

# Editable Mintstick

Following are instructions to partition, format and prepare a USB stick to be able to boot and contain adjustments like additional drivers/packages or configuration files.

## Partition USB Device

Gparted GUI method:

```
gparted
```

- delete partitions
- create msdos partition table
- add fat32 partition
- add boot flag

Parted command line method:

```
umount /dev/sdX1

parted /dev/sdb print

#delete existing partitions
parted /dev/sdb rm 1
parted /dev/sdb rm 2
parted /dev/sdb rm 3

#create new partition
parted /dev/sdb mklabel msdos
parted /dev/sdb mkpart primary fat32 0% 100%
parted /dev/sdb align-check opt 1

parted /dev/sdb set 1 boot on
parted /dev/sdb set 1 lba on

#Format as fat32
mkfs.vfat -F 32 -n 'MINTSTICK' /dev/sdX1
```

## Bootloader (MBR)

Both syslinux and grub are disk-based boot loaders, and perform similar functions. They are the first software loaded from disk to run. syslinux has pretty much taken a more minimalist approach, whereas GRUB was much more extensive. GRUB also supports different filesystems through the use of a secondary loader.

Ubuntu and its derivatives use both grub and syslinux. GRUB is shown when the ISO image is booted

on EFI-capable machine. SYSLINUX is shown when the ISO image is booted on BIOS-only machine.

Plymouth handles the progress dot animation, regardless of GRUB or SYSLINUX is shown.

## Syslinux

Syslinux is FAT filesystem based.

initialise using:

```
syslinux --install /dev/sdX1
```

This will alter the boot sector on the disk and copy a file named `ldlinux.sys` into its root directory. On boot time, by default, the kernel will be loaded from the image named `LINUX` in the root of the boot media. This default can be changed, see the section on the syslinux configuration file.

#Manual MBR installation and re-enabling partition boot flag

```
dd conv=notrunc bs=440 count=1 if=/usr/lib/syslinux/mbr.bin of=/dev/sdX  
parted /dev/sdX set 1 boot on
```

This will write the Syslinux mbr code (`mbr.bin`) into the master boot record of the drive, and mark first partition as active (bootable).

Copy a Linux kernel image (like `vmlinuz`) to the root (`/dev/sdX1`) of your media.

Lastly, create a '`syslinux.cfg`' file in the root of your media (`/dev/sdX1`) and enter any configuration options you need/want.

Additional information: <https://wiki.archlinux.org/index.php/Syslinux>

## Grub

```
sudo mount /dev/sdX1 /mnt/usb  
sudo grub-install --target=i386-pc --boot-directory="/mnt/usb/boot" /dev/sdX
```

## Copy data

```
sudo mkdir -p /mnt/usb  
sudo mount /dev/sdX1 /mnt/usb  
sudo grub-install --target=i386-pc --boot-directory="/mnt/usb/boot" /dev/sdX  
  
sudo mkdir -p /mnt/iso  
sudo mount -o loop /tmp/LinuxMint.iso /mnt/iso  
  
sudo cp -av /mnt/iso/* /mnt/usb/
```

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