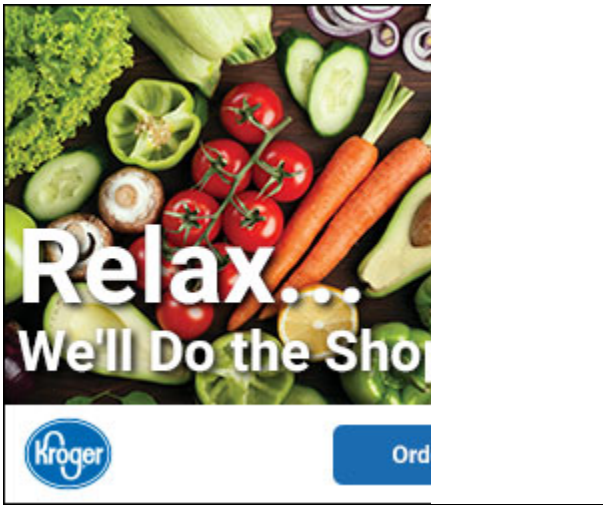
nixCraft
Linux and Unix tutorials for new and seasoned sysadmin

Linux / UNIX Recursively Search All Files For A String

last updated October 8, 2016 **in BASH Shell, CentOS, csh, Debian / Ubuntu, FreeBSD, KSH Shell, Linux, RedHat and Friends, Suse, UNIX**

How do I recursively search all text files for a string such as foo under UNIX / Linux / *BSD / Mac OS X shell prompt?

You can use grep command or find command as follows.



grep command: Recursively Search All Files For A String

The syntax is:

```
cd /path/to/dir
```

```
grep -r "word" .
```

```
grep -r "string" .
```

To ignore case distinctions:

```
grep -ri "word" .
```

To display print only the filenames with GNU grep, enter:

```
grep -r -l "foo" .
```

You can also specify directory name:

```
grep -r -l "foo" /path/to/dir/*.c
```

find command: Recursively Search All Files For A String

find command is recommend because of speed and ability to deal with filenames that contain spaces.

```
cd /path/to/dir
find . -type f -exec grep -l "word" {} +
find . -type f -exec grep -l "seting" {} +
find . -type f -exec grep -l "foo" {} +
find /search/dir/ -type f -name "*.c" -print0 | xargs -I {} -0 grep "

## Search /etc/ directory for 'nameserver' word in all *.conf files #
find /etc/ -type f -name "*.conf" -print0 | xargs -I {} -0 grep "name
```

Older UNIX version should use xargs to speed up things:

```
find /path/to/dir -type f | xargs grep -l "foo"
```

It is good idea to pass -print0 option to find command that it can deal with filenames that contain spaces or other metacharacters:

```
find /path/to/dir -type f -print0 | xargs -0 grep -l "foo"
```

OR use the following OSX/BSD/find or GNU/find example:

```
find /path/to/dir/ -type f -name "file-pattern" -print0 | xargs -I {}

## OR ##
find /mycool/project/ -type f -name "*.py" -print0 | xargs -I {}  -0

## OR search all files in /etc/ dir for 'nameserver' word ##
find /etc/ -iname "*" -type f -print0  |  xargs -0 grep -H "nameserve
```

Sample outputs from the last command:

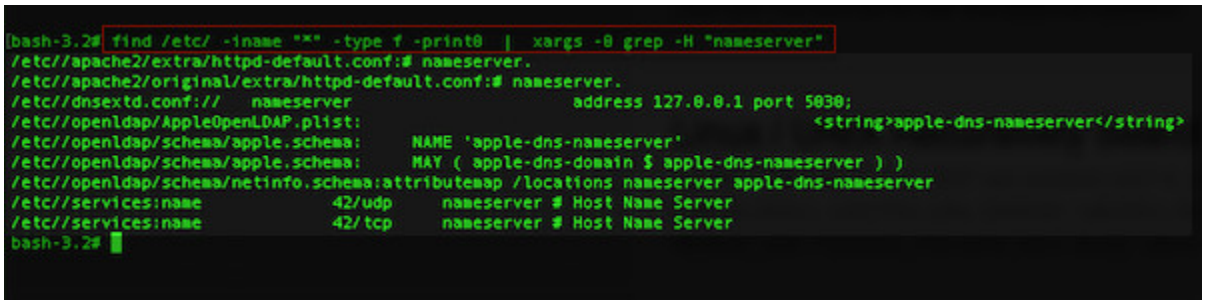


Fig.01: Unix and Linux: How to Grep Recursively?

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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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22 comment

rjbcollege May 27, 2010 at 10:08 am

That is fantastic, a command that says it does exactly what I'm looking for.

Unfortunately, when I copy and paste the example to recursivle search for files containing a string:
find . -type f -exec grep -l "word" {} +

in to my linux session I get a set of error message lines which all say this:

find: grep: Argument list too long

To fix this, simply add the following to hide any such error messages by oplacing them in the trash:

find . -type f -exec grep -l "word" {} + 2>>/dev/null

Pete Shore July 25, 2010 at 10:51 am

Perfect, had to search a joomla install for all occurrences of a string, used grep as i remember if from my uni days, thanks for the post.

Pete

lanh May 14, 2011 at 5:37 pm

Thank you this was very useful for debugging!

Radhakrishnan July 12, 2011 at 7:06 am

This tutorial is very useful .

Fernando Lopez Jr. October 2, 2011 at 1:24 am

it won't work if you are trying to search for:

grep -r “test!!!” .

you need to use the single quotations. like:

grep -r ‘test!!!’ .

jinil February 15, 2012 at 4:51 am

How can I recursively search all files for 2 strings?
I mean, files containing both strings..

Thanks :)

> **Ben** May 17, 2015 at 12:28 am
>
> You can pipe one grep into another.
>
> **bob** October 8, 2016 at 9:13 pm
>
> grep -r -e string1 -e string2 /

analytical February 21, 2012 at 3:28 pm

Thanks, changed my default web directory somewhere and now I don’t know where.
This will help.

mica March 30, 2012 at 3:40 pm

Would you let me know how to add a grep -v to the search , so i can supress some unwanted files?

thanks

> **bob** October 8, 2016 at 9:21 pm
>
> find . -not -name “*.svn” -not -name “*.git” -exec grep -e string1 -e string2 {} \;

Ken April 6, 2012 at 10:17 pm

This is indeed great. Now I wanted to shortcut this expression by putting it into my .bash_profile file as an alias but I can’t get that too work. I’ve tried a lot of variations on this theme:

alias f=”find . -type f -exec grep -l $1 {} +”

but then when I type something like “f foobar” it responds with “find: foobar: unknown option”. I’m sure this is stupidly easy but I’ve tried enough variations I thought I’d ask for some help.

> **nixCraft** April 7, 2012 at 10:24 am
>
> You can not pass args to alias. Use bash shell function:
>
> ```
> f(){ find . -type f -exec grep -l $1 {} + ; }
> ```
>
> Run it as:

```
f foobar
```

Hope this helps!

Ken April 10, 2012 at 4:55 pm

Great thanks Vivek!

Arsie May 28, 2012 at 3:23 am

Thanks for this information, I was able to get the file I am looking for on my box.

CaptSaltyJack May 14, 2013 at 3:29 am

Actually, using find to grep files is way slower than using grep -r. Try it, go into a folder with a whole bunch of files (hundreds, if not more), and run:

date ; find . -type f -exec grep somestring {} \; ; date

and then:

date ; grep -r somestring . ; date

The first operation took me about 10 seconds. The second one took about 3-4 seconds.

perfect tutorial February 26, 2014 at 5:01 am

Great article! Just another reason why *nix should be embraced for ever.

Joshua Pinter March 21, 2014 at 7:44 pm

Also, it's helpful to use the "-n" flag to show the line number of the file the text is on.

Igor September 24, 2015 at 7:38 pm

Awesome!
grep -ri "word" .
grep -ri -l "word" .
thanks a lot.

Ranjeet January 20, 2016 at 8:45 am

Thank you very much for this find command

tpro October 8, 2016 at 4:16 pm

Definitely better and faster tool is ack-grep package

Jon October 8, 2016 at 5:40 pm

How can the command be modified to search sub folders as well?

Have a question? Post it on our forum!

Tagged as: exec grep, find command, grep command, l word, Mac OS X, shell, UNIX, unix linux, unix version, xargs command, Easy

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