find utility

cmd: find

find command is use to search files with conditions in directory hierarchy. It is useful in finding files with complex requirement. Such as filename, file size, file permission, file type, owner of file uid, gid etc..

search files and executr command on this files such as chmod, grep, mv, cp, rm etc..

Find command requires a specific location, without location we cannot find file or directory.

SYNTAX:

 # find <source> <option> <expression> <action>

OPTIONS:

-name → name of file/directory

-iname → name in case insensitive

-user → owner of file/dir

-perm → permission of file/dir

-uid → uid of user owner

-gid → gid of group owner

-iname → search files by name in case insensitive

-group → group owner of file/dir

-type → type of files

- f → for normal file
- d → directory
- c →character device file
- p →pipe file
- l →link file
- s →socket file
- b →block device file

-size → size of file

+100M →more than 100M file
100M →exact 100M file
-100M →less than 100M file

-perm

/u=s →suid applied files
/g=s →sgid applied files
/o=t →sticky bit applied files

-empty →search empty files and directories

-delete → to delete searched file

amin → access minute ago

bmin →birth minute ago

cmin →chnage minute ago

mmin →modify min ago

atime →accessed time ago --> 1=1*24= 1day

btime →birth time ago

ctime →change time ago

mtime →modify time ago

EG:

```
118  ls /etc/  | grep  passwd
119  find  /  -name  passwd
```

pass* → starting with pass
*wd → ending with wd
"*.txt" → txt files
passwd → exact name
pass?? → 6 letter file, starting with pass..
?oo? → root,boot, aoot, booz

search the files by name by using this method

```
find  /  -name  passwd
find  /  -name  pass*
find  /  -name  *wd
find  /  -name  "*.txt"
find  /  -name   pass??
find  /  -name   pas??
find  /  -name   ?ast?
```

ls

mkdir PASSWD

find / -name passwd

find / -iname passwd

-user

ls -l /

find / -user sushmita

id sushmita

find / -uid 1000

find / -group testing

id sushmita

find / -gid 1004

-type

find / -type f

find / -type d

find / -type c

find / -type b

ls -l /dev/sda2

ls -l /sys/fs/selinux/null

ls -l /dev/tty6

find / -type p

ls -l /run/systemd/inaccessible/fifo

find / -type s

ls -l /tmp/dbus-gAa53CbStC

find / -type l

ls -l /proc/2474/map_files/7ff101859000-7ff1018c2000

find / -name passwd -type f

find / -name passwd

find / -name passwd -type f

find / -name passwd -type d

find / -iname passwd -type d

```
find / -iname passwd -type f
ls /home/sushmita/
find / -user sushmita -name red* -type f
find / -user sushmita -name "red*" -type f
ls -l /ubantu/red3
find / -user sushmita -name "red*" -type d
find / -user root -name "red*" -type d
find / -user sushmita -group testing -name "red*" -type f
find /ubantu -user sushmita -group testing -name "red*" -type f
find / -perm 777
find / -perm 700
find / -perm 007
find / -perm 777 -type f -user sushmita
find / -perm 777 -type f
find / -perm 777 -type d
find / -perm 777
ls -l /proc/624/task/624/ns/time_for_children
find / -perm 777 -type l
find / -perm /u=s
ls -l /usr/bin/chage
find / -perm /g=s
find / -perm /g=s -type f
find / -perm /g=s -type d
find / -perm /o=t
ls -ld /class/ /ubantu/
find / -perm /o=t -perm ugo
find / -perm /o=t -perm 777
find / -perm 1777
find / -perm 1666
getfacl /class/
find / -perm 1666
```

```
find /  -perm  7666
  197  ########################################
  198  # -size
  199  find  /  -size  10M
  200  ls -l  /usr/share/fonts/google-noto-emoji/NotoColorEmoji.ttf
  201  ls -lsh  /usr/share/fonts/google-noto-emoji/NotoColorEmoji.ttf
  202  #############
  203  find  /  -size  -10M
  204  find  /  -size  +10M
  205  find / -size  +10M  -size -50M
  206  find / -size  +10M  -size -12M
  207  ls -lsh /usr/lib64/librsvg-2.so.2.47.0
  208  ##########################################
  209  find  /  atime  1
  210  stat  /proc/894/map_files/
  211  find  /  mtime  1
  212  find  /  ctime  5
  213  find  /  btime  5
  214  find  /ubantu  btime  5
  215  stat  /ubantu/
  216  find /  amin  60
  217  find /  mmin  10
  218  find /  cmin  10
  219  find /  bmin  120
  220  find  /ubantu/  -empty
  221  find  /ubantu/  -empty  -type  f
  222  find  /ubantu/  -empty  -type  f  -delete
  223  ls /ubantu/
  224  find  /ubantu/  -empty  -type  f  -delete  -print
  225  history
[root@servera ~]#
```

```
[root@servera ~]# ll /redhat/
total 0
-rwsrwx---. 1 root root    0 Jul 31 18:43 abc.txt
-rwxrwx---. 1 root root    0 Jul 31 18:43 apple
drwxrwsrwx. 2 root testing 6 Jul 31 18:43 data
-rw-r--r--. 1 root root    0 Jul 31 18:43 data.txt
drwxrwx---. 2 root root    6 Jul 31 18:43 grras
drwxrwx---. 2 root root    6 Jul 31 18:43 kali
drwxrwxrwx. 2 root root    6 Jul 31 18:43 sample
-rw-r--r--. 1 root root    0 Jul 31 18:43 test
-rw-r--r--. 1 root root    0 Jul 31 18:43 TEST
 [root@servera ~]# chown  lukesh:testing  grras
chown: cannot access 'grras': No such file or directory
 [root@servera ~]# chown  lukesh:testing  /redhat/grras
```

#search the .txt files from /redhat and copy it to /sample directory

```
 [root@servera ~]# find /redhat/
 -name  "*.txt"
/redhat/data.txt
/redhat/abc.txt
#cp  /redhat/{*.txt}   /sample
 [root@servera ~]# find /redhat/   -name  "*.txt"  -type f
/redhat/data.txt
/redhat/abc.txt
 [root@servera ~]# mkdir /sample
[root@servera ~]# #cp  /redhat/{file1,file2,file3...}    /sample
 [root@servera ~]# cp /redhat/*.txt  /sample/
[root@servera ~]# ls /sample/
abc.txt  data.txt
 [root@servera ~]# ################################
```

action -exec

 # find <source> <option> <argument> <action> <command> \;

cp <source> <dertination> --> source is find commands result

#search the .txt files from /redhat and copy it to /sample directory

[root@servera ~]# **find /redhat/ -name "*.txt" -type f -exec cp -arv '{}' /sample \;**

'/redhat/data.txt' -> '/sample/data.txt'

'/redhat/abc.txt' -> '/sample/abc.txt'

[root@servera ~]# **ll /sample/**

total 0

-rwsrwx---. 1 root root 0 Jul 31 18:43 abc.txt

-rw-r--r--. 1 root root 0 Jul 31 18:43 data.txt

 # Find the directory from /redhat having permission 770 and copy it to /sample directory

[root@servera ~]# find /redhat -perm 770 -type d

/redhat/grras

/redhat/kali

[root@servera ~]# **find /redhat -perm 770 -type d -print -exec cp -ar '{}' /sample \;**

/redhat/grras

/redhat/kali

[root@servera ~]# ll /sample/

total 0

-rwsrwx---. 1 root root 0 Jul 31 18:43 abc.txt

-rw-r--r--. 1 root root 0 Jul 31 18:43 data.txt

drwxrwx---. 2 lukesh testing 6 Jul 31 18:43 grras

drwxrwx---. 2 root root 6 Jul 31 18:43 kali

#Find the sgid applied directories from /redhat and set the permission as 770

[root@servera ~]# find /redhat/ -perm /g=s -type d

/redhat/data

[root@servera ~]# **find /redhat/ -perm /g=s -type d -exec chmod 770 '{}' \;**

[root@servera ~]# ll /redhat/

total 0

-rwsrwx---. 1 root root 0 Jul 31 18:43 abc.txt

-rwxrwx---. 1 root root 0 Jul 31 18:43 apple

drwxrws---. 2 root testing 6 Jul 31 18:43 data

-rw-r--r--. 1 root root 0 Jul 31 18:43 data.txt

drwxrwx---. 2 lukesh testing 6 Jul 31 18:43 grras

drwxrwx---. 2 root root 6 Jul 31 18:43 kali

drwxrwxrwx. 2 root root 6 Jul 31 18:43 sample

-rw-r--r--. 1 root root 0 Jul 31 18:43 test

-rw-r--r--. 1 root root 0 Jul 31 18:43 TEST

 # Find the files from /redhat having name TEST and move it to /sample directory

[root@servera ~]# find /redhat -name TEST -type f

/redhat/TEST

[root@servera ~]# find /redhat -name TEST -type f -exec mv '{}' /sample \;

[root@servera ~]# **ll /sample/**

total 0

-rwsrwx---. 1 root root 0 Jul 31 18:43 abc.txt

-rw-r--r--. 1 root root 0 Jul 31 18:43 data.txt

drwxrwx---. 2 lukesh testing 6 Jul 31 18:43 grras

drwxrwx---. 2 root root 6 Jul 31 18:43 kali

-rw-r--r--. 1 root root 0 Jul 31 18:43 TEST

 # Find the file from /redhat with permission 644 and set the permission as 660 on it

[root@servera ~]# find /redhat/ -perm 644

/redhat/test

/redhat/data.txt

[root@servera ~]# find /redhat/ -perm 644 -type f

/redhat/test

/redhat/data.txt

[root@servera ~]# find /redhat/ -perm 644 -type f -exec chmod 660 '{}' \;

[root@servera ~]# ll /redhat/

total 0

-rwsrwx---. 1 root root 0 Jul 31 18:43 abc.txt

-rwxrwx---. 1 root root 0 Jul 31 18:43 apple

drwxrws---. 2 root testing 6 Jul 31 18:43 data

-rw-rw----. 1 root root 0 Jul 31 18:43 data.txt

drwxrwx---. 2 lukesh testing 6 Jul 31 18:43 grras

drwxrwx---. 2 root root 6 Jul 31 18:43 kali

drwxrwxrwx. 2 root root 6 Jul 31 18:43 sample

-rw-rw----. 1 root root 0 Jul 31 18:43 test

 # Find the directory owned by user lukesh and change the ownership to user sushil

[root@servera ~]# find /redhat -user lukesh -type d

/redhat/grras

[root@servera ~]# **find /redhat -user lukesh -type d -exec chown sushil '{}' \;**

[root@servera ~]# ll /redhat/

total 0

-rwsrwx---. 1 root root 0 Jul 31 18:43 abc.txt

-rwxrwx---. 1 root root 0 Jul 31 18:43 apple

drwxrws---. 2 root testing 6 Jul 31 18:43 data

-rw-rw----. 1 root root 0 Jul 31 18:43 data.txt

drwxrwx---. 2 sushil testing 6 Jul 31 18:43 grras

drwxrwx---. 2 root root 6 Jul 31 18:43 kali

drwxrwxrwx. 2 root root 6 Jul 31 18:43 sample

-rw-rw----. 1 root root 0 Jul 31 18:43 test

 # Find the sgid applied directory from /redhat and change the ownership as sushmita and group ownership as devops

```
 [root@servera ~]# find /redhat/   -perm  /g=s  -type d
/redhat/data
 [root@servera ~]# find /redhat/   -perm  /g=s  -type d  -print   -exec  chown  sushmita:devops   '{}'  \;
/redhat/data
 [root@servera ~]# ll /redhat/
total 0
-rwsrwx---. 1 root     root    0 Jul 31 18:43 abc.txt
-rwxrwx---. 1 root     root    0 Jul 31 18:43 apple
drwxrws---. 2 sushmita devops  6 Jul 31 18:43 data
-rw-rw----. 1 root     root    0 Jul 31 18:43 data.txt
drwxrwx---. 2 sushil   testing 6 Jul 31 18:43 grras
drwxrwx---. 2 root     root    6 Jul 31 18:43 kali
drwxrwxrwx. 2 root     root    6 Jul 31 18:43 sample
-rw-rw----. 1 root     root    0 Jul 31 18:43 test
```

 # Find the files starting with app having permission 770 and delete it

```
 [root@servera ~]# find  /redhat   -name  "app*"  -perm  770 -type f
/redhat/apple
 [root@servera ~]# find  /redhat   -name  "app*"  -perm  770 -type f   -print   -delete
/redhat/apple
[root@servera ~]# ll /redhat/
total 0
-rwsrwx---. 1 root     root    0 Jul 31 18:43 abc.txt
drwxrws---. 2 sushmita devops  6 Jul 31 18:43 data
-rw-rw----. 1 root     root    0 Jul 31 18:43 data.txt
drwxrwx---. 2 sushil   testing 6 Jul 31 18:43 grras
drwxrwx---. 2 root     root    6 Jul 31 18:43 kali
```

drwxrwxrwx. 2 root root 6 Jul 31 18:43 sample

-rw-rw----. 1 root root 0 Jul 31 18:43 test

Find the .txt file from /redhat with permission 660 and deleteit using rm command

[root@servera ~]# find /redhat -name "*.txt" -perm 660 -type f

/redhat/data.txt

[root@servera ~]# find /redhat -name "*.txt" -perm 660 -type f -exec rm '{}' \;

[root@servera ~]# ll /redhat/

total 0

-rwsrwx---. 1 root root 0 Jul 31 18:43 abc.txt

drwxrws---. 2 sushmita devops 6 Jul 31 18:43 data

drwxrwx---. 2 sushil testing 6 Jul 31 18:43 grras

drwxrwx---. 2 root root 6 Jul 31 18:43 kali

drwxrwxrwx. 2 root root 6 Jul 31 18:43 sample

-rw-rw----. 1 root root 0 Jul 31 18:43 test

 # Find the suid applied files with permission mode as 770 and change the ownership touser jack

[root@servera ~]# useradd jack

[root@servera ~]# find /redhat/ -perm 4770 -type f

/redhat/abc.txt

[root@servera ~]# find /redhat/ -perm 4770 -type f -exec chown jack '{}' \;

[root@servera ~]# ll /redhat

total 0

-rwxrwx---. 1 jack root 0 Jul 31 18:43 abc.txt

drwxrws---. 2 sushmita devops 6 Jul 31 18:43 data

drwxrwx---. 2 sushil testing 6 Jul 31 18:43 grras

drwxrwx---. 2 root root 6 Jul 31 18:43 kali

drwxrwxrwx. 2 root root 6 Jul 31 18:43 sample

-rw-rw----. 1 root root 0 Jul 31 18:43 test
