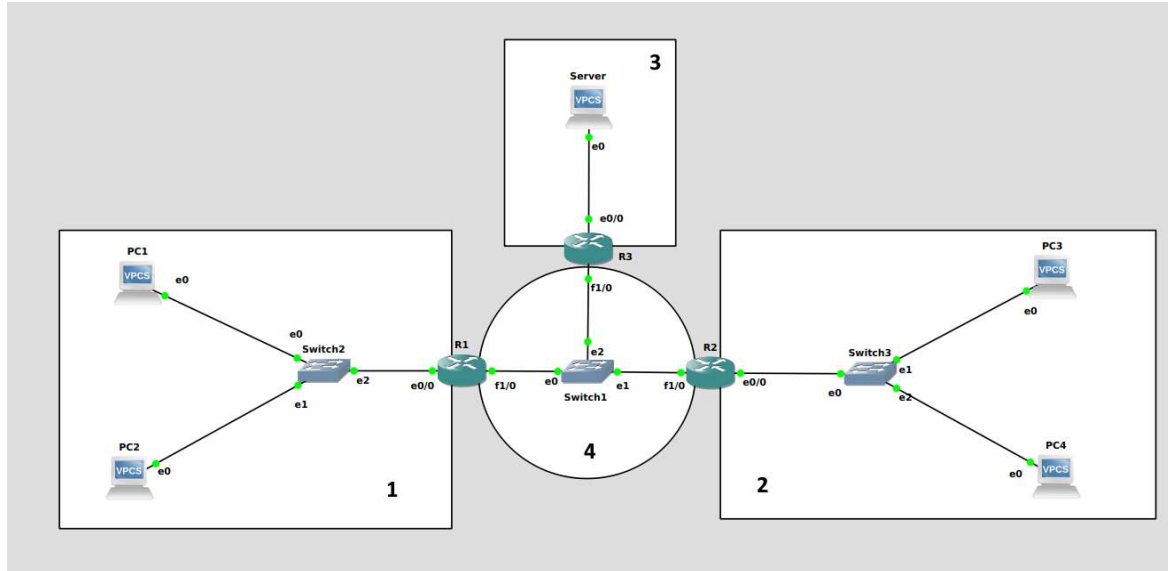


Redes de Comunicação 2020/2021

Relatório da meta intermédia

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1

Network – 193.136.212.128/26

- **R1** – 193.136.212.190/26
- **PC1** – 193.136.212.129/26
- **PC2** – 193.136.212.130

3

Network – 10.90.0.0/24

- **R3** – 10.90.0.245/24
- **Server** – 10.90.0.1/24

2

Network – 193.136.212.192/27

- **R2** – 193.136.212.222/27
- **PC3** – 193.136.212.193/27
- **PC4** – 193.136.212.194/27

4

Network – 193.136.212.224/29

- **R1** – 193.136.212.225/29
- **R2** – 193.136.212.226/29
- **R3** – 193.136.212.227/29

Comandos de configuração:

R1:

```
conf t
interface e0/0
ip address 193.136.212.190 255.255.255.192
no shut
exit
interface f1/0
ip address 193.136.212.225 255.255.255.248
no shut
exit
ip route 193.136.212.192 255.255.255.224 193.136.212.226
exit
```

R2:

```
conf t
interface e0/0
ip address 193.136.212.222 255.255.255.224
no shut
exit
interface f1/0
ip address 193.136.212.226 255.255.255.248
no shut
exit
ip route 193.136.212.128 255.255.255.192 193.136.212.225
exit
```

R3:

```
conf t
interface e0/0
ip address 10.90.0.254 255.255.255.0
ip nat inside
no shut
exit
interface f1/0
ip address 193.136.212.227 255.255.255.248
ip nat outside
no shut
exit
ip route 193.136.212.128 255.255.255.192 193.136.212.225
ip route 193.136.212.192 255.255.255.224 193.136.212.226
access-list 1 permit 10.90.0.0 0.0.0.255
ip nat inside source list 1 interface f1/0 overload
ip nat inside source static tcp 10.90.0.1 80 193.136.212.227 80
exit
```

PC1: ip 193.136.212.129/26 193.136.212.190

PC2: ip 193.136.212.130/26 193.136.212.190

PC3: ip 193.136.212.193/27 193.136.212.222

PC4: ip 193.136.212.194/27 193.136.212.222

Server: ip 10.90.0.1/24 10.90.0.254

Ping 1 -> 2 e 1 -> 4

```
PC1> ping 193.136.212.227 -3 -p 80
Connect 800193.136.212.227 seq=1 ttl=62 time=21.689 ms
SendData 800193.136.212.227 seq=1 ttl=62 time=27.653 ms
Close 800193.136.212.227 seq=1 ttl=62 time=27.655 ms
Connect 800193.136.212.227 seq=2 ttl=62 time=27.613 ms
SendData 800193.136.212.227 seq=2 ttl=62 time=24.410 ms
Close 800193.136.212.227 seq=2 ttl=62 time=24.429 ms
Connect 800193.136.212.227 seq=3 ttl=62 time=26.673 ms
SendData 800193.136.212.227 seq=3 ttl=62 time=24.457 ms
Close 800193.136.212.227 seq=3 ttl=62 time=25.643 ms
Connect 800193.136.212.227 seq=4 ttl=62 time=26.795 ms
SendData 800193.136.212.227 seq=4 ttl=62 time=24.608 ms
Close 800193.136.212.227 seq=4 ttl=62 time=25.670 ms
Connect 800193.136.212.227 seq=5 ttl=62 time=26.690 ms
SendData 800193.136.212.227 seq=5 ttl=62 time=25.574 ms
Close 800193.136.212.227 seq=5 ttl=62 time=25.709 ms

PC1> ping 193.136.212.193
84 bytes from 193.136.212.193 icmp_seq=1 ttl=62 time=21.836 ms
84 bytes from 193.136.212.193 icmp_seq=2 ttl=62 time=27.263 ms
84 bytes from 193.136.212.193 icmp_seq=3 ttl=62 time=26.799 ms
84 bytes from 193.136.212.193 icmp_seq=4 ttl=62 time=28.344 ms
84 bytes from 193.136.212.193 icmp_seq=5 ttl=62 time=28.848 ms
```

Ping 2 -> 1 e 2 -> 4

```
PC3> ping 193.136.212.227 -3 -p 80
Connect 800193.136.212.227 seq=1 ttl=62 time=49.924 ms
SendData 800193.136.212.227 seq=1 ttl=62 time=31.844 ms
Close 800193.136.212.227 seq=1 ttl=62 time=42.385 ms
Connect 800193.136.212.227 seq=2 ttl=62 time=26.574 ms
SendData 800193.136.212.227 seq=2 ttl=62 time=25.558 ms
Close 800193.136.212.227 seq=2 ttl=62 time=25.878 ms
Connect 800193.136.212.227 seq=3 ttl=62 time=27.612 ms
SendData 800193.136.212.227 seq=3 ttl=62 time=24.374 ms
Close 800193.136.212.227 seq=3 ttl=62 time=25.465 ms
Connect 800193.136.212.227 seq=4 ttl=62 time=36.948 ms
SendData 800193.136.212.227 seq=4 ttl=62 time=39.248 ms
Close 800193.136.212.227 seq=4 ttl=62 time=40.443 ms
Connect 800193.136.212.227 seq=5 ttl=62 time=37.745 ms
SendData 800193.136.212.227 seq=5 ttl=62 time=37.614 ms
Close 800193.136.212.227 seq=5 ttl=62 time=39.390 ms

PC3> ping 193.136.212.129
84 bytes from 193.136.212.129 icmp_seq=1 ttl=62 time=38.473 ms
84 bytes from 193.136.212.129 icmp_seq=2 ttl=62 time=27.150 ms
84 bytes from 193.136.212.129 icmp_seq=3 ttl=62 time=27.489 ms
84 bytes from 193.136.212.129 icmp_seq=4 ttl=62 time=28.317 ms
```

Ping 3 -> 1 e 3 -> 2

```
Server> ping 193.136.212.129
84 bytes from 193.136.212.129 icmp_seq=1 ttl=62 time=40.106 ms
84 bytes from 193.136.212.129 icmp_seq=2 ttl=62 time=26.677 ms
84 bytes from 193.136.212.129 icmp_seq=3 ttl=62 time=26.867 ms
84 bytes from 193.136.212.129 icmp_seq=4 ttl=62 time=26.227 ms
84 bytes from 193.136.212.129 icmp_seq=5 ttl=62 time=27.110 ms

Server> ping 193.136.212.193
193.136.212.193 icmp_seq=1 timeout
84 bytes from 193.136.212.193 icmp_seq=2 ttl=62 time=38.033 ms
84 bytes from 193.136.212.193 icmp_seq=3 ttl=62 time=27.542 ms
84 bytes from 193.136.212.193 icmp_seq=4 ttl=62 time=27.477 ms
84 bytes from 193.136.212.193 icmp_seq=5 ttl=62 time=27.906 ms
```

Teste DNAT

The image shows a Wireshark capture of network traffic. The top pane displays a list of captured packets, including ping requests and responses. The bottom pane shows the packet details for a selected packet, including the Ethernet II, Internet Protocol, and ICMP fields. The capture was taken from the [PC1 Ethernet0/0 to Switch2 Ethernet0] interface.

Teste SNAT

The image shows a Wireshark capture of network traffic. The top pane displays a list of captured packets, including ping requests and responses. The bottom pane shows the packet details for a selected packet, including the Ethernet II, Internet Protocol, and ICMP fields. The capture was taken from the [PC1 Ethernet0/0 to Switch2 Ethernet0] interface.