macOS `mdfind` examples cheat sheet

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Introduction

`mdfind` is a command-line interface to the SpotLight search tool on every Apple macOS system. Being a CLI tool, it saves time when searching for stuff in your Mac. Unfortunately, there is a lot of documentation on the topic which is out of date - the examples either do not work or give an error. Otherwise, the tool is not well-documented. Below are few examples for every day usage, tested on the newest versions - Catalina, Big Sur, Monterrey, Ventura.

Find files with a given word in it

Just give the `mdfind` a word to search for, and it will find it in file/media/applications names, as well as in their contents.

```
mdfind  mysearchword
```

Search for a word in file names only, not their contents

Add `-name` qualifier before the search word.

```
mdfind -name October
```

Will find files named: *OctoberFest.pdf*, *inoctober.txt*, *Red October.mp4*

Find a file with multiple keywords in its name

We can specify more than 1 word to look for in the file/app name - the `mdfind` uses logical AND by default for multiple keywords.

```
mdfind -name red october
```

Will find: *Red October.mp4*, *red octoberfest.jpg*, but NOT *red.pdf* or *October.mp4*.

Limit search to specific file format(s)

You can use `kind:`*file-format* to additionally limit results to this file format. Be aware that *kind* is not always the file extension though. I list the most popular file formats below.

Find file with the *red* in its name, but only in *mp4*, *.mov* etc. files:

```
mdfind -name red kind:movie
```

File format	kind term	File format	kind term
jpeg/jpg, png, gif, tiff	image	Application	app
mp3, ogg	music	mp4, mov, mpeg	movie
Bookmarks	bookmark	Email messages	email
Folders	folder	MS Word docs (docx, dot)	word

The other way to look for file extensions is with the *kMDItemFSName* metadata value and listing the desired extension after the asterisk.

```
mdfind "kMDItemFSName == '*.pdf'"
```

But if you want to look for a specific file name as well, you will have to pipe the command above to *grep* or alike.

Look up folder names

Using (see table above) `kind:folder` we can search in folder names only.

Find all folders with the name *document* in them:

`mdfind -name documents kind:folder`

Search for an exact match

We can do it in 2 ways. First, wrapping search terms in double and then single quotes:

```
mdfind -name '"red carpet"'
```

This will match *red carpet.txt*, but not *red 2 carpet.txt*.

The other way to look for an exact match is with the `-literal` qualifier, which prohibits any other qualifier though.

Find everything having *Hat, Red* in the name:

`mdfind -literal "kMDItemDisplayName == 'Hat, Red'"`

Here, **kMDItemDisplayName** is a metadata field holding the item name for files/folders/etc. Any additional options will be ignored.

Search in specific folder(s) only

We can use **-onlyin** option to limit the search:

`mdfind -name red.txt -onlyin ~/Documents`

This will only search in the folder *Documents* and its subfoldes.

Search by created, modified dates

IMPORTANT	The date format is your current locale. So, I put dates in the *19/1/2023* format, but if your Mac is set to use *1/19/2023*, do so.

Find file named *red* and created on 19th of January 2023:

`mdfind -name red AND created:19/1/2023`

NOTE	The *AND* is not explicitly needed here, but I put it for reminder yet.

Find file named *red* modified on 19th of January 2023:

`mdfind -name red AND modified:19/1/2023`

The date-related searches also understand ranges.

Find files with *red* in their name modified in the period from the 1st of January 2023, and up to (including) 19th of January 2023:

`mdfind -name red modified:01/01/2023-19/1/2023`

Same, but *created* in that period:

```
mdfind -name red created:01/01/2023-19/1/2023
```

Find file by their size

We can specify file size as additional search term. This will find files with the *red* in their names AND of size 0 bytes.

```
mdfind name:red AND size:0
```

`mdfind name:red AND NOT size:0` will find files named *red* that are NOT 0 bytes in size.

We can provide ranges for sizes as well. To find files named *red* of size between 10 and 25 bytes:

```
mdfind -interpret name:red AND size:\<25 AND size:\>10
```

NOTE	The '\' escapes '<' and '>' from the shell interpretation.

Disable Spotlight/mdfind indexing for a specific volume

- Spotlight (and thus mdfind) stores its index for each hard drive in a hidden directory named `.Spotlight-V100` located at the root of each disk. You can list this directory contents with sudo mdutil -L *path-to-the-disk** , e.g.

```
sudo mdutil -L /Volumes/exFAT1Tb


/Volumes/exFAT1Tb/.Spotlight-V100:
drwxrwxrwx   1    99    99     262144 Jun 27 2021 07:46 Store-V2
-rwxrwxrwx   1    99    99       4246 Jun 13 2022 11:09
VolumeConfiguration.plist

/Volumes/exFAT1Tb/.Spotlight-V100/Store-V2:
drwxrwxrwx   1    99    99     262144 Jun 27 2021 07:46  B332121F-C8CA-4FF1-924A-
67FC321C3FFCC/


/Volumes/exFAT1Tb/.Spotlight-V100/Store-V2/B332121F-C8CA-4FF1-924A-
67FC321C3FFCC/journals.assisted_import_post:
/Volumes/exFAT1Tb/.Spotlight-V100/Store-V2/B332121F-C8CA-4FF1-924A-
67FC321C3FFCC/journals.assisted_import_pre:
/Volumes/exFAT1Tb/.Spotlight-V100/Store-V2/B332121F-C8CA-4FF1-924A-
67FC321C3FFCC/journals.corespotlight:
/Volumes/exFAT1Tb/.Spotlight-V100/Store-V2/B332121F-C8CA-4FF1-924A-
67FC321C3FFCC/journals.health_check:
/Volumes/exFAT1Tb/.Spotlight-V100/Store-V2/B332121F-C8CA-4FF1-924A-
```

```
67FC321C3FFCC/journals.live:
/Volumes/exFAT1Tb/.Spotlight-V100/Store-V2/B332121F-C8CA-4FF1-924A-
67FC321C3FFCC/journals.live_priority:
/Volumes/exFAT1Tb/.Spotlight-V100/Store-V2/B332121F-C8CA-4FF1-924A-
67FC321C3FFCC/journals.live_system:
/Volumes/exFAT1Tb/.Spotlight-V100/Store-V2/B332121F-C8CA-4FF1-924A-
67FC321C3FFCC/journals.live_user:
/Volumes/exFAT1Tb/.Spotlight-V100/Store-V2/B332121F-C8CA-4FF1-924A-
67FC321C3FFCC/journals.migration:
/Volumes/exFAT1Tb/.Spotlight-V100/Store-V2/B332121F-C8CA-4FF1-924A-
67FC321C3FFCC/journals.migration_secondchance:
/Volumes/exFAT1Tb/.Spotlight-V100/Store-V2/B332121F-C8CA-4FF1-924A-
67FC321C3FFCC/journals.repair:
/Volumes/exFAT1Tb/.Spotlight-V100/Store-V2/B332121F-C8CA-4FF1-924A-
67FC321C3FFCC/journals.scan:
```

- For space savings or privacy concerns, you can turn off indexing of a given volume by running **sudo mdutil -i off /Volumes/*volume-name***, and even erase the existing index with **sudo mdutil -E /Volumes/*volume-name***.

Resources

- For additional cheat sheets, see Github: https://github.com/yuriskinfo/cheat-sheets

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