Basic Linux Commands Assignments
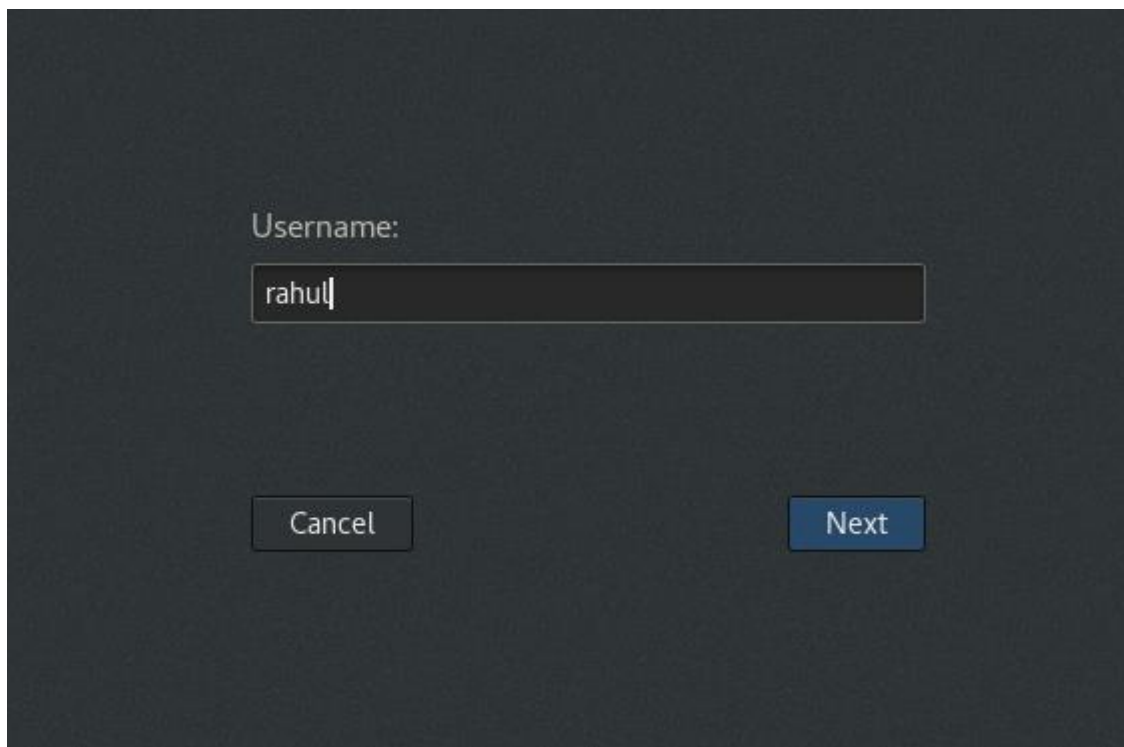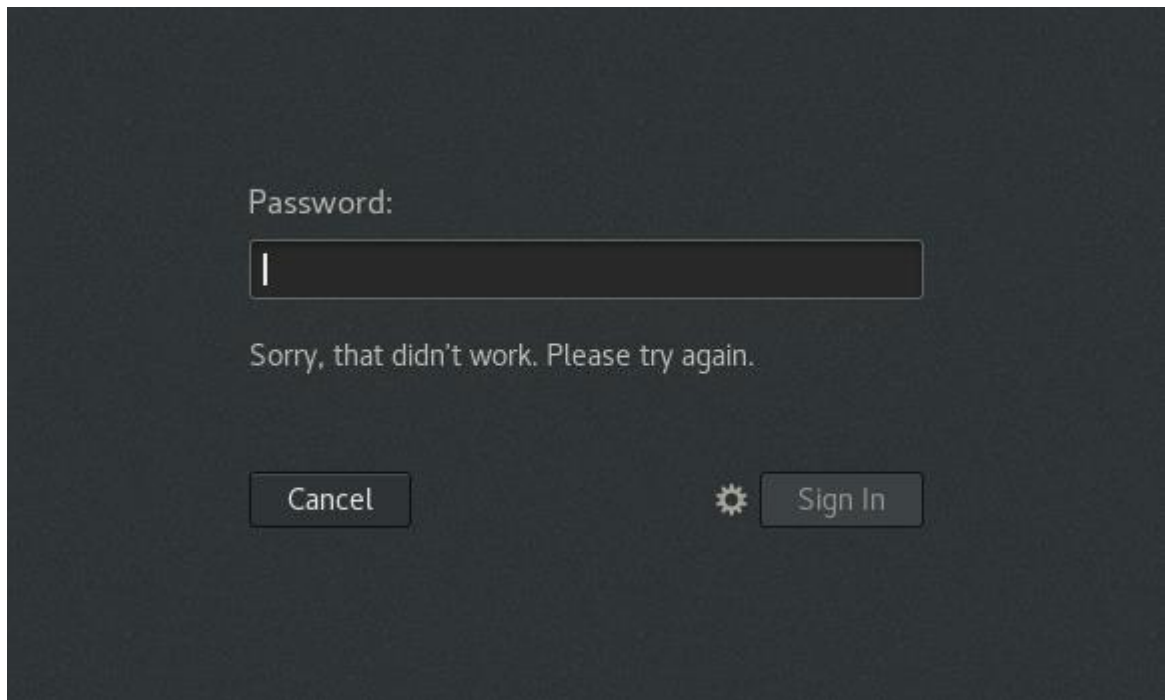
Assignment-1

Connect and disconnect with login Access

- What happens when you login a non-existent users or username?
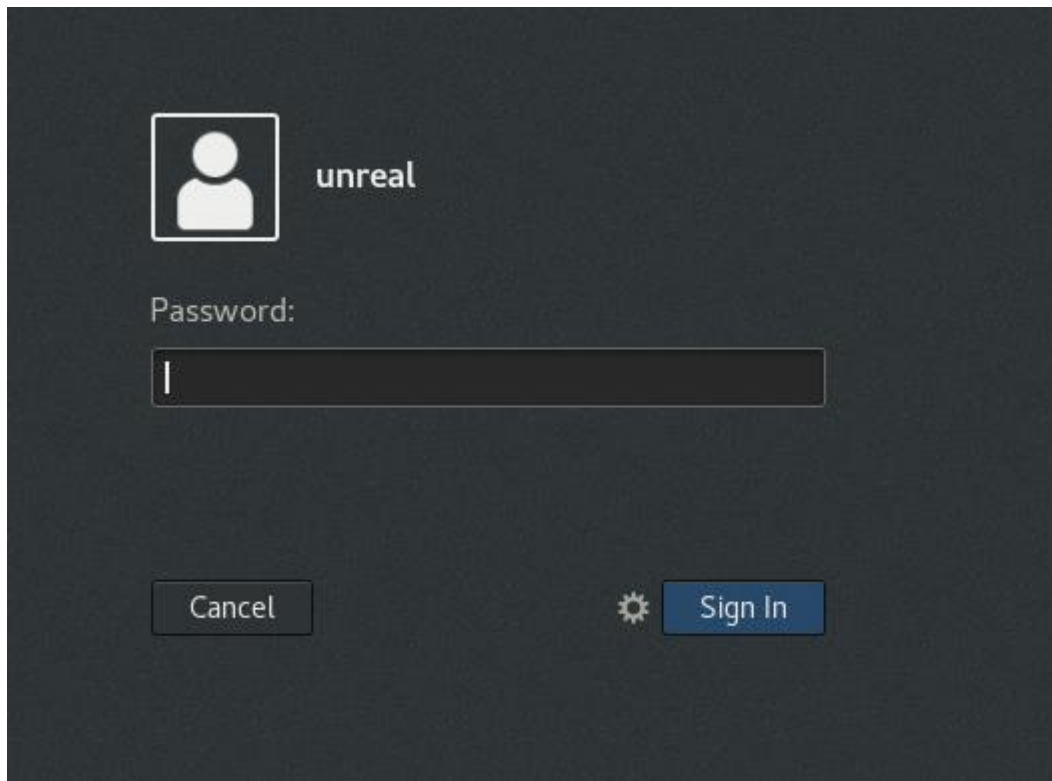   - Provide Screenshot and What you understand, explain in short brief?

It will take the username without any checks.

But it will checks for password and now allow to login as the user is not exist. It will allow to enter the password 3 times and then redirect to screen where actual user is.
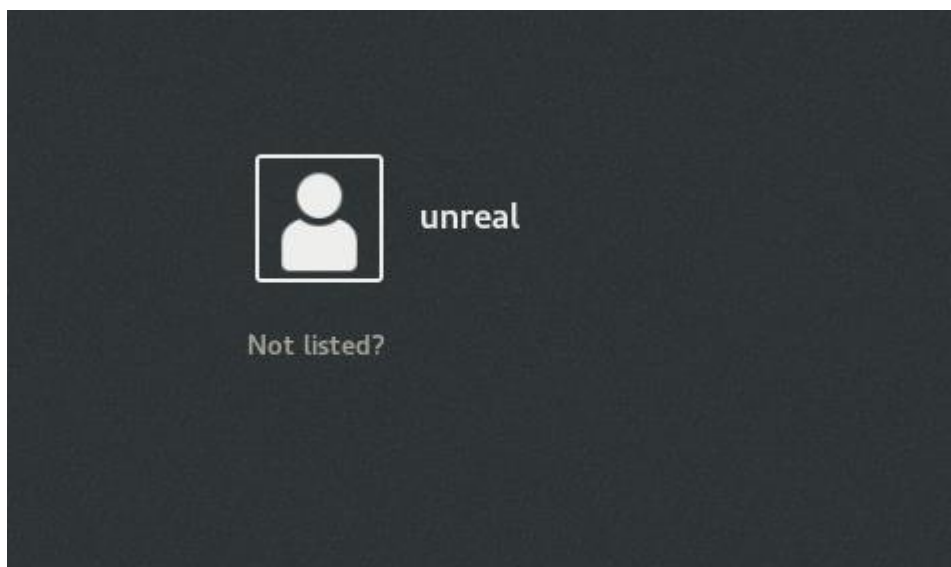
After you click on the user you have, it will ask to enter the password

Assignment-2

Password changing

- Login into your account and then change password?
  - Change your password into *IneuR0n#42* and hit the **Enter** key
    - Explain what happen and give screenshot?

```
File  Edit  View  Search  Terminal  Help
[unreal@10 ~]$ passwd
Changing password for user unreal.
Changing password for unreal.
(current) UNIX password:
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[unreal@10 ~]$
```

Passwd is the command to change the password. First it asks for current password if that is current then only you will be able to set new password otherwise don't.

if you enter correct password, it will ask you to enter new password and you have to retype the password as well, both passwords should match.

- Try again to change password but use like password *1234* or *abcd*
  - Explain what happen and give screenshot?

```
 File  Edit  View  Search  Terminal  Help

[unreal@10 ~]$ passwd
Changing password for user unreal.
Changing password for unreal.
(current) UNIX password:
New password:
BAD PASSWORD: The password is shorter than 8 characters
New password:
BAD PASSWORD: The password is shorter than 8 characters
New password:
BAD PASSWORD: The password is shorter than 8 characters
passwd: Have exhausted maximum number of retries for service
[unreal@10 ~]$
```

As 1234 and abcd is weak password so it will not allow to change the password, your password length should be 8 characters log.it will give 3 change to enter strong password

- Try again to change password but now don't use any password just hit **Enter** key
  - Explain what happen and give screenshot?

```
 File  Edit  View  Search  Terminal  Help

[unreal@10 ~]$ passwd
Changing password for user unreal.
Changing password for unreal.
(current) UNIX password:
New password:
BAD PASSWORD: No password supplied
New password:
BAD PASSWORD: No password supplied
New password:
BAD PASSWORD: No password supplied

passwd: Have exhausted maximum number of retries for service
[unreal@10 ~]$
[unreal@10 ~]$
```

When you don't provide any password, it will give an error saying no password supplied. As previous it will give 3 chance to enter password

Assignment-3

Working with Directories

- Enter the command **cd /** and then **ls** and then hit **Enter** key
  - o Take screenshot and explain what output we got?

Cd / command change the current working directory to **root** directory and then **ls** command print all the directory of current working directory root

- Enter the command now **cd /home** and then hit **Enter** key
  - o Do **ls,** provide screenshot and explain what is **/home** directory used for?

Cd /home change the current working directory to home directory. Home directory is to manage the user information and files.

- Enter **cd ..** and hit **Enter** key [*Note: here we have space after cd then use double dot*]
  - Check what happen and give screenshot?

Cd .. change the current working directory to root directory because home directory is inside the root directory and .. is used to go back 1 directory in folder hierarchy.

- Now enter **cd /var/www/html** and then type **cd** and hit **Enter** key
  - Explain what happen and give screenshot?

It is saying no such file or directory

- Now type **cd /root** and then hit **Enter** key
  - Do **ls,** check any output we have on screen if yes then take screenshot?

Permission is denied for user. But I tried to do it with root but still it is not working

Assignment-4

Working with File Listing

- Go to **cd /etc** and type **ls**
    - o Take screenshot and explain what files you have seeing?
    - o Take screenshot and explain what different output you found compare to previous command you used?

```
[unreal@10 ~]$ cd /etc/
[unreal@10 etc]$ ls
abrt                      hosts.allow              profile
adjtime                   hosts.deny               profile.d
aliases                   hp                       protocols
alsa                      idmapd.conf              pulse
alternatives              init.d                   purple
anacrontab                inittab                  python
asound.conf               inputrc                  qemu-ga
at.deny                   iproute2                 qemu-kvm
audisp                    ipsec.conf               radvd.conf
audit                     ipsec.d                  ras
avahi                     ipsec.secrets            rc0.d
bash_completion.d         iscsi                    rc1.d
bashrc                    issue                    rc2.d
binfmt.d                  issue.net                rc3.d
bluetooth                 java                     rc4.d
brltty                    jvm                      rc5.d
brltty.conf               jvm-commmon              rc6.d
centos-release            kdump.conf               rc.d
centos-release-upstream   kernel                   rc.local
chkconfig.d               krb5.conf                rdma
chrony.conf               krb5.conf.d              redhat-release
chrony.keys               ksmtuned.conf            request-key.conf
cifs-utils                ld.so.cache              request-key.d
cron.d                    ld.so.conf               resolv.conf
cron.daily                ld.so.conf.d             rpc
cron.deny                 libaudit.conf            rpm
cron.hourly               libblockdev              rsyncd.conf
cron.monthly              libibverbs.d             rsyslog.conf
crontab                   libnl                    rsyslog.d
cron.weekly               libpaper.d               rwtab
crypttab                  libreport                rwtab.d
csh.cshrc                 libuser.conf             samba
```

Linux Assignment_Ans.docx - Micro...   unreal@10:/etc

It is showing so many different files and folders.

Etc folder is the central location for all system configuration files

- Then type **ls -al** and hit **Enter** key
    - o Take screenshot and explain what new file or directory you found?

```
[unreal@10 etc]$ ls -al
total 1388
drwxr-xr-x. 140 root root      8192 Oct 12 10:19 .
dr-xr-xr-x.  17 root root       224 Oct 11 20:55 ..
drwxr-xr-x.   3 root root       101 Oct 10 15:50 abrt
-rw-r--r--.   1 root root        16 Oct 10 15:58 adjtime
-rw-r--r--.   1 root root      1529 Apr  1  2020 aliases
drwxr-xr-x.   3 root root        65 Oct 10 15:52 alsa
drwxr-xr-x.   2 root root      4096 Oct 11 21:04 alternatives
-rw-------.   1 root root       541 Jan 13  2022 anacrontab
-rw-r--r--.   1 root root        55 Aug  8  2019 asound.conf
-rw-r--r--.   1 root root         1 May 18 21:24 at.deny
drwxr-x---.   3 root root        43 Oct 10 15:50 audisp
drwxr-x---.   3 root root        83 Oct 10 16:01 audit
drwxr-xr-x.   4 root root        71 Oct 10 15:52 avahi
drwxr-xr-x.   2 root root      4096 Oct 11 21:03 bash_completion.d
-rw-r--r--.   1 root root      2853 Apr  1  2020 bashrc
drwxr-xr-x.   2 root root         6 Sep  1 20:27 binfmt.d
drwxr-xr-x.   2 root root        23 Oct 10 15:50 bluetooth
drwxr-xr-x.   2 root root     12288 Oct 10 15:51 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 Oct 11 21:01 cifs-utils
drwxr-xr-x.   2 root root        54 Oct 11 20:58 cron.d
drwxr-xr-x.   2 root root        57 Oct 10 15:52 cron.daily
-rw-------.   1 root root         0 Jan 13  2022 cron.deny
drwxr-xr-x.   2 root root        41 Oct 11 20:58 cron.hourly
drwxr-xr-x.   2 root root         6 Jun 10  2014 cron.monthly
-rw-r--r--.   1 root root       451 Jun 10  2014 crontab
drwxr-xr-x.   2 root root         6 Jun 10  2014 cron.weekly
```

-a –> include the files starts with .(dot)

-l –> include the permission, links, owner, group, size, time, name

- Then use **ls -i** and hit **Enter** key
  - Now see what different output its shows and take screenshot?

```
                              unreal@10:~                      _  □  ✕

File  Edit  View  Search  Terminal  Help
[unreal@10 ~]$ ls -i
35192209 Desktop     52070252 Downloads     80015 Pictures     80014 Templates
35192210 Documents   52070253 Music      18131737 Public     18131738 Videos
[unreal@10 ~]$ █
```

-i represent the inode number, The inode (index node) is a data structure in a Unix-style file system that describes a file-system object such as a file or a directory. Each inode stores the attributes and disk block locations of the object's data. File-system object attributes may include metadata (times of last change, access, modification), as well as owner and permission data.

- Then use **ls –help** and see other options about **ls** command
  - Explore it and try with other attribute we can use with **ls** command

```
                              unreal@10:~                      _  □  ✕

File  Edit  View  Search  Terminal  Help
Try 'ls --help' for more information.
[unreal@10 ~]$ ls --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
```

```
                                            none (default), slash (-p),
                                            file-type (--file-type), classify (-F)
    -i, --inode                 print the index number of each file
    -I, --ignore=PATTERN        do not list implied entries matching shell PATTERN
    -k, --kibibytes             default to 1024-byte blocks for disk usage
    -l                          use a long listing format
    -L, --dereference           when showing file information for a symbolic
                                  link, show information for the file the link
                                  references rather than for the link itself
    -m                          fill width with a comma separated list of entries
    -n, --numeric-uid-gid       like -l, but list numeric user and group IDs
    -N, --literal               print raw entry names (don't treat e.g. control
                                  characters specially)
    -o                          like -l, but do not list group information
    -p, --indicator-style=slash
                                append / indicator to directories
    -q, --hide-control-chars    print ? instead of nongraphic characters
        --show-control-chars    show nongraphic characters as-is (the default,
                                  unless program is 'ls' and output is a terminal)
    -Q, --quote-name            enclose entry names in double quotes
        --quoting-style=WORD    use quoting style WORD for entry names:
                                  literal, locale, shell, shell-always, c, escape
    -r, --reverse               reverse order while sorting
    -R, --recursive             list subdirectories recursively
    -s, --size                  print the allocated size of each file, in blocks
    -S                          sort by file size
        --sort=WORD             sort by WORD instead of name: none (-U), size (-S),
                                  time (-t), version (-v), extension (-X)
        --time=WORD             with -l, show time as WORD instead of default
                                  modification time: atime or access or use (-u)
                                  ctime or status (-c); also use specified time
                                  as sort key if --sort=time
        --time-style=STYLE      with -l, show times using style STYLE:
                                  full-iso, long-iso, iso, locale, or +FORMAT;
                                  FORMAT is interpreted like in 'date'; if FORMAT
                                  is FORMAT1<newline>FORMAT2, then FORMAT1 applies
                                  to non-recent files and FORMAT2 to recent files;
                                  if STYLE is prefixed with 'posix-', STYLE
                                  takes effect only outside the POSIX locale
    -t                          sort by modification time, newest first
    -T, --tabsize=COLS          assume tab stops at each COLS instead of 8
    -u                          with -lt: sort by, and show, access time;
                                  with -l: show access time and sort by name;
                                  otherwise: sort by access time
    -U                          do not sort; list entries in directory order
```

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
  - Check which location you working, type **pwd** and take screenshot

```
File  Edit  View  Search  Terminal  Help
[unreal@10 ~]$ pwd
/home/unreal
[unreal@10 ~]$ ▮
```

- Now use **cd /var** and hit **Enter** key
  - Do **ls,** and see what output comes, give screenshot?

```
File  Edit  View  Search  Terminal  Help
[unreal@10 ~]$ pwd
/home/unreal
[unreal@10 ~]$ cd /var/
[unreal@10 var]$ ls
account  adm  cache  crash  db  empty  games  gopher  kerberos  lib  local  lock  log  mail  nis  opt  preserve  run  spool  tmp  yp
[unreal@10 var]$
```

/var contains **variable data files**. This includes spool directories and files, administrative and logging data, and transient and temporary files. Some portions of /var are not shareable between different systems.

- Do explore other help options of each command to learn more other things we can do with these commands

```
File  Edit  View  Search  Terminal  Help
[unreal@10 ~]$ pwd
/home/unreal
[unreal@10 ~]$ cd /var/
[unreal@10 var]$ ls
account  adm  cache  crash  db  empty  games  gopher  kerberos  lib  local  lock  log  mail  nis  opt  preserve  run  spool  tmp  yp
[unreal@10 var]$
```

Live Class Assignment

Assignment 1 :- Install all the dependencies for making centOS full screen

1st way

Sudo **yum install dkms gcc make kernel-devel bzip2 binutils patch libgomp glibc-headers glibc-devel kernel-headers –y**

Go to VirtualBox menu option '**devices**' under that you will see '**insert guest additions cd image'** and install it as **root**

2nd way
1)Enable EPEL repository
sudo rpm -Uvh https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.rpm

2)Install all prequsites be executing below command
sudo yum install perl gcc dkms kernel-devel kernel-headers make bzip2

Go to VirtualBox menu option '**devices**' under that you will see '**insert guest additions cd image'** and install it as **root**

Assignemnt 2 :- Please update you CentOs machine

```
                              unreal@10:~
File  Edit  View  Search  Terminal  Help
[unreal@10 ~]$ sudo yum update
[sudo] password for unreal:
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: centos.excellmedia.net
 * extras: centos.excellmedia.net
 * updates: centos.excellmedia.net
No packages marked for update
[unreal@10 ~]$
```