Mawlana Bhashani Science and Technology University

Lab-Report

Report No: 06

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Experiment no : 06

Experiment Name : Linux command for process.

Theory :

A program/command when executed, a special instance is provided by the system to the process. This instance consists of all the services/resources that may be utilized by the process under execution. 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.

We have to execute these commands Top, Ps, kill, pgrep, pkill , killall, df, renice, free,glances.

Working Process :

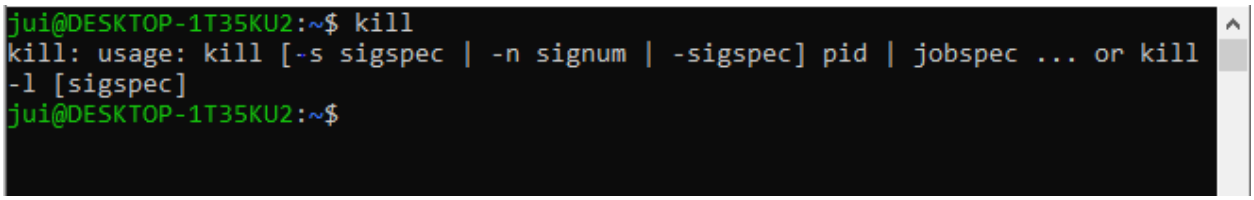
1. **top:** This command is used to show all the running processes within the working environment of Linux.

```
jui@DESKTOP-1T35KU2:~$ top
top - 19:43:14 up 2 min,  0 users,  load average: 0.52, 0.58, 0.59
Tasks:   4 total,   1 running,   3 sleeping,   0 stopped,   0 zombie
%Cpu(s):  5.1 us,  9.3 sy,  0.0 ni, 84.2 id,  0.0 wa,  1.4 hi,  0.0 si,  0.0 st
MiB Mem :   3887.5 total,    498.5 free,   3165.0 used,    224.0 buff/cache
MiB Swap:  11776.0 total,  11522.3 free,    253.7 used.    591.9 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
    1 root      20   0    8328    148    124 S   0.0   0.0   0:00.09 init
    3 root      20   0    8328    144    108 S   0.0   0.0   0:00.01 init
    4 jui       20   0   18084   3552   3444 S   0.0   0.1   0:00.14 bash
   62 jui       20   0   18912   2124   1508 R   0.0   0.1   0:00.02 top
```

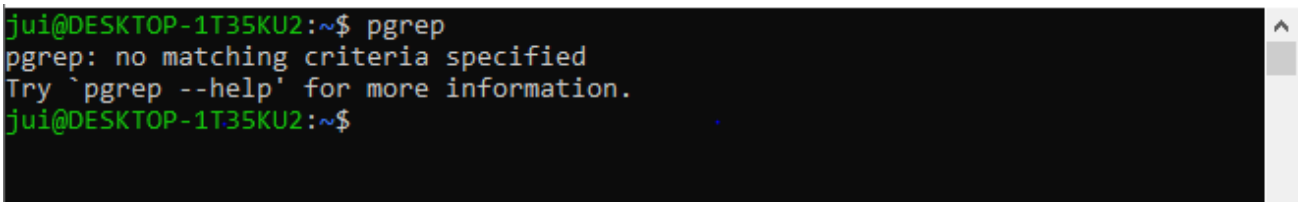
2. **ps:** ps(Process status) can be used to see/list all the running processes.

```
jui@DESKTOP-1T35KU2:~$ ps
  PID TTY          TIME CMD
    4 tty1     00:00:00 bash
   17 tty1     00:00:00 ps
jui@DESKTOP-1T35KU2:~$
```

3. **kill:** This command can kill a process, given its process ID. You can get this information from the ps -A, top or pgrep commands.



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



5. **pkill:** This command can kill a process.

