

# **Administración de sistemas y redes Práctica 1**

## Ejercicio 1 : Cambio del prompt y cambio del nombre de host

- Ejecutamos la orden `vi ~/.bashrc`
- Escribimos al final del archivo  
`export PS1="[UO266007\$(tput setaf 3)\]\h\$(tput sgr0)\]\W]\$ "`
- reseteamos la configuración con `source ~/.bashrc`

```
# .bashrc

# User specific aliases and functions

alias rm='rm -i'
alias cp='cp -i'
alias mv='mv -i'

# Source global definitions
if [ -f /etc/bashrc ]; then
    . /etc/bashrc
fi

export PS1="[UO266007\$(tput setaf 3)\]\h\$(tput sgr0)\]\W]\$ "
```

[UO266007@localhost]\$ source ~/.bashrc  
[UO266007@localhost]\$

## Cambia el nombre de la máquina a “centos.as.local” con el comando hostnamectl

- Con el comando `hostnamectl set-hostname centos.as.local`
- Comprobamos otra vez que se haya cambiado ejecutando la orden `hostnamectl`
- Procedemos a hacer un reboot para que se apliquen los cambios

```
GET NAME
When called without any arguments, the program displays the current names:

hostname will print the name of the system as returned by the gethostname(2) function.

domainname will print the NIS domainname of the system. domainname uses the gethostname(2) function, while ypsdomainname and nisdomainname use the getdomainname(2).

dnsdomainname will print the domain part of the FQDN (Fully Qualified Domain Name). The complete FQDN of the system is returned with hostname --fqdn (but see the warnings in section THE FQDN below).

The function gethostname(2) is used to get the hostname. When the hostname -a, -d, -f or -i is called will gethostbyname(3) be called. The difference in gethostname(2) and gethostbyname(3) is that gethostbyname(3) is network aware, so it consults /etc/nsswitch.conf and /etc/host.conf to decide whether to read information in /etc/hostname or /etc/hosts.

SET NAME
When called with one argument or with the --file option, the commands set the host name or the NIS/YP domain name. hostname uses the sethostname(2) function, while all of the three domainname, ypsdomainname and nisdomainname use setdomainname(2). Note, that this is effective only until the next reboot. Edit /etc/hostname for permanent change.

Note, that only the super-user can change the names.

It is not possible to set the FQDN or the DNS domain name with the dnsdomainname command (see THE FQDN below).

The host name is usually set once at system startup (normally by reading the contents of a file which contains the host name, e.g. /etc/hostname).

THE FQDN
The FQDN (Fully Qualified Domain Name) of the system is the name that the resolver(3) returns for the host name, such as, urcu1a.example.com. It is usually the hostname followed by the DNS domain name (the part after the first dot). You can check the FQDN using hostname --fqdn or the domain name using dnsdomainname.

You cannot change the FQDN with hostname or dnsdomainname.
[UO266007@localhost]$ hostnamectl set-hostname centos.as.local
[UO266007@localhost]$ hostnamectl
Static hostname: centos.as.local
Icon name: computer-vm
Chassis: vm
Machine ID: 54240a392ed0494b8e4d9bc3d53065ae
Boot ID: 6e6713ee6951499088ccc3ca22ef6f43
Virtualization: oracle
Operating System: CentOS Linux 8
CPE OS Name: cpe:/o:centos:centos:8
Kernel: Linux 4.10.0-240.1.el8_3.x86_64
Architecture: x86_64
[UO266007@localhost]$
```

## Ejercicio 2: Systemd

Ejecutamos la orden `ps ax`, ya que no podemos ver las líneas iniciales lo redirigimos a un `.txt` llamado `procesos`

`Ps ax> procesos.txt`

```
GNU nano 2.9.8                                procesos.txt
PID TTY      STAT   TIME COMMAND
 1 ?        Ss     0:02 /usr/lib/systemd/systemd --switched-root --system --deserialize 18
 2 ?        S       0:00 [kthreadd]
 3 ?        I<      0:00 [rcu_gp]
 4 ?        I<      0:00 [rcu_par_gp]
 6 ?        I<      0:00 [kworker/0:0H-kblockd]
 7 ?        I       0:00 [kworker/0:1-cgroup_destroy]
 8 ?        I       0:00 [kworker/u6:0-events_unbound]
 9 ?        I<      0:00 [mm_percpu_wq]
10 ?        S       0:00 [ksoftirqd/0]
11 ?        I       0:00 [rcu_sched]
12 ?        S       0:00 [migration/0]
13 ?        S       0:00 [watchdog/0]
14 ?        S       0:00 [cpuhp/0]
15 ?        S       0:00 [cpuhp/1]
16 ?        S       0:00 [watchdog/1]
17 ?        S       0:00 [migration/1]
18 ?        S       0:00 [ksoftirqd/1]
20 ?        I<      0:00 [kworker/1:0H-kblockd]
21 ?        S       0:00 [cpuhp/2]
22 ?        S       0:00 [watchdog/2]
23 ?        S       0:00 [migration/2]
24 ?        S       0:00 [ksoftirqd/2]
26 ?        I<      0:00 [kworker/2:0H-kblockd]
29 ?        I       0:00 [kworker/u6:2-xfs-cil/dm-0]
30 ?        S       0:00 [kdevtmpfs]
31 ?        I<      0:00 [netns]
32 ?        S       0:00 [kauditd]
33 ?        S       0:00 [khungtaskd]
34 ?        S       0:00 [oom_reaper]
35 ?        I<      0:00 [writeback]
36 ?        S       0:00 [kcompactd0]
37 ?        SM      0:00 [ksmd]
38 ?        SM      0:00 [khugepaged]
39 ?        I<      0:00 [crypto]
40 ?        I<      0:00 [kintegrityd]
41 ?        I<      0:00 [kblockd]
42 ?        I<      0:00 [blkcg_punt_bio]
43 ?        I<      0:00 [tpm_dev_wq]
44 ?        I<      0:00 [md]
45 ?        I<      0:00 [edac-poller]
46 ?        S       0:00 [watchdogd]
47 ?        I       0:00 [kworker/1:1-ata_sff]

[ 110 líneas leídas ]
Ver ayuda  Guardar  Buscar  Cortar txt  Justificar  Posición  Deshacer  Marcar txt
Salir  Leer fich.  Reemplazar  Pegar txt  Ortografía  Ir a línea  Rehacer  Copiar txt
```

Pasamos de ejecutar run level 1 a run level 3

```
CentOS Linux 8
Kernel 4.18.0-240.10.1.el8_3.x86_64 on an x86_64

Hint: Num Lock on

centos login: root
Password:
Last login: Wed Feb 10 19:01:02 on tty1
[00266007@centos~]$ who -a
          arranque del sistema 2021-02-10 18:41
          `run-level' 3 2021-02-10 19:06          último=1
root    + tty1          2021-02-10 19:06          2692
[00266007@centos~]$
```

Pasamos de ejecutar runlevel3 a run level 1

```
You are in rescue mode. After logging in, type "journalctl -xb" to view
system logs, "systemctl reboot" to reboot, "systemctl default" or "exit"
to boot into default mode.
Contraseña de root para mantenimiento
(o pulse Control-D para continuar):
[00266007@centos~]$ who -a
          arranque del sistema 2021-02-10 18:41
          `run-level' 1 2021-02-10 19:08          último=3
          tty1          1970-01-01 01:00          2692 id=tty1 term=1 salida=0
[00266007@centos~]$ _
```

Vemos que el PID es 1

```
GNU nano 2.9.8                                procesos.txt
PID TTY      STAT   TIME COMMAND
 1 ?        Ss     0:03 /usr/lib/systemd/systemd --switched-root --system --deserialize 18
 2 ?        S       0:00 [kthreadd]
 3 ?        I<      0:00 [rcu_gp]
 4 ?        I<      0:00 [rcu_par_gp]
```

Iniciamos sesión por defecto run level 3

```
CentOS Linux 8
Kernel 4.18.0-240.10.1.el8_3.x86_64 on an x86_64

centos login: root
Password:
Last login: Wed Feb 10 19:21:34 on tty1
[U0266007@centos~]$ who -a
          arranque del sistema 2021-02-10 19:29
          `run-level' 3 2021-02-10 19:29
root      + tty1          2021-02-10 19:30          .          941
[U0266007@centos~]$
```

Comprobamos el inicio por defecto

```
Last login: Wed Feb 10 19:21:34 on tty1
[U0266007@centos~]$ who -a
          arranque del sistema 2021-02-10 19:29
          `run-level' 3 2021-02-10 19:29
root      + tty1          2021-02-10 19:30          .          941
[U0266007@centos~]$ systemctl get-default
multi-user.target
[U0266007@centos~]$
```

- Run level 1 y Rescue son análogos solo dan la opción de iniciar sesión como root, y se utiliza para mantenimiento
- Run level 3 es el modo por defecto del sistema, multi-user.target y con acceso a internet
- Run level 6 Reinicia el sistema

### Ejercicio 3 : Login desde terminales

- Ejecutamos ALT+F2 creando así un nuevo terminal
- Ejecutamos el comando ps ax para ver si encontramos otro proceso bash ( el de la terminal 1)

```
1455 tty1      Ss+  0:00 -bash
1498 ?         Ss   0:00 login -- root
1503 ?         I    0:00 [kworker/1:0-events_power_efficient]
1504 ?         I    0:00 [kworker/2:1-mm_percpu_wq]
1510 tty2      Ss   0:00 -bash
1540 ?         I    0:00 [kworker/1:1-kdmflush]
1541 ?         I    0:00 [kworker/0:0-ata_sff]
1542 ?         I    0:00 [kworker/2:0-ata_sff]
1543 ?         I    0:00 [kworker/1:2-events]
1544 ?         I    0:00 [kworker/0:1-ata_sff]
1545 tty2      R+   0:00 ps ax
[U0266007@centos~]$
```

- Ahora que sabemos el PID del proceso lo matamos en este caso el PID es 1455
- Ejecutamos el comando kill -9 1455

```
1444 ?         Ss   0:00 /usr/lib/systemd/systemd --user
1449 ?         S    0:00 (sd-pam)
1543 ?         I    0:00 [kworker/1:2-kdmflush]
1547 ?         I    0:00 [kworker/1:0-events_power_efficient]
1549 ?         I    0:00 [kworker/2:0-events]
1550 ?         I    0:00 [kworker/0:1-ata_sff]
1551 ?         I    0:00 [kworker/1:1-events_power_efficient]
1552 ?         I    0:00 [kworker/2:1-events]
1554 ?         Ss   0:00 login -- root
1555 ?         I    0:00 [kworker/2:2-ata_sff]
1556 ?         I    0:00 [kworker/u6:0]
1561 tty2      Ss   0:00 -bash
1587 ?         I    0:00 [kworker/0:0-ata_sff]
1590 tty1      Ss+  0:00 /sbin/agetty -o -p -- \u --noclear tty1 linux
1591 tty2      R+   0:00 ps ax
[U0266007@centos~]$
```

- Podemos observar que el proceso correspondiente a la consola 1 ha finalizado
- Vemos que se lanza el proceso agetty

- Cambiamos al primer terminal usando las tecla host(CTRL DERECHA) + F1
- Al ejecutar el proceso agetty nos pide otra vez el inicio de sesión
- Nos vamos a la terminal 2 y vemos como se crea la terminal 1 y el proceso agetty desaparece

```

1444 ?      Ss      0:00 /usr/lib/systemd/systemd --user
1449 ?      S        0:00 (sd-pam)
1551 ?      I        0:00 [kworker/1:1-events]
1552 ?      I        0:01 [kworker/2:1-events]
1554 ?      Ss      0:00 login -- root
1555 ?      I        0:00 [kworker/2:2-mm_percpu_wq]
1556 ?      I        0:00 [kworker/u6:0]
1561 tty2    Ss+     0:00 -bash
1590 ?      Ss      0:00 login -- root
1592 ?      I        0:00 [kworker/1:0-mm_percpu_wq]
1593 ?      I        0:00 [kworker/0:1-ata_sff]
1594 ?      I        0:00 [kworker/2:0-ata_sff]
1595 ?      I        0:00 [kworker/1:2-kdmflush]
1600 tty1    Ss      0:00 -bash
1626 ?      I        0:00 [kworker/0:0-ata_sff]
1628 tty1    R+      0:00 ps ax
[00266007@centos~]$

```

### Ejercicio 4 : Syslog

```

CentOS Linux 8
Kernel 4.18.0-240.10.1.el8_3.x86_64 on an x86_64

centos login: root
Password:
Last login: Wed Feb 10 20:40:27 on tty1
[00266007@centos~]$ last
root      tty1          Wed Feb 10 21:52    still logged in
reboot    system boot    4.18.0-240.10.1.  Wed Feb 10 21:42    still running
root      tty1          Wed Feb 10 20:40    crash (00:54)
root      tty2          Wed Feb 10 20:38    crash (01:04)
root      tty2          Wed Feb 10 20:11    crash (00:26)
root      tty1          Wed Feb 10 20:00    crash (00:39)
reboot    system boot    4.18.0-240.10.1.  Wed Feb 10 20:00    still running
root      tty1          Wed Feb 10 19:30    crash (00:29)
reboot    system boot    4.18.0-240.10.1.  Wed Feb 10 19:29    crash (00:30)
root      tty1          Wed Feb 10 19:21    crash (00:07)
reboot    system boot    4.18.0-240.10.1.  Wed Feb 10 19:20    crash (00:00)
root      tty1          Wed Feb 10 19:06    crash (00:01)
root      tty1          Wed Feb 10 19:01    crash (00:02)
root      tty1          Wed Feb 10 18:42    crash (00:16)
reboot    system boot    4.18.0-240.10.1.  Wed Feb 10 18:41    crash (00:38)
root      tty1          Wed Feb 10 18:32    crash (00:09)
reboot    system boot    4.18.0-240.10.1.  Wed Feb 10 18:31    crash (00:10)
root      tty1          Wed Feb 10 17:49    crash (00:22)
reboot    system boot    4.18.0-240.10.1.  Wed Feb 10 17:47    crash (00:24)
root      tty1          Mon Feb  8 12:43    crash (00:01)
reboot    system boot    4.18.0-240.10.1.  Mon Feb  8 12:41    crash (00:03)
root      tty1          Mon Feb  8 12:29    crash (00:10)
reboot    system boot    4.18.0-240.el8.x  Mon Feb  8 12:27    crash (00:12)

wtmp empieza Mon Feb  8 12:27:55 2021
[00266007@centos~]$

```

- Ejecutamos el comando last
- Según la orden last la última caída del sistema es “apagón” crash

### Ejercicio 5 : Ejecución periódica de comandos

El nombre del script es logrotate

```

[00266007@centosetc]$ cd /etc/cron.daily/
[00266007@centoscron.daily]$ ls
logrotate
[00266007@centoscron.daily]$

