



# Linux Mint

Installation Guide

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## Editions

An Edition is a release of Linux Mint which is customized to address a certain set of needs. This guide covers the Cinnamon Edition. Here are some of the most popular editions:

- Cinnamon Edition (uses a Cinnamon desktop)
- Mate Edition (uses a Mate desktop)
- KDE Edition (uses a KDE desktop)
- Xfce Edition (uses an Xfce desktop)

If you don't know which edition to use, choose the MATE Edition. It's not as popular as the Cinnamon Edition but it is compatible with a wider variety of hardware specifications.

## Where to find help

The Linux Mint community is very helpful and very active. If you have questions or a problem related to Linux Mint, you should be able to get help from other users online.

First, make sure to register with the “Linux Mint Forums”. This is the very first place where you can find help: <http://www.linuxmint.com/forum>.

# Installation of Linux Mint

You can download the Linux Mint operating system for free. It comes as an ISO file which you need to burn to a blank DVD. The liveDVD is then bootable and provides a fully-functional operating system which you can try without affecting your PC. In layman's terms, when you put Linux Mint on a DVD and place it into your computer, you can try it out while leaving your current system intact.

*Note: It is also possible to write the ISO image to a USB stick or other memory device and boot from that, or to boot from the ISO image on the hard drive, but these options are somewhat more advanced and the method presented here is recommended. For help with alternative methods of installing and running Linux Mint, please visit the forums.*

If you like what you see when running the liveDVD you can decide to install the system to your hard drive. All the necessary tools (partitioning and installation tools) are present on the DVD.

## Download the ISO

Note: If you don't have a broadband connection, or if your Internet access is too slow you can order the DVD from this web site: <http://www.osdisc.com>

Otherwise, you can visit the Linux Mint download page here: <http://www.linuxmint.com/download.php>

Then choose the edition you're interested in.

From this page, you should be able to find:

- a torrent link
- how to verify your ISO
- a list of download mirrors

The file you need to download is an ISO file. There are two ways to download this file, by torrent (a Peer to Peer protocol) or via a download mirror (HTTP or FTP protocol). Once your download is finished, you can ensure your ISO file isn't corrupted by checking its SHA256 checksum (see how to verify your ISO).

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## **Via Torrent**

Torrent is a Peer to Peer (P2P) protocol. Basically, instead of downloading from a central location, a torrent lets you download the ISO file in parts from different people across the Internet.

The more people who download the ISO file, the faster the download speed gets. This is the preferred and recommended way to download Linux Mint.

### **Install a Torrent client**

You need a piece of software called a “torrent client” in order to download files via torrent.

If you run Linux, you can install “Transmission”. If you run Linux Mint, Transmission is already installed.

If you run Windows, you can use µTorrent.

### **Download the Torrent file**

The next step is to follow the torrent link from the Linux Mint website and to download the .torrent file. This file is very small. After it downloads, you should open it with your torrent client.

The torrent client will probably ask you where you want to save the ISO. Select a destination and then wait for the download to complete.

For more information about the torrent protocol, visit:

<http://en.wikipedia.org/wiki/BitTorrent>

### **Via a download mirror**

If you can't, or do not choose to use the torrent protocol, then look at the list of download mirrors and pick one of them. They'll provide a link to the ISO file itself which you can just click to start the download.

Note: Remember that bandwidth is limited though and the more people download from a mirror, the slower the download speed gets for everybody who is downloading from that mirror. Furthermore, if for some reason the download should be interrupted, it may be corrupted and the download may have to be restarted. For these reasons it might be worthwhile using a download manager, like for Linux, or for Windows, if taking this route.

## **Read the Release Notes**

Your download is probably going to last quite some time, so now would be the perfect time for you to get familiar with the new features coming with the release you're currently downloading.

The release notes are featured on the Linux Mint web page and answer the following questions:

- What are the new features delivered in this release?
- What are the known problems of this release?
- How do I upgrade from the previous release?

They also contain screenshots of the latest release. Of course, you could find out about most features highlighted in the release notes by simply using the operating system, but you might miss a few things, so it is most reliable to read the release notes.

The release notes for Linux Mint 18 Sarah are available here:

[http://www.linuxmint.com/rel\\_sarah\\_cinnamon.php](http://www.linuxmint.com/rel_sarah_cinnamon.php)

## Verify the ISO

You've read the release notes, you just can't wait to play with the new features or try Linux Mint, and your download just finished successfully. You're ready to burn a DVD and to boot on it... but hey! Wait for a second!

If that DVD is faulty you will experience weird bugs and will have a lot of trouble finding help. The two most common reasons for a DVD to be faulty are:

- An issue with the download causing problems in your ISO file (this is less likely to happen using torrent)
- An error during the burn process that alters the contents of your burned liveDVD

The SHA256 checksum provides a quick way for you to make sure that your ISO file is exactly like it should be. So, let's check the ISO file you just downloaded before we burn it and save ourselves from a lot of potential problems.

If you run any version of Linux you probably already have the sha256sum program installed. Open a terminal and "cd" to the directory where your ISO file is (for instance, if "linuxmint.iso" is on the Desktop), open a terminal and type:

```
cd ~/Desktop
sha256sum -b linuxmint.iso
```

This command should output a series of numbers and letters which comprise the SHA256 checksum of your ISO file. By design, any small change to the ISO file will cause this checksum to be significantly different, allowing us to verify that the file is exactly as it should be.

Compare that checksum with the one you can find from the “verify your ISO” link on the download page of the Linux Mint website. If the two checksums are the same, then you know your ISO file is exactly the same as the original and you can now get ready to burn it on DVD.

If you happen to run Windows, chances are you don’t have sha256sum installed. You can get it from here: <http://www.labtestproject.com/files/win/sha256sum/sha256sum.exe>

Place the ISO file and the sha256sum.exe in the same place (let’s say in C:\) and run “cmd.exe”. In the command line environment, type the following commands:

```
C:
cd \
sha256sum linuxmint.iso
```

Then compare the signature to the one present on the website.

## Burn the ISO to DVD

Now that you have checked the ISO file you are ready to burn it to a DVD. Get a blank DVD-R (a DVD-RW should work as well, but this type of media is known to have compatibility issues) and your favorite marker and label the DVD. Although labeling your DVDs sounds trivial, you should be sure to do so, as you can easily end up with 20 unlabeled and unidentifiable discs on your desk. :)

Insert the blank DVD-R in the drive and get ready to burn the ISO.

If you’re running Linux Mint with Cinnamon right-click on the ISO file and select: open with: Brasero, choose “Burn image” and follow the steps given there.

If you’re running Linux Mint with KDE, launch K3B and in the “Tools” menu choose “Write ISO Image”.

If you’re running Linux and would like to use the terminal, from the directory you have downloaded the image to:

```
cdrecord -v -dao dev=1,0,0 linuxmint.iso
```

Replacing the numbers after dev= with the appropriate device number for your disc drive and using the proper iso-name. You can run

```
cdrecord -scanbus
```

to find this out. You may need to be root to run these commands.

If you're running Windows you can use a program like InfraRecorder:

<http://infrarecorder.org>

*Note: Make sure to burn the ISO **image** to disk, and not to write the ISO **file** to the disk. A very common mistake, especially for people using Nero, is to actually burn the ISO file on the disk as a data file. The ISO file is an image of a disk so it needs to be burnt not as a file which will appear on the disk, but as an ISO image which will be decompressed and whose content will be burnt onto the disc. After burning the DVD you shouldn't see the ISO file within the disc, but rather folders like "casper" or "isolinux". Most burning software has a special option for this.*

## Boot the LiveDVD

Place the DVD in the drive and restart the computer. You should now see the following screen:



*Note: If you don't see this screen and your PC boots as usual it's probably because your BIOS is not set to boot on DVD. Restart the computer and press F1, F2, Delete, or Escape (or whatever key lets you enter the BIOS configuration) and change your BIOS settings to tell your computer to boot from its DVD drive. Therefore you need to assure secure boot is disabled and possibly change the bootorder.*



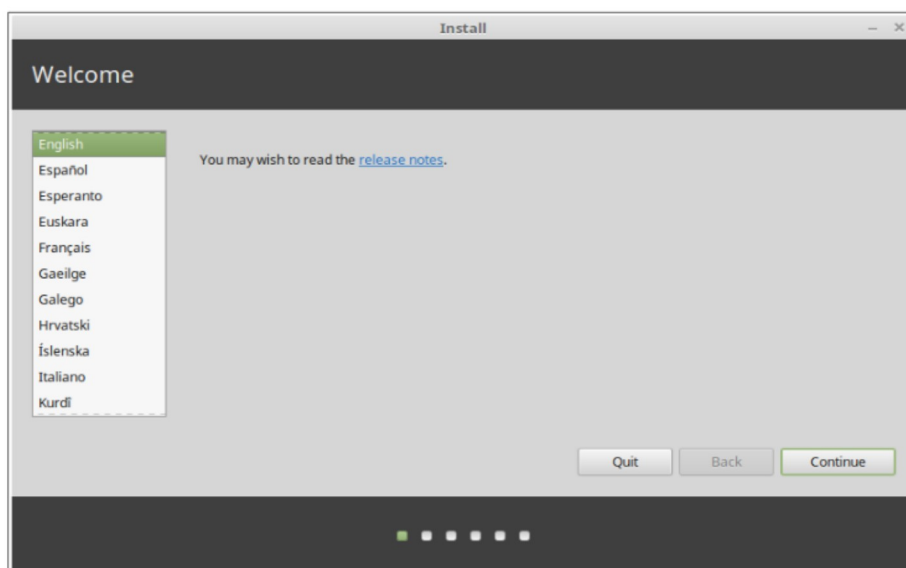
## Install Linux Mint on your Hard Drive

From the first screen choose the default “Start Linux Mint” option and press Enter. After a little while the live system should be ready and you should see the desktop.

At this stage Linux Mint is not installed on your computer, it’s simply running from the DVD. The system you have in front of you is, however, almost exactly the same as the one you will have on your computer after the installation is finished.

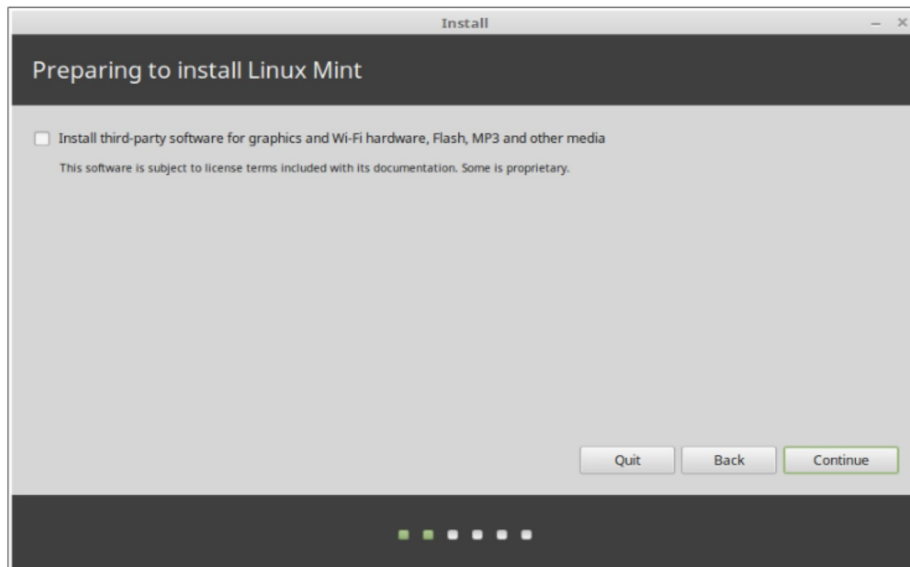
Have fun with it and see if you like it. Bear in mind that when running from the DVD, Linux Mint runs significantly slower than it does when it is installed on a hard drive, since it has to read data from the DVD drive, which is a slower medium than the hard drive.

When you are ready, double-click on the “Install Linux Mint” icon located on the desktop. The Installer appears:



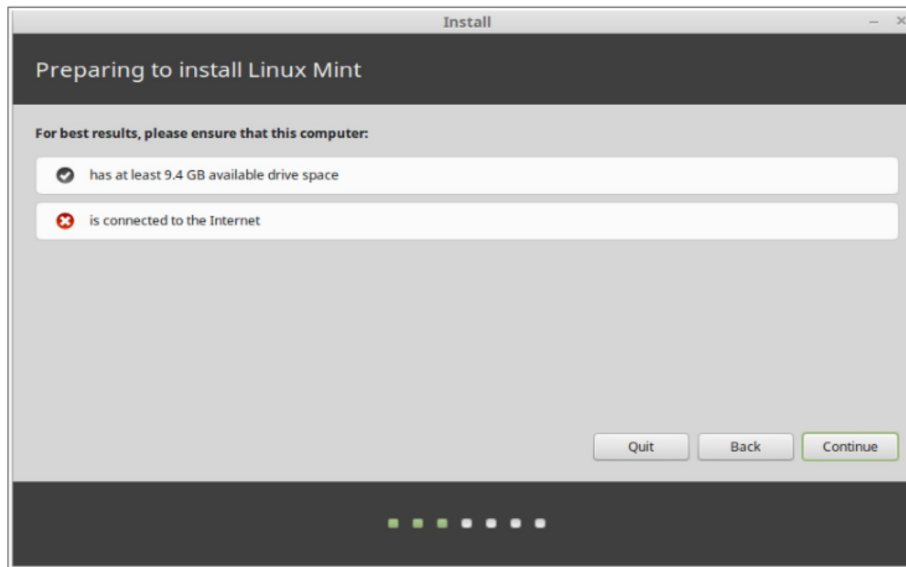
If you haven’t read the release notes yet, and you have an Internet connection, then this is an ideal opportunity to review them; simply click on the underlined link visible when online. It is highly recommended that users read the release notes *prior* to installation in order to advise themselves of new features, as well as any issues that might affect their particular hardware configuration.

Select your language and press the “Continue” button.

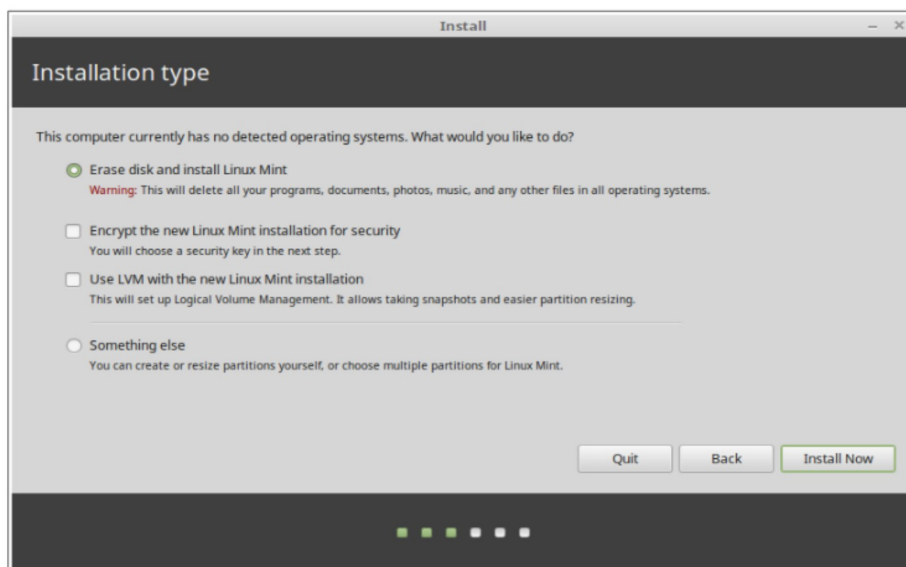


You will now see a screen asking if you want to install third-party software. This usually isn't (fully) open source software or the software has different licensing terms which people might not want to install. But as many other people rely on this software the installer of Linux Mint makes it easy to include them, just by selecting this option before you "Continue".

