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Finding a File Containing a Particular Text String In Linux Server

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62 comments

I have been using Linux for a while on my server and have a large collection of the text file everywhere. I’m interested in learning about searching a text string. Can you tell me – how do I find a file containing a particular text string on my Linux server?

I have to admit that there are tens and thousands of text files on any Linux or Unix based server. Finding and locating those files can be done with the find command. Unfortunately, find command cannot look inside a text file for a string.

Tutorial details	
Difficulty	Easy (rss)
Root privileges	No

Tutorial details	
Requirements	grep
Time	Less than 2 minutes

You need to use the grep command. The grep command or egrep command searches the given input FILEs for lines containing a match or a text string.

grep command syntax for finding a file containing a particular text string

The syntax is:

```
grep "text string to search" directory-path
grep [option] "text string to search" directory-path
grep -r "text string to search"directory-path
grep -r -H "text string to search" directory-path
egrep -R "word-1|word-2" /path/to/directory
egrep -w -R "word-1|word-2" directory-path
```

Let us see some common example on how to use grep to search for strings in files.

How to search and find all files for a given text string

In this example, search for a string called 'redeem reward' in all text (*.txt) files located in /home/tom/ directory, use:

```
$ grep "redeem reward" /home/tom/*.txt
```

OR

```
$ grep "redeem reward" ~/*.txt
```

Task: Search all subdirectories recursively

You can search for a text string all files under each directory, recursively with `-r` option:

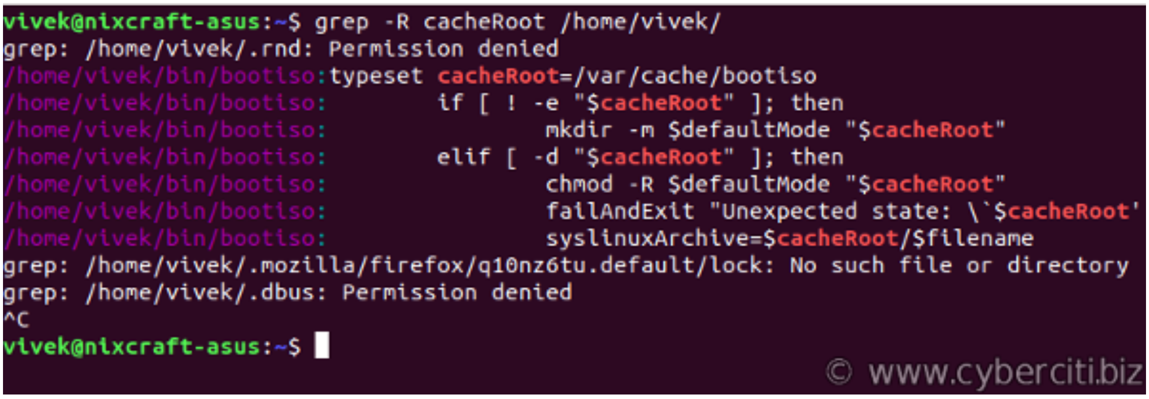
```
$ grep -r "redeem reward" /home/tom/
```

OR

```
$ grep -R "redeem reward" /home/tom/
```

Look for all files containing cacheRoot text on Linux:

```
grep -R cacheRoot /home/vivek/
```



```
vivek@nixcraft-asus:~$ grep -R cacheRoot /home/vivek/
grep: /home/vivek/.rnd: Permission denied
/home/vivek/bin/bootiso:typeset cacheRoot=/var/cache/bootiso
/home/vivek/bin/bootiso:        if [ ! -e "$cacheRoot" ]; then
/home/vivek/bin/bootiso:                mkdir -m $defaultMode "$cacheRoot"
/home/vivek/bin/bootiso:        elif [ -d "$cacheRoot" ]; then
/home/vivek/bin/bootiso:                chmod -R $defaultMode "$cacheRoot"
/home/vivek/bin/bootiso:                failAndExit "Unexpected state: \`$cacheRoot'
/home/vivek/bin/bootiso:                syslinuxArchive=$cacheRoot/$filename
grep: /home/vivek/.mozilla/firefox/q10nz6tu.default/lock: No such file or directory
grep: /home/vivek/.dbus: Permission denied
^C
vivek@nixcraft-asus:~$
```

Trying to find all files containing specific text on my Linux desktop

Task: Only display filenames

By default, the grep command prints the matching lines. You can pass `-H` option to print the filename for each match:

```
$ grep -H -r "redeem reward" /home/tom
```

Sample outputs:

```
filename.txt: redeem reward
foobar.txt: redeem reward
...
```

To just display the filename use the cut command as follows:

```
$ grep -H -R vivek /etc/* | cut -d: -f1
```

Sample outputs:

```
filename.txt
foobar.txt
...
```

Task: Suppress file names

The grep command shows output on a separate line, and it is preceded by the name of the file in which it was found in the case of multiple files. You can pass the `-h` option to suppress inclusion of the file names in the output:

```
$ grep -h -R 'main()' ~/projects/*.c
```

Task: Display only words

You can select only those lines containing matches that form whole words using the `-w` option. In this example, search for word ‘getMyData()’ only in ~/projects/ dirctory:

```
$ grep -w -R 'getMyData()' ~/projects/
```

Task: Search for two or more words

Use the egrep command as follows:

```
$ egrep -w -R 'word1|word2' ~/projects/
```

Task: Hide warning spam

grep command generate error message as follows due to permission and other issues:

> No such file or directory
> No such device or address
> Permission denied

To hide all errors or warning message spam generated by the grep command, append 2>/dev/null to grep command. This will send and hide unwanted output to /dev/null device:

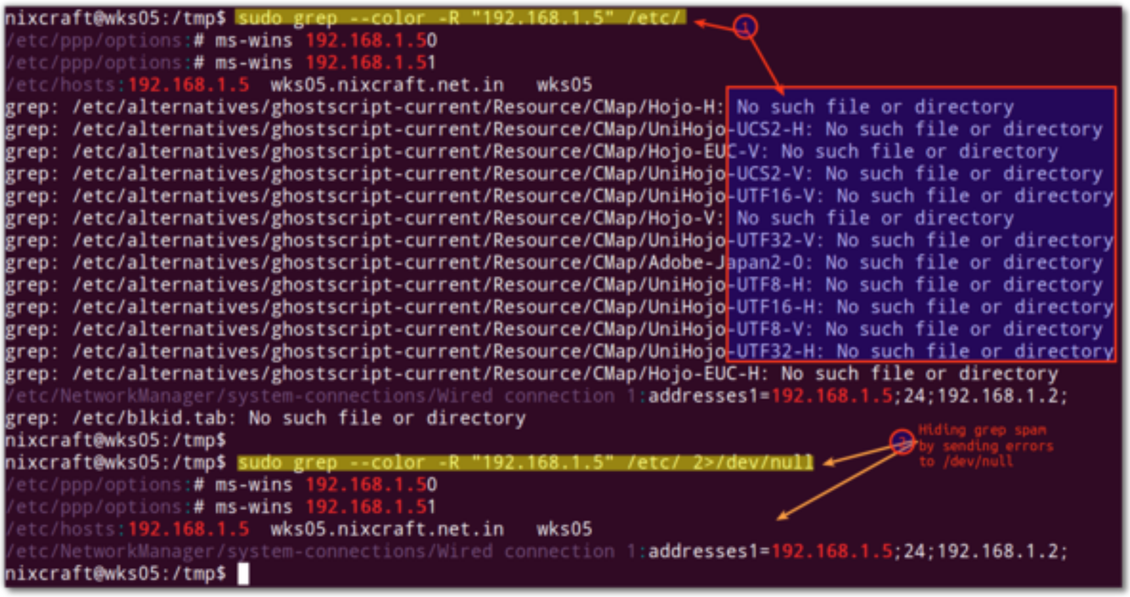
```
$ grep -w -R 'getMyData()' ~/projects/ 2>/dev/null
```

Task: Display matched text in color

Pass the `--color` option to the grep command display matched text/words in color on the terminal:

```
grep --color 'word' file
grep --color -R 'word' /path/to/dir
grep --color -R "192.168.1.5" /etc/
grep --color -R -h "192.168.1.5" /etc/
grep --color -R -h "192.168.1.5" /etc/ 2>/dev/null
```

Sample outputs:



```
nixcraft@wks05:/tmp$ sudo grep --color -R "192.168.1.5" /etc/
/etc/ppp/options:# ms-wins 192.168.1.50
/etc/ppp/options:# ms-wins 192.168.1.51
/etc/hosts:192.168.1.5  wks05.nixcraft.net.in   wks05
grep: /etc/alternatives/ghostscript-current/Resource/CMap/Hojo-H: No such file or directory
grep: /etc/alternatives/ghostscript-current/Resource/CMap/UniHojo-UCS2-H: No such file or directory
grep: /etc/alternatives/ghostscript-current/Resource/CMap/Hojo-EUC-V: No such file or directory
grep: /etc/alternatives/ghostscript-current/Resource/CMap/UniHojo-UCS2-V: No such file or directory
grep: /etc/alternatives/ghostscript-current/Resource/CMap/UniHojo-UTF16-V: No such file or directory
grep: /etc/alternatives/ghostscript-current/Resource/CMap/Hojo-V: No such file or directory
grep: /etc/alternatives/ghostscript-current/Resource/CMap/UniHojo-UTF32-V: No such file or directory
grep: /etc/alternatives/ghostscript-current/Resource/CMap/Adobe-Japan2-0: No such file or directory
grep: /etc/alternatives/ghostscript-current/Resource/CMap/UniHojo-UTF8-H: No such file or directory
grep: /etc/alternatives/ghostscript-current/Resource/CMap/UniHojo-UTF16-H: No such file or directory
grep: /etc/alternatives/ghostscript-current/Resource/CMap/UniHojo-UTF8-V: No such file or directory
grep: /etc/alternatives/ghostscript-current/Resource/CMap/UniHojo-UTF32-H: No such file or directory
grep: /etc/alternatives/ghostscript-current/Resource/CMap/Hojo-EUC-H: No such file or directory
/etc/NetworkManager/system-connections/Wired connection 1:addresses1=192.168.1.5;24;192.168.1.2;
grep: /etc/blkid.tab: No such file or directory
nixcraft@wks05:/tmp$
nixcraft@wks05:/tmp$ sudo grep --color -R "192.168.1.5" /etc/ 2>/dev/null
/etc/ppp/options:# ms-wins 192.168.1.50
/etc/ppp/options:# ms-wins 192.168.1.51
/etc/hosts:192.168.1.5  wks05.nixcraft.net.in   wks05
/etc/NetworkManager/system-connections/Wired connection 1:addresses1=192.168.1.5;24;192.168.1.2;
nixcraft@wks05:/tmp$
```

Fig.01: grep command in action with colors and hiding the warnings on screen

Task: Ignore case

Our final example ignore case distinctions in both the search PATTERN and the input files:

```
grep -i -R 'word' /path/to/dir
grep -i -r 'income tax' ~/accounting/
```

How do I find all files containing specific text on Linux?

The syntax is:

```
egrep 'pattern' -rnw /path/to/dir/
egrep 'word1|word2' -rnw /home/vivek/backups/
```

Finding text strings within files using grep

In this example search for lines starting with any lowercase or uppercase letter:

```
grep "^[a-zA-Z]" -rns ~/projects/texts/
```

Where,

- `-r` — Recursive search
- `-R` — Read all files under each directory, recursively. Follow all symbolic links, unlike `-r` grep option
- `-n` — Display line number of each matched line
- `-s` — Suppress error messages about nonexistent or unreadable files
- `-w` — Only work on words i.e. search only those lines containing matches that form whole words
- `-l` — Show the name of each input file when match found
- `-i` — Ignore case while searching

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62 comments… add one ↓

vinay

Apr 24, 2015 @ 11:31

thanks a lot, this is good stuff

reply link

AK

Oct 2, 2015 @ 12:28

I need help in the following situation. Thanks in advance.
I have a text file named “a.txt” which contains the hash values of few thousand files. Next i have a folder containing few thousand text files and each file must have one hash value from which we can recognize individual text file.Now, i want to read each line of “a.txt” and want to search through the directory to find which file contains the particular hash value. Once found the file should be moved to some other folder.

Can any body help in how can i perform this task？

reply link

abbas

Aug 7, 2017 @ 9:53

help me to learn all linux commad

reply link

Maaza

Aug 20, 2020 @ 15:05

I have group of control scripts with a specific path ／apps／dev01／app／xxx／bin／xxx.ctl, where I will be having the entry for port number something like, ‘-Dserver.port=8111’.

Question: Is is possible to list it like a table with results,

```
app name      | Port
```

```
----------------------
xxx          | 8111
yyy          | 8212
```

and so on？

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