

ĐẠI HỌC QUỐC GIA THÀNH PHỐ HỒ CHÍ MINH TRƯỜNG ĐẠI HỌC CÔNG NGHỆ THÔNG TIN



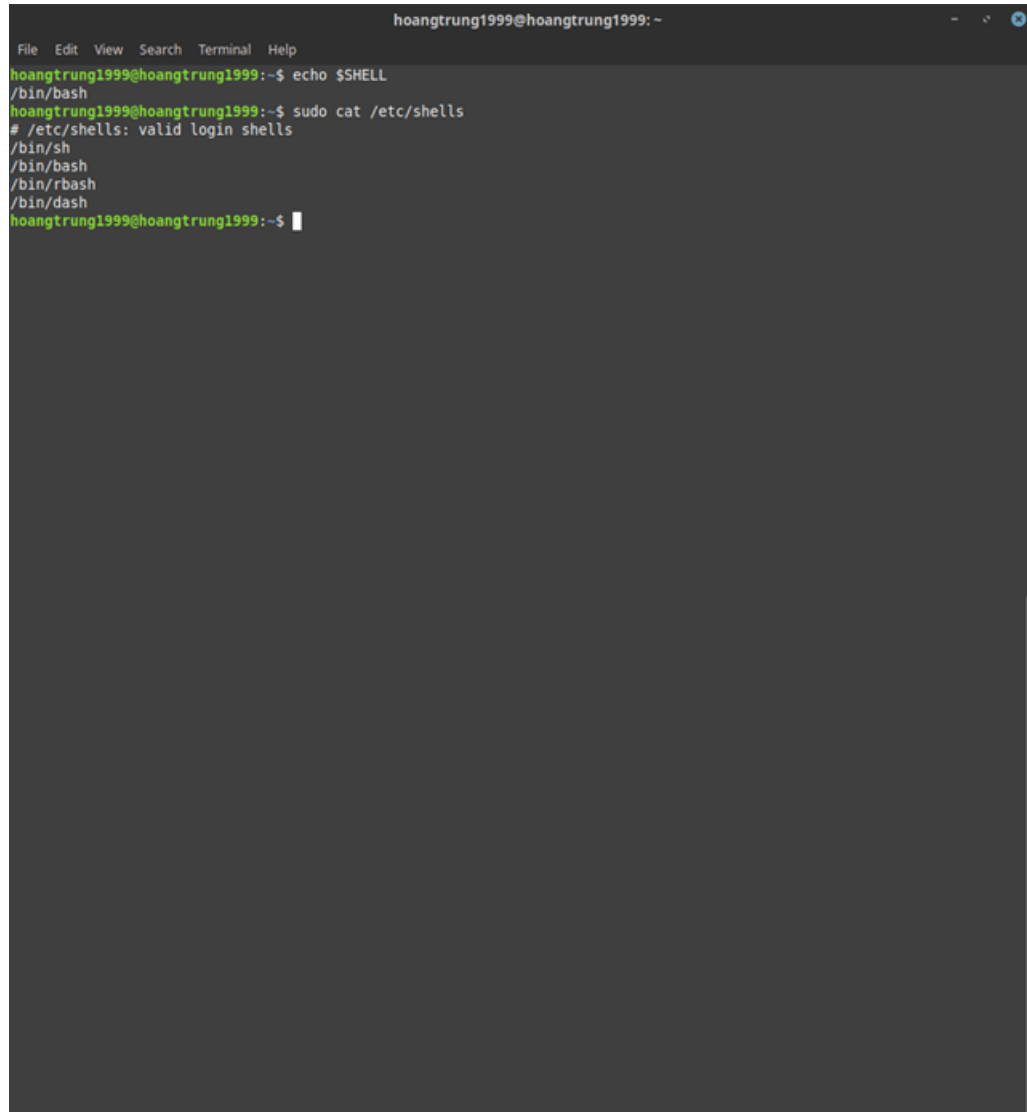
UIT
TRƯỜNG ĐẠI HỌC
CÔNG NGHỆ THÔNG TIN

Bài Thực Hành 1 Môn: Hệ Điều Hành

Giáo viên hướng dẫn: Tạ Thu Thủy
Sinh viên thực hiện: Nguyễn Hoàng Trung
MSSV 17521176

1) Thực hành các lệnh cơ bản của Shell Linux	2
2) Định nghĩa Shells.....	2
3) Lệnh -ls	3
4) Lệnh cd	4
4.1 Đường dẫn tuyệt đối.....	4
4.2 Đường dẫn tương đối	4
5) Lệnh pwd	4
6) Lệnh Touch	4
7) Lệnh vi.....	5
7.1 Tìm từ.....	5
8) Lệnh nano	6
9) Lệnh -mkdir	6
10) Lệnh CHMOD.....	7
11) Lệnh RM	7
12) Lệnh cp.....	8
13) Lệnh mv	8
14) Lệnh Echo	9
15) Lệnh cat.....	9
16) Quản lý user	9
17) Các lệnh về network.....	10
18) Lệnh man.....	11

- 1) Thực hành các lệnh cơ bản của Shell Linux
- 2) Định nghĩa Shells



```
hoangtrung1999@hoangtrung1999: ~  
File Edit View Search Terminal Help  
hoangtrung1999@hoangtrung1999:~$ echo $SHELL  
/bin/bash  
hoangtrung1999@hoangtrung1999:~$ sudo cat /etc/shells  
# /etc/shells: valid login shells  
/bin/sh  
/bin/bash  
/bin/rbash  
/bin/dash  
hoangtrung1999@hoangtrung1999:~$
```

Liệt kê tất cả các loại shell có thể có trong hệ thống.

