

The Illustrated Installation Process

This document intends to help new to Linux users install Slint Linux in text mode. If you have not already read [how to get and install Slint](#), you should do so. It will explain how to create a bootable USB stick or DVD disc containing Slint.

- Clicking on an image will display it in its original size
- To have this document on hand during installation, click on the icon export to PDF on the right side of the page, and print or save it. Getting the PDF file can take some time as the document is big.
- You can also click on the top icon on the right titled Show page source. It can be copied, pasted, or printed in text only mode, without the images.

Here are the installation steps:

[Choose Locale and Begin Installation Process](#)

[Create the Partitions](#)

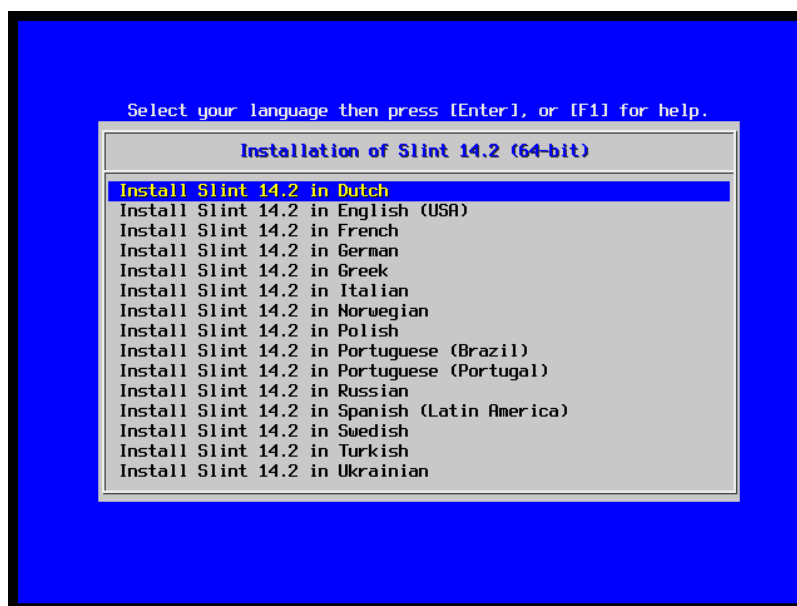
[Set Up the Partitions](#)

[Install the Software Packages](#)

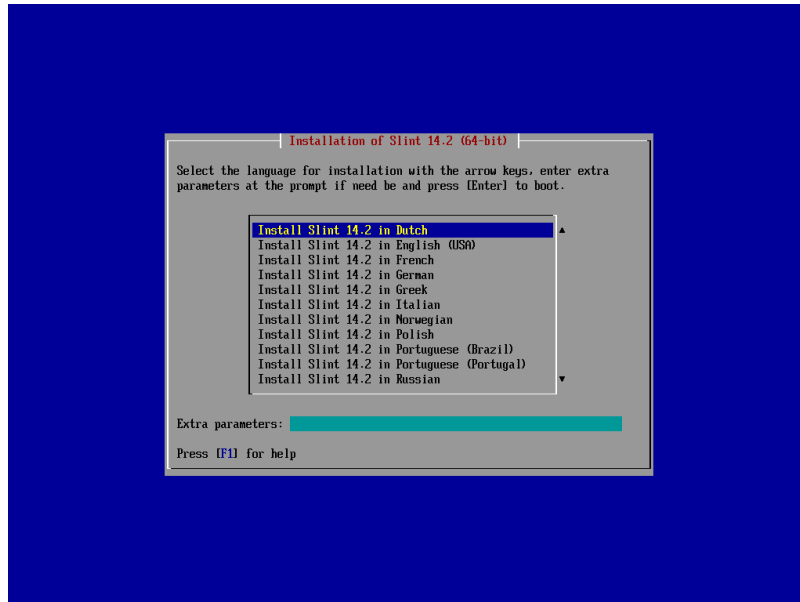
[Configure the System](#)

Choose Locale and Begin Installation Process

You will see this screen after (re)booting if your machine is in BIOS or Legacy mode:



The screen is slightly different in UEFI mode. However it has the same features:

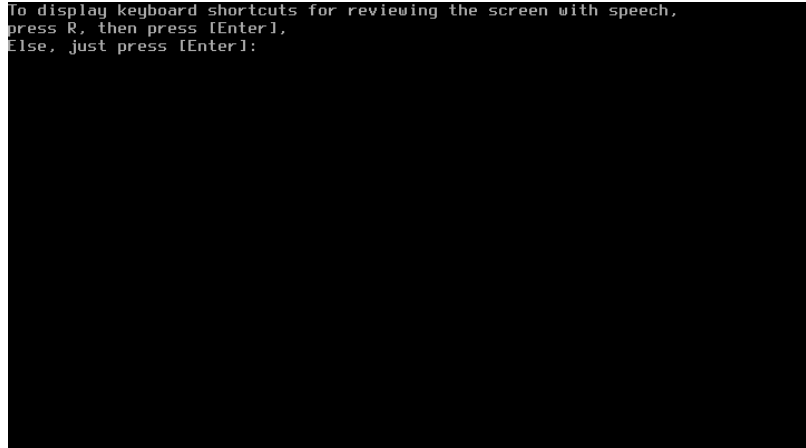


Select the language you prefer by using the down and up arrow keys. Press [Enter] once you make your selection.

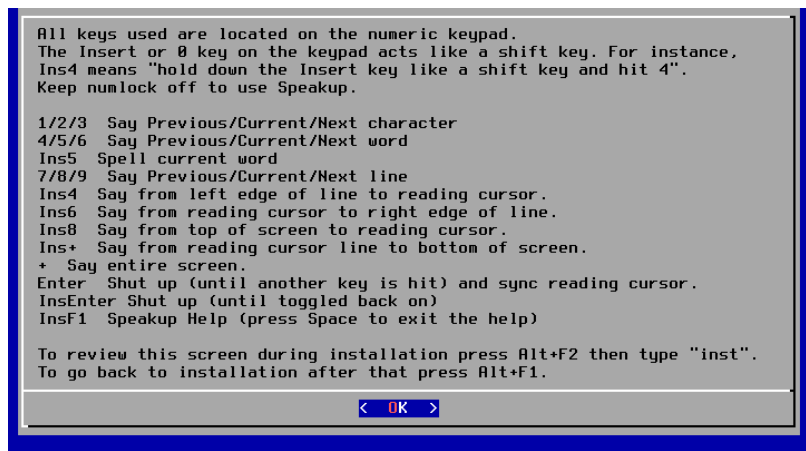
The screen becomes black and displays a lot of messages. You generally do not need to read these messages. Basically it is information the Linux kernel discovers about your system while booting. The Linux kernel is being loaded into RAM. Once that is finished, you will see and hear a dialog asking you if you want to keep speech during installation at the bottom of the screen (new in version 14.2.):

```
: 0 ANSI: 5
[ 4.147090] sd 0:0:0:0: [sda] Write cache: enabled, read cache: enabled, does
n't support DPO or FUA
[ 4.150718] sr 2:0:0:0: [sr0] scsi3-mmc drive: 32x/32x xa/form2 tray
[ 4.152348] cdrom: Uniform CD-ROM driver Revision: 3.20
[ 4.181387] sda: sda1 sda2 sda3
[ 4.183810] sd 0:0:0:0: [sda] Attached SCSI disk
[ 4.188265] Freeing unused kernel memory: 1384K (ffffffffff02561000 - fffffff0
26bb000)
[ 4.191572] Write protecting the kernel read-only data: 20480k
[ 4.194050] Freeing unused kernel memory: 1572K (ffff880001c77000 - ffff88000
1e00000)
[ 4.220336] Freeing unused kernel memory: 1492K (ffff88000220b000 - ffff88000
2400000)
Creating static nodes in /dev.
Starting udevd: /sbin/udev --daemon
Triggering udev events: /sbin/udevadm trigger --action=add
ndadm: No arrays found in config file or automatically
starting brltty
BRLTTY 5.5 rev unknown [http://brltty.com/]
  Reading all physical volumes.  This may take a while...
starting espeakup
This installer has speech and Braille device support in order to be
accessible to visually impaired users. To have speech turned on during
installation type S, then press [Enter]. Else, just press Enter._
```

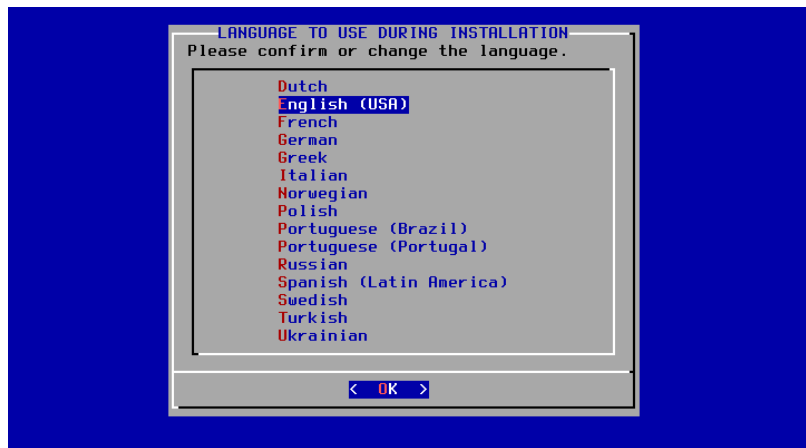
If you accept typing S then Enter, you will be proposed to display the keyboard shortcuts for reviewing the screen with speech (new in version 14.2.):



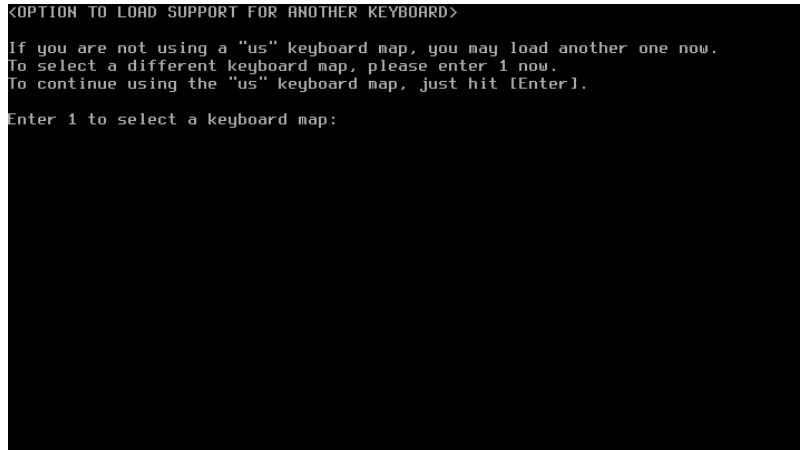
If you type R then Enter the keyboard shortcuts will be displayed (new in version 14.2.):



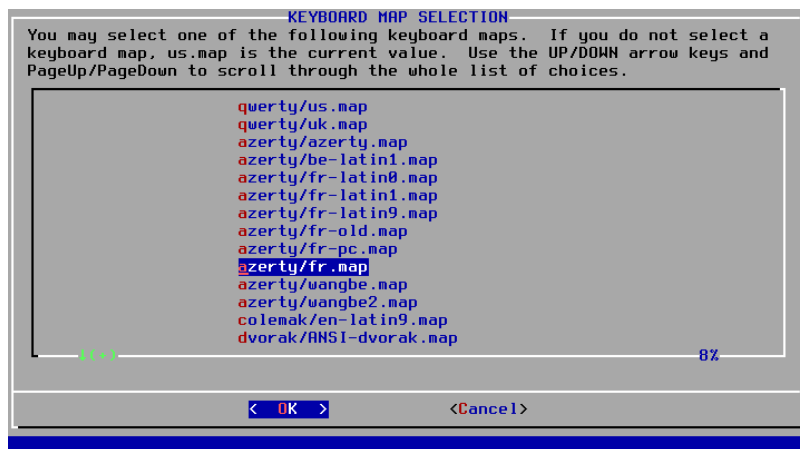
You may then confirm or change the language set in the greeting screen of the boot manager (new in version 14.2.):



An option to load support for another keyboard is then displayed:

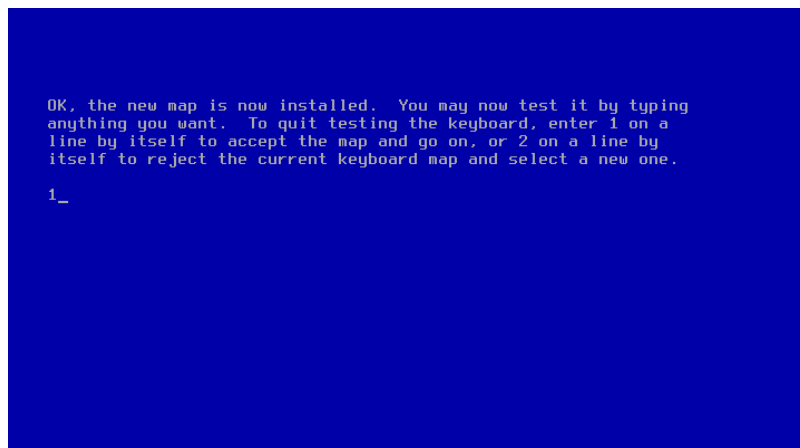


The keyboard map you choose should match the language you chose earlier. To choose a different mapping, enter [1] and press [Enter].



If you chose to change the keyboard mapping, you will be presented with a dialog box. In this dialog you can test your mapping by typing some characters. Once you are satisfied, on a new line, press [1], followed by [Enter].

If you are unsatisfied with the change, enter [2] on a new line, followed by [Enter]. You will be brought back to the previous screen and be able to adjust your keyboard mapping again.



You can adjust your keyboard mapping as many times as you want until you exit the process.

Once you choose your keyboard mapping, you will be presented with an informative screen:

```

Welcome to the Slint Linux installation disk! (version 14.2)
##### IMPORTANT! READ THE INFORMATION BELOW CAREFULLY. #####

- You will need one or more partitions of type 'Linux' prepared. It is also
  recommended that you create a swap partition (type 'Linux swap') prior
  to installation. For more information, run 'setup' and read the help file.

- If you're having problems that you think might be related to low memory, you
  can try activating a swap partition before you run setup. After making a
  swap partition (type 82) with cfdisk or fdisk, activate it like this:
  mkswap /dev/<partition> ; swapon /dev/<partition>

- Once you have prepared the disk partitions for Linux, type 'setup' to begin
  the installation process.

- If you do not have a color monitor, type: TERM=vt100
  before you start 'setup'.

You may now login as 'root'.

slint login: root_

```

Read through this information carefully. Once finished, type the administrator user name (root) into the prompt, and press [Enter].

This will display another screen with more recommendations:

```

- If you do not have a color monitor, type: TERM=vt100
  before you start 'setup'.

You may now login as 'root'.

slint login: root

Linux 4.4.14.

If you're upgrading an existing Slint system, you might want to
remove old packages before you run 'setup' to install the new ones. If
you don't, your system will still work but there might be some old files
left laying around on your drive.

Just mount your Linux partitions under /mnt and type 'pkgtool'. If you
don't know how to mount your partitions, type 'pkgtool' and it will tell
you how it's done.

To partition your hard drive(s), use 'cfdisk' or 'fdisk'.
For systems using GPT instead of MBR, partition using 'cgdisk' or 'gdisk'.
To activate PCMCIA/Cardbus devices needed for installation, type 'pcmcia'.
To start the main installation (after partitioning), type 'setup'.

root@slackware:/# _

```

We assume that you are installing a new Slint system, therefore only the last paragraph is relevant:

- To partition your hard drive(s), use `cfdisk` or `fdisk`.
- For systems using GPT instead of MBR, you can also use `cgdisk` or `gdisk`.
- To activate PCMCIA/Cardbus devices needed for installation, type `pcmcia`.
- To start the main installation (after partitioning), type `setup`.

Create the Partitions

If you have already created the partitions needed to install Slint Linux, you may skip this part and go directly to [Set up the partitions](#)

From now on, you are within a “live” system, running in RAM, or Random Access Memory. You can use most Linux commands within this environment. However you will still need the installation media (DVD or USB stick), as it contains the software packages needed by the Slint installer.

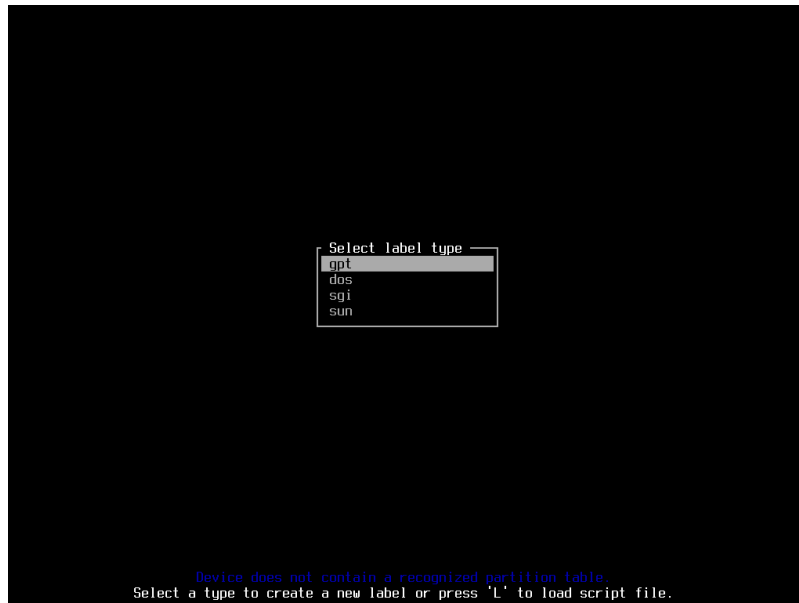
The `cfdisk` application can handle GPT partition tables, as well as MBR, which are also known as DOS partition tables. You can use `cfdisk` in all cases to set up your partitions. Of course, if the partitioning is already complete you can skip this step, and just type `setup` to display the main installation menu. If you are unfamiliar with the vocabulary (like partition, MBR or GPT) you can

consult the [glossary](#).

If you are blind use the `fdisk` command. `fdisk` has the same features as the previously mentioned partitioning software, but is easier to use with a screen reader. Type `fdisk --help` to see usage, and press `[Shift] + [Page up]` or `[Shift] + [Page down]` to scroll vertically.

In this an example it is assumed that you are installing Slint on a new hard disk. The example hard disk is 1 Terabyte in size, the system requires UEFI mode, and has not yet been formatted.

Here is the screen that you will see after having typed `cfdisk` and hit the `[Enter]` key:



On the bottom of the screen it says:

Device does not contain a recognized partition table.

This is expected because the hard disk has not yet been formatted. Create the partition table now. For UEFI you should select the GPT label type. select `gpt` and press `[Enter]` to continue.

You can choose the `dos` label type if you started the installation in BIOS or Legacy mode.

The next screen displays an empty partition table:

```

Disk: /dev/sda
Size: 1 TiB, 1104121167872 bytes, 2156406656 sectors
Label: gpt, identifier: 00A10091-340F-4E05-B05A-0056FA522510
>>


| Device        | Start | End        | Sectors    | Size | Type |
|---------------|-------|------------|------------|------|------|
| >> Free space | 2048  | 2156406655 | 2156404608 | 1T   |      |

[ New ] [ Quit ] [ Help ] [ Write ] [ Dump ]
  

Create new partition from free space

```

In our example we will set three partitions. Other partition layouts may require more partitions due to specific use cases. We will assume a generic scenario to simplify these directions:

- A partition of type `EFI system`, called the ESP (EFI System Partition). It will store the files needed to boot the system. Be sure to make it at least 100 Megabytes in size.
- A partition of type `Linux swap`. This partition will store swapped data when RAM (Random Access Memory) becomes full. The swap partition is optional. It becomes necessary if you have less than 4 Gigabytes of RAM, plan to compile very large programs, or intend to hibernate your machine. Hibernating your system will require more space because your system will store all of the contents of RAM in the swap partition. We will assume that you have 2 Gigabytes of RAM and will set the size of the swap partition to 3 Gigabytes.
- A partition of type `Linux system`. Make it as big as possible. In our example, we will set its size to 300 Gigabytes, reserving the remaining space for future use.

In the case of a multi boot system you may need a bigger EFI system partition size. In some cases Microsoft recommends an EFI System Partition of 256 Megabytes. You can reuse the existing EFI System Partition if Microsoft Windows is already installed.

You do not need an EFI System Partition if your machine is set to boot in BIOS or Legacy mode.

It is common to set a dedicated partition to hold the `/home` directory. This may not be necessary and may result in the partition running out of space over time. Choose the `Linux` partition type if you want to set one up.

In `cfdisk`, you can navigate using the `[Tab]` and the arrow keys. Press `[Enter]` to confirm choices. Select `[Help]` and press `[Enter]` to see more about `cfdisk` usage.

First set up the EFI System partition. Choose `[New]` and then press `[Enter]`. By default the partition will take up all available space. Use 100 Megabytes instead by typing `100M`:

```

Disk: /dev/sda
Size: 1 TiB, 1104121167072 bytes, 2156406656 sectors
Label: gpt, identifier: 00A10091-340F-4E05-005A-0056FA522510

```

Device	Start	End	Sectors	Size	Type
>> Free space	2048	2156406655	2156404608	1T	

Partition size: 100M

May be followed by M for MiB, G for GiB, T for TiB, or S for sectors.

Confirm your changes by pressing [Enter]. By default the partition will be of type Linux system:

```

Disk: /dev/sda
Size: 1 TiB, 1104121167072 bytes, 2156406656 sectors
Label: gpt, identifier: 00A10091-340F-4E05-005A-0056FA522510

```

Device	Start	End	Sectors	Size	Type
>> /dev/sda1	2048	206047	204000	100M	Linux filesystem
Free space	206048	2156406655	2156200608	1T	

Partition UUID: C3EAF056-E4E1-47F7-8A03-8E0A444F6316
Partition type: Linux filesystem (0FC63DAF-0403-4772-8E79-3D69D8477DE4)

[Delete] [Quit] [Type] [Help] [Write] [Dump]

To change that, select [Type], press [Enter], and then move the cursor upward with the arrow keys to select EFI System:

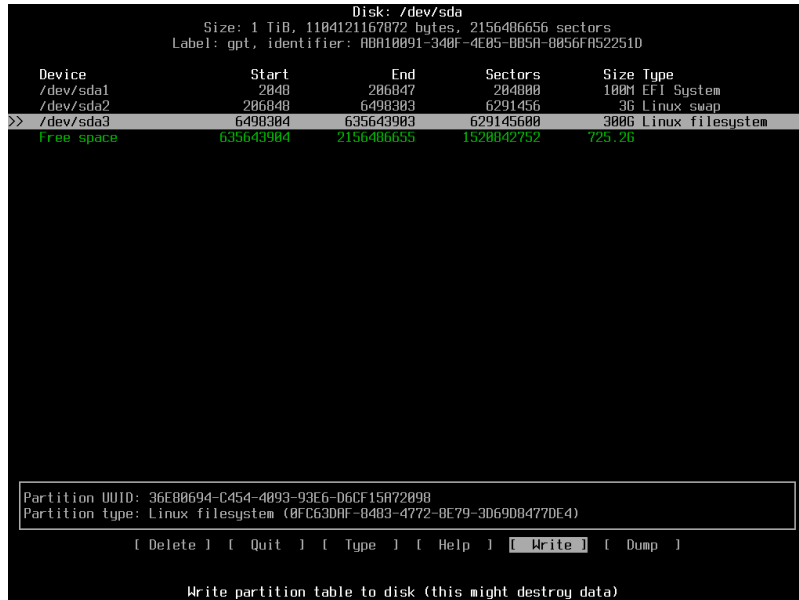


Confirm your changes by pressing [Enter]. Then press the down arrow key to create a new partition in the remaining free space:



Repeat the same process to create a swap partition and the root file system. Set the swap size to 3G and the partition type to Linux swap. Set the root partition to 300G (300 Gigabytes) and the partition type to Linux system.

Up until now all changes have been stored in RAM. Saving your changes requires you to select [Write] to write the partition table on the hard disk.

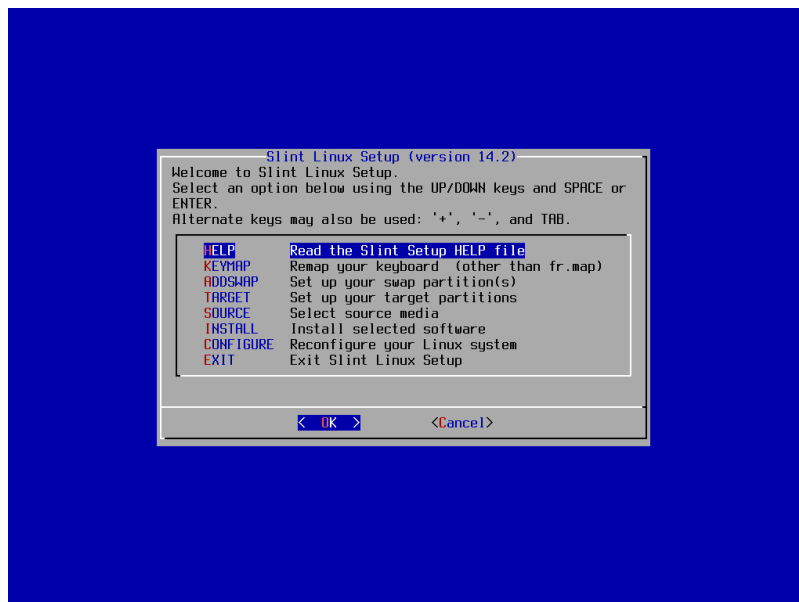


At this point you will be asked to confirm your changes. Type yes to confirm. Select [Quit] and press [Enter] to exit cfdisk.

The system is now ready to run the Slint Linux installer.

