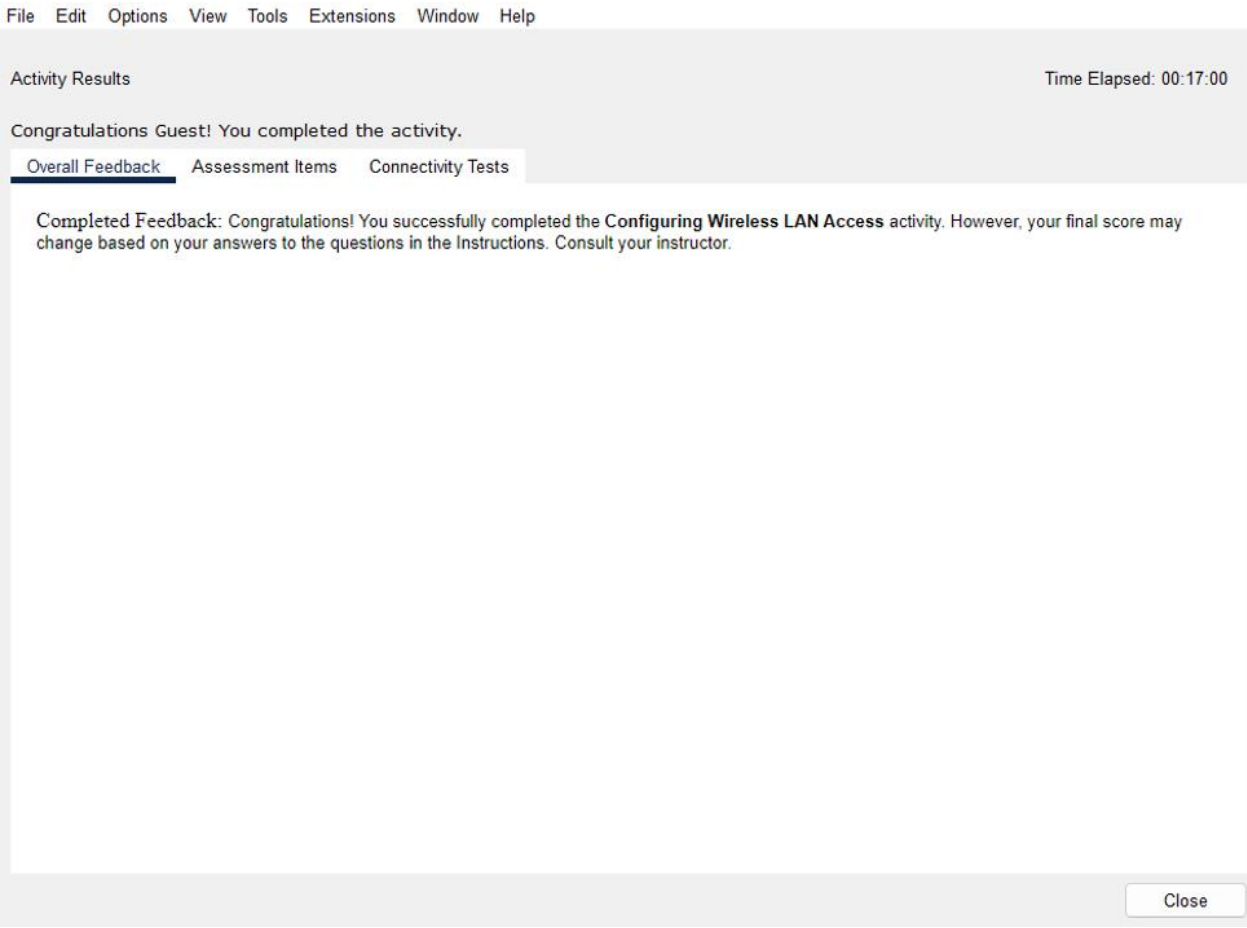
ĐẠI HỌC QUỐC GIA THÀNH PHỐ HỒ CHÍ MINH
TRƯỜNG ĐẠI HỌC CÔNG NGHỆ THÔNG TIN

NHẬP MÔN MẠNG MÁY TÍNH
LỚP: IT005.O118.1
