

M01: PRÀCTICA FERRETERIA

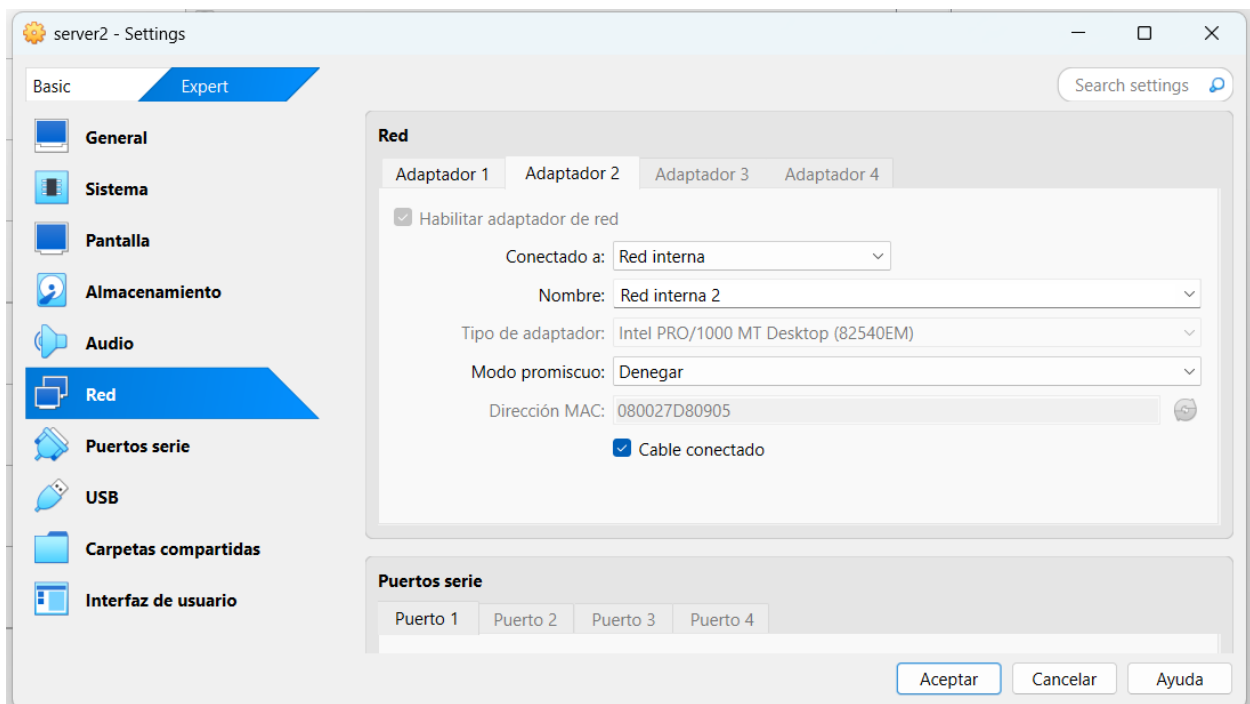
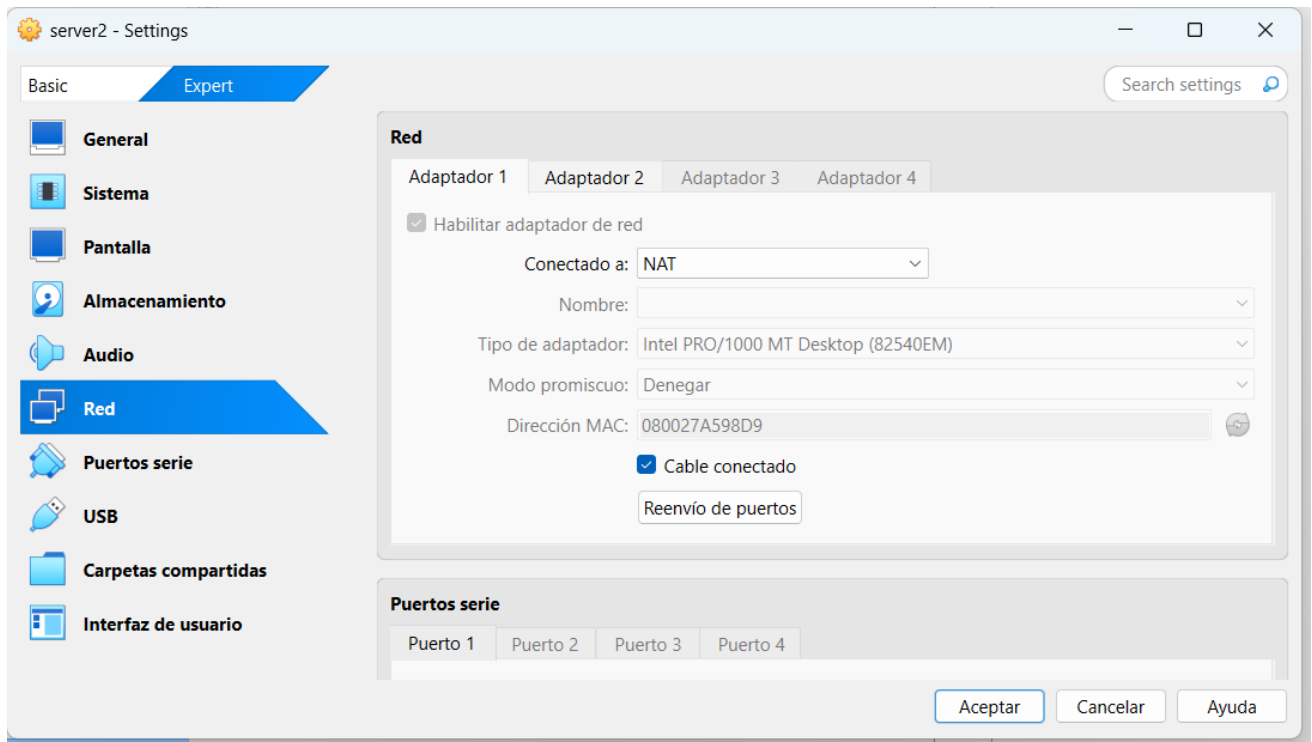
Fes les següents captures de pantalla [CSXX] per tal de comprovar el funcionament de la pràctica.

