Linux Find Command

Linux Find Command

The Linux Find Command is one of the most important and much used command in Linux systems. Find command used to search and locate list of files and directories based on conditions you specify for files that match the arguments. Find can be used in variety of conditions like you can find files by permissions, users, groups, file type, date, size and other possible criteria.

The find command is available on most linux distros by default so you do not have to install any package. The find command is an essential one to learn, if you want to get super productive with the command line on linux.

The basic syntax of the find command looks like this

$ find location comparison-criteria search-term

Linux Find Command

1. Find Files Using Name in Current Directory

Find all the files whose name is technology.txt in a current working directory.

find . -name technology.txt

2. Find Files Under Home Directory

Find all the files under /home directory with name technology.txt.

find /home -name technology.txt

3. Find Files Using Name and Ignoring Case

find /home -iname technology.txt

Linux Find Command

4. Find Directories Using Name

find / -type d -name abcd

5. Find xyz Files Using Name

Find all xyz files whose name is technology.xyz in a current working directory.

find . -type f -name technology.xyz

6. Find all xyz files in directory

find . -type f -name "*.xyz"

Linux Find Command

7. Find Files With 777 Permissions

find . -type f -perm 0777 -print

8. Find Files Without 777 Permissions

find / -type f ! -perm 777

9. Find Read Only Files

find / -perm /u=r

Linux Find Command

10. Find Executable Files

find / -perm /a=x

11.Find Files with 777 Permissions and Chmod to 644

Find all 777 permission files and use chmod command to set permissions to 644.

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

12. Find Directories with 777 Permissions and Chmod to 755

Find all 777 permission directories and use chmod command to set permissions to 755.

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

Linux Find Command

13. Find and remove single File

To find a single file called tecmint.txt and remove it.

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

14. Find and remove Multiple File

To find and remove multiple files such as .mp3 or .txt, then use.

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

Linux Find Command

15. Find all Empty Files

To find all empty files under certain path.

```
# find /tmp -type f -empty
```

16. File all Hidden Files

To find all hidden files, use below command.

```
# find /tmp -type f -name ".*"
```

Linux Find Command

17. Find all Files Based on User

To find all files that belongs to user Tecmint under /home directory.

```
# find /home -user tecmint
```

Find Files and Directories Based on Date and Time

18.Find Last 50 Days Modified Files

To find all the files which are modified 50 days back.

```
# find / -mtime 50
```

Linux Find Command

19.Find Last 50 Days Accessed Files

To find all the files which are accessed 50 days back.

find / -atime 50

20. Find Changed Files in Last 1 Hour

To find all the files which are changed in last 1 hour.

find / -cmin -60

Linux Find Command

21. Find Modified Files in Last 1 Hour

To find all the files which are modified in last 1 hour.

```
# find / -mmin -60
```

22. Find Accessed Files in Last 1 Hour

To find all the files which are accessed in last 1 hour.

```
# find / -amin -60
```

23. Find 50MB Files

To find all 50MB files, use.

```
# find / -size 50M
```

Linux Find Command

24. Find Size between 50MB – 100MB

To find all the files which are greater than 50MB and less than 100MB.

```
# find / -size +50M -size -100M
```

25. Find and Delete 100MB Files

To find all 100MB files and delete them using one single command.

```
# find / -size +100M -exec rm -rf {} \;
```

26. Find Specific Files and Delete

Find all .mp3 files with more than 10MB and delete them using one single command.

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

Top Running Processes

Find Top Running Processes by Highest Memory and CPU Usage in Linux

- ps -eo pid,ppid,cmd,%mem,%cpu --sort=-%mem | head
- ps -eo pmem,pcpu,vsize,pid,cmd | sort -k 1 -nr | head -5
- ps axo ruser,%mem,comm,pid,euser | sort -nr | head -n 10
- top -b -o +%MEM | head -n 22

From the command above, the option:

-b : runs top in batch mode
-o : used to specify fields for sorting processes
head utility displays the first few lines of a file and
the -n option is used to specify the number of lines to be displayed.

Top Running Processes

Find Top Running Processes by Highest Memory and CPU Usage in Linux

Biggest cpu consuming processes

- ps -eo pmem,pcpu,pid,args | tail -n +2 | sort -rnk 2 | head

ps Report a snapshot of the current processes
- -e Select all processes
- o Specify user-defined format
- pmem,pcpu,pid,args user-defined format: memory,cpu, pid number and command
- | tail -n +2 Output lines starting to the second line (to avoid column names such %MEM, etc ...)
- | sort -rnk 1 reverse (r), numeric sort (n) by column 1 (memory)
- | sort -rnk 2 reverse (r), numeric sort (n) by column 2 (cpu)
- | head output the 10 first lines