Networking Academy
CISCO

Adriely da Silva e Silva

`!!! As respostas estão de marca texto ciano !!!`

Packet Tracer – Implementando um Esquema de Endereçamento IPv6 com Sub-Redes

Tabela de Endereçamento

Dispositivo	Interface	Endereço IPv6	Endereço Link-local
R1	G0/0	2001:db8:acad:00c8: :1/64	fe80::1
	G0/1	2001:db8:acad:00c9: :1/64	fe80::1
	S0/0/0	2001:db8:acad:00cc: :1/64	fe80::1
R2	G0/0	2001:db8:acad:00ca: :1/64	fe80::2
	G0/1	2001:db8:acad:00cb: :1/64	fe80::2
	S0/0/0	2001:db8:acad:00cc: :2/64	fe80::2
PC1	NIC	Configuração Automática	
PC2	NIC	Configuração Automática	
PC3	NIC	Configuração Automática	
PC4	NIC	Configuração Automática	

Objetivos

Etapa 1: Determinar as Sub-Redes IPv6 e o Esquema de Endereçamento

Etapa 2: Configurar o endereçamento IPv6 em roteadores e PCs.

Etapa 3: verificar a conectividade IPv6.

Histórico/Cenário

Os administradores de rede devem saber como implementar o IPv6 em suas redes. Você foi solicitado a configurar uma rede para uso pela equipe de vendas para uma demonstração de cliente. A rede usará uma série de sub-redes IPv6 consecutivas para quatro LANs. Seu trabalho é atribuir as sub-redes às LANs e configurar os roteadores e PCs com endereçamento IPv6. Certifique-se de configurar todos os componentes necessários para o roteamento IPv6 nos roteadores.

Instruções

Etapa 1: Determinar as Sub-Redes de IPv6 e o Esquema de Endereçamento

Você recebeu a sub-rede IPv6 **2001:db8:acad:00c8: :/64** como sub-rede inicial. Você precisará de mais quatro sub-redes para cada rede necessária. Incrementar os endereços de sub-rede consecutivamente por um para chegar às quatro sub-redes necessárias. Preencha a tabela abaixo.
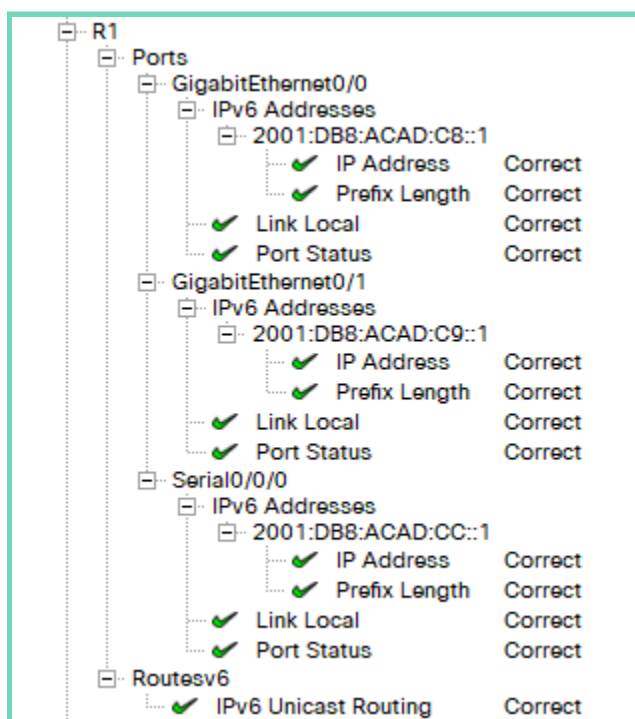
Tabela de Sub-Redes

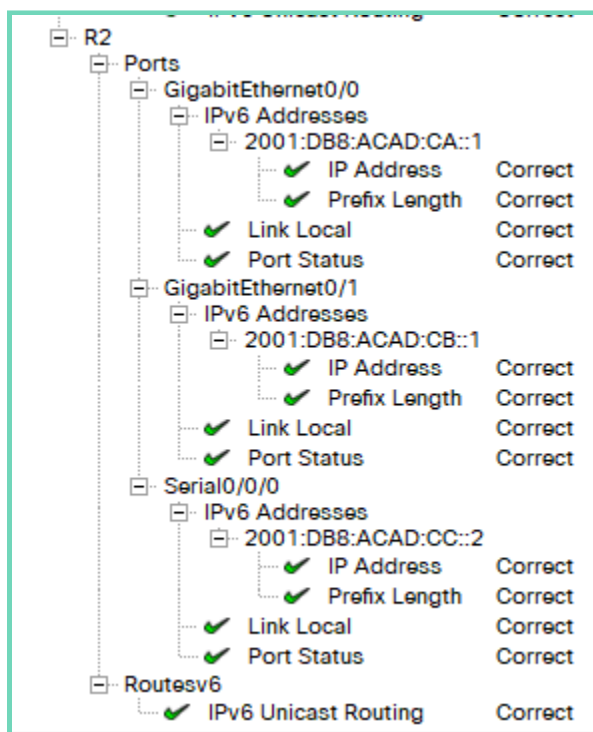| Sub-rede	Endereço
R1 G0/0/ LAN	2001:db8:acad:00c8: :0/64
LAN G0/1 de R1	2001:db8:acad:00c9: :0/64
LAN G0/0 de R2	2001:db8:acad:00ca: :0/64
LAN G0/1 de R2	2001:db8:acad:00cb: :0/64
Rede de link R1 para R2	2001:db8:acad:00cc: :0/64

Etapa 2: Configure o endereçamento IPv6 em roteadores e PCs.

Preencha a tabela de endereçamento acima para usar como guia para configurar os dispositivos.

- Atribua o primeiro endereço IP na sub-rede às interfaces LAN do roteador.

- Atribua os endereços de link local conforme designado na tabela de endereçamento.

- Para a conexão entre os roteadores, atribua o primeiro endereço na sub-rede a R1.

```
⊟ R1
   ⊟ Ports
      ⊟ GigabitEthernet0/0
         ⊟ IPv6 Addresses
            ⊟ 2001:DB8:ACAD:C8::1
               ✔ IP Address         Correct
               ✔ Prefix Length      Correct
         ✔ Link Local               Correct
         ✔ Port Status              Correct
      ⊟ GigabitEthernet0/1
         ⊟ IPv6 Addresses
            ⊟ 2001:DB8:ACAD:C9::1
               ✔ IP Address         Correct
               ✔ Prefix Length      Correct
         ✔ Link Local               Correct
         ✔ Port Status              Correct
      ⊟ Serial0/0/0
         ⊟ IPv6 Addresses
            ⊟ 2001:DB8:ACAD:CC::1
               ✔ IP Address         Correct
               ✔ Prefix Length      Correct
         ✔ Link Local               Correct
         ✔ Port Status              Correct
   ⊟ Routesv6
      ✔ IPv6 Unicast Routing        Correct
```

- Para a conexão entre os roteadores, atribua o segundo endereço na sub-rede ao R2.

```
☐ R2
    ☐ Ports
        ☐ GigabitEthernet0/0
            ☐ IPv6 Addresses
                ☐ 2001:DB8:ACAD:CA::1
                    ✔ IP Address          Correct
                    ✔ Prefix Length       Correct
            ✔ Link Local                 Correct
            ✔ Port Status                Correct
        ☐ GigabitEthernet0/1
            ☐ IPv6 Addresses
                ☐ 2001:DB8:ACAD:CB::1
                    ✔ IP Address          Correct
                    ✔ Prefix Length       Correct
            ✔ Link Local                 Correct
            ✔ Port Status                Correct
        ☐ Serial0/0/0
            ☐ IPv6 Addresses
                ☐ 2001:DB8:ACAD:CC::2
                    ✔ IP Address          Correct
                    ✔ Prefix Length       Correct
            ✔ Link Local                 Correct
            ✔ Port Status                Correct
    ☐ Routesv6
        ✔ IPv6 Unicast Routing           Correct
```

● Defina todos os quatro hosts para configurar automaticamente com endereços IPv6.

Etapa 3:   Verifique a conectividade IPv6.

Os PCs devem ser capazes de efetuar ping uns aos outros se o endereçamento tiver sido configurado corretamente.

Testando conectividade do PC1

PC1 > PING NO PC2

```
C:\>ping 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9

Pinging 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9 with 32 bytes of data:

Reply from 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9: bytes=32 time=27ms T
Reply from 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9: bytes=32 time<1ms TT
Reply from 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9: bytes=32 time=11ms T
Reply from 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9: bytes=32 time<1ms TT

Ping statistics for 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 27ms, Average = 9ms
```

PC1 > PING NO PC3

```
C:\>ping 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9

Pinging 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9 with 32 bytes of data:

Reply from 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9: bytes=32 time=22ms TTL=126
Reply from 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9: bytes=32 time=12ms TTL=126
Reply from 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9: bytes=32 time=13ms TTL=126
Reply from 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9: bytes=32 time=12ms TTL=126

Ping statistics for 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 12ms, Maximum = 22ms, Average = 14ms
```

PC1 > PING NO PC4

```
C:\>ping 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB

Pinging 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB with 32 bytes of data:

Reply from 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB: bytes=32 time=1ms TTL=126
Reply from 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB: bytes=32 time=13ms TTL=126
Reply from 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB: bytes=32 time=1ms TTL=126
Reply from 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB: bytes=32 time=13ms TTL=126

Ping statistics for 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 13ms, Average = 7ms
```

Testando conectividade do PC2

PC2 > PING NO PC1

```
C:\>ping 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A

Pinging 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A with 32 bytes of data:

Reply from 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A: bytes=32 time<1ms TTL=127
Reply from 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A: bytes=32 time<1ms TTL=127
Reply from 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A: bytes=32 time=10ms TTL=127
Reply from 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A: bytes=32 time<1ms TTL=127

Ping statistics for 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 10ms, Average = 2ms
```

PC2 > PING NO PC3

```
C:\>ping 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9

Pinging 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9 with 32 bytes of data:

Reply from 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9: bytes=32 time=1ms TTL=126
Reply from 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9: bytes=32 time=13ms TTL=126
Reply from 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9: bytes=32 time=12ms TTL=126
Reply from 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9: bytes=32 time=13ms TTL=126

Ping statistics for 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 13ms, Average = 9ms
```

PC2 > PING NO PC4

```
C:\>ping 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB

Pinging 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB with 32 bytes of data:

Reply from 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB: bytes=32 time=21ms TTL=126
Reply from 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB: bytes=32 time=12ms TTL=126
Reply from 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB: bytes=32 time=1ms TTL=126
Reply from 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB: bytes=32 time=11ms TTL=126

Ping statistics for 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 21ms, Average = 11ms
```

Testando conectividade do PC3

PC3 > PING NO PC1

```
C:\> ping 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A

Pinging 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A with 32 bytes of data:

Reply from 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A: bytes=32 time=1ms TTL=126
Reply from 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A: bytes=32 time=1ms TTL=126
Reply from 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A: bytes=32 time=1ms TTL=126
Reply from 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A: bytes=32 time=12ms TTL=126

Ping statistics for 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 12ms, Average = 3ms
```

PC3 > PING NO PC2

```
C:\>ping 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9

Pinging 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9 with 32 bytes of data:

Reply from 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9: bytes=32 time=1ms TTL=126
Reply from 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9: bytes=32 time=11ms TTL=126
Reply from 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9: bytes=32 time=13ms TTL=126
Reply from 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9: bytes=32 time=1ms TTL=126

Ping statistics for 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 13ms, Average = 6ms
```

PC3 > PING NO PC4

```
C:\>ping 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB

Pinging 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB with 32 bytes of data:

Reply from 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB: bytes=32 time<1ms TTL=127
Reply from 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB: bytes=32 time<1ms TTL=127
Reply from 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB: bytes=32 time<1ms TTL=127
Reply from 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB: bytes=32 time=15ms TTL=127

Ping statistics for 2001:DB8:ACAD:CB:2E0:A3FF:FE12:16CB:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 15ms, Average = 3ms
```

Testando conectividade do PC4

PC4 > PING NO PC1

```
C:\> ping 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A

Pinging 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A with 32 bytes of data:

Reply from 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A: bytes=32 time=1ms TTL=126
Reply from 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A: bytes=32 time=12ms TTL=126
Reply from 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A: bytes=32 time=2ms TTL=126
Reply from 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A: bytes=32 time=1ms TTL=126

Ping statistics for 2001:DB8:ACAD:C8:230:F2FF:FEBA:2C3A:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 12ms, Average = 4ms
```

PC4 > PING NO PC2

```
C:\>ping 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9

Pinging 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9 with 32 bytes of data:

Reply from 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9: bytes=32 time=21ms TTL=126
Reply from 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9: bytes=32 time=14ms TTL=126
Reply from 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9: bytes=32 time=11ms TTL=126
Reply from 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9: bytes=32 time=12ms TTL=126

Ping statistics for 2001:DB8:ACAD:C9:201:C7FF:FE66:86E9:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 11ms, Maximum = 21ms, Average = 14ms
```

PC4 > PING NO PC3

```
C:\>ping 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9

Pinging 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9 with 32 bytes of data:

Reply from 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9: bytes=32 time<1ms TTL=127
Reply from 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9: bytes=32 time=16ms TTL=127
Reply from 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9: bytes=32 time=10ms TTL=127
Reply from 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9: bytes=32 time<1ms TTL=127

Ping statistics for 2001:DB8:ACAD:CA:201:C9FF:FE72:E2D9:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 16ms, Average = 6ms
```