

## ASO: PO UD 07 (RA 2)

Nombre:

Tiempo estimado: 30

### 1.- (10 puntos, 10%) Busca, en el directorio adecuado...

- El directorio que contiene información sobre el proceso que inicia el sistema.

```
Terminal - javier@javier-Virt...
Archivo Editar Ver Terminal Pestañas Ayuda
javier@javier-VirtualBox:~$ ls -l /sbin/init
lrwxrwxrwx 1 root root 20 mar 27 2023 /sbin/init -> /lib/systemd/systemd
javier@javier-VirtualBox:~$
```

Javier Parra

- Fichero que contiene información sobre la utilización de la memoria.

```
javier@javier-VirtualBox:~$
javier@javier-VirtualBox:~$ sudo cat /proc/meminfo
MemTotal:      2011256 kB
MemFree:       377292 kB
MemAvailable:  936432 kB
Buffers:       95964 kB
Cached:        553156 kB
SwapCached:    0 kB
Active:        277148 kB
Inactive:      1139740 kB
Active(anon):  1412 kB
Inactive(anon): 769372 kB
Active(file):  275736 kB
Inactive(file): 370368 kB
Unevictable:   32 kB
Mlocked:       32 kB
SwapTotal:     163836 kB
SwapFree:      163836 kB
Dirty:         176 kB
Writeback:     0 kB
AnonPages:     767844 kB
Mapped:        204684 kB
Shmem:         3016 kB
KReclaimable:  88792 kB
Slab:          135156 kB
SReclaimable:  88792 kB
SUnreclaim:    46364 kB
KernelStack:   5880 kB
PageTables:    11388 kB
NFS_Unstable:  0 kB
Bounce:        0 kB
WritebackTmp:  0 kB
CommitLimit:   1169464 kB
Committed_AS:  2724664 kB
VmallocTotal:  34359738367 kB
VmallocUsed:    35624 kB
VmallocChunk:  0 kB
PerCpu:        716 kB
```

Javier Parra

- c. Fichero que contiene información sobre el tipo, memoria y frecuencia del procesador.

```
javier@javier-VirtualBox:~$ sudo cat /proc/cpuinfo
[sudo] contraseña para javier:
processor       : 0
vendor_id      : GenuineIntel
cpu family     : 6
model          : 141
model name     : 11th Gen Intel(R) Core(TM) i5-11400H @ 2.70GHz
stepping       : 1
cpu MHz        : 2687.998
cache size     : 12288 KB
physical id    : 0
siblings       : 1
core id        : 0
cpu cores      : 1
apicid         : 0
initial apicid : 0
fpu            : yes
fpu_exception  : yes
cpuid level    : 22
wp             : yes
flags           : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush mmx fxsr sse sse2 ht syscall nx rdtscp lm constant_tsc rep_good nopl xtopology nonstop_tsc c
puid_tsc_known_freq pni pclmulqdq monitor ssse3 cx16 pcid sse4_1 sse4_2 x2apic movbe popcnt aes xsave avx rdrand hypervisor lahf_lm abm 3dnowprefetch invpcid_single fsgsbase bmi1 avx2 bmi2 i
cpuid_rdtseed clflushopt md_clear flush_l1d arch_capabilities
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs gds
bogomips       : 5375.99
clflush size   : 64
cache alignment : 64
address sizes   : 39 bits physical, 48 bits virtual
power management:

javier@javier-VirtualBox:~$
```

- d. Fichero que contiene información sobre la carga del sistema.

- e. Fichero que contiene la versión del núcleo del SO.

```
ArchBox Editor Ver Terminal Peripherals Ayuda
Terminal - javier@javier-VirtualBox: /usr/local/bin
javier@javier-VirtualBox: /usr/local/bin$ dmesg
[    0.00000] Linux version 5.15.0-91-generic (buildd@lcy02-and64-061) (gcc (Ubuntu 9.4.0-1ubuntu2-20.04.2) 9.4.0, GNU ld (GNU Binutils for Ubuntu) 2.34) #101-20.04.1-Ubuntu SMP Thu Nov 16
14:22:28 UTC 2023 (Ubuntu 5.15.0-91.101-20.04.1-generic 5.15.131)
[    0.00000] Command line: BOOT_IMAGE=/boot/vmlinuz-5.15.0-91-generic root=UUID=4a8c8a24-d9d2-4e42-8fa2-fc860ebdc37 ro quiet splash
[    0.00000] KERNEL supported cpus:
[    0.00000] Intel GenuineIntel
[    0.00000] AMD AuthenticAMD
[    0.00000] Hygon HygonGenuine
[    0.00000] Centaur CentaurHauls
[    0.00000] zhaoxin Shanghai
[    0.00000] BIOS-provided physical RAM map:
[    0.00000] BIOS-e820: [mem 0x0000000000000000-0x000000000000fbbf] usable
[    0.00000] BIOS-e820: [mem 0x000000000000fc00-0x000000000000ffff] reserved
[    0.00000] BIOS-e820: [mem 0x000000000000f000-0x000000000000ffffff] reserved
[    0.00000] BIOS-e820: [mem 0x0000000000000000-0x000000000000ffff] usable
[    0.00000] BIOS-e820: [mem 0x0000000000ff0000-0x0000000000ffffffff] ACPI data
[    0.00000] BIOS-e820: [mem 0x00000000fec00000-0x00000000fec0ffff] reserved
[    0.00000] BIOS-e820: [mem 0x00000000fee00000-0x00000000fee0ffff] reserved
[    0.00000] BIOS-e820: [mem 0x00000000fff00000-0x00000000fffffff000] reserved
[    0.00000] NX (Execute Disable) protection: active
[    0.00000] SMBIOS 2.5 present.
[    0.00000] DMI: innonet GmbH VirtualBox/VirtualBox, BIOS VirtualBox 12/01/2006
[    0.00000] Hypervisor detected: KVM
[    0.00000] kvm-clock: Using msrc 4b564d01 and 4b564d00
[    0.00000] kvm-clock: cpu 0, msr 28a01001, primary cpu clock
[    0.00000] kvm-clock: using sched offset of 5067230675 cycles
[    0.00000] clocksource: kvm-clock; mask: 0xffffffffffff max_cycles: 0x1cd42e4dffb, max_idle_ns: 881590591483 ns
[    0.00000] tsc: Detected 2687.998 MHz processor
[    0.000528] e820: update [mem 0x00000000-0x000000ff] usable ==> reserved
[    0.000531] e820: remove [mem 0x000a0000-0x0000ffff] usable
[    0.000535] last pfn = 0x7ffff0 max_arch_pfn = 0x400000000
[    0.000542] Disabled
[    0.000543] x86/PAT: MTRRs disabled, skipping PAT initialization too.
[    0.000544] CPU MTRRs all blank - virtualized system.
[    0.000546] x86/PAT: Configuration [0-7]: WB WT UC- UC WB WT UC- UC
[    0.000594] found SMP MP-table at [mem 0x0009ffff-0x0009ffff]
[    0.000673] RAVB10K: [mem 0xc2f20000-0xc3315fff]
[    0.000678] ACPI: Early table checksum verification disabled
[    0.000682] ACPI: RSDP 0x00000000000E0000 000024 (v02 VBOX )
[    0.000682] XAPIC: APIC 0x0000000000000000 00000000 00000000 00000000 00000000
```

2. - (10 puntos, 20%) Explica el proceso de ha de hacerse en **top** para aumentar al máximo la prioridad de un proceso que está ejecutándose.

Ejecutamos top, y presionando la tecla r -20 para dar máxima prioridad.

```

top - 12:34:43 up 16 min, 1 user, load average: 0.00, 0.02, 0.03
Tareas: total, ejecutar, hibernar, detener, zombie, en espera, hardw int, softw int, robar tiempo
%cpu(s): usuario, sist, adecuado, inact, búfer/cache, usado, libre, dispon Mem
MIB Mem: total, libre, usado, dispon Mem
MIB Intercambio: total, libre, usado, dispon Mem

-20

```

PID	USUARIO	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	HORA+	ORDEN
13	root	20	0	0	0	0	S	0.0	0.0	0:00.05	ksoftirqd/0
14	root	20	0	0	0	0	I	0.0	0.0	0:00.00	rcu_sched
15	root	rt	0	0	0	0	S	0.0	0.0	0:00.00	migration/0
16	root	-51	0	0	0	0	S	0.0	0.0	0:00.00	idle_inject/0
18	root	20	0	0	0	0	S	0.0	0.0	0:00.00	cpuhp/0
19	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kdevtmpfs
20	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	inet_frag_wq
21	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kauditd
22	root	20	0	0	0	0	S	0.0	0.0	0:00.00	khungtaskd
23	root	20	0	0	0	0	S	0.0	0.0	0:00.00	oom_reaper
24	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	writeback
25	root	20	0	0	0	0	S	0.0	0.0	0:00.01	kcompactd0
26	root	25	5	0	0	0	S	0.0	0.0	0:00.00	kssmd
27	root	39	19	0	0	0	S	0.0	0.0	0:00.00	khugepaged
73	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kintegrityd
74	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kblockd
75	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	blkcg_punt_bio
76	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	tpm_dev_wq
77	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	ata_sff
78	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	md
79	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	edac-poller
80	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	devfreq_wq
81	root	-51	0	0	0	0	S	0.0	0.0	0:00.00	watchdogd
83	root	0	-20	0	0	0	I	0.0	0.0	0:00.15	kworker/0:1H-kblockd
85	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kswapd0
86	root	20	0	0	0	0	S	0.0	0.0	0:00.00	ecryptfs-kthrea
88	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kthrotld
89	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	scsi_thermal_pm
91	root	20	0	0	0	0	S	0.0	0.0	0:00.01	scsi_eh_0
92	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	scsi_tmf_0
93	root	20	0	0	0	0	S	0.0	0.0	0:00.01	scsi_eh_1
94	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	scsi_tmf_1

- 3.- (10 puntos, 20%) Cada vez que se modifican ficheros de configuración es necesario, en la mayoría de las veces, reiniciar el servicio relacionado. Busca todos los servicios relacionados con **Samba**, **NFS** y los **adaptadores de red**.

```

javier@javier-VirtualBox:~$ systemctl list-units --type=service | grep "smbd.service"
smbd.service                                loaded active running Samba SMB Daemon
javier@javier-VirtualBox:~$ systemctl list-units --type=service | grep "nmbd.service"
nmbd.service                                loaded active running Samba NMB Daemon
javier@javier-VirtualBox:~$

```

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Captura una pantalla que muestre la configuración de esos servicios. Después, ejecuta los comandos adecuados para ver su estado actual, si están activos o no y si se inician al arrancar el sistema, indicando en este caso su nivel de ejecución.

