Under Linux, disks are divided into partitions; the term slices is not often used, but when it is, it is used interchangeably with the term partitions.

Up to four primary partitions can be created and information stored about them in the MBR (Master Boot Record). More flexibility can be obtained by creating up to three primary partitions and an extended partition, which can contain as many logical partitions as can be accommodated, which may depend on the type of disk involved. For example, SCSI disks can have only up to sixteen partitions.

The Linux kernel discovers all pre-attached hard disks during system boot, and there is normally no configuration files required to inform about what is present. In hotplug situations, the udev system will find disks upon insertion in the system and read in their partition tables.

The command line utility for creating and examining hard disk partitions is **fdisk**; to see all currently attached device, you can do:

```
$ sudo /sbin/fdisk -l

Disk /dev/sda: 2000.4 GB, 2000398934016 bytes, 3907029168 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 4096 bytes
I/O size (minimum/optimal): 4096 bytes / 4096 bytes
Disk label type: dos
Disk identifier: 0x000852df

  Device Boot       Start         End      Blocks    Id    System
/dev/sda1            2048  1048578047   524288000    8e    Linux LVM
/dev/sda2      1048578048  2097154047   524288000    8e    Linux LVM
/dev/sda3      2097154048  3907028991   904937472     5    Extended
/dev/sda5      2097156096  3145732095   524288000    8e    Linux LVM
/dev/sda6      3890448384  3907028991     8290304    82    Linux swap / Solaris

Disk /dev/sdb: 256.1 GB, 256060514304 bytes, 500118192 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 4096 bytes
I/O size (minimum/optimal): 4096 bytes / 4096 bytes
Disk label type: dos
Disk identifier: 0x00089e7f

   Device Boot     Start        End     Blocks   Id   System
/dev/sdb1           2048   40962047   20480000   83   Linux
/dev/sdb2       40962048  500118191  229578072   83   Linux

Disk /dev/sdc: 256.1 GB, 256060514304 bytes, 500118192 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 4096 bytes
I/O size (minimum/optimal): 4096 bytes / 4096 bytes
Disk label type: dos
Disk identifier: 0x00022650

   Device Boot      Start         End      Blocks   Id  System
/dev/sdc1            2048   500117503   250057728   83  Linux

Disk /dev/loop0: 2562 MB, 2562695168 bytes, 5005264 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

The **fdisk** utility can be used to create and remove partitions and change their type.

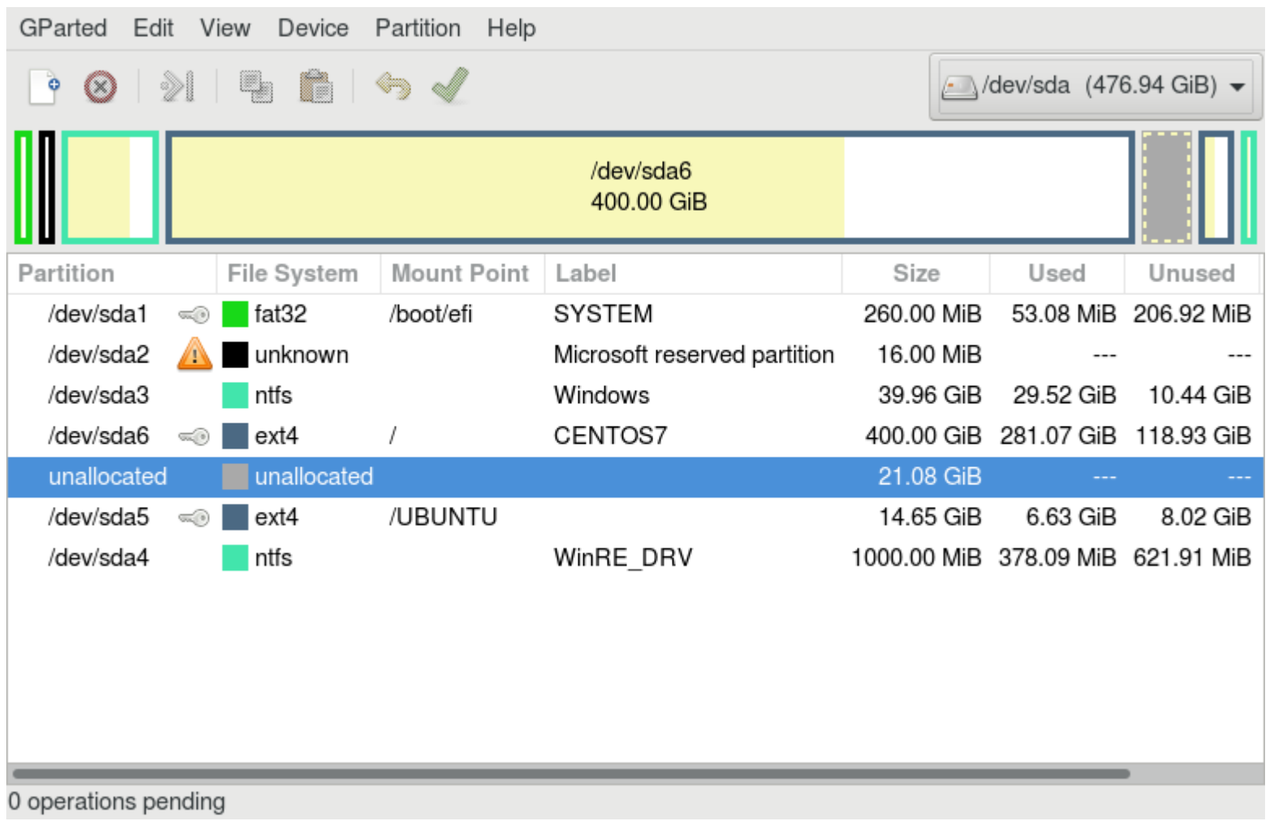
Note that **fdisk** does not allow you to move partitions or resize them. Resizing has to be done in two steps; if you are increasing, you have to increase the size of the partition, and then increase the filesystem size (for example, with **resize2fs**); if you are decreasing the size, you have to decrease the size of the filesystem and then the partition.

Partitions can be formatted for various filesystems with the **mkfs** command, or more usually, with specific commands for each type of filesystem. For example, either of the two following commands:

```
$ sudo mkfs -t ext4 /dev/sda10
$ sudo mkfs.ext4 /dev/sda10
```

will place an ext4 filesystem on **/dev/sda10** with default options.

The **gparted** utility (and some equivalents) let you do all these operations in a graphical user-friendly manner. Starting this up (as root) gives:



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