

Admin av UNIX LABORATION 2

4.1

PID of the looping process is 11847

```
fillesten@fillesten-VirtualBox:~/Desktop/unix/test$ ps au
USER          PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
fillesten+   1036  0.0  0.1 173912  6296 tty2      Ssl+  18:42   0:00 /usr/libexec/gdm-wayland-session env GNOME
fillesten+   1048  0.0  0.3 234556 15428 tty2      Sl+   18:42   0:00 /usr/libexec/gnome-session-binary --sessi
fillesten+   3058  0.0  0.1  22940  5692 pts/0      Ss   18:43   0:00 bash
fillesten+   11490  0.0  0.1  22936  5968 pts/1      Ss   21:57   0:00 bash
fillesten+   12799 80.2  0.0  21500  3816 pts/1      R+   22:36   0:03 bash ./loop.sh
fillesten+   12800  0.0  0.0  24200  3752 pts/0      R+   22:36   0:00 ps au
fillesten@fillesten-VirtualBox:~/Desktop/unix/test$
```

It has nice value of 0 (default)

```
fillesten@fillesten-VirtualBox:~/Desktop/unix/test$ ps -l 12799
F S  UID      PID      PPID  C  PRI  NI ADDR SZ WCHAN  TTY      TIME CMD
0 R  1000    12799    11490 82  80   0 -  5375 -  pts/1    0:52 bash ./loop.sh
fillesten@fillesten-VirtualBox:~/Desktop/unix/test$
```

After I increased it.

```
fillesten@fillesten-VirtualBox:~/Desktop/unix/test$ ps -l 12853
F S  UID      PID      PPID  C  PRI  NI ADDR SZ WCHAN  TTY      TIME CMD
0 R  1000    12853    11490 90  90  10 -  5375 -  pts/1    0:14 bash loop.sh
fillesten@fillesten-VirtualBox:~/Desktop/unix/test$
```

Here I try to increase the nice value:

without using sudo I cant lower the nice value (increase priority) of a process.

and with sudo I will be very likely to change it.

```
fillesten@fillesten-VirtualBox:~/Desktop/unix/test$ renice -n -10 -p 12853
renice: failed to set priority for 12853 (process ID): Permission denied
fillesten@fillesten-VirtualBox:~/Desktop/unix/test$ sudo renice -n -10 -p 12853
[sudo] password for fillesten:
12853 (process ID) old priority 10, new priority -10
fillesten@fillesten-VirtualBox:~/Desktop/unix/test$ ps -l 12853
F S  UID      PID      PPID  C  PRI  NI ADDR SZ WCHAN  TTY      TIME CMD
0 R  1000    12853    11490 87  70 -10 -  5375 -  pts/1    2:14 bash loop.sh
fillesten@fillesten-VirtualBox:~/Desktop/unix/test$
```

I may have tried different commands and have to restart it with another PID...

Killed it using kill command

```
fillesten@fillesten-VirtualBox:~/Desktop/unix/test$ ps au
USER          PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
fillesten+   1036  0.0  0.1 173912  6296 tty2      Ssl+  18:42   0:00 /usr/libexec/gdm-wayland-session env GNOME_SHELL_SESSION_MOD
fillesten+   1048  0.0  0.3 234556 15428 tty2      Sl+   18:42   0:00 /usr/libexec/gnome-session-binary --session=ubuntu
fillesten+   3058  0.0  0.1  22940  5692 pts/0      Ss   18:43   0:00 bash
fillesten+   11490  0.0  0.1  22936  5968 pts/1      Ss+  21:57   0:00 bash
fillesten+   12853 29.6  0.0  21500  3768 pts/1      T<   22:38   5:10 bash loop.sh
fillesten+   13426  0.0  0.0  24200  3752 pts/0      R+   22:55   0:00 ps au
fillesten@fillesten-VirtualBox:~/Desktop/unix/test$ kill -9 12853
fillesten@fillesten-VirtualBox:~/Desktop/unix/test$
loop.sh: line 4: /: Is a directory
loop.sh: line 4: /: Is a directory
sudo: unable to execute /usr/bin/nice: Connection reset by peer
fillesten@fillesten-VirtualBox:~/Desktop/unix/test/lab2$
```

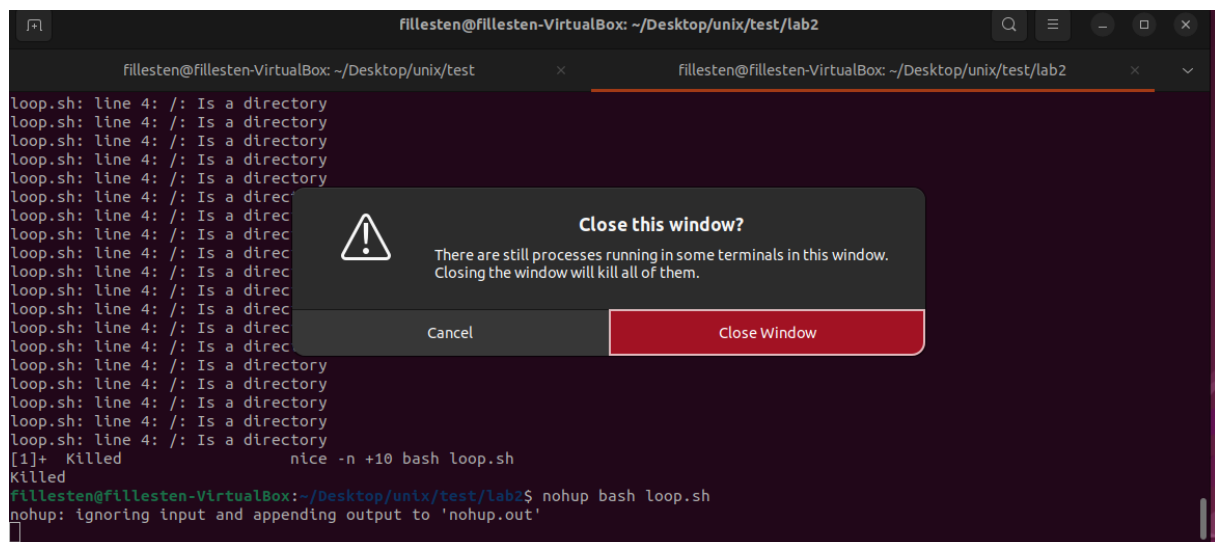
Killed using pkill command

```
fillest@fillest-VirtualBox: ~/Desktop/unix/test$ pkill -9 -f loop.sh
fillest@fillest-VirtualBox: ~/Desktop/unix/test$
```

```
loop.sh: line 4: /: Is a directory
loop.sh: line 4: /: Is a directory
loop.sh: line 4: /: Is a directory
loop.sh: line 4: /: Is a directory
[1]+  Killed                  nice -n +10 bash loop.sh
Killed
fillest@fillest-VirtualBox: ~/Desktop/unix/test/lab2$
```

- Nohup:

```
loop.sh: line 4: /: Is a directory
[1]+  Killed                  nice -n +10 bash loop.sh
Killed
fillest@fillest-VirtualBox: ~/Desktop/unix/test/lab2$ nohup bash loop.sh
nohup: ignoring input and appending output to 'nohup.out'
```



```
fillest@fillest-VirtualBox: ~/Desktop/unix/test/lab2$ ps au
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
fillest+  1036  0.0  0.1 173912 6296 tty2    Ssl+  18:42   0:00 /usr/libexec/gdm-wayland-session env GNOME_SHELL_S
fillest+  1048  0.0  0.3 234556 15428 tty2    Sl+   18:42   0:00 /usr/libexec/gnome-session-binary --session=ubuntu
fillest+  14685  0.0  0.1 22804 5500 pts/0    Ss   23:11   0:00 bash
fillest+  14712  0.0  0.1 22804 5552 pts/1    Ss   23:12   0:00 bash
fillest+  14719 102  0.0 21500 3724 pts/1    R+   23:12   0:10 bash loop.sh
fillest+  14723  0.0  0.0 24200 3748 pts/0    R+   23:12   0:00 ps au
fillest@fillest-VirtualBox: ~/Desktop/unix/test/lab2$ ps au
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
fillest+  1036  0.0  0.1 173912 6296 tty2    Ssl+  18:42   0:00 /usr/libexec/gdm-wayland-session env GNOME_SHELL_S
fillest+  1048  0.0  0.3 234556 15428 tty2    Sl+   18:42   0:00 /usr/libexec/gnome-session-binary --session=ubuntu
fillest+  14685  0.0  0.1 22804 5572 pts/0    Ss   23:11   0:00 bash
fillest+  14732  0.0  0.0 24200 3752 pts/0    R+   23:12   0:00 ps au
fillest@fillest-VirtualBox: ~/Desktop/unix/test/lab2$
```

The script loop.sh is not running after using the nohup command.

- Using the & character

```
fillestn@fillestn-VirtualBox:~/Desktop/unix/test/lab2$ nohup bash loop.sh &
[1] 14557
fillestn@fillestn-VirtualBox:~/Desktop/unix/test/lab2$ nohup: ignoring input and appending output to 'nohup.out'
```

```
fillestn@fillestn-VirtualBox:~/Desktop/unix/test/lab2$ ps au
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
fillest+  1036  0.0  0.1 173912  6276 tty2    Ssl+  18:42   0:00 /usr/libexec/gdm-wayland-session env GNOME_SHELL_S
fillest+  1048  0.0  0.3 234556 15392 tty2    Sl+   18:42   0:00 /usr/libexec/gnome-session-binary --session=ubuntu
fillest+  14685  0.0  0.1  22804  5656 pts/0    Ss   23:11   0:00 bash
fillest+  14858  0.7  0.1  22740  4772 pts/0    T   23:16   0:00 htop
fillest+  14869  0.0  0.0  24200  3748 pts/0    R+   23:16   0:00 ps au
fillestn@fillestn-VirtualBox:~/Desktop/unix/test/lab2$
```

It does not recognize that the process is there, but using top I can locate the process (processes as I accidentally started a few)

PID	USER	PRI	NI	VIRT	RES	SHR	S	CPU%	MEM%	TIME+	Command
14719	fillestn	20	0	21500	3648	3404	R	98.5	0.1	4:46.03	bash loop.sh
14837	fillestn	20	0	21500	3720	3472	R	98.5	0.1	1:53.89	bash loop.sh
14847	fillestn	20	0	21500	3712	3468	R	97.2	0.1	1:40.39	bash loop.sh
1	root	20	0	162M	11504	7796	S	0.0	0.3	0:02.53	/sbin/init splash
261	root	10	-1	156M	66780	65264	S	0.0	1.5	0:04.71	/lib/systemd/systemd-journald

- Jobs:

```
loop.sh: line 4: /: Is a directory
loop.sh: line 4: /: Is a directory
loop.sh: line 4: /: Is a di^Z
[1]+  Stopped                  bash loop.sh
fillestn@fillestn-VirtualBox:~/Desktop/unix/test/lab2$ ^C
fillestn@fillestn-VirtualBox:~/Desktop/unix/test/lab2$ jobs -l
[1]+ 15538 Stopped              bash loop.sh
fillestn@fillestn-VirtualBox:~/Desktop/unix/test/lab2$ fg %1
```

When stopped:

```
loop.sh: line 4: /: Is a directory
loop.sh: line 4: /: Is a directory
^Z
[1]+  Stopped                  bash loop.sh
fillestn@fillestn-VirtualBox:~/Desktop/unix/test/lab2$
```

Then I start it in the background:

```
loop.sh: line 4: /: Is a directory
^Z
[1]+  Stopped                  bash loop.sh
fillestn@fillestn-VirtualBox:~/Desktop/unix/test/lab2$ jobs -l
[1]+ 15976 Stopped              bash loop.sh
fillestn@fillestn-VirtualBox:~/Desktop/unix/test/lab2$ bg %1
```

Weirdly I could not start it as a background process but that is how you are supposed to do it. When I tried the `bg %1` command I lost control of the terminal, it continuously printed out like “normal” and I could not use CTRLZ or CTRLC. However I could still kill it from another terminal, which resulted in this... But here it doesn't look like it was a background process.

```
loop.sh: line 4: /: Is a directory
loop.sh: line 4: /: Is a directory
loop.sh: line 4: /: Is a directory
loop.sh: line 4: /: Is a directory
loop.sh: line 4: /: Is a directory
[1]+  Stopped                  bash loop.sh
fillesten@fillesten-VirtualBox:~/Desktop/unix/test/lab2$
```

Answers

- *Priority value* is what the process priority behind the scenes actually are. Nice value is only user-space that allow users to control to a degree the priority of processes.
 - -20 is the highest priority, +19 is the lowest priority.
 - There are multiple ways to start a process in the background
 - you can append the “&” character; `./loop.sh &`
 - use the `nohup` command; `nohup bash loop.sh &`
 - `bg %<jobnumber>`
- to return a process to the foreground the command “fg”, the fg command can be done on running processes.
- Nohup is often used when running long time running or for background processes that shouldn't get interrupted if the user logs out or if the terminal closes. Example of these jobs are: running a server or running a large script job that takes a long time.

I had to create a new ubuntu since I cant start the first one. /dev/sda3 is full somehow and I tried to fix it but have since given up.

3. Running the script at 21.30 using at

```
fillesten@fillesten-VirtualBox:/$ sudo bash clear_tmp.sh | at -m 21:50
warning: commands will be executed using /bin/sh
job 4 at Wed Oct 18 21:50:00 2023
fillesten@fillesten-VirtualBox:/$ at- l
Command 'at-' not found, did you mean:
  command 'atd' from deb at (3.2.5-1ubuntu1)
  command 'atq' from deb at (3.2.5-1ubuntu1)
  command 'at' from deb at (3.2.5-1ubuntu1)
  command 'atc' from deb bsdgames (2.17-29)
Try: sudo apt install <deb name>
fillesten@fillesten-VirtualBox:/$ at -l
4          Wed Oct 18 21:50:00 2023 a fillesten
fillesten@fillesten-VirtualBox:/$
```

- The difference between crontab and at is that crontab can be scheduled to execute more than once, like automatically searching for updates. The at command only lets users run a command once.

4.3

1. Produces this:

```
fillestén@fillestén-VirtualBox:/$ vmstat
procs -----memory----- ---swap-- -----io----- -system-- -----cpu-----
 r  b   swpd   free   buff   cache   si   so    bi    bo    in    cs  us  sy  id  wa  st
  1   0       0 1718412 48108 957032    0    0   153   18   93  150   1   1  98   0   0
fillestén@fillestén-VirtualBox:/$
```

- 1 runnable process which is either running or waiting for cpu time.
- 0 processes in sleep mode
- Memory: (kilobytes)
 - Swpd: 0 virtual memory used
 - Free: 1718412 amount of free memory available for new processes.
 - Buff: 48108 memory used for buffering
 - Cache: 957032 memory used for caching
- Swap:
 - si: Amount of memory swapped in from the disk.
 - so: Amount of memory swapped out to the disk
- io:
 - bi: 153 Blocks received from block devices
 - bo: 18 Blocks sent to block devices.
- System:
 - in: 93 interrupts per second, including clock interrupts.
 - cs: 150, Number of context switches per second.
- Cpu:
 - us: 1, Percentage of CPU time spent running user processs
 - sy: 1, Percentage of CPU time spent running kernel processes.
 - id: 98, Percentage of CPU time spent idle.
 - wa: 0, Percentage of CPU time spent waiting for I/O.
 - st: 0, time stolen from a virtual machine

2. top updates every few seconds.

```
top - 16:05:09 up 1:00, 1 user, load average: 0,45, 0,21, 0,12
Tasks: 210 total, 1 running, 209 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1,7 us, 0,1 sy, 0,0 ni, 98,2 id, 0,0 wa, 0,0 hi, 0,0 si, 0,0 st
MiB Mem : 3460,3 total, 1644,0 free, 835,3 used, 980,9 buff/cache
MiB Swap: 2680,0 total, 2680,0 free, 0,0 used, 2360,1 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
1300	fillest+	20	0	5086320	383664	145352	S	8,3	10,8	0:43.02	gnome-shell
1919	fillest+	20	0	567956	54696	41276	S	2,0	1,5	0:05.14	gnome-terminal-
673	root	20	0	272280	18760	15980	S	0,7	0,5	0:00.26	NetworkManager
525	systemd+	20	0	14828	6236	5444	S	0,3	0,2	0:02.89	systemd-oomd
1	root	20	0	168052	13388	8232	S	0,0	0,4	0:01.85	systemd
2	root	20	0	0	0	0	S	0,0	0,0	0:00.00	kthreadd
3	root	0	-20	0	0	0	I	0,0	0,0	0:00.00	rcu_gp
4	root	0	-20	0	0	0	I	0,0	0,0	0:00.00	rcu_par_gp
5	root	0	-20	0	0	0	I	0,0	0,0	0:00.00	slub_flushwq
6	root	0	-20	0	0	0	I	0,0	0,0	0:00.00	netns
8	root	0	-20	0	0	0	I	0,0	0,0	0:00.00	kworker/0:0H-events_highpri
10	root	0	-20	0	0	0	I	0,0	0,0	0:00.00	mm_percpu_wq
11	root	20	0	0	0	0	I	0,0	0,0	0:00.00	rcu_tasks_kthread
12	root	20	0	0	0	0	I	0,0	0,0	0:00.00	rcu_tasks_rude_kthread
13	root	20	0	0	0	0	I	0,0	0,0	0:00.00	rcu_tasks_trace_kthread
14	root	20	0	0	0	0	S	0,0	0,0	0:00.05	ksoftirqd/0
15	root	20	0	0	0	0	I	0,0	0,0	0:00.84	rcu_preempt
16	root	rt	0	0	0	0	S	0,0	0,0	0:00.02	migration/0

I get the current time when top retrieved the data. Amount of users. Load average with 3 numbers which are: 1, 5, 15 min ago respectively.

Tasks row: It lists the total amount of tasks (210 for me), where 1 is running and 209 are sleeping. 0 tasks are stopped and 0 are in a zombie state.

Cpu row: percent of time spent on different tasks. Us: is the percent of time spent running user processes, sy: is the percent of time spent running kernelspace processes, ni: spent on tasks which have had their nice values manually altered, id: is the percent of time idle, wa: is the percent of wait time, hi: is the percent of time managing hardware interrupts, si: is the percent of time managing software interrupts, st: is the percent of virtual CPU time waiting for access to physical CPU.

Mib mem (physical):

total: shows total installed memory, free: shows available memory, used: shows used memory, buff/cache: shows the information to be cached for future reads

Mib swap (virtual):

same as above but for virtual memory.

Columns:

PID: process id

USER: owner of task

PR: priority of the task

NI: nice value of the task

VIRT: total virtual memory used by task

RES: total physical memory used by task

SHR: total shared memory used by task

S: shows the process state, like sleeping zombie etc

%CPU: CPU usage

%MEM: memory usage

TIME+: CPU time, the units are min:sec.fraction

COMMAND: name / description of the task

3. 813,5 MiB used and 0,0 Mib swap used

```
top - 16:47:19 up 1:43, 1 user, load average: 0,12, 0,08, 0,08
Tasks: 210 total, 1 running, 209 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0,8 us, 0,1 sy, 0,0 ni, 99,1 id, 0,0 wa, 0,0 hi, 0,0 si, 0,0 st
MiB Mem : 3460,3 total, 1664,6 free, 813,5 used, 982,2 buff/cache
MiB Swap: 2680,0 total, 2680,0 free, 0,0 used. 2381,6 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
1300	fillest+	20	0	5080900	385116	146072	S	3,3	10,9	1:05.57	gnome-shell

4. Last 10 logged in users:

```
fillesten@fillesten-VirtualBox: /
fillesten@fillesten-VirtualBox:/$ last -10
filleste tty2          tty2          Wed Oct 18 15:04    still logged in
reboot  system boot      5.19.0-38-generi Wed Oct 18 15:04    still running
filleste tty2          tty2          Wed Oct 18 14:49 - down (00:14)
filleste tty2          tty2          Wed Oct 18 13:38 - 14:49 (01:10)
reboot  system boot      5.19.0-38-generi Wed Oct 18 13:38 - 15:04 (01:25)
filleste tty2          tty2          Wed Oct 18 12:41 - crash (00:56)
reboot  system boot      5.19.0-38-generi Wed Oct 18 12:41 - 15:04 (02:22)
filleste tty2          tty2          Mon Jul 31 17:04 - crash (78+19:37)
reboot  system boot      5.19.0-38-generi Mon Jul 31 17:04 - 15:04 (78+21:59)
filleste tty2          tty2          Mon May 22 14:15 - crash (70+02:49)

wtmp begins Fri Apr 14 13:41:46 2023
fillesten@fillesten-VirtualBox:/$
```

5. Current logged in users:

```
fillesten@fillesten-VirtualBox:/$ w
16:49:49 up 1:45, 1 user, load average: 0,03, 0,07, 0,08
USER      TTY      FROM          LOGIN@      IDLE        JCPU   PCPU   WHAT
filleste  tty2     tty2          15:04       1:45m      0.05s    0.05s  /usr/libexec/gnome-session-binary --s
fillesten@fillesten-VirtualBox:/$
```

6. Using the uptime command I get this:

```
fillesten@fillesten-VirtualBox:/$ uptime
16:51:12 up 1:46, 1 user, load average: 0,01, 0,05, 0,07
fillesten@fillesten-VirtualBox:/$
```

The output is, current time, how long the system has been active, # of users logged in, and load average of 1, 5, 15 minutes.

- The difference between vmstat and top are the outputs. vmstat provides system-level statistics on memory, CPU, I/O, and paging, while top is a real-time process viewer showing individual process details, including CPU and memory usage. vmstat is for system-wide resource monitoring, and top is for monitoring and managing running processes.
- The different load average values are because they represents the average regarding different times. The are 1, 5, 15 minutes.
- Last 10 users:

```
fillesten@fillesten-VirtualBox:/$ last -10
filleste tty2          tty2          Wed Oct 18 15:04    still logged in
reboot  system boot      5.19.0-38-generi Wed Oct 18 15:04    still running
filleste tty2          tty2          Wed Oct 18 14:49 - down (00:14)
filleste tty2          tty2          Wed Oct 18 13:38 - 14:49 (01:10)
reboot  system boot      5.19.0-38-generi Wed Oct 18 13:38 - 15:04 (01:25)
filleste tty2          tty2          Wed Oct 18 12:41 - crash (00:56)
reboot  system boot      5.19.0-38-generi Wed Oct 18 12:41 - 15:04 (02:22)
filleste tty2          tty2          Mon Jul 31 17:04 - crash (78+19:37)
reboot  system boot      5.19.0-38-generi Mon Jul 31 17:04 - 15:04 (78+21:59)
filleste tty2          tty2          Mon May 22 14:15 - crash (70+02:49)

wtmp begins Fri Apr 14 13:41:46 2023
fillesten@fillesten-VirtualBox:/$
```

4.4

1. This is a snapshot of the last info from dmesg command. It contains the messages produced by device drivers. All problems during start up will be displayed here.

```

13:04:24.452583 main Log opened 2023-10-18T13:04:24.452574000Z
[ 5.998106] 13:04:24.452724 main OS Product: Linux
[ 5.998140] 13:04:24.452766 main OS Release: 5.19.0-38-generic
[ 5.998173] 13:04:24.452799 main OS Version: #39~22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Fri Mar 17
21:16:15 UTC 2
[ 5.998241] 13:04:24.452854 main Executable: /opt/VBoxGuestAdditions-7.0.6/sbin/VBoxService
13:04:24.452855 main Process ID: 1078
13:04:24.452856 main Package type: LINUX_64BITS_GENERIC
[ 6.001001] 13:04:24.455600 main 7.0.6 r155176 started. Verbose level = 0
[ 6.002533] 13:04:24.457132 main vbglR3GuestCtrlDetectPeekGetCancelSupport: Supported (#1)
[ 6.053355] loop18: detected capacity change from 0 to 8
[ 7.208501] kauditd_printk_skb: 38 callbacks suppressed
[ 7.208504] audit: type=1400 audit(1697634265.656:49): apparmor="DENIED" operation="capable" class=
"cap" profile="/snap/snapd/20290/usr/lib/snapd/snap-confine" pid=1163 comm="snap-confine" capability=1
2 capname="net_admin"
[ 7.208510] audit: type=1400 audit(1697634265.656:50): apparmor="DENIED" operation="capable" class=
"cap" profile="/snap/snapd/20290/usr/lib/snapd/snap-confine" pid=1163 comm="snap-confine" capability=3
8 capname="perfmon"
[ 9.727901] ISO 9660 Extensions: Microsoft Joliet Level 3
[ 9.728488] ISO 9660 Extensions: RRIP_1991A
[ 9.843456] rfskill: input handler disabled
fillest@fillest-VirtualBox:/$

```

2. There are multiple logs here:

```

fillest@fillest-VirtualBox: /var/log$ ls
alternatives.log      btntp      dpkg.log.1      kern.log.2.gz      ubuntu-advantage-timer.log
alternatives.log.1    btntp.1    dpkg.log.2.gz  lastlog            ubuntu-advantage-timer.log.1
alternatives.log.2.gz cups       faillog        openvpn           ubuntu-advantage-timer.log.2.gz
apt                  dist-upgrade fontconfig.log  private          unattended-upgrades
auth.log             dmesg      gdm3            speech-dispatcher  vboxadd-install.log
auth.log.1           dmesg.0    gpu-manager.log syslog            vboxadd-setup.log
auth.log.2.gz        dmesg.1.gz hp             syslog.1          vboxadd-setup.log.1
boot.log             dmesg.2.gz installer      syslog.2.gz       wtmp
boot.log.1           dmesg.3.gz journal        ubuntu-advantage.log
boot.log.2           dmesg.4.gz kern.log        ubuntu-advantage.log.1
bootstrap.log        dpkg.log   kern.log.1     ubuntu-advantage.log.2.gz
fillest@fillest-VirtualBox: /var/log$

```

auth.log contains messages regarding authentication and authentication events.

3. Sending a message to syslog.

```

fillest@fillest-VirtualBox: /var/log$ logger "hello world"
fillest@fillest-VirtualBox: /var/log$ ^M
: command not found
fillest@fillest-VirtualBox: /var/log$
fillest@fillest-VirtualBox: /var/log$
fillest@fillest-VirtualBox: /var/log$ tail -f syslog
Oct 18 17:53:35 fillest-VirtualBox gnome-shell[1300]: Window manager warning: last_user_time (10156692) is greater than compar
son timestamp (10156679). This most likely represents a buggy client sending inaccurate timestamps in messages such as _NET_ACTI
VE_WINDOW. Trying to work around...
Oct 18 17:53:35 fillest-VirtualBox gnome-shell[1300]: Window manager warning: W5 appears to be one of the offending windows wit
h a timestamp of 10156692. Working around...
Oct 18 17:54:15 fillest-VirtualBox gnome-shell[1300]: Window manager warning: last_user_time (10196579) is greater than compar
son timestamp (10196576). This most likely represents a buggy client sending inaccurate timestamps in messages such as _NET_ACTI
VE_WINDOW. Trying to work around...
Oct 18 17:54:15 fillest-VirtualBox gnome-shell[1300]: Window manager warning: W5 appears to be one of the offending windows wit
h a timestamp of 10196579. Working around...
Oct 18 17:56:34 fillest-VirtualBox gnome-shell[1300]: Window manager warning: Ping serial 10335571 was reused for window W5, pr
vious use was for window W11.
Oct 18 17:56:56 fillest-VirtualBox systemd[1127]: Started VTE child process 3039 launched by gnome-terminal-server process 1919
.
Oct 18 17:57:06 fillest-VirtualBox gnome-shell[1300]: Window manager warning: last_user_time (10367937) is greater than compar
son timestamp (10367725). This most likely represents a buggy client sending inaccurate timestamps in messages such as _NET_ACTI
VE_WINDOW. Trying to work around...
Oct 18 17:57:06 fillest-VirtualBox gnome-shell[1300]: Window manager warning: W5 appears to be one of the offending windows wit
h a timestamp of 10367937. Working around...
Oct 18 18:01:01 fillest-VirtualBox fillest: hello world
Oct 18 18:01:09 fillest-VirtualBox gnome-shell[1300]: Window manager warning: Ping serial 10611376 was reused for window W5, pr
vious use was for window W11.
^C
fillest@fillest-VirtualBox: /var/log$

```

- syslog is a system-wide logging system for storing messages from various sources. dmesg displays kernel-related messages and is used for diagnosing hardware and kernel issues. syslog is for general system and application logs, while dmesg is focused on the kernel's messages and boot process.
- Proof it received it:

```

Oct 18 17:53:35 fillesten-VirtualBox: /var/log$ logger "hello world"
fillesten@fillesten-VirtualBox: /var/log$ ^M
: command not found
fillesten@fillesten-VirtualBox: /var/log$
fillesten@fillesten-VirtualBox: /var/log$
fillesten@fillesten-VirtualBox: /var/log$ tail -f syslog
Oct 18 17:53:35 fillesten-VirtualBox gnome-shell[1300]: Window manager warning: last_user_time (10156692) is greater than compari
son timestamp (10156679). This most likely represents a buggy client sending inaccurate timestamps in messages such as _NET_ACTI
VE_WINDOW. Trying to work around...
Oct 18 17:53:35 fillesten-VirtualBox gnome-shell[1300]: Window manager warning: W5 appears to be one of the offending windows wit
h a timestamp of 10156692. Working around...
Oct 18 17:54:15 fillesten-VirtualBox gnome-shell[1300]: Window manager warning: last_user_time (10196579) is greater than compari
son timestamp (10196576). This most likely represents a buggy client sending inaccurate timestamps in messages such as _NET_ACTI
VE_WINDOW. Trying to work around...
Oct 18 17:54:15 fillesten-VirtualBox gnome-shell[1300]: Window manager warning: W5 appears to be one of the offending windows wit
h a timestamp of 10196579. Working around...
Oct 18 17:56:34 fillesten-VirtualBox gnome-shell[1300]: Window manager warning: Ping serial 10335571 was reused for window W5, pr
evious use was for window W11.
Oct 18 17:56:56 fillesten-VirtualBox systemd[1127]: Started VTE child process 3039 launched by gnome-terminal-server process 1919
.
Oct 18 17:57:06 fillesten-VirtualBox gnome-shell[1300]: Window manager warning: last_user_time (10367725) is greater than compari
son timestamp (10367725). This most likely represents a buggy client sending inaccurate timestamps in messages such as _NET_ACTI
VE_WINDOW. Trying to work around...
Oct 18 17:57:06 fillesten-VirtualBox gnome-shell[1300]: Window manager warning: W5 appears to be one of the offending windows wit
h a timestamp of 10367937. Working around...
Oct 18 18:01:01 fillesten-VirtualBox fillesten: hello world
Oct 18 18:01:09 fillesten-VirtualBox gnome-shell[1300]: Window manager warning: Ping serial 10611376 was reused for window W5, pr
evious use was for window W11.
^C
fillesten@fillesten-VirtualBox: /var/log$

```