Linux Basic Commands

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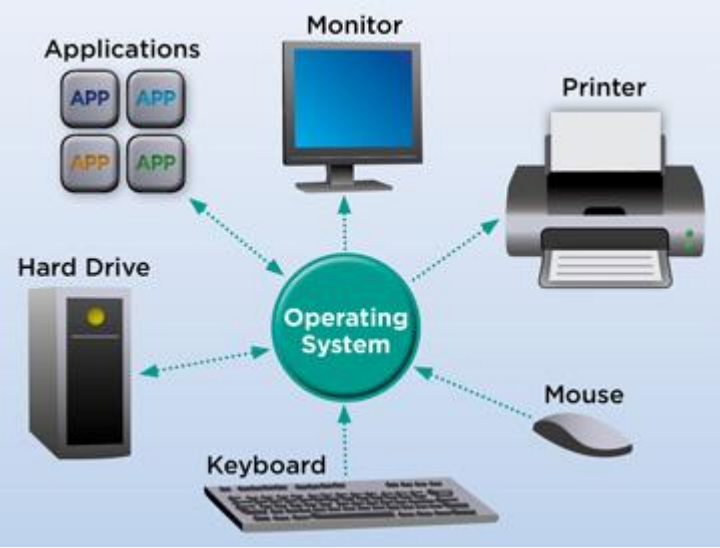
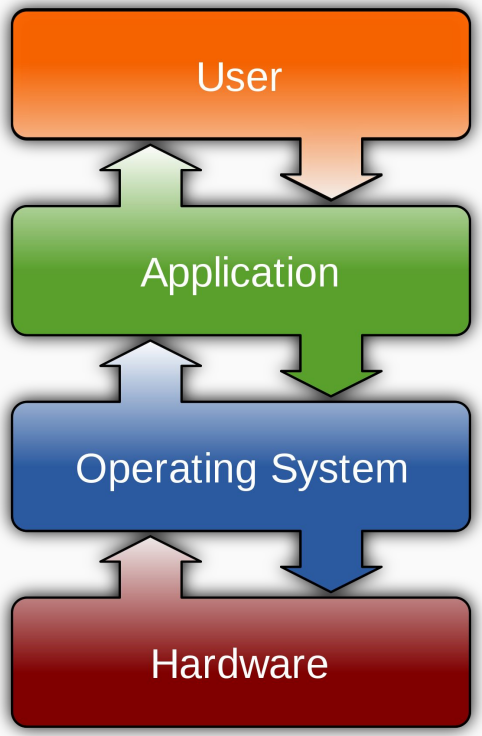
What is Linux ?

Linux is an Operating System





Different Operating Systems

Desktop Operating Systems

- Linux
- Windows
- MacOS

Mobile Operating Systems

- Android
- iOS
- MacOS
- Symbian
- Bada
- Chrome OS

Linux Commands

- File Handling
- Text Processing
- System Administration
- Process Management
- Archival
- Network
- File Systems
- Advanced Commands

Learning more about any command

- man “command” => Shows manual pages of any command
  For ex.
  $ man ls

- “Command” --help => Shows command line arguments for specific command
  For ex.
  $ ls --help

- Info “command” => Shows details information of command
  For ex.
  $ info ls

File Handling Commands

- mkdir – make directories
  Usage: mkdir [OPTION] DIRECTORY…
  eg. mkdir hello

- ls – list directory contents
  Usage: ls [OPTION]... [FILE]...
  eg. ls, ls -al, ls hello

- cd – changes directories
  Usage: cd [DIRECTORY]
  eg. cd hello

- pwd - print name of current working directory
  Usage: pwd

- vim – Vi Improved, a programmers text editor
  Usage: vim [OPTION] [file]...
  eg. vim file1.txt

File Handling Commands ... continued

- cp – copy files and directories
  Usage: cp [OPTION]... SOURCE DEST
  eg. cp sample.txt sample_copy.txt
  cp sample_copy.txt target_dir

- mv – move (rename) files
  Usage: mv [OPTION]... SOURCE DEST
  eg. mv source.txt target_dir
  mv old.txt new.txt

- rm - remove files or directories
  Usage: rm [OPTION]... FILE…
  eg. rm file1.txt , rm -rf some_dir

- find – search for files in a directory hierarchy
  Usage: find [OPTION] [path] [pattern]
  eg. find file1.txt, find name file1.txt

- locate - helps to search files from anyplace
  Usage : locate [pattern]

- history – prints recently used commands
  Usage: history

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

Text Processing

- cat – concatenate files and print on The standard output
  Usage: cat [OPTION] [FILE]...
  eg. cat file1.txt file2.txt
  cat file1.txt

- echo – display a line of text
  Usage: echo [OPTION] [string] …
  eg. echo “hello world”
  echo $HOME

- grep - print lines matching a pattern
  Usage: grep [OPTION] PATTERN [FILE]...
  eg. grep i apple sample.txt

- wc - print the number of newlines, words, and bytes in files
  Usage: wc [OPTION]... [FILE]...
  eg. wc file1.txt
  wc -L file1.txt

- sort – sort lines of text files
  Usage: sort [OPTION]... [FILE]...
  eg. sort file1.txt
  sort r file1.txt

Linux File Permissions

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- 3 types of file permissions – read, write, execute

- 10 bit format from 'ls l' command

1	2 3 4	5 6 7	8 9 10
file type	owner	group	others

Eg. drwxrwr - means owner has all three permissions, group has read and write, others have only read permission

- read permission – 4, write – 2, execute 1
  eg. rwxrw-r-- = 764
  673 = rw-rwx-wx

System Administration Commands

- chmod – change file access permissions
  Usage: chmod [OPTION] [MODE] [FILE]
  eg. chmod 744 calculate.sh

- chown – change file owner and group
  Usage: chown [OPTION]... OWNER[:[GROUP]] FILE…
  eg. chown remo myfile.txt

- su – change user ID or become superuser
  Usage: su [OPTION] [LOGIN]
  eg. su user1, su

- passwd – update a user's authentication tokens(s)
  Usage: passwd [OPTION]
  eg. passwd

- who – show who is logged on
  Usage: who [OPTION]
  eg. who , who -b , who -q

Process Management Commands

- ps – report a snapshot of the current processes
  Usage: ps [OPTION]
  eg. ps, ps -el

- kill – to kill a process(using signal mechanism)
  Usage: kill [OPTION] pid
  eg. kill -9 2275

Compress and Extract Commands

- tar – to archive a file
  Usage: tar [OPTION] DEST SOURCE
  eg. tar -cvjf /home/archive.tar.bz2 /home/directory_to_compress
  tar xvf /home/archive.tar.bz2

- zip – package and compress (archive) files
  Usage: zip [OPTION] DEST SOURCE
  eg. zip original.zip original

- unzip – list, test and extract compressed files in a ZIP archive
  Usage: unzip filename
  eg. unzip original.zip

Network Commands

- ssh – SSH client (remote login program)
  " ssh is a program for logging into a remote machine and for executing commands on a remote machine "

  eg. ssh X guest@192.168.0.105

- scp – secure copy (remote file copy program)
  "scp copies files between hosts on a network "

  eg. scp file1.txt guest@192.168.0.105:~/Desktop/

- ping - ping helps to check if the remote host is alive or if network if available or not.

  e.g. ping google.com / ping 192.168.1.1

- Ifconfig - allows to check and configure

  e.g. ifconfig -a

File System Commands

- fdisk – partition manipulator
  eg. sudo fdisk -l

- mount – mount a file system
  Usage: mount -t type device dir
  eg. mount /dev/sda5 /media/target

- umount – unmount file systems
  Usage: umount [OPTIONS] dir | device…
  eg. umount /media/target

- du – estimate file space usage

  eg. du, du -h, du -sh, du filename

- df – report filesystem disk space usage

  eg. df, df -h

Advanced Commands

- reboot – reboot the system

  eg. sudo reboot

- poweroff – power off the system

  eg. sudo poweroff

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