

# Quick Start Manual

for

## mkusb-nox version 22

by sudodus alias nio-wiklund at launchpad

- Install/copy/flash an iso file or img file to a USB pendrive with mkusb-nox
- mkusb-nox helps you find the correct target drive and avoid the risk with dd.
- If installed, mkusb-nox is in the system PATH and can be run with

```
sudo mkusb-nox file.iso
sudo mkusb-nox file.iso all # show all /dev/sdx devices
sudo mkusb-nox file.img
sudo mkusb-nox file.img.xz
sudo mkusb-nox wipe-1
sudo mkusb-nox restore
```

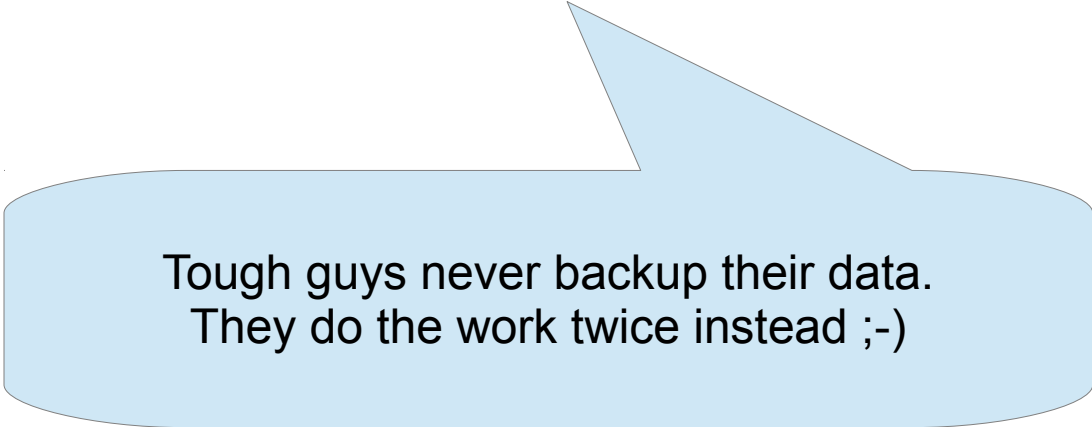
# Preparation

- You need two drives or mass storage devices (pendrive, flash card, HDD, SSD). The minimum sizes are 1 GB and 8 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 at least 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, eSATA or card reader). Minimum 8 GB for Lubuntu but 16 GB or more is better, and will work with all desktop flavours of Ubuntu and many other linux operating systems.
- Find more details at the following link

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

# Backup

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



Tough guys never backup their data.  
They do the work twice instead ;-)

# Install mkusb-nox, download and check image files

- Install the shell-script **mkusb-nox** and download a hybrid iso file or compressed image file with the operating system.
- mkusb-nox can be installed in Ubuntu from PPA with the following commands

```
sudo add-apt-repository ppa:mkusb/ppa # and press Enter
```

```
sudo apt update
```

```
sudo apt install mkusb-nox
```

- or download a tarball from <https://github.com/sudodus/tarballs>
- Check the **md5sum** of the iso files and compressed image files

```
file.iso file.img file.img.gz or file.img.xz
```

```
md5sum file.iso
```

# If mkusb-nox downloaded, not installed

- Make the downloaded file executable

```
$ chmod ugo+x mkusb-nox
```

- Run mkusb-nox locally (in the directory, where it is together with the source file (ISO or other image file)

- You need superuser privileges, use sudo or run as root (depending on the linux distro)

```
$ sudo ./mkusb-nox file.iso
```

```
# ./mkusb-nox file.iso
```

```
$ ./mkusb-nox # or (if installed) mkusb-nox
```

# Help text

Usage:

```
---- Make a USB install device from ISO or image file -----
```

```
sudo ./mkusb-nox file.iso
```

```
sudo ./mkusb-nox "quote file name (1) with special characters.iso"
```

```
sudo ./mkusb-nox file.img
```

```
sudo ./mkusb-nox file.img.gz
```

```
sudo ./mkusb-nox file.img.xz
```

```
sudo ./mkusb-nox file.tar # if an mkusb tarfile for Windows
```

```
---- Install from 'file.img.xz', show all mass storage devices
```

```
sudo ./mkusb-nox file.img.xz all
```

```
---- Wipe the USB device (may take long time) -----
```

```
sudo ./mkusb-nox wipe-whole-device
```

```
---- Wipe the first megabyte (MibiByte), show only USB devices
```

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

```
---- Wipe the first megabyte, show all mass storage devices --
```

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

```
---- Restore to a storage device with FAT32 file system -----
```

```
sudo ./mkusb-nox restore
```

```
---- Help and Version -----
```

```
./mkusb-nox -h
```

```
./mkusb-nox -v
```

Running with sudo; 'all' to test all /dev/sdx devices

# Dialogue

Q1  
A1

```
$ sudo mkusb-nox kinetic-desktop-amd64.iso all
The iso file SHOULD BE loop mounted on a temporary file READ-ONLY:
mount: /tmp/tmp.jEW200QKfK: WARNING: device write-protected, mounted read-only.
disk_name_type=debian
Ubuntu kinetic 22.10 amd64 i386 _found_ in iso-file
Ubuntu kinetic 22.10 amd64 i386 _not_ in USB device
Do you want to make a new one? (y/n)
```

