NAME

tree – list contents of directories in a tree-like format.

SYNOPSIS

tree [**-acdfghilnpqrstuvxACDFJQNSUX**] [**-L** *level* [**-R**]] [**-H** [-]*baseHREF*] [**-T** *title*] [**-o** *filename*] [**-P** *pattern*] [**-I** *pattern*] [**--gitignore**] [**--gitfile**[=]*file*] [**--matchdirs**] [**--metafirst**] [**--ignore-case**] [**--nolinks**] [**--hintro**[=]*file*] [**--houtro**[=]*file*] [**--inodes**] [**--device**] [**--sort**[=]*name*] [**--dirsfirst**] [**--filesfirst**] [**--filelimit**[=]*#*] [**--si**] [**--du**] [**--prune**] [**--charset**[=]*X*] [**--timefmt**[=]*format*] [**--fromfile**] [**--fromtabfile**] [**--fflinks**] [**--info**] [**--infofile**[=]*file*] [**--noreport**] [**--hyperlink**] [**--scheme**[=]*schema*] [**--authority**[=]*hostname*] [**--opt-toggle**] [**--acl**] [**--selinux**] [**--condense**] [**--compress**[=]*#*] [**--version**] [**--help**] [**--**] [*directory* ...]

DESCRIPTION

Tree is a recursive directory listing program that produces a depth indented listing of files, which is colorized ala *dircolors* if the **LS_COLORS** environment variable is set and output is to tty. With no arguments, *tree* lists the files in the current directory. 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.

By default, when a symbolic link is encountered, the path that the symbolic link refers to is printed after the name of the link in the format:

name -> real-path

If the '**-l**' option is given and the symbolic link refers to an actual directory, then *tree* will follow the path of the symbolic link as if it were a real directory.

OPTIONS

Tree understands the following command line switches:

LISTING OPTIONS

-a All files are printed. 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).

-d List directories only.

-l Follows symbolic links if they point to directories, as if they were directories. Symbolic links that will result in recursion are avoided when detected.

-f Prints the full path prefix for each file.

-x Stay on the current file-system only. Ala **find** *-xdev*.

-L *level*
Max display depth of the directory tree.

-R Recursively cross down the tree each *level* directories (see **-L** option), and at each level outputting to a file named **00Tree.html** (ala **-o**).

-P *pattern*
List only those files that match the wild-card *pattern*. You may have multiple -P options. Note: you must use the *-a* option to also consider those files beginning with a dot '.' for matching. Valid wildcard operators are '*' (any zero or more characters), '**' (any zero or more characters as well as null /'s, i.e. /**/ may match a single /), '?' (any single character), '[...]' (any single character listed between brackets (optional - (dash) for character range may be used: ex: [A-Z]), and '[^...]' (any single character not listed in brackets) and '|' separates alternate patterns. A '/' at the end of the pattern matches directories, but not files.

-I *pattern*
Do not list those files or directories that match the wild-card *pattern*. You may have multiple -I options. See *-P* above for information on wildcard patterns.

--gitignore
Uses git **.gitignore** files for filtering files and directories. Also attempts to walk up the directory tree from the given path(s) searching for **.gitignore** files as it goes, stopping at **/** or a directory containing a **.git** directory. If a **.git** directory is found it will add the **.git/info/exclude** file as well. Also uses **$GIT_DIR/info/exclude** if present.

--gitfile[**=**]*file*
Use *file* explicitly as a gitignore file.

--ignore-case
If a match pattern is specified by the **-P** or **-I** option, this will cause the pattern to match without regard to the case of each letter.

--matchdirs
If a match pattern is specified by the **-P** option, this will cause the pattern to be applied to directory names (in addition to filenames). In the event of a match on the directory name, matching is disabled for the directory's contents. If the **--prune** option is used, empty folders that match the pattern will not be pruned.

--metafirst
Print the meta-data information at the beginning of the line rather than after the indentation lines.

--prune
Makes tree prune empty directories from the output, useful when used in conjunction with **-P** or **-I**. See **BUGS AND NOTES** below for more information on this option.

--info Prints file comments found in .info files. See **.INFO FILES** below for more information on the format of .info files.

--infofile[**=**]*file*
Use *file* explicitly as a info file.

--noreport
Omits printing of the file and directory report at the end of the tree listing.

--charset[**=**]*charset*
Set the character set to use when outputting HTML and for line drawing.

--filelimit[**=**]*#*
Do not descend directories that contain more than *#* entries.

--condense
Condenses the output of directory 'singletons' -- directories that themselves only contain a single directory, onto a single line and does so recursively. Note that any meta-information printed will be for the first directory shown.

