How to limit depth for recursive file list?

Is there a way to limit the depth of a recursive file listing in linux?

The command I'm using at the moment is:

```
ls -laR > dirlist.txt
```

But I've got about 200 directories and each of them have 10's of directories. So it's just going to take far too long and hog too many system resources.

All I'm really interested in is the ownership and permissions information for the first level subdirectories:

```
drwxr-xr-x 14 root   root  1234 Dec 22 13:19 /var/www/vhosts/domain1.co.uk
drwxr--r-- 14 jon    root  1234 Dec 22 13:19 /var/www/vhosts/domain1.co.uk/htdocs
drwxr--r-- 14 jon    root  1234 Dec 22 13:19 /var/www/vhosts/domain1.co.uk/cgi-bin
drwxr-xr-x 14 root   root  1234 Dec 22 13:19 /var/www/vhosts/domain2.co.uk
drwxr-xrwx 14 proftp root  1234 Dec 22 13:19 /var/www/vhosts/domain2.co.uk/htdocs
drwxr-xrwx 14 proftp root  1234 Dec 22 13:19 /var/www/vhosts/domain2.co.uk/cgi-bin
drwxr-xr-x 14 root   root  1234 Dec 22 13:19 /var/www/vhosts/domain3.co.uk
drwxr-xr-- 14 jon    root  1234 Dec 22 13:19 /var/www/vhosts/domain3.co.uk/htdocs
drwxr-xr-- 14 jon    root  1234 Dec 22 13:19 /var/www/vhosts/domain3.co.uk/cgi-bin
drwxr-xr-x 14 root   root  1234 Dec 22 13:19 /var/www/vhosts/domain4.co.uk
drwxr-xr-- 14 jon    root  1234 Dec 22 13:19 /var/www/vhosts/domain4.co.uk/htdocs
drwxr-xr-- 14 jon    root  1234 Dec 22 13:19 /var/www/vhosts/domain4.co.uk/cgi-bin
```

EDIT:

Final choice of command:

```
find -maxdepth 2 -type d -ls >dirlist
```

linux bash

edited Feb 23 '17 at 10:30

Wilfred Hughes
14.5k ● 7 ● 81 ● 110

asked Dec 22 '10 at 13:28

Jon
6,076 ● 4 ● 24 ● 42

2 Could you also something like `ls -la /var/www/vhosts/*` ? – KevinO Jan 29 '16 at 19:10

3 Answers

Checkout the `-maxdepth` flag of `find`

```
find . -maxdepth 1 -type d -exec ls -ld "{}" \;
```

Here I used 1 as max level depth, `-type d` means find only directories, which then `ls -ld` lists contents of, in long format.

edited Dec 22 '10 at 13:39

answered Dec 22 '10 at 13:31

Alberto Zaccagni
21.4k ● 5 ● 55 ● 95

2 Since the OP wants to know the permissions of the directories themselves, you should add the `-d` option to `ls` . – Peter van der Heijden Dec 22 '10 at 13:39

@Peter van der Heijden: I just wrote the `find` part to solve his main problem. Anyway thanks I'm adding it. – Alberto Zaccagni Dec 22 '10 at 13:42

1 I use `-print0` and `xargs -0` a lot. Example: `find . -maxdepth 1 -type d -print0 | xargs -0 ls -d` – Chris K Mar 16 '14 at 21:53

2 Running `ls` with `find` just seems wrong somehow.... :-) – jpaugh Apr 21 '16 at 16:01

2 Oh yes, definitely it looks wrong know, it didn't though 6 years ago :D I've already commented on stackoverflow.com/a/25618630/57095 that it should be the accepted answer. – Alberto Zaccagni Apr 21 '16 at 16:53

Make use of `find` 's options

There is actually no exec of `/bin/ls` needed;

Find has an option that does just that:

```
find . -maxdepth 2 -type d -ls
```

To see only the one level of subdirectories you are interested in, add `-mindepth` to the same level as `-maxdepth` :

```
find . -mindepth 2 -maxdepth 2 -type d -ls
```

Use output formatting

When the details that get shown should be different, `-printf` can show any detail about a file in custom format; To show the symbolic permissions and the owner name of the file, use `-printf` with `%M` and `%u` in the `format` .

I noticed later you want the full ownership information, which includes the group. Use `%g` in the format for the symbolic name, or `%G` for the group id (like also `%U` for numeric user id)

```
find . -mindepth 2 -maxdepth 2 -type d -printf '%M %u %g %p\n'
```

This should give you just the details you need, for just the right files.

I will give an example that shows actually different values for user and group:

```
$ sudo find /tmp -mindepth 2 -maxdepth 2 -type d -printf '%M %u %g %p\n'
drwx------ www-data  www-data /tmp/user/33
drwx------ octopussy root     /tmp/user/126
drwx------ root      root     /tmp/user/0
drwx------ siegel    root     /tmp/user/1000
drwxrwxrwt root      root     /tmp/systemd-[...].service-HRUQmm/tmp
```

(Edited for readability: indented, shortened last line)

Notes on performance

Although the execution time is mostly irrelevant for this kind of command, increase in performance is large enough here to make it worth pointing it out:

Not only do we save creating a new process for each name - a **huge** task - the information does not even need to be read, as `find` already knows it.

7 This should be the accepted answer, much better than mine. – Alberto Zaccagni Apr 4 '16 at 12:12

1 @AlbertoZaccagni I guess we like short answers to quickly get things working. – Karl-Andero Mere Aug 16 '17 at 13:09

```
tree -L 2 -u -g -p -d
```

Prints the directory tree in a pretty format up to depth 2 (-L 2). Print user (-u) and group (-g) and permissions (-p). Print only directories (-d). tree has a lot of other useful options.

3 tree is love. tree is life. – yosefrow Feb 2 '17 at 17:53