Note: If you intend to redistribute or to make commercial use of Linux Mint in the USA or in Japan and if you're not sure about software patent legislation you should not enable this option.



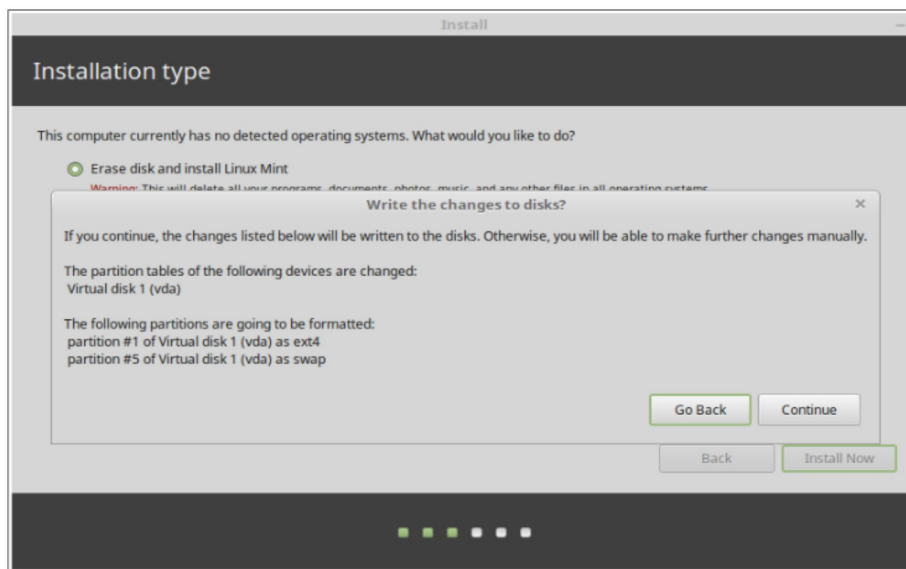
In the next optional screen, make sure you're connected to a power source (if you're using a laptop), the Internet and that you have the recommended amount of disk space. Then press the “Continue” button.



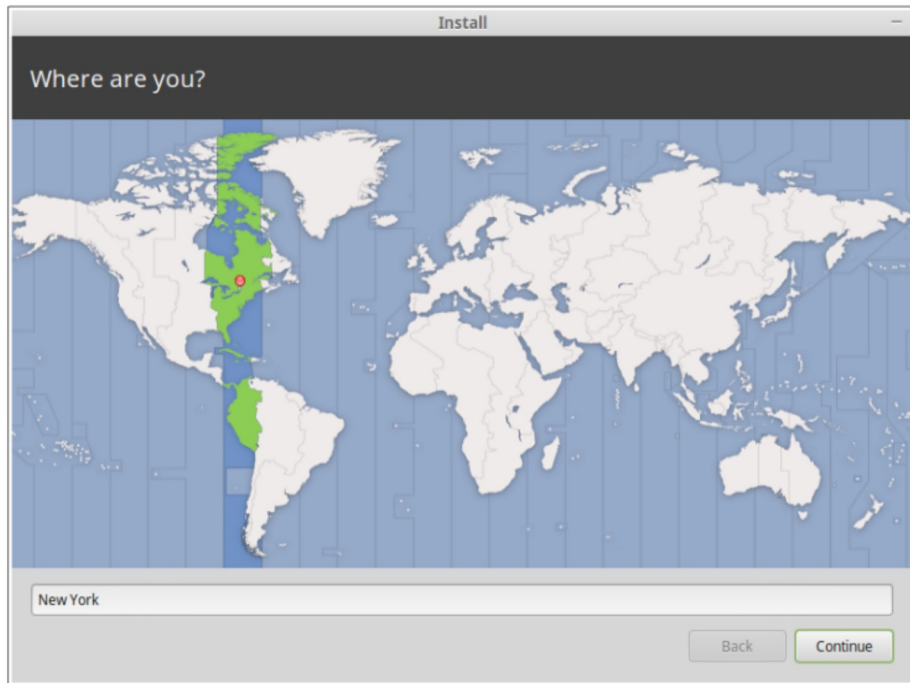
In the next screen you can assign your entire hard drive to Linux Mint or install it alongside other operating systems. Alternatively, you can also define and assign the partitions manually.

- If you choose to use the entire disk, its content will be erased and Linux Mint will be installed as the only operating system on your computer.

- If you choose to install it alongside other operating systems, the installer will use the free space available on other partitions to create a new one for Linux Mint. You will be asked how much space you want to allocate to it. The installer will then shrink a partition and take care of everything for you. Post-installation your computer will have a boot screen from which you'll be able to boot all your operating systems.
- If you choose to specify partitions manually, a partition editor will appear, giving you full control over the partitioning of your hard drive. This is recommended only to advanced users who understand how partitioning works under Linux. Note that Linux Mint requires a partition of at least 9GB and that the default size for a swap partition is 1 to 1.5 times the amount of RAM available on the computer.

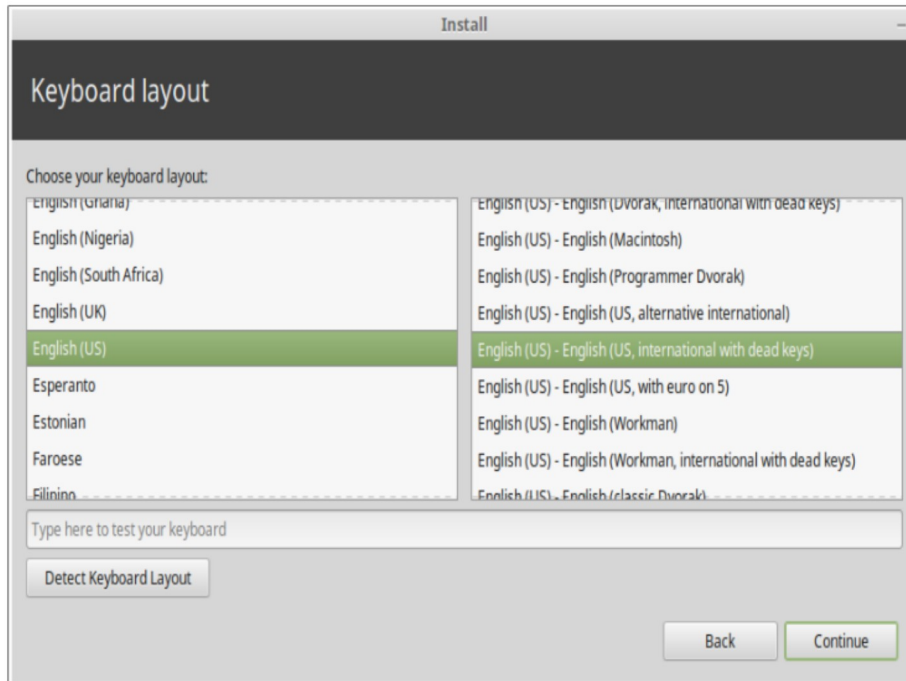


Choose the appropriate option and click on the “Install Now” button. At this stage, the installation is going on in the background and the installer asks you setup questions:



Choose your location on the map by clicking on the city which is the nearest to you. The purpose of this step is to identify your time zone. Make sure the “Current time” appears correctly and click the “Continue” button.

*Note: Sometimes the installer doesn't properly handle Summer/Winter time adjustments, so even by selecting the proper city you might see a difference of an hour or so with the correct time. Simply ignore this at this stage and remember to make sure that the time is correct after you reboot in your newly installed Linux Mint desktop.*



Select your keyboard layout. If you are not sure about exactly which layout matches the keyboard you have, click on the text field at the bottom of the screen and start typing with your keyboard. Make sure the keys you press match the characters that appear in the text field in order to ensure you have selected the right keyboard layout. Some layouts only differ with respect to accents, numbers and punctuation signs, so make sure to test these as well.

