[FORT] Práctica 6: Mantenimiento

Se mantiene la configuración de red de la práctica 5.

Preparación

La MAQUINA1 tiene un container corriendo SSH en el puerto 222. El puerto 222 se redirige al container

Primero creamos un script con el código que se nos ha proporcionado:

```
 GNU nano 7.2                                          script.sh *
#!/usr/sbin/nft -f
#en esta maquina la direccion del container es 10.0.3.200
table ip nat {
        chain PREROUTING { #redirigimos conexiones externas alssh al container
                type nat hook prerouting priority dstnat; policy accept;
                ip daddr {192.168.2.10, 192.168.3.10, 192.168.4.10} tcp dport {222} log
                ip daddr {192.168.12.10, 192.168.13.10, 192.168.14.10} tcp dport {222} log
                ip daddr {192.168.2.10, 192.168.3.10, 192.168.4.10} tcp dport {222} dnat to 10.0.3.2
                ip daddr {192.168.12.10, 192.168.13.10, 192.168.14.10} tcp dport {222} dnat to 10.0.
        }
}
```

y lo hacemos ejecutable con el siguiente comando:

```
sudo chmod +x /etc/nftables/script.sh
```

Instala Syslogd en el container

Primero debemos revisar el nombre del container con el comando:

```
lxc-ls
```

```
root@fso2025:~# lxc-ls
deb
```

En este caso el container se llama deb y podemos arrancarlo (en caso de que esté apagado) con el con el siguiente comando:

```
lxc-start -f -n deb
```

Una vez levantado el container nos podemos conectar a este con:

```
lxc-attach -n deb
```

```
root@fso2025:~# lxc-attach -n deb
root@deb:~#
```

una vez dentro del container instalamos syslogd:

```
root@deb:~# apt install inetutils-syslogd
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  inetutils-syslogd
0 upgraded, 1 newly installed, 0 to remove and 18 not upgraded.
Need to get 84.2 kB of archives.
After this operation, 171 kB of additional disk space will be used.
Get:1 http://deb.debian.org/debian stable/main amd64 inetutils-syslogd amd64 2:2.4-2+deb12u1 [84.2 kB]
Fetched 84.2 kB in 0s (533 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package inetutils-syslogd.
(Reading database ... 12198 files and directories currently installed.)
Preparing to unpack .../inetutils-syslogd_2%3a2.4-2+deb12u1_amd64.deb ...
Unpacking inetutils-syslogd (2:2.4-2+deb12u1) ...
Setting up inetutils-syslogd (2:2.4-2+deb12u1) ...
```

1. Crea claves RSA para los usuarios user001, user002 y user003 en Maquina2. user003 debe estar protegido por una passphrase

Para crear las claves RSA para los usuarios usamos el siguiente comando logueados desde sus cuentas:

```
ssh-keygen -t rsa -b 4096 -f ~/.ssh/id_rsa
```

```
user001@fso2025:~$ ssh-keygen -t rsa -b 4096 -f ~/.ssh/id_rsa
Generating public/private rsa key pair.
Created directory '/home/user001/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/user001/.ssh/id_rsa
Your public key has been saved in /home/user001/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:jpxSbVuCOevsFVzeBW0cc4GZIOFNJBkxazmP65gGdFM user001@fso2025
The key's randomart image is:
+---[RSA 4096]----+
|         B*+oo*oo|
|        .EO  =+o |
|        .*.. ..  |
|     . B.o+. .   |
|    . * S.o..    |
|     + B =.      |
|    . * +.       |
|     + o+        |
|     .=o .       |
+----[SHA256]-----+
```

```
root@fso2025:~# su - user002
user002@fso2025:~$ ssh-keygen -t rsa -b 4096 -f ~/.ssh/id_rsa
Generating public/private rsa key pair.
Created directory '/home/user002/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/user002/.ssh/id_rsa
Your public key has been saved in /home/user002/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:oPQw1wFtjVBqLg5RVPZshC0yp3Tghba9Vcu45WndzSw user002@fso2025
The key's randomart image is:
+---[RSA 4096]----+
|    .++*B+o      |
|   o*o=*=.o      |
|  .o=O=o=+ .     |
|   ooO.oo +      |
|  . o ooS+ o . + |
|   o .. . + . E +|
|     .    .     . |
|                 |
|                 |
+----[SHA256]-----+
```

