Mawlana Bhashani Science and Technology University

Lab-Report

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Experiment No:06

Experiment Name:Linux command for process

Objectives:

In this experiment,we introduce with some different new commands that can show how a process running in ubuntu.

Question: How to Manage Processes from the Linux Terminal?

Ans:

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.

Question:Run the following process commands in linux

Top, htop, Ps, pstree, kill, pgrep, pkill ,killall, renice, xkill,

Ans:

1)top: The top 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.

```
top - 14:20:53 up  3:51,  0 users,  load average: 0.52, 0.58, 0.59
Tasks:   6 total,   1 running,   5 sleeping,   0 stopped,   0 zombie
%Cpu(s): 12.4 us, 14.0 sy,  0.0 ni, 73.6 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :   3978.1 total,   1361.0 free,   2393.1 used,    224.0 buff/cache
MiB Swap:  12288.0 total,  12179.4 free,    108.6 used.   1454.4 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
  714 mysql     20   0 2666840 148440  54916 S 100.3   3.6 192:36.40 mysqld
    1 root      20   0    8936    312    268 S   0.0   0.0   0:00.07 init
  579 mysql     20   0   10656    808    780 S   0.0   0.0   0:00.10 mysqld_safe
  785 root      20   0    8936    224    180 S   0.0   0.0   0:00.01 init
  786 piya      20   0   18080   3592   3504 S   0.0   0.1   0:00.10 bash
  799 piya      20   0   18904   2140   1520 R   0.0   0.1   0:00.01 top
```

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

3)ps: The **ps** command lists running processes. The following command lists all processes running on your system

```
piya@DESKTOP-JTFNBIK:~$ ps -A
  PID TTY          TIME CMD
    1 ?        00:00:00 init
 1090 tty1     00:00:00 init
 1091 tty1     00:00:00 bash
 1104 tty1     00:00:00 ps
piya@DESKTOP-JTFNBIK:~$
```

4)pstree: The pstree command is another way of visualizing processes. It displays them in tree format.

```
piya@DESKTOP-JTFNBIK:~$ pstree
init─┬─init───bash───pstree
     └─{init}
```

5)kill: The kill command can kill a process, given its process ID. We can get this information from the ps -A, top or pgrep commands.

```
piya@DESKTOP-JTFNBIK:~$ kill
kill: usage: kill [-s sigspec | -n signum | -sigspec] pid | jobspec ... or kill -l [sigspec]
piya@DESKTOP-JTFNBIK:~$
```

6)pgrep: Given a search term,pgrep returns the process IDs that match it.

```
piya@DESKTOP-JTFNBIK:~$ kill
kill: usage: kill [-s sigspec | -n signum | -sigspec] pid | jobspec ... or kill -l [sigspec]
piya@DESKTOP-JTFNBIK:~$ pgrep
pgrep: no matching criteria specified
Try `pgrep --help' for more information.
piya@DESKTOP-JTFNBIK:~$
```

7)pkill:This command can kill a process

```
pkill: no matching criteria specified
Try `pkill --help' for more information.
piya@DESKTOP-JTFNBIK:~$
```

8)killal: This command can kill a process

```
piya@DESKTOP-JTFNBIK:~$ 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)
```

9)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.

```
piya@DESKTOP-JTFNBIK:~$ renice
renice: not enough arguments
Try 'renice --help' for more information.
piya@DESKTOP-JTFNBIK:~$ renice --help

Usage:
 renice [-n] <priority> [-p|--pid] <pid>...
 renice [-n] <priority>  -g|--pgrp <pgid>...
 renice [-n] <priority>  -u|--user <user>...

Alter the priority of running processes.

Options:
 -n, --priority <num>   specify the nice increment value
 -p, --pid <id>         interpret argument as process ID (default)
 -g, --pgrp <id>        interpret argument as process group ID
 -u, --user <name>|<id> interpret argument as username or user ID

 -h, --help             display this help
 -V, --version          display version

For more details see renice(1).
piya@DESKTOP-JTFNBIK:~$
```

10)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 right-clicking instead