3) Lệnh -ls

```
hoangtrung1999@hoangtrung1999: ~  
File Edit View Search Terminal Help  
hoangtrung1999@hoangtrung1999:~$ ls  
Desktop Documents Downloads Music Pictures Public Templates Videos  
hoangtrung1999@hoangtrung1999:~$ ls -laht  
total 164K  
-rw-r--r-- 1 hoangtrung1999 hoangtrung1999 10K Mar 22 13:32 .xsession-errors  
-rw-r--r-- 1 hoangtrung1999 hoangtrung1999 501 Mar 22 13:31 .bash_history  
drwxr-xr-x 17 hoangtrung1999 hoangtrung1999 4,0K Mar 22 13:24 .config  
drwxr-xr-x 23 hoangtrung1999 hoangtrung1999 4,0K Mar 22 13:22 .  
-rw-r--r-- 1 hoangtrung1999 hoangtrung1999 3,8K Mar 22 13:22 .ICEauthority  
-rw-r--r-- 1 hoangtrung1999 hoangtrung1999 59 Mar 22 13:22 .Xauthority  
-rw-r--r-- 1 hoangtrung1999 hoangtrung1999 9,1K Mar 22 13:15 .xsession-errors.old  
-rw-rw-r-- 1 hoangtrung1999 hoangtrung1999 630 Feb 27 21:04 .nvidia-settings-rc  
drwxr-xr-x 2 hoangtrung1999 hoangtrung1999 4,0K Feb 26 19:53 .gconf  
drwxr-xr-x 2 hoangtrung1999 hoangtrung1999 4,0K Feb 26 19:53 Desktop  
drwxr-xr-x 2 hoangtrung1999 hoangtrung1999 4,0K Feb 26 19:53 Documents  
drwxr-xr-x 2 hoangtrung1999 hoangtrung1999 4,0K Feb 26 19:53 Downloads  
drwxr-xr-x 2 hoangtrung1999 hoangtrung1999 4,0K Feb 26 19:53 Music  
drwxr-xr-x 2 hoangtrung1999 hoangtrung1999 4,0K Feb 26 19:53 Pictures  
drwxr-xr-x 2 hoangtrung1999 hoangtrung1999 4,0K Feb 26 19:53 Public  
drwxr-xr-x 2 hoangtrung1999 hoangtrung1999 4,0K Feb 26 19:53 Templates  
drwxr-xr-x 2 hoangtrung1999 hoangtrung1999 4,0K Feb 26 19:53 Videos  
drwxr-xr-x 3 hoangtrung1999 hoangtrung1999 4,0K Feb 26 19:53 .local  
drwxr-xr-x 3 hoangtrung1999 hoangtrung1999 4,0K Feb 26 19:53 .gnupg  
-rw-r--r-- 1 hoangtrung1999 hoangtrung1999 27 Feb 26 19:53 .dmrc  
drwxr-xr-x 3 root root 4,0K Feb 26 13:38 .dbus  
drwxr-xr-x 3 hoangtrung1999 hoangtrung1999 4,0K Feb 26 13:28 .nv  
drwxr-xr-x 17 hoangtrung1999 hoangtrung1999 4,0K Feb 26 13:28 .cache  
-rw-rw-r-- 1 hoangtrung1999 hoangtrung1999 131 Feb 26 13:24 .xinputrc  
-rw-rw-r-- 1 hoangtrung1999 hoangtrung1999 171 Feb 26 13:19 .wget-hsts  
-rw-r--r-- 1 hoangtrung1999 hoangtrung1999 0 Feb 26 13:11 .sudo_as_admin_successful  
drwxr-xr-x 3 hoangtrung1999 hoangtrung1999 4,0K Feb 26 13:07 .pki  
drwxrwxr-x 3 hoangtrung1999 hoangtrung1999 4,0K Feb 26 13:05 .icons  
drwxrwxr-x 4 hoangtrung1999 hoangtrung1999 4,0K Feb 26 13:04 .cinnamon  
drwxrwxr-x 2 hoangtrung1999 hoangtrung1999 4,0K Feb 26 13:04 .themes  
drwxr-xr-x 5 hoangtrung1999 hoangtrung1999 4,0K Feb 26 13:00 .mozilla  
drwxrwxr-x 3 hoangtrung1999 hoangtrung1999 4,0K Feb 26 12:59 .linuxmint  
-rw-r--r-- 1 hoangtrung1999 hoangtrung1999 3,7K Feb 26 11:05 .bashrc  
-rw-r--r-- 1 hoangtrung1999 hoangtrung1999 22 Feb 26 11:05 .gtkrc-2.0  
-rw-r--r-- 1 hoangtrung1999 hoangtrung1999 516 Feb 26 11:05 .gtkrc-xfce  
-rw-r--r-- 1 hoangtrung1999 hoangtrung1999 807 Feb 26 11:05 .profile  
-rw-r--r-- 1 hoangtrung1999 hoangtrung1999 220 Feb 26 11:05 .bash_logout  
drwxr-xr-x 3 root root 4,0K Feb 26 11:05 ..  
hoangtrung1999@hoangtrung1999:~$ ls -laht /usr/local  
total 40K  
drwxr-xr-x 2 root root 4,0K Feb 26 13:14 bin  
lrwxrwxrwx 1 root root 9 Feb 26 11:03 man -> share/man  
drwxr-xr-x 8 root root 4,0K Dec 17 20:40 share  
drwxr-xr-x 4 root root 4,0K Dec 17 20:22 lib  
drwxr-xr-x 10 root root 4,0K Dec 17 20:16 .  
drwxr-xr-x 2 root root 4,0K Dec 17 20:16 etc  
drwxr-xr-x 2 root root 4,0K Dec 17 20:16 games  
drwxr-xr-x 2 root root 4,0K Dec 17 20:16 include  
drwxr-xr-x 2 root root 4,0K Dec 17 20:16 sbin  
drwxr-xr-x 2 root root 4,0K Dec 17 20:16 src  
drwxr-xr-x 10 root root 4,0K Dec 17 20:16 ..  
hoangtrung1999@hoangtrung1999:~$  
hoangtrung1999@hoangtrung1999:~$
```

Hình ảnh minh họa thực hiện lệnh -ls

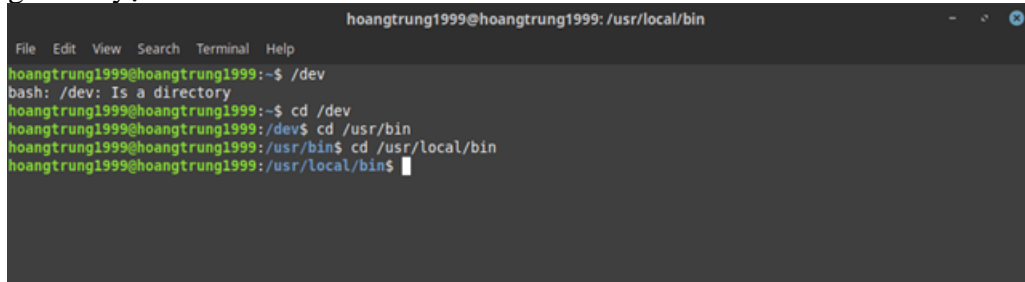
4) Lệnh cd



```
hoangtrung1999@hoangtrung1999: ~  
File Edit View Search Terminal Help  
hoangtrung1999@hoangtrung1999:~$ cd /usr/local/lib/  
hoangtrung1999@hoangtrung1999:/usr/local/lib$ cd /home/hoangtrung1999/  
hoangtrung1999@hoangtrung1999:~$ cd ..  
hoangtrung1999@hoangtrung1999:/home$ cd ../../..  
hoangtrung1999@hoangtrung1999:/$ cd ../home/hoangtrung1999/  
hoangtrung1999@hoangtrung1999:~$
```

Hình ảnh minh họa thực hiện lệnh -cd

4.1 Đường dẫn tuyệt đối



```
hoangtrung1999@hoangtrung1999: /usr/local/bin  
File Edit View Search Terminal Help  
hoangtrung1999@hoangtrung1999:~$ /dev  
bash: /dev: Is a directory  
hoangtrung1999@hoangtrung1999:~$ cd /dev  
hoangtrung1999@hoangtrung1999:/dev$ cd /usr/bin  
hoangtrung1999@hoangtrung1999:/usr/bin$ cd /usr/local/bin  
hoangtrung1999@hoangtrung1999:/usr/local/bin$
```

Hình ảnh minh họa thực hiện lệnh -cd với đường dẫn tuyệt đối

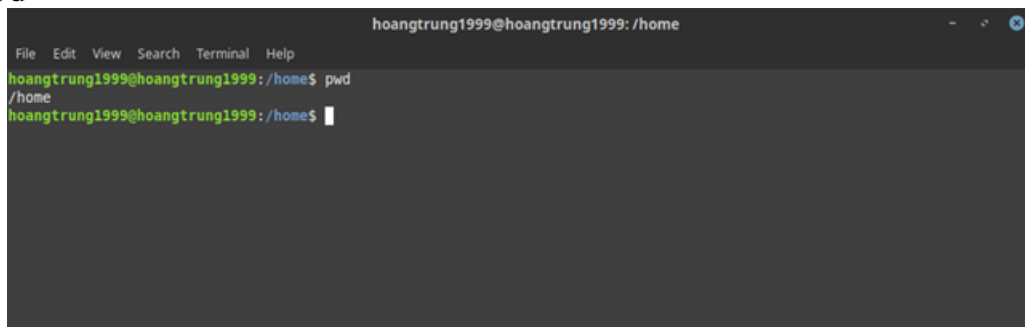
4.2 Đường dẫn tương đối



```
hoangtrung1999@hoangtrung1999: /usr/local/bin  
File Edit View Search Terminal Help  
hoangtrung1999@hoangtrung1999:/home$ cd /usr  
hoangtrung1999@hoangtrung1999:/usr$ cd local/bin  
hoangtrung1999@hoangtrung1999:/usr/local/bin$
```

Hình ảnh minh họa thực hiện lệnh -cd với đường dẫn tương đối

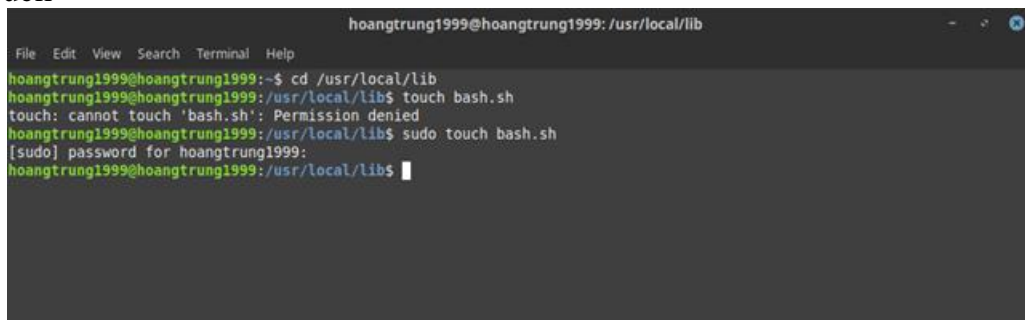
5) Lệnh pwd



```
hoangtrung1999@hoangtrung1999: /home  
File Edit View Search Terminal Help  
hoangtrung1999@hoangtrung1999:/home$ pwd  
/home  
hoangtrung1999@hoangtrung1999:/home$
```

Hình ảnh minh họa thực hiện lệnh -pwd

6) Lệnh Touch

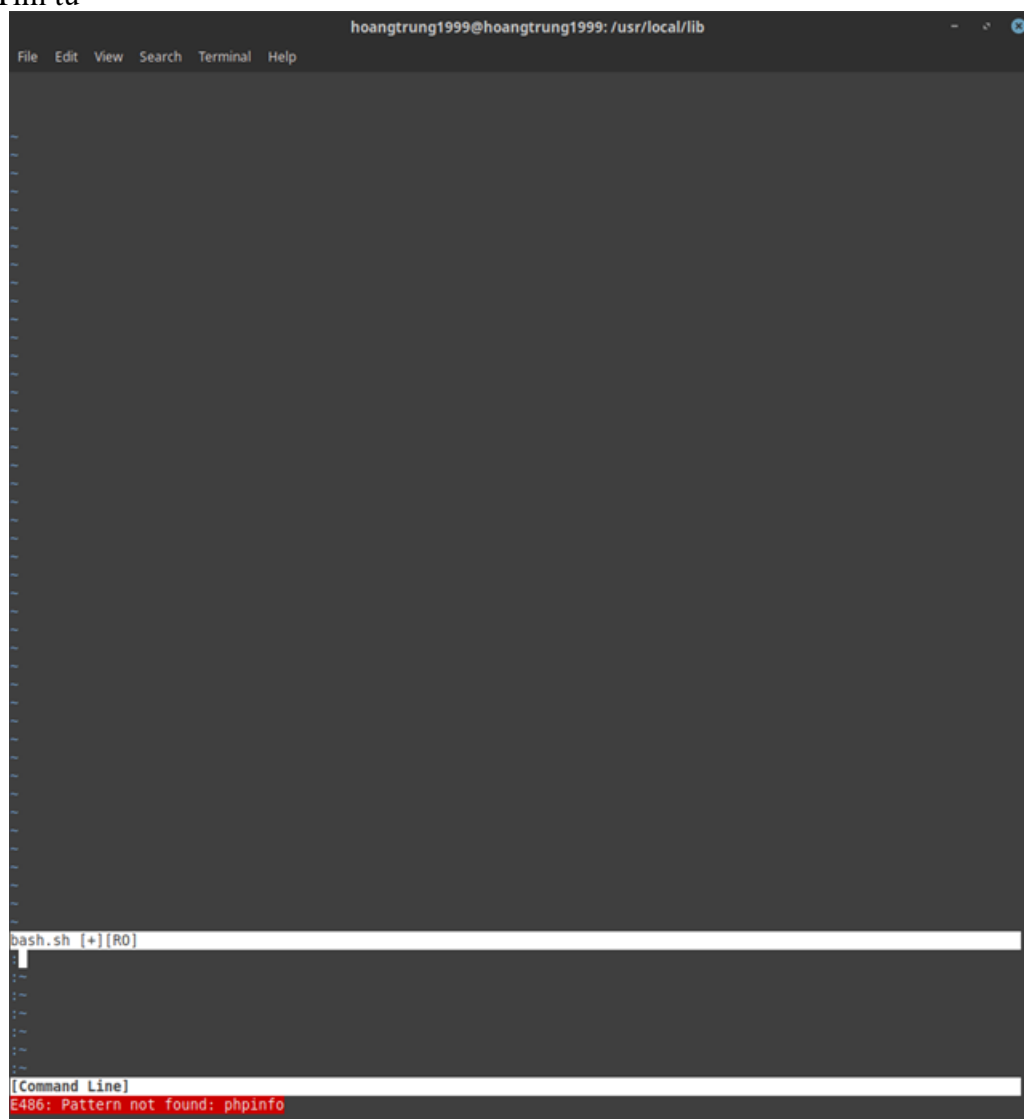


```
hoangtrung1999@hoangtrung1999: /usr/local/lib  
File Edit View Search Terminal Help  
hoangtrung1999@hoangtrung1999:~$ cd /usr/local/lib  
hoangtrung1999@hoangtrung1999:/usr/local/lib$ touch bash.sh  
touch: cannot touch 'bash.sh': Permission denied  
hoangtrung1999@hoangtrung1999:/usr/local/lib$ sudo touch bash.sh  
[sudo] password for hoangtrung1999:  
hoangtrung1999@hoangtrung1999:/usr/local/lib$
```

Hình ảnh minh họa thực hiện lệnh touch

7) Lệnh vi

7.1 Tìm từ



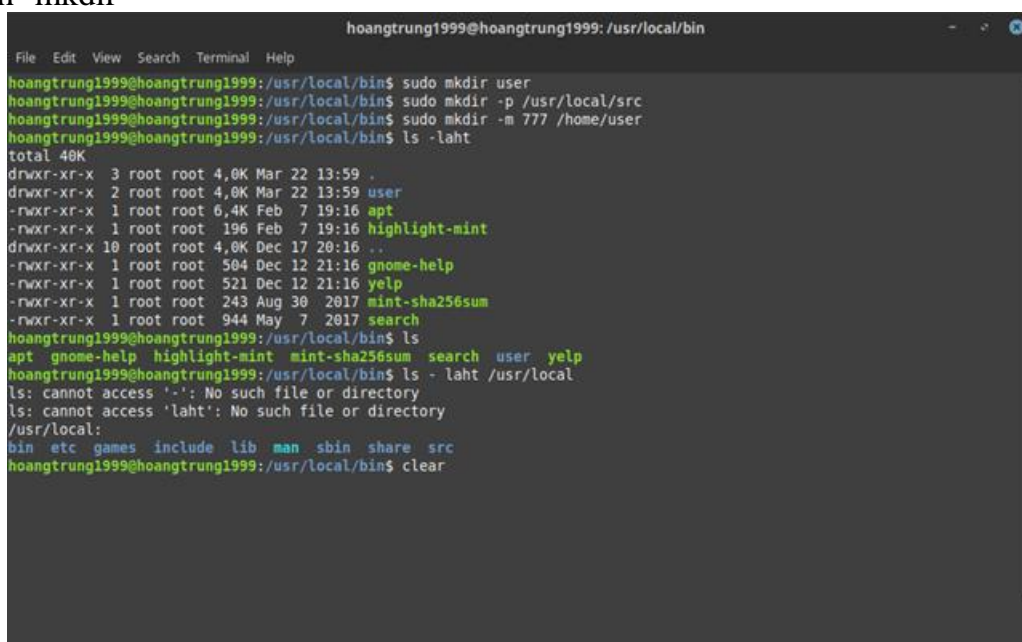
Hình ảnh minh họa thực hiện lệnh Vi

8) Lệnh nano



Hình ảnh minh họa thực hiện lệnh nano

9) Lệnh -mkdir



Hình ảnh minh họa thực hiện lệnh -mkdir

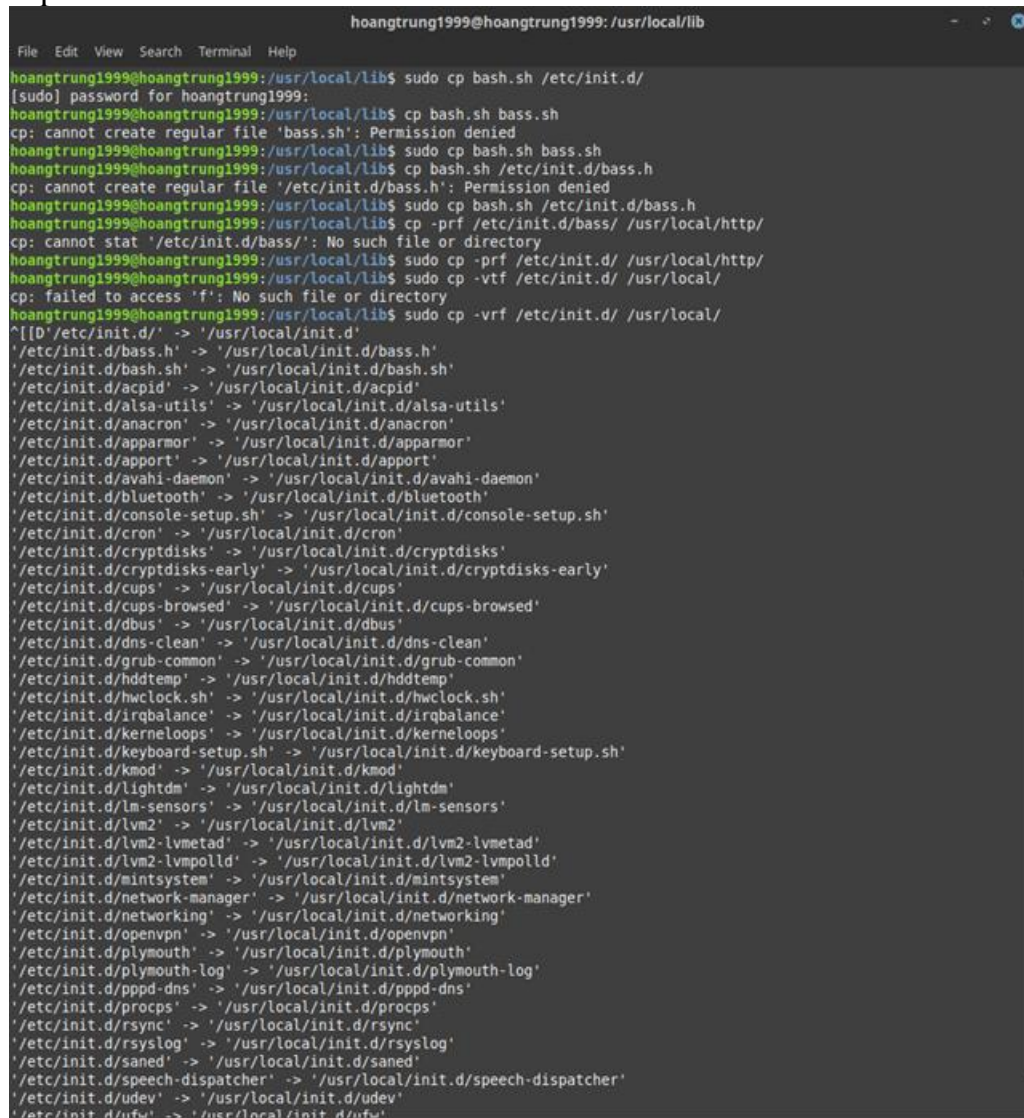
10) Lệnh CHMOD

11) Lệnh RM

```
hoangtrung1999@hoangtrung1999: /
File Edit View Search Terminal Help
hoangtrung1999@hoangtrung1999:/$ rm -f /etc/rc.d/init.d/httpd
hoangtrung1999@hoangtrung1999:/$ rm -rf /usr/local/
rm: cannot remove '/usr/local/etc': Permission denied
rm: cannot remove '/usr/local/sbin': Permission denied
rm: cannot remove '/usr/local/src': Permission denied
rm: cannot remove '/usr/local/games': Permission denied
rm: cannot remove '/usr/local/include': Permission denied
rm: cannot remove '/usr/local/bin/yelp': Permission denied
rm: cannot remove '/usr/local/bin/apt': Permission denied
rm: cannot remove '/usr/local/bin/highlight-mint': Permission denied
rm: cannot remove '/usr/local/bin/search': Permission denied
rm: cannot remove '/usr/local/bin/gnome-help': Permission denied
rm: cannot remove '/usr/local/bin/user': Permission denied
rm: cannot remove '/usr/local/share/sgml/styleset': Permission denied
rm: cannot remove '/usr/local/share/sgml/entities': Permission denied
rm: cannot remove '/usr/local/share/sgml/dtd': Permission denied
rm: cannot remove '/usr/local/share/sgml/declaration': Permission denied
rm: cannot remove '/usr/local/share/sgml/misc': Permission denied
rm: cannot remove '/usr/local/share/ca-certificates': Permission denied
rm: cannot remove '/usr/local/share/emacs/site-lisp': Permission denied
rm: cannot remove '/usr/local/share/fonts': Permission denied
rm: cannot remove '/usr/local/share/xml/schema': Permission denied
rm: cannot remove '/usr/local/share/xml/entities': Permission denied
rm: cannot remove '/usr/local/share/xml/declaration': Permission denied
rm: cannot remove '/usr/local/share/xml/misc': Permission denied
rm: cannot remove '/usr/local/share/man': Permission denied
rm: cannot remove '/usr/local/lib/bash.sh': Permission denied
rm: cannot remove '/usr/local/lib/python2.7/dist-packages': Permission denied
rm: cannot remove '/usr/local/lib/python2.7/site-packages': Permission denied
rm: cannot remove '/usr/local/lib/python3.6/dist-packages': Permission denied
rm: cannot remove '/usr/local/man': Permission denied
hoangtrung1999@hoangtrung1999:/$ rm -vrf /usr/local/
rm: cannot remove '/usr/local/etc': Permission denied
rm: cannot remove '/usr/local/sbin': Permission denied
rm: cannot remove '/usr/local/src': Permission denied
rm: cannot remove '/usr/local/games': Permission denied
rm: cannot remove '/usr/local/include': Permission denied
rm: cannot remove '/usr/local/bin/yelp': Permission denied
rm: cannot remove '/usr/local/bin/apt': Permission denied
rm: cannot remove '/usr/local/bin/highlight-mint': Permission denied
rm: cannot remove '/usr/local/bin/search': Permission denied
rm: cannot remove '/usr/local/bin/gnome-help': Permission denied
rm: cannot remove '/usr/local/bin/user': Permission denied
rm: cannot remove '/usr/local/share/sgml/styleset': Permission denied
rm: cannot remove '/usr/local/share/sgml/entities': Permission denied
rm: cannot remove '/usr/local/share/sgml/dtd': Permission denied
rm: cannot remove '/usr/local/share/sgml/declaration': Permission denied
rm: cannot remove '/usr/local/share/sgml/misc': Permission denied
rm: cannot remove '/usr/local/share/ca-certificates': Permission denied
rm: cannot remove '/usr/local/share/emacs/site-lisp': Permission denied
rm: cannot remove '/usr/local/share/fonts': Permission denied
rm: cannot remove '/usr/local/share/xml/schema': Permission denied
rm: cannot remove '/usr/local/share/xml/entities': Permission denied
rm: cannot remove '/usr/local/share/xml/declaration': Permission denied
rm: cannot remove '/usr/local/share/xml/misc': Permission denied
rm: cannot remove '/usr/local/share/man': Permission denied
rm: cannot remove '/usr/local/lib/bash.sh': Permission denied
```

Hình ảnh minh họa thực hiện lệnh RM

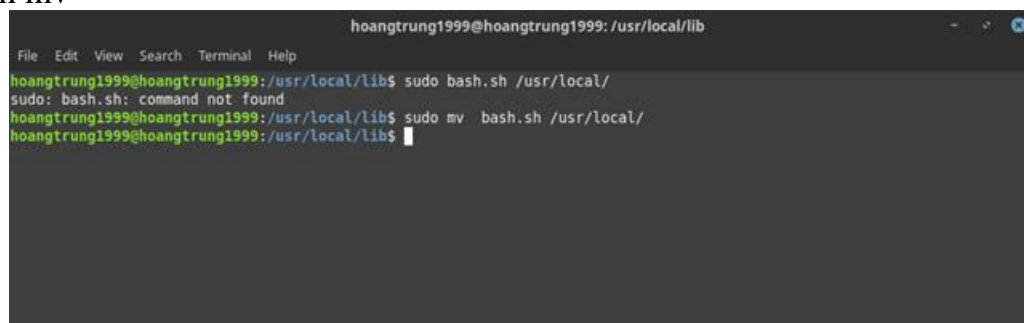
12) Lệnh cp



```
hoangtrung1999@hoangtrung1999: /usr/local/lib
File Edit View Search Terminal Help
hoangtrung1999@hoangtrung1999: /usr/local/lib$ sudo cp bash.sh /etc/init.d/
[sudo] password for hoangtrung1999:
hoangtrung1999@hoangtrung1999: /usr/local/lib$ cp bash.sh bass.sh
cp: cannot create regular file 'bass.sh': Permission denied
hoangtrung1999@hoangtrung1999: /usr/local/lib$ sudo cp bash.sh bass.sh
hoangtrung1999@hoangtrung1999: /usr/local/lib$ cp bash.sh /etc/init.d/bass.h
cp: cannot create regular file '/etc/init.d/bass.h': Permission denied
hoangtrung1999@hoangtrung1999: /usr/local/lib$ sudo cp bash.sh /etc/init.d/bass.h
hoangtrung1999@hoangtrung1999: /usr/local/lib$ cp -prf /etc/init.d/bass/ /usr/local/http/
cp: cannot stat '/etc/init.d/bass/': No such file or directory
hoangtrung1999@hoangtrung1999: /usr/local/lib$ sudo cp -prf /etc/init.d/ /usr/local/http/
hoangtrung1999@hoangtrung1999: /usr/local/lib$ sudo cp -vtf /etc/init.d/ /usr/local/
cp: failed to access 'f': No such file or directory
hoangtrung1999@hoangtrung1999: /usr/local/lib$ sudo cp -vrf /etc/init.d/ /usr/local/
'[D' /etc/init.d/' -> '/usr/local/init.d'
'/etc/init.d/bass.h' -> '/usr/local/init.d/bass.h'
'/etc/init.d/bash.sh' -> '/usr/local/init.d/bash.sh'
'/etc/init.d/acpid' -> '/usr/local/init.d/acpid'
'/etc/init.d/alsa-utils' -> '/usr/local/init.d/alsa-utils'
'/etc/init.d/anacron' -> '/usr/local/init.d/anacron'
'/etc/init.d/apparmor' -> '/usr/local/init.d/apparmor'
'/etc/init.d/appport' -> '/usr/local/init.d/appport'
'/etc/init.d/avahi-daemon' -> '/usr/local/init.d/avahi-daemon'
'/etc/init.d/bluetooth' -> '/usr/local/init.d/bluetooth'
'/etc/init.d/console-setup.sh' -> '/usr/local/init.d/console-setup.sh'
'/etc/init.d/cron' -> '/usr/local/init.d/cron'
'/etc/init.d/cryptdisks' -> '/usr/local/init.d/cryptdisks'
'/etc/init.d/cryptdisks-early' -> '/usr/local/init.d/cryptdisks-early'
'/etc/init.d/cups' -> '/usr/local/init.d/cups'
'/etc/init.d/cups-browsed' -> '/usr/local/init.d/cups-browsed'
'/etc/init.d/dbus' -> '/usr/local/init.d/dbus'
'/etc/init.d/dns-clean' -> '/usr/local/init.d/dns-clean'
'/etc/init.d/grub-common' -> '/usr/local/init.d/grub-common'
'/etc/init.d/hddtemp' -> '/usr/local/init.d/hddtemp'
'/etc/init.d/hwclock.sh' -> '/usr/local/init.d/hwclock.sh'
'/etc/init.d/irqbalance' -> '/usr/local/init.d/irqbalance'
'/etc/init.d/kerneloops' -> '/usr/local/init.d/kerneloops'
'/etc/init.d/keyboard-setup.sh' -> '/usr/local/init.d/keyboard-setup.sh'
'/etc/init.d/kmod' -> '/usr/local/init.d/kmod'
'/etc/init.d/lightdm' -> '/usr/local/init.d/lightdm'
'/etc/init.d/lm-sensors' -> '/usr/local/init.d/lm-sensors'
'/etc/init.d/lvm2' -> '/usr/local/init.d/lvm2'
'/etc/init.d/lvm2-lvmetad' -> '/usr/local/init.d/lvm2-lvmetad'
'/etc/init.d/lvm2-lvmpolld' -> '/usr/local/init.d/lvm2-lvmpolld'
'/etc/init.d/mintsystem' -> '/usr/local/init.d/mintsystem'
'/etc/init.d/network-manager' -> '/usr/local/init.d/network-manager'
'/etc/init.d/networking' -> '/usr/local/init.d/networking'
'/etc/init.d/openvpn' -> '/usr/local/init.d/openvpn'
'/etc/init.d/plymouth' -> '/usr/local/init.d/plymouth'
'/etc/init.d/plymouth-log' -> '/usr/local/init.d/plymouth-log'
'/etc/init.d/pppd-dns' -> '/usr/local/init.d/pppd-dns'
'/etc/init.d/procps' -> '/usr/local/init.d/procps'
'/etc/init.d/rsync' -> '/usr/local/init.d/rsync'
'/etc/init.d/rsyslog' -> '/usr/local/init.d/rsyslog'
'/etc/init.d/saned' -> '/usr/local/init.d/saned'
'/etc/init.d/speech-dispatcher' -> '/usr/local/init.d/speech-dispatcher'
'/etc/init.d/udev' -> '/usr/local/init.d/udev'
'/etc/init.d/ufw' -> '/usr/local/init.d/ufw'
```

Hình ảnh minh họa thực hiện lệnh -cp

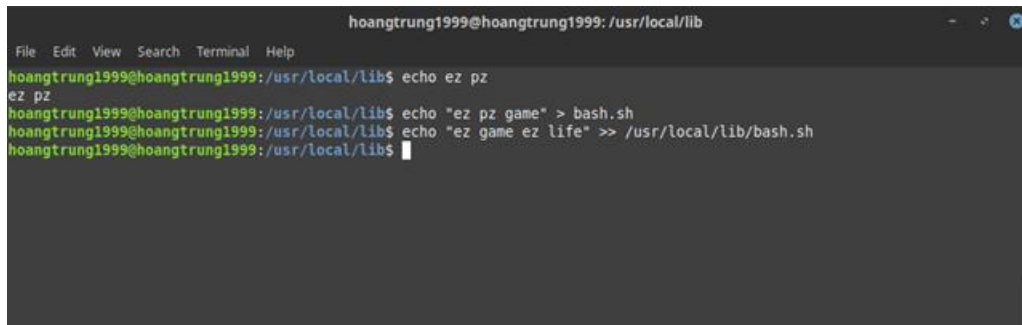
13) Lệnh mv



```
hoangtrung1999@hoangtrung1999: /usr/local/lib
File Edit View Search Terminal Help
hoangtrung1999@hoangtrung1999: /usr/local/lib$ sudo bash.sh /usr/local/
sudo: bash.sh: command not found
hoangtrung1999@hoangtrung1999: /usr/local/lib$ sudo mv bash.sh /usr/local/
hoangtrung1999@hoangtrung1999: /usr/local/lib$
```

Hình ảnh minh họa thực hiện lệnh -mv

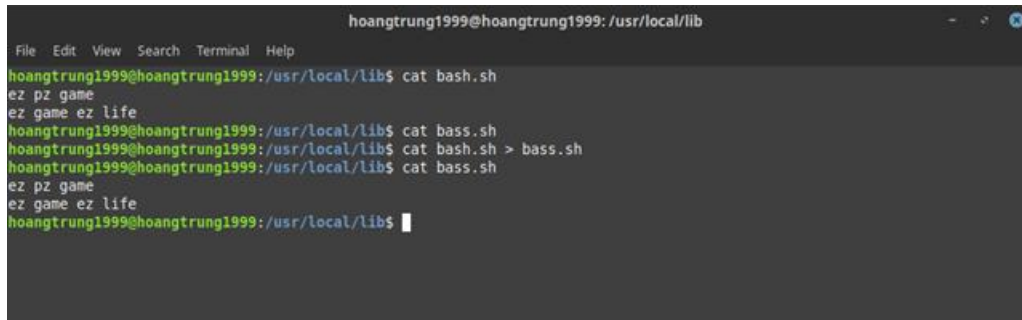
14) Lệnh Echo



```
hoangtrung1999@hoangtrung1999: /usr/local/lib
File Edit View Search Terminal Help
hoangtrung1999@hoangtrung1999: /usr/local/lib$ echo ez pz
ez pz
hoangtrung1999@hoangtrung1999: /usr/local/lib$ echo "ez pz game" > bash.sh
hoangtrung1999@hoangtrung1999: /usr/local/lib$ echo "ez game ez life" >> /usr/local/lib/bash.sh
hoangtrung1999@hoangtrung1999: /usr/local/lib$
```

Hình ảnh minh họa thực hiện lệnh -echo


15) Lệnh cat



```
hoangtrung1999@hoangtrung1999: /usr/local/lib
File Edit View Search Terminal Help
hoangtrung1999@hoangtrung1999: /usr/local/lib$ cat bash.sh
ez pz game
ez game ez life
hoangtrung1999@hoangtrung1999: /usr/local/lib$ cat bass.sh
hoangtrung1999@hoangtrung1999: /usr/local/lib$ cat bash.sh > bass.sh
hoangtrung1999@hoangtrung1999: /usr/local/lib$ cat bass.sh
ez pz game
ez game ez life
hoangtrung1999@hoangtrung1999: /usr/local/lib$
```

Hình ảnh minh họa thực hiện lệnh -cat

16) Quản lý user



```
hoangtrung1999@hoangtrung1999: /
File Edit View Search Terminal Help
hoangtrung1999@hoangtrung1999:/$ useradd -c "He dieu hanh -Admin" adminhdh
useradd: Permission denied.
useradd: cannot lock /etc/passwd; try again later.
hoangtrung1999@hoangtrung1999:/$ sudo useradd -c "He dieu hanh -Admin" adminhdh
hoangtrung1999@hoangtrung1999:/$ sudo userdel adminhdh
hoangtrung1999@hoangtrung1999:/$
```

Hình ảnh minh họa thực hiện việc quản lý user

17) Các lệnh về network

```
hoangtrung1999@hoangtrung1999: /
File Edit View Search Terminal Help
hoangtrung1999@hoangtrung1999:/$ ifconfig -a
enp4s0f1: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    ether a8:1e:84:19:98:e4 txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 1450 bytes 142341 (142.3 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 1450 bytes 142341 (142.3 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

wlp3s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.45.96.131 netmask 255.255.0.0 broadcast 10.45.255.255
    inet6 fe80::9d09:ca63:2668:bd65 prefixlen 64 scopeid 0x20<link>
    ether 94:e9:79:ec:6f:21 txqueuelen 1000 (Ethernet)
    RX packets 453194 bytes 122549671 (122.5 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 36264 bytes 4505596 (4.5 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

hoangtrung1999@hoangtrung1999:/$

hoangtrung1999@hoangtrung1999: /
File Edit View Search Terminal Help
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 1450 bytes 142341 (142.3 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

wlp3s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.45.96.131 netmask 255.255.0.0 broadcast 10.45.255.255
    inet6 fe80::9d09:ca63:2668:bd65 prefixlen 64 scopeid 0x20<link>
    ether 94:e9:79:ec:6f:21 txqueuelen 1000 (Ethernet)
    RX packets 453194 bytes 122549671 (122.5 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 36264 bytes 4505596 (4.5 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

hoangtrung1999@hoangtrung1999:/$ cat /proc/interrupts
           CPU0      CPU1      CPU2      CPU3
0:         0         0         0         0  IR-IO-APIC  2-edge  timer
1:         0         0    13170         0  IR-IO-APIC  1-edge  i8042
8:         0         0         0         1  IR-IO-APIC  8-edge  rtc0
9:         0        14         0         0  IR-IO-APIC  9-fastio  acpi
12:        0    20312         0         0  IR-IO-APIC  12-edge  i8042
16:        0         0         0         0  IR-IO-APIC  16-fastio  idma64.0, i2c_designware.0
120:        0         0         0         0  DMAR-MSI    0-edge  dmar0
121:        0         0         0         0  DMAR-MSI    1-edge  dmar1
122:        0         0         0         0  IR-PCI-MSI  458752-edge  aerdv, PCIe PME
123:        0         0         0         0  IR-PCI-MSI  475136-edge  PCIe PME
124:        0         0         0         0  IR-PCI-MSI  479232-edge  PCIe PME
125:        0         0         0         0  IR-PCI-MSI  481280-edge  PCIe PME
126:        0    154170    70402    254  IR-PCI-MSI  327680-edge  xhci hcd
127:        15         0         0         0  IR-PCI-MSI  2097152-edge  rtsX pci
128:    24810    10734         0    43382  IR-PCI-MSI  376832-edge  ahci[0000:00:17.0]
129:        0         0         0         0  IR-PCI-MSI  2099200-edge  enp4s0f1
130:        0    92243    379         0  IR-PCI-MSI  32768-edge  1915
131:        38         0         0         0  IR-PCI-MSI  360448-edge  mei me
132:        0    979    285437    189379  IR-PCI-MSI  1572864-edge  ath10k_pci
133:    222815         0    127744         0  IR-PCI-MSI  524288-edge  nvidia
134:        0         0         0    784  IR-PCI-MSI  514048-edge  snd_hda_intel:card0
NMI:        0         0         0         0  Non-maskable interrupts
LOC:    451886    340513    455233    412693  Local timer interrupts
SPU:        0         0         0         0  Spurious interrupts
PMI:        0         0         0         0  Performance monitoring interrupts
IWI:    8039    27334    13433    17854  IRQ work interrupts
RTR:        0         0         0         0  APIC ICR read retries
RES:    65390    58836    56402    50947  Rescheduling interrupts
CAL:    132262    133196    145738    147000  Function call interrupts
TLB:    123389    128380    140608    141748  TLB shootdowns
TRM:        0         0         0         0  Thermal event interrupts
THR:        0         0         0         0  Threshold APIC interrupts
DFR:        0         0         0         0  Deferred Error APIC interrupts
MCE:        0         0         0         0  Machine check exceptions
MCP:    17        18        18        18  Machine check polls
HYP:        0         0         0         0  Hypervisor callback interrupts
ERR:        0
MIS:        0
PIN:        0         0         0         0  Posted-interrupt notification event
NPI:        0         0         0         0  Nested posted-interrupt event
PIW:        0         0         0         0  Posted-interrupt wakeup event

hoangtrung1999@hoangtrung1999:/$
```

Hình ảnh minh họa các lệnh về network

18) Lệnh man

```
hoangtrung1999@hoangtrung1999: /
File Edit View Search Terminal Help
PASSWD(1) User Commands PASSWD(1)
NAME
    passwd - change user password
SYNOPSIS
    passwd [options] [LOGIN]
DESCRIPTION
    The passwd command changes passwords for user accounts. A normal user may only change the password for his/her own account, while the superuser may change the password for any account. passwd also changes the account or associated password validity period.

    Password Changes
    The user is first prompted for his/her old password, if one is present. This password is then encrypted and compared against the stored password. The user has only one chance to enter the correct password. The superuser is permitted to bypass this step so that forgotten passwords may be changed.

    After the password has been entered, password aging information is checked to see if the user is permitted to change the password at this time. If not, passwd refuses to change the password and exits.

    The user is then prompted twice for a replacement password. The second entry is compared against the first and both are required to match in order for the password to be changed.

    Then, the password is tested for complexity. As a general guideline, passwords should consist of 6 to 8 characters including one or more characters from each of the following sets:

    • lower case alphabets
    • digits 0 thru 9
    • punctuation marks

    Care must be taken not to include the system default erase or kill characters. passwd will reject any password which is not suitably complex.

    Hints for user passwords
    The security of a password depends upon the strength of the encryption algorithm and the size of the key space. The legacy UNIX System encryption method is based on the NBS DES algorithm. More recent methods are now recommended (see ENCRYPT_METHOD). The size of the key space depends upon the randomness of the password which is selected.

    Compromises in password security normally result from careless password selection or handling. For this reason, you should not select a password which appears in a dictionary or which must be written down. The password should also not be a proper name, your license number, birth date, or street address. Any of these may be used as guesses to violate system security.

    You can find advice on how to choose a strong password on http://en.wikipedia.org/wiki/Password\_strength

OPTIONS
    The options which apply to the passwd command are:

    -a, --all
        This option can be used only with -S and causes show status for all users.

    -d, --delete
Manual page passwd(1) line 1 (press h for help or q to quit)
```



```
hoangtrung1999@hoangtrung1999: /
File Edit View Search Terminal Help
PASSWD(5) File Formats and Conversions PASSWD(5)

NAME
passwd - the password file

DESCRIPTION
/etc/passwd contains one line for each user account, with seven fields delimited by colons (":"). These fields are:
- login name
- optional encrypted password
- numerical user ID
- numerical group ID
- user name or comment field
- user home directory
- optional user command interpreter

The encrypted password field may be blank, in which case no password is required to authenticate as the specified login name. However, some applications which read the /etc/passwd file may decide not to permit any access at all if the password field is blank. If the password field is a lower-case "x", then the encrypted password is actually stored in the shadow(5) file instead; there must be a corresponding line in the /etc/shadow file, or else the user account is invalid. If the password field is any other string, then it will be treated as an encrypted password, as specified by crypt(3).

The comment field is used by various system utilities, such as finger(1).

The home directory field provides the name of the initial working directory. The login program uses this information to set the value of the $HOME environmental variable.

The command interpreter field provides the name of the user's command language interpreter, or the name of the initial program to execute. The login program uses this information to set the value of the $SHELL environmental variable. If this field is empty, it defaults to the value /bin/sh.

FILES
/etc/passwd
User account information.

/etc/shadow
optional encrypted password file

/etc/passwd-
Backup file for /etc/passwd.

Note that this file is used by the tools of the shadow toolsuite, but not by all user and password management tools.

SEE ALSO
crypt(3), getent(1), getpwnam(3), login(1), passwd(1), pwck(8), pwconv(8), pwunconv(8), shadow(5), su(1), sulogin(8).

Manual page passwd(5) line 1 (press h for help or q to quit)
```

Hình ảnh minh họa thực hiện lệnh man passwd