-o *filename*
Send output to *filename*.

FILE OPTIONS

-q Print non-printable characters in filenames as question marks instead of the default.

-N Print non-printable characters as is instead of as escaped octal numbers.

-Q Quote the names of files in double quotes.

-p Print the file type and permissions for each file (as per ls -l).

-u Print the username, or UID # if no username is available, of the file.

-g Print the group name, or GID # if no group name is available, of the file.

-s Print the size of each file in bytes along with the name.

-h Print the size of each file but in a more human readable way, e.g. appending a size letter for kilobytes (K), megabytes (M), gigabytes (G), terabytes (T), petabytes (P) and exabytes (E).

--si Like **-h** but use SI units (powers of 1000) instead.

--du For each directory report its size as the accumulation of sizes of all its files and sub-directories (and their files, and so on). The total amount of used space is also given in the final report (like the 'du -c' command.) This option requires tree to read the entire directory tree before emitting it, see **BUGS AND NOTES** below. Implies **-s**.

-D Print the date of the last modification time or if **-c** is used, the last status change time for the file listed.

--timefmt[**=**]*format*
Prints (implies -D) and formats the date according to the format string which uses the **strftime**(3) syntax.

-F Append a '/' for directories, a '=' for socket files, a '*' for executable files, a '>' for doors (Solaris) and a '|' for FIFO's, as per ls -F

--inodes
Prints the inode number of the file or directory

--device
Prints the device number to which the file or directory belongs

--acl (Linux only)
Prints the permissions, and if an ACL is present on the file appends + to the list of permissions. Implies the **-p** option.

--selinux (Linux only)
Prints the SELinux label for a file if one is present for it.

SORTING OPTIONS

-v Sort the output by version.

-t Sort the output by last modification time instead of alphabetically.

-c Sort the output by last status change instead of alphabetically. Modifies the **-D** option (if used) to print the last status change instead of modification time.

-U Do not sort. Lists files in directory order. Disables **--dirsfirst**.

-r Sort the output in reverse order. This is a meta-sort that alters the above sorts. This option is disabled when **-U** is used.

--dirsfirst
List directories before files. This is a meta-sort that alters the above sorts. This option is disabled when **-U** is used.

--filesfirst
List files before directories. This is a meta-sort that alters the above sorts. This option is disabled when **-U** is used.

--sort[**=**]*type*
Sort the output by *type* instead of name. Possible values are: **ctime** (**-c**), **mtime** (**-t), size**, **version** (**-v**) or **none** (**-U**).

GRAPHICS OPTIONS

-i Makes tree not print the indentation lines, useful when used in conjunction with the **-f** option. Also removes as much whitespace as possible when used with the **-J** or **-X** options.

-A Turn on ANSI line graphics hack when printing the indentation lines. This option is now equivalent to '**--charset=ANSI**'.

-S Turn on CP437 line graphics (useful when using Linux console mode fonts). This option is now equivalent to '**--charset=IBM437**' and may eventually be depreciated.

-n Turn colorization off always, over-ridden by the **-C** option, however overrides CLICOLOR_FORCE if present.

-C Turn colorization on always, using built-in color defaults if the LS_COLORS or TREE_COLORS environment variables are not set. Useful to colorize output to a pipe.

--compress[**=**]*#*
Compresses the indentation lines. The argument may be a positive number from 1 (normal) to 3 (a single character) or -1 to -3 which removes the additional space at each indentation level. Greater compression levels turn off indentation lines (i.e. **-i**).

XML/JSON/HTML/HYPERLINKS OPTIONS

-X Turn on XML output. Outputs the directory tree as an XML formatted file.

-J Turn on JSON output. Outputs the directory tree as a JSON formatted array.

-H [-]*baseHREF*
Turn on HTML output, including HTTP references. Useful for ftp sites. *baseHREF* gives the base ftp location when using HTML output. That is, the local directory may be '/local/ftp/pub', but it must be referenced as 'ftp://hostname.organization.domain/pub' (*baseHREF* should be 'ftp://hostname.organization.domain'). If *baseHREF* begins with a dash (**-**), then the dash is removed and indicates that tree should remove the first directory name from the href URL. Hint: don't use ANSI lines with this option, and don't give more than one directory in the directory list. If you wish to use colors via CSS style-sheet, use the -C option in addition to this option to force color output.

--hintro[**=**]*file*
Use *file* as the HTML intro in place of the default one. Use an empty file or */dev/null* to eliminate the intro altogether.

--houtro[**=**]*file*
Use *file* as the HTML outro in place of the default one. Use an empty file or */dev/null* to eliminate the outro altogether.

-T *title* Sets the title and H1 header string in HTML output mode.

--nolinks
Turns off hyperlinks in HTML output.

--hyperlink
Enable OSC 8 terminal hyperlinks for terminals that support them. See **BUGS AND NOTES** below.

--scheme[**=**]*schema*
Sets the schema used in the OSC 8 hyperlinks. The default schema is '**file://**'. If the schema omits the colon (:), then **://** will be appended to the schema.

--authority[**=**]*hostname*|*authority*
Sets the authority (hostname) to use for the OSC 8 hyperlinks. By default the local hostname of the machine as returned by gethostname() is used as the authority. A dot (**.**) or a set of ""'s, sans '=', (i.e. the empty string) can be used to indicate a null authority.

INPUT OPTIONS

--fromfile
Reads a directory listing from a file rather than the file-system. Paths provided on the command line are files to read from rather than directories to search. The dot (.) directory indicates that tree

should read paths from standard input. NOTE: this is only suitable for reading the output of a program such as find, not 'tree -fi' as symlinks are not distinguished from files that simply contain ' -> ' as part of the filename unless the **--fflinks** option is used.

--fromtabfile
Like **--fromfile**, tree reads a directory tree from a text file where the files are tab indented in a tree like format to indicate the directory nesting level.

--fflinks
Processes symbolic link information found in a file, as from the output of **'tree -fi --noreport'**. Only the first occurrence of the string **' -> '** is used to denote the separation of the filename from the link.

MISC OPTIONS

--opt-toggle
Enables option "toggling". Turns on the ability to toggle options such as -a, -h, etc. Useful to add to an alias when you wish to disable options enabled in the alias.

--help Outputs a verbose usage listing.

--version
Outputs the version of tree.

-- Option processing terminator. No further options will be processed after this.

.INFO FILES

.info files are similar to .gitignore files, if a .info file is found while scanning a directory it is read and added to a stack of .info information. Each file is composed of comments (lines starting with hash marks (#),) or wild-card patterns which may match a file relative to the directory the .info file is found in. If a file should match a pattern, the tab indented comment that follows the pattern is used as the file comment. A comment is terminated by a non-tab indented line. Multiple patterns, each to a line, may share the same comment.

FILES

/etc/DIR_COLORS	System color database.
~/.dircolors	Users color database.
.gitignore	Git exclusion file
$GIT_DIR/info/exclude	Global git file exclusion list
.info	File comment file
/usr/share/finfo/global_info	Global file comment file

ENVIRONMENT

LS_COLORS	Color information created by dircolors
TREE_COLORS	Uses this for color information over LS_COLORS if it is set.
TREE_CHARSET	Character set for tree to use in HTML mode.
CLICOLOR	Enables colorization even if TREE_COLORS or LS_COLORS is not set.
CLICOLOR_FORCE	Always enables colorization (effectively -C)
NO_COLOR	Disable colorization (effectively -n) (see **https://no-color.org/**)
LC_CTYPE	Locale for filename output.
LC_TIME	Locale for timefmt output, see **strftime**(3).
TZ	Timezone for timefmt output, see **strftime**(3).
STDDATA_FD	Enable the stddata feature, optionally set descriptor to use.

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BUGS AND NOTES

Tree does not prune "empty" directories when the -P and -I options are used by default. Use the --prune option.

The -h and --si options round to the nearest whole number unlike the ls implementations which rounds up always.

Pruning files and directories with the -I, -P and --filelimit options will lead to incorrect file/directory count reports.

The --prune and --du options cause tree to accumulate the entire tree in memory before emitting it. For large directory trees this can cause a significant delay in output and the use of large amounts of memory.

The timefmt expansion buffer is limited to a ridiculously large 255 characters. Output of time strings longer than this will be undefined, but are guaranteed to not exceed 255 characters.

XML/JSON trees are not colored, which is a bit of a shame. The jq utility can colorize the JSON however, just not the filenames by file-type ala LS_COLORS.

OSC 8 hyperlinks may be poorly supported by your terminal. For my version of Konsole it is necessary to set the schema to file: (no //) and use a null authority. It may also be necessary to spend 3.5 hours finding the option to turn on hyperlinks.

Probably more.

As of version 2.0.0, in Linux, tree will attempt to automatically output a compact JSON tree on file descriptor 3 (what I call stddata,) if present and the environment variable STDDATA_FD is defined or set to a positive non-zero file descriptor value to use to output on. It is hoped that some day a better Linux/Unix shell may take advantage of this feature, though BSON would probably be a better format for this.

SEE ALSO

dircolors(1), **ls**(1), **find**(1), **du**(1), **jq**(1), **strftime**(3), **gitignore**(5)