

Lab 13 – System Admin**Task A: Managing System Processes (40 points)**

Step 1. Open the terminal in your VM.

```
james@james-VirtualBox:~$
```

Step 2. List the processes that are running in the current shell.

```
james@james-VirtualBox:~$ ps
  PID TTY          TIME CMD
 2776 pts/0        00:00:00 bash
 3031 pts/0        00:00:00 ps
james@james-VirtualBox:~$
```

Step 3. List all processes that are running on this system.

```
james@james-VirtualBox:~$ ps aux
USER          PID %CPU %MEM    VSZ   RSS TTY      S
root           1   0.5  0.1 166616 11700 ?        S
root           2   0.0  0.0     0     0 ?        S
root           3   0.0  0.0     0     0 ?        I
root           4   0.0  0.0     0     0 ?        I
root           5   0.0  0.0     0     0 ?        I
root           6   0.0  0.0     0     0 ?        I
root           7   0.0  0.0     0     0 ?        T
```

Step 4: Display all processes that are running by using the **top** command. (Keep this command running for the next few steps.)

```
james@james-VirtualBox:~$ top
```

top - 18:28:45 up 3 min, 1 user, load average: 0.10,
Tasks: 214 total, 1 running, 213 sleeping, 0 stopp
%Cpu(s): 0.0 us, 0.0 sy, 0.0 ni,100.0 id, 0.0 wa,
MiB Mem : 7951.3 total, 5932.3 free, 887.1 used
MiB Swap: 2048.0 total, 2048.0 free, 0.0 used

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU
993	james	20	0	4451976	307204	125408	S	0.3
1	root	20	0	166616	11700	8248	S	0.0
2	root	20	0	0	0	0	S	0.0

Step 5: While in the top command, display the help screen.

```
Help for Interactive Commands - procps-ng 3.3.17
Window 1:Def: Cumulative mode Off. System: Delay 3.0 sec

Z,B,E,e Global: 'Z' colors; 'B' bold; 'E'/'e' summary
l,t,m,I Toggle: 'l' load avg; 't' task/cpu; 'm' memoi
0,1,2,3,4 Toggle: '0' zeros; '1/2/3' cpu/numa views; '4
f,F,X Fields: 'f'/'F' add/remove/order/sort; 'X' in
```

Step 6: Quit the top command.

```
17 root 20 0 0 0
18 root 20 0 0 0
19 root -51 0 0 0
20 root rt 0 0 0

james@james-VirtualBox:~$
```

Step 7: Execute the **gnome-calculator** program in the background.

```
james@james-VirtualBox:~$ gnome-calculator

** (gnome-calculator:3640): WARNING **: 18:31:05.486
6: Cannot use ECB rates as don't have EUR rate
```

Step 8: In the current shell, list all running jobs.

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
3220	root	20	0	1170284	46680	20344	S	6.0	0.6	0:06.00	snappd
993	james	20	0	4711924	307968	125580	S	1.7	3.8	0:11.44	gnome-+
2758	james	20	0	562080	52188	39780	S	0.7	0.6	0:01.70	gnome-+

step-9: Use the **killall** command to stop (kill) all instances of the gnome-calculator program.

```
james@james-VirtualBox:~$ killall -e gnome-calculator
james@james-VirtualBox:~$
```

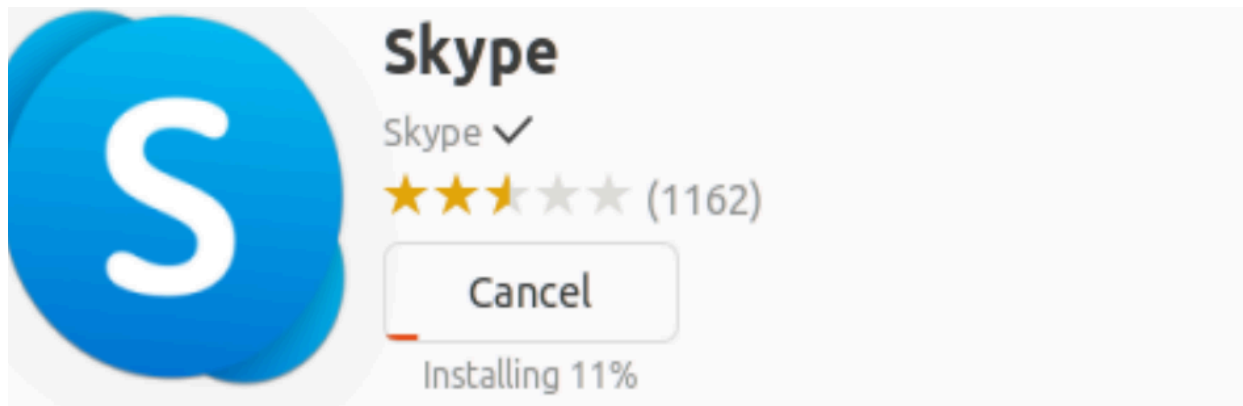
Step 10. In the current shell, use the **ps** command to list all running processes.

```
james@james-VirtualBox:~$ ps
  PID TTY          TIME CMD
  4340 pts/0        00:00:00 bash
  4511 pts/0        00:00:00 ps
[1]+  Terminated                  gnome-calculator
```

Task B – Package installation (60 points)

Step 1. Download the installation package (deb file) for skype in Linux and install it properly.

Note: you should not use APT GET to install Skype in this step.



Step 2. Create a backup file for the `sources.list` named `source.list.bk` in your Linux system. Display the contents in both files, and **make sure they are identical**.

Step 3. Delete everything in the `source.list` file. Now try to download the package “joe” by using `apt get install` command. What error do you see?

Step 4. Recover the `sources.list` from the backup file, then try to download the “joe” file again. You should be able to install joe this time.

Step 5. Install and play the “`sl`” command.

Step 6. Install and play the “`cowsay`” command.

Step 7. Install and play the “`cmatrix`” command.