

File system documentation

How to do low level operations on the file system

1 Create and mount a FAT32 partition

Using `fdisk`, set the system id to `b` (W95 FAT32)

Download and install `dosfstools`¹

Run (as root):

```
$ mkfs.vfat $yourpartition
```

In `/etc/fstab`, use the following options:

```
/dev/$yourdev /$mountpoint vfat rw,sohrtname=mixed,utf8 0 0
```

2 How to resize a partition

First edit the partition table so that your partition has the size you want (i.e delete other partitions around, and so on). Run this as root:

```
$ fdisk $yourdev
```

Then use `resize2fs` to resize your partition (as root):

```
resize2fs /dev/sda7 [$size]
```

where `$size` is optionnal (normally grows the partition to its dimensions given with `fdisk`)

3 Use uuid to recognize your devices

When a partition is created, a lot of different filesystems add a universally unique identifier (UUID) to the volume. This can be used to recognize a disk unambiguously. To get a partition's uuid:

```
$ vol_id $devname
```

The uuid is given by the `ID_FS_UUID` line in the output.

On Arch Linux, `vol_id` can be found in `lib/initcpio/udev/vol_id`.

You can then add a line like this in your `fstab`:

```
UUID=1234-5678-9101-abcde $mountpoint $fstype $opts 0 0
```

¹<http://www.daniel-baumann.ch/software/dosfstools/>