

## T1

```
user@AA3209-Ubuntu:~$ ps aux |less
USER          PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root           1   0.0   0.9 171032   9760 ?        Ss   Jan11    0:49 /sbin/init ma
ybe-ubiquity
root           2   0.0   0.0      0     0 ?        S    Jan11    0:00 [kthreadd]
root           3   0.0   0.0      0     0 ?        I<   Jan11    0:00 [rcu_gp]
root           4   0.0   0.0      0     0 ?        I<   Jan11    0:00 [rcu_par_gp]
root           6   0.0   0.0      0     0 ?        I<   Jan11    0:00 [kworker/0:0H
-kblockd]
root           9   0.0   0.0      0     0 ?        I<   Jan11    0:00 [mm_percpu_wq
]
root          10   0.0   0.0      0     0 ?        S    Jan11    0:16 [ksoftirqd/0]
root          11   0.0   0.0      0     0 ?        I    Jan11    5:14 [rcu_sched]
root          12   0.0   0.0      0     0 ?        S    Jan11    0:14 [migration/0]
root          13   0.0   0.0      0     0 ?        S    Jan11    0:00 [idle_inject/
0]
root          14   0.0   0.0      0     0 ?        S    Jan11    0:00 [cpuhp/0]
root          15   0.0   0.0      0     0 ?        S    Jan11    0:00 [kdevtmpfs]
root          16   0.0   0.0      0     0 ?        I<   Jan11    0:00 [netns]
root          17   0.0   0.0      0     0 ?        S    Jan11    0:00 [rcu_tasks_kt
hre]
root          18   0.0   0.0      0     0 ?        S    Jan11    0:00 [kauditd]
root          19   0.0   0.0      0     0 ?        S    Jan11    0:07 [khungtaskd]
root          20   0.0   0.0      0     0 ?        S    Jan11    0:00 [oom_reaper]
```

Column	Description
USER	The user account under which this process is running
PID	Process ID of this process
%CPU	CPU time used by this process (in percentage).
%MEM	Physical memory used by this process (in percentage).
VSZ	Virtual memory used by this process (in bytes).
RSS	Resident Set Size, the non-swappable physical memory used by this process (in KiB)
TTY	Terminal from which this process is started. Question mark (?) sign represents that this process is not started from a terminal.
STAT	Process state. <i>Explained in next table.</i>
START	Starting time and date of this process
TIME	Total CPU time used by this process
COMMAND	The command with all its arguments which started this process

## T2

```
Help for Interactive Commands - procps-ng UNKNOWN
Window 1:Def: Cumulative mode Off.  System: Delay 3.0 secs; Secure mode Off.
```

```
top - 01:41:37 up 83 days, 12:51, 1 user, load average: 0.00, 0.00, 0.00
Tasks: 194 total, 2 running, 192 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.0 us, 0.0 sy, 0.0 ni,100.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 981.3 total, 105.8 free, 149.3 used, 726.2 buff/cache
MiB Swap: 1962.0 total, 1937.0 free, 24.9 used. 661.6 avail Mem
Change delay from 3.0 to 0.5
```

```
Help for Interactive Commands - procs-ng UNKNOWN
Window 1:Def: Cumulative mode Off. System: Delay 0.5 secs; Secure mode Off.
Z B F s Global: 'Z' colors: 'B' bold: 'F'/'s' summary/task memory scale
```

## T3

```
user@AA3209-Ubuntu: ~
top - 01:45:22 up 83 days, 12:55, 2 users, load average: 0.00, 0.00, 0.00
Tasks: 198 total, 1 running, 197 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.0 us, 0.0 sy, 0.0 ni,100.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 981.3 total, 82.6 free, 157.5 used, 741.2 buff/cache
MiB Swap: 1962.0 total, 1937.0 free, 24.9 used. 653.9 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
2178244	root	20	0	12176	3756	3328	S	0.0	0.4	0:00.00	sshd
3113680	root	20	0	13920	8320	6864	S	0.0	0.8	0:00.01	sshd
3113816	user	20	0	14052	5468	3992	S	0.0	0.5	0:00.13	sshd
3114200	root	20	0	13920	8560	7104	S	0.0	0.9	0:00.01	sshd
3114283	user	20	0	14052	5680	4204	S	0.0	0.6	0:00.00	sshd

```
user@AA3209-Ubuntu: ~
System information as of Mon Apr 5 01:42:55 EEST 2021

System load: 0.0 Processes: 209
Usage of /: 49.7% of 14.70GB Users logged in: 1
Memory usage: 26% IPv4 address for ens160: 172.21.0.138
Swap usage: 1%

* Introducing self-healing high availability clusters in MicroK8s.
Simple, hardened, Kubernetes for production, from RaspberryPi to DC.

