

# Quick Start Manual

for mkusb version 8

by sudodus alias nio-wiklund at launchpad

## a. Preparation

You need two drives or mass storage devices (pendrive, flash card, HDD, SSD). The minimum sizes are 1 GB and 4 GB, but obviously the final operating system will soon need more space for your personal files as well as for additional system files (program packages),

- a drive for the installer (minimum 1 GB for a CD size iso file, typically 4 GB USB pendrive), and

- a drive for the target, the final installed operating system (typically an internal drive, but it could also be connected via USB or eSATA). Minimum 4 GB for Lubuntu but 8 GB or more is better, and will work with all desktop flavours of Ubuntu and many other linux operating systems.

This original method works only from writable mass storage devices, but with a new install ISO file you can make CD/DVD as well as USB install drives with **mkusb** and a compressed image file (or files if DVD size). This is a good option for really old hardware, because it needs much less memory than the conventional installers.

**b. Backup all personal data before trying this method because the installer drive and maybe also the target drive will be completely overwritten**

## c. Download the files

Download the shell-script **mkusb** and a hybrid iso file or compressed image file with the operating system, or download the iso file of the mkusb CD/DVD installer.

Current Ubuntu iso files can be used (except Ubuntu 12.04 LTS mini.iso).

`linux.iso` OR `linux.img.gz` OR `linux.img.xz`

Download also the corresponding checksum files, usually md5sum. See the following links

<http://phillw.net/isos/linux-tools/mkusb>

<http://ubuntuforums.org/showthread.php?t=1958073>

## d. Check download and clone image in Linux

1. Change directory to where you have the downloaded files.

2. Check that the download was successful with md5sum

```
md5sum linux.iso linux.img.gz mkusb
```

3. Use mkusb to install/clone/flash the operating system

mkusb helps you find the correct target drive and avoid the risk with dd.

Make mkusb executable

```
sudo chmod ugo+x mkusb
```

Run mkusb (locally with prefix ./) to find out how to use it

```
./mkusb
Usage: # New: menus to select source file and target device #
---- Make a USB install device from ISO or image file -----
sudo ./mkusb
sudo ./mkusb file.iso
sudo ./mkusb file.img
sudo ./mkusb file.img.gz
sudo ./mkusb file.img.xz
---- Install from 'file.img.xz', show all mass storage devices
sudo ./mkusb file.img.xz all
---- Install from 'file.img.xz', show all ..., no help text
sudo ./mkusb file.img.xz anh
---- Wipe the USB device (may take long time) -----
sudo ./mkusb wipe-whole-device
---- Wipe the first megabyte (MibiByte), show only USB devices
sudo ./mkusb wipe-1
---- Wipe the first megabyte, show all mass storage devices --
sudo ./mkusb wipe-1 all
---- Help and Version -----
./mkusb -h
./mkusb -v
```

The current version of **mkusb** uses text based menus to help you select the correct source file and target device. **mkusb** can monitor the data transfer with **pv**, and suggests that you install it, if not yet installed. **pv** shows Mibibytes and **dd** shows Megabytes.

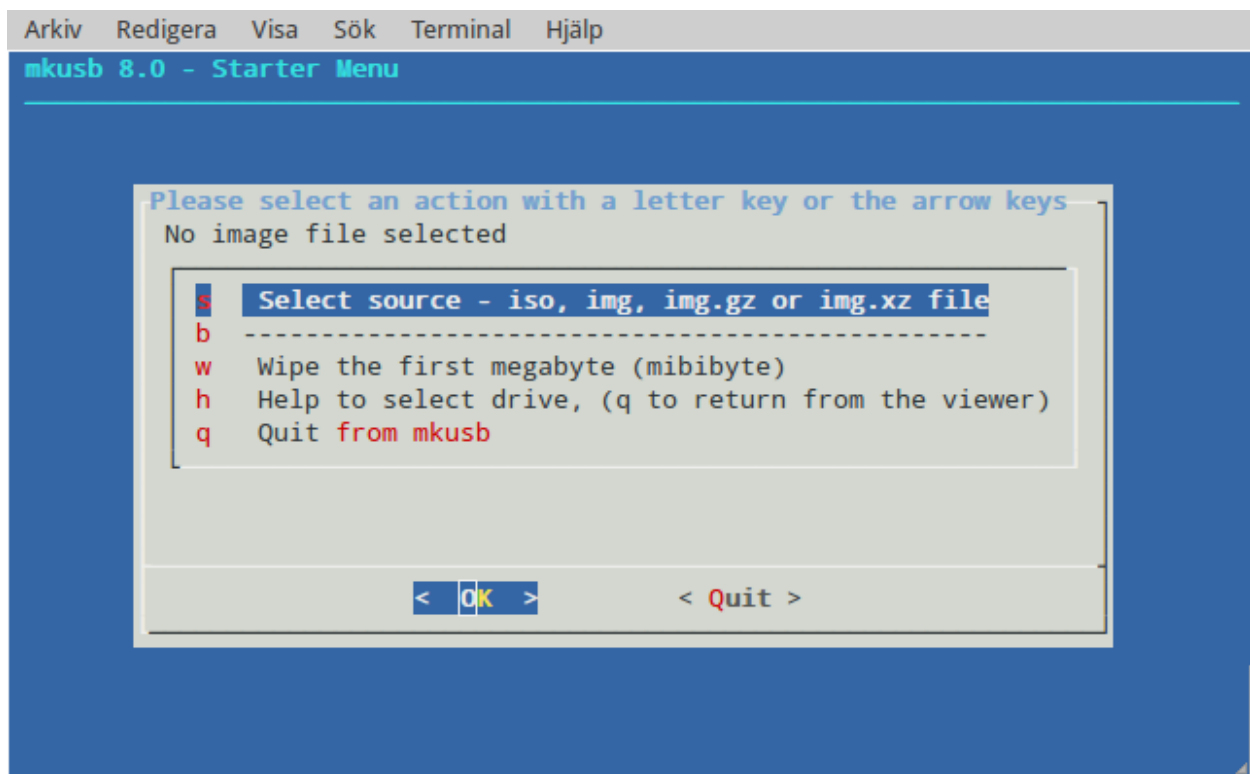
**mkusb** needs **dialog**, and suggests that you install it. If you cannot install dialog, for example because you have no internet connection, you must use **mkusb version 7.4** or another earlier version. The older versions are available at the tutorial in the Ubuntu Forums

<http://ubuntuforums.org/showthread.php?t=1958073>

The first example describes cloning an iso file to a USB pendrive.

```
sudo ./mkusb
```

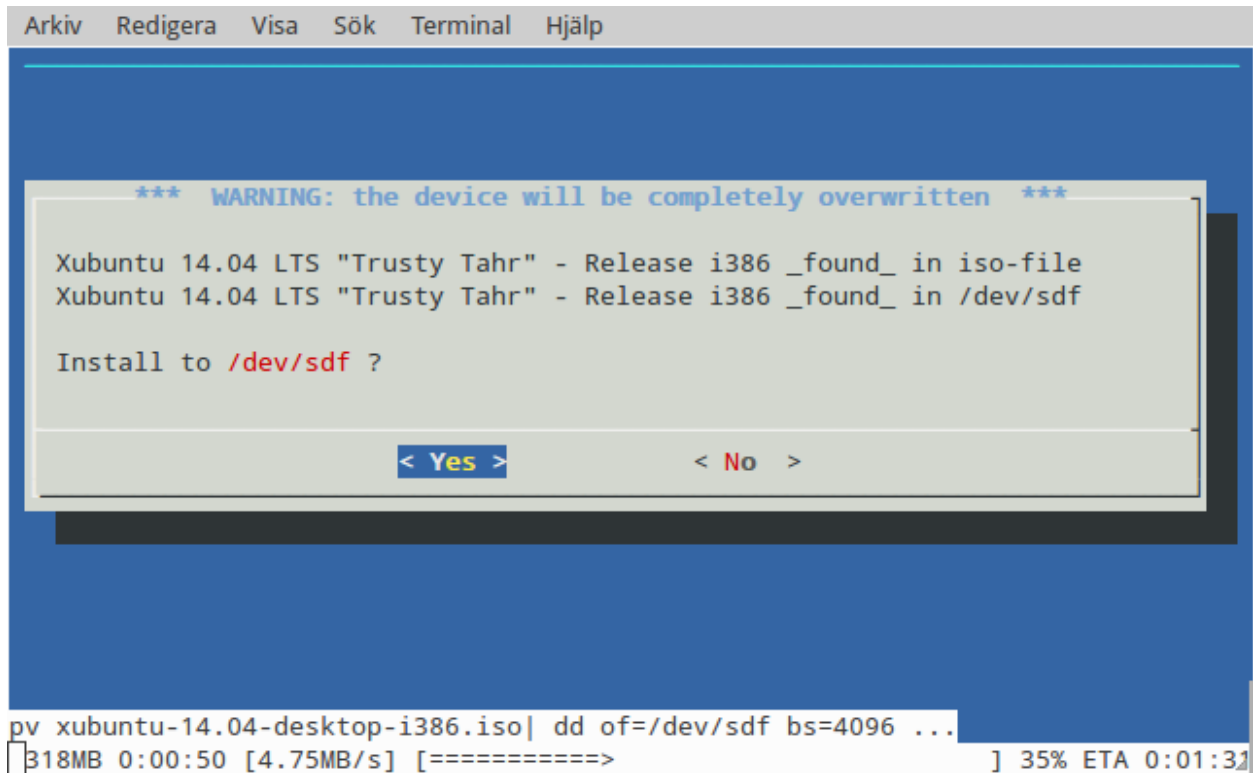
opens the menus to select the source file.



