



# Find

This is a quick reference list of cheatsheet for linux find command, contains common options and examples.

## # Getting started

### Usage

```
$ find [path...] [options] [expression]
```

### Wildcard

```
$ find . -name "*.txt"
$ find . -name "2020*.csv"
$ find . -name "json_*
```

- [Regex reference](#) (quickref.me)
- [Find cheatsheet](#) (gist.github.com)

### Option Examples

Option	Example	Description
-type	find . -type d	Find only directories
-name	find . -type f -name "*.txt"	Find file by name
-iname	find . -type f -iname "hello"	Find file by name (case-insensitive)
-size	find . -size +1G	Find files larger than 1G
-user	find . -type d -user jack	Find jack's file
-regex	find /var -regex '.*tmp/.*[0-9]*.file'	Using Regex with find. See <a href="#">regex</a>
-maxdepth	find . -maxdepth 1 -name "a.txt"	In the current directory and subdirectories
-mindepth	find / -mindepth 3 -maxdepth 5 -name	Between sub-directory level 2 and 4

Option	pass Example	Description
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#### Type

-type d		Directory
-type f		File
-type l		Symbolic link
-type b		Buffered block
-type c		Unbuffered character
-type p		Named pipe
-type s		Socket

#### Size

-size b		512-byte blocks (default)
-size c		Bytes
-size k		Kilobytes
-size M		Megabytes
-size G		Gigabytes
-size T		Terabytes (only BSD)
-size P		Petabytes (only BSD)

#### Size +/-

Find all bigger than 10MB files

```
$ find / -size +10M
```

Find all smaller than 10MB files

```
$ find / -size -10M
```

Find all files that are exactly 10M

```
$ find / -size 10M
```

Find Size between 100MB and 1GB

```
$ find / -size +100M -size -1G
```

The **+** and **-** prefixes signify greater than and less than, as usual.

## Names

Find files using name in current directory

```
$ find . -name tecmint.txt
```

Find files under home directory

```
$ find /home -name tecmint.txt
```

Find files using name and ignoring case

```
$ find /home -iname tecmint.txt
```

Find directories using name

```
$ find / -type d -name tecmint
```

Find php files using name

```
$ find . -type f -name tecmint.php
```

Find all php files in directory

```
$ find . -type f -name "*.php"
```

## Permissions

Find the files whose permissions are 777.

```
$ find . -type f -perm 0777 -print
```

Find the files without permission 777.

```
$ find / -type f ! -perm 777
```

Find SUID set files.

```
$ find / -perm /u=s
```

Find SGID set files.

```
$ find / -perm /g=s
```

Find Read Only files.

```
$ find / -perm /u=r
```

Find Executable files.

```
$ find / -perm /a=x
```

#### Owners and Groups

Find single file based on user

```
$ find / -user root -name tecmint.txt
```

Find all files based on user

```
$ find /home -user tecmint
```

Find all files based on group

```
$ find /home -group developer
```

Find particular files of user

```
$ find /home -user tecmint -iname "*.txt"
```

#### Multiple filenames

```
$ find . -type f \( -name "*.sh" -o -name "*.txt" \)
```

Find files with .sh and .txt extensions

#### Multiple dirs

```
$ find /opt /usr /var -name foo.scala -type f
```

Find files with multiple dirs

Empty

```
$ find . -type d -empty
```

Delete all empty files in a directory

```
$ find . -type f -empty -delete
```

## # Date and Time

Means

atime	access time (last time file <b>opened</b> )
mtime	modified time (last time file <b>contents was modified</b> )
ctime	changed time (last time file <b>inode was changed</b> )

### Example

-mtime +0	Modified greater than 24 hours ago
-mtime 0	Modified between now and 1 day ago
-mtime -1	Modified less than 1 day ago (same as -mtime 0)
-mtime 1	Modified between 24 and 48 hours ago
-mtime +1	Modified more than 48 hours ago
-mtime +1w	Last modified more than 1 week ago
-atime 0	Last accessed between now and 24 hours ago
-atime +0	Accessed more than 24 hours ago
-atime 1	Accessed between 24 and 48 hours ago
-atime +1	Accessed more than 48 hours ago
-atime -1	Accessed less than 24 hours ago (same as -atime 0)
-ctime -6h30m	File status changed within the last 6 hours and 30 minutes

Examples

Find last 50 days modified files

```
$ find / -mtime 50
```

find last 50 days accessed files

```
$ find / -atime 50
```

find last 50-100 days modified files

```
$ find / -mtime +50 -mtime -100
```

find changed files in last 1 hour

```
$ find / -cmin -60
```

find modified files in last 1 hour

```
$ find / -mmin -60
```

find accessed files in last 1 hour

```
$ find / -amin -60
```

## # Find and

Find and delete

Find and remove multiple files

```
$ find . -type f -name "*.mp3" -exec rm -f {} \;
```

Find and remove single file

```
$ find . -type f -name "tecmint.txt" -exec rm -f {} \;
```

Find and delete 100mb files

```
$ find / -type f -size +100m -exec rm -f {} \;
```

## Find specific files and delete

```
$ find / -type f -name *.mp3 -size +10m -exec rm {} \;
```

## Find and replace

```
$ find ./ -type f -exec sed -i 's/find/replace/g' {} \;  
$ find ./ -type f -readable -writable -exec sed -i "s/old/new/g" {} \;
```

See also: [sed](#) command

## Find and rename

```
$ find . -type f -name 'file*' -exec mv {} {}_renamed \;  
$ find . -type f -name 'file*' -exec sh -c 'x="{x}"; mv "$x" "${x}.bak"' \;
```

## Find and move

```
$ find . -name '*.mp3' -exec mv {} /tmp/music \;
```

Find and move it to a specific directory

## Find and copy

```
$ find . -name '*2020*.xml' -exec cp -r "{}" /tmp/backup \;
```

Find and copy it to a specific directory

## Find and concatenate

```
$ find download -type f -iname '*.csv' | xargs cat > merged.csv  
$ find download -type f -name '*.gz' -exec cat {} \; > output
```

## Find and sort

```
$ find . -printf "%T+\t%p\n" | sort  
$ find . -printf "%T+\t%p\n" | sort -r
```

## Find and chmod

Find files and set permissions to 644.

```
$ find / -type f -perm 0777 -print -exec chmod 644 {} \;
```

Find directories and set permissions to 755.

```
$ find / -type d -perm 777 -print -exec chmod 755 {} \;
```

Find and tar

```
$ find . -type f -name "*.java" | xargs tar cvf myfile.tar
```

```
$ find . -type f -name "*.java" | xargs tar rvf myfile.tar
```

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