```

### Ejercicio 6 : Login desde red

El proceso ssh se crea en la terminal 1 y en la pseudoterminal pts/0

```

1426 ?      Ss      0:00 /usr/lib/systemd/systemd --user
1431 ?      S        0:00 (sd-pam)
1437 tty1    Ss      0:00 -bash
1467 tty1    S+      0:00 ssh localhost
1468 ?      Ss      0:00 sshd: root [priv]
1471 ?      Ss      0:00 /usr/libexec/sss/sssd_kcm --uid 0 --gid 0 --logger=files
1475 ?      S        0:00 sshd: root@pts/0
1476 pts/0   Ss+     0:00 -bash
1501 ?      Ss      0:00 login -- root
1506 tty2    Ss      0:00 -bash
1532 tty2    R+      0:00 ps ax
[U0266007@centos ~]$

```

## Ejercicio 7 : Sistemas de ficheros

**COMPONENTS**

The Samba suite is made up of several components. Each component is described in a separate manual page. It is strongly recommended that you read the documentation that comes with Samba and the manual pages of those components that you use. If the manual pages and documents aren't clear enough then please visit <https://devel.samba.org> for information on how to file a bug report or submit a patch.

If you require help, visit the Samba webpage at <https://www.samba.org/> and explore the many option available to you.

**AVAILABILITY**

The Samba software suite is licensed under the GNU Public License (GPL). A copy of that license should have come with the package in the file COPYING. You are encouraged to distribute copies of the Samba suite, but please obey the terms of this license.

The latest version of the Samba suite can be obtained from <https://download.samba.org/pub/samba/>.

The Samba Wiki at <https://wiki.samba.org> has also a lot of useful information. On the Samba mailing list at <https://lists.samba.org> you can find a lot of information in the archives and you can subscribe to the samba list and ask for help or discuss things.

[U0266007@centos ~]\$

## Ejercicio 8 : Correo electrónico

- Ejecutamos la orden `systemctl start postfix`
- Ejecutamos `mail root` para enviar un correo al usuario root
- Desde el usuario root ejecutamos `mail` para ver la lista de mensajes recibidos
- Tecleamos el número del mensaje que queremos abrir
- Y ejecutamos la orden `exit` o `quit` para salir del mail

```

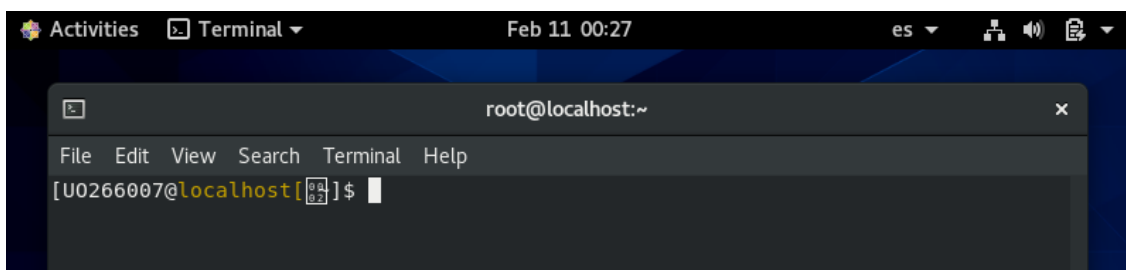
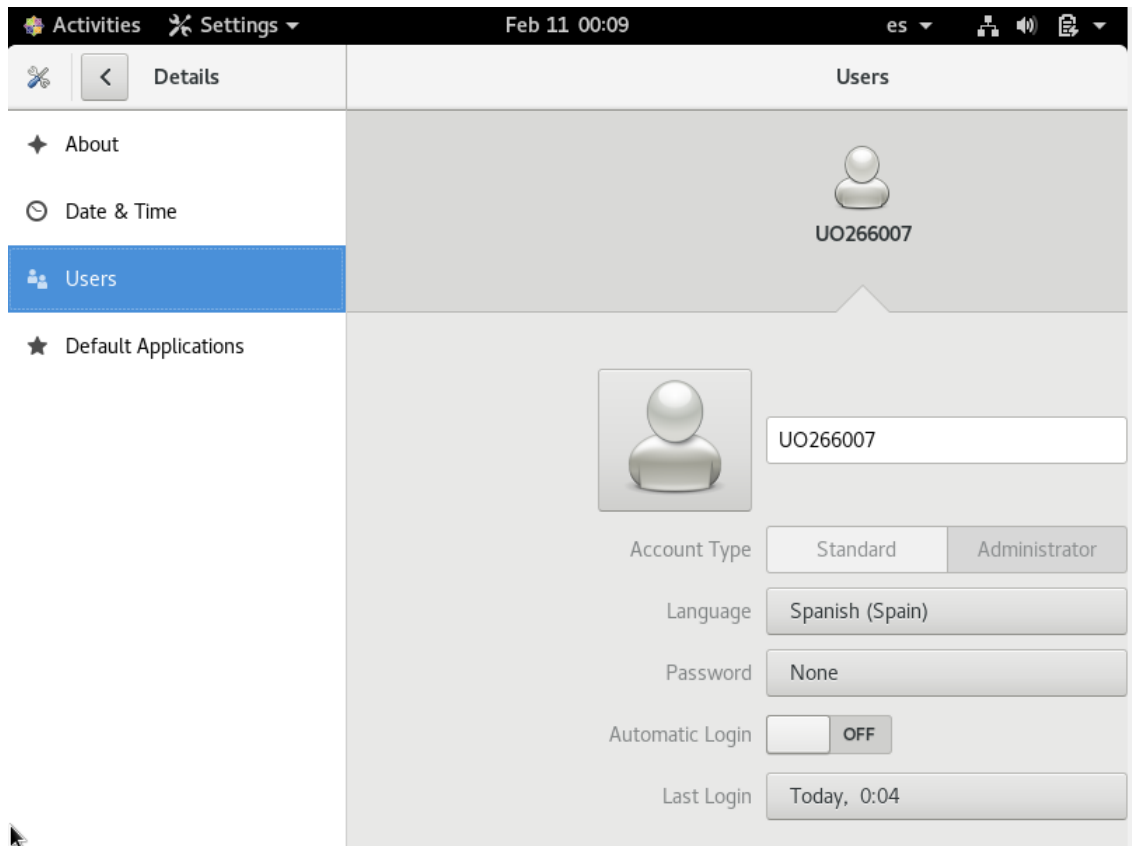
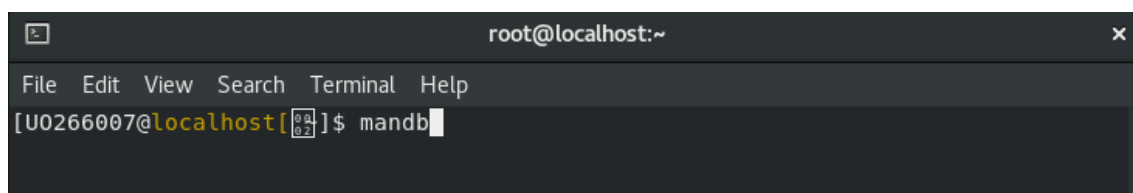
[U0266007@centos ~]$ mail
Heirloom Mail version 12.5 7/5/10. Type ? for help.
"/var/spool/mail/root": 2 messages 1 unread
>U 1 root      Wed Feb 10 23:32 19/581 "Probando"
>U 2 root      Wed Feb 10 23:33 19/575 "Prueba."
& 2
Message 2:
From: root@centos.as.local Wed Feb 10 23:33:14 2021
Return-Path: <root@centos.as.local>
X-Original-To: root
Delivered-To: root@centos.as.local
Date: Wed, 10 Feb 2021 23:33:13 +0100
To: root@centos.as.local
Subject: Prueba.
User-Agent: Heirloom mailx 12.5 7/5/10
Content-Type: text/plain; charset=us-ascii
From: root <root@centos.as.local>
Status: RD

ouifhdiuf

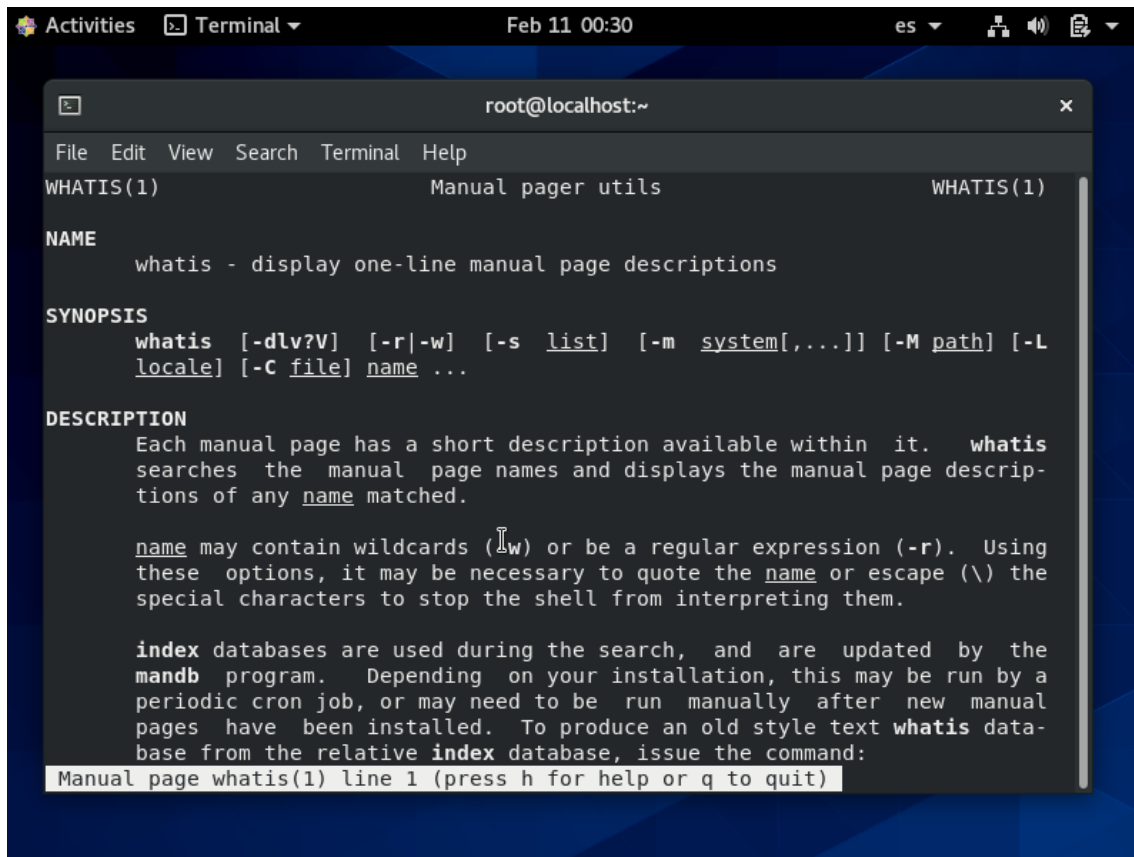
?
mail commands
type <message list>      type messages
next                     goto and type next message
from <message list>      give head lines of messages
headers                  print out active message headers
delete <message list>    delete messages
undelete <message list>  undelete messages
save <message list> folder append messages to folder and mark as saved
copy <message list> folder append messages to folder without marking them
write <message list> file  append message texts to file, save attachments
preserve <message list>   keep incoming messages in mailbox even if saved
Reply <message list>      reply to message senders
reply <message list>      reply to message senders and all recipients
mail addresses           mail to specific recipients
file folder              change to another folder
quit                     quit and apply changes to folder
exit                     quit and discard changes made to folder
?                         shell escape
cd <directory>           cd to directory or home if none given
list                     list names of all available commands

A <message list> consists of integers, ranges of same, or other criteria
separated by spaces. If omitted, mail uses the last message typed.
&

```

**Trabajo opcional:****1.1) Ejecuta el comando mandb**

1.2) Usa las órdenes `man` e `info` para conocer el significado de los términos `whatis` y `apropos` y haz una lista de las órdenes del sistema que hacen referencia al término `reboot`. Escribe el comando que necesitas para mostrar cada una de las páginas de manual que aparece en esa lista.



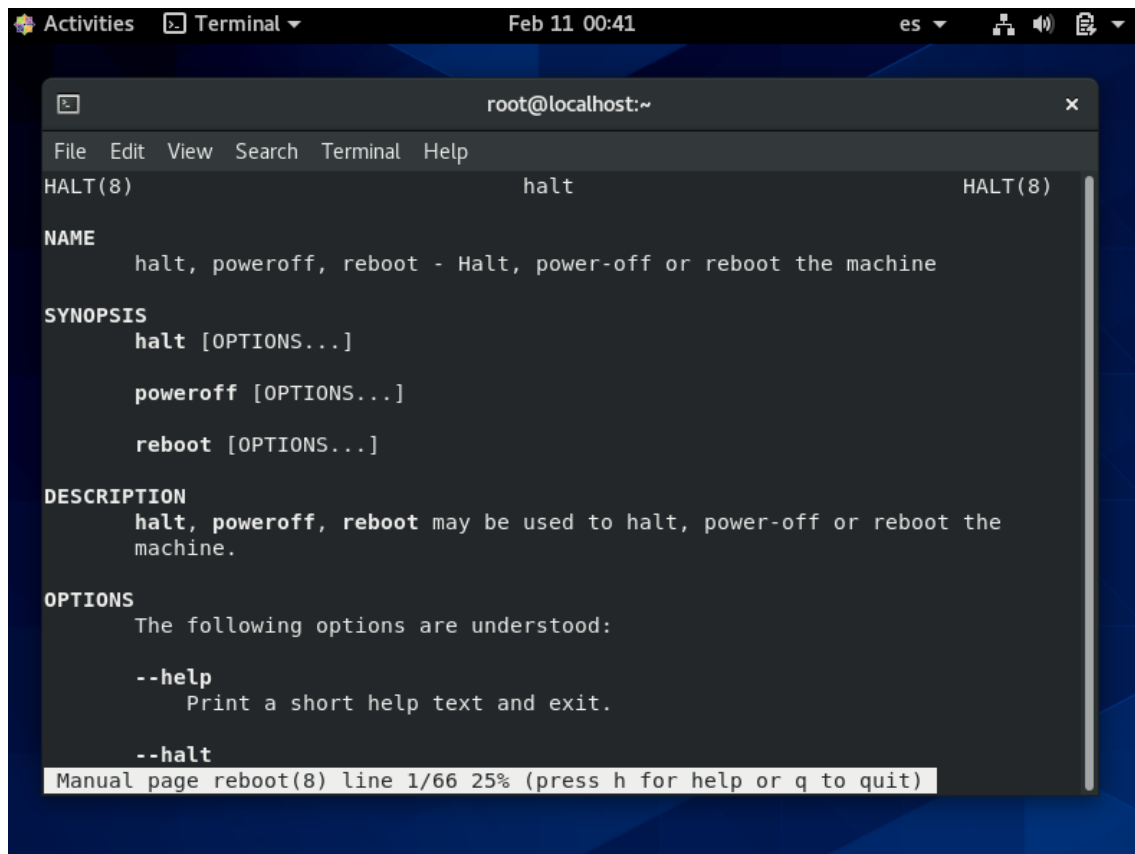
```
Activities Terminal Feb 11 00:30 es
root@localhost:~
File Edit View Search Terminal Help
WHATIS(1) Manual pager utils WHATIS(1)
NAME
    whatis - display one-line manual page descriptions
SYNOPSIS
    whatis [-dlv?V] [-r|-w] [-s list] [-m system[,...]] [-M path] [-L
    locale] [-C file] name ...
DESCRIPTION
    Each manual page has a short description available within it.  whatis
    searches the manual page names and displays the manual page descrip-
    tions of any name matched.

    name may contain wildcards (w) or be a regular expression (r).  Using
    these options, it may be necessary to quote the name or escape (\) the
    special characters to stop the shell from interpreting them.

    index databases are used during the search, and are updated by the
    mandb program.  Depending on your installation, this may be run by a
    periodic cron job, or may need to be run manually after new manual
    pages have been installed.  To produce an old style text whatis data-
    base from the relative index database, issue the command:

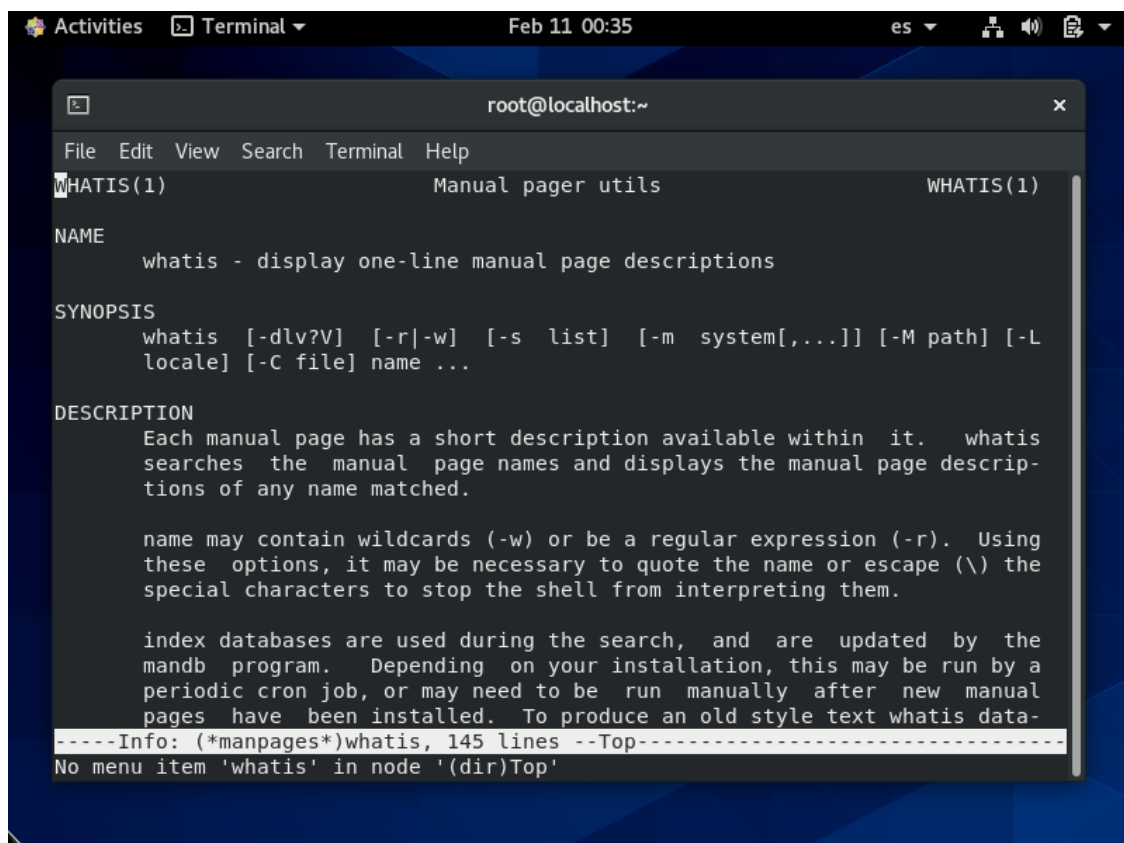
Manual page whatis(1) line 1 (press h for help or q to quit)
```





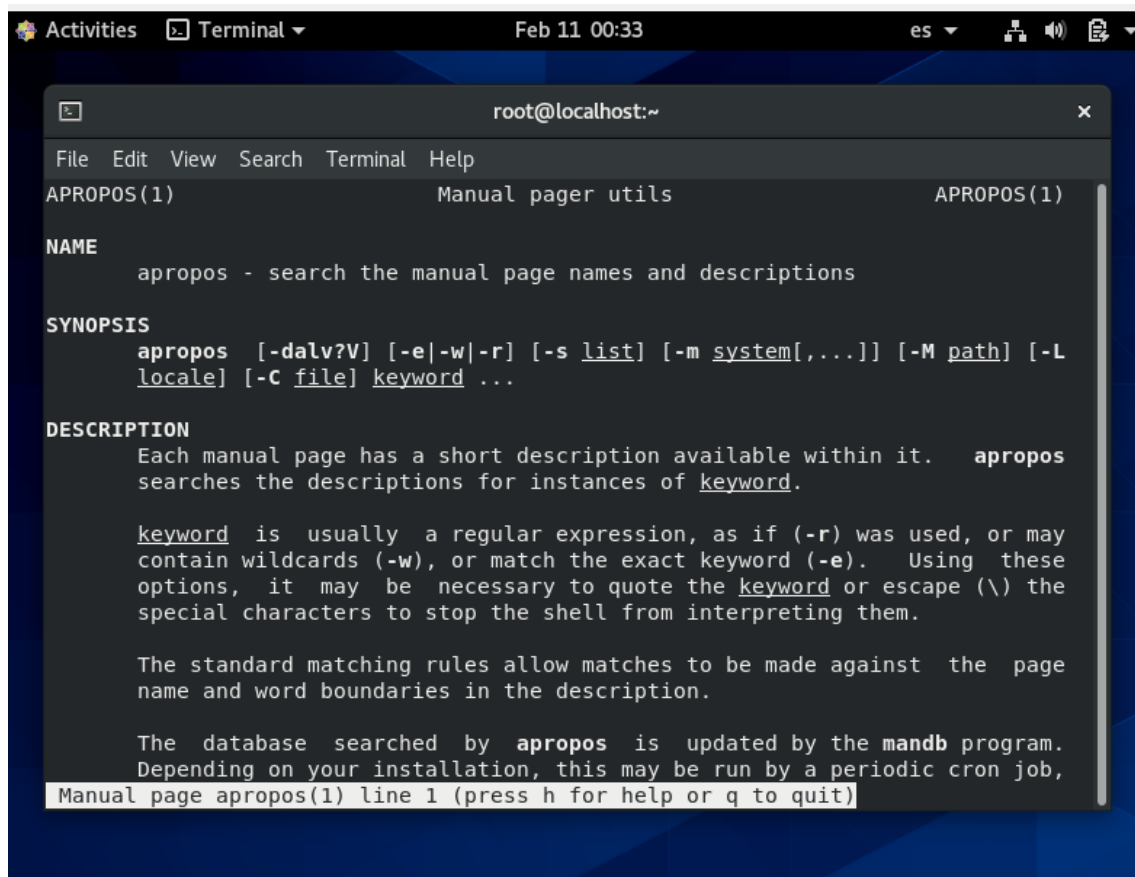
A terminal window titled 'root@localhost:~' showing the manual page for the 'halt' command. The window has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal output is as follows:

```
root@localhost:~  
File Edit View Search Terminal Help  
HALT(8)                                halt                                HALT(8)  
  
NAME  
    halt, poweroff, reboot - Halt, power-off or reboot the machine  
  
SYNOPSIS  
    halt [OPTIONS...]  
  
    poweroff [OPTIONS...]  
  
    reboot [OPTIONS...]  
  
DESCRIPTION  
    halt, poweroff, reboot may be used to halt, power-off or reboot the  
    machine.  
  
OPTIONS  
    The following options are understood:  
  
    --help  
        Print a short help text and exit.  
  
    --halt  
Manual page reboot(8) line 1/66 25% (press h for help or q to quit)
```



A terminal window titled 'root@localhost:~' showing the manual page for the 'whatis' command. The window has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal output is as follows:

```
root@localhost:~  
File Edit View Search Terminal Help  
WHATIS(1)                               Manual pager utils              WHATIS(1)  
  
NAME  
    whatis - display one-line manual page descriptions  
  
SYNOPSIS  
    whatis [-d|v?V] [-r|-w] [-s list] [-m system[,...]] [-M path] [-L  
    locale] [-C file] name ...  
  
DESCRIPTION  
    Each manual page has a short description available within it.  whatis  
    searches the manual page names and displays the manual page descrip-  
    tions of any name matched.  
  
    name may contain wildcards (-w) or be a regular expression (-r).  Using  
    these options, it may be necessary to quote the name or escape (\) the  
    special characters to stop the shell from interpreting them.  
  
    index databases are used during the search, and are updated by the  
    mandb program.  Depending on your installation, this may be run by a  
    periodic cron job, or may need to be run manually after new manual  
    pages have been installed.  To produce an old style text whatis data-  
-----Info: (*manpages*)whatis, 145 lines --Top-----  
No menu item 'whatis' in node '(dir)Top'
```

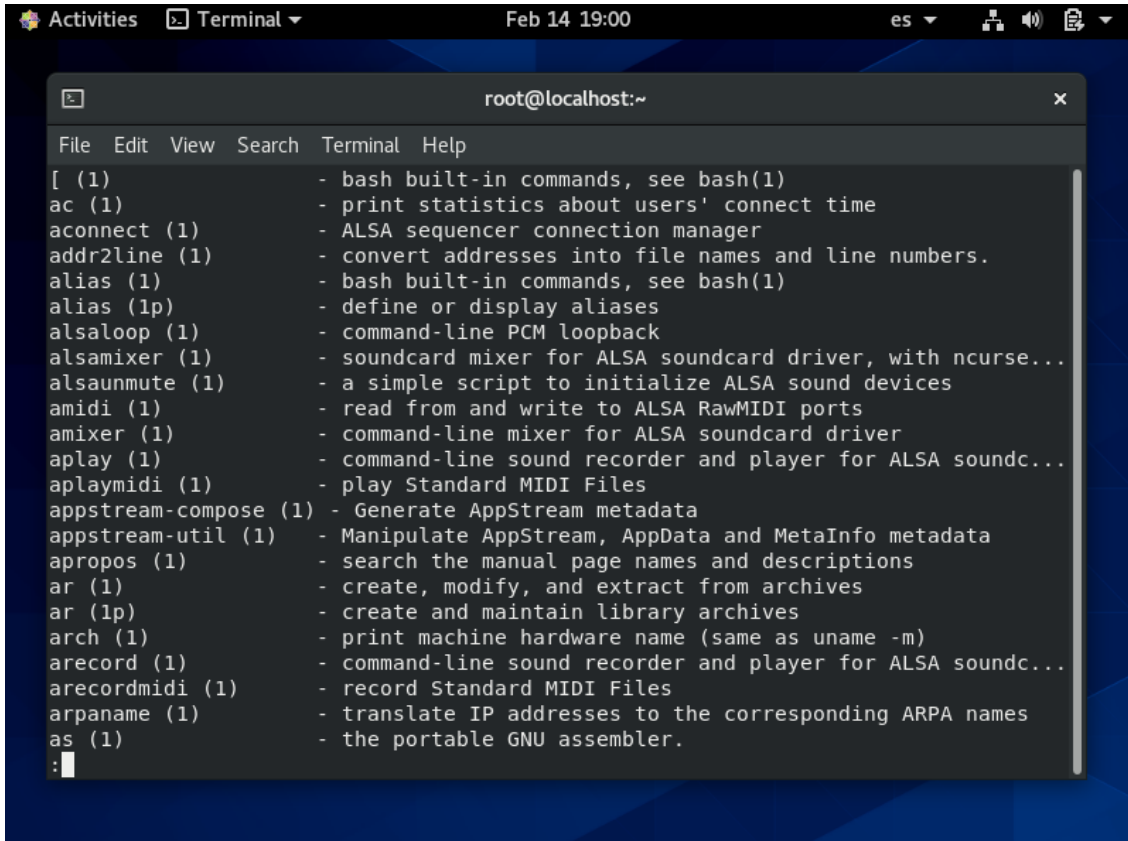


```
root@localhost:~  
File Edit View Search Terminal Help  
APROPOS(1) Manual pager utils APROPOS(1)  
  
NAME  
    apropos - search the manual page names and descriptions  
  
SYNOPSIS  
    apropos [-dalv?V] [-e|-w|-r] [-s list] [-m system[,...]] [-M path] [-L  
    locale] [-C file] keyword ...  
  
DESCRIPTION  
    Each manual page has a short description available within it.  apropos  
    searches the descriptions for instances of keyword.  
  
    keyword is usually a regular expression, as if (-r) was used, or may  
    contain wildcards (-w), or match the exact keyword (-e).  Using these  
    options, it may be necessary to quote the keyword or escape (\) the  
    special characters to stop the shell from interpreting them.  
  
    The standard matching rules allow matches to be made against the page  
    name and word boundaries in the description.  
  
    The database searched by apropos is updated by the mandb program.  
    Depending on your installation, this may be run by a periodic cron job,  
    Manual page apropos(1) line 1 (press h for help or q to quit)
```

- Halt, poweroff y reboot, además podremos añadir diferentes argumentos a estas funciones para incrementar la funcionalidad.
- Las hemos obtenido mediante la orden `man reboot`

### 1.3) Explica qué hace el comando `cd /usr/bin; ls | xargs whatis | less`

- `cd /usr/bin` en este directorio están los comandos que suele ejecutar un usuario
- `ls | xargs whatis | less`, este comando sería un `grep` que nos mostraría un listado con la función de cada comando, y nos lo mostrara en tramos de una pantalla completa.
- Es decir, listará los comando del directorio al que nos hemos movido y aplicará a cada uno de ellos la función `whatis` que devuelve en una línea la función del comando, además al ejecutar la opción `less`, lo veremos en tramos de una pantalla completa.