Set Up the Partitions

Type setup to begin the Slint installation process. This will display the setup main menu:

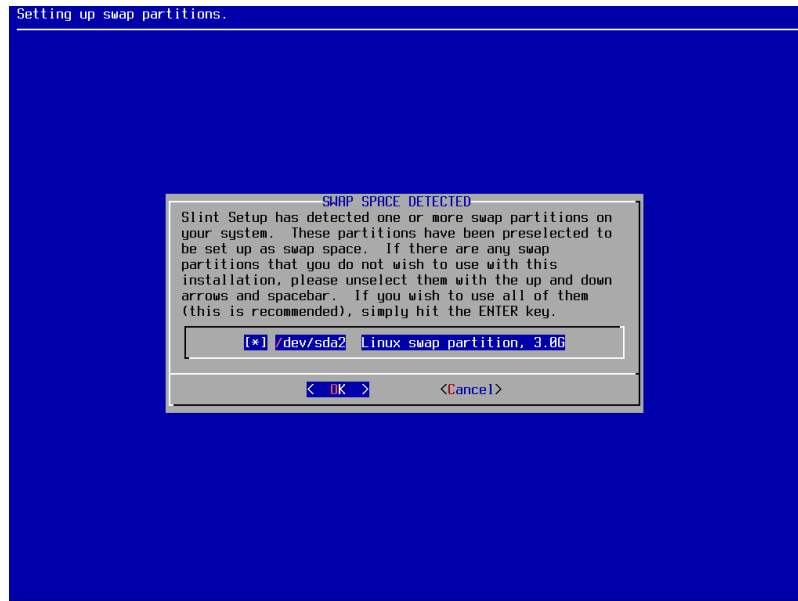


The setup main menu lists the steps needed to install and configure Slint. Some of the presented choices are optional.

This article provides more detailed explanations than the HELP menu. Additionally, you should already have chosen your keyboard map. You do not need to choose the HELP or KEYMAP menu options.

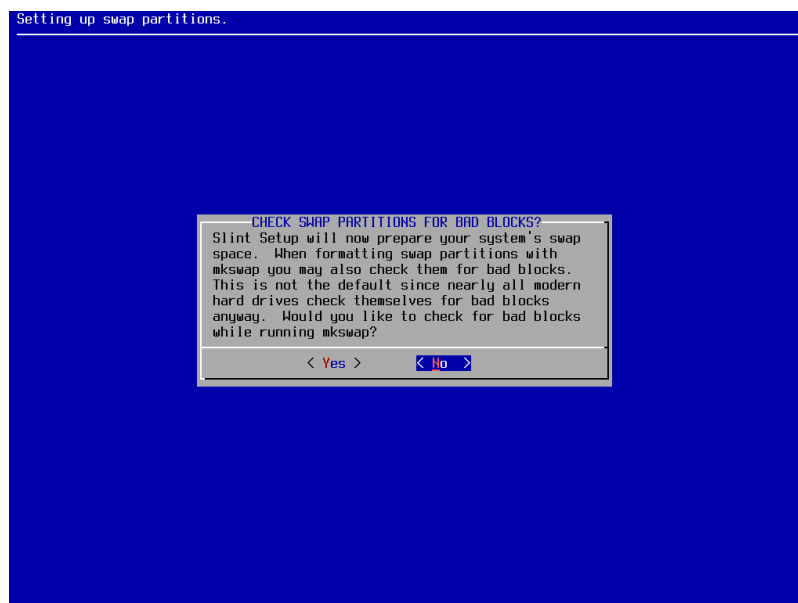
Select ADDSWAP. The next dialog box explains that the swap partition has been detected. It gives you

the option to select the swap partition you wish to use:



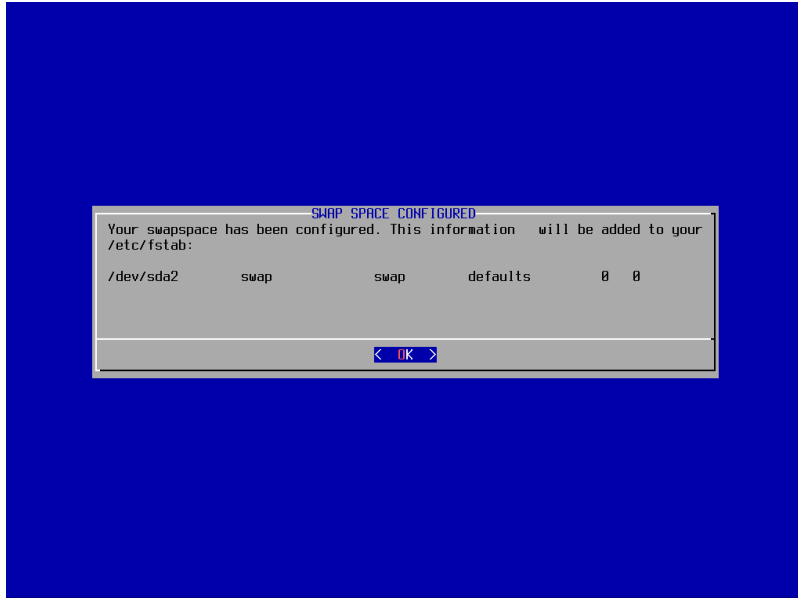
The swap partition name is `/dev/sda2`. This means that the block device `/dev/sda` points to our first hard disk. A second hard disk would be named `/dev/sdb`. Each additional hard disk will increment (`sdc`, `sdd`, `sde`)

Confirm the addition of the swap partition(s) by pressing `[Enter]`. You are now asked to check the swap partition(s) for bad blocks:



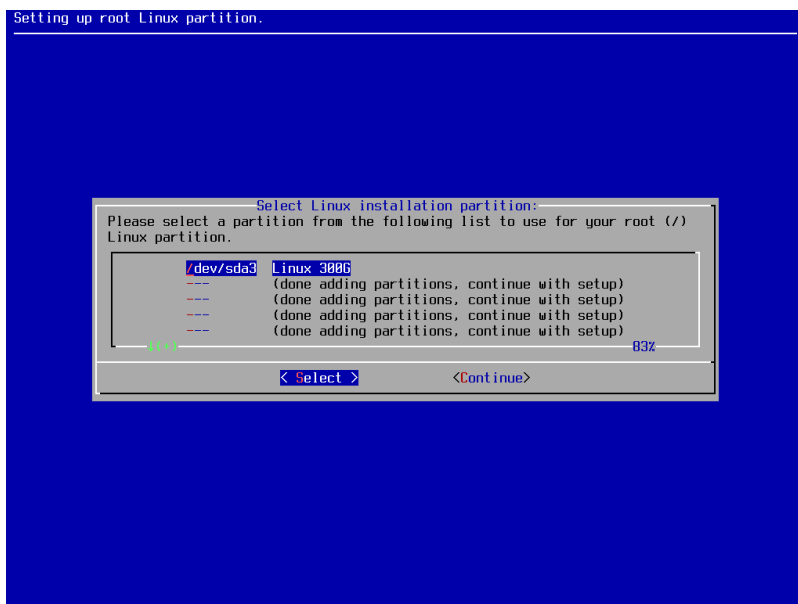
You can safely accept the default answer: No.

The next screen displays a line describing the swap space. This text will be written to the file `/etc/fstab` at the end of installation process. This file records the mapping between partitions, directories, and associated file systems (`fstab` stands for File Systems Table):



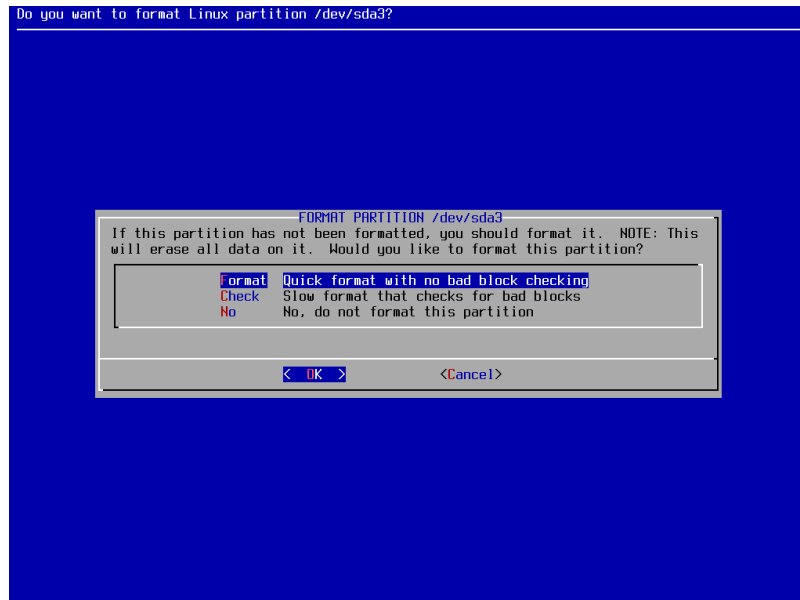
After the ADDSWAP dialog, the next dialog displayed by the installer is the TARGET menu option. The TARGET dialog asks which partition should be used as the root partition. The root partition is designated as /, also known as the first directory in the Linux filesystem hierarchy.

The word TARGET designates the partition where all software will be installed.

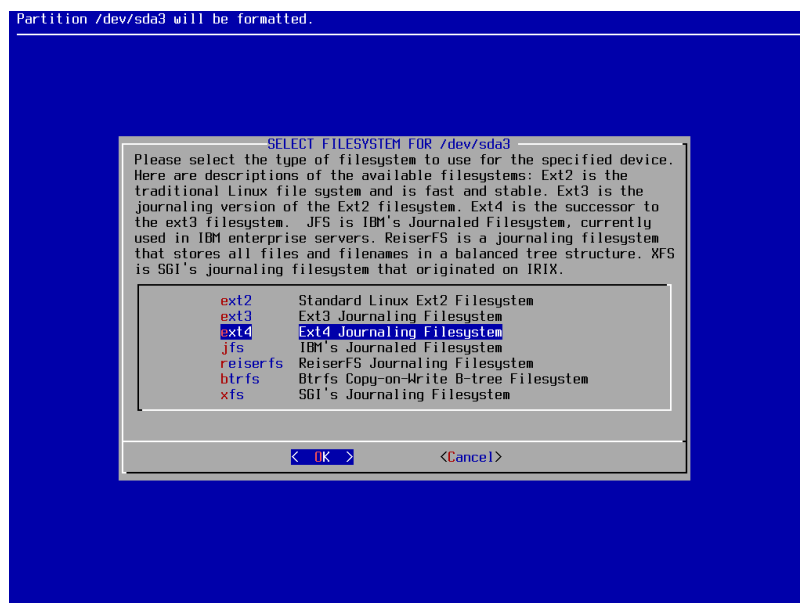


In our example we set up one Linux partition. The block device to use for the root partition (or /) is /dev/sda3.

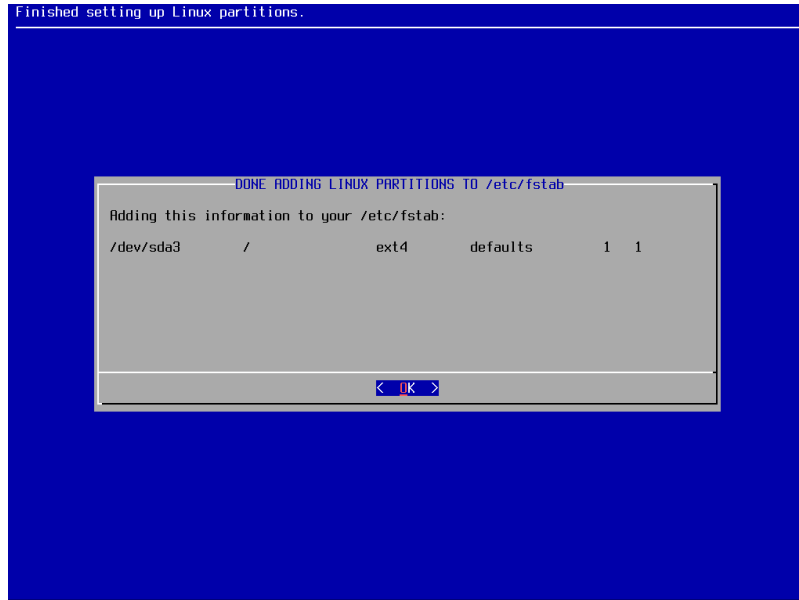
The term format refers to the process of configuring a partition with a filesystem so that files can be stored and managed. Choose Quick format with no bad block checking. This option will be used in most cases.



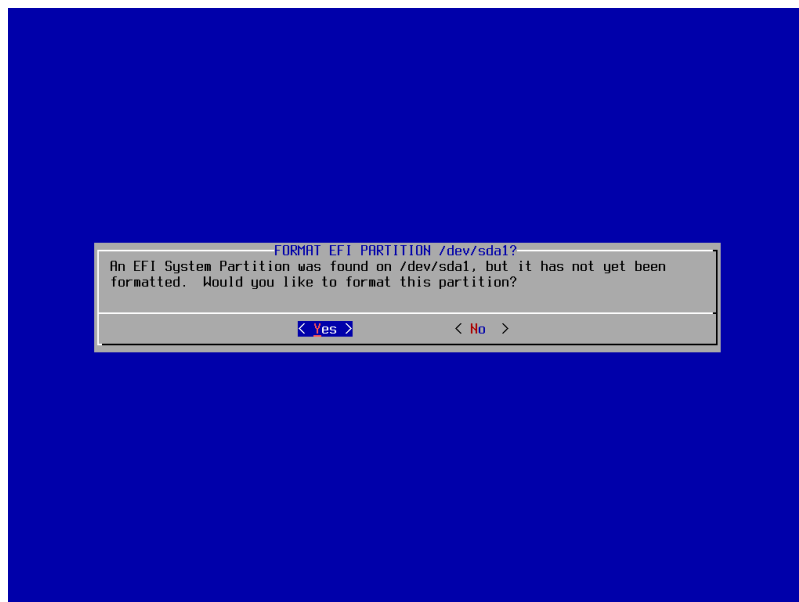
Several types of file systems can be used to format Linux partitions. The ext4 filesystem type is highlighted by default. Choose it by pressing [Enter] to assign it to the root partition.



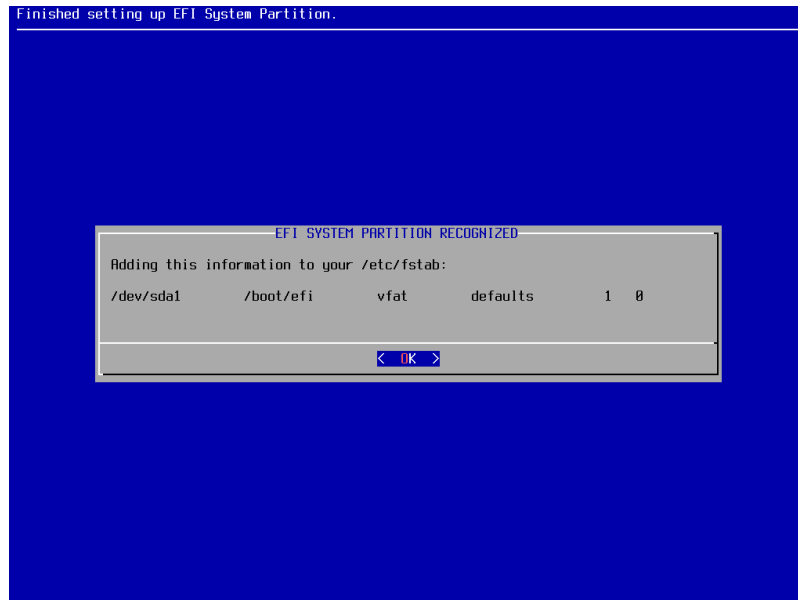
Formatting the partitions takes a few seconds. On older systems it can take a bit longer. The next screen displays the text that will be written to /etc/fstab for the root partition at the end of the installation process.



Format the EFI System Partition. This will allow the installer to create the files needed to boot in EFI mode.



The line displayed is what will be written to /etc/fstab.



The next part of the installation process is the `INSTALL` menu option.

Install the Software Packages

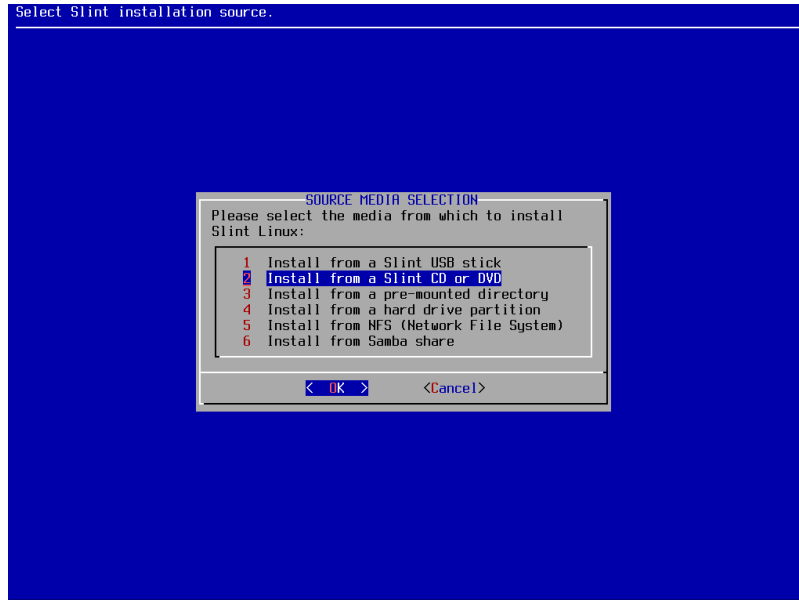
In this section you will be guided through the media selection and software installation portion of the installation process. A predetermined set of software packages will be installed onto your hard disk.

A software package contains a program (also known as a binary) and the related files required to run it. A software package lets you install software in a reliable and repeatable fashion. It includes the program, documentation, support files, and configuration file(s). Sometimes a software package contains more than one binary.

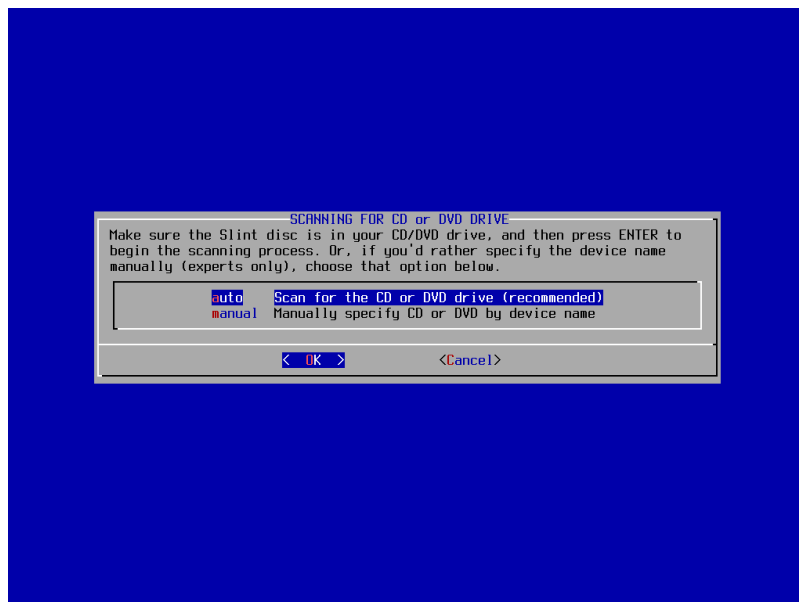
You will be asked to select the media from which the installer will copy the Slint software packages to your hard disk. In this example the installer will copy its files from a DVD.

In this case the installer and the software packages are located on the same physical media. It is possible to install the software packages using a different physical media than where the installer resides. An example would be hosting the software packages on a web server or software mirror.

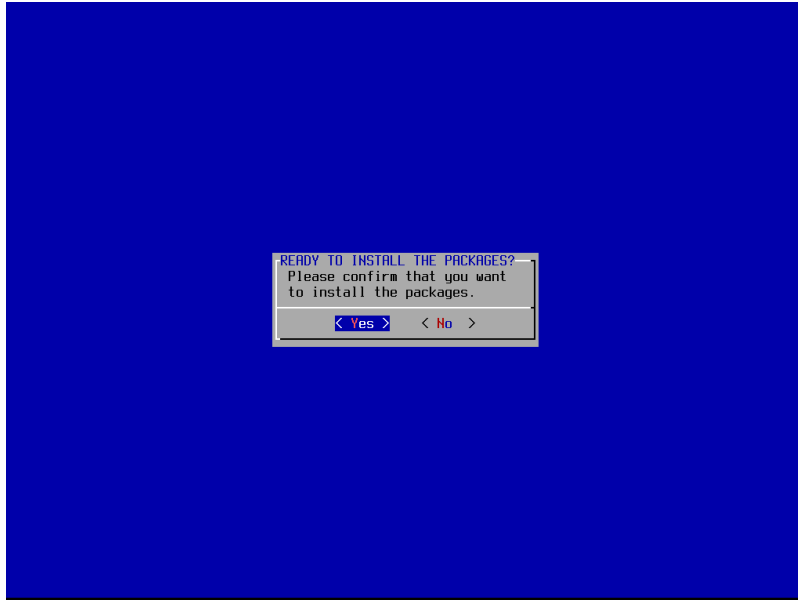
Select option **2**, `Install from a Slint CD or DVD`.



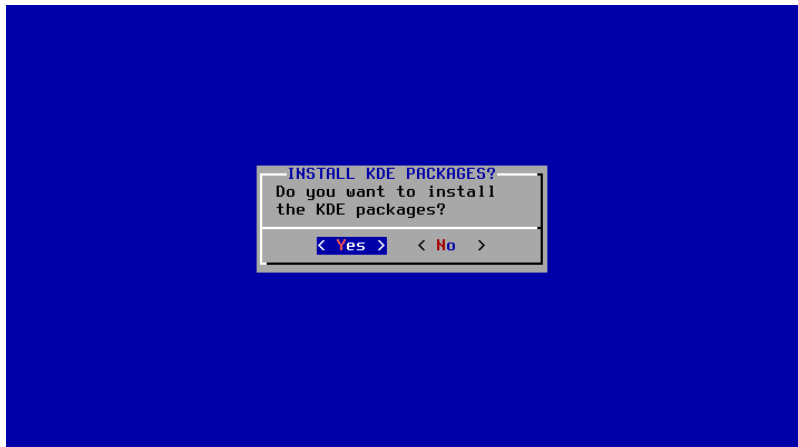
The installer will find the DVD drive automatically. Select the recommended option **auto**, Scan for the CD or DVD drive.



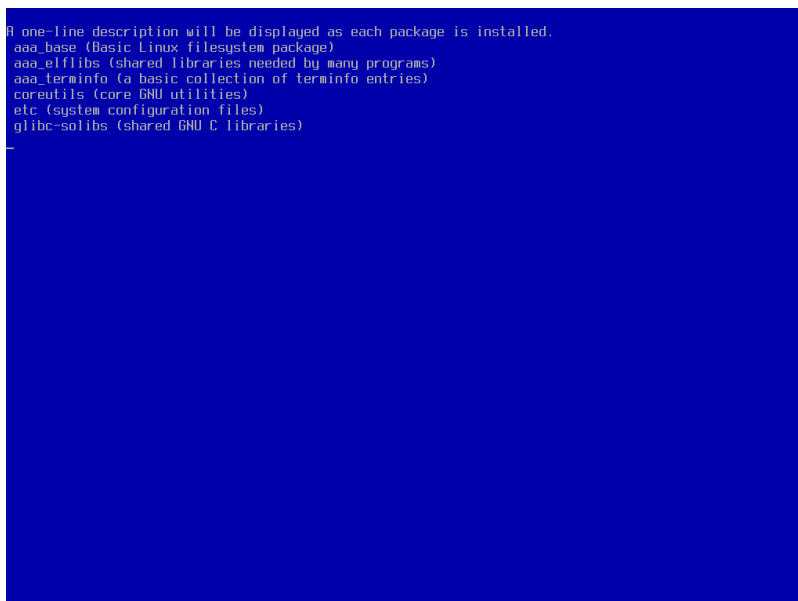
The installer will find the DVD. Confirm that you are ready to install the packages by selecting **Yes** and pressing [Enter].



You can choose to install or not the KDE packages (new in version 14.2.1):



One line is displayed on the screen for each software package installed.

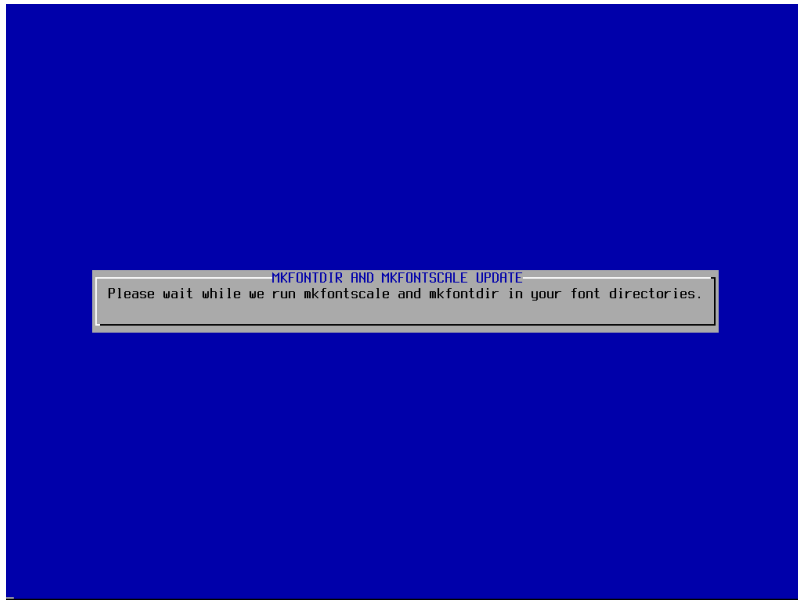


Please be patient. The installation of all software packages will take a few minutes. This process may

take longer if you have an older system. The next step is the configuration process of your system.

Configure the System

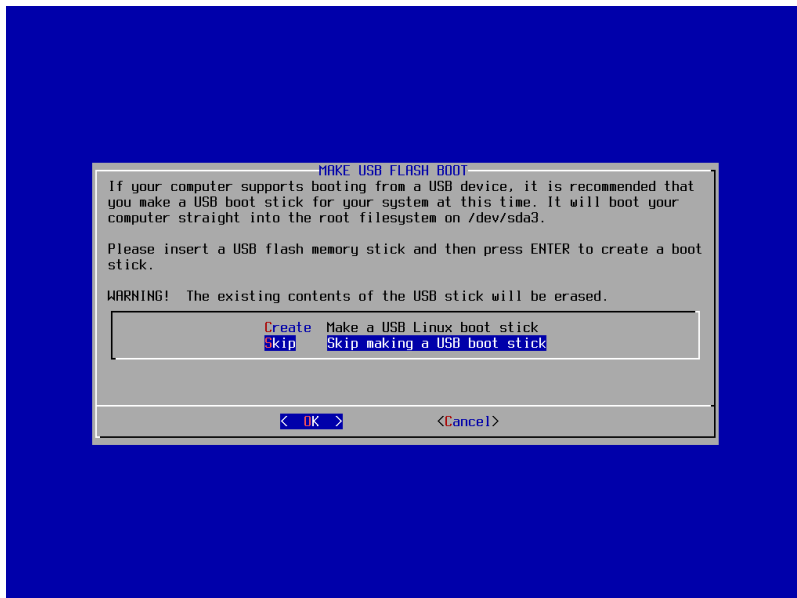
The installer will automatically register the system fonts after all software packages have been copied. This takes just a few seconds.



