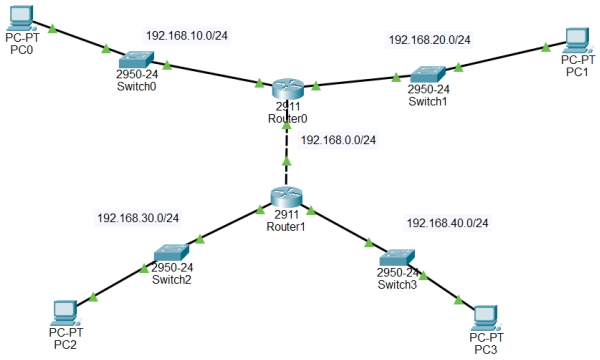
TP N° 2

1. Realiser la topologie suivante avec routage static :



Route Static

On a deux route static pour chaque routeur :

- Router 0 :
  - `ip route 192.168.30.0 255.255.255.0 192.168.0.2`
  - `ip route 192.168.40.0 255.255.255.0 192.168.0.2`
- Router 1 :
  - `ip route 192.168.10.0 255.255.255.0 192.168.0.1`
  - `ip route 192.168.20.0 255.255.255.0 192.168.0.1`

2. Activer et configurer **RIP** sur le routeur 0 :

RIP

- Activer le protocole RIP on doit etre au niveau 3 et utilise : `router rip`
- `router rip` nous fait passse au niveau 4 aussi `Router(config-router)#`.
- Ajouter un reseau voisin au routage dynamic on doit etre au niveau 4 et utilise: `network <reseau_connu>`
- Enlever un reseau voisin au routage dynamic on doit etre au niveau 4 et utilise: `no network <reseau_connu>`

3. Qu'est ce qui manque a notre configuration **RIP**?

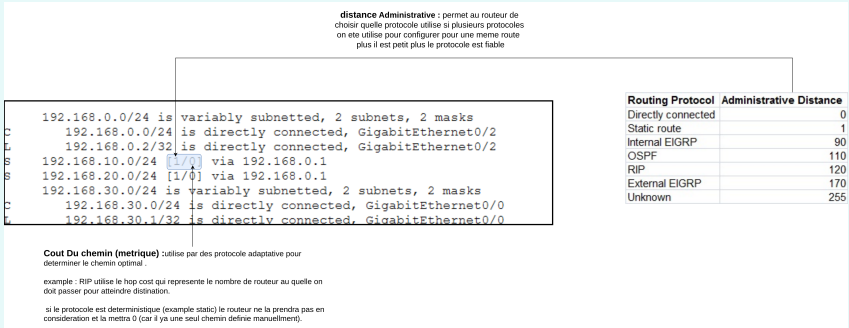
Routeur 1

On n'a ni activer ni configurer le protocole **RIP** sur l'autre routeur.

4. Activer et configurer **RIP** sur le routeur 1 :

5. Pourquoi on ne voit aucune route R (**RIP**) dans la table de routage de deux routeurs malgres qu'on a activer et configurer **RIP**?

Distance Administrative

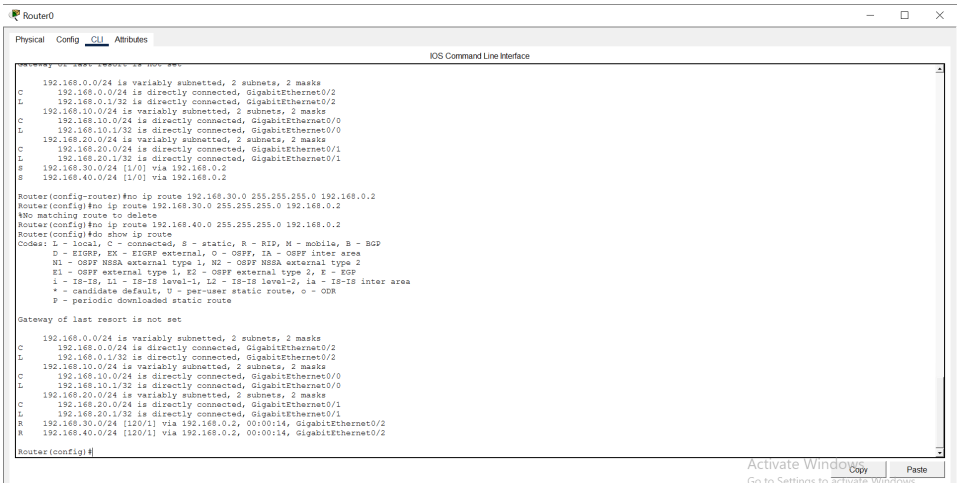


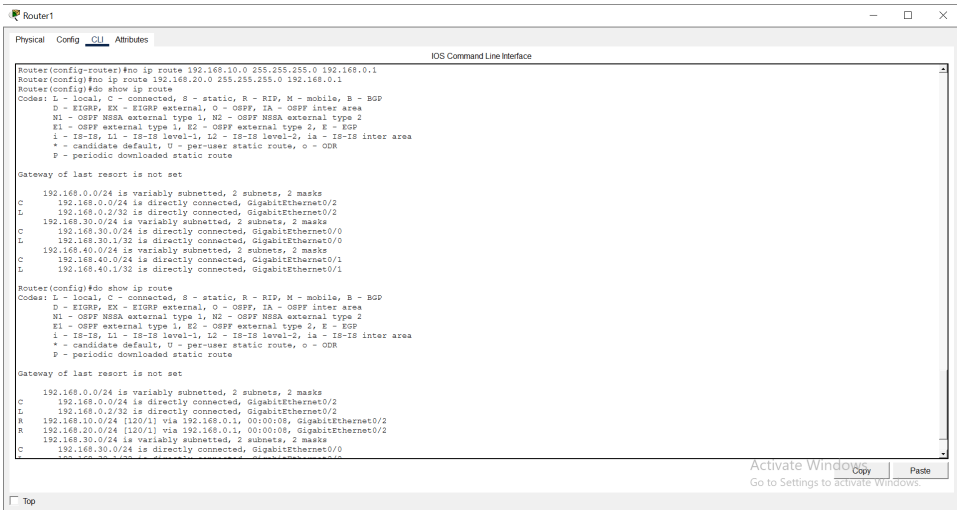
le routeur a prefere utilise le routage static car il a une distance administrative plus petite (static) $1 < 120$ (**RIP**)

6. Enlever tout les routages static :

Enlever Routage Static

```
no ip route <ip_reseau_iconnu> <mask_reseau_iconnu> <ip_voisin_pour_acceder>
```

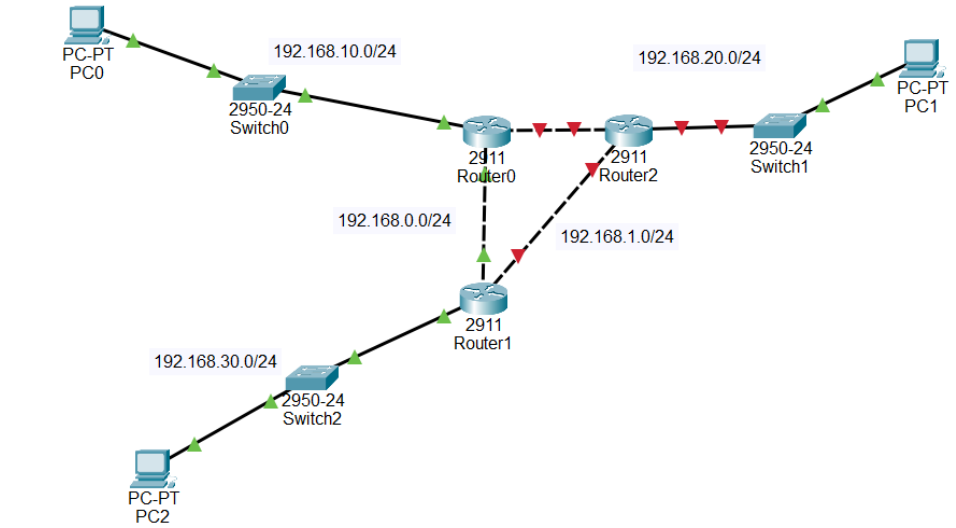


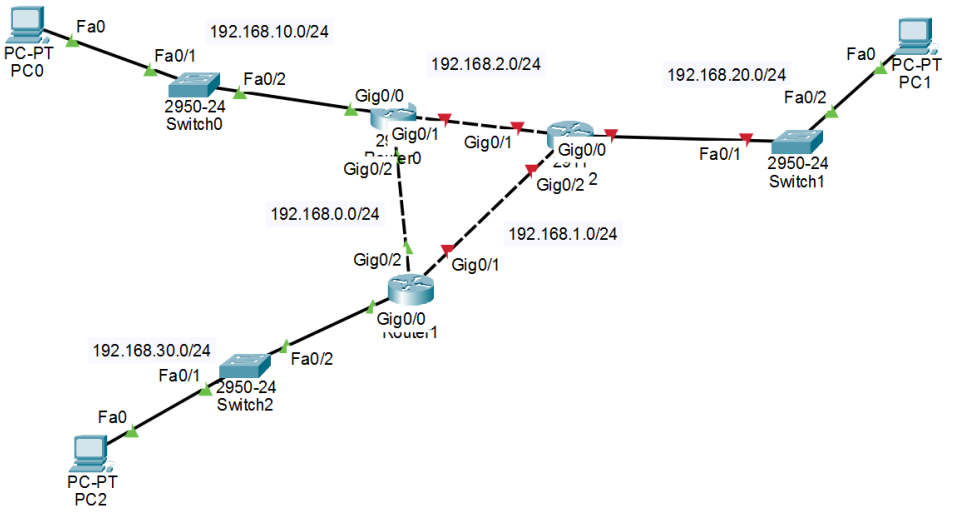


Remarque

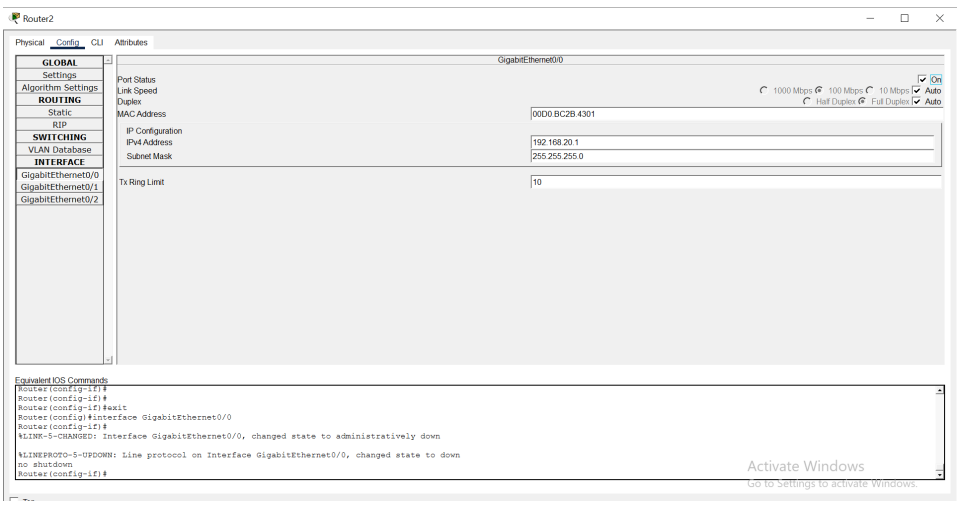
On remarque que la table de routage c'est met a jour automatiquement apres avoir enelever le routage static on a un routage **RIP** dynamic avec une distance administrative de 120 et le hop cost de 1 (passe par un routeur pour atteindre la distination).

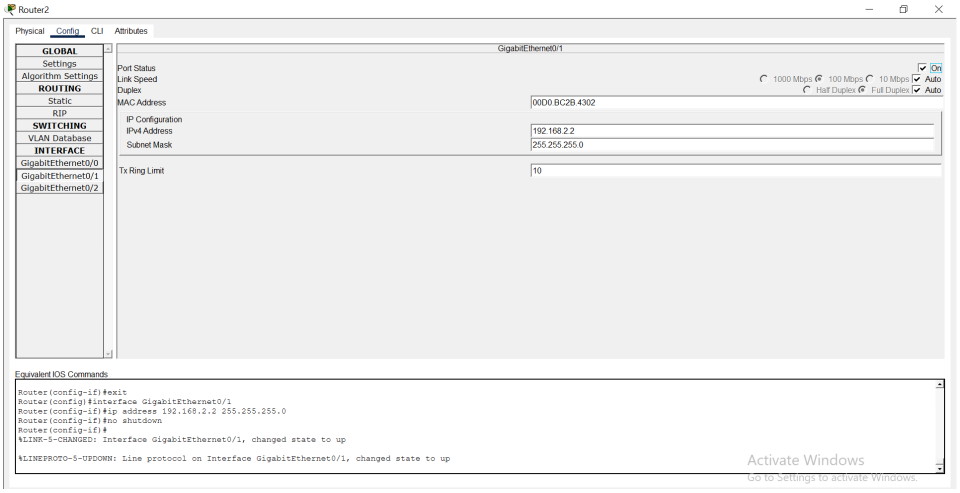
7. Changer la topologie pour qu'elle devient comme suit :

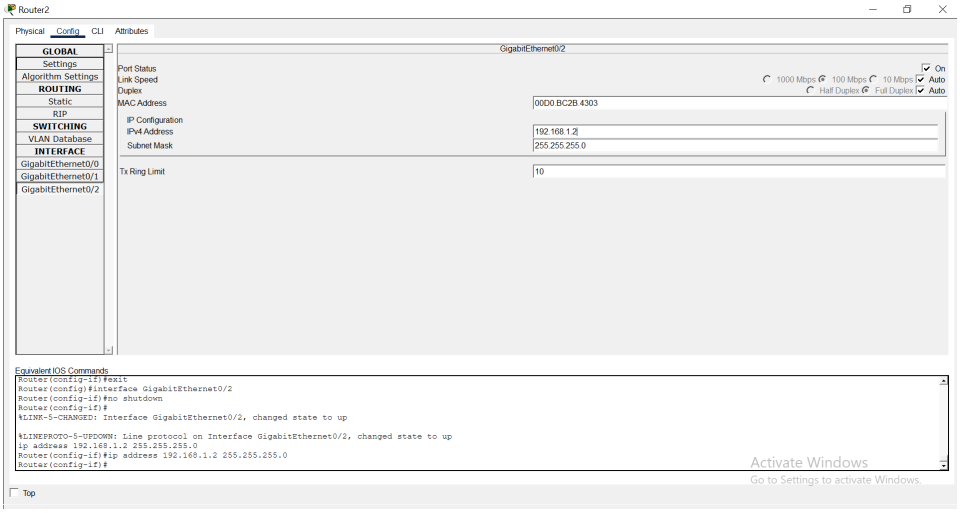




8. Configurer tout les routeurs comme il se doit :




Router2
Physical Config CLI Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0
GigabitEthernet0/1
GigabitEthernet0/2
GigabitEthernet0/1
Port Status
Link Speed
Duplex
MAC Address
00D0.BC2B.4302
IP Configuration
IPv4 Address
192.168.2.2
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#ip address 192.168.2.2 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up
Activate Windows
Go to Settings to activate Windows.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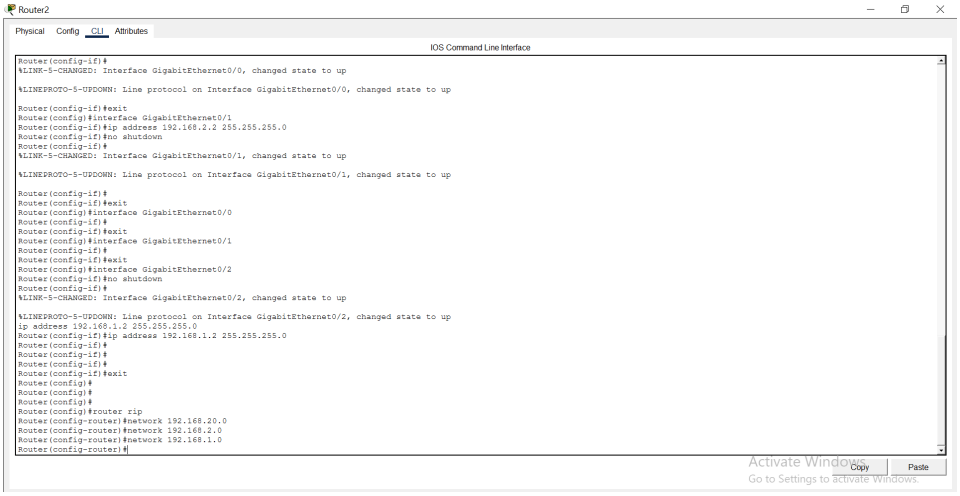
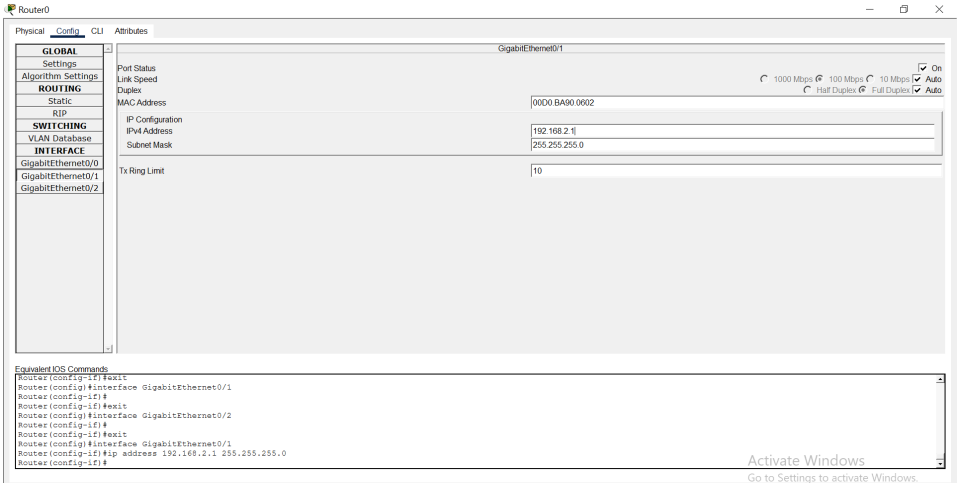
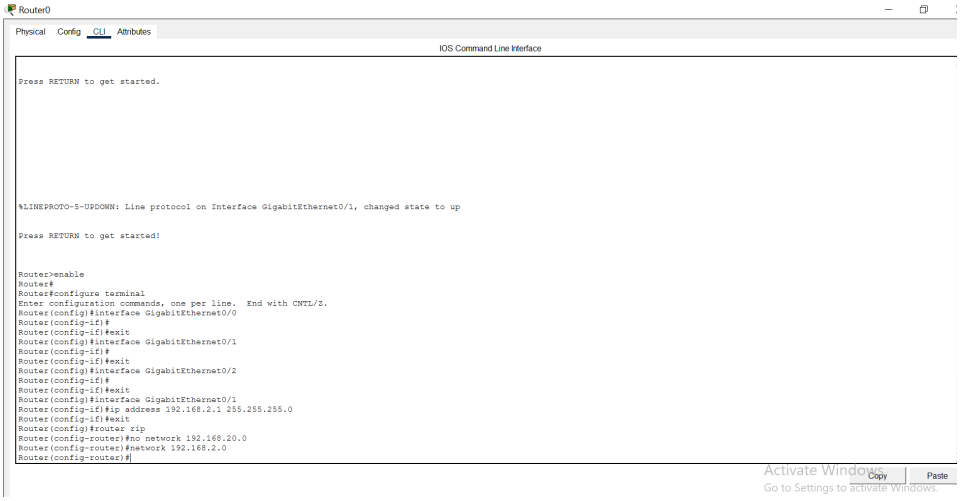
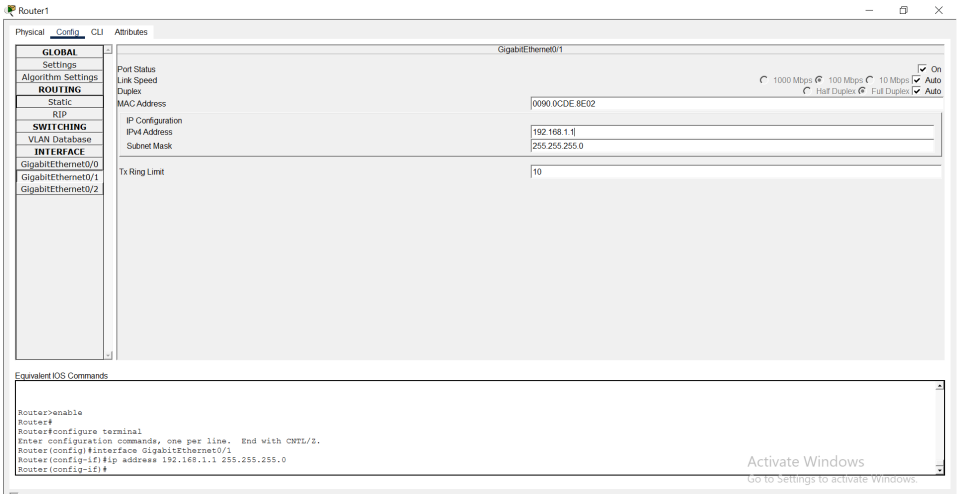
GigabitEthernet0/2
GigabitEthernet0/2
Port Status
Link Speed
Duplex
MAC Address
00D0.BC2B.4303
IP Configuration
IPv4 Address
192.168.1.2
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/2
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to up
ip address 192.168.1.2 255.255.255.0
Router(config-if)#ip address 192.168.1.2 255.255.255.0
Router(config-if)#
Activate Windows
Go to Settings to activate Windows.
Top

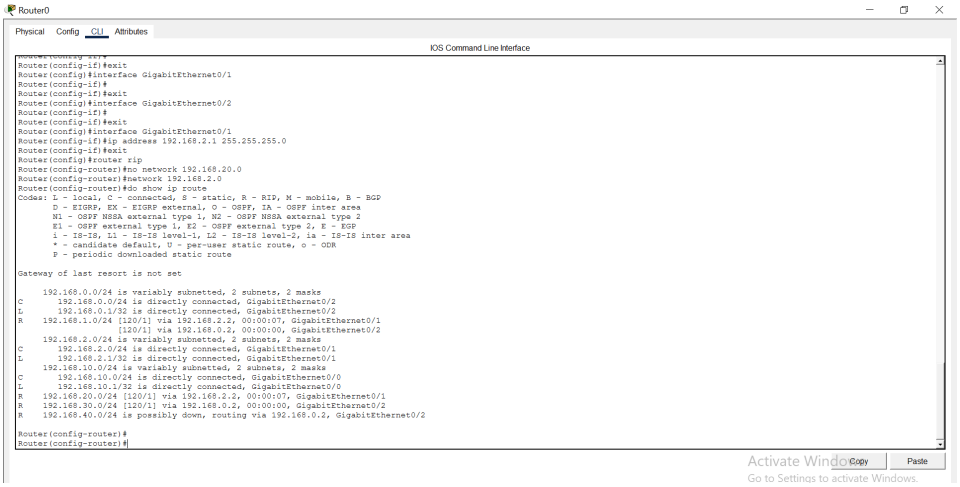

Router2
Physical Config CLI Attributes
IOS Command Line Interface
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#ip address 192.168.2.2 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/2
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to up
ip address 192.168.1.2 255.255.255.0
Router(config-if)#ip address 192.168.1.2 255.255.255.0
Router(config-if)#
Router(config-if)#
Router(config-if)#
Router(config-if)#exit
Router(config)#
Router(config)#
Router(config)#
Router(config)#router rip
Router(config-router)#network 192.168.20.0
Router(config-router)#network 192.168.2.0
Router(config-router)#network 192.168.1.0
Router(config-router)#
Copy
Paste
Activate Windows
Go to Settings to activate Windows.


Router0
Physical Config CLI Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0
GigabitEthernet0/1
GigabitEthernet0/2
GigabitEthernet0/1
Port Status
Link Speed
Duplex
MAC Address
00D0.BA90.0602
IP Configuration
IPv4 Address
192.168.2.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/2
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#ip address 192.168.2.1 255.255.255.0
Router(config-if)#
Activate Windows
Go to Settings to activate Windows.

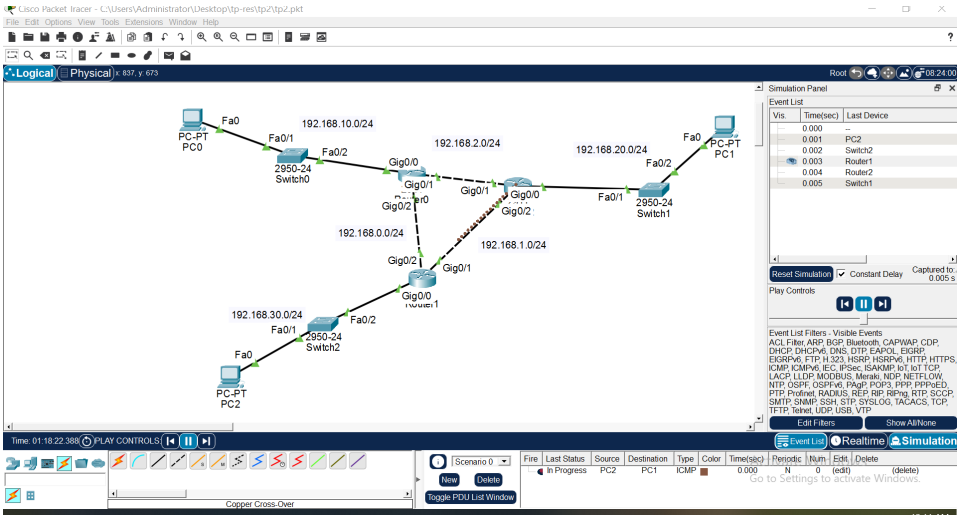

Router0
Physical Config CLI Attributes
IOS Command Line Interface
Press RETURN to get started.
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up
Press RETURN to get started!
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/2
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#ip address 192.168.2.1 255.255.255.0
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#no network 192.168.20.0
Router(config-router)#network 192.168.2.0
Router(config-router)#
Copy
Paste
Activate Windows
Go to Settings to activate Windows.


Router1
Physical Config CLI Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0
GigabitEthernet0/1
GigabitEthernet0/2
GigabitEthernet0/1
Port Status
Link Speed
Duplex
MAC Address
0090.0CDE.8E02
IP Configuration
IPv4 Address
192.168.1.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/1
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#
Activate Windows
Go to Settings to activate Windows.

9. Afficher les tables de routage apres mise-a-jour :



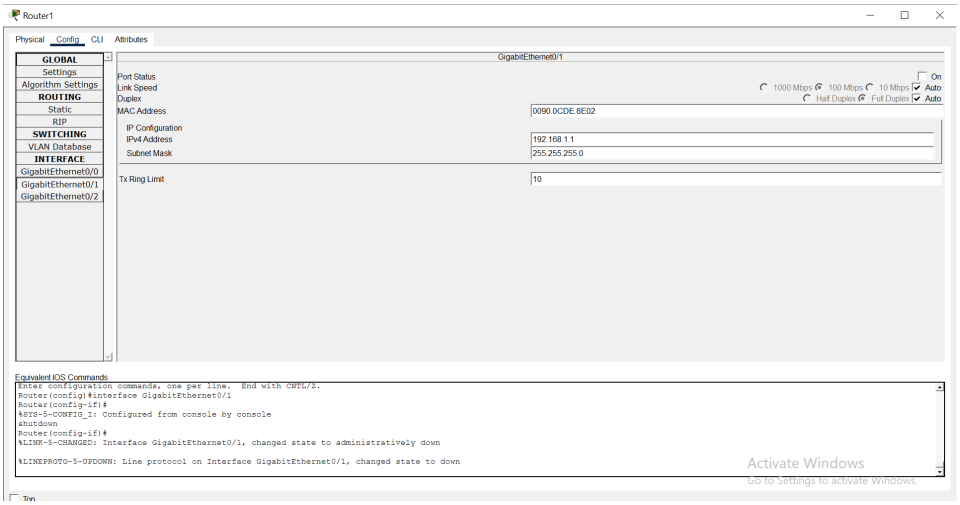
10. faite un ping simulation du PC2 au PC1:



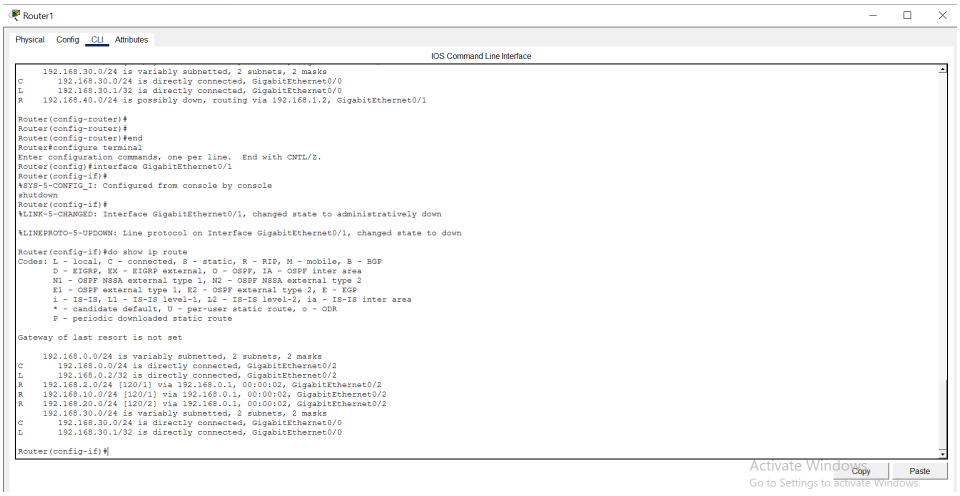
Remarque

On remarque que le roteur 1 prend le chemin avec le plus hop cost il est alle au routeur 2 directment sans avoir a passer au routeur 0 puis routeur 2.

11. Desactiver l'interface G 0/1 du routeur 1 :



12. Afficher la table de routage du routeur 1 apres avoir desactiver l'interface :



Remarque

Pour acceder au reseau 192.168.20.0/24 il passe par le routeur 0 parceque l'interface relie avec le routeur 2 a ete desactiver :

13. refaire un ping simulation du PC2 au PC1: