Lab 2: Using Basic Linux Commands

Learning outcome

Upon successful completion of this lab, you will be able
- How to use command line in Fedora
- To study some useful commands in Fedora
- To manage files in Fedora

Submission

Upload the word file to cms describes some requirements:
- Present the content of manipulating of some commands **(including syntax, what does it for?, examples)** as
  - su
  - env
  - mkdir, cp, mv, rmdir, ln, cat, rm
  - chown, chgrp, chmod
  - find
  - ds, df
  - ps, top, kill, jobs
- Capture the terminal screen using the "ls –al" to view all the files that are done at tutorial in File manage.
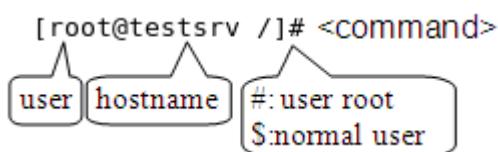
Tutorial

Content

1- Using command line in Linux
2- File managemant

1- Using command line in Linux (shell script)

- *Command prompt structure:*

- *Command line syntax:*   *<command> [options] [arguments]*


- o **command**: command calls the system executing required task (**do what?**)
- o **options**: specifies the characteristics of the task (**do how?**)
- o **arguments**: the location that the command is executed (**on what?**)
- o Ex: ls –al /root (**list** *all the content* of the **root** directory)

```
Console - Cooperative Linux - [To Exit, Press Window+Alt Keys]
[root@localhost ~]# ls -al /root
total 84
drwxr-x---   9 root root 4096 2009-02-17 02:41 .
drwxr-xr-x  21 root root 4096 2009-07-11 23:54 ..
-rw-------   1 root root  776 2007-06-08 22:47 anaconda-ks.cfg
-rw-------   1 root root   29 2009-02-17 02:41 .bash_history
-rw-r--r--   1 root root   24 2006-07-12 20:06 .bash_logout
-rw-r--r--   1 root root  191 2006-07-12 20:06 .bash_profile
-rw-r--r--   1 root root  176 2006-07-12 20:06 .bashrc
-rw-r--r--   1 root root  100 2006-07-12 20:06 .cshrc
drwx------   3 root root 4096 2008-08-27 02:44 .dbus
-rw-------   1 root root   27 2008-08-26 20:33 .dmrc
-rwxrwxrwx   1 root root 1802 2008-08-27 03:01 fix.sh
drwx------   3 root root 4096 2008-08-27 03:41 .gconf
drwx------   2 root root 4096 2008-08-27 03:42 .gconfd
drwx------   3 root root 4096 2007-06-09 10:15 .gnome2
drwx------   2 root root 4096 2007-06-09 10:15 .gnome2_private
-rw-------   1 root root   35 2007-07-18 21:29 .lesshst
drwx------   2 root root 4096 2007-06-09 13:13 .ssh
-rw-r--r--   1 root root  129 2006-07-12 20:06 .tcshrc
drwxrwxrwx   2 root root 4096 2008-08-27 02:39 .vnc
-rw-------   1 root root    0 2008-08-27 03:42 .Xauthority
-rwxr-xr-x   1 root root 1010 2008-08-27 06:23 .Xclients
-rw-r--r--   1 root root    0 2008-08-26 20:33 .xsession-errors
[root@localhost ~]#
```
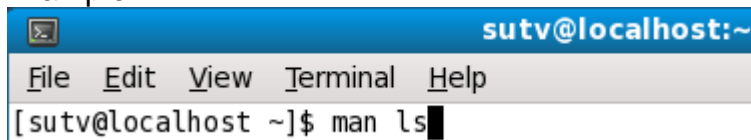
- • *Where are basic commands stored?*
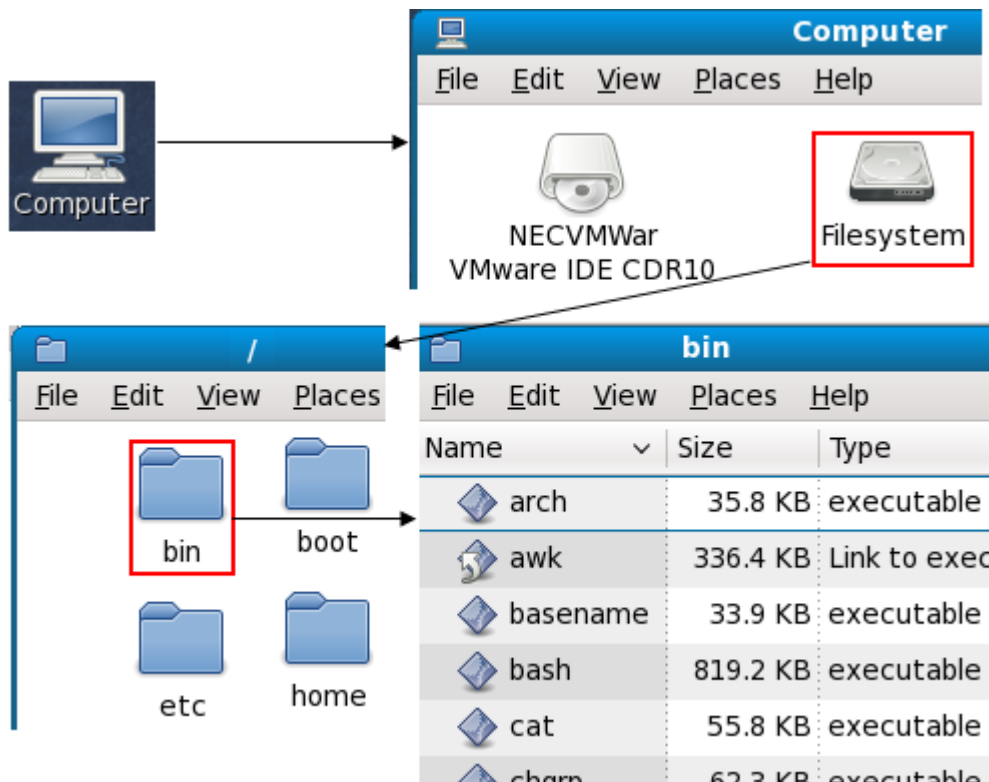
- • *How to get command syntaxes*