BÁO CÁO BÀI TẬP THỰC HÀNH 5

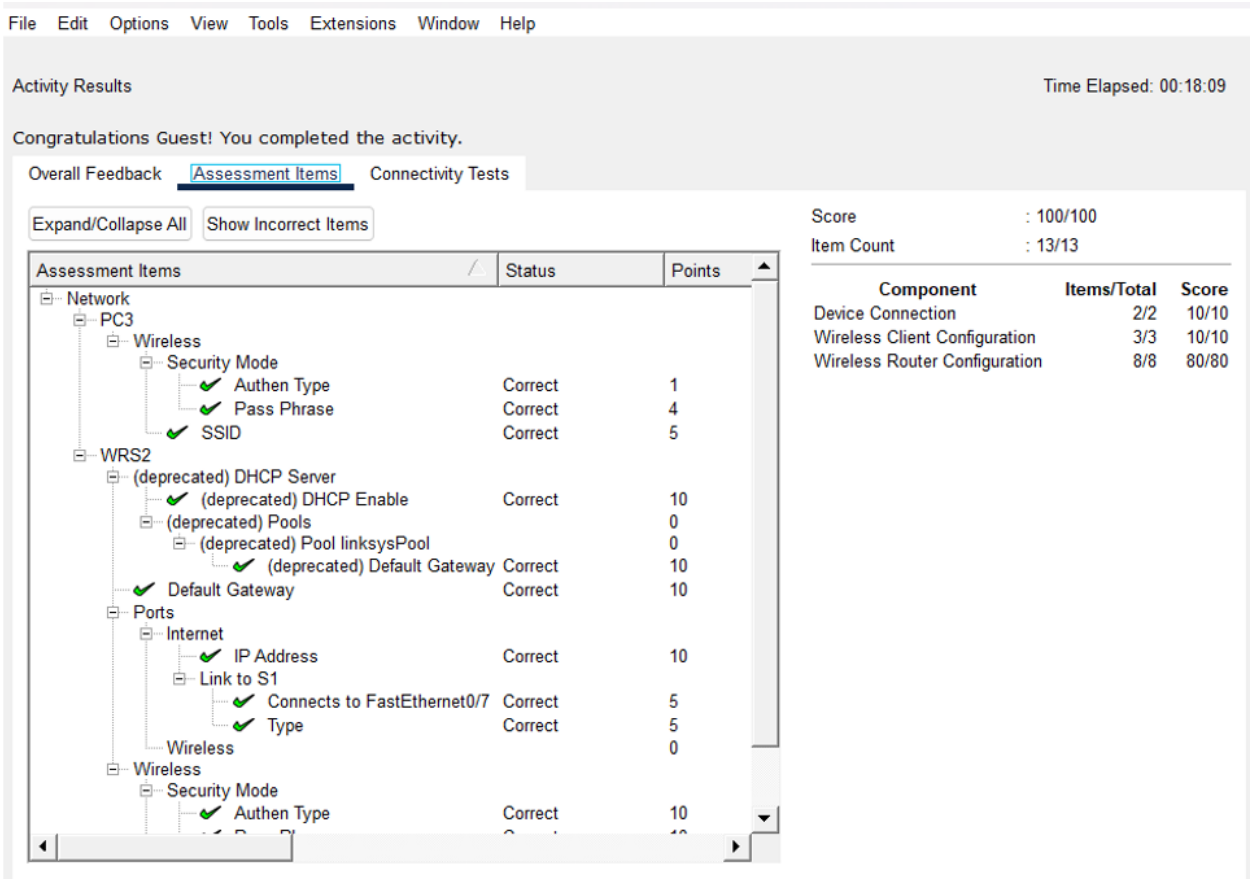
Họ tên: Trần Đình Khánh Đăng

MSSV: 22520195

Task 1: Cấu hình thiết bị mạng không dây

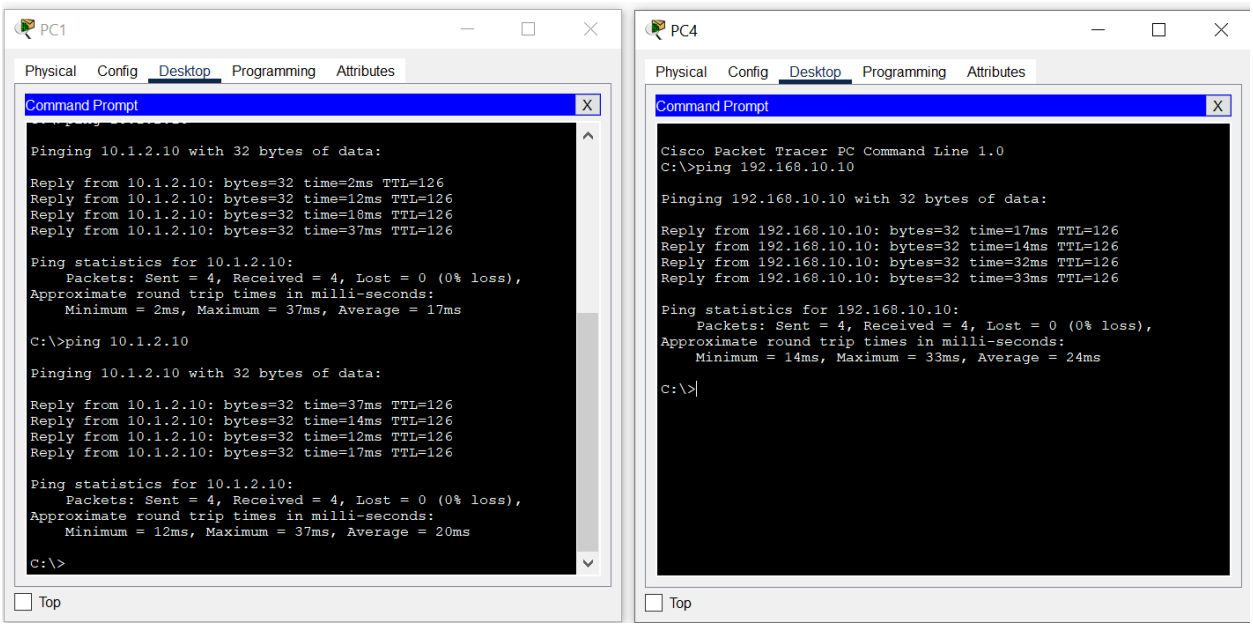


Kết quả tổng quát khi đã thực hiện xong

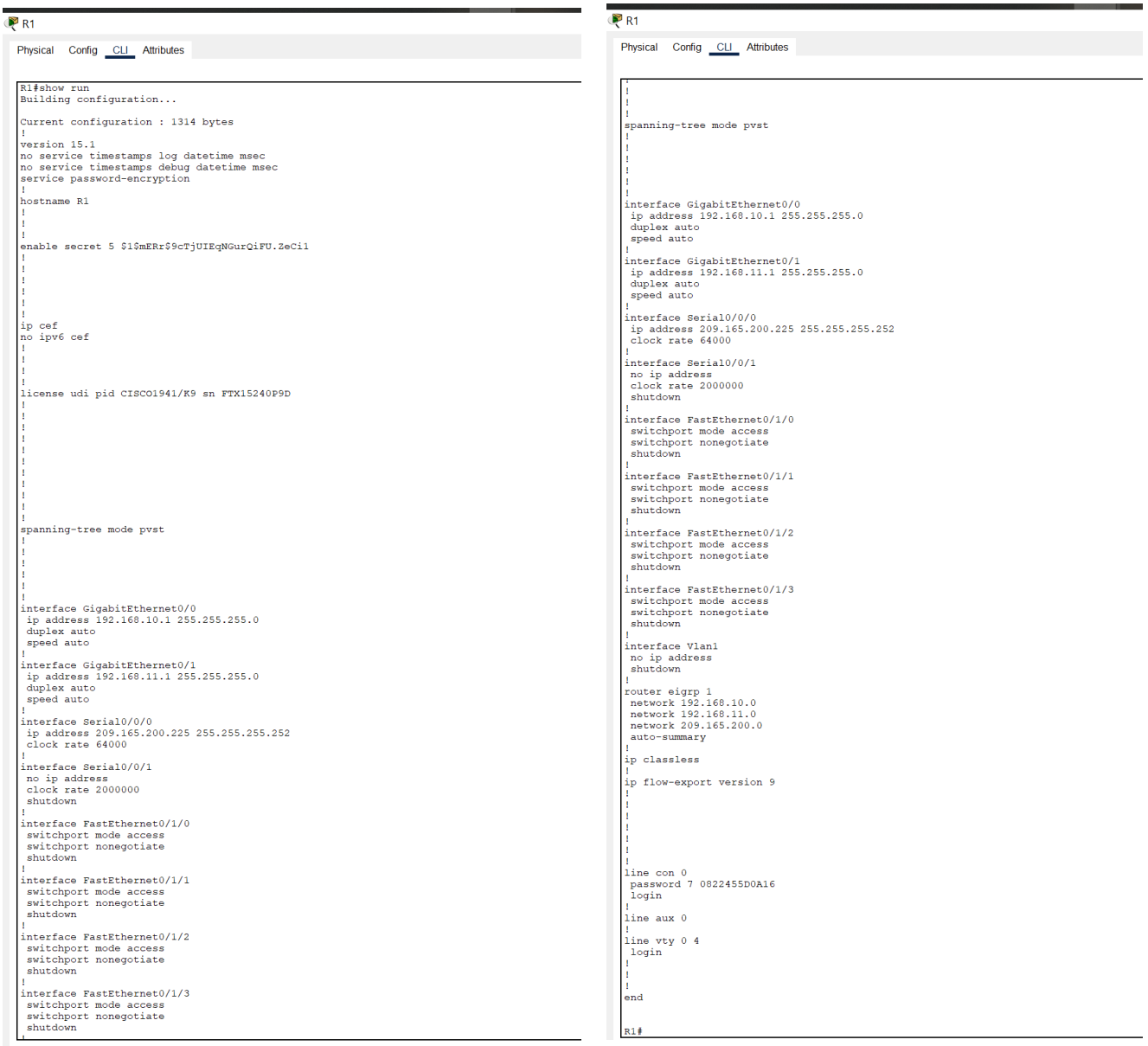


Kết quả chi tiết khi đã thực hiện xong cấu hình

