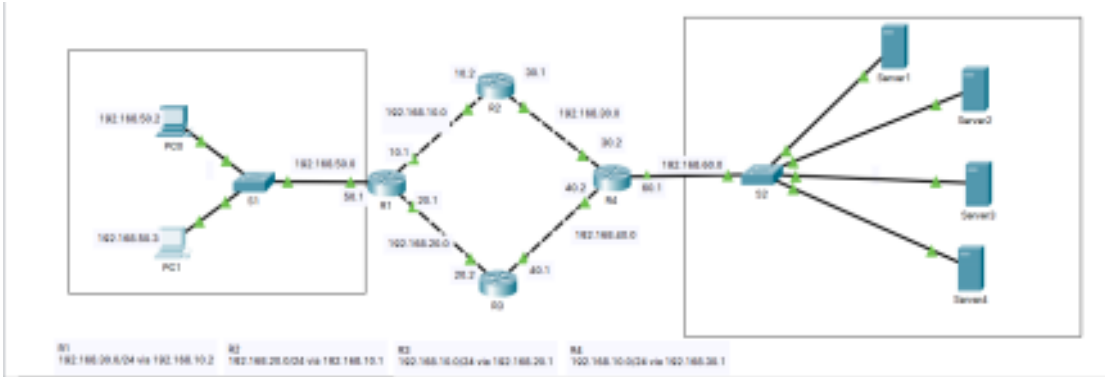
Nome: Leonardo Evangelista Matias
P8 de Informática
Sistemas Operacionais de Redes 2
Avaliação 6

Etapa 1:



Etapa 2:

Configuração das interfaces do Roteador R1

```
R1>enable
Password:
Password:
Password:
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#inter
R1(config)#interface fas
R1(config)#interface fastEthernet 0/0
R1(config-if)#description Enlace R1-R2 192.168.10.0
R1(config-if)#ip address 192.168.10.1 255.255.255.0
R1(config-if)#no sutd
R1(config-if)#no shut
R1(config-if)#no shutdown
R1(config-if)#exit
R1(config)#inter
R1(config)#interface fas
R1(config)#interface fastEthernet 1/0
R1(config-if)#desc
R1(config-if)#description Enlace R1-R3
R1(config-if)#ip address 192.168.20.1 255.255.255.0
R1(config-if)#no shut
R1(config-if)#no shutdown
R1(config-if)#exit
R1(config)#inter
R1(config)#interface fae
R1(config)#interface fas
R1(config)#interface fastEthernet 6/0
R1(config-if)#de
R1(config-if)#des
R1(config-if)#description Enlace LAN 192.168.60.0
R1(config-if)#ip address 192.168.60.1 255.255.255.0
R1(config-if)#no shut
R1(config-if)#no shutdown
R1(config-if)#exit
R1(config)#
R1(config)#
```

Configuração das interfaces do Roteador R2

```
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    192.168.10.0/24 is directly connected, FastEthernet0/0
S    192.168.20.0/24 [1/0] via 192.168.10.1
C    192.168.30.0/24 is directly connected, FastEthernet1/0
S    192.168.40.0/24 [1/0] via 192.168.30.2
S    192.168.50.0/24 [1/0] via 192.168.10.1
S    192.168.60.0/24 [1/0] via 192.168.30.2

Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#host
Router(config)#hostname R2
R2(config)#enable secret class
R2(config)#line console 0
R2(config-line)#password cisco
R2(config-line)#login
R2(config-line)#line vty 0 4
R2(config-line)#password cisco
R2(config-line)#login
R2(config-line)#exit
R2(config)#interface fas
R2(config)#interface fastEthernet 0/0
R2(config-if)#desc
R2(config-if)#description Enlace R2-R1 192.168.10.0
R2(config-if)#ip address 192.168.10.2 255.255.255.0
R2(config-if)#no shutdown
R2(config-if)#exit
R2(config)#interface fas
R2(config)#interface fastEthernet 1/0
R2(config-if)#description Enlace R2-R4
R2(config-if)#ip address 192.168.30.1 255.255.255.0
R2(config-if)#no shutdown
R2(config-if)#exit
R2(config)#S
```

Configuração das interfaces do Roteador R3

```
R3 con0 is now available



Press RETURN to get started.









User Access Verification

Password:

R3>enable
Password:
R3#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R3(config)#interface fas
R3(config)#interface fastEthernet 1/0
R3(config-if)#description Enlace R3-R4
R3(config-if)#ip address 192.168.40.1 255.255.255.0
R3(config-if)#no shutdown
R3(config-if)#exit
R3(config)#
```

Configuração das interfaces do Roteador R4

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet6/0, changed state to up


Router>
Router>enable
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname R4
R4(config)#enable secret class
R4(config)#line conso 0
R4(config-line)#password cisco
R4(config-line)#line vty 0 4
R4(config-line)#
R4(config-line)#line console 0
R4(config-line)#password cisco
R4(config-line)#login
R4(config-line)#line vty 0 4
R4(config-line)#password cisco
R4(config-line)#login
R4(config-line)#exit
R4(config)#interface fast 0/0
R4(config-if)#description Enlace R4-R2 192.168.10.0
R4(config-if)#ip address 192.168.30.2 255.255.255.0
R4(config-if)#no shutd
R4(config-if)#exit
R4(config)#interface fast 1/0
R4(config-if)#description Enlace R4-R3
R4(config-if)#ip address 192.168.40.2 255.255.255.0
R4(config-if)#no shutdown
R4(config-if)#exit
R4(config)#interface fast 6/0
R4(config-if)#description Enlace LAN 192.168.60.0
R4(config-if)#ip address 192.168.60.1 255.255.255.0
R4(config-if)#no shutdown
R4(config-if)#exit
R4(config)#
```

Etapa 3:

Configurar as rotas do Roteador R1

```
% Invalid input detected at '^' marker.

R1(config)#ip route 192.168.30.0 255.255.255.0 192.168.10.2
R1(config)#ip route 192.168.40.0 255.255.255.0 192.168.20.2
R1(config)#ip route 192.168.60.0 255.255.255.0 192.168.10.2
R1(config)#ip route 192.168.60.0 255.255.255.0 192.168.20.2
R1(config)#exit
R1#
%SYS-5-CONFIG_I: Configured from console by console
show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    192.168.10.0/24 is directly connected, FastEthernet0/0
C    192.168.20.0/24 is directly connected, FastEthernet1/0
S    192.168.30.0/24 [1/0] via 192.168.10.2
S    192.168.40.0/24 [1/0] via 192.168.20.2
C    192.168.50.0/24 is directly connected, FastEthernet6/0
S    192.168.60.0/24 [1/0] via 192.168.10.2
                     [1/0] via 192.168.20.2

R1#copy running-s
R1#copy running-c
R1#copy running-config sta
R1#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
R1#
R1#
```

Configurar as rotas do Roteador R2

```
Password:

R2>enable
Password:
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#ip route 192.168.20.0 255.255.255.0 192.168.10.1
R2(config)#ip route 192.168.40.0 255.255.255.0 192.168.30.2
R2(config)#ip route 192.168.60.0 255.255.255.0 192.168.10.1
R2(config)#ip route 192.168.60.0 255.255.255.0 192.168.30.2
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console
show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    192.168.10.0/24 is directly connected, FastEthernet0/0
S    192.168.20.0/24 [1/0] via 192.168.10.1
C    192.168.30.0/24 is directly connected, FastEthernet1/0
S    192.168.40.0/24 [1/0] via 192.168.30.2
S    192.168.50.0/24 [1/0] via 192.168.10.1
S    192.168.60.0/24 [1/0] via 192.168.30.2
                     [1/0] via 192.168.10.1

R2#copy run sta
R2#copy run startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
R2#
```

Configurar as rotas do Roteador R3

```
Password:

R3>enable
Password:
R3#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R3(config)#ip route 192.168.10.0 255.255.255.0 192.168.20.1
R3(config)#ip route 192.168.30.0 255.255.255.0 192.168.40.2
R3(config)#ip route 192.168.50.0 255.255.255.0 192.168.20.1
R3(config)#ip route 192.168.60.0 255.255.255.0 192.168.40.2
R3(config)#exit
R3#
%SYS-5-CONFIG_I: Configured from console by console
show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

S    192.168.10.0/24 [1/0] via 192.168.20.1
C    192.168.20.0/24 is directly connected, FastEthernet0/0
S    192.168.30.0/24 [1/0] via 192.168.40.2
C    192.168.40.0/24 is directly connected, FastEthernet1/0
S    192.168.50.0/24 [1/0] via 192.168.20.1
S    192.168.60.0/24 [1/0] via 192.168.40.2

R3#copy ru
R3#copy running-config sta
R3#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
R3#
```

Configurar as rotas do Roteador R4

```
R4#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R4(config)#ip route 192.168.10.0 255.255.255.0 192.168.30.1
R4(config)#ip route 192.168.20.0 255.255.255.0 192.168.40.1
R4(config)#ip route 192.168.50.0 255.255.255.0 192.168.30.1
R4(config)#ip route 192.168.50.0 255.255.255.0 192.168.40.1
R4(config)#exit
R4#
%SYS-5-CONFIG_I: Configured from console by console
show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

S    192.168.10.0/24 [1/0] via 192.168.30.1
S    192.168.20.0/24 [1/0] via 192.168.40.1
C    192.168.30.0/24 is directly connected, FastEthernet0/0
C    192.168.40.0/24 is directly connected, FastEthernet1/0
S    192.168.50.0/24 [1/0] via 192.168.30.1
                     [1/0] via 192.168.40.1
C    192.168.60.0/24 is directly connected, FastEthernet6/0

R4#copy run
R4#copy running-config s
R4#copy running-config s
% Ambiguous command: "copy running-config s"
R4#copy running-config sta
R4#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
R4#
```

Testar a conectividade entre as duas redes locais

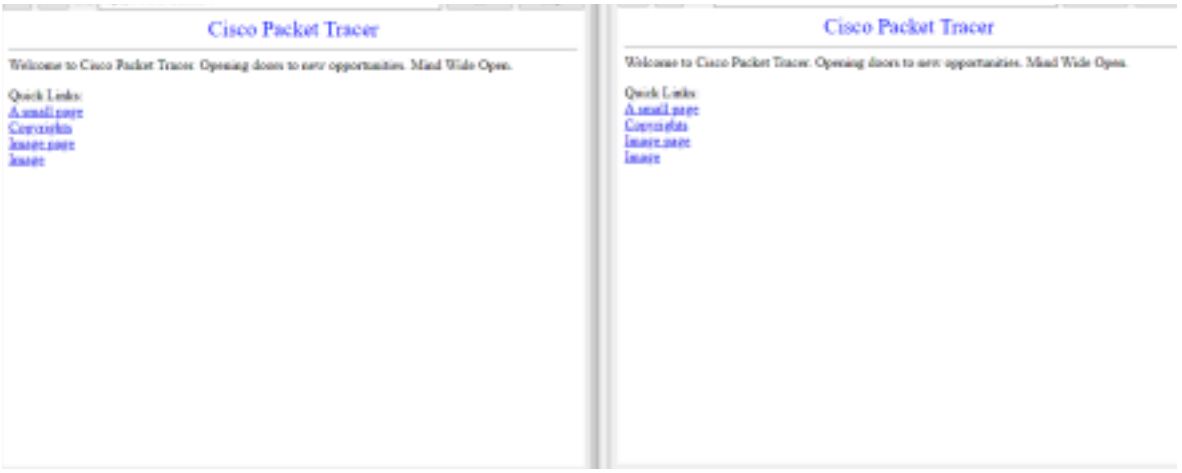
```
Pinging 192.168.60.3 with 32 bytes of data:

Request timed out.
Reply from 192.168.60.3: bytes=32 time<1ms TTL=125
Reply from 192.168.60.3: bytes=32 time<1ms TTL=125
Reply from 192.168.60.3: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.60.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.60.4

Pinging 192.168.60.4 with 32 bytes of data:

Reply from 192.168.60.4: bytes=32 time=1ms TTL=125
Reply from 192.168.60.4: bytes=32 time<1ms TTL=125
Reply from 192.168.60.4: bytes=32 time<1ms TTL=125
Reply from 192.168.60.4: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.60.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.60.5

Pinging 192.168.60.5 with 32 bytes of data:

Reply from 192.168.60.5: bytes=32 time=16ms TTL=125
Reply from 192.168.60.5: bytes=32 time<1ms TTL=125
Reply from 192.168.60.5: bytes=32 time<1ms TTL=125
Reply from 192.168.60.5: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.60.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 16ms, Average = 4ms
```

Etapa 4:

Configurar e testar o serviço DNS

```
C:\>ping ftp.lambda.com

Pinging 192.168.60.4 with 32 bytes of data:

Reply from 192.168.60.4: bytes=32 time=12ms TTL=125
Reply from 192.168.60.4: bytes=32 time<1ms TTL=125
Reply from 192.168.60.4: bytes=32 time<1ms TTL=125
Reply from 192.168.60.4: bytes=32 time=1ms TTL=125

Ping statistics for 192.168.60.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 12ms, Average = 3ms

C:\>ping dhcp.lambda.com

Pinging 192.168.60.3 with 32 bytes of data:

Reply from 192.168.60.3: bytes=32 time=10ms TTL=125
Reply from 192.168.60.3: bytes=32 time<1ms TTL=125
Reply from 192.168.60.3: bytes=32 time<1ms TTL=125
Reply from 192.168.60.3: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.60.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 10ms, Average = 2ms

C:\>ping www.lambda.com

Pinging 192.168.60.2 with 32 bytes of data:

Reply from 192.168.60.2: bytes=32 time=13ms TTL=125
Reply from 192.168.60.2: bytes=32 time<1ms TTL=125
Reply from 192.168.60.2: bytes=32 time<1ms TTL=125
Reply from 192.168.60.2: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.60.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
```

Configurar e testar o serviço HTTP



Configurar e testar o serviço DHCP

Configurar e testar o serviço FTP

```
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.60.2

Pinging 192.168.60.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.60.2: bytes=32 time=15ms TTL=125
Reply from 192.168.60.2: bytes=32 time<1ms TTL=125
Reply from 192.168.60.2: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.60.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 15ms, Average = 5ms

C:\>ping 192.168.60.3

Pinging 192.168.60.3 with 32 bytes of data:

Reply from 192.168.60.3: bytes=32 time<1ms TTL=125
Reply from 192.168.60.3: bytes=32 time<1ms TTL=125
Reply from 192.168.60.3: bytes=32 time=7ms TTL=125
Reply from 192.168.60.3: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.60.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 7ms, Average = 1ms

C:\>ping 192.168.60.4

Pinging 192.168.60.4 with 32 bytes of data:

Request timed out.
Reply from 192.168.60.4: bytes=32 time<1ms TTL=125
Reply from 192.168.60.4: bytes=32 time=1ms TTL=125
Reply from 192.168.60.4: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.60.4:
```