

ps command

-> ps stands for process status

-> What is mean by process?

Ans: Program under execution is called Process
or

An instance of running program is called as process

Example : copy a file from one location to another location

Example : downloading files from net

-> Types of Process

There are two types of process

1) Foreground Process

2) Background Process

-> What is mean by Foreground process?

Ans: The process which occupies your shell or terminal window
is called as Foreground Process

Programs and Commands run as Foreground process

While executing foreground process user cannot add other commands
or task until current running process get completed

To stop foreground process, we use Ctrl+c

-> What is mean by Background Process?

Ans: The process that is running independently of user are called as
Background Process

The process that runs behind the scene and without user
intervention is called as Background Process

-> ps command syntax

ps [option]

-> Example : when we execute ps command without any option then it display all process for current shell

1) if we execute ps command without option then it shows processes for the current shell

```
root@DESKTOP-1VT9LL4:~# ps
  PID TTY          TIME CMD
    1 ?            00:00:00 init
   11 ?            00:00:01 bash
10333 ?            00:00:00 ps
root@DESKTOP-1VT9LL4:~# _
```

Here

PID- Process Id

TTY -Terminal Type

TIME : Amount of time given by CPU to execute command

CMD - Command name

-> options of ps command

1) -A option

-> -A option is used to list out all process (Running + completed)

2) -e option

-> e means everything

-> -e option is used to list out all process (Running + completed)

3) -r option

-> -r option is used to list out only running process

4) -T option

-> This option is used to list out process that are associated with current shell

5) -x option

-> This option is used to list out all process owned by you

6) -f option

This option is used to display process full information

7) -p option

-> This option is used to view process by process id

-> ps -p process_id

8) -u option

-> This option is used to view process by user name

-> ps -u username

9) -G option

-> This option is used to view process by Group name

-> ps -G group_name

10) -t option

-> This option is used to view process by terminal name

11) ps -eH

-> Display process tree

12) `ps -e --forest`

-> Display process tree

13) `pstree`

-> Display process tree

14) How to kill process?

Ans: To kill the process we use "kill" command

How to use kill command?

Ans `kill -9 processid`

If we want to kill multiple process at a time

Ans : `kill -9 psid1 psid2 psid3`

Q. 4 How will you check memory usage of a running job?

Ans: step 1 : First find long job id using below command

`ps -x or ps -aux`

Step 2: use `pmap` command

`pmap PID`

The last line of the output gives the total memory usage of the running process.

How to Find Top Running Processes by Highest Memory and CPU Usage in Linux?

```
ps -eo pid,ppid,cmd,%mem,%cpu --sort=-%mem
```

Above command shows out put by highest memory

=====

```
ps -eo pid,ppid,cmd,%mem,%cpu --sort=-%cpu
```

Above command show out put by highest cpu

Note : By default it shows out put in ascending order if we want to show out put in descending order use minus symbol