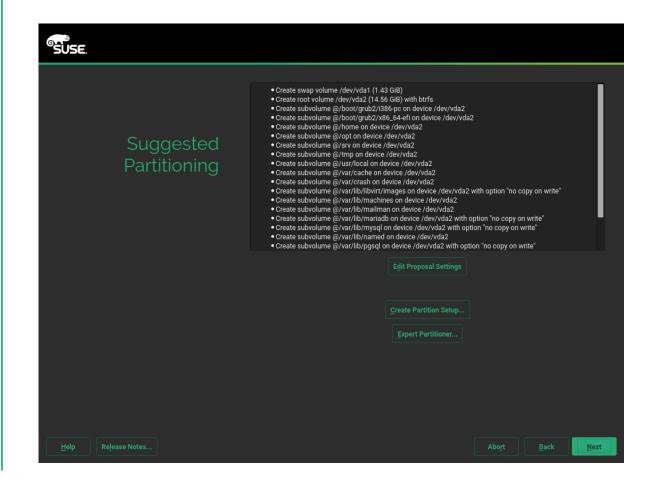
Decimal

1 GB = 1 000 000 000 bytes.

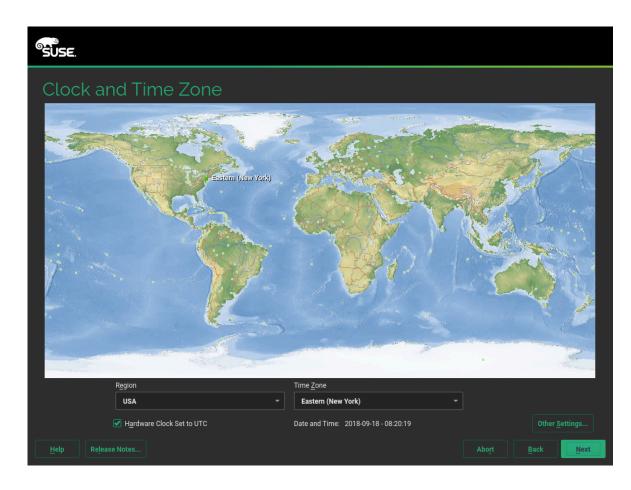
Difference

 $1 \text{ GiB} \approx 1.07 \text{ GB}.$

To accept the proposed setup without any changes, choose *Next* to proceed.



9. Select the clock and time zone to use in your system. To manually adjust the time or to configure an NTP server for time synchronization, choose *Other Settings*. See *Book "Deployment Guide", Chapter 6 "Installation with YaST", Section 6.12 "Clock and Time Zone"* for detailed information. Proceed with *Next*.



10. To create a local user, type the first and last name in the *User's Full Name* field, the login name in the *Username* field, and the password in the *Password* field.

The password should be at least eight characters long and should contain both uppercase and lowercase letters and numbers. The maximum length for passwords is 72 characters, and passwords are case-sensitive.

For security reasons it is also strongly recommended *not* to enable the *Automatic Login*. You should also *not Use this Password for the System Administrator* but rather provide a separate root password in the next installation step. Proceed with *Next*.

SUSE.	
Local Users	<u>C</u> reate New User
	User's Full Name Username
	Password
	C <u>o</u> nfirm Password
	 Use this password for system administrator <u>A</u>utomatic Login
	Import User Data from a Previous Installation No users selected Choose Users
	O Skip User Creation
Help Release Notes	Abo <u>r</u> t <u>B</u> ack <u>Next</u>

11. Type a password for the system administrator account (called the root user). You should never forget the root password! After you entered it here, the password cannot be retrieved. See Book "Deployment Guide", Chapter 6 "Installation with YaST", Section 6.14 "Password for the System Administrator root" for more information. Proceed with Next.

SUSE.	
Password for the System Administrator "root"	Do not forget what you enter here. Password for root User Confirm Password Test Keyboard Layout
<u>H</u> elp Release Notes	Abo <u>r</u> t <u>B</u> ack <u>Next</u>

🕤 Tip: Passwords and Keyboard Layout

It is recommended to only use US ASCII characters. In case of a system error or when you need to start your system in rescue mode, the keyboard may not be localized.

12. Use the *Installation Settings* screen to review and—if necessary—change several proposed installation settings. The current configuration is listed for each setting. To change it, click the headline. Some settings, such as firewall or SSH can directly be changed by clicking the respective links.

Tip: Remote Access

Changes you can make here, can also be made later at any time from the installed system. However, if you need remote access directly after the installation, you should adjust the *Security* settings according to your needs.

Software

The default scope of software includes the base system and X Window with the GNOME desktop. Clicking *Software* opens the *Software Selection and System Tasks* screen, where you can change the software selection by selecting or deselecting patterns. Each pattern contains several software packages needed for specific functions (for example, Web and LAMP server or a print server). For a more detailed selection based on software packages to install, select *Details* to switch to the YaST *Software Manager*. See *Book "Deployment Guide", Chapter 14 "Installing or Removing Software"* for more information.

Booting

This section shows the boot loader configuration. Changing the defaults is only recommended if really needed. Refer to *Book "Administration Guide", Chapter 13 "The Boot Loader GRUB 2"* for details.

Security

The *CPU Mitigations* refer to kernel boot command line parameters for software mitigations that have been deployed to prevent CPU side-channel attacks. Click the highlighted entry to choose a different option. For details, see *Book "Administration Guide", Chapter 13 "The Boot Loader GRUB 2" CPU Mitigations*.

By default, the Firewall is enabled with the active network interface configured for the external zone. See *Book "Security and Hardening Guide", Chapter 16 "Masquerading and Firewalls", Section 16.4 "SuSEfirewall2"* for configuration details.

The SSH service is disabled by default, its port (22) is closed. Therefore logging in from remote is not possible by default. Click *enable and open* to toggle these settings.

Kdump

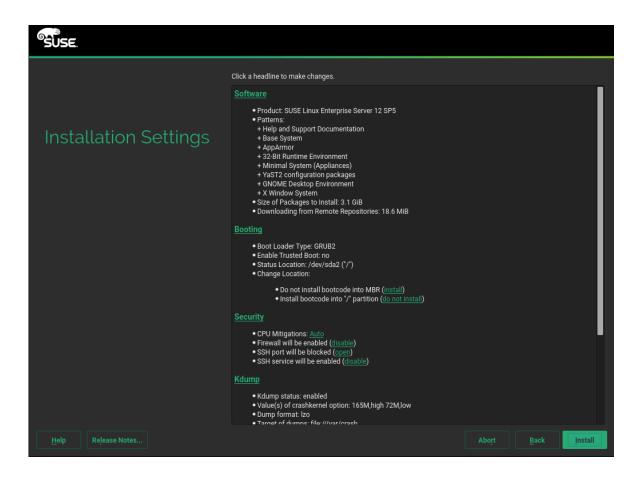
Kdump saves the memory image ("core dump") to the file system in case the kernel crashes. This enables you to find the cause of the crash by debugging the dump file. Kdump is preconfigured and enabled by default. See *Book "System Analysis and Tuning Guide", Chapter 17 "Kexec and Kdump", Section 17.7 "Basic Kdump Configuration"* for more information.

Default Systemd Target and Services

By default, the system boots into the *graphical* target, with network, multiuser and display manager support. Switch to *multi-user* if you do not need to log in via display manager.

System

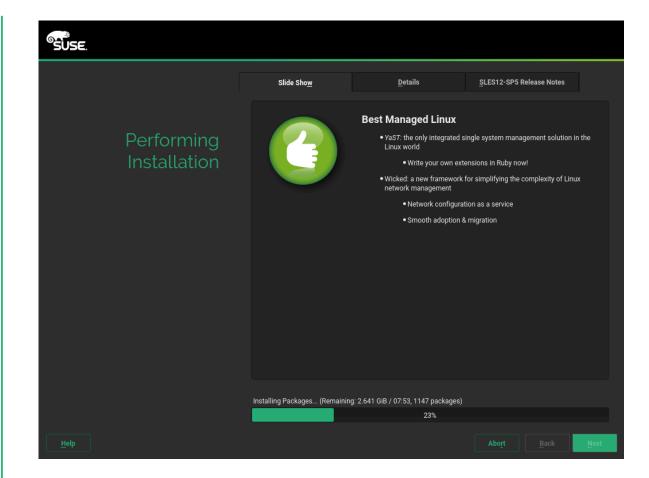
View detailed hardware information by clicking *System*. In the resulting screen you can also change *Kernel Settings*—see *Book "Deployment Guide"*, *Chapter 6 "Installation with YaST"*, *Section 6.15.8 "System Information"* for more information.



13. After you have finalized the system configuration on the *Installation Settings* screen, click *Install*. Depending on your software selection you may need to agree to license agreements before the installation confirmation screen pops up. Up to this point no changes have been made to your system. After you click *Install* a second time, the installation process starts.

SUSE.				
	Click a headline to make changes.			
	Software			
	Product: SUSE Linux Enterprise Server 12 SP5			
Installation Sett	Confirm Installation			
	Information required for the base installation is now complete.			
	If you continue now, existing partitions on your hard disk will be deleted or formatted (erasing any existing data in those partitions) according to the installation settings in the previous dialogs.			
	Go back and check the settings if you are unsure.			
				I
				•
	Install Back			
	CPU Mitigations: <u>Auto</u> Firewall will be disabled (<u>enable</u>) SSH service will be enabled (<u>disable</u>)			
	Kdump			
	• Krlumn etatue: anahlarl			
Help Release Notes				Install

14. During the installation, the progress is shown in detail on the *Details* tab.



15. After the installation routine has finished, the computer is rebooted into the installed system. Log in and start YaST to fine-tune the system. If you are not using a graphical desktop or are working from remote, refer to *Book "Administration Guide", Chapter 5 "YaST in Text Mode"* for information on using YaST from a terminal.

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