

03 - Enrutamiento Estático

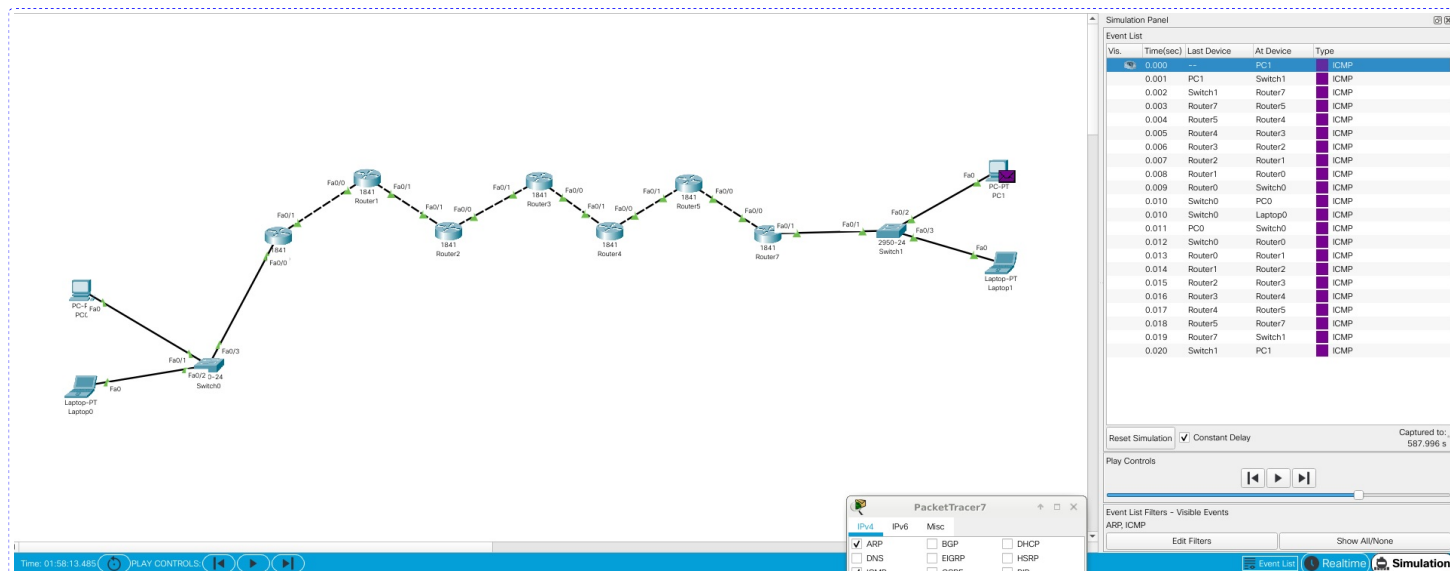


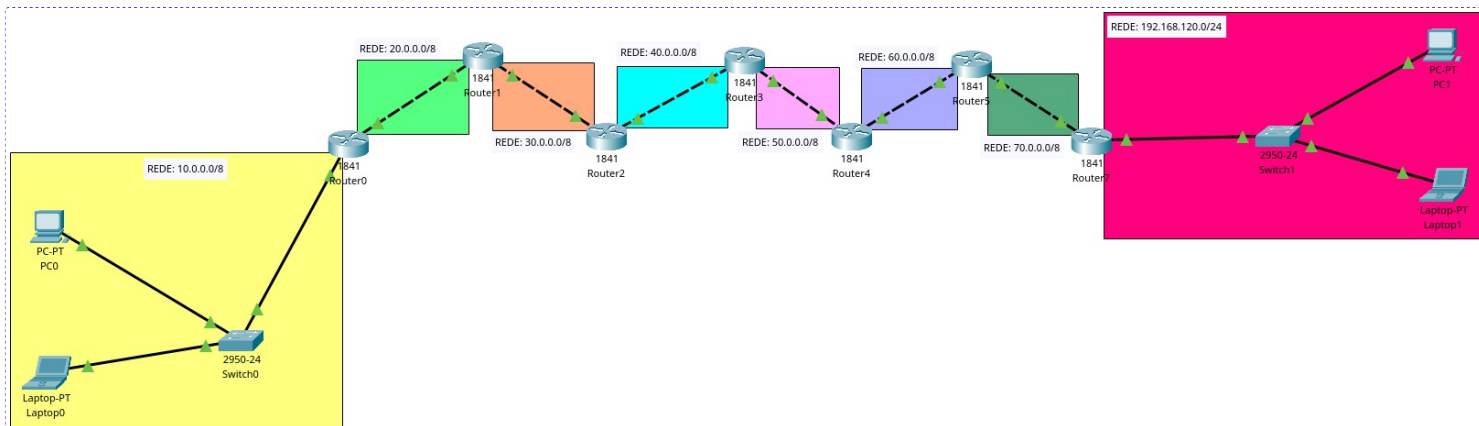
Fig.1 - Enrutamiento Estático

NOTAS:

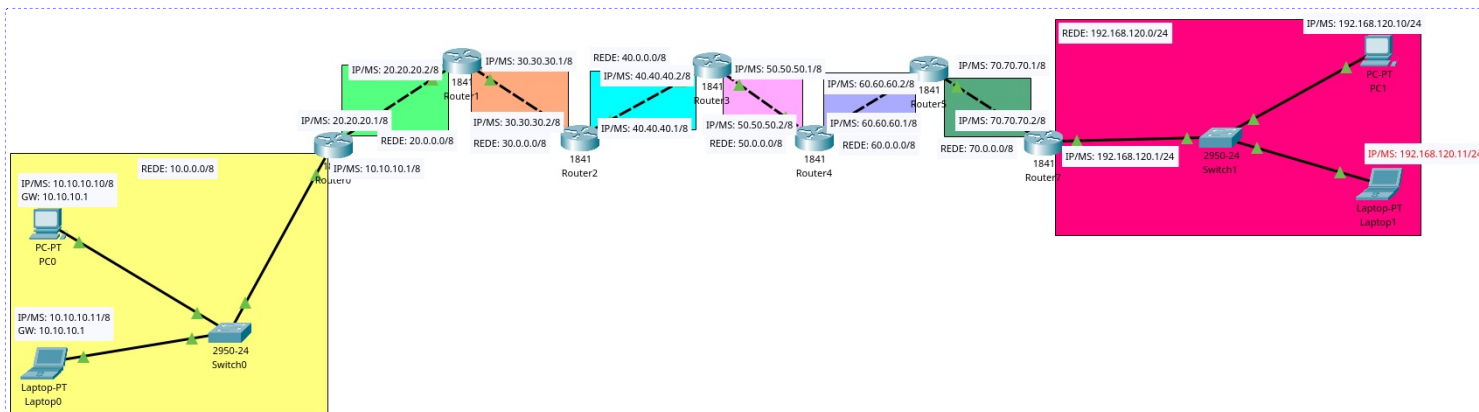
- (1) Archivo a descargar e abrir en Cisco Packet Tracer: [Enrutamiento-Estatico-3-BRS.pkt](#)
- (2) O diagrama representa 2 oficinas dunha empresa.
- (3) IP=IPv4, MS=Máscara de Subrede, GW=Gateway, DR=Dirección de Rede.

Cisco Packet Tracer

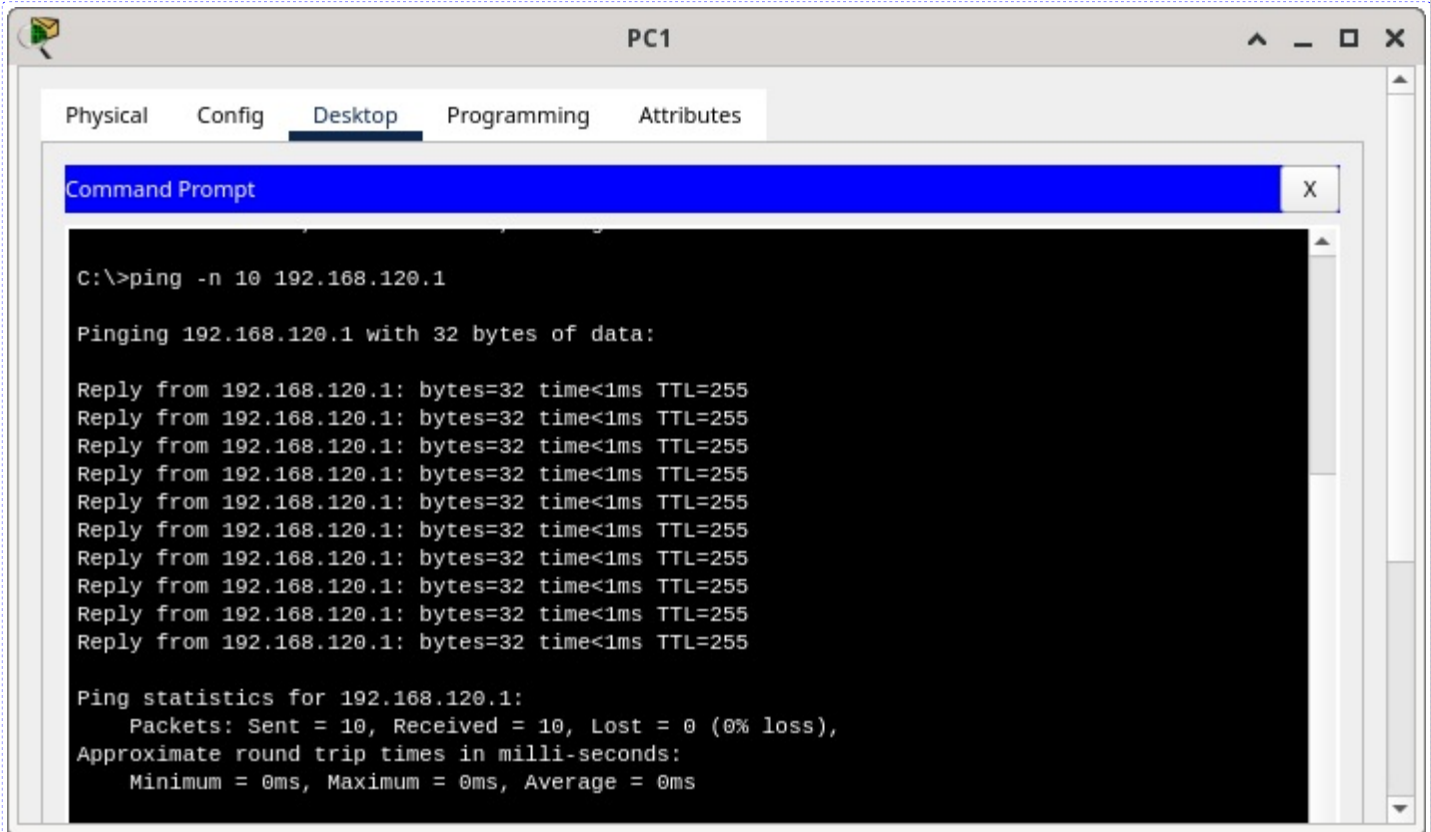
1. Carga o diagrama da Fig.1 no Cisco Packet Tracer, é dicir, abre o arquivo descargado (ver NOTAS) no Cisco Packet Tracer.
2. Identifica mediante rectángulos de cores os segmentos de redes existentes no diagrama.



3. Representa no diagrama a topoloxía lóxica (IP/MS/GW/DR).



4. Realiza mediante comandos un ping de 10 paquetes ICMP desde PC1 a cada host que se atope ata chegar ao Laptop0. Por cada ping crea un apartado indicando que é o que acontece (Razona a resposta):
- a. Do PC1 á IP 192.168.120.1 → ping -n 10 192.168.120.1 → Existe conectividade debido a que os 2 equipos pertencen á mesma rede e o cableado e a electrónica de rede así o permite. A IP 192.168.120.1 é a porta de enlace de PC1.



The screenshot shows a window titled "PC1" with tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is active, displaying a "Command Prompt" window. The command entered is "C:\>ping -n 10 192.168.120.1". The output shows 10 successful replies from 192.168.120.1 with 32 bytes of data, each taking less than 1ms and having a TTL of 255. The ping statistics show 10 packets sent, 10 received, and 0% loss, with round trip times of 0ms.

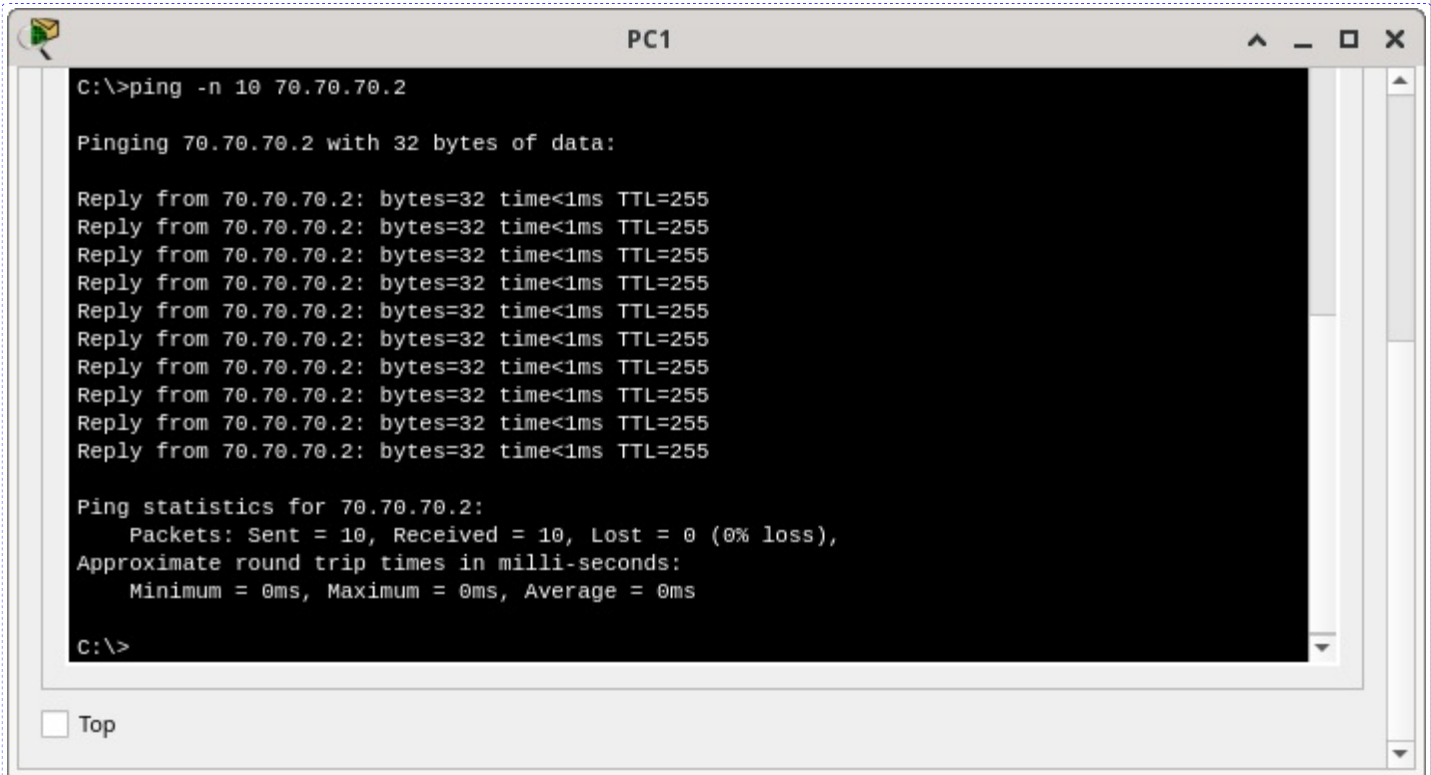
```
C:\>ping -n 10 192.168.120.1

Pinging 192.168.120.1 with 32 bytes of data:

Reply from 192.168.120.1: bytes=32 time<1ms TTL=255
Reply from 192.168.120.1: bytes=32 time<1ms TTL=255
Reply from 192.168.120.1: bytes=32 time<1ms TTL=255
Reply from 192.168.120.1: bytes=32 time<1ms TTL=255
Reply from 192.168.120.1: bytes=32 time<1ms TTL=255
Reply from 192.168.120.1: bytes=32 time<1ms TTL=255
Reply from 192.168.120.1: bytes=32 time<1ms TTL=255
Reply from 192.168.120.1: bytes=32 time<1ms TTL=255
Reply from 192.168.120.1: bytes=32 time<1ms TTL=255
Reply from 192.168.120.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.120.1:
    Packets: Sent = 10, Received = 10, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

- b. Do PC1 á IP 70.70.70.2 → ping -n 10 70.70.70.2 → Existe conectividade porque o PC1 ten configurado correctamente o gateway predeterminado (192.168.120.1), que corresponde á interface FastEthernet 0/1 do router. Cando o PC1 envía un ping a 70.70.70.2, o tráfico é dirixido ao gateway, que reenvía os paquetes a través da súa interface FastEthernet 0/0 coa IP 70.70.70.2. Este router actúa como un intermediario entre as dúas redes, permitindo a comunicación ao estar configurado correctamente coas súas interfaces en ambas redes (a 192.168.120.0/24 e a 70.0.0.0/8).



The screenshot shows the same "PC1" window with the "Command Prompt" displaying a successful ping to 70.70.70.2. The command entered is "C:\>ping -n 10 70.70.70.2". The output shows 10 successful replies from 70.70.70.2 with 32 bytes of data, each taking less than 1ms and having a TTL of 255. The ping statistics show 10 packets sent, 10 received, and 0% loss, with round trip times of 0ms.

```
C:\>ping -n 10 70.70.70.2

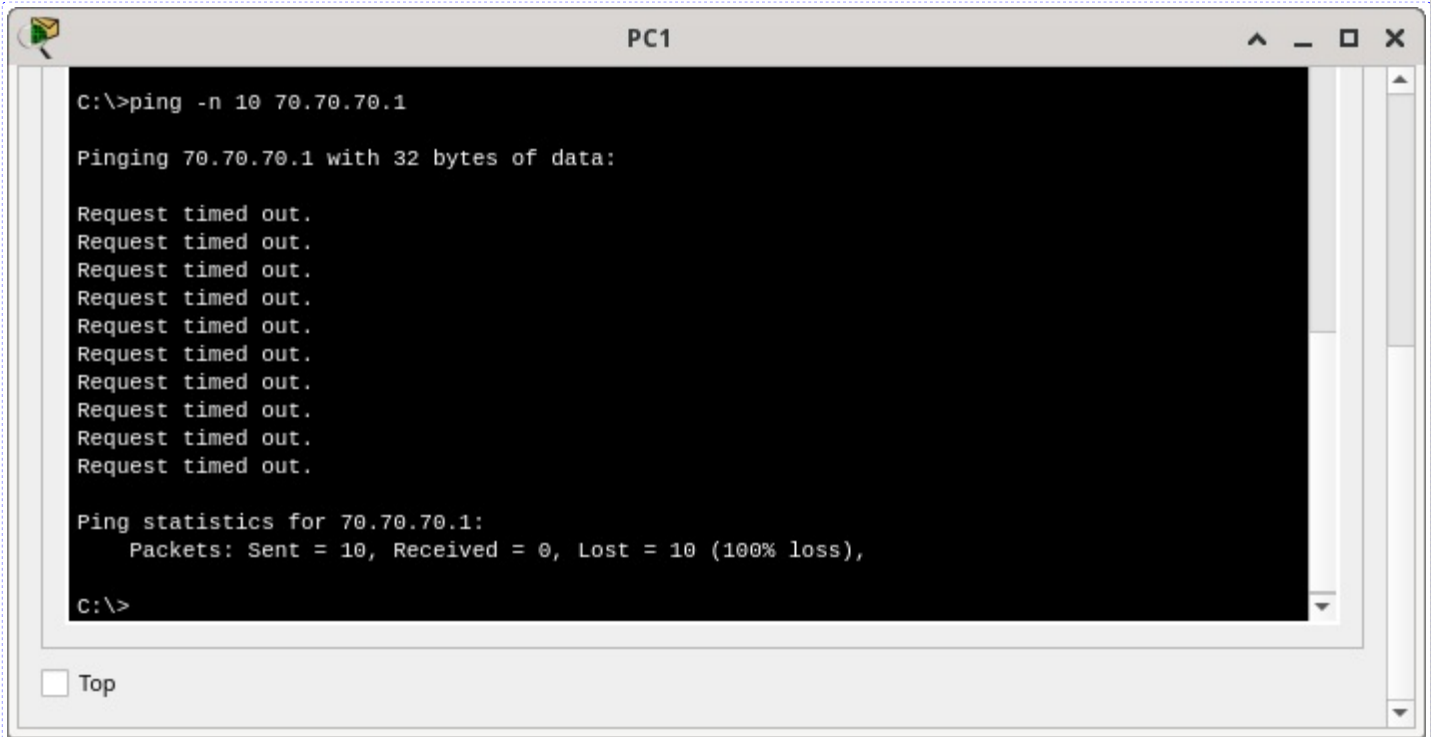
Pinging 70.70.70.2 with 32 bytes of data:

