

Assignment 4: File System

Jesse Russell

Exercise 1: Step 4

Record your home directory: /home/jesserussell

Exercise 1: Step 5

```
CentOS Linux 7 (Core)
Kernel 3.10.0-957.el7.x86_64 on an x86_64

localhost login: jesserussell
Password:
Login incorrect

localhost login: jesserussell
Password:
Last failed login: Tue Oct  8 22:15:08 EDT 2019 on tty2
There was 1 failed login attempt since the last successful login.
Last login: Tue Oct  8 22:08:02 on tty2
[jesserussell@localhost ~]$ pwd
/home/jesserussell
[jesserussell@localhost ~]$ unalias ls
[jesserussell@localhost ~]$
```

unalias ls command

Exercise 1: Step 14

```
cups          issue          postfix        target
cupshelpers   issue.net      ppp            tcshd.conf
dbus-1        java          prelink.conf.d terminfo
dconf         jvm           printcap      tmpfiles.d
default       jvm-common    profile       trusted-key.key
depmod.d      kdump.conf    profile.d     tuned
dhcpcd        kernel        protocols     udev
DIR_COLORS    krb5.conf     pulse         udisks2
DIR_COLORS.256color  krb5.conf.d  purple        unbound
DIR_COLORS.lightbgcolor  ksmtuned.conf  python       updatedb.conf
dleyana-server-service.conf  ld.so.cache  qemu-ga       UPower
dnsmasq.conf  ld.so.conf    qemu-kvm      usb_modeswitch.conf
dnsmasq.d     ld.so.conf.d  radvd.conf    vconsole.conf
dracut.conf   libaudit.conf rc8.d          vimrc
dracut.conf.d libblockdev   rc1.d          virc
drirc         libibverbs.d  rc2.d          vmware-tools
e2fsck.conf   libnl         rc3.d          wgetrc
egl           libreport     rc4.d          wpa_supplicant
enscript.cfg  libuser.conf  rc5.d          wvdial.conf
environment   libvirt       rc6.d          X11
ethertypes    locale.conf   rc.d           xdg
exports       localtime     rc.local       xinetd.d
exports.d     login.defs    rdma           xml
favicon.png   logrotate.conf reader.conf.d  yum
fcoe          logrotate.d   redhat-release yum.conf
festival       lsm           request-key.conf yum.repos.d

[jesserussell@localhost etc]$ cd
[jesserussell@localhost ~]$ pwd
/home/jesserussell
[jesserussell@localhost ~]$ ls -F
core.8498 Documents/ fileA.txt Pictures/ Templates/
Desktop/ Downloads/ Music/ Public/ Videos/
[jesserussell@localhost ~]$ ls -F /usr/bin/uname
/usr/bin/uname*
[jesserussell@localhost ~]$ ls -F /etc/rc5.d/
K50netconsole@ S10network@
[jesserussell@localhost ~]$ _
```

ls -F /etc/rc5.d/ command

Exercise 1: Step 22

```

/home/jesserussell
[jesserussell@localhost ~]$ ls -F
core.8498 Documents/ fileA.txt Pictures/ Templates/
Desktop/ Downloads/ Music/ Public/ Videos/
[jesserussell@localhost ~]$ ls -F /usr/bin/uname
/usr/bin/uname*
[jesserussell@localhost ~]$ ls -F /etc/rc5.d/
K50netconsole@ S10network@
[jesserussell@localhost ~]$ ls -a
. .bash_logout .cache .dbus Downloads .ICEauthority Music .redhat
.. .bash_profile .config Desktop .esd_auth .local Pictures Templates
.bash_history .bashrc core.8498 Documents fileA.txt .mozilla Public Videos
[jesserussell@localhost ~]$ ls
core.8498 Desktop Documents Downloads fileA.txt Music Pictures Public Templates Videos
[jesserussell@localhost ~]$ ls -l
total 9004
-rw-----. 1 jesserussell jesserussell 25575424 Sep 24 13:15 core.8498
drwxr-xr-x. 2 jesserussell jesserussell 6 Sep 11 22:18 Desktop
drwxr-xr-x. 2 jesserussell jesserussell 6 Sep 11 22:18 Documents
drwxr-xr-x. 2 jesserussell jesserussell 6 Sep 11 22:18 Downloads
-rw-rw-r--. 1 jesserussell jesserussell 0 Oct 1 17:11 fileA.txt
drwxr-xr-x. 2 jesserussell jesserussell 6 Sep 11 22:18 Music
drwxr-xr-x. 2 jesserussell jesserussell 4096 Oct 1 18:11 Pictures
drwxr-xr-x. 2 jesserussell jesserussell 6 Sep 11 22:18 Public
drwxr-xr-x. 2 jesserussell jesserussell 6 Sep 11 22:18 Templates
drwxr-xr-x. 2 jesserussell jesserussell 6 Sep 11 22:18 Videos
[jesserussell@localhost ~]$ ls /
bin dev home lib64 mnt proc run srv tmp var
boot etc lib media opt root/sbin sys usr
[jesserussell@localhost ~]$ ls -F /
bin@ dev/ home/ lib64@ mnt/ proc/ run/ srv/ tmp/ var/
boot/ etc/ lib@ media/ opt/ root/ sbin@ sys/ usr/
[jesserussell@localhost ~]$ cd /etc
[jesserussell@localhost etc]$ pwd
/etc
[jesserussell@localhost etc]$ cd /home/jesserussell
[jesserussell@localhost ~]$

```

I changed the directory back to my home directory with `cd /home/jesserussell`

Exercise 1: Step 32

```

[jesserussell@localhost etc]$ cd /home/jesserussell
[jesserussell@localhost ~]$ cd Downloads
[jesserussell@localhost Downloads]$ cd ~
[jesserussell@localhost ~]$ cd ..
[jesserussell@localhost home]$ pwd
/home
[jesserussell@localhost home]$ cd .
[jesserussell@localhost home]$ pwd
/home
[jesserussell@localhost home]$ cd $HOME
[jesserussell@localhost ~]$

```

I changed directory back to my home directory with `cd $HOME`

Exercise 1: Step 37

```
104 pwd
105 unalias ls
106 pwd
107 unalias -ls
108 unalias ls
109 pwd
110 unalias ls
111 ls
112 cd /etc
113 pwd
114 ls
115 cd
116 pwd
117 ls -F
118 ls -F /usr/bin/uname
119 ls -F /etc/rc5.d/
120 ls -a
121 ls
122 ls -l
123 ls /
124 ls -F /
125 cd /etc
126 pwd
127 cd /home/jesserussell
128 cd Downloads
129 cd ~
130 cd ..
131 pwd
132 cd .
133 pwd
134 cd $HOME
135 pwd
136 cd ../../
137 pwd
138 cd $HOME
139 history
jesserussell@localhost ~1$ _
```

This is my command history

Exercise 2A: Step 4

Record your home directory: /home/jesserussell

Exercise 2A: Step 6

```
[jesserussell@localhost ~1$ ls -F
core.8498 Documents/ fileA.txt Pictures/ Templates/
Desktop/ Downloads/ Music/ Public/ Videos/
[jesserussell@localhost ~1$ mkdir /home/jesserussell/newdir
[jesserussell@localhost ~1$
```

I made a new directory called newdir

Exercise 2A: Step 10

```
[jesserrussell@localhost ~]$ ls -F
core.8498 Documents/ fileA.txt Pictures/ Templates/
Desktop/ Downloads/ Music/ Public/ Videos/
[jesserrussell@localhost ~]$ mkdir /home/jesserrussell/newdir
[jesserrussell@localhost ~]$ ls -F
core.8498 Documents/ fileA.txt newdir/ Public/ Videos/
Desktop/ Downloads/ Music/ Pictures/ Templates/
[jesserrussell@localhost ~]$ cd /home/jesserrussell/newdir
[jesserrussell@localhost newdir]$ ls -F
[jesserrussell@localhost newdir]$ touch MyFile
[jesserrussell@localhost newdir]$
```

I created a new file with the touch command in newdir.

Exercise 2A: Step 12

```
[jesserrussell@localhost ~]$ ls -F
core.8498 Documents/ fileA.txt Pictures/ Templates/
Desktop/ Downloads/ Music/ Public/ Videos/
[jesserrussell@localhost ~]$ mkdir /home/jesserrussell/newdir
[jesserrussell@localhost ~]$ ls -F
core.8498 Documents/ fileA.txt newdir/ Public/ Videos/
Desktop/ Downloads/ Music/ Pictures/ Templates/
[jesserrussell@localhost ~]$ cd /home/jesserrussell/newdir
[jesserrussell@localhost newdir]$ ls -F
[jesserrussell@localhost newdir]$ touch MyFile
[jesserrussell@localhost newdir]$ ls -F
MyFile
[jesserrussell@localhost newdir]$ ls -F /home/jesserrussell/newdir
MyFile
[jesserrussell@localhost newdir]$ _
```

The file I just created is in the new directory, found using an absolute reference.

Exercise 2A: Step 15

```
[jesserrussell@localhost newdir]$ cd ..
[jesserrussell@localhost ~]$ pwd
/home/jesserrussell
[jesserrussell@localhost ~]$ mkdir Stuff/MoreStuff
mkdir: cannot create directory 'Stuff/MoreStuff': No such file or directory
[jesserrussell@localhost ~]$
```

The command did not work because there must be a parent directory

Exercise 2A: Step 17

```
[jesserrussell@localhost ~]$ ls -RF /stuff
/stuff:
morestuff/

/stuff/morestuff:
[jesserrussell@localhost ~]$
```

The stuff directory is listed and so is the morestuff subdirectory

Exercise 2A: Step 21

```
[jesserrussell@localhost ~]$ sudo rmdir /stuff/morestuff
[jesserrussell@localhost ~]$ rmdir /stuff
rmdir: failed to remove '/stuff': Permission denied
[jesserrussell@localhost ~]$ sudo rmdir /stuff
[jesserrussell@localhost ~]$ rmdir /home/jesserrussell/newdir
rmdir: failed to remove '/home/jesserrussell/newdir': Directory not empty
[jesserrussell@localhost ~]$
```

The directory could not be removed because it needs to be empty

Exercise 2A: Step 22

```
[jesserrussell@localhost ~]$ rm -iR /home/jesserrussell/newdir/
rm: descend into directory '/home/jesserrussell/newdir/'? y
rm: remove regular empty file '/home/jesserrussell/newdir/MyFile'? y
rm: remove directory '/home/jesserrussell/newdir/'? y
[jesserrussell@localhost ~]$
```

I erased newdir and all of its contents

Exercise 2A: Step 23

The newdir directory is gone.

Exercise 2B: Step 4

Record your home directory: /home/jesserrussell

Exercise 2B: Step 7

```
CentOS Linux 7 (Core)
Kernel 3.10.0-957.el7.x86_64 on an x86_64

localhost login: jesserrussell
Password:
Last login: Tue Oct  8 22:15:16 on tty2
[jesserrussell@localhost ~]$ pwd
/home/jesserrussell
[jesserrussell@localhost ~]$ touch chores
[jesserrussell@localhost ~]$ ls chores
chores
[jesserrussell@localhost ~]$ cp chores chores.bck
[jesserrussell@localhost ~]$
```

I copied the file and renamed it to chores.bck

Exercise 2B: Step 13

```
[jesserrussell@localhost ~]$ mkdir Todo
[jesserrussell@localhost ~]$ ls -F
chores      core.8498  Documents/ fileA.txt  Pictures/  Templates/ Videos/
chores.bck  Desktop/  Downloads/ Music/     Public/    Todo/
[jesserrussell@localhost ~]$ cp chores /home/jesserrussell/Todo/
[jesserrussell@localhost ~]$ ls Todo
chores
[jesserrussell@localhost ~]$ cp chores Todo/done
[jesserrussell@localhost ~]$
```

I copied the file to Todo and renamed it to done

Exercise 2B: Step 18

```
[jesserussell@localhost ~]$ rm -Ri NewTodo
rm: descend into directory 'NewTodo'? y
rm: remove regular empty file 'NewTodo/chores'? y
rm: remove regular empty file 'NewTodo/done'? y
rm: remove directory 'NewTodo'? y
[jesserussell@localhost ~]$
```

I removed NewTodo and all of it's contents.

Exercise 2B: Step 20

```
[jesserussell@localhost ~]$ rm -i chores*
rm: remove regular empty file 'chores'? y
rm: remove regular empty file 'chores.bck'? y
[jesserussell@localhost ~]$
```

I removed the chores files I created earlier

Exercise 2C: Step 4

Record your home directory: /home/jesserussell

Exercise 2C: Step 5

```
[jesserussell@localhost ~]$ pwd
/home/jesserussell
[jesserussell@localhost ~]$ touch math
[jesserussell@localhost ~]$ _
```

I created a new file called math in my home directory

Exercise 2C: Step 11

```
[jesserussell@localhost ~]$ ls -F
core.8498 Documents/ fileA.txt Music/ Public/ Videos/
Desktop/ Downloads/ gym Pictures/ Templates/
[jesserussell@localhost ~]$ mkdir school
[jesserussell@localhost ~]$ _
```

I created a new directory called school

Exercise 2C: Step 14

```
[jesserussell@localhost ~]$ ls -F school
gym
[jesserussell@localhost ~]$ _
```

The directory, school, contains the gym file

Exercise 2C: Step 18

```
[jesserussell@localhost ~]$ touch lunch
[jesserussell@localhost ~]$ mv lunch school/
[jesserussell@localhost ~]$ touch reading
[jesserussell@localhost ~]$ mv reading school/history
[jesserussell@localhost ~]$
```

I created reading and moved it to school. I also renamed it to history.