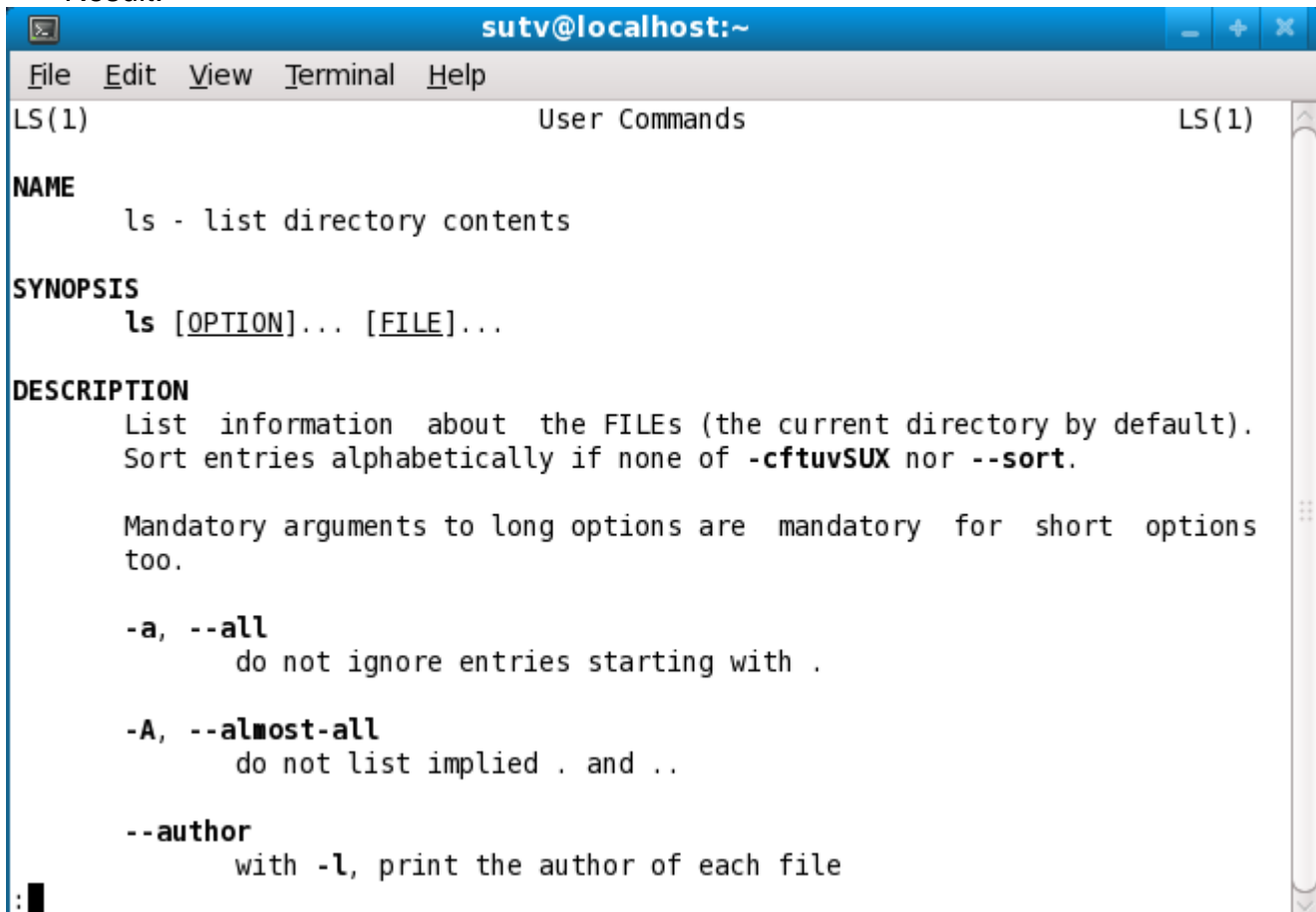The **man** (means manual) will present the syntax of a command.

Syntax: **man <command>**

Example:


```
[sutv@localhost ~]$ man ls
```

Result:


```
LS(1)                        User Commands                        LS(1)

NAME
       ls - list directory contents

SYNOPSIS
       ls [OPTION]... [FILE]...

DESCRIPTION
       List  information  about  the FILEs (the current directory by default).
       Sort entries alphabetically if none of -cftuvSUX nor --sort.

       Mandatory arguments to long options are  mandatory  for  short  options
       too.

       -a, --all
             do not ignore entries starting with .

       -A, --almost-all
             do not list implied . and ..

       --author
             with -l, print the author of each file
:
```

- Execute the man command to explore the following commands and write down their functional operations and their parameters (*this is a part of your report that will be submitted to CMS*) :
  - su
  - env
  - mkdir, cp, mv, rmdir, ln, cat, rm
  - chown, chgrp, chmod
  - find
  - ds, df
  - ps, top, kill, jobs

2- File management

Operation	On directories	On files	On commands
Create	**mkdir**	Echo	
Remove/ Delete	**rm** **rmdir** (empty directory)	**rm**	
Rename			
View it's content	**ls** or **ll**	**cat, more, less, tail**	
View content as a tree	**tree**		
Copy	**cp**	**cp**	
Move	**mv**	**mv**	
Rename	**mv**	**mv**	
Change to a directory	**cd**		
View current directory	**pwd**		
Search file		**find**	
Search a string in a file		**grep**	
Search location, source, man page of a command			**whereis**
Search the directory that contain a command			**which**
Zip	**tar**	**tar/ gzip/ zip**	
Unzip		**gunzip/ unzip/ tar**	

Some basic commands

EXAMPLES

- ## Create a directory: *mkdir*

  o Create the following directory tree:

```
/ (root directory)
---hdh
      |--- unix
      |        |--- linux
      |        |--- freebsd
      |        |--- openbsd
      |
      |--- windows
               |--- 98
               |--- 2000
               |--- 2003
```

```
[root@testsrv /]# mkdir /hdh
[root@testsrv /]# mkdir /hdh/unix
[root@testsrv /]# mkdir /hdh/unix/linux
[root@testsrv /]# mkdir /hdh/unix/freebsd
[root@testsrv /]# mkdir /hdh/unix/openbsd
[root@testsrv /]# mkdir /hdh/windows
[root@testsrv /]# mkdir /hdh/windows/98
[root@testsrv /]# mkdir /hdh/windows/2000
[root@testsrv /]# mkdir /hdh/windows/2003
```

- **View the directory or file: *ls* or *ll***

  o View the hdh directory:

  ```
  [root@testsrv /]# ls -l /hdh
  total 16
  drwxr-xr-x 5 root root 4096 Jan 27 08:16 unix
  drwxr-xr-x 5 root root 4096 Jan 27 08:16 windows
  ```

  o View the unix directory:

  ```
  [root@testsrv /]# ls -l /hdh/unix/
  total 24
  drwxr-xr-x 2 root root 4096 Jan 27 08:16 freebsd
  drwxr-xr-x 2 root root 4096 Jan 27 08:15 linux
  drwxr-xr-x 2 root root 4096 Jan 27 08:16 openbsd
  ```

  o View the windows directory:

  ```
  [root@testsrv /]# ls -l /hdh/windows
  total 24
  drwxr-xr-x 2 root root 4096 Jan 27 08:16 2000
  drwxr-xr-x 2 root root 4096 Jan 27 08:16 2003
  drwxr-xr-x 2 root root 4096 Jan 27 08:16 98
  ```

- **Create a file: there are many ways to create a file**

  o Create the file with name thoca.txt with contents "Cong cha nhu nui thai son" located at 98 directory:

  ```
  [root@testsrv /]# echo "Cong cha nhu nui thai son" > /hdh/windows/98/thoca.txt
  ```

  o Adding the "Nghia me nhu nuoc trng nguon chay ra" sentence into thoca.txt:

  ```
  [root@testsrv /]# echo "Nghia me nhu nuoc trong nguon chay ra" >> /hdh/windows/98/thoca.txt
  ```

  o Create the empty file:

  ```
  [root@testsrv /]# touch /text1.txt
  ```

- **View the file content:** using any command as *cat*, *more,less, tail,*…
  - View the thoca.txt file:

```
[root@testsrv /]# cat /hdh/windows/98/thoca.txt
Cong cha nhu nui thai son
Nghia me nhu nuoc trong nguon chay ra
```

  - View the /etc/passwd and /etc/group file:

```
[root@testsrv /]# cat /etc/passwd /etc/group
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
……………..
```

- **Copy a file/ directory:** *cp*

  - Copy the thoca.txt file to the linux directory:

```
[root@testsrv /]# cp /hdh/windows/98/thoca.txt /hdh/unix/linux/
```

  - Copy the windows directory to linux directory:

```
[root@testsrv /]# cp (-R) /hdh/windows /hdh/unix/linux/
```

  - View the linux directory:

```
[root@testsrv /]# ls -l /hdh/unix/linux/
total 16
-rw-r--r-- 1 root root   64 Jan 27 08:42 thoca.txt
drwxr-xr-x 5 root root 4096 Jan 27 08:43 windows
```

Notes: The "?" or "" characters can be used as wild characters in copying:*

```
[root@testsrv /]# cp /var/log/mail* /maillog/
```

- **Move objects:** *mv*
  - Move the thoca.txt file in the linux library to the openbsd library:

```
[root@testsrv /]# mv /hdh/unix/linux/thoca.txt /hdh/unix/openbsd/
```

  - Move the windows directory to penbsd directory:

```
[root@testsrv /]# mv  /hdh/unix/linux/windows/ /hdh/unix/openbsd/
```

- **Rename:** *mv*
  - Rename the windows directory in the openbsd directory to wins:

```
[root@testsrv /]# mv /hdh/unix/openbsd/windows/ /hdh/unix/openbsd/wins
```

    o View the openbsd directory:

```
[root@testsrv /]# ls -l /hdh/unix/openbsd/
total 16
-rw-r--r-- 1 root root   64 Jan 27 08:42 thoca.txt
drwxr-xr-x 5 root root 4096 Jan 27 08:43 wins
```

    o Copy the thoca.txt directory in the openbsd directory to the freebsd directory and rename to baitho.doc

```
[root@testsrv /]# cp /hdh/unix/openbsd/thoca.txt /hdh/unix/freebsd/baitho.doc
```

    o View the baitho.doc file:

```
[root@testsrv /]# more /hdh/unix/freebsd/baitho.doc
Cong cha nhu nui thai son
Nghia me nhu nuoc trong nguon chay ra
```

- **Delete a file: *rm***
  - o Delete the thoca.txt file in openbsd directory:

```
[root@testsrv /]# rm /hdh/unix/openbsd/thoca.txt
rm: remove regular file `/hdh/unix/openbsd/thoca.txt'? y
```

    If wanting to delete without asking before, the option (–f) is used

```
[root@testsrv /]# rm -f /hdh/unix/freebsd/baitho.doc
```

    o To delete the directory, the option (-rf) is used

```
[root@testsrv /]# rm -rf /hdh/unix/openbsd/wins/
```

- **Delete the empty directory: *rmdir***
  - o Delete the 2000 directory:

```
[root@testsrv /]# rmdir /hdh/windows/2000/
```

- **Change to the directory: *cd***
  - o Change the current directory to the 2003 directory:

```
[root@testsrv /]# cd /hdh/windows/2003/
[root@testsrv 2003]#
```

    o Change the current directory to sub directory: cd ..

```
[root@testsrv 2003]# cd ..
[root@testsrv windows]#
```

o Change to the root directory: cd /

```
[root@testsrv windows]# cd /
[root@testsrv /]#
```

- **View the current directory: *pwd***

```
[root@testsrv /]# pwd
/
[root@testsrv /]# cd /hdh/windows/2003/
[root@testsrv 2003]# pwd
/hdh/windows/2003
```

- **Searching: *find, grep, whereis, which***

    o Search the thoca.txt file:

```
[root@testsrv 2003]# find /hdh -name thoca.txt
/hdh/windows/98/thoca.txt
```

   Using the wild character

```
[root@testsrv 2003]# find /hdh -name thoca.*
/hdh/windows/98/thoca.txt
```

   The other options can be used as: -type, -user, -atime, -amin, -newer,…

    o Search the "Cong cha nhu nui thai son" sentences in the thoca.txt file

```
[root@testsrv 2003]# grep "Cong cha nhu nui thai son" /hdh/windows/98/thoca.txt
Cong cha nhu nui thai son
```

    o Search the location, source and man page of the grep command:

```
[root@testsrv 2003]# whereis grep
grep: /bin/grep /usr/share/man/man1/grep.1.gz /usr/share/man/man1p/grep.1p.gz
```

    o Search the directory that contain the ls command:

```
[root@testsrv 2003]# which ls
alias ls='ls --color=tty'
        /bin/ls
```

- **Zip or unzip: *gzip/ gunzip, zip/unzip, tar***

    o Using ***gzip/gunzip***:
        ▪ Zip the thoca.txt file:

```
[root@testsrv 2003]# gzip /hdh/windows/98/thoca.txt
[root@testsrv 2003]# ls -l /hdh/windows/98/
total 8
-rw-r--r-- 1 root root 85 Jan 27 08:34 thoca.txt.gz
```

- Unzip:

```
[root@testsrv 2003]# gunzip /hdh/windows/98/thoca.txt.gz
[root@testsrv 2003]# ls -l /hdh/windows/98/
total 8
-rw-r--r-- 1 root root 64 Jan 27 08:34 thoca.txt
```

- Using **tar**
  - Zip the thoca.txt file to the .tar extension:

```
[root@testsrv 98]# tar -cvf thoca.tar thoca.txt
thoca.txt
```

Checking

```
[root@testsrv 98]# ls -l
total 32
drwxr-xr-x 2 root root  4096 Jan 27 09:49 backup
-rw-r--r-- 1 root root 10240 Jan 27 09:50 thoca.tar
-rw-r--r-- 1 root root    64 Jan 27 08:34 thoca.txt
```

- Zip the thoca.txt file to the .tar.gz extension:

```
[root@testsrv 98]# tar -zcvf thoca.tar.gz thoca.txt
thoca.txt
```

Checking

```
[root@testsrv 98]# ls -l
total 40
drwxr-xr-x 2 root root  4096 Jan 27 09:49 backup
-rw-r--r-- 1 root root 10240 Jan 27 09:50 thoca.tar
-rw-r--r-- 1 root root   167 Jan 27 09:50 thoca.tar.gz
-rw-r--r-- 1 root root    64 Jan 27 08:34 thoca.txt
```

- Unzip .tar

```
[root@testsrv 98]# tar -xvf thoca.tar -C /hdh/windows/98/backup/
thoca.txt
```

Checking

```
[root@testsrv 98]# ls -l /hdh/windows/98/backup/
total 8
-rw-r--r-- 1 root root 64 Jan 27 08:34 thoca.txt
```

- Unzip .tar.gz

```
[root@testsrv 98]# tar -zxvf thoca.tar.gz -C /hdh/windows/98/backup/
thoca.txt
```

END