



ENTORNO DE LABORATORIO

LAURA BERENGUER
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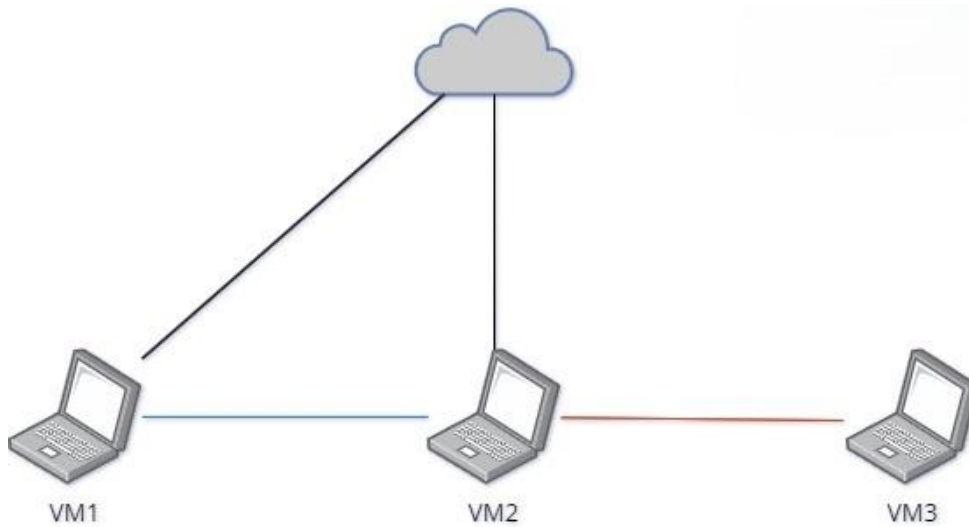
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Introducción

Realizar la interconexión de 3 máquinas virtuales (VM) siguiendo el siguiente esquema de red:



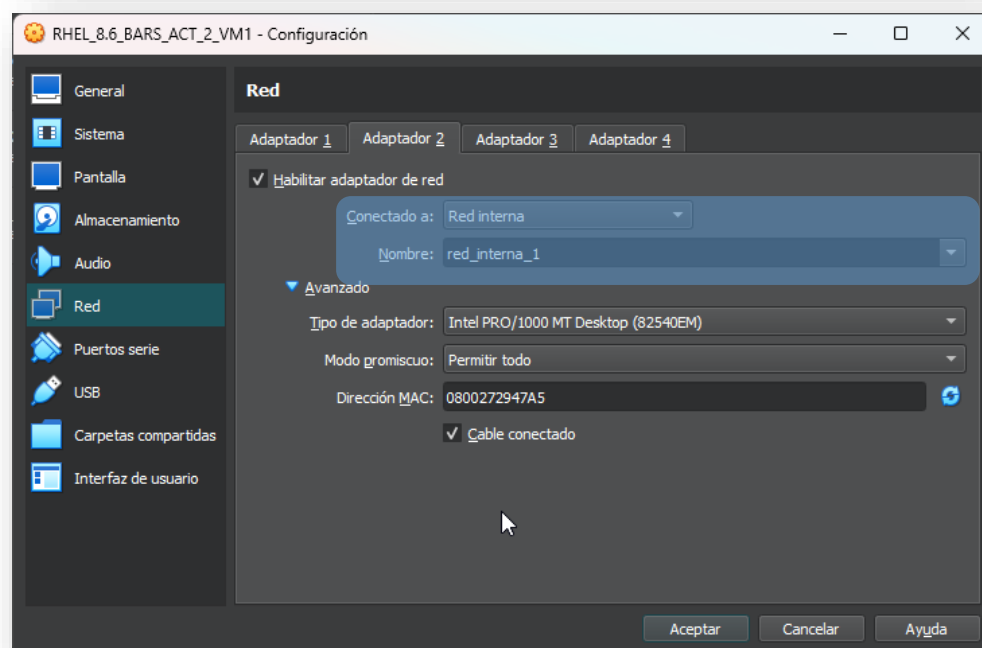
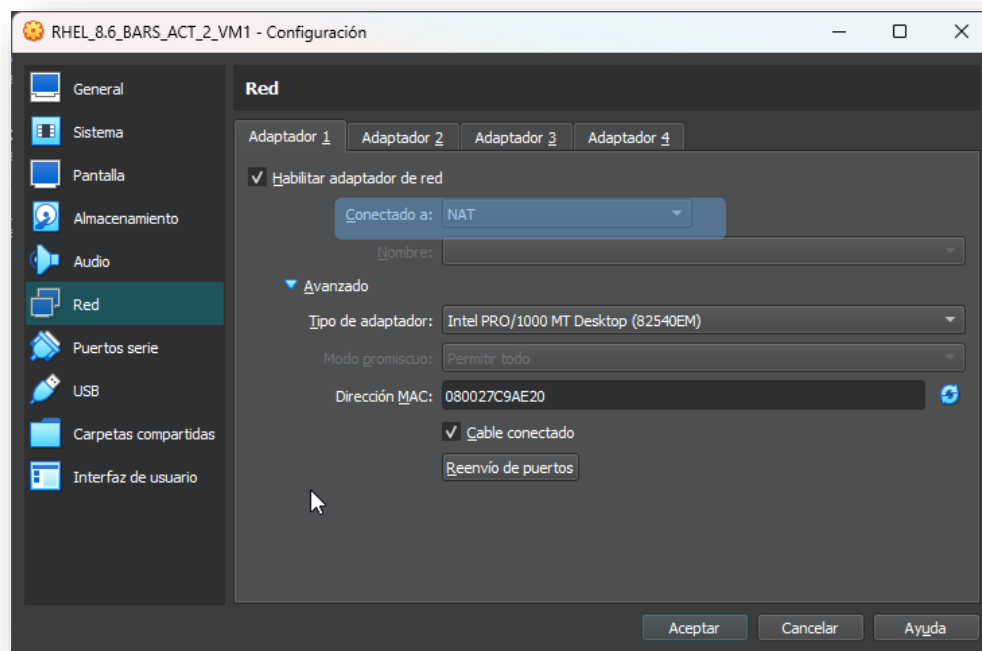
- **VM1:** Deberá tener conexión a internet y conexión con la VM2, pero no con la VM3.
- **VM2:** Deberá tener conexión tanto a internet, como a ambas VMs.
- **VM3:** Solo deberá tener conexión con VM2.