Then a font cache is generated so that system fonts can be accessed quickly in the future. This also takes a few seconds.



Then the installer asks to make a USB boot disk. This USB boot disk will aid you in starting up your system if it becomes unable to boot. An example of such a scenario is if the boot loader fails or if the boot sector is not updated when a kernel upgrade occurs. This step is skipped in this tutorial, but it is a recommended safety measure you should consider.



Your installation media can also be used as a boot disk to access your system in the event of such issues

The next step is installing a boot loader.

There are two ways of booting an operating system like Slint Linux:

- In BIOS mode. This is also known as Legacy mode, It uses the boot sector written directly to the Super block of a disk partition, or to the MBR (Master Boot Record) of a disk.
- In EFI mode. This uses an EFI image (file in a specific format) written to the ESP (EFI System partition).

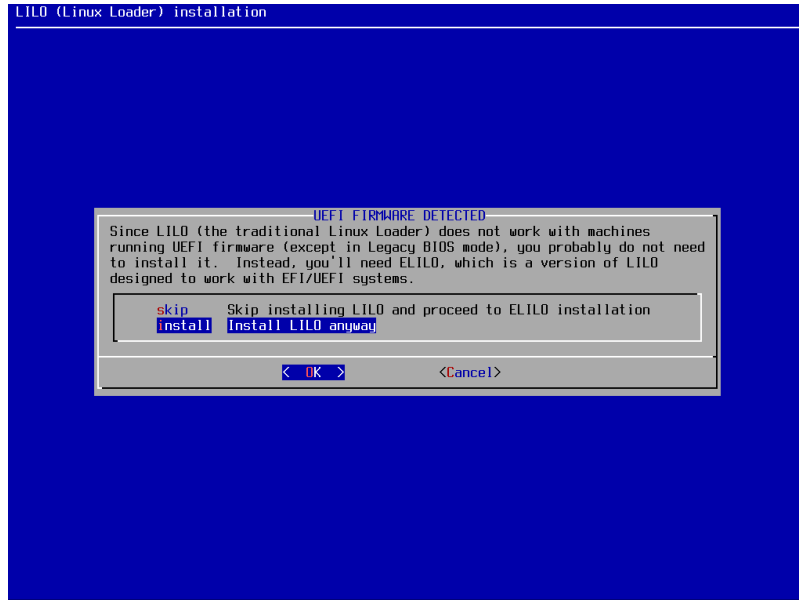
In Slint we uses these applications to set up the system boot loader:

- LILO in BIOS mode
- ELILO in EFI mode
- *Many systems are able to boot in both modes*

If a boot loader like LILO or Grub is already used to boot another system on the same machine, you may prefer to skip this step altogether. After installation you can then re-configure the existing boot loader to add a boot entry for Slint.

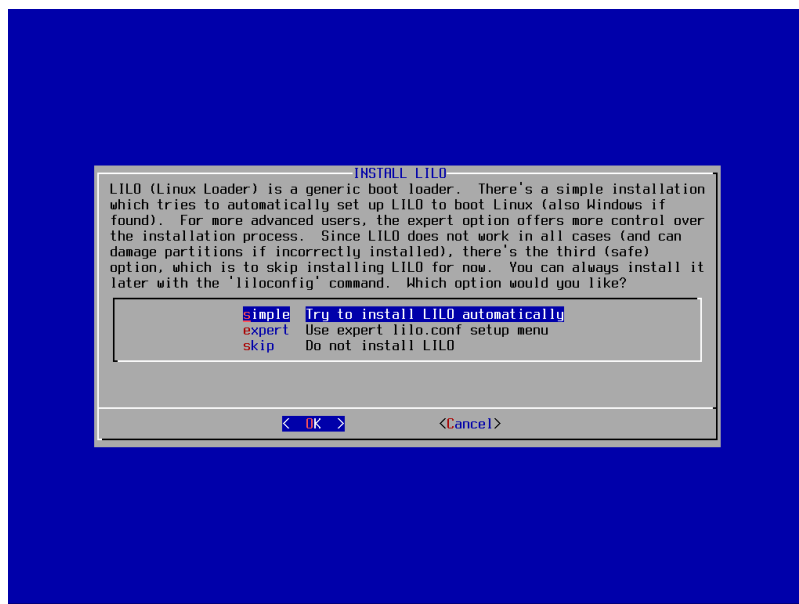
In our example we booted the installer in EFI mode. The installer asks to skip the installation of LILO in order to install ELILO instead. It is safer to prepare the system to boot in both modes (BIOS and EFI). You will install LILO alongside ELILO.

Select **install**, Install LILO anyway.

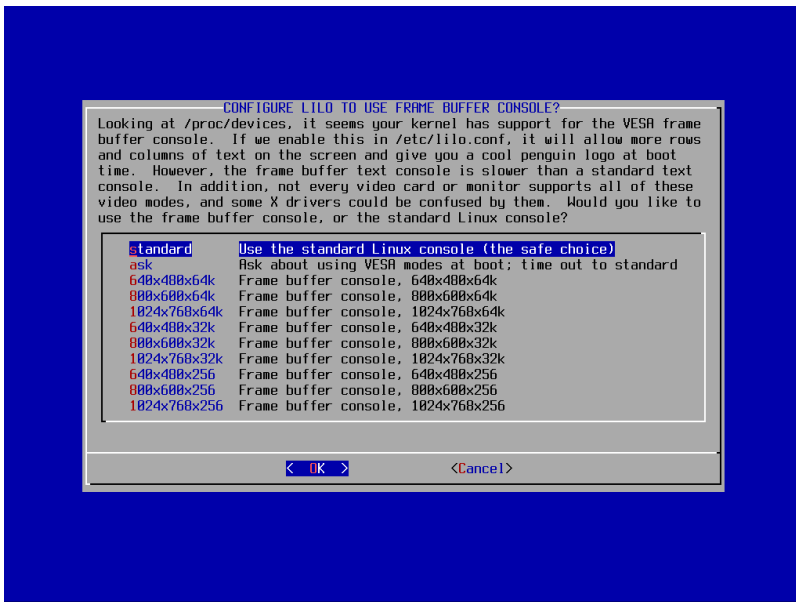


Next, you will be asked several questions about installing LILO. In each dialog you should accept the default choice.

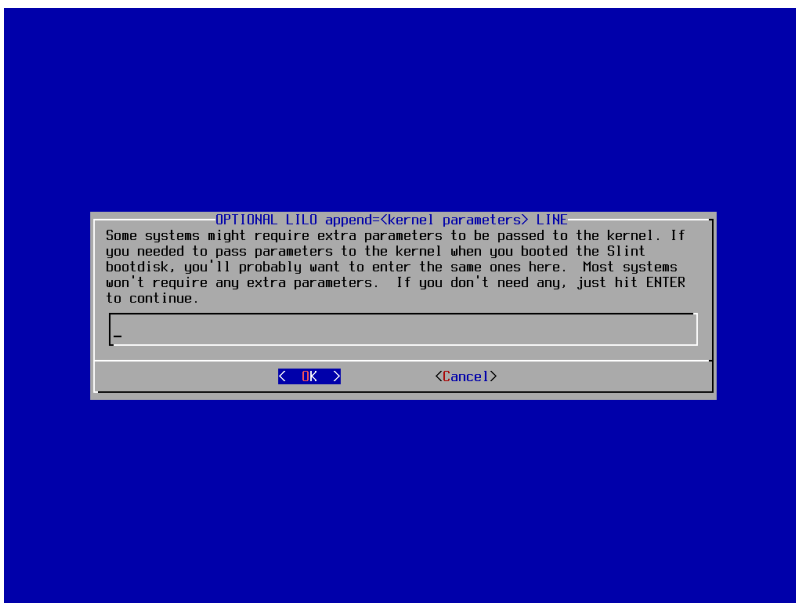
Select **simple**, Try to install LILO automatically:



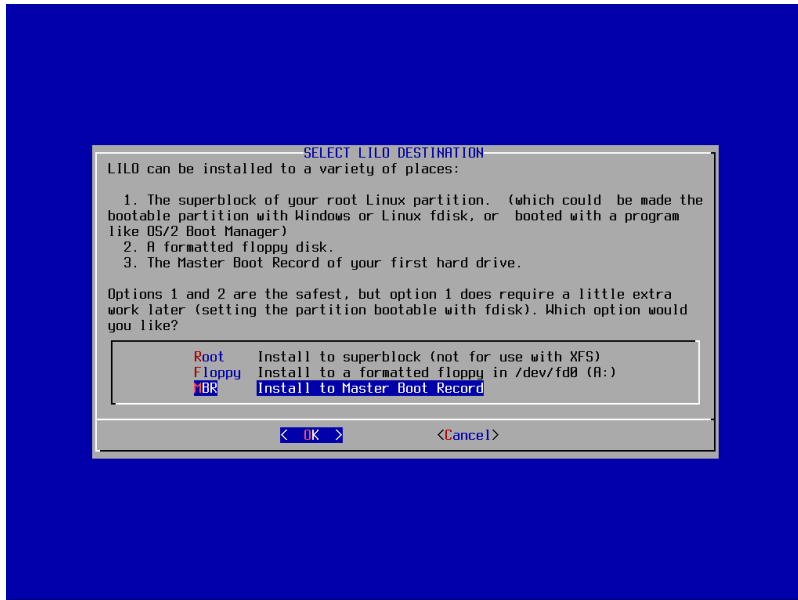
Select **standard**, which is the safest choice, Use the standard Linux console:



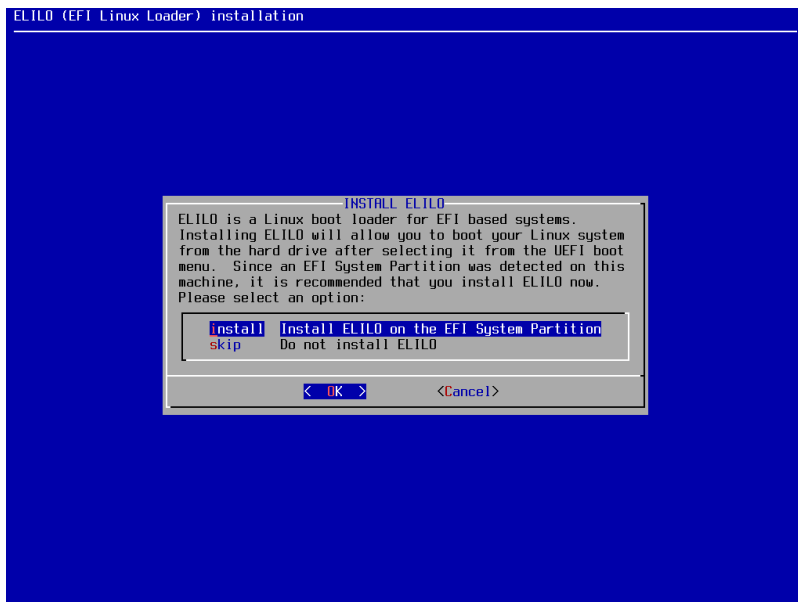
If you do not need extra parameters passed to the kernel to boot, press [Enter].



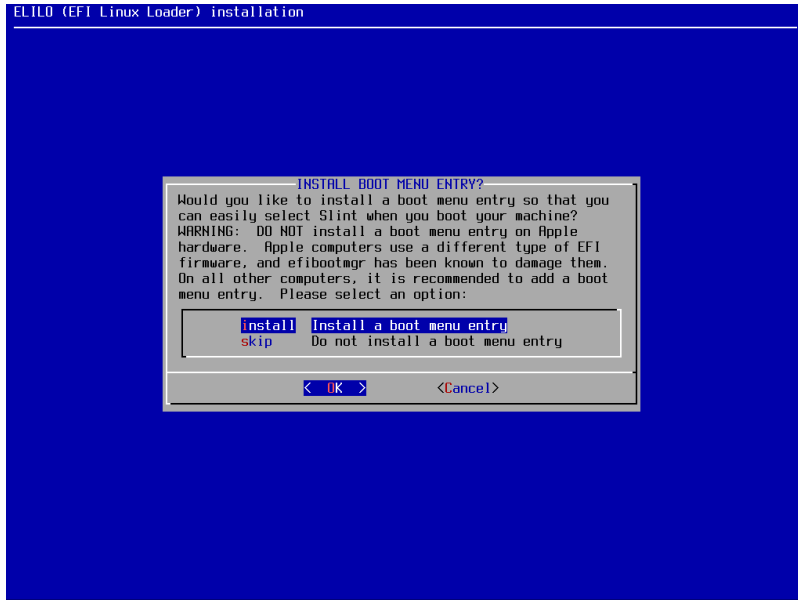
Select **MBR**, Install to Master Boot Record:



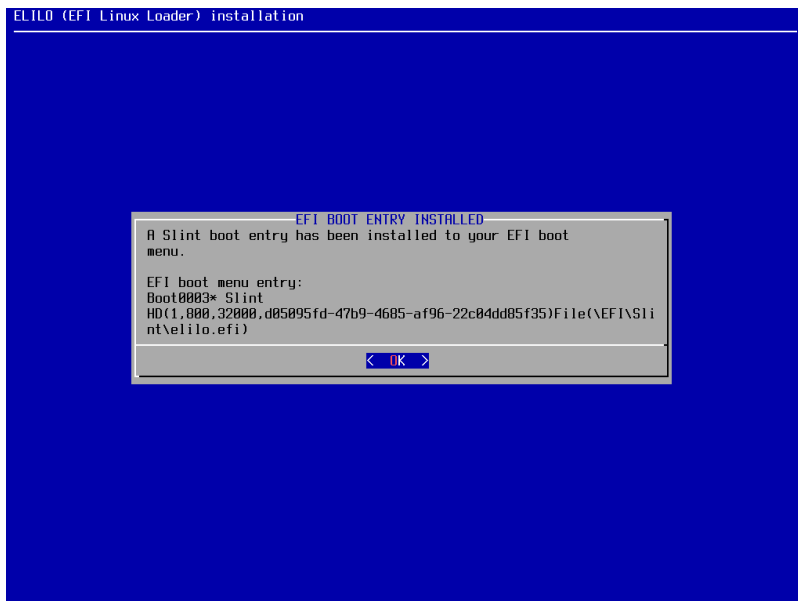
Next, select to install ELILO. This will write the necessary files to boot in EFI mode onto the EFI system partition.



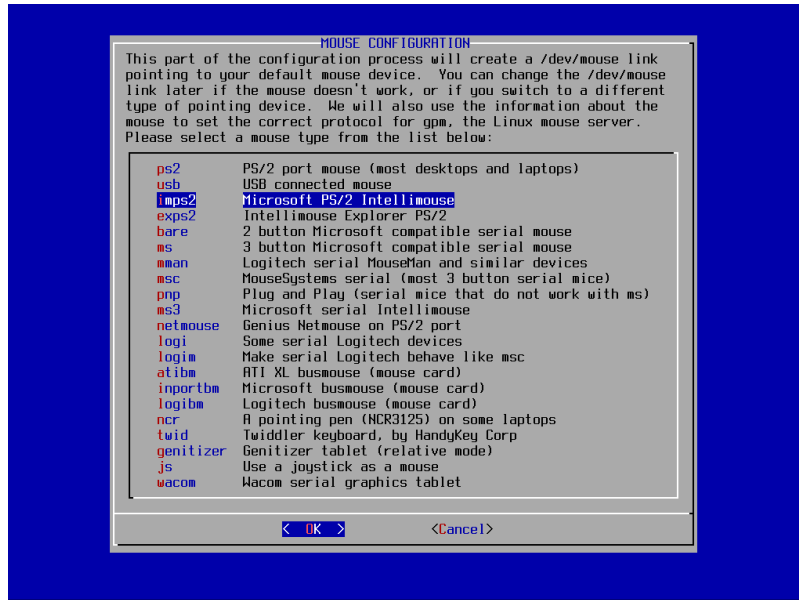
Select **install**, Install a boot menu entry. This entry will go in the firmware's boot menu. It will be written to the CMOS instead of on the hard disk. It will give you an alternate way to start the boot process.



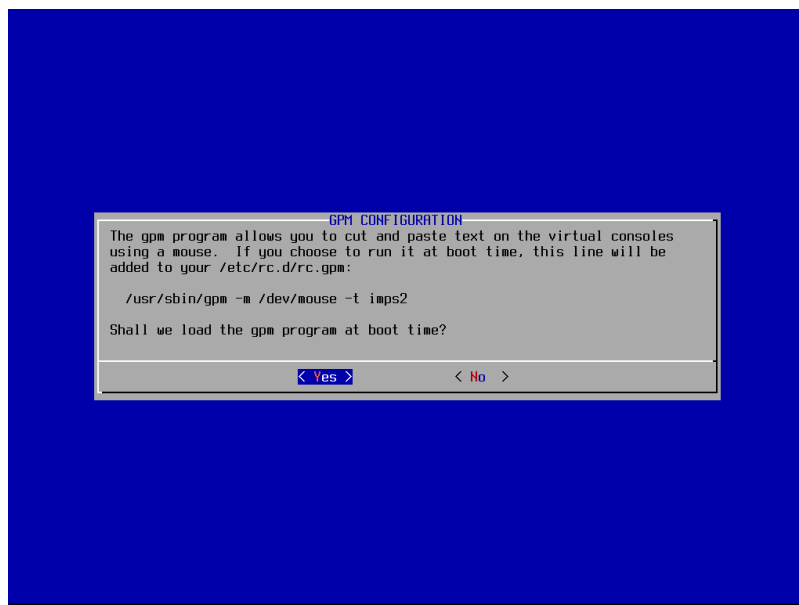
The next screen confirms the installation of the menu entry.



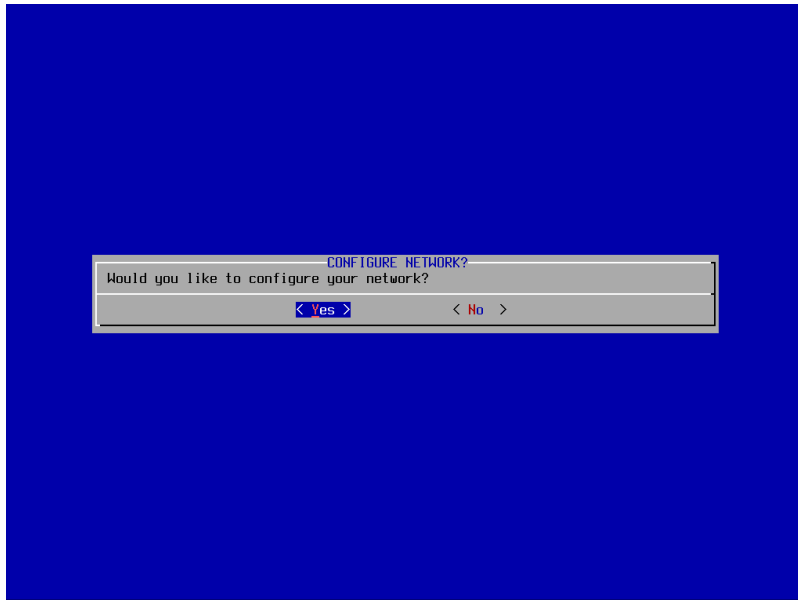
You probably won't see then the next screen. USB mice are auto-detected by default.



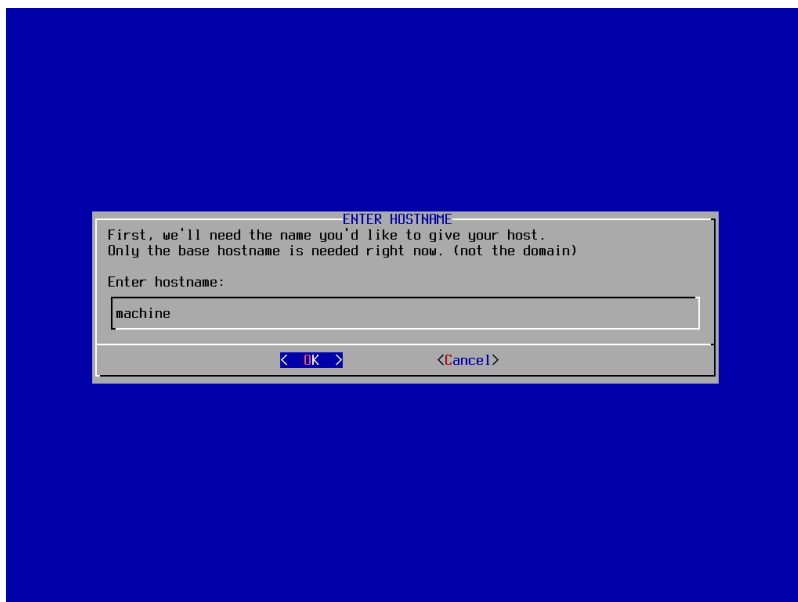
Next you will be asked if you want a Console mode mouse cursor. This may not be necessary if you strictly use Graphical mode. It doesn't hurt to enable this option if for some reason you only have access to Console mode at some point in the future.



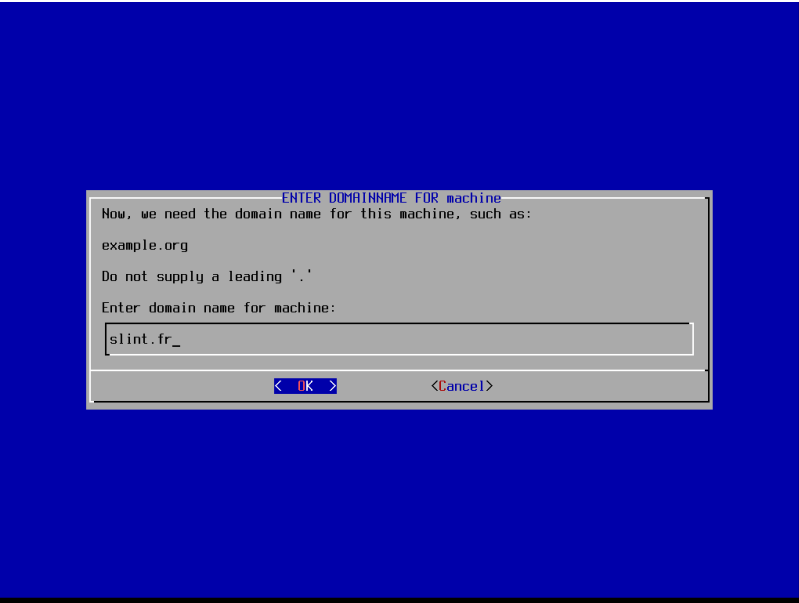
Select **Yes** to configure the network settings. This is needed to access the internet, even if you do not have a local network,



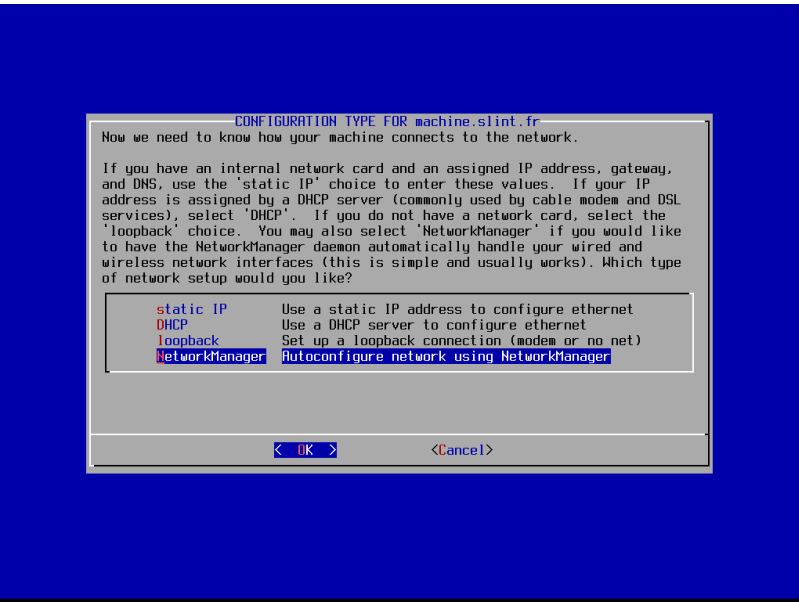
The hostname is needed to identify the machine in a local network. If you do not have a local network, you can use any name. Some examples could be machine or box.



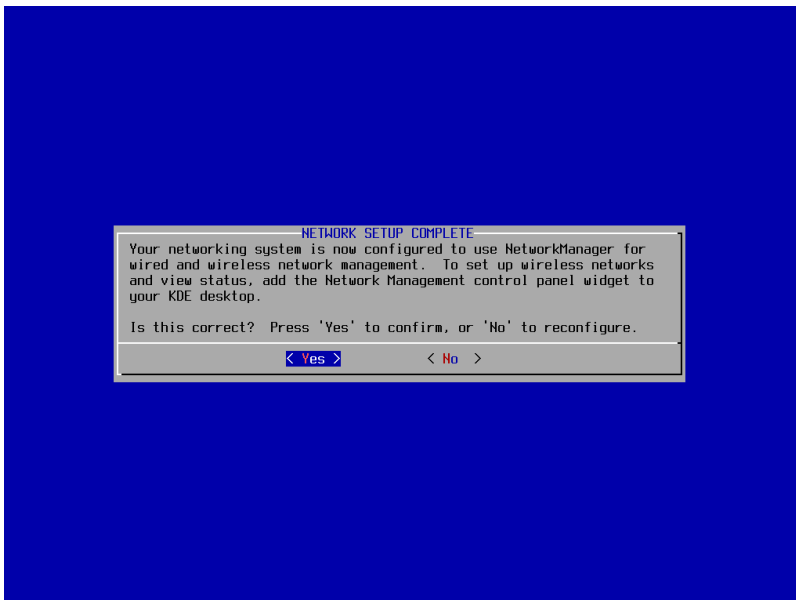
Enter a domain name that will allow other computers on the internet to reach you. This is useful if you are hosting a web server, or other network services. If you are not planning to do so, enter any name you wish.



