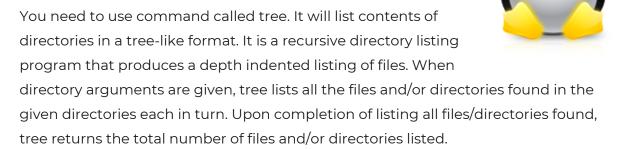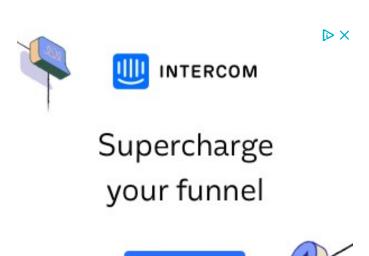# Linux: HowTo See Directory Tree Structure

last updated January 17, 2015 **in BASH Shell, CentOS, Debian / Ubuntu, Linux, Mac OS X**

H ow do list contents of directories in a structure like format under Linux operating systems?

You need to use command called tree. It will list contents of directories in a tree-like format. It is a recursive directory listing program that produces a depth indented listing of files. When directory arguments are given, tree lists all the files and/or directories found in the given directories each in turn. Upon completion of listing all files/directories found, tree returns the total number of files and/or directories listed.

tree command installation on a Linux

By default the tree command is not installed. Type the following command to install the same on a RHEL / CentOS / Fedora Linux using yum command:

```
# yum install tree
```

If you are using Debian / Mint / Ubuntu Linux, type the following [apt-get command](#) to install the tree command:

```
$ sudo apt-get install tree
```

If you are using Apple OS X, type:

```
brew install tree
```

tree command syntax

The syntax is:

```
tree
tree /path/to/directory
tree [options]
tree [options] /path/to/directory
```

To list contents of /etc in a tree-like format:

```
tree /etc
```

Sample outputs:

```
etc
|-- abrt
|   |-- abrt-action-save-package-data.conf
|   |-- abrt.conf
|   |-- gpg_keys
|   `-- plugins
|       |-- CCpp.conf
|       `-- python.conf
|-- acpi
|   |-- actions
|   |   `-- power.sh
|   `-- events
|       |-- power.conf
|       `-- video.conf
|-- adjtime
```

```
|-- aliases
|-- aliases.db
|-- alsa
|   `-- alsactl.conf
|-- alternatives
|   |-- links -> /usr/bin/elinks
|   |-- links-man -> /usr/share/man/man1/elinks.1.gz
|   |-- mta -> /usr/sbin/sendmail.postfix
|   |-- mta-aliasesman -> /usr/share/man/man5/aliases.postfix.5.gz
|   |-- mta-mailq -> /usr/bin/mailq.postfix
|   |-- mta-mailqman -> /usr/share/man/man1/mailq.postfix.1.gz
|   |-- mta-newaliases -> /usr/bin/newaliases.postfix
|   |-- mta-newaliasesman -> /usr/share/man/man1/newaliases.postfix
.1.gz
|   |-- mta-pam -> /etc/pam.d/smtp.postfix
|   |-- mta-rmail -> /usr/bin/rmail.postfix
|   |-- mta-sendmail -> /usr/lib/sendmail.postfix
|   `-- mta-sendmailman -> /usr/share/man/man1/sendmail.postfix.1.g
z
|-- anacrontab
|-- asound.conf
|-- at.deny
|-- audisp
|   |-- audispd.conf
|   `-- plugins.d
|       |-- af_unix.conf
|       |-- sedispatch.conf
|       `-- syslog.conf
|-- audit
|   |-- auditd.conf
....
..
..
|-- xinetd.d
|   `-- rsync
|-- xml
|   `-- catalog
|-- yum
|   |-- pluginconf.d
|   |   |-- product-id.conf
|   |   |-- protectbase.conf
|   |   |-- rhnplugin.conf
|   |   `-- subscription-manager.conf
|   |-- protected.d
|   |-- vars
|   `-- version-groups.conf
```

```
    |-- yum.conf
    `-- yum.repos.d
        |-- epel.repo
        |-- epel-testing.repo
        |-- ksplice-uptrack.repo
        |-- redhat.repo
        `-- rhel-source.repo

208 directories, 1452 files
```

The -a option should be passed to see all files. By default tree does not print hidden files (those beginning with a dot '.'). In no event does tree print the file system constructs '.' (current directory) and '..' (previous directory).:

```
tree -a
```

To list directories only, run:

```
tree -d
```

Pass the -C option to see colorized output, using built-in color defaults:

```
tree -C
```

Sample outputs:

```
            uptrack.com.rpmnew
├── vimrc
├── virc
├── vnstat.conf
├── warnquota.conf
├── webalizer.conf
├── wgetrc
├── X11
│       ├── applnk
│       ├── fontpath.d
│       └── prefdm
├── xdg
│       └── autostart
│               ├── gnome-keyring-daemon.desktop
│               ├── restorecond.desktop
│               └── sealertauto.desktop
├── xinetd.d
│       └── rsync
├── xml
│       └── catalog
├── yum
│       ├── pluginconf.d
│       │       ├── product-id.conf
│       │       ├── protectbase.conf
│       │       ├── rhnplugin.conf
│       │       └── subscription-manager.conf
│       ├── protected.d
│       ├── vars
│       └── version-groups.conf
```
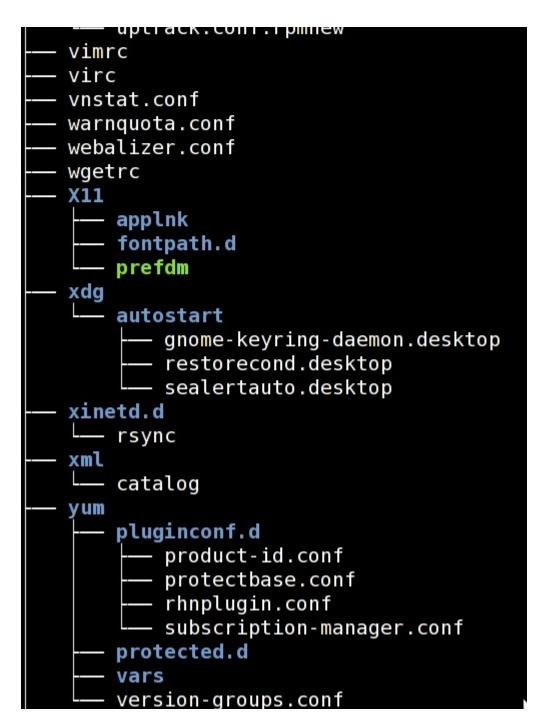
Fig.01: Linux tree Command To Display Structure of Directory Hierarchy

Here is a list of all options supported by the tree program:

```
    -a              All files are listed.
    -d              List directories only.
    -l              Follow symbolic links like directories.
    -f              Print the full path prefix for each file.
    -i              Don't print indentation lines.
    -q              Print non-printable characters as '?'.
```

```
    -N          Print non-printable characters as is.
    -p          Print the protections for each file.
    -u          Displays file owner or UID number.
    -g          Displays file group owner or GID number.
    -s          Print the size in bytes of each file.
    -h          Print the size in a more human readable way.
    -D          Print the date of last modification.
    -F          Appends '/', '=', '*', or '|' as per ls -F.
    -v          Sort files alphanumerically by version.
    -r          Sort files in reverse alphanumeric order.
    -t          Sort files by last modification time.
    -x          Stay on current filesystem only.
    -L level    Descend only level directories deep.
    -A          Print ANSI lines graphic indentation lines.
    -S          Print with ASCII graphics indentation lines.
    -n          Turn colorization off always (-C overrides).
    -C          Turn colorization on always.
    -P pattern  List only those files that match the pattern given.
    -I pattern  Do not list files that match the given pattern.
    -H baseHREF Prints out HTML format with baseHREF as top directo
ry.
    -T string   Replace the default HTML title and H1 header with s
tring.
    -R          Rerun tree when max dir level reached.
    -o file     Output to file instead of stdout.
    --inodes    Print inode number of each file.
    --device    Print device ID number to which each file belongs.
    --noreport  Turn off file/directory count at end of tree listin
g.
    --nolinks   Turn off hyperlinks in HTML output.
    --dirsfirst List directories before files.
    --charset X Use charset X for HTML and indentation line output.
    --filelimit # Do not descend dirs with more than # files in them.
```

Posted by: Vivek Gite

The author is the creator of nixCraft and a seasoned sysadmin, DevOps engineer, and a trainer for the Linux operating system/Unix shell scripting. Get the **latest tutorials on SysAdmin, Linux/Unix and open source topics via RSS/XML feed** or weekly email newsletter.

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💬 14 comment

Harisankar P S October 2, 2013 at 7:37 am

Good tool for easy debugging.

Anil January 23, 2014 at 6:29 am

it is very usefull for me

Osky May 10, 2014 at 11:09 am

I get "Ã¢Ã¢Ã¢" instead of showing the fancy " |– "
I'm using Debian with Swedish character setup...

> **Osky** May 10, 2014 at 11:11 am
>
> I fixed it, I just need to add the "–charset X"
>
> > **Osky** May 11, 2014 at 11:07 am
> >
> > Sorry for spamming, but I discovered that if you use PuTTY you can change character setup to UTF-8 and all colors and even Ã¥Ã¤Ã¶ works :D

Eth January 17, 2015 at 4:28 pm

This one is pretty cool without external packets. â˜°

```
ls -R | grep ":$" | sed -e 's/:$//' -e 's/[^-][^\/]*\//--/g' -e 's/^/   /' -e 's/-/|/'
```

Pier March 4, 2016 at 2:47 pm

Oh yes, parsing ls output is so robuste, forking 2 subshells is so quick too !
tree definitely looks like a good little tool for this purpose.

saif June 4, 2015 at 5:44 am

Great job

Pete June 11, 2015 at 3:32 pm

Is there a way to have color also enabled?

thanks

Selim June 10, 2016 at 1:42 pm

Use option -C

Mona August 14, 2015 at 5:12 am

How to print files with this??

```
ls -R | grep ":$" | sed -e 's/:$//' -e 's/[^-][^\/]*\//--/g' -e 's/
^/   /' -e 's/-/|/'
```

aref ghobadi August 19, 2015 at 6:40 pm

Hi,
thanks a lot

Fher Pie July 16, 2017 at 2:14 pm

USefull Thanks!!!!

Abhishek Srivastava October 4, 2017 at 8:20 am

How to get list of only leaf files of each directory in the tree?

Have a question? Post it on our forum!

Tagged as: apt-get command, directory tree, recursive directory listing, sudo command, tree command, yum command, Easy

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