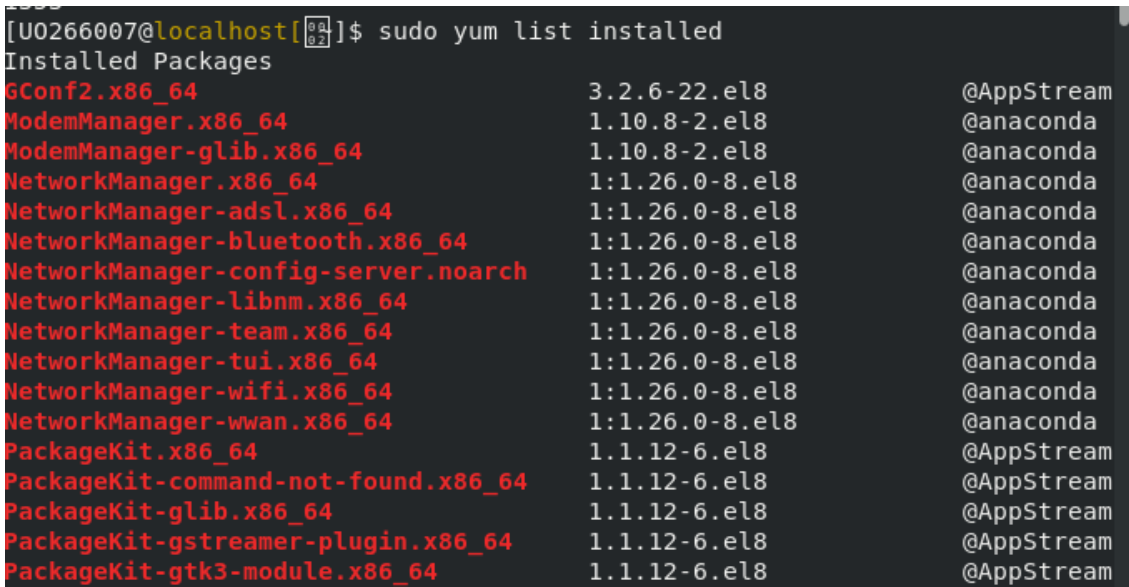
```

root@localhost:~
File Edit View Search Terminal Help
[ (1) - bash built-in commands, see bash(1)
ac (1) - print statistics about users' connect time
aconnect (1) - ALSA sequencer connection manager
addr2line (1) - convert addresses into file names and line numbers.
alias (1) - bash built-in commands, see bash(1)
alias (1p) - define or display aliases
alsaloop (1) - command-line PCM loopback
alsamixer (1) - soundcard mixer for ALSA soundcard driver, with ncurses...
alsaunmute (1) - a simple script to initialize ALSA sound devices
amidi (1) - read from and write to ALSA RawMIDI ports
amixer (1) - command-line mixer for ALSA soundcard driver
aplay (1) - command-line sound recorder and player for ALSA soundc...
aplaymidi (1) - play Standard MIDI Files
appstream-compose (1) - Generate AppStream metadata
appstream-util (1) - Manipulate AppStream, AppData and MetaInfo metadata
apropos (1) - search the manual page names and descriptions
ar (1) - create, modify, and extract from archives
ar (1p) - create and maintain library archives
arch (1) - print machine hardware name (same as uname -m)
arecord (1) - command-line sound recorder and player for ALSA soundc...
arecordmidi (1) - record Standard MIDI Files
arpname (1) - translate IP addresses to the corresponding ARPA names
as (1) - the portable GNU assembler.
:

```

## 2.1) Haz una lista de todos los paquetes del sistema, cuenta cuántos hay con wc

- Ejecutamos la orden `sudo yum list installed`



```

[U0266007@localhost][04]$ sudo yum list installed
Installed Packages
GConf2.x86_64                3.2.6-22.el8                @AppStream
ModemManager.x86_64          1.10.8-2.el8                @anaconda
ModemManager-glib.x86_64     1.10.8-2.el8                @anaconda
NetworkManager.x86_64        1:1.26.0-8.el8              @anaconda
NetworkManager-adsl.x86_64   1:1.26.0-8.el8              @anaconda
NetworkManager-bluetooth.x86_64 1:1.26.0-8.el8              @anaconda
NetworkManager-config-server.noarch 1:1.26.0-8.el8              @anaconda
NetworkManager-libnm.x86_64   1:1.26.0-8.el8              @anaconda
NetworkManager-team.x86_64    1:1.26.0-8.el8              @anaconda
NetworkManager-tui.x86_64     1:1.26.0-8.el8              @anaconda
NetworkManager-wifi.x86_64    1:1.26.0-8.el8              @anaconda
NetworkManager-wwan.x86_64    1:1.26.0-8.el8              @anaconda
PackageKit.x86_64            1.1.12-6.el8                @AppStream
PackageKit-command-not-found.x86_64 1.1.12-6.el8                @AppStream
PackageKit-glib.x86_64       1.1.12-6.el8                @AppStream
PackageKit-gstreamer-plugin.x86_64 1.1.12-6.el8                @AppStream
PackageKit-gtk3-module.x86_64 1.1.12-6.el8                @AppStream

```

- Ejecutamos la orden `sudo rpm -qa | wc -l`

```
File Edit View Search Terminal Help
[U0266007@localhost][0.9.1]$ sudo rpm -qa | wc -l
1353
[U0266007@localhost][0.9.1]$
```

## 2.2) Comprueba qué paquetes están sin actualizar (no los actualices)

- Ejecutamos yum check-update

```
se from attr ; dependencies ; duplicates ; obsoleted ; provides ; []
[U0266007@localhost][0.9.1]$ yum check-update
Last metadata expiration check: 2:50:25 ago on Sun 14 Feb 2021 04:32:16 PM CET.

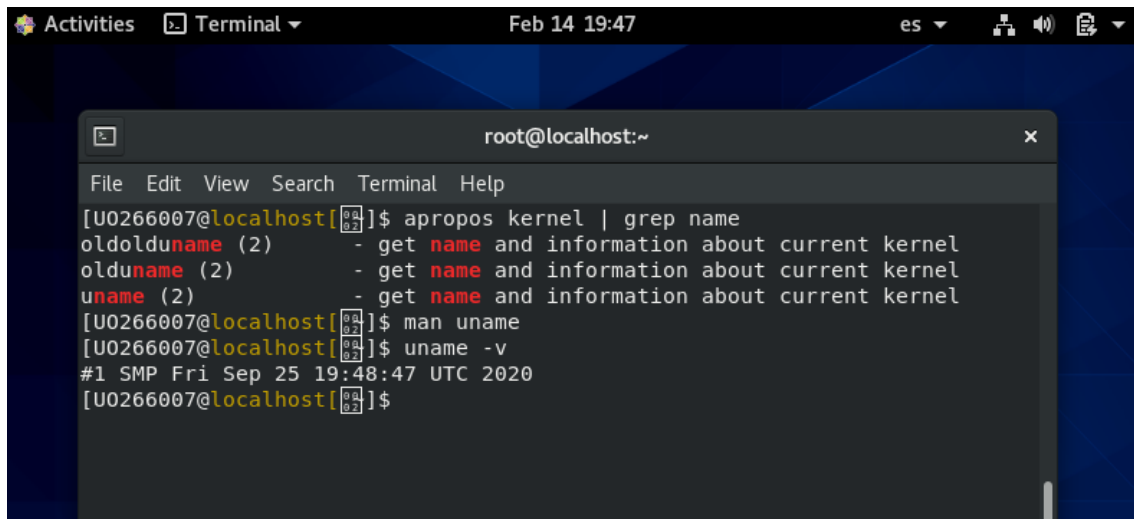
NetworkManager.x86_64                1:1.26.0-12.el8_3      baseos
NetworkManager-adsl.x86_64           1:1.26.0-12.el8_3      baseos
NetworkManager-bluetooth.x86_64      1:1.26.0-12.el8_3      baseos
NetworkManager-config-server.noarch  1:1.26.0-12.el8_3      baseos
NetworkManager-libnm.x86_64           1:1.26.0-12.el8_3      baseos
NetworkManager-team.x86_64            1:1.26.0-12.el8_3      baseos
NetworkManager-tui.x86_64             1:1.26.0-12.el8_3      baseos
NetworkManager-wifi.x86_64            1:1.26.0-12.el8_3      baseos
NetworkManager-wwan.x86_64            1:1.26.0-12.el8_3      baseos
bpftool.x86_64                        4.18.0-240.10.1.el8_3  baseos
curl.x86_64                           7.61.1-14.el8_3.1      baseos
dnsmasq.x86_64                        2.79-13.el8_3.1        appstream
firefox.x86_64                        78.7.0-2.el8_3         appstream
flatpak.x86_64                        1.6.2-5.el8_3          appstream
flatpak-libs.x86_64                  1.6.2-5.el8_3          appstream
```