Next you will be asked how you would like to configure the network. In most cases the best choice is to select **NetworkManager**, Autoconfigure network using NetworkManager.



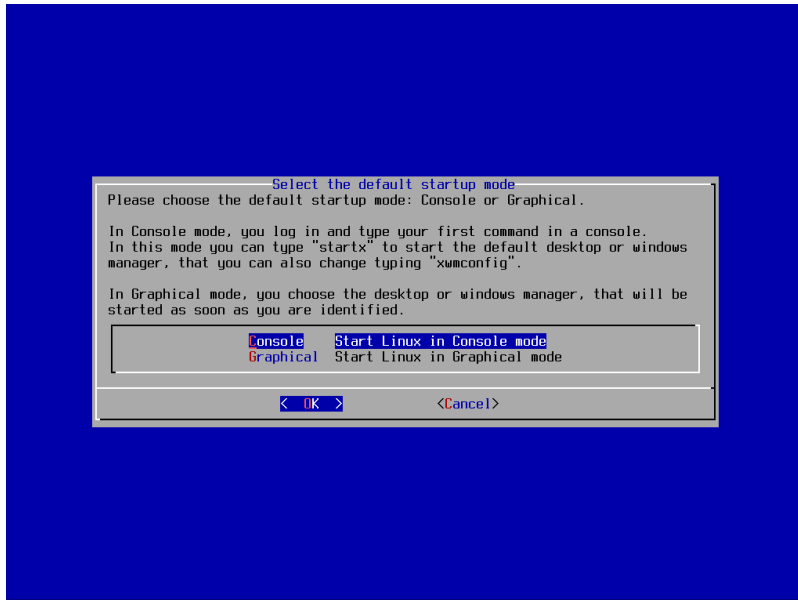
Select **Yes** to confirm your choice. You will automatically see a widget on your Slint desktop panel. It will allow you to manage both wireless and wired network connections.



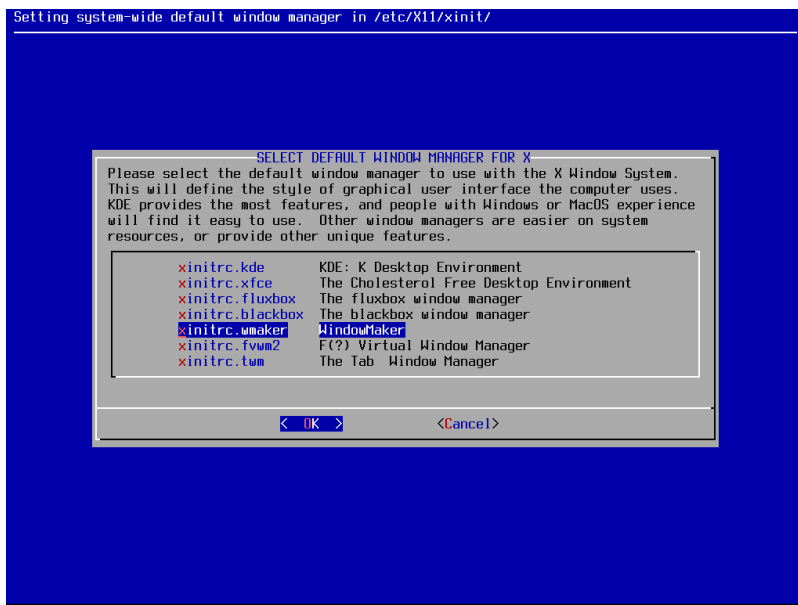
Slint can be used as a server and a desktop. This dialog asks what services you wish to run on your Slint system. It is safe to accept the default menu options. You can easily change your system configuration after the installation process is complete, and you are booted into your new system.



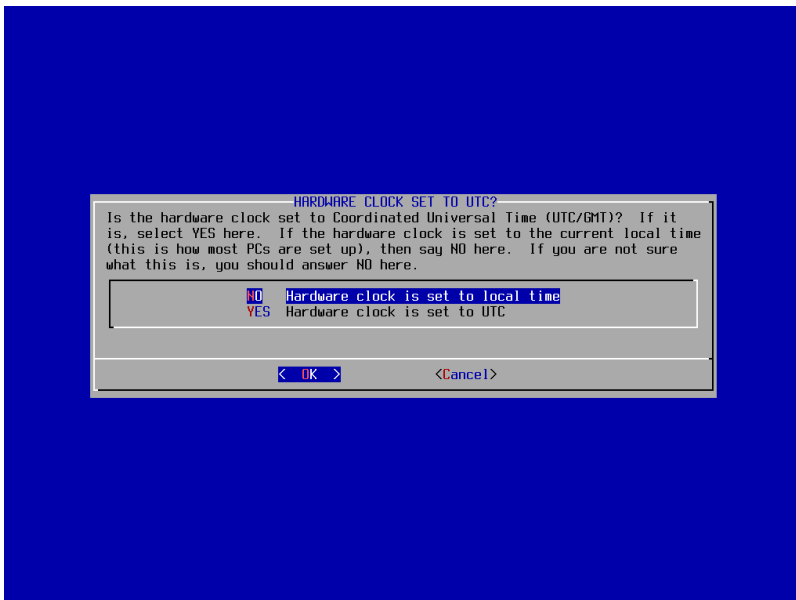
You will now choose if your computer should start in Graphical or Console mode. A novice Linux user will often prefer Graphical mode, but in this example Console mode is chosen. This can easily be changed later on when you are booted into your new system.



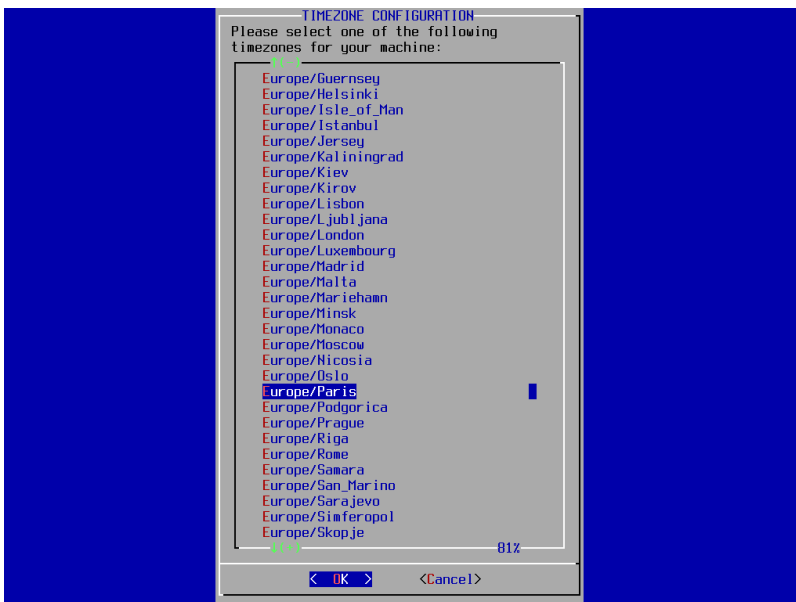
Several Windows managers are available in Slint's Graphical mode. Pick the one you like or one at random. You will be able to change this setting and try other window manager after the installation process.



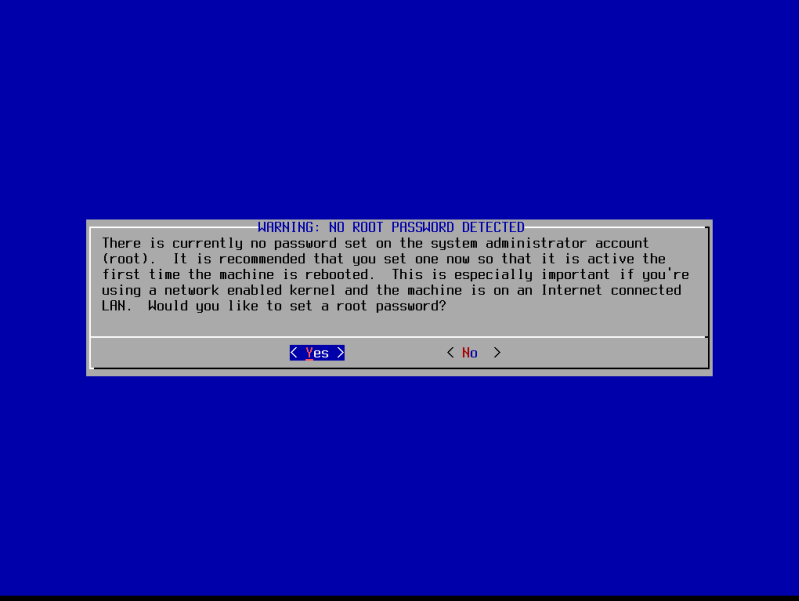
If you travel a lot, set your computer's clock to UTC. If in doubt, answer **No**.



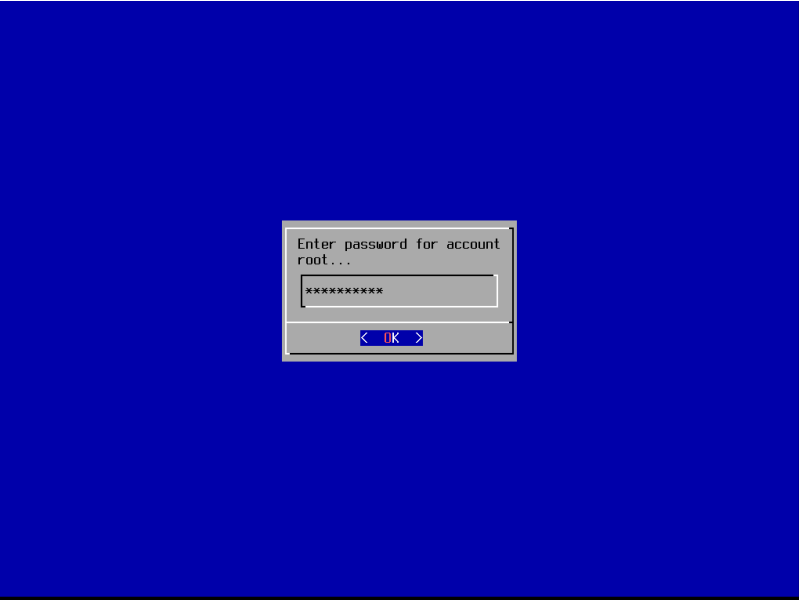
Select your preferred timezone. Use the arrow keys or [Page Up] and [Page Down] to find your timezone. Press [Enter] when you have it highlighted.



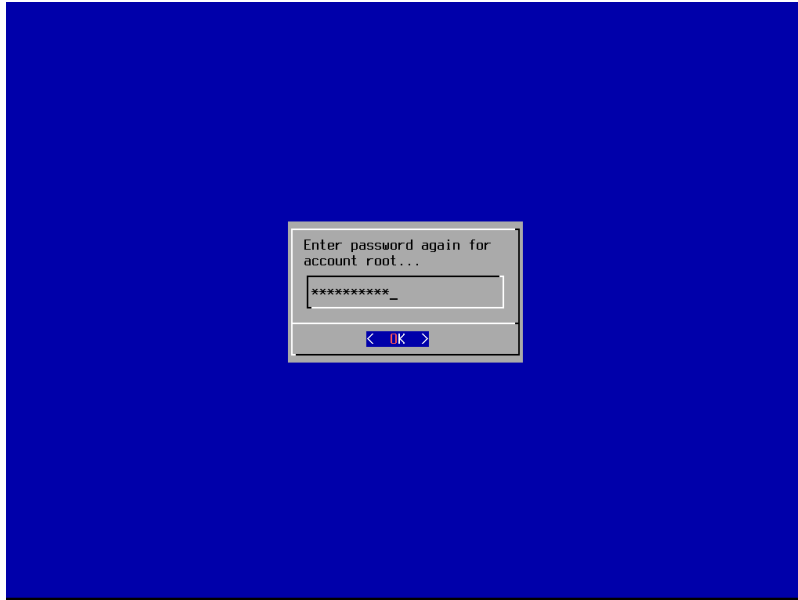
Next you are asked if you want to set up a password for the root account. The root account is the administrative account that is allowed full access to all aspects of your system. It is strongly recommended that you choose **Yes**.



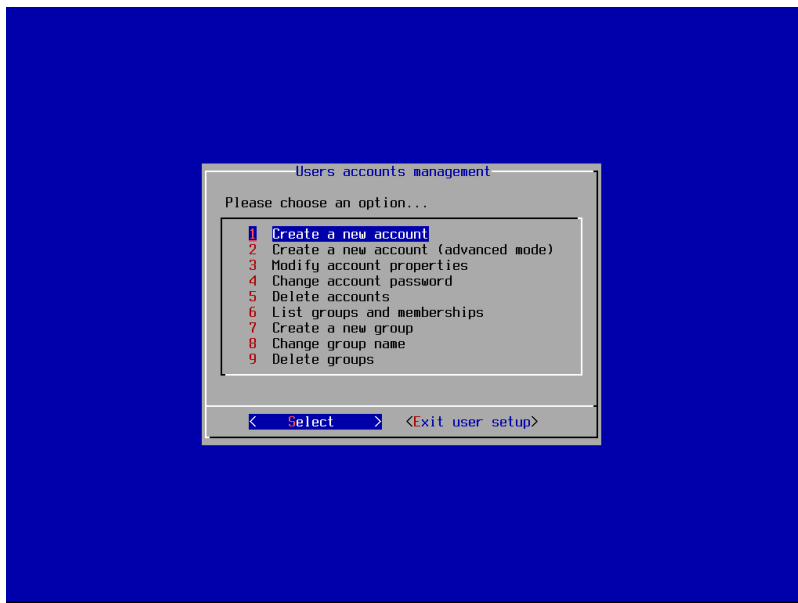
Enter your password and press [Enter].



