LAB 2

ĐỊA CHỈ IPv4 - CHIA MẠNG CON

CẤU HÌNH SWITCH VÀ ROUTER - VẠCH ĐƯỜNG TĨNH

Họ tên và MSSV: Trần Quốc Phú B2205899

Nhóm học phần: CT29301

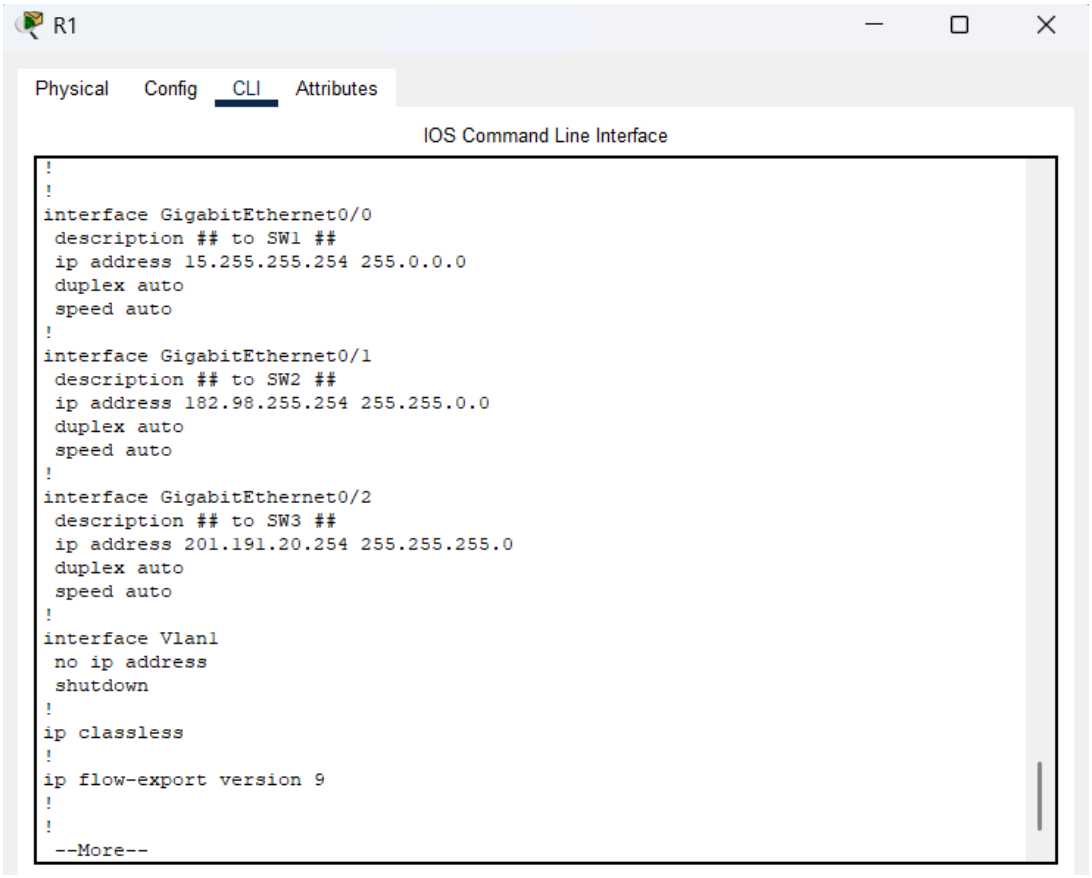
- *Các sinh viên bị phát hiện sao chép bài của nhau sẽ nhận 0đ cho tất cả bài thực hành của môn này.*
- *Bài nộp phải ở dạng PDF, hình minh họa phải rõ ràng chi tiết.* Hình minh hoạ chỉ cần chụp ở nội dung thực hiện, không chụp toàn màn hình.

1. Cấu hình địa chỉ IPv4

Xem video hướng dẫn và thực hiện các yêu cầu sau:

Sử dụng file *Lab02-01 - IPv4 Addresses.pkt*, thực hiện:

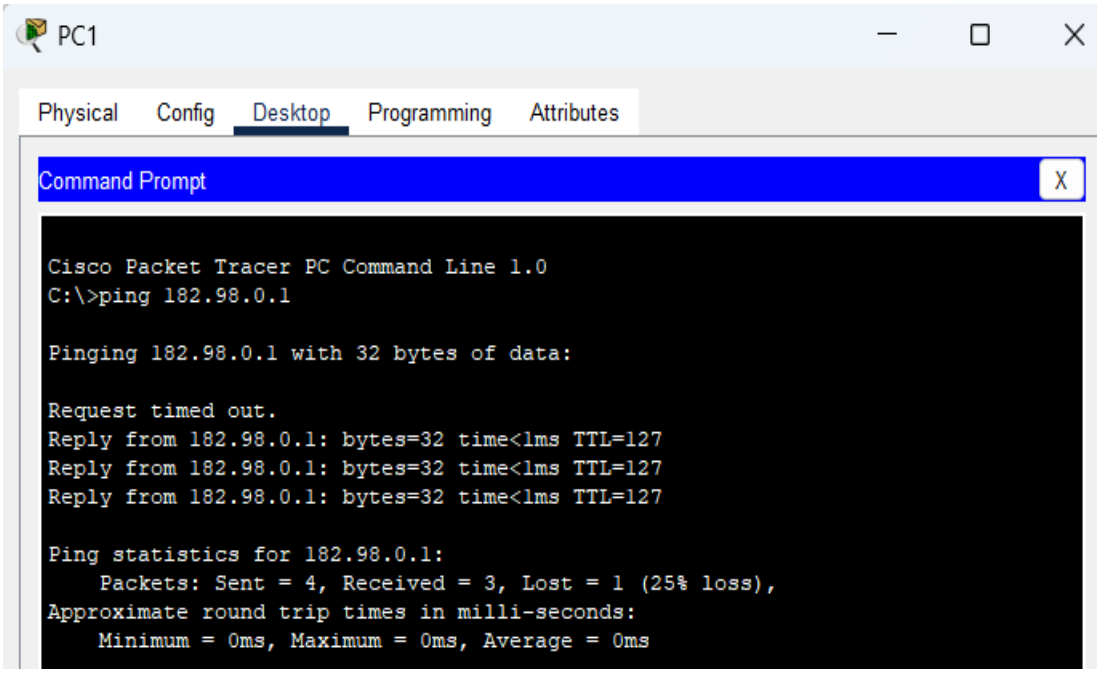
- Cấu hình hostname cho R1.
- Sử dụng lệnh `show` hiển thị thông tin của các interface của R1.
- Cấu hình địa chỉ IP phù hợp cho các interface của R1 và bật các interface đó lên.
- Cấu hình các mô tả cho các interface.
- Sử dụng lệnh show để hiển thông tin các interface của R1.
- Hiển thị running configuration (chụp hình minh họa).



Hình 1. Hiển thị running configuration

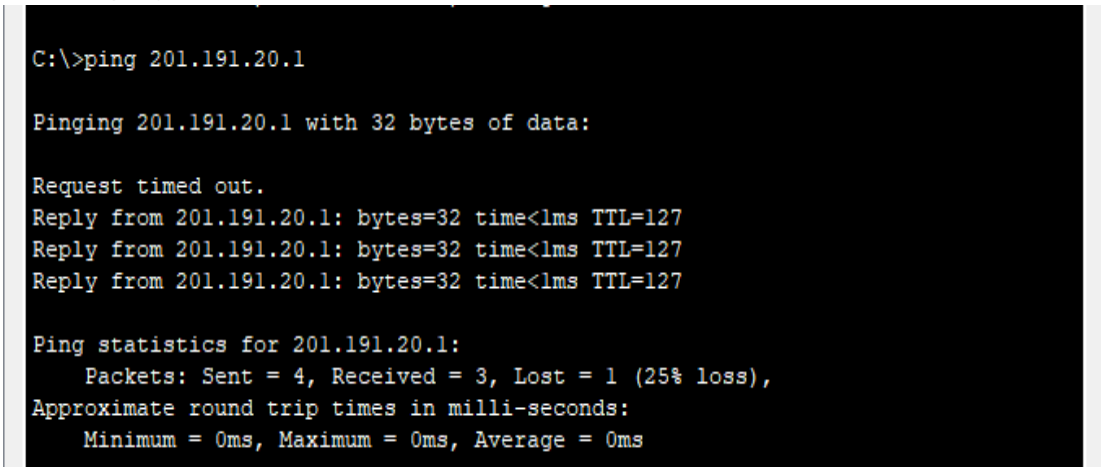
- Cấu hình địa chỉ IP cho PC1, PC2, PC3
- Từ PC1 ping tới PC2 và PC3 để kiểm tra nối kết (chụp hình minh họa).

Từ PC1 ping tới PC2:



Hình 2. PC1 ping PC2

Từ PC1 ping tới PC3:



Hình 3. PC1 ping PC3

2. Cấu hình interface của switch và router

Xem video hướng dẫn và thực hiện các yêu cầu sau:

Sử dụng file *Lab02-02 - Interface Configuration.pkt*, thực hiện:

- Cấu hình hostname cho R1, SW1, và SW2.
- Cấu hình địa chỉ IP phù hợp cho R1, PC1, PC2, PC3, PC4.
- Cấu hình tốc độ và chế độ duplex cho các interface nối kết tới các thiết bị mạng khác (switch, router, KHÔNG phải PC).
- Cấu hình mô tả phù hợp cho mỗi interface.

