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Nessa etapa faremos a configuração das rotas estáticas nos roteadores para viabilizar o encaminhamento de pacotes entre as duas redes locais.

Consultar Módulo-08 Camada de Rede

Usar as tabelas de rotas definidas na etapa-1

1) Configurar as rotas do Roteador R1

   ** Acessar o roteador R1 digitando a senha cisco **
   R1>enable

   ** Entrar no modo EXEC Privilegiado com a senha class **
   R1#

   ** Entrar no modo de Configuração Global **
   R1#configure terminal
   R1(config)#

   ** Configurar as rotas estáticas **
   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

   ** Voltar ao modo EXEC Privilegiado **
   R1(config)#exit
   R1#

   ** Mostrar a tabela de rotas **
   R1#show ip route

```
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

R1#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
```

** Salvar as configurações **
R1#copy running-config startup-config

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

2) Configurar as rotas do Roteador R2

** Acessar o roteador R2 digitando a senha cisco **
R2>enable

** Entrar no modo EXEC Privilegiado com a senha class **
R2#

** Entrar no modo configure terminal **
R2#configure terminal
R2(config)#

** Configurar as rotas estáticas **
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 192.168.50.0 255.255.255.0 192.168.10.1
R2(config)#ip route 192.168.60.0 255.255.255.0 192.168.30.2

** Voltar ao modo EXEC Privilegiado **
R2(config)#exit
R2#

** Mostrar a tabela de rotas **
R2#show ip route

** Salvar as configurações **
R2#copy running-config startup-config

```
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 192.168.50.0 255.255.255.0 192.168.10.1
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

R2#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

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

3) Configurar as rotas do Roteador R3

** Acessar roteador R3 digitando a senha cisco **
R3>enable

** Entrar no modo EXEC Privilegiado com a senha class **
R3#

** Entrar no modo Configuração Global **
R3#configure terminal
R3(config)#

** Configurar as rotas estáticas **
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

** Voltar ao modo EXEC Privilegiado **
R3(config)#exit
R31#

** Mostrar a tabela de rotas **
R3#show ip route

** Salvar as configurações **
R3#copy running-config startup-config

```
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

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

4) Configurar as rotas do Roteador R4

** Acessar o roteador R4 digitando a senha cisco **
R4>enable

** Entrar no modo EXEC Privilegiado com a senha class **
R4#

** Entrar no modo configure terminal **
R4#configure terminal
R4(config)#

** Configurar as rotas estáticas **
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

** Voltar ao modo EXEC Privilegiado **
R4(config)#exit
R4#

** Mostrar a tabela de rotas **
R4#show ip route

** Salvar as configurações **
R4#copy running-config startup-config

```
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

R4#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 running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
```

5) Testar a conectividade entre as duas redes locais

** pingar do computador PC1 para os endereços IP listados abaixo **
192. 168. 50. 1

```
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.50.1

Pinging 192.168.50.1 with 32 bytes of data:

Reply from 192.168.50.1: bytes=32 time=95ms TTL=255
Reply from 192.168.50.1: bytes=32 time<1ms TTL=255
Reply from 192.168.50.1: bytes=32 time=1ms TTL=255
Reply from 192.168.50.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.50.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 95ms, Average = 24ms
```

192. 168. 10. 2

```
C:\>ping 192.168.10.2

Pinging 192.168.10.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.10.2: bytes=32 time=11ms TTL=254
Reply from 192.168.10.2: bytes=32 time<1ms TTL=254
Reply from 192.168.10.2: bytes=32 time=12ms TTL=254

Ping statistics for 192.168.10.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 12ms, Average = 7ms
```

192. 168. 20. 2

```
C:\>ping 192.168.20.2

Pinging 192.168.20.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.20.2: bytes=32 time=3ms TTL=254
Reply from 192.168.20.2: bytes=32 time<1ms TTL=254
Reply from 192.168.20.2: bytes=32 time=3ms TTL=254

Ping statistics for 192.168.20.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 3ms, Average = 2ms
```

192. 168. 40. 2

```
C:\>ping 192.168.40.2

Pinging 192.168.40.2 with 32 bytes of data:

Request timed out.
Request timed out.
Reply from 192.168.40.2: bytes=32 time=11ms TTL=253
Reply from 192.168.40.2: bytes=32 time=14ms TTL=253

Ping statistics for 192.168.40.2:
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
Approximate round trip times in milli-seconds:
    Minimum = 11ms, Maximum = 14ms, Average = 12ms
```

192. 168. 30. 2

```
C:\>ping 192.168.30.2

Pinging 192.168.30.2 with 32 bytes of data:

Reply from 192.168.30.2: bytes=32 time<1ms TTL=253
Reply from 192.168.30.2: bytes=32 time=14ms TTL=253
Reply from 192.168.30.2: bytes=32 time<1ms TTL=253
Reply from 192.168.30.2: bytes=32 time=12ms TTL=253

Ping statistics for 192.168.30.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 14ms, Average = 6ms
```

192. 168. 60. 2

```
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<1ms TTL=125
Reply from 192.168.60.2: bytes=32 time=12ms TTL=125
Reply from 192.168.60.2: bytes=32 time=12ms 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 = 12ms, Average = 8ms
```

192. 168. 60. 3

```
C:\>ping 192.168.60.3

Pinging 192.168.60.3 with 32 bytes of data:

Request timed out.
Reply from 192.168.60.3: bytes=32 time=12ms TTL=125
Reply from 192.168.60.3: bytes=32 time=12ms TTL=125
Reply from 192.168.60.3: bytes=32 time=11ms 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 = 11ms, Maximum = 12ms, Average = 11ms
```

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=11ms TTL=125
Reply from 192.168.60.4: bytes=32 time=13ms TTL=125
Reply from 192.168.60.4: bytes=32 time=11ms TTL=125

Ping statistics for 192.168.60.4:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 11ms, Maximum = 13ms, Average = 11ms
```

192. 168. 60. 5

```
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<1ms TTL=125
Reply from 192.168.60.5: bytes=32 time=11ms TTL=125
Reply from 192.168.60.5: bytes=32 time=12ms 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 = 12ms, Average = 5ms
```