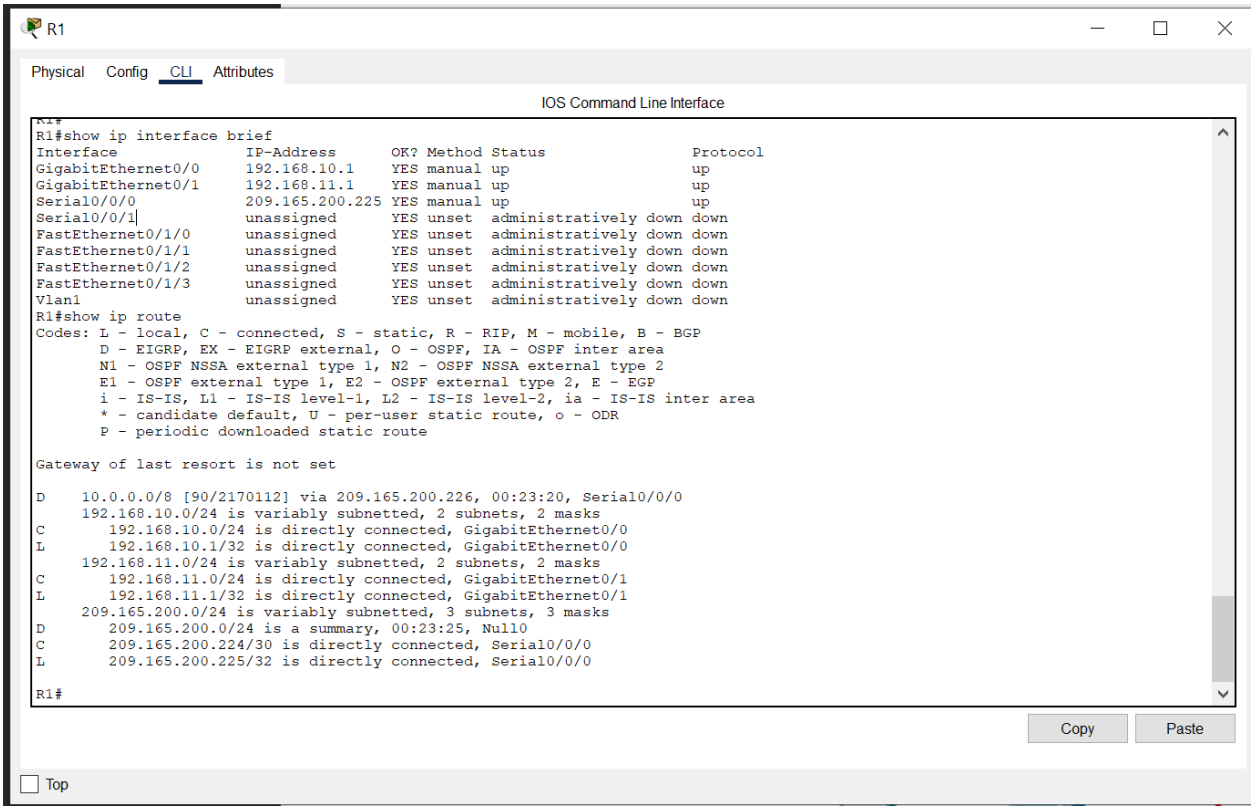
Task 2: Cấu hình địa chỉ IP trên Router



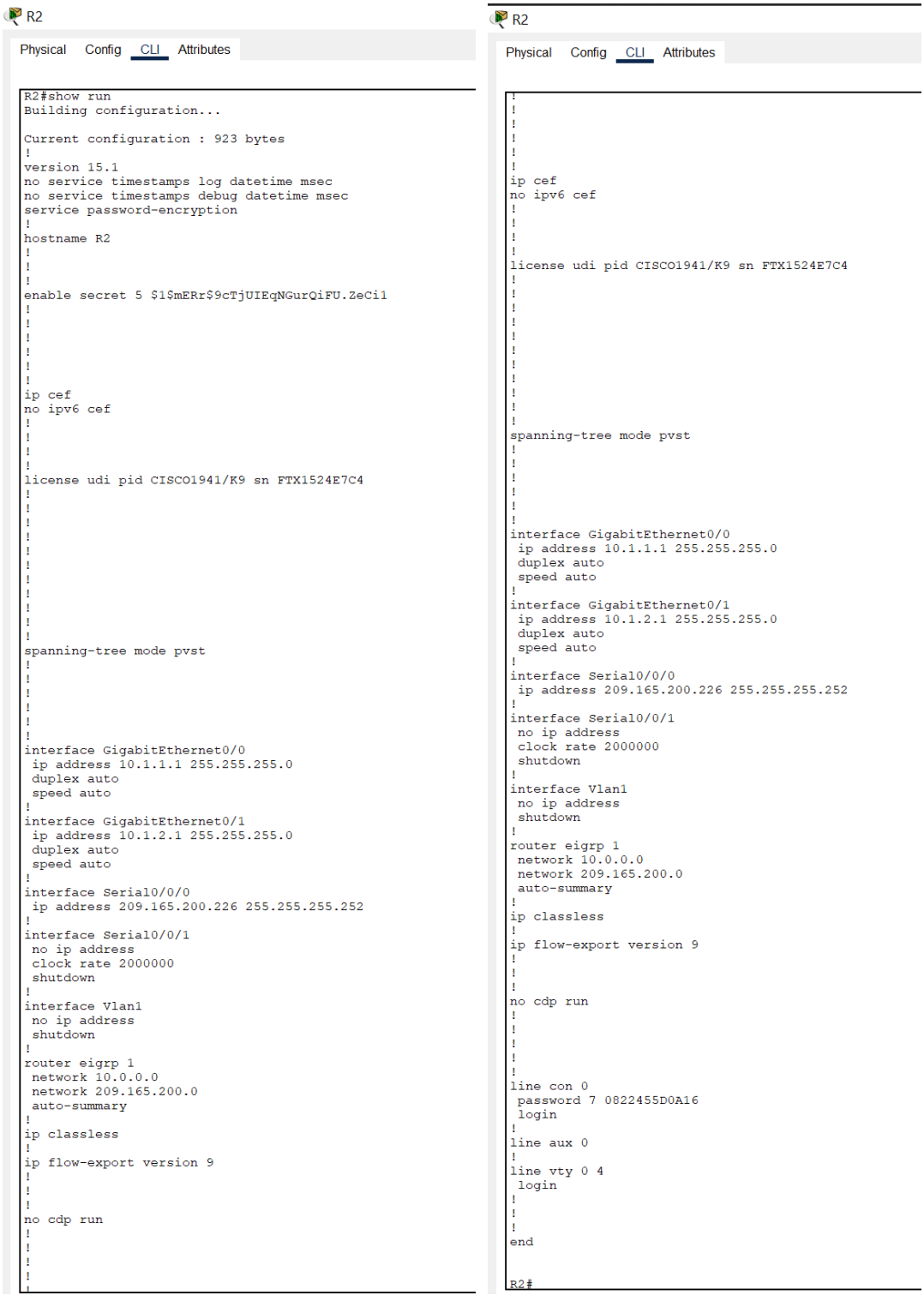
Kiểm tra kết nối bằng cách ping PC1 -> PC4


R1
Physical
Config
CLI
Attributes
R1#show run
Building configuration...
Current configuration : 1314 bytes
!
version 15.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname R1
!
!
!
enable secret 5 1mERr$9cTjUIEqNGurQiFU.ZeCi1
!
!
!
!
!
!
ip cef
no ipv6 cef
!
!
!
!
license udi pid CISCO1941/K9 sn FTX15240P9D
!
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
!
!
!
!
!
!
interface GigabitEthernet0/0
 ip address 192.168.10.1 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 ip address 192.168.11.1 255.255.255.0
 duplex auto
 speed auto
!
interface Serial0/0/0
 ip address 209.165.200.225 255.255.255.252
 clock rate 64000
!
interface Serial0/0/1
 no ip address
 clock rate 2000000
 shutdown
!
interface FastEthernet0/1/0
 switchport mode access
 switchport nonegotiate
 shutdown
!
interface FastEthernet0/1/1
 switchport mode access
 switchport nonegotiate
 shutdown
!
interface FastEthernet0/1/2
 switchport mode access
 switchport nonegotiate
 shutdown
!
interface FastEthernet0/1/3
 switchport mode access
 switchport nonegotiate
 shutdown
!
R1
Physical
Config
CLI
Attributes
!
!
!
!
spanning-tree mode pvst
!
!
!
!
!
!
interface GigabitEthernet0/0
 ip address 192.168.10.1 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 ip address 192.168.11.1 255.255.255.0
 duplex auto
 speed auto
!
interface Serial0/0/0
 ip address 209.165.200.225 255.255.255.252
 clock rate 64000
!
interface Serial0/0/1
 no ip address
 clock rate 2000000
 shutdown
!
interface FastEthernet0/1/0
 switchport mode access
 switchport nonegotiate
 shutdown
!
interface FastEthernet0/1/1
 switchport mode access
 switchport nonegotiate
 shutdown
!
interface FastEthernet0/1/2
 switchport mode access
 switchport nonegotiate
 shutdown
!
interface FastEthernet0/1/3
 switchport mode access
 switchport nonegotiate
 shutdown
!
interface Vlan1
 no ip address
 shutdown
!
router eigrp 1
 network 192.168.10.0
 network 192.168.11.0
 network 209.165.200.0
 auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
line con 0
 password 7 0822455D0A16
 login
!
line aux 0
!
line vty 0 4
 login
!
!
!
end
R1#

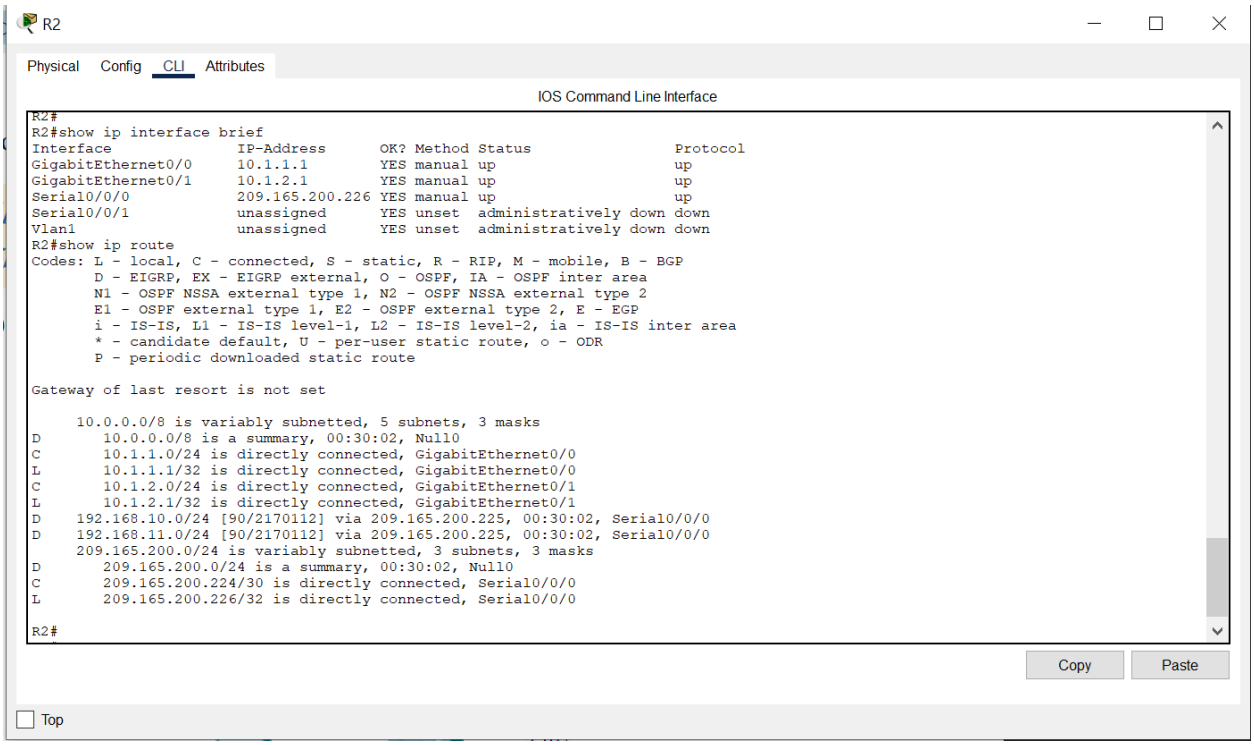
R1: show run



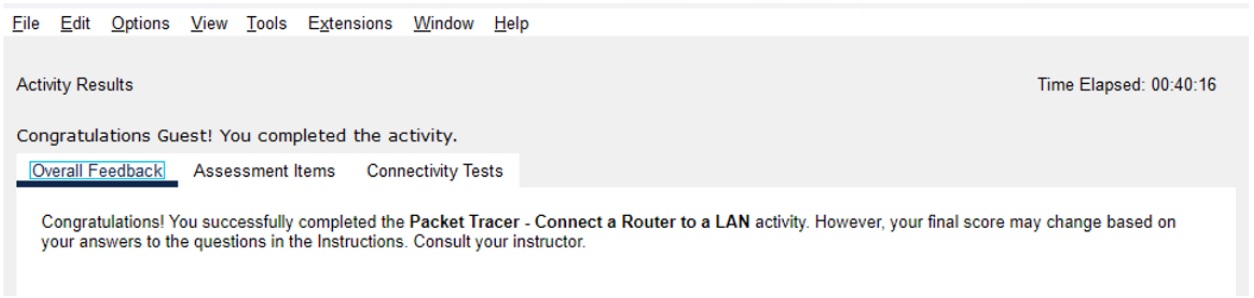
R1: **show ip interface brief** *và* **show ip route**


R2
Physical
Config
CLI
Attributes
R2#show run
Building configuration...
Current configuration : 923 bytes
!
version 15.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname R2
!
!
!
enable secret 5 1mERr$9cTjUIEqNGurQiFU.ZeCi1
!
!
!
!
!
!
ip cef
no ipv6 cef
!
!
!
!
license udi pid CISCO1941/K9 sn FTX1524E7C4
!
!
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
!
!
!
!
!
!
interface GigabitEthernet0/0
 ip address 10.1.1.1 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 ip address 10.1.2.1 255.255.255.0
 duplex auto
 speed auto
!
interface Serial0/0/0
 ip address 209.165.200.226 255.255.255.252
!
interface Serial0/0/1
 no ip address
 clock rate 2000000
 shutdown
!
interface Vlan1
 no ip address
 shutdown
!
router eigrp 1
 network 10.0.0.0
 network 209.165.200.0
 auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
no cdp run
!
!
!
!
!
R2
Physical
Config
CLI
Attributes
!
!
!
!
!
!
ip cef
no ipv6 cef
!
!
!
!
license udi pid CISCO1941/K9 sn FTX1524E7C4
!
!
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
!
!
!
!
!
!
interface GigabitEthernet0/0
 ip address 10.1.1.1 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 ip address 10.1.2.1 255.255.255.0
 duplex auto
 speed auto
!
interface Serial0/0/0
 ip address 209.165.200.226 255.255.255.252
!
interface Serial0/0/1
 no ip address
 clock rate 2000000
 shutdown
!
interface Vlan1
 no ip address
 shutdown
!
router eigrp 1
 network 10.0.0.0
 network 209.165.200.0
 auto-summary
!
ip classless
!
ip flow-export version 9
!
!
!
no cdp run
!
!
!
!
!
line con 0
 password 7 0822455D0A16
 login
!
line aux 0
!
line vty 0 4
 login
!
!
!
end
R2#

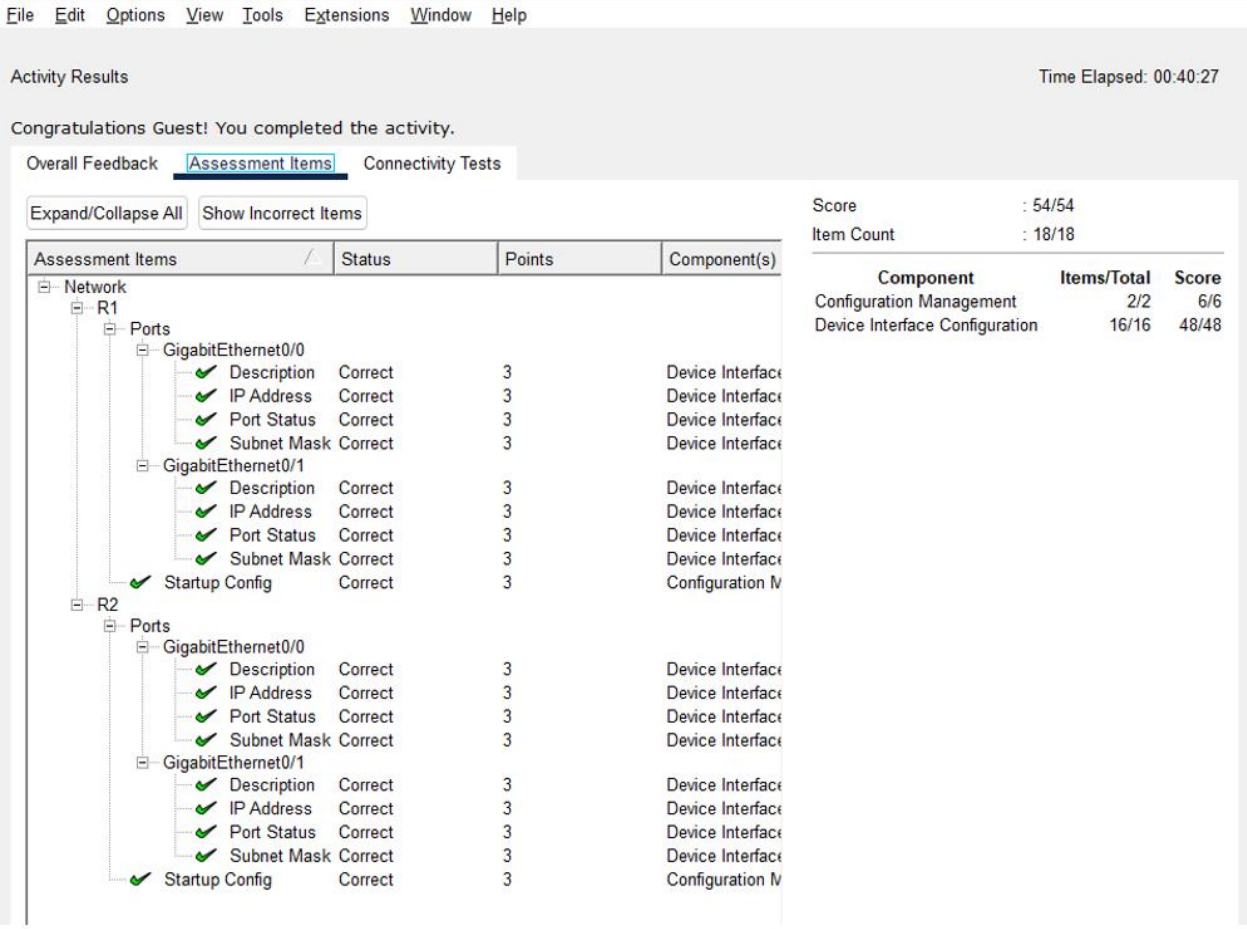
R2: show run



R2: **show ip interface brief** *và* **show ip route**

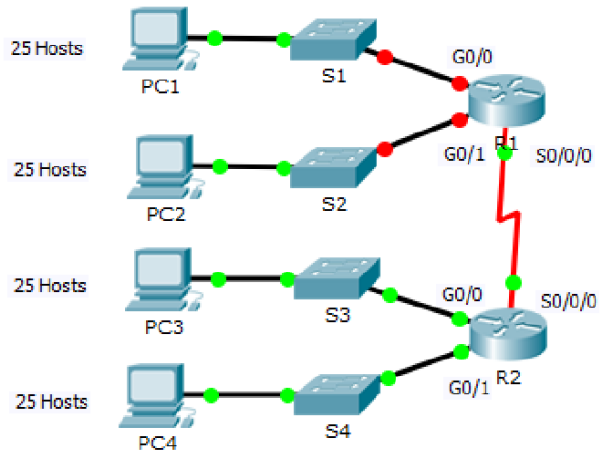


Kết quả tổng quát khi đã thực hiện xong cấu hình



Kết quả chi tiết khi đã thực hiện xong cấu hình

Task 3: Áp dụng chia địa chỉ IP



Hình 7. Mô hình mạng thực hành Áp dụng chia địa chỉ IP.

- Cho địa chỉ 192.168.100.0/24

⇨ Địa chỉ sử dụng được là 192.168.100.[1-254]

⇨ Địa chỉ toàn mạng là 192.168.100.[0-255]

- Dựa vào hình 7.1, cần tìm ít nhất 4 mạng con mà mỗi mạng con có 25 máy

⇨ Mỗi mạng con cần ít nhất là 25 máy

⇨ 5 bit: HOST ID

⇨ Mượn 3 bit để chia mạng con, vì vậy ta có 23 = 8 mạng con và 25 − 2 = 30 máy sử dụng được trên 1 mạng con

STT	Địa Chỉ Mạng	Địa Chỉ Đầu	Địa Chỉ Cuối	Địa Chỉ Broadcast
0	192.168.100.0	192.168.100.1	192.168.100.30	192.168.100.31
1	192.168.100.32	192.168.100.33	192.168.100.62	192.168.100.63
2	192.168.100.64	192.168.100.65	192.168.100.94	192.168.100.95
3	192.168.100.96	192.168.100.97	192.168.100.126	192.168.100.127
4	192.168.100.128	192.168.100.129	192.168.100.158	192.168.100.159
5	192.168.100.160	192.168.100.161	192.168.100.190	192.168.100.191
6	192.168.100.192	192.168.100.193	192.168.100.222	192.168.100.223
7	192.168.100.224	192.168.100.225	192.168.100.254	192.168.100.255

Bảng chia mạng con từ địa chỉ đã cho

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	G0/0	192.168.100.1	255.255.255.224	N/A
	G0/1	192.168.100.33	255.255.255.224	N/A
	S0/0/0	192.168.100.129	255.255.255.224	N/A
R2	G0/0	192.168.100.65	255.255.255.224	N/A
	G0/1	192.168.100.97	255.255.255.224	N/A
	S0/0/0	192.168.100.158	255.255.255.224	N/A
S1	VLAN 1	192.168.100.2	255.255.255.224	192.168.100.1
S2	VLAN 1	192.168.100.34	255.255.255.224	192.168.100.33
S3	VLAN 1	192.168.100.66	255.255.255.224	192.168.100.65
S4	VLAN 1	192.168.100.98	255.255.255.224	192.168.100.97
PC1	NIC	192.168.100.30	255.255.255.224	192.168.100.1
PC2	NIC	192.168.100.62	255.255.255.224	192.168.100.33
PC3	NIC	192.168.100.94	255.255.255.224	192.168.100.65
PC4	NIC	192.168.100.126	255.255.255.224	192.168.100.97

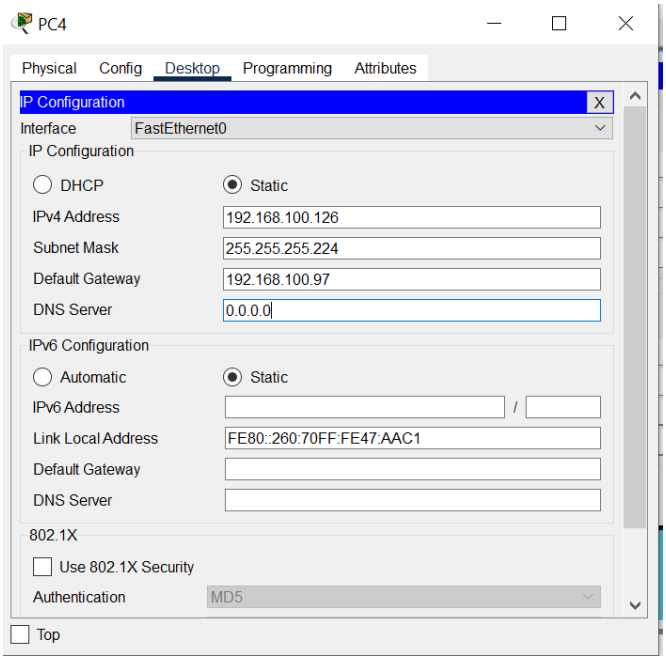
Bảng chia địa chỉ IP

```
R1>enable
R1#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#inte
R1(config)#interface gi
R1(config)#interface g0
R1(config)#interface g0/
R1(config)#interface g0/
R1(config)#interface gi
R1(config)#interface gigabitEthernet 0/
R1(config)#interface G0/0
R1(config-if)#ip add
R1(config-if)#ip address 192.168.100.1 255.255.255.224
R1(config-if)#no shu
R1(config-if)#no shutdown

R1(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

R1(config-if)#^Z
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#interface g0/1
R1(config-if)#ip add
R1(config-if)#ip address 192.168.100.33 255.255.255.224
R1(config-if)#no shu
R1(config-if)#no shutdown

R1(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
^Z
R1#
%SYS-5-CONFIG_I: Configured from console by console

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

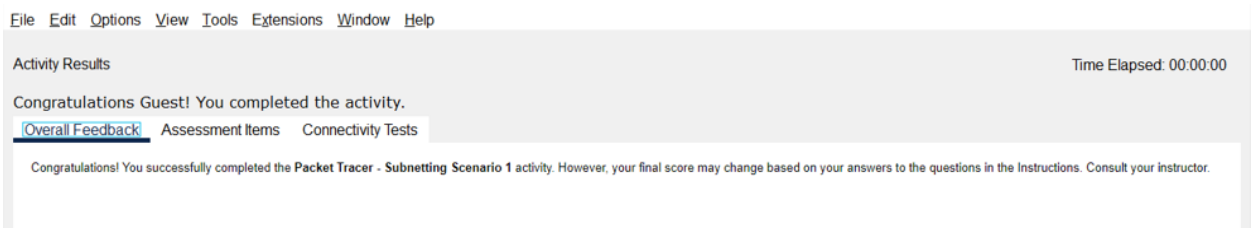
Cấu hình địa chỉ IP cho R1

```
S3>enable
S3#con
S3#config t
Enter configuration commands, one per line.  End with CNTL/Z.
S3(config)#interface v
S3(config)#interface vlan 1
S3(config-if)#ip address 192.168.100.66 255.255.255.224
S3(config-if)#no shutdown

S3(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up

S3(config-if)#exit
S3(config)#ip def
S3(config)#ip default-gateway 192.168.100.65
S3(config)#copy run start
          ^
% Invalid input detected at '^' marker.

S3(config)#^Z
S3#
%SYS-5-CONFIG_I: Configured from console by console

S3#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
S3#
```

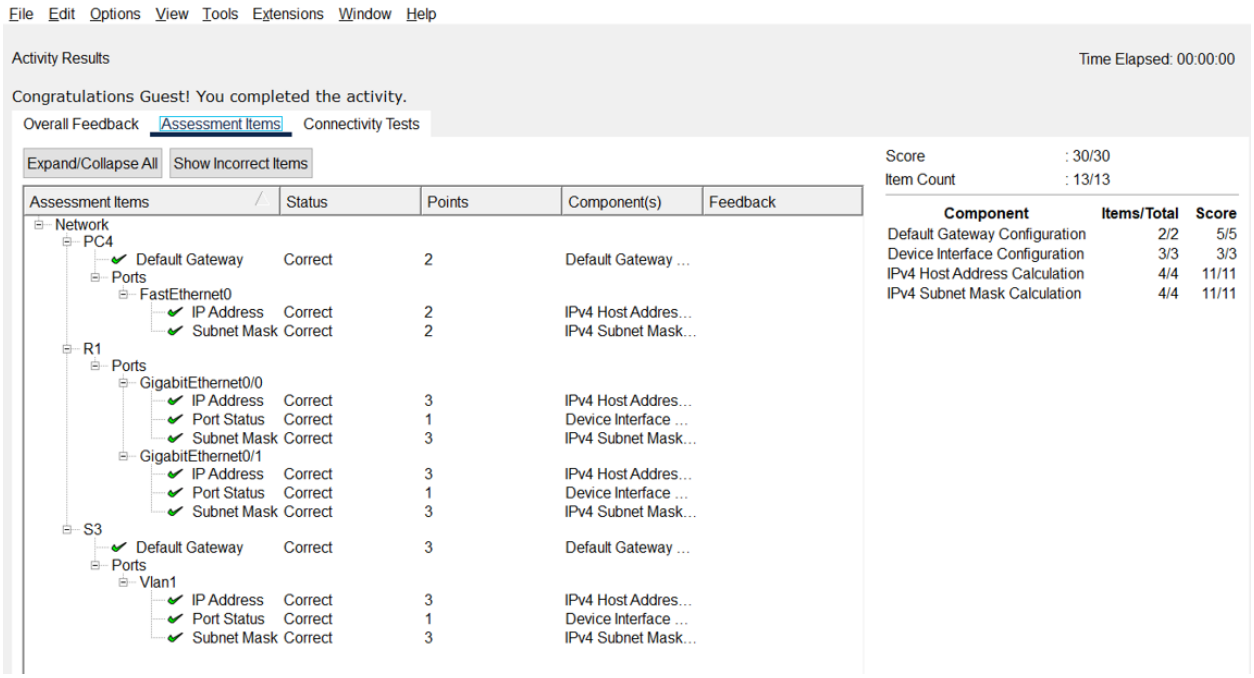
Cấu hình địa chỉ IP cho S3



Cấu hình địa chỉ IP cho PC4



Kết quả tổng quát khi đã thực hiện xong cấu hình.



Kết quả chi tiết khi đã thực hiện xong cấu hình