- Tắt các interface không nối kết tới các thiết bị khác.
- Hiển thị running configuration (chụp hình minh họa).

```
!
interface GigabitEthernet0/0
 description ## to SW1 ##
 ip address 172.16.255.254 255.255.0.0
 duplex full
 speed 1000
!
interface GigabitEthernet0/1
 description ## no in use ##
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface GigabitEthernet0/2
 description ## no in use ##
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Vlan1
 no ip address
 shutdown
!
ip classless
!
ip flow-export version 9
!
!
```

Hình 4. Giao diện running-config của R1

```
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
 description ## to end hosts ##
!
interface FastEthernet0/2
 description ## to end hosts ##
!
interface FastEthernet0/3
 description ## not in use ##
 shutdown
!
interface FastEthernet0/4
 description ## not in use ##
 shutdown
!
interface FastEthernet0/5
 description ## not in use ##
 shutdown
!
interface FastEthernet0/6
 description ## not in use ##
 shutdown
!
interface FastEthernet0/7
 description ## not in use ##
 shutdown
!
```

Hình 5. Giao diện running-config của SW1

```
interface FastEthernet0/19
 description ## not in use ##
 shutdown
!
interface FastEthernet0/20
 description ## not in use ##
 shutdown
!
interface FastEthernet0/21
 description ## not in use ##
 shutdown
!
interface FastEthernet0/22
 description ## not in use ##
 shutdown
!
interface FastEthernet0/23
 description ## not in use ##
 shutdown
!
interface FastEthernet0/24
 description ## not in use ##
 shutdown
!
interface GigabitEthernet0/1
 description ## To R1 ##
 duplex full
 speed 1000
!
 --More--
```

Hình 6. Giao diện running-config của SW1 (tt)

```
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
 description ## to end hosts ##
!
interface FastEthernet0/2
 description ## to end hosts ##
!
interface FastEthernet0/3
 description ## not in use ##
 shutdown
!
interface FastEthernet0/4
 description ## not in use ##
 shutdown
!
interface FastEthernet0/5
 description ## not in use ##
 shutdown
!
interface FastEthernet0/6
 description ## not in use ##
 shutdown
!
interface FastEthernet0/7
 description ## not in use ##
 shutdown
!
interface FastEthernet0/8
```

Hình 7. Giao diện running-config của SW2

```
 shutdown
!
interface FastEthernet0/19
 description ## not in use ##
 shutdown
!
interface FastEthernet0/20
 description ## not in use ##
 shutdown
!
interface FastEthernet0/21
 description ## not in use ##
 shutdown
!
interface FastEthernet0/22
 description ## not in use ##
 shutdown
!
interface FastEthernet0/23
 description ## not in use ##
 shutdown
!
interface FastEthernet0/24
 description ## not in use ##
 shutdown
!
interface GigabitEthernet0/1
 description ## to SW1 ##
 duplex full
 speed 1000
```

Hình 8. Giao diện running-config của SW2 (tt)

3. Cấu hình vạch đường tĩnh (static route)

Xem video hướng dẫn và thực hiện các yêu cầu sau:

Sử dụng file *Lab02-03 - Configuring Static Routes.pkt*, thực hiện:

- Cấu hình PC và router theo sơ đồ mạng (không cần cấu hình các switch). Lưu ý cấu hình gateway cho các PC.
- Cấu hình vạch đường tĩnh (static route) cho các router sao cho PC1 có thể ping thành công tới PC2. Chụp hình minh họa.

- *Cấu hình vạch đường tĩnh ở R1:*

```
R1(config)#do sh 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

     192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.1.0/24 is directly connected, GigabitEthernet0/1
L       192.168.1.254/32 is directly connected, GigabitEthernet0/1
S    192.168.3.0/24 [1/0] via 192.168.12.2
     192.168.12.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.12.0/24 is directly connected, GigabitEthernet0/0
L       192.168.12.1/32 is directly connected, GigabitEthernet0/0

R1(config)#
```

- *Cấu hình vạch đường tĩnh ở R2:*

```
R2(config)#do sh 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

S    192.168.1.0/24 is directly connected, GigabitEthernet0/0
S    192.168.3.0/24 [1/0] via 192.168.13.3
     192.168.12.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.12.0/24 is directly connected, GigabitEthernet0/0
L       192.168.12.2/32 is directly connected, GigabitEthernet0/0
     192.168.13.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.13.0/24 is directly connected, GigabitEthernet0/1
L       192.168.13.2/32 is directly connected, GigabitEthernet0/1

R2(config)#
```

- *Cấu hình vạch đường tĩnh ở R3:*

```
R3(config)#do sh 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

S     192.168.1.0/24 [1/0] via 192.168.13.2
     192.168.3.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.3.0/24 is directly connected, GigabitEthernet0/1
L       192.168.3.254/32 is directly connected, GigabitEthernet0/1
     192.168.13.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.13.0/24 is directly connected, GigabitEthernet0/0
L       192.168.13.3/32 is directly connected, GigabitEthernet0/0

R3(config)#
```

- *PC1 ping tới PC2:*

```
C:\>ping 192.168.3.1

Pinging 192.168.3.1 with 32 bytes of data:

Reply from 192.168.3.1: bytes=32 time<1ms TTL=125
Reply from 192.168.3.1: bytes=32 time=1ms TTL=125
Reply from 192.168.3.1: bytes=32 time=10ms TTL=125
Reply from 192.168.3.1: bytes=32 time=17ms TTL=125

Ping statistics for 192.168.3.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 17ms, Average = 7ms

C:\>
```

- Hiển thị running configuration (chụp hình minh họa).

- *Giao diện running-config của R1:*

```
interface GigabitEthernet0/0
 description ## to R2 ##
 ip address 192.168.12.1 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 description ## to SW1 ##
 ip address 192.168.1.254 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/2
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Vlan1
 no ip address
 shutdown
!
ip classless
ip route 192.168.3.0 255.255.255.0 192.168.12.2
!
 --More--
```

- *Giao diện running-config của R2:*

```
!
interface GigabitEthernet0/0
 description ## to R1 ##
 ip address 192.168.12.2 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 description ##to R3##
 ip address 192.168.13.2 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/2
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Vlan1
 no ip address
 shutdown
!
ip classless
ip route 192.168.1.0 255.255.255.0 GigabitEthernet0/0
ip route 192.168.3.0 255.255.255.0 192.168.13.3
!
ip flow-export version 9
 --More--
```

- *Giao diện running-config của R3*

```
interface GigabitEthernet0/0
 description ##to R2##
 ip address 192.168.13.3 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 description ##to SW2##
 ip address 192.168.3.254 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/2
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Vlan1
 no ip address
 shutdown
!
ip classless
ip route 192.168.1.0 255.255.255.0 192.168.13.2
!
ip flow-export version 9
!
```

4. Xử lý lỗi trong cấu hình vạch đường tĩnh

Xem video hướng dẫn và thực hiện các yêu cầu sau:

Sử dụng file *Lab02-04 - Troubleshooting Static Routes.pkt*, thực hiện:

- Hiện tại PC1 và PC2 không thể ping được nhau bởi vì có cấu hình sai trên mỗi router. Tìm các cấu hình sai và sửa chúng để cho PC1 và PC2 có thể ping được nhau.
- Hiển thị running configuration (chụp hình minh họa).

- *R1 cấu hình vạch đường tĩnh sai*

```
Gateway of last resort is not set

     192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.1.0/24 is directly connected, GigabitEthernet0/1
L       192.168.1.254/32 is directly connected, GigabitEthernet0/1
S    192.168.3.0/24 [1/0] via 192.168.12.3
     192.168.12.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.12.0/24 is directly connected, GigabitEthernet0/0
L       192.168.12.1/32 is directly connected, GigabitEthernet0/0

R1(config)#do sh running-config | include ip route
ip route 192.168.3.0 255.255.255.0 192.168.12.3
R1(config)#no  ip route 192.168.3.0 255.255.255.0 192.168.12.3
R1(config)#do sh running-config | include ip route
R1(config)#no  ip route 192.168.3.0 255.255.255.0 192.168.12.2
%No matching route to delete
R1(config)#ip route 192.168.3.0 255.255.255.0 192.168.12.2
R1(config)#do sh running-config | include ip route
ip route 192.168.3.0 255.255.255.0 192.168.12.2
R1(config)#do sh running-config
```

