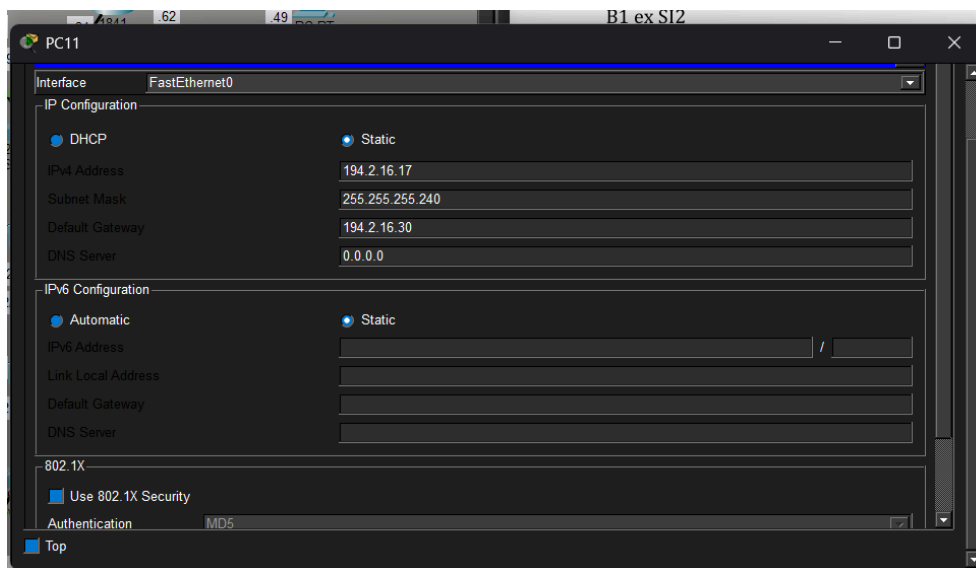


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1. Visualisation des tables de routage.

partie configuration de pc 11



commande sh interface brief sur R11

```
R11>en
R11#show ip interface brief
Interface      IP-Address      OK? Method Status      Protocol
FastEthernet0/0 194.2.16.33    YES manual up          up
FastEthernet0/1 194.2.16.30    YES manual up          up
Vlan1          unassigned     YES unset  administratively down down
R11#
```

Copy Paste

Visualisation de routes d'IP's de R1 et R11

```
R1
R1>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

194.2.16.0/28 is subnetted, 10 subnets
D 194.2.16.16 [90/2174976] via 194.2.16.97, 00:08:25, Serial0/0/0
D 194.2.16.32 [90/2172416] via 194.2.16.97, 00:08:48, Serial0/0/0
D 194.2.16.48 [90/2174976] via 194.2.16.97, 00:08:25, Serial0/0/0
C 194.2.16.96 is directly connected, Serial0/0/0
D 194.2.16.112 [90/2172416] via 194.2.16.146, 00:08:50, Serial0/0/1
[90/2172416] via 194.2.16.97, 00:08:48, Serial0/0/0
D 194.2.16.128 [90/2681856] via 194.2.16.146, 00:08:48, Serial0/0/1
[90/2681856] via 194.2.16.97, 00:08:48, Serial0/0/0
C 194.2.16.144 is directly connected, Serial0/0/1
D 194.2.16.192 [90/2174976] via 194.2.16.146, 00:08:24, Serial0/0/1
D 194.2.16.208 [90/2172416] via 194.2.16.146, 00:08:50, Serial0/0/1
--More--
```

```
R11
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

S 192.168.2.0/24 [1/0] via 194.2.16.35
194.2.16.0/28 is subnetted, 10 subnets
C 194.2.16.16 is directly connected, FastEthernet0/1
C 194.2.16.32 is directly connected, FastEthernet0/0
D 194.2.16.48 [90/30720] via 194.2.16.34, 00:08:46, FastEthernet0/0
D 194.2.16.96 [90/2172416] via 194.2.16.35, 00:08:46, FastEthernet0/0
D 194.2.16.112 [90/30720] via 194.2.16.35, 00:08:46, FastEthernet0/0
D 194.2.16.128 [90/2172416] via 194.2.16.35, 00:08:46, FastEthernet0/0
D 194.2.16.144 [90/2174976] via 194.2.16.35, 00:08:46, FastEthernet0/0
D 194.2.16.192 [90/35840] via 194.2.16.35, 00:08:45, FastEthernet0/0
D 194.2.16.208 [90/33280] via 194.2.16.35, 00:08:46, FastEthernet0/0
D 194.2.16.224 [90/35840] via 194.2.16.35, 00:08:45, FastEthernet0/0
R11#
```

- **Ping des PC 12,21 et 22 depuis PC 11**
- **Ping des PC 11,21 et 22 depuis PC 12**
- **Ping des PC 12,11 et 22 depuis PC 21**
- **Ping des PC 12,21 et 11 depuis PC 22**
- **Tous sont des succès**

```
PC11
Physical Config Desktop Programming Attributes
Command Prompt

Pinging 194.2.16.48 with 32 bytes of data:

Reply from 194.2.16.34: bytes=32 time<1ms TTL=254
Reply from 194.2.16.34: bytes=32 time<1ms TTL=254
Reply from 194.2.16.34: bytes=32 time<1ms TTL=254
Reply from 194.2.16.34: bytes=32 time<1ms TTL=254

Ping statistics for 194.2.16.48:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 194.2.16.224

Pinging 194.2.16.224 with 32 bytes of data:

Reply from 194.2.16.210: bytes=32 time<1ms TTL=252
Reply from 194.2.16.210: bytes=32 time<1ms TTL=252
Reply from 194.2.16.210: bytes=32 time<1ms TTL=252
Reply from 194.2.16.210: bytes=32 time<1ms TTL=252

Ping statistics for 194.2.16.224:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 194.2.16.192

Pinging 194.2.16.192 with 32 bytes of data:

Reply from 194.2.16.209: bytes=32 time<1ms TTL=252
Reply from 194.2.16.209: bytes=32 time<1ms TTL=252
Reply from 194.2.16.209: bytes=32 time<1ms TTL=252
Reply from 194.2.16.209: bytes=32 time<1ms TTL=252

Ping statistics for 194.2.16.192:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

```
PC12
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 194.2.16.16

Pinging 194.2.16.16 with 32 bytes of data:

Reply from 194.2.16.33: bytes=32 time<1ms TTL=254
Reply from 194.2.16.33: bytes=32 time<1ms TTL=254
Reply from 194.2.16.33: bytes=32 time<1ms TTL=254
Reply from 194.2.16.33: bytes=32 time<1ms TTL=254

Ping statistics for 194.2.16.16:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 194.2.16.224

Pinging 194.2.16.224 with 32 bytes of data:

Reply from 194.2.16.210: bytes=32 time=10ms TTL=252
Reply from 194.2.16.210: bytes=32 time=5ms TTL=252
Reply from 194.2.16.210: bytes=32 time=1ms TTL=252
Reply from 194.2.16.210: bytes=32 time=1ms TTL=252

Ping statistics for 194.2.16.224:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 10ms, Average = 4ms

C:\>ping 194.2.16.192

Pinging 194.2.16.192 with 32 bytes of data:

Reply from 194.2.16.209: bytes=32 time<1ms TTL=252
Reply from 194.2.16.209: bytes=32 time<1ms TTL=252
Reply from 194.2.16.209: bytes=32 time=1ms TTL=252
Reply from 194.2.16.209: bytes=32 time=1ms TTL=252

Ping statistics for 194.2.16.192:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>|
```

```
PC21
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 194.2.16.224

Pinging 194.2.16.224 with 32 bytes of data:

Reply from 194.2.16.210: bytes=32 time=1ms TTL=254
Reply from 194.2.16.210: bytes=32 time<1ms TTL=254
Reply from 194.2.16.210: bytes=32 time<1ms TTL=254
Reply from 194.2.16.210: bytes=32 time<1ms TTL=254

Ping statistics for 194.2.16.224:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 194.2.16.48

Pinging 194.2.16.48 with 32 bytes of data:

Reply from 194.2.16.34: bytes=32 time=9ms TTL=252
Reply from 194.2.16.34: bytes=32 time=1ms TTL=252
Reply from 194.2.16.34: bytes=32 time<1ms TTL=252
Reply from 194.2.16.34: bytes=32 time<1ms TTL=252

Ping statistics for 194.2.16.48:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 9ms, Average = 2ms

C:\>ping 194.2.16.16

Pinging 194.2.16.16 with 32 bytes of data:

Reply from 194.2.16.33: bytes=32 time<1ms TTL=252
Reply from 194.2.16.33: bytes=32 time=1ms TTL=252
Reply from 194.2.16.33: bytes=32 time=1ms TTL=252
Reply from 194.2.16.33: bytes=32 time<1ms TTL=252

Ping statistics for 194.2.16.16:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>|
```

```
PC22
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 194.2.16.192

Pinging 194.2.16.192 with 32 bytes of data:

Reply from 194.2.16.209: bytes=32 time<1ms TTL=254
Reply from 194.2.16.209: bytes=32 time<1ms TTL=254
Reply from 194.2.16.209: bytes=32 time<1ms TTL=254
Reply from 194.2.16.209: bytes=32 time<1ms TTL=254

Ping statistics for 194.2.16.192:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 194.2.16.48

Pinging 194.2.16.48 with 32 bytes of data:

Reply from 194.2.16.34: bytes=32 time<1ms TTL=252
Reply from 194.2.16.34: bytes=32 time<1ms TTL=252
Reply from 194.2.16.34: bytes=32 time<1ms TTL=252
Reply from 194.2.16.34: bytes=32 time<1ms TTL=252

Ping statistics for 194.2.16.48:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 194.2.16.16

Pinging 194.2.16.16 with 32 bytes of data:

Reply from 194.2.16.33: bytes=32 time<1ms TTL=252
Reply from 194.2.16.33: bytes=32 time<1ms TTL=252
Reply from 194.2.16.33: bytes=32 time<1ms TTL=252
Reply from 194.2.16.33: bytes=32 time<1ms TTL=252

Ping statistics for 194.2.16.16:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

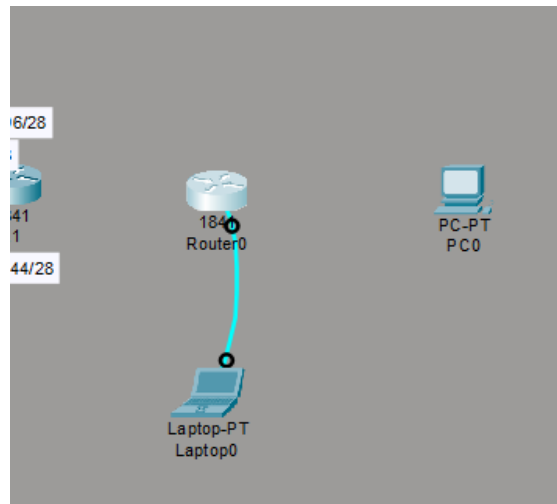
C:\>|
```

2. Ajout du routeur R0 et de l'ordinateur PC0.

Méthodologie et cas théorique

2.1. Placement des périphériques dans la topologie

le portable au routeur avec le câble console au port RS232



2.2. Ajout du module WIC-2T au routeur

off routeur ajout de WIC-2T et on du routeur



2.3. Configuration de base du routeur : utilisation du mode « setup »

Configuration et paramétrage pour le setup

```
--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: yes

At any point you may enter a question mark '?' for help.
Use ctrl-c to abort configuration dialog at any prompt.
Default settings are in square brackets '['].

Basic management setup configures only enough connectivity
for management of the system, extended setup will ask you
to configure each interface on the system

Would you like to enter basic management setup? [yes/no]: yes
Configuring global parameters:

Enter host name [Router]: R0

The enable secret is a password used to protect access to
privileged EXEC and configuration modes. This password, after
entered, becomes encrypted in the configuration.
Enter enable secret: mdp1

The enable password is used when you do not specify an
enable secret password, with some older software versions, and
some boot images.
Enter enable password: mdp2

The virtual terminal password is used to protect
access to the router over a network interface.
Enter virtual terminal password: mdp3
Configure SNMP Network Management? [no]:no

Current interface summary

Interface          IP-Address      OK? Method Status
Protocol

FastEthernet0/0    unassigned      YES manual administratively down down
FastEthernet0/1    unassigned      YES manual administratively down down
Serial0/0/0        unassigned      YES manual administratively down down
Serial0/0/1        unassigned      YES manual administratively down down
Vlan1              unassigned      YES manual administratively down down

Enter interface name used to connect to the
management network from the above interface summary: fastethernet0/0

Configuring interface FastEthernet0/0:
Configure IP on this interface? [yes]: yes
IP address for this interface: 192.168.2.1
Subnet mask for this interface [255.255.255.0] :

The following configuration command script was created:
```

Sur la fin de la configuration

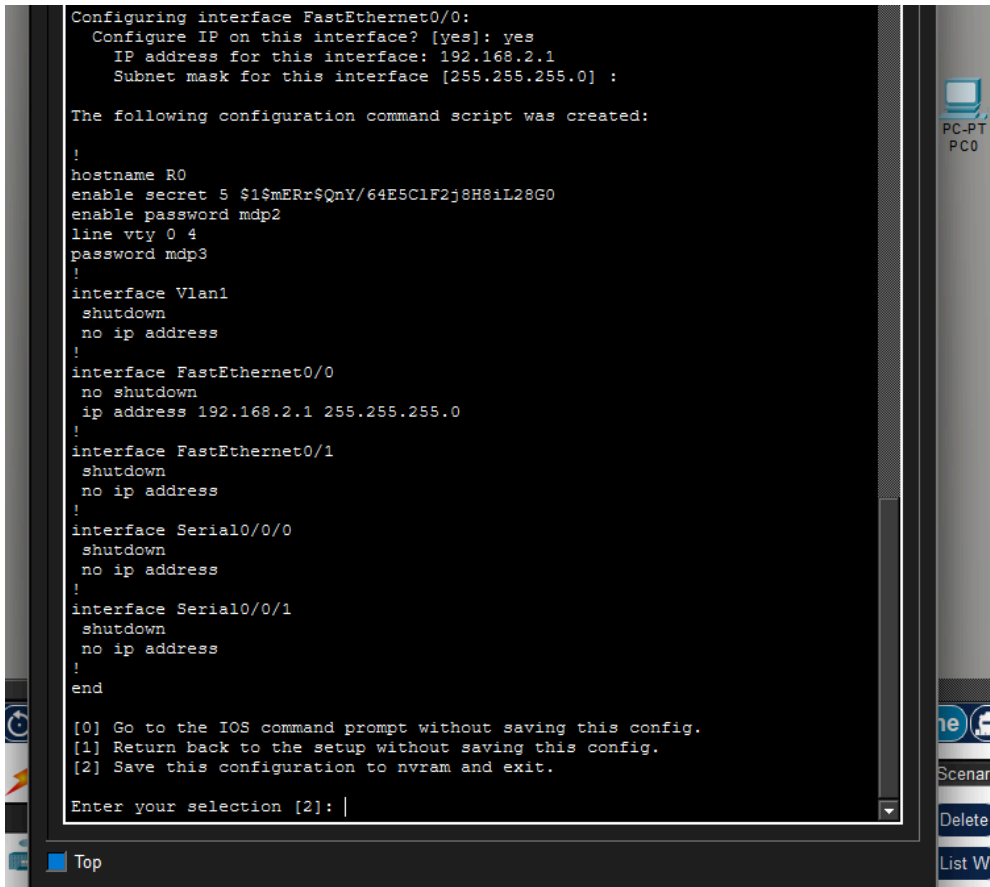
```
Configuring interface FastEthernet0/0:
Configure IP on this interface? [yes]: yes
IP address for this interface: 192.168.2.1
Subnet mask for this interface [255.255.255.0] :

The following configuration command script was created:

!
hostname R0
enable secret 5 $1$mERr$QnY/64E5ClF2j8H8iL28G0
enable password mdp2
line vty 0 4
password mdp3
!
interface Vlan1
shutdown
no ip address
!
interface FastEthernet0/0
no shutdown
ip address 192.168.2.1 255.255.255.0
!
interface FastEthernet0/1
shutdown
no ip address
!
interface Serial0/0/0
shutdown
no ip address
!
interface Serial0/0/1
shutdown
no ip address
!
end

[0] Go to the IOS command prompt without saving this config.
[1] Return back to the setup without saving this config.
[2] Save this configuration to nvram and exit.

Enter your selection [2]: |
```



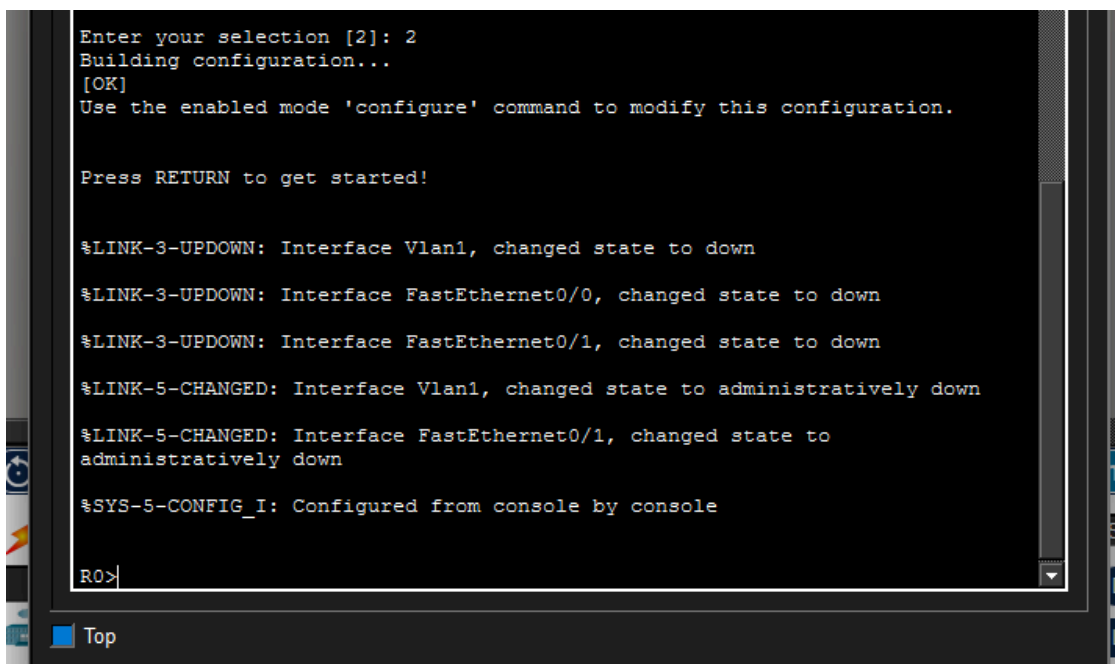
Fin de la configuration

```
Enter your selection [2]: 2
Building configuration...
[OK]
Use the enabled mode 'configure' command to modify this configuration.

Press RETURN to get started!

%LINK-3-UPDOWN: Interface Vlan1, changed state to down
%LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to down
%LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to down
%LINK-5-CHANGED: Interface Vlan1, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to
administratively down
%SYS-5-CONFIG_I: Configured from console by console

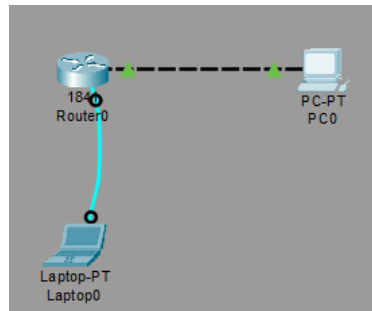
R0>
```



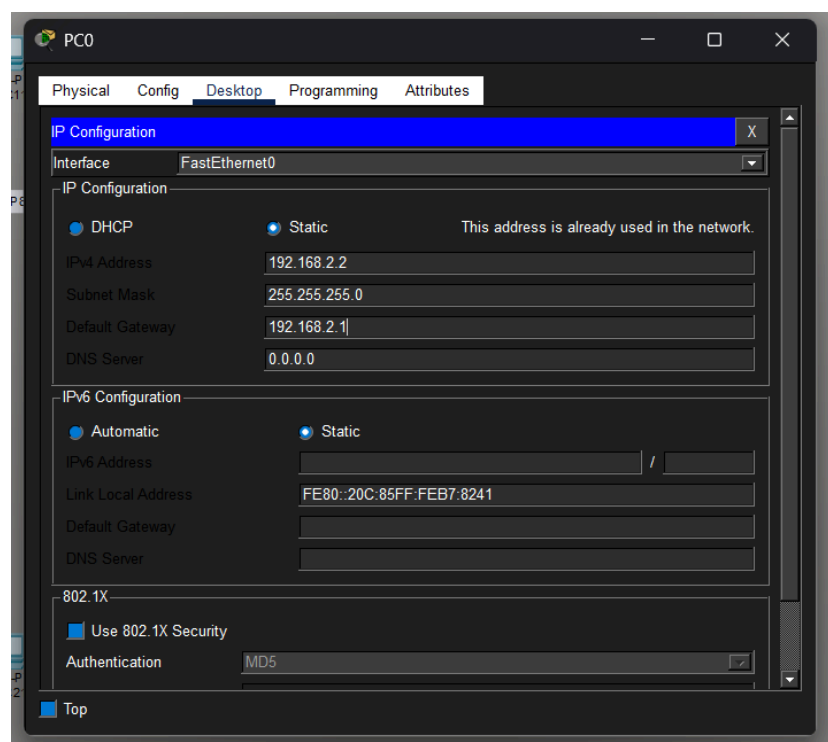
Non essai de la reconfiguration via setup du routeur car pas de faute de frappe
durant la configuration (logiquement)

2.4. Configuration de l'ordinateur et connexion au routeur

Connexion de l'ordinateur au routeur avec un câble croisé de l'interface
FastEthernet de l'ordinateur à l'interface FastEthernet0/0 du routeur



Ajout de l'adresse passerelle, masque et IP



2.5. Observez le fonctionnement ARP et vérifiez la connectivité entre PC0 et R0

exécution de la commande arp -a sur le pc

```
C:\>arp -a
No ARP Entries Found
C:\>
```

show arp sur le routeur depuis le pc

```
R0>en
Password:
R0#show arp
Protocol Address Age (min) Hardware Addr Type Interface
Internet 192.168.2.1 - 0060.47EB.0C01 ARPA FastEthernet0/0
R0#
R0#
```

ping de l'IP 192.168.2.1

```
C:\>arp -a
No ARP Entries Found
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<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255

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

Résultat sur le pc et sur le routeur R0 depuis le pc via arp -a et show arp

```
C:\>arp -a
Internet Address Physical Address Type
192.168.2.1 0060.47eb.0c01 dynamic
C:\>
```

```
R0#
R0#show arp
Protocol Address Age (min) Hardware Addr Type Interface
Internet 192.168.2.1 - 0060.47EB.0C01 ARPA FastEthernet0/0
Internet 192.168.2.2 1 000C.85B7.8241 ARPA FastEthernet0/0
R0#
```

Top

2.6. Test de la connexion Telnet au routeur

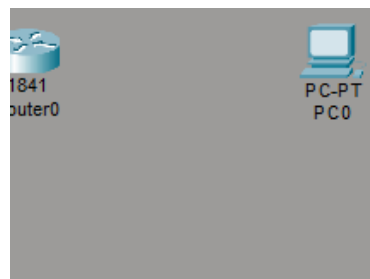
execution de la commande telnet 192.168.2.1
passant du pc au routeur soit concluant

```
C:\>telnet 192.168.2.1
Trying 192.168.2.1 ...Open

User Access Verification

Password:
R0>telnet 192.168.2.1
Trying 192.168.2.1 ...Open
```

suppression du câble



2.7. Connexion du routeur R0 au routeur R1

Visualisation des deux WIC-2T du R1



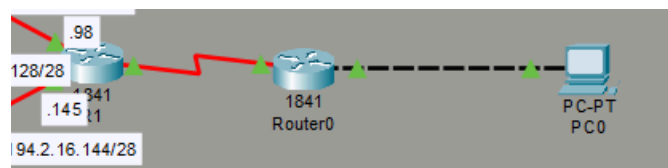
Exécution de la commande show interface brief sur R1

```

R1>en
R1#show ip interface brief
Interface                IP-Address      OK? Method Status      Protocol
FastEthernet0/0          unassigned      YES unset    administratively down  down
FastEthernet0/1          unassigned      YES unset    administratively down  down
Serial0/0/0              194.2.16.98     YES manual   up          up
Serial0/0/1              194.2.16.145   YES manual   up          up
Serial0/1/0              192.168.1.1     YES manual   down       down
Serial0/1/1              unassigned      YES unset    administratively down  down
Vlan1                    unassigned      YES unset    administratively down  down
R1#

```

ajout du câble série DCE



2.8. Configuration de l'interface série du routeur R0

exécution et configuration des commandes suivantes :

- en
- conf t
- interface s0/0/0
- ip address 192.168.1.2 255.255.255.0
- clock rate 64000
- no shutdown
- Ctrl + Z
- copy run start
- show ip interface brief
- ping de l'adresse IP de S0/1/0 du routeurs R1 soit 192.168.1.1

```
PC0
Physical Config Desktop Programming Attributes
Command Prompt
Password:
R0>en
Password:
R0#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R0(config)#mode de configuration interface
^
% Invalid input detected at '^' marker.

R0(config)#interface s0/0/0
R0(config-if)#ip address 192.168.1.2 255.255.255.0
R0(config-if)#clock rate 64000
R0(config-if)#no shutdown
R0(config-if)#^Z
R0#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
R0#show ip interface brief
Interface          IP-Address      OK? Method Status  Protocol
FastEthernet0/0    192.168.2.1     YES manual up      up
FastEthernet0/1    unassigned      YES unset  down    down
Serial0/0/0        192.168.1.2     YES manual up      up
Serial0/0/1        unassigned      YES unset  down    down
Vlan1              unassigned      YES unset  up      down
R0#ping
Protocol [ip]:
Target IP address:
% Bad IP address

R0#ping 192.168.1.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.1.1, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms

R0#exit
[Connection to 192.168.2.1 closed by foreign host]
C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

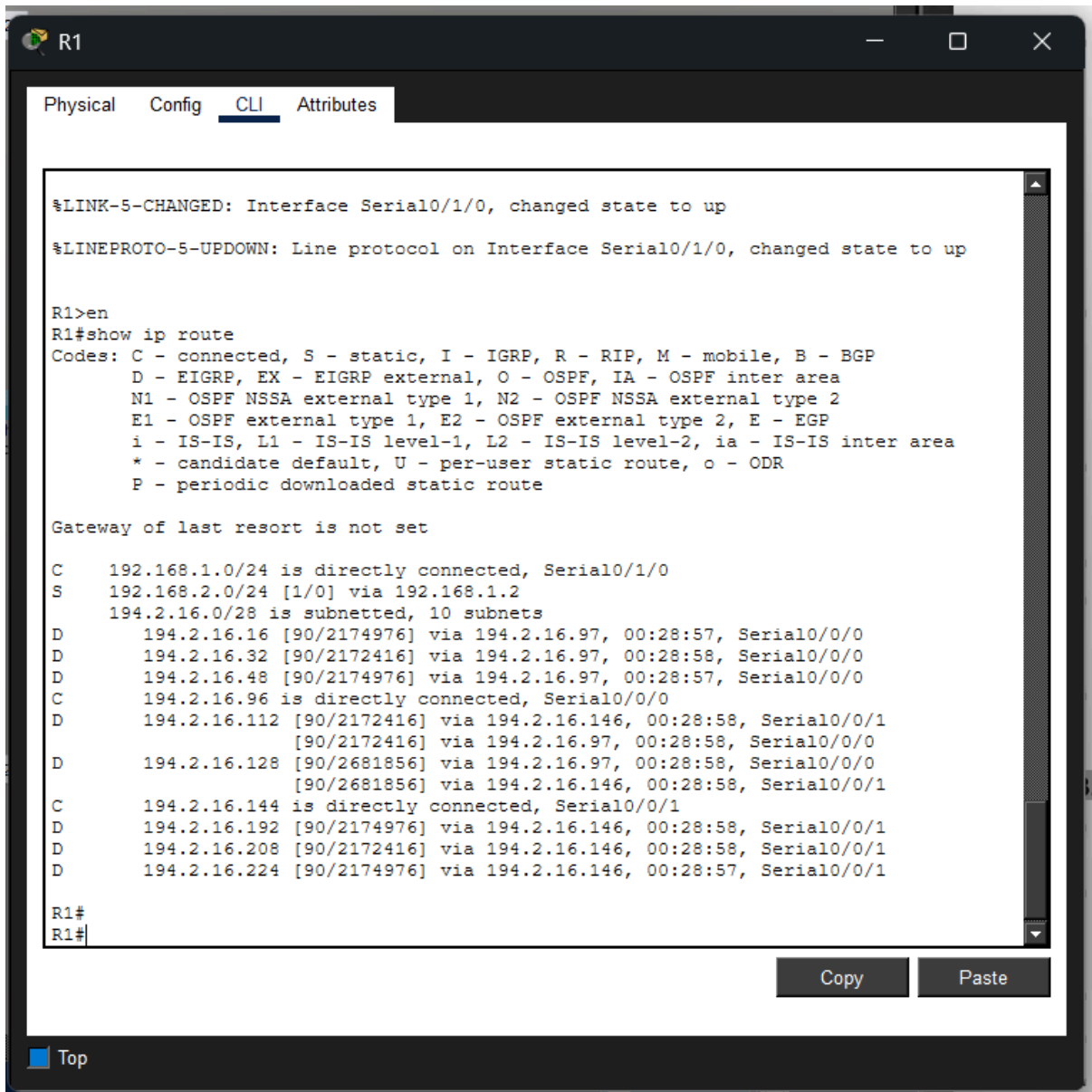
Reply from 192.168.1.1: bytes=32 time=1ms TTL=254
Reply from 192.168.1.1: bytes=32 time=1ms TTL=254
Reply from 192.168.1.1: bytes=32 time=15ms TTL=254
Reply from 192.168.1.1: bytes=32 time=1ms TTL=254

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 15ms, Average = 4ms

C:\>
```

3. Ajout de routes.

exécution de sh ip route de R1 et R0



```
R1
Physical Config CLI Attributes
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up

R1>en
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

C    192.168.1.0/24 is directly connected, Serial0/1/0
S    192.168.2.0/24 [1/0] via 192.168.1.2
     194.2.16.0/28 is subnetted, 10 subnets
D    194.2.16.16 [90/2174976] via 194.2.16.97, 00:28:57, Serial0/0/0
D    194.2.16.32 [90/2172416] via 194.2.16.97, 00:28:58, Serial0/0/0
D    194.2.16.48 [90/2174976] via 194.2.16.97, 00:28:57, Serial0/0/0
C    194.2.16.96 is directly connected, Serial0/0/0
D    194.2.16.112 [90/2172416] via 194.2.16.146, 00:28:58, Serial0/0/1
      [90/2172416] via 194.2.16.97, 00:28:58, Serial0/0/0
D    194.2.16.128 [90/2681856] via 194.2.16.97, 00:28:58, Serial0/0/0
      [90/2681856] via 194.2.16.146, 00:28:58, Serial0/0/1
C    194.2.16.144 is directly connected, Serial0/0/1
D    194.2.16.192 [90/2174976] via 194.2.16.146, 00:28:58, Serial0/0/1
D    194.2.16.208 [90/2172416] via 194.2.16.146, 00:28:58, Serial0/0/1
D    194.2.16.224 [90/2174976] via 194.2.16.146, 00:28:57, Serial0/0/1

R1#
R1#
```

```
Router0
Physical Config CLI Attributes
%SYS-5-CONFIG_I: Configured from console by console

R0>
R0>
R0>en
Password:
R0#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

C    192.168.1.0/24 is directly connected, Serial0/0/0
C    192.168.2.0/24 is directly connected, FastEthernet0/0

R0#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

C    192.168.1.0/24 is directly connected, Serial0/0/0
C    192.168.2.0/24 is directly connected, FastEthernet0/0

R0#
```

Ajout et test des route de R0 aux autres pc 11, 12, 21 et 22 et ping des IP's qui correspondent (succès)

The screenshot shows a Windows desktop environment with a taskbar at the top containing icons for PC0, a window manager, and a close button. Below the taskbar is a navigation bar with tabs for 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes'. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The window title bar reads 'Command Prompt' and has a close button 'X'. The command prompt shows the following output:

```
C:\>ping 194.2.16.16

Pinging 194.2.16.16 with 32 bytes of data:

Reply from 194.2.16.33: bytes=32 time=16ms TTL=252
Reply from 194.2.16.33: bytes=32 time=2ms TTL=252
Reply from 194.2.16.33: bytes=32 time=10ms TTL=252
Reply from 194.2.16.33: bytes=32 time=13ms TTL=252

Ping statistics for 194.2.16.16:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 16ms, Average = 10ms

C:\>ping 194.2.16.48

Pinging 194.2.16.48 with 32 bytes of data:

Reply from 194.2.16.34: bytes=32 time=12ms TTL=252
Reply from 194.2.16.34: bytes=32 time=8ms TTL=252
Reply from 194.2.16.34: bytes=32 time=2ms TTL=252
Reply from 194.2.16.34: bytes=32 time=2ms TTL=252

Ping statistics for 194.2.16.48:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 12ms, Average = 6ms

C:\>ping 194.2.16.224

Pinging 194.2.16.224 with 32 bytes of data:

Reply from 194.2.16.210: bytes=32 time=14ms TTL=252
Reply from 194.2.16.210: bytes=32 time=11ms TTL=252
Reply from 194.2.16.210: bytes=32 time=11ms TTL=252
Reply from 194.2.16.210: bytes=32 time=11ms TTL=252

Ping statistics for 194.2.16.224:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 11ms, Maximum = 14ms, Average = 11ms

C:\>ping 194.2.16.192

Pinging 194.2.16.192 with 32 bytes of data:

Reply from 194.2.16.209: bytes=32 time=14ms TTL=252
Reply from 194.2.16.209: bytes=32 time=6ms TTL=252
Reply from 194.2.16.209: bytes=32 time=3ms TTL=252
Reply from 194.2.16.209: bytes=32 time=3ms TTL=252

Ping statistics for 194.2.16.192:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 14ms, Average = 6ms

C:\>
```

At the bottom left of the Command Prompt window, there is a blue square icon and the text 'Top'.

Visualisation des route d'ip ajouter à R0 pour la connectivité entre lui et les autre pc et la route de R1 via sh ip route et leurs enregistrements via copy run start

```
R1#
C    192.168.1.0/24 is directly connected, Serial0/1/0
    192.168.2.0/24 is variably subnetted, 2 subnets, 2 masks
S    192.168.2.0/24 [1/0] via 192.168.1.2
S    192.168.2.1/32 [1/0] via 194.2.16.96
        [1/0] via 194.2.16.144
        [1/0] via 194.2.16.128
    194.2.16.0/28 is subnetted, 10 subnets
D    194.2.16.16 [90/2174976] via 194.2.16.97, 00:34:15, Serial0/0/0
D    194.2.16.32 [90/2172416] via 194.2.16.97, 00:34:42, Serial0/0/0
D    194.2.16.48 [90/2174976] via 194.2.16.97, 00:34:15, Serial0/0/0
C    194.2.16.96 is directly connected, Serial0/0/0
D    194.2.16.112 [90/2172416] via 194.2.16.97, 00:34:42, Serial0/0/0
        [90/2172416] via 194.2.16.146, 00:34:42, Serial0/0/1
D    194.2.16.128 [90/2681856] via 194.2.16.97, 00:34:42, Serial0/0/0
        [90/2681856] via 194.2.16.146, 00:34:42, Serial0/0/1
C    194.2.16.144 is directly connected, Serial0/0/1
D    194.2.16.192 [90/2174976] via 194.2.16.146, 00:34:16, Serial0/0/1
D    194.2.16.208 [90/2172416] via 194.2.16.146, 00:34:42, Serial0/0/1
D    194.2.16.224 [90/2174976] via 194.2.16.146, 00:34:16, Serial0/0/1
R1#
```

Copy Paste

Top

```
Gateway of last resort is not set
R0#
C    192.168.1.0/24 is directly connected, Serial0/0/0
C    192.168.2.0/24 is directly connected, FastEthernet0/0
    194.2.16.0/28 is subnetted, 8 subnets
S    194.2.16.16 [1/0] via 194.2.16.32
S    194.2.16.32 [1/0] via 194.2.16.96
S    194.2.16.48 [1/0] via 194.2.16.32
S    194.2.16.96 [1/0] via 192.168.1.1
S    194.2.16.144 [1/0] via 192.168.1.1
S    194.2.16.192 [1/0] via 194.2.16.208
S    194.2.16.208 [1/0] via 194.2.16.144
S    194.2.16.224 [1/0] via 194.2.16.208
R0#
```

Copy Paste

Top

```
R0#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
R0#
```