



Mawlana Bhashani Science and Technology University

Lab-Report

Report No:06

Report Name:Linux command for process

Course code:ICT-3110

Course title:Operating System Lab

Date of Performance:15-09-2020

Date of Submission:19-09-2020

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3rd year 1st semester

Session: 2017-2018

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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)pgrep:This command can kill a process

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

8)killall: 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,--regex           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-JTFNBK:~$ renice
renice: not enough arguments
Try 'renice --help' for more information.
piya@DESKTOP-JTFNBK:~$ 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-JTFNBK:~$

```

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.

Discussion: From this experiment, I learnt some linux command process. These commands can perform a single function. Every command performs different function. Some of them perform same function like kill and killall. Both of them can kill a process. I did this experiment in ubuntu linux system. They have worked successfully but one command is not working successfully. The htop command is not working in my pc. I have tried so many times but I failed. This made me very disappointed. But other commands are successfully done.