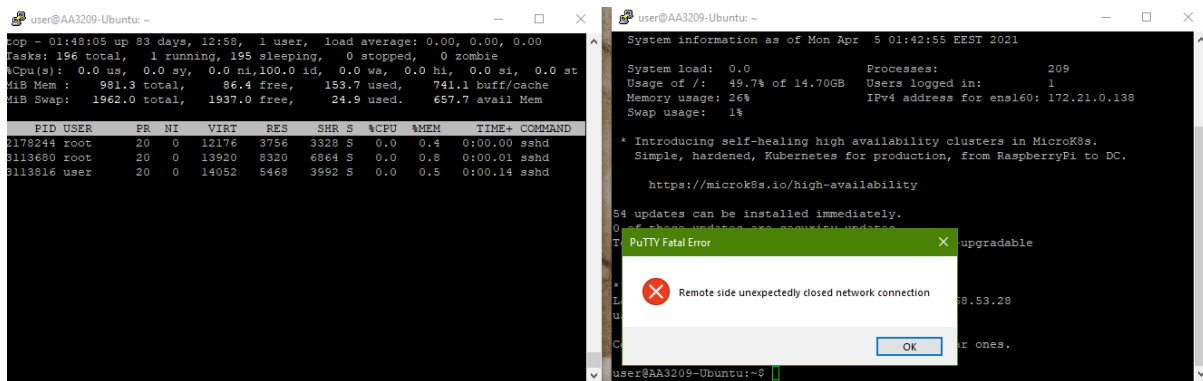
https://microk8s.io/high-availability

54 updates can be installed immediately.
0 of these updates are security updates.
To see these additional updates run: apt list --upgradable

*** System restart required ***
Last login: Mon Apr 5 01:27:58 2021 from 192.168.53.20
user@AA3209-Ubuntu:~$ pid
Command 'pid' not found, but there are 20 similar ones.
user@AA3209-Ubuntu:~$
```

```
user@AA3209-Ubuntu: ~
top - 01:47:04 up 83 days, 12:57, 2 users, load average: 0.00, 0.00, 0.00
Tasks: 198 total, 1 running, 197 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.0 us, 0.0 sy, 0.0 ni,100.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 981.3 total, 82.6 free, 157.5 used, 741.2 buff/cache
MiB Swap: 1962.0 total, 1937.0 free, 24.9 used. 653.9 avail Mem
PID to signal/kill [default pid = 2178244] 3114283
```

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3114283	user	20	0	14052	5680	4204	S	0.0	0.6	0:00.00	sshd



## T4

```
user@AA3209-Ubuntu:~$ pstree | grep ssh
|-sshd-+-3*[sshd---sshd---bash]
|      `--sshd---sshd---bash-+-grep
user@AA3209-Ubuntu:~$
```

```
user@AA3209-Ubuntu:~$ pstree | grep ssh
|-sshd-+-2*[sshd---sshd---bash]
|      `--sshd---sshd---bash-+-grep
user@AA3209-Ubuntu:~$
```

The sshd number lowered by one when I killed the other ssh connection.

## T5

SSH is displayed in the tree view because the initial process runs as master server that listens to incoming ssh connections.

## T6

```
user@AA3209-Ubuntu: ~
top - 02:01:40 up 83 days, 13:12, 1 user, load average: 0.00, 0.00, 0.00
Tasks: 195 total, 1 running, 194 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.0 us, 0.0 sy, 0.0 ni, 100.0 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 981.3 total, 99.3 free, 154.7 used, 727.3 buff/cache
MiB Swap: 1962.0 total, 1937.0 free, 24.9 used. 651.4 avail Mem
PID to signal/kill [default pid = 2381874] 3114822

```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
3114741	root	20	0	13920	8864	7408	S	0.0	0.9	0:00.01	sshd
3114822	user	20	0	14052	5876	4400	S	0.0	0.6	0:00.02	sshd

```
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MiB Mem : 981.3 total, 99.3 free, 154.7 used, 727.3 buff/cache
MiB Swap: 1962.0 total, 1937.0 free, 24.9 used. 651.4 avail Mem
Send pid 3114822 signal [15/sigterm] 15

```

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Send pid 3114822 signal [15/sigterm] 15

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PuTTY Fatal Error

Remote side unexpectedly closed network connection

OK