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Check if folder is a mounted remote filesystem

What is the best way (reliable, portable, etc.) to check if a given folder is on a mounted remote (nfs) filesystem within a shell script?

I am looking for a command that would look like:

```
chk_remote_mountpoint /my/path/to/folder
```

/ linux / shell-script / filesystems / mount

edited Apr 12 '13 at 21:08

asked Apr 12 '13 at 17:07

Totor
5,364 ● 10 ● 31 ● 68

7 Answers

As *Stephane* says "there is no universal Unix answer to that".

The best solution I have found to my question:

```
df -P -T /my/path/to/folder | tail -n +2 | awk '{print $2}'
```

will return the filesystem type, for example: `nfs` or `ext3`.

The `-T` option is **not standard**, so it may not work on other Unix/Linux systems...

According to *Gilles'* comment below: "This works on any non-embedded Linux, but not on BusyBox, *BSD, etc."

edited Apr 18 '13 at 22:39

answered Apr 12 '13 at 17:07

Totor
5,364 ● 10 ● 31 ● 68

1 This works on any non-embedded Linux, but not on BusyBox, *BSD, etc. It's up to you to decide whether that's good enough. – Gilles Apr 12 '13 at 22:18

Viewing `/etc/mtab` or results of `mount` instead of using `df` could do in some more cases. – TNW Apr 16 '13 at 23:50

@TNW or even `/proc/mounts` – laebshade Apr 17 '13 at 3:55

1 Apparently, neither `mount`, nor `/etc/mtab`, not even `/proc/mounts` are standard so there is no guarantee on what may be found there... – Totor Apr 18 '13 at 22:44

1 This not work on OSX 10.8 as `-T` have a different meaning here – DavAlPI Jun 23 '13 at 16:25

You could use GNU `stat`.

`%m` to find out the mountpoint.

```
$ stat --format=%m /usr/src/linux /usr/src
```

`%T` (in file-system mode) to find out the name of the file system.

```
$ stat --file-system --format=%T /usr/src/linux reiserfs
```

Thus you know that `/usr/src/linux`, on my system, is stored in a filesystem that is mounted on `/usr/src` and has the filesystem type `reiserfs`.

Also refer to `man stat` for further reference. It's a very versatile command, useful almost always when you need info about files and don't want to fall back to `grep` | `awk` warfulness.

edited Apr 12 '13 at 19:33

answered Apr 12 '13 at 19:08

Stéphane Chazelas
202k ● 38 ● 349 ● 595

frostschutz
18.3k ● 1 ● 30 ● 48

My version of `stat` does not have the `%m` option for `--format` (using Debian Squeeze, coreutils 8.5). So, I guess this solution is not very reliable. – Totor Apr 12 '13 at 19:38

I didn't believe it, but diff between coreutils 8.5 and 8.13 (debian wheezy) says you're right, though. Consider me very surprised :) squeeze is just too old :(err, too stable – frostschutz Apr 12 '13 at 19:47

1 from the coreutils changelog: 2010-08-27 <Aaron Burgemeister> stat: add %m to output the mount point for a file. That's almost 3 years ago. Amazing that Debian still does not have this. – frostschutz Apr 12 '13 at 19:53

Even if Debian Squeeze was released on 2011-02-06, it was frozen on 2010-08-06, before this coreutils change... I'm rather looking for a "standard" solution possible if possible. – Totor Apr 12 '13 at 20:57

Well, you could just use the file-system %T command, if that works in old stat. If that doesn't work either and your version of stat does not provide the information you need, back to the awkward solutions it is. – frostschutz Apr 12 '13 at 21:23

`mount -l` and use `grep`, `sed`, or `awk` to find the line that refers to the directory in question.

answered Apr 12 '13 at 17:19

jayhondren
3,679 ● 8 ● 32

It looks complicated to figure out that `/my/path/to/the/directory` is actually something from the mountpoint `/my/path` with your answer. Maybe you can give some more details about the `grep`, `sed`, `awk` commands you suggest (a complete answer)? – Totor Apr 12 '13 at 18:16