When you're ready click the "Continue" button.

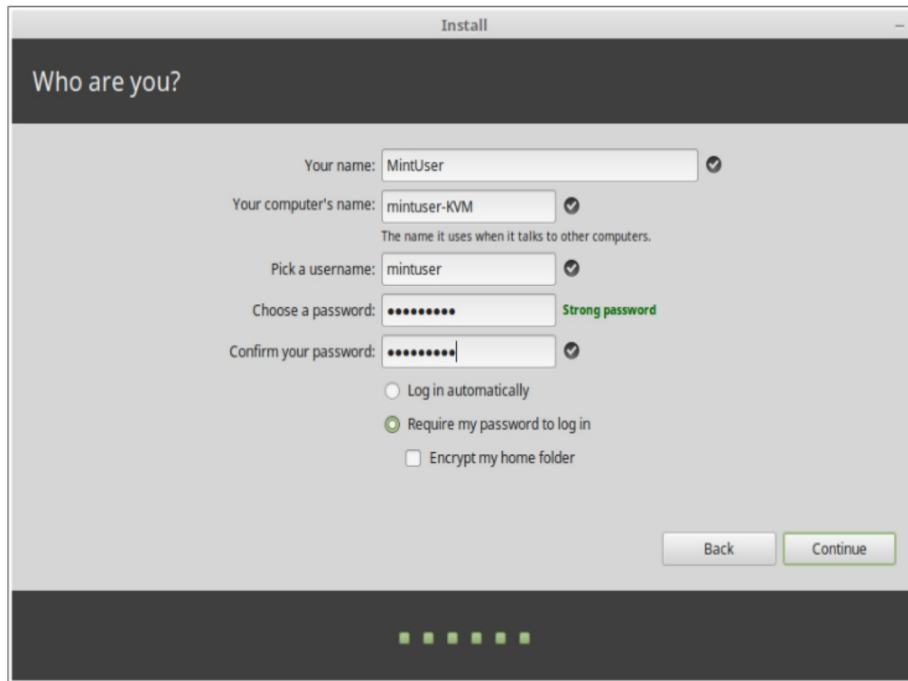
Enter your real name and a username and password. Every time you'll use Linux Mint you'll use your account with this username and password. Once Linux Mint is installed you'll be able to define other accounts if other people are to use this computer.

Also give your computer a name. This name will be used by your computer on the network or in various places of the system. If you've never really thought about naming your computers, then now is the time. People commonly pick flower (dahlia, rose, tulip) or planet (mars, jupiter, pluto) names for the computers on their network. It's entirely up to you what you want to use, but make sure to pick a name you like and that you will easily remember.

*Note: Capital letters, spaces and special characters are not permitted in the username or in the name of the computer.*

If you're the only one using the computer and you want to bypass the login screen, check the option “Log in automatically”.

When you're ready click on the “Forward” button.



The installer might detect other operating systems on your computer and ask you if you want to migrate some personal information. Typically this allows you to migrate bookmarks, contacts, favorites and other sorts of personal information from other operating systems installed on your hard disk drive into the newly installed Linux Mint. When you're ready click on the “Continue” button.

The installation should take between 10 and 15 minutes.



*Note: The installer will download packages from the Internet to support the language you've selected. Your computer needs to be connected to the Internet for this to work. Otherwise just "skip" that step and you'll be able to add support for your language after the installation is finished and you've rebooted into your new system.*

Once the installation is done click the "Restart Now" button and the liveDVD or LiveUSB environment will shut down.

When prompted, remove the DVD from the drive or remove the USB and press Enter. Your PC is now ready to boot Linux Mint from the hard drive.

## **The Boot sequence**

Upon reboot, if you have more than one operating system installed, you should see a "boot menu". Once Linux Mint is finished loading you should see a new screen inviting you to enter your username and password. This screen is the "MDM Login Manager" and is commonly called "MDM". Enter the password you chose during the installation.

*Note: By default, your "root" password is the same as the password you chose during the installation. If you do not know what this means, then don't worry about it.*