



# Lab 5

## BÁO CÁO BÀI THỰC HÀNH SỐ [5] [Cấu hình Thiết bị mạng]

### Configuring Network Devices

**Môn học: NHẬP MÔN MẠNG MÁY TÍNH**

<b>Sinh viên thực hiện</b>	Nguyễn Dương Đại (23520217)
<b>Thời gian thực hiện</b>	12/11/2024 – 19/11/2024
<b>Số câu đã hoàn thành</b>	3/3

## TRẢ LỜI CÁC CÂU HỎI

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

**Trả lời:**

**Kết quả tổng quát:**

Cisco Packet Tracer - D:\Packet File\Lab 5\Lab 5a\_23520217.pka - 23520217 - 2024-11-12 14:07:41

File Edit Options View Tools Extensions Window Help

Activity Results Time Elapsed: 00:30:22

Congratulations 23520217! 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.

**Kết quả chi tiết:**

Cisco Packet Tracer - D:\Packet File\Lab 5\Lab 5a\_23520217.pka - 23520217 - 2024-11-12 14:07:41

File Edit Options View Tools Extensions Window Help

Activity Results Time Elapsed: 00:30:48

Congratulations 23520217! 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		
Authn 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		
Authn 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

Score : 100/100  
Item Count : 13/13

Close



## #show ip interface brief

```
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
```

## #show ip route

```
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, 00:08:49, 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, 00:08:57, 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
```

```
#show run
```

```
#show ip interface brief
```

5

## #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, 00:21:21, 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, 00:21:21, Serial0/0/0
D    192.168.11.0/24 [90/2170112] via 209.165.200.225, 00:21:21, Serial0/0/0
209.165.200.0/24 is variably subnetted, 3 subnets, 3 masks
D    209.165.200.0/24 is a summary, 00:21:21, 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
```

## 2.3 Kết quả

### Tổng quát:

Cisco Packet Tracer - D:\Packet File\Lab 5\Lab 5b\_23520217.pka - 23520217 - 2024-11-12 17:45:59

File Edit Options View Tools Extensions Window Help

Activity Results

Congratulations 23520217! 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.

### Chi tiết:

Cisco Packet Tracer - D:\Packet File\Lab 5\Lab 5b\_23520217.pka - 23520217 - 2024-11-12 17:45:59

File Edit Options View Tools Extensions Window Help

Activity Results Time Elapsed: 00:37:13

Congratulations 23520217! 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 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

Close

### 3. Task 3: Áp dụng chia địa chỉ IP

**Trả lời:**

#### 3.1 Chia mạng con và phân bổ IP

-Có 5 mạng con :

- Kết nối giữa S1 và G0/0 của R1.
- Kết nối giữa S2 và G0/1 của R1.
- Kết nối giữa S3 và G0/0 của R2.
- Kết nối giữa S4 và G0/1 của R2.
- Kết nối giữa R1 và R2.

-Chia mạng con từ địa chỉ 192.168.100.0/24:

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	192.168.100.233
7	192.168.100.224	192.168.100.225	192.168.100.254	192.168.100.255

*Bảng địa chỉ IP sau khi chia*

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	VLAN1	192.168.100.2	255.255.255.224	192.168.100.1
S2	VLAN1	192.168.100.34	255.255.255.224	192.168.100.33
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

*Bảng địa chỉ IP của các Interface*

### **3.2 Cấu hình thiết bị**

*Cấu hình IP phù hợp cho các thiết bị R1, S3 và PC4.*



```
#show run
```

```

!
!
!
interface GigabitEthernet0/0
ip address 192.168.100.1 255.255.255.224
duplex auto
speed auto
!
interface GigabitEthernet0/1
ip address 192.168.100.33 255.255.255.224
duplex auto
speed auto
!
interface Serial0/0/0
ip address 192.168.100.129 255.255.255.224
clock rate 64000
!
interface Serial0/0/1
no ip address
clock rate 2000000
shutdown
!
interface Vlan1
no ip address
shutdown
!
router eigrp 1
network 192.168.100.0
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
!
line con 0

```

```
line con 0
!  
line aux 0
!  
line vty 0 4  
  login  
!  
!  
!  
end
```

```
#show ip interface brief
```

```

R1#show ip interface brief
Interface                IP-Address      OK? Method Status        Protocol
GigabitEthernet0/0       192.168.100.1   YES manual up            up
GigabitEthernet0/1       192.168.100.33  YES manual up            up
Serial0/0/0              192.168.100.129 YES manual up            up
Serial0/0/1              unassigned      YES unset  administratively down down
Vlan1                    unassigned      YES unset  administratively down down

```

```
#show ip route
```

```

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

    192.168.100.0/24 is variably subnetted, 8 subnets, 2 masks
C       192.168.100.0/27 is directly connected, GigabitEthernet0/0
L       192.168.100.1/32 is directly connected, GigabitEthernet0/0
C       192.168.100.32/27 is directly connected, GigabitEthernet0/1
C       192.168.100.33/32 is directly connected, GigabitEthernet0/1
D       192.168.100.64/27 [90/2170112] via 192.168.100.158, 00:04:38, Serial0/0/0
D       192.168.100.96/27 [90/2170112] via 192.168.100.158, 00:04:38, Serial0/0/0
C       192.168.100.128/27 is directly connected, Serial0/0/0
L       192.168.100.129/32 is directly connected, Serial0/0/0

```

## S3

### #show run

```

S3>enable
S3#show run
Building configuration...

