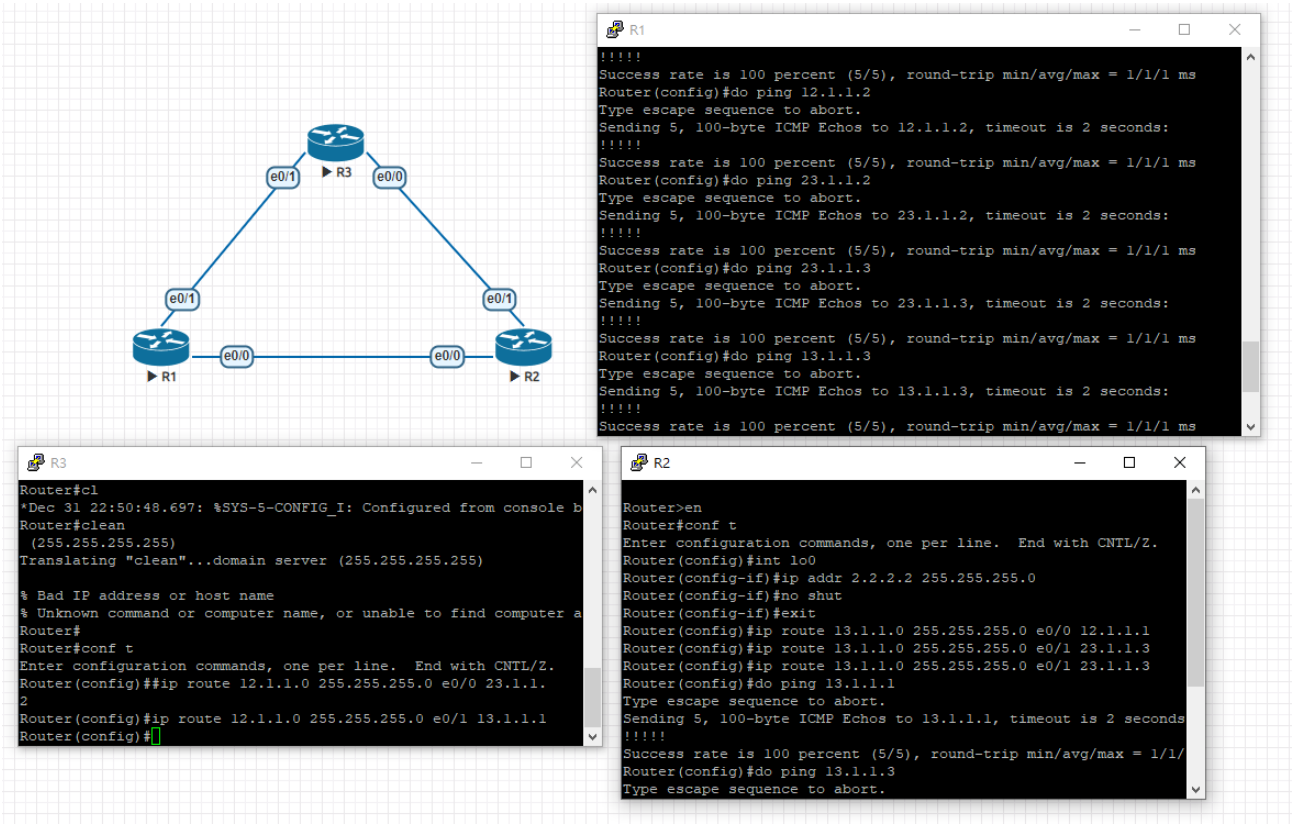
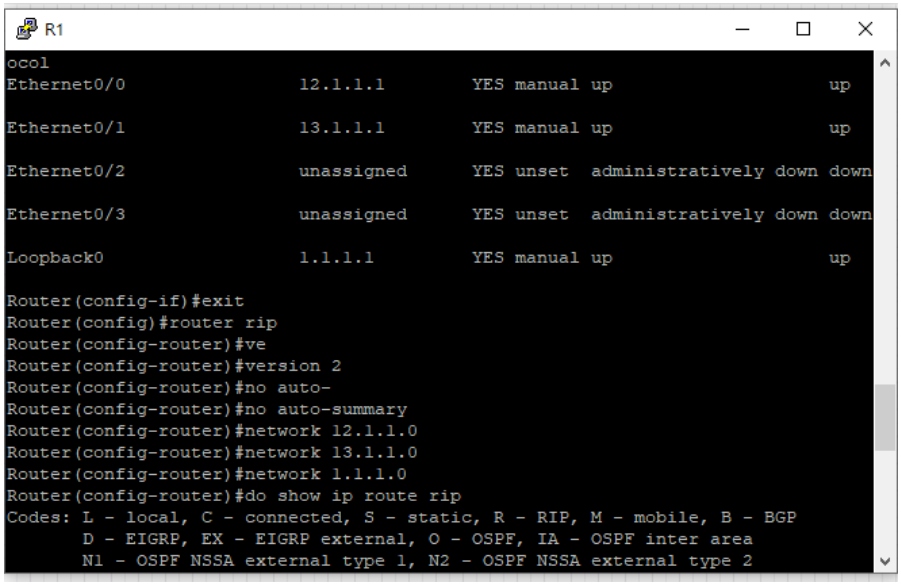
計算機網路期中

資工三 110810532 汪建同

1-1.



1-2.



R2

```
*Dec 31 23:19:03.607: %SYS-5-CONFIG_I: Configured fro
Router>rou
Router>en
Router#conf t
Enter configuration commands, one per line.  End with
Router(config)#router rip
Router(config-router)#ver
Router(config-router)#version 2
Router(config-router)#no ayt
Router(config-router)#no aut
Router(config-router)#no auto-summary
Router(config-router)#net
Router(config-router)#network 12.1.1.0
Router(config-router)#network 23.1.1.0
Router(config-router)#network 2.2.2.0
```

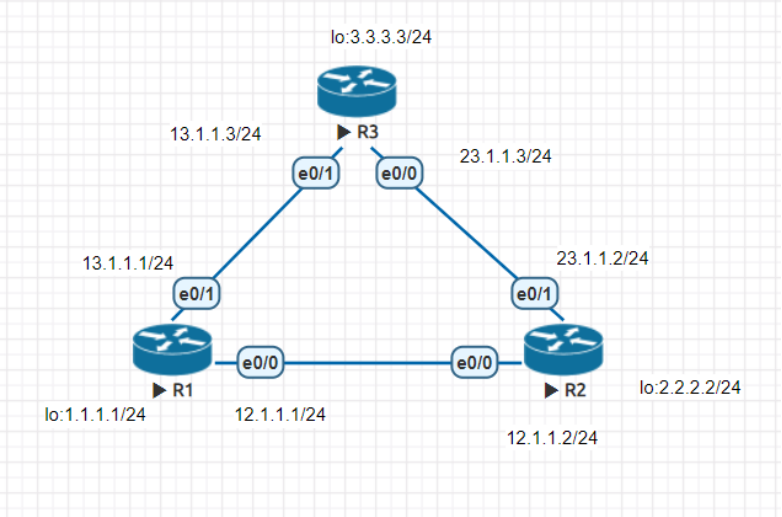
R3

```
*Dec 31 23:20:51.980: %SYS-5-CONFIG_I: Configured from cons
Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#no aut
Router(config-router)#no auto-summary
Router(config-router)#net
Router(config-router)#network 13.1.1.0
Router(config-router)#network 23.1.1.0
Router(config-router)#network 3.3.3.0
Router(config-router)#
```

R1

```
Sending 5, 100-byte ICMP Echos to 23.1.1.3, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
Router(config)#do ping 12.1.1.2
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 12.1.1.2, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
Router(config)#do ping 23.1.1.2
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 23.1.1.2, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
Router(config)#do ping 23.1.1.3
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 23.1.1.3, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
Router(config)#do ping 13.1.1.3
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 13.1.1.3, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
Router(config)#
```

2.



Route:

R1:

```
      1.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C        1.1.1.0/24 is directly connected, Loopback0
L        1.1.1.1/32 is directly connected, Loopback0
      2.0.0.0/24 is subnetted, 1 subnets
S        2.2.2.0 [1/0] via 12.1.1.2
      12.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C        12.1.1.0/24 is directly connected, Ethernet0/0
L        12.1.1.1/32 is directly connected, Ethernet0/0
      13.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C        13.1.1.0/24 is directly connected, Ethernet0/1
L        13.1.1.1/32 is directly connected, Ethernet0/1
      23.0.0.0/24 is subnetted, 1 subnets
S        23.1.1.0 is directly connected, Ethernet0/0
```

R2:

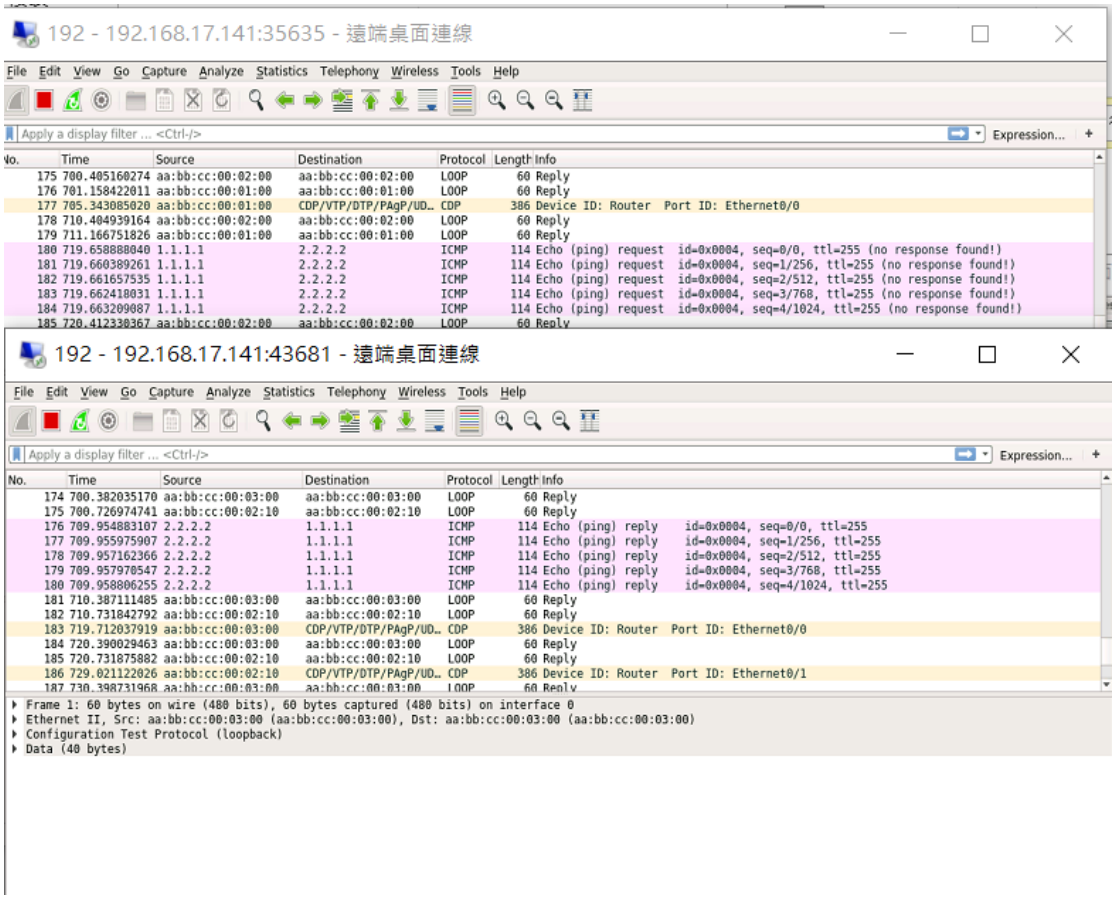
```
      1.0.0.0/24 is subnetted, 1 subnets
S        1.1.1.0 [1/0] via 23.1.1.3
      2.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C        2.2.2.0/24 is directly connected, Loopback0
L        2.2.2.2/32 is directly connected, Loopback0
      12.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C        12.1.1.0/24 is directly connected, Ethernet0/0
L        12.1.1.2/32 is directly connected, Ethernet0/0
      13.0.0.0/24 is subnetted, 1 subnets
S        13.1.1.0 [1/0] via 23.1.1.3
      23.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C        23.1.1.0/24 is directly connected, Ethernet0/1
L        23.1.1.2/32 is directly connected, Ethernet0/1
```

R3:

```
      1.0.0.0/24 is subnetted, 1 subnets
S        1.1.1.0 [1/0] via 13.1.1.1
      3.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C        3.3.3.0/24 is directly connected, Loopback0
L        3.3.3.3/32 is directly connected, Loopback0
      13.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C        13.1.1.0/24 is directly connected, Ethernet0/1
L        13.1.1.3/32 is directly connected, Ethernet0/1
      23.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C        23.1.1.0/24 is directly connected, Ethernet0/0
L        23.1.1.3/32 is directly connected, Ethernet0/0
```

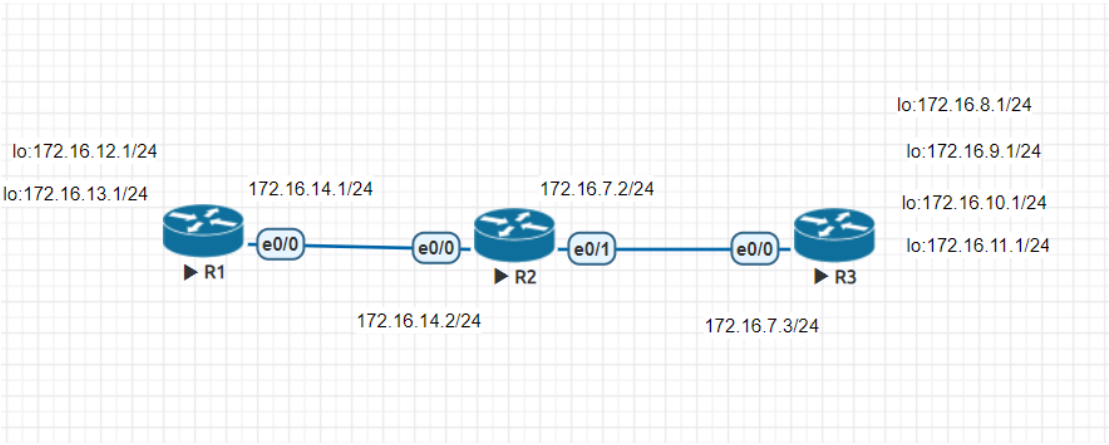
Ping:

```
Router(config)#
Router(config)#do ping 2.2.2.2 source 1.1.1.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 2.2.2.2, timeout is 2 seconds:
Packet sent with a source address of 1.1.1.1
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/2 ms
```

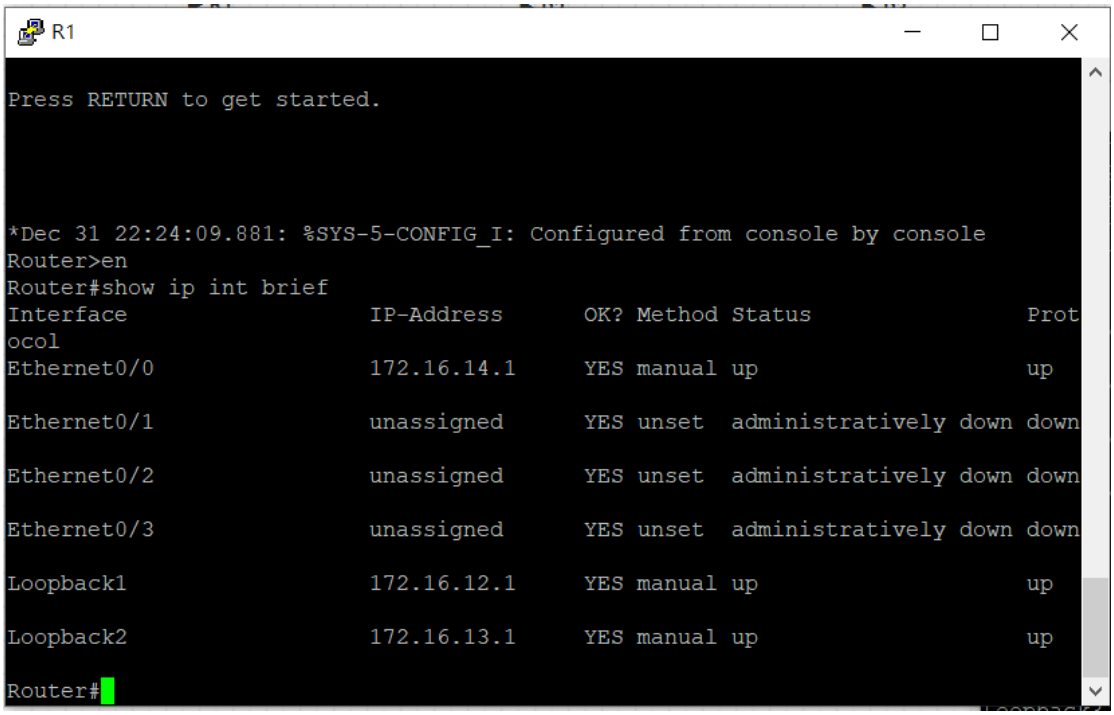


上面是 R1 e0/0，下面是 R3 e0/0

3


lo:172.16.8.1/24
lo:172.16.12.1/24
lo:172.16.9.1/24
lo:172.16.13.1/24
172.16.14.1/24
172.16.7.2/24
lo:172.16.10.1/24
lo:172.16.11.1/24
e0/0
e0/0
e0/1
e0/0
R1
R2
R3
172.16.14.2/24
172.16.7.3/24

ip


R1
Press RETURN to get started.
*Dec 31 22:24:09.881: %SYS-5-CONFIG_I: Configured from console by console
Router>en
Router#show ip int brief
Interface IP-Address OK? Method Status Prot
ocol
Ethernet0/0 172.16.14.1 YES manual up up
Ethernet0/1 unassigned YES unset administratively down down
Ethernet0/2 unassigned YES unset administratively down down
Ethernet0/3 unassigned YES unset administratively down down
Loopback1 172.16.12.1 YES manual up up
Loopback2 172.16.13.1 YES manual up up
Router#

R2

```
Press RETURN to get started.



*Dec 31 22:25:49.361: %SYS-5-CONFIG_I: Configured from console by console
Router>en
Router#show ip int brief
Interface                  IP-Address      OK? Method Status                Prot
ocol
Ethernet0/0                172.16.14.2     YES manual up                    up

Ethernet0/1                172.16.7.2      YES manual up                    up

Ethernet0/2                unassigned      YES unset  administratively down down

Ethernet0/3                unassigned      YES unset  administratively down down

Router#
```

R3

```
Router(config-if)#ip addr
*Dec 31 22:26:55.253: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback3,
 changed state to up
Router(config-if)#ip addr 172.16.11.1 255.255.255.0
Router(config-if)#do show ip int brief
Interface                  IP-Address      OK? Method Status                Prot
ocol
Ethernet0/0                172.16.7.3      YES manual up                    up

Ethernet0/1                unassigned      YES unset  administratively down down

Ethernet0/2                unassigned      YES unset  administratively down down

Ethernet0/3                unassigned      YES unset  administratively down down

Loopback0                  172.16.8.1      YES manual up                    up

Loopback1                  172.16.9.1      YES manual up                    up

Loopback2                  172.16.10.1     YES manual up                    up

Loopback3                  172.16.11.1     YES manual up                    up

Router(config-if)#
```

Route

R1:

```
Router(config)#router eigrp 90
Router(config-router)#network 172.16.12.0
Router(config-router)#network 172.16.13.0
Router(config-router)#network 172.16.14.0
Router(config-router)#auto
Router(config-router)#auto-summary
```

```
     172.16.0.0/16 is variably subnetted, 11 subnets, 2 masks
D       172.16.7.0/24 [90/307200] via 172.16.14.2, 00:03:03, Ethernet0/0
D       172.16.8.0/24 [90/435200] via 172.16.14.2, 00:01:51, Ethernet0/0
D       172.16.9.0/24 [90/435200] via 172.16.14.2, 00:01:51, Ethernet0/0
D       172.16.10.0/24 [90/435200] via 172.16.14.2, 00:01:51, Ethernet0/0
D       172.16.11.0/24 [90/435200] via 172.16.14.2, 00:01:51, Ethernet0/0
C       172.16.12.0/24 is directly connected, Loopback1
L       172.16.12.1/32 is directly connected, Loopback1
C       172.16.13.0/24 is directly connected, Loopback2
L       172.16.13.1/32 is directly connected, Loopback2
```

R2:

```
Enter configuration commands, one per line.  E
Router(config)#router eigrp 90
Router(config-router)#network 172.16.14.0
Router(config-router)#
*Dec 31 22:34:29.584: %DUAL-5-NBRCHANGE: EIGRP
hernet0/0) is up: new adjacency
Router(config-router)#network 172.16.7.0
Router(config-router)#auto
Router(config-router)#auto-summary
```

```
     172.16.0.0/16 is variably subnetted, 10 subnets, 2 masks
C       172.16.7.0/24 is directly connected, Ethernet0/1
L       172.16.7.2/32 is directly connected, Ethernet0/1
D       172.16.8.0/24 [90/409600] via 172.16.7.3, 00:01:28, Ethernet0/1
D       172.16.9.0/24 [90/409600] via 172.16.7.3, 00:01:28, Ethernet0/1
D       172.16.10.0/24 [90/409600] via 172.16.7.3, 00:01:28, Ethernet0/1
D       172.16.11.0/24 [90/409600] via 172.16.7.3, 00:01:28, Ethernet0/1
D       172.16.12.0/24 [90/409600] via 172.16.14.1, 00:02:40, Ethernet0/0
D       172.16.13.0/24 [90/409600] via 172.16.14.1, 00:02:40, Ethernet0/0
C       172.16.14.0/24 is directly connected, Ethernet0/0
L       172.16.14.2/32 is directly connected, Ethernet0/0
```

R3:

```
Router(config-if)#router eigrp 90
Router(config-router)#network 172.16.8.0
Router(config-router)#network 172.16.8.0
*Dec 31 22:35:41.534: %DUAL-5-NBRCHANGE: EIGRP-IPv4 90: Neighb
ernet0/0) is up: new adjacency
Router(config-router)#network 172.16.9.0
Router(config-router)#network 172.16.10.0
Router(config-router)#network 172.16.11.0
Router(config-router)#auto
Router(config-router)#auto-summary
```

```
      172.16.0.0/16 is variably subnetted, 13 subnets, 2 masks
C        172.16.7.0/24 is directly connected, Ethernet0/0
L        172.16.7.3/32 is directly connected, Ethernet0/0
C        172.16.8.0/24 is directly connected, Loopback0
L        172.16.8.1/32 is directly connected, Loopback0
C        172.16.9.0/24 is directly connected, Loopback1
L        172.16.9.1/32 is directly connected, Loopback1
C        172.16.10.0/24 is directly connected, Loopback2
L        172.16.10.1/32 is directly connected, Loopback2
C        172.16.11.0/24 is directly connected, Loopback3
L        172.16.11.1/32 is directly connected, Loopback3
D        172.16.12.0/24 [90/435200] via 172.16.7.2, 00:00:34, Ethernet0/0
D        172.16.13.0/24 [90/435200] via 172.16.7.2, 00:00:34, Ethernet0/0
D        172.16.14.0/24 [90/307200] via 172.16.7.2, 00:00:34, Ethernet0/0
```

Ping:

```
Router(config-router)#do 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
Router(config-router)#do 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
Router(config-router)#do 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
Router(config-router)#do 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
Router(config-router)#do 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
Router(config-router)#do 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
```