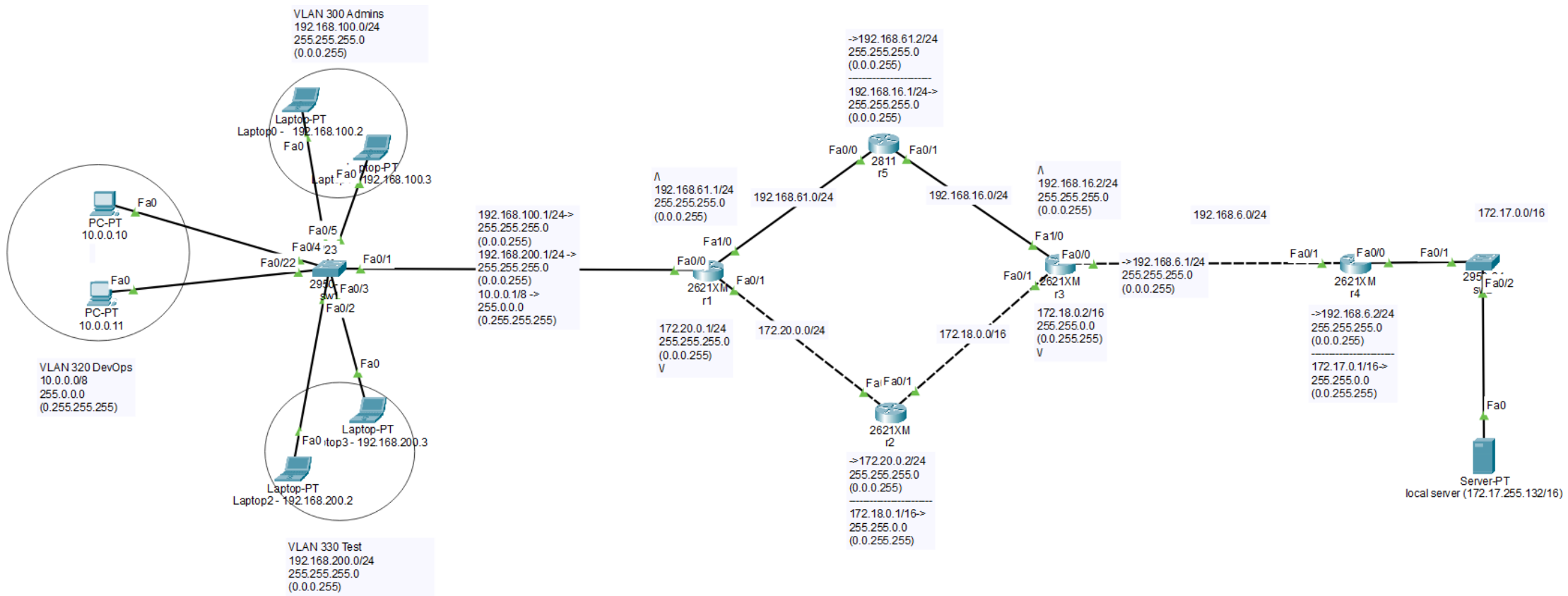
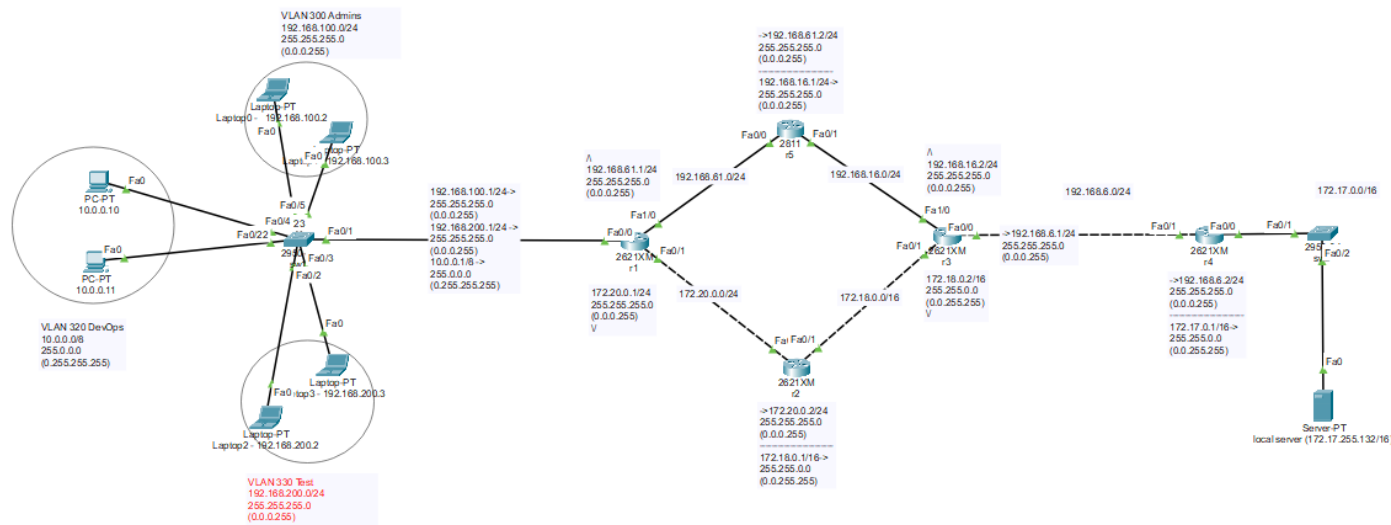


1. Настроить сеть согласно схеме в файле с помощью OSPF и VLAN. Починить неработающие линки.
<https://disk.yandex.ru/d/IQdns-ljqsBFFg>



ping с сервера 172.17.255.132 на ПК 10.0.0.10 и 10.0.0.11



local server (172.17.255.132/16)

Physical Config Services **Desktop** Programming Attributes

Command Prompt

```
C:\>
C:\>
C:\>
C:\>ping 10.0.0.11

Pinging 10.0.0.11 with 32 bytes of data:

Reply from 10.0.0.11: bytes=32 time=16ms TTL=124
Reply from 10.0.0.11: bytes=32 time<1ms TTL=124
Reply from 10.0.0.11: bytes=32 time<1ms TTL=124
Reply from 10.0.0.11: bytes=32 time<1ms TTL=124

Ping statistics for 10.0.0.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 16ms, Average = 4ms

C:\>ping 10.0.0.10

Pinging 10.0.0.10 with 32 bytes of data:

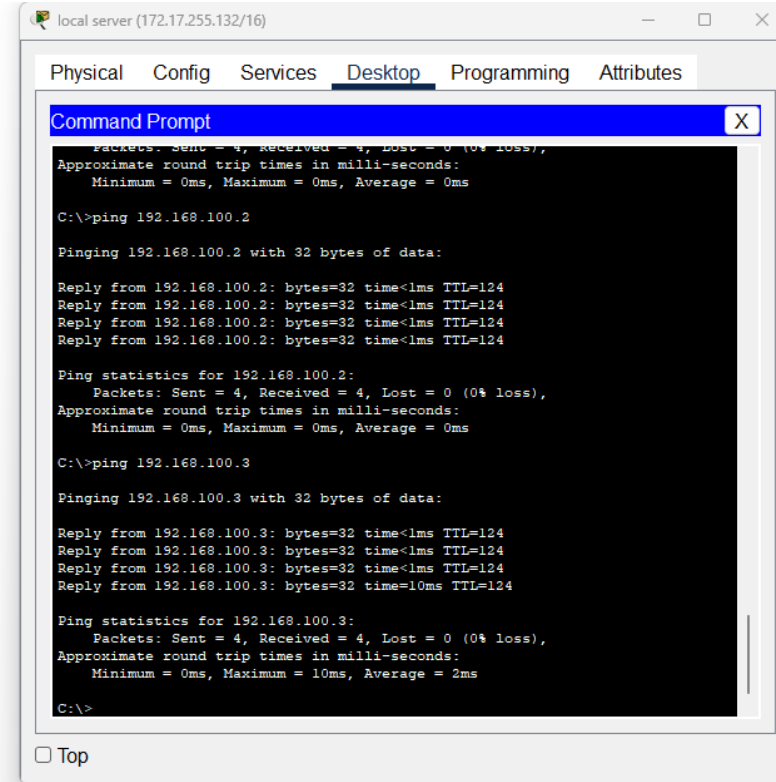
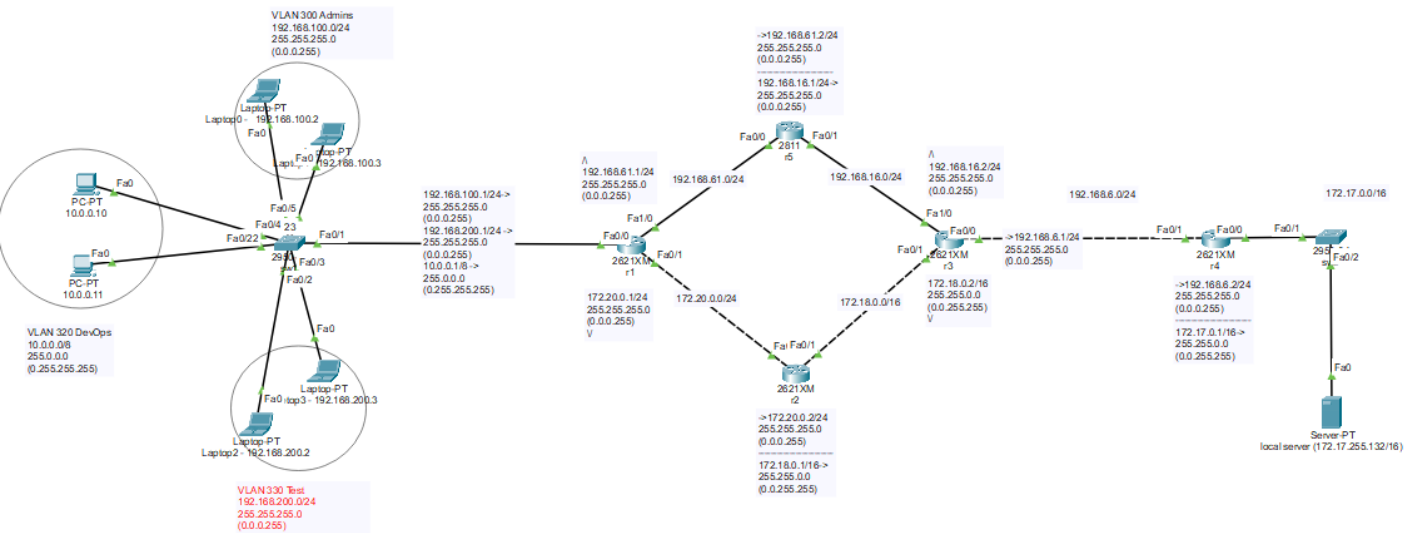
Reply from 10.0.0.10: bytes=32 time<1ms TTL=124
Reply from 10.0.0.10: bytes=32 time<1ms TTL=124
Reply from 10.0.0.10: bytes=32 time<1ms TTL=124
Reply from 10.0.0.10: bytes=32 time<1ms TTL=124

Ping statistics for 10.0.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

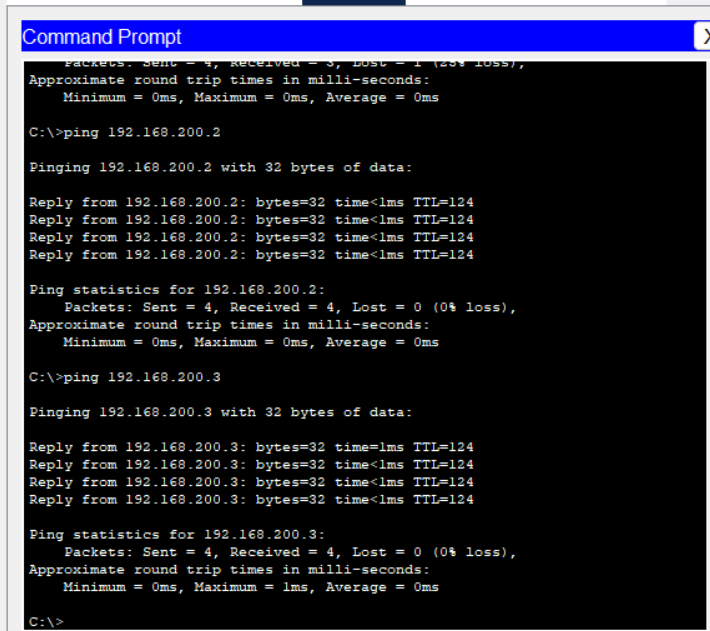
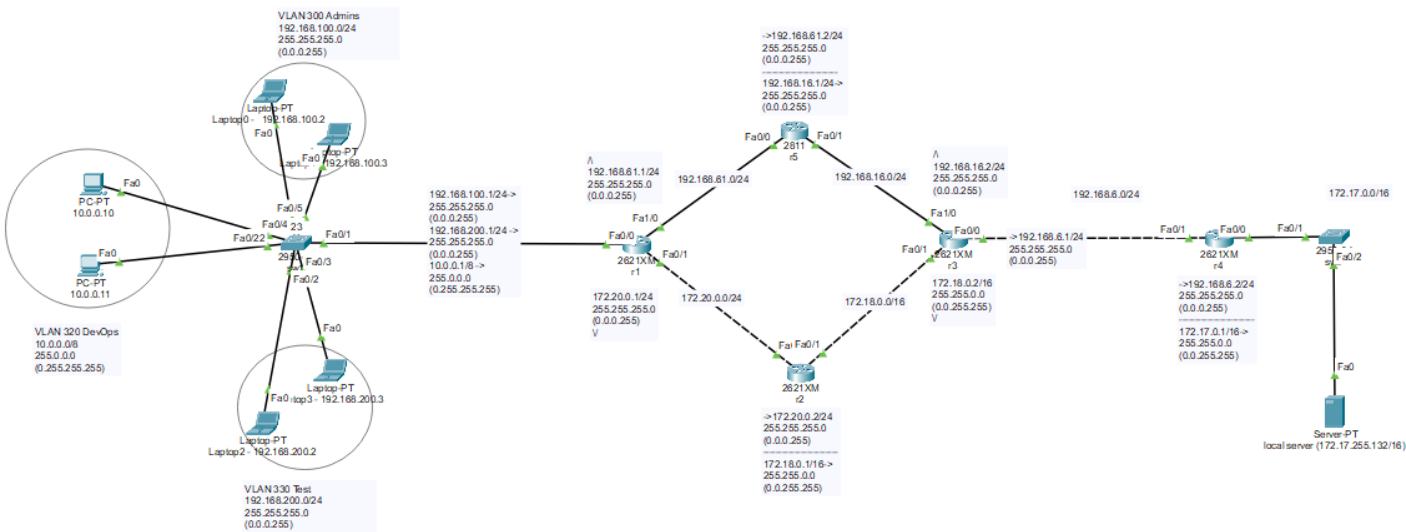
C:\>
```

☐ Top

ping с сервера 172.17.255.132 на ПК 192.168.100.2 и 192.168.100.3



ping с сервера 172.17.255.132 на ПК 192.168.200.2 и 192.168.200.3



The screenshot shows a Windows desktop with a taskbar at the top containing icons for a local server, a file explorer, and a web browser. The active window is titled 'local server (172.17.255.132/16)' and has tabs for 'Physical', 'Config', 'Services', 'Desktop', 'Programming', and 'Attributes'. The 'Desktop' tab is selected, and a 'Command Prompt' window is open on top of it. The Command Prompt has a blue title bar with a close button (X) in the top right corner. The window content is black with white text, showing the output of two ping commands. The first command is 'C:\>ping 192.168.200.2', which shows a successful ping with 4 packets sent, 4 received, and 0 lost. The second command is 'C:\>ping 192.168.200.3', which also shows a successful ping with 4 packets sent, 4 received, and 0 lost. The output for both commands includes statistics for packets sent, received, lost, and round trip times.

```

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

C:\>ping 192.168.200.2

Pinging 192.168.200.2 with 32 bytes of data:

Reply from 192.168.200.2: bytes=32 time<1ms TTL=124
Reply from 192.168.200.2: bytes=32 time<1ms TTL=124
Reply from 192.168.200.2: bytes=32 time<1ms TTL=124
Reply from 192.168.200.2: bytes=32 time<1ms TTL=124

Ping statistics for 192.168.200.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.200.3

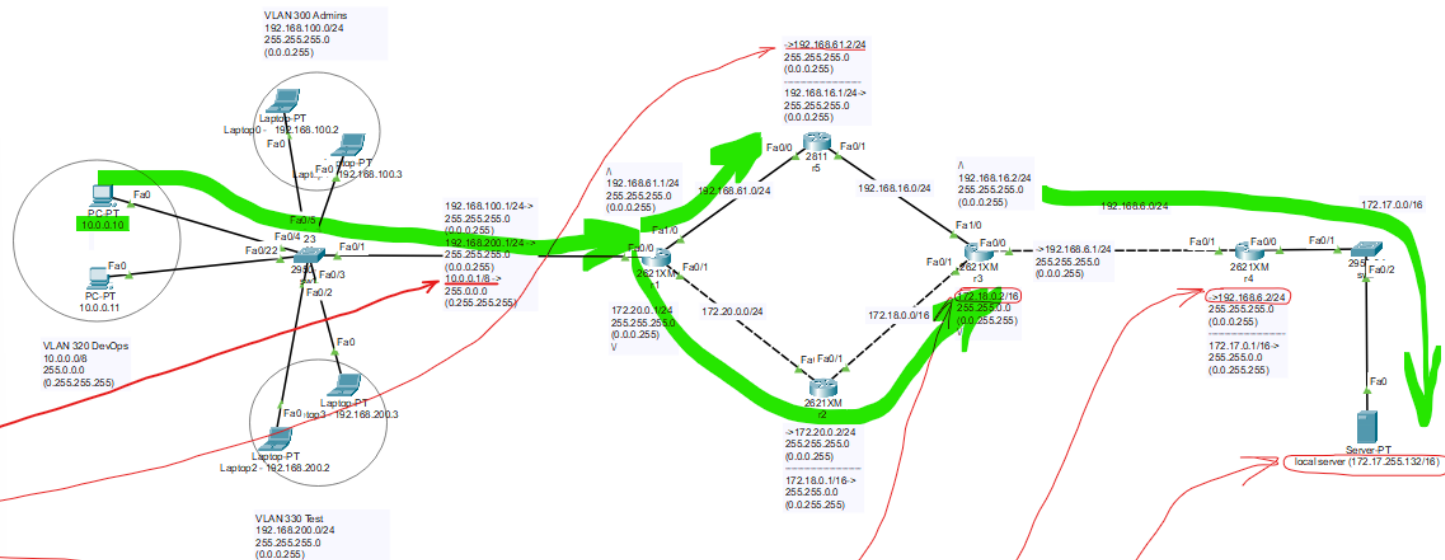
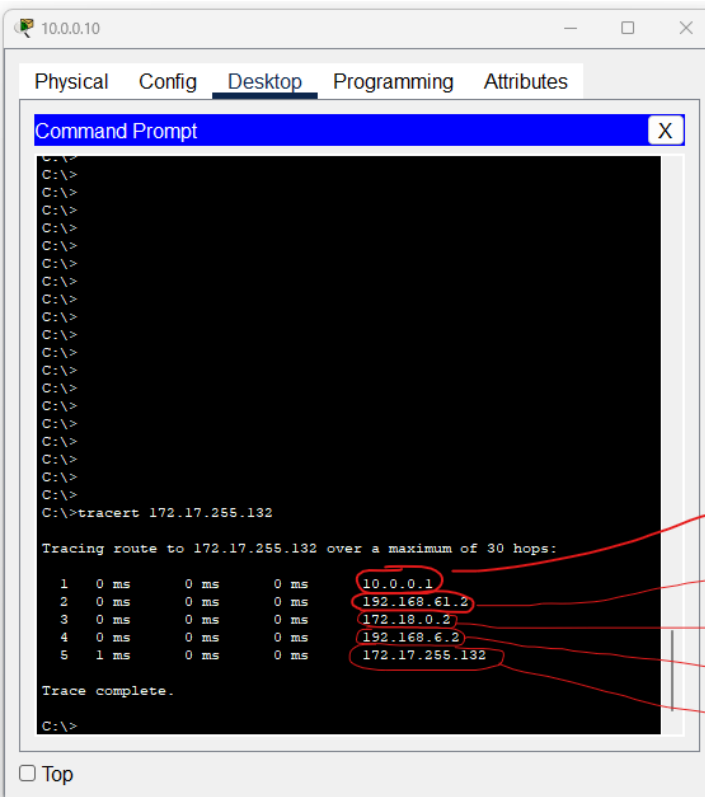
Pinging 192.168.200.3 with 32 bytes of data:

Reply from 192.168.200.3: bytes=32 time<1ms TTL=124
Reply from 192.168.200.3: bytes=32 time<1ms TTL=124
Reply from 192.168.200.3: bytes=32 time<1ms TTL=124
Reply from 192.168.200.3: bytes=32 time<1ms TTL=124

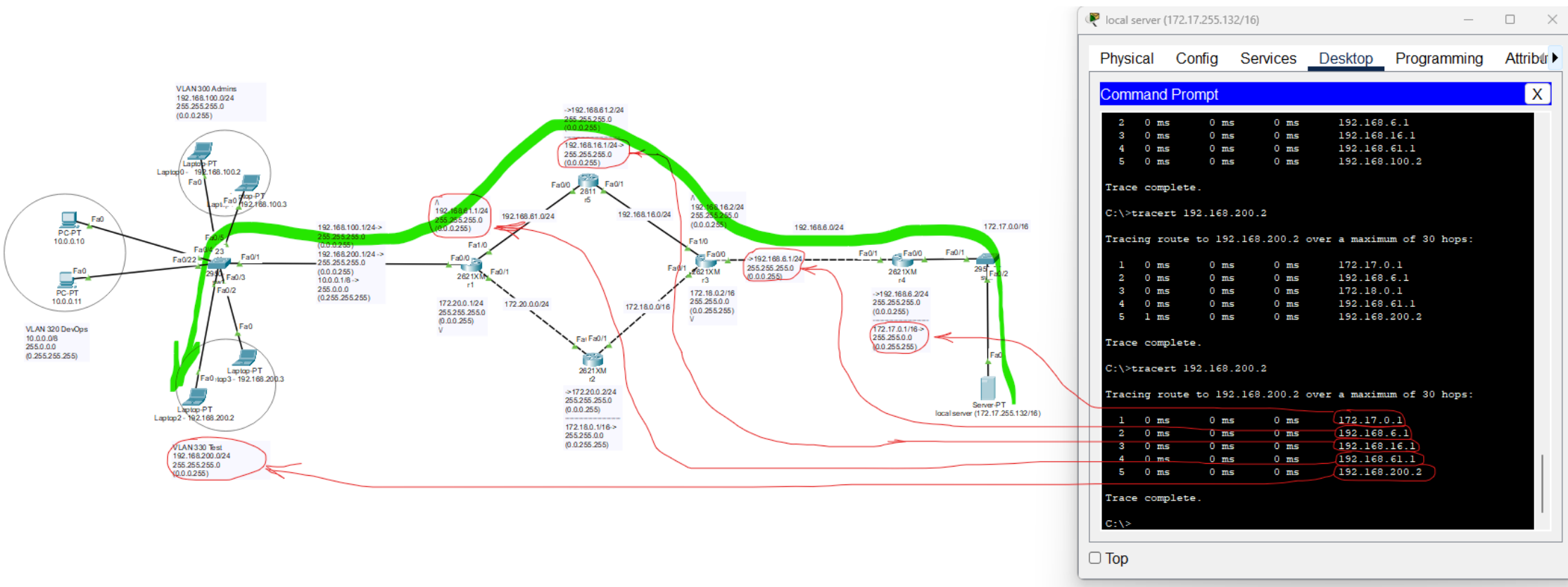
Ping statistics for 192.168.200.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
  
```

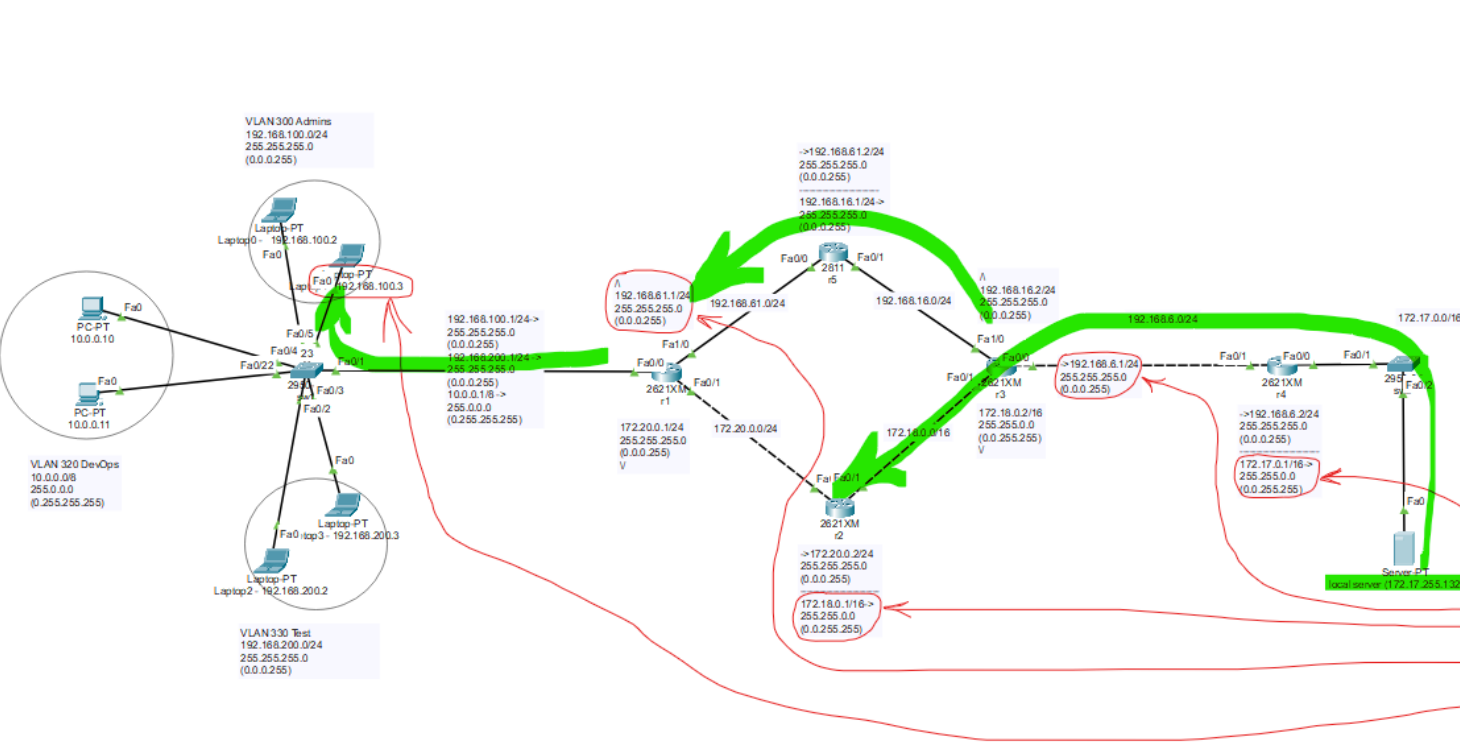
2. Убедиться что трафик от компов до сервера ходит через два маршрута с помощью ESMR.



При использовании `tracert 172.17.255.132` с ПК 10.0.0.10 можно увидеть что трафик (пакеты данных) проходит через r5 и r2.



При использовании tracert 192.168.200.2 с сервера 172.17.255.132 можно увидеть что трафик (пакеты данных) проходит через r5.



local server (172.17.255.132/16)

Physical Config Services Desktop Programming Attribut

Command Prompt

```

2 0 ms 0 ms 0 ms 192.168.6.1
3 0 ms 0 ms 0 ms 172.18.0.1
4 0 ms 0 ms 0 ms 192.168.61.1
5 0 ms 0 ms 0 ms 192.168.100.3

Trace complete.

C:\>tracert 192.168.100.3

Tracing route to 192.168.100.3 over a maximum of 30 hops:

 1 0 ms 0 ms 0 ms 172.17.0.1
 2 0 ms 0 ms 0 ms 192.168.6.1
 3 0 ms 0 ms 6 ms 192.168.16.1
 4 0 ms 0 ms 0 ms 192.168.61.1
 5 0 ms 0 ms 0 ms 192.168.100.3

Trace complete.

C:\>tracert 192.168.100.3

Tracing route to 192.168.100.3 over a maximum of 30 hops:

 1 0 ms 0 ms 6 ms 172.17.0.1
 2 0 ms 0 ms 0 ms 192.168.6.1
 3 0 ms 0 ms 0 ms 172.18.0.1
 4 0 ms 0 ms 0 ms 192.168.61.1
 5 0 ms 0 ms 0 ms 192.168.100.3

Trace complete.

C:\>

```

Top

При использовании tracert 192.168.200.2 с сервера 172.17.255.132 можно увидеть что трафик (пакеты данных) проходит через r5 и r2.

3.Скинуть скриншот с таблицей маршрутизации с r1. Должны быть сети Connected для VLAN'ов.

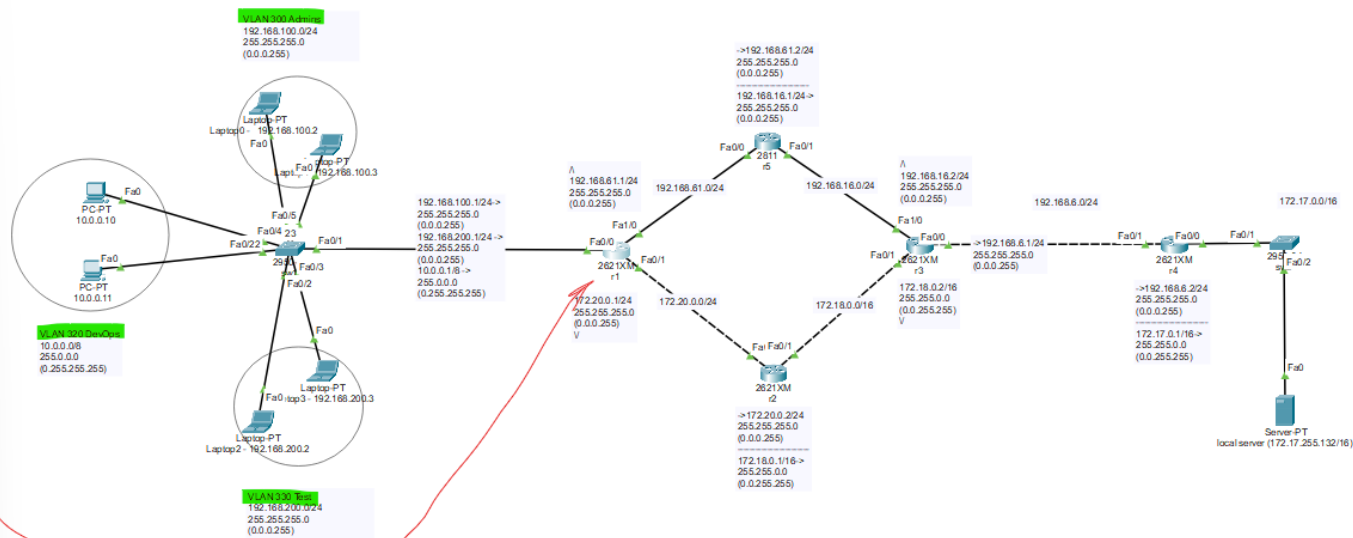
```
r1
Physical Config CLI Attributes
IOS Command Line Interface
Router>
Router>
Router>
Router>
Router>show ip rout
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external 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

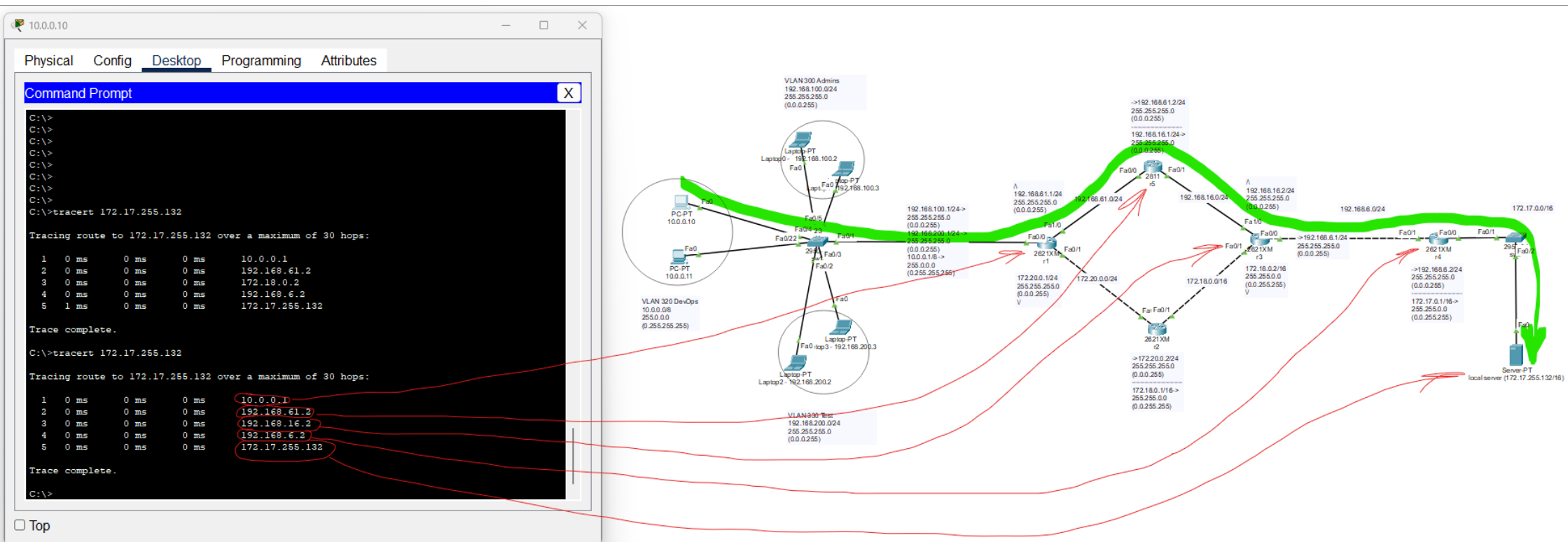
C 10.0.0.0/8 is directly connected, FastEthernet0/0.320
O 172.17.0.0/16 [110/4] via 192.168.61.2, 04:15:36, FastEthernet1/0
O 172.18.0.0/16 [110/4] via 172.20.0.2, 04:15:36, FastEthernet0/1
O 172.20.0.0/24 is subnetted, 1 subnets
C 172.20.0.0 is directly connected, FastEthernet0/1
O 192.168.6.0/24 [110/3] via 192.168.61.2, 04:15:36, FastEthernet1/0
O 192.168.16.0/24 [110/2] via 192.168.61.2, 04:15:36, FastEthernet0/1
O 192.168.61.0/24 is directly connected, FastEthernet1/0
C 192.168.100.0/24 is directly connected, FastEthernet0/0.300
C 192.168.200.0/24 is directly connected, FastEthernet0/0.330
Router>
Router>
```

Copy Paste

Top



4. Поймать трейс на любом компе, когда он пойдет через r5. Удалить один из линков на r5. Снова сделать трейс, убедиться что трафик пошел по резервному пути. Скинуть скриншот с разными трейсами.
Скинуть еще один скриншот с изменившейся таблицей маршрутизации с r1.



10.0.0.10

Physical Config Desktop Programming Attributes

Command Prompt

20ms0ms0ms192.168.61.2

30ms0ms0ms172.18.0.2

40ms0ms0ms192.168.6.2

51ms0ms0ms172.17.255.132

Trace complete.

C:\>tracert 172.17.255.132

Tracing route to 172.17.255.132 over a maximum of 30 hops:

10ms0ms0ms10.0.0.1

20ms0ms0ms192.168.61.2

30ms0ms0ms192.168.16.2

40ms0ms0ms192.168.6.2

50ms0ms0ms172.17.255.132

Trace complete.

C:\>tracert 172.17.255.132

Tracing route to 172.17.255.132 over a maximum of 30 hops:

10ms0ms0ms10.0.0.1

20ms0ms0ms172.20.0.2

30ms0ms0ms172.18.0.2

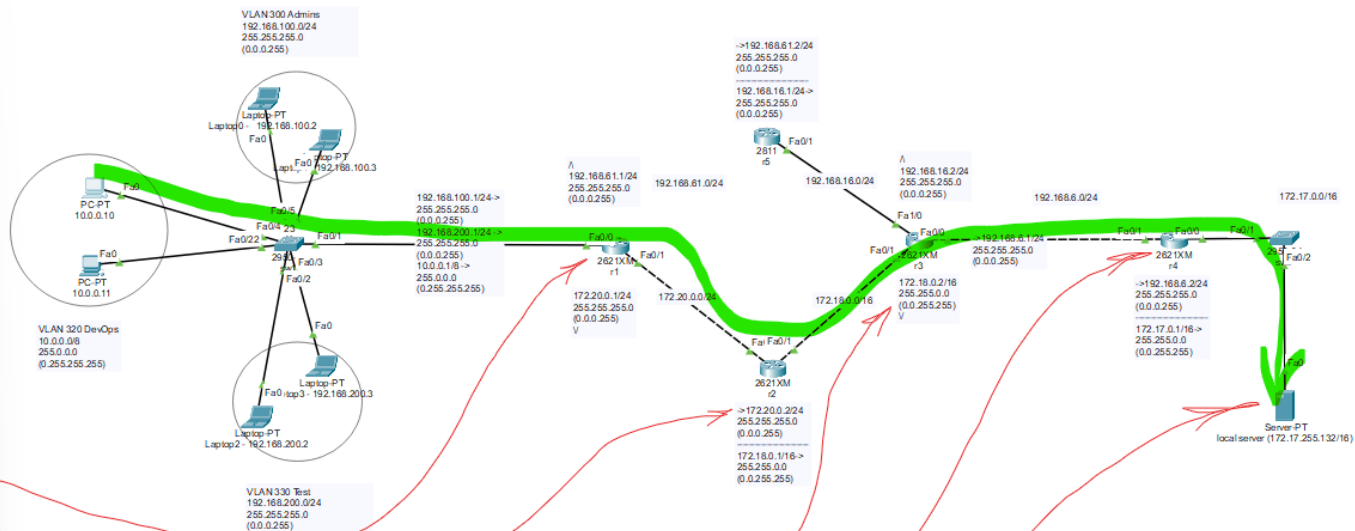
40ms0ms1ms192.168.6.2

50ms0ms0ms172.17.255.132

Trace complete.

C:\>

Top



Physical Config CLI Attributes

IOS Command Line Interface

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to down

05:45:46: %OSPF-5-ADJCHG: Process 1, Nbr 0.0.0.5 on FastEthernet1/0 from FULL to DOWN, Neighbor Down: Interface down or detached

Router>show ip rout

Codes: C - connected, S - static, I - IGRP, 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

C 10.0.0.0/8 is directly connected, FastEthernet0/0.320

O 172.17.0.0/16 [110/4] via 172.20.0.2, 00:01:23, FastEthernet0/1

O 172.18.0.0/16 [110/2] via 172.20.0.2, 04:29:23, FastEthernet0/1

O 172.20.0.0/24 is subnetted, 1 subnet

C 172.20.0.0 is directly connected, FastEthernet0/1

O 192.168.6.0/24 [110/3] via 172.20.0.2, 00:01:23, FastEthernet0/1

O 192.168.16.0/24 [110/3] via 172.20.0.2, 00:01:23, FastEthernet0/1

C 192.168.100.0/24 is directly connected, FastEthernet0/0.300

C 192.168.200.0/24 is directly connected, FastEthernet0/0.330

Router>

Copy

Paste

