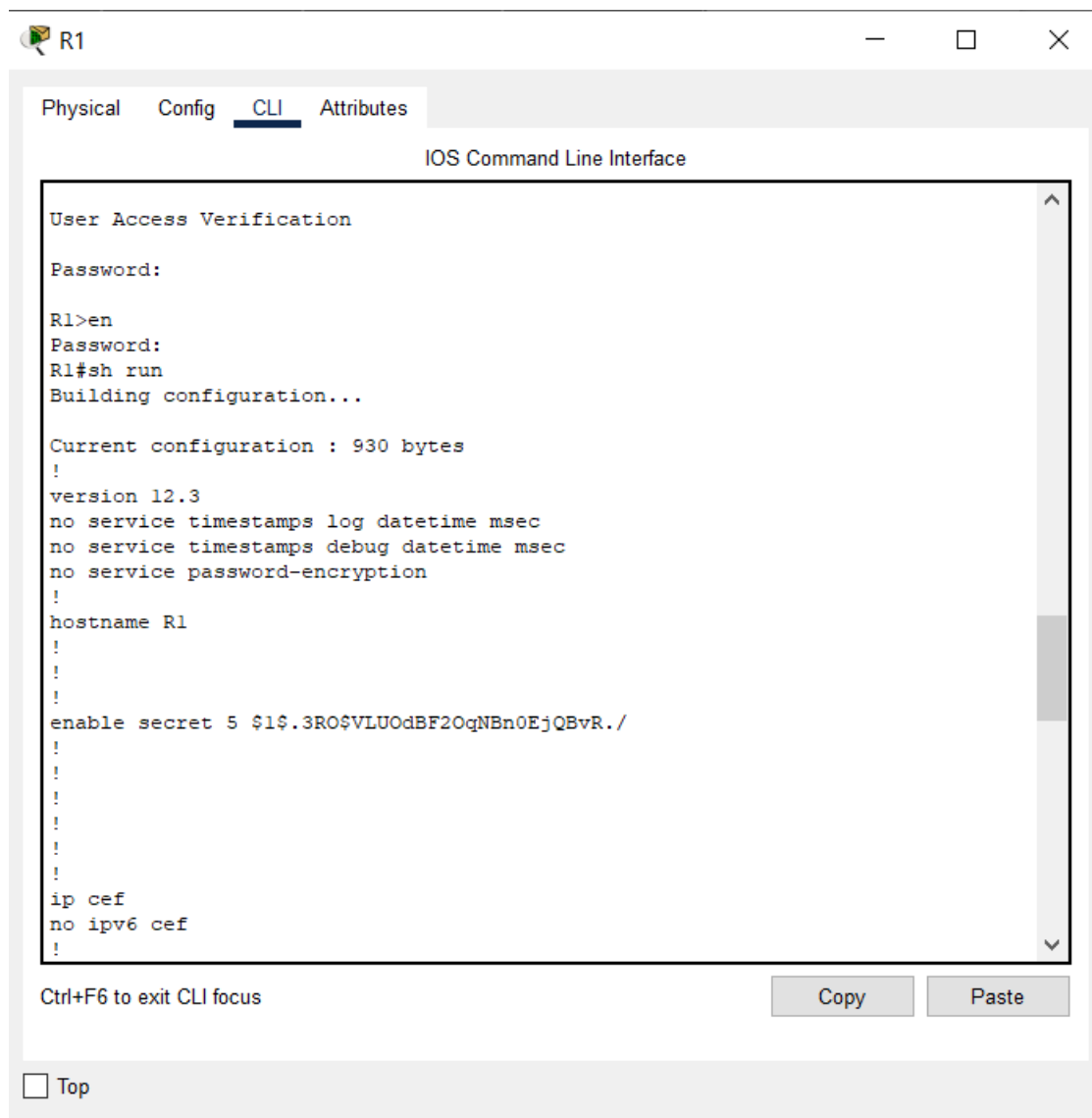


TP10 : Route statique résumée et route par défaut

1. Examen des routes statiques.



1ère étape : Depuis R1 nous utilisons la commande « **sh run** » afin de connaître le mode de configuration actuel du routage statique.

```
ip classless
ip route 172.16.1.0 255.255.255.0 Serial0/0/0
ip route 192.168.1.0 255.255.255.0 Serial0/0/0
ip route 192.168.2.0 255.255.255.0 Serial0/0/0
.
```

```

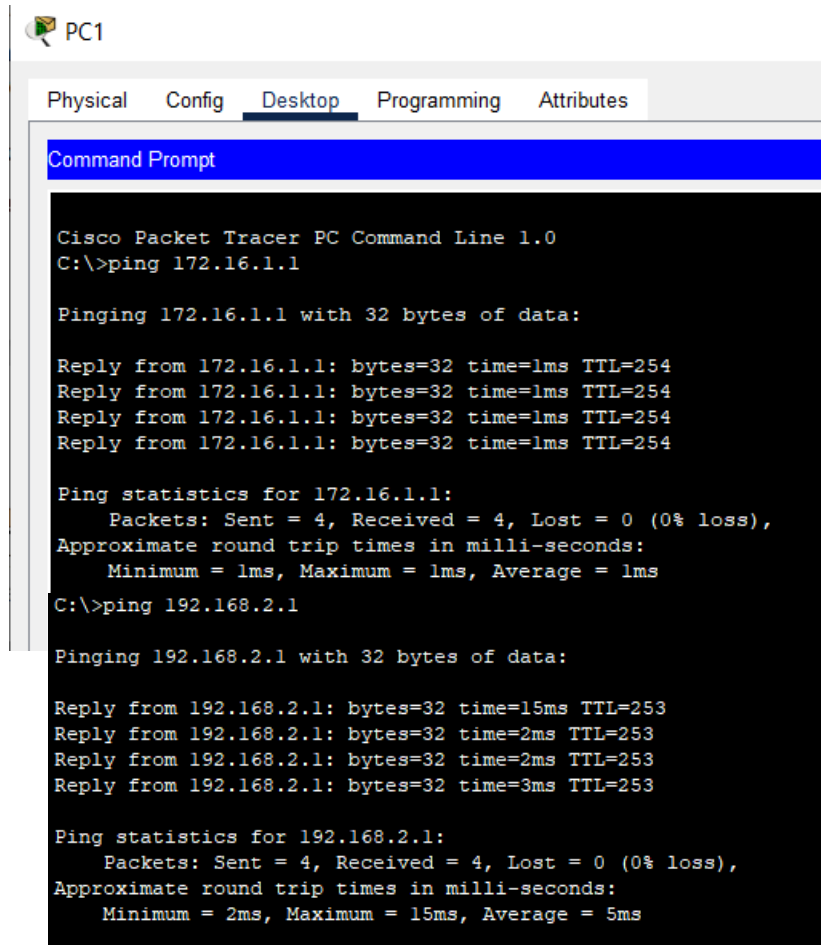
R1#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       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

    172.16.0.0/24 is subnetted, 3 subnets
S       172.16.1.0 is directly connected, Serial0/0/0
C       172.16.2.0 is directly connected, Serial0/0/0
C       172.16.3.0 is directly connected, FastEthernet0/0
S     192.168.1.0/24 is directly connected, Serial0/0/0
S     192.168.2.0/24 is directly connected, Serial0/0/0

```

2ème étape : La commande « show ip route » permet de constater l'effet de cette configuration.



PC1

Physical Config Desktop Programming Attributes

Command Prompt

```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.1.1

Pinging 172.16.1.1 with 32 bytes of data:

Reply from 172.16.1.1: bytes=32 time=1ms TTL=254
Reply from 172.16.1.1: bytes=32 time=1ms TTL=254
Reply from 172.16.1.1: bytes=32 time=1ms TTL=254
Reply from 172.16.1.1: bytes=32 time=1ms TTL=254

Ping statistics for 172.16.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 1ms, Average = 1ms
C:\>ping 192.168.2.1

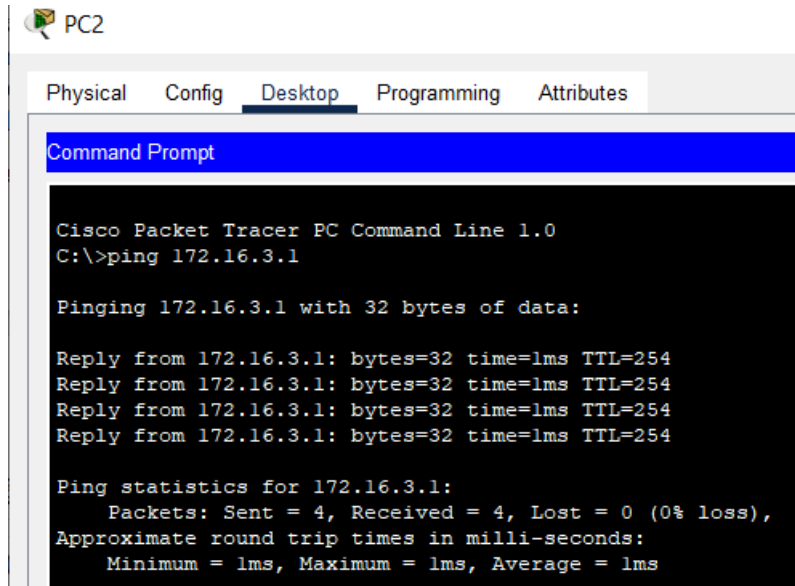
Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time=15ms TTL=253
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=3ms TTL=253

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 15ms, Average = 5ms

```

3ème étape : Depuis PC1 nous effectuons un ping vers les deux autres pc.



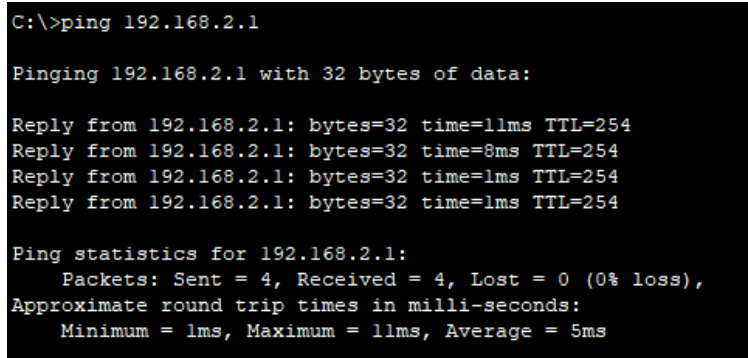
The screenshot shows a Cisco Packet Tracer interface with a PC icon labeled 'PC2'. Below the icon is a tabbed menu with 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes'. The 'Desktop' tab is selected, and within it, the 'Command Prompt' window is open. The command prompt shows the execution of a ping command to 172.16.3.1, displaying successful results with 0% loss and 1ms round trip times.

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.3.1

Pinging 172.16.3.1 with 32 bytes of data:

Reply from 172.16.3.1: bytes=32 time=1ms TTL=254
Reply from 172.16.3.1: bytes=32 time=1ms TTL=254
Reply from 172.16.3.1: bytes=32 time=1ms TTL=254
Reply from 172.16.3.1: bytes=32 time=1ms TTL=254

Ping statistics for 172.16.3.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 1ms, Average = 1ms
```



This screenshot shows a command prompt window with the output of a ping command to 192.168.2.1. The results show successful connectivity with 0% loss and an average round trip time of 5ms.

```
C:\>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time=11ms TTL=254
Reply from 192.168.2.1: bytes=32 time=8ms 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 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 11ms, Average = 5ms
```

4ème étape : Depuis PC2 nous effectuons un ping vers les deux autres pc.



```
Physical  Config  Desktop  Programming  Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.1.1

Pinging 172.16.1.1 with 32 bytes of data:

Reply from 172.16.1.1: bytes=32 time=11ms TTL=254
Reply from 172.16.1.1: bytes=32 time=8ms TTL=254
Reply from 172.16.1.1: bytes=32 time=1ms TTL=254
Reply from 172.16.1.1: bytes=32 time=1ms TTL=254

Ping statistics for 172.16.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 11ms, Average = 5ms
```

```
C:\>ping 172.16.3.1

Pinging 172.16.3.1 with 32 bytes of data:

Reply from 172.16.3.1: bytes=32 time=15ms TTL=253
Reply from 172.16.3.1: bytes=32 time=3ms TTL=253
Reply from 172.16.3.1: bytes=32 time=15ms TTL=253
Reply from 172.16.3.1: bytes=32 time=2ms TTL=253

Ping statistics for 172.16.3.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 15ms, Average = 8ms
```

5ème étape : Depuis PC3 nous effectuons un ping vers les deux autres pc.

2. Résumé des routes statiques.

```
R3>en
Password:
R3#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R3(config)#no ip route 172.16.1.0 255.255.255.0 s0/0/1
R3(config)#no ip route 172.16.2.0 255.255.255.0 s0/0/1
R3(config)#no ip route 172.16.3.0 255.255.255.0 s0/0/1
R3(config)#ip route 172.16.0.0 255.255.255.0 192.168.1.2
R3(config)#
```

1ère étape : Après être entré en mode configuration globale nous entrons les commandes ci-dessus.

```
R3(config)#^Z
R3#
%SYS-5-CONFIG_I: Configured from console by console

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

2ème étape : Ici nous quittons le mode configuration afin d'exécuter la commande « **copy run start** » pour enregistrer celle-ci.

```
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

    172.16.0.0/24 is subnetted, 1 subnets
S       172.16.0.0 [1/0] via 192.168.1.2
C       192.168.1.0/24 is directly connected, Serial0/0/1
C       192.168.2.0/24 is directly connected, FastEthernet0/0
```

3ème étape : Depuis R3 nous effectuons la commande « **show ip route** » pour examiner l'effet de la configuration une fois modifiée.

```
C:\>ping 172.16.1.1

Pinging 172.16.1.1 with 32 bytes of data:

Reply from 192.168.2.1: Destination host unreachable.
Reply from 192.168.2.1: Destination host unreachable.
Reply from 192.168.2.1: Destination host unreachable.
Reply from 192.168.2.1: Destination host unreachable.

Ping statistics for 172.16.1.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

```
C:\>ping 172.16.3.1

Pinging 172.16.3.1 with 32 bytes of data:

Reply from 192.168.2.1: Destination host unreachable.
Reply from 192.168.2.1: Destination host unreachable.
Reply from 192.168.2.1: Destination host unreachable.
Reply from 192.168.2.1: Destination host unreachable.

Ping statistics for 172.16.3.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

4ème étape : Nous effectuons un ping depuis PC3 vers les deux autres pc.

3. Configuration d'un réseau d'extrémité.

```
-----
R1(config)#no ip route 172.16.1.0 255.255.255.0 s0/0/0
R1(config)#no ip route 192.168.1.0 255.255.255.0 s0/0/0
R1(config)#no ip route 192.168.2.0 255.255.255.0 s0/0/0

R1(config)#ip route 0.0.0.0 0.0.0.0 172.16.2.2
R1(config)#
```

1ère étape : Sur R1 en mode configuration nous entrons les commandes ci-dessus.

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

2ème étape : Nous enregistrons les modifications avec la commande « **copy run start** ».

```

R1#
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 172.16.2.2 to network 0.0.0.0

    172.16.0.0/24 is subnetted, 3 subnets
S       172.16.1.0 is directly connected, Serial0/0/0
C       172.16.2.0 is directly connected, Serial0/0/0
C       172.16.3.0 is directly connected, FastEthernet0/0
S    192.168.1.0/24 is directly connected, Serial0/0/0
S    192.168.2.0/24 is directly connected, Serial0/0/0
S*    0.0.0.0/0 [1/0] via 172.16.2.2

```

3ème étape : Sur R1 avec la commande « **show ip route** » nous examinons l'effet des modifications de la configuration.

```

C:\>ping 172.16.1.1

Pinging 172.16.1.1 with 32 bytes of data:

Reply from 172.16.1.1: bytes=32 time=1ms TTL=254
Reply from 172.16.1.1: bytes=32 time=1ms TTL=254
Reply from 172.16.1.1: bytes=32 time=1ms TTL=254
Reply from 172.16.1.1: bytes=32 time=9ms TTL=254

Ping statistics for 172.16.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 9ms, Average = 3ms

C:\>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time=25ms TTL=253
Reply from 192.168.2.1: bytes=32 time=38ms TTL=253
Reply from 192.168.2.1: bytes=32 time=2ms TTL=253
Reply from 192.168.2.1: bytes=32 time=2ms TTL=253

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 38ms, Average = 16ms

```

4ème étape : Depuis PC1 nous effectuons un ping vers les deux autres pc, nous remarquons qu'ils ont tous aboutis.