Basic Linux Commands Assignments

Assignment 1

Connect and disconnect with login Access

 What happens when you login a non-existent users or username?

o Provide Screenshot and What you understand, explain in short brief?

When we provide the Wrong Username or non-existent user, the System will check for Username in the machine and if it matches, it will check for the password and then will sign in to the OS, else throws error message “Sorry, that didn’t work. Please try again”.

I found one article related to Check If a User Exists in Linux, I have tried below

[balkee@localhost ~]$ cat /etc/passwd

root:x:0:0:root:/root:/bin/bash

bin:x:1:1:bin:/bin:/sbin/nologin

daemon:x:2:2:daemon:/sbin:/sbin/nologin

[balkee@localhost ~]$ grep balkee /etc/passwd

balkee:x:1000:1000:Balaji Sivakumar:/home/balkee:/bin/bash

----------x----------x----------

Assignment 2

Password changing

 Login into your account and then change password?

o Change your password into IneuR0n#42 and hit the Enter key

 Explain what happen and give screenshot?

```
Changing password for user balkee.
Changing password for balkee.
(current) UNIX password:
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
[balkee@localhost ~]$
```

Logged into my account and changed my password into IneuR0n#42 using command **passwd** and password got changed.

Passwords must be at least 8 characters long. Passwords cannot contain dictionary word or user's login name. We can create a strong password using combination of Upper case, lower case alphabets, numbers and symbols.

o Try again to change password but use like password 1234 or abcd

 Explain what happen and give screenshot?

```
Changing password for balkee.
(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:
```

Tried setting password with abcd but throws an error states that password is shorter than 8 Characters.

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

 Explain what happen and give screenshot?

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

Tried setting password but just blankly pressed enter. Showing error message "No password supplied".

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Assignment 3

Working with Directories

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

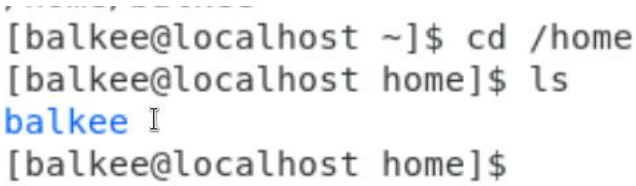
o Take screenshot and explain what output we got?

Entered the command cd / and then list the directories and files available in the path / using the command ls.

It is showing all the names of the folders/directories and files available in the path /

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

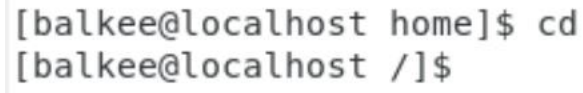
o Do ls, provide screenshot and explain what is /home directory used for?



The /home directory is a place where by default all user home directories are created. The home folder can be used for storing work related files.

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

o Check what happen and give screenshot?



After giving this command cd .. it makes an action to navigate to the previous directory.

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

o Explain what happen and give screenshot?

```
[balkee@localhost ~]$ cd /var/www/html
[balkee@localhost html]$ cd
[balkee@localhost ~]$ cd /var/www/html
[balkee@localhost html]$ cd
[balkee@localhost ~]$
```

When I give the 1st command it changes to html folder and then after giving cd command, the command itself returns to home directory. This is the function of cd directory.

I understood that, cd command by itself will always return to home directory; moving to any other directory requires a pathname.

 Now type cd /root and then hit Enter key

o Do ls, check any output we have on screen if yes then take screenshot?

```
[balkee@localhost ~]$ cd /root
bash: cd: /root: Permission denied
[balkee@localhost ~]$
```

It is asking for permission for accessing root folder.

So I tried the command su root to login as a root user and provided credentials after that I can able to access the root folder.

Pf the below,

```
[balkee@localhost ~]$ su root
Password:
[root@localhost balkee]# cd /root
[root@localhost ~]# ls
anaconda-ks.cfg  Documents  initial-setup-ks.cfg  Pictures  Templates
Desktop          Downloads  Music                 Public    Videos
[root@localhost ~]#
```

----------x----------x----------

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?

```
[balkee@localhost ~]$ cd /etc
[balkee@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
```

After giving the ls command, I can see all the folders and files under the path /etc. I can see many files and folders are available under the Folder etc.

 Then type ls -al and hit Enter key

o Take screenshot and explain what new file or directory you found?

After giving ls -al command, I can see the hidden files available in the path /etc. Under the path /etc, where configuration files and directories are located.

PF the attached screenshot,

```
[balkee@localhost etc]$ ls -al
total 1368
drwxr-xr-x. 139 root root     8192 Oct 14 09:57 .
dr-xr-xr-x.  17 root root      245 Oct 13 23:29 ..
drwxr-xr-x.   3 root root      101 Oct 13 11:20 abrt
-rw-r--r--.   1 root root       16 Oct 13 11:25 adjtime
-rw-r--r--.   1 root root     1529 Apr  1  2020 aliases
-rw-r--r--.   1 root root    12288 Oct 13 11:26 aliases.db
drwxr-xr-x.   3 root root       65 Oct 13 11:21 alsa
drwxr-xr-x.   2 root root     4096 Oct 13 11:24 alternatives
-rw-------.   1 root root      541 Aug  9  2019 anacrontab
-rw-r--r--.   1 root root       55 Aug  8  2019 asound.conf
-rw-r--r--.   1 root root        1 Oct 30  2018 at.deny
drwxr-x---.   3 root root       43 Oct 13 11:20 audisp
drwxr-x---.   3 root root       83 Oct 13 11:26 audit
drwxr-xr-x.   4 root root       71 Oct 13 11:21 avahi
drwxr-xr-x.   2 root root     4096 Oct 13 11:21 bash_completion.d
-rw-r--r--.   1 root root     2853 Apr  1  2020 bashrc
drwxr-xr-x.   2 root root        6 Oct  1  2020 binfmt.d
drwxr-xr-x.   2 root root       23 Oct 13 11:19 bluetooth
drwxr-xr-x.   2 root root    12288 Oct 13 11:20 brltty
-rw-r--r--.   1 root root    21929 Apr 11  2018 brltty.conf
-rw-r--r--.   1 root root       37 Oct 23  2020 centos-release
-rw-r--r--.   1 root root       51 Oct 23  2020 centos-release-upstream
drwxr-xr-x.   2 root root        6 Oct 13  2020 chkconfig.d
```

 Then use ls -i and hit Enter key

o Now see what different output its shows and take screenshot?

I have executed the command ls -i and getting inode number with the file/folder.

Inode number is nothing but the index number and it is a data structure in a Linux file system that stores information about a file and directory.

Pf the below attached screenshot,

```
[balkee@localhost etc]$ ls -i
34594200 abrt                          2957926 mcelog
17436422 adjtime                      17235337 mke2fs.conf
16777834 aliases                      17394993 modprobe.d
17460957 aliases.db                    1186856 modules-load.d
 1746194 alsa                         16777848 motd
33935154 alternatives                 16777284 mtab
17436394 anacrontab                   17033561 mtools.conf
17174671 asound.conf                  17616945 multipath
17994600 at.deny                      17362480 my.cnf
51087254 audisp                       17362481 my.cnf.d
17522197 audit                        18007712 nanorc
35167227 avahi                        34588964 ndctl
   74276 bash_completion.d            17235358 netconfig
16777835 bashrc                       34502386 NetworkManager
50934250 binfmt.d                     17436424 networks
50961217 bluetooth                    17617298 nfs.conf
17614269 brltty                       17617300 nfsmount.conf
17614270 brltty.conf                  17418716 nsswitch.conf
16777320 centos-release               16884143 nsswitch.conf.bak
16777321 centos-release-upstream      51938461 ntp
50372567 chkconfig.d                  17484505 numad.conf
17540086 chrony.conf                  51087242 oddjob
17540088 chrony.keys                  17522177 oddjobd.conf
51938493 cifs-utils                    1690336 oddjobd.conf.d
34502380 cron.d                       17362046 openldap
```

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

o Explore it and try with other attribute we can use with ls command

When I use the command ls –help, I can get the details and help notes where I can get the many different commands I can use with ls.

```
[balkee@localhost etc]$ 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
  -f                         do not sort, enable -aU, disable -ls --color
  -F, --classify             append indicator (one of */=>@|) to entries
      --file-type            likewise, except do not append '*'
```

```
[root@localhost /]# ls -lrt
total 24
drwxr-xr-x.   2 root root    6 Apr 11  2018 srv
drwxr-xr-x.   2 root root    6 Apr 11  2018 mnt
drwxr-xr-x.   2 root root    6 Apr 11  2018 media
lrwxrwxrwx.   1 root root    7 Oct 13 11:18 bin -> usr/bin
lrwxrwxrwx.   1 root root    8 Oct 13 11:18 sbin -> usr/sbin
lrwxrwxrwx.   1 root root    9 Oct 13 11:18 lib64 -> usr/lib64
lrwxrwxrwx.   1 root root    7 Oct 13 11:18 lib -> usr/lib
drwxr-xr-x.  13 root root  155 Oct 13 11:18 usr
drwxr-xr-x.   3 root root   16 Oct 13 11:21 opt
drwxr-xr-x.   3 root root   20 Oct 13 11:25 home
drwxr-xr-x.  20 root root  282 Oct 13 11:26 var
dr-xr-xr-x.   5 root root 4096 Oct 13 11:26 boot
dr-xr-xr-x.  13 root root    0 Oct 14 09:57 sys
drwxr-xr-x.  20 root root 3160 Oct 14 09:57 dev
drwxr-xr-x. 139 root root 8192 Oct 14 09:57 etc
dr-xr-xr-x. 213 root root    0 Oct 14 09:57 proc
drwxr-xr-x.  40 root root 1260 Oct 14 10:15 run
dr-xr-x---.  14 root root 4096 Oct 14 10:42 root
drwxrwxrwt.  18 root root 4096 Oct 14 10:48 tmp
[root@localhost /]#
```

```
[root@localhost /]# ls -lS
total 24
drwxr-xr-x. 139 root root 8192 Oct 14 09:57 etc
dr-xr-xr-x.   5 root root 4096 Oct 13 11:26 boot
dr-xr-x---.  14 root root 4096 Oct 14 10:42 root
drwxrwxrwt.  18 root root 4096 Oct 14 10:48 tmp
drwxr-xr-x.  20 root root 3160 Oct 14 09:57 dev
drwxr-xr-x.  40 root root 1260 Oct 14 10:15 run
drwxr-xr-x.  20 root root  282 Oct 13 11:26 var
drwxr-xr-x.  13 root root  155 Oct 13 11:18 usr
drwxr-xr-x.   3 root root   20 Oct 13 11:25 home
drwxr-xr-x.   3 root root   16 Oct 13 11:21 opt
lrwxrwxrwx.   1 root root    9 Oct 13 11:18 lib64 -> usr/lib64
lrwxrwxrwx.   1 root root    8 Oct 13 11:18 sbin -> usr/sbin
lrwxrwxrwx.   1 root root    7 Oct 13 11:18 bin -> usr/bin
lrwxrwxrwx.   1 root root    7 Oct 13 11:18 lib -> usr/lib
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.   2 root root    6 Apr 11  2018 srv
dr-xr-xr-x. 213 root root    0 Oct 14 09:57 proc
dr-xr-xr-x.  13 root root    0 Oct 14 09:57 sys
[root@localhost /]#
```

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

o Check which location you working, type pwd and take screenshot

```
[balkee@localhost ~]$ pwd
/home/balkee
[balkee@localhost ~]$
```

After providing the pwd, it is showing the present working directory and when I usually login, I starts with the directory /home/balkee.

 Now use cd /var and hit Enter key

o Do ls, and see what output comes, give screenshot?

Screenshot has been added. Ca see cache logs tmp spool and many folders available in var path.

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

I have explored some commands using ls –help command and let me explain about ls ~

ls ~ will gives the contents of the home directory.

----------x----------x----------