

# Linux exercise 2 - CLI

1. List all available shells on your Linux distribution.

```
haque@ab0208:~$ cat /etc/shells
# /etc/shells: valid login shells
/bin/sh
/bin/bash
/usr/bin/bash
/bin/rbash
/usr/bin/rbash
/bin/dash
/usr/bin/dash
/usr/bin/tmux
/usr/bin/screen
```

2. Find general guidelines using man command for user password (Hint: passwd).

Command: *"man passwd"*

## DESCRIPTION

The `passwd` command changes passwords for user accounts. A normal user may only change the password for their own account, while the superuser may change the password for any account. `passwd` also changes the account or associated password validity period.

3. How can you change your user from regular to root user and back to regular?

```
haque@ab0208:~$ su - root
Password:
root@ab0208:~# exit
logout
haque@ab0208:~$
```

4. Find out what is the description of the following Linux commands:

- `echo`

Command: *"man echo"*

## DESCRIPTION

Echo the `STRING(s)` to standard output.

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- free

Command: *"man free"*

```
DESCRIPTION
  free displays the total amount of free and used physical and swap memory in the system, as
  well as the buffers and caches used by the kernel. The information is gathered by parsing
  /proc/meminfo. The displayed columns are:

  total  Total installed memory (MemTotal and SwapTotal in /proc/meminfo)

  used   Used memory (calculated as total - free - buffers - cache)

  free   Unused memory (MemFree and SwapFree in /proc/meminfo)

  shared Memory used (mostly) by tmpfs (Shmem in /proc/meminfo)

  buffers
        Memory used by kernel buffers (Buffers in /proc/meminfo)

  cache  Memory used by the page cache and slabs (Cached and SReclaimable in /proc/meminfo)

  buff/cache
        Sum of buffers and cache

  available
        Estimation of how much memory is available for starting new applications, without
        swapping. Unlike the data provided by the cache or free fields, this field takes
        into account page cache and also that not all reclaimable memory slabs will be re-
        claimed due to items being in use (MemAvailable in /proc/meminfo, available on ker-
        nels 3.14, emulated on kernels 2.6.27+, otherwise the same as free)
```

- history

Command: *"man history"*

```
DESCRIPTION
  Many programs read input from the user a line at a time. The GNU History library is able
  to keep track of those lines, associate arbitrary data with each line, and utilize infor-
  mation from previous lines in composing new ones.
```

- w

Command: *"man w"*

```
DESCRIPTION
  w displays information about the users currently on the machine, and their processes. The
  header shows, in this order, the current time, how long the system has been running, how
  many users are currently logged on, and the system load averages for the past 1, 5, and 15
  minutes.

  The following entries are displayed for each user: login name, the tty name, the remote
  host, login time, idle time, JCPU, PCPU, and the command line of their current process.

  The JCPU time is the time used by all processes attached to the tty. It does not include
  past background jobs, but does include currently running background jobs.

  The PCPU time is the time used by the current process, named in the "what" field.
```

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## 5. Give an example of all of the above commands and command outputs.

- echo

```
haque@ab0208:~$ echo "What is your name?"; read name
What is your name?
Haque
```

- free

```
haque@ab0208:~$ free -h
             total        used        free      shared  buff/cache   available
Mem:           981Mi       162Mi       179Mi         0.0Ki        639Mi        655Mi
Swap:          1.6Gi         8.0Mi        1.6Gi
```

- history

```
178 passwd --help
179 man passwd --help
180 su - root
181 echo --help
182 echo
183 man echo
184 echo --version
185 --version
186 man echo
187 echo -e
188 echo -e kjkjsdha
189 echo "what is your name?", read name
190 echo "What is your name?";read name
191 echo "What is your name?"; read name
192 echo --help
193 echo "What is your name?";
194 echo description
195 echo -d
196 echo --description
197 info echo
198 echo
199 man echo
200 echo "What is your name?"; read name
201 free
202 free --help
203 free description
204 man free
205 free --help
206 free
207 free -h
208 history
209 history description
210 man history
211 history --help
212 history -a
213 history
```

- w

```
haque@ab0208:~$ w -f
19:31:22 up 2 days,  7:23,  1 user,  load average: 0.00, 0.00, 0.00
USER      TTY      LOGIN@  IDLE   JCPU   PCPU WHAT
haque     tty1      04Sep21  0.00s  0.96s  0.00s w -f
```