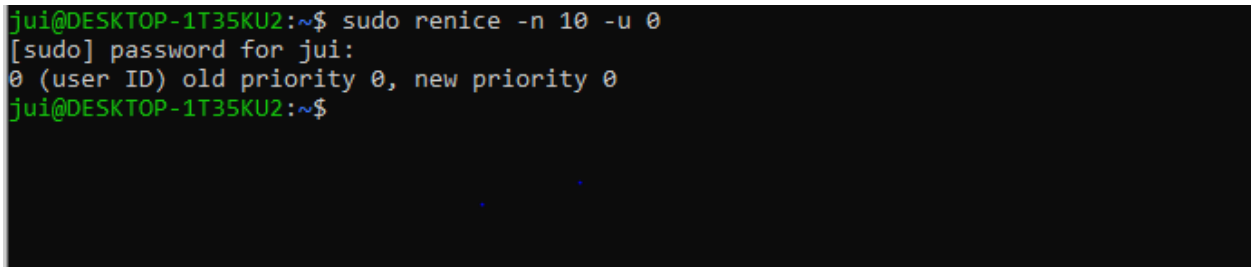
6. **killall:** This command can kill all process.

```
jui@DESKTOP-1T35KU2:~$ killall
Usage: killall [ -Z CONTEXT ] [ -u USER ] [ -y TIME ] [ -o TIME ] [ -eIgiqrvw ]
               [ -s SIGNAL | -SIGNAL ] NAME...
       killall -l, --list
       killall -V, --version

  -e,--exact          require exact match for very long names
  -I,--ignore-case    case insensitive process name match
  -g,--process-group  kill process group instead of process
  -y,--younger-than   kill processes younger than TIME
  -o,--older-than     kill processes older than TIME
  -i,--interactive    ask for confirmation before killing
  -l,--list           list all known signal names
  -q,--quiet          don't print complaints
  -r,--regexp         interpret NAME as an extended regular expression
  -s,--signal SIGNAL  send this signal instead of SIGTERM
  -u,--user USER      kill only process(es) running as USER
  -v,--verbose        report if the signal was successfully sent
  -V,--version        display version information
  -w,--wait           wait for processes to die
  -n,--ns PID         match processes that belong to the same namespaces
                      as PID
  -Z,--context REGEXP kill only process(es) having context
                      (must precede other arguments)

jui@DESKTOP-1T35KU2:~$
```

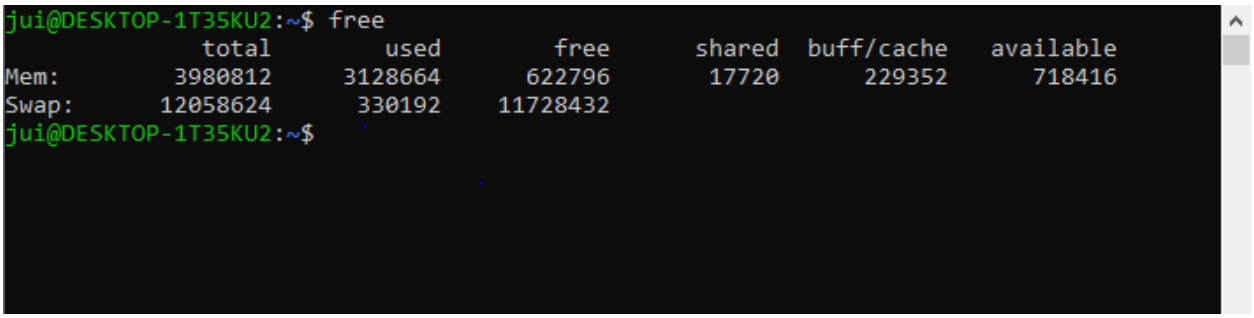
7. **df**: It shows the amount of available disk space being used by file systems

```
jui@DESKTOP-1T35KU2:~$ df
Filesystem     1K-blocks      Used Available Use% Mounted on
rootfs         136630268 135683780    946488 100% /
none           136630268 135683780    946488 100% /dev
none           136630268 135683780    946488 100% /run
none           136630268 135683780    946488 100% /run/lock
none           136630268 135683780    946488 100% /run/shm
none           136630268 135683780    946488 100% /run/user
C:             136630268 135683780    946488 100% /mnt/c
D:             210029564  15476576 194552988   8% /mnt/d
E:             210029564  46490520 163539044  23% /mnt/e
F:             210029564   5969836 204059728   3% /mnt/f
G:             158253052   7461608 150791444   5% /mnt/g
jui@DESKTOP-1T35KU2:~$
```

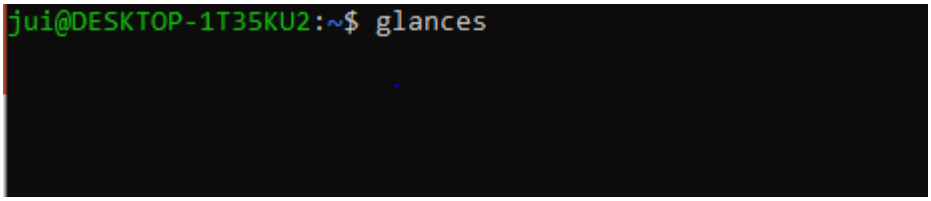
8. **renice**: To change the priority of an already running process renice is used.

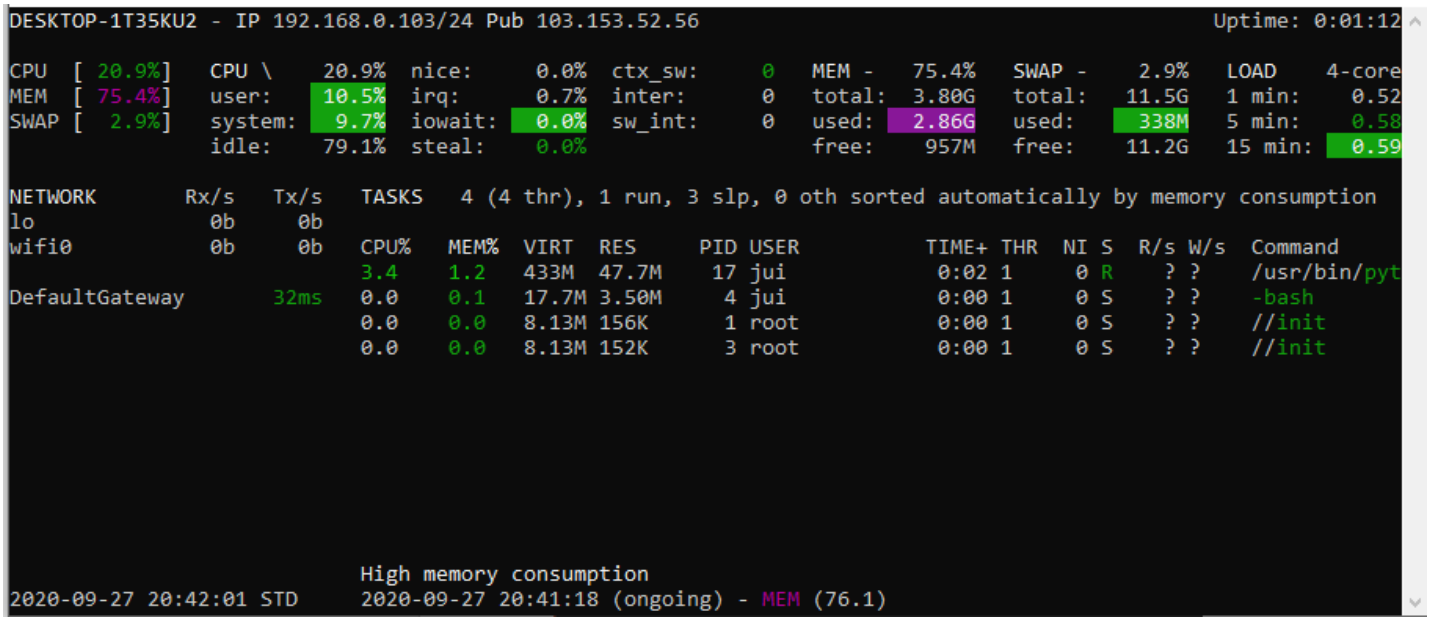


9. **free**: It shows the total amount of free and used physical and swap memory in the system, as well as the buffers used by the kernel.



10.**glances:** There are lots of interesting options available in Glances as well. One of the main features we have seen in Glances is that we can set thresholds (**careful**, **warning** and **critical**) in configuration file and informations will be shown in colors which indicates the bottleneck in the system.





Discussion :

The terminal in Unix is a very powerful tool. With Linux terminal we'd get to execute commands pertaining to the shell we'd be using. We can easily execute our work and do our work faster by using this terminal and these easy commands.