Finding & Processing Files

Pattern

A Pattern is an expression that describes a set of strings which is used to give a concise description of a set, without having to list all elements.

eg. ab*cd matches anything that starts with ab and ends with cd etc.

ls *.txt – prints all text files

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cat	reads data from the file and gives their content as output; used to create, view, concatenate files
Syntax : cat [options] file1 [file2...]	
cat f1.txt	Display the contents of *f1.txt*
cat f1.txt f2.txt	Display the contents of multiple files
cat –n f1.txt	Add line numbers to all lines
cat –b f1.txt	Add line numbers to all non-blank lines
cat >f3.txt	Create a file
cat f1.txt > f2.txt	Copy the contents of one file to another file.
cat f1.txt >> f2.txt	Append the contents of one file to the end of another file
cat f1.txt f2.txt f3.txt > m1.txt	Merge the contents of multiple files

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grep	Search for a particular string/word in a file/files
Syntax : grep [option(s)] pattern [file(s)]	
grep –i linux f1.txt	Search for case insensitive 'linux' in *f1.txt*
grep 'linux is' f1 f2 f3	Search for the phrase in f1,f2,f3
grep –n linux f1.txt	Display the results along with their line numbers
grep –v linux f1.txt	Display the result of lines not matching the string 'linux'
grep –r linux dir1	Search recursively all files in the specified & sub directories for the string
grep –c linux f1.txt	Display the number of times that the pattern has been matched for file/files
ls | grep ssn	Search in the list of files for the string; search the names of files & directories

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sort	Sort the results of a search in alphabetically or numerically
Syntax : cat [options] file1 [file2…]	
sort f1.txt	Sort the contents of *f1.txt* and display them in alphabetical order
sort f1.txt f2.txt	Sort the contents of both *f1.txt* and *f2.txt*
sort –r f1.txt	Sort in reverse order
sort –f f1.txt	Perform case insensitive sorting
sort –n f1.txt	Sort the contents of *f1.txt* and display them in numerical order
grep linux f1 f2	sort	Search for linux from both files and sort the results
grep linux f1 f2	sort -r	Search for linux from both files and sort the results in reverse order
ls|sort	List all the files and directories and sort the results

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wc	Counts the number of lines, words and characters that are contained in text.
Syntax : wc [options] [file_name(s)]	
wc f1.txt	Counts the number of lines, words and characters in *f1.txt*
wc f1.txt f2.txt	Display the numbers of lines, words and characters for each file along with its name
wc . *.txt	count for all of the text files within the current directory
wc –l f1.txt	Display the numbers of lines
wc –w f1.txt	Display the number of words
wc –m f1.txt	Display the number of characters
ls | wc -l	Count the total number of *objects* (i.e., files and directories) in the current directory

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find	Search for files in a directory hierarchy
Syntax : find [OPTION] [path] [pattern]	
find find . find -print find . -print	Display the pathnames of all files in the current directory and its subdirectories.
find / -name f1.txt	Search f1.txt in the entire system
find . –type f find . –type d	Display only the files in the current directory and its subdirectories. Only directories in the current directory and its subdirectories.
find / -size +10M	Find all files more than 10MB
find / -mtime 50	Find all files modified 50 days back
find / -mmin -60	Find all files modified last 1 hour.
find . –type f -empty	Find all empty files in the current directory

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locate	Find files and directories.
Syntax : locate [options] name(s)	
locate sysctl.conf	Find the sysctl.conf file in the system
locate "*.png"	Display all files on the system that have the *.png* extension
locate -n 15 "*.html"	Display only 15 results that have an *.html* extension
locate -i "*.pdf"	Case insensitive search for pdf files

head	Output the first part of the file
Syntax : head [options] [file(s)]	
head f1.txt	Print first 10 lines of the file
head -n5 /var/log/yum.log	First 5 lines of the file
head -c50 /var/log/yum.log	First 50 bytes of the file
tail	Print the last part of the file
tail –f /var/log/messages	to "follow" subsequent additions to the file, Very useful for monitoring log files!

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cut	Prints selected parts of lines from each file to standard output
Syntax : cut [options] [file(s)]	
cut -c 1-7 f1.txt	Print first seven characters of each line from the file.
cut -d: -f1 /etc/passwd	Display the first field by using the delimiter
cut -d: -f1-4 /etc/passwd	Display the fields 1 and 4
ls –lt |cut –d " " –f 1	Display the field 1 from the result listed.

vi/vim Editor

- Text editors of Linux
- Three main modes:
  - Command Mode (default): Move cursor, cut/paste text, change mode
  - Insert Mode: Modify text
  - Ex Mode: Save, quit, etc
- Esc exits current mode
- EscEsc always returns to command mode
- Common write/quit commands:
  - :w writes (saves) the file to disk
  - :wq writes and quits
  - :q! quits, even if changes are lost