`mkusb` skips directly to the menus to select target device with the source file as parameter.

```
sudo ./mkusb xubuntu-14.04-desktop-i386.iso
```

You clone the same version and flavour of Ubuntu several times during iso testing. Then it will be very convenient after the first time.



```
Arkiv Redigera Visa Sök Terminal Hjälp

*** WARNING: the device will be completely overwritten ***

Xubuntu 14.04 LTS "Trusty Tahr" - Release i386 _found_ in iso-file
Xubuntu 14.04 LTS "Trusty Tahr" - Release i386 _found_ in /dev/sdf

Install to /dev/sdf ?

< Yes > < No >

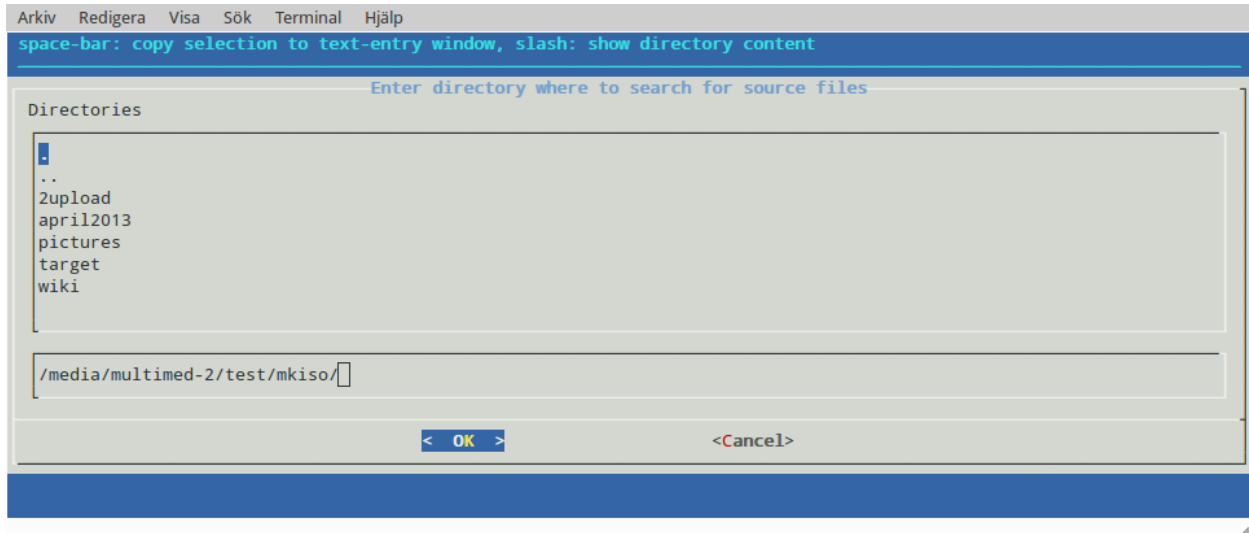
pv xubuntu-14.04-desktop-i386.iso | dd of=/dev/sdf bs=4096 ...
318MB 0:00:50 [4.75MB/s] [=====>] 35% ETA 0:01:31
```

The target in this case is a reliable but slow Sandisk Cruzer Blade 4 GB USB 2 pendrive. Fast USB 3 pendrives can write 5 times faster in USB 2 ports and even faster in USB 3 ports. See this link, How to help USB drives in the Ubuntu Forums, post #6

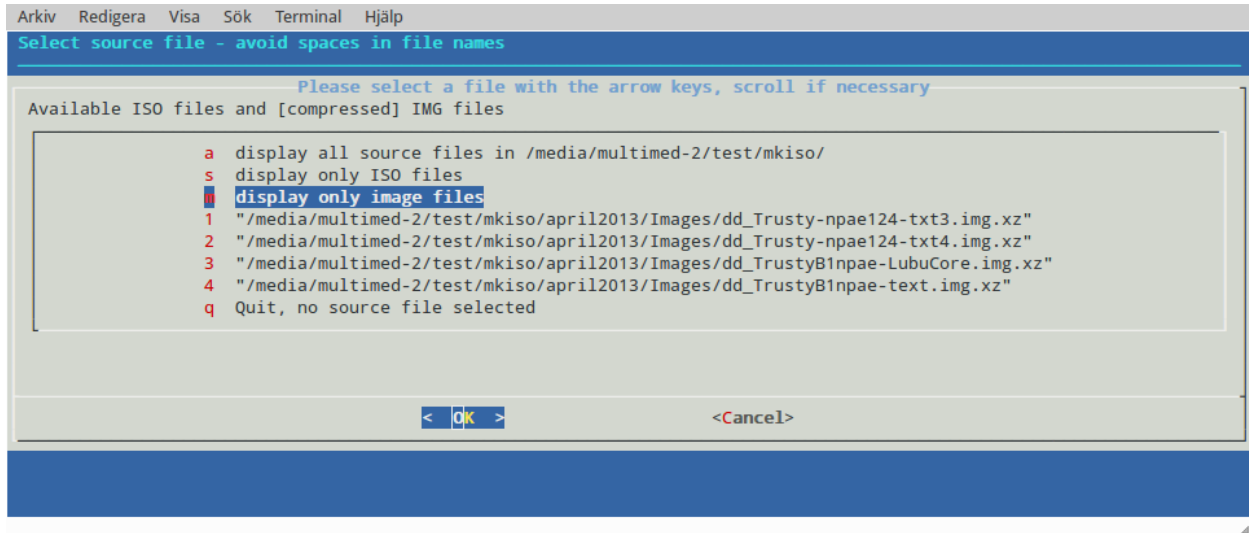
<http://ubuntuforums.org/showthread.php?t=2196858>

The next example shows selecting the directory to search for source files

`sudo ./mkusb`

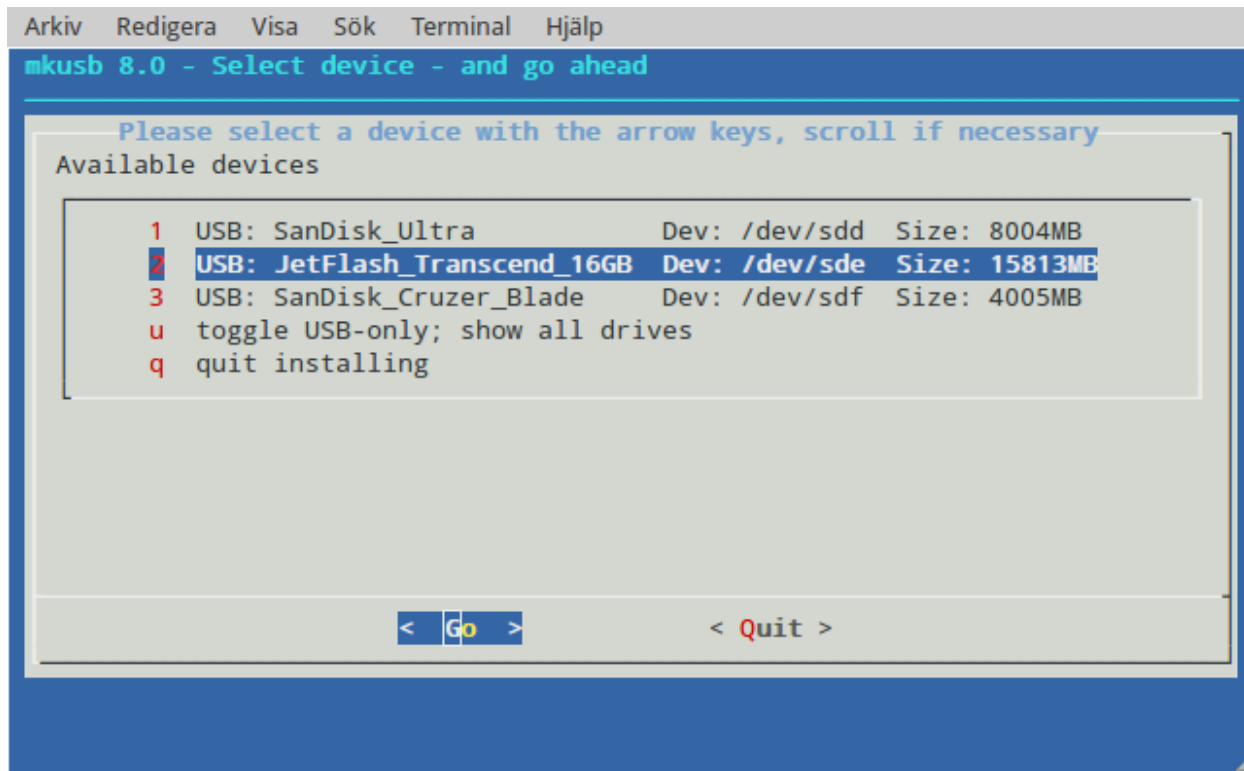
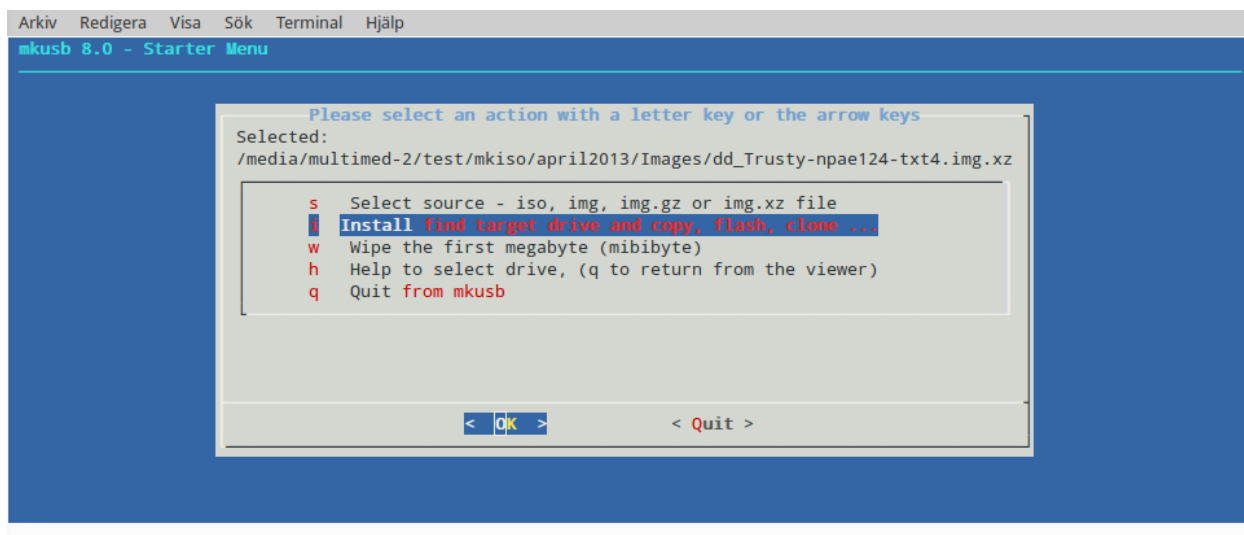


and the source file



These screendumps show the advantage of wide terminal windows when the file name and directory path are long. So it is recommended to increase the width to at least 120 columns. One way to increase the size is to maximize the window. You can also use a small font size.

This example shows selecting 'Install' and selecting the target device



Look out for the **FINAL WARNING** in the next screen! Double check that it is the correct target device, before you decide to install!

## e. Wipe the CD file system

If you want to re-use a USB device that has been used with an iso file system, iso9660, you should wipe it with dd (overwrite with zeros). Otherwise grub-install doesn't want to write into the mbr area, because it recognizes the CD file system. You need *not* wipe it before cloning. Use **mkusb** also for this task and wipe the first megabyte of the drive, 'wipe-1'.

```
sudo ./mkusb wipe-1
```

or



and you will arrive at menus to select the target device and the **FINAL WARNING**

## **f. References**

For more details, see the tutorial in the Ubuntu Forums

<http://ubuntuforums.org/showthread.php?t=1958073>

and the mkusb wiki page with several screenshots

<https://help.ubuntu.com/community/mkusb>

And see this wiki page with methods and tools to create USB boot devices/drives/sticks

<https://help.ubuntu.com/community/Installation/FromUSBStick>