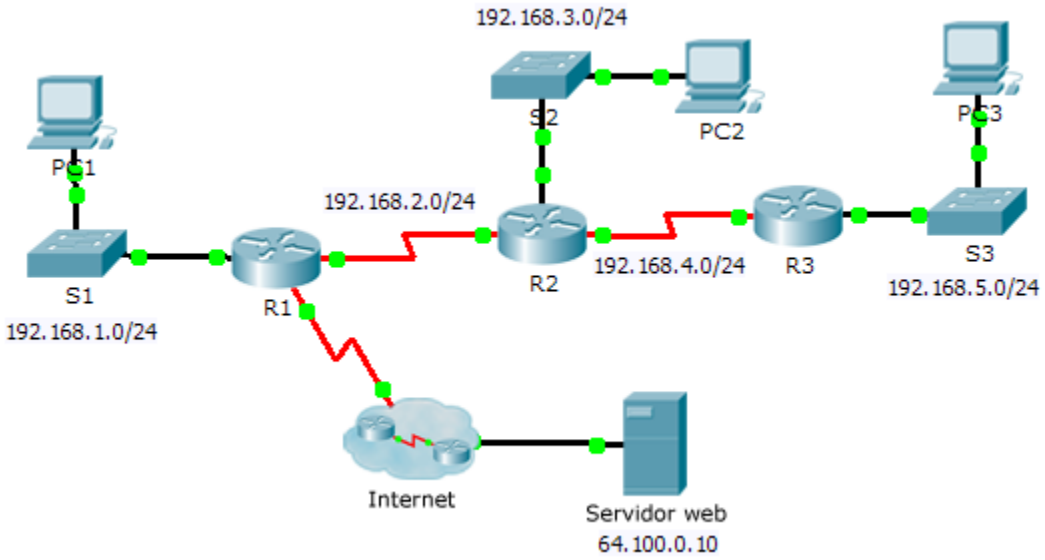
Packet Tracer: Configuración de RIPv2

Topología



Objetivos

Parte 1: configurar RIPv2

Parte 2: verificar las configuraciones

Aspectos básicos

Si bien el protocolo RIP se utiliza con muy poca frecuencia en las redes modernas, es útil como base para comprender el routing de red básico. En esta actividad, configurará una ruta predeterminada y RIP versión 2 con instrucciones network e interfaces pasivas adecuadas, y verificará que haya plena conectividad.

Parte 1. Configurar RIPv2

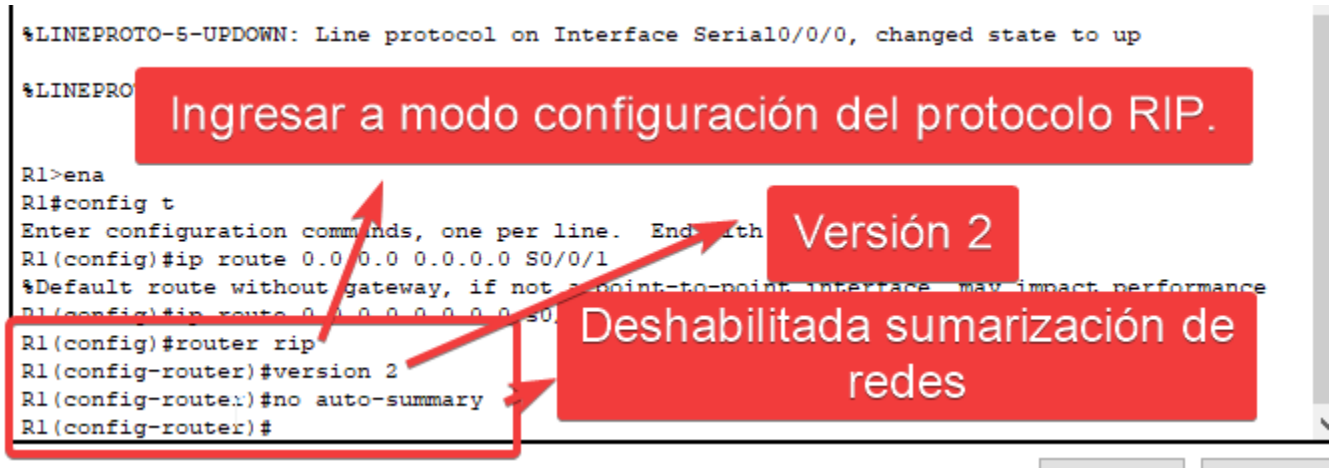
Paso 1. Configurar RIPv2 en el R1

a. Utilice el comando adecuado para crear una ruta predeterminada en el **R1** para que todo el tráfico de Internet salga de la red a través de S0/0/1.

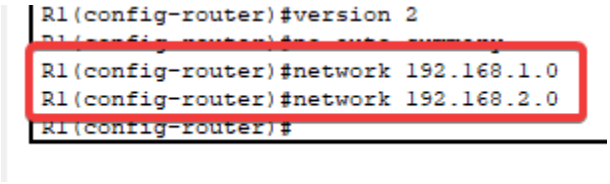
```
R1>ena
R1#config t
Enter configuration commands, one per line.
R1(config)#ip route 0.0.0.0 0.0.0.0 S0/0/1
%Default route without gateway, if not a poi
R1(config)#ip route 0.0.0.0 0.0.0.0 s0/0/1
R1(config)#
```

b. Ingrese al modo de configuración del protocolo RIP.

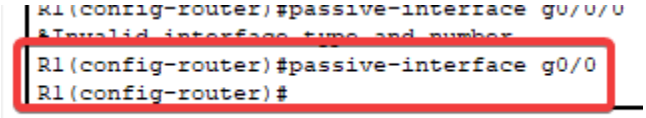
c. Utilice la versión 2 del protocolo RIP y deshabilite la sumarización de redes.



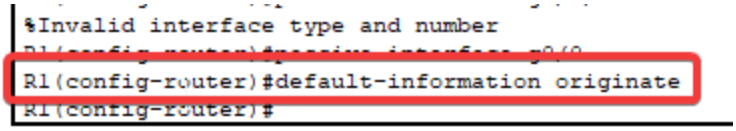
d. Configure RIP para las redes que se conectan al **R1**.



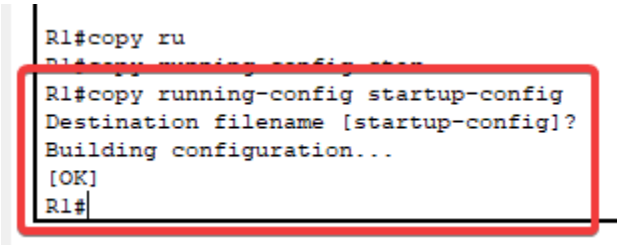
e. Configure el puerto LAN que no contiene ningún router de modo que no envíe información de routing.



f. Anuncie la ruta predeterminada configurada en el paso 1a a otros routers RIP.



g. Guarde la configuración.



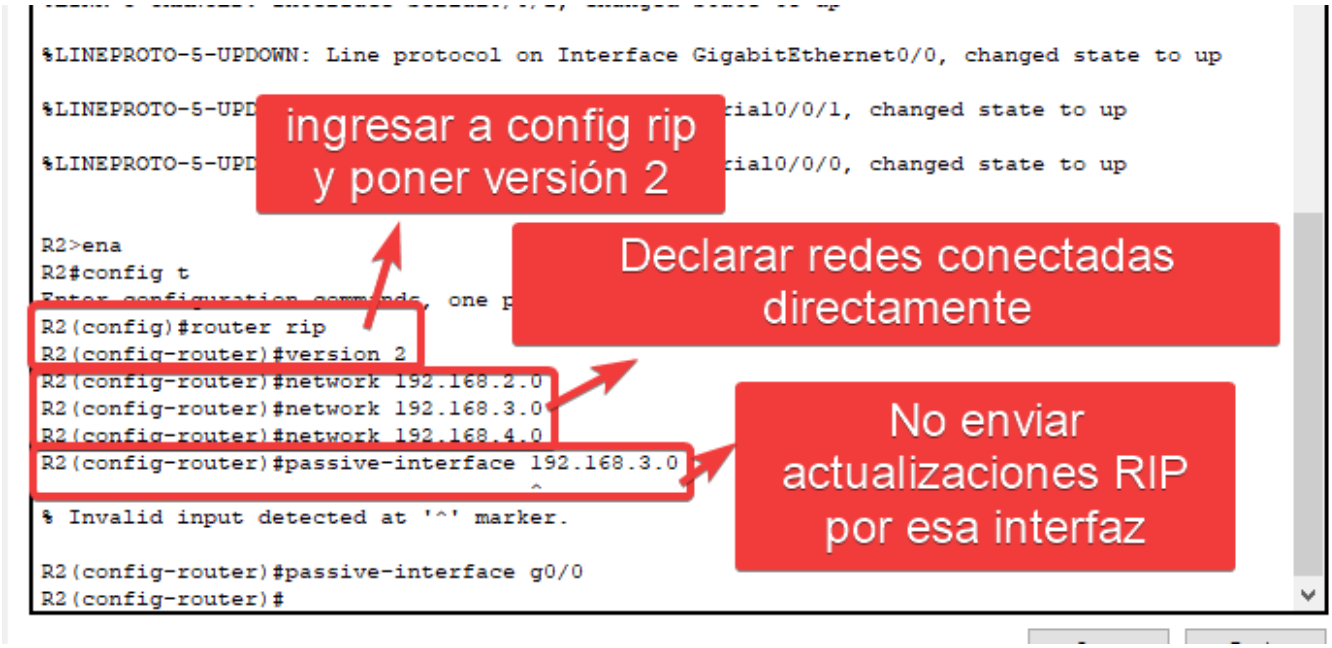
Paso 2. Configurar RIPv2 en el R2

a. Ingrese al modo de configuración del protocolo RIP.

b. Utilice la versión 2 del protocolo RIP y deshabilite la sumarización de redes.

c. Configure RIP para las redes conectadas directamente al **R2**.

d. Configure la interfaz que no contiene ningún router de modo que no envíe información de routing.




```
R2(config-router)#no auto-summary
R2(config-router)#
```

e. Guarde la configuración.

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

Paso 3. Configurar RIPv2 en el R3

Repita el paso 2 en el **R3**.

```
R3#config t
Enter configuration commands, one per line.
R3(config)#router rip
R3(config-router)#version 2
R3(config-router)#network 192.168.4.0
R3(config-router)#network 192.168.5.0
R3(config-router)#passive-inter
R3(config-router)#passive-interface g0/0
R3(config-router)#
```

```
R3(config-router)#no auto
R3(config-router)#no auto-summary
R3(config-router)#
```

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

Parte 2. Verificar las configuraciones

Paso 1. Ver las tablas de routing de R1, R2 y R3

a. Utilice el comando adecuado para mostrar la tabla de routing del **R1**. RIP (R) ahora aparece con rutas conectadas (C) y rutas locales (L) en la tabla de routing. Todas las redes tienen una entrada. También se incluye una ruta predeterminada.

```
     192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.1.0/24 is directly connected, GigabitEthernet0/0
L       192.168.1.1/32 is directly connected, GigabitEthernet0/0
     192.168.2.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.2.0/24 is directly connected, Serial0/0/0
L       192.168.2.1/32 is directly connected, Serial0/0/0
R    192.168.3.0/24 [120/1] via 192.168.2.2, 00:00:05, Serial0/0/0
R    192.168.4.0/24 [120/1] via 192.168.2.2, 00:00:05, Serial0/0/0
R    192.168.5.0/24 [120/2] via 192.168.2.2, 00:00:05, Serial0/0/0
     209.165.200.0/24 is variably subnetted, 2 subnets, 2 masks
C       209.165.200.224/30 is directly connected, Serial0/0/1
L       209.165.200.225/32 is directly connected, Serial0/0/1
S*   0.0.0.0/0 is directly connected, Serial0/0/1

R1#
```

b. Vea las tablas de routing del **R2** y el **R3**. Observe que cada router tiene una lista completa de todas las redes 192.168.x.0 y una ruta predeterminada.

R2

```
R    192.168.1.0/24 [120/1] via 192.168.2.1, 00:00:10, Serial0/0/0
     192.168.2.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.2.0/24 is directly connected, Serial0/0/0
L       192.168.2.2/32 is directly connected, Serial0/0/0
     192.168.3.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.3.0/24 is directly connected, GigabitEthernet0/0
L       192.168.3.1/32 is directly connected, GigabitEthernet0/0
     192.168.4.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.4.0/24 is directly connected, Serial0/0/1
L       192.168.4.2/32 is directly connected, Serial0/0/1
R    192.168.5.0/24 [120/1] via 192.168.4.1, 00:00:26, Serial0/0/1
R*   0.0.0.0/0 [120/1] via 192.168.2.1, 00:00:10, Serial0/0/0

R2#
```

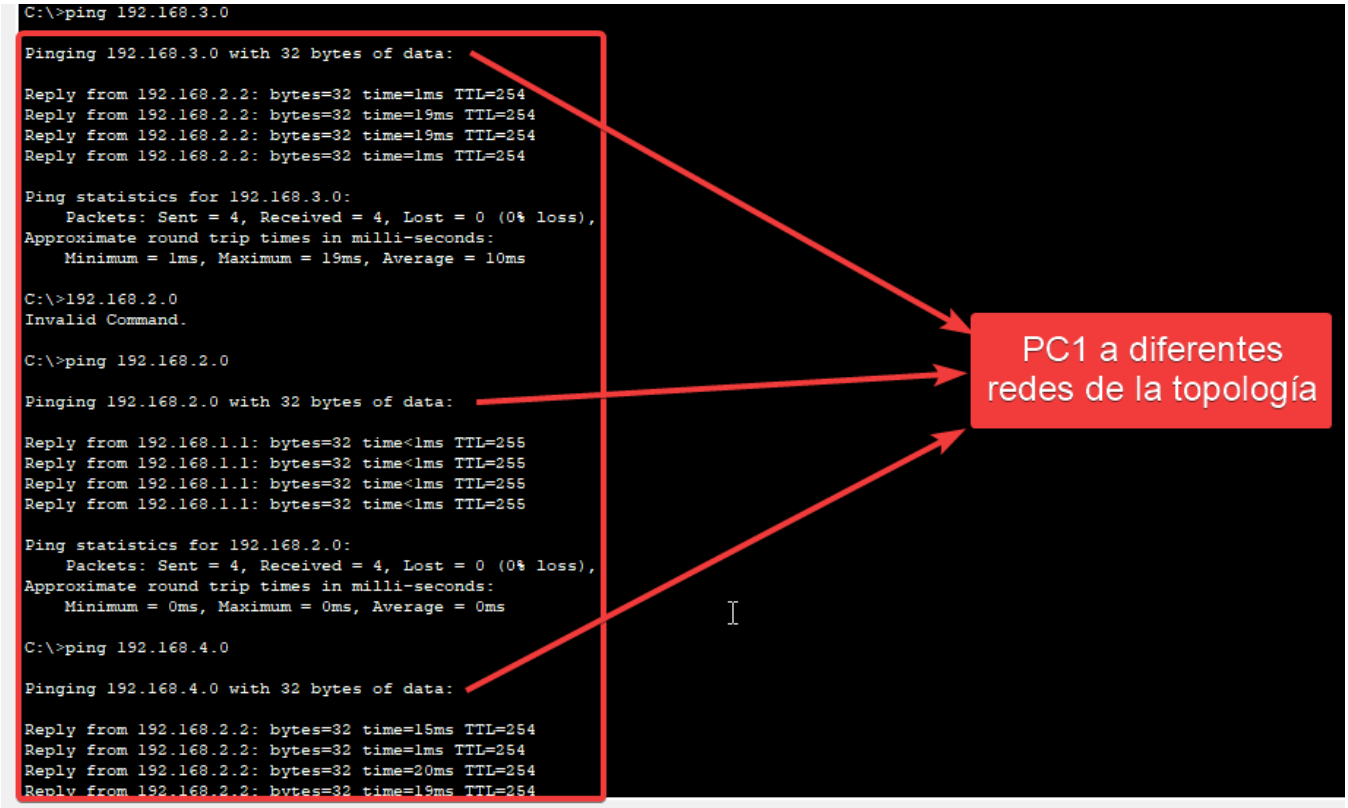
R3

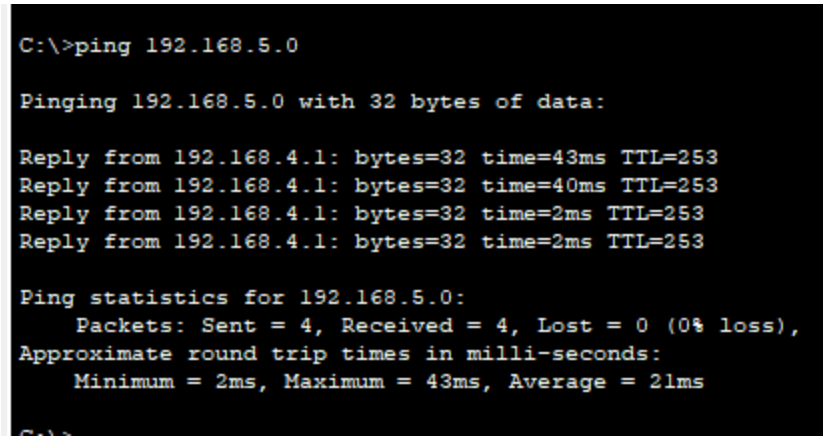
```
R    192.168.1.0/24 [120/2] via 192.168.4.2, 00:00:08, Serial0/0/1
R    192.168.2.0/24 [120/1] via 192.168.4.2, 00:00:08, Serial0/0/1
R    192.168.3.0/24 [120/1] via 192.168.4.2, 00:00:08, Serial0/0/1
     192.168.4.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.4.0/24 is directly connected, Serial0/0/1
L       192.168.4.1/32 is directly connected, Serial0/0/1
     192.168.5.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.5.0/24 is directly connected, GigabitEthernet0/0
L       192.168.5.1/32 is directly connected, GigabitEthernet0/0
R*   0.0.0.0/0 [120/2] via 192.168.4.2, 00:00:08, Serial0/0/1

R3#
```

Paso 2. Verificar la plena conectividad a todos los destinos

Cada dispositivo ahora debería poder enviar un comando ping a todos los demás dispositivos que se encuentran dentro de la red. Además, todos los dispositivos deberían poder hacer ping al **servidor web**.

PC1





PC1 a servidor web.

```
C:\>ping 64.100.0.10

Pinging 64.100.0.10 with 32 bytes of data:

Reply from 64.100.0.10: bytes=32 time=9ms TTL=126
Reply from 64.100.0.10: bytes=32 time=1ms TTL=126
Reply from 64.100.0.10: bytes=32 time=1ms TTL=126
Reply from 64.100.0.10: bytes=32 time=3ms TTL=126

Ping statistics for 64.100.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 9ms, Average = 3ms
```

PC2

```
Pinging 192.168.1.0 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time=1ms TTL=254
Reply from 192.168.2.1: bytes=32 time=1ms TTL=254
Reply from 192.168.2.1: bytes=32 time=1ms TTL=254
Reply from 192.168.2.1: bytes=32 time=1ms TTL=254

Ping statistics for 192.168.1.0:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms

C:\>192.168.2.0
Invalid Command.

C:\>ping 192.168.2.0

Pinging 192.168.2.0 with 32 bytes of data:

Reply from 192.168.3.1: bytes=32 time<1ms TTL=255
Reply from 192.168.3.1: bytes=32 time<1ms TTL=255
Reply from 192.168.3.1: bytes=32 time=11ms TTL=255
Reply from 192.168.3.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.2.0:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 11ms, Average = 2ms

C:\>ping 192.168.4.0

Pinging 192.168.4.0 with 32 bytes of data:

Reply from 192.168.3.1: bytes=32 time<1ms TTL=255
Reply from 192.168.3.1: bytes=32 time<1ms TTL=255
Reply from 192.168.3.1: bytes=32 time<1ms TTL=255
Reply from 192.168.3.1: bytes=32 time<1ms TTL=255
```

```
C:\>ping 192.168.5.0

Pinging 192.168.5.0 with 32 bytes of data:

Reply from 192.168.4.1: bytes=32 time=20ms TTL=254
Reply from 192.168.4.1: bytes=32 time=1ms TTL=254
Reply from 192.168.4.1: bytes=32 time=1ms TTL=254
Reply from 192.168.4.1: bytes=32 time=1ms TTL=254

Ping statistics for 192.168.5.0:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 20ms, Average = 5ms

C:\>ping 64.100.0.10

Pinging 64.100.0.10 with 32 bytes of data:

Reply from 64.100.0.10: bytes=32 time=26ms TTL=125
Reply from 64.100.0.10: bytes=32 time=2ms TTL=125
Reply from 64.100.0.10: bytes=32 time=2ms TTL=125
Reply from 64.100.0.10: bytes=32 time=24ms TTL=125

Ping statistics for 64.100.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 26ms, Average = 13ms
```

PC3

```
Pinging 192.168.1.0 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time=2ms TTL=253
Reply from 192.168.2.1: bytes=32 time=2ms TTL=253
Reply from 192.168.2.1: bytes=32 time=63ms TTL=253
Reply from 192.168.2.1: bytes=32 time=51ms TTL=253

Ping statistics for 192.168.1.0:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 63ms, Average = 29ms

C:\>ping 192.168.2.0

Pinging 192.168.2.0 with 32 bytes of data:

Reply from 192.168.4.2: bytes=32 time=22ms TTL=254
Reply from 192.168.4.2: bytes=32 time=1ms TTL=254
Reply from 192.168.4.2: bytes=32 time=1ms TTL=254
Reply from 192.168.4.2: bytes=32 time=1ms TTL=254

Ping statistics for 192.168.2.0:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 22ms, Average = 6ms

C:\>ping 192.168.3.0

Pinging 192.168.3.0 with 32 bytes of data:

Reply from 192.168.4.2: bytes=32 time=21ms TTL=254
Reply from 192.168.4.2: bytes=32 time=21ms TTL=254
Reply from 192.168.4.2: bytes=32 time=1ms TTL=254
Reply from 192.168.4.2: bytes=32 time=1ms TTL=254

Ping statistics for 192.168.3.0:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 21ms, Average = 11ms
```

```
C:\>ping 192.168.4.0

Pinging 192.168.4.0 with 32 bytes of data:

Reply from 192.168.5.1: bytes=32 time<1ms TTL=255
Reply from 192.168.5.1: bytes=32 time<1ms TTL=255
Reply from 192.168.5.1: bytes=32 time<1ms TTL=255
Reply from 192.168.5.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.4.0:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 64.100.0.10

Pinging 64.100.0.10 with 32 bytes of data:

Reply from 64.100.0.10: bytes=32 time=51ms TTL=124
Reply from 64.100.0.10: bytes=32 time=11ms TTL=124
Reply from 64.100.0.10: bytes=32 time=3ms TTL=124
Reply from 64.100.0.10: bytes=32 time=10ms TTL=124

Ping statistics for 64.100.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 3ms, Maximum = 51ms, Average = 18ms
```