



Mawlana Bhashani Science and Technology University

Lab-Report

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Course code: ICT-3110

Course title: Operating System Lab

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Reference: Tazneen Akter (The mother board of my laptop is suddenly damaged and for that, I wasn't able to do my lab (2,3,5,6). So I took her help).

Submitted by

Name: Jannatul Ferdush Dhina

ID:IT-18012

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Session: 2017-2018

Dept. of ICT

Submitted To

Nazrul Islam

Assistant Professor

Dept. of ICT

MBSTU.

Experiment no : 06

Experiment Name : Linux command for process .

Theory :

The Linux terminal has a number of useful commands that can display running processes, kill them, and change their priority level. This post lists the classic, traditional commands, as well as some more useful, modern ones. Many of the commands here perform a single function and can be combined that's the Unix philosophy of designing programs. Other programs, like htop, provide a friendly interface on top of the commands. We have to executes this commands Top, htop, ps, pstree, kill, pgrep, pkill ,killall, renice, xkill.

Working Process :

1.Top : This command is the traditional way to view your system's resource usage and see the processes that are taking up the most system resources. Top displays a list of processes, with the ones using the most CPU at the top.

```
Terminal
File Edit View Search Terminal Help
top - 11:16:17 up 8 min, 1 user, load average: 0.62, 1.00, 0.64
Tasks: 253 total, 1 running, 188 sleeping, 0 stopped, 0 zombie
%Cpu(s): 5.8 us, 1.3 sy, 0.0 ni, 92.2 id, 0.0 wa, 0.0 hi, 0.6 si, 0.0 st
KiB Mem : 3913192 total, 1489856 free, 1310724 used, 1112612 buff/cache
KiB Swap: 2097148 total, 2097148 free, 0 used. 2129984 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR  S  %CPU  %MEM     TIME+ COMMAND
 1447 tazneen   20   0 4111972 383896 110676 S   22.8   9.8   0:54.11 gnome-shell
 1305 tazneen   20   0 999224  63888  42132 S    5.3   1.6   0:30.77 Xorg
    1 root      20   0 225456   9080   6664 S    0.3   0.2   0:02.58 systemd
   11 root      20   0      0      0      0 I    0.3   0.0   0:00.76 rcu_sched
  111 root      20   0      0      0      0 I    0.3   0.0   0:00.83 kworker/u8+
  195 root      20   0      0      0      0 I    0.3   0.0   0:00.56 kworker/u8+
  683 message+  20   0  51644   6080   3860 S    0.3   0.2   0:01.53 dbus-daemon
 2371 root      20   0      0      0      0 I    0.3   0.0   0:00.62 kworker/1:+
 2415 tazneen   20   0 792316  36712  27712 S    0.3   0.9   0:00.83 gnome-term+
 2480 tazneen   20   0 445444   4240   3580 R    0.3   0.1   0:00.17 top
    2 root      20   0      0      0      0 S    0.0   0.0   0:00.00 kthreadd
    3 root      0 -20      0      0      0 I    0.0   0.0   0:00.00 rcu_gp
    4 root      0 -20      0      0      0 I    0.0   0.0   0:00.00 rcu_par_gp
    6 root      0 -20      0      0      0 I    0.0   0.0   0:00.00 kworker/0:+
    9 root      0 -20      0      0      0 I    0.0   0.0   0:00.00 mm_percpu_+
   10 root      20   0      0      0      0 S    0.0   0.0   0:00.02 ksoftirqd/0
   12 root      rt   0      0      0      0 S    0.0   0.0   0:00.00 migration/0
```

2.htop: The htop command is an improved top. It's not installed by default on most Linux distributions — here's the command you'll need to install it on Ubuntu:

```

Terminal
File Edit View Search Terminal Help

1  [|||||||] 23.0% Tasks: 142, 423 thr; 2 running
2  [||] 3.2% Load average: 0.35 0.45 0.50
3  [||] 5.2% Uptime: 00:16:03
4  [||] 4.6%
Mem[|||||||||] 1.48G/3.73G
Swp[|] 0K/2.00G

PID USER PRI NI VIRT RES SHR S CPU% MEM% TIME+ Command
1305 tazneen 20 0 975M 63632 41876 S 5.9 1.6 0:50.98 /usr/lib/xorg/Xor
1447 tazneen 20 0 4017M 374M 108M S 23.1 9.8 1:16.98 /usr/bin/gnome-sh
2900 tazneen 20 0 33824 4664 3852 R 3.3 0.1 0:00.62 htop
2527 tazneen 20 0 773M 36356 27328 S 0.0 0.9 0:00.94 /usr/lib/gnome-te
1 root 20 0 220M 9080 6664 S 0.0 0.2 0:02.96 /sbin/init splash
898 mysql 20 0 1326M 172M 15028 S 0.0 4.5 0:00.09 /usr/sbin/mysqld
1316 tazneen 20 0 975M 63632 41876 S 0.7 1.6 0:05.00 /usr/lib/xorg/Xor
871 mysql 20 0 1326M 172M 15028 S 0.0 4.5 0:01.60 /usr/sbin/mysqld
1480 tazneen 20 0 4017M 374M 108M S 0.0 9.8 0:00.07 /usr/bin/gnome-sh
919 mysql 20 0 1326M 172M 15028 S 0.0 4.5 0:00.06 /usr/sbin/mysqld
920 mysql 20 0 1326M 172M 15028 S 0.0 4.5 0:00.08 /usr/sbin/mysqld
714 root 20 0 546M 17252 13816 S 0.0 0.4 0:01.35 /usr/sbin/Network
1451 tazneen 20 0 4017M 374M 108M S 0.0 9.8 0:00.64 /usr/bin/gnome-sh
755 root 20 0 281M 7292 6332 S 0.0 0.2 0:00.06 /usr/lib/accounts
F1Help F2Setup F3Search F4Filter F5Tree F6SortBy F7Nice F8Nice F9Kill F10Quit

```

3.ps : The ps command lists running processes.

```

Terminal
File Edit View Search Terminal Help

tazneen@tazneen-HP-Laptop-14-bs0xx:~$ ps
  PID TTY          TIME CMD
 2425 pts/0    00:00:00 bash
 2426 pts/0    00:00:00 ps
tazneen@tazneen-HP-Laptop-14-bs0xx:~$

```

4.pstree : The pstree command is another way of visualizing processes. It displays them in tree format. So, for example, your X server and graphical environment would appear under the display manager that spawned them.


```
File Edit View Search Terminal Help
tazneen@tazneen-HP-Laptop-14-bs0xx:~$ sudo killall evince
tazneen@tazneen-HP-Laptop-14-bs0xx:~$ pkill evince
tazneen@tazneen-HP-Laptop-14-bs0xx:~$
```

7. **pgrep** : Given a search term,pgrep returns the process IDs that match it.

```
tazneen@tazneen-HP-Laptop-14-bs0xx:~$ pgrep netns
34
tazneen@tazneen-HP-Laptop-14-bs0xx:~$ renice 19 34
renice: failed to set priority for 34 (process ID): Operation not permitted
tazneen@tazneen-HP-Laptop-14-bs0xx:~$ sudo renice 19 34
34 (process ID) old priority -20, new priority 19
tazneen@tazneen-HP-Laptop-14-bs0xx:~$
```

8. **renice** : The renice command changes the nice value of an already running process. The nice value determines what priority the process runs with. A value of -15 is very high priority, while a value of 15 is very low priority. A value of 0 is the default priority.

```
tazneen@tazneen-HP-Laptop-14-bs0xx:~$ pgrep netns
34
tazneen@tazneen-HP-Laptop-14-bs0xx:~$ renice 19 34
renice: failed to set priority for 34 (process ID): Operation not permitted
tazneen@tazneen-HP-Laptop-14-bs0xx:~$ sudo renice 19 34
34 (process ID) old priority -20, new priority 19
tazneen@tazneen-HP-Laptop-14-bs0xx:~$
```

9. **.xkill** : The xkill command is a way of easily killing graphical programs. Run it and your cursor will turn into an x sign. Click a program's window to kill that program. If you don't want to kill a program, you can back out of xkill by rightclicking instead.

```
File Edit View Search Terminal Help
tazneen@tazneen-HP-Laptop-14-bs0xx:~$ xkill
Select the window whose client you wish to kill with button 1....
xkill: killing creator of resource 0x3a000007
tazneen@tazneen-HP-Laptop-14-bs0xx:~$
```

Discussion: We have implemented some Linux command for process in this lab. We can easily execute our work and do our work first by using this terminal and very easy commands.