(Some system information may be written here)

```
y
*** WARNING: the device will be completely overwritten ***
*** quit with (q) ***
*** Unmount the device if mounted *****
```

```
Name: ata-SanDisk_SD6SB1M256G1001 Dev: /dev/sda Size: 256GB
Name: ata-WDC_WD4002FYZZ-01B7CB1 Dev: /dev/sdb Size: 4001GB
Name: ata-OCZ-AGILITY3 Dev: /dev/sdc Size: 60GB
Live drive: /dev/sda
```

Identifying the drives

Q2  
A2

```
# would not unmount /dev/sda because device is busy; in fstab
# would not unmount /dev/sdb because device is busy; in fstab
--> 1: install to Name: ata-OCZ-AGILITY3 Dev: /dev/sdc Size: 60GB
Go ahead with (g) or quit with (q). Toggle USB-only with (u).
```

In this case only one USB drive is available, and it is an SSD connected via a USB3 to SATA adapter

```
g
1: source: kinetic-desktop-amd64.iso
target: Name: ata-OCZ-AGILITY3 Dev: /dev/sdc Size: 60GB
```

```
MODEL NAME FSTYPE LABEL SIZE
ITY3 sdc 55,9G
```

Final checkpoint

```
Please check again that it is the correct target device! (y/n)
```

Q3  
A3

```
y
```

```
Installing kinetic-desktop-amd64.iso to /dev/sdc ...
```

lsblk output to help you identify the target drive in this case an empty drive

```
gpt_zap: done
< "kinetic-desktop-amd64.iso" dd bs=1M of=/dev/sdc status=progress oflag=dsync
Please wait for sync (flushing file system buffers to the device)
until 'Done' is written ...
2803812352 bytes (total size to be cloned)
2790260736 bytes (2,8 GB, 2,6 GiB) copied, 46 s, 60,6 MB/s
2673+1 records in
2673+1 records out
2803812352 bytes (2,8 GB, 2,6 GiB) copied, 46,334 s, 60,5 MB/s
Syncing the device ...
Done :-)
```

This part shows the progress of the cloning process

Questions & Answers

# ISO-testing

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

The same command as in previous page

```
$ sudo mkusb-nox kinetic-desktop-amd64.iso all
The iso file SHOULD BE loop mounted on a temporary file READ-ONLY:
mount: /tmp/tmp.DVzhARivsg: WARNING: device write-protected, mounted read-only.
disk_name_type=debian
```

```
Ubuntu kinetic 22.10 amd64 i386 _found_ in iso-file
Ubuntu kinetic 22.10 amd64 i386 _found_ in /dev/sdc
```

Automatic detection of the USB pendrive

MODEL	NAME	FSTYPE	LABEL	SIZE
ITY3	sdc	iso9660	Lubuntu 22.10 amd64	55,9G
	sdc1	iso9660	Lubuntu 22.10 amd64	2,6G
	sdc2	vfat	ESP	4,2M
	sdc3	iso9660	Lubuntu 22.10 amd64	300K

lsblk output to help you identify the target drive

Final checkpoint

```
Install to /dev/sdc? (y/n)
```

Only one question and reply (y/n)

```
y
dd if="kinetic-desktop-amd64.iso" of=/dev/sdc bs=1M status=progress oflag=dsync ...
```

```
2803812352 bytes (total size to be cloned)
2747269120 bytes (2,7 GB, 2,6 GiB) copied, 46 s, 59,7 MB/s
```

This part shows the progress of the cloning process

```
2673+1 records in
2673+1 records out
2803812352 bytes (2,8 GB, 2,6 GiB) copied, 47,1113 s, 59,5 MB/s
```

```
The Ubuntu kinetic 22.10 amd64 i386 USB device is re-cloned :-)
```

```
$
```

Q1  
A1



# Wipe the first mibibyte

- If you want to re-use a USB drive that has been used like this, you should wipe it with `dd` (overwrite with zeros), otherwise for example `grub-install` doesn't want to write into the mbr area, because it recognizes the CD file system, `iso9660`. (You need not wipe it before cloning with `mkusb-nox`, only if you intend to use some other tools to make partitions and file systems.)
- You can use `mkusb-nox` also for this task and wipe the whole drive,  
`$ mkusb-nox wipe-whole-device`
- but often it is enough to wipe the first mibibyte of the drive, `wipe-1`  
`$ sudo mkusb-nox wipe-1`  
`# mkusb-nox wipe-1      # running as root in some distros`
- After wiping you can use ***gparted*** or some other tool to create a new partition table and file system(s).

# Restore to a storage device

- Automatic method
  - Simplified version of [mkusb's wipe menu](#)
  - mkusb-nox can wipe the first megabyte and restore the device automatically to a standard storage device with
    - an MSDOS partition table and
    - a partition with a FAT32 file system.

- Command line

```
$ sudo mkusb-nox restore
```

# References

- A command line manual is available, when mkusb-nox is installed  
`$ man mkusb-nox`
- See the tutorials in the Ubuntu Forums for more details  
[Howto make USB boot drives](#)  
[Try Ubuntu \(Kubuntu, Lubuntu, Xubuntu, ...\) before installing it](#)  
[Howto help USB boot drives](#)
- alongside the following link to the mkusb wiki page and links to where the mkusb files are uploaded  
<https://help.ubuntu.com/community/mkusb>  
<https://github.com/sudodus/tarballs>  
<https://phillw.net/isos/linux-tools/mkusb/>
- and read the following wiki page with methods and tools to create USB boot devices/drives/sticks  
<https://help.ubuntu.com/community/Installation/FromUSBStick>