En el caso de user003, a diferencia que con los anteriores usuarios, no dejaremos la passphrase vacía:

```
user003@fso2025:~$ ssh-keygen -t rsa -b 4096 -f ~/.ssh/id_rsa
Generating public/private rsa key pair.
Created directory '/home/user003/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/user003/.ssh/id_rsa
Your public key has been saved in /home/user003/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:B6MjijtbLJsBSVEHimfm/waqx4JhNlBf2Zuoxq8RqKc user003@fso2025
The key's randomart image is:
+---[RSA 4096]----+
| ..o.. o         |
|. + . o .        |
|.++. . .oo       |
|o* .. ..oo       |
|+ o.o.o S .      |
|oB o=o . .       |
|Oo*ooo           |
|+X+  oo          |
|E*  .o.          |
+----[SHA256]-----+
```

2. Habilita el acceso a MAQUINA1 desde MAQUINA2 para los usuarios del 001 al 003

Para habilitar el acceso a la máquina 1 desde la máquina 2 debemos copiar las claves de cada usuario de una máquina a otra con el comando:

```
ssh-copy-id user001@<IP_de_máquina>
```

Para ello debemos loguear con el usuario del que queramos transferir las claves y ejecutamos dicho comando:

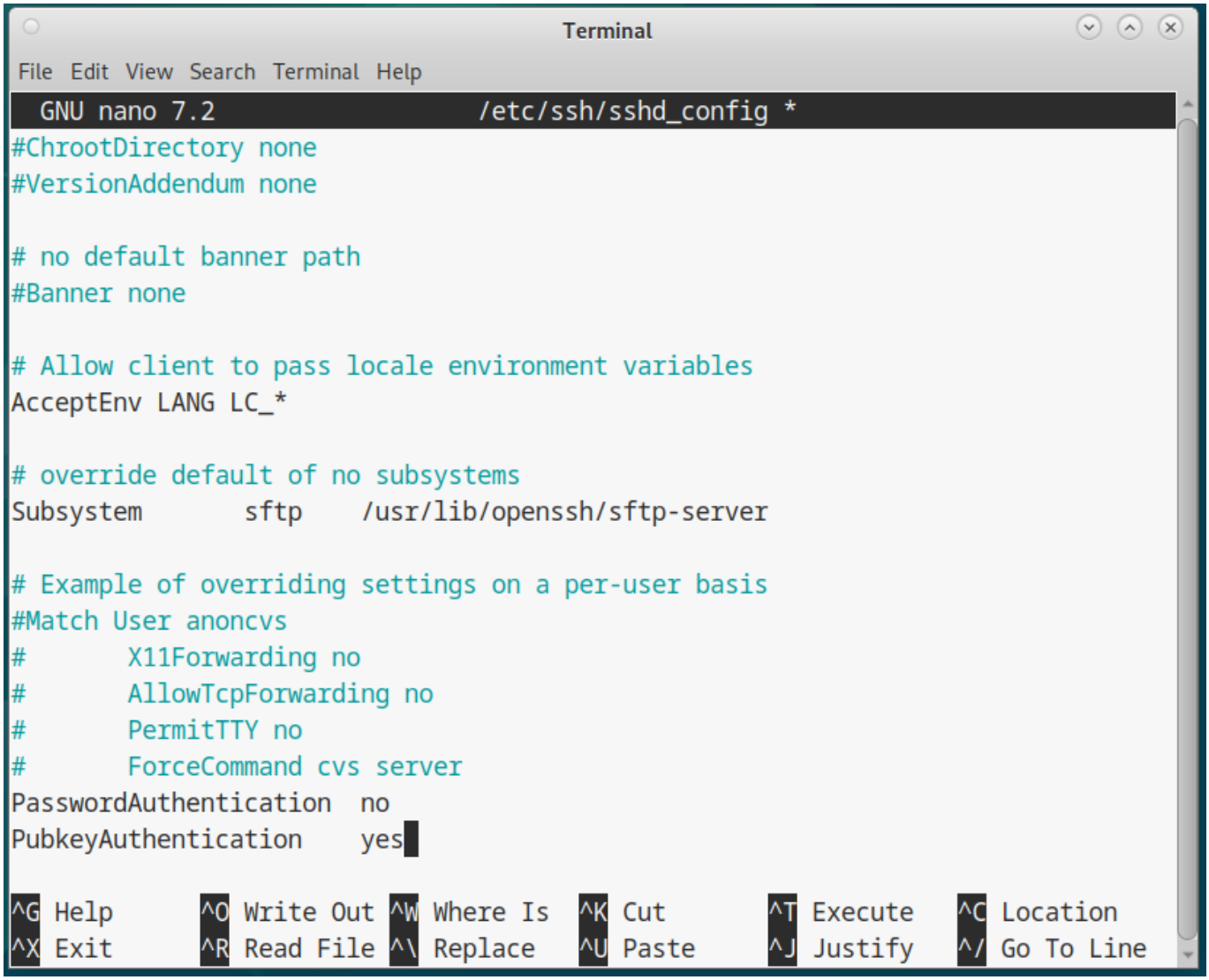
```
user001@fso2025:~$ ssh-copy-id user001@192.168.12.10
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/user001/.ssh/id_rsa.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
user001@192.168.12.10's password:

Number of key(s) added: 1

Now try logging into the machine, with:   "ssh 'user001@192.168.12.10'"
and check to make sure that only the key(s) you wanted were added.
```

```
user002@fso2025:~$ ssh-copy-id user002@192.168.12.10
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/user002/.ssh/id_rsa.pub"
The authenticity of host '192.168.12.10 (192.168.12.10)' can't be established.