Current configuration : 1130 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname S3
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
!
interface FastEthernet0/2
!
interface FastEthernet0/3
!
interface FastEthernet0/4
!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11
!
interface FastEthernet0/12
!
interface FastEthernet0/13
!
interface FastEthernet0/14
!
interface FastEthernet0/15
!
interface FastEthernet0/16
!
interface FastEthernet0/17
!
interface FastEthernet0/18
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
ip address 192.168.100.66 255.255.255.224
!
ip default-gateway 192.168.100.65
!
!
!
!
line con 0
!

```

### #show ip interface brief

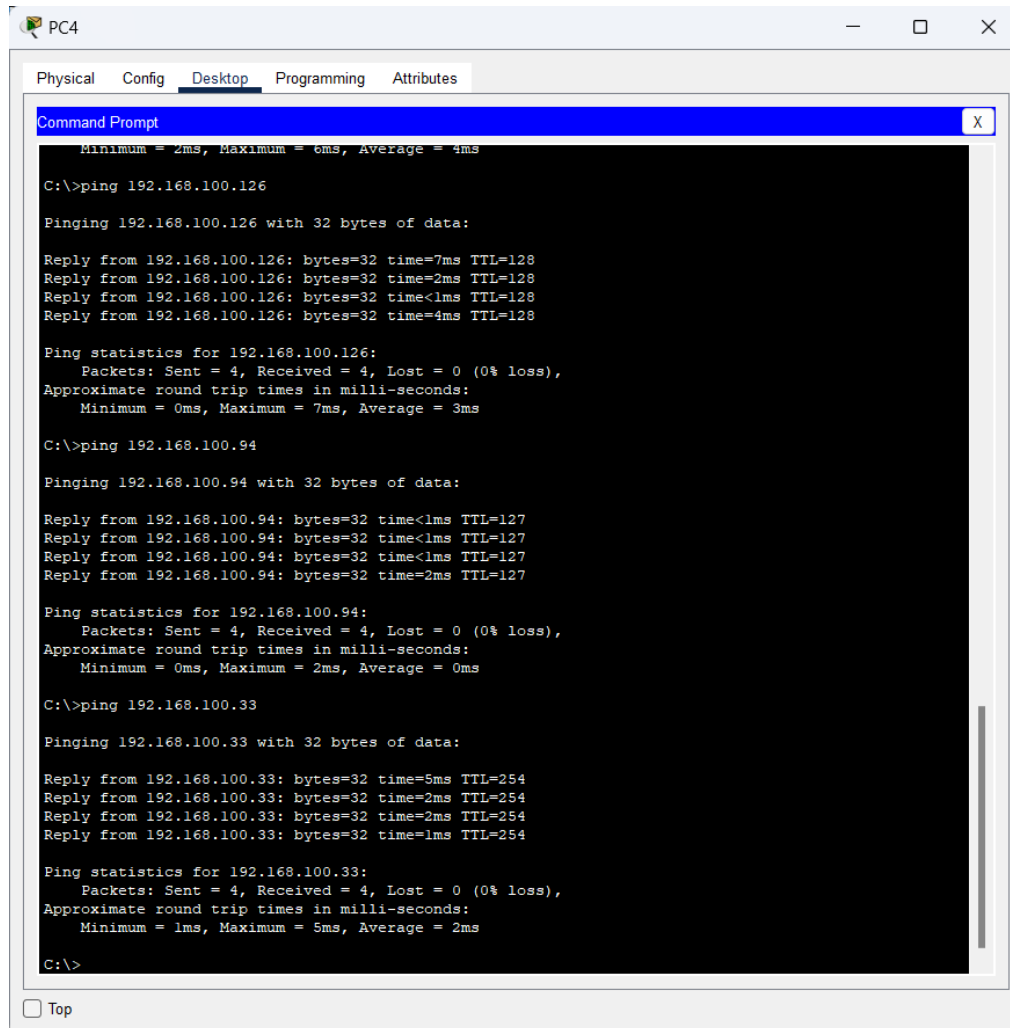
```

S3#show ip interface brief
Interface                IP-Address      OK? Method Status  Protocol
FastEthernet0/1          unassigned      YES manual up      up
FastEthernet0/2          unassigned      YES manual down    down
FastEthernet0/3          unassigned      YES manual down    down
FastEthernet0/4          unassigned      YES manual down    down
FastEthernet0/5          unassigned      YES manual down    down
FastEthernet0/6          unassigned      YES manual down    down
FastEthernet0/7          unassigned      YES manual down    down
FastEthernet0/8          unassigned      YES manual down    down
FastEthernet0/9          unassigned      YES manual down    down
FastEthernet0/10         unassigned      YES manual down    down
FastEthernet0/11         unassigned      YES manual down    down
FastEthernet0/12         unassigned      YES manual down    down
FastEthernet0/13         unassigned      YES manual down    down
FastEthernet0/14         unassigned      YES manual down    down
FastEthernet0/15         unassigned      YES manual down    down
FastEthernet0/16         unassigned      YES manual down    down
FastEthernet0/17         unassigned      YES manual down    down
FastEthernet0/18         unassigned      YES manual down    down
FastEthernet0/19         unassigned      YES manual down    down
FastEthernet0/20         unassigned      YES manual down    down
FastEthernet0/21         unassigned      YES manual down    down
FastEthernet0/22         unassigned      YES manual down    down
FastEthernet0/23         unassigned      YES manual down    down
FastEthernet0/24         unassigned      YES manual down    down
GigabitEthernet0/1       unassigned      YES manual up      up
GigabitEthernet0/2       unassigned      YES manual down    down
Vlan1                    192.168.100.66 YES manual up      up

```

## PC4

Kiểm tra kết nối bằng lệnh ping ở PC4:

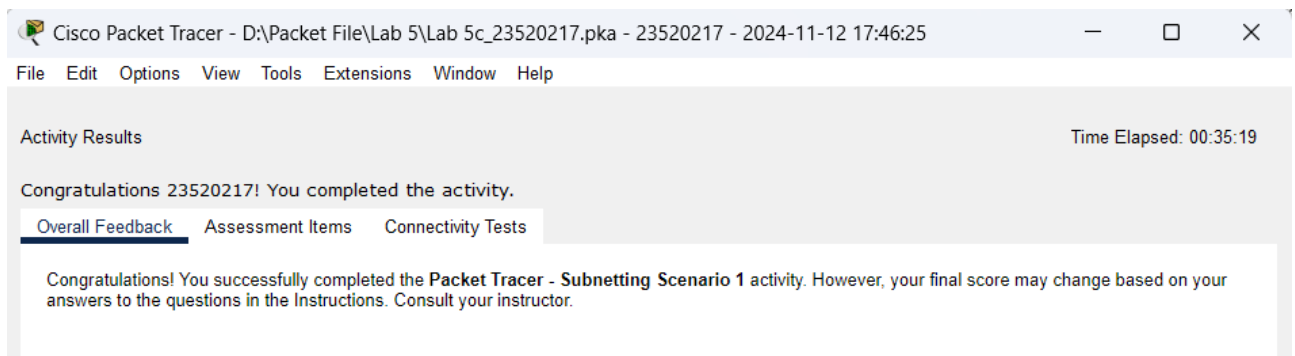


```
PC4
Physical Config Desktop Programming Attributes
Command Prompt
Minimum = 2ms, Maximum = 6ms, Average = 4ms
C:\>ping 192.168.100.126
Pinging 192.168.100.126 with 32 bytes of data:
Reply from 192.168.100.126: bytes=32 time=7ms TTL=128
Reply from 192.168.100.126: bytes=32 time=2ms TTL=128
Reply from 192.168.100.126: bytes=32 time<1ms TTL=128
Reply from 192.168.100.126: bytes=32 time=4ms TTL=128
Ping statistics for 192.168.100.126:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 7ms, Average = 3ms
C:\>ping 192.168.100.94
Pinging 192.168.100.94 with 32 bytes of data:
Reply from 192.168.100.94: bytes=32 time<1ms TTL=127
Reply from 192.168.100.94: bytes=32 time<1ms TTL=127
Reply from 192.168.100.94: bytes=32 time<1ms TTL=127
Reply from 192.168.100.94: bytes=32 time=2ms TTL=127
Ping statistics for 192.168.100.94:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms
C:\>ping 192.168.100.33
Pinging 192.168.100.33 with 32 bytes of data:
Reply from 192.168.100.33: bytes=32 time=5ms TTL=254
Reply from 192.168.100.33: bytes=32 time=2ms TTL=254
Reply from 192.168.100.33: bytes=32 time=2ms TTL=254
Reply from 192.168.100.33: bytes=32 time=1ms TTL=254
Ping statistics for 192.168.100.33:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 5ms, Average = 2ms
C:\>
```

Hình ảnh kết nối thành công

## 3.3 Kết quả

Tổng quát:



Cisco Packet Tracer - D:\Packet File\Lab 5\Lab 5c\_23520217.pka - 23520217 - 2024-11-12 17:46:25

File Edit Options View Tools Extensions Window Help

Activity Results Time Elapsed: 00:35:19

Congratulations 23520217! 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.

Chi tiết:

Cisco Packet Tracer - D:\Packet File\Lab 5\Lab 5c\_23520217.pka - 23520217 - 2024-11-12 17:46:25

File Edit Options View Tools Extensions Window Help

Activity Results Time Elapsed: 00:36:32

Congratulations 23520217! You completed the activity.

Overall Feedback Assessment Items Connectivity Tests

Expand/Collapse All Show Incorrect Items

Assessment Items	Status	Points	Component(s)
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...

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

Close