



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?

Sol) It will give error , it shows user does not exist or the user entry does not contain all the required fields. We have to give to give correct username to work this command without error

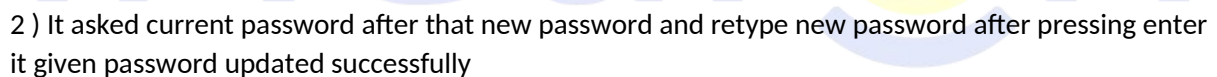
A screenshot of a Linux terminal window. The background is dark with a large, faint "iNeuron" watermark. On the left, there's a colorful ASCII art logo. The terminal shows the following commands and outputs:
1. `narottam ~ su - narottam`
 Password: [masked]
 The prompt changes to `#`.
2. `narottam ~ su - gaurav`
 Output: `su: user gaurav does not exist or the user entry does not contain all the required fields`
 The prompt returns to `~`.
On the right side of the terminal, there are two panels of system information:
- Top panel: Shows system details like `1594 (pacman)`, `1 hour, 39 mins`, and `Intel Corporation HD Graphics 615 [8086:591e]`.
- Bottom panel: Titled "I use Arch btw", it shows "Hardware Information" (NS14A1, Intel i5-7Y54, Intel HD Graphics 615, 3413MiB / 7865MiB) and "Software Information" (narottam, XeroLinux, Linux 6.1.8-zen1-1-zen, bash 5.1.16, konsole).

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

- Sol) 1. used **passwd** command to change password. It asked current password after that new password and retype new password after pressing enter it given password updated successfully



```
→ narottam ~ passwd
Changing password for narottam.
Current password:
New password:
Retype new password:
passwd: password updated successfully
→ narottam ~
```

3) No password has been supplied and keep on coming new password and retype new password, It means in Linux password is compulsory

```

~ I use Arch btw ~
┌─── Hardware Information ──┐
└─┴─┘
→ NS14A1
→ Intel i5-7Y54 (4) @ 3.2GHz
→ Intel HD Graphics 615
→ 3437MiB / 7865MiB (43%)
┌─── Software Information ──┐
└─┴─┘
→ narottam
→ XeroLinux
→ Linux 6.1.8-zen1-1-zen
→ Plasma 5.26.5
→ KWin
→ bash 5.1.16
→ konsole
→ Layan, Layan-Dark
→ 1594 (pacman)
→ 2 hours, 3 mins
→ Intel Corporation HD Graphics 615 [8086:591e]
→ 33%

+ narottam ~ passwd
Changing password for narottam.
Current password:
New password:
Retype new password:
No password has been supplied.
New password:
Retype new password:
No password has been supplied.
New 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?

Sol) **cd /** command changes the current working directory to the root directory and **ls** show the list of files of that current directory.

cd / and then **ls** and hit the Enter key, you will see a list of the files and directories that are located in the root directory.

```

+ narottam ~ cd /
+ narottam / ls
lrwxrwxrwx 7 root 19 Oct 2022 bin -> usr/bin
drwxr-xr-x - root 28 Jan 21:50 boot
drwxr-xr-x - root 31 Jan 07:12 dev
drwxr-xr-x - root 31 Jan 09:12 etc
drwxr-xr-x - root 23 Jan 17:54 home
lrwxrwxrwx 7 root 19 Oct 2022 lib -> usr/lib
lrwxrwxrwx 7 root 19 Oct 2022 lib64 -> usr/lib
drwx----- - root 23 Jan 17:47 lost+found
drwxr-xr-x - root 19 Oct 2022 mnt
drwxr-xr-x - root 28 Jan 20:06 opt
dr-xr-xr-x - root 31 Jan 07:12 proc
drwxr-xr-x - root 23 Jan 22:40 root
drwxr-xr-x - root 31 Jan 08:28 run
lrwxrwxrwx 7 root 19 Oct 2022 sbin -> usr/bin
drwxr-xr-x - root 14 Dec 2022 srv
dr-xr-xr-x - root 31 Jan 07:12 sys
drwxrwxrwt - root 31 Jan 09:16 tmp
drwxr-xr-x - root 28 Jan 21:50 usr
drwxr-xr-x - root 28 Jan 21:51 var
.rw-r--r-- 8 root 14 Dec 2022 version
+ narottam /

```

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

Sol) The **cd /home** command changes the current working directory to the **"/home"** directory. Each user has their own subdirectory within the **"/home"** directory where they can store their personal files, settings, and configurations.

the **"/home"** directory is used to store user-specific files and configurations, allowing each user to have their own personalized environment and separate storage space.

```

→ narottam / cd /home
→ narottam home ls
drwxr-xr-x - narottam 31 Jan 07:12 narottam
→ narottam home |

```

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

Sol) **cd ..** we will move up one level in the file system hierarchy, from the current working directory to its parent directory. Changed current home directory to root directory.

```

→ narottam home cd ..
→ narottam / ls
lrwxrwxrwx 7 root 19 Oct 2022 bin -> usr/bin
drwxr-xr-x - root 28 Jan 21:50 boot
drwxr-xr-x - root 31 Jan 07:12 dev
drwxr-xr-x - root 31 Jan 09:12 etc
drwxr-xr-x - root 23 Jan 17:54 home
lrwxrwxrwx 7 root 19 Oct 2022 lib -> usr/lib
lrwxrwxrwx 7 root 19 Oct 2022 lib64 -> usr/lib
drwx----- - root 23 Jan 17:47 lost+found
drwxr-xr-x - root 19 Oct 2022 mnt
drwxr-xr-x - root 28 Jan 20:06 opt
dr-xr-xr-x - root 31 Jan 07:12 proc
drwxr-xr-x - root 23 Jan 22:40 root
drwxr-xr-x - root 31 Jan 08:28 run
lrwxrwxrwx 7 root 19 Oct 2022/sbin -> usr/bin
drwxr-xr-x - root 14 Dec 2022 srv
dr-xr-xr-x - root 31 Jan 09:21 sys
drwxrwxrwt - root 31 Jan 09:31 tmp
drwxr-xr-x - root 28 Jan 21:50 usr
drwxr-xr-x - root 28 Jan 21:51 var
.rw-r--r-- 8 root 14 Dec 2022 version
→ narottam /

```

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

Sol) No such file or directory has come as output. That directory doesn't exist at that place.

```
→ narottam ~ cd /var/www/html
bash: cd: /var/www/html: No such file or directory
→ narottam ~
```

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

```

  \+++++/:-...      ..-:/+++++/
  \++/-..          \:/++/
  \:..            \:/

→ konsole
→ Layan,
→ 1594 (p
→ 2 hours
→ Intel C
→ 18%

[root@arch narottam]# cd /root
[root@arch ~]# ls
drwx----- - root 23 Jan 22:37 .cache
drwxr-xr-x - root 14 Dec 2022 .config
drwx----- - root 14 Dec 2022 .gnupg
drwxr-xr-x - root 14 Dec 2022 .kde4
drwxr-xr-x - root 14 Dec 2022 .local
drwx----- - root 14 Dec 2022 .ssh
drwxr-xr-x - root 14 Dec 2022 .themes
-rw----- 38 root 28 Jan 19:05 .bash_history
-rw-r--r-- 21 root 9 Jan 2022 .bash_logout
-rw-r--r-- 57 root 9 Jan 2022 .bash_profile
-rw-r--r-- 5.0k root 18 Nov 2022 .bashrc
-rw-r--r-- 3.7k root 2 Feb 2022 .screenrc
-rw-r--r-- 180 root 23 Jan 19:47 .wget-hsts
-rw-r--r-- 1.5k root 5 Dec 2022 xero.png
-rw-r--r-- 975 root 5 Dec 2022 XeroAscii
[root@arch ~]#
```

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?

Sol) The **cd /etc** command changes the current working directory to the **"/etc"** directory. from previous command by comparing the output of this command with the output of previous commands, you will notice that the **"/etc"** directory contains different types of files than the other directories I have explored so far, and these files are essential for the proper functioning of the system and applications.

```
→ narottam ~ cd /etc
→ narottam etc ls
drwxr-xr-x - root 23 Jan 18:44 ↗a2ps
drwxr-xr-x - root 23 Jan 18:44 ↗abs
drwxr-xr-x - root 14 Dec 2022 ↗alsa
drwxr-xr-x - root 23 Jan 19:49 ↗apparmor.d
drwxr-xr-x - root 23 Jan 18:44 ↗audit
drwxr-xr-x - root 14 Dec 2022 ↗avahi
drwxr-xr-x - root 14 Dec 2022 ↗bash_completion.d
drwxr-xr-x - root 9 Dec 2022 ↗binfmt.d
dr-xr-xr-x - root 23 Jan 17:55 ↗bluetooth
drwxr-xr-x - root 14 Dec 2022 ↗ca-certificates
drwxr-xr-x - root 14 Dec 2022 ↗chromium
drwxr-xr-x - root 23 Jan 18:45 ↗cifs-utils
drwxr-xr-x - root 23 Jan 18:45 ↗cloud
drwxr-xr-x - root 23 Jan 18:45 ↗conf.d
drwxr-xr-x - root 14 Dec 2022 ↗cron.d
drwxr-xr-x - root 25 Apr 2022 ↗cron.daily
drwxr-xr-x - root 14 Dec 2022 ↗cron.hourly
drwxr-xr-x - root 25 Apr 2022 ↗cron.monthly
drwxr-xr-x - root 25 Apr 2022 ↗cron.weekly
drwxr-xr-x - root 31 Jan 09:44 ↗cups
drwxr-xr-x - root 14 Dec 2022 ↗cupshelpers
drwxr-xr-x - root 23 Jan 18:44 ↗daxctl.conf.d
drwxr-xr-x - root 14 Dec 2022 ↗dbus-1
drwxr-xr-x - root 14 Dec 2022 ↗dconf
drwxr-xr-x - root 23 Jan 18:44 ↗debuginfod
```


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

Sol) The **ls -al** command will display information such as the file permissions, owner, group, size, and last modification time. This information can be useful for troubleshooting and managing files and directories in a Linux system.

```

narottam@etc ~$ ls -al
drwxr-xr-x  - root 31 Jan 09:12 .
drwxr-xr-x  - root 14 Dec 2022 ..
drwxr-xr-x  - root 23 Jan 18:44 a2ps
drwxr-xr-x  - root 23 Jan 18:44 abs
drwxr-xr-x  - root 14 Dec 2022 alsa
drwxr-xr-x  - root 23 Jan 19:49 apparmor.d
drwxr-xr-x  - root 23 Jan 18:44 audit
drwxr-xr-x  - root 14 Dec 2022 avahi
drwxr-xr-x  - root 14 Dec 2022 bash_completion.d
drwxr-xr-x  - root  9 Dec 2022 binfmt.d
dr-xr-xr-x  - root 23 Jan 17:55 bluetooth
drwxr-xr-x  - root 14 Dec 2022 ca-certificates
drwxr-xr-x  - root 14 Dec 2022 chromium
drwxr-xr-x  - root 23 Jan 18:45 cifs-utils
drwxr-xr-x  - root 23 Jan 18:45 cloud
drwxr-xr-x  - root 23 Jan 18:45 conf.d
drwxr-xr-x  - root 14 Dec 2022 cron.d
drwxr-xr-x  - root 25 Apr 2022 cron.daily
drwxr-xr-x  - root 14 Dec 2022 cron.hourly
drwxr-xr-x  - root 25 Apr 2022 cron.monthly
drwxr-xr-x  - root 25 Apr 2022 cron.weekly
drwxr-xr-x  - root 31 Jan 09:44 cups
drwxr-xr-x  - root 14 Dec 2022 cupshelpers
drwxr-xr-x  - root 23 Jan 18:44 daxctl.conf.d
drwxr-xr-x  - root 14 Dec 2022 dbus-1
drwxr-xr-x  - root 14 Dec 2022 dconf

```

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

Sol) I am seeing a list of all the files and subdirectories in this directory, along with their associated inode number.

```

narottam@etc ~$ ls -li
10092554 drwxr-xr-x  - root 23 Jan 18:44 a2ps
10092555 drwxr-xr-x  - root 23 Jan 18:44 abs
10092556 drwxr-xr-x  - root 14 Dec 2022 alsa
10092557 drwxr-xr-x  - root 23 Jan 19:49 apparmor.d
10092558 drwxr-xr-x  - root 23 Jan 18:44 audit
10092559 drwxr-xr-x  - root 14 Dec 2022 avahi
10092560 drwxr-xr-x  - root 14 Dec 2022 bash_completion.d
10092561 drwxr-xr-x  - root  9 Dec 2022 binfmt.d
10092562 dr-xr-xr-x  - root 23 Jan 17:55 bluetooth
10092563 drwxr-xr-x  - root 14 Dec 2022 ca-certificates
10092565 drwxr-xr-x  - root 14 Dec 2022 chromium
10092566 drwxr-xr-x  - root 23 Jan 18:45 cifs-utils
10092567 drwxr-xr-x  - root 23 Jan 18:45 cloud
10092568 drwxr-xr-x  - root 23 Jan 18:45 conf.d
10092569 drwxr-xr-x  - root 14 Dec 2022 cron.d
10092570 drwxr-xr-x  - root 25 Apr 2022 cron.daily
10092571 drwxr-xr-x  - root 14 Dec 2022 cron.hourly
10092572 drwxr-xr-x  - root 25 Apr 2022 cron.monthly
10092573 drwxr-xr-x  - root 25 Apr 2022 cron.weekly
10092574 drwxr-xr-x  - root 31 Jan 11:36 cups
10092575 drwxr-xr-x  - root 14 Dec 2022 cupshelpers
10092576 drwxr-xr-x  - root 23 Jan 18:44 daxctl.conf.d
10092577 drwxr-xr-x  - root 14 Dec 2022 dbus-1
10092578 drwxr-xr-x  - root 14 Dec 2022 dconf
10092579 drwxr-xr-x  - root 23 Jan 18:44 debuginfod
10092580 drwxr-xr-x  - root 28 Jan 21:40 default

```

- 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

Sol) Done

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

Sol)

The screenshot shows a terminal window with a dark background. On the left, there is a large, stylized ASCII art logo that reads "iNeuron". To the right of the logo, there is a window titled "I use Arch btw" which displays system information. Below the system information, the terminal shows the output of the `pwd` command.

```

~ I use Arch btw ~
Hardware Information
├─ NS14A1
├─ Intel i5-7Y54 (4) @ 3.2GHz
├─ Intel HD Graphics 615
└─ 3942MiB / 7865MiB (50%)
Software Information
├─ narottam
├─ XeroLinux
├─ Linux 6.1.8-zen1-1-zen
├─ Plasma 5.26.5
├─ KWin
├─ bash 5.1.16
├─ konsole
├─ Layan, Layan-Dark
├─ 1593 (pacman)
├─ 4 hours, 47 mins
├─ Intel Corporation HD Graphics 615 [8086:591e]
└─ 23%

→ narottam ~ pwd
/home/narottam
→ narottam ~
  
```


- Sol)

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