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How can I burn a Raspberry Pi image to SD card from Ubuntu?

I'm sure this must be fairly simple but can't find it here.


How does one go from having a blank SD card to having an SD card that boots a Raspi?

sd-card

cd-image

raspberrypi

asked Aug 23 '12 at 14:21



Oli ♦

196k

72

493

712

2015: NOOBS makes all this nice and simple. – Thorbjørn Ravn Andersen Jul 1 '15 at 11:18

please follow the following link. And don't forget to format your sd-card with fat32 before installation [raspberrypi.org/documentation/installation/installing-images/...](http://raspberrypi.org/documentation/installation/installing-images/) – Sumanta Apr 30 at 4:30

10 Answers

You can do it from the command line as well. No need to install anything.

1. Find the name of the device of the plugged in SD-card. For instance I typed `ls -la /dev/sd*` before and after plugging in the sd-card. I saw the date of `/dev/sdc` change and thus decided that that was the one.
2. Find the place of the unzipped image, which was `/home/username/Downloads/2012-10-28-wheezy-raspbian.img` for me.

Type the following (mutatis mutandis):

```
sudo dd if=/home/username/Downloads/2012-10-28-wheezy-raspbian.img of=/dev/sdc
```

or with improvements suggested by other users:

```
sudo dd if=/home/username/Downloads/2012-10-28-wheezy-raspbian.img of=/dev/sdc status=progress bs=4M
```


and wait for the command to return. It may be quite a while, especially over usb2.

Resizing can be done from the Pi itself in the `raspi-config` program that starts automatically the first time you boot.

Be careful. Make absolutely sure the device name is that of the SD-card. If you replace it with the device name of your hard drive, your hard drive will be overwritten.

edited Feb 16 at 10:47

answered Dec 11 '12 at 11:25



Wilbert

735

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11

I prefer recognizing the drive name with the help of `sudo fdisk -l`. – Rafał Cieślak Jun 4 '13 at 18:47

5

Adding `bs=4M` to the `dd` can significantly improve performance. – Boris Brodski Apr 16 '14 at 19:36

This looks like a canonical answer. Can you add the bit with "sudo fdisk -l"? (if it makes sense) – Peter Mortensen Jan 3 '15 at 3:14

I typically use `df -h` once I see the name of the drive on the right you can tell if it's sda, b c on the left. – onaclov2000 Dec 28 '15 at 20:33

Best answer here, no extra tools needed besides basic Linux commands. – user2082382 Feb 15 at 20:33



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Easy Install & Resize the SD Card on the Raspberry Pi on Ubuntu.

1. First, open a terminal and install the ImageWriter and GParted utilities with apt-get:

```
sudo apt-get install usb-imagewriter gparted
```

2. Assuming you are starting with a fresh install, download the newest release from the [Raspberry Pi download site](#).

3. Extract the downloaded archive, and then open ImageWriter by typing in a console:

```
sudo imagewriter
```

4. Select the desired .img file and target device, in this case, `debian6-19-04-2012.img`, and `/dev/mmcblk0`



5. Once the image write has completed, the next task is to repartition the SD card. Note: this process can be done at any later as well, it is not limited to only during initial setup!

For 13.04 you can find packages [here](#).

If you're interested on resizing your SD CARD, check the source of this answer

[Source](#)

edited Apr 7 '14 at 9:16

answered Aug 23 '12 at 14:38



**LnxSlck**

9,193 26 46

- 1 I had trouble with this, eventually found that I needed `sudo imagewriter` in order to get it to write to my SD. – [Eric Wilson](#) Jan 25 '13 at 13:22
- 3 Sadly, usb-imagewriter is no longer available for Ubuntu 13.04 or higher because some fool decided it was "too slow" and took it out of the package repository. I've been trying other solutions, the dd tool is kind of scary but should work. – [Milimetric](#) Apr 6 '14 at 22:03
- 1 @Milimetric You can find packages for 13.04 here: [launchpad.net/ubuntu/raring/+package/usb-imagewriter](http://launchpad.net/ubuntu/raring/+package/usb-imagewriter) – [LnxSlck](#) Apr 7 '14 at 9:15
- 1 Thanks for the link LnxSlck, I kind of gave up on that route though. I tried downloading from launchpad and Ubuntu Software Center says "dependency can not be satisfied: hal". I would go down the rabbit hole but I've learned my lesson with Linux: stop at the first error. Otherwise you regret it 10 errors in :) [xkcd.com/349](http://xkcd.com/349) – [Milimetric](#) Apr 7 '14 at 12:27

@Milimetric Remember that the fun in Linux is learning, even if you learn by mistake – [LnxSlck](#) Apr 7 '14 at 21:44

On Ubuntu 14.04 right click on the installer image and choose `open with disk images writer`. Select your SD card unit and press Start.

Or open `Brasero` from dash and select `Write Image`.

edited Apr 25 '14 at 21:30

answered Apr 25 '14 at 20:31



**Cornelius**

6,295 2 24 49



**David Peláez**

301 2 3

- 3 the first of these should be the marked answer. With `dd` the potential to destroy some partition or disk is imo greater than with that GUI tool – [erikbwork](#) Nov 24 '14 at 12:25
- It is not possible with brasero it doesn't know .img extension. – [Chinmaya B](#) Aug 21 '15 at 12:08
- 1 By far, the simplest solution on Ubuntu. – [brunofitas](#) Mar 29 '16 at 0:01
- This method has the advantage of working on 15.10 also, but the drawback that it won't work for the NOOBS installer that many users will be interested in as NOOBS does not use a .img file. – [TenLeftFingers](#) May 11 '16 at 20:26
- On Ubuntu Xenial it is somehow not-very-clearly called "Image disk creation" even though it can also be used to write it back. Very nice trick! :D – [Andrea Lazzarotto](#) Sep 7 '16 at 23:52

On 13.10 I couldn't get usb-imagewriter to install E: Unable to locate package usb-imagewriter.

I found that plain old `gnome-disks` command Disks from desktop worked. You can select the usb drive and have the option to `Restore disk image`.

edited Nov 23 '13 at 17:43



Alvar

10.7k

25

76

117

answered Nov 23 '13 at 17:42



user184190

121

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Using xubuntu 14.04. This worked for me. – clyde Jan 16 '16 at 22:31

Those are all really great answers...

I like to add `status=progress` to the `dd` command:

```
sudo dd if=rasidiskimg.img of=/dev/mmcbl.. status=progress bs=4M
```

#it reports like so:

2037383168 bytes (2.0 GB, 1.9 GiB) copied, 198.548 s, 10.3 MB/s

edited Sep 8 '16 at 10:45



Android Dev

9,445

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22

48

answered Sep 7 '16 at 23:08



Stas Wright

31

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Use Startup Disk Creator. It should be installed on Ubuntu by default. It worked for me very well.

edited Feb 16 at 12:16



daisy

2,556

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16

32

answered Jun 1 '16 at 7:41



user92595

31

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Some answers mention `usb-imagewriter` but that doesn't exist anymore (at least on Ubuntu 16.04).

I used `usb-creator-gtk`, and that did the trick for me.

edited Feb 16 at 12:16



daisy

2,556

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answered Sep 25 '16 at 16:48



ajeans

130

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1. Open **Disks** from the unity launcher.
2. Navigate to your SD card in the left pane by clicking on it.
3. Next, click on the hamburger menu icon in top right corner.
4. Select **Restore Disk Image** from the menu.
5. In the subsequent popup window, next to the *Image to Restore* field, click on the open folder icon.
6. Navigate to the OS image you want to boot and click open and finally click on *Start Restoring*. (OS image in this case will be a .img file which needs to be extracted from the .zip file which can be downloaded from the [Raspberry Pi Website](#))

Wait for the process to finish.

Tested on Ubuntu 16.04

answered Feb 16 at 11:24



Piyush Pushkar

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Install an image to Rasperry Pi by **cloning** (sometimes called flashing, burning, restoring). If the image is compressed, extract it before cloning, or use a tool that can extract and clone.

## dd (and cp and cat)

The basic tool for cloning is **dd**. You can also use **cp** or **cat** for the same purpose. But these three tools are risky, when used to clone, to write to a mass storage device, because they do what you tell them to do without questions. So if you tell them to wipe the family pictures ... and it is a minor typing error away. **dd** is sometimes nicknamed 'data destroyer'.

- Yes you can use **dd** (or **cp** or **cat**) for this purpose, but double-check and triple-check that you know what you are doing, and that everything is exactly as it should be before you press the Enter key.

## Safer tools

There are several tools, that help you clone from an image file or a compressed image file, and that provide more security. There is a 'final checkpoint' and the target device is 'seen' in such a way, that it is easy to identify and make sure, that it is the correct target device (not the drive where you store the family pictures).

- **Disks** alias **gnome-disks** has a built-in cloning tool, that you use when you 'restore' from an iso file or image file to a mass storage device, for example an SD card for Raspberry Pi. **Disks** is built into Ubuntu, so you need not install it. Extract from a compressed image file separately before using **Disks** (because there is a bug in some versions, [bug #1571255](#)).
- **mkusb** uses dd to clone. It 'wraps a safety belt' around **dd**. **mkusb** can also install directly from compressed image files, if compressed with gzip or xz ('file.img.gz' or 'file.img.xz'). Install and use **mkusb** according to the following links,

[help.ubuntu.com/community/mkusb](http://help.ubuntu.com/community/mkusb)

#### Expansion and imaging from a compressed image file

```
sudo add-apt-repository universe # only for standard Ubuntu

sudo add-apt-repository ppa:mkusb/ppa # and press Enter
sudo apt-get update
sudo apt-get install mkusb mkusb-nox usb-pack-efi
```

answered Feb 16 at 13:14



**sudodus**

8,700 2 13 29

In addition to Wilbert's excellent answer, in order to do this often, the following has the added benefit of compressing and uncompressing the image on the fly, and shows progress using **pv** (you may need to `apt-get install pv`):

I do a backup with:

```
sudo dd if=/dev/mmcblk0p7 | pv -c -N filesystem | \
gzip -c | pv -c -N compressed > backup/mmcblk0p7.img.gz
```

And a restore with:

```
cat mmcblk0p7.img.gz | pv -c -N compressed | \
gunzip | pv -c -N filesystem | sudo dd of=/dev/mmcblk0p7
```

Make sure to replace mmcblk0p7 with the partition you want to backup/restore.

answered Mar 16 at 1:29



**jjmontes**

284 1 7