Reply from 70.70.70.2: bytes=32 time<1ms TTL=255
Reply from 70.70.70.2: bytes=32 time<1ms TTL=255
Reply from 70.70.70.2: bytes=32 time<1ms TTL=255
Reply from 70.70.70.2: bytes=32 time<1ms TTL=255
Reply from 70.70.70.2: bytes=32 time<1ms TTL=255
Reply from 70.70.70.2: bytes=32 time<1ms TTL=255
Reply from 70.70.70.2: bytes=32 time<1ms TTL=255
Reply from 70.70.70.2: bytes=32 time<1ms TTL=255
Reply from 70.70.70.2: bytes=32 time<1ms TTL=255
Reply from 70.70.70.2: bytes=32 time<1ms TTL=255

Ping statistics for 70.70.70.2:
    Packets: Sent = 10, Received = 10, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

- c. Do PC1 á IP 70.70.70.1 → ping -n 10 70.70.70.1 → Non existe conectividade porque o Router7 non ten unha ruta estática ou dinámica configurada para alcanzar esa dirección, que pertence ao Router5.



```
C:\>ping -n 10 70.70.70.1

Pinging 70.70.70.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Request timed out.

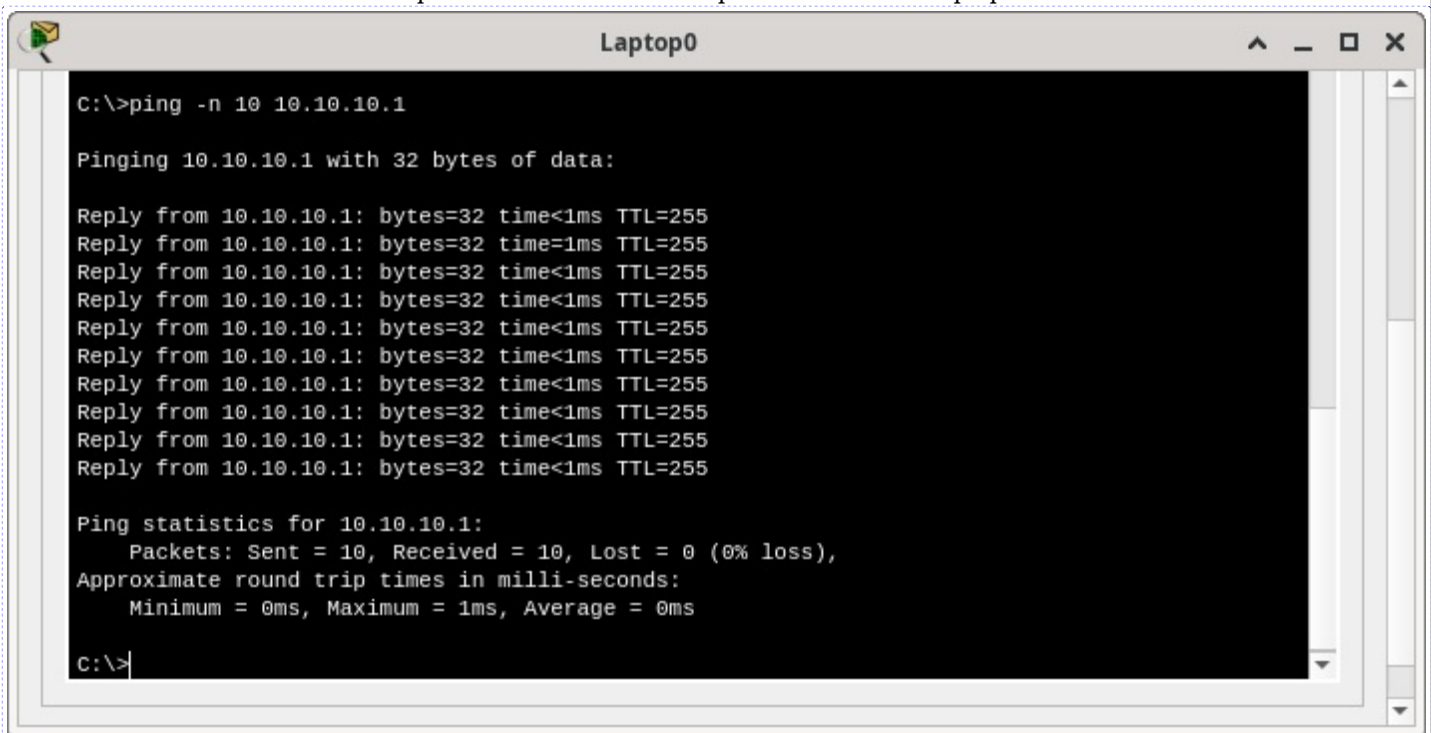
Ping statistics for 70.70.70.1:
    Packets: Sent = 10, Received = 0, Lost = 10 (100% loss),

C:\>
```

☐ Top

A partir de aquí non existe conectividade xa que os paquetes ICMP non son quen de chegar ao Router5, polo que xa non son capaz de chegar ao Laptop0.

5. Realiza mediante comandos un ping de 10 paquetes ICMP dende Laptop0 a cada host que se atope ata chegar ao PC1. Por cada ping crea un apartado indicando que é o que acontece (Razoa a resposta):
1. Do Laptop0 á IP 10.10.10.1 → ping -n 10 10.10.10.1 → Existe conectividade debido a que os 2 equipos pertencen á mesma rede e o cableado e a electrónica de rede así o permite. A IP 10.10.10.1 é a porta de enlace de Laptop0.



```
C:\>ping -n 10 10.10.10.1

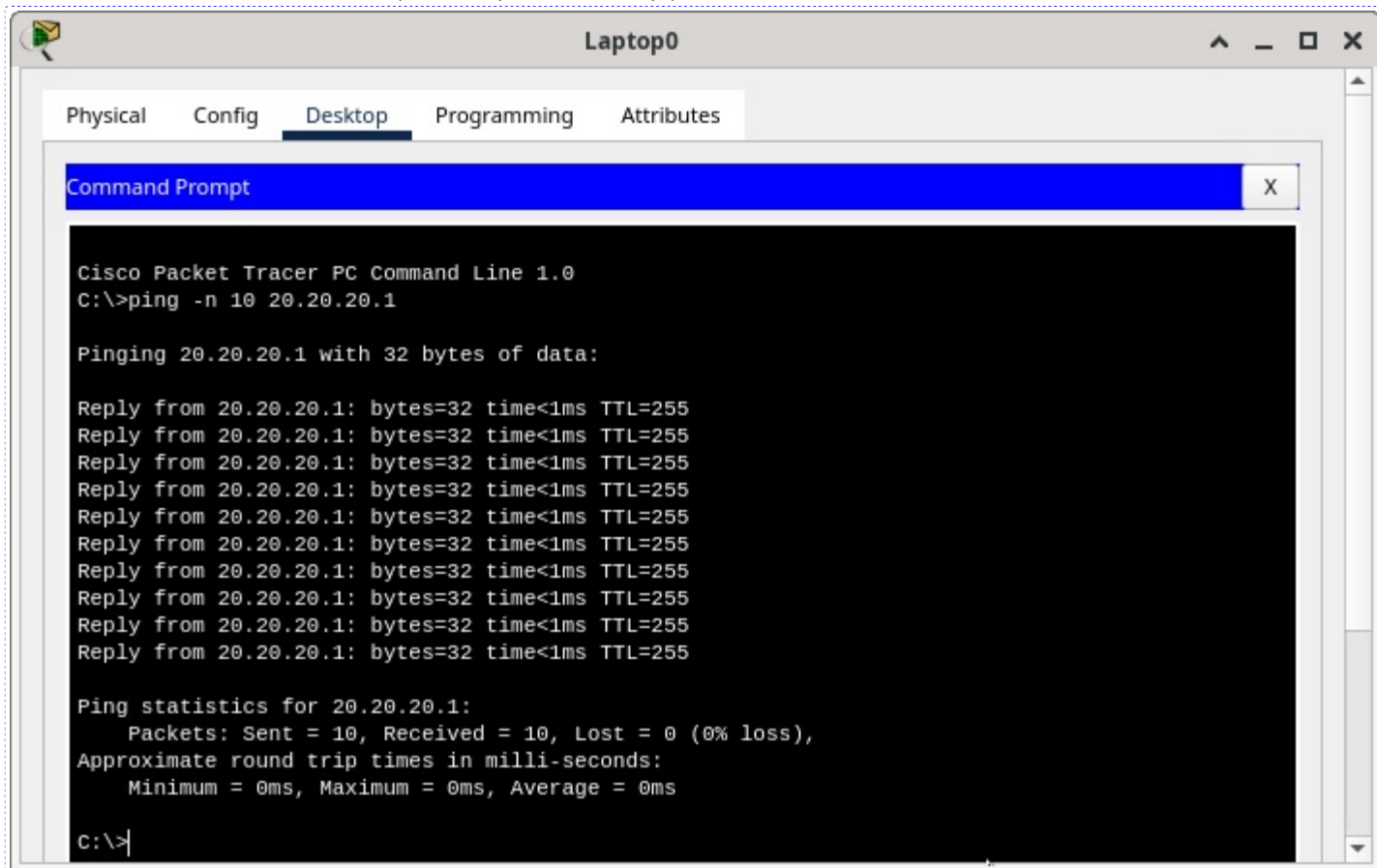
Pinging 10.10.10.1 with 32 bytes of data:

Reply from 10.10.10.1: bytes=32 time<1ms TTL=255
Reply from 10.10.10.1: bytes=32 time<1ms TTL=255
Reply from 10.10.10.1: bytes=32 time<1ms TTL=255
Reply from 10.10.10.1: bytes=32 time<1ms TTL=255
Reply from 10.10.10.1: bytes=32 time<1ms TTL=255
Reply from 10.10.10.1: bytes=32 time<1ms TTL=255
Reply from 10.10.10.1: bytes=32 time<1ms TTL=255
Reply from 10.10.10.1: bytes=32 time<1ms TTL=255
Reply from 10.10.10.1: bytes=32 time<1ms TTL=255
Reply from 10.10.10.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.10.10.1:
    Packets: Sent = 10, Received = 10, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

2. Do Laptop0 á IP 20.20.20.1 → ping -n 10 20.20.20.1 → Existe conectividade porque o PC1 ten configurado correctamente o gateway predeterminado (10.10.10.1), que corresponde á interface FastEthernet 0/0 do router. Cando o Laptop0 envía un ping a 20.20.20.1, o tráfico é dirixido ao gateway, que reenvía os paquetes a través da súa interface FastEthernet 0/1 coa IP 20.20.20.1. Este router actúa como un intermediario entre as dúas redes, permitindo a comunicación ao estar configurado correctamente coas súas interfaces en ambas redes (a 10.0.0.0/24 e a 20.0.0.0/8).



The screenshot shows the 'Laptop0' window in Cisco Packet Tracer. The 'Desktop' tab is selected, and a 'Command Prompt' window is open. The command prompt shows the execution of the command 'ping -n 10 20.20.20.1'. The output indicates that the ping was successful, with 10 packets sent and 10 received, resulting in 0% loss. The round trip times are all 0ms.

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping -n 10 20.20.20.1

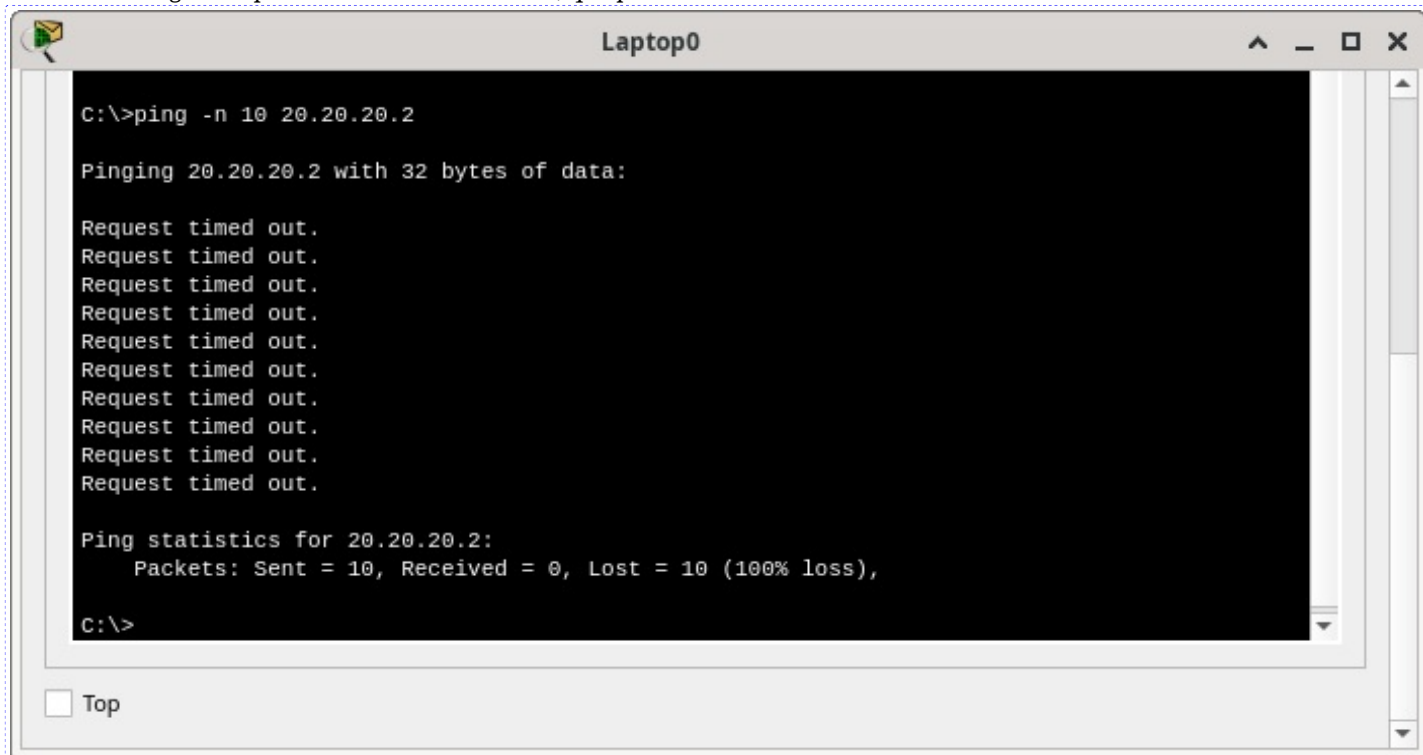
Pinging 20.20.20.1 with 32 bytes of data:

Reply from 20.20.20.1: bytes=32 time<1ms TTL=255
Reply from 20.20.20.1: bytes=32 time<1ms TTL=255
Reply from 20.20.20.1: bytes=32 time<1ms TTL=255
Reply from 20.20.20.1: bytes=32 time<1ms TTL=255
Reply from 20.20.20.1: bytes=32 time<1ms TTL=255
Reply from 20.20.20.1: bytes=32 time<1ms TTL=255
Reply from 20.20.20.1: bytes=32 time<1ms TTL=255
Reply from 20.20.20.1: bytes=32 time<1ms TTL=255
Reply from 20.20.20.1: bytes=32 time<1ms TTL=255
Reply from 20.20.20.1: bytes=32 time<1ms TTL=255

Ping statistics for 20.20.20.1:
    Packets: Sent = 10, Received = 10, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

3. Do Laptop0 á IP 20.20.20.2 → ping -n 10 20.20.20.2 → Non existe conectividade porque o Router0 non ten unha ruta estática ou dinámica configurada para alcanzar esa dirección, que pertence ao Router1.



The screenshot shows the 'Laptop0' window in Cisco Packet Tracer. The 'Desktop' tab is selected, and a 'Command Prompt' window is open. The command prompt shows the execution of the command 'ping -n 10 20.20.20.2'. The output indicates that the ping failed, with 10 packets sent and 0 received, resulting in 100% loss. The round trip times are all 'Request timed out'.

```
C:\>ping -n 10 20.20.20.2

Pinging 20.20.20.2 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 20.20.20.2:
    Packets: Sent = 10, Received = 0, Lost = 10 (100% loss),

C:\>
```

A partir de aquí non existe conectividade xa que os paquetes ICMP non son quen de chegar ao Router1, polo que xa non son capaz de chegar ao PC1.

6. Realiza a configuración de enrutamiento estático en todos os router capturando imaxes coa configuración de cada host router para que a conectividade entre PC1 e Laptop0 sexa posible.

The screenshot shows the 'Router0' configuration window with the 'Config' tab selected. The left sidebar has a tree view with categories: GLOBAL, ROUTING, SWITCHING, and INTERFACE. Under 'ROUTING', 'Static' is selected. The main area is titled 'Static Routes' and contains input fields for 'Network' (192.168.120.0), 'Mask' (255.255.255.0), and 'Next Hop' (20.20.20.2). An 'Add' button is below these fields. Below the input fields is a table with the header 'Network Address' and one row containing '192.168.120.0/24 via 20.20.20.2'. A 'Remove' button is at the bottom right of the table. At the bottom of the window, there is a section titled 'Equivalent IOS Commands' containing a text area with the following text:

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.120.0 255.255.255.0 20.20.20.2
```

The screenshot shows the 'Router0' CLI window. The user has entered the following commands:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.120.0 255.255.255.0 20.20.20.2
Router(config)#do show ip route
```

The output of the 'do show ip route' command is displayed:

```
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    10.0.0.0/8 is directly connected, FastEthernet0/0
C    20.0.0.0/8 is directly connected, FastEthernet0/1
S    192.168.120.0/24 [1/0] via 20.20.20.2

Router(config)#
```


Router1

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

Static Routes

Network 10.0.0.0

Mask 255.0.0.0

Next Hop 20.20.20.1

Add

Network Address

192.168.120.0/24 via 30.30.30.2

10.0.0.0/8 via 20.20.20.1

Remove

Equivalent IOS Commands

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.120.0 255.255.255.0 30.30.30.2
Router(config)#ip route 10.0.0.0 255.0.0.0 20.20.20.1
```

Router1

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.120.0 255.255.255.0 30.30.30.2
Router(config)#ip route 10.0.0.0 255.0.0.0 20.20.20.1
Router(config)#do 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    10.0.0.0/8 [1/0] via 20.20.20.1
C    20.0.0.0/8 is directly connected, FastEthernet0/0
C    30.0.0.0/8 is directly connected, FastEthernet0/1
S    192.168.120.0/24 [1/0] via 30.30.30.2

Router(config)#
```

Copy Paste

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Router2

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

Static Routes

Network 10.0.0.0

Mask 255.0.0.0

Next Hop 30.30.30.1

Add

Network Address

192.168.120.0/24 via 40.40.40.2

10.0.0.0/8 via 30.30.30.1

Remove

Equivalent IOS Commands

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.120.0 255.255.255.0 40.40.40.2
Router(config)#ip route 10.0.0.0 255.0.0.0 30.30.30.1
```

Router2

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.120.0 255.255.255.0 40.40.40.2
Router(config)#ip route 10.0.0.0 255.0.0.0 30.30.30.1
Router(config)#do 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    10.0.0.0/8 [1/0] via 30.30.30.1
C    30.0.0.0/8 is directly connected, FastEthernet0/1
C    40.0.0.0/8 is directly connected, FastEthernet0/0
S    192.168.120.0/24 [1/0] via 40.40.40.2

Router(config)#
```

Copy Paste

Router3

Physical **Config** CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

Static Routes

Network 10.0.0.0

Mask 255.0.0.0

Next Hop 40.40.40.1

Add

Network Address

192.168.120.0/24 via 50.50.50.2

10.0.0.0/8 via 40.40.40.1

Remove

Equivalent IOS Commands

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.120.0 255.255.255.0 50.50.50.2
Router(config)#ip route 10.0.0.0 255.0.0.0 40.40.40.1
```

Router3

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.120.0 255.255.255.0 50.50.50.2
Router(config)#ip route 10.0.0.0 255.0.0.0 40.40.40.1
Router(config)#do 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    10.0.0.0/8 [1/0] via 40.40.40.1
C    40.0.0.0/8 is directly connected, FastEthernet0/1
C    50.0.0.0/8 is directly connected, FastEthernet0/0
S    192.168.120.0/24 [1/0] via 50.50.50.2

Router(config)#
```


Router4

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

Static Routes

Network 10.0.0.0

Mask 255.0.0.0

Next Hop 50.50.50.1

Add

Network Address

192.168.120.0/24 via 60.60.60.2

10.0.0.0/8 via 50.50.50.1

Remove

Equivalent IOS Commands

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.120.0 255.255.255.0 60.60.60.2
Router(config)#ip route 10.0.0.0 255.0.0.0 50.50.50.1
```

Router4

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.120.0 255.255.255.0 60.60.60.2
Router(config)#ip route 10.0.0.0 255.0.0.0 50.50.50.1
Router(config)#do 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    10.0.0.0/8 [1/0] via 50.50.50.1
C    50.0.0.0/8 is directly connected, FastEthernet0/1
C    60.0.0.0/8 is directly connected, FastEthernet0/0
S    192.168.120.0/24 [1/0] via 60.60.60.2

Router(config)#
```

Router5

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

Static Routes

Network 10.0.0.0

Mask 255.0.0.0

Next Hop 60.60.60.1

Add

Network Address

192.168.120.0/24 via 70.70.70.2

10.0.0.0/8 via 60.60.60.1

Remove

Equivalent IOS Commands

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.120.0 255.255.255.0 70.70.70.2
Router(config)#ip route 10.0.0.0 255.0.0.0 60.60.60.1
```

Router5

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.120.0 255.255.255.0 70.70.70.2
Router(config)#ip route 10.0.0.0 255.0.0.0 60.60.60.1
Router(config)#do 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    10.0.0.0/8 [1/0] via 60.60.60.1
C    60.0.0.0/8 is directly connected, FastEthernet0/1
C    70.0.0.0/8 is directly connected, FastEthernet0/0
S    192.168.120.0/24 [1/0] via 70.70.70.2

Router(config)#
```

Copy Paste

Router7

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

Static Routes

Network 10.0.0.0

Mask 255.0.0.0

Next Hop 70.70.70.1

Add

Network Address

10.0.0.0/8 via 70.70.70.1

Remove

Equivalent IOS Commands

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 10.0.0.0 255.0.0.0 70.70.70.1
```

Router7

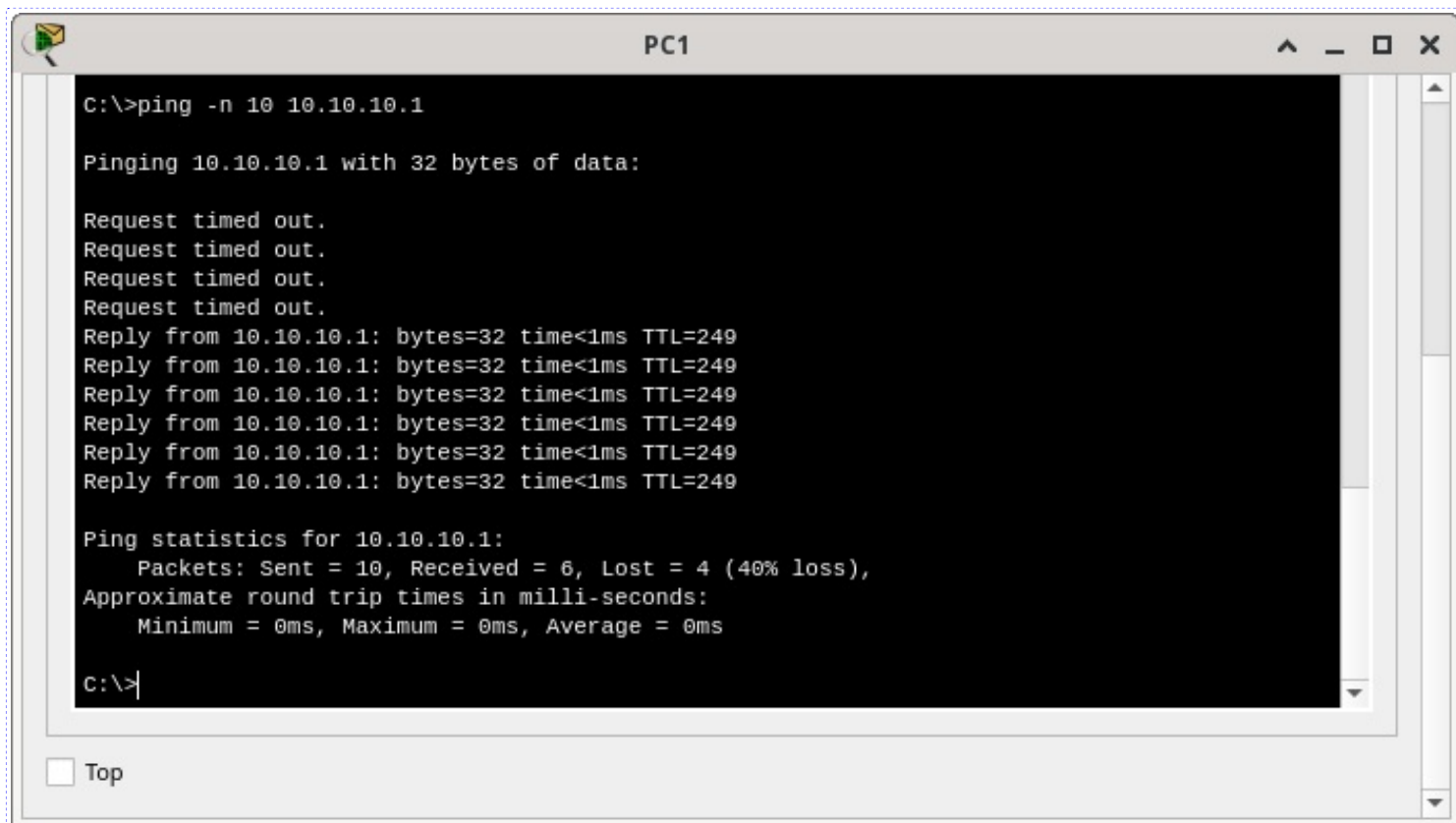
```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 10.0.0.0 255.0.0.0 70.70.70.1
Router(config)#do show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, 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    10.0.0.0/8 [1/0] via 70.70.70.1
C    70.0.0.0/8 is directly connected, FastEthernet0/0
C    192.168.120.0/24 is directly connected, FastEthernet0/1

Router(config)#
```

7. Realiza de novo os apartados 4) e 5). Comproba que agora a conectividade é posible dende PC1 a Laptop0 e dende Laptop0 a PC1. Captura as imaxes correspondentes.



```
C:\>ping -n 10 10.10.10.1

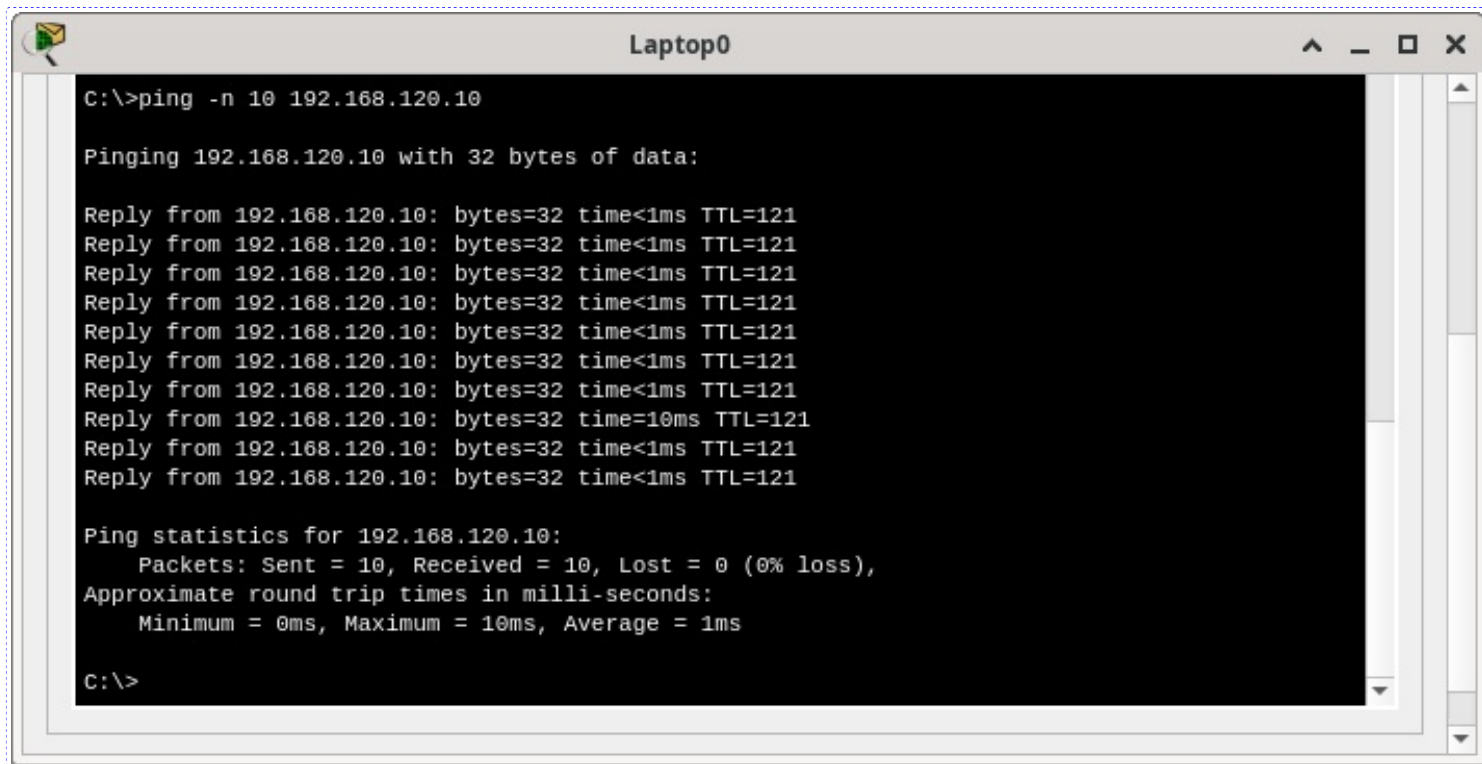
Pinging 10.10.10.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.
Reply from 10.10.10.1: bytes=32 time<1ms TTL=249
Reply from 10.10.10.1: bytes=32 time<1ms TTL=249
Reply from 10.10.10.1: bytes=32 time<1ms TTL=249
Reply from 10.10.10.1: bytes=32 time<1ms TTL=249
Reply from 10.10.10.1: bytes=32 time<1ms TTL=249
Reply from 10.10.10.1: bytes=32 time<1ms TTL=249

Ping statistics for 10.10.10.1:
    Packets: Sent = 10, Received = 6, Lost = 4 (40% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

☐ Top



```
C:\>ping -n 10 192.168.120.10

Pinging 192.168.120.10 with 32 bytes of data:

Reply from 192.168.120.10: bytes=32 time<1ms TTL=121
Reply from 192.168.120.10: bytes=32 time<1ms TTL=121
Reply from 192.168.120.10: bytes=32 time<1ms TTL=121
Reply from 192.168.120.10: bytes=32 time<1ms TTL=121
Reply from 192.168.120.10: bytes=32 time<1ms TTL=121
Reply from 192.168.120.10: bytes=32 time<1ms TTL=121
Reply from 192.168.120.10: bytes=32 time<1ms TTL=121
Reply from 192.168.120.10: bytes=32 time=10ms TTL=121
Reply from 192.168.120.10: bytes=32 time<1ms TTL=121
Reply from 192.168.120.10: bytes=32 time<1ms TTL=121

Ping statistics for 192.168.120.10:
    Packets: Sent = 10, Received = 10, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 1ms

C:\>
```

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