ED25519 key fingerprint is SHA256:Lmnh/hNAcl9oSvUiANw6AwXDYBHVf+1LP7MpuoAyCc4.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
user002@192.168.12.10's password:

Number of key(s) added: 1

Now try logging into the machine, with:   "ssh 'user002@192.168.12.10'"
and check to make sure that only the key(s) you wanted were added.
user003@fso2025:~$ ssh-copy-id user003@192.168.12.10
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/user003/.ssh/id_rsa.pub"
The authenticity of host '192.168.12.10 (192.168.12.10)' can't be established.
ED25519 key fingerprint is SHA256:Lmnh/hNAcl9oSvUiANw6AwXDYBHVf+1LP7MpuoAyCc4.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
user003@192.168.12.10's password:

Number of key(s) added: 1

Now try logging into the machine, with:   "ssh 'user003@192.168.12.10'"
and check to make sure that only the key(s) you wanted were added.
```

3. Configura los usuarios del 001 al 003 en Maquina2 para que logueen directo en Maquina1 por el puerto 222 como hideous

Lo primero que debemos hacer es configurar ssh para que permita acceder sin contraseña en /etc/ssh/sshd_config:

```
PasswordAuthentication no #Deshabilita el requisito de la autenticación por contraseña
PubkeyAuthentication yes #Permite autenticarse mediante el uso de claves
```



Tras eso debemos transferir las claves desde cada uno de los usuarios del 001 al 003 a hideous usando el siguiente comando:

```
ssh-copy-id -i ~/.ssh/id_rsa.pub -p 222 hideous@192.168.12.10
```

```
user003@fso2025:~$ ssh-copy-id -i ~/.ssh/id_rsa.pub -p 222 hideous@192.168.12.10
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/user003/.ssh/id_rsa.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
```

¿Pueden user001, user002 y user003 loguear en el container como hideous sin poner contraseña?

user001 y user002 pueden hacerlo, pero a user003 se le pide la frase de logueo establecida anteriormente

4. Configura los logs de autenticación de MAQUINA2 para

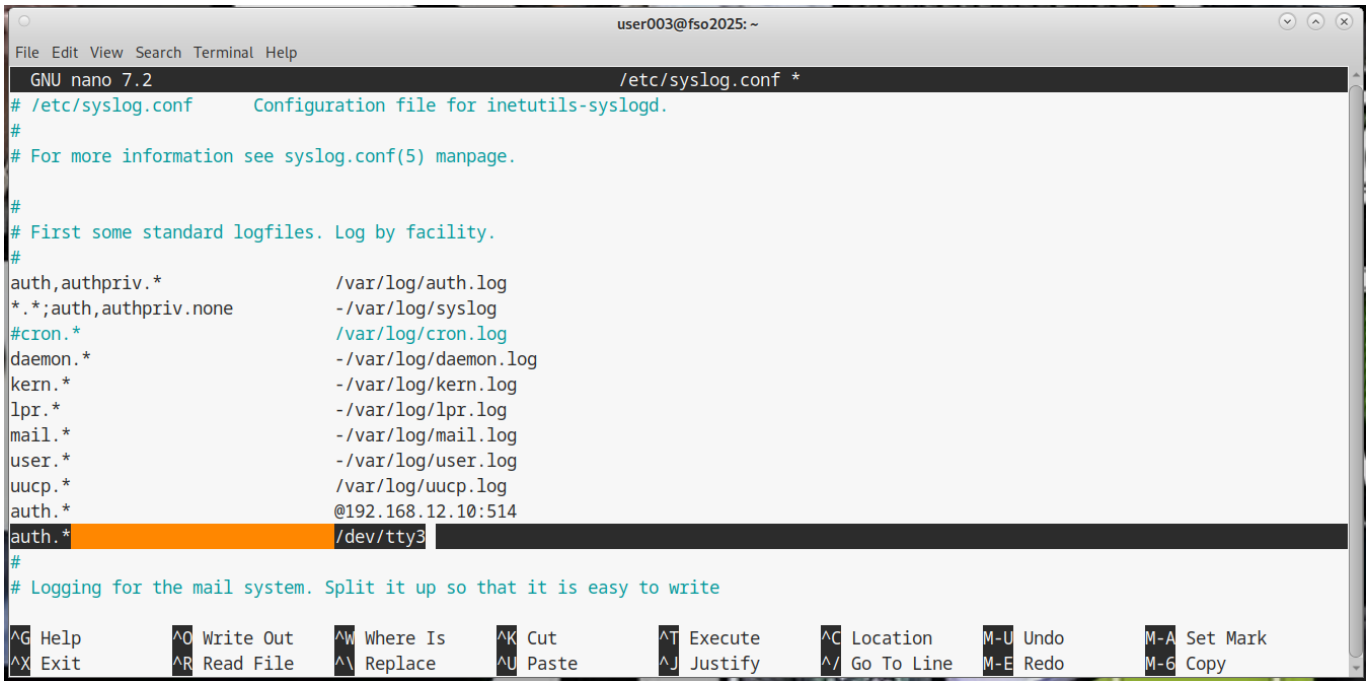
que sean enviados a MAQUNA1 y al archivo /dev/tty3 en Máquina2

Para configurar estos logs debemos ir a editar el archivo /etc/rsyslog.conf con las siguientes líneas:

```
auth.* @192.168.12.10:514
```

