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

Configuring Network Devices

Môn học: NHẬP MÔN MẠNG MÁY TÍNH

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TRẢ LỜI CÁC CÂU HỎI

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

Trả lời:

Kết quả tổng quát:

Kết quả chi tiết:

2. Task 2: Cấu hình địa chỉ IP trên router

Trả lời:

2.2 Kiểm tra cấu hình

o **Cấu hình router R1**

#show run

```
R1#show run
Building configuration...

Current configuration : 1218 bytes
!
version 15.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname R1
!
!
!
enable secret 5 $1$mERr$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
!
 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
 shutdown
!
interface FastEthernet0/1/1
 switchport mode access
 shutdown
!
interface FastEthernet0/1/2
 switchport mode access
 shutdown
!
interface FastEthernet0/1/3
 switchport mode access
 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 con 0
 password 7 0822455D0A16
 login
!
line aux 0
!
line vty 0 4
 login
!
!
!
end
```

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#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
```

o **Cấu hình router R2**

#show run

```
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 $1$mERr$9cTjUIEqNGurQiFU.ZeCil
!
!
!
!
!
!
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
```

```
 password 7 0822455D0A16
 login
!
line aux 0
!
line vty 0 4
 login
!
!
!
end
```

#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                     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
```

#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:

Chi tiết:

3. Task 3: Áp dụng chia địa chỉ IP

Trả lời:

3.1 Chia mạng con và phân bổ IP

-Có 5 mạng con :
- o *Kết nối giữa S1 và G0/0 của R1.*
- o *Kết nối giữa S2 và G0/1 của R1.*
- o *Kết nối giữa S3 và G0/0 của R2.*
- o *Kết nối giữa S4 và G0/1 của R2.*
- o *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.

R1

#show run

```
R1>enable
R1#show run
Building configuration...

Current configuration : 833 bytes
!
version 15.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R1
!
!
!
!
!
!
!
!
ip cef
no ipv6 cef
!
!
!
!
license udi pid CISCO1941/K9 sn FTX1524V069
!
!
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
!
!
```

```
!
!
!
!
!
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
L       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
```

```
line con 0
!
line vty 0 4
 login
line vty 5 15
 login
!
!
!
!
end
```

#show ip interface brief
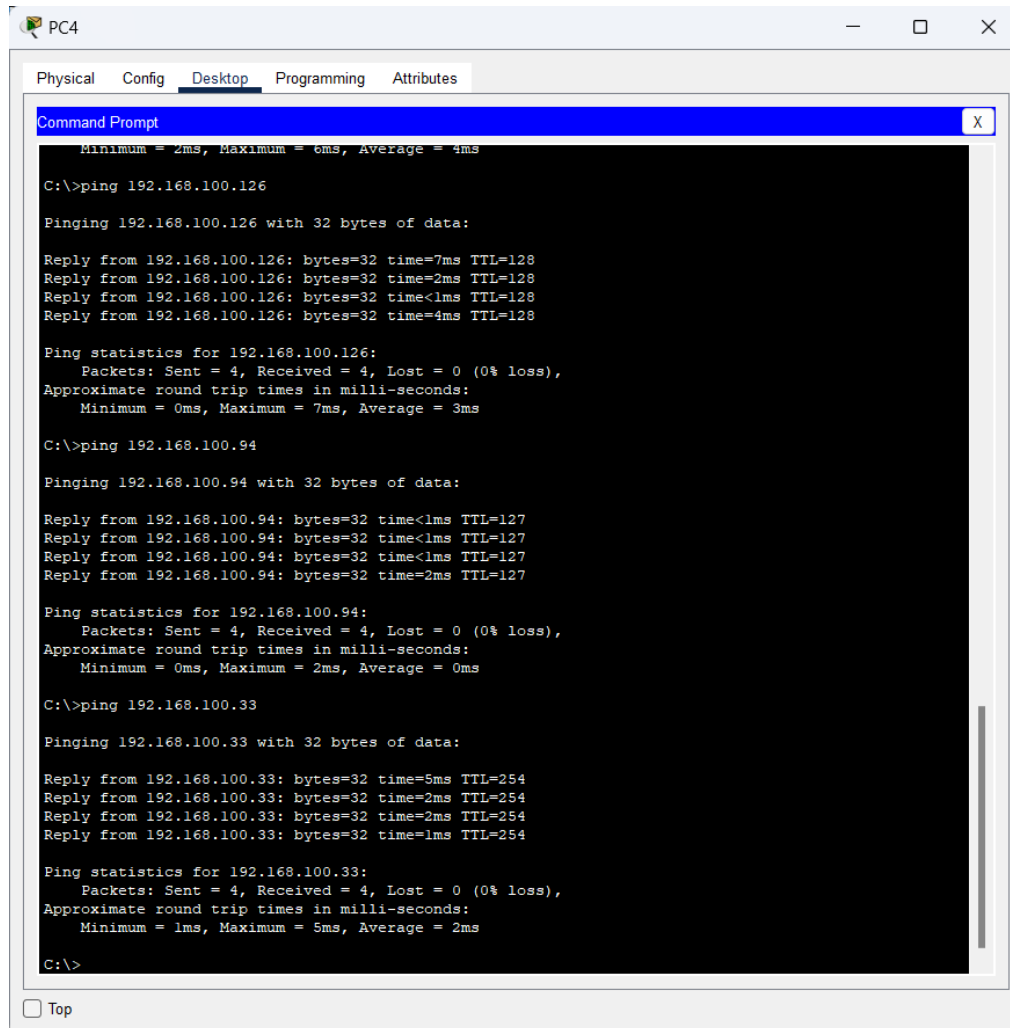
```
S3#show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/1        unassigned      YES manual up                    up
FastEthernet0/2        unassigned      YES manual down                  down
FastEthernet0/3        unassigned      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
```
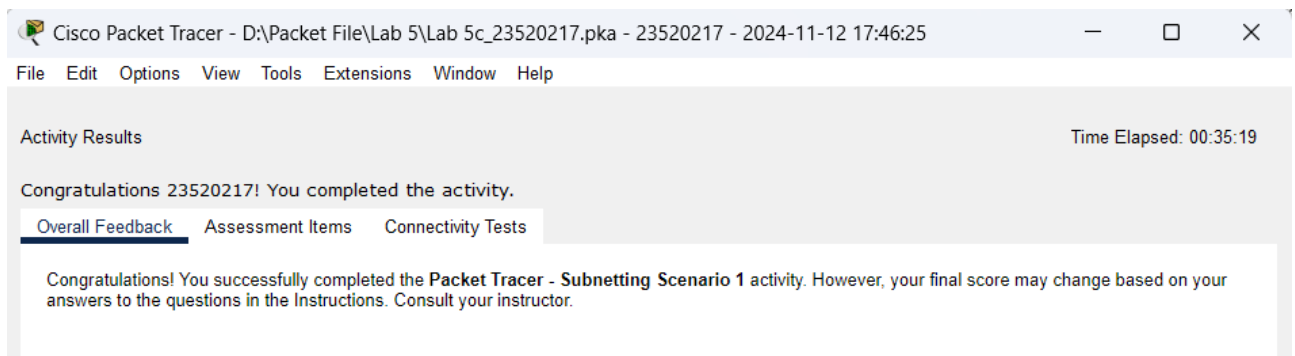
PC4

Kiểm tra kết nối bằng lệnh ping ở PC4:

Hình ảnh kết nối thành công

3.3 Kết quả

Tổng quát:

Chi tiết: