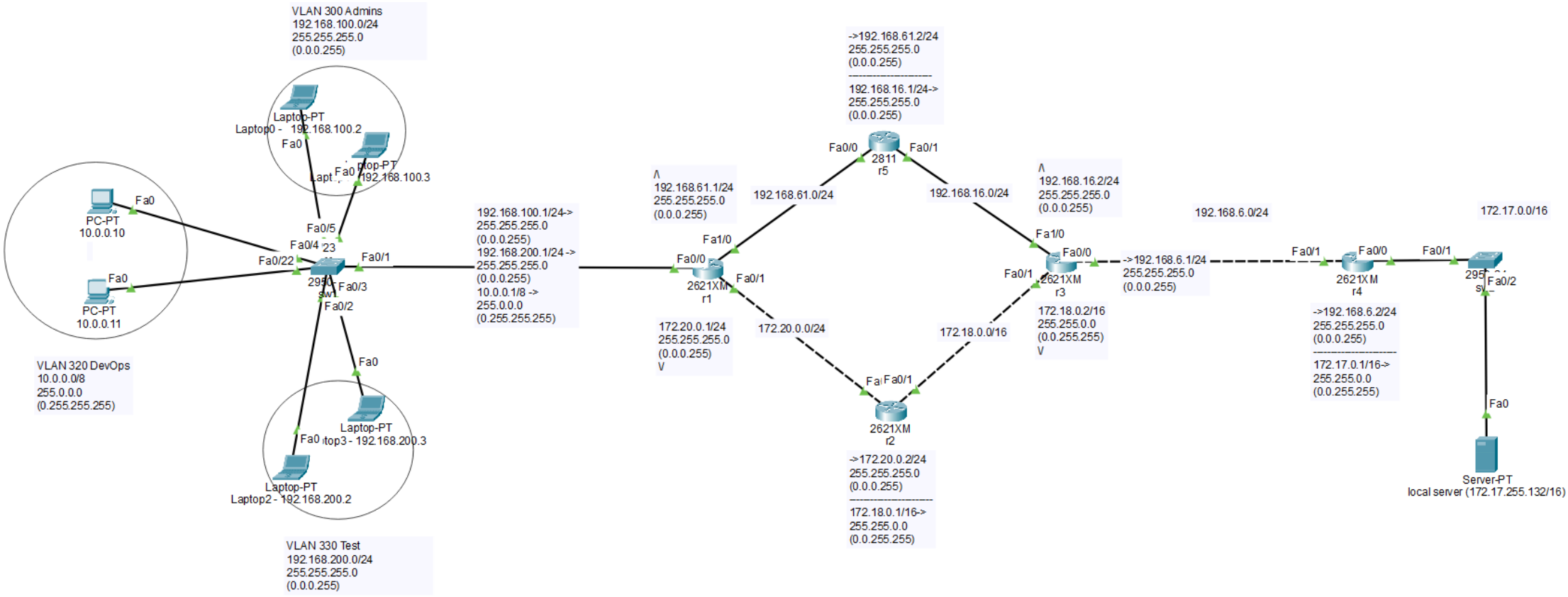
1. Настроить сеть согласно схеме в файле с помощью OSPF и VLAN. Починить неработающие линки.
https://disk.yandex.ru/d/IQdns-ljqsBFFg



sw1

Physical Config CLI Attributes

IOS Command Line Interface

```
Switch>sh ip-table
          ^
% Invalid input detected at '^' marker.

Switch>sh mac-address-table
          Mac Address Table
-------------------------------------------

Vlan    Mac Address       Type        Ports
----    -----------       --------    -----

   1    00e0.b0bd.e001    DYNAMIC     Fa0/1
 300    00e0.b0bd.e001    DYNAMIC     Fa0/1
 320    00e0.b0bd.e001    DYNAMIC     Fa0/1
 330    00e0.b0bd.e001    DYNAMIC     Fa0/1
Switch>
```

Copy Paste

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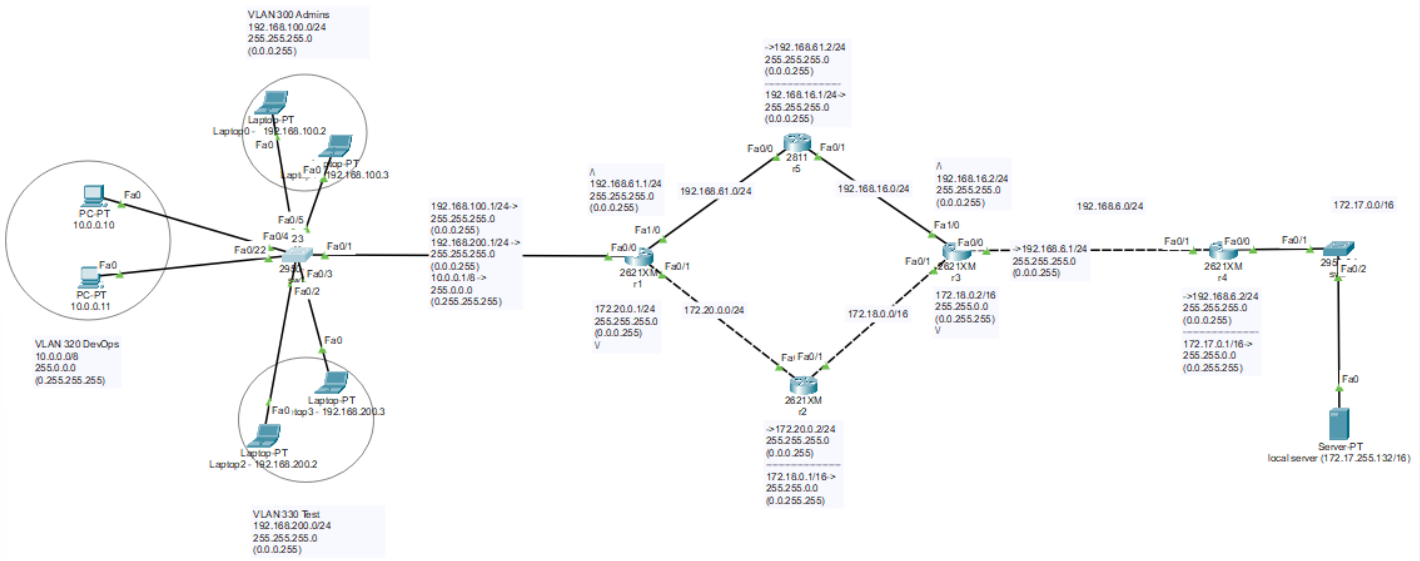
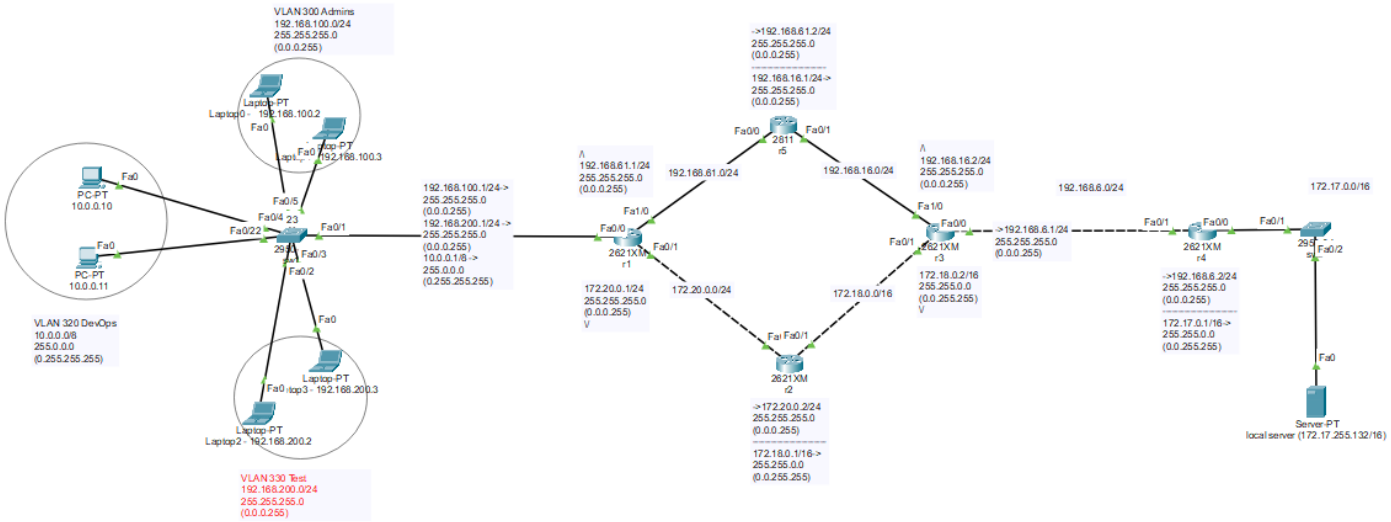
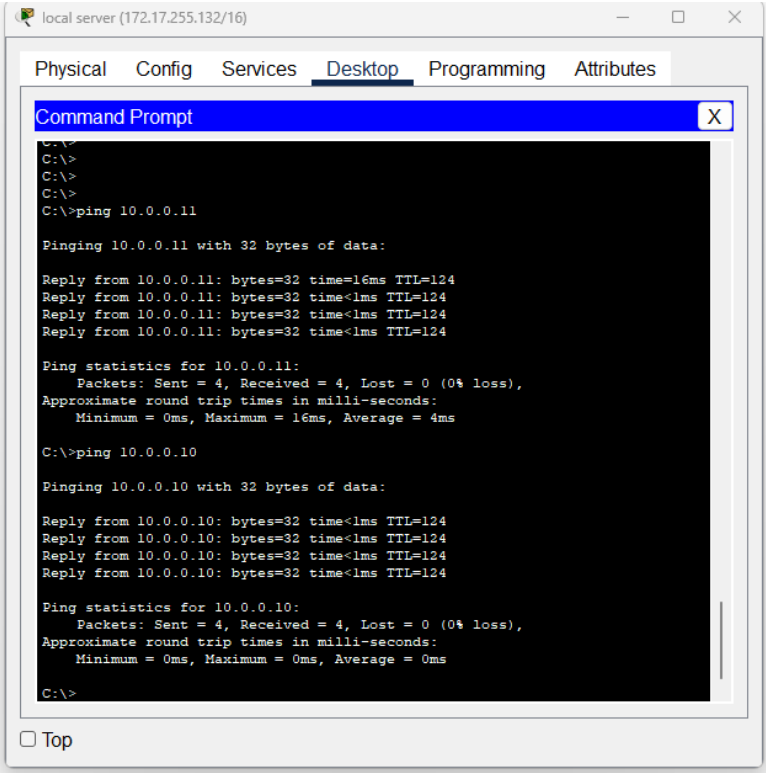
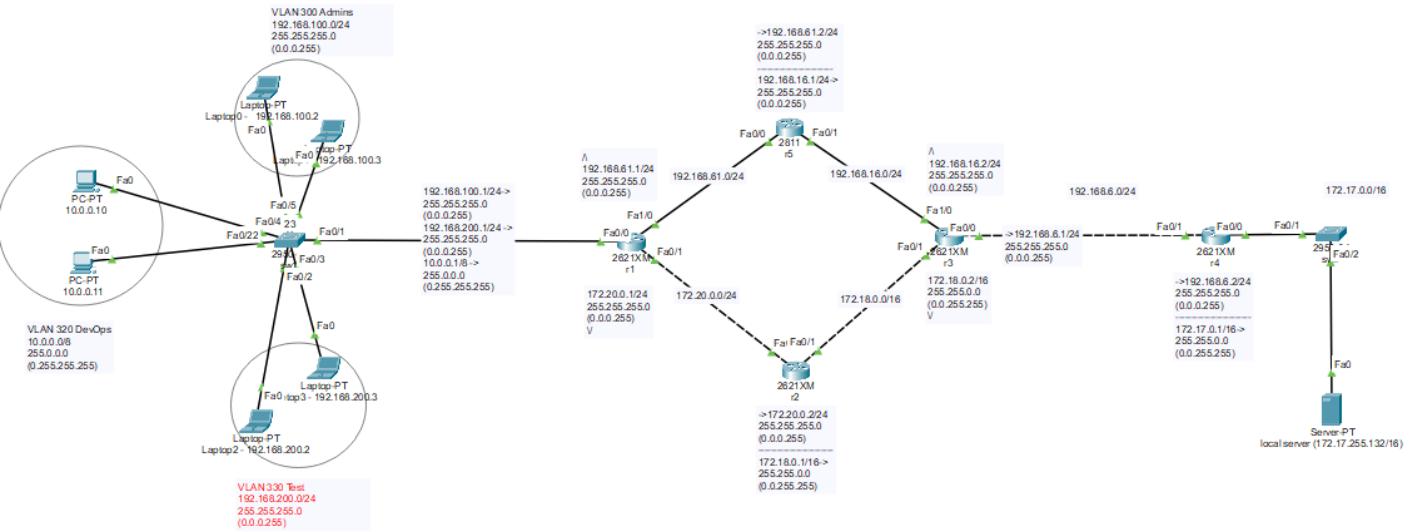


