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Linux Commands

Revision History

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- Pre requisite Softwares.
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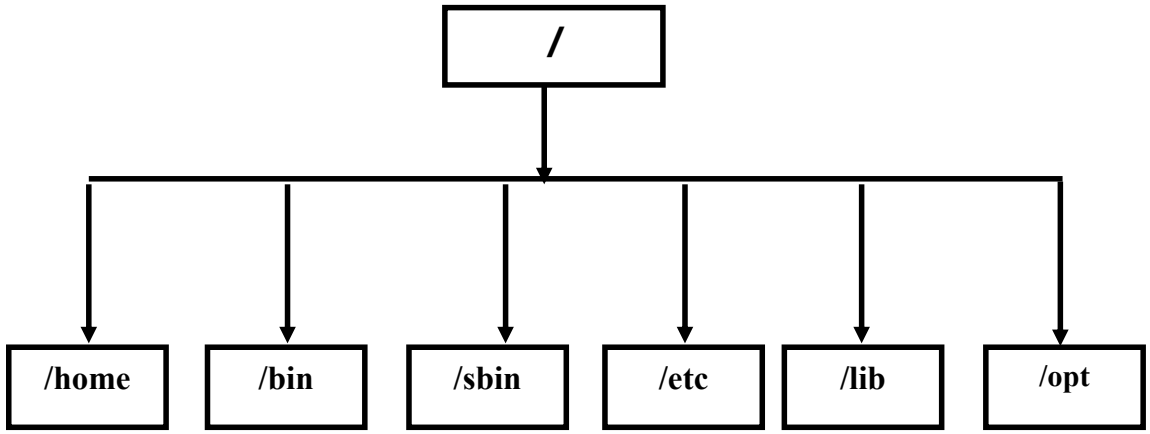
Introduction

- Linux started around 1991 by Linus Torlvads.
- Linux is an multi-user, multitasking Operating System.
- Linux is Open Source not like AIX , Sun Solaris, HP-UX...
- Linux is “case-sensitive” ls is different of LS.

- Following are the Linux distributions.
  1) **Redhat**
  2) **CentOS**
  3) **Ubuntu.**
  4) SuSe Linux
  5) Fedora
  6) Gentoo
  7) Mandriva.
  8) Debian.
  9) Slackware

Linux File Structure



Linux file system is casesensitive. (Mithun and mithun both are different)
Hidden files start with . (dot) extension.
dot (.) refers to current dir.

Following are the directories in the Redhat OS.

/ called is root directory.

home : It contains home directories for all users to store their personal files.
Ex: /home/bhaskar or /home/mithun

bin : It contains the commands and binary files. User can access the commands.
Ex: mkdir, ls, cd, ps….

sbin : Just like /bin It contains the commands and files, but only root user can access.
Ex: ifconfig, reboot, shutdown and swapon …

etc : It contains the configuration files.

Cont….

lib : It contains the system libraries.

proc : It contains the process information.

tmp : It contains the temporary files.

usr : It contains the binaries and libraries. WAS,IHS or DB2 etc related softwares will install in this directory.

var : It contains variable files. This includes system log files(/var/log), emails (/var/mail) and temp files needed across reboots (/var/tmp)

dev : It contains the device files.
Ex: USB or any device attached to the server.

Navigation and Directory Control Commands

- mkdir : Make or Create directory
- ls : List the directory contents.
- tree: It will list contents of directories in a tree-like format.
- cd : Change directory
- pwd : Print working directory
- rmdir : Remove or Delete directory
- rm : It will remove a file or directory.

- Difference between Linux vs DOS Navigation and Directory Control Commands

Command in Linux	Command in DOS
mkdir	md & mkdir
ls	dir
cd	cd (OR) chdir
pwd	cd
rmdir	rd & rmdir
cd	cd/

File Maintenance Commands

- touch :It will create the file with zero bytes.
- find : 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.
- umask: **User Mask or User file creation MASK :** It is used to set the permissions for files/directories newly created on a Linux Machine.
- chmod : It will change the file or directory access permissions.
- chown : It will change the ownership of the file a file. **Only root user can execute this.**
- chgrp : It will changes the group ownership of a file or directory. **Only root user can execute this.**
- cp : It will copy file contents of one file to another file.
- mv : It will move or rename the file.
- file : Determine file type.
- wc : Counts the number of lines, words, bytes, or characters in a file.
- ln : It will create the link between files.

Text Editor Commands

- vi or vim: Text editor.
- nano : Another Test editor.

Text Reading/Display Commands

- echo : For display purpose we will use. Like System.out.print() method in Java.
- cat : Display the contents of a file
- head : Print the first 10 lines of each FILE to standard output.
- tail : It will display the last 10 rows.
- more :It is a filter for paging through text one screenful at a time (stop the display on each screen)
- less : less is the same except you can scroll back and forward.
- sort: It is used to sort the output in numeric or alphabetic order .
- tr: Translate characters
- sed: Stream editor.
- grep: which stands for "global regular expression print," processes text line by line and prints any lines which match a specified pattern.

System Resources Commands

- who : Displays the current users working on the system.
- w : Show who is logged on and what they are doing
- users : Displays a compact list of the users currently logged on the system.
- whoami : Display the current user info who gave this command
- whereis : Path/locate the binary, source, and manual page files for a command.
- date : Print or set the system date and time
- df : Report file system disk space usage
- du : Estimate file space usage.
- hostname : Show or set the system host name.
- ifconfig (OR) hostname -i (OR) ip a : To find the IP address.
- man : Display the on-line manual pages.
- info:
- help:
- whatis: The whatis command displays a summary line from the man page for the specified command in Linux.
- service : It will give the status of service.
- **systemctl list-unit-files:** It will list all services.
- uptime: Tells how long the system has been running.
- last: show listing of last logged in users.

Process Management Commands

- ps : Display the current process running.
- kill : Kill the process
- top : Display Linux tasks.
- sar: (System Activity Report): It is used to collect the CPU, Memory and I/O usage.

Archive/Data Backup Commands

- zip : Package and compress (archive) files
- unzip :Extract compressed files in a ZIP archive.
- tar : It is used to archive the directory/file.

User/Group Administration Commands

- useradd : Creates a new user account. ---> Only root user can execute this command
- passwd : Changes a user's password
- **Note: Old password is first requested then new password is requested twice for confimation**
- chage : It is used to see user related **"threshold details"** such as user disable time etc.
- groupadd : create a new group ---> Only root user can execute this command
- usermod : Changes user attributes. ---> Only root user can execute this command
- id : It is one more command which will show the user details such as his primary group and his secondary group.
- groups : Displays group membership. Means display the user belongs to which groups.
- lid: Display user's groups or group's users. → Only root user can execute.
- su : To switch user. To come out from the user press Ctrl+d, logout or exit.
- sudo : Execute a command as another user.
- userdel : Removes a user account. ---> Only root user can execute this command
- groupdel : Delete group. ---> Only root user can execute this command

Remote Access Commands

- ssh : Secure Shell
- scp : Secury Copy between servers.

Hardware Information Commands

- free: To find the amount of free and used RAM memory in the system.
- dmidecode -t 17 : It Give the RAM information like Type of RAM(SD RAM, DRAM or DDR2/3), Speed, Manufacture etc --> Root user can perform this command
- vmstat: I will gives the virtual memory statistics.

Communication Commands

- mail : Sends and receives mail.

Automating/Scheduling Tasks Commands

- Cron: **Cron** is a daemon that executes scheduled commands. Cron also reads /etc/crontab.

crontab: Crontab is the program used to install, deinstall or list the tables used to drive the cron daemon in Vixie Cron.

Crontab format:

# Minute	**Hour**	**Day of Month**	**Month**	**Day of Week**	**Command /Script**
# (0-59)	**(0-23)**	**(1-31)**	**(1-12 or Jan-Dec)**	**(0-6 or Sun-Sat)**	**/usr/bin/find**

***/1 * * * *** **/usr/bin/find** -→ Every one min, cronjob will trigger

Example:

*/1 * * * * /home/bhaskar/devops/lscmd.sh >> /home/bhaskar/lscmd.log 2>&1

Other Commands

- clear : Clears the terminal screen.
- cal : Displays a calendar
- wget : The non-interactive network downloader.
- tee: **:** It is command is used to store and view (both at the same time) the output of any other command.
- script : This command records your login session in a typescript in the current directory.
- ping: The **ping command** sends ICMP ECHO_REQUEST to network hosts.
- telnet:
- history : Displays the recently executed commands .
- uname:
- cat /etc/*releases
- netstat -tunlp:
- watch: Using watch command we can execute the command periodically.
- shutdown:
- restart:
- reboot:
- exit (OR) Ctrl +d (OR) logout :

Questions ?

Thank you

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