`mount -l | grep 'type nfs' | sed 's/,.* on \([^]*\) .*\/\1/'` should give you a list of all nfs mountpoints on the system. – Andy Shulman Jun 10 '14 at 16:51

This can be combined with `stat`: `mount | fgrep "stat --printf=" on %m type" /var/log/". The mount command will print all mount points, in <device> on <mountpoint> type <type> format. To grep this, I have stat --printf generate the on <mountpoint> type part. – MSalters Aug 27 '15 at 12:45`

Unfortunately, there is no universal Unix answer to that.

One thing you can do, for a given file `/a/b/c/d` is walk up the path:

- `/a/b/c/.`
- `/a/b/c/..`
- `/a/b/c/./.`
- ...

... and do a `stat(2)` at each level, until the `st_dev` changes. Then you'll know where the mount point is. Then you can look up the canonical path of that mount point in `/etc/mtab` or in the output of `mount` to find out the file system type. Then finding out what is remote and what is not is going to be tricky especially for fuse-type ones. For instance, `nfs`, `ci fs`, `fuse.sshfs`, `fuse.davfs` are obvious, but what about for instance `fuse.gvfs-fuse-daemon` or `fuse.avfsd` that can have both network and non-network files?

answered Apr 12 '13 at 19:49

Stéphane Chazelas
202k ● 38 ● 349 ● 595

Well, I'm using `nfs` here (edited my question). As for `stat(2)`, I think you are referring the C function, but I'm using shell. However, `st_dev` refers to the major and minor device ID (is that Linux specific?), and the shell command `stat(1)` has (non-standard) `%t` and `%T` with the `--format` options for respectively major and minor numbers, but it always returns "0" (local and nfs). I tried on Debian Squeeze and Lenny. – Totor Apr 12 '13 at 21:17

Are you trying this with or without the `--file-system` option? – frostschutz Apr 12 '13 at 22:54

@frostschutz Without. It has another meaning if used with `--file-system`. – Totor Apr 12 '13 at 23:52

`df /path` will tell you that `/path` is a mount point if it says that the mount point is not `/.`

edited Jun 23 '13 at 16:09

answered Jun 23 '13 at 15:43

Hauke Laging
36k ● 5 ● 59 ● 102

pgen
11 ● 1

The question refers to a **remote** mount point. – Totor Jun 24 '13 at 22:26

I would personally use `mountpoint` (very portable on Linux!):

```
NAME
    mountpoint - see if a directory is a mountpoint
```

```
SYNOPSIS
    mountpoint [-d|-q] directory
```

or `showmount` which is pretty much required to be installed on any system that actually mount NFS shares (part of `nfs-common` package):

```
NAME
    showmount - show mount information for an NFS server
```

```
SYNOPSIS
    showmount [ -adehv ] [ --all ] [ --directories ] [ --exports ] [ --help ] [ --version ] [ host ]
```

Another option would be something like:

```
$ mount -l -t nfs | grep 'my mount point'
```

edited Jan 8 '16 at 10:47

answered Jan 8 '16 at 8:32

malat
123 ● 1 ● 15

The `mountpoint` utility does not tell you if the mount point is remote. Moreover, remote filesystems are not limited to NFS filesystems. Finally, `mountpoint` is not standard (not in this list). – Totor Jan 20 '16 at 0:42

you specifically requested a tool on linux and NFS, `mountpoint` is standard in this case. – malat Jan 20 '16 at 9:15

This does not answer my first point anyway. – Totor Jan 25 '16 at 15:30

```
find . -type d -name nfs -exec mountpoint {} \; | grep not
```

will check all folders named 'nfs' if they're mounted

edited Oct 17 '15 at 9:28

answered Oct 17 '15 at 8:37

garethTheRed
17.8k ● 2 ● 40 ● 55

Dmitry Sherman
1