

Linux Admin Commands

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Linux Commands

----> root user

\$ ---> normal user

#whoami ---> for curr. user

#who

#date

#pwd ---> print working dir

#cal

#cal 2017

#cal may 2016

#clear

to get Host (Server) Name:

#hostname (short hostname)

`#hostname -f` (fully qualified hostname)

to get IP Address:

#hostname -i (or)

#ip a (or)

#ifconfig

to get Memory details:

#free -m (RAM)

#df (HDD)

#df -h (Human Readable Format)

#df -m (File System in MB)

#du (dir usage)

process management:

#ps

#ps -ef

#ps -ef | grep 'java'

#ps -ef | grep 'mysql'

#top

to kill a process:

Syntax:

```
#kill <pid>
```

Ex:

```
#kill 1277
```

```
#kill -9 3456 (force kill)
```

to kill a process by Name:

Syntax:

```
#pkill <pname>
```

Ex:

```
#pkill java
```

```
#pkill tomcat
```

file Management:

#touch demo.txt ---> to create an empty file

#touch file{1..100}

#cat > demo.txt ---> to insert data

Hello world

good day

bye

[ctrl + d]

#cat demo.txt

#cat demo.txt > sample ---> to copy data

#cat devops >> sample ---> to append data

to List files:

#ls

#ls -i (to list inode values)

#ls -r (to list in reverse order)

#ls -t (to list by time of modify)

#ls -s (to list by size)

#ls -a (to list hidden files)

#ls -l (for long list)

#cp demo.txt sample --> to copy data

#rm demo.txt --> to remove files

#ls -l

-	rwx	rwx	rwx	1	root	root	38	Aug 19	02:04	Demo.txt
file type	owner permi.	group permi.	others perm.	no.of links	owner (or) user	group	size	modified date & time		file name

File type:

- --> Regular file(txt,images,docs...)
- d --> Directory
- l --> Link File
- s --> Socket File
- c --> Char. Special File
- b --> Block Special File

Permissions

- r --> Read permi.
- w --> Write permi.
- x --> Execute permi.
- > no. permission

to Manage directries:

```
#mkdir mydir  
#mkdir dir{1..100}  
#cp sample mydir/  
#cd mydir  
#cd ..    ---> to move to parent dir  
#cd /     ---> to move to root dir  
#cd ~     ---> to move to home dir  
#cd      ---> to move to home dir  
#cd -     ---> to move to previous working dir.  
#rmdir dir1  
#rm -rf mydir  
#rm -rf *
```

Hard Link and Soft Link

Soft Link: "shortcut"

```
#ln -s demo.txt Slink
```

```
#ls -i          ---> lists diff. inode values
```

Hard Link: "replica"

```
#ln demo.txt Hlink
```

```
#ls -i          ---> lists similar inode values
```