## 2.3) Instala el paquete Emacs

- Ejecutamos la instrucción dnf -y install emacs

```
Activities Terminal Feb 14 19:24 es
root@localhost:~
File Edit View Search Terminal Help
Similar command is: 'dnf'
[U0266007@localhost][0.9.1]$ dnf -y install emacs
Last metadata expiration check: 2:52:14 ago on Sun 14 Feb 2021 04:32:16 PM CET.
Dependencies resolved.
=====
Package      Arch      Version      Repository      Size
=====
Installing:
emacs        x86_64    1:26.1-5.el8  appstream       3.2 M
Installing dependencies:
emacs-common x86_64    1:26.1-5.el8  appstream       38 M
libXaw       x86_64    1.0.13-10.el8 appstream       194 k
liblockfile  x86_64    1.14-1.el8    appstream       32 k
libotf       x86_64    0.9.13-11.el8 appstream       104 k
Transaction Summary
=====
Install 5 Packages
Total download size: 42 M
```

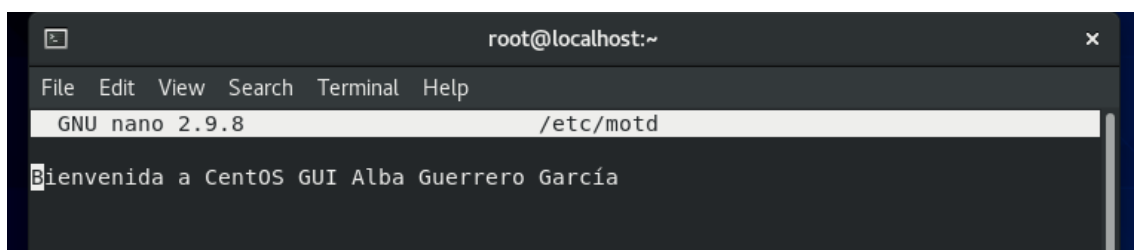
**3.1) Encuentra una orden para mostrar en pantalla la versión de kernel. Por ejemplo, con la orden `apropos`, construye una lista de comandos que hagan referencia a la palabra `kernel`, busca en esa lista con `grep` la palabra `name` o similar y por último usa `man` para saber qué opciones hay que pasarle a esa orden para que muestre toda la información.**



```
root@localhost:~  
File Edit View Search Terminal Help  
[U0266007@localhost][04]  
[U0266007@localhost][04]$ apropos kernel | grep name  
oldolduname (2) - get name and information about current kernel  
olduname (2) - get name and information about current kernel  
uname (2) - get name and information about current kernel  
[U0266007@localhost][04]$ man uname  
[U0266007@localhost][04]$ uname -v  
#1 SMP Fri Sep 25 19:48:47 UTC 2020  
[U0266007@localhost][04]$
```

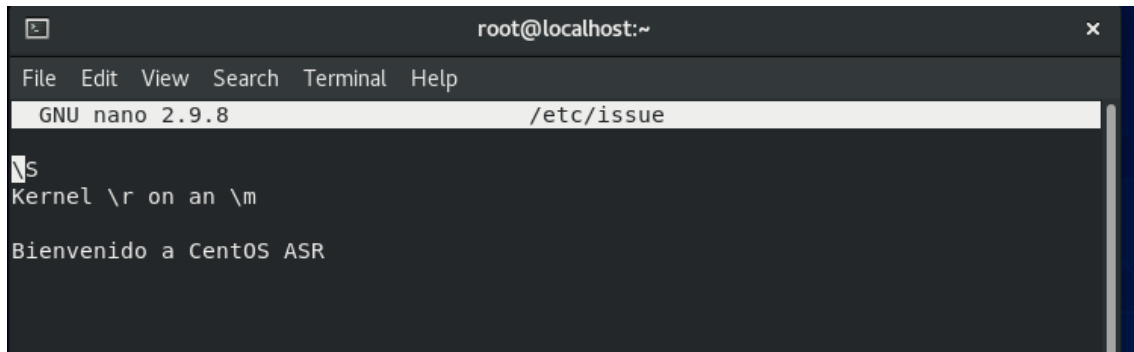
**Ejercicios: 4.1) Descubre la función de los ficheros `/etc/motd` y `/etc/issue` y cambia su contenido. Reboota la máquina y observa qué pasa.**

- El fichero `/etc/motd` es el mensaje del día, saldrá cuando iniciemos la maquina



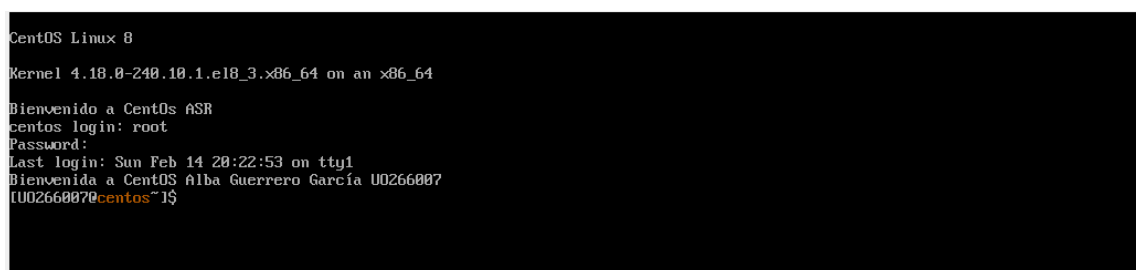
```
root@localhost:~  
File Edit View Search Terminal Help  
GNU nano 2.9.8 /etc/motd  
Bienvenida a CentOS GUI Alba Guerrero García
```

- El fichero `/etc/issue` esta relacionado con el primer fichero, todos los usuarios veras el mensaje contenido en el issue ante de entrar a la cuenta, se suele mostrar la versión del sistema



```
root@localhost:~  
File Edit View Search Terminal Help  
GNU nano 2.9.8 /etc/issue  
S  
Kernel \r on an \m  
Bienvenido a CentOS ASR
```

- Hacemos un reboot de la máquina y observamos los cambios realizados
- Al haberlo realizado en la maquina con interfaz de usuario no vemos los cambios, por lo que realizamos lo mismo en la maquina centos sin interfaz



```
CentOS Linux 8  
Kernel 4.18.0-240.10.1.el8_3.x86_64 on an x86_64  
Bienvenido a CentOS ASR  
centos login: root  
Password:  
Last login: Sun Feb 14 20:22:53 on tty1  
Bienvenida a CentOS Alba Guerrero García U0266007  
[U0266007@centos~]$
```