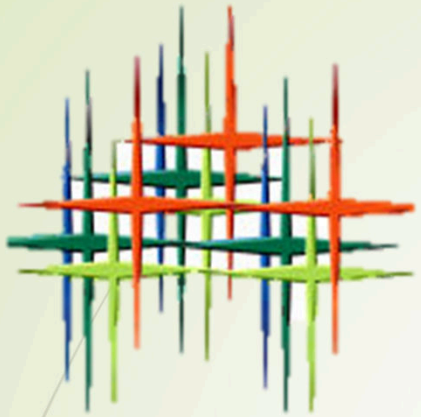

ABC IT Education

WE'LL TAKE YOU FROM ZERO TO HERO IN A SNAP

Linux Systems Administration

Finding Files and Directories in Linux

- We are going to look at 2 commands that will help you find files and directories in Linux
- The two cammands we are going to look at are ‘find’ and ‘locate’.
- **‘find’ command**
- The syntax of the ‘find’ command is find [path] [expression] and ‘find’ will return the results that match the path and expression, and if no arguments are supplied it will find all files in the current directory and sub directories below that.
- ‘find’ Options
- -name pattern Find file and directories that match pattern
- -iname pattern Like –nam, but ignores case
- -ls Perform an ls on each item found

- -mtime days Find files that are days old
- -size num Find files that are of size num
- -newer file Find files that are newer than file
- -exec command {} \; - Run command against all the files that are found.
- If you want to execute a command against all the results that find returns you can use the '-exec' option or '-exec'.
- You then provide the command that you want to run and in the command within escaped semicolon.
- The matching curly braces represent the file or directory that was found by find.
- Let's look in 'sbin' for something named 'makedev'.
- $ find /sbin –name makedev, note nothing found

- Now let’s do a case insensitive search with '-iname'.
- $ find /sbin –name makedev
- Now makedev is found but it is all uppercase.
- So when using name in matches case, when using 'iname' it ignores case.
- Let's look in bin and find any file that ends in 'v'.
- $ find /bin –name *v, note 'star' means match anything.
- Let's look for files that are more than 10 days old, but less than 13 days old in the current directory. For this we can use 'mtime' for modification time.
- $ find –mtime +10 –mtime -13
- Note that you can use multiple options to the find command at the same time

- Now let us find anything that begins with 's', and perform an 'ls' on it.
- $ find . –name s* -ls
- Let's find things that are of size 1MB or greater.
- $ find . –size +1G
- You can also use 1MB, 1KB, 1GB, and so on.
- Let's find all the directories that are newer than ‘kkk'.
- $ find . –type d –newer kkk
- So it is indeed newer than 'file.txt'.
- Let’s find everything in the current directory - 'find .‘ and execute the ‘file’ command against the search results.
- $ find . –exec file {} \;

- The file command just tells what kind of file it is.
- It's the best guess as to what it thinks the contents of the file represents.
- **'locate' command**
- The 'locate' command is similar to the 'find' command in that you can tell it what to look for and it will return a list of results that match your search pattern.
- The syntax of the 'locate' command is 'locate pattern'
- 'Locate' is faster than the find command because the find command looks through the path you gave it and evaluates each and every file and directory and determines if that matches your search pattern or not and then returns those results.

- The locate command, works off of an index, and the index is typically rebuilt everyday.
- ‘locate’ may not be enabled on all systems.
- Instead of evaluating each and every file to see if it matches the pattern ‘locate’ just does a look up in the index.
- NOTE: ‘locate’ results are not in real time because there is a lag between the time that the index gets created and the time that you run the locate command.
- If you're looking for a file that was created just a few minutes ago and you use ‘locate’, chances are it's not going to be in the index.
- To find the file you should use the ‘find’ command that evaluates files and directories in real time.

- On some systems, ‘locate’ is not enabled by default.
- Installing ‘locate’ on Centos 7
  i. yum -y update (update the packages)
  ii. yum -y install mlocate (install locate)
  iii. Updatedb (update the locate search database)
- Let's use the locate command to find files and directories that have 'sales' in the name. **$ locate sales**
- Let's create a new file. **$ touch nolocate**
- Now run our locate command again, the file is not found.
- Do it with the file's name, file still not found because the index is not up to date.
- Use the find command to evaluate all these in real time and we can find the file with the find command.