

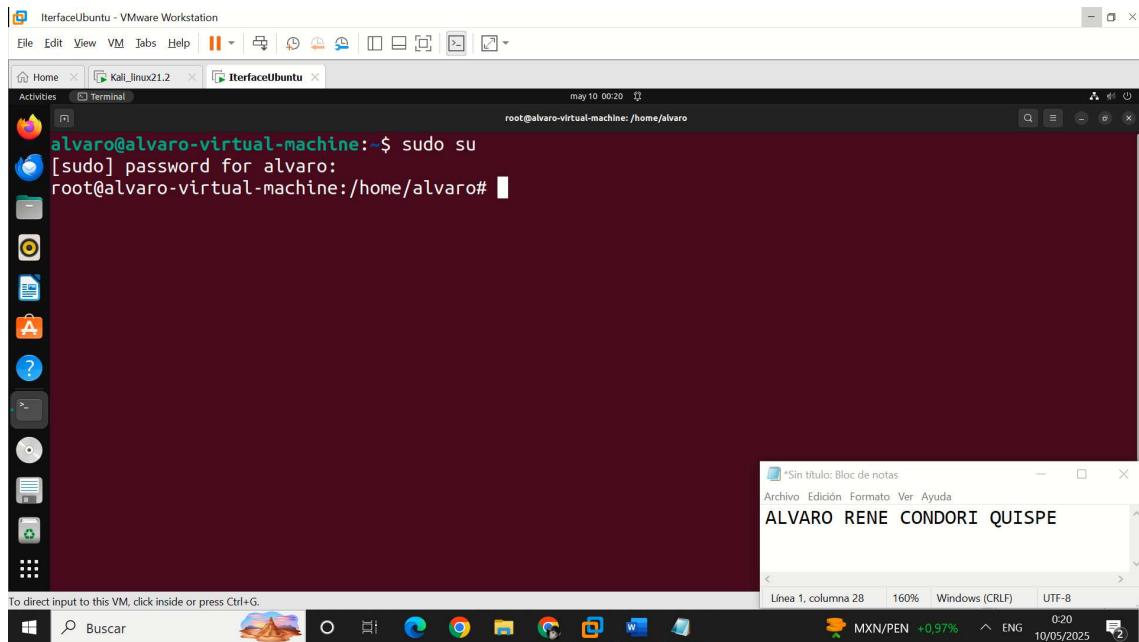
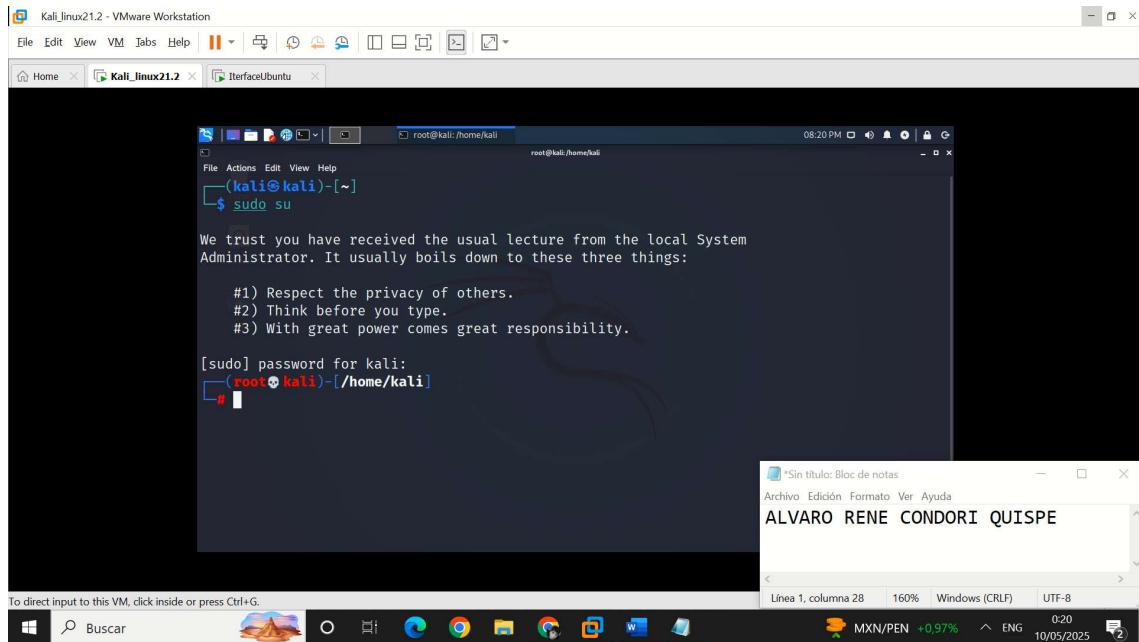
UNIVERSIDAD AUTÓNOMA “TOMAS FRÍAS”
INGENIERÍA DE SISTEMAS

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LABORATORIO 9

1



2

A screenshot of a Kali Linux virtual machine running in VMware Workstation. The terminal window shows the root user executing commands related to SSH. The desktop environment includes a dock with various icons and a taskbar at the bottom.

```
root@alvaro-virtual-machine:/home/alvaro# which ssh
/usr/bin/ssh
root@alvaro-virtual-machine:/home/alvaro#
root@alvaro-virtual-machine:/home/alvaro# system status ssh
Command 'system' not found, did you mean:
  command 'systemd' from deb systemd (249.11-0ubuntu3.12)
  command 'system3' from deb simh (3.8.1-6.1)
Try: apt install <deb name>
root@alvaro-virtual-machine:/home/alvaro# systemctl status ssh
● ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2025-05-10 00:12:57 -04; 12min ago
     Docs: man:sshd(8)
           man:sshd_config(5)
     Main PID: 860 (sshd)
        Tasks: 1 (limit: 2211)
       Memory: 1.2M
          CPU: 98ms
        CGroup: /system.slice/ssh.service
               └─860 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100"
```

To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

Windows taskbar icons include: Buscar, Internet Explorer, Edge, Google Chrome, Microsoft Edge, File Explorer, Task View, Start button, and others.