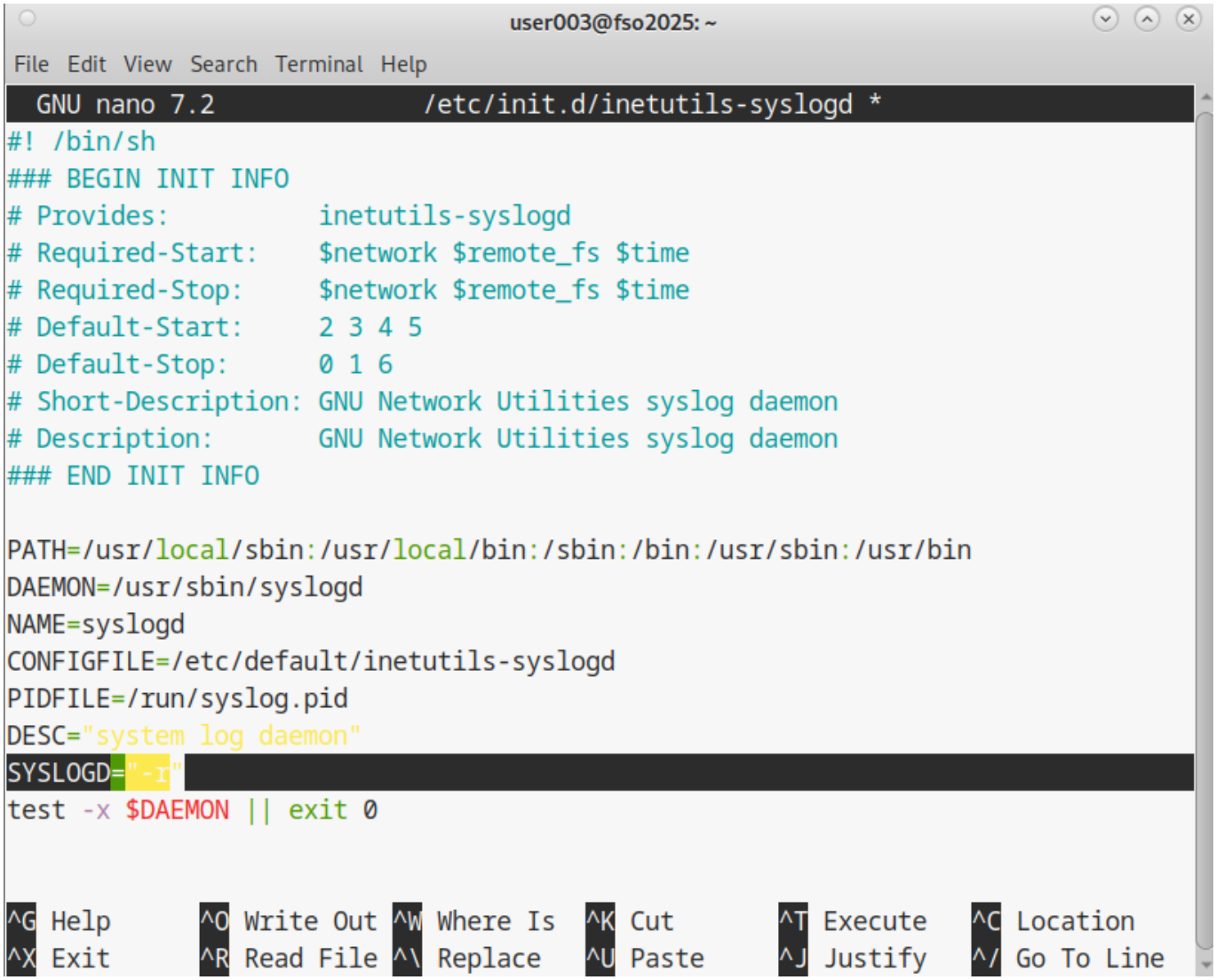
Para almacenar dichos logs también en /dev/tty3 modificamos el mismo archivo con la siguiente línea:

```
auth.* /dev/tty3
```



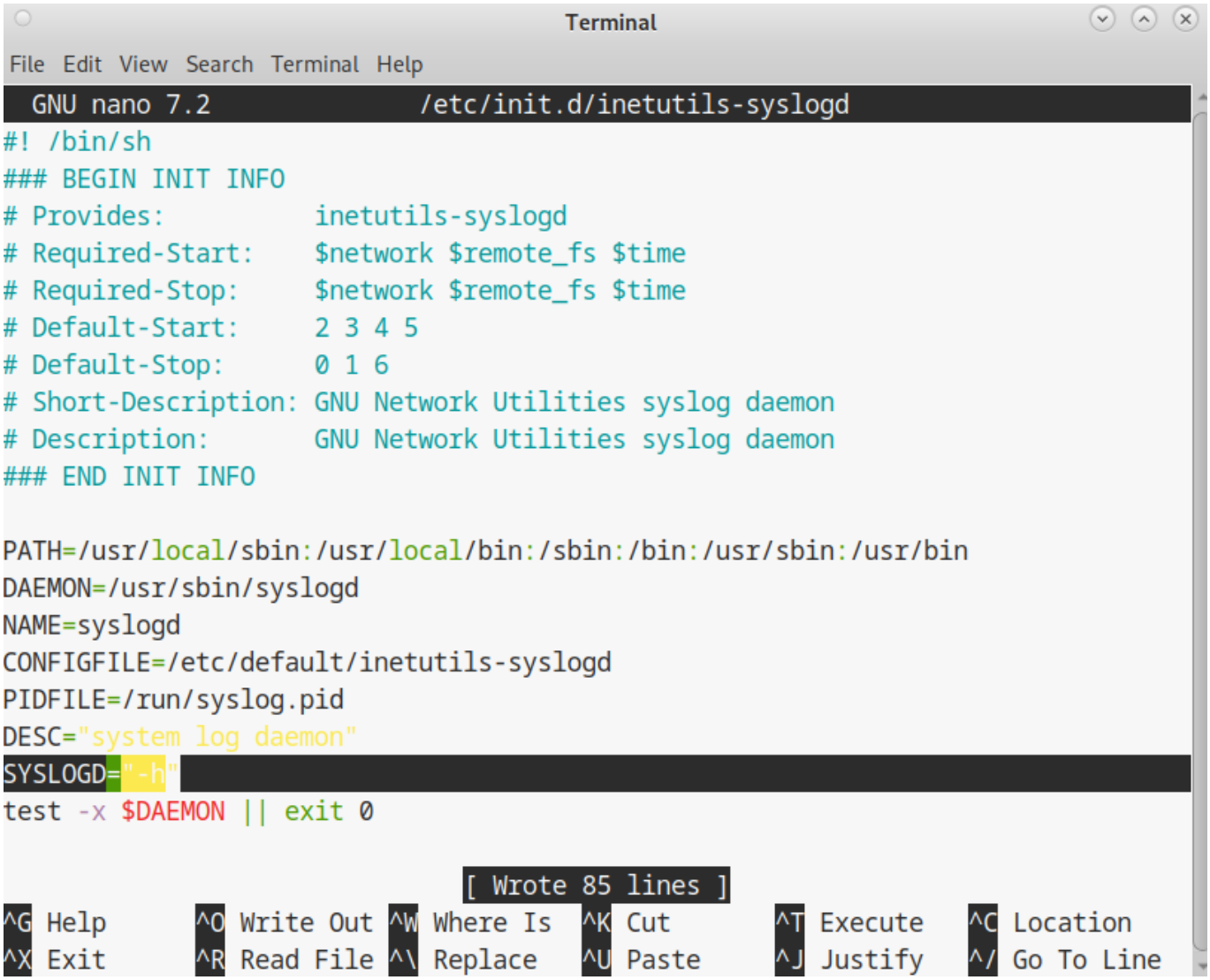
Tras eso modificamos el archivo de MAQUINA1 /etc/init.d/inetutils-syslogd con las siguientes líneas:

```
SYSLOGD="-r"
```



y en MAQUINA2 hacemos lo mismo con la línea:

```
SYSLOG="-h"
```



Notas para ejercicio 5: syslogd: para aceptar los logs hay que poner -r, para que los reenvíe hay que ponerle -h. Archivos importantes a modificar:

```
cd /etc/init.d/
sudo nano inetutils-syslogd
sudo nano /etc/default/inetutils-syslogd
```