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Clonezilla

The Free and Open Source Software for Disk Imaging and Cloning

Clonezilla Live on USB flash drive or USB hard drive

Some machine, e.g. Asus Eee PC or Acer Aspire One, comes without CD/DVD drive. In this case, an USB flash drive or USB hard drive is the best way to boot Clonezilla live. You can follow the following to make a bootable Clonezilla live USB flash drive or hard drive using either MS Windows or GNU/Linux.

Requirement:

- 1. Microsoft Windows 2000/XP/Vista/7, or GNU/Linux.
- 2. Internet access for downloading a distribution to install, or a pre-downloaded ISO file.
- 3. An USB drive with a FAT or NTFS partition. If you are making this bootable USB flash drive on GNU/Linux, more file systems, including ext[2-4],btrfs,xfs,ufs,ffs can be used for the USB flash drive.

USB setup with MS Windows

Choose one of the following methods to setup Clonezilla Live on your USB flash drive using MS Windows:

- MS Windows Method A: Tuxboot
- MS Windows Method B: Manual
- MS Windows Method C: Unetbootin (Not recommended)
- MS Windows Method D: LinuxLive USB Creator
- MS Windows Method E: Rufus USB Creator

MS Windows Method A: Tuxboot

- 1. Download <u>Tuxboot</u> on your MS Windows computer.
- From MS Windows, run the Tuxboot program and follow the instructions in the GUI to install Clonezilla Live on your USB flash drive.

MS Windows Method B: Manual

WARNING! DO NOT RUN makeboot.bat from your local hard drive! Doing so could cause your MS windows not to boot!!!

- 1. Download the Clonezilla Live **zip** file.
- 2. If you already have a partition of at least 200 MB in size on your USB flash drive formatted with a FAT or NTFS file system then skip to the next step (3). Otherwise create at least a 200 MB partition on your USB flash drive and format it with a FAT16/FAT32 or NTFS file system.
- 3. Extract all the contents of the zip file to the FAT16/FAT32 or NTFS partition on your USB flash drive. Keep the directory architecture, for example, file "GPL" should be in the USB flash drive's top directory (e.g. G:\GPL).

- 4. Browse to your USB flash drive and as an administrator, (On the USB flash key, create a shortcut to the makeboot.bat file. Then right-clic on the shortcut, Properties, Advanced and check "Run as administrator".), click the makeboot.bat in the dir utils\win32\ (for 32-bit Windows) or makeboot64.bat in the dir utils\win64\ (for 64-bit Windows). WARNING! Makeboot.bat must be run from your USB flash drive.
- Follow the on-screen instructions.
 (PS: The above description is modified from: http://www.pendrivelinux.com/2007/01/02/all-in-one-usb-dsl. Thanks to PDLA from http://pendrivelinux.com)

MS Windows Method C: Unetbootin (Not Recommended)

- 1. If you already have Unetbootin installed on your computer then skip to the next step (2).
 - Otherwise download and install **Unetbootin** on your MS Windows computer.
- 2. <u>Download</u> the Clonezilla Live **iso** file.
- 3. From MS Windows, run the Unetbootin program and follow the instructions in the GUI to install Clonezilla Live on your USB flash drive.
 - **NOTE:** The boot menu created by Unetbootin is not exactly the same as the boot menu created in method A. Therefore it is recommended to use method A.

Windows Method D: LinuxLive USB Creator

- 1. If you already have LinuxLive USB Creator installed on your computer then skip to the next step (2).
 - Otherwise download and install <u>LinuxLive USB Creator</u> on your MS Windows computer.
- 2. Download the Clonezilla Live iso file.
- 3. From Windows, install then <u>run the LinuxLive USB Creator program and follow</u> the instructions in the GUI to install Clonezilla Live on your USB flash drive.

MS Windows Method E: Rufus USB Creator

- 1. If you already have Rufus installed on your computer then skip to the next step (2).
 - Otherwise download and install Rufus on your MS Windows computer.
- 2. Download the Clonezilla Live iso file.
- 3. From MS Windows, run the Rufus program and follow the instructions in the GUI to install Clonezilla Live on your USB flash drive.

USB setup with GNU/Linux

Choose one of the following methods to setup Clonezilla Live on your USB flash drive using GNU/Linux:

- GNU/Linux Method A: Tuxboot
- GNU/Linux Method B: Manual
- GNU/Linux Method C: Unetbootin (Not recommended)

GNU/Linux Method A: Tuxboot

- 1. Download <u>Tuxboot</u> on your GNU/Linux computer.
- 2. From GNU/Linux, follow the instructions and the GUI to run Tuxboot to install Clonezilla Live on your USB flash drive.

GNU/Linux Method B: Manual

WARNING! Confirm you have the correct path name before executing commands!

Failure to do so could cause loss of data or your GNU/Linux not to boot!!!

/dev/sdd is a device path name /dev/sdd1 is a partition path name

- 1. <u>Download</u> the Clonezilla Live **zip** file.
- 2. If you already have a FAT or NTFS partition on your USB flash drive then skip to the next step (3).

Otherwise prepare at least a 200 MB partition formatted with either a FAT16/FAT32 or NTFS file system.

If the USB flash drive or USB hard drive does not have any partition, you can use a partitioning tool (e.g. gparted, parted, fdisk, cfdisk or sfdisk) to create a partition with a size of 200 MB or more.

Here we assume your USB flash drive or USB hard drive is /dev/sdd (You have to comfirm your device name, since it's _NOT_ always /dev/sdd) on your GNU/Linux, so the partition table is like:

```
# fdisk -1 /dev/sdd
Disk /dev/sdd: 12.8 GB, 12884901888 bytes
15 heads, 63 sectors/track, 26630 cylinders
Units = cylinders of 945 * 512 = 483840 bytes
Disk identifier: 0x000c2aa7

Device Boot Start End Blocks Id System
    /dev/sdd1 * 1 26630 12582643+ b W95 FAT32
```

Then format the partition as FAT with a command such as "mkfs.vfat -F 32 /dev/sdd1"

WARNING! Executing the mkfs.vfat command on the wrong partition or device could cause your GNU/Linux not to boot. Be sure to confirm the command before you run it.

```
# mkfs.vfat -F 32 /dev/sdd1
mkfs.vfat 2.11 (12 Mar 2005)
```

3. Insert your USB flash drive or USB hard drive into the USB port on your Linux machine and wait a few seconds. Next, run the command "dmesg" to query the device name of the USB flash drive or USB hard drive. Let's say, for example,

- that you find it is /dev/sdd1. In this example, we assume /dev/sdd1 has FAT filesystem, and it is automatically mounted in dir /media/usb/. If it's not automatically mounted, manually mount it with commands such as "mkdir -p /media/usb; mount /dev/sdd1 /media/usb/".
- 4. Unzip all the files and copy them into your USB flash drive or USB hard drive. You can do this with a command such as: "unzip clonezilla-live-2.4.2-32-i686-pae.zip -d /media/usb/"). Keep the directory architecture, for example, file "GPL" should be in the USB flash drive or USB hard drive's top directory (e.g. /media /usb/GPL).
- 5. To make your USB flash drive bootable, first change the working dir, e.g. "cd /media/usb/utils/linux", then run "bash makeboot.sh /dev/sdd1" (replace /dev/sdd1 with your USB flash drive device name), and follow the prompts.
 WARNING! Executing makeboot.sh with the wrong device name could cause your GNU/Linux not to boot. Be sure to confirm the command before you run it.

NOTE: There is a known problem if you run makeboot.sh on Debian Etch, since the program utils/linux/syslinux does not work properly. Make sure you run it on newer GNU/Linux, such as Debian Lenny, Ubuntu 8.04, or Fedora 9.

TIP: If your USB flash drive or USB hard drive is not able to boot, check the following:

- Ensure that your USB flash drive contains at least one FAT or NTFS partition.
- Ensure that the partition is marked as "bootable" in the partition table.
- Ensure that the partition starts on a cylinder boundary. For the first partition this is usually sector 63.

GNU/Linux Method C: Unetbootin (Not Recommended)

- If you already have Unetbootin installed on your computer then skip to step 2.
 Otherwise install <u>Unetbootin</u> on your GNU/Linux computer.
- 2. <u>Download</u> the Clonezilla Live **iso** file.
- 3. From GNU/Linux, run the Unetbootin program and follow the instructions in the GUI to install Clonezilla Live on your USB flash drive.

NOTE: The boot menu created by Unetbootin is not exactly the same as the boot menu created in method A. Therefore it is recommended to use method A.