3 se entendió

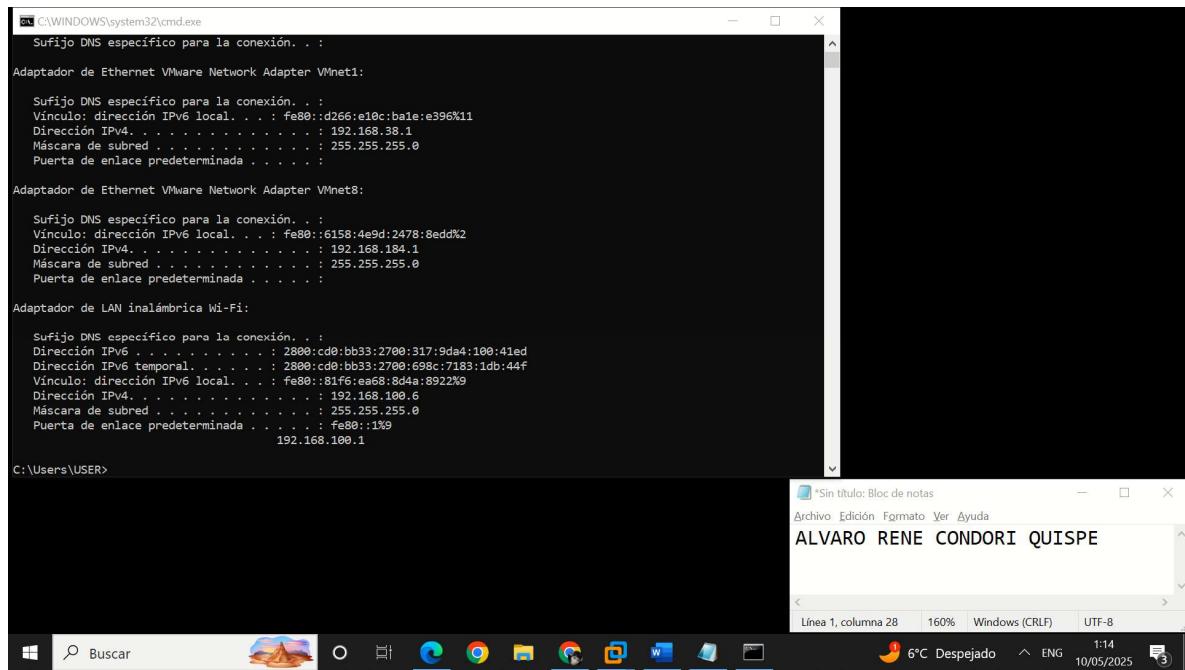
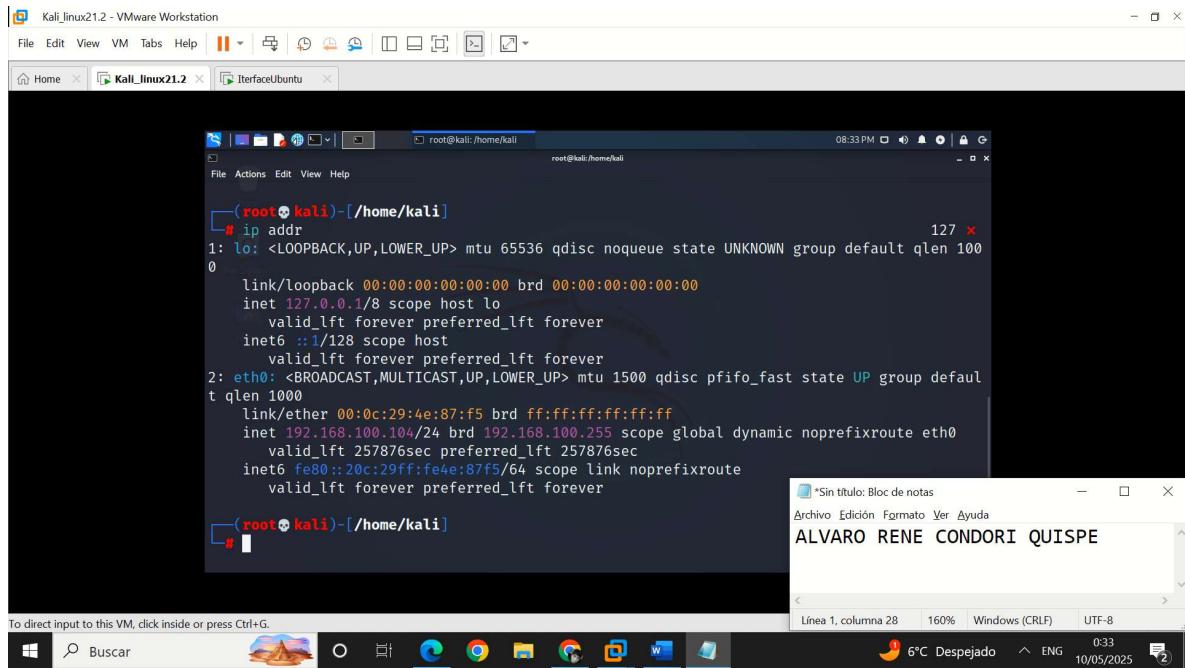
4

A screenshot of a Kali Linux virtual machine running in VMware Workstation. The terminal window shows the root user executing the ifconfig command, which is not found but can be installed via apt. The desktop environment includes a dock with various icons and a taskbar at the bottom.

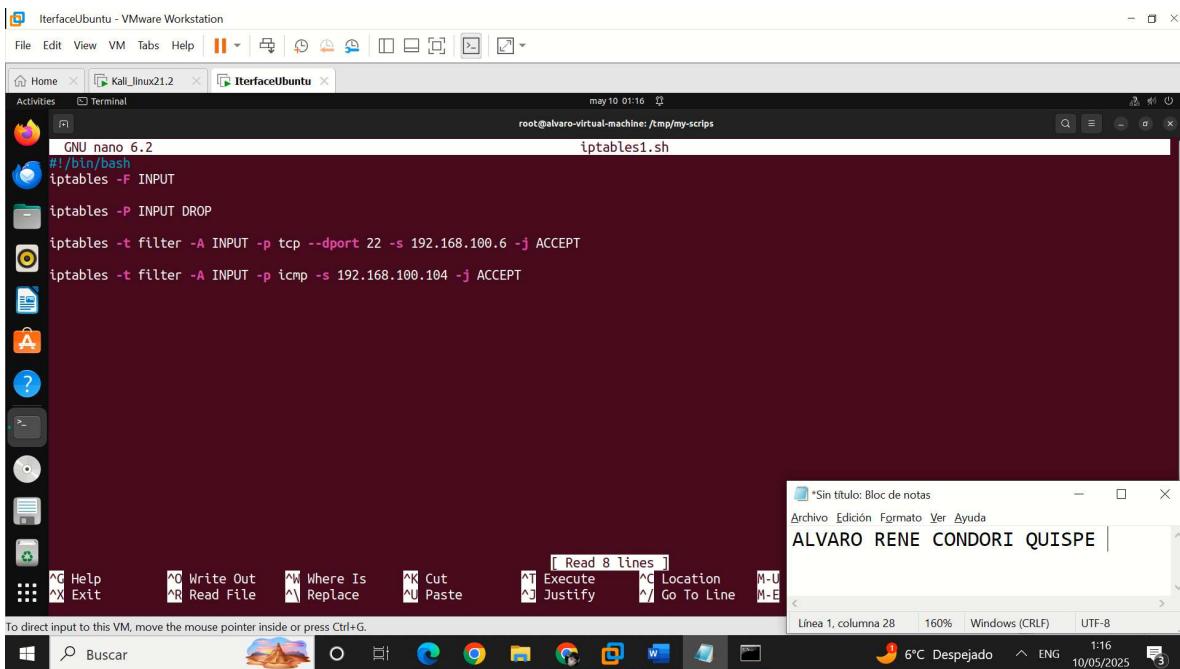
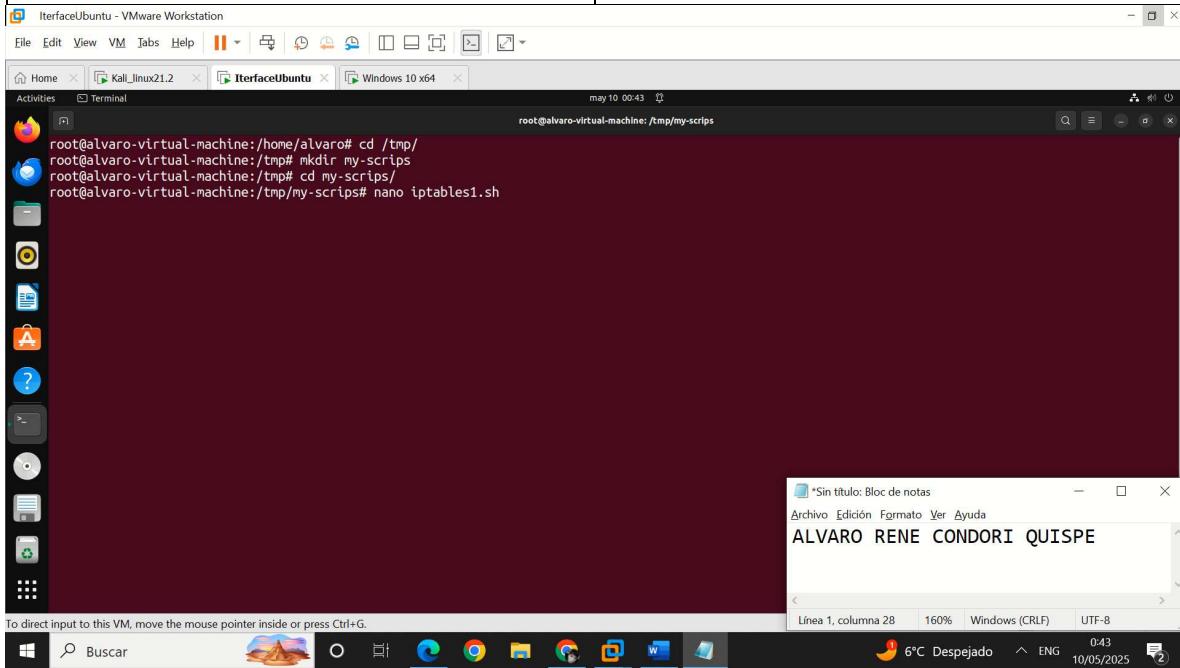
```
root@alvaro-virtual-machine:/home/alvaro# ifconfig
Command 'ifconfig' not found, but can be installed with:
apt install net-tools
root@alvaro-virtual-machine:/home/alvaro# ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 00:c9:80:f5:53 brd ff:ff:ff:ff:ff:ff
    altname enp2s1
    inet 192.168.100.82/24 brd 192.168.100.255 scope global dynamic noprefixroute ens33
        valid_lft 258022sec preferred_lft 258022sec
    inet6 fe80::6c36:4296:9fc9:9604/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
root@alvaro-virtual-machine:/home/alvaro#
```

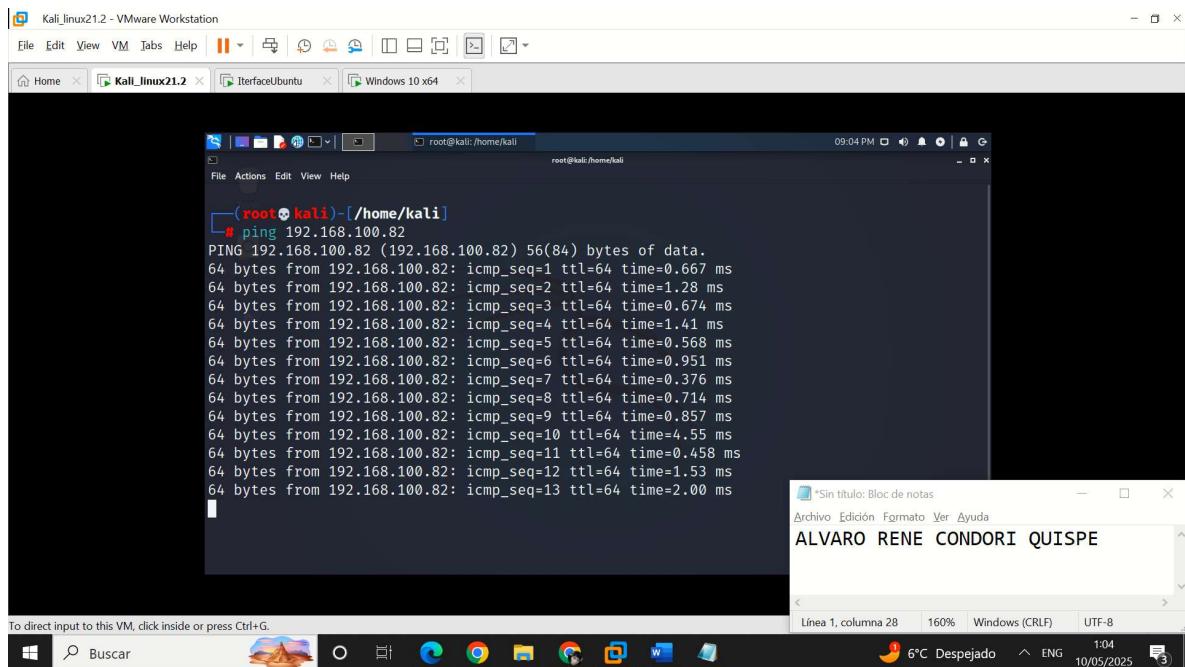
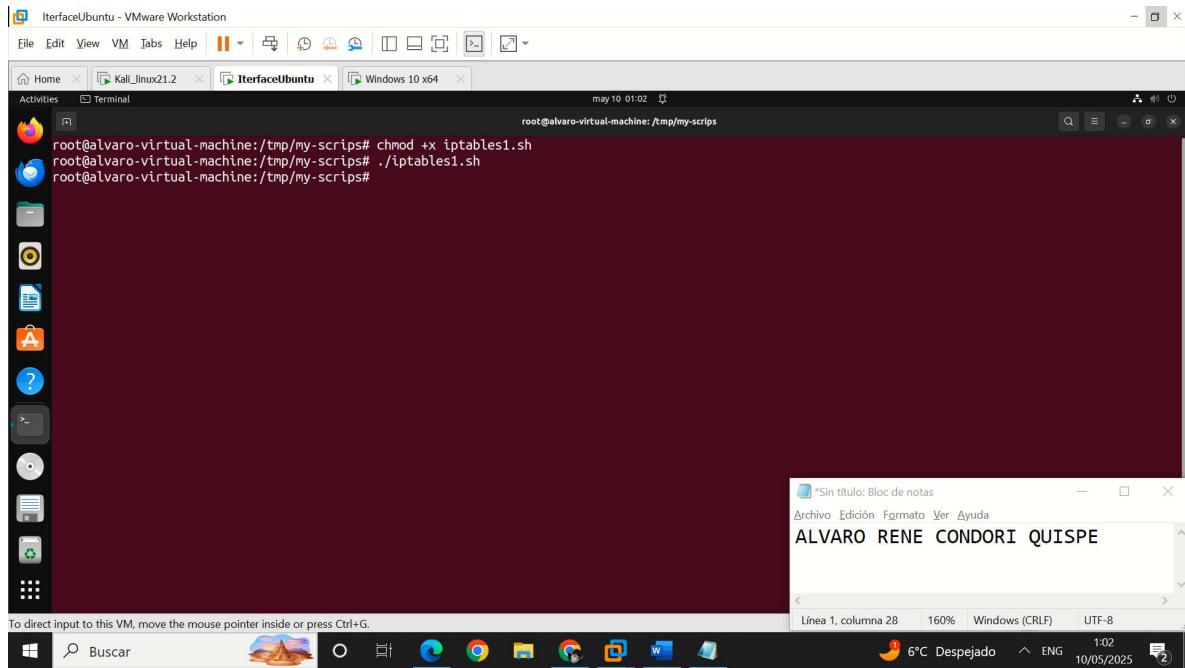
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

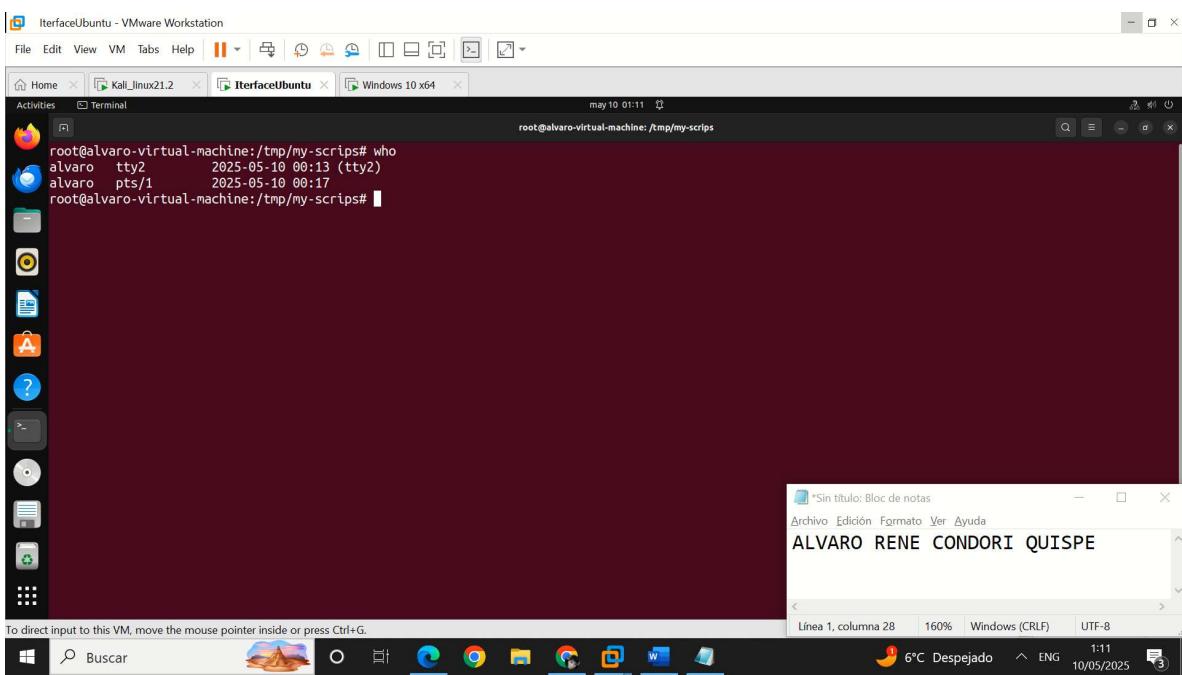
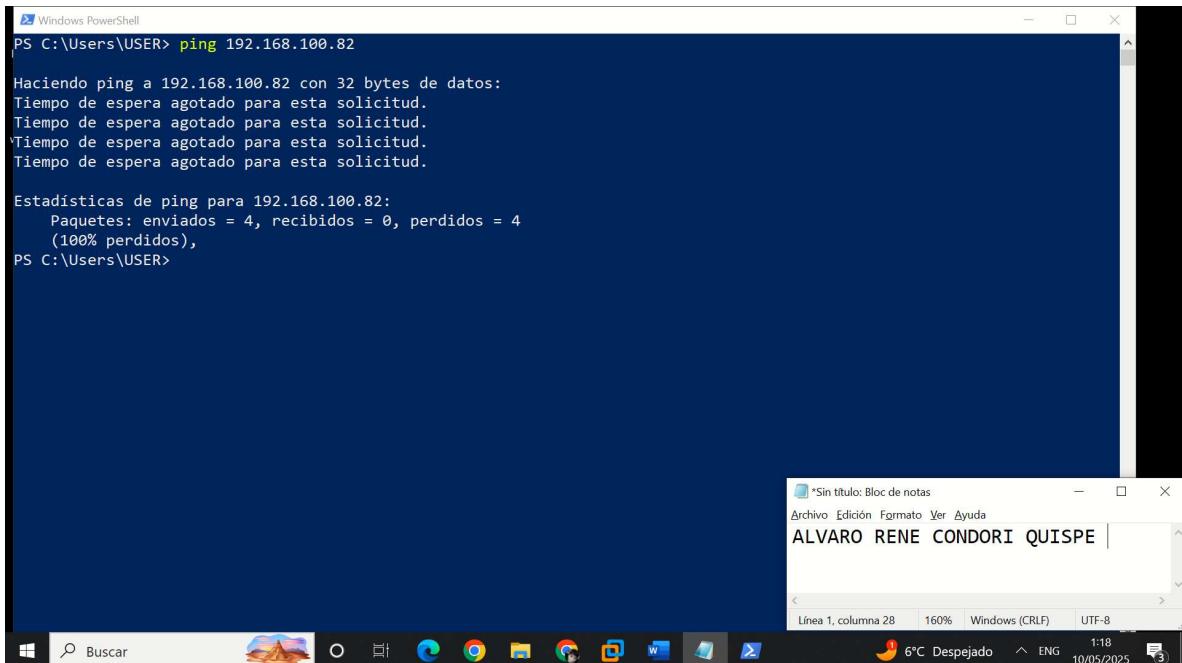
Windows taskbar icons include: Buscar, Internet Explorer, Edge, Google Chrome, Microsoft Edge, File Explorer, Task View, Start button, and others.



