

## LAB 5: CẤU HÌNH THIẾT BỊ MẠNG

Họ và tên: Phan Trọng Tính – 21522683

### Task 1: Cấu hình thiết bị mạng không dây

#### 1.2 Cấu hình cơ bản

##### - Cấu hình phần Internet connection

Internet Setup	
Internet Connection type	Static IP
Internet IP Address:	172 . 17 . 88 . 25
Subnet Mask:	255 . 255 . 255 . 0
Default Gateway:	172 . 17 . 88 . 1
DNS 1:	0 . 0 . 0 . 0
DNS 2 (Optional):	0 . 0 . 0 . 0
DNS 3 (Optional):	0 . 0 . 0 . 0

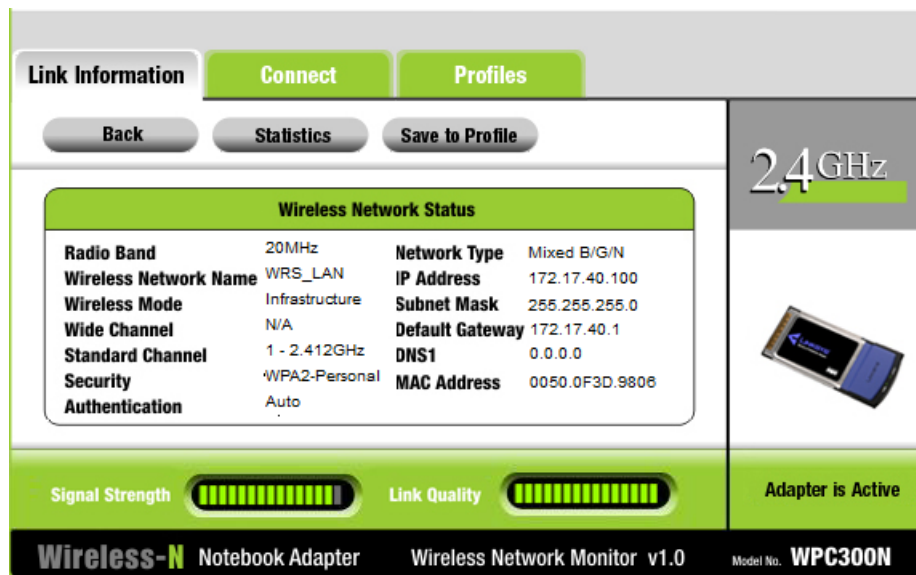
#### Cấu hình phần Network Setup

Network Setup	
Router IP	IP Address: 172 . 17 . 40 . 1 Subnet Mask: 255.255.255.0
DHCP Server Settings	DHCP Server: <input checked="" type="radio"/> Enabled <input type="radio"/> Disabled <span>DHCP Reservation</span> Start IP Address: 172.17.40. 100 Maximum number of Users: 50

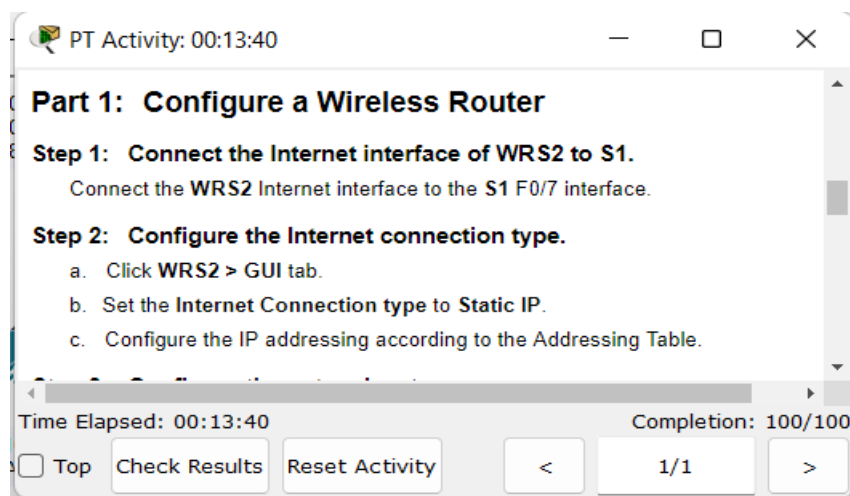
#### 1.3 Cấu hình truy cập và bảo mật

Wireless		Wireless-N Broadband Router WRT300N					
Setup		Wireless	Security	Access Restrictions	Applications & Gaming	Administration	Status
Basic Wireless Settings		Wireless Security	Guest Network	Wireless MAC Filter	Advanced Wireless Settings		
Basic Wireless Settings		Help...					
Network Mode:		Wireless-N Only					
Network Name (SSID):		WRS_LAN					
Radio Band:		Auto					
Wide Channel:		Auto					
Standard Channel:		1 - 2.412GHz					
SSID Broadcast:		<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled					
Wireless Security							
Security Mode:		WPA2 Personal					
Encryption:		AES					
Passphrase:		cisco123					
Key Renewal:		3600 seconds					

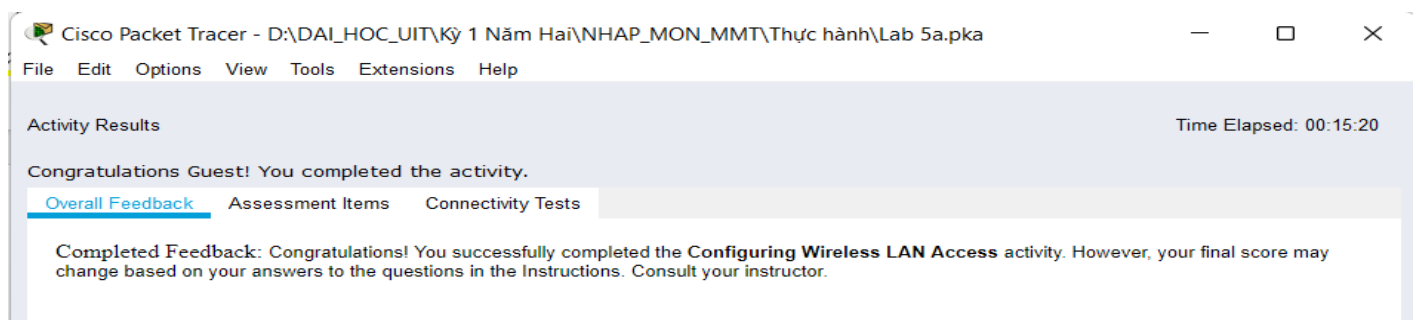
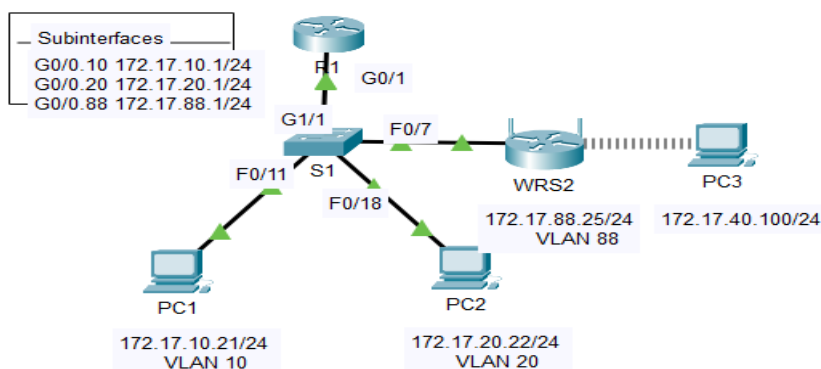
#### 1.5 Kiểm tra kết nối



## 1.6 Kiểm tra kết quả thực hành



## Kết quả



Kết quả tổng quát

## Activity Results

Time Elapsed: 00:14:48

Congratulations Guest! You completed the activity.

Overall Feedback **Assessment Items** Connectivity Tests

Expand/Collapse All

Show Incorrect Items

Score : 100/100

Item Count : 13/13

Assessment Items	Status	Points
Network		
PC3		
Wireless		
Security Mode		
Authen Type	Correct	1
Pass Phrase	Correct	4
SSID	Correct	5
WRS2		
Default Gateway	Correct	10
DHCP Server		
DHCP Enable	Correct	10
Pools		0
Pool linksysPool		0
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
Pass Phrase	Correct	10
SSID	Correct	10
SSID BroadCast	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

Close

*Kết quả chi tiết***Task 2: Cấu hình địa chỉ IP trên router****Kiểm tra cấu hình****Ping từ PC1->PC4**

```

C:\>ping 10.1.2.10

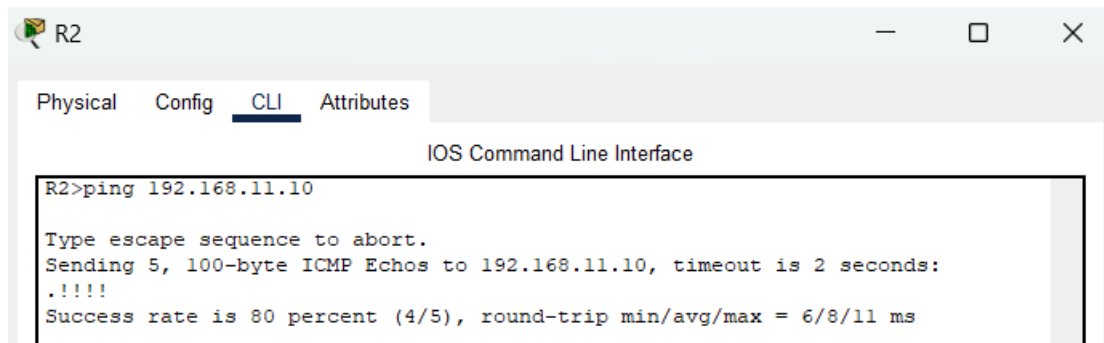
Pinging 10.1.2.10 with 32 bytes of data:

Request timed out.
Reply from 10.1.2.10: bytes=32 time=1ms TTL=126
Reply from 10.1.2.10: bytes=32 time=1ms TTL=126
Reply from 10.1.2.10: bytes=32 time=1ms TTL=126

Ping statistics for 10.1.2.10:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 1ms, Average = 1ms