1. Taula amb les assignacions de les ips associades a cadascuna de les màquines

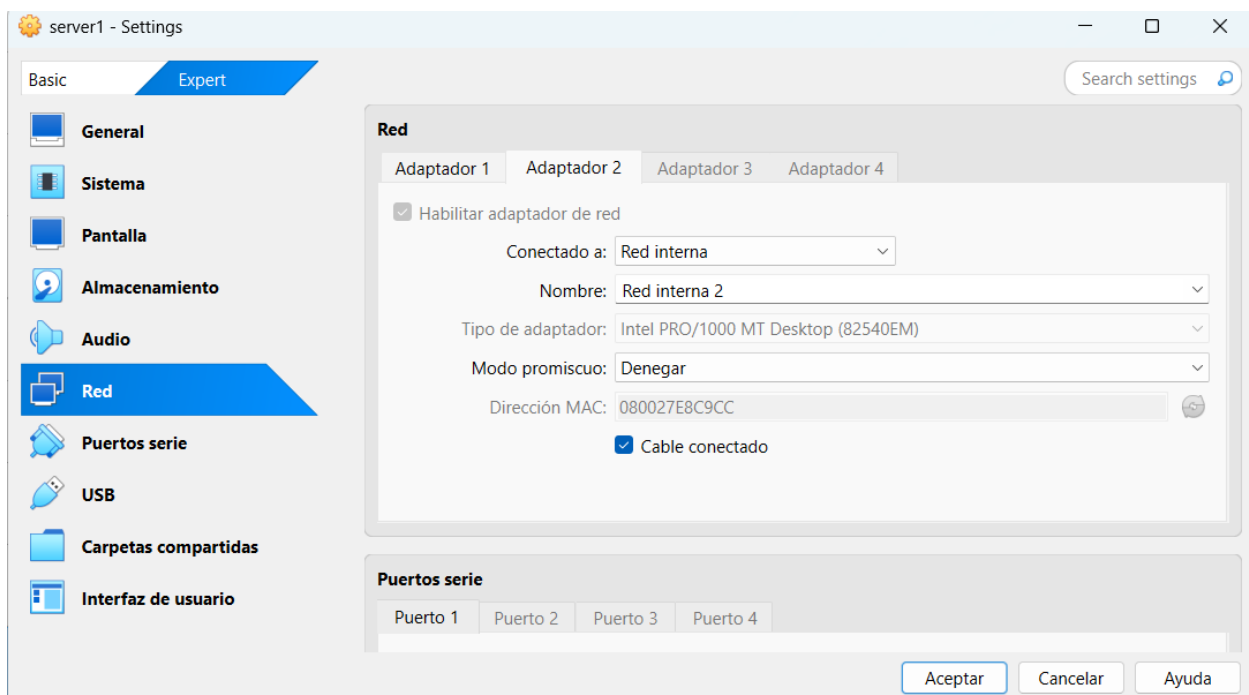
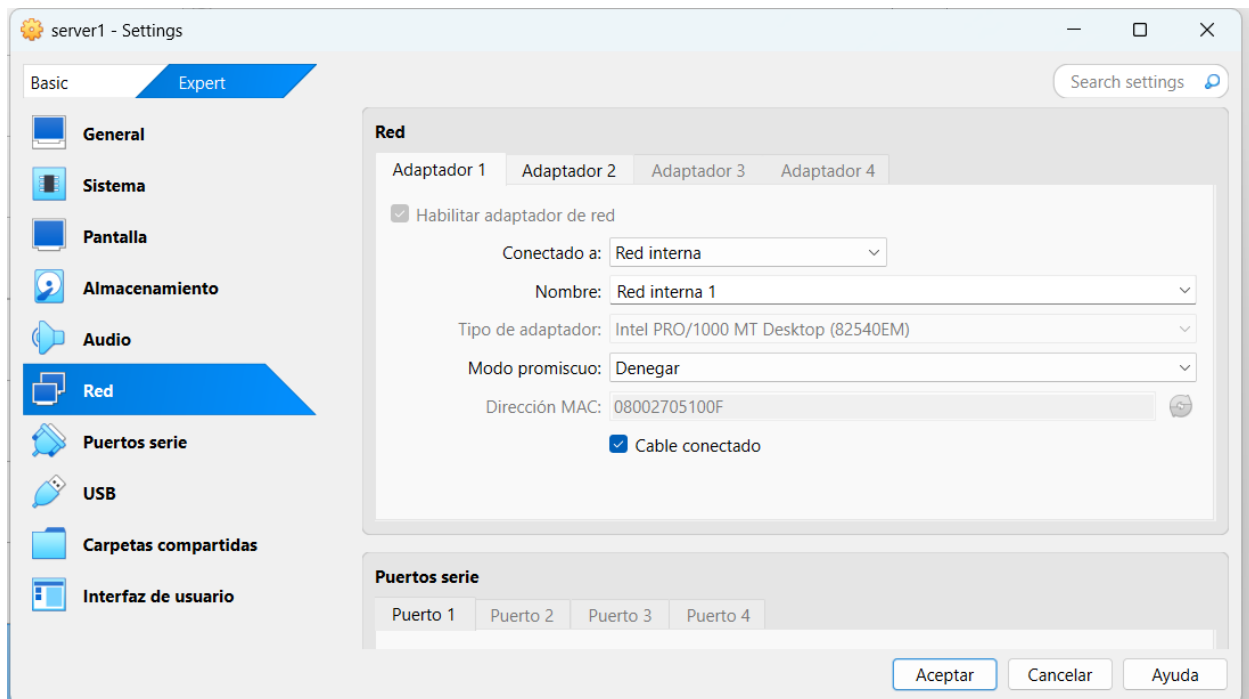
Dispositiu	Interface	IP	Màscara	Gateway
R1	enp0s8	10.10.100.162	/28	10.10.100.161
R2	enp0s8	10.10.100.161	/28	
R1	enp0s3	10.10.100.129	/27	
PC1	enp0s3	10.10.100.130	/27	10.10.100.129
R2	enp0s3 NAT	DHCP	DHCP	DHCP

2. Interfaces de xarxa de VirtualBox

[CS01] Configuració dels interfaces de R2 a VirtualBox



[CS02] Configuració dels interfaces de R1 a VirtualBox



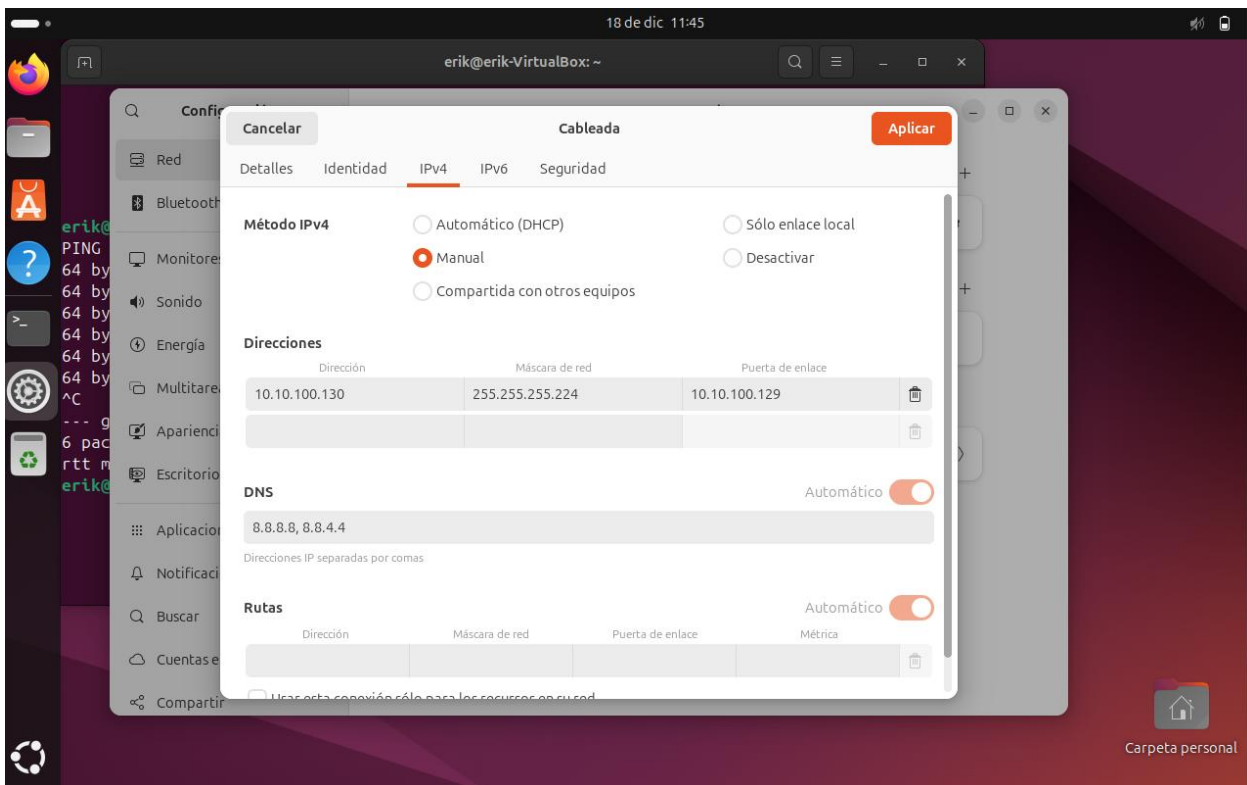
[CS04] Fitxer de configuració de xarxa de R2

```
# This file is generated from information provided by the datasource. Changes
# to it will not persist across an instance reboot. To disable cloud-init's
# network configuration capabilities, write a file
# /etc/cloud/cloud.cfg.d/99-disable-network-config.cfg with the following:
# network: {config: disabled}
network:
  ethernets:
    enp0s8:
      addresses:
        - 10.10.100.161/28
      routes:
        - to: 10.10.100.128/27
          via: 10.10.100.162
    enp0s3:
      dhcp4: false
      addresses:
        - 10.0.2.100/24
      nameservers:
        addresses: [8.8.8.8, 8.8.4.4]
      routes:
        - to: default
          via: 10.0.2.2
  version: 2
```

[CS05] Fitxer de configuració de xarxa de R1

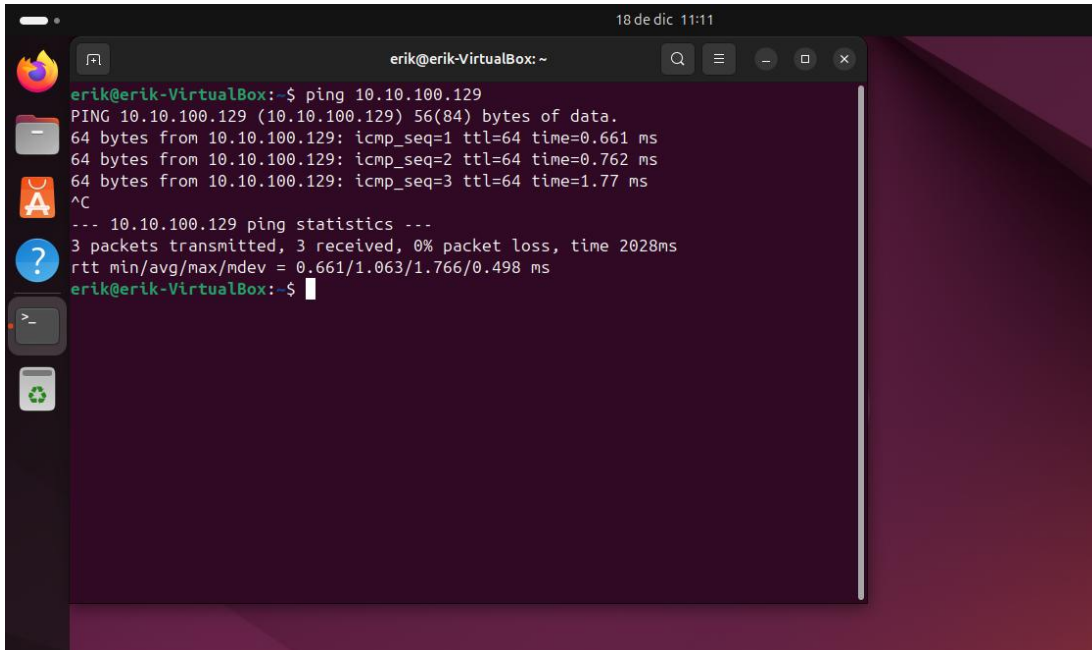
```
# This file is generated from information provided by the datasource. Changes
# to it will not persist across an instance reboot. To disable cloud-init's
# network configuration capabilities, write a file
# /etc/cloud/cloud.cfg.d/99-disable-network-config.cfg with the following:
# network: {config: disabled}
network:
  version: 2
  ethernets:
    enp0s8:
      dhcp4: false
      addresses:
        - 10.10.100.162/28
      routes:
        - to: default
          via: 10.10.100.161
      nameservers:
        addresses: [8.8.8.8, 8.8.4.4]
    enp0s3:
      dhcp4: false
      addresses:
        - 10.10.100.129/27
```

[CS06] Configuració de xarxa de PC1 (desde la part gràfica de configuració de xarxa)



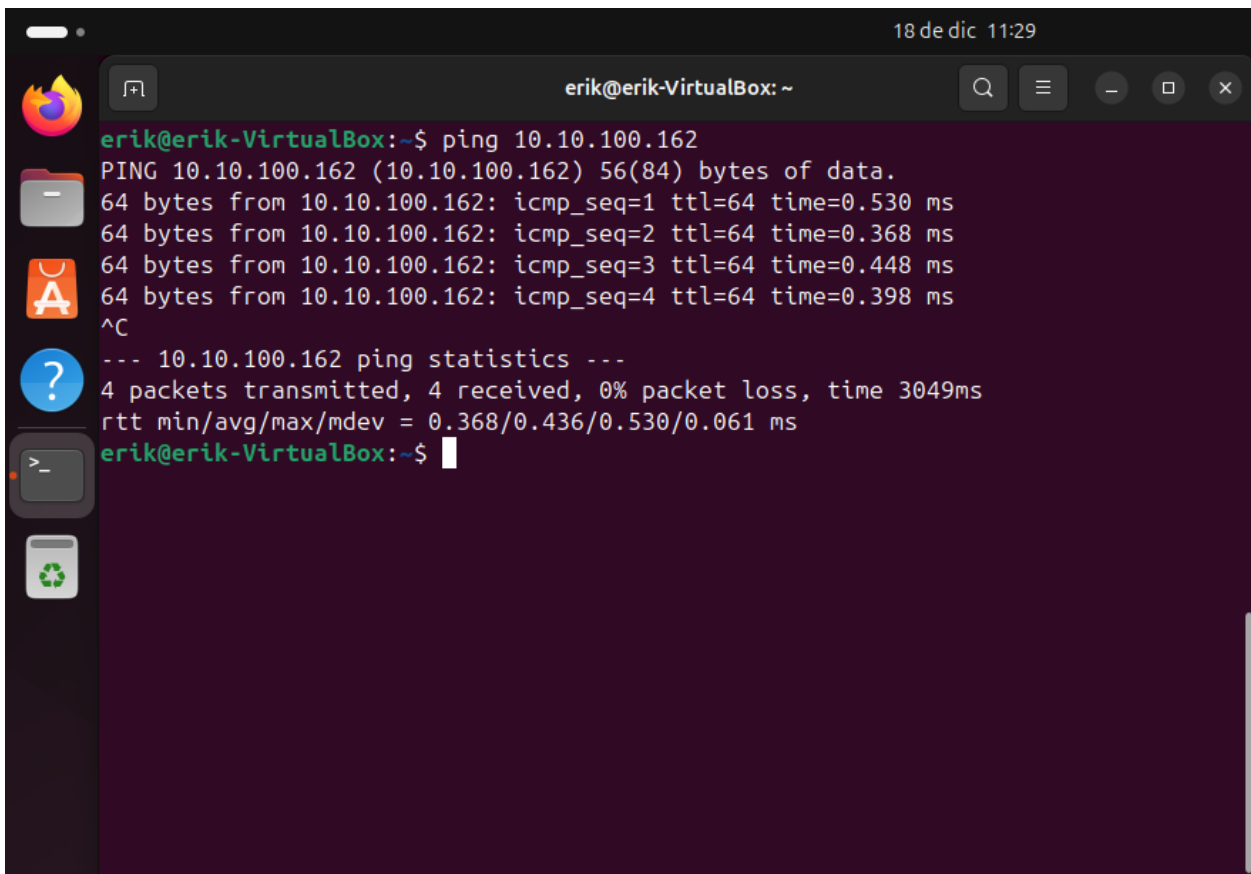
4. Comprovació de la connectivitat de xarxa

