Linux Basic & Admin

Linux Admin Commands

Basics:

- # -- root user
- $ -- normal user

- #whoami – gives your login name

- #who

- #date – gives date in UTC format

- #pwd – print working dir

- #cal – displays current month with highlighting on today's date

- #cal 2017 – displays all months in 2017

- #cal may 2017 – displays 2017 may month

- #clear – for clearing console

- #hostname – to get hostname (short name)

- #hostname –f – to get fully hostname

- #hostname -i – for displaying ip address of instance

To get Memory details:

- #free –m   (RAM)
- #df   (HDD)
- #df –h (human readable format)
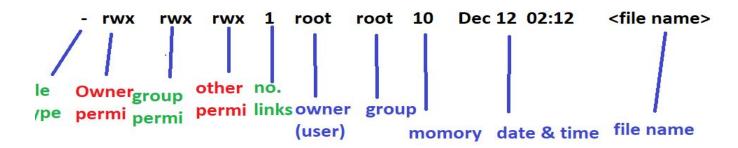- #df –m (file system in MB)
- #du – directory usage

Process Management

- #ps - shows all the process details
- #ps aux – lists all the process of all users
- #kill <process id> - to kill a process which is running
- #pkill <process name> - to kill a process by name
   #pkill java
   #pkill tomcat

<u>File Management:</u>

- #touch <file name> – to create a file ex : #touch demo.txt
- #ls – to list all files and dir
- #vi demo.txt – to open a file
- Press i – for insert mode to enter data
- :wq! – write and quite (close)
- #cat <filename> - to display content of file
- #ls -i – to list inode values of all files
- #ls -r – to list all files in reverse order
- #ls -t – to list by time of modification
- #ls -s – to list by sizes
- #cat <filename> > sample – to copy data to sample
- #cp <filename> sample   (cp will ask if file content is getting override)
- #cat <filename> >> sample – to append data in sample
- #cat sample – to show content in sample

- #ls -a – to list all hidden files

- #rm <filename>

- #ls -l – for displaying long list(all info about each file)

| - | rwx | rwx | rwx | 1 | root | root | 10 | Dec 12 02:12 | <file name> |

le /pe — File type
Owner permi — Owner permission
group permi — group permission
other permi — other permission
no. links — no. links
owner (user) — owner (user)
group — group
momory — memory
date & time — date & time
file name — file name

File Type
- -> Regular file(text, doc, image
d -> directory
l -> link file
s -> socket file
c -> char. special file
b -> Block special file

Permissions
r -> read permission
w -> write permission
e -> execute permission
- -> no permission

- #touch file{1..5} – for creating group of files at a time

To manage Directories

- #mkdir <dir name> -> creating directory
- #mkdir <dir name> <dir name> -> creating two directory at a time
- #mkdir <dir name>{1..5} –> creating five directory at a time
- #cp demo.txt <dir>/ -> to copy file from present to <dir>
- #cd <dir name> -> for changing directory
- #cd .. -> to move to parent directory
- #cd / -> to move to root directory
- #cd ~ -> to move to home directory
- #cd   -> to move to home directory
- #cd - -> to move to previous working directory
- #rmdir <dir> -> to delete empty directory (if you try to delete directory which is not empty, will throw error)
- #rm –rf <dir> -> to delete empty/non-empty directory
- #rm –rf * -> to delete all sub directories

Soft Link and Hard Link

Soft Link : "Shortcut" (different inode values)

#ln –s <filename> <slinkname>

#ls

#ls -i -> for listing different inode values

Hard Link : "replica" (maintains same inode values)

#ln <file name> <hlinkname>

#ls -is

#rm <filename>

#cat <slinkname> -> can't access data

#cat <hlinkname> -> can access data

- **chmod**

  different file permissions

read(r) – 4	r & w – 4 + 2 = 6
write(w) – 2	r & x – 4 + 1 = 5
execute(x) – 1	r,w & x – 4 + 2 + 1 = 7
no permi – 0	

syntax-1

  #chmod [permission] <file name>

Ex:

- #chmod 421 <file name>
- #chmod 536 <file name>
- #chmod 777 <file name>
- #chmod 000 <file name>

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- #chmod [who][+/-/=][permi] <filename>

who

u – user

g – group

o – others

+ - grant permission

- - revoke permission

= - grant a specific permission & revoke all other permissions

- #chmod u+r demo.txt -- giving read permission to demo.txt
- #chmod g=r demo.txt -- granting read permission and revoking all other permissions to demo.txt

User and Group Management

- #sudo su –
- #sudo -i   -- to switch to root user
- #cat /etc/passwd -- to list all users
- #cat /etc/group – to list all groups
- #groupadd <group name> -- to add a group
- #groupdel <group name> -- to delete a group
- #useradd <user name> -- to add a user #useradd raja
- #passwd <user name> -- to set a password   #passwd raja
- #userdel <user name> -- to delete a user
- #groups <user name> ----- shows <user name> : <group name>
- #groupmod –n <new name> <old name> -- to change group name
- #usermod –g <group name> <user name> -- to modify primary group for a user
- #members <group name>
- Id <user name>

To change ownership

#chown <username> <filename> -- to change owner

#chgrp <group name> <file name> -- to change group

#chown <username>:<groupname> <filename> -- to change owner & grp

File Compression & Extraction

File Compression methods   100MB

                GunZip   ----> ¼ size   25MB

                BunZip   ----> ⅛ size   12 MB

    File data : char, numbers, alphanumeric, binary, raw, duplicate

For Compression

    #tar -cf <name>.tar <name>.txt   (tar)

    #tar -czf <name>.tar.gz <name>   (gunzip)

    #tar -cjf <name>.tar.bz2 <name>

For Extraction

    #tar -xf <name>.tar

    #tar -xzf <name>.tar.gz

    #tar -xjf <name>.tar.bz2

HEAD

Syntax:
   #head [option] <file name>
 Ex:
  #head <file name>   ---> list first 10 lines
   #head -n 5 <file name> ---> list first 5 lines

TAIL

Syntax:
   #tail [option] <filename>
 Ex:
   #tail <file name>   ----> list last 10 lines
   #tail -n 3 <file name> ----> list last 3 lines
   #head -n 4 <file name> | tail -n 1 ----> list 4th line
   #head -n 4 <file name> | tail -n 2 ---> list 4 & 5 line

GREP

Syntax:

#grep [option] <string> <file name>

Ex:

#grep -e Hello demo.txt

#grep -e Hello -e Devops demo.txt

#grep -i Hello demo.txt   -----> ignore cases

#grep -l Hello *.txt   -----> list all files

#grep -v Hello demo.txt ----> other lines

PASTE

Syntax:

 #paste <file1> <file2>

Ex:

 #paste file1 file2

 #paste file1 file2 > file3

 #paste -d '$' file1 file2

 #echo '<content>' &>><file name>   ----- to append content at last

 #cat <file name 1> >> <file name 2> ---> copyes data from file1 and appends data into file2