

# Installation from LIVE medium

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The Official Documentation for Mageia



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This manual was produced with the help of the [Calenco CMS](http://www.calenco.com) [http://www.calenco.com] developed by [NeoDoc](http://www.neodoc.biz) [http://www.neodoc.biz].

It was written by volunteers in their free time. Please contact [Documentation Team](https://wiki.mageia.org/en/Documentation_team) [https://wiki.mageia.org/en/Documentation\_team], if you would like to help improve this manual.

## **Installation from LIVE medium**

## Table of Contents

|  |    |
|--|----|
| Installation from LIVE medium .....                | 1  |
| 1. Select and use ISOs .....                       | 1  |
| 1.1. Introduction .....                            | 1  |
| 1.2. Media .....                                   | 1  |
| 1.3. Downloading and Checking Media .....          | 3  |
| 1.4. Burn or dump the ISO .....                    | 4  |
| 2. Boot Mageia as Live system .....                | 7  |
| 2.1. Booting the medium .....                      | 7  |
| 2.2. In BIOS/CSM/Legacy mode .....                 | 8  |
| 2.3. In UEFI mode .....                            | 9  |
| 3. Please choose a language to use .....           | 9  |
| 4. License and Release Notes .....                 | 11 |
| 4.1. License Agreement .....                       | 11 |
| 4.2. Release Notes .....                           | 11 |
| 5. Configure your Timezone .....                   | 12 |
| 6. Clock Settings .....                            | 13 |
| 7. Select Keyboard .....                           | 13 |
| 8. Testing Mageia as Live system .....             | 14 |
| 8.1. Live mode .....                               | 14 |
| 9. Partitioning .....                              | 15 |
| 9.1. Suggested Partitioning .....                  | 15 |
| 9.2. Choose the mount points .....                 | 19 |
| 9.3. Confirm hard disk to be formatted .....       | 20 |
| 9.4. Custom Disk Partitioning with DiskDrake ..... | 21 |
| 9.5. Formatting .....                              | 23 |
| 10. Keep or delete unused material .....           | 24 |
| 11. Bootloader .....                               | 25 |
| 11.1. Available Bootloaders .....                  | 25 |
| 11.2. Bootloader Setup .....                       | 26 |
| 11.3. Other Options .....                          | 31 |
| 12. Reboot .....                                   | 31 |
| 13. User Management .....                          | 33 |
| 13.1. Set Administrator (root) Password: .....     | 33 |
| 13.2. Enter a user .....                           | 33 |
| 14. Login Screen .....                             | 34 |
| 15. Uninstalling Mageia .....                      | 34 |

## List of Figures

|                               |    |
|-------------------------------|----|
| 1. EFI System Partition ..... | 22 |
| 2. BIOS boot partition .....  | 22 |

## Installation from LIVE medium

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No one will see all the installer screens that you see in this manual. Which screens you will see, depends on your hardware and the choices you make while installing.

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## 1. Select and use ISOs

### 1.1. Introduction

Mageia is distributed via ISO images. This page will help you to choose which image best suits your needs.

There are three types of installation media:

- **Classical installer:** Booting with this media provides you with the maximum flexibility when choosing what to install, and for configuring your system. In particular, you have a choice of which Desktop environment to install.
- **LIVE media:** This option allows you to try out Mageia without having to actually install it, or make any changes to your computer. However, the Live media also includes an Installer, which can be started when booting the media, or after booting into the Live operating system itself.



The Live Installer is simpler compared to the Classical Installer - but you have fewer configuration options.

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Live ISOs can only be used to create “clean” installations, they cannot be used to upgrade previously installed Mageia releases.

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- **Net Install:** These are minimal ISO's containing no more than that which is needed to start the DrakX installer and find `DrakX-installer-stage2` and other packages that are needed to continue and complete the install. These packages may be on the PC hard disk, on a local drive, on a local network or on the Internet.

These media are very light (less than 100 MB) and are convenient if bandwidth is too low to download a full DVD, or if you have a PC without a DVD drive or is unable to boot from a USB stick.

More details are given in the next sections.

### 1.2. Media

#### 1.2.1. Definition

Here, a medium (plural: media) is an ISO image file that allows you to install and/or update Mageia and, by extension, any physical medium (DVD, USB stick, ...) the ISO file is copied to.

You can find Mageia ISO's [here](http://www.mageia.org/en/downloads/) [http://www.mageia.org/en/downloads/].

## **1.2.2. Classical installation media**

### **1.2.2.1. Common features**

- These ISOs use the Classical installer called DrakX
- They are used for performing clean installs or to upgrade a previously installed version of Mageia
- Different media for 32 and 64-bit architectures
- Some tools are available in the Installer “Welcome” screen: *Rescue System*, *Memory Test*, and *Hardware Detection Tool*
- Each DVD contains many available desktop environments and languages
- You'll be given the choice during the installation to add non-free software

## **1.2.3. Live media**

### **1.2.3.1. Common features**

- Can be used to preview the Mageia operating system without having to install it
- The Live media also includes an Installer.
- Each ISO contains only one desktop environment (Plasma, GNOME or Xfce)
- Different media for 32 and 64-bit architectures
- They contain non-free software

### **1.2.3.2. Live DVD Plasma**

- Plasma desktop environment only
- All available languages are present
- 64-bit architecture only

### **1.2.3.3. Live DVD GNOME**

- GNOME desktop environment only
- All available languages are present
- 64-bit architecture only

### **1.2.3.4. Live DVD Xfce**

- Xfce desktop environment only
- All available languages are present
- 32 or 64-bit architectures

## **1.2.4. Net install media**

### **1.2.4.1. Common features**

- Different media for 32 and 64-bit architectures
- First steps are English language only

### **1.2.4.2. *netinstall.iso***

- Contains only free software, for those who prefer to not use non-free software

### 1.2.4.3. netinstall-nonfree.iso

- Contains non-free software (mostly drivers, codecs...) for those who need it

## 1.3. Downloading and Checking Media

### 1.3.1. Downloading

Once you have chosen your ISO file, you can download it using either http or BitTorrent. In both cases, you are provided with some information, such as the mirror in use and an option to switch to an alternative if the bandwidth is too low.

If http is chosen you will also see some information regarding checksums.

md5sum, sha1sum and sha512sum (the most secure) are tools to check the ISO integrity. Copy one of the checksums (string of alphanumeric characters) for use in the next section.

```
$ # You need both iso and checksum file in the same folder
$ md5sum -c Mageia-9-beta2-x86_64.iso.md5
Mageia-9-beta2-x86_64.iso: OK

$ sha512sum -c Mageia-9-beta2-x86_64.iso.sha512
Mageia-9-beta2-x86_64.iso: OK

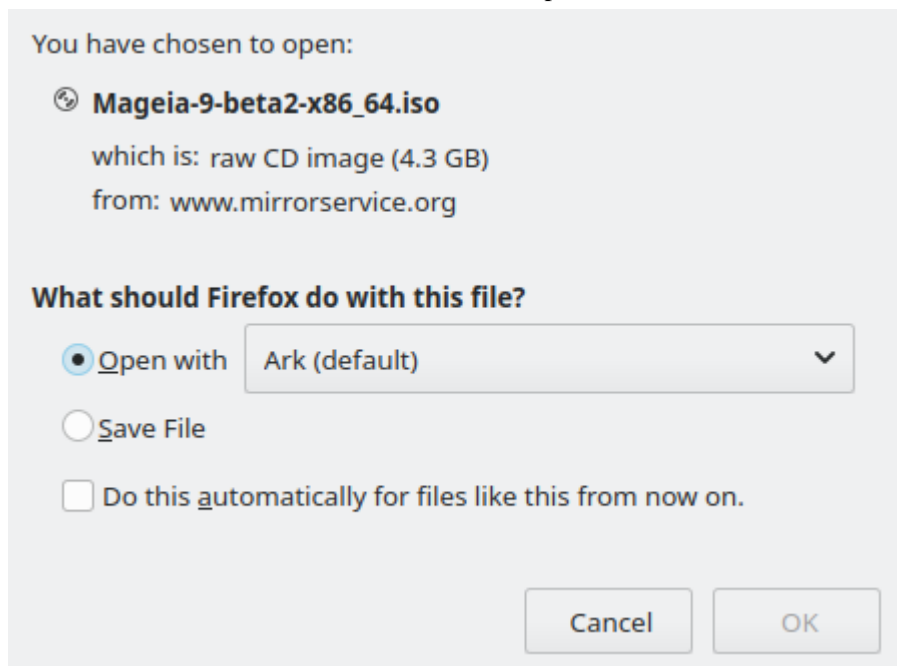
$ sha3-512sum -c Mageia-9-beta2-x86_64.iso.sha3
Mageia-9-beta2-x86_64.iso: OK

$ # You can also compare checksum directly from this web page without checksum file
$ md5sum Mageia-9-beta2-x86_64.iso
1a62d414307835d3d950757db6870438 Mageia-9-beta2-x86_64.iso

$ sha512sum Mageia-9-beta2-x86_64.iso
031dc576afc95eda188167d8e3f8222c1192fbaacc805cf979d3d71ae85bdbd9c1c62895f626feb8ce8cdba15d629aa3a629572d530a63bca7164232ef5b3bd9 Mag

$ sha3-512sum Mageia-9-beta2-x86_64.iso
1C0828DD23329DBEBDB861369376A32307523FD3696E292DAFB20559703E6013EC2B890BB0946D5BF02DB3460D721BE7B1712DBA5F51A729F09EF05FE24DA70 Mag
```

In the meantime, a window to download the actual ISO will open:



Click on *Save File*, then click *OK*.

### 1.3.2. Checking the integrity of the downloaded media

The checksums referred to earlier, are digital fingerprints generated by an algorithm from the file to be downloaded. You may compare the checksum of your downloaded ISO against that of the original source ISO. If the checksums do not match, it means that the actual data on the ISO's do not match, and if that is the case, then you should retry the download or attempt a repair using BitTorrent.

To generate the checksum for your downloaded ISO, open a console, (no need to be root), and:

- To use the md5sum, type: **md5sum path/to/the/image/file.iso**
- To use the sha1sum, type: **sha1sum path/to/the/image/file.iso**
- To use the sha512sum, type: **sha512sum path/to/the/image/file.iso**

Example:

```
antony@localhost:~> md5sum /home/antony/Downloads/Mageia-9-beta2-x86_64.iso
1a62d414307835d3d950757db6870438 /home/antony/Downloads/Mageia-9-beta2-x86_64.iso
antony@localhost:~> █
```

then compare the result (you may have to wait for a while) with the ISO checksum provided by Mageia.

## 1.4. Burn or dump the ISO

The verified ISO can now be burned to a CD/DVD or “dumped” to a USB stick. This is not a standard copy operation, as a bootable medium will actually be created.

### 1.4.1. Burning the ISO to a CD/DVD

Whichever software you use, ensure that the option to burn an *image* is used. Burn *data* or *files* is NOT correct. See the [the Mageia wiki](https://wiki.mageia.org/en/Writing_CD_and_DVD_images) [https://wiki.mageia.org/en/Writing\_CD\_and\_DVD\_images] for more information.

### 1.4.2. Dump the ISO to a USB stick

All Mageia ISOs are hybrids, which means you can dump them to a USB stick and then use that to boot and install the system.



Dumping an image onto a flash device destroys any previous file-system on the device and all existing data will be lost.

---



Also, the only partition on the flash device will then just be the Mageia ISO partition.

So, if an ISO of about 4GB is written to an 8GB USB stick, the stick will then only show up as 4GB. This is because the remaining 4GB is no longer formatted - hence not currently available for use. To recover the original capacity, you must reformat and repartition the USB stick.

---

#### 1.4.2.1. Using a graphical tool within Mageia

You can use a graphical tool like [IsoDumper](https://wiki.mageia.org/en/IsoDumper_Writing_ISO_images_on_USB_sticks) [https://wiki.mageia.org/en/IsoDumper\_Writing\_ISO\_images\_on\_USB\_sticks]



### 1.4.2.2. Using a graphical tool within Windows

You could try:

- [Rufus](http://rufus.akeo.ie/?locale=en_US) [http://rufus.akeo.ie/?locale=en\_US] using the "ISO image" option
- [Win32 Disk Imager](http://sourceforge.net/projects/win32diskimager) [http://sourceforge.net/projects/win32diskimager]

### 1.4.2.3. Using the Command line within a GNU/Linux system



It is potentially *\*dangerous\** to do this by hand. You risk overwriting potentially valuable existing data if you specify the wrong target device.

---

1. Open a console
2. Become a *root* (Administrator) user with the command **su -** (don't forget the - )

```
antony@localhost:~> su -  
Password:  
localhost:~ # █
```

3. Plug in your USB stick - but do not mount it (this also means do not open any application or file manager that could access or read it)
4. Enter the command **fdisk -l**

```
[root@localhost ~]# fdisk -l

Disk /dev/sda: 298.1 GiB, 320072933376 bytes, 625142448 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 4096 bytes
I/O size (minimum/optimal): 4096 bytes / 4096 bytes
Disklabel type: dos
Disk identifier: 0x000db4bf
Partition 3 does not start on physical sector boundary.

Device      Boot      Start          End      Blocks      Id System
/dev/sda1   *                2048    21256191    10627072    83 Linux
/dev/sda2                21256192    63528959    21136384    83 Linux
/dev/sda3                63530964    625137344    280803190+   5 Extended
/dev/sda5                63531008    84873215    10671104    83 Linux
/dev/sda6                84875264    127016959    21070848    83 Linux
/dev/sda7                127019008    135985151     4483072    82 Linux swap / Solaris
/dev/sda8                135987200    198598655    31305728    83 Linux
/dev/sda9                198600704    471588863    136494080    83 Linux
/dev/sda10               471590912    496777994    12593541+   83 Linux
/dev/sda11               496781312    504955079     4086884    82 Linux swap / Solaris
/dev/sda12               504958976    625137344    60089184+   83 Linux

Disk /dev/sdb: 7.5 GiB, 8011087872 bytes, 15646656 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0x15005631

Device      Boot Start          End      Blocks      Id System
/dev/sdb1   *            1      7598079    3799039+   17 Hidden HPFS/NTFS

[root@localhost ~]# █
```

5. Find the device name for your USB stick (by its size), for example /dev/sdb in the screenshot above, is an 8GB USB stick.

Alternatively, you can find the device name with the command **dmesg**. Towards the end of the following example, you can see the device name starting with **sd**, and in this case, **sdd** is the actual device. You can also see that its size is 2GB:

```
[72594.604531] usb 1-1: new high-speed USB device number 27 using
xhci_hcd
[72594.770528] usb 1-1: New USB device found, idVendor=8564,
idProduct=1000
[72594.770533] usb 1-1: New USB device strings: Mfr=1, Product=2,
SerialNumber=3
[72594.770536] usb 1-1: Product: Mass Storage Device
[72594.770537] usb 1-1: Manufacturer: JetFlash
[72594.770539] usb 1-1: SerialNumber: 18MJTWLMPUCC3SSB
[72594.770713] usb 1-1: ep 0x81 - rounding interval to 128 microframes,
ep desc says 255 microframes
```

```
[72594.770719] usb 1-1: ep 0x2 - rounding interval to 128 microframes,
ep desc says 255 microframes
[72594.771122] usb-storage 1-1:1.0: USB Mass Storage device detected
[72594.772447] scsi host8: usb-storage 1-1:1.0
[72595.963238] scsi 8:0:0:0: Direct-Access      JetFlash Transcend 2GB
1100 PQ: 0 ANSI: 4
[72595.963626] sd 8:0:0:0: [sdd] 4194304 512-byte logical blocks: (2.14
GB/2.00 GiB)
[72595.964104] sd 8:0:0:0: [sdd] Write Protect is off
[72595.964108] sd 8:0:0:0: [sdd] Mode Sense: 43 00 00 00
[72595.965025] sd 8:0:0:0: [sdd] No Caching mode page found
[72595.965031] sd 8:0:0:0: [sdd] Assuming drive cache: write through
[72595.967251]  sdd: sdd1
[72595.969446] sd 8:0:0:0: [sdd] Attached SCSI removable disk
```

6. Enter the command: `dd if=path/to/the/ISO/file of=/dev/sdX bs=1M`

Where X=your device name eg: /dev/sdd

Example: `dd if=/home/user/Downloads/Mageia-6-x86_64-DVD.iso of=/dev/sdd bs=1M`



It might be helpful to know that **if** stands for **input file** and **of** stands for **output file**

---

7. Enter the command: `sync`
8. This is the end of the process, and you may now unplug your USB stick.

## 2. Boot Mageia as Live system

### 2.1. Booting the medium

You can boot directly from a Live DVD or USB. Usually, you just need to plug the USB device in or place the DVD in the drive and restart the computer.

If the computer does not automatically boot from the USB or DVD you may need to reconfigure your BIOS Boot Disk priority. Alternatively, you might try accessing the boot device menu to select a device from which the computer will boot.



To access the BIOS or boot menu when the computer is starting, you can try pressing either **F2**, **Del** or **Esc** for the BIOS, or **Esc**, **F8**, **F10** or **F11** for the boot device menu. These (fairly common) keys are just a selection of possible options though.

---



The actual screen that you will first see when booting from the Live media will depend on whether your computer motherboard is of the Legacy (BIOS) or UEFI type.

---

## 2.2. In BIOS/CSM/Legacy mode



First screen while booting in BIOS mode

### Menu

- **Boot Mageia**

This option will boot the Mageia Live system from the connected DVD/USB media (expect a very slow system compared to an installed OS).

Once the boot is done, you can proceed to the installation.

– + **use non-free video drivers (slower to boot)**

Boot the Mageia Live system using non-free video drivers

- **Install Mageia**

This option will install Mageia to a hard disk.

– + **use non-free video drivers (slower to boot)**

Install Mageia using non-free video drivers

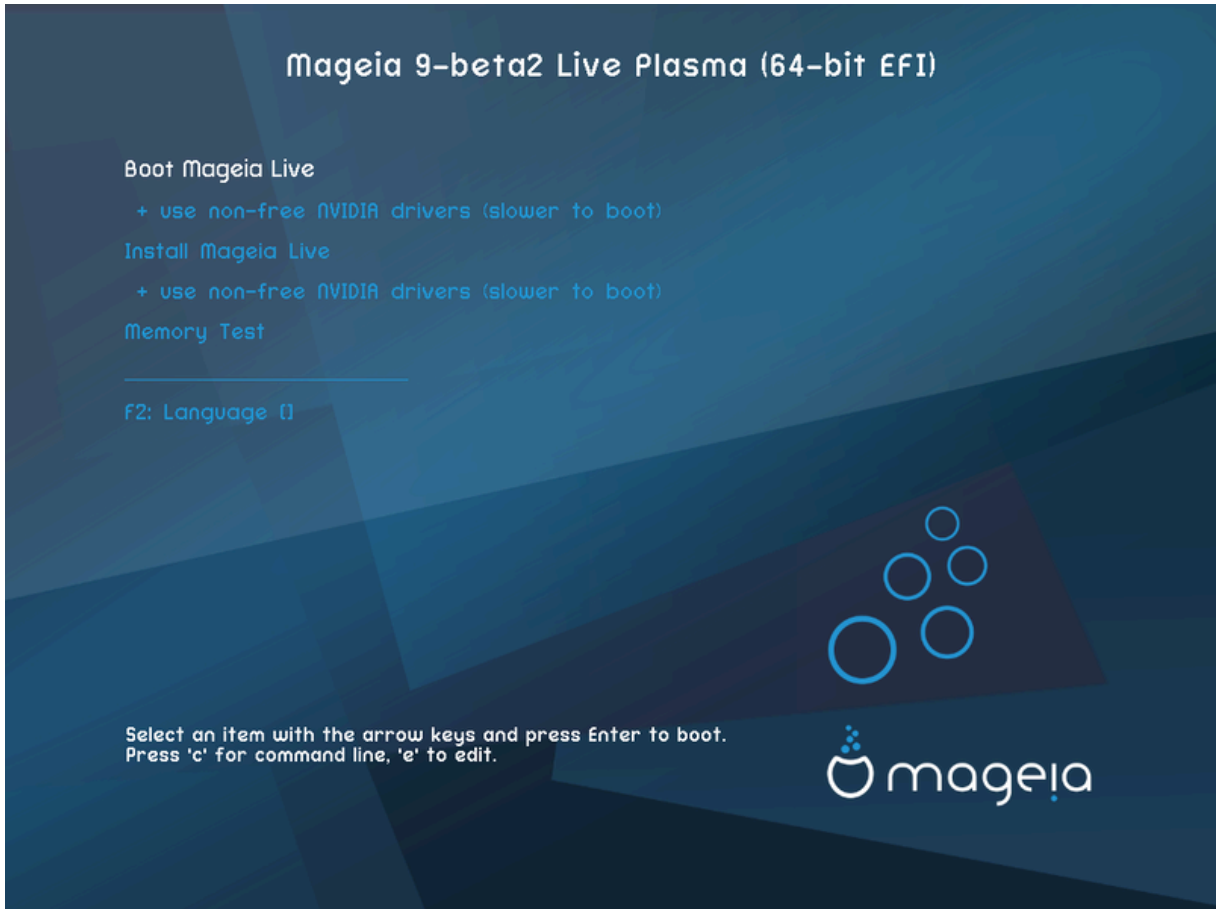
- **Memory Test**

Test the installed RAM by performing multiple read and write operations. Reboot to end the test.

- **F2 Language**

Press **F2** to have the installer use a specific language during the installation. Use the arrow keys to select the language then press **Enter**.

## 2.3. In UEFI mode



First screen while booting in UEFI mode

### Menu

- **Boot Mageia**

This option will boot the Mageia Live system from the connected DVD/USB media (expect a very slow system compared to an installed OS). Once the boot is done, you can proceed to the installation

- **Install Mageia**

This option will install Mageia to a hard disk.

- **F2 Language**

Press **F2** to have the installer use a specific language during the installation. Use the arrow keys to select the language then press **Enter**.

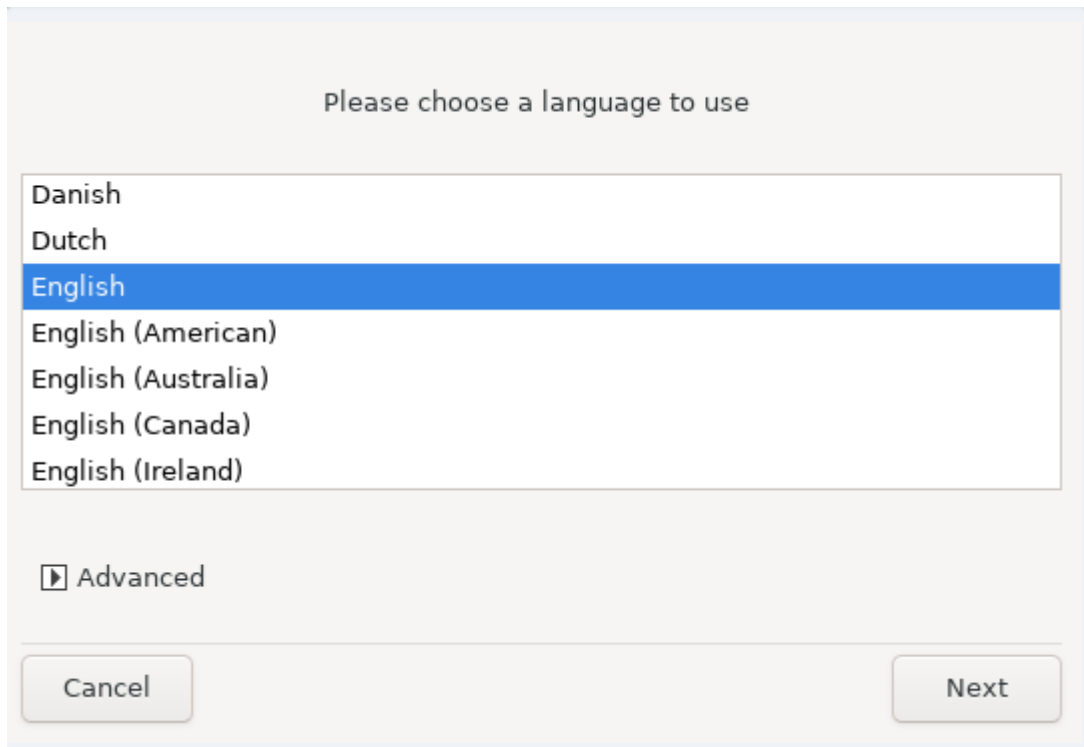


If you booted from a USB stick, you will see the above menu options duplicated, and in this case, you should choose from the menu pair that will be suffixed with "USB".

---

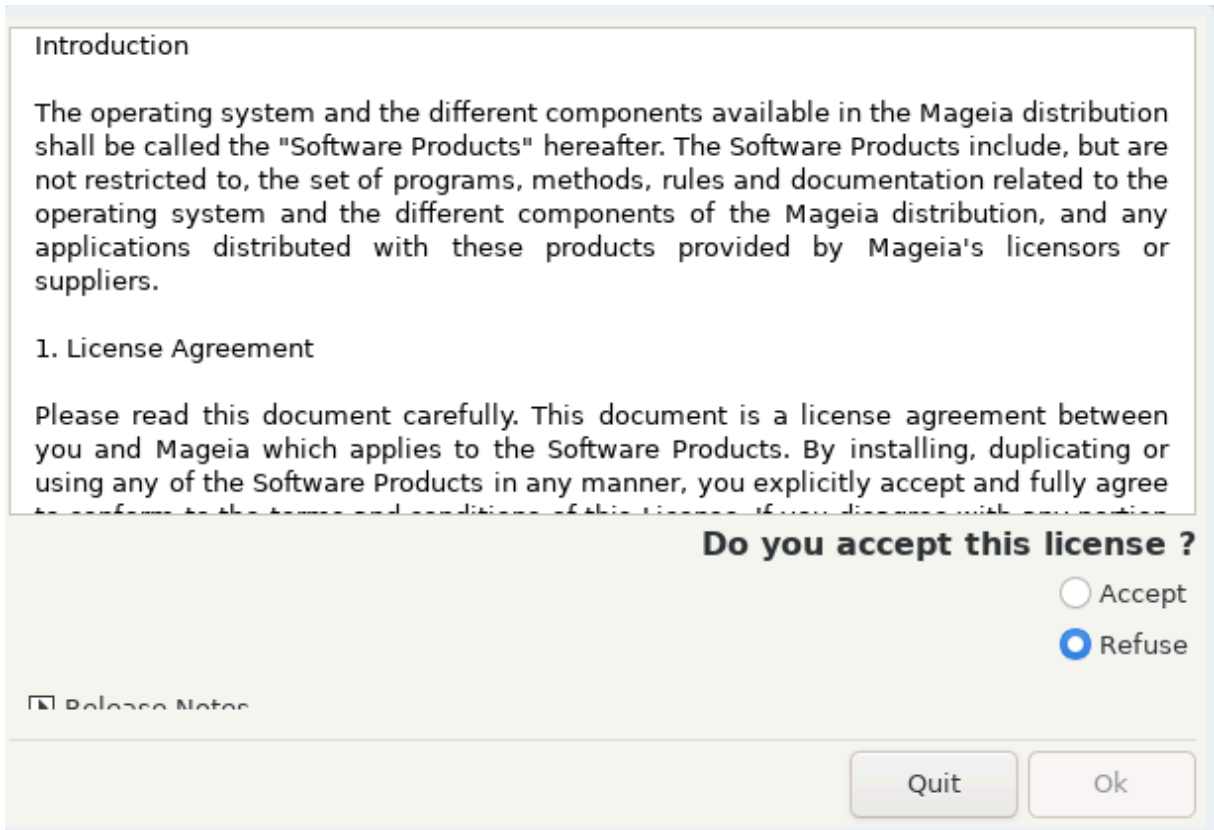
## 3. Please choose a language to use

- Select your preferred language. Mageia will use this selection during the installation and for your installed system.



- Mageia uses UTF-8 (Unicode) support by default. This may be disabled in the *Multiple languages* screen if you know that it is inappropriate for your language. Disabling UTF-8 applies to all installed languages.
- You can change the language for your system post-installation in the Mageia Control Center # System # localization for your system.

## 4. License and Release Notes



### 4.1. License Agreement

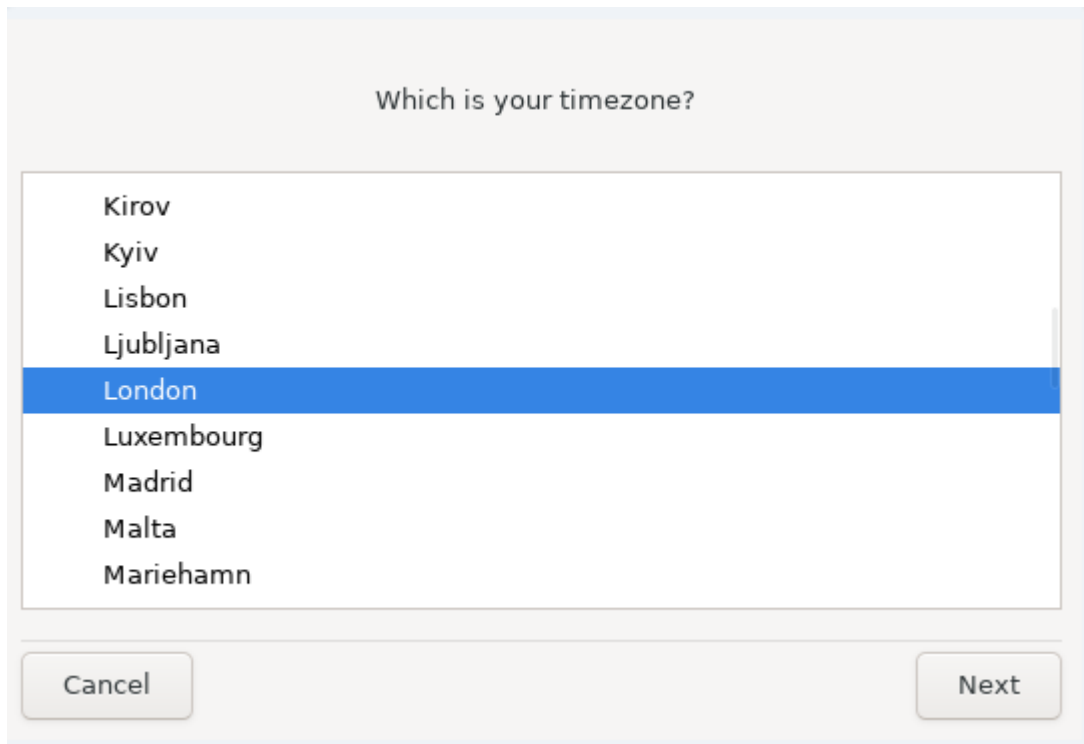
- Before installing Mageia, please read the license terms and conditions carefully.
- These terms and conditions apply to the entire Mageia distribution and must be accepted before you can continue.
- To proceed, simply select *Accept* and then click on *Next*

If you decide not to accept these conditions, then we thank you for your interest in Mageia. Clicking *Quit* will reboot your computer.

### 4.2. Release Notes

Important information about this particular Mageia release can be viewed by clicking on the *Release Notes* button.

## 5. Configure your Timezone



- Choose your timezone by choosing your country, or a city close to you in the same timezone.

In the next screen you can choose to set your hardware clock to local time or to GMT, also known as UTC.

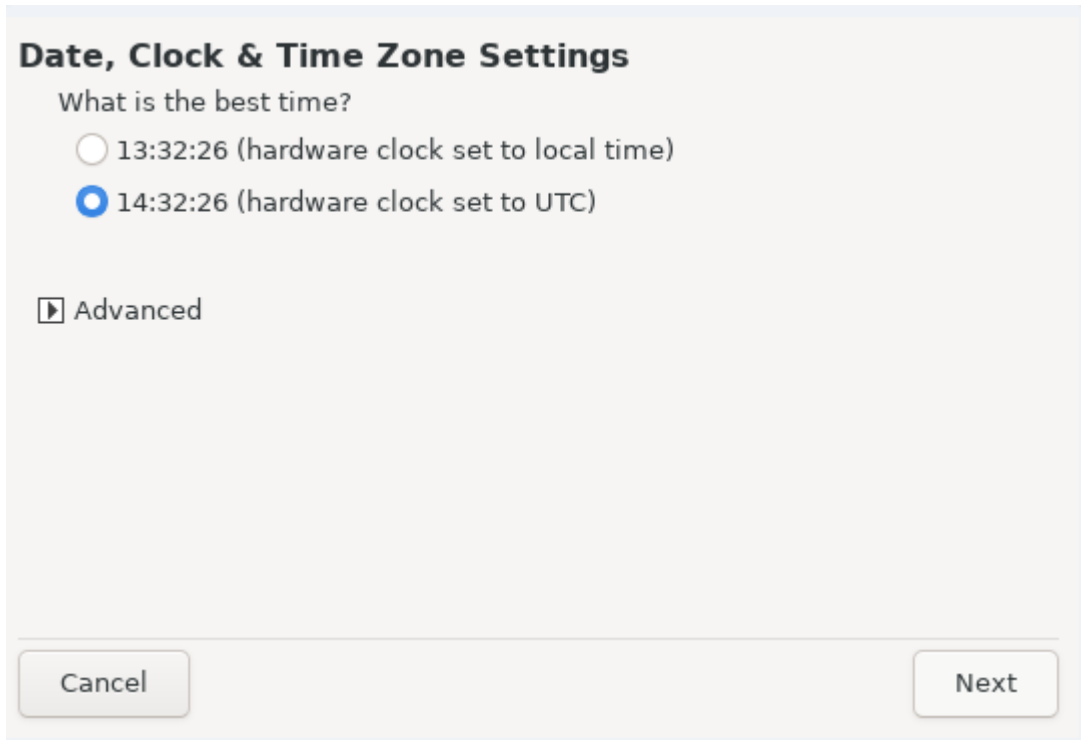


If you have more than one operating system on your computer, make sure they are all set to local time, or all to UTC/GMT.

---



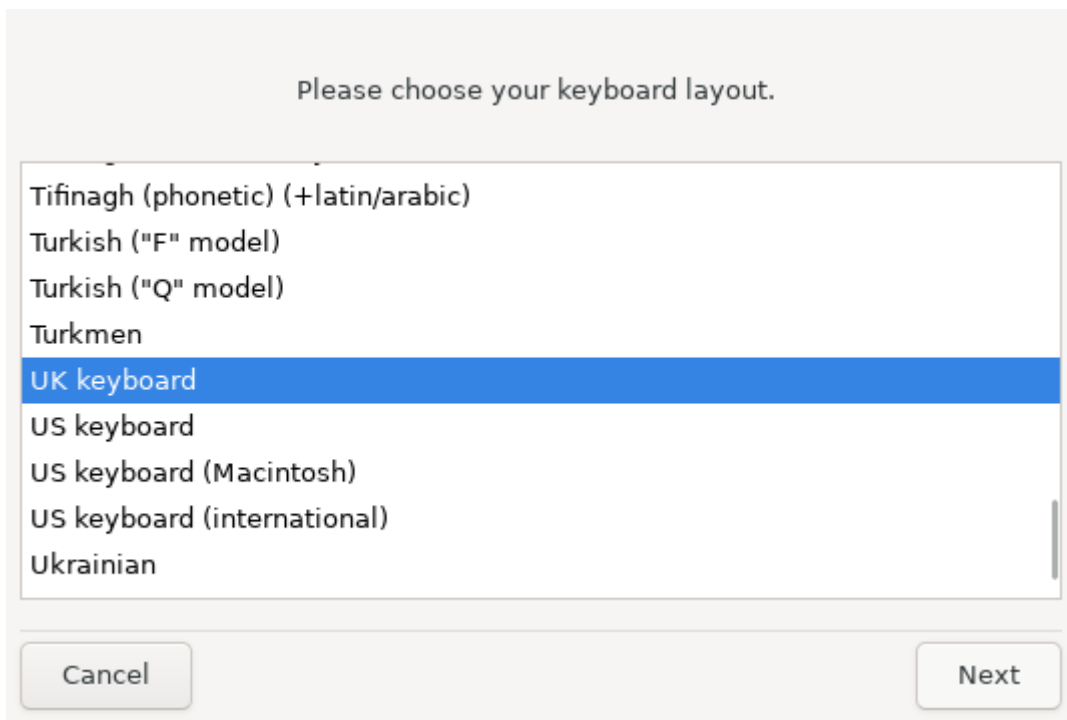
## 6. Clock Settings



Here, you can select whether your computer internal clock is set to local time or UTC time.

In the *Advanced* tab, you can enable automatic time synchronization and specify an NTP server.

## 7. Select Keyboard



Here you can set the keyboard layout you wish to use with Mageia.

A suggested keyboard layout (highlighted), has been chosen for you based upon your previously selected language and timezone choices.

## 8. Testing Mageia as Live system

### 8.1. Live mode

This is the screen you will see if you selected the **Boot Mageia** option from the Live media menu.



#### 8.1.1. Testing hardware

One of the aims of using the Live mode is to test that your hardware is correctly managed by Mageia. You can check if all devices have a driver in the Hardware section of the Mageia Control Center:

- network interface: configure it with `net_applet`
- graphics card: if you see the previous screen, it's already OK.
- sound: a jingle has already been played
- printer: configure your printer/s and print a test page
- scanner: scan a document from ...

If everything is satisfactory, you can proceed with the installation. If not, you can use the *Quit* button to exit.

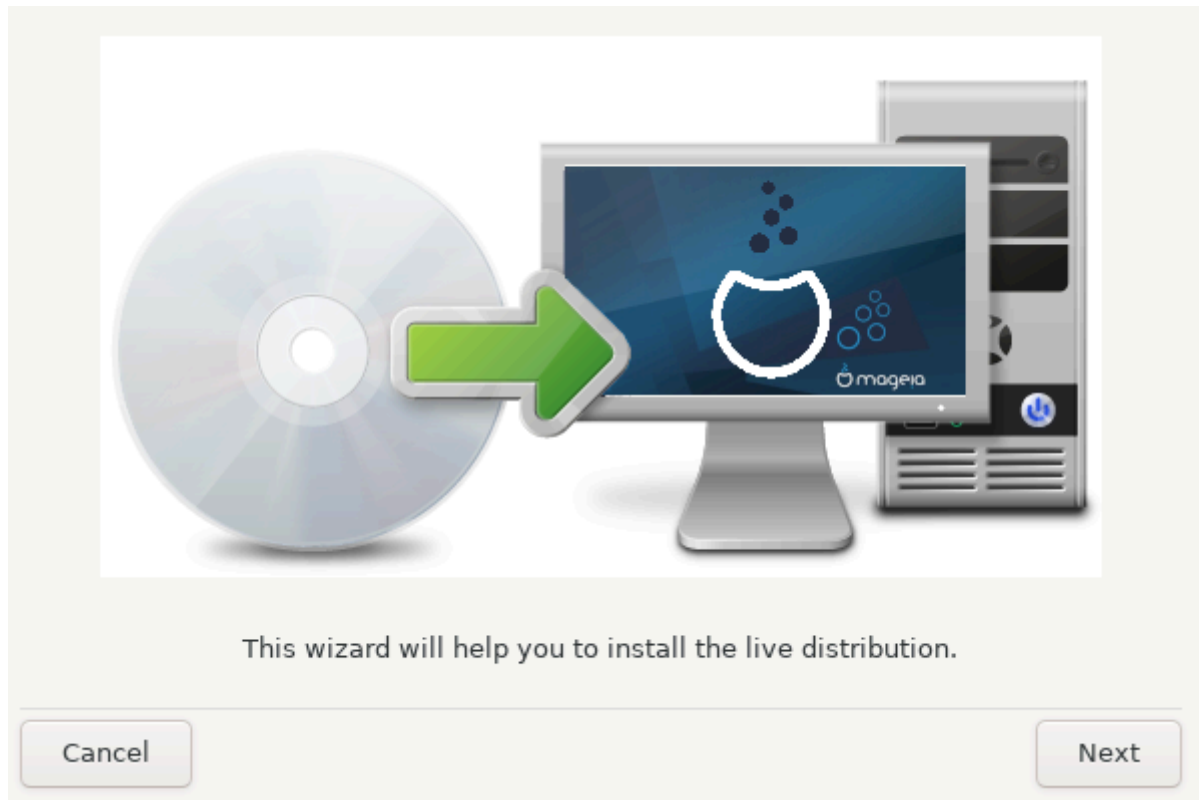


The configuration settings you apply here are carried over if you decide to proceed with the installation.

---

### 8.1.2. Launch installation

To launch the installation of the Live DVD to a hard disk or SSD drive, simply click the *Install on Hard Disk* icon on the Live desktop. You will then see this screen, followed by the [Partitioning](#) step.

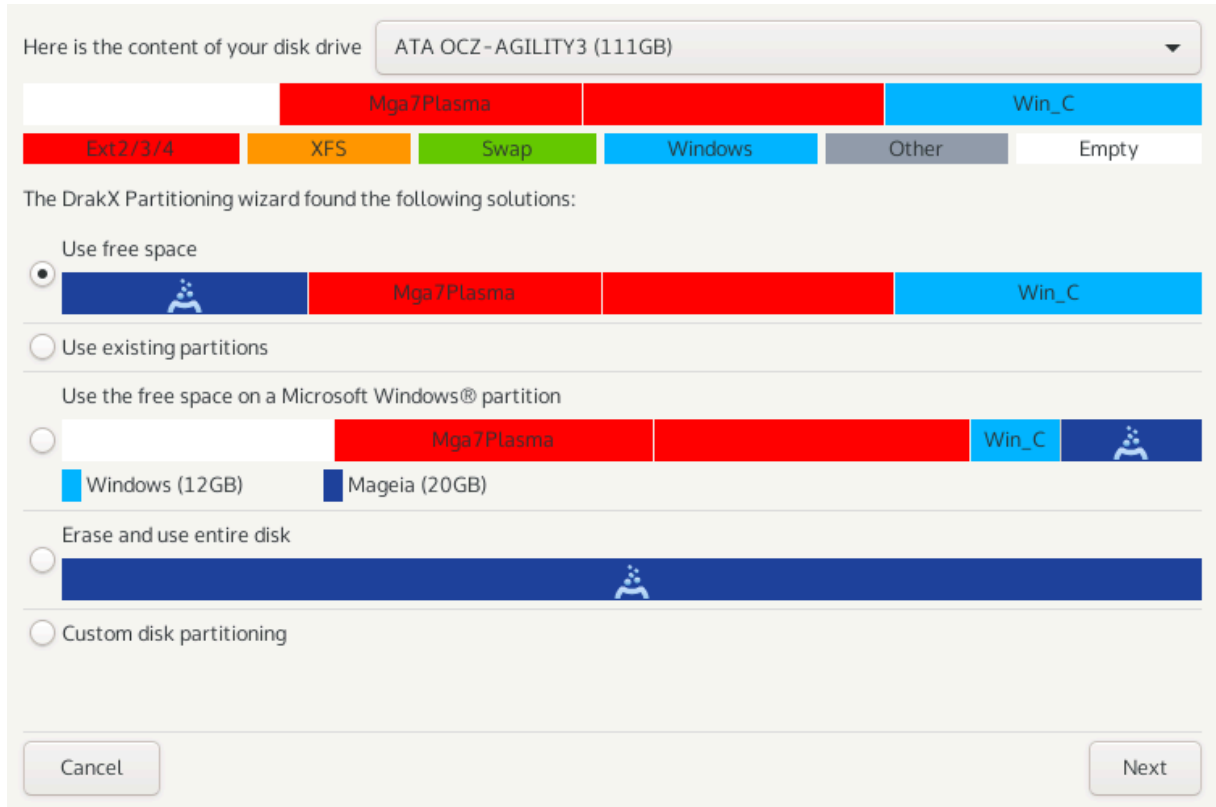


## 9. Partitioning

### 9.1. Suggested Partitioning

In this screen you can see the content of your hard drive(s) along with the DrakX partitioning proposals for where to install Mageia.

The actual options available from those shown below will vary according to the layout and content of your particular hard drive(s).



### Main Options

- **Use Existing Partitions**

If this option is available, then existing Linux compatible partitions have been found and may be used for the installation.

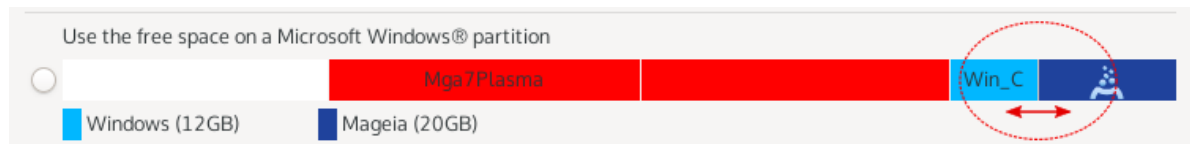
- **Use Free Space**

If you have unused space on your hard drive then this option will use it for your new Mageia installation.

- **Use Free Space on a Windows Partition**

If you have unused space on an existing Windows partition, the installer may offer to use it. This can be a useful way of making room for your new Mageia installation but see the warning below.

With this option, the installer displays the remaining Windows partition in light blue and the proposed Mageia partition in dark blue with their intended sizes just underneath. You have the option to modify these sizes by clicking and dragging the gap between both partitions. See the following screenshot:



This involves shrinking the size of the Windows partition, and therefore is a risky operation, so you should make sure you have backed up all important files before proceeding.



The partition must be "clean", meaning that Windows must have closed down correctly the last time it was used. It must also have been defragmented, although this is not a guarantee that all files in the partition have been moved out of the area that is about to be used for Mageia.

---

- **Erase and use Entire Disk**

This option will allocate the entire drive for Mageia



This will erase ALL data on the selected hard drive. Take care! If you intend to use part of the disk for something else, or you already have data on the drive that you are not prepared to lose, then do not use this option.

---

- **Custom Disk Partitioning**

This gives you complete control over the placing of the installation on your hard drive(s).

If you are not using the *Custom disk partitioning* option, then the installer will allocate the available space according to the following rules:

- If the total available space is less than 50 GB, then only one partition is created. This will be the / (root) partition.
- If the total available space is greater than 50 GB, then three partitions are created
  - 6/19 of the total available place is allocated to / with a maximum of 50 GB
  - 1/19 is allocated to `swap` with a maximum of 4 GB
  - the rest (at least 12/19) is allocated to `/home`

This means that from 160 GB or greater available space, the installer will create three partitions:

- 50 GB for /
- 4 GB for `swap`
- and the remainder for `/home`



If you are using a UEFI system, the ESP (EFI System Partition) will be automatically detected - or created if it does not exist yet - and mounted on `/boot/EFI`. The *Custom disk partitioning* option is the only one that allows to check it has been correctly done.

If you are using a Legacy (also known as BIOS) system with a GPT partitioned disk, you need to create a BIOS boot partition if it doesn't already exist. It should be about 1 MiB with no mount point. It can be created with the Installer, under *Custom disk partitioning*, like any other partition. Be sure to select "BIOS boot partition" for filesystem type.

See [DiskDrake](#) for information on how to proceed.

Click on a partition, choose a filesystem type then choose an action

sda

|   |      |              |       |        |
|---|------|--------------|-------|--------|
| / | 12GB | /mnt/windows | 8.2GB | Resize |
|---|------|--------------|-------|--------|

Ext4 XFS Swap Windows Other Empty

Details

Device: sda1  
Type: BIOS boot or Empty partition  
Size: 6.9MB (0% of disk)  
Not formatted

Clear all Auto allocate Expert mode

Help Done

### Create a new partition

Start sector: 1

Size in MB:

Filesystem type:

Mount point:

Encrypt partition

Encryption key

Encryption key (again)

- Linux swap
- Linux native
- Journalised FS: ext3
- Journalised FS: ext4
- Journalised FS: Btrfs
- BIOS boot or Empty partition**
- Journalised FS: XFS
- Journalised FS: JFS
- FAT32
- NTFS-3G
- NTFS
- Linux Logical Volume Manager
- Linux RAID



Some newer drives are now using 4096 byte logical sectors, instead of the previous standard of 512. Due to lack of available hardware, the partitioning tool used in the installer has not been tested with such a drive.

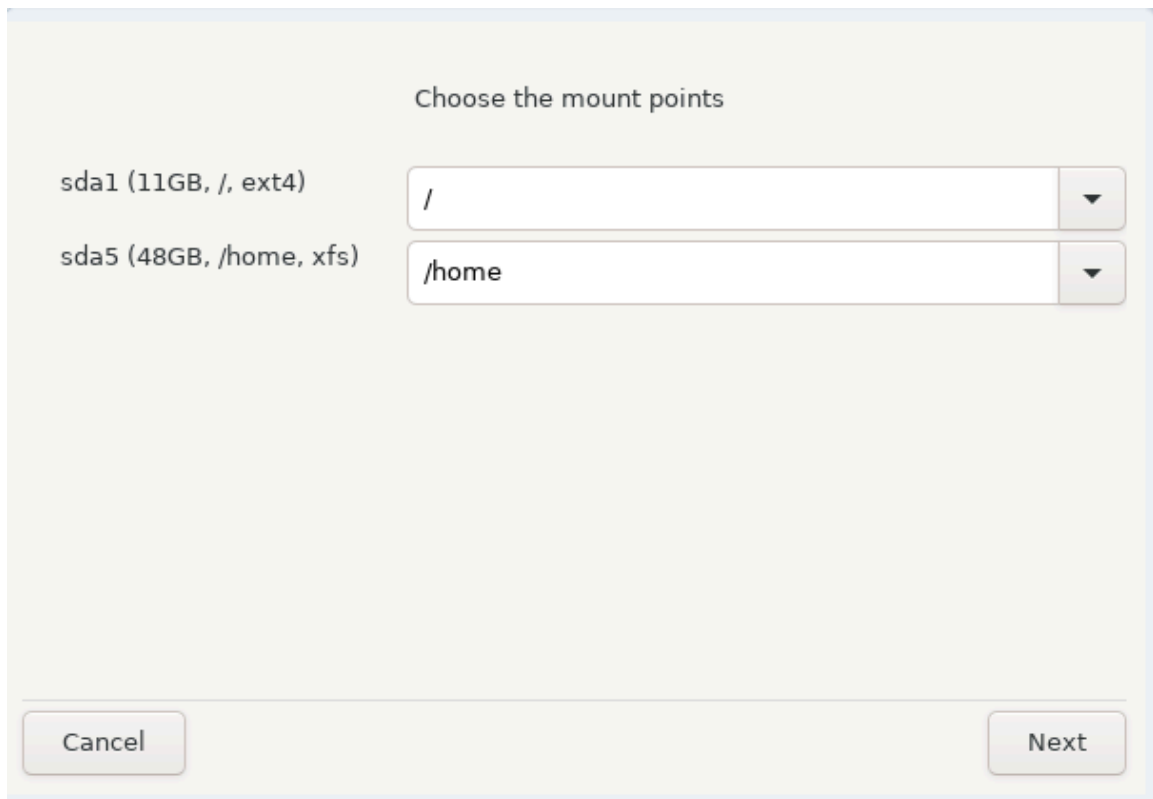
Some SSD devices now use an erase block size over 1 MB. If you have such a device we suggest that you partition the drive in advance, using an alternative partitioning tool like gparted, and to use the following settings:

- *Align to* = MiB
- *Free space preceding (MiB)* = 2

Also make sure all partitions are created using an even number of megabytes.

---

## 9.2. Choose the mount points



The screenshot shows a window titled "Choose the mount points". It contains two rows of information:

| Partition               | Mount Point |
|-------------------------|-------------|
| sda1 (11GB, /, ext4)    | /           |
| sda5 (48GB, /home, xfs) | /home       |

At the bottom of the window, there are two buttons: "Cancel" on the left and "Next" on the right.

Here you see the Linux partitions that have been found on your computer. If you don't agree with the DrakX suggestions, you can change the mount points yourself.

- To the left of the drop-down menus is a list of available partitions. For example: `sda` is a hard drive - and `5` is a *partition number*, followed by the (*capacity, mount point, filesystem type*) of the partition.
- If you have several partitions, you can choose various different *mount points* from the drop down menu, such as `/`, `/home` and `/var`. You can even make your own mount points, for instance `/video` for a partition where you want to store your films, or perhaps `/Data` for all your data files.
- For any partitions that you don't need to make use of, you can leave the mount point field blank.



If you make any changes here, ensure you still have a `/` (root) partition.

---

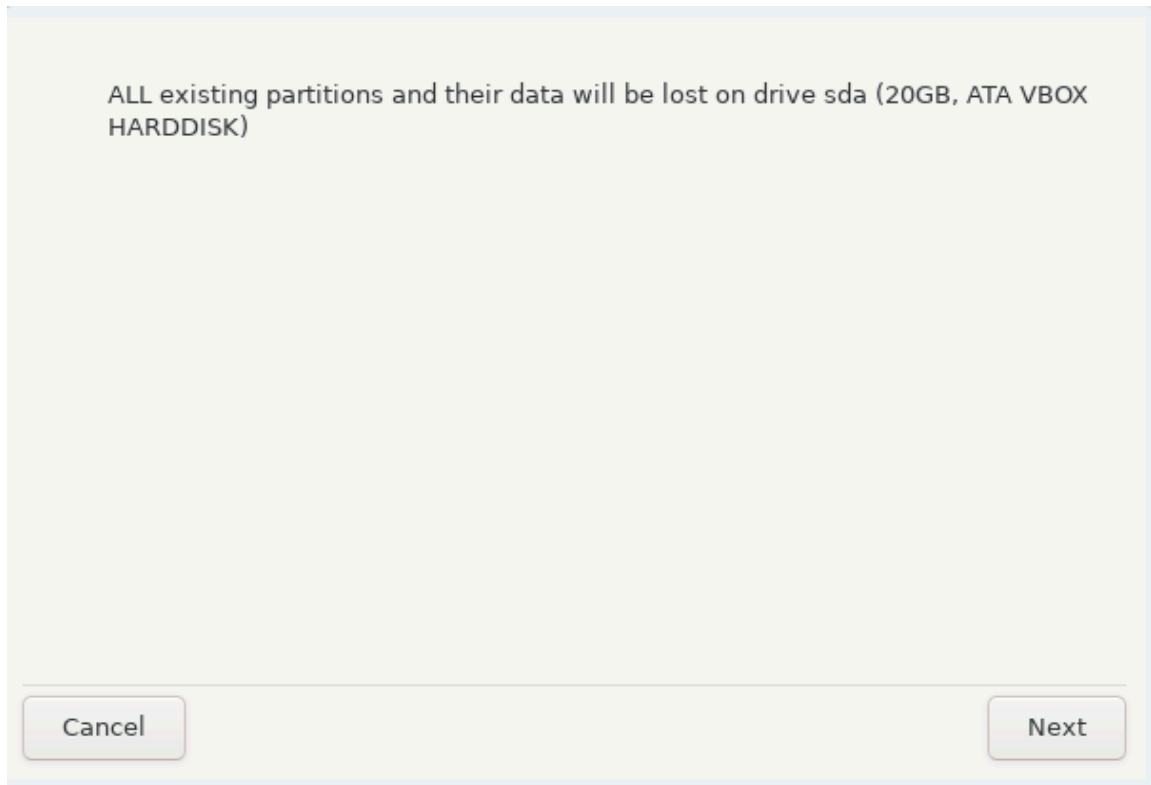


If you are not sure what to choose, click *Previous* to go back and then tick *Custom disk partitioning*, where you can click on a partition to see its type and size.

---

If you are sure the mount points are correct, click on *Next*, and choose whether you only want to format the partition suggested by DrakX, or more.

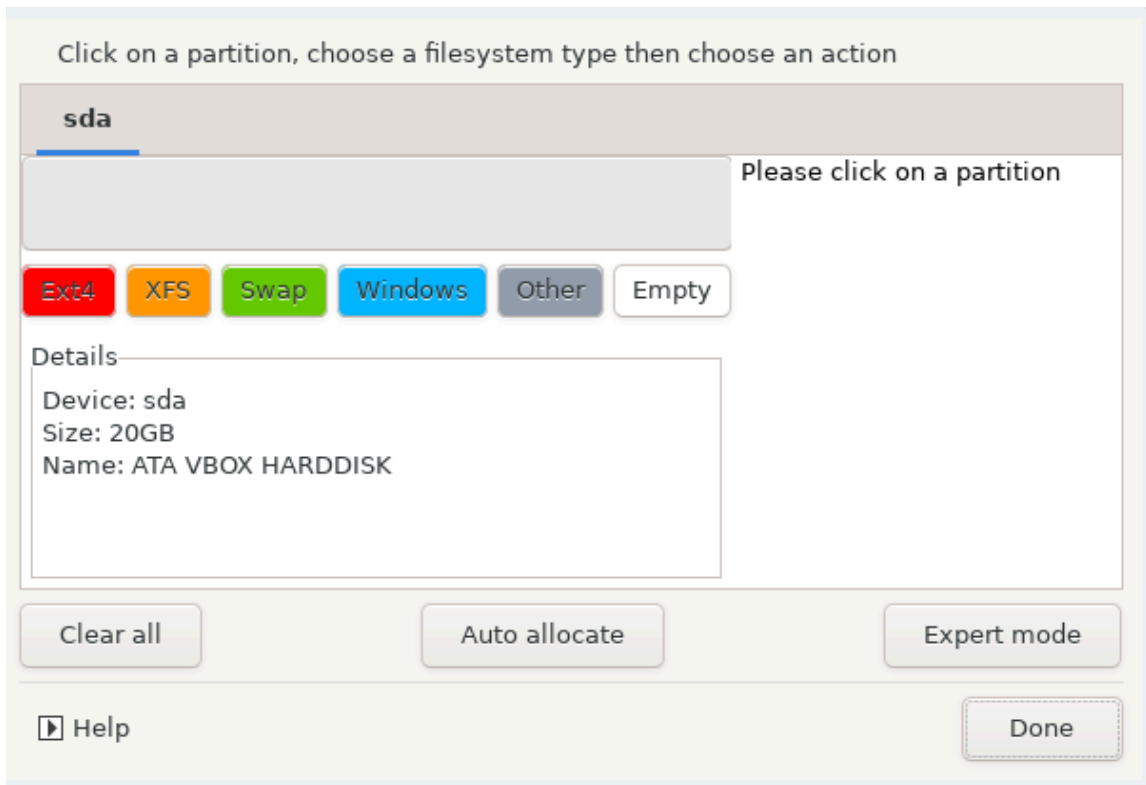
### 9.3. Confirm hard disk to be formatted



- Click on *Previous* if you are at all unsure about your choice.
- Click on *Next* to proceed if you are sure that it is OK to erase **every** partition, **every** operating system and **all data** that might be on that hard disk.



## 9.4. Custom Disk Partitioning with DiskDrake



- Modify the layout of your disk(s) here. You can remove or create partitions, change the filesystem or size of a partition and even view their details before you start.
- There is a tab at the top for every detected hard disk (or other storage device, like a USB key), for example: `sda`, `sdb`, `sdc` etc.
- For all other actions: click on the desired partition first. Then view it, or choose a filesystem and a mount point, resize it or wipe it. *Expert mode* provides more options such as to label (name) a partition, or to choose a partition type.
- Continue until you have adjusted everything to your satisfaction, then click *Done* when you're ready.



1. Take care with the *Clear all* option, use it only if you are sure you want to wipe all partitions on the selected storage device.
2. If you wish to use encryption on your `/` partition you must ensure that you have a separate `/boot` partition. The encryption option for the `/boot` partition must NOT be set, otherwise your system will be unbootable.



- If you are installing Mageia on a UEFI system, check that an ESP (EFI System Partition) is present and correctly mounted on `/boot/EFI`. See Figure 1 below.
- If you are installing Mageia on a Legacy/GPT system, check that a BIOS boot partition is present and of the correct type. See Figure 2 below.

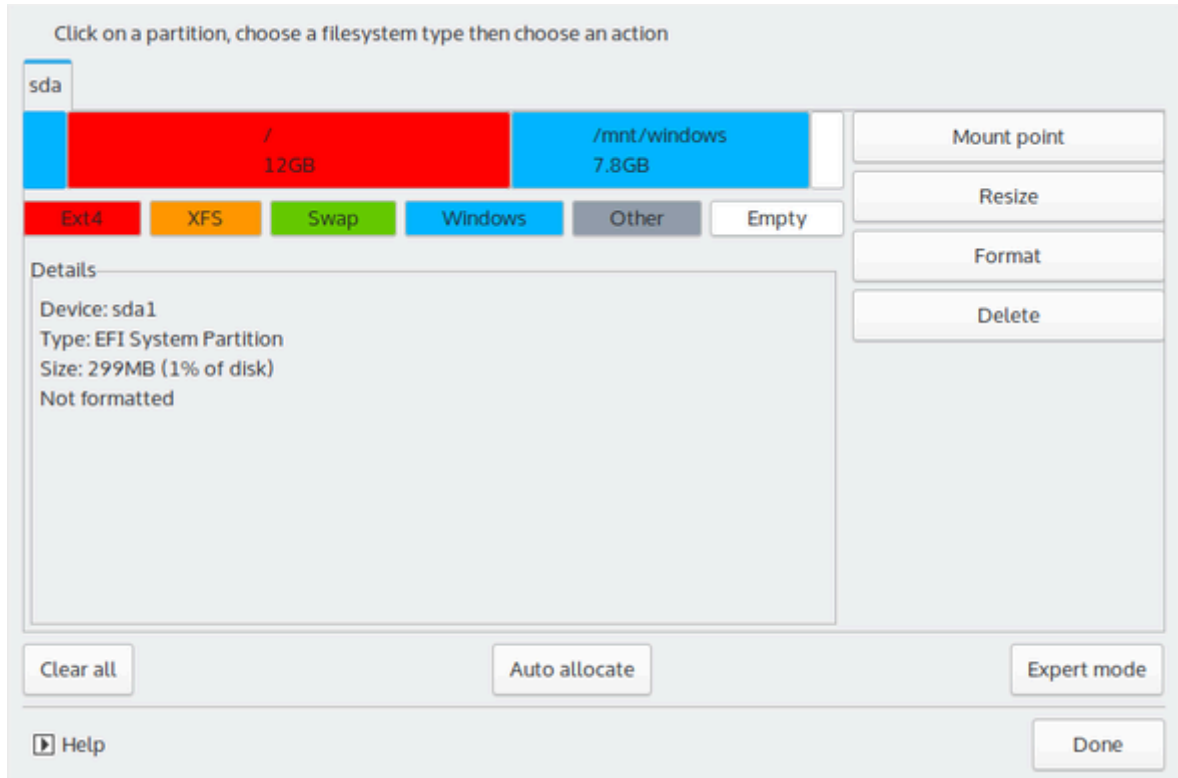


Figure 1. EFI System Partition

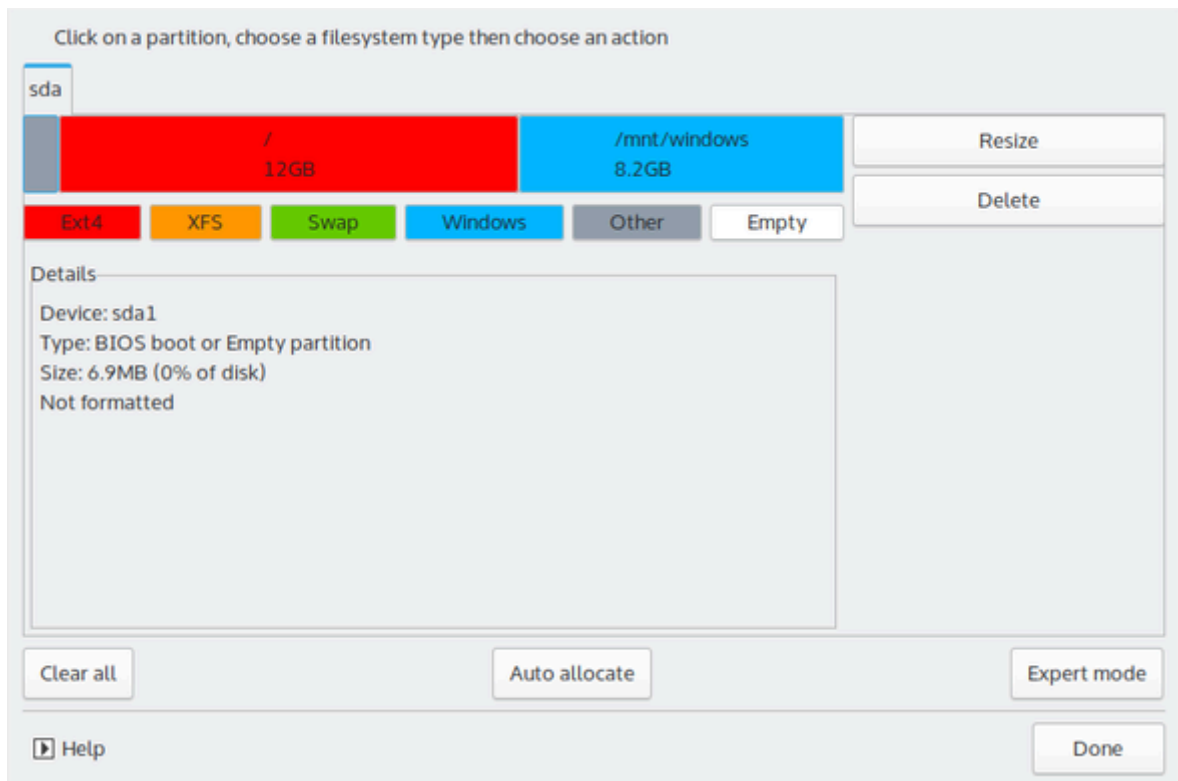
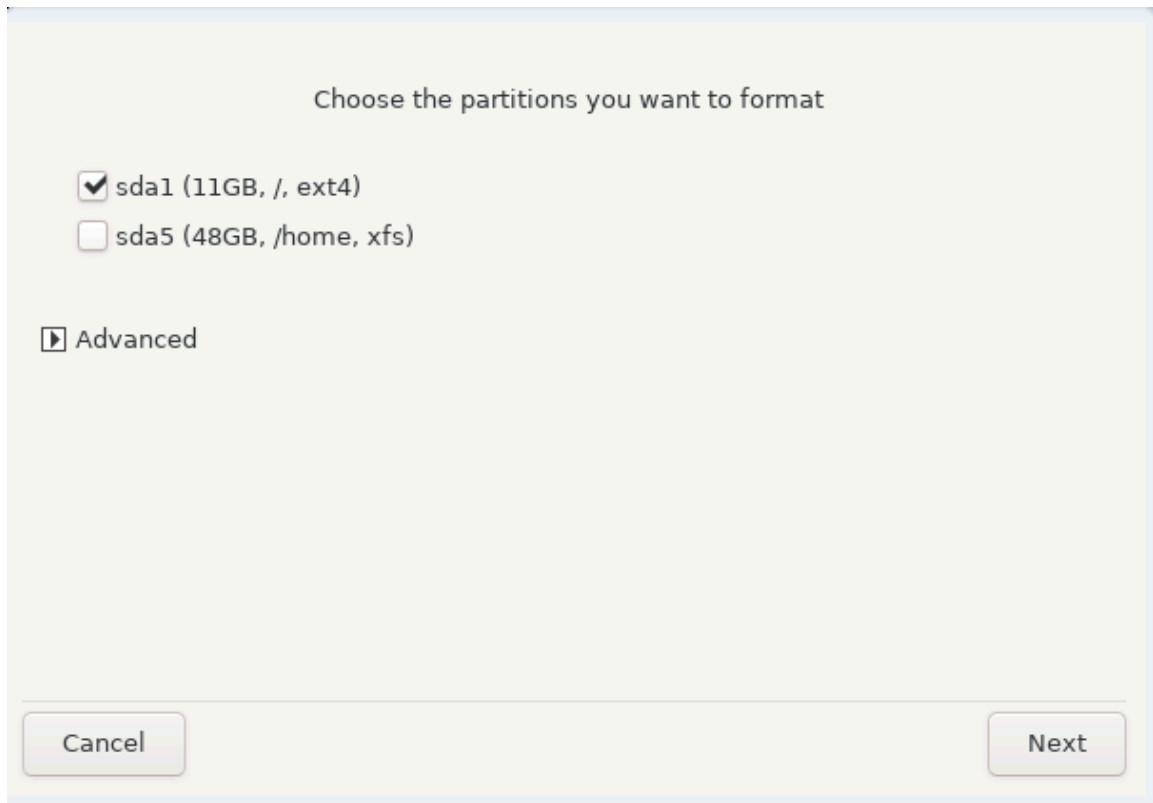


Figure 2. BIOS boot partition

## 9.5. Formatting



Here you can choose which partition(s) you wish to format. Any data on partitions *not* marked for formatting will be preserved.

Usually, at least the partitions that DrakX selected need to be formatted.

Click on *Advanced* to choose the partitions you want to check for so-called *bad blocks*

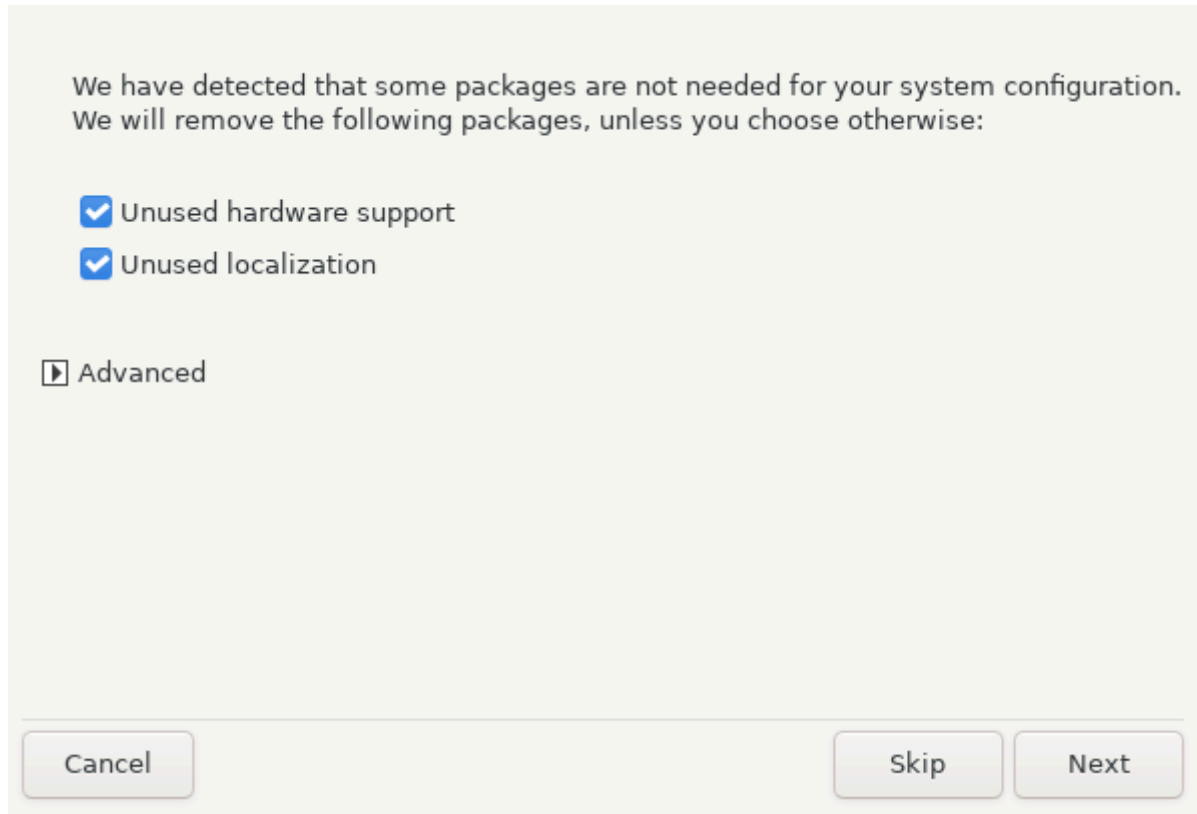


If you're not sure you have made the right choice, you can click on *Previous*, again on *Previous* and then on *Custom* to get back to the main screen, where you can choose to view details of your partitions.

---

When you are confident about the selections, click on *Next* to continue.

## 10. Keep or delete unused material



In this step, the installer looks for unused locales packages and unused hardware packages and you are then given an opportunity to delete them.

If you do not foresee a case where your installation may need to run on different hardware, or that you might need additional localization files then you might wish to accept this proposal.

Clicking *Advanced* will list the unused hardware and localization files that will be removed if you proceed.



The next step is the copying of files to hard disk. This process should just take a little while to complete. When it is finishing you will briefly get a blank screen - this is normal.

## 11. Bootloader

### 11.1. Available Bootloaders

#### 11.1.1. Grub2

##### **Grub2 on Legacy MBR/GPT systems**

- GRUB2 (with or without graphical menu) will be used exclusively as the bootloader for a Legacy/MBR or Legacy/GPT system.
- By default, a new bootloader will be written into either the MBR (Master Boot Record) of your first hard drive or in the BIOS boot partition.

##### **Grub2-efi on UEFI systems**

- GRUB2-efi or rEFInd may be used as the bootloader for a UEFI system.
- By default, a new bootloader (Grub2-efi) will be written into the ESP (EFI System Partition).

If there are already UEFI-based operating systems installed on your computer (Windows 8 for example), the Mageia installer will detect the existing ESP created by Windows and add grub2-efi to it. If no ESP exists, then one will be created. Although it is possible to have several ESPs, only one is required, whatever the number of operating systems you have.

#### 11.1.2. rEFInd

##### **rEFInd on UEFI systems**

- rEFInd has a nice graphical set of options, and can auto-detect installed EFI bootloaders. See: <http://www.rodsbooks.com/refind/>



Please note that in order to be able to use the rEFInd option, an installed EFI System Partition must match your system architecture: if you have a 32bit EFI System Partition installed on a 64bit machine for instance, then the rEFInd option will not be displayed/available to you.

---

## 11.2. Bootloader Setup

### 11.2.1. Bootloader main options

The screenshot shows the rEFInd bootloader configuration window. It is divided into several sections:

- Bootloader**
  - Bootloader to use: GRUB2 with graphical menu (dropdown menu)
  - Boot device: /dev/sda (ATA VBOX HARDDISK) (dropdown menu)
- Main options**
  - Delay before booting default image: 10 (text input field)
- Security**
  - Password: (empty text input field)
  - Password (again): (empty text input field)

At the bottom left, there is a checkbox labeled "Advanced" which is currently unchecked. At the bottom right, there are two buttons: "Cancel" and "Next".

- **Bootloader to use**
  - GRUB2 (with either a graphical or a text menu), can be chosen for both Legacy MBR/BIOS systems and UEFI systems.
  - rEFInd (with a graphical menu) is an alternative option solely for use with UEFI systems.
- **Boot device**



Don't change this unless you really know what you are doing.

---



There is no option to write GRUB to the boot sector of a partition (e.g: `sda1`), as this method is considered unreliable.

---

When using UEFI mode, then the Boot device will be listed as EFI System Partition.

- **Delay before booting the default image**

This text box lets you set a delay, in seconds, before the default operating system is started up.

- **Security**

This allows you to set a password for the bootloader. This means a username and password will be required when booting in order to select a booting entry or change settings. This is optional, and most people are not likely to have a need for it. The username is `root` and the password is the one chosen hereafter.

- **Password**

Choose a password for the bootloader (optional)

- **Password (again)**

Retype the password and DrakX will check that it matches with the one set above

*Advanced*

- *Enable ACPI*

ACPI (Advanced Configuration and Power Interface) is a standard for power management. It can save energy by stopping unused devices. Deselecting it could be useful if, for example, your computer does not support ACPI or if you think the ACPI implementation might cause some problems (for instance random reboots or system lockups).

- *Enable SMP*

This option enables/disables symmetric multiprocessing for multi-core processors

- *Enable APIC*

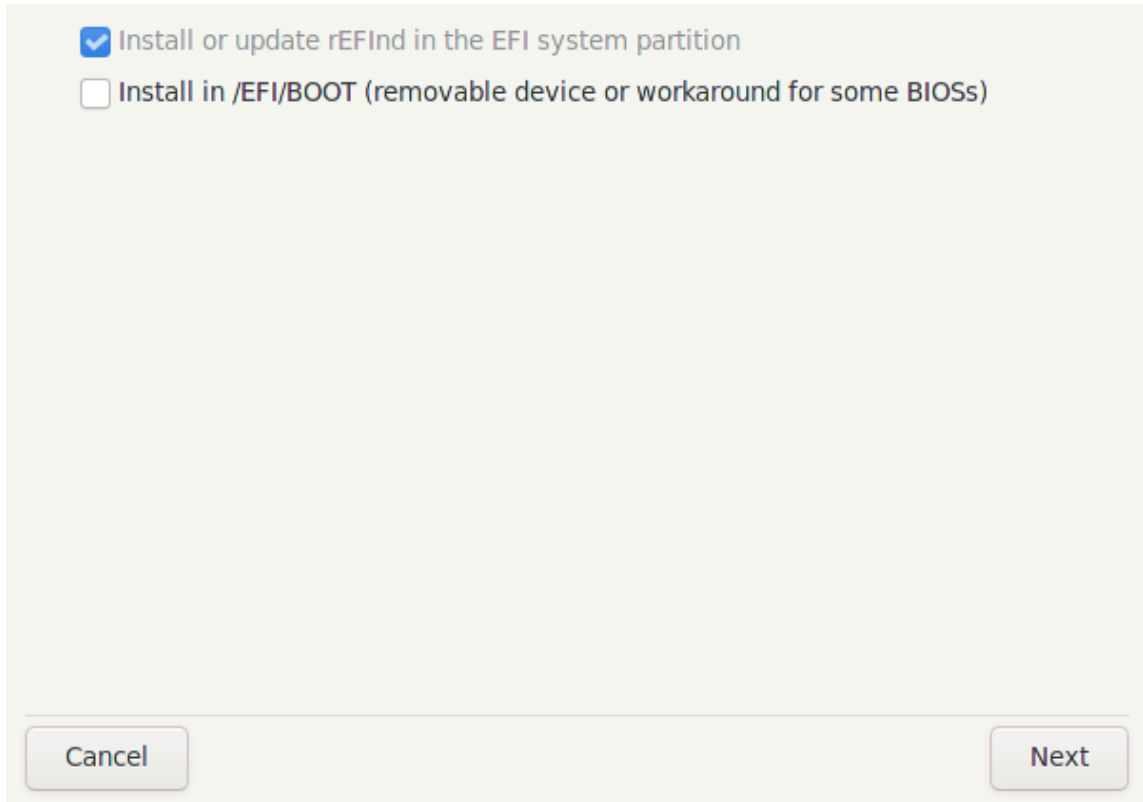
Enabling this gives the operating system access to the Advanced Programmable Interrupt Controller. APIC devices permit more complex priority models, and Advanced IRQ (Interrupt Request) management.

- *Enable Local APIC*

Here you can set Local APIC, which manages all external interrupts for a specific processor in an SMP system

### 11.2.2. Bootloader Configuration

If, in the previous section you selected `rEFInd` as the bootloader to use, you would then be presented with the options shown in the screenshot directly below. Otherwise, please instead move on to the subsequent screenshot for your options.



Your rEFInd configuration options:

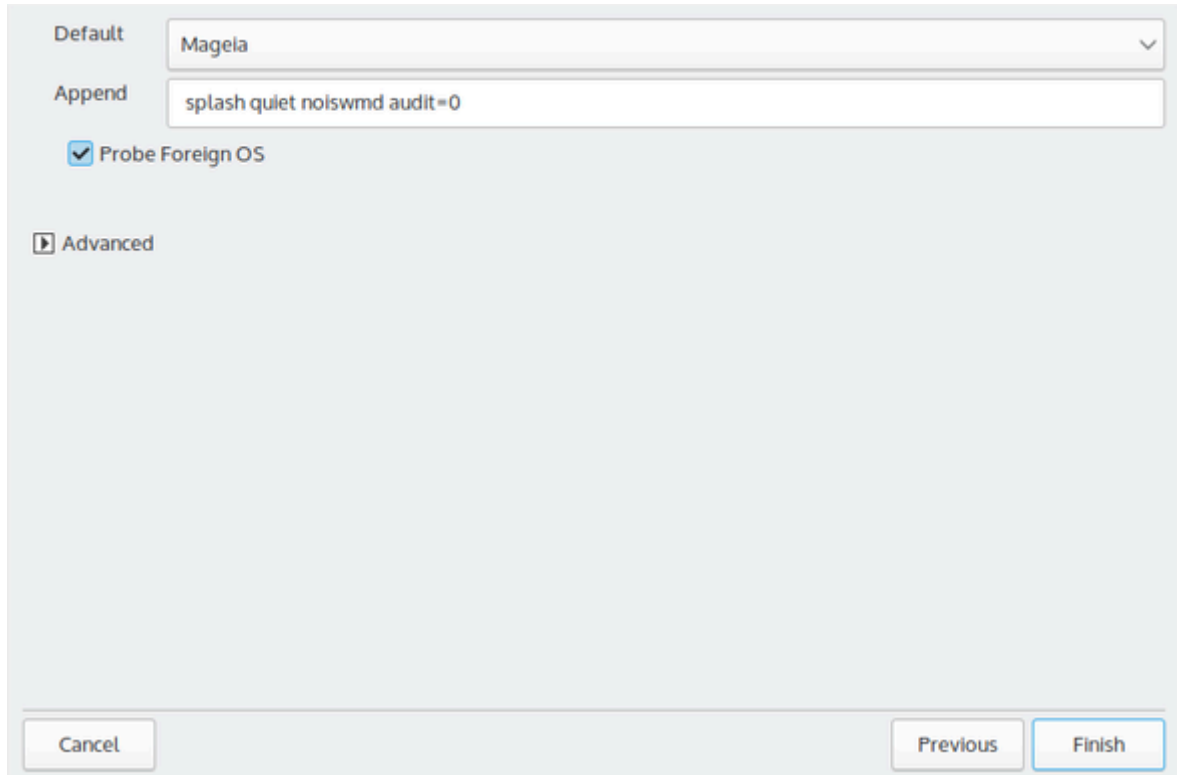
- **Install or update rEFInd in the EFI system partition.**
- **Install in /EFI/BOOT.**

This option installs the bootloader in the /EFI/BOOT directory of the ESP (EFI System Partition). This can be useful when:

- (a) Installing onto a removable drive (e.g. a USB stick) that can be removed and plugged into a different machine. If the bootloader is stored in /EFI/BOOT, UEFI BIOS's will detect it and allow you to boot from that drive.
- (b) As a workaround where, due to a buggy UEFI BIOS, the newly written bootloader for Mageia will not be recognized at end of the installation.

If you did not select rEFInd as the bootloader to use in the previous section, then your bootloader configuration options are shown below:





- **Default**

The operating system to be started up by default.

- **Append**

This option lets you pass information to the kernel or tell the kernel to give you more information as it boots.

- **Probe foreign OS**

If you already have other operating systems installed, Mageia attempts to add them to your new Mageia boot menu. If you don't want this behaviour, then untick the Probe Foreign OS option.

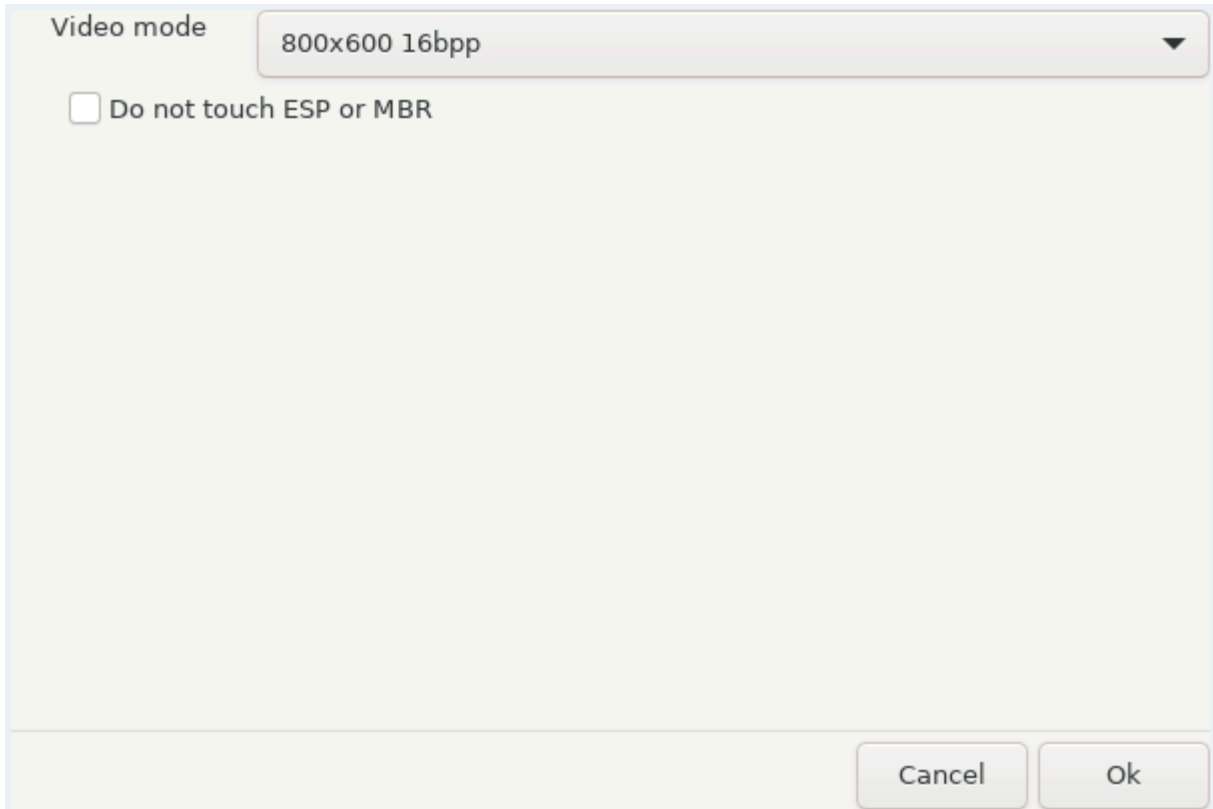
- **Install in /EFI/BOOT.** (Note: this menu option only becomes available where the installer detects that a machine is in UEFI mode).

This option installs the bootloader in the /EFI/BOOT directory of the ESP (EFI System Partition). This can be useful when:

(a) Installing onto a removable drive (e.g. a USB stick) that can be removed and plugged into a different machine. If the bootloader is stored in /EFI/BOOT, UEFI BIOS's will detect it and allow you to boot from that drive.

(b) As a workaround where, due to a buggy UEFI BIOS, the newly written bootloader for Mageia will not be recognized at end of the installation.

*Advanced*



- *Video mode*

This sets the screen size and colour depth to be used by the boot menu. If you click the down-triangle you will be offered other size and colour depth options.

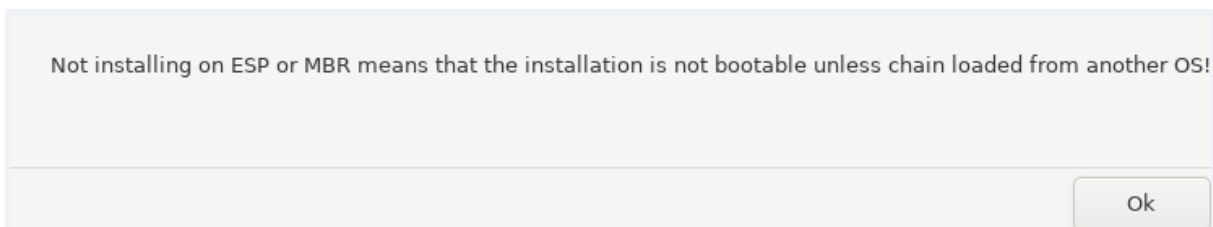
- *Do not touch ESP or MBR*

Select this option if you don't want a bootable Mageia, but would rather chain-load it from another OS. You will get a warning that the bootloader is missing. Click Ok only if you are sure you understand the implications, and wish to proceed.



