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Linux Commands

Revision History

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Contents

- Pre requisite softwares.
    1) Putty SSH tool.(http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html)
    2) WinSCP FTP tool (http://winscp.net/eng/download.php)
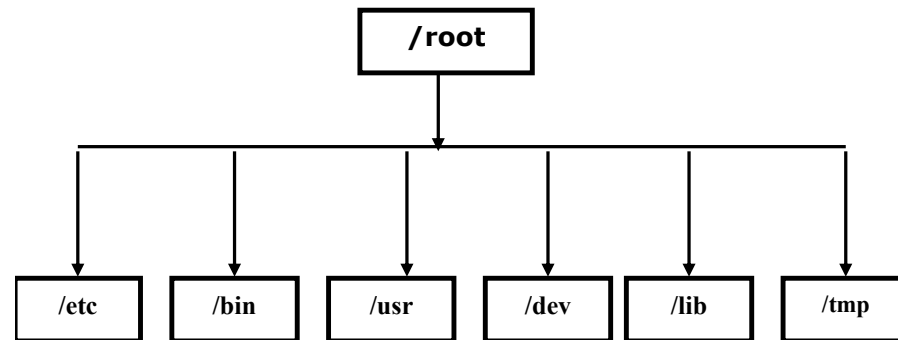
Introduction to Linux

- Linux File Structure
- Different types of commands

Introduction

- Linux started around 1991 by Linus Torlvads.
- Linux is an multi-user, multitasking Operating System.
- Linux is Open Source not like AIX or Unix.
- Linux is "case-sensitive" ls is different of LS.
- Supports the X-Window system as a GUI.

- Following are the Linux distributions.

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

Linux File Structure

```
                    ┌──────────┐
                    │  /root   │
                    └────┬─────┘
                         │
    ┌───────┬────────┬───┴────┬────────┬────────┐
    ▼       ▼        ▼        ▼        ▼        ▼
 ┌─────┐ ┌─────┐ ┌──────┐ ┌──────┐ ┌──────┐ ┌──────┐
 │/etc │ │/bin │ │ /usr │ │ /dev │ │ /lib │ │ /tmp │
 └─────┘ └─────┘ └──────┘ └──────┘ └──────┘ └──────┘
```

Linux file system is casesensitive.
Hidden files start with . (dot) extension.
dot (.) refers to current dir

Following are the directories in the Redhat OS.

/ called root directory.

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

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

Navigation and Directory Control Commands

- mkdir : Make or Create directory
- ls : List the directory contents.
- cd : Change directory
- cd : Return to user's home directory.
- pwd : Print working directory
- rmdir : Remove or Delete 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.
- locate: Using locate command you can quickly search for the location of a specific file (or group of files .
- 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.
- 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 do.**
- chgrp : It will changes the group ownership of a file or directory. --> root user can able to execute this command.
- cp : It will copy file contents of one file to another file.
- mv : It will move or rename the file.
- rm : It will remove a file or directory.
- 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
- gedit : Text editor for the GNOME Desktop

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 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.
- sed: Stream editor.
- awk:

System Resources Commands

- who : Displays the current users working on the system.
- w : Show who is logged on and what they are doing
- 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.
- man : Display the on-line manual pages.
- service : It will give the status of service.

Process Management Commands

- ps : Display the current process running.
- kill : Kill the process
- top : Display Linux tasks.

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.
- 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.
- users : Displays a compact list of the users currently logged on the system.
- groups : Displays group membership. Means display the user belongs to which groups.
- userdel : Removes a user account. ---> Only root user can execute this command
- groupdel : Delete group. ---> Only root user can execute this command
- lsuser ---> This command will work in AIX OS.
- finger : Finger displays the users login name, real name, terminal name, shell and write status, idle time, login time, office location and office phone number. ---> This command will work in AIX OS.

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
<u>**Example:**</u>
*/1 * * * * /home/bhaskar/devops/lscmd.sh >> /home/bhaskar/lscmd.log 2>&1

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

Remote Access Commands

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

Communication Commands

- write :Opens a line of communication to send messages to other users on the system in real time.
- wall : Writes a message to all users that are logged in.
- mesg : Permits or refuses write messages from other users.
- mail : Sends and receives mail.

Other Commands

- clear : Clears the terminal screen.
- exit (OR) Ctrl +d (OR) logout :
- banner :   (It will not work in Linux, it will work in AIX)
- 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.
- history : Displays the recently executed commands .