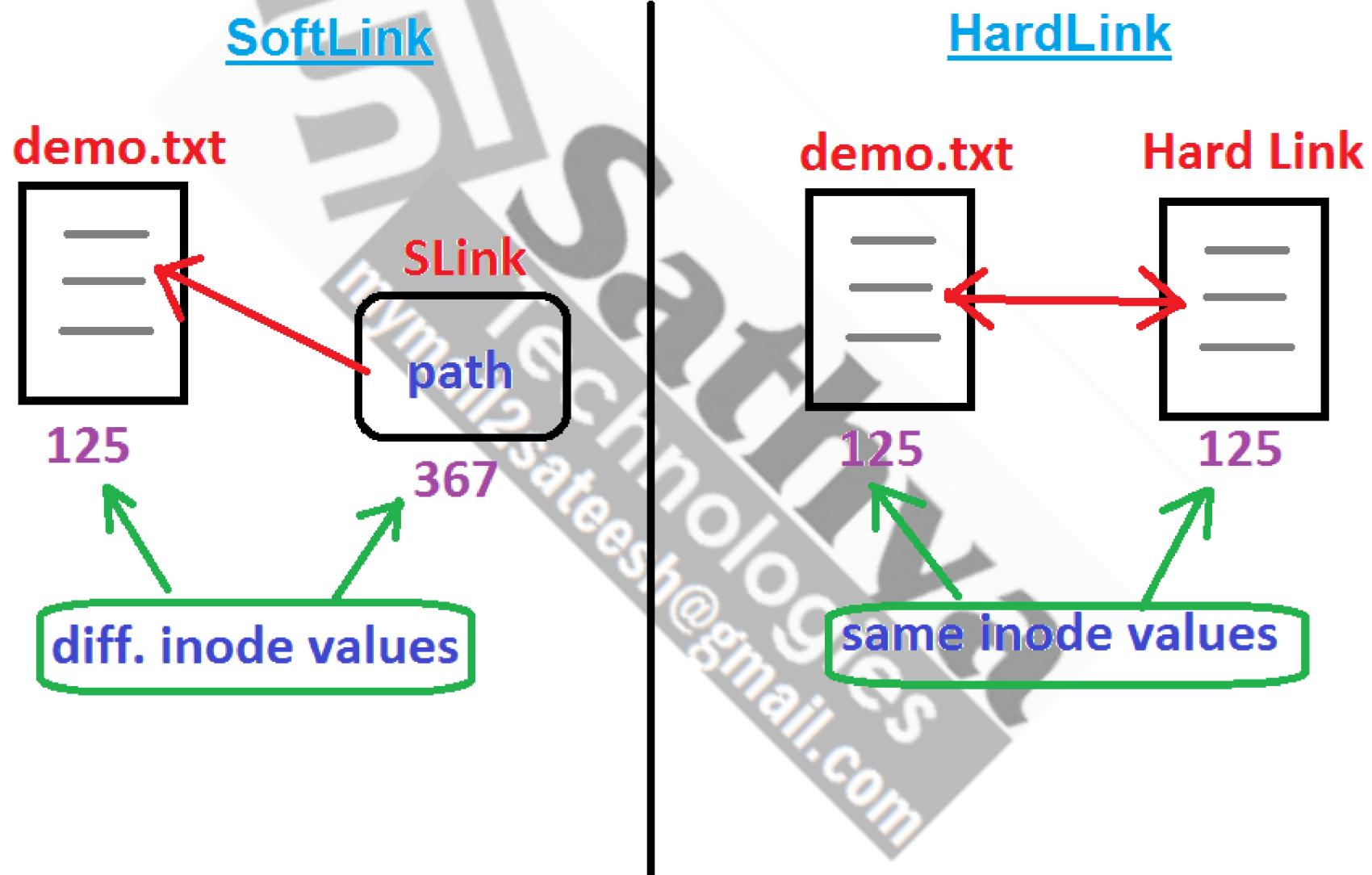
```
#cat demo.txt
```

```
#cat SLink
```

```
#rm demo.txt
```

```
#cat SLink  ---> can not access data from Slink
```

```
#cat HLink  ---> still it can access data
```



File security

chmod :

diff. file permissions ...

Read (r) ---> 4 r & w --> 4+2 = 6

Write (w) ---> 2 r & x --> 4+1 = 5

Execute (x)---> 1 w & x --> 2+1 = 3

No permi. ---> 0 r,w&x --> 7

Syntax-1:

#chmod [permission] <File Name>

Ex:

#chmod 421 demo.txt

#chmod 536 demo.txt

#chmod 777 demo.txt

#chmod 000 demo.txt

File security

Syntax-2 :

```
#chmod [who] [+/-/=] [permi] <File Name>
```

who

u ---> user (or) owner

g ---> group

o ---> others

+ ---> grant permi.

- ---> revoke permi.

= ---> grant a specific permi. and revoke other permi.

Ex:

```
#chmod u+r demo
```

```
#chmod g-w demo
```

```
#chmod o=x demo
```

User and Group Management

```
#sudo su -                                     → to switch root user  
#sudo -i                                     → to list all users  
#cat /etc/passwd                            → to list all groups  
#cat /etc/group                               → to create a Group:  
#groupadd sales                             → to create a User  
#useradd satish                            → to set passwd  
#useradd -g sales john  
#passwd satish  
  
Enter new passwd : satish  
#usermod -g sales satish → to modify primary group  
#usermod -G finance satish → to modify Secondary group  
#id satish  
#groupmod -n stock finance → to modify a group  
#userdel satish                         → to delete user:  
#groupdel sales                          → to delete group:
```

to change Ownership

#chown satish demo.txt ---> to chnage owner

#chgrp sales demo.txt ---> to chnage group

#chown satish:satish demo.txt

---> to chnage owner & group

#chown -R satish:satish mydir

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 case
```

```
#grep -l HELLO *.txt ---> list files
```

```
#grep -v HELLO demo.txt ---> other lines
```

Cut

Syntax:

```
#cut [option] <File Name>
```

Ex:

```
#cut -f 1 emp.txt ---> list 1st column
```

```
#cut -f 1,3 emp.txt ---> list 1,3 columns
```

```
#cut -f 2 -d '#' emp.txt ---> list '#' columns
```

Paste

Syntax:

```
#paste <File1> <File2>
```

Ex:

```
# cut -f 2 -d '#' emp.txt > file1
```

```
# cut -f 4 -d '#' emp.txt > file2
```

```
# paste file1 file2
```

```
# paste file1 file2 > file3
```

```
# paste -d '$' file1 file2
```

FIND

Syntax:

```
#find [dir] [option] <File Name>
```

Ex:

```
#find . -name demo    ---> to search in curr. Dir
```

```
#find ~ -name demo    ---> to search in home dir
```

```
#find / -name demo    ---> to search in root dir
```

```
#find . -iname demo ---> to search a file by ignore case
```

```
#find / -atime -1     ---> the file which is modified on today
```

```
#find / -atime 1      ---> the file which is modified on on day  
                           before (yesterday)
```

```
#find / -atime +30    ----> lists files which were modified on  
                           30 days before...
```

```
#find / -atime +30 | rm -rf
```

```
#find / -size +100M
```

vi (or) vim

Syntax:

```
#vi <file Name>
```

Ex:

```
#vi sample.txt
```

[press 'i' for insert mode]

```
hello world
```

```
good day
```

```
bye
```

[press 'Esc' for Esc mode]

```
:wq ----> write and Quit
```

```
:w ----> write and continue
```

```
:q ----> to quit
```

```
:q! ----> quit without saving
```

```
:wq! ----> write and Quit forcefully
```

vi (or) vim

yy ---> copy a line (or) Yanking

p ---> paste after the current line

P ---> paste to before a current line

u ---> undo

dd ---> to delete a line (or) cut the line

to Search a Word: / <word>

Ex:

/ hello

n --> to search a Next word

N --> to search a Previous word

:15 --> cursor will moves to 15th line

:11s/games/SATHYA ---> one word will replace in 11th line

:11s/games/SATHYA/g ---> all words will replace in 11th line

:%s/sbin/HELLO/g ---> all word will replace in all lines

#sed : "stream editor"

Syntax:

\$sed [option] filename

Ex:

\$sed -n '1p' emp.txt ----> prints Line 1

\$sed -n '1,3p' emp.txt ----> prints Line 1,2,3

\$sed -n '1~2p' emp.txt ----> prints Line 1,3,5,7

\$sed '2d' emp.txt ----> Delete line 2

\$sed -n '/CLERK/p' emp.txt
----> to print the Clerks details

\$sed -i -e 's/CLERK/DBA/g' emp.txt
----> to replace the Clerks details with DBA

\$sed -i -e 's/CLERK//g' emp.txt
----> to remove a word

#awk : → Field Processor

\$0 --> all the fields

\$1 , \$2, .. ---> the specific fields (columns)

- * operators (arith , logical, relational..)
- * i/o statements (print, printf)
- * format specifiers (%d , %c , %f , %s ..)
- * Escape Sequences (\n , \t , \b , ...)
- * flow controls (if , else ,..)

#awk :

Ex:

#awk '{print \$0 }' emp.txt ---> lists all fileds

#awk '{print \$1 \$3 }' emp.txt ---> lists 1,3 fileds

#awk '/CLERK/{print}' emp.txt ---> lists 1,3 fileds

**#awk ' {printf("\n %7s %6d %7.2f",
\$2,\$4,\$4*0.5)}' emp.txt**

#awk '{if(\$4>4000) print}' emp.txt

To get Memokry Usage:

```
# apt-get install sysstat
```

```
# sar -r 1 1 | grep 'Average' | awk '{print $4}'  
[OR]
```

```
# sar -r 1 1 | awk /Average/'{print $4}'
```

To get Average CPU Usage:

```
# sar 2 5 | grep 'Average' | awk  
'{printf("%f",$3+$5)}'  
[OR]
```

```
# sar 1 1 | awk /Average/'{print $5}'
```