[CS07] ping des de PC1 a R1 (interface de xarxa 1)



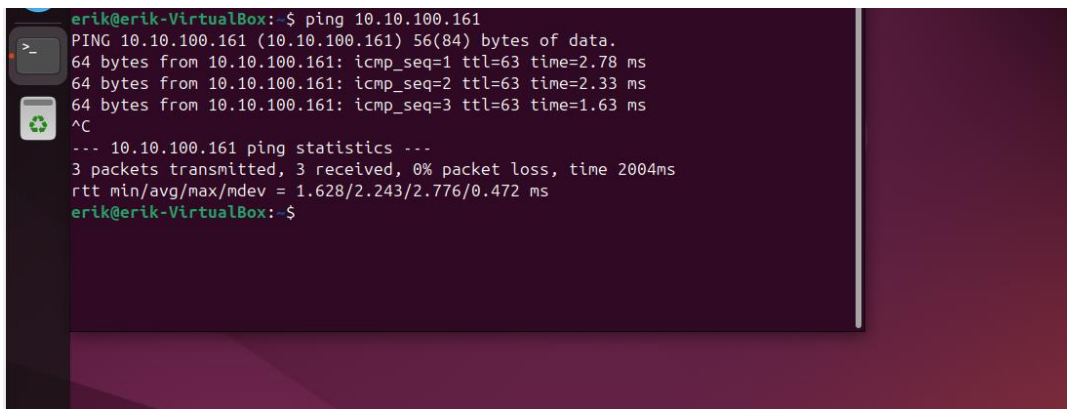
```
erik@erik-VirtualBox: ~  
erik@erik-VirtualBox:~$ ping 10.10.100.129  
PING 10.10.100.129 (10.10.100.129) 56(84) bytes of data.  
64 bytes from 10.10.100.129: icmp_seq=1 ttl=64 time=0.661 ms  
64 bytes from 10.10.100.129: icmp_seq=2 ttl=64 time=0.762 ms  
64 bytes from 10.10.100.129: icmp_seq=3 ttl=64 time=1.77 ms  
^C  
--- 10.10.100.129 ping statistics ---  
3 packets transmitted, 3 received, 0% packet loss, time 2028ms  
rtt min/avg/max/mdev = 0.661/1.063/1.766/0.498 ms  
erik@erik-VirtualBox:~$
```

[CS08] ping des de PC1 a R1 (interface de xarxa 2)



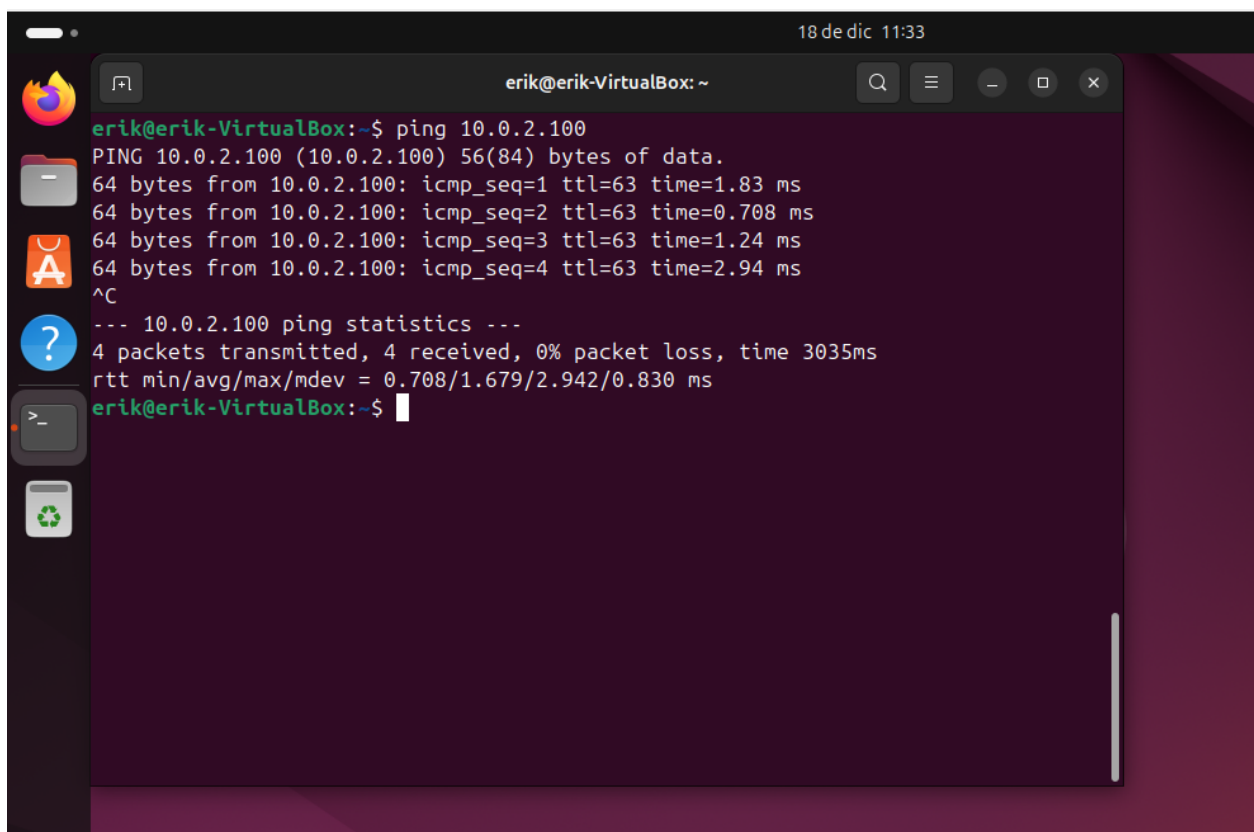
```
erik@erik-VirtualBox: ~  
erik@erik-VirtualBox:~$ ping 10.10.100.162  
PING 10.10.100.162 (10.10.100.162) 56(84) bytes of data.  
64 bytes from 10.10.100.162: icmp_seq=1 ttl=64 time=0.530 ms  
64 bytes from 10.10.100.162: icmp_seq=2 ttl=64 time=0.368 ms  
64 bytes from 10.10.100.162: icmp_seq=3 ttl=64 time=0.448 ms  
64 bytes from 10.10.100.162: icmp_seq=4 ttl=64 time=0.398 ms  
^C  
--- 10.10.100.162 ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3049ms  
rtt min/avg/max/mdev = 0.368/0.436/0.530/0.061 ms  
erik@erik-VirtualBox:~$
```

[CS09] ping des de PC1 a R2 (interface de xarxa 2)



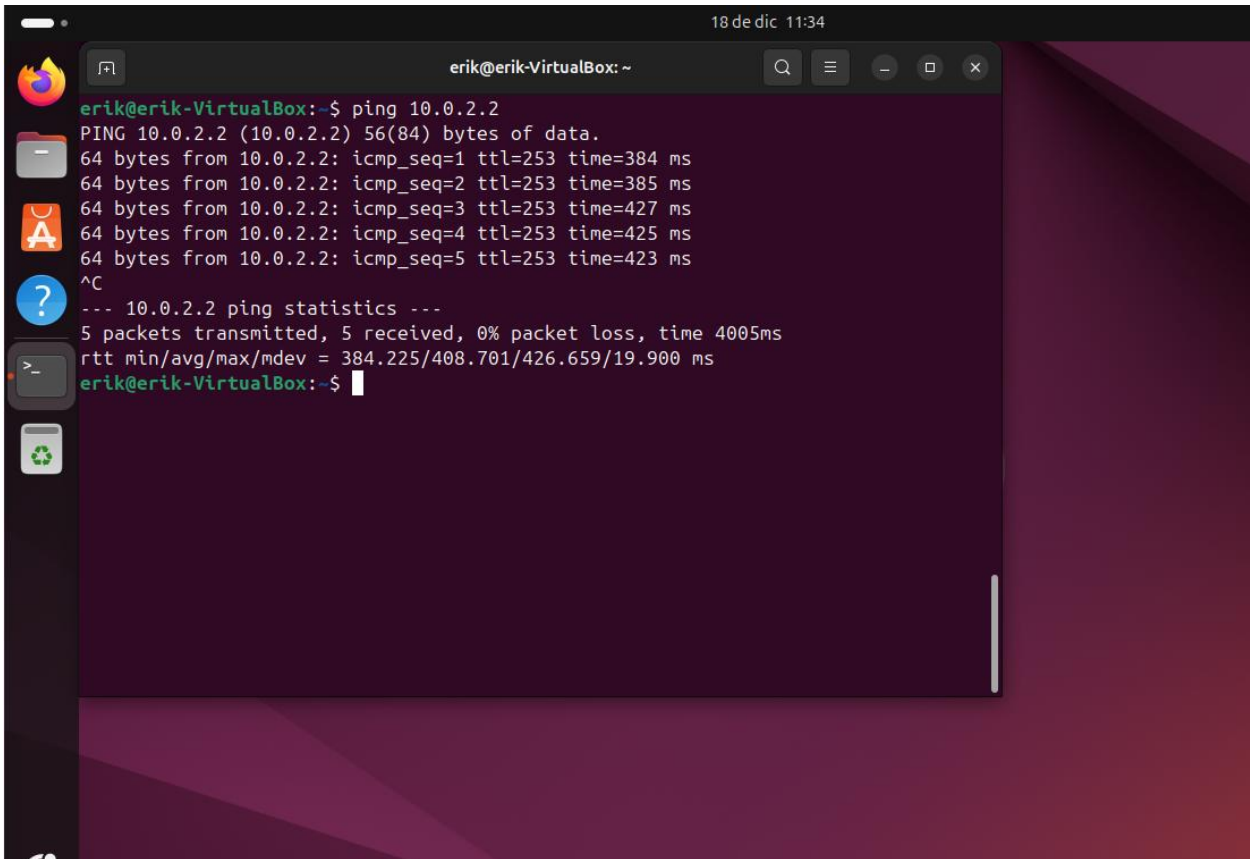
```
erik@erik-VirtualBox:~$ ping 10.10.100.161
PING 10.10.100.161 (10.10.100.161) 56(84) bytes of data.
64 bytes from 10.10.100.161: icmp_seq=1 ttl=63 time=2.78 ms
64 bytes from 10.10.100.161: icmp_seq=2 ttl=63 time=2.33 ms
64 bytes from 10.10.100.161: icmp_seq=3 ttl=63 time=1.63 ms
^C
--- 10.10.100.161 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2004ms
rtt min/avg/max/mdev = 1.628/2.243/2.776/0.472 ms
erik@erik-VirtualBox:~$
```

[CS10] ping des de PC1 a R2 (interface NAT)



```
erik@erik-VirtualBox:~$ ping 10.0.2.100
PING 10.0.2.100 (10.0.2.100) 56(84) bytes of data.
64 bytes from 10.0.2.100: icmp_seq=1 ttl=63 time=1.83 ms
64 bytes from 10.0.2.100: icmp_seq=2 ttl=63 time=0.708 ms
64 bytes from 10.0.2.100: icmp_seq=3 ttl=63 time=1.24 ms
64 bytes from 10.0.2.100: icmp_seq=4 ttl=63 time=2.94 ms
^C
--- 10.0.2.100 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3035ms
rtt min/avg/max/mdev = 0.708/1.679/2.942/0.830 ms
erik@erik-VirtualBox:~$
```

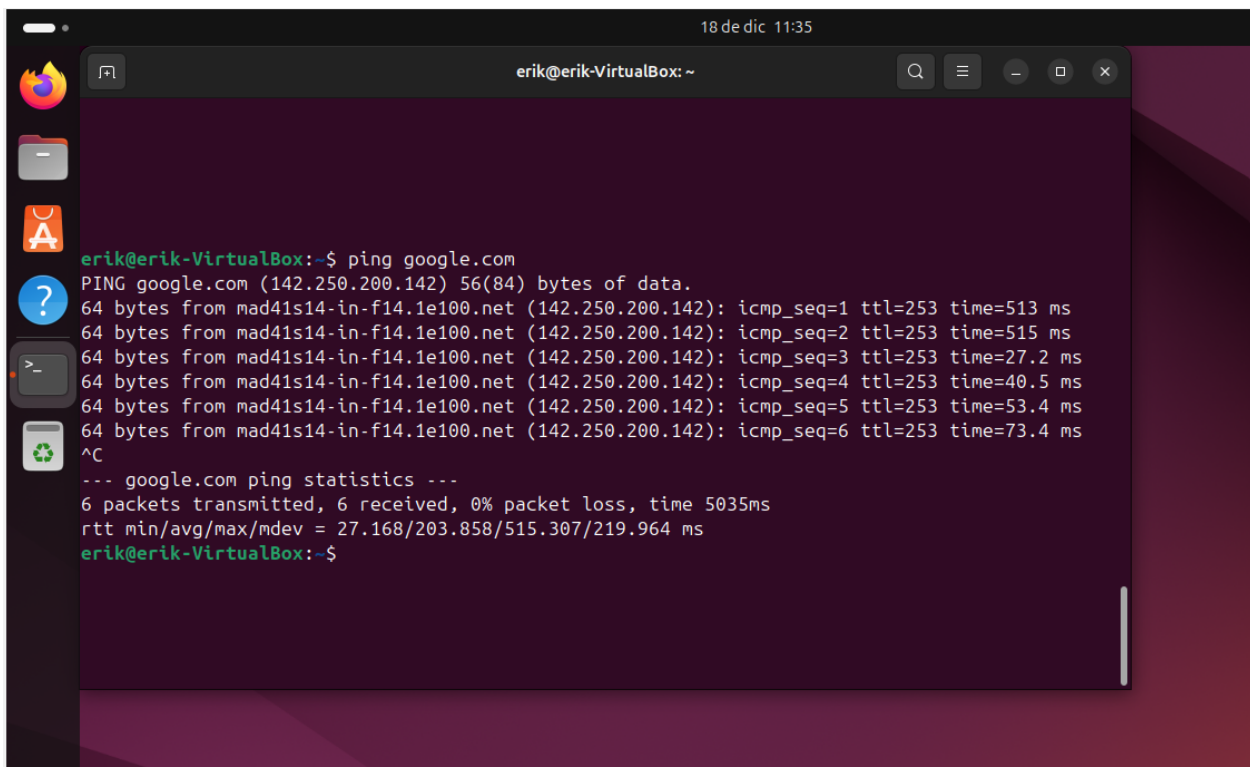
[CS11] ping des de PC1 a R1 (Router de VirtualBox)



The screenshot shows a terminal window titled 'erik@erik-VirtualBox: ~' with a dark background. The user has executed the command 'ping 10.0.2.2'. The output shows five successful ping requests, each receiving 64 bytes from 10.0.2.2 with varying TTL and time values. The statistics show 5 packets transmitted, 5 received, 0% packet loss, and a total time of 4005ms. The round-trip times (rtt) are listed as min/avg/max/mdev = 384.225/408.701/426.659/19.900 ms.

```
erik@erik-VirtualBox:~$ ping 10.0.2.2
PING 10.0.2.2 (10.0.2.2) 56(84) bytes of data.
64 bytes from 10.0.2.2: icmp_seq=1 ttl=253 time=384 ms
64 bytes from 10.0.2.2: icmp_seq=2 ttl=253 time=385 ms
64 bytes from 10.0.2.2: icmp_seq=3 ttl=253 time=427 ms
64 bytes from 10.0.2.2: icmp_seq=4 ttl=253 time=425 ms
64 bytes from 10.0.2.2: icmp_seq=5 ttl=253 time=423 ms
^C
--- 10.0.2.2 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 384.225/408.701/426.659/19.900 ms
erik@erik-VirtualBox:~$
```

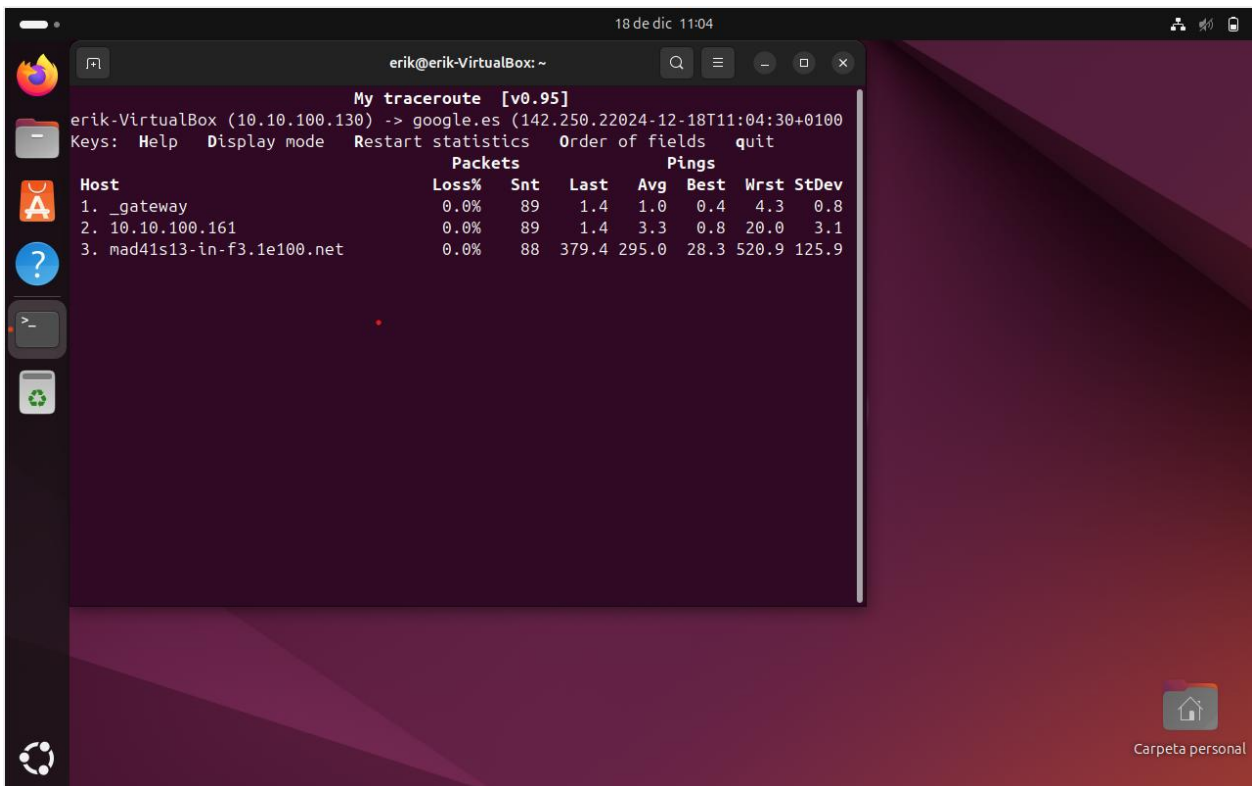
[CS12] ping des de PC1 a google.es



The screenshot shows a terminal window titled 'erik@erik-VirtualBox: ~' with a dark background. The user has executed the command 'ping google.com'. The output shows six successful ping requests, each receiving 64 bytes from mad41s14-in-f14.1e100.net (142.250.200.142) with varying TTL and time values. The statistics show 6 packets transmitted, 6 received, 0% packet loss, and a total time of 5035ms. The round-trip times (rtt) are listed as min/avg/max/mdev = 27.168/203.858/515.307/219.964 ms.

```
erik@erik-VirtualBox:~$ ping google.com
PING google.com (142.250.200.142) 56(84) bytes of data.
64 bytes from mad41s14-in-f14.1e100.net (142.250.200.142): icmp_seq=1 ttl=253 time=513 ms
64 bytes from mad41s14-in-f14.1e100.net (142.250.200.142): icmp_seq=2 ttl=253 time=515 ms
64 bytes from mad41s14-in-f14.1e100.net (142.250.200.142): icmp_seq=3 ttl=253 time=27.2 ms
64 bytes from mad41s14-in-f14.1e100.net (142.250.200.142): icmp_seq=4 ttl=253 time=40.5 ms
64 bytes from mad41s14-in-f14.1e100.net (142.250.200.142): icmp_seq=5 ttl=253 time=53.4 ms
64 bytes from mad41s14-in-f14.1e100.net (142.250.200.142): icmp_seq=6 ttl=253 time=73.4 ms
^C
--- google.com ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5035ms
rtt min/avg/max/mdev = 27.168/203.858/515.307/219.964 ms
erik@erik-VirtualBox:~$
```


[CS13] mtr des de PC1 a google.es



The screenshot shows a terminal window titled "erik@erik-VirtualBox: ~" with a dark purple background. The terminal displays the output of the "My traceroute [v0.95]" command, which shows the path from the host to google.es. The output includes a table with columns for Host, Loss%, Snt, Last, Avg, Best, Wrst, and StDev. The path consists of three hops: 1. _gateway, 2. 10.10.100.161, and 3. mad41s13-in-f3.1e100.net. The terminal also shows the command prompt "erik-VirtualBox (10.10.100.130) -> google.es (142.250.22024-12-18T11:04:30+0100)" and the keys: Help, Display mode, Restart statistics, Order of fields, and quit.

```
erik@erik-VirtualBox: ~  
My traceroute [v0.95]  
erik-VirtualBox (10.10.100.130) -> google.es (142.250.22024-12-18T11:04:30+0100  
Keys: Help  Display mode  Restart statistics  Order of fields  quit  
Packets  
Host      Loss%  Snt  Last  Avg  Best  Wrst StDev  
1. _gateway      0.0%   89   1.4   1.0   0.4   4.3   0.8  
2. 10.10.100.161  0.0%   89   1.4   3.3   0.8  20.0   3.1  
3. mad41s13-in-f3.1e100.net  0.0%   88 379.4 295.0 28.3 520.9 125.9
```