Basic Linux Commands Assignments

Sakib

NIT Kurukshetra,Haryana
B.Tech in IT (5th Semester)

Assignment-1

At first I have changed my user access into the root access by (su -) command.
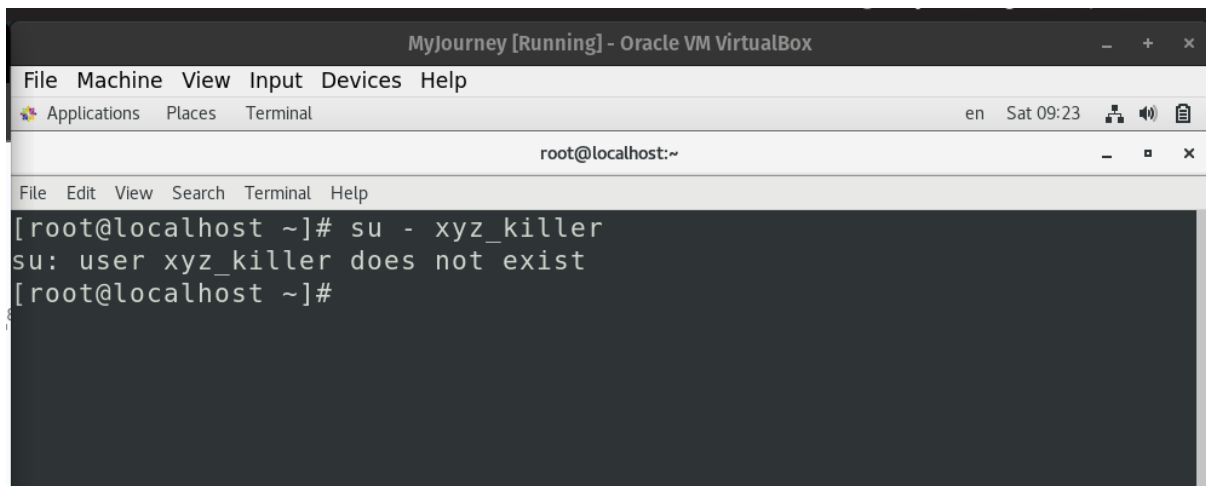
Then I have used (cat /etc/passwd) to show that there is a only one user named (devops_sakib)

Now I have tried to log in to the user nammed (xyz_killer) which is now present in the system and see what happens:
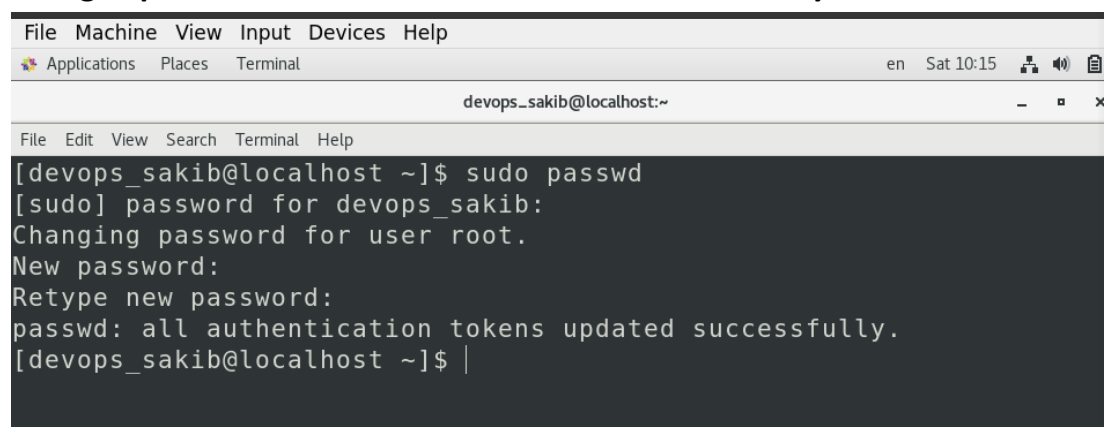
My_Observation:

The login process will fail, and we will receive an error message indicating that the user does not exist.

Assignment-2

Password changing

- Login into your account and then change password?
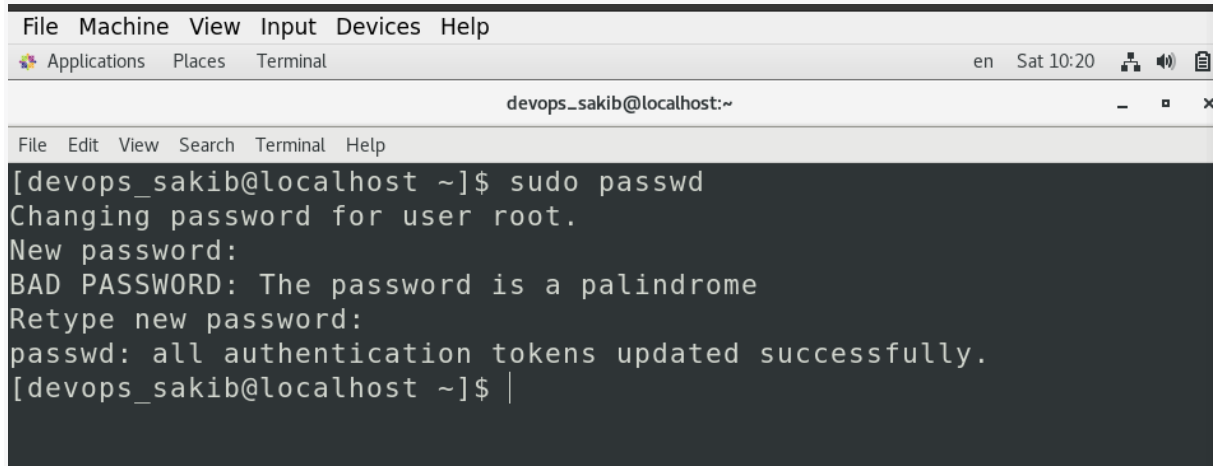 - ○ **Changed password into *IneuR0n#42* and hit the Enter key**

  - ○

    Here the password has been updated successfully.
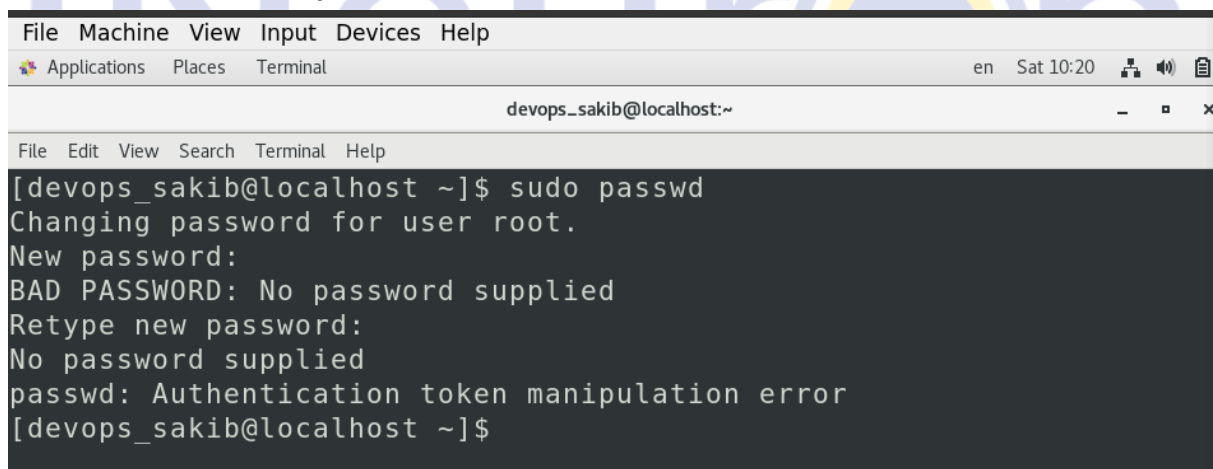
o **Try again to change password but use like password *1234* or *abcd***

The password is a palindrome" indicates that the password you entered while changing the root password in CentOS 7 is considered weak because it is a palindrome.

```
File  Machine  View  Input  Devices  Help

Applications    Places    Terminal                          en  Sat 10:20

                    devops_sakib@localhost:~                          _  □  ✕

File  Edit  View  Search  Terminal  Help
[devops_sakib@localhost ~]$ sudo passwd
Changing password for user root.
New password:
BAD PASSWORD: The password is a palindrome
Retype new password:
passwd: all authentication tokens updated successfully.
[devops_sakib@localhost ~]$
```

o **Try again to change password but now don't use any password just hit Enter key**

```
File  Machine  View  Input  Devices  Help

Applications    Places    Terminal                          en  Sat 10:20

                    devops_sakib@localhost:~                          _  □  ✕

File  Edit  View  Search  Terminal  Help
[devops_sakib@localhost ~]$ sudo passwd
Changing password for user root.
New password:
BAD PASSWORD: No password supplied
Retype new password:
No password supplied
passwd: Authentication token manipulation error
[devops_sakib@localhost ~]$
```

the error message "BAD PASSWORD: No password supplied" followed by "No password supplied" and "passwd: Authentication token manipulation error" indicates that it has been attempted to change the password for the root user without providing a password or by providing an empty password.

Assignment-3
Working with Directories

- **Enter the command cd / and then ls and then hit Enter key**

```
[devops_sakib@localhost ~]$ cd /
[devops_sakib@localhost /]$ ls
bin  boot  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys
 tmp  usr  var
[devops_sakib@localhost /]$ ls -lh
total 20K
lrwxrwxrwx.   1 root root    7 Jun  3 07:05 bin -> usr/bin
dr-xr-xr-x.   5 root root 4.0K Jun  3 08:57 boot
drwxr-xr-x.  20 root root 3.2K Jun  3 10:13 dev
drwxr-xr-x. 139 root root 8.0K Jun  3 10:17 etc
drwxr-xr-x.   3 root root   26 Jun  3 07:11 home
lrwxrwxrwx.   1 root root    7 Jun  3 07:05 lib -> usr/lib
lrwxrwxrwx.   1 root root    9 Jun  3 07:05 lib64 -> usr/lib64
drwxr-xr-x.   2 root root    6 Apr 11  2018 media
drwxr-xr-x.   2 root root    6 Apr 11  2018 mnt
drwxr-xr-x.   4 root root   48 Jun  3 08:57 opt
dr-xr-xr-x. 217 root root    0 Jun  3 10:13 proc
dr-xr-x---.   7 root root  232 Jun  3 10:13 root
drwxr-xr-x.  40 root root 1.3K Jun  3 10:14 run
lrwxrwxrwx.   1 root root    8 Jun  3 07:05 sbin -> usr/sbin
drwxr-xr-x.   2 root root    6 Apr 11  2018 srv
dr-xr-xr-x.  13 root root    0 Jun  3 10:13 sys
drwxrwxrwt.  16 root root 4.0K Jun  3 10:15 tmp
drwxr-xr-x.  13 root root  155 Jun  3 07:05 usr
drwxr-xr-x.  20 root root  282 Jun  3 07:19 var
[devops_sakib@localhost /]$
```

My_Observation:
cd / → this will take us to the root directory
After ls the all directories and files under root will be shown.
ls -lh → is for the human readable and more info providing about the files and dir.

- **Enter the command now cd /home and then hit Enter key**

```
MyJourney [Running] - Oracle VM VirtualBox
File  Machine  View  Input  Devices  Help
Applications   Places   Terminal                                    en   Sat 10:29
                      devops_sakib@localhost:/home
File  Edit  View  Search  Terminal  Help
[devops_sakib@localhost /]$ cd /home
[devops_sakib@localhost home]$ ls -lh
total 4.0K
drwx------. 16 devops_sakib devops_sakib 4.0K Jun  3 10:14 devops_sakib
[devops_sakib@localhost home]$
```

My_Observation:
cd /home → this will take us to the home directory
After ls →all the users under home will be shown.
ls -lh → is for the human readable and more info providing information about the files and dir.

- **Enter cd .. and hit Enter key [** *Note: here we have space after cd then use double dot***]**

My_Observation:

pwd → this will print the current directory in which we are working.
—> current dir is /home
cd .. → will take out of the dir and go one step back

- **Now enter cd /var/www/html and then type cd and hit Enter key**

- **Now type cd /root and then hit Enter key**

This will take to the root dir

Assignment-4
Working with File Listing

- **Go to cd /etc and type ls**

```
[devops_sakib@localhost ~]$ cd /etc/
[devops_sakib@localhost etc]$ pwd
/etc
[devops_sakib@localhost etc]$ ls
abrt                    hosts.allow             profile
adjtime                 hosts.deny              profile.d
aliases                 hp                      protocols
aliases.db              idmapd.conf             pulse
alsa                    init.d                  purple
alternatives            inittab                 python
anacrontab              inputrc                 qemu-ga
asound.conf             iproute2                qemu-kvm
at.deny                 ipsec.conf              radvd.conf
audisp                  ipsec.d                 ras
audit                   ipsec.secrets           rc0.d
avahi                   iscsi                   rc1.d
bash_completion.d       issue                   rc2.d
bashrc                  issue.net               rc3.d
binfmt.d                java                    rc4.d
bluetooth               jvm                     rc5.d
brltty                  jvm-commmon             rc6.d
brltty.conf             kdump.conf              rc.d
centos-release          kernel                  rc.local
centos-release-upstream krb5.conf               rdma
chkconfig.d             krb5.conf.d             redhat-release
chrony.conf             ksmtuned.conf           request-key.conf
chrony.keys             ld.so.cache             request-key.d
cifs-utils              ld.so.conf              resolv.conf
cron.d                  ld.so.conf.d            rpc
cron.daily              libaudit.conf           rpm
```

- **Then type ls -al and hit Enter key**

```
[devops_sakib@localhost etc]$ ls -al
total 1384
drwxr-xr-x. 139 root root     8192 Jun  3 10:17 .
dr-xr-xr-x.  17 root root      224 Jun  3 07:11 ..
drwxr-xr-x.   3 root root      101 Jun  3 07:06 abrt
-rw-r--r--.   1 root root       16 Jun  3 07:11 adjtime
-rw-r--r--.   1 root root     1529 Apr  1  2020 aliases
-rw-r--r--.   1 root root    12288 Jun  3 07:19 aliases.db
drwxr-xr-x.   3 root root       65 Jun  3 07:07 alsa
drwxr-xr-x.   2 root root     4096 Jun  3 08:42 alternatives
-rw-------.   1 root root      541 May 16 20:28 anacrontab
-rw-r--r--.   1 root root       55 Aug  8  2019 asound.conf
-rw-r--r--.   1 root root        1 May 18  2022 at.deny
drwxr-x---.   3 root root       43 Jun  3 07:06 audisp
drwxr-x---.   3 root root       83 Jun  3 07:19 audit
drwxr-xr-x.   4 root root       71 Jun  3 07:07 avahi
drwxr-xr-x.   2 root root     4096 Jun  3 08:41 bash_completion.d
-rw-r--r--.   1 root root     2853 Apr  1  2020 bashrc
drwxr-xr-x.   2 root root        6 Sep  1  2022 binfmt.d
drwxr-xr-x.   2 root root       23 Jun  3 07:06 bluetooth
drwxr-xr-x.   2 root root    12288 Jun  3 07:07 brltty
-rw-r--r--.   1 root root    21929 Apr 11  2018 brltty.conf
-rw-r--r--.   1 root root       37 Nov 23  2020 centos-release
-rw-r--r--.   1 root root       51 Nov 23  2020 centos-release-upstream
drwxr-xr-x.   2 root root        6 Oct 13  2020 chkconfig.d
-rw-r--r--.   1 root root     1108 Aug  8  2019 chrony.conf
-rw-r-----.   1 root chrony    481 Aug  8  2019 chrony.keys
drwxr-xr-x.   2 root root       26 Jun  3 08:41 cifs-utils
drwxr-xr-x.   2 root root       54 Jun  3 08:41 cron.d
drwxr-xr-x.   2 root root       57 Jun  3 07:07 cron.daily
```

- **Then use ls -i and hit Enter key**

```
[devops_sakib@localhost etc]$ ls -i
34633319 abrt                    2886616 mcelog
17382150 adjtime               17146403 mke2fs.conf
16778282 aliases               17352147 modprobe.d
17441804 aliases.db             1092570 modules-load.d
 1614022 alsa                  16778296 motd
33928020 alternatives          16777284 mtab
```

My_Observation:
ls -i → this will print the files and directory with a unique id number.

- **Then use ls –help and see other options about ls command**

```
File  Edit  View  Search  Terminal  Help
Usage: ls [OPTION]... [FILE]...
List information about the FILEs (the current directory by default).
Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

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
 -b, --escape               print C-style escapes for nongraphic characters
     --block-size=SIZE      scale sizes by SIZE before printing them; e.g.,
                              '--block-size=M' prints sizes in units of
                              1,048,576 bytes; see SIZE format below
 -B, --ignore-backups       do not list implied entries ending with ~
 -c                         with -lt: sort by, and show, ctime (time of last
                              modification of file status information);
                              with -l: show ctime and sort by name;
                              otherwise: sort by ctime, newest first
 -C                         list entries by columns
     --color[=WHEN]         colorize the output; WHEN can be 'never', 'auto'
                              or 'always' (the default); more info below
 -d, --directory            list directories themselves, not their contents
 -D, --dired                generate output designed for Emacs' dired mode
 -f                         do not sort, enable -aU, disable -ls --color
 -F, --classify             append indicator (one of */=>@|) to entries
     --file-type            likewise, except do not append '*'
     --format=WORD          across -x, commas -m, horizontal -x, long -l,
```

Assignment-5
Know where you are and where you working

*Here we use **pwd, cd and ls** as combine task to understand where you working on terminal and how you can switch from one directory to another one.*

- **Open terminal after restart the linux**

```
[devops_sakib@localhost ~]$ pwd
/home/devops_sakib
[devops_sakib@localhost ~]$ echo " After Rebooting We are at the user home
 directory by default, and it is denoted by ~ (telda) sign"
 After Rebooting We are at the user home directory by default, and it is d
enoted by ~ (telda) sign
[devops_sakib@localhost ~]$ |
```

- **Now use cd /var and hit Enter key**

```
[devops_sakib@localhost ~]$ cd /var/
[devops_sakib@localhost var]$ ls
account   crash   games     lib    log   opt        spool
adm       db      gopher    local  mail  preserve   tmp
cache     empty   kerberos  lock   nis   run        yp
[devops_sakib@localhost var]$ ls -ltrh
total 12K
drwxr-xr-x.  2 root root     6 Apr 11  2018 yp
drwxr-xr-x.  2 root root     6 Apr 11  2018 preserve
drwxr-xr-x.  2 root root     6 Apr 11  2018 opt
drwxr-xr-x.  2 root root     6 Apr 11  2018 nis
drwxr-xr-x.  2 root root     6 Apr 11  2018 local
drwxr-xr-x.  2 root root     6 Apr 11  2018 gopher
drwxr-xr-x.  2 root root     6 Apr 11  2018 games
drwxr-xr-x.  2 root root     6 Apr 11  2018 adm
drwxr-xr-x.  2 root root     6 Jun  9  2021 crash
drwxr-xr-x.  3 root root    18 Dec  1  2022 kerberos
lrwxrwxrwx.  1 root root     6 Jun  3 07:05 run -> ../run
lrwxrwxrwx.  1 root root    11 Jun  3 07:05 lock -> ../run/lock
lrwxrwxrwx.  1 root root    10 Jun  3 07:05 mail -> spool/mail
drwxr-xr-x.  3 root root    18 Jun  3 07:07 empty
drwxr-xr-x.  2 root root    19 Jun  3 07:07 account
drwxr-xr-x. 12 root root   140 Jun  3 07:07 spool
drwxr-xr-x. 12 root root   141 Jun  3 07:19 cache
drwxr-xr-x.  3 root root    34 Jun  3 08:36 db
drwxr-xr-x. 58 root root  4.0K Jun  3 08:57 lib
drwxr-xr-x. 18 root root  4.0K Jun  3 16:07 log
drwxrwxrwt.  9 root root  4.0K Jun  3 16:09 tmp
[devops_sakib@localhost var]$
```

Additional Assignment Given on the class

Install all the dependencies in the centOs to make it full screen.

To make CentOS 7 full-screen in VirtualBox, you need to install the **VirtualBox Guest Additions**, which includes the necessary drivers and tools for better integration between the host and guest operating systems.

Followed This video to complete the assignment:
https://www.youtube.com/watch?v=7MQtSJ2TFyc

What is dependency?

Certainly! Here are the important headings and key points regarding dependencies in Linux:

Dependencies in Linux:
- Dependencies refer to additional software packages or libraries that a software/application relies on to function properly.

Types of Dependencies:
1. **Runtime dependencies:** Required for the software to run successfully during its execution.
2. **Build-time dependencies:** Required to compile or build software from source code.

Managing Dependencies:
- Package managers (like YUM in CentOS) help manage dependencies efficiently.
- **Repository configuration:** Configure the appropriate repositories (base, updates, extras) before installing software.
- **Dependency resolution:** Package manager automatically resolves and installs required dependencies.
- **Updating dependencies:** Regularly update installed packages and their dependencies using `yum update`.
- **Handling conflicts:** Resolve conflicts between conflicting dependencies manually.
- **Dependency troubleshooting:** Use commands like `yum deplist <package-name>` and `yum provides <file>` for troubleshooting dependency-related issues.

By understanding and effectively managing dependencies, you can ensure a smooth and functional Linux system. Package managers simplify this process by automating most of the dependency-related tasks.

Proof of Work: