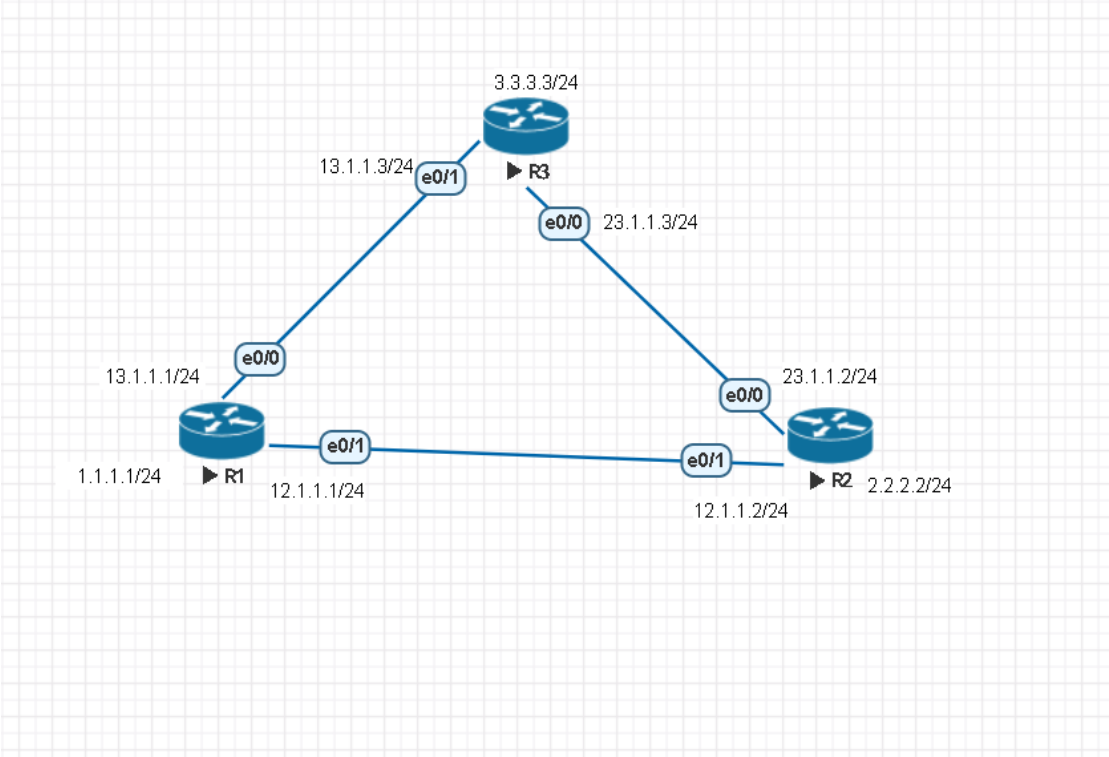
Cisco 期中 資工三 110810504 陳昱誠

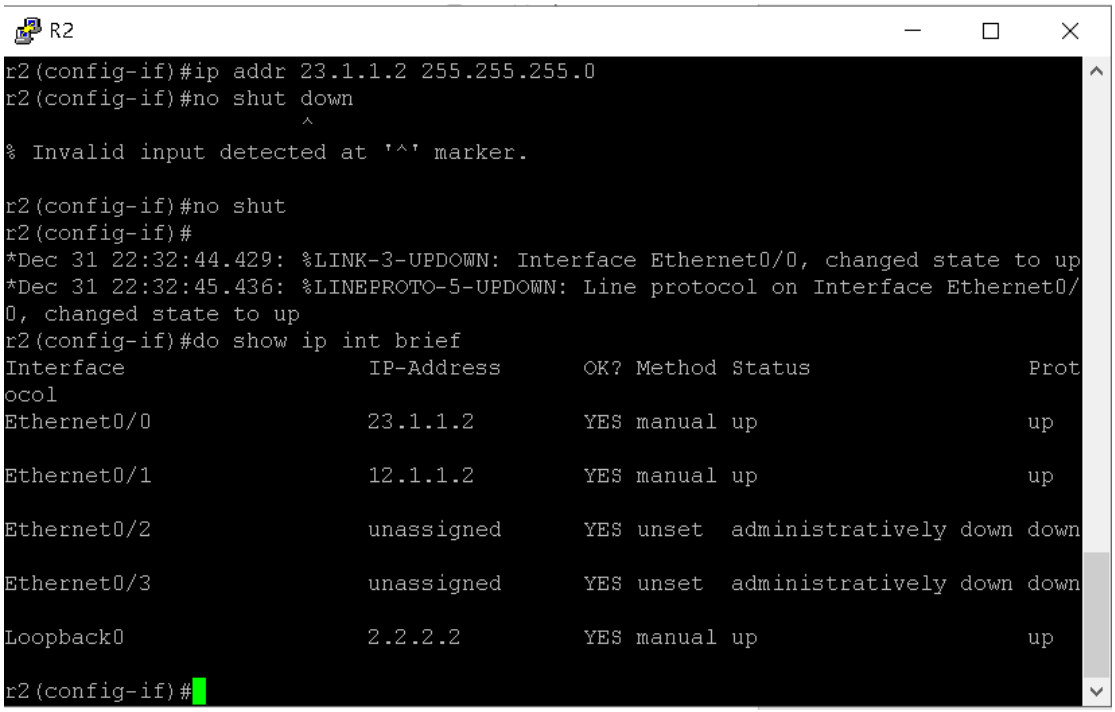


1-1 使用 static routing 讓全網可通

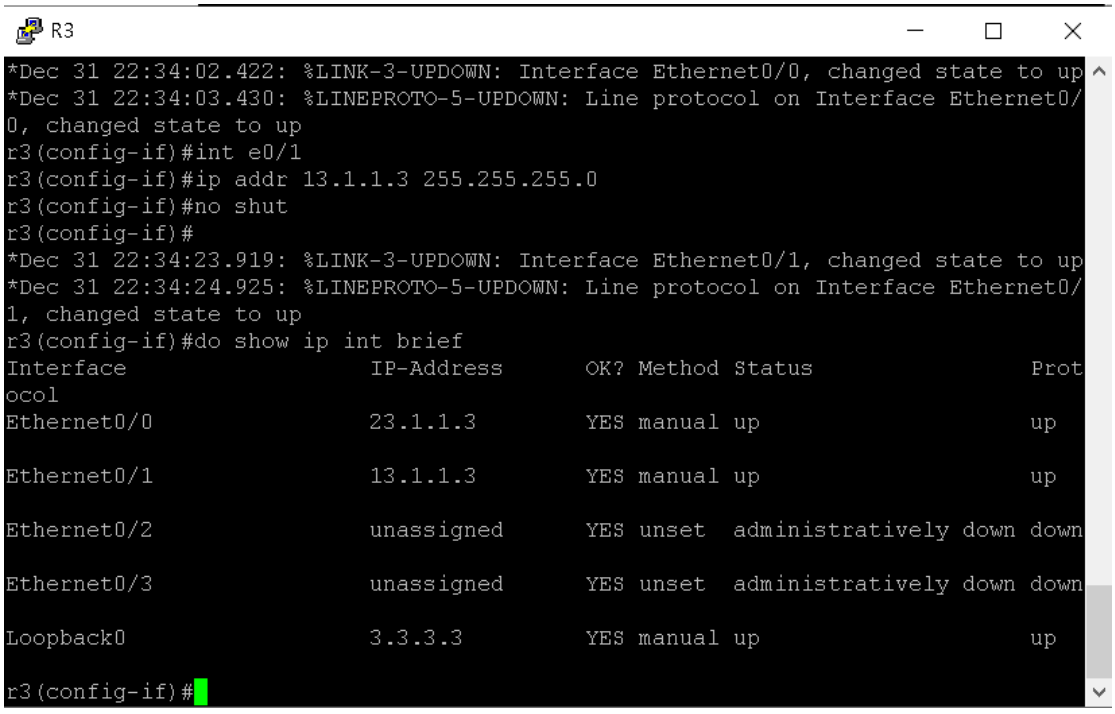
R1

```
r1(config-if)#
*Dec 31 22:25:15.056: %LINK-3-UPDOWN: Interface Ethernet0/1, changed state to up
*Dec 31 22:25:16.060: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/
1, changed state to up
r1(config-if)#int lo 0
r1(config-if)#
*Dec 31 22:26:53.756: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback0,
 changed state to up
r1(config-if)#ip addr 1.1.1.1 255.255.255.0
r1(config-if)#no shut
r1(config-if)#do show ip int brief
Interface                  IP-Address      OK? Method Status                Prot
ocol
Ethernet0/0                13.1.1.1        YES manual up                    up

Ethernet0/1                12.1.1.1        YES manual up                    up

Ethernet0/2                unassigned      YES unset  administratively down down

Ethernet0/3                unassigned      YES unset  administratively down down

Loopback0                  1.1.1.1         YES manual up                    up

r1(config-if)#
```

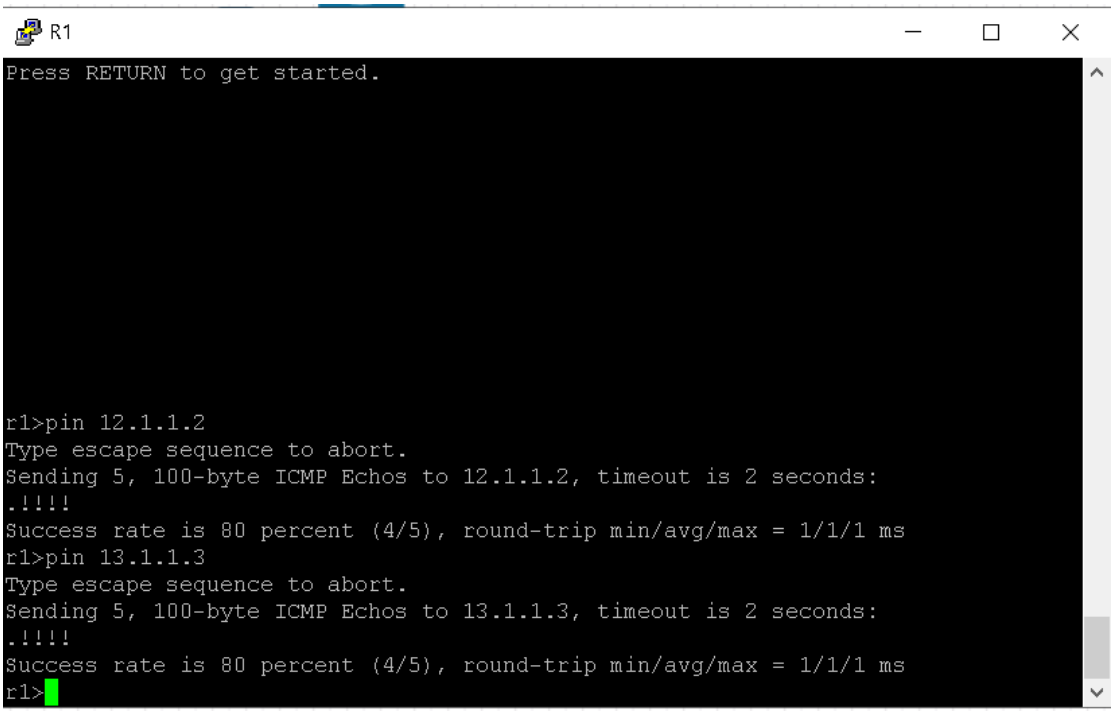
設定 R1 ip



設定 R2 ip

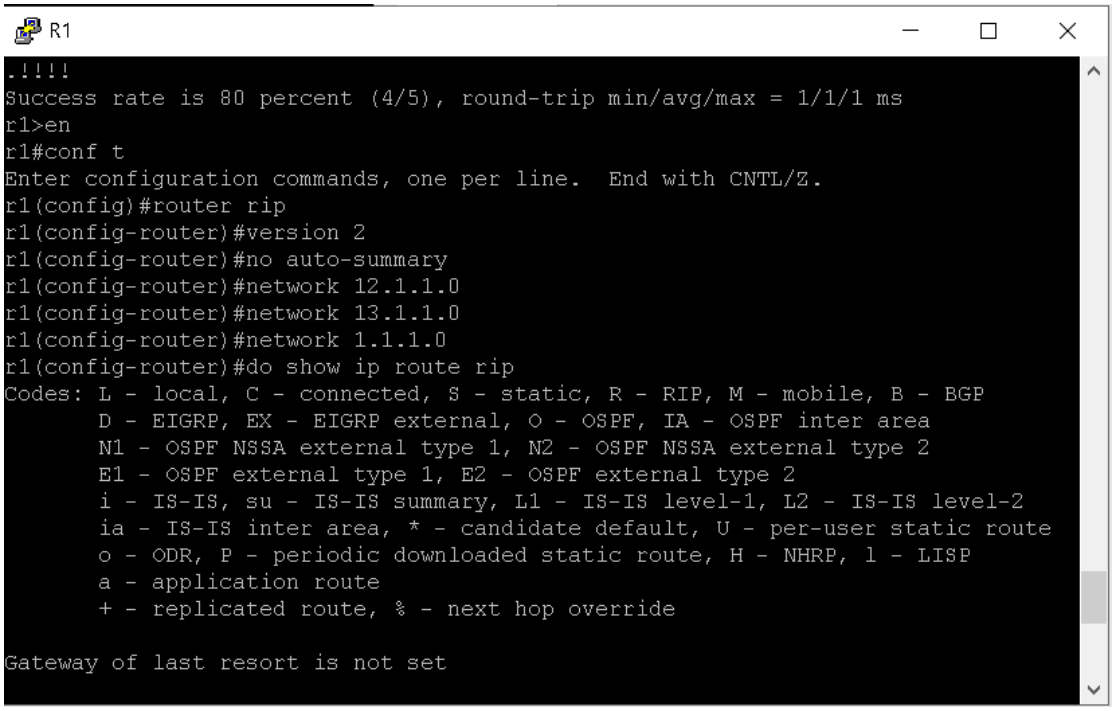


設定 R3 ip

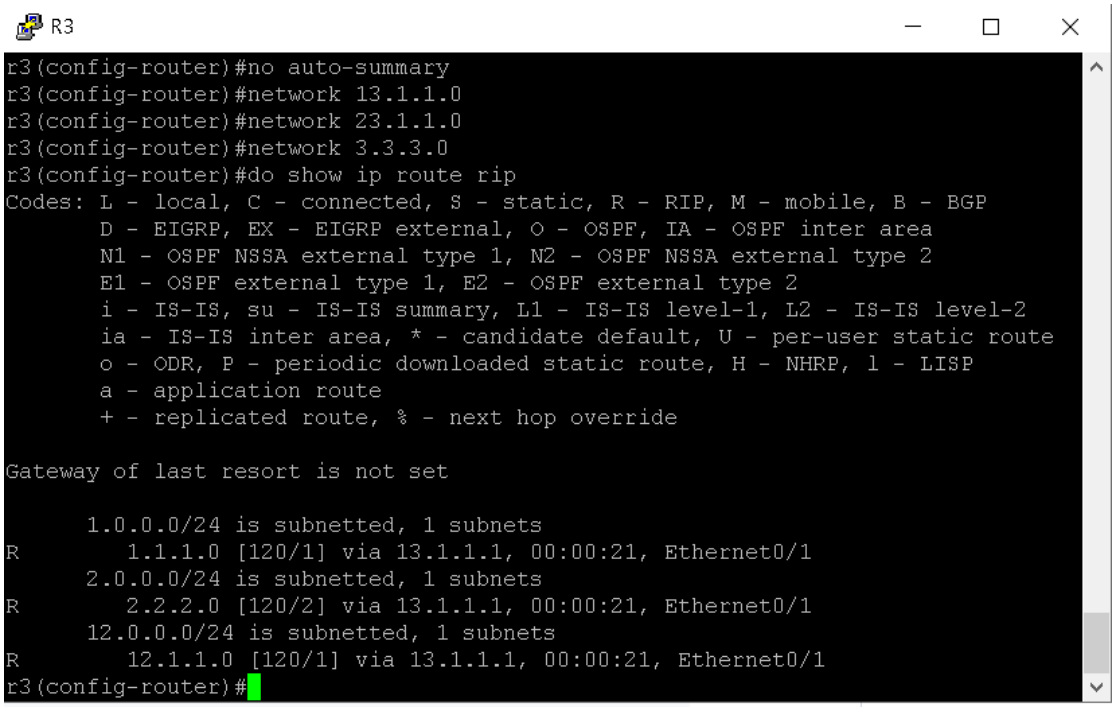


R1 可通 R2 跟 R3

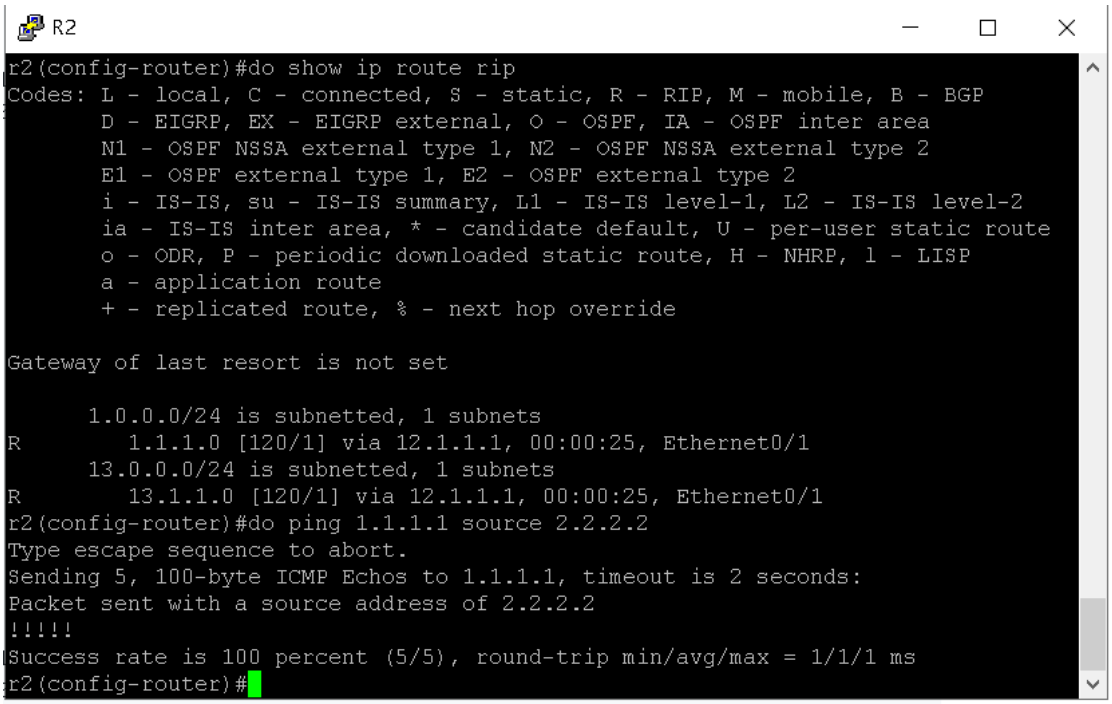
1-2 使用 RIP 讓全網可通



設定 R1 的 rip

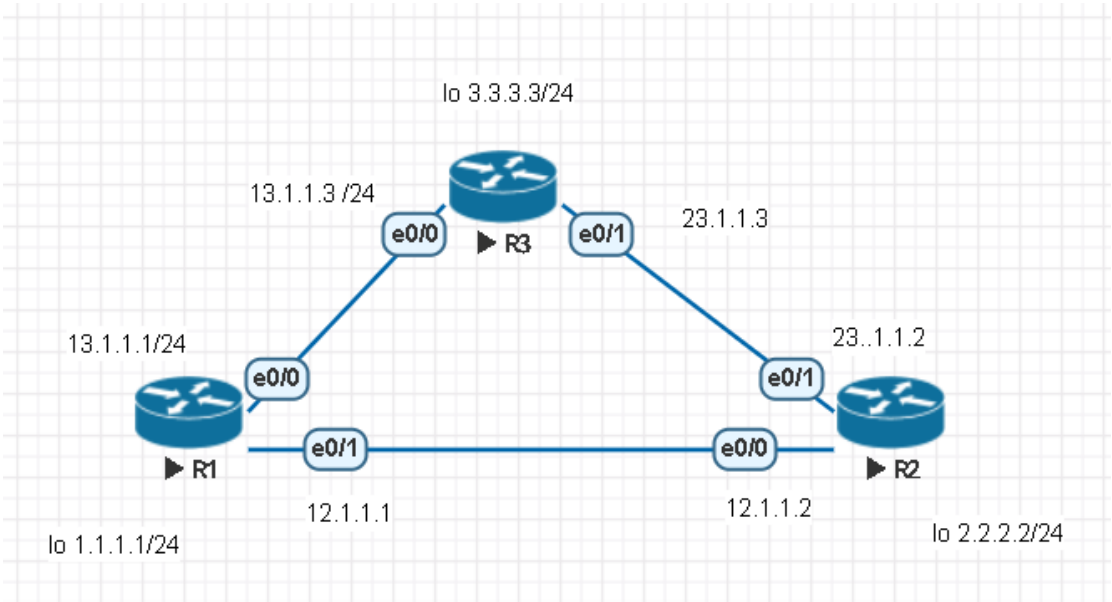


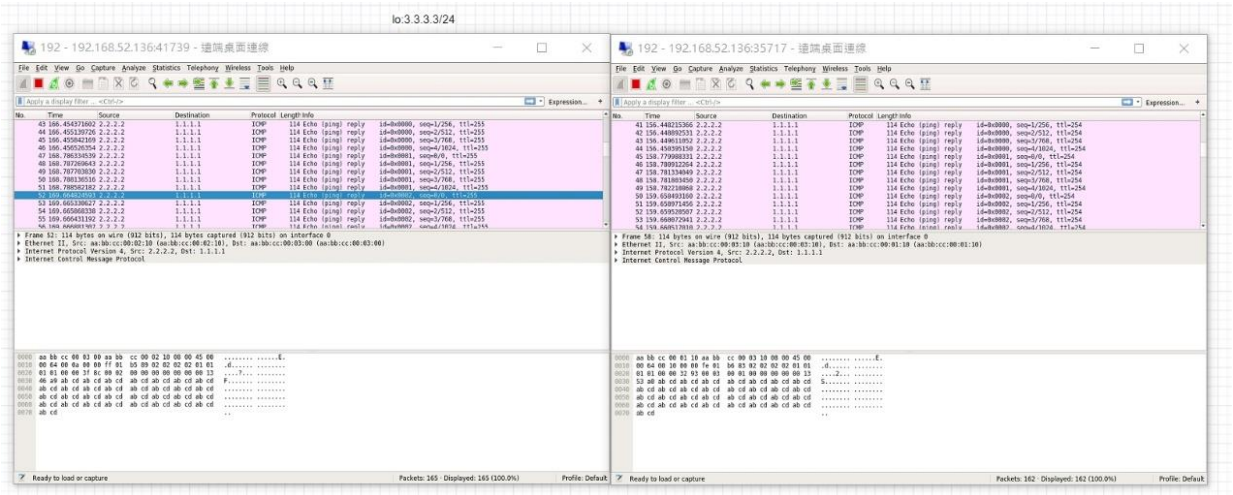
設定 R3 的 rip



設定 R2 的 rip，pin 1.1.1.1 有回應，RIP 設定成功!

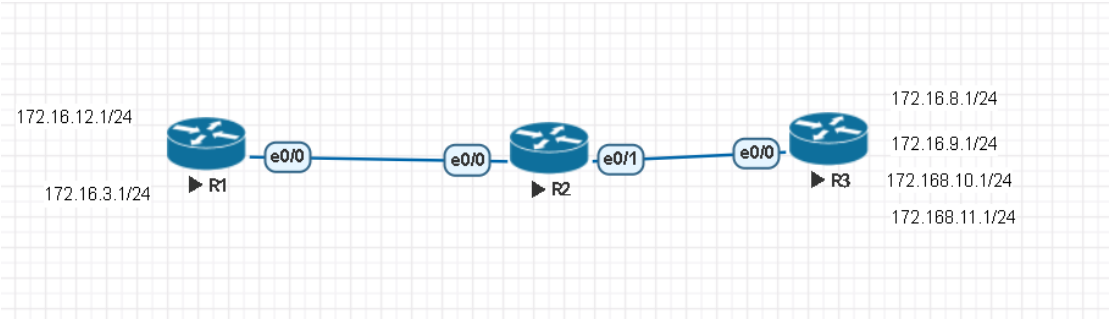
2.R1 直達 R2，R2 走 R3 回 R1





達成目標

3. 使 R2 可 pin 左及右的全部 ip 位置




```
R1>show ip eigrp topology
EIGRP-IPv4 Topology Table for AS(10)/ID(12.1.1.1)
Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - reply Status, s - sia Status

P 172.16.8.0/22, 1 successors, FD is 435200
        via 12.1.1.2 (435200/409600), Ethernet0/0
P 172.16.13.0/24, 1 successors, FD is 128256
        via Connected, Loopback0
P 172.16.12.0/23, 1 successors, FD is 128256
        via Summary (128256/0), Null0
P 172.16.12.0/24, 1 successors, FD is 128256
        via Connected, Loopback0
P 23.1.1.0/24, 1 successors, FD is 307200
        via 12.1.1.2 (307200/281600), Ethernet0/0
P 12.1.1.0/24, 1 successors, FD is 281600
        via Connected, Ethernet0/0

R1>
```

```
R2>ping 172.16.8.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.8.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
R2>ping 172.16.9.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.9.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
R2>ping 172.16.10.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.10.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
R2>ping 172.16.11.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.11.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
R2>ping 172.16.12.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.12.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
R2>ping 172.16.13.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.13.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
R2>
```

```
R2>show ip eigrp topology
EIGRP-IPv4 Topology Table for AS(10)/ID(23.1.1.12)
Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - reply Status, s - sia Status

P 172.16.8.0/22, 1 successors, FD is 409600
        via 23.1.1.3 (409600/128256), Ethernet0/1
P 172.16.12.0/23, 1 successors, FD is 409600
        via 12.1.1.1 (409600/128256), Ethernet0/0
P 23.1.1.0/24, 1 successors, FD is 281600
        via Connected, Ethernet0/1
P 12.1.1.0/24, 1 successors, FD is 281600
        via Connected, Ethernet0/0

R2>
```

```
R3>show ip eigrp topology
EIGRP-IPv4 Topology Table for AS(10)/ID(23.1.1.3)
Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - reply Status, s - sia Status

P 172.16.8.0/22, 1 successors, FD is 128256
        via Summary (128256/0), Null0
P 172.16.8.0/24, 1 successors, FD is 128256
        via Connected, Loopback0
P 172.16.10.0/24, 1 successors, FD is 128256
        via Connected, Loopback0
P 172.16.12.0/23, 1 successors, FD is 435200
        via 23.1.1.12 (435200/409600), Ethernet0/0
P 23.1.1.0/24, 1 successors, FD is 281600
        via Connected, Ethernet0/0
P 172.16.11.0/24, 1 successors, FD is 128256
        via Connected, Loopback0
P 172.16.9.0/24, 1 successors, FD is 128256
        via Connected, Loopback0
P 12.1.1.0/24, 1 successors, FD is 307200
        via 23.1.1.12 (307200/281600), Ethernet0/0
```

```
R2>ping 172.16.8.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.8.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
R2>ping 172.16.9.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.9.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
R2>ping 172.16.10.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.10.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
R2>ping 172.16.11.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.11.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
R2>ping 172.16.12.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.12.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
R2>ping 172.16.13.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.13.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
R2>
```

R2 可 pin 左右全部