

TP 6- Routage statique

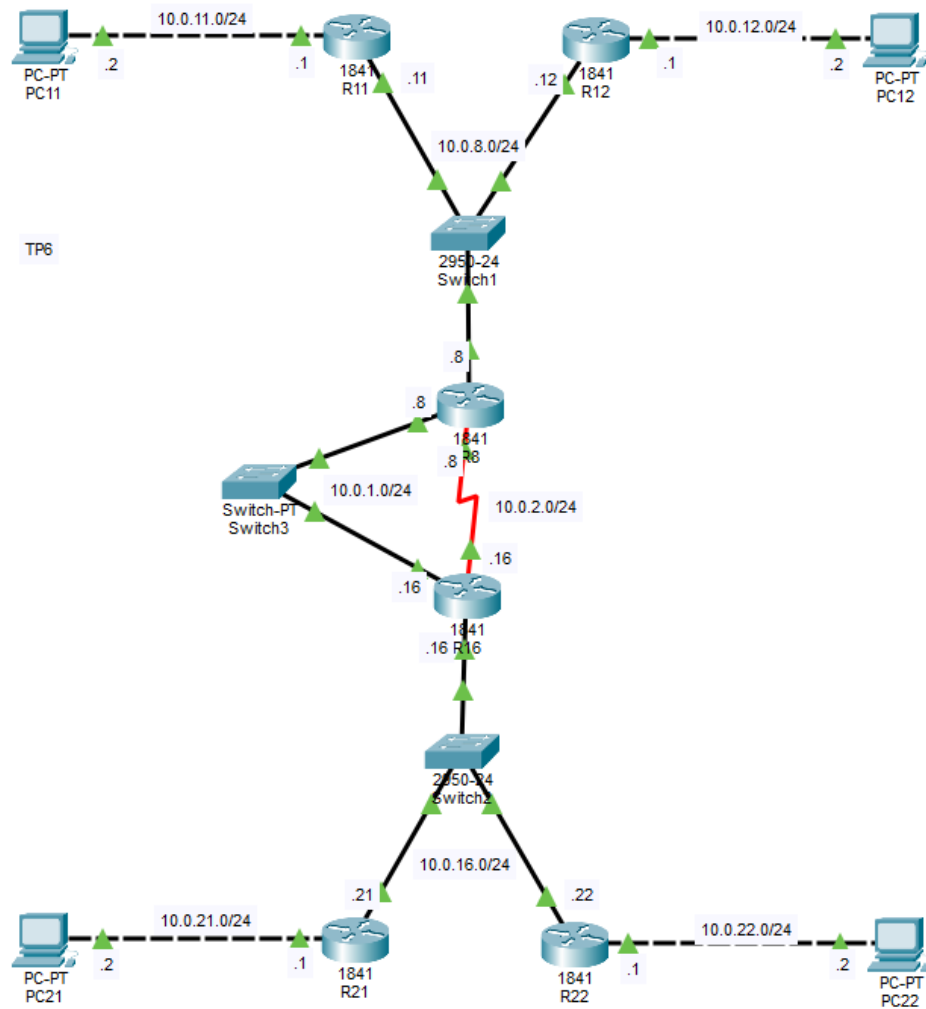
Nesrine El Ahmadi

BTS SIO

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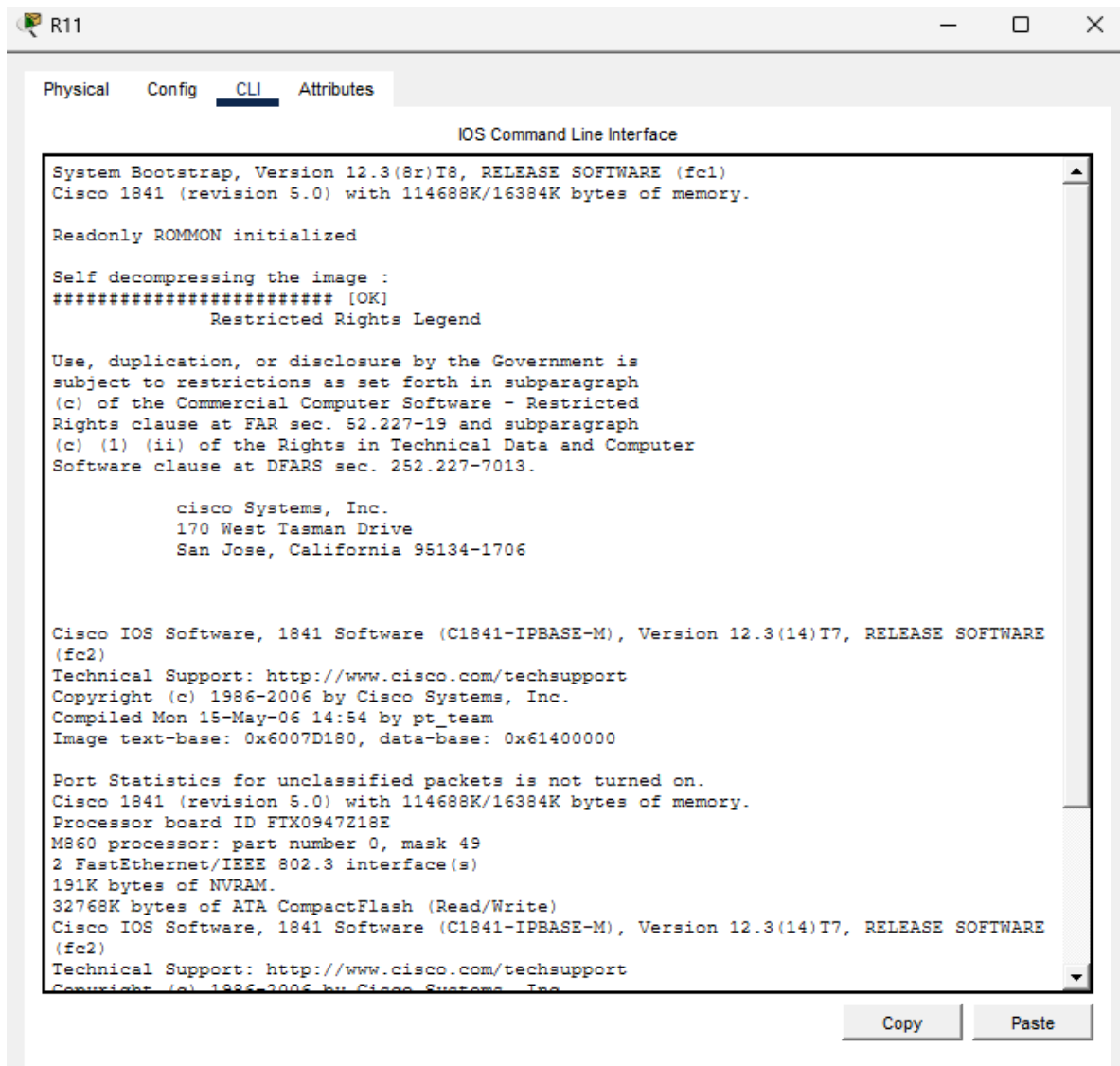
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1. Visualisation de la table de routage



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→ On clique une fois sur le **routeur R11** puis sélectionne **l'onglet CLI** (Command Line Interface).



The screenshot shows a window titled 'R11' with tabs for 'Physical', 'Config', 'CLI', and 'Attributes'. The 'CLI' tab is active, displaying the 'IOS Command Line Interface'. The text in the terminal window is as follows:

```
System Bootstrap, Version 12.3(8r)T8, RELEASE SOFTWARE (fc1)
Cisco 1841 (revision 5.0) with 114688K/16384K bytes of memory.

Readonly ROMMON initialized

Self decompressing the image :
***** [OK]
Restricted Rights Legend

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(c) of the Commercial Computer Software - Restricted
Rights clause at FAR sec. 52.227-19 and subparagraph
(c) (1) (ii) of the Rights in Technical Data and Computer
Software clause at DFARS sec. 252.227-7013.

        cisco Systems, Inc.
        170 West Tasman Drive
        San Jose, California 95134-1706

Cisco IOS Software, 1841 Software (C1841-IPBASE-M), Version 12.3(14)T7, RELEASE SOFTWARE
(fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2006 by Cisco Systems, Inc.
Compiled Mon 15-May-06 14:54 by pt_team
Image text-base: 0x6007D180, data-base: 0x61400000

Port Statistics for unclassified packets is not turned on.
Cisco 1841 (revision 5.0) with 114688K/16384K bytes of memory.
Processor board ID FTX0947218E
M860 processor: part number 0, mask 49
2 FastEthernet/IEEE 802.3 interface(s)
191K bytes of NVRAM.
32768K bytes of ATA CompactFlash (Read/Write)
Cisco IOS Software, 1841 Software (C1841-IPBASE-M), Version 12.3(14)T7, RELEASE SOFTWARE
(fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2006 by Cisco Systems, Inc.
```

At the bottom right of the terminal window, there are 'Copy' and 'Paste' buttons.

On appuie sur la touche [Entrée], le prompt R11> apparaît. On tape la commande : **R11> sh ip route**. La commande « **sh** » est l'abrégé de « show ». On obtient:

```
R11>sh 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

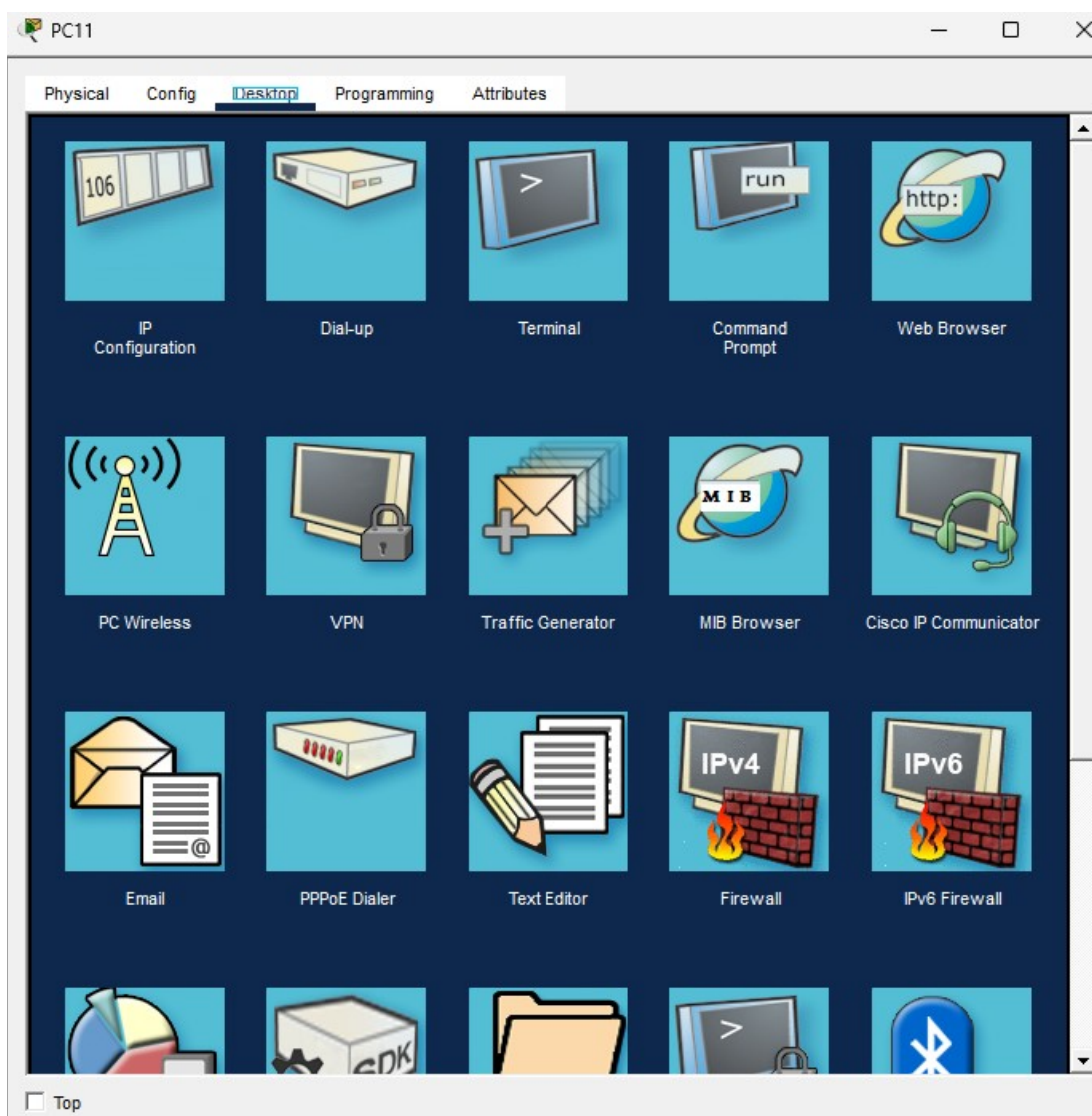
Gateway of last resort is not set

  10.0.0.0/24 is subnetted, 2 subnets
C      10.0.8.0 is directly connected, FastEthernet0/0
C      10.0.11.0 is directly connected, FastEthernet0/1

R11>
```

Copy Paste

→ On clique une fois sur **PC11** puis active l'onglet **Desktop** (Bureau) et on clique sur **Command Prompt** (Invite de commande).



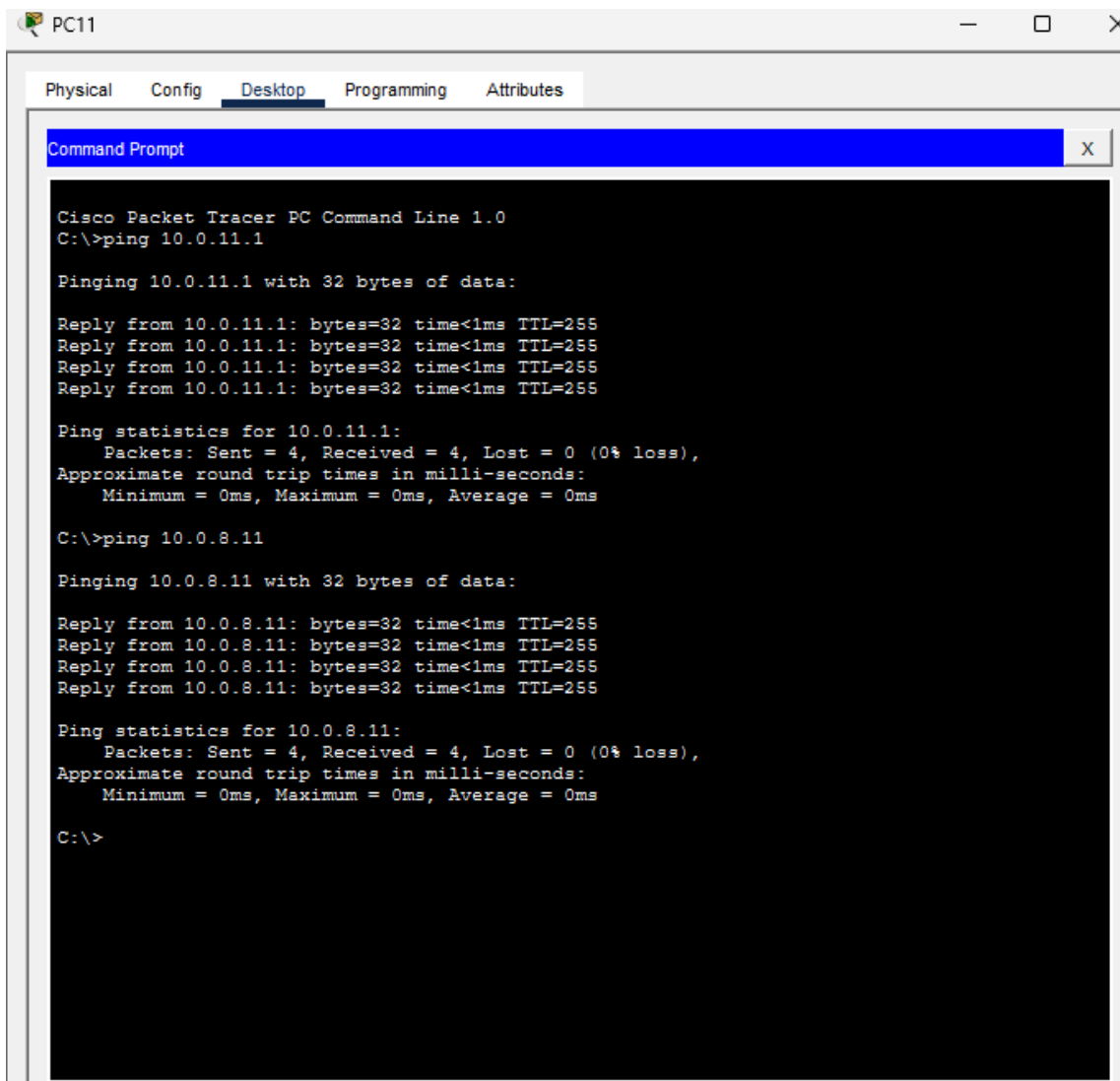
TP 6- Routage statique

→ On tape plusieurs commandes ping de manière à tester toutes les interfaces qui séparent **PC11** de **PC12**:

```
PC> ping 10.0.11.1 (R11 côté réseau 11)
```

```
PC> ping 10.0.8.11 (R11 côté réseau 8)
```

On obtient les réponses aux demandes d'écho (trames ICMP) : même la commande **ping du réseau extérieur 10.0.8.0/24** réussit car ce réseau est directement connecté à R11.



```
PC11
Physical Config Desktop Programming Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.11.1

Pinging 10.0.11.1 with 32 bytes of data:

Reply from 10.0.11.1: bytes=32 time<1ms TTL=255
Reply from 10.0.11.1: bytes=32 time<1ms TTL=255
Reply from 10.0.11.1: bytes=32 time<1ms TTL=255
Reply from 10.0.11.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.0.11.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 10.0.8.11

Pinging 10.0.8.11 with 32 bytes of data:

Reply from 10.0.8.11: bytes=32 time<1ms TTL=255
Reply from 10.0.8.11: bytes=32 time<1ms TTL=255
Reply from 10.0.8.11: bytes=32 time<1ms TTL=255
Reply from 10.0.8.11: bytes=32 time<1ms TTL=255

Ping statistics for 10.0.8.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

→ On Tape maintenant la commande suivante : **PC> ping 10.0.8.12** (R12 côté réseau 8).

Cela ne passe plus. Il y a une requête (trame ICMP Echo request) et un écho (trame ICMP Echo reply). La requête est émise par PC11 et destinée à une interface extérieure au réseau de PC11. Elle est donc transmise, suite au Anding, à la passerelle R11 qui connaît le réseau de destination puisqu'il lui est directement connecté. La requête parvient donc à l'interface 10.0.8.12.

L'interface 10.0.8.12 appartient au routeur R12 et c'est R12 qui doit émettre l'écho en retour mais ce routeur ne dispose pas d'une route vers le réseau de PC11 car le réseau 10.0.11.0 ne lui est pas directement connecté.

```
C:\>ping 10.0.8.12

Pinging 10.0.8.12 with 32 bytes of data:

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

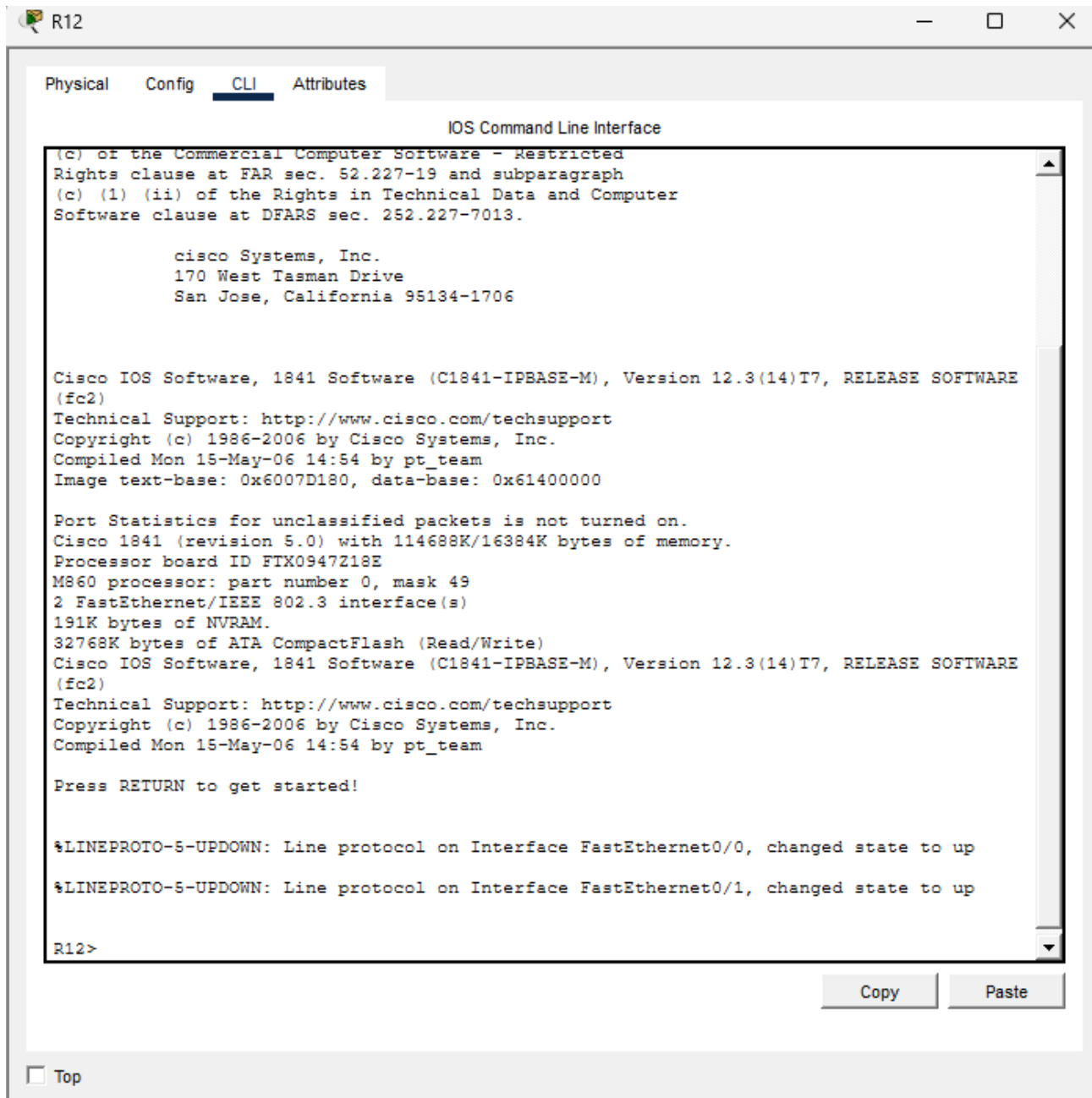
Ping statistics for 10.0.8.12:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

2. Ajout d'une route statique sur R12

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→ On clique une fois sur le routeur R12 puis active l'onglet CLI (Command Line Interface). On appuie sur la touche [Entrée] jusqu'à voir apparaître le prompt « R12> ».



→ On tape la commande suivante : R12> en

Cette commande « en » est l'abrégié de « enable » et permet de passer en mode privilégié, pré requis pour passer ensuite en mode de configuration. On observe que le prompt est devenu R12# pour rappeler que CLI est en mode privilégié.

```
R12>en
R12#
```

→ On tape la commande suivante : R12# conf t

La commande conf t est l'abrégé de configure terminal et permet de passer dans le mode de configuration. A nouveau, le prompt rappelle l'état de CLI en cours en devenant « R12(config)# ».

```
R12#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R12(config)#
```

→ On tape la commande suivante : R12(config)# ip route 10.0.11.0 255.255.255.0 10.0.8.11 Les informations sont précisées dans l'ordre suivant : réseau de destination, masque, adresse du prochain saut. Cela signifie dans le cas présent qu'un datagramme destiné au réseau 10.0.11.0/24 doit être remis à l'interface 10.0.8.11.

```
R12(config)#ip route 10.0.11.0 255.255.255.0 10.0.8.11
R12(config)#
```

→ On tape les commandes suivantes :

R12(config)# exit

```
R12(config)#exit
R12#
%SYS-5-CONFIG_I: Configured from console by console
```

R12# sh run

```
R12#sh run
Building configuration...

Current configuration : 650 bytes
!
version 12.3
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R12
!
!
!
!
!
!
!
!
ip cef
no ipv6 cef
!
!
--More--
```

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La commande `show running-config` permet d'afficher la configuration en cours du routeur. Tant que vous lisez en bas de la fenêtre `-More-`, il suffit d'appuyer sur la barre d'espace pour obtenir la page suivante.

→ On fait défiler les pages du fichier de configuration en cours jusqu'à retrouver l'information de route entrée à l'instant.

```
interface FastEthernet0/0
 ip address 10.0.8.12 255.255.255.0
 duplex auto
 speed auto
!
interface FastEthernet0/1
 ip address 10.0.12.1 255.255.255.0
 duplex auto
 speed auto
!
interface Vlan1
 no ip address
 shutdown
!
router rip
!
ip classless
ip route 10.0.11.0 255.255.255.0 10.0.8.11
!
ip flow-export version 9
!
!
!
!
!
```

→ On tape la commande : `R12# sh ip route`

```
R12#sh 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

 10.0.0.0/24 is subnetted, 3 subnets
C       10.0.8.0 is directly connected, FastEthernet0/0
S       10.0.11.0 [1/0] via 10.0.8.11
C       10.0.12.0 is directly connected, FastEthernet0/1
R12#
```

La lettre S rappelle qu'il s'agit d'une route statique, autrement dit d'une route entrée par l'administrateur.

→ On enregistre la configuration en lançant la commande copy run start (abrégé de la commande copy running-config startup-config) depuis le mode privilégié.

```
R12#sh 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

    10.0.0.0/24 is subnetted, 3 subnets
C       10.0.8.0 is directly connected, FastEthernet0/0
S       10.0.11.0 [1/0] via 10.0.8.11
C       10.0.12.0 is directly connected, FastEthernet0/1

R12#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
R12#
```

3. Ajout d'une route statique sur R11

→ On clique une fois sur PC11 puis active l'onglet Desktop et cliquez sur Command Prompt.

→ On tape la commande suivante : PC> ping 10.0.8.12.

```
C:\>ping 10.0.8.12

Pinging 10.0.8.12 with 32 bytes of data:

Reply from 10.0.8.12: bytes=32 time<1ms TTL=254
Reply from 10.0.8.12: bytes=32 time=1ms TTL=254
Reply from 10.0.8.12: bytes=32 time=3ms TTL=254
Reply from 10.0.8.12: bytes=32 time<1ms TTL=254

Ping statistics for 10.0.8.12:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 3ms, Average = 1ms

C:\>
```

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→ On tape la commande suivante : PC> ping 10.0.12.1 (R12 côté réseau 12)

```
C:\>ping 10.0.12.1

Pinging 10.0.12.1 with 32 bytes of data:

Reply from 10.0.11.1: Destination host unreachable.
Reply from 10.0.11.1: Destination host unreachable.
Reply from 10.0.11.1: Destination host unreachable.
Reply from 10.0.11.1: Destination host unreachable.

Ping statistics for 10.0.12.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>|
```

→ On clique une fois sur le routeur R11 puis activez l'onglet CLI (Command Line Interface). On appuie sur la touche [Entrée] pour voir apparaître le prompt R11>.

→ On tape les commandes suivantes :

R11> en

R11# conf t

R11(config)# ip route 10.0.12.0 255.255.255.0 10.0.8.12

```
R11>en
R11#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R11(config)#ip route 10.0.12.0 255.255.255.0 10.0.8.12
R11(config)#
```

Le ping fonctionne.

```
C:\>ping 10.0.12.1

Pinging 10.0.12.1 with 32 bytes of data:

Reply from 10.0.12.1: bytes=32 time<1ms TTL=254
Reply from 10.0.12.1: bytes=32 time=4ms TTL=254
Reply from 10.0.12.1: bytes=32 time<1ms TTL=254
Reply from 10.0.12.1: bytes=32 time<1ms TTL=254

Ping statistics for 10.0.12.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 4ms, Average = 1ms
C:\>
```

→ On tape les commandes suivantes :

```
R11(config)# exit
```

```
R11# sh ip route
```

On obtiens :

```
R11(config)#exit
R11#
%SYS-5-CONFIG_I: Configured from console by console

R11#sh 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

    10.0.0.0/24 is subnetted, 3 subnets
C       10.0.8.0 is directly connected, FastEthernet0/0
C       10.0.11.0 is directly connected, FastEthernet0/1
S       10.0.12.0 [1/0] via 10.0.8.12

R11#
```

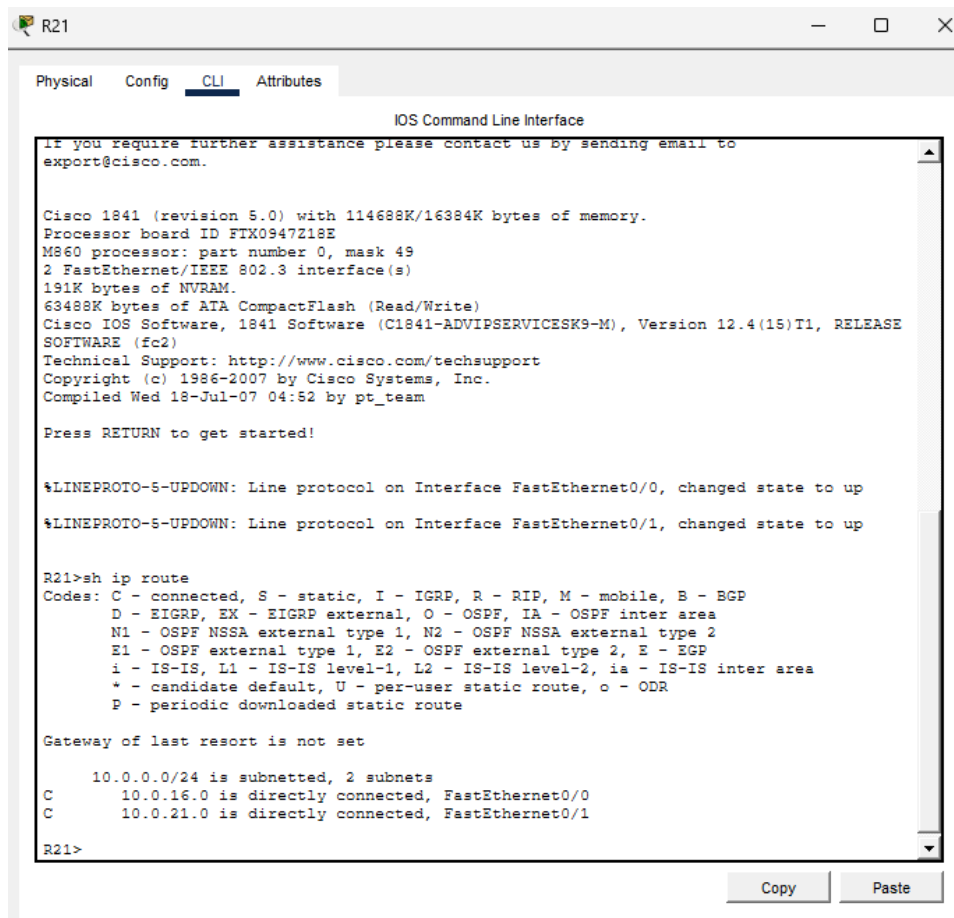
→ On enregistre la configuration en lançant la commande copy run start (abrégé de la commande copy running-config startup-config) depuis le mode privilégié.

```
R11#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
R11#
```

4. A vous de jouer

On doit maintenant ajouter, dans un premier temps, les routes convenables sur les différents routeurs pour que PC22 soit joignable depuis PC21 puis, dans un deuxième temps, assurer la connectivité générale de chacun des quatre PC vers les trois autres.

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The screenshot shows a Cisco R21 router's Command Line Interface (CLI) window. The window has tabs for Physical, Config, CLI (selected), and Attributes. The CLI window displays the following text:

```
if you require further assistance please contact us by sending email to
export@cisco.com.

Cisco 1841 (revision 5.0) with 114688K/16384K bytes of memory.
Processor board ID FTX0947Z18E
M860 processor: part number 0, mask 49
2 FastEthernet/IEEE 802.3 interface(s)
191K bytes of NVRAM.
63488K bytes of ATA CompactFlash (Read/Write)
Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version 12.4(15)T1, RELEASE
SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt_team

Press RETURN to get started!

%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

R21>sh 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

      10.0.0.0/24 is subnetted, 2 subnets
C        10.0.16.0 is directly connected, FastEthernet0/0
C        10.0.21.0 is directly connected, FastEthernet0/1

R21>
```

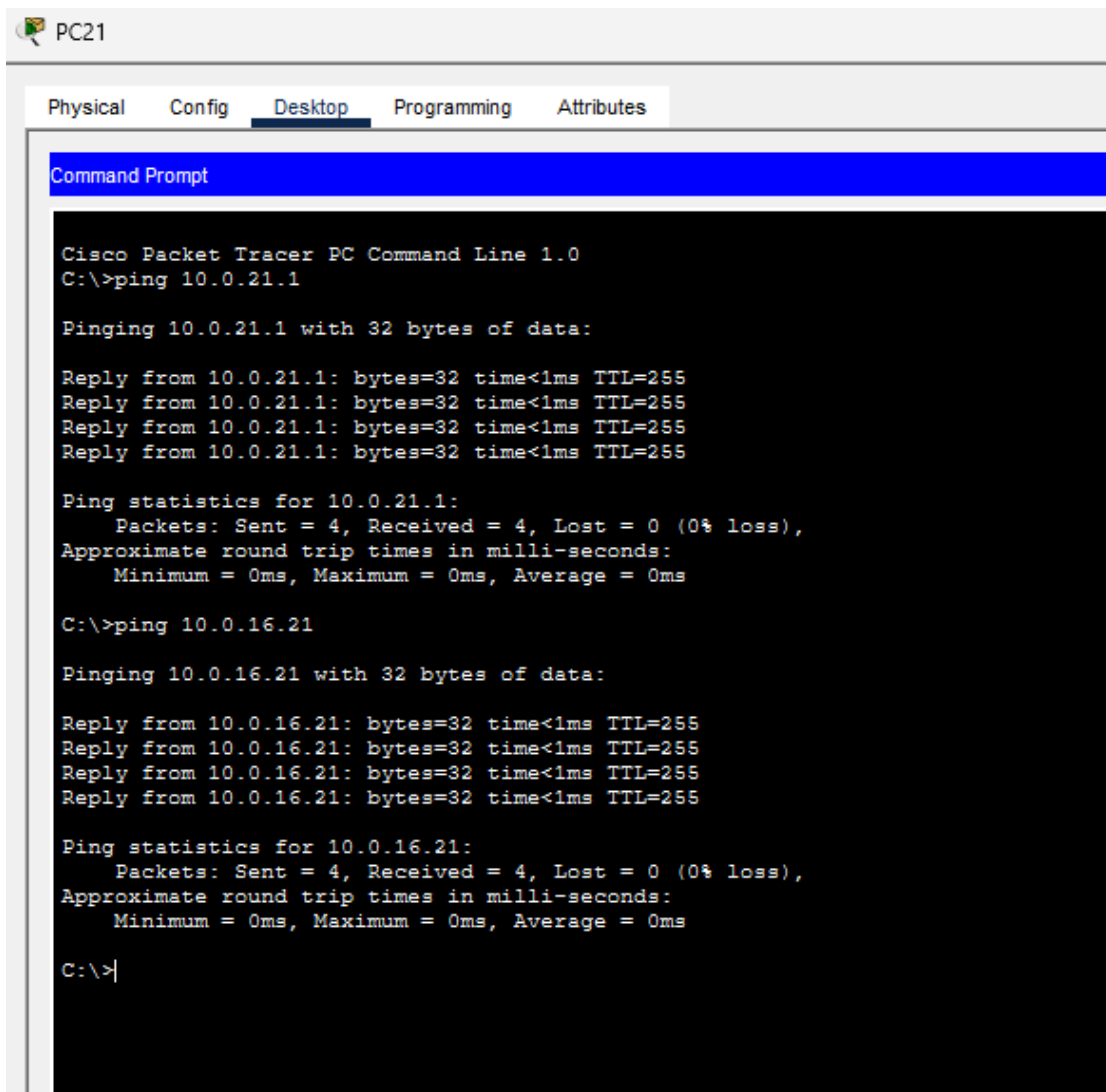
At the bottom right of the CLI window, there are 'Copy' and 'Paste' buttons.

Cliquez une fois sur PC11 puis activez l'onglet Desktop (Bureau) et cliquez sur Command Prompt (Invite de commande).

Tapez plusieurs commandes ping de manière à tester toutes les interfaces qui séparent PC11 de PC12 :

```
PC> ping 10.0.21.1 (R21 côté réseau 21)
```

```
PC> ping 10.0.16.21 (R11 côté réseau 16)
```



```
PC21
Physical Config Desktop Programming Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.21.1

Pinging 10.0.21.1 with 32 bytes of data:

Reply from 10.0.21.1: bytes=32 time<1ms TTL=255
Reply from 10.0.21.1: bytes=32 time<1ms TTL=255
Reply from 10.0.21.1: bytes=32 time<1ms TTL=255
Reply from 10.0.21.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.0.21.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 10.0.16.21

Pinging 10.0.16.21 with 32 bytes of data:

Reply from 10.0.16.21: bytes=32 time<1ms TTL=255
Reply from 10.0.16.21: bytes=32 time<1ms TTL=255
Reply from 10.0.16.21: bytes=32 time<1ms TTL=255
Reply from 10.0.16.21: bytes=32 time<1ms TTL=255

Ping statistics for 10.0.16.21:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|
```

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Tapez maintenant la commande suivante : PC> ping 10.0.16.22 (R22 côté réseau 16).

```
C:\>ping 10.0.16.22

Pinging 10.0.16.22 with 32 bytes of data:

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

Ping statistics for 10.0.16.22:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

```
R22>en
R22#conf t
```

```
R22(config)#ip route 10.0.21.0 255.255.255.0 10.0.16.21
R22(config)#exit
R22#
%SYS-5-CONFIG_I: Configured from console by console

R22#sh run
```

```
interface FastEthernet0/0
 ip address 10.0.16.22 255.255.255.0
 duplex auto
 speed auto
!
interface FastEthernet0/1
 ip address 10.0.22.1 255.255.255.0
 duplex auto
 speed auto
!
interface Vlan1
 no ip address
 shutdown
!
router rip
!
ip classless
ip route 10.0.21.0 255.255.255.0 10.0.16.21
!
ip flow-export version 9
.
```

```
R22#sh 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
```

```
    10.0.0.0/24 is subnetted, 3 subnets
C       10.0.16.0 is directly connected, FastEthernet0/0
S       10.0.21.0 [1/0] via 10.0.16.21
C       10.0.22.0 is directly connected, FastEthernet0/1
```

```
R22#
```

```
R22#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
R22#
```

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```
PC21
Physical  Config  Desktop  Programming  Attributes
Command Prompt
Reply from 10.0.16.21: bytes=32 time<1ms TTL=255
Reply from 10.0.16.21: bytes=32 time<1ms TTL=255
Reply from 10.0.16.21: bytes=32 time<1ms TTL=255

Ping statistics for 10.0.16.21:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 10.0.16.22

Pinging 10.0.16.22 with 32 bytes of data:

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

Ping statistics for 10.0.16.22:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 10.0.16.22

Pinging 10.0.16.22 with 32 bytes of data:

Reply from 10.0.16.22: bytes=32 time=11ms TTL=254
Reply from 10.0.16.22: bytes=32 time<1ms TTL=254
Reply from 10.0.16.22: bytes=32 time<1ms TTL=254
Reply from 10.0.16.22: bytes=32 time<1ms TTL=254

Ping statistics for 10.0.16.22:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 11ms, Average = 2ms

C:\>
```

```
C:\>ping 10.0.22.1

Pinging 10.0.22.1 with 32 bytes of data:

Reply from 10.0.21.1: Destination host unreachable.
Reply from 10.0.21.1: Destination host unreachable.
Reply from 10.0.21.1: Destination host unreachable.
Reply from 10.0.21.1: Destination host unreachable.

Ping statistics for 10.0.22.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

```

R21>en
R21#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R21(config)#ip route 10.0.12.0 255.255.255.0 10.0.16.22
R21(config)#exit
R21#
%SYS-5-CONFIG_I: Configured from console by console

R21#sh 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

    10.0.0.0/24 is subnetted, 3 subnets
S       10.0.12.0 [1/0] via 10.0.16.22
C       10.0.16.0 is directly connected, FastEthernet0/0
C       10.0.21.0 is directly connected, FastEthernet0/1

R21#

R21#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
R21#

R21#sh 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

    10.0.0.0/24 is subnetted, 3 subnets
C       10.0.16.0 is directly connected, FastEthernet0/0
C       10.0.21.0 is directly connected, FastEthernet0/1
S       10.0.22.0 [1/0] via 10.0.16.22

R21#

```

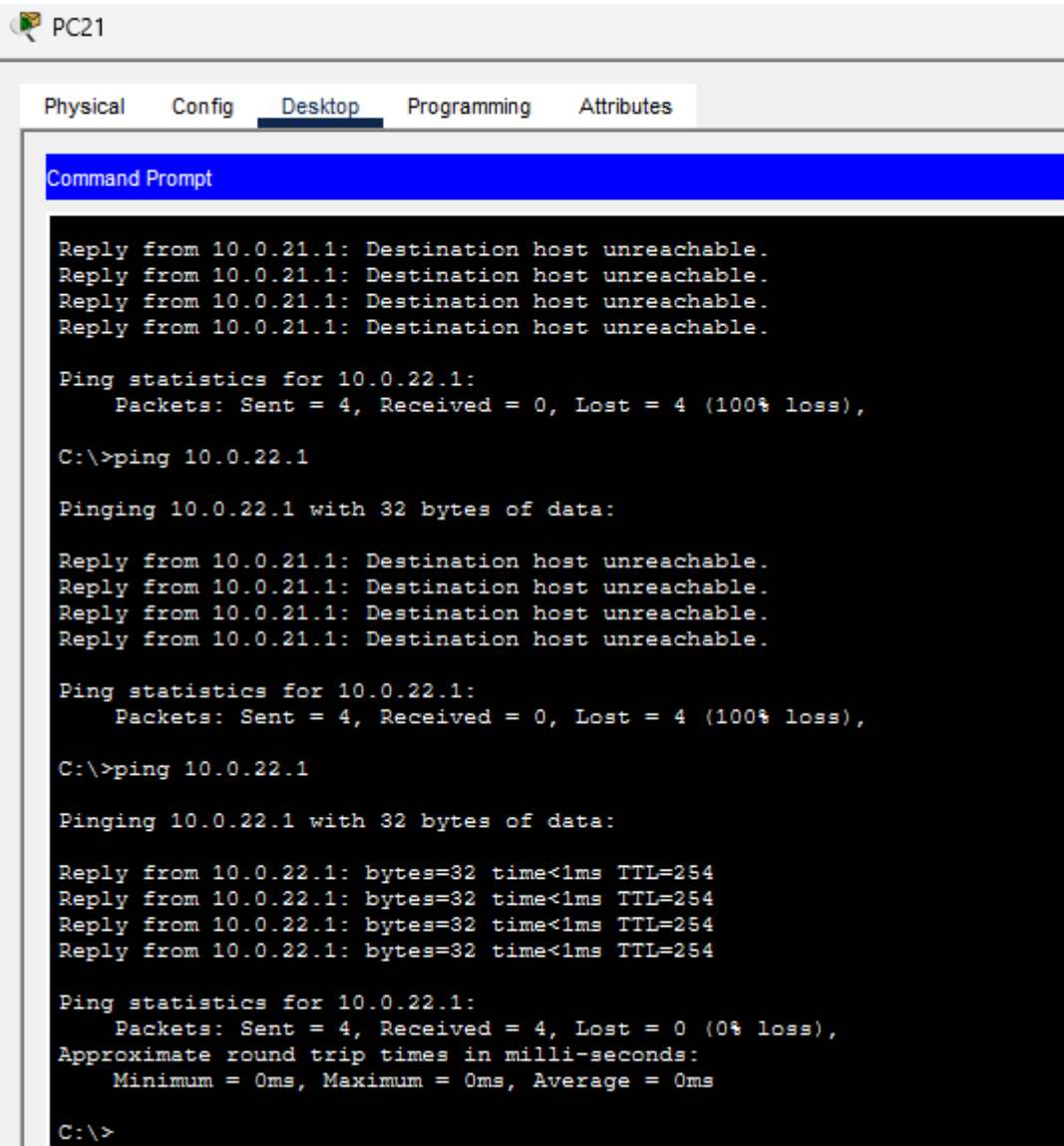
TP 6- Routage statique

```
R22#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

    10.0.0.0/24 is subnetted, 3 subnets
C       10.0.16.0 is directly connected, FastEthernet0/0
S       10.0.21.0 [1/0] via 10.0.16.21
C       10.0.22.0 is directly connected, FastEthernet0/1

R22#
```



The screenshot shows a PC21 window with a Command Prompt. The window has tabs for Physical, Config, Desktop (selected), Programming, and Attributes. The Command Prompt displays the results of a ping command from 10.0.21.1 to 10.0.22.1. The first four replies are "Destination host unreachable." The ping statistics for 10.0.22.1 show 4 packets sent, 0 received, and 100% loss. The user then enters the command "C:\>ping 10.0.22.1". The output shows four successful replies from 10.0.22.1 with 32 bytes of data, time <1ms, and TTL=254. The final ping statistics for 10.0.22.1 show 4 packets sent, 4 received, 0% loss, and approximate round trip times in milliseconds: Minimum = 0ms, Maximum = 0ms, Average = 0ms.

```
PC21
Physical Config Desktop Programming Attributes
Command Prompt
Reply from 10.0.21.1: Destination host unreachable.
Reply from 10.0.21.1: Destination host unreachable.
Reply from 10.0.21.1: Destination host unreachable.
Reply from 10.0.21.1: Destination host unreachable.

Ping statistics for 10.0.22.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 10.0.22.1

Pinging 10.0.22.1 with 32 bytes of data:

Reply from 10.0.21.1: Destination host unreachable.
Reply from 10.0.21.1: Destination host unreachable.
Reply from 10.0.21.1: Destination host unreachable.
Reply from 10.0.21.1: Destination host unreachable.

Ping statistics for 10.0.22.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

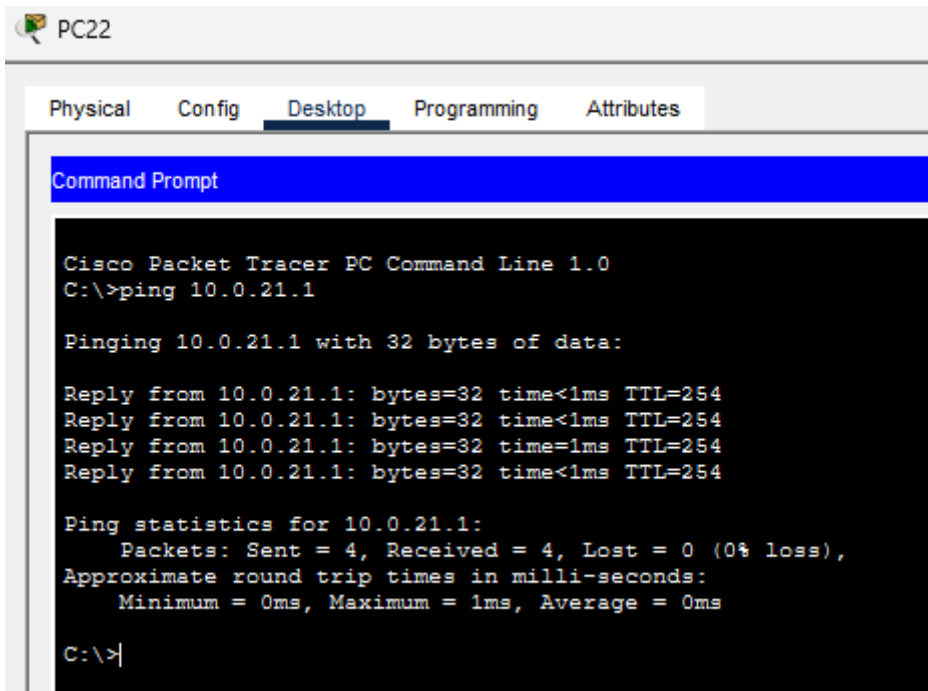
C:\>ping 10.0.22.1

Pinging 10.0.22.1 with 32 bytes of data:

Reply from 10.0.22.1: bytes=32 time<1ms TTL=254
Reply from 10.0.22.1: bytes=32 time<1ms TTL=254
Reply from 10.0.22.1: bytes=32 time<1ms TTL=254
Reply from 10.0.22.1: bytes=32 time<1ms TTL=254

Ping statistics for 10.0.22.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```



The screenshot shows a Cisco Packet Tracer PC Command Line window for PC22. The window has tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is active, displaying a Command Prompt. The Command Prompt shows the execution of the command 'ping 10.0.21.1'. The output indicates that the ping was successful, with 4 packets sent and received, and 0% loss. The round trip times are all 0ms.

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.21.1

Pinging 10.0.21.1 with 32 bytes of data:

Reply from 10.0.21.1: bytes=32 time<1ms TTL=254
Reply from 10.0.21.1: bytes=32 time<1ms TTL=254
Reply from 10.0.21.1: bytes=32 time<1ms TTL=254
Reply from 10.0.21.1: bytes=32 time<1ms TTL=254

Ping statistics for 10.0.21.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>|
```