En el directorio `/etc/systemd/system` se ven enlaces simbólicos a el directorio `/lib/systemd/system`.

```
Terminal - javier@javier-Virt...
Terminal - javier@javier-VirtualBox: /etc/systemd/system/multi-user.target.wants

lnsrnxnrxn 1 root root 48 sep 14 10:24 grub-initrd-fallback.service -> /lib/systemd/system/grub-initrd-fallback.service
lnsrnxnrxn 1 root root 38 sep 14 10:24 irqbalance.service -> /lib/systemd/system/irqbalance.service
lnsrnxnrxn 1 root root 38 sep 14 10:24 kerneloops.service -> /lib/systemd/system/kerneloops.service
lnsrnxnrxn 1 root root 38 sep 14 10:24 ln-sensors.service -> /lib/systemd/system/ln-sensors.service
lnsrnxnrxn 1 root root 40 sep 14 10:24 NetworkManager.service -> /lib/systemd/system/NetworkManager.service
lnsrnxnrxn 1 root root 33 nov 30 20:46 mysql.service -> /lib/systemd/system/mysql.service
lnsrnxnrxn 1 root root 47 sep 14 10:24 networkd-dispatcher.service -> /lib/systemd/system/networkd-dispatcher.service
lnsrnxnrxn 1 root root 42 sep 14 10:24 NetworkManager.service -> /lib/systemd/system/NetworkManager.service
lnsrnxnrxn 1 root root 37 ene 23 10:37 nfs-client.target -> /lib/systemd/system/nfs-client.target
lnsrnxnrxn 1 root root 38 ene 23 10:37 nfs-server.service -> /lib/systemd/system/nfs-server.service
lnsrnxnrxn 1 root root 32 ene 17 09:06 nmbd.service -> /lib/systemd/system/nmbd.service
lnsrnxnrxn 1 root root 36 sep 14 10:24 ondemand.service -> /lib/systemd/system/ondemand.service
lnsrnxnrxn 1 root root 36 sep 14 10:24 pppd-dns.service -> /lib/systemd/system/pppd-dns.service
lnsrnxnrxn 1 root root 36 sep 14 10:24 remote-fs.target -> /lib/systemd/system/remote-fs.target
lnsrnxnrxn 1 root root 35 ene 23 10:37 rpcbind.service -> /lib/systemd/system/rpcbind.service
lnsrnxnrxn 1 root root 33 sep 14 10:24 rsyslog.service -> /lib/systemd/system/rsyslog.service
lnsrnxnrxn 1 root root 35 sep 14 10:24 rsyslog.service -> /lib/systemd/system/rsyslog.service
lnsrnxnrxn 1 root root 41 sep 14 10:24 secureboot-db.service -> /lib/systemd/system/secureboot-db.service
lnsrnxnrxn 1 root root 32 ene 17 09:06 smbd.service -> /lib/systemd/system/smbd.service
lnsrnxnrxn 1 root root 32 sep 14 10:40 snapt.aa-prompt-listener.service -> /lib/systemd/system/snapt.aa-prompt-listener.service
lnsrnxnrxn 1 root root 42 sep 14 10:24 snapt.apparmor.service -> /lib/systemd/system/snapt.apparmor.service
lnsrnxnrxn 1 root root 44 sep 14 10:24 snapt.autoimport.service -> /lib/systemd/system/snapt.autoimport.service
lnsrnxnrxn 1 root root 44 sep 14 10:24 snapt.core-fixup.service -> /lib/systemd/system/snapt.core-fixup.service
lnsrnxnrxn 1 root root 58 sep 14 10:24 snapt.recovery-chooser-trigger.service -> /lib/systemd/system/snapt.recovery-chooser-trigger.service
lnsrnxnrxn 1 root root 40 sep 14 10:24 snapt.seeded.service -> /lib/systemd/system/snapt.seeded.service
lnsrnxnrxn 1 root root 33 sep 14 10:24 snapt.service -> /lib/systemd/system/snapt.service
lnsrnxnrxn 1 root root 31 dic 4 13:20 ssh.service -> /lib/systemd/system/ssh.service
lnsrnxnrxn 1 root root 44 sep 14 10:24 systemd-resolved.service -> /lib/systemd/system/systemd-resolved.service
lnsrnxnrxn 1 root root 36 sep 14 10:24 thermald.service -> /lib/systemd/system/thermald.service
lnsrnxnrxn 1 root root 42 sep 14 10:24 ua-reboot-cmds.service -> /lib/systemd/system/ua-reboot-cmds.service
lnsrnxnrxn 1 root root 44 sep 14 10:24 ubuntu-advantage.service -> /lib/systemd/system/ubuntu-advantage.service
lnsrnxnrxn 1 root root 31 sep 14 10:24 ufw.service -> /lib/systemd/system/ufw.service
lnsrnxnrxn 1 root root 47 sep 14 10:24 unattended-upgrades.service -> /lib/systemd/system/unattended-upgrades.service
lnsrnxnrxn 1 root root 35 sep 14 10:42 vboxadd.service -> /lib/systemd/system/vboxadd.service
lnsrnxnrxn 1 root root 43 sep 14 10:42 vboxadd.service -> /lib/systemd/system/vboxadd.service
lnsrnxnrxn 1 root root 36 sep 14 10:24 whoopsie.service -> /lib/systemd/system/whoopsie.service
lnsrnxnrxn 1 root root 42 sep 14 10:24 wpa_supplicant.service -> /lib/systemd/system/wpa_supplicant.service
javier@javier-VirtualBox: /etc/systemd/system/multi-user.target.wants$ sudo nano smbd.service
javier@javier-VirtualBox: /etc/systemd/system/multi-user.target.wants$
```

Podemos ver el fichero `smbd.service` y vemos como se ejecuta despues de los servicios de red en el nivel de ejecución `multi.user.target`.

```
Terminal - javier@javier-Virt...
Terminal - javier@javier-VirtualBox: /etc/systemd/system/multi-user.target.wants

GNU nano 4.8 smbd.service

[Unit]
Description=Samba SMB Daemon
Documentation=man:smbd(8) man:samba(7) man:smb.conf(5)
Wants=network-online.target
After=network.target network-online.target nmbd.service winbind.service

[Service]
Type=notify
PIDFile=/run/samba/smbd.pid
LimitNOFILE=16384
EnvironmentFile=/etc/default/samba
ExecStartPre=/usr/share/samba/update-apparmor-samba-profile
ExecStart=/usr/sbin/smbd --foreground --no-process-group $SMBDOPTIONS
ExecReload=/bin/kill -HUP $MAINPID
LimitCORE=infinity

[Install]
WantedBy=multi-user.target
```