<https://www.computerhope.com/unix/umount.htm>

Linux mount and umount

Updated: 01/24/2018 by Computer Hope



* [About mount and umount](https://www.computerhope.com/unix/umount.htm#about)
* [mount and umount Syntax](https://www.computerhope.com/unix/umount.htm#syntax)
* [mount and umount Examples](https://www.computerhope.com/unix/umount.htm#examples)
* [Related commands](https://www.computerhope.com/unix/umount.htm#related)
* [Linux and Unix commands help](https://www.computerhope.com/unix.htm)

About mount and umount

The **mount** command [mounts](https://www.computerhope.com/jargon/m/mount.htm) a [storage device](https://www.computerhope.com/jargon/s/stordevi.htm)or [filesystem](https://www.computerhope.com/jargon/f/filesyst.htm), making it accessible and attaching it to an existing [directory](https://www.computerhope.com/jargon/d/director.htm) structure.

The **umount** command "unmounts" a mounted filesystem, informing the system to complete any pending [read](https://www.computerhope.com/jargon/r/read.htm) or [write](https://www.computerhope.com/jargon/w/write.htm) operations, and safely detaching it.

mount syntax

mount [-lhV]

mount -a [-fFnrsvw] [-t *vfstype*] [-O *optlist*]

mount [-fnrsvw] [-o *option*[,*option*]...] *device*|*dir*

mount [-fnrsvw] [-t *vfstype*] [-o *options*] *device*|*dir*

umount syntax

umount [-hV]

umount -a [-dflnrv] [-t *vfstype*] [-O *options*]

umount [-dflnrv] {*dir*|*device*}...

Description: mount

All files accessible in [Unix](https://www.computerhope.com/jargon/u/unix.htm), or a Unix-style system such as [Linux](https://www.computerhope.com/jargon/l/linux.htm), are arranged in one big tree: the [file hierarchy](https://www.computerhope.com/jargon/h/hierfile.htm), rooted at **/**. These files can be spread out over several [devices](https://www.computerhope.com/jargon/d/device.htm). The **mount** command attaches a filesystem, located on some device or other, to the file tree. Conversely, the **umount** command will detach it again.

The standard form of the **mount** command is:

mount -t *type device dir*

This tells the [kernel](https://www.computerhope.com/jargon/k/kernel.htm) to attach the filesystem found on **device** (which is of type **type**) at the directory **dir**. The previous contents (if any), [owner](https://www.computerhope.com/jargon/o/owner.htm), and [mode](https://www.computerhope.com/jargon/m/mode.htm) of **dir** become invisible, and as long as this filesystem remains mounted, the [pathname](https://www.computerhope.com/jargon/p/path.htm) **dir** refers to the root of the filesystem on device.

If only **directory** or **device** is given, for example:

mount /*dir*

then **mount** looks for a corresponding mountpoint (and then, if not found, for a corresponding device) entry in the **/etc/fstab** file, and attempts to mount it.

Description: umount

The **umount** command detaches the specified file system(s) from the file hierarchy. A file system is specified by giving the directory where it has been mounted. Giving the special device on which the file system lives may also work, but is an obsolete method, mainly because it will fail in case this device was mounted on more than one directory.

Note that a file system cannot be unmounted when it is busy - for example, when there are open files on it, or when some process has its working directory there, or when a [swap file](https://www.computerhope.com/jargon/s/swapfile.htm) on it is in use. The offending process could even be **umount** itself - for example, **umount** opens the common [C](https://www.computerhope.com/jargon/c/c.htm) libraries, which in turn may open (for example) locale files, which, if they are located on the device in question, will prevent it from being unmounted. A "lazy" **unmount** (see **-l** in the [umount options section](https://www.computerhope.com/unix/umount.htm" \l "Umount-Options), below) attempts to unmount even if this conflict arises.

Listing Mounts And Getting Help

Three forms of the **mount** command do not actually mount anything:

mount -h

prints a help message, and exits;

mount -V

prints **mount**'s version information, and exits;

mount [-l] [-t *type*]

lists all mounted filesystems (of type *type*). The option **-l** adds labels to this listing.

Device Indication

Most devices are indicated by a file name (of a [block](https://www.computerhope.com/jargon/b/block.htm) special device) like **/dev/sda1**, but there are other possibilities. For example, in the case of an [NFS](https://www.computerhope.com/jargon/n/nfs.htm) mount, the device name may look like **hostname:/dir**. It is possible to indicate a block special device using its volume **LABEL** or [**UUID**](https://www.computerhope.com/jargon/u/uuid.htm) (see the **-L** and **-U** options below).

The recommended setup is to use "**LABEL=<label>**" or "**UUID=<uuid>**" tags rather than "**/dev/disk/by-{label,uuid}**" **udev** [symlinks](https://www.computerhope.com/jargon/s/symblink.htm) in the **/etc/fstab** file. The tags are more readable, robust and [portable](https://www.computerhope.com/jargon/p/portabil.htm). Internally, **mount** command uses **udev** symlinks, so using symlinks in **/etc/fstab** has no advantage over "**LABEL=/UUID=**".

Note that **mount** uses **UUID**s as [strings](https://www.computerhope.com/jargon/s/string.htm). The **UUID**s from [command line](https://www.computerhope.com/jargon/c/commandi.htm) or **fstab** are not converted to internal [binary](https://www.computerhope.com/jargon/b/binary.htm) representation. The string representation of the **UUID**should be based on lowercase [characters](https://www.computerhope.com/jargon/c/charact.htm).

The **proc** filesystem is not associated with a special device, and when mounting it, an arbitrary keyword such as **proc** can be used instead of a device specification. The customary choice **none** is less fortunate: the error message "**none busy**" from **umount**can be confusing, since something is indeed busy.

The Files /etc/fstab, /etc/mtab And /proc/mounts

The file **/etc/fstab** may contain lines describing what devices are usually mounted where, using which options.

The command

mount -a [-t *type*] [-O *optlist*]

causes all filesystems mentioned in **fstab** (of the proper type and/or having or not having the proper options) to be mounted as indicated, except for those whose line contains the **noauto** keyword. This command would typically be included in a [boot](https://www.computerhope.com/jargon/b/boot.htm) [script](https://www.computerhope.com/jargon/s/script.htm). Adding the **-F** option will make **mount** [fork](https://www.computerhope.com/jargon/f/fork.htm), so that the filesystems are mounted simultaneously.

When mounting a filesystem mentioned in **fstab** or **mtab**, it suffices to give only the device, or only the mount point. The programs **mount** and **umount** maintain a list of currently mounted filesystems in the file **/etc/mtab**. If no arguments are given to **mount**, this list is printed.

The **mount** program does not read the **/etc/fstab** file if both device (or **LABEL**/**UUID**) and dir are specified. For example:

mount /dev/*foo* /*dir*

If you want to override mount options from **/etc/fstab**, you have to use:

mount *device*|*dir* -o *options*

and then the **mount** options from command line will be appended to the list of options from **/etc/fstab**. If there are duplicate options, the usual behavior is that the one occuring last in the command will be used.

When the **proc** filesystem is mounted (at **/proc**, for instance), the files **/etc/mtab** and **/proc/mounts** have very similar contents. The former has somewhat more information, such as the **mount** options used, but is not necessarily up-to-date (compare with the **-n**option below). It is possible to replace **/etc/mtab** by a symbolic link to **/proc/mounts**. When you have very large numbers of mounts things will be much faster with the symlink, but some information is lost that way; in particular, the "**user**" option will fail.

Non-Superuser Mounts

Normally, only the [superuser](https://www.computerhope.com/jargon/r/root.htm) can mount filesystems. However, when **fstab** contains the **user** option on a line, anybody can mount the corresponding system.

Thus, given an **fstab** line

/dev/cdrom /cd iso9660 ro,user,noauto,unhide

any user can mount the **iso9660** filesystem found on a [CD-ROM](https://www.computerhope.com/jargon/c/cdrom.htm), using the command

mount /dev/cdrom

or

mount /cd

By default, only the user that mounted a filesystem can unmount it. If you'd like to allow any user to be able to unmount a user-mount filesystem, use "**users**" instead of "**user**" in the **fstab** line. The "**owner**" option is similar to the "**user**" option, with the restriction that the user must be the owner of the special file. This may be useful, for example, for **/dev/fd** if a login script makes the console user owner of this device. The "**group**" option is similar, with the restriction that the user must be member of the special file's owning group.

Bind Mounts

Since Linux 2.4.0 it is possible to remount part of the file hierarchy somewhere else. The call is as follows:

mount --bind *olddir newdir*

or, using the short option: