TP de TP3

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1 Services

1.1 Definition

1.1.1 Question 1

- daemon \rightarrow un processus qui s'execute en arriere-plan sans association avec le terminal TTY. Le processus parent d'un processus demon est init.
- $\bullet\,$ processus \to un ensemble de taches, un ensemble de lignes de code a executer par le processeur.
- application

1.2 Analyse de systemd

1.2.1 Question 1

systemctl status -a

1.2.2 Question 2

1.3 Analyse des processus actifs

1.3.1 Question 1

ps -e

##	PID	TTY	TIME	CMD
##	1	?	00:00:02	systemd
##	2	?	00:00:00	kthreadd
##	3	?	00:00:00	rcu_gp
##	4	?	00:00:00	rcu_par_gp
##	5	?		kworker/0:0-events
##	6	?	00:00:00	kworker/0:0H-kblocko
##	9	?	00:00:00	mm_percpu_wq
##	10	?		ksoftirqd/0
##	11	?	00:00:00	rcu_sched
##	12	?	00:00:00	migration/0
##	13	?	00:00:00	idle_inject/0
##	14	?	00:00:00	cpuhp/0
##	15	?	00:00:00	kdevtmpfs
##	16	?	00:00:00	netns
##	17	?	00:00:00	rcu_tasks_kthre
##	18	?	00:00:00	kauditd
##	19	?	00:00:00	khungtaskd
##	20	?	00:00:00	oom_reaper
##	21	?	00:00:00	writeback
##	22	?	00:00:00	kcompactd0
##	23	?	00:00:00	ksmd
##	24	?	00:00:00	khugepaged
##	70	?	00:00:00	kintegrityd
##	71	?	00:00:00	
##	72	?	00:00:00	blkcg_punt_bio
##	73	?	00:00:00	tpm_dev_wq
##	74	?	00:00:00	ata_sff
##	75	?	00:00:00	md
##	76	?	00:00:00	edac-poller
##	77	?	00:00:00	devfreq_wq
##	78		00:00:00	watchdogd
##	81	?	00:00:00	kswapd0
##	82		00:00:00	ecryptfs-kthrea
##	84	?		kthrotld
##	85	?	00:00:00	irq/24-pciehp
##	86	?	00:00:00	r 1 1
##	87	?	00:00:00	irq/26-pciehp
##	88	?	00:00:00	irq/27-pciehp
##	89	?	00:00:00	
##	90	?	00:00:00	
##	91	?	00:00:00	
##	92	?	00:00:00	irq/31-pciehp
##	93	?	00:00:00	irq/32-pciehp
##	94	?	00:00:00	irq/33-pciehp
##	95	?	00:00:00	irq/34-pciehp

```
96 ?
##
                    00:00:00 irg/35-pciehp
##
        97 ?
                    00:00:00 irq/36-pciehp
        98 ?
                    00:00:00 irg/37-pciehp
##
##
        99 ?
                    00:00:00 irq/38-pciehp
##
       100 ?
                    00:00:00 irq/39-pciehp
##
       101 ?
                    00:00:00 irg/40-pciehp
##
       102 ?
                    00:00:00 irg/41-pciehp
                    00:00:00 irq/42-pciehp
##
       103 ?
##
       104 ?
                    00:00:00 irg/43-pciehp
##
       105 ?
                    00:00:00 irq/44-pciehp
##
       106 ?
                    00:00:00 irq/45-pciehp
##
       107 ?
                    00:00:00 irq/46-pciehp
##
       108 ?
                    00:00:00 irq/47-pciehp
##
       109 ?
                    00:00:00 irq/48-pciehp
##
       110 ?
                    00:00:00 irq/49-pciehp
##
       111 ?
                    00:00:00 irq/50-pciehp
##
       112 ?
                    00:00:00 irq/51-pciehp
                    00:00:00 irg/52-pciehp
##
       113 ?
##
       114 ?
                    00:00:00 irq/53-pciehp
       115 ?
                    00:00:00 irg/54-pciehp
##
##
       116 ?
                    00:00:00 irq/55-pciehp
##
       117 ?
                    00:00:00 acpi thermal pm
##
       118 ?
                    00:00:00 scsi_eh_0
##
       119 ?
                    00:00:00 scsi tmf 0
##
       120 ?
                    00:00:00 scsi eh 1
##
       121 ?
                    00:00:00 scsi tmf 1
##
       123 ?
                    00:00:00 vfio-irqfd-clea
##
       124 ?
                    00:00:00 ipv6_addrconf
##
       134 ?
                    00:00:00 kstrp
##
       137 ?
                    00:00:00 kworker/u3:0
       151 ?
                    00:00:00 charger_manager
##
##
       185 ?
                    00:00:00 scsi_eh_2
##
       186 ?
                    00:00:00 mpt_poll_0
##
       187 ?
                    00:00:00 mpt/0
       188 ?
                    00:00:00 scsi tmf 2
##
##
       189 ?
                    00:00:00 scsi eh 3
##
       190 ?
                    00:00:00 scsi tmf 3
##
       191 ?
                    00:00:00 scsi eh 4
##
       192 ?
                    00:00:00 scsi tmf 4
##
                    00:00:00 cryptd
       193 ?
##
       194 ?
                    00:00:00 scsi eh 5
                    00:00:00 scsi tmf 5
##
       197 ?
##
       201 ?
                    00:00:00 scsi eh 6
##
       205 ?
                    00:00:00 scsi_tmf_6
##
       208 ?
                    00:00:00 scsi_eh_7
       211 ?
##
                    00:00:00 scsi_tmf_7
##
       212 ?
                    00:00:00 scsi eh 8
##
       213 ?
                    00:00:00 scsi_tmf_8
##
       215 ?
                    00:00:00 scsi_eh_9
##
       219 ?
                    00:00:00 scsi_tmf_9
##
       221 ?
                    00:00:00 scsi_eh_10
##
       223 ?
                    00:00:00 scsi tmf 10
##
       226 ?
                    00:00:00 scsi eh 11
##
       228 ?
                    00:00:00 scsi tmf 11
```

```
##
       230 ?
                    00:00:00 scsi eh 12
##
       232 ?
                    00:00:00 scsi_tmf_12
       234 ?
##
                    00:00:00 scsi eh 13
##
       236 ?
                    00:00:00 scsi_tmf_13
##
       238 ?
                    00:00:00 irq/16-vmwgfx
##
       240 ?
                    00:00:00 scsi eh 14
##
       242 ?
                    00:00:00 scsi tmf 14
                    00:00:00 scsi eh 15
##
       243 ?
##
       245 ?
                    00:00:00 ttm swap
##
       246 ?
                    00:00:00 scsi_tmf_15
##
       248 ?
                    00:00:00 scsi_eh_16
##
       250 ?
                    00:00:00 scsi_tmf_16
                    00:00:00 scsi eh 17
##
       252 ?
##
       254 ?
                    00:00:00 scsi_tmf_17
##
       255 ?
                    00:00:00 scsi_eh_18
##
       256 ?
                    00:00:00 scsi_tmf_18
##
       257 ?
                    00:00:00 scsi_eh_19
##
       258 ?
                    00:00:00 scsi tmf 19
##
       259 ?
                    00:00:00 scsi_eh_20
##
       260 ?
                    00:00:00 scsi tmf 20
##
       261 ?
                    00:00:00 scsi_eh_21
##
       262 ?
                    00:00:00 scsi tmf 21
##
       263 ?
                    00:00:00 scsi_eh_22
##
       264 ?
                    00:00:00 scsi tmf 22
##
       265 ?
                    00:00:00 scsi eh 23
##
       266 ?
                    00:00:00 scsi tmf 23
##
       267 ?
                    00:00:00 scsi_eh_24
##
       268 ?
                    00:00:00 scsi_tmf_24
                    00:00:00 scsi_eh_25
##
       269 ?
                    00:00:00 scsi_tmf_25
##
       270 ?
       271 ?
##
                    00:00:00 scsi_eh_26
##
       272 ?
                    00:00:00 scsi_tmf_26
##
       273 ?
                    00:00:00 scsi_eh_27
##
       274 ?
                    00:00:00 scsi_tmf_27
       275 ?
                    00:00:00 scsi eh 28
##
##
       276 ?
                    00:00:00 scsi_tmf_28
##
       277 ?
                    00:00:00 scsi eh 29
##
       278 ?
                    00:00:00 scsi_tmf_29
##
       279 ?
                    00:00:00 scsi eh 30
##
                    00:00:00 scsi_tmf_30
       280 ?
##
       281 ?
                    00:00:00 scsi eh 31
##
       282 ?
                    00:00:00 scsi tmf 31
##
       310 ?
                    00:00:00 scsi eh 32
##
       311 ?
                    00:00:00 scsi_tmf_32
##
       312 ?
                    00:00:00 kworker/0:1H-kblockd
##
       349 ?
                    00:00:00 raid5wq
##
       389 ?
                    00:00:00 jbd2/sda3-8
##
       390 ?
                    00:00:00 ext4-rsv-conver
##
       446 ?
                    00:00:00 systemd-journal
##
       478 ?
                    00:00:00 systemd-udevd
##
       480 ?
                    00:00:00 systemd-network
                    00:00:00 kaluad
##
       621 ?
                    00:00:00 kmpath rdacd
##
       622 ?
##
       623 ?
                    00:00:00 kmpathd
```

```
00:00:00 kmpath_handlerd
##
       624 ?
##
       625 ?
                    00:00:01 multipathd
                    00:00:00 jbd2/sda2-8
##
       636 ?
##
                    00:00:00 ext4-rsv-conver
       638 ?
##
       640 ?
                    00:00:00 loop0
                    00:00:00 jbd2/sda4-8
##
       641 ?
##
       643 ?
                    00:00:00 ext4-rsv-conver
##
       645 ?
                    00:00:00 loop1
##
       647 ?
                    00:00:00 loop3
##
       648 ?
                    00:00:00 loop4
##
       665 ?
                    00:00:00 systemd-resolve
       666 ?
                    00:00:00 systemd-timesyn
##
       678 ?
                    00:00:00 VGAuthService
##
##
       684 ?
                    00:00:03 vmtoolsd
##
       709 ?
                    00:00:00 accounts-daemon
       710 ?
##
                    00:00:00 dbus-daemon
##
       718 ?
                    00:00:00 networkd-dispat
                    00:00:00 rsyslogd
##
       719 ?
                    00:00:00 systemd-logind
##
       723 ?
       755 ?
                    00:00:00 cron
##
##
       768 ?
                    00:00:00 atd
##
       787 ?
                    00:00:00 sshd
                    00:00:00 login
##
       788 tty1
##
       796 ?
                    00:00:00 unattended-upgr
##
       809 ?
                    00:00:00 polkitd
##
       992 ?
                    00:00:00 loop6
##
      1026 ?
                    00:00:03 snapd
##
      1231 ?
                    00:00:00 loop5
                    00:00:00 systemd
##
      1728 ?
      1729 ?
                    00:00:00 (sd-pam)
##
##
      1734 tty1
                    00:00:00 bash
##
      4668 ?
                    00:00:00 kworker/0:1-events
      6508 ?
                    00:00:00 kworker/u2:1-events_power_efficient
##
##
      7073 ?
                    00:00:00 kworker/u2:0-events_power_efficient
##
      7522 tty1
                    00:00:00 vim
                    00:00:00 bash
##
      7591 tty1
##
      7593 tty1
                    00:00:00 R
##
      7609 tty1
                    00:00:00 sh
##
      7610 tty1
                    00:00:00 ps
```

explain

ps -aux

##	USER	PID	%CPU	%MEM	VSZ	RSS	TTY	STAT	START	TIME	COMMAND
##	root	1	0.0	1.2	105108	12520	?	Ss	11:28	0:02	/sbin/init maybe-ubiquity
##	root	2	0.0	0.0	0	0	?	S	11:28	0:00	[kthreadd]
##	root	3	0.0	0.0	0	0	?	I<	11:28	0:00	[rcu_gp]
##	root	4	0.0	0.0	0	0	?	I<	11:28	0:00	[rcu_par_gp]
##	root	5	0.0	0.0	0	0	?	I	11:28	0:03	[kworker/0:0-events]
##	root	6	0.0	0.0	0	0	?	I<	11:28	0:00	[kworker/0:0H-kblockd]
##	root	9	0.0	0.0	0	0	?	I<	11:28	0:00	[mm_percpu_wq]
##	root	10	0.0	0.0	0	0	?	S	11:28	0:00	[ksoftirqd/0]

## root	11	0.0	0.0	0	0 ?	I	11:28	0:00	
## root	12	0.0	0.0	0	0 ?	S	11:28	0:00	[migration/0]
## root	13	0.0	0.0	0	0 ?	S	11:28	0:00	[idle_inject/0]
## root	14	0.0	0.0	0	0 ?	S	11:28	0:00	[cpuhp/0]
## root	15	0.0	0.0	0	0 ?	S	11:28	0:00	[kdevtmpfs]
## root	16	0.0	0.0	0	0 ?	I<	11:28	0:00	[netns]
## root	17	0.0	0.0	0	0 ?	S	11:28	0:00	[rcu_tasks_kthre]
## root	18	0.0	0.0	0	0 ?	S	11:28	0:00	[kauditd]
## root	19	0.0	0.0	0	0 ?	S	11:28	0:00	[khungtaskd]
## root	20	0.0	0.0	0	0 ?	S	11:28	0:00	[oom_reaper]
## root	21	0.0	0.0	0	0 ?	I<	11:28	0:00	[writeback]
## root	22	0.0	0.0	0	0 ?	S	11:28	0:00	[kcompactd0]
## root	23	0.0	0.0	0	0 ?	SN	11:28	0:00	[ksmd]
## root	24	0.0	0.0	0	0 ?	SN	11:28	0:00	[khugepaged]
## root	70	0.0	0.0	0	0 ?	I<	11:28	0:00	[kintegrityd]
## root	71	0.0	0.0	0	0 ?	I<	11:28	0:00	[kblockd]
## root	72	0.0	0.0	0	0 ?	I<	11:28	0:00	[blkcg_punt_bio]
## root	73	0.0	0.0	0	0 ?	I<	11:28	0:00	[tpm_dev_wq]
## root	74	0.0	0.0	0	0 ?	I<	11:28	0:00	[ata_sff]
## root	75	0.0	0.0	0	0 ?	I<	11:28	0:00	[md]
## root	76	0.0	0.0	0	0 ?	I<	11:28	0:00	<pre>[edac-poller]</pre>
## root	77	0.0	0.0	0	0 ?	I<	11:28	0:00	[devfreq_wq]
## root	78	0.0	0.0	0	0 ?	S	11:28	0:00	[watchdogd]
## root	81	0.0	0.0	0	0 ?	S	11:28	0:00	[kswapd0]
## root	82	0.0	0.0	0	0 ?	S	11:28	0:00	[ecryptfs-kthrea]
## root	84	0.0	0.0	0	0 ?	I<	11:28	0:00	[kthrotld]
## root	85	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/24-pciehp]
## root	86	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/25-pciehp]
## root	87	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/26-pciehp]
## root	88	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/27-pciehp]
## root	89	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/28-pciehp]
## root	90	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/29-pciehp]
## root	91	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/30-pciehp]
## root	92	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/31-pciehp]
## root	93	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/32-pciehp]
## root	94	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/33-pciehp]
## root	95	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/34-pciehp]
## root	96	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/35-pciehp]
## root	97	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/36-pciehp]
## root	98	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/37-pciehp]
## root	99	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/38-pciehp]
## root	100	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/39-pciehp]
## root	101	0.0	0.0	0	0 ?	S	11:28		[irq/40-pciehp]
## root	102	0.0	0.0	0	0 ?	S	11:28		[irq/41-pciehp]
## root	103	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/42-pciehp]
## root	104	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/43-pciehp]
## root	105	0.0	0.0	0	0 ?	S	11:28	0:00	[irq/44-pciehp]
## root	106	0.0	0.0	0	0 ?	S	11:28		[irq/45-pciehp]
## root	107	0.0	0.0	0	0 ?	S	11:28		[irq/46-pciehp]
## root	108	0.0	0.0	0	0 ?	S	11:28		[irq/47-pciehp]
## root	109	0.0	0.0	0	0 ?	S	11:28		[irq/48-pciehp]
## root	110	0.0	0.0	0	0 ?	S	11:28		[irq/49-pciehp]
## root	111	0.0	0.0	0	0 ?	S	11:28		[irq/50-pciehp]
## root	112	0.0	0.0	0	0 ?	S	11:28		[irq/51-pciehp]
									1 1-

```
## root
                  113
                       0.0
                             0.0
                                              0 ?
                                                          S
                                                                11:28
                                                                         0:00 [irq/52-pciehp]
                  114
## root
                       0.0
                             0.0
                                              0 ?
                                                          S
                                       0
                                                                11:28
                                                                         0:00 [irq/53-pciehp]
## root
                  115
                       0.0
                             0.0
                                              0 ?
                                                          S
                                                                11:28
                                                                         0:00 [irq/54-pciehp]
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          S
                                                                11:28
                                                                         0:00 [irq/55-pciehp]
## root
                  116
## root
                  117
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [acpi_thermal_pm]
                       0.0
                             0.0
                                              0 ?
                                                          S
                                                                11:28
## root
                  118
                                       0
                                                                         0:00 [scsi eh 0]
                                              0 ?
## root
                  119
                       0.0
                             0.0
                                       0
                                                          I<
                                                                11:28
                                                                         0:00 [scsi tmf 0]
                                              0 ?
## root
                  120
                       0.0
                             0.0
                                       0
                                                          S
                                                                11:28
                                                                         0:00 [scsi_eh_1]
## root
                  121
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [scsi tmf 1]
                                              0 ?
## root
                  123
                       0.0
                             0.0
                                       0
                                                          I<
                                                                11:28
                                                                         0:00 [vfio-irqfd-clea]
## root
                  124
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [ipv6_addrconf]
                                              0 ?
                       0.0
                                                                11:28
##
   root
                  134
                             0.0
                                       0
                                                          I<
                                                                         0:00 [kstrp]
                  137
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [kworker/u3:0]
##
   root
                                              0 ?
                                                                11:28
##
   root
                  151
                       0.0
                             0.0
                                       0
                                                          I<
                                                                         0:00 [charger_manager]
                  185
                       0.0
                             0.0
                                              0 ?
                                                          S
## root
                                       0
                                                                11:28
                                                                         0:00 [scsi_eh_2]
                  186
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [mpt_poll_0]
## root
                                              0 ?
                                                          I<
                  187
                       0.0
                             0.0
                                       0
                                                                11:28
                                                                         0:00 [mpt/0]
## root
                       0.0
                             0.0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [scsi_tmf_2]
  root
                  188
## root
                                              0 ?
                                                          S
                  189
                       0.0
                             0.0
                                       0
                                                                11:28
                                                                         0:00 [scsi_eh_3]
##
  root
                  190
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [scsi tmf 3]
## root
                  191
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          S
                                                                11:28
                                                                         0:00 [scsi_eh_4]
                       0.0
                             0.0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [scsi_tmf_4]
## root
                  192
                                       0
                       0.0
                             0.0
                                              0 ?
                                                                11:28
                                                                         0:00 [cryptd]
## root
                  193
                                       0
                                                          I<
                                              0 ?
                                                          S
                                                                11:28
## root
                  194
                       0.0
                             0.0
                                       0
                                                                         0:00 [scsi eh 5]
                                              0 ?
## root
                  197
                       0.0
                             0.0
                                       0
                                                          I<
                                                                11:28
                                                                         0:00 [scsi_tmf_5]
## root
                  201
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          S
                                                                11:28
                                                                         0:00 [scsi_eh_6]
                  205
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [scsi_tmf_6]
##
  root
                                              0 ?
                                                          S
##
                  208
                       0.0
                             0.0
                                       0
                                                                11:28
                                                                         0:00 [scsi_eh_7]
   root
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [scsi_tmf_7]
##
   root
                  211
                       0.0
                             0.0
                                       0
                  212
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          S
                                                                11:28
                                                                         0:00 [scsi_eh_8]
## root
## root
                  213
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [scsi_tmf_8]
                                                                         0:00 [scsi_eh_9]
## root
                  215
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          S
                                                                11:28
                                              0 ?
                  219
                       0.0
                             0.0
                                       0
                                                          I<
                                                                11:28
                                                                         0:00 [scsi_tmf_9]
  root
                  221
                       0.0
                                              0 ?
                                                          S
                             0.0
                                       0
                                                                11:28
                                                                         0:00 [scsi_eh_10]
##
  root
                  223
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [scsi tmf 10]
##
   root
## root
                  226
                       0.0
                             0.0
                                              0 ?
                                                          S
                                                                11:28
                                       0
                                                                         0:00 [scsi_eh_11]
## root
                  228
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [scsi tmf 11]
                  230
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          S
                                                                11:28
                                                                         0:00 [scsi_eh_12]
## root
                  232
                       0.0
                             0.0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [scsi_tmf_12]
## root
                                       0
                       0.0
                                              0 ?
                                                          S
                                                                11:28
## root
                  234
                             0.0
                                       0
                                                                         0:00 [scsi_eh_13]
                                              0 ?
                                                          I<
## root
                  236
                       0.0
                             0.0
                                       0
                                                                11:28
                                                                         0:00 [scsi tmf 13]
                  238
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          S
                                                                11:28
                                                                         0:00 [irq/16-vmwgfx]
## root
## root
                  240
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          S
                                                                11:28
                                                                         0:00 [scsi_eh_14]
                                              0 ?
                                                                         0:00 [scsi_tmf_14]
                  242
                       0.0
                             0.0
                                       0
                                                          I<
                                                                11:28
##
  root
                                              0 ?
## root
                  243
                       0.0
                             0.0
                                       0
                                                          S
                                                                11:28
                                                                         0:00 [scsi_eh_15]
                                              0 ?
                  245
                       0.0
                             0.0
                                                          I<
                                                                11:28
                                                                         0:00 [ttm_swap]
## root
                                       0
## root
                  246
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [scsi_tmf_15]
                                              0 ?
                                                          S
## root
                  248
                       0.0
                             0.0
                                       0
                                                                11:28
                                                                         0:00 [scsi_eh_16]
## root
                  250
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          I<
                                                                11:28
                                                                         0:00 [scsi_tmf_16]
                                              0 ?
                  252
                       0.0
                             0.0
                                       0
                                                          S
                                                                11:28
                                                                         0:00 [scsi_eh_17]
##
   root
                       0.0
                             0.0
                                              0 ?
##
                  254
                                       0
                                                          I<
                                                                11:28
                                                                         0:00 [scsi_tmf_17]
  root
                                              0 ?
## root
                  255
                       0.0
                             0.0
                                       0
                                                          S
                                                                11:28
                                                                         0:00 [scsi_eh_18]
## root
                  256
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          T<
                                                                11:28
                                                                         0:00 [scsi_tmf_18]
## root
                  257
                       0.0
                             0.0
                                       0
                                              0 ?
                                                          S
                                                                11:28
                                                                         0:00 [scsi eh 19]
```

```
258
                       0.0
                             0.0
                                             0 ?
                                                          I<
                                                                11:28
                                                                        0:00 [scsi_tmf_19]
## root
## root
                  259
                       0.0
                             0.0
                                             0 ?
                                                          S
                                                                11:28
                                       0
                                                                        0:00 [scsi_eh_20]
                                                                        0:00 [scsi tmf 20]
## root
                  260
                       0.0
                             0.0
                                             0 ?
                                                          I<
                                                                11:28
                 261
                       0.0
                             0.0
                                       0
                                             0 ?
                                                          S
                                                                11:28
                                                                        0:00 [scsi_eh_21]
## root
##
  root
                  262
                       0.0
                             0.0
                                       0
                                             0
                                               ?
                                                          I<
                                                                11:28
                                                                        0:00 [scsi_tmf_21]
                             0.0
                                             0 ?
                                                          S
                                                                11:28
## root
                  263
                       0.0
                                       0
                                                                        0:00 [scsi eh 22]
                                             0 ?
## root
                  264
                       0.0
                             0.0
                                       0
                                                          I<
                                                               11:28
                                                                        0:00 [scsi tmf 22]
                                             0 ?
## root
                  265
                       0.0
                             0.0
                                       0
                                                          S
                                                               11:28
                                                                        0:00 [scsi_eh_23]
## root
                  266
                       0.0
                             0.0
                                       0
                                             0 ?
                                                          I<
                                                               11:28
                                                                        0:00 [scsi_tmf_23]
                                             0 ?
                                                          S
## root
                  267
                       0.0
                             0.0
                                       0
                                                                11:28
                                                                        0:00 [scsi_eh_24]
## root
                  268
                       0.0
                             0.0
                                       0
                                             0 ?
                                                          I<
                                                                11:28
                                                                        0:00 [scsi_tmf_24]
                                             0 ?
                 269
                       0.0
                                                          S
                                                                11:28
                                                                        0:00 [scsi_eh_25]
##
   root
                             0.0
                                       0
                                             0 ?
                  270
                       0.0
                             0.0
                                       0
                                                          I<
                                                               11:28
                                                                        0:00 [scsi_tmf_25]
##
   root
                                             0 ?
                                                          S
##
   root
                  271
                       0.0
                             0.0
                                       0
                                                                11:28
                                                                        0:00 [scsi_eh_26]
                 272
                       0.0
                             0.0
                                             0 ?
                                                                        0:00 [scsi_tmf_26]
## root
                                       0
                                                          T<
                                                               11:28
                  273
                       0.0
                             0.0
                                       0
                                             0
                                               ?
                                                          S
                                                                11:28
                                                                        0:00 [scsi_eh_27]
##
  root
                                             0 ?
                                                          I<
                  274
                       0.0
                             0.0
                                       0
                                                                11:28
                                                                        0:00 [scsi_tmf_27]
## root
                  275
                       0.0
                             0.0
                                             0 ?
                                                          S
                                                                11:28
                                                                        0:00 [scsi eh 28]
  root
                       0.0
                                             0 ?
## root
                  276
                            0.0
                                       0
                                                          I<
                                                                11:28
                                                                        0:00 [scsi_tmf_28]
##
   root
                  277
                       0.0
                             0.0
                                       0
                                             0 ?
                                                          S
                                                                11:28
                                                                        0:00 [scsi_eh_29]
##
  root
                  278
                       0.0
                             0.0
                                       0
                                             0 ?
                                                          I<
                                                                11:28
                                                                        0:00 [scsi_tmf_29]
                  279
                       0.0
                                             0 ?
                                                          S
                                                                11:28
                                                                        0:00 [scsi_eh_30]
## root
                             0.0
                                       0
                  280
                       0.0
                             0.0
                                             0 ?
                                                               11:28
                                                                        0:00 [scsi_tmf_30]
## root
                                       0
                                                          I<
                                             0 ?
                                                          S
                                                                        0:00 [scsi eh 31]
## root
                  281
                       0.0
                             0.0
                                       0
                                                               11:28
                                             0 ?
## root
                  282
                       0.0
                             0.0
                                       0
                                                          I<
                                                                11:28
                                                                        0:00 [scsi_tmf_31]
## root
                  310
                       0.0
                             0.0
                                       0
                                             0 ?
                                                          S
                                                                11:28
                                                                        0:00 [scsi_eh_32]
                       0.0
                             0.0
                                       0
                                             0 ?
                                                          I<
                                                                11:28
                                                                        0:00 [scsi_tmf_32]
##
   root
                  311
                                               ?
##
                  312
                       0.0
                             0.0
                                       0
                                             0
                                                          I<
                                                               11:28
                                                                        0:00 [kworker/0:1H-kblockd]
   root
                                             0 ?
                                       0
                                                          I<
                                                                11:28
##
   root
                  349
                       0.0
                             0.0
                                                                        0:00 [raid5wq]
                                             0 ?
                  389
                       0.0
                             0.0
                                       0
                                                          S
                                                               11:28
                                                                        0:00 [jbd2/sda3-8]
## root
## root
                  390
                       0.0
                             0.0
                                       0
                                             0
                                                ?
                                                          I<
                                                                11:28
                                                                        0:00 [ext4-rsv-conver]
## root
                  446
                       0.0
                             2.2
                                  75400 22660 ?
                                                          S<s
                                                               11:28
                                                                        0:00 /lib/systemd/systemd-journald
                  478
                       0.0
                             0.5
                                  22020
                                          5696 ?
                                                          Ss
                                                                11:28
                                                                        0:00 /lib/systemd/systemd-udevd
   root
                                  26748
                       0.0
                                          7464 ?
                  480
                             0.7
                                                          Ss
                                                                11:28
                                                                        0:00 /lib/systemd/systemd-networkd
   systemd+
                                                ?
                  621
                       0.0
                             0.0
                                       0
                                             0
                                                          I<
                                                                11:28
                                                                        0:00 [kaluad]
##
   root
## root
                  622
                             0.0
                                       0
                                             0 ?
                       0.0
                                                          T<
                                                                11:28
                                                                        0:00 [kmpath_rdacd]
## root
                  623
                       0.0
                             0.0
                                       0
                                             0 ?
                                                          I<
                                                               11:28
                                                                        0:00 [kmpathd]
                       0.0
                             0.0
                                       0
                                             0
                                               ?
                                                          I<
                                                                11:28
                                                                        0:00 [kmpath_handlerd]
## root
                  624
                  625
                             1.7 345760
                                         17980
                                               ?
                                                          SLsl 11:28
                                                                        0:01 /sbin/multipathd -d -s
## root
                       0.0
                                             0 ?
                                                          S
                                                                        0:00 [jbd2/sda2-8]
## root
                  636
                       0.0
                             0.0
                                       0
                                                                11:28
                                             0 ?
                                                                        0:00 [ext4-rsv-conver]
## root
                  638
                       0.0
                             0.0
                                       0
                                                          I<
                                                               11:28
                       0.0
                             0.0
                                       0
                                             0 ?
                                                          S<
                                                                11:28
                                                                        0:00 [loop0]
## root
                  640
                                               ?
##
  root
                  641
                       0.0
                             0.0
                                       0
                                             0
                                                          S
                                                                11:28
                                                                        0:00 [jbd2/sda4-8]
                                             0 ?
                       0.0
                             0.0
                                       0
                                                          I<
                                                               11:28
                                                                        0:00 [ext4-rsv-conver]
##
   root
                  643
                                             0 ?
## root
                  645
                       0.0
                             0.0
                                       0
                                                          S<
                                                               11:28
                                                                        0:00 [loop1]
                             0.0
                                                ?
                       0.0
                                             0
                                                          S<
                                                                11:28
## root
                  647
                                       0
                                                                        0:00 [loop3]
## root
                  648
                       0.0
                             0.0
                                       0
                                             0
                                                          S<
                                                                11:28
                                                                        0:00 [loop4]
                                  24052 11932 ?
   systemd+
                  665
                       0.0
                             1.1
                                                          Ss
                                                                11:28
                                                                        0:00 /lib/systemd/systemd-resolved
                       0.0
   systemd+
                  666
                             0.5
                                  90168
                                          6020
                                                          Ssl
                                                               11:28
                                                                        0:00 /lib/systemd/systemd-timesyncd
                  678
                       0.0
                             1.0
                                  47532 10160
                                                          Ss
                                                                11:28
                                                                        0:00 /usr/bin/VGAuthService
##
   root
                                                                        0:03 /usr/bin/vmtoolsd
##
  root
                  684
                       0.0
                             0.6 162512
                                          6700
                                                          Ssl
                                                               11:28
## root
                  709
                       0.0
                             0.6 235556
                                          6832 ?
                                                          Ssl
                                                               11:28
                                                                        0:00 /usr/lib/accountsservice/accounts
                 710
                       0.0
                             0.4
                                   7504
                                          4428 ?
                                                          Ss
                                                               11:28
                                                                        0:00 /usr/bin/dbus-daemon --system --a
## message+
                       0.0
                             1.6
                                  29072 16944 ?
                                                               11:28
                                                                        0:00 /usr/bin/python3 /usr/bin/network
## root
                  718
                                                          Ss
```

```
## syslog
                719 0.0 0.4 224332 4636 ?
                                                    Ssl 11:28
                                                                 0:00 /usr/sbin/rsyslogd -n -iNONE
## root
                723 0.0
                         0.7 16820 7884 ?
                                                         11:28
                                                                 0:00 /lib/systemd/systemd-logind
                                                    Ss
                                                                 0:00 /usr/sbin/cron -f
## root
                755
                     0.0
                         0.2
                                6812
                                      2852 ?
                                                    Ss
                                                         11:28
                                3792
                                      2236 ?
                                                                 0:00 /usr/sbin/atd -f
                768
                     0.0
                         0.2
                                                    Ss
                                                         11:28
## daemon
## root
                787
                     0.0
                         0.6
                              12168
                                      6848 ?
                                                    Ss
                                                         11:28
                                                                 0:00 sshd: /usr/sbin/sshd -D [listener]
                788
                     0.0 0.3
                                5968 3152 tty1
                                                         11:28
                                                                 0:00 /bin/login -p --
## root
                                                    Ss
                     0.0
                         1.8 107876 18716 ?
                                                                 0:00 /usr/bin/python3 /usr/share/unatt
## root
                796
                                                    Ssl 11:28
                     0.0 0.7 233676
                                                                 0:00 /usr/lib/policykit-1/polkitd --no
## root
                809
                                     7440 ?
                                                    Ssl 11:28
                                                                 0:00 [loop6]
## root
                992
                     0.0
                         0.0
                                   0
                                         0 ?
                                                    S<
                                                         11:28
                         2.9 645396 29196 ?
                                                                 0:03 /usr/lib/snapd/snapd
## root
               1026
                     0.0
                                                    Ssl 11:29
## root
               1231
                     0.0 0.0
                                   0
                                         0 ?
                                                    S<
                                                         11:29
                                                                 0:00 [loop5]
                              18556
               1728
                     0.0 0.9
                                      9728 ?
                                                    Ss
                                                         11:31
                                                                 0:00 /lib/systemd/systemd --user
## dibraerg
               1729
                     0.0 0.4 104304
                                      4204 ?
                                                    S
                                                         11:31
                                                                 0:00 (sd-pam)
## dibraerg
               1734
                     0.0 0.5
                                9320
                                      5468 tty1
                                                                 0:00 -bash
## dibraerg
                                                    S
                                                         11:31
               4668
                     0.0 0.0
                                         0 ?
                                                         11:40
                                                                 0:00 [kworker/0:1-events]
## root
                                   0
                                                    Ι
## root
               6508
                     0.0
                         0.0
                                   0
                                         0 ?
                                                    Ι
                                                         12:30
                                                                 0:00 [kworker/u2:1-events_power_effici
               7073 0.0 0.0
                                   0
                                         0 ?
                                                                 0:00 [kworker/u2:0-events_power_effici
## root
                                                    Ι
                                                         12:44
## dibraerg
               7522 0.1 1.0
                               22856 10828 ttv1
                                                         12:50
                                                                 0:00 vim DIBRA_10-15-20_TP3.rmd
               7591 0.0 0.3
                                6892 3200 tty1
                                                                 0:00 /bin/bash -c echo "require(rmarkd
## dibraerg
                                                    S+
                                                         12:51
                                                                 0:00 /usr/lib/R/bin/exec/R --vanilla
## dibraerg
               7593 33.0 7.8 141480 78748 tty1
                                                    S+
                                                         12:51
## dibraerg
               7611 0.0 0.0
                                2608
                                       244 tty1
                                                    S+
                                                         12:51
                                                                 0:00 sh -c 'bash' -c 'ps -aux' 2>&1
## dibraerg
               7612 0.0 0.3
                                9068 3672 tty1
                                                         12:51
                                                                 0:00 ps -aux
                                                    R+
```

- 1.3.2 Question 2
- 1.3.3 Question 3
- 1.4 Service getty@tty2.service
- 1.4.1 Resume operations
- 1.5 mondemon v1
- 1.5.1 Question 1
- 1.6 mondemon v2
- 1.6.1 Question 1

2 Gestion des processus

- 2.1 runlevel
- 2.2 Analyse du repertoire /proc/
- **2.2.1** Question 1
- **2.2.2** Question 2
- **2.2.3** Question 3
- 2.3 top
- **2.3.1** Question 1
- 2.3.2 Question 2
- 2.4 Signal SIGSTOP
- 3 Bonus