

Assignment – Process Management

1) List out highest priority process in the system

```
ubuntu@ip-172-31-24-49:~$ ps -eo pid,ppid,pri,ni,cmd --sort=-pri | head -n 10
  PID      PPID  PRI   NI CMD
    30         2    0   19 [khugepaged]
    29         2   14    5 [ksmd]
     1         0   19    0 /sbin/init
     2         0   19    0 [kthreadd]
     3         2   19    0 [pool_workqueue_release]
    13         2   19    0 [rcu_tasks_rude_kthread]
    14         2   19    0 [rcu_tasks_trace_kthread]
    15         2   19    0 [ksoftirqd/0]
    16         2   19    0 [rcu_sched]
```

2) Open terminal with 2 tabs or sessions

a) run command "vmstat 1"

b) switch to another tab, pause running vmstat command for few seconds and resume it again

use appropriate SIGNALS to do this activity.

```
ubuntu@ip-172-31-24-49:~$ vmstat 1
```

| procs | | memory | | | | swap | | io | | system | | cpu | | | | | |
|--|---|--------|--------|-------|--------|------|----|----|-----|--------|-----|-----|----|-----|----|----|----|
| r | b | swpd | free | buff | cache | si | so | bi | bo | in | cs | us | sy | id | wa | st | gu |
| 0 | 0 | 0 | 439944 | 20928 | 331472 | 0 | 0 | 41 | 37 | 40 | 0 | 0 | 0 | 92 | 0 | 7 | 0 |
| 0 | 0 | 0 | 439944 | 20928 | 331472 | 0 | 0 | 0 | 0 | 41 | 24 | 0 | 0 | 98 | 0 | 2 | 0 |
| 0 | 0 | 0 | 439944 | 20928 | 331472 | 0 | 0 | 0 | 0 | 35 | 19 | 0 | 0 | 83 | 0 | 17 | 0 |
| 0 | 0 | 0 | 439944 | 20928 | 331472 | 0 | 0 | 0 | 0 | 31 | 20 | 0 | 0 | 99 | 0 | 1 | 0 |
| 0 | 0 | 0 | 439944 | 20928 | 331472 | 0 | 0 | 0 | 0 | 36 | 24 | 0 | 0 | 100 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439944 | 20928 | 331472 | 0 | 0 | 0 | 0 | 26 | 20 | 0 | 0 | 99 | 0 | 1 | 0 |
| ^[[Z 0 0 0 439944 20928 331472 0 0 0 0 44 26 0 0 100 0 0 0 | | | | | | | | | | | | | | | | | |
| 0 | 0 | 0 | 439944 | 20928 | 331472 | 0 | 0 | 0 | 0 | 26 | 15 | 0 | 0 | 100 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439944 | 20928 | 331472 | 0 | 0 | 0 | 0 | 28 | 26 | 0 | 0 | 82 | 0 | 18 | 0 |
| 0 | 0 | 0 | 439944 | 20928 | 331472 | 0 | 0 | 0 | 0 | 26 | 16 | 0 | 0 | 91 | 0 | 9 | 0 |
| 0 | 0 | 0 | 439944 | 20928 | 331472 | 0 | 0 | 0 | 0 | 151 | 187 | 0 | 0 | 83 | 0 | 17 | 0 |
| 0 | 0 | 0 | 439944 | 20928 | 331472 | 0 | 0 | 0 | 0 | 58 | 53 | 0 | 0 | 100 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439944 | 20928 | 331480 | 0 | 0 | 0 | 0 | 34 | 23 | 0 | 0 | 94 | 0 | 6 | 0 |
| 0 | 0 | 0 | 439944 | 20928 | 331480 | 0 | 0 | 0 | 0 | 32 | 19 | 0 | 0 | 99 | 0 | 1 | 0 |
| 0 | 0 | 0 | 439944 | 20928 | 331480 | 0 | 0 | 0 | 0 | 30 | 20 | 0 | 0 | 100 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439944 | 20928 | 331480 | 0 | 0 | 0 | 0 | 26 | 19 | 0 | 0 | 88 | 0 | 12 | 0 |
| 0 | 0 | 0 | 439944 | 20936 | 331472 | 0 | 0 | 0 | 88 | 62 | 47 | 0 | 0 | 100 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439944 | 20936 | 331480 | 0 | 0 | 0 | 0 | 36 | 28 | 0 | 0 | 87 | 0 | 13 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331480 | 0 | 0 | 0 | 0 | 81 | 87 | 1 | 0 | 99 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 48 | 34 | 0 | 0 | 96 | 0 | 4 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 36 | 25 | 0 | 0 | 98 | 0 | 2 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 160 | 64 | 50 | 0 | 0 | 100 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 40 | 23 | 0 | 0 | 96 | 0 | 4 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 37 | 30 | 0 | 0 | 99 | 0 | 1 | 0 |

| procs | | memory | | | | swap | | io | | system | | cpu | | | | | |
|-------|---|--------|--------|-------|--------|------|----|----|----|--------|----|-----|----|-----|----|----|----|
| r | b | swpd | free | buff | cache | si | so | bi | bo | in | cs | us | sy | id | wa | st | gu |
| 1 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 28 | 30 | 0 | 0 | 95 | 0 | 5 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 26 | 18 | 0 | 0 | 81 | 0 | 19 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 30 | 24 | 0 | 0 | 100 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 24 | 16 | 0 | 0 | 90 | 0 | 10 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 38 | 24 | 0 | 0 | 93 | 0 | 7 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 30 | 19 | 0 | 0 | 100 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 28 | 18 | 0 | 0 | 100 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 30 | 24 | 0 | 0 | 88 | 0 | 12 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 46 | 34 | 0 | 0 | 99 | 0 | 1 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 27 | 16 | 0 | 0 | 100 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 38 | 27 | 0 | 1 | 99 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 48 | 38 | 0 | 0 | 95 | 0 | 5 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 64 | 52 | 0 | 0 | 100 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 48 | 40 | 0 | 0 | 94 | 0 | 6 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 64 | 58 | 0 | 0 | 100 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 70 | 58 | 0 | 0 | 99 | 0 | 1 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 48 | 35 | 0 | 0 | 100 | 0 | 0 | 0 |
| 0 | 0 | 0 | 439704 | 20936 | 331512 | 0 | 0 | 0 | 0 | 38 | 31 | 1 | 0 | 88 | 0 | 11 | 0 |

```
[1]+ Stopped vmstat 1
```

```
ubuntu@ip-172-31-24-49:~$ |
```

```

ubuntu@ip-172-31-24-49:~$ ps aux | grep vmstat
ubuntu      2011  0.0  0.3   9884  3072 pts/0    S+   07:28   0:00 vmstat 1
ubuntu      2013  0.0  0.2   7076  2048 pts/1    S+   07:29   0:00 grep --color=auto vmstat
ubuntu@ip-172-31-24-49:~$ kill -SIGSTOP 2011
ubuntu@ip-172-31-24-49:~$ |

```

```

[1]  Stopped                  vmstat 1
ubuntu@ip-172-31-24-49:~$ 0 0 0 439704 20944 331512 0 0 0 0 24 1190 1000 0 0 90 0 10 0
0 0 0 439704 20944 331512 0 0 0 0 40 22 1 0 97 0 2 0
0 0 0 439704 20944 331512 0 0 0 0 176 52 51 0 0 85 0 15 0
0 0 0 439704 20944 331512 0 0 0 0 34 21 0 0 100 0 0 0
0 0 0 439704 20944 331512 0 0 0 0 36 27 0 1 99 0 0 0
0 0 0 439704 20944 331512 0 0 0 0 28 20 0 0 100 0 0 0
ubuntu@ip-172-31-24-49:~$ procps -----memory----- ---swap-- -----io----- -system-- -----cpu-----
r b swpd free buff cache si so bi bo in cs us sy id wa st gu
2 0 0 439704 20944 331512 0 0 0 0 62 64 0 0 88 0 12 0
ubuntu@ip-172-31-24-49:~$ 0 0 0 439704 20944 331512 0 0 0 0 36 25 0 0 100 0 0 0
0 0 0 439704 20944 331512 0 0 0 0 26 24 0 0 100 0 0 0
|

```

```

ubuntu@ip-172-31-24-49:~$ ps aux | grep vmstat
ubuntu      2011  0.0  0.3   9884  3072 pts/0    S+   07:28   0:00 vmstat 1
ubuntu      2013  0.0  0.2   7076  2048 pts/1    S+   07:29   0:00 grep --color=auto vmstat
ubuntu@ip-172-31-24-49:~$ kill -SIGSTOP 2011
ubuntu@ip-172-31-24-49:~$ kill -SIGCONT 2011
ubuntu@ip-172-31-24-49:~$

```