Configuración

Adaptadores de red en VM1

Los adaptadores de red en VM1 van a ser:

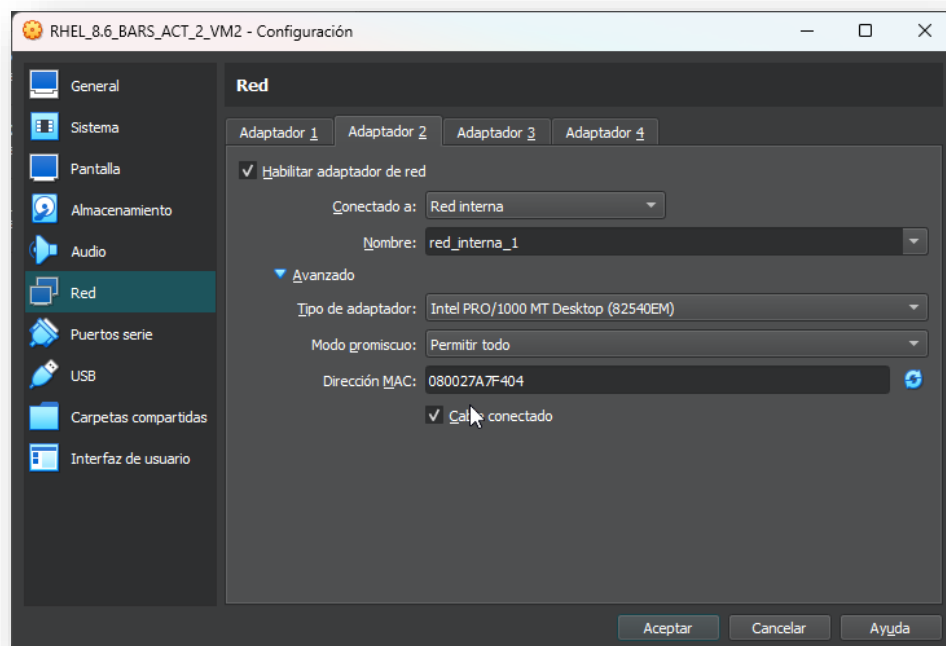
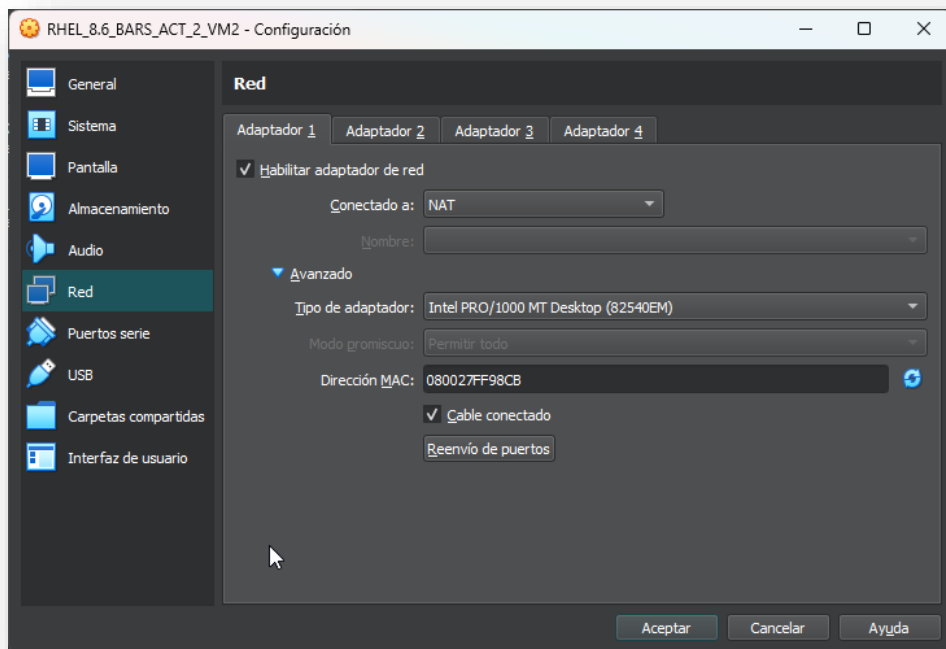
- Adaptador 1: conectado a NAT.
- Adaptador 2: conectado a red interna, nombre "red_interna_1"

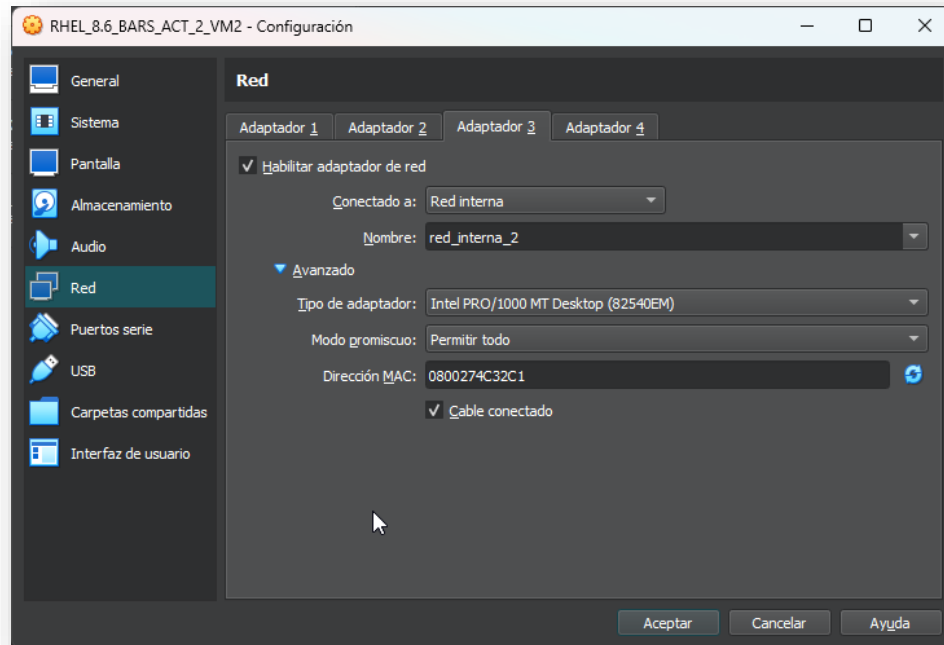


Adaptadores de red en VM2

Los adaptadores de red en VM2 van a ser:

- Adaptador 1: conectado a NAT.
- Adaptador 2: conectado a red interna, nombre "red_interna_1"
- Adaptador 3: conectado a red interna, nombre "red_interna_2"

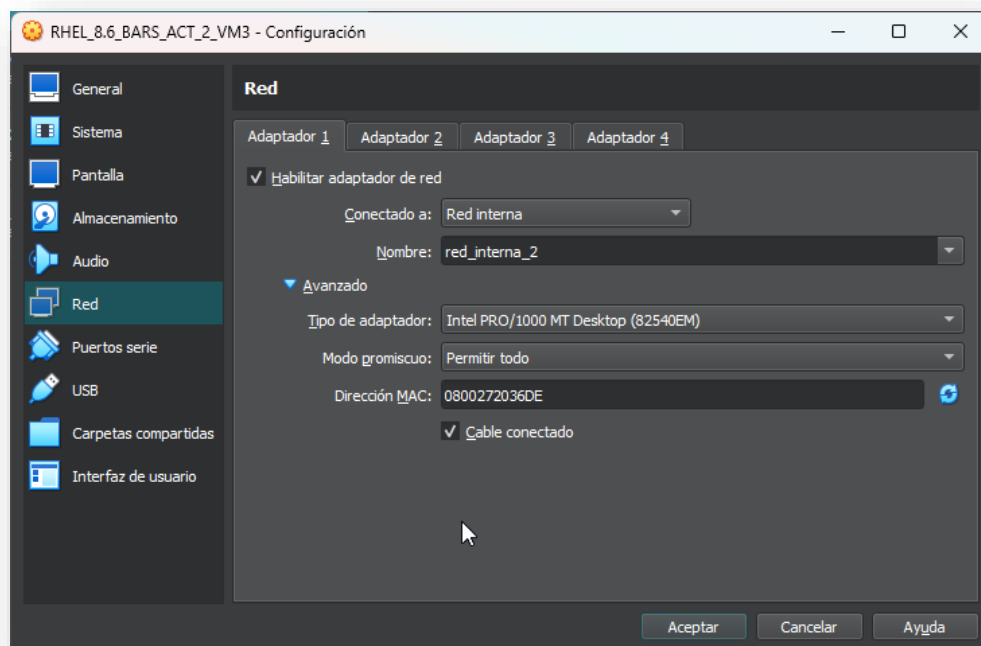




Adaptadores de red en VM3

Los adaptadores de red en VM3 van a ser:

- Adaptador 1: Conectado a red interna, nombre "red_interna_2"



Pruebas de funcionamiento

Tabla de IPs

MÁQUINA	INTERFAZ	DIRECCIÓN IP
VM1	enp0s3	10.0.2.15/24
	enp0s8	1.1.1.2/24
VM2	enp0s3	10.0.2.15/24
	enp0s8	1.1.1.1/24
	enp0s9	2.2.2.1/24
VM3	enp0s3	2.2.2.2/24

```
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
inet6 fe80::a00:27ff:fec9:ae20 prefixlen 64 scopeid 0x20<link>
ether 08:00:27:c9:ae:20 txqueuelen 1000 (Ethernet)
RX packets 21343 bytes 24716179 (23.5 MiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 7348 bytes 1207690 (1.1 MiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 1.1.1.2 netmask 255.255.255.0 broadcast 1.1.1.255
inet6 fe80::d11b:60d8:979:5982 prefixlen 64 scopeid 0x20<link>
ether 08:00:27:29:47:a5 txqueuelen 1000 (Ethernet)
RX packets 111 bytes 16855 (16.4 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 200 bytes 29274 (28.5 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
inet6 fe80::a00:27ff:feff:98cb prefixlen 64 scopeid 0x20<link>
ether 08:00:27:ff:98:cb txqueuelen 1000 (Ethernet)
RX packets 49 bytes 6935 (6.7 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 159 bytes 16415 (16.0 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 1.1.1.1 netmask 255.255.255.0 broadcast 1.1.1.255
inet6 fe80::dc85:efe3:7521:b73f prefixlen 64 scopeid 0x20<link>
ether 08:00:27:a7:f4:04 txqueuelen 1000 (Ethernet)
RX packets 6 bytes 656 (656.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 89 bytes 13413 (13.0 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

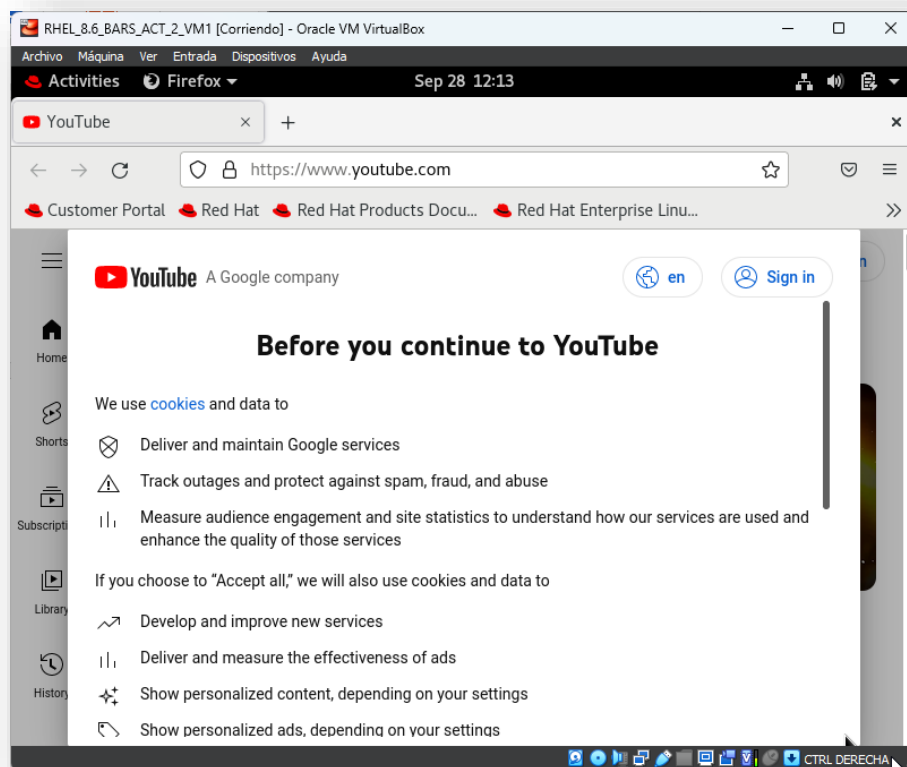
enp0s9: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 2.2.2.1 netmask 255.255.255.0 broadcast 2.2.2.255
inet6 fe80::808e:3580:7a7a:79f0 prefixlen 64 scopeid 0x20<link>
ether 08:00:27:4c:32:c1 txqueuelen 1000 (Ethernet)
RX packets 0 bytes 0 (0.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 136 bytes 22305 (21.7 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 2.2.2.2 netmask 255.255.255.0 broadcast 2.2.2.255
    inet6 fe80::a00:27ff:fe20:36de prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:20:36:de txqueuelen 1000 (Ethernet)
    RX packets 357 bytes 40895 (39.9 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 922 bytes 87810 (85.7 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

Pruebas de conectividad

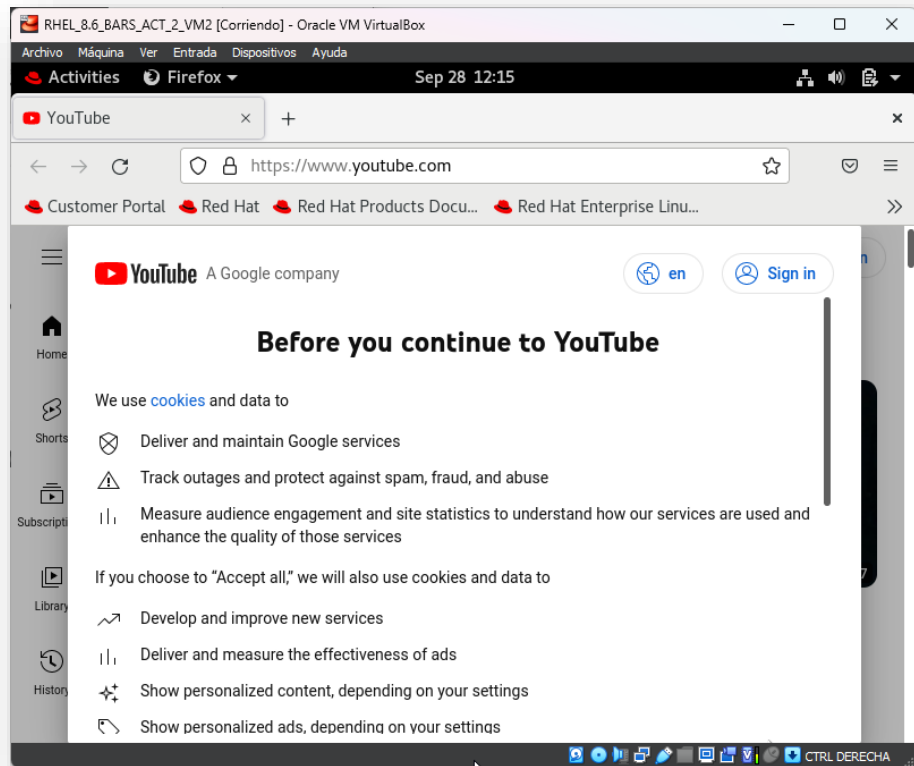
VM1

```
[test_user@localhost ~]$ ping 1.1.1.1
PING 1.1.1.1 (1.1.1.1) 56(84) bytes of data.
64 bytes from 1.1.1.1: icmp_seq=1 ttl=64 time=0.277 ms
64 bytes from 1.1.1.1: icmp_seq=2 ttl=64 time=0.253 ms
64 bytes from 1.1.1.1: icmp_seq=3 ttl=64 time=0.253 ms
```



```
[test_user@localhost ~]$ ping 2.2.2.2
PING 2.2.2.2 (2.2.2.2) 56(84) bytes of data.
^C
--- 2.2.2.2 ping statistics ---
4 packets transmitted, 0 received, 100% packet loss, time 3154ms
```


VM2



```
[test_user@localhost ~]$ ping 1.1.1.2 -c3
PING 1.1.1.2 (1.1.1.2) 56(84) bytes of data:
64 bytes from 1.1.1.2: icmp_seq=1 ttl=64 time=0.299 ms
64 bytes from 1.1.1.2: icmp_seq=2 ttl=64 time=0.259 ms
64 bytes from 1.1.1.2: icmp_seq=3 ttl=64 time=0.252 ms

--- 1.1.1.2 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2085ms
rtt min/avg/max/mdev = 0.252/0.270/0.299/0.020 ms
[test_user@localhost ~]$ ping 2.2.2.2 -c3
PING 2.2.2.2 (2.2.2.2) 56(84) bytes of data:
64 bytes from 2.2.2.2: icmp_seq=1 ttl=64 time=0.269 ms
64 bytes from 2.2.2.2: icmp_seq=2 ttl=64 time=0.270 ms
64 bytes from 2.2.2.2: icmp_seq=3 ttl=64 time=0.253 ms

--- 2.2.2.2 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2042ms
rtt min/avg/max/mdev = 0.253/0.264/0.270/0.007 ms
```

VM3

```
[test_user@localhost ~]$ ping 2.2.2.1
PING 2.2.2.1 (2.2.2.1) 56(84) bytes of data.
64 bytes from 2.2.2.1: icmp_seq=1 ttl=64 time=0.247 ms
64 bytes from 2.2.2.1: icmp_seq=2 ttl=64 time=0.200 ms
64 bytes from 2.2.2.1: icmp_seq=3 ttl=64 time=0.237 ms
```

```
[test_user@localhost ~]$ ping 1.1.1.2
PING 1.1.1.2 (1.1.1.2) 56(84) bytes of data.
^C
--- 1.1.1.2 ping statistics ---
6 packets transmitted, 0 received, 100% packet loss, time 5118ms
```