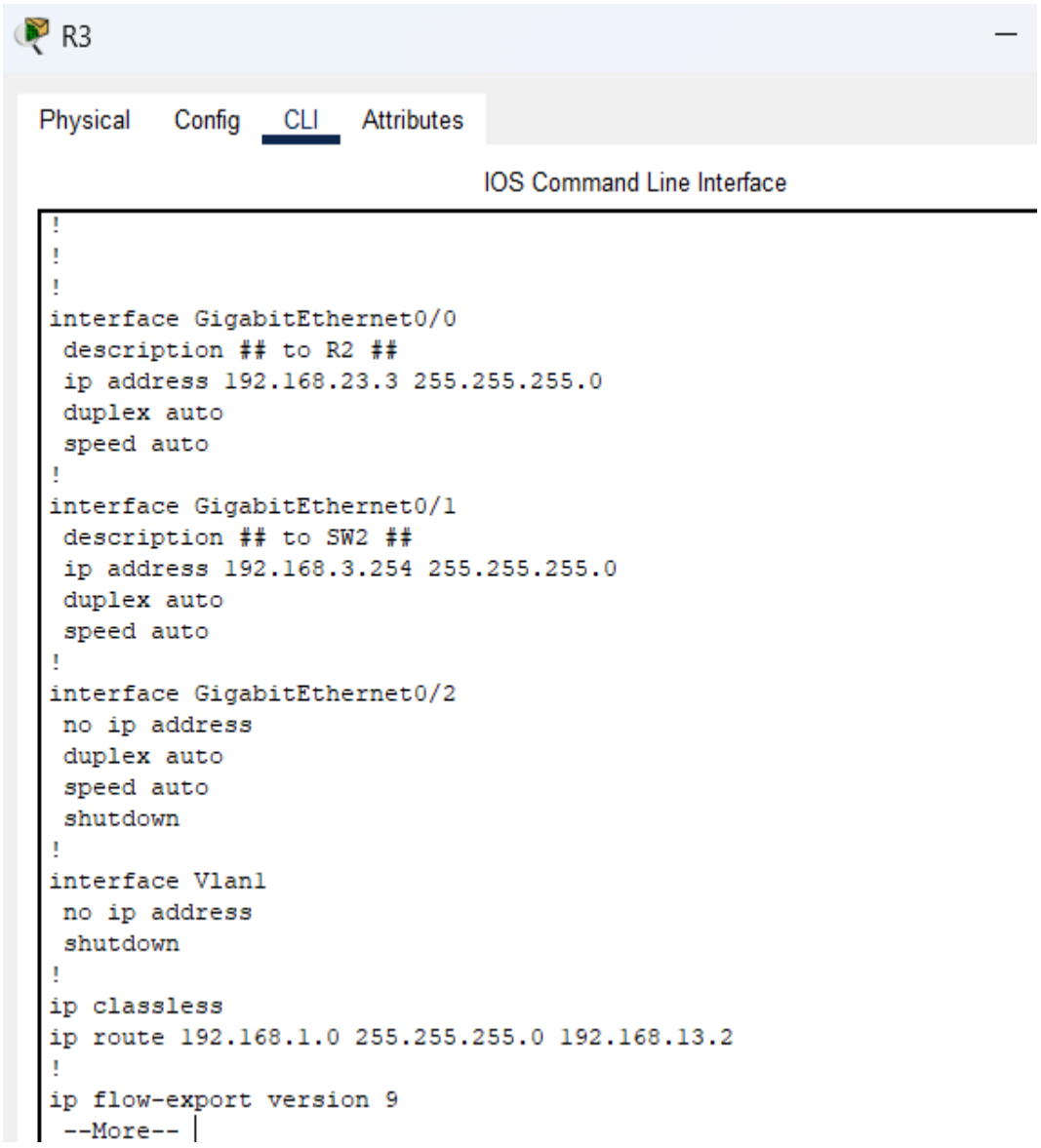
Đã chỉnh sửa trên R1 (192.168.12.3 -> 192.168.12.2)

- *R2 cấu hình sai vạch đường tĩnh*

```
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#do sh run | include ip route
ip route 192.168.1.0 255.255.255.0 192.168.12.1
ip route 192.168.3.0 255.255.255.0 GigabitEthernet0/0
R2(config)# no  ip route 192.168.3.0 255.255.255.0 GigabitEthernet0/0
R2(config)#do sh run | include ip route
ip route 192.168.1.0 255.255.255.0 192.168.12.1
R2(config)#ip route 192.168.3.0 255.255.255.0 GigabitEthernet0/1
%Default route without gateway, if not a point-to-point interface, may impact
performance
R2(config)#do sh run | include ip route
ip route 192.168.1.0 255.255.255.0 192.168.12.1
ip route 192.168.3.0 255.255.255.0 GigabitEthernet0/1
R2(config)#do sh 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

S    192.168.1.0/24 [1/0] via 192.168.12.1
S    192.168.3.0/24 is directly connected, GigabitEthernet0/1
     192.168.12.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.12.0/24 is directly connected, GigabitEthernet0/0
L       192.168.12.2/32 is directly connected, GigabitEthernet0/0
```

Đã chỉnh sửa trên R2 (g0/0 -> g0/1)

- *R3 cấu hình sai:*



Interface g0/0 có ip là 192.168.13.3, không phải 192.168.23.3

```
interface GigabitEthernet0/0
 description ## to R2 ##
 ip address 192.168.13.3 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 description ## to SW2 ##
 ip address 192.168.3.254 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/2
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Vlan1
 no ip address
 shutdown
!
ip classless
ip route 192.168.1.0 255.255.255.0 192.168.13.2
!
ip flow-export version 9
 --More--
```

Đã chỉnh sửa ip trên g0/0 của R3

- *Ping PC1 đến PC2:*

```
C:\>ping 192.168.3.1

Pinging 192.168.3.1 with 32 bytes of data:

Reply from 192.168.3.1: bytes=32 time<1ms TTL=125
Reply from 192.168.3.1: bytes=32 time=11ms TTL=125
Reply from 192.168.3.1: bytes=32 time<1ms TTL=125
Reply from 192.168.3.1: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.3.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 11ms, Average = 2ms

C:\>
```

5. VLSM

Xem video hướng dẫn và thực hiện các yêu cầu sau:
Sử dụng file *Lab02-05 - VLSM.pkt,* thực hiện:

- Chia mạng con cho nhánh mạng `192.168.5.0/24` để có thể cung cấp đủ địa chỉ cho các LAN và nối kết giữa R1 và R2.
- Lấy địa chỉ IP khả dụng đầu tiên của mỗi mạng con cấu hình cho PC trong mỗi LAN.
- Lấy địa chỉ IP khả dụng cuối cùng của mỗi mạng con cấu hình cho interface của router trong mỗi LAN.
- Cấu hình vạch đường tĩnh cho mỗi router để các PC có thể ping lẫn nhau.
- Hiển thị running configuration (chụp hình minh họa).

- *Show ip interface g0/1 của R1*

```
R1(config-if)#do sh ip int g0/1
GigabitEthernet0/1 is up, line protocol is up (connected)
  Internet address is 192.168.5.126/25
  Broadcast address is 255.255.255.255
  Address determined by setup command
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Outgoing access list is not set
  Inbound  access list is not set
  Proxy ARP is enabled
  Security level is default
  Split horizon is enabled
  ICMP redirects are always sent
  ICMP unreachables are always sent
  ICMP mask replies are never sent
  IP fast switching is disabled
  IP fast switching on the same interface is disabled
  IP Flow switching is disabled
  IP Fast switching turbo vector
  IP multicast fast switching is disabled
  IP multicast distributed fast switching is disabled
  Router Discovery is disabled
```

- *Show ip interface g0/0 của R1*

```
R1(config-if)#do sh ip int g0/0
GigabitEthernet0/0 is up, line protocol is up (connected)
  Internet address is 192.168.5.190/26
  Broadcast address is 255.255.255.255
  Address determined by setup command
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Outgoing access list is not set
  Inbound  access list is not set
  Proxy ARP is enabled
  Security level is default
  Split horizon is enabled
  ICMP redirects are always sent
  ICMP unreachables are always sent
  ICMP mask replies are never sent
  IP fast switching is disabled
  IP fast switching on the same interface is disabled
  IP Flow switching is disabled
  IP Fast switching turbo vector
  IP multicast fast switching is disabled
  IP multicast distributed fast switching is disabled
  Router Discovery is disabled
 --More--
```

- *show ip inerface g0/0 của R2*

```
R2(config-if)#do sh ip int g0/0
GigabitEthernet0/0 is up, line protocol is up (connected)
  Internet address is 192.168.5.206/28
  Broadcast address is 255.255.255.255
  Address determined by setup command
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Outgoing access list is not set
  Inbound  access list is not set
  Proxy ARP is enabled
  Security level is default
  Split horizon is enabled
  ICMP redirects are always sent
  ICMP unreachables are always sent
  ICMP mask replies are never sent
  IP fast switching is disabled
  IP fast switching on the same interface is disabled
  IP Flow switching is disabled
  IP Fast switching turbo vector
  IP multicast fast switching is disabled
  IP multicast distributed fast switching is disabled
  Router Discovery is disabled
  IP output packet accounting is disabled
```

- *show ip interface g0/1 của R2*

```
R2(config-if)#do sh ip int g0/1
GigabitEthernet0/1 is up, line protocol is up (connected)
  Internet address is 192.168.5.222/28
  Broadcast address is 255.255.255.255
  Address determined by setup command
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Outgoing access list is not set
  Inbound  access list is not set
  Proxy ARP is enabled
  Security level is default
  Split horizon is enabled
  ICMP redirects are always sent
  ICMP unreachables are always sent
  ICMP mask replies are never sent
  IP fast switching is disabled
  IP fast switching on the same interface is disabled
  IP Flow switching is disabled
  IP Fast switching turbo vector
  IP multicast fast switching is disabled
  IP multicast distributed fast switching is disabled
  Router Discovery is disabled
 --More--
```

- *show ip interface g0/0/0 của R1*

```
R1(config-if)#do sh ip int g0/0/0
GigabitEthernet0/0/0 is down, line protocol is down (disabled)
  Internet address is 192.168.5.225/30
  Broadcast address is 255.255.255.255
  Address determined by setup command
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Outgoing access list is not set
  Inbound  access list is not set
  Proxy ARP is enabled
  Security level is default
  Split horizon is enabled
  ICMP redirects are always sent
  ICMP unreachables are always sent
  ICMP mask replies are never sent
  IP fast switching is disabled
  IP fast switching on the same interface is disabled
  IP Flow switching is disabled
  IP Fast switching turbo vector
  IP multicast fast switching is disabled
  IP multicast distributed fast switching is disabled
  Router Discovery is disabled
 --More--
```

- *show ip interface g0/0/0 của R2*

```
R2(config-if)#do sh ip int g0/0/0
GigabitEthernet0/0/0 is up, line protocol is up (connected)
  Internet address is 192.168.5.226/30
  Broadcast address is 255.255.255.255
  Address determined by setup command
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Outgoing access list is not set
  Inbound  access list is not set
  Proxy ARP is enabled
  Security level is default
  Split horizon is enabled
  ICMP redirects are always sent
  ICMP unreachables are always sent
  ICMP mask replies are never sent
  IP fast switching is disabled
  IP fast switching on the same interface is disabled
  IP Flow switching is disabled
  IP Fast switching turbo vector
  IP multicast fast switching is disabled
  IP multicast distributed fast switching is disabled
  Router Discovery is disabled
 --More--
```

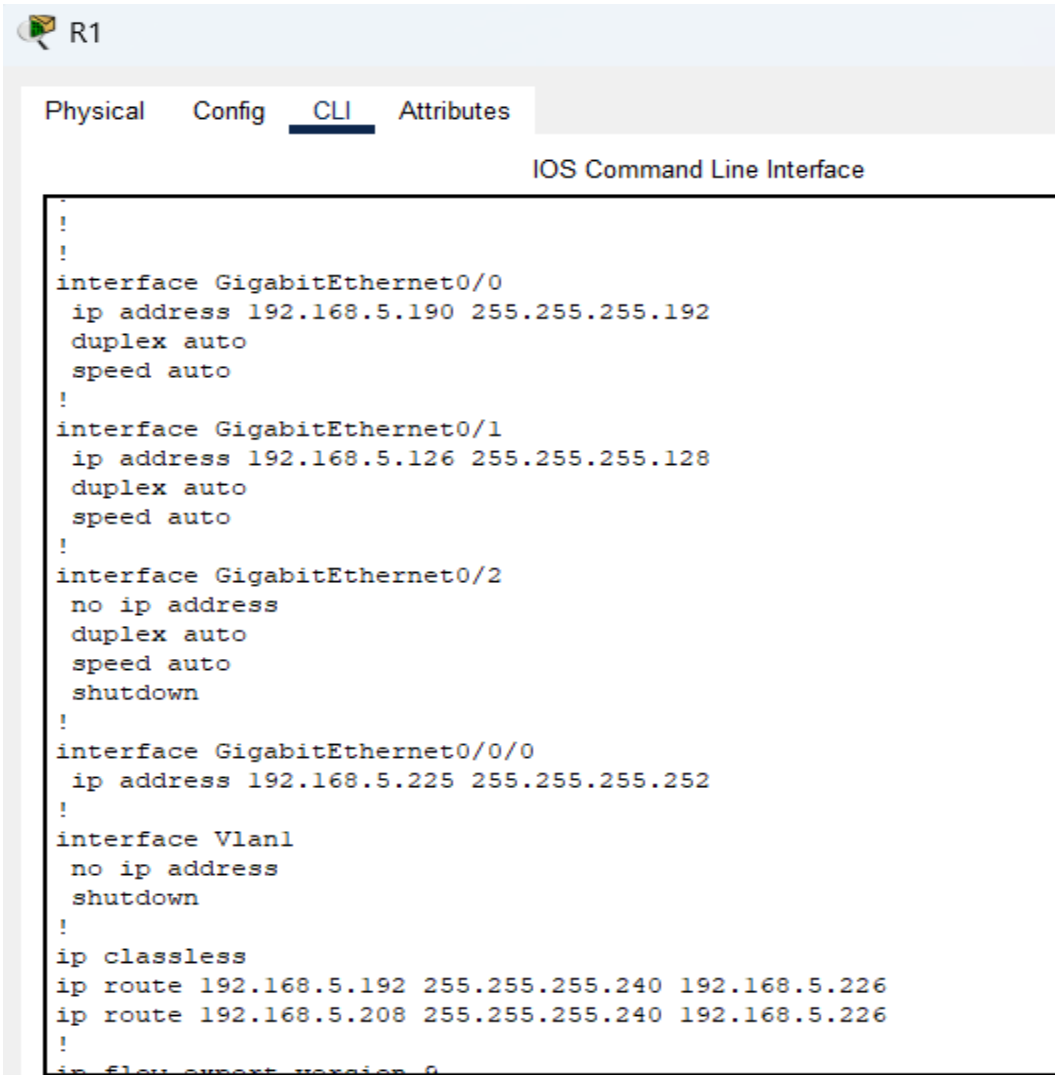
- *Hiển thị vạch đường của R1*

```
Gateway of last resort is not set

     192.168.5.0/24 is variably subnetted, 8 subnets, 5 masks
C       192.168.5.0/25 is directly connected, GigabitEthernet0/1
L       192.168.5.126/32 is directly connected, GigabitEthernet0/1
C       192.168.5.128/26 is directly connected, GigabitEthernet0/0
L       192.168.5.190/32 is directly connected, GigabitEthernet0/0
S       192.168.5.192/28 [1/0] via 192.168.5.226
S       192.168.5.208/28 [1/0] via 192.168.5.226
C       192.168.5.224/30 is directly connected, GigabitEthernet0/0/0
L       192.168.5.225/32 is directly connected, GigabitEthernet0/0/0

R1(config)#
```

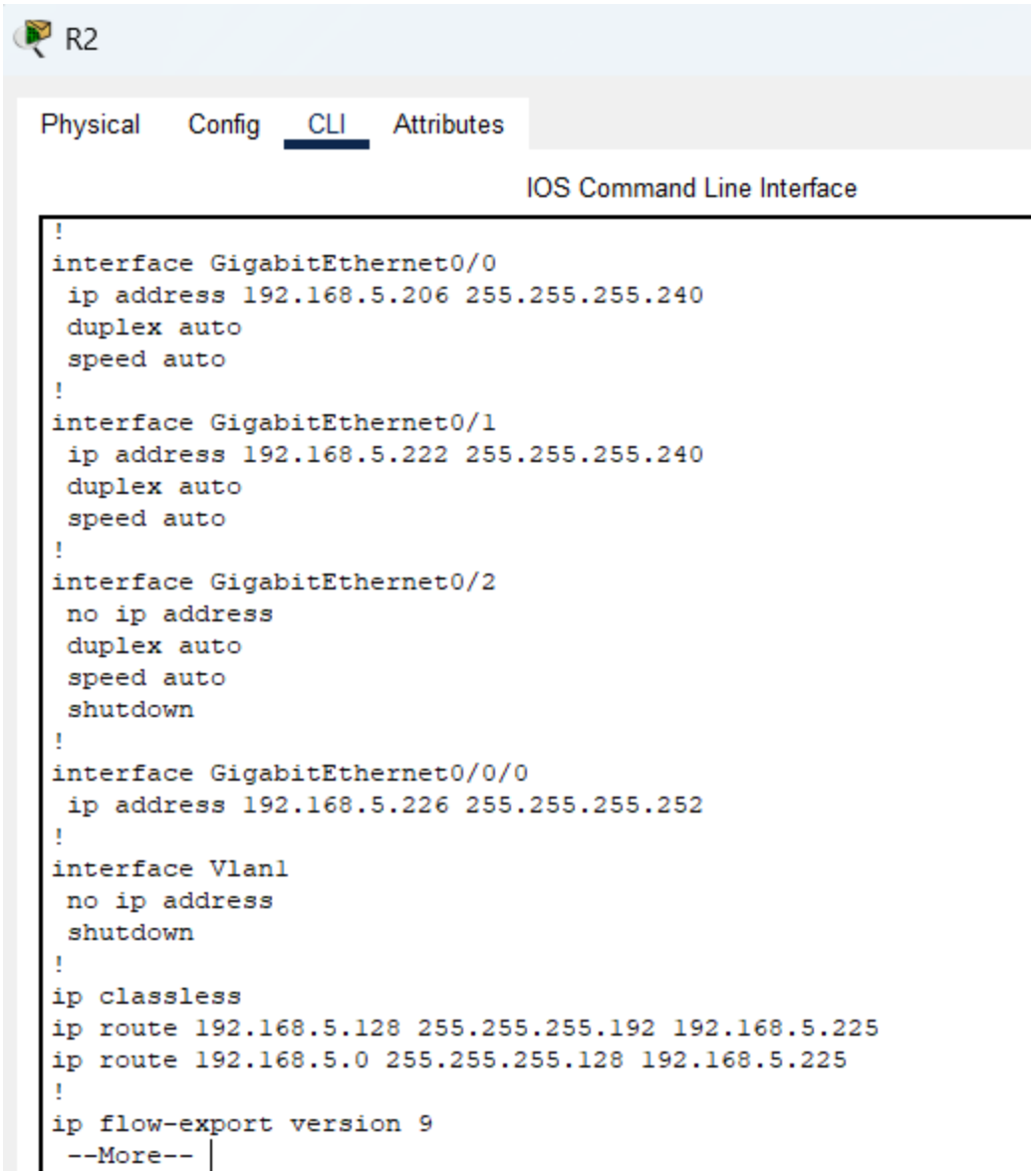
- Hiển thị vạch đường của R2

```
Gateway of last resort is not set

     192.168.5.0/24 is variably subnetted, 8 subnets, 5 masks
S       192.168.5.0/25 [1/0] via 192.168.5.225
S       192.168.5.128/26 [1/0] via 192.168.5.225
C       192.168.5.192/28 is directly connected, GigabitEthernet0/0
L       192.168.5.206/32 is directly connected, GigabitEthernet0/0
C       192.168.5.208/28 is directly connected, GigabitEthernet0/1
L       192.168.5.222/32 is directly connected, GigabitEthernet0/1
C       192.168.5.224/30 is directly connected, GigabitEthernet0/0/0
L       192.168.5.226/32 is directly connected, GigabitEthernet0/0/0

R2(config)#
```

- Hiển thị running-config của R1



- Hiển thị ruuning-config của R2



- Ping từ PC1 tới PC4

```
C:\>ping 192.168.5.209

Pinging 192.168.5.209 with 32 bytes of data:

Request timed out.
Request timed out.
Reply from 192.168.5.209: bytes=32 time=1ms TTL=126
Reply from 192.168.5.209: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.5.209:
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

- Ping từ PC1 tới PC3

```
C:\>ping 192.168.5.193

Pinging 192.168.5.193 with 32 bytes of data:

Request timed out.
Reply from 192.168.5.193: bytes=32 time=10ms TTL=126
Reply from 192.168.5.193: bytes=32 time=11ms TTL=126
Reply from 192.168.5.193: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.5.193:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 11ms, Average = 7ms

C:\>
```

--- Hết ---