Chain-loading via legacy bootloaders (GRUB Legacy and LiLo) is no longer supported by Mageia as it is likely to fail when attempting to boot this resulting installation of Mageia. If you use anything other than GRUB2 or rEFInd for this purpose, then you do so at your own risk!

---



## 11.3. Other Options

### 11.3.1. Using an existing bootloader

The exact procedure for adding Mageia to an existing bootloader is beyond the scope of this documentation. However, in most cases it will involve running the relevant bootloader installation program, which should detect Mageia and automatically add an entry for it in the bootloader menu. See the documentation for the relevant operating system.

### 11.3.2. Installing Without a Bootloader

While you can opt to install Mageia without a bootloader (see section 2.1 Advanced), this is not recommended unless you absolutely know what you are doing, as without some form of bootloader your operating system will be unable to start.

### 11.3.3. Add or Modify a Boot Menu Entry

To do this you need to manually edit `/boot/grub2/custom.cfg` or use the software **grub-customizer** tool instead (available in the Mageia repositories).



For more information, see: [https://wiki.mageia.org/en/Grub2-efi\\_and\\_Mageia](https://wiki.mageia.org/en/Grub2-efi_and_Mageia)

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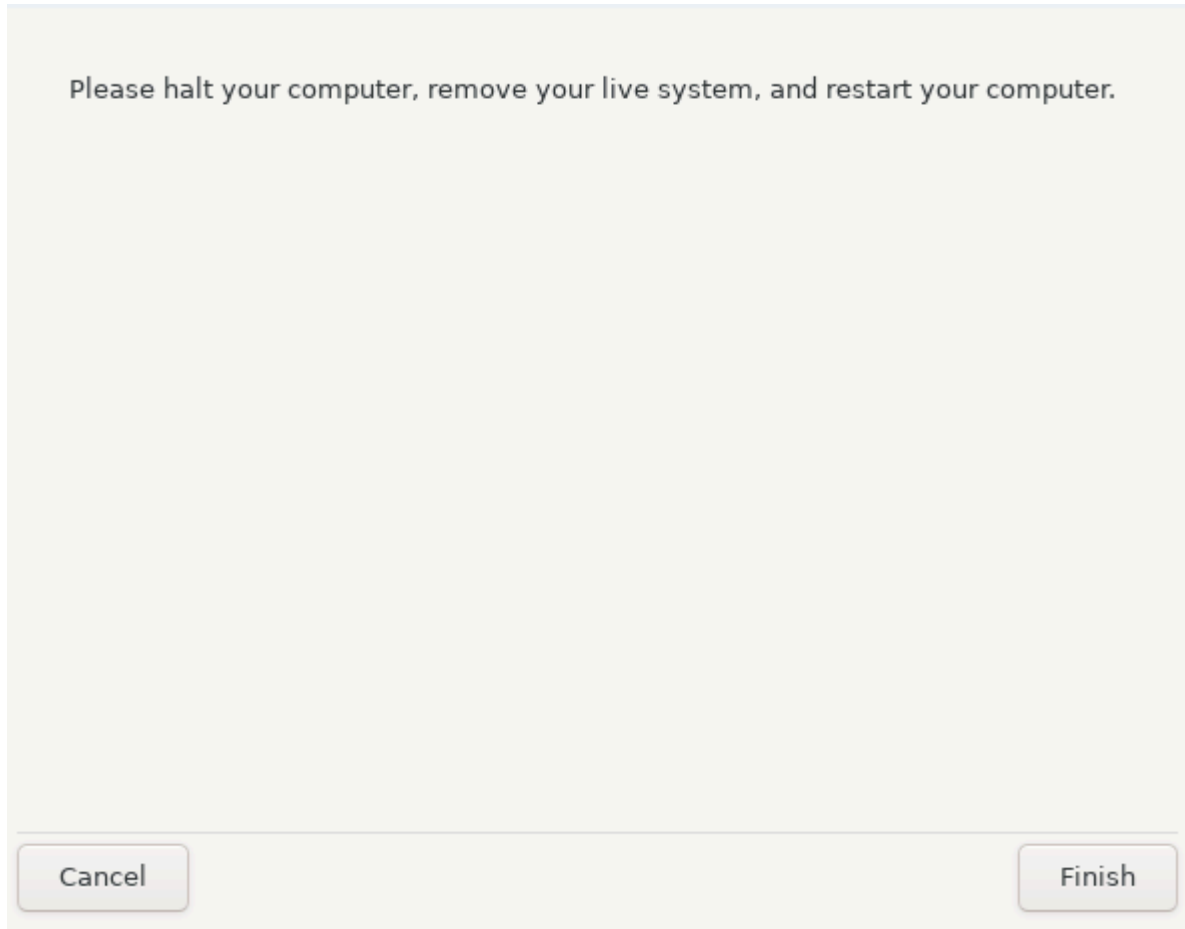
## 12. Reboot

Once the bootloader has been installed, you will be prompted to halt your computer, remove the live DVD/USB stick and restart the computer.



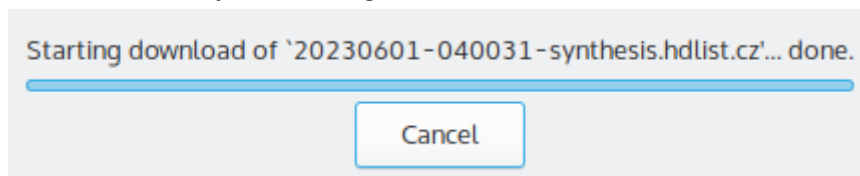
Ensure that you follow these shut-down and restart instruction steps in the **same** order.

---

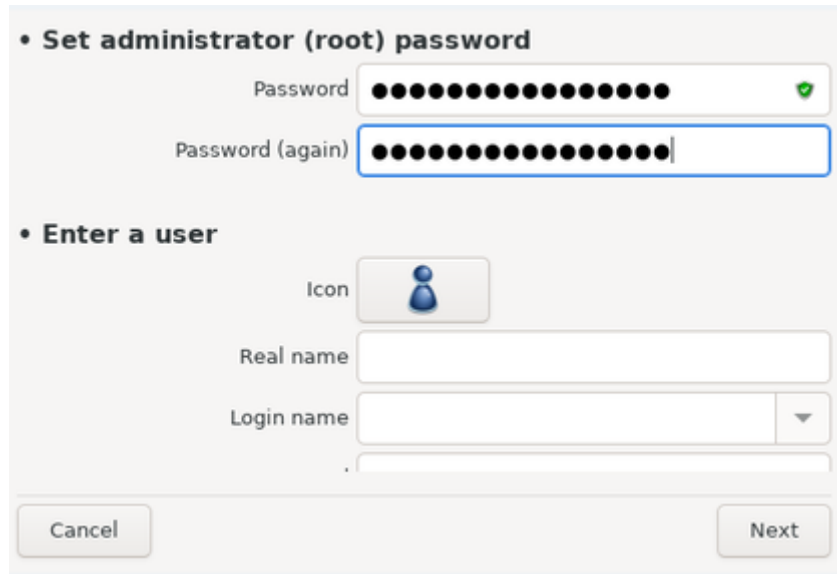


When you are ready, press *Finish*.

When you restart, you will see a succession of download progress bars. These indicate that the software media lists are being downloaded (see *Software Management*).



## 13. User Management



### 13.1. Set Administrator (root) Password:

It is advisable for all Mageia installations to set a `superuser` (Administrator) password, usually called the `root` password in Linux. You need to repeat the same password in the box underneath, to check that the first entry was not mistyped.



As you type a password into the top box a shield will change from red-to-yellow-to-green depending on the strength of the password. A green shield shows you are using a strong password.

All passwords are case-sensitive. It is best to use a mixture of letters (upper and lower case), numbers and other characters in a password.

---

### 13.2. Enter a user

Add a User here. A regular user has fewer privileges than the `superuser` (`root`), but enough to use the Internet, office applications or play games and anything else the average user might use a computer for.

- **Icon**

Click on this button if you want to change the user's icon

- **Real Name**

Insert the user's real name into this text box

- **Login Name**

Enter the user login name or let DrakX use a version of the user's real name. **The login name is case-sensitive.**



The login entered here should be different to any login currently in use for your `/home` directory. Some user parameters will be written in the user space, and some can overwrite actual data such as Firefox, Thunderbird or Kmail data...

---

- **Password**

Type in the user password (remembering the advice in the Note above).

**Password (again):** Retype the user password. DrakX will check that you have not mistyped the password.



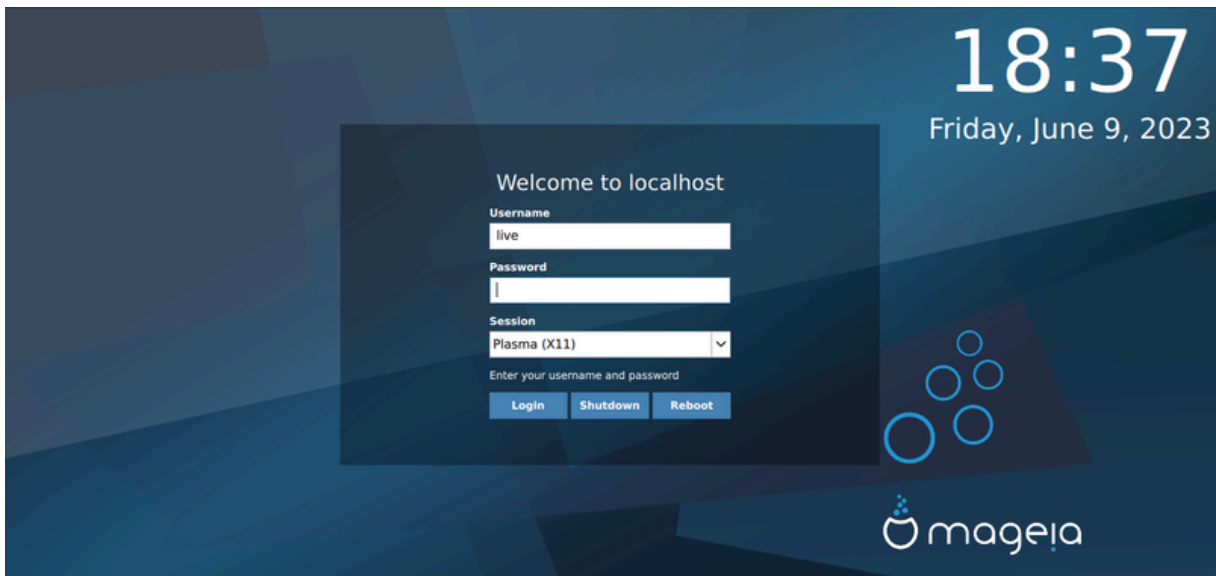
Any users added while installing Mageia, will have a home directory that is both read and write protected (umask=0027)

You can add any extra needed users in the *Configuration - Summary* step during the install. Choose *User management*.

The access permissions can also be changed after the install.

---

## 14. Login Screen



SDDM login screen

Finally, you will come to the desktop login screen.

Enter your user name and user password, and in a few seconds you will find yourself with a loaded KDE Plasma or GNOME desktop, depending on which live medium you used. You can now start using and enjoying your Mageia installation.

You can find further documentation in [the Mageia wiki](https://wiki.mageia.org/en/Main_Page) [https://wiki.mageia.org/en/Main\_Page].

## 15. Uninstalling Mageia

If Mageia didn't convince you or you can't install it correctly - in short you want get rid of it - that is your right and Mageia also gives you the possibility to uninstall. This is not true for every operating system.

After backing up your data, reboot your Mageia installation DVD and select *Rescue system*, then *Restore Windows boot loader*. At the next boot, you will only have Windows, with no option to choose your Mageia operating system.

In Windows, to recover the space used by Mageia partitions: click on Start # Control Panel # Administrative Tools # Computer Management # Storage # Disk Management. You will recognise a Mageia partition because they are labeled Unknown, and also by their size and place on the disk. Right-click on each of these partitions and select *Delete* to free up the space.

If you are using Windows XP, you can create a new partition and format it (FAT32 or NTFS). It will then get a partition letter.

If you have Vista or 7, you have one more possibility, you can extend the existing partition that is at the left of the freed space. There are other partitioning tools that can be used, such as **gparted**, available for both Windows and Linux. As always, when changing partitions, be very careful to back up anything important to you.