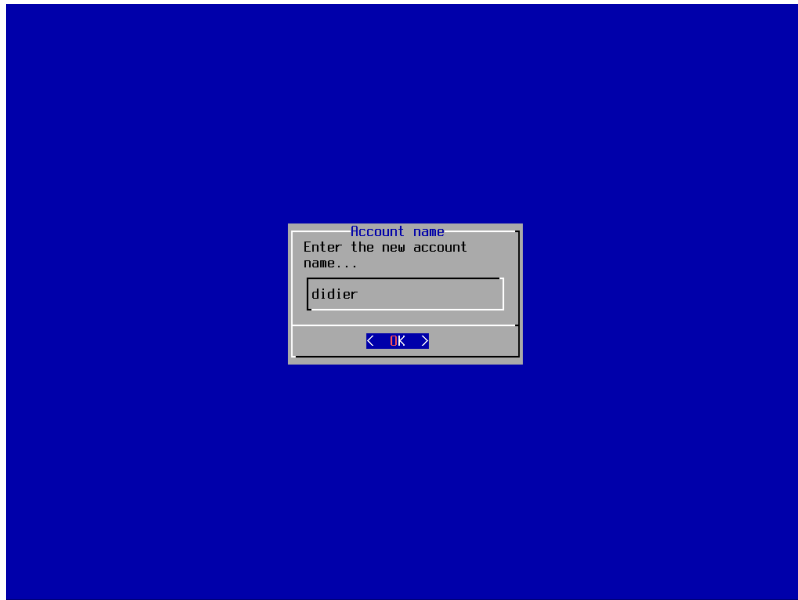
Type the root password again to confirm it and press [Enter].



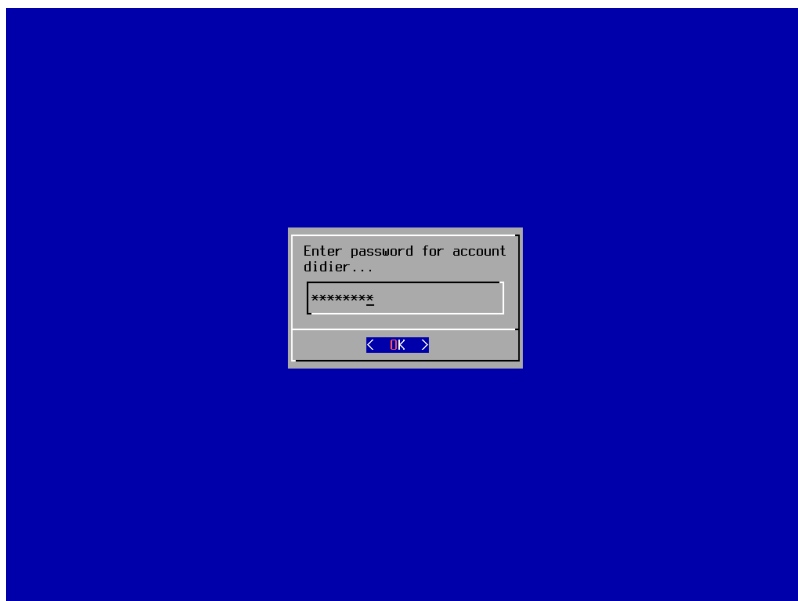
It is also recommended that you set up a limited user account (non-privileged). This is the account you will use for day to day activities such as browsing the web and checking e-mail. Select Create a new account and press [Enter].



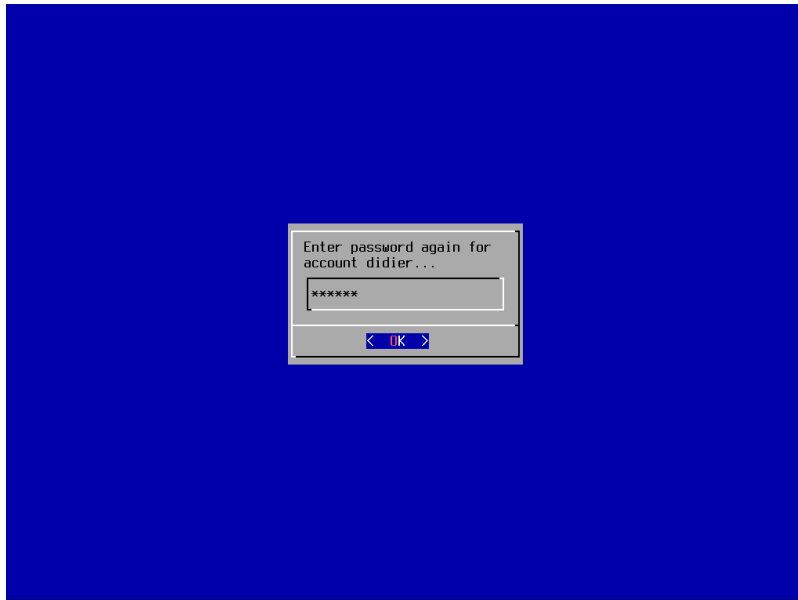
Then type the name associated with the account. It can be your first name or a nickname you will remember.



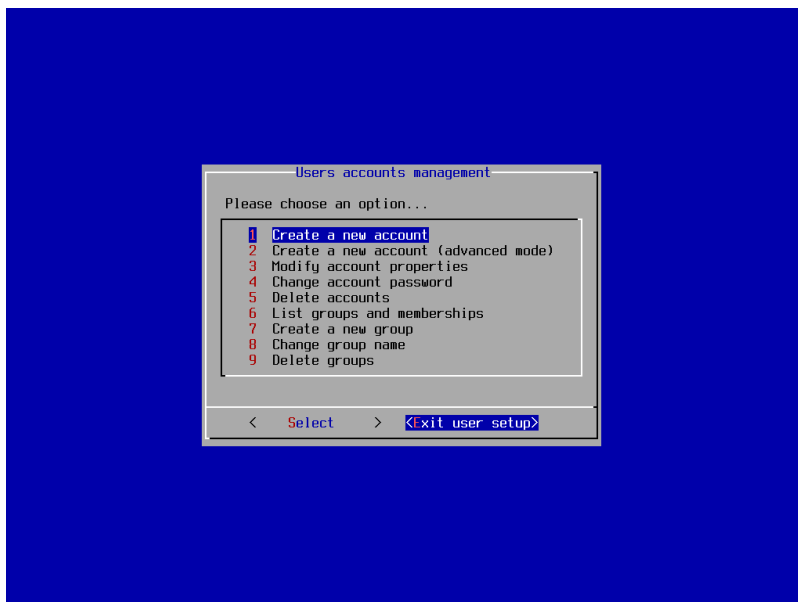
Enter the password for the new account and press [Enter].



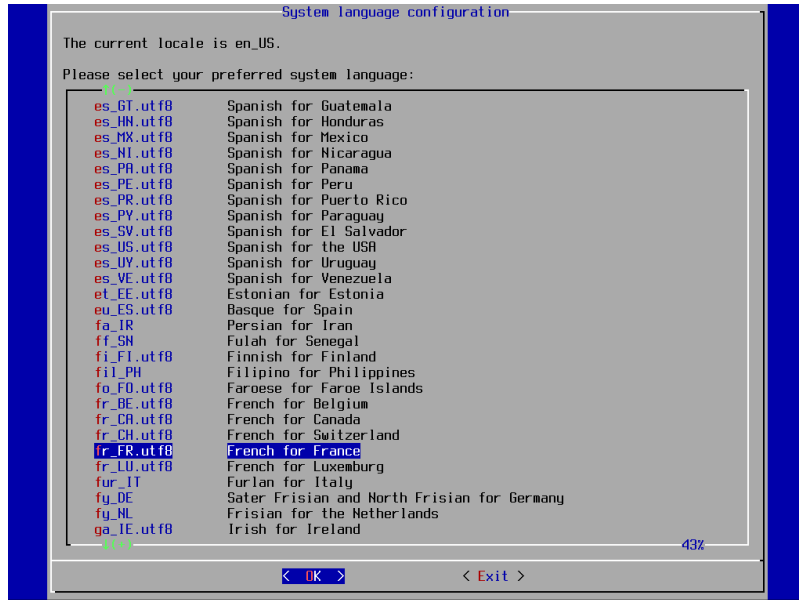
Type the password again to confirm it and press [Enter].



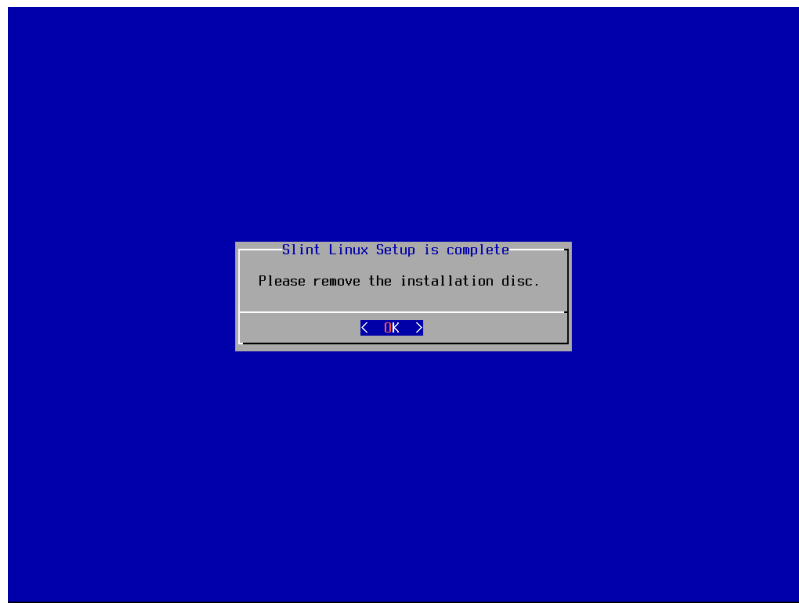
You can create as many user accounts as you wish. Once you are finished, Select Exit user setup and press [Enter].



We chose English as the default language for this installation process. If English is not your native language you can set another language for the installed system.

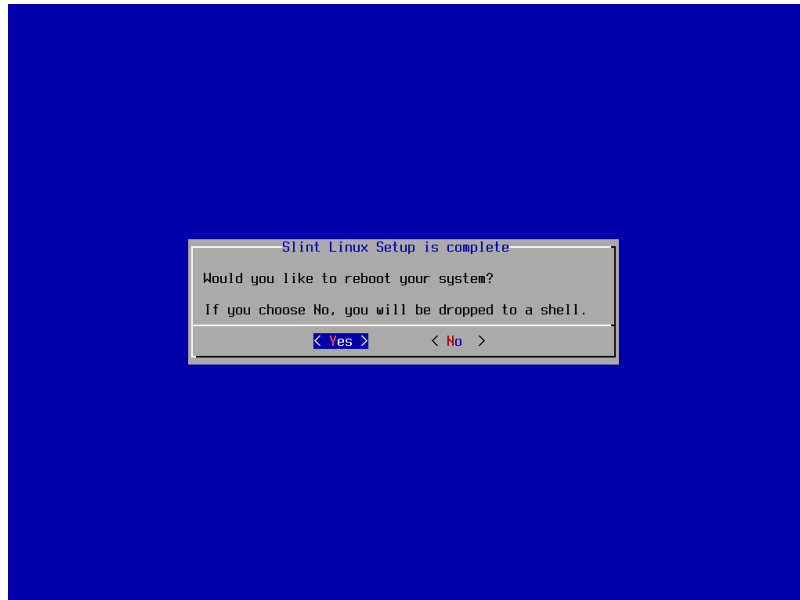


At this point the installation is complete. You are asked to remove the installation medium. If you used a DVD, open the DVD tray, and remove the disc. If you used a USB stick, remove it from the USB port.



Finally, you can select **Yes** and press [Enter] to reboot into your new Slint Linux system.

If for some reason there is another task to complete, choose **No** and press [Enter]. You will be dropped to a root shell on your system.



Congratulations!

You have successfully installed Slint Linux. Your system should be fully functional and ready for every day use. You may, however, have a few questions about what to do next. For example, you may wish to manage users or groups, change the keyboard map or language, install a printer, configure sound, manage your network connections, or initialize network services. You may also have questions about how to install, remove, and upgrade software on your system. Or quite possibly, you simply need a brief introduction to Slint's graphical user interface. All of these questions and more can be answered by returning to the section of this wiki that [describes Slint's usage](#).

If for some reason you find a topic is uncovered, please visit [the support section of this wiki](#), and follow the directions.

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[/wiki/](#) - **Slint**

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Last update: **2019/11/18 12:54**