```

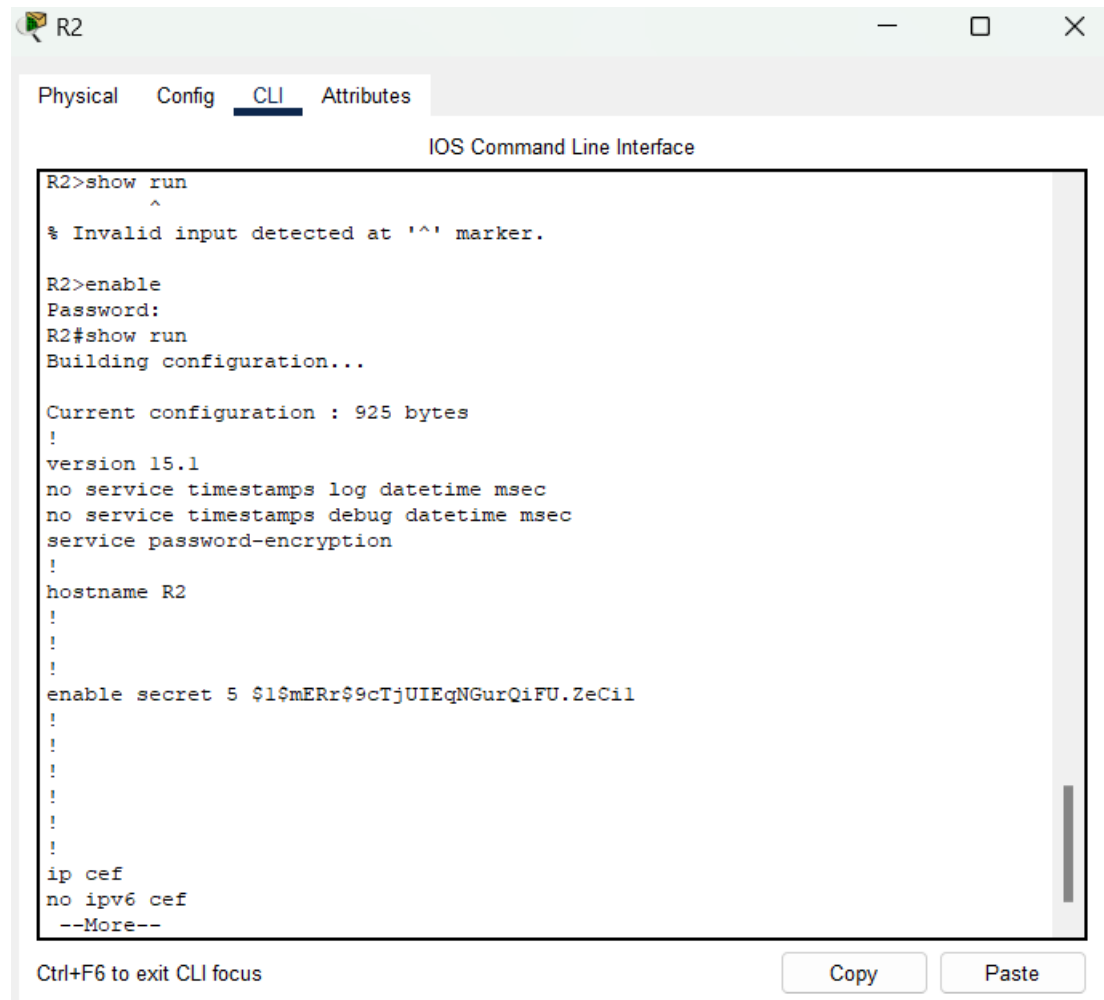
## Ping từ R2->PC2



```
R2>ping 192.168.11.10

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.11.10, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 6/8/11 ms
```

## R2# show run



```
R2>show run
^
% Invalid input detected at '^' marker.

R2>enable
Password:
R2#show run
Building configuration...

Current configuration : 925 bytes
!
version 15.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname R2
!
!
!
enable secret 5 $1$mERr$9cTjUIEqNGurQiFU.ZeCil
!
!
!
!
!
ip cef
no ipv6 cef
--More--
```

Ctrl+F6 to exit CLI focus

Copy Paste

## R2# show ip interface brief

```
R2#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status
Protocol				
GigabitEthernet0/0	10.1.1.1	YES	manual	up
GigabitEthernet0/1	10.1.2.1	YES	manual	up
Serial0/0/0	209.165.200.226	YES	manual	up
Serial0/0/1	unassigned	YES	unset	administratively down
Vlan1	unassigned	YES	unset	administratively down

## R2# show ip route

```

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, 00:07:29, 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, 00:07:29, Serial10/0/0
D       192.168.11.0/24 [90/2170112] via 209.165.200.225, 00:07:29, Serial10/0/0
       209.165.200.0/24 is variably subnetted, 3 subnets, 3 masks
D       209.165.200.0/24 is a summary, 00:07:29, Null0
C       209.165.200.224/30 is directly connected, Serial10/0/0
L       209.165.200.226/32 is directly connected, Serial10/0/0
--More--

```

## Kiểm tra kết quả thực hành

Activity Results Time Elapsed: 00:07:37

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

Activity Results Time Elapsed: 00:16:32

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				
R1				
Ports				
GigabitEthernet0/0				
✓ Description	Correct	3	Device Interface C...	
✓ IP Address	Correct	3	Device Interface C...	
✓ Port Status	Correct	3	Device Interface C...	
✓ Subnet Mask	Correct	3	Device Interface C...	
GigabitEthernet0/1				
✓ Description	Correct	3	Device Interface C...	
✓ IP Address	Correct	3	Device Interface C...	
✓ Port Status	Correct	3	Device Interface C...	
✓ Subnet Mask	Correct	3	Device Interface C...	
✓ Startup Config	Correct	3	Configuration Man...	
R2				
Ports				
GigabitEthernet0/0				
✓ Description	Correct	3	Device Interface C...	
✓ IP Address	Correct	3	Device Interface C...	
✓ Port Status	Correct	3	Device Interface C...	
✓ Subnet Mask	Correct	3	Device Interface C...	
GigabitEthernet0/1				
✓ Description	Correct	3	Device Interface C...	
✓ IP Address	Correct	3	Device Interface C...	
✓ Port Status	Correct	3	Device Interface C...	
✓ Subnet Mask	Correct	3	Device Interface C...	
✓ 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

## Kết quả chi tiết

### Task 3: Áp dụng chia địa chỉ IP

Cho địa chỉ 192.168.100.0/24

Dựa vào hình ta thấy cần tìm ít nhất 4 mạng con mà mỗi mạng con có 25 máy. Mỗi mạng con cần ít nhất là 25 máy => cần 5 bit phần host ID.

Mượn 3 bit để chia mạng con, vì vậy ta có  $2^3 = 8$  mạng con và  $2^5 - 2 = 30$  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

Device	Interface	ID Addres	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
	S/0/0/0	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
	S/0/0/0	192.168.100.158	255.255.255.224	N/A
S1	VLAN1	192.168.100.2	255.255.255.224	192.168.100.1
S2	VLAN1	192.168.100.33	255.255.255.224	192.168.100.34
S3	VLAN1	192.168.100.66	255.255.255.224	192.168.100.65
S4	VLAN1	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

## Cấu hình thiết bị

### Cấu hình R1

```

R1>enable
R1#config t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)# interface gigabitethernet 0/0
R1(config-if)#ip address 192.168.100.1 255.255.255.224
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)#exit
R1(config)# interface gigabitethernet 0/1

```

```

R1(config-if)#ip address 192.168.100.33 255.255.255.224
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

```

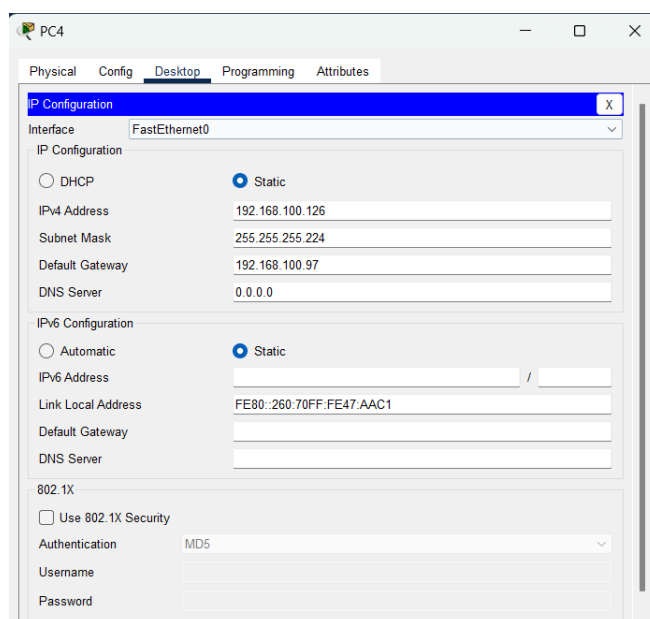
### Cấu hình S3

```

S3>enable
S3#config t
Enter configuration commands, one per line. End with CNTL/Z.
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 de
S3(config)#ip default-gateway 192.168.100.65
S3(config)#

```

### Cấu hình PC4



### Bảng kết quả

Activity Results
Time Elapsed: 00:13:50

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*

Activity Results

Time Elapsed: 00:14:14

Congratulations Guest! You completed the activity.

Overall FeedbackAssessment ItemsConnectivity Tests

Expand/Collapse AllShow 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 C...	
Subnet Mask	Correct	3	IPv4 Subnet Mask...	
GigabitEthernet0/1				
IP Address	Correct	3	IPv4 Host Address...	
Port Status	Correct	1	Device Interface C...	
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 C...	
Subnet Mask	Correct	3	IPv4 Subnet Mask...	

Score

Item Count

: 30/30

: 13/13

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