Maquina virtual o dispositivo	Dirección IP
Ubuntu	192.168.100.82
Kali Linux	192.168.100.104
Windows	192.168.100.6







```
alvaro@alvaro-virtual-machine: ~

Estadísticas de ping para 192.168.100.82:
  Paquetes: enviados = 1, recibidos = 0, perdidos = 1
    (100% perdidos),
Control-C
^C
C:\Users\USER>ssh alvaro@192.168.100.82
The authenticity of host '192.168.100.82 (192.168.100.82)' can't be established.
Keypair fingerprint is SHA256:hFpykKUzahHs22M4pKe3x8YVeY/TgtETlepnCZUiGm.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.100.82' (ED25519) to the list of known hosts.
alvaro@192.168.100.82's password:
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 6.8.0-58-generic x86_64)

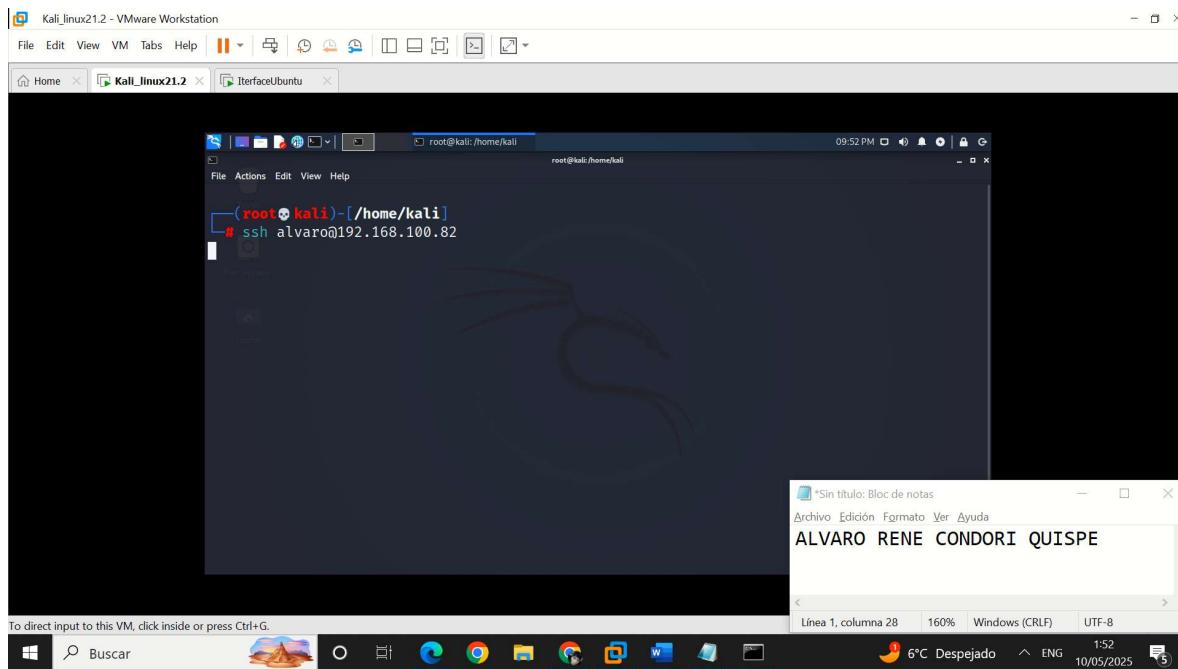
 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support:   https://ubuntu.com/pro

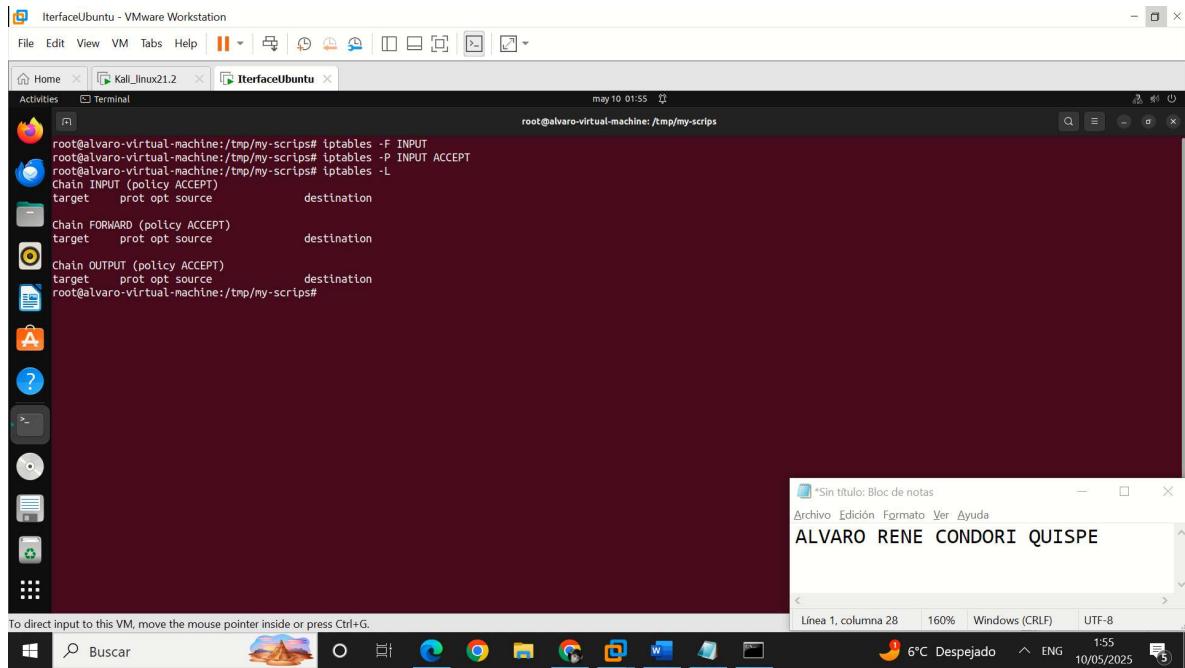
Expanded Security Maintenance for Applications is not enabled.

55 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

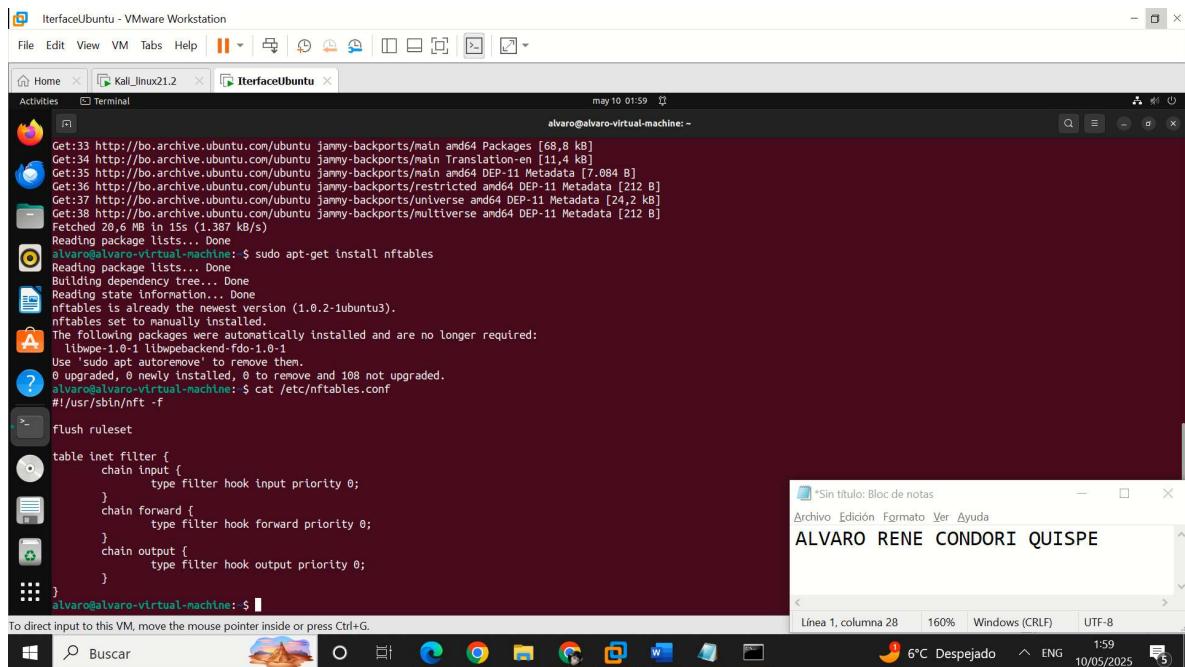
19 additional security updates can be applied with ESM Apps.
Learn more about enabling ESM Apps service at https://ubuntu.com/esm

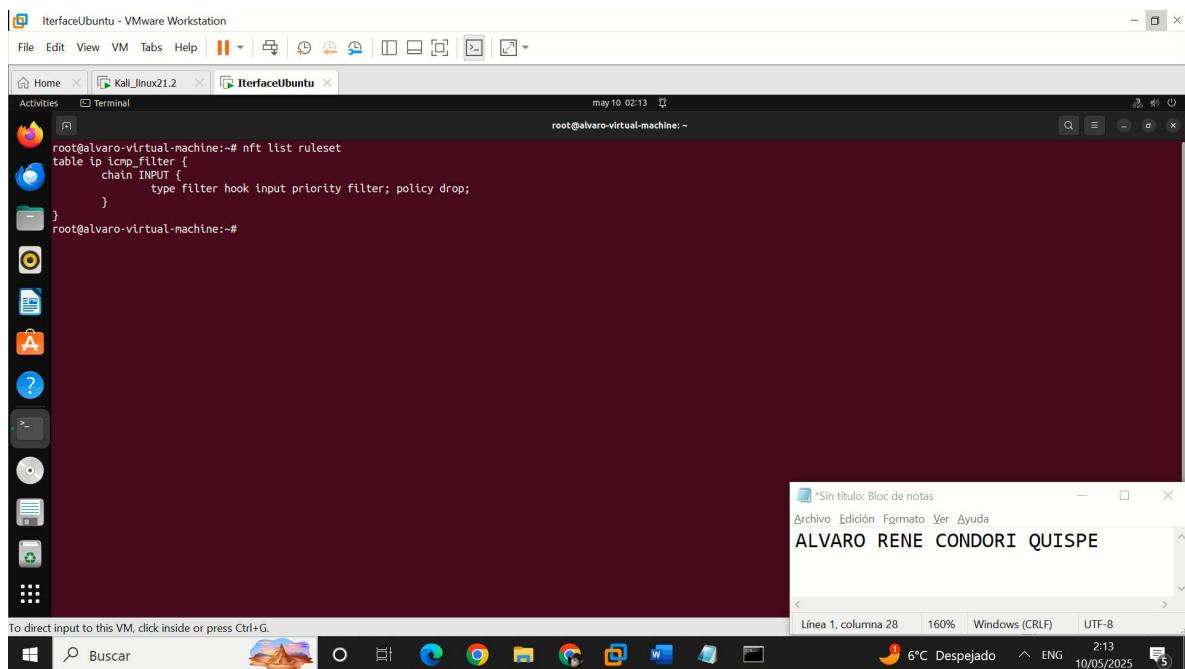
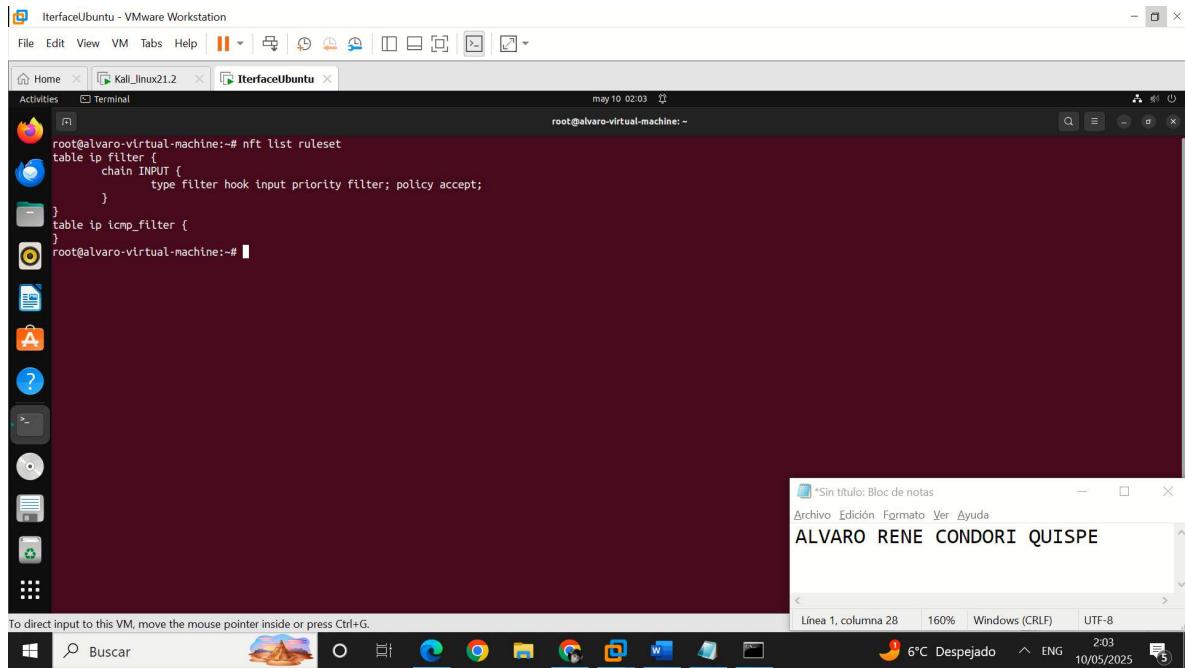
*** System restart required ***
Last login: Sun Apr 27 18:26:44 2025 from 192.168.100.102
alvaro@alvaro-virtual-machine:<$
```

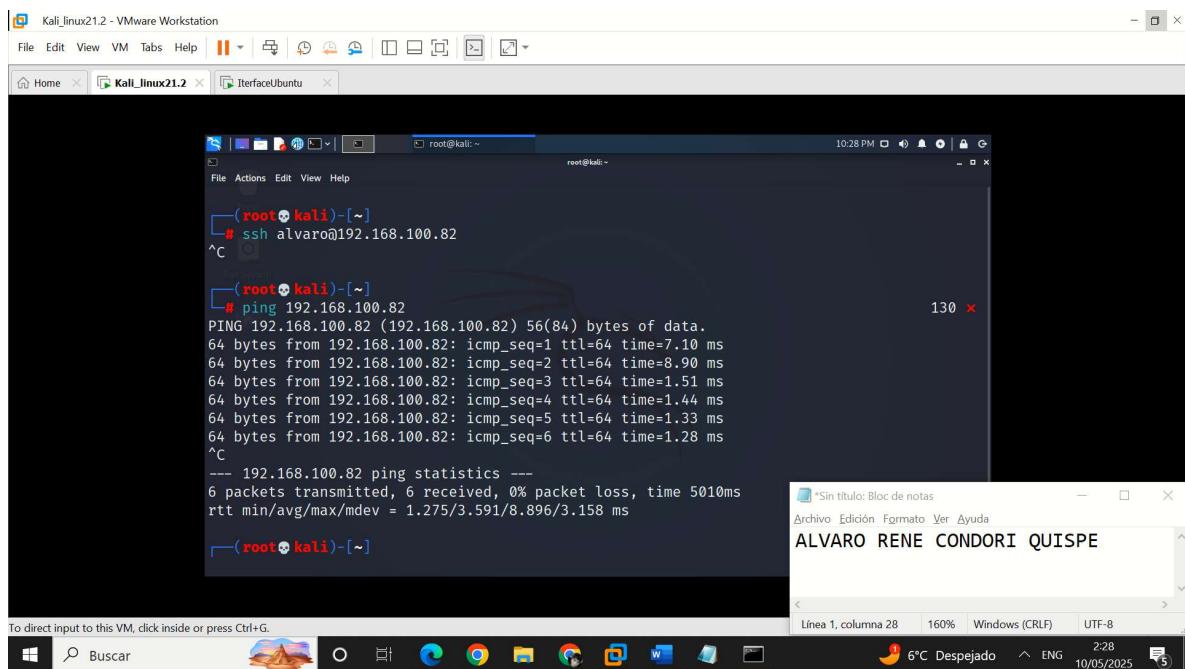
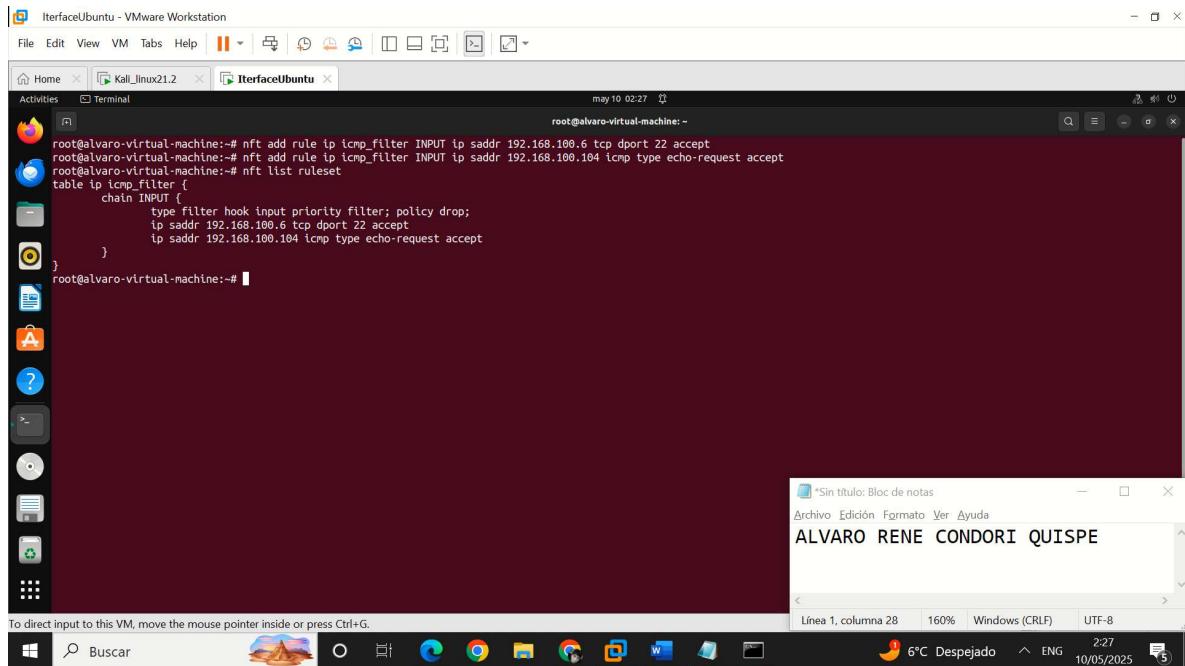




NFTABLES







alvaro@alvaro-virtual-machine: ~

```
C:\Users\USER>ping 192.168.100.82

Haciendo ping a 192.168.100.82 con 32 bytes de datos:
Tiempo de espera agotado para esta solicitud.

Estadísticas de ping para 192.168.100.82:
Paquetes: enviados = 4, recibidos = 0, perdidos = 4
(100% perdidos),
```

```
C:\Users\USER>ssh alvaro@192.168.100.82
alvaro@192.168.100.82's password:
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 6.8.0-58-generic x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/pro

Expanded Security Maintenance for Applications is not enabled.

115 updates can be applied immediately.
48 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

19 additional security updates can be applied with ESM Apps.
Learn more about enabling ESM Apps service at https://ubuntu.com/esm

Failed to connect to https://changelogs.ubuntu.com/meta-release-lts. Check your Internet connection or proxy settings.
*** System restart required ***
Last login: Sat May 10 01:51:24 2025 from 192.168.100.6
alvaro@alvaro-virtual-machine:~$
```

*Sin título: Bloc de notas

Archivo Edición Formato Ver Ayuda

ALVARO RENE CONDORI QUISPE

Línea 1, columna 28 | 160% | Windows (CRLF) | UTF-8

6°C Despejado ^ ENG 2:30 10/05/2025

InterfaceUbuntu - VMware Workstation

File Edit View VM Tabs Help

Activities Terminal

root@alvaro-virtual-machine:~# nft list ruleset
root@alvaro-virtual-machine:~# nft delete table ip icmp_filter
Error: Could not process rule: No such file or directory
delete table ip icmp_filter
~~~~~
root@alvaro-virtual-machine:~# nft list ruleset
root@alvaro-virtual-machine:~# iptables -F INPUT
root@alvaro-virtual-machine:~# iptables -P INPUT ACCEPT
root@alvaro-virtual-machine:~#

To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

\*Sin título: Bloc de notas

Archivo Edición Formato Ver Ayuda

ALVARO RENE CONDORI QUISPE

Línea 1, columna 28 | 160% | Windows (CRLF) | UTF-8

5°C Despejado ^ ENG 2:34 10/05/2025

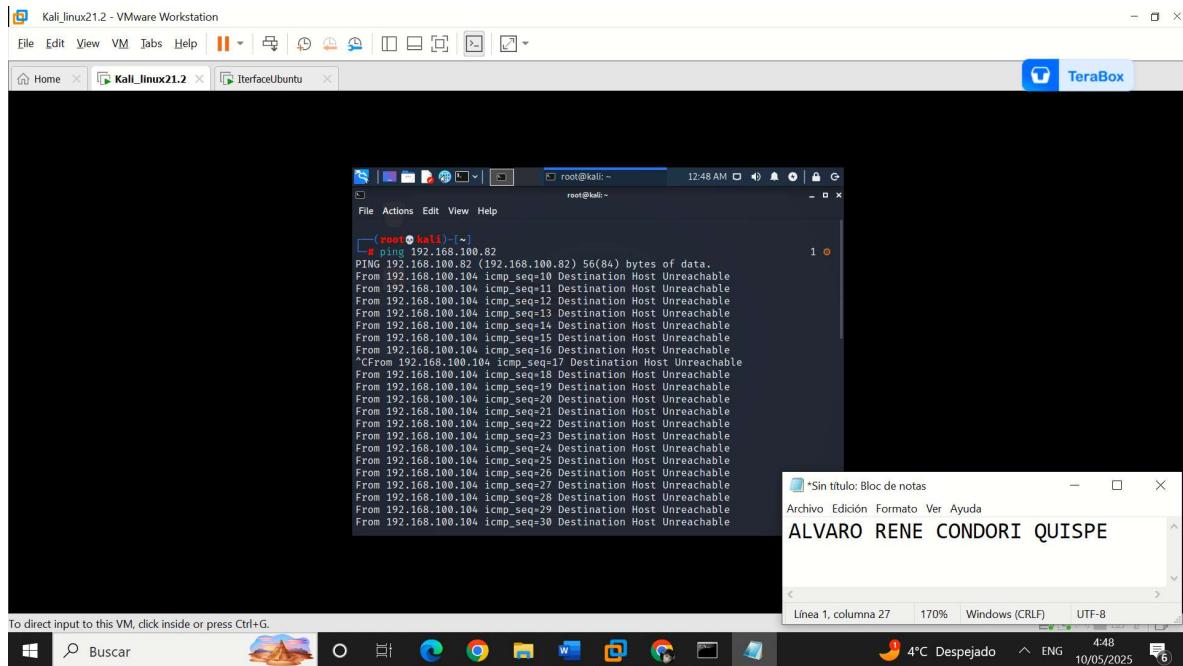
## Parte 2

The screenshot shows a Linux desktop environment with a terminal window open in a window titled "IterfaceUbuntu". The terminal window displays a script named "iptables2.sh" containing rules for iptables. The script includes comments about clearing the OUTPUT chain and specifying ports and IP addresses for traffic. A note-taking application window titled "ALVARO RENE CONDORI QUISPE" is also visible.

```
GNU nano 6.2
#!/bin/bash
## Script de iptables Bloqueo de acceso a ciertos sitios web con reglas permitidas
## Borramos las reglas de la cadena OUTPUT de la tabla por defecto filter para no tener conflictos
iptables -F OUTPUT
arpTables -P INPUT
##Establecemos la politica por defecto de la cadena OUTPUT a ACCEPT
iptables -P OUTPUT ACCEPT
arpTables -P INPUT DROP
##Permitimos el trafico a las direcciones IP permitidas
##sin los puertos .com
iptables -A OUTPUT -d 45.79.163.254 -j ACCEPT
##el protocolo .net
iptables -A OUTPUT -d 104.21.61.194 -j ACCEPT
iptables -A OUTPUT -d 172.67.213.89 -j ACCEPT
iptables -A OUTPUT -d 104.22.75.193 -j ACCEPT
iptables -A OUTPUT -d 172.67.20.27 -j ACCEPT
##freetorial.com
iptables -A OUTPUT -d 104.22.74.193 -j ACCEPT
iptables -A OUTPUT -d 37.59.238.221 -j ACCEPT
##permir al servidor dns
iptables -A OUTPUT -d 8.8.8.8 -j ACCEPT
##lista de direcciones mac con acceso permitido
##mac del gateway
arpTables -A INPUT --source-mac 20:4c:9e:33:57:e4 -j ACCEPT
arpTables -A INPUT --source-mac 12:34:56:78:90:00 -j ACCEPT
arpTables -A INPUT --source-mac 99:88:77:66:55:44 -j ACCEPT
arpTables -A INPUT --source-mac 40:50:60:70:80:90 -j ACCEPT
arpTables -A INPUT --source-mac 00:ac:e0:b9:ce:d7 -j ACCEPT
arpTables -A INPUT --source-mac 94:65:9c:6a:4e:c9 -j ACCEPT
##Bloqueamos el trafico a los puertos HTTP/HTTPS para todas las demas: 440
#
```

The screenshot shows a Linux desktop environment with a terminal window open in a window titled "IterfaceUbuntu". The terminal window displays the output of the "nft" command, specifically the "list ruleset" command, which shows a failed attempt to delete a non-existent table named "ip icmp\_filter". A note-taking application window titled "ALVARO RENE CONDORI QUISPE" is also visible.

```
root@alvaro-virtual-machine:~# nft list ruleset
root@alvaro-virtual-machine:~# nft delete table ip icmp_filter
Error: Could not process rule: No such file or directory
delete table ip icmp_filter
~~~~~
root@alvaro-virtual-machine:~# nft list ruleset
root@alvaro-virtual-machine:~# iptables -F INPUT
root@alvaro-virtual-machine:~# iptables -P INPUT ACCEPT
root@alvaro-virtual-machine:~# cd /tmp/my-scripts/
root@alvaro-virtual-machine:/tmp/my-scripts# nano iptables2.sh
root@alvaro-virtual-machine:/tmp/my-scripts# nano iptables2.sh
root@alvaro-virtual-machine:/tmp/my-scripts# chmod +x iptables2.sh
root@alvaro-virtual-machine:/tmp/my-scripts# ./iptables2.sh
root@alvaro-virtual-machine:/tmp/my-scripts#
```



Respueta desde 192.168.100.6: Host de destino inaccesible.

```
Estadísticas de ping para 192.168.100.82:
 Paquetes: enviados = 4, recibidos = 4, perdidos = 0
 (0% perdidos),
```

C:\Users\USER>ping 192.168.100.82

```
Haciendo ping a 192.168.100.82 con 32 bytes de datos:
Tiempo de espera agotado para esta solicitud.
Tiempo de espera agotado para esta solicitud.
Tiempo de espera agotado para esta solicitud.
Tiempo de espera agotado para esta solicitud.
```

Estadísticas de ping para 192.168.100.82:  
Paquetes: enviados = 4, recibidos = 0, perdidos = 4  
(100% perdidos).

C:\Users\USER>

 \*Sin título: Bloc de notas —  
Archivo Edición Formato Ver Ayuda  
**ALVARO RENE CONDORI QUISPE**

A screenshot of a Windows 10 desktop. At the top is a window titled "Sin título: Bloc de notas" with the text "ALVARO RENE CONDORI QUISPE". Below it is a standard Windows taskbar with icons for File Explorer, Edge, and Google Chrome. The system tray at the bottom right shows the date as 10/05/2025.

