

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

File Edit Options View Tools Extensions Window Help

Activity Results Time Elapsed: 00:17:00

Congratulations Guest! You completed the activity.

Overall Feedback Assessment Items Connectivity Tests

Completed Feedback: Congratulations! You successfully completed the **Configuring Wireless LAN Access** activity. However, your final score may change based on your answers to the questions in the Instructions. Consult your instructor.

Close

Kết quả tổng quát khi đã thực hiện xong

File Edit Options View Tools Extensions Window Help

Activity Results Time Elapsed: 00:18:09

Congratulations Guest! You completed the activity.

Overall Feedback Assessment Items Connectivity Tests

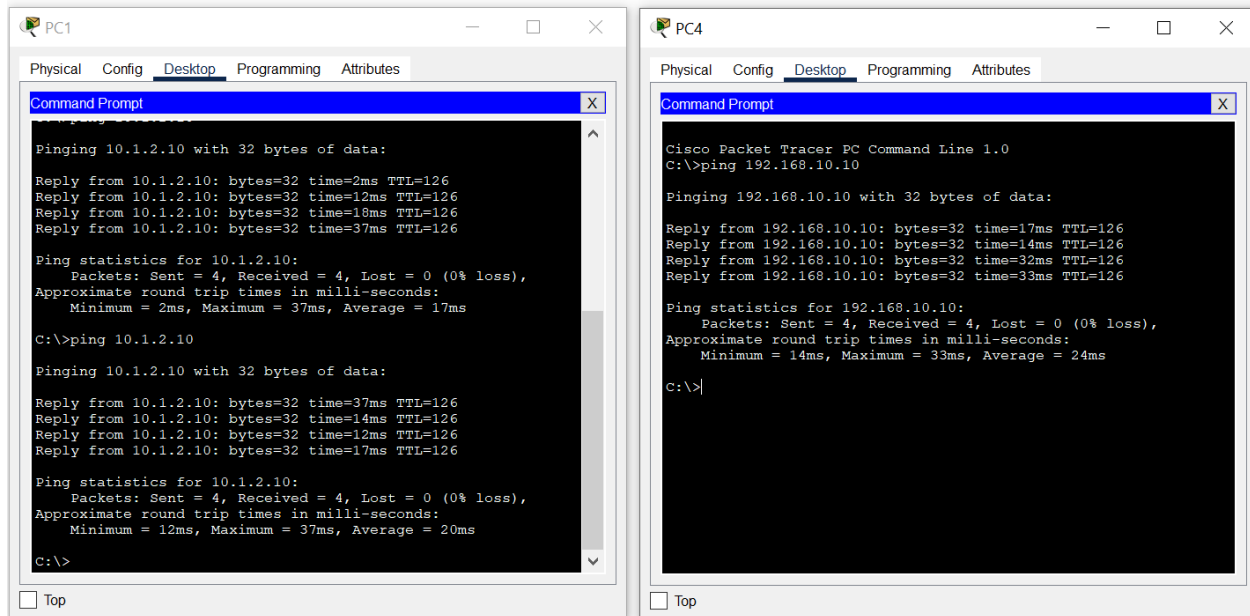
Expand/Collapse All Show Incorrect Items

Assessment Items	Status	Points
Network		
PC3		
Wireless		
Security Mode		
Authen Type	Correct	1
Pass Phrase	Correct	4
SSID	Correct	5
WRS2		
(deprecated) DHCP Server		
(deprecated) DHCP Enable	Correct	10
(deprecated) Pools		0
(deprecated) Pool linksysPool		0
(deprecated) Default Gateway	Correct	10
Default Gateway	Correct	10
Ports		
Internet		
IP Address	Correct	10
Link to S1		
Connects to FastEthernet0/7	Correct	5
Type	Correct	5
Wireless		0
Wireless		
Security Mode		
Authen Type	Correct	10

Component	Items/Total	Score
Device Connection	2/2	10/10
Wireless Client Configuration	3/3	10/10
Wireless Router Configuration	8/8	80/80

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

IOS Command Line Interface

```
R1#
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

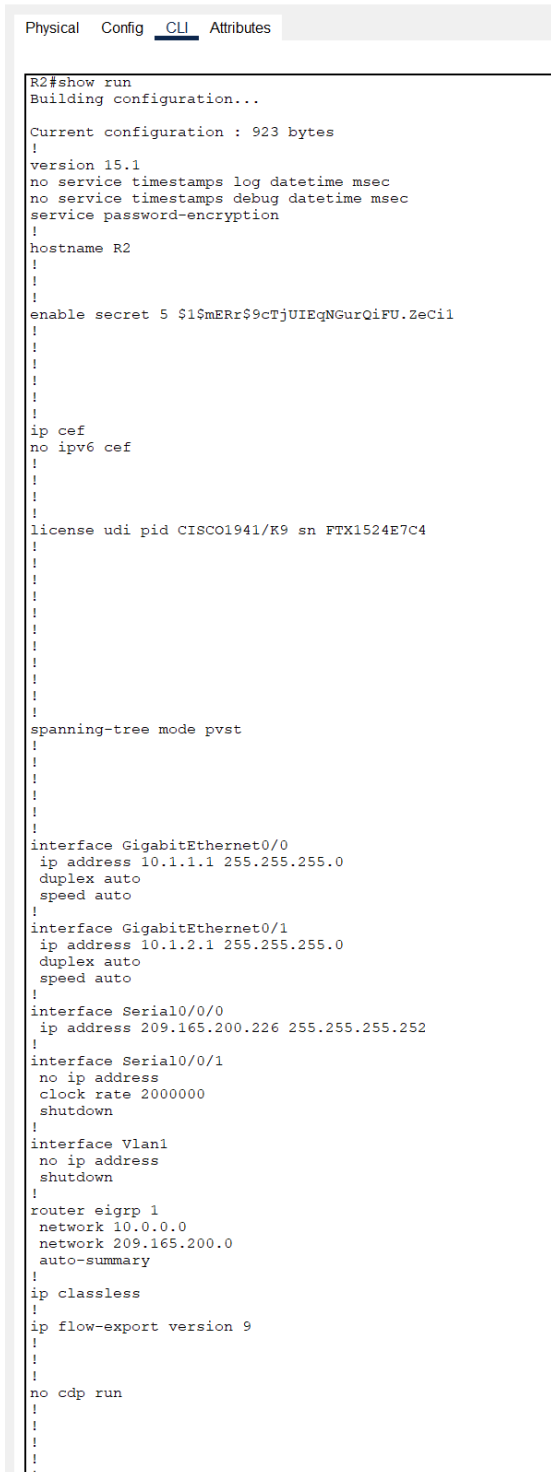
D    10.0.0.0/8 [90/2170112] via 209.165.200.226, 00:23:20, Serial0/0/0
    192.168.10.0/24 is variably subnetted, 2 subnets, 2 masks
C    192.168.10.0/24 is directly connected, GigabitEthernet0/0
L    192.168.10.1/32 is directly connected, GigabitEthernet0/0
    192.168.11.0/24 is variably subnetted, 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#
```

Copy Paste

☐ Top

R1: show ip interface brief và show ip route



7

```
R2#
R2#show ip interface brief
Interface                IP-Address      OK? Method Status      Protocol
GigabitEthernet0/0       10.1.1.1        YES manual up          up
GigabitEthernet0/1       10.1.2.1        YES manual up          up
Serial0/0/0              209.165.200.226 YES manual up          up
Serial0/0/1              unassigned      YES unset  administratively down down
Vlan1                    unassigned      YES unset  administratively down down
R2#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

10.0.0.0/8 is variably subnetted, 5 subnets, 3 masks
D    10.0.0.0/8 is a summary, 00:30:02, Null0
C    10.1.1.0/24 is directly connected, GigabitEthernet0/0
L    10.1.1.1/32 is directly connected, GigabitEthernet0/0
C    10.1.2.0/24 is directly connected, GigabitEthernet0/1
L    10.1.2.1/32 is directly connected, GigabitEthernet0/1
D    192.168.10.0/24 [90/2170112] via 209.165.200.225, 00:30:02, Serial0/0/0
D    192.168.11.0/24 [90/2170112] via 209.165.200.225, 00:30:02, Serial0/0/0
D    209.165.200.0/24 is variably subnetted, 3 subnets, 3 masks
D    209.165.200.0/24 is a summary, 00:30:02, Null0
C    209.165.200.224/30 is directly connected, Serial0/0/0
L    209.165.200.226/32 is directly connected, Serial0/0/0
R2#
```

R2: show ip interface brief và show ip route

File Edit Options View Tools Extensions Window Help

Activity Results Time Elapsed: 00:40:16

Congratulations Guest! You completed the activity.

[Overall Feedback](#) Assessment Items Connectivity Tests

Congratulations! You successfully completed the **Packet Tracer - Connect a Router to a LAN** activity. However, your final score may change based on your answers to the questions in the Instructions. Consult your instructor.

Kết quả tổng quát khi đã thực hiện xong cấu hình

File Edit Options View Tools Extensions Window Help

Activity Results Time Elapsed: 00:40:27

Congratulations Guest! You completed the activity.

Overall Feedback Assessment Items Connectivity Tests

Expand/Collapse All Show Incorrect Items

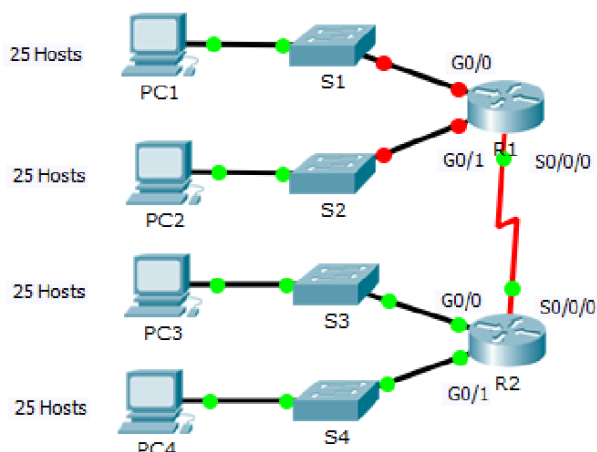
Assessment Items	Status	Points	Component(s)
Network			
R1			
Ports			
GigabitEthernet0/0			
✓ Description	Correct	3	Device Interface
✓ IP Address	Correct	3	Device Interface
✓ Port Status	Correct	3	Device Interface
✓ Subnet Mask	Correct	3	Device Interface
GigabitEthernet0/1			
✓ Description	Correct	3	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 M
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 M

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

Score : 54/54
Item Count : 18/18

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 $25 - 2 = 30$ 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

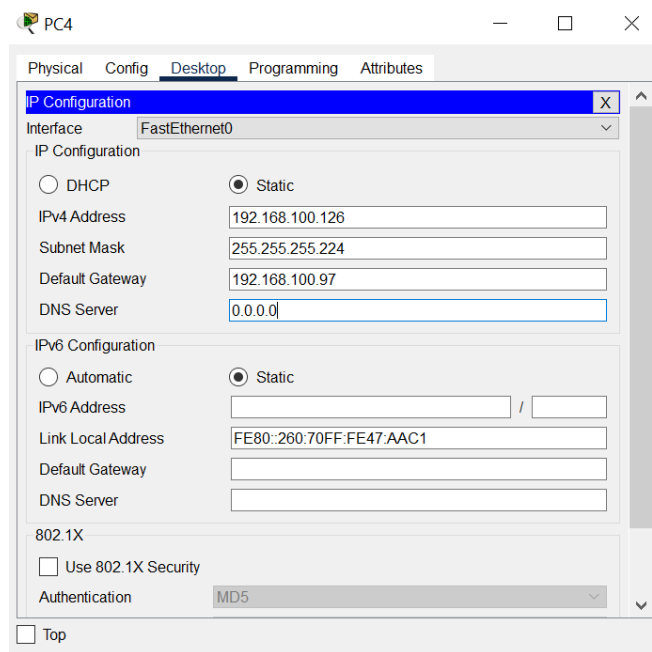
S3(config-if)#exit
S3(config)#ip def
S3(config)#ip default-gateway 192.168.100.65
S3(config)#copy run start
      ^
% Invalid input detected at '^' marker.

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

Activity Results

Time Elapsed: 00:00:00

Congratulations Guest! You completed the activity.

[Overall Feedback](#) [Assessment Items](#) [Connectivity Tests](#)Congratulations! You successfully completed the **Packet Tracer - Subnetting Scenario 1** activity. However, your final score may change based on your answers to the questions in the Instructions. Consult your instructor.*Kết quả tổng quát khi đã thực hiện xong cấu hình.*

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](#)

Score : 30/30

Item Count : 13/13

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

Kết quả chi tiết khi đã thực hiện xong cấu hình