Exercise 2C: Step 20

```
[jesserussell@localhost ~]$ ls /home/jesserussell/school
gym history lunch
[jesserussell@localhost ~]$ mv school college
[jesserussell@localhost ~]$ _
```

I renamed the school directory to college

Exercise 2C: Step 23

```
[jesserussell@localhost ~]$ rm -Ri college
rm: descend into directory 'college'? y
rm: remove regular empty file 'college/gym'? y
rm: remove regular empty file 'college/lunch'? y
rm: remove regular empty file 'college/history'? y
rm: remove directory 'college'? y
[jesserussell@localhost ~]$
```

I removed the college directory and all of its contents

Exercise 2D: Step 4

Record your home directory: /home/jesserussell

Exercise 2D: Step 7

```
[jesserussell@localhost ~]$ touch fall.dat
[jesserussell@localhost ~]$ touch fell.dat
[jesserussell@localhost ~]$ touch fill.dat full.dat
[jesserussell@localhost ~]$
```

I created two files called fill.dat and full.dat

Exercise 2D: Step 11

```
[jesserussell@localhost ~]$ ls f*.dat
fall.dat fell.dat fill.dat full.dat
[jesserussell@localhost ~]$ ls f?ll.dat
fall.dat fell.dat fill.dat full.dat
[jesserussell@localhost ~]$ ls f[a-z]ll.dat
fall.dat fell.dat fill.dat full.dat
[jesserussell@localhost ~]$
```

These are 4 ways to see the files I just created

Exercise 2D: Step 15

```
[jesserussell@localhost ~]$ rm -i f[aeiu]ll.dat
rm: remove regular empty file 'fall.dat'? y
rm: remove regular empty file 'fell.dat'? y
rm: remove regular empty file 'fill.dat'? y
rm: remove regular empty file 'full.dat'? y
[jesserussell@localhost ~]$
```

The four files I just created were deleted using `rm -i f[aeiu]ll.dat`

Exercise 3: Step 4

```
root@localhost ~]# ip -s link
lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default qlen
1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    RX: bytes    packets  errors  dropped overrun mcast
    27840        320     0       0       0       0
    TX: bytes    packets  errors  dropped carrier collsns
    27840        320     0       0       0       0
ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP mode DEFAULT group de
fault qlen 1000
    link/ether 00:0c:29:b2:08:56 brd ff:ff:ff:ff:ff:ff
    RX: bytes    packets  errors  dropped overrun mcast
    6660         111     0       0       0       0
    TX: bytes    packets  errors  dropped carrier collsns
    0            0       0       0       0       0
virbr0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DOWN mode DEFAULT group
default qlen 1000
    link/ether 52:54:00:14:b2:49 brd ff:ff:ff:ff:ff:ff
    RX: bytes    packets  errors  dropped overrun mcast
    0            0       0       0       0       0
    TX: bytes    packets  errors  dropped carrier collsns
    0            0       0       0       0       0
virbr0-nic: <BROADCAST,MULTICAST> mtu 1500 qdisc pfifo_fast master virbr0 state DOWN mode DEFAULT
group default qlen 1000
    link/ether 52:54:00:14:b2:49 brd ff:ff:ff:ff:ff:ff
    RX: bytes    packets  errors  dropped overrun mcast
    0            0       0       0       0       0
    TX: bytes    packets  errors  dropped carrier collsns
    0            0       0       0       0       0
root@localhost ~]#
```

The result of the ip -s link command

Exercise 3: Step 6

```
yum-plugin-fastestmirror.noarch 1.1.31-52.el7 base
yum-plugin-filter-data.noarch 1.1.31-52.el7 base
yum-plugin-fs-snapshot.noarch 1.1.31-52.el7 base
yum-plugin-keys.noarch 1.1.31-52.el7 base
yum-plugin-list-data.noarch 1.1.31-52.el7 base
yum-plugin-local.noarch 1.1.31-52.el7 base
yum-plugin-merge-conf.noarch 1.1.31-52.el7 base
yum-plugin-ovl.noarch 1.1.31-52.el7 base
yum-plugin-post-transaction-actions.noarch 1.1.31-52.el7 base
yum-plugin-pre-transaction-actions.noarch 1.1.31-52.el7 base
yum-plugin-priorities.noarch 1.1.31-52.el7 base
yum-plugin-protectbase.noarch 1.1.31-52.el7 base
yum-plugin-ps.noarch 1.1.31-52.el7 base
yum-plugin-remove-with-leaves.noarch 1.1.31-52.el7 base
yum-plugin-rpm-warm-cache.noarch 1.1.31-52.el7 base
yum-plugin-show-leaves.noarch 1.1.31-52.el7 base
yum-plugin-tmprepo.noarch 1.1.31-52.el7 base
yum-plugin-tsf-lags.noarch 1.1.31-52.el7 base
yum-plugin-upgrade-helper.noarch 1.1.31-52.el7 base
yum-plugin-verify.noarch 1.1.31-52.el7 base
yum-plugin-versionlock.noarch 1.1.31-52.el7 base
yum-rhn-plugin.noarch 2.0.1-10.el7 base
yum-updateonboot.noarch 1.1.31-52.el7 base
yum-utils.noarch 1.1.31-52.el7 base
zlib.i686 1.2.7-18.el7 base
zlib-devel.i686 1.2.7-18.el7 base
zlib-devel.x86_64 1.2.7-18.el7 base
zlib-static.i686 1.2.7-18.el7 base
zlib-static.x86_64 1.2.7-18.el7 base
zsh.x86_64 5.0.2-33.el7 base
zsh-html.x86_64 5.0.2-33.el7 base
zziplib.i686 0.13.62-11.el7 base
zziplib.x86_64 0.13.62-11.el7 base
zziplib-devel.i686 0.13.62-11.el7 base
zziplib-devel.x86_64 0.13.62-11.el7 base
zziplib-utils.x86_64 0.13.62-11.el7 base
jesserrussell@localhost ~]$
```

Result of the yum list all command

Exercise 3: Step 7

Look at the first column, bottom of the `yum` list, and record the package name you find there:

zzip-lib-utils.x86_64

Exercise 3: Step 10

```
[root@localhost ~]# yum list emacs
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: repo.miserver.it.umich.edu
 * extras: repo.miserver.it.umich.edu
 * updates: repo.miserver.it.umich.edu
Installed Packages
emacs.x86_64                               1:24.3-22.el7
[root@localhost ~]# _
```

Emacs is installed, found using the `yum list emacs` command

Exercise 3: Step 14

```
 : This package provides an emacs binary with support for X windows.

[root@localhost ~]# yum remove emacs
Loaded plugins: fastestmirror, langpacks
Resolving Dependencies
--> Running transaction check
---> Package emacs.x86_64 1:24.3-22.el7 will be erased
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package                Arch             Version           Repository        Size
=====
Removing:
emacs                  x86_64           1:24.3-22.el7     @base              14 M

Transaction Summary
=====
Remove 1 Package

Installed size: 14 M
Is this ok [y/N]: y
Downloading packages:
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Erasing      : 1:emacs-24.3-22.el7.x86_64                1/1
  Verifying    : 1:emacs-24.3-22.el7.x86_64                1/1

Removed:
  emacs.x86_64 1:24.3-22.el7

Complete!
[root@localhost ~]# _
```

The emacs package was successfully removed, using the `yum remove emacs`.

Exercise 3: Step 18

```
[root@localhost ~]# yum repolist
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: repo.miserver.it.umich.edu
 * extras: repo.miserver.it.umich.edu
 * updates: repo.miserver.it.umich.edu
repo id                                repo name
base/7/x86_64                          CentOS-7 - Base
extras/7/x86_64                        CentOS-7 - Extras
updates/7/x86_64                       CentOS-7 - Updates
repolist: 10,733
[root@localhost ~]# ls /etc/yum.repos.d/*.repo
/etc/yum.repos.d/CentOS-Base.repo      /etc/yum.repos.d/CentOS-Media.repo
/etc/yum.repos.d/CentOS-CR.repo        /etc/yum.repos.d/CentOS-Sources.repo
/etc/yum.repos.d/CentOS-Debuginfo.repo /etc/yum.repos.d/CentOS-Vault.repo
/etc/yum.repos.d/CentOS-fasttrack.repo
[root@localhost ~]#
```

The repository list found using the yum repolist and ls /etc/yum.repos.d/*.repo commands