

THỰC HÀNH NHẬP MÔN MẠNG MÁY TÍNH

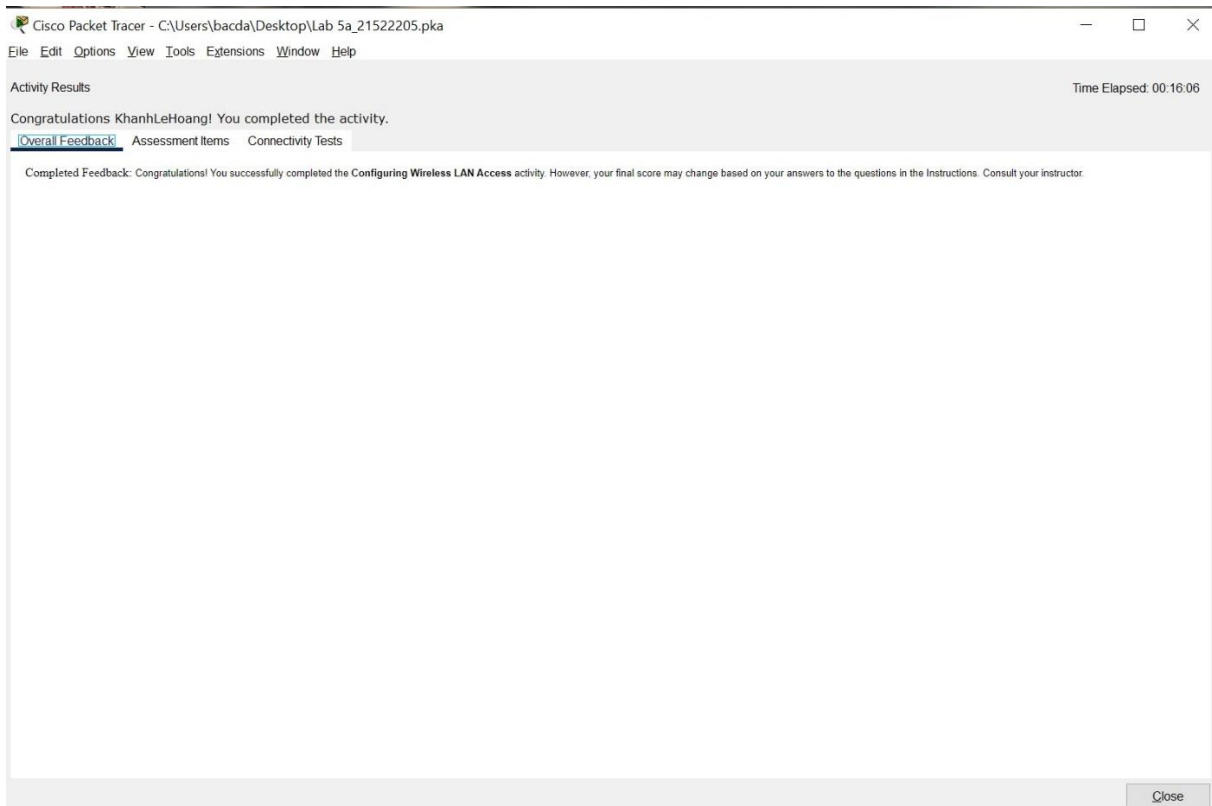
Lab 5 - Configuring Network Devices

Họ và Tên: Lê Hoàng Khánh

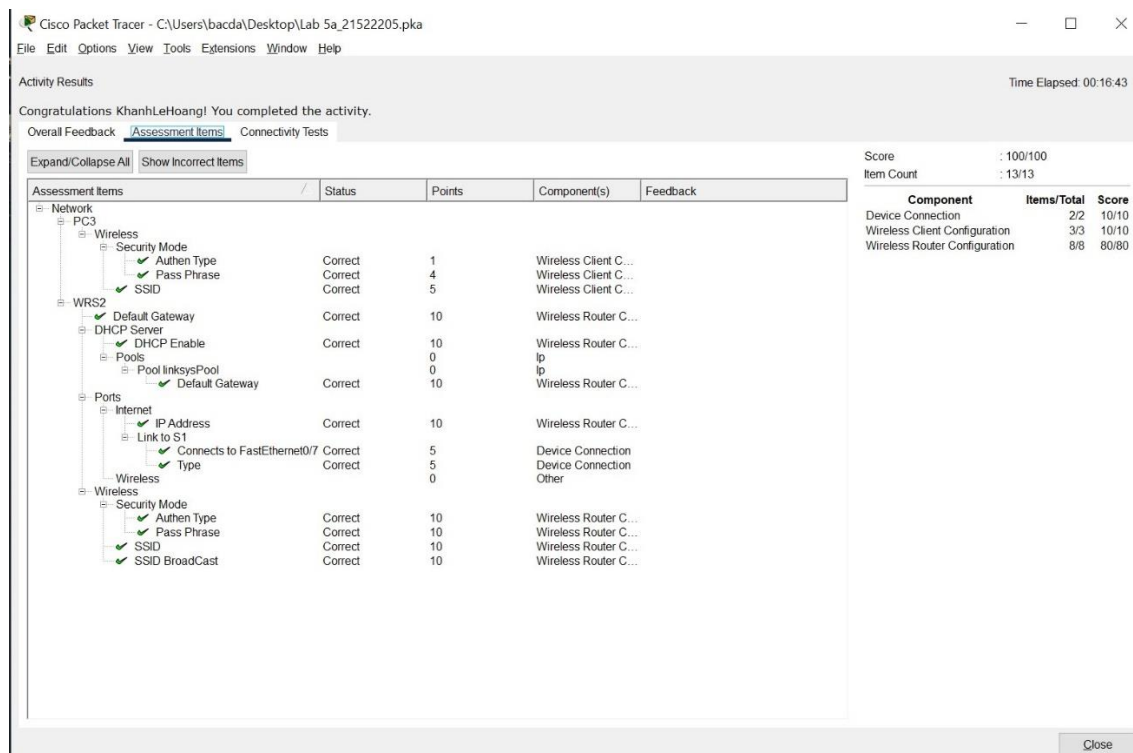
MSSV: 21522205

Lớp: IT005.N12.MMCL

Task 1: Cấu hình thiết bị mạng không dây

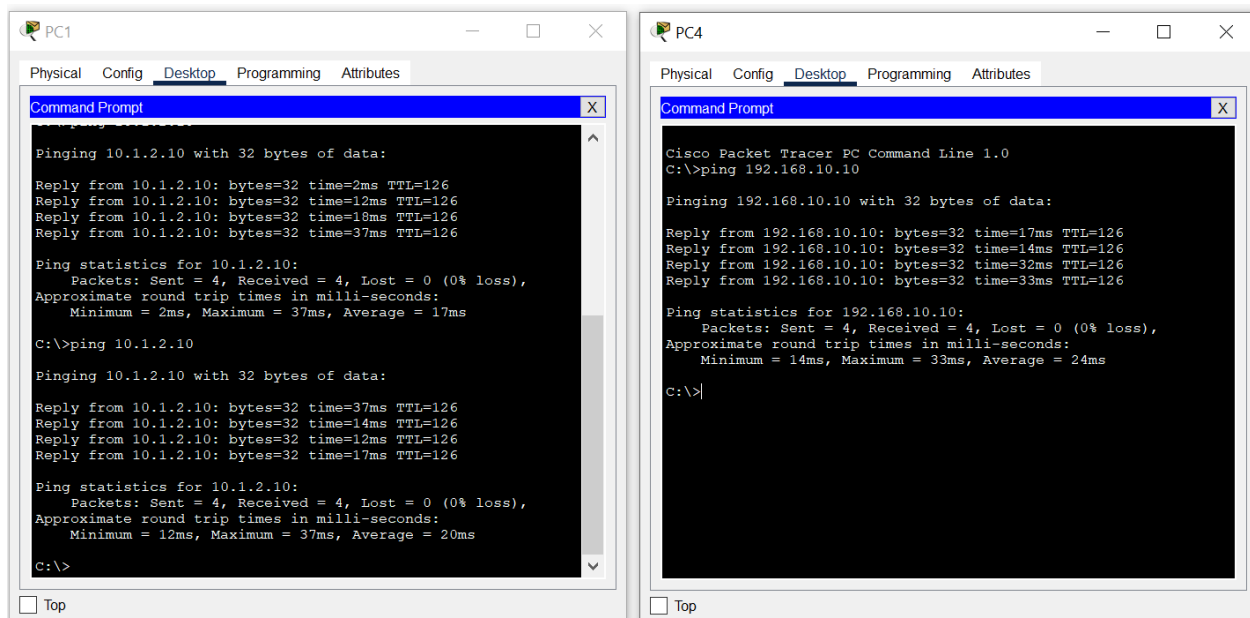


Kết quả tổng quát khi đã thực hiện xong cấu hình.



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

PhysicalConfigCLIAttributes

IOS Command Line Interface

```
R1#show ip interface brief
Interface                IP-Address      OK? Method Status      Protocol
GigabitEthernet0/0       192.168.10.1    YES manual up          up
GigabitEthernet0/1       192.168.11.1    YES manual up          up
Serial0/0/0              209.165.200.225 YES manual up          up
Serial0/0/1              unassigned      YES unset  administratively down down
FastEthernet0/1/0        unassigned      YES unset  administratively down down
FastEthernet0/1/1        unassigned      YES unset  administratively down down
FastEthernet0/1/2        unassigned      YES unset  administratively down down
FastEthernet0/1/3        unassigned      YES unset  administratively down down
Vlan1                    unassigned      YES unset  administratively down down

R1#show ip route
Codes: L - local, C - connected, S - static, 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

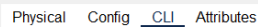
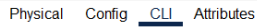
D    10.0.0.0/8 [90/2170112] via 209.165.200.226, 00:23:20, Serial0/0/0
     192.168.10.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.10.0/24 is directly connected, GigabitEthernet0/0
L       192.168.10.1/32 is directly connected, GigabitEthernet0/0
     192.168.11.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.11.0/24 is directly connected, GigabitEthernet0/1
L       192.168.11.1/32 is directly connected, GigabitEthernet0/1
     209.165.200.0/24 is variably subnetted, 3 subnets, 3 masks
D       209.165.200.0/24 is a summary, 00:23:25, Null0
C       209.165.200.224/30 is directly connected, Serial0/0/0
L       209.165.200.225/32 is directly connected, Serial0/0/0

R1#
```

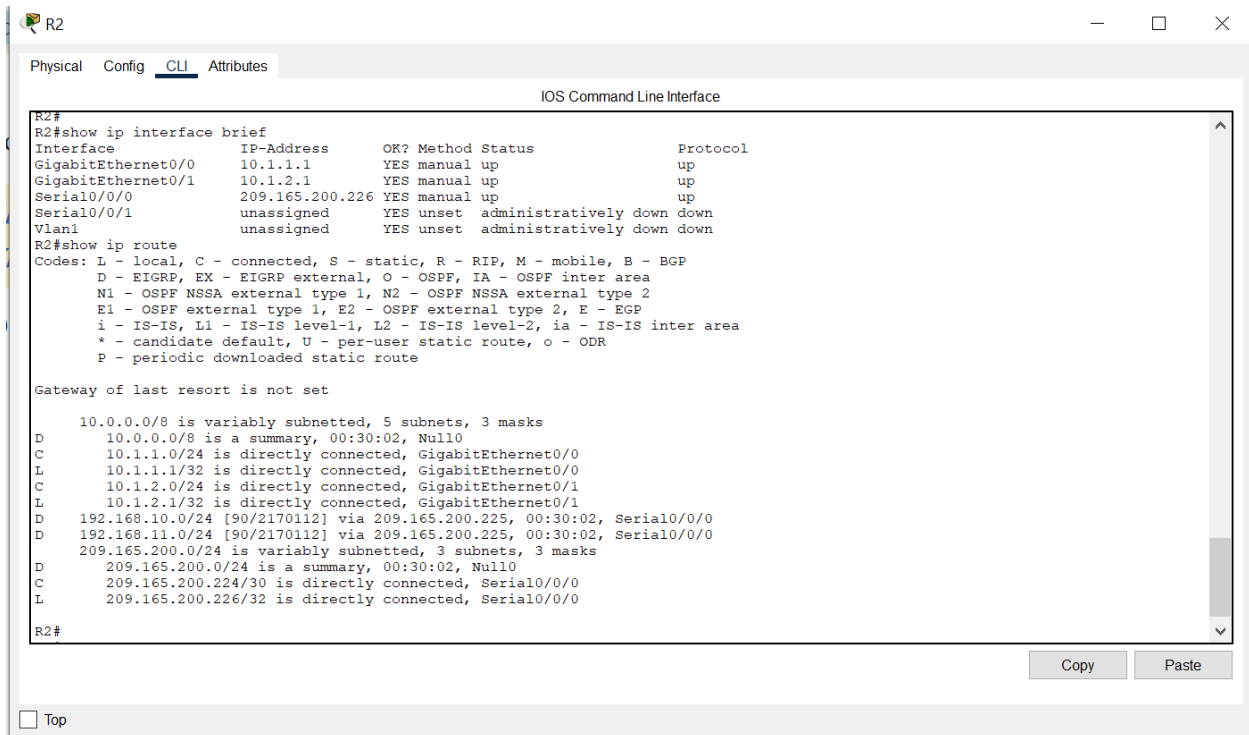
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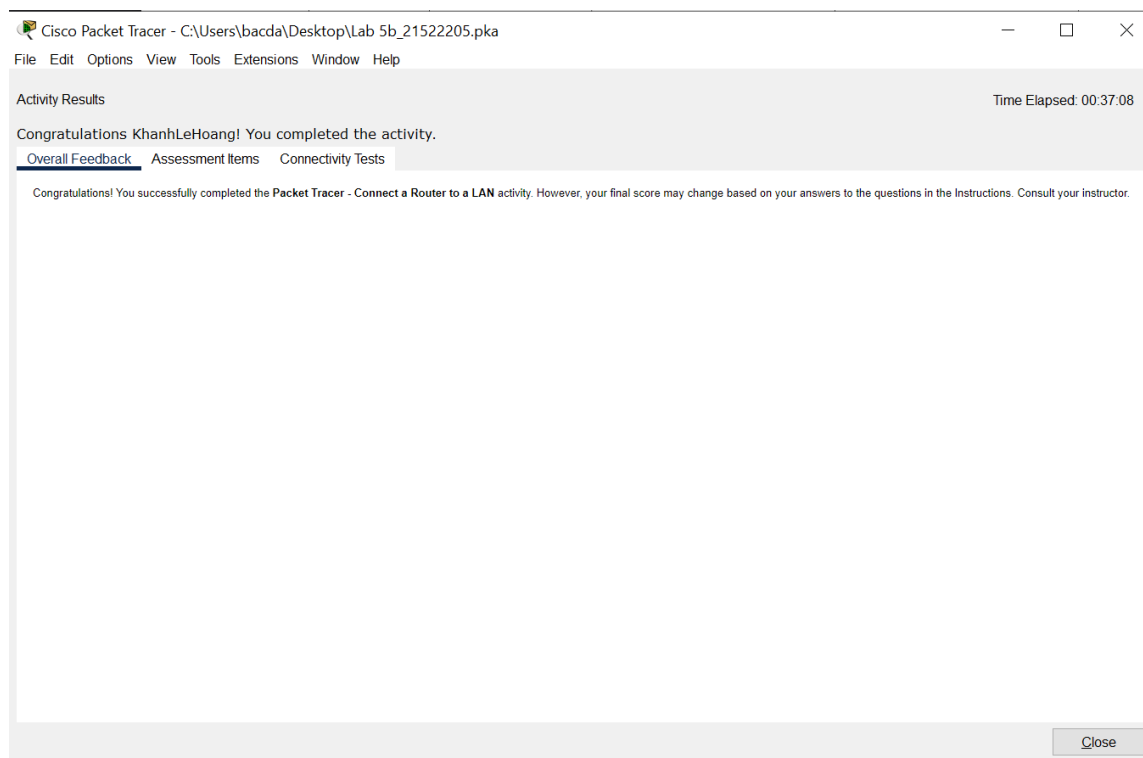
R1: show ip interface brief và show ip route



R2: show run



R2: show ip interface brief và show ip route



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

Cisco Packet Tracer - C:\Users\bacda\Desktop\Lab 5b_21522205.pka

File Edit Options View Tools Extensions Window Help

Activity Results Time Elapsed: 00:37:56

Congratulations KhanhLeHoang! You completed the activity.

Overall Feedback Assessment Items Connectivity Tests

Expand/Collapse All Show Incorrect Items

Assessment Items	Status	Points	Component(s)	Feedback
Network				
R1				
Ports				
GigabitEthernet0/0				
✓ Description	Correct	3	Device Interface ...	
✓ IP Address	Correct	3	Device Interface ...	
✓ Port Status	Correct	3	Device Interface ...	
✓ Subnet Mask	Correct	3	Device Interface ...	
GigabitEthernet0/1				
✓ Description	Correct	3	Device Interface ...	
✓ IP Address	Correct	3	Device Interface ...	
✓ Port Status	Correct	3	Device Interface ...	
✓ Subnet Mask	Correct	3	Device Interface ...	
✓ Startup Config	Correct	3	Configuration Man...	
R2				
Ports				
GigabitEthernet0/0				
✓ Description	Correct	3	Device Interface ...	
✓ IP Address	Correct	3	Device Interface ...	
✓ Port Status	Correct	3	Device Interface ...	
✓ Subnet Mask	Correct	3	Device Interface ...	
GigabitEthernet0/1				
✓ Description	Correct	3	Device Interface ...	
✓ IP Address	Correct	3	Device Interface ...	
✓ Port Status	Correct	3	Device Interface ...	
✓ Subnet Mask	Correct	3	Device Interface ...	
✓ Startup Config	Correct	3	Configuration Man...	

Score : 54/54

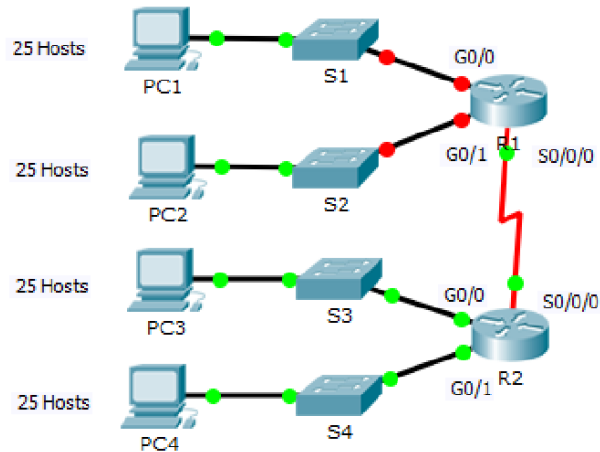
Item Count : 18/18

Component	Items/Total	Score
Configuration Management	2/2	6/6
Device Interface Configuration	16/16	48/48

Close

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 $2^3 = 8$ mạng con và $25 - 2 = 23$ 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

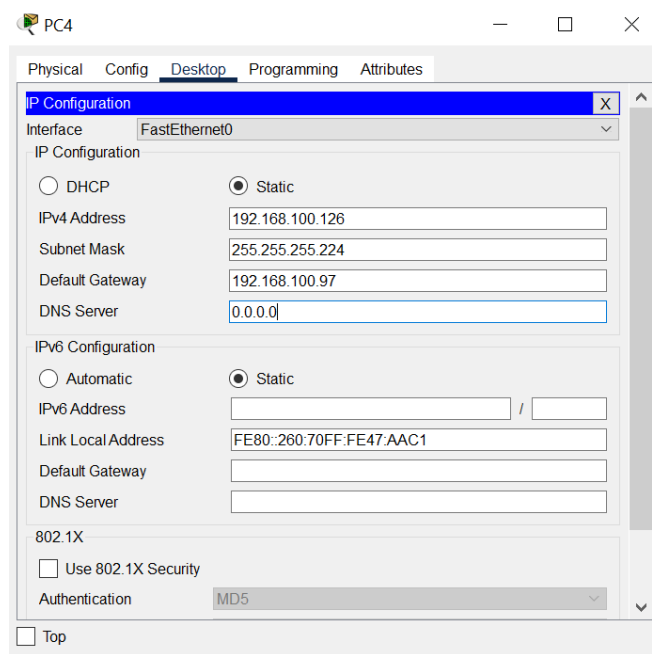
S3(config-if)#exit
S3(config)#ip def
S3(config)#ip default-gateway 192.168.100.65
S3(config)#copy run start
      ^
% Invalid input detected at '^' marker.

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

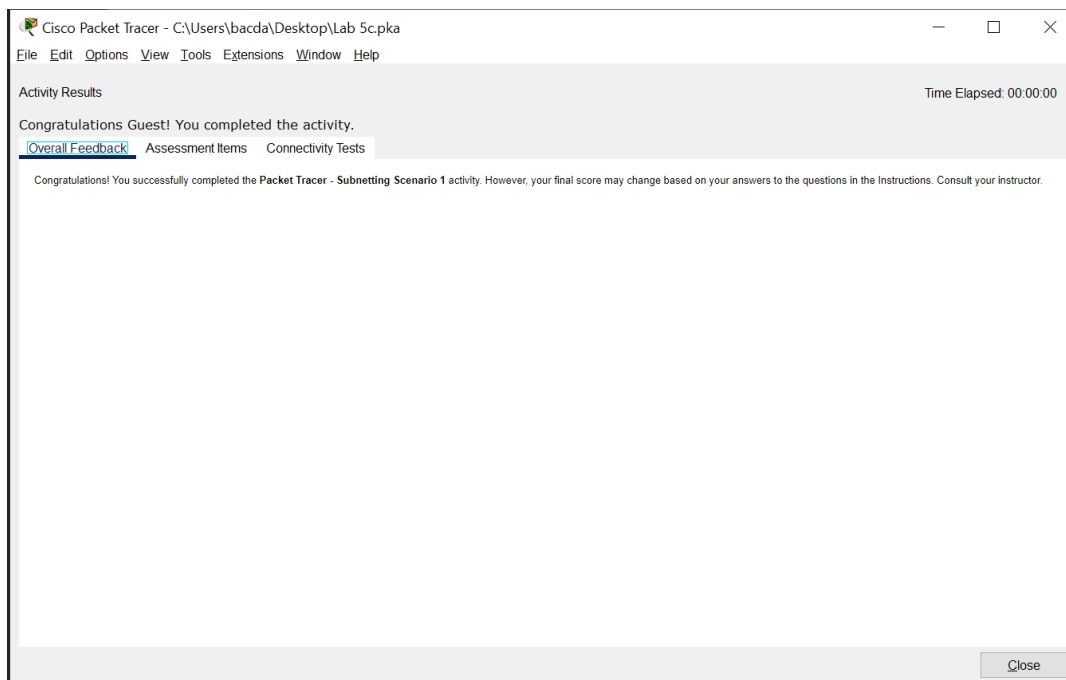
S3#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
S3#

```

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.

Cisco Packet Tracer - C:\Users\bacda\Desktop\Lab 5c.pka

File Edit Options View Tools Extensions Window Help

Activity Results Time Elapsed: 00:00:00

Congratulations Guest! You completed the activity.

[Overall Feedback](#) [Assessment Items](#) [Connectivity Tests](#)

[Expand/Collapse All](#) [Show Incorrect Items](#)

Assessment Items	Status	Points	Component(s)	Feedback
Network				
PC4				
Default Gateway	Correct	2	Default Gateway ...	
Ports				
FastEthernet0				
IP Address	Correct	2	IPv4 Host Address...	
Subnet Mask	Correct	2	IPv4 Subnet Mask...	
R1				
Ports				
GigabitEthernet0/0				
IP Address	Correct	3	IPv4 Host Address...	
Port Status	Correct	1	Device Interface ...	
Subnet Mask	Correct	3	IPv4 Subnet Mask...	
GigabitEthernet0/1				
IP Address	Correct	3	IPv4 Host Address...	
Port Status	Correct	1	Device Interface ...	
Subnet Mask	Correct	3	IPv4 Subnet Mask...	
S3				
Default Gateway	Correct	3	Default Gateway ...	
Ports				
Vlan1				
IP Address	Correct	3	IPv4 Host Address...	
Port Status	Correct	1	Device Interface ...	
Subnet Mask	Correct	3	IPv4 Subnet Mask...	

Component	Items/Total	Score
Default Gateway Configuration	2/2	5/5
Device Interface Configuration	3/3	3/3
IPv4 Host Address Calculation	4/4	11/11
IPv4 Subnet Mask Calculation	4/4	11/11

Score : 30/30
Item Count : 13/13

Close

Kết quả chi tiết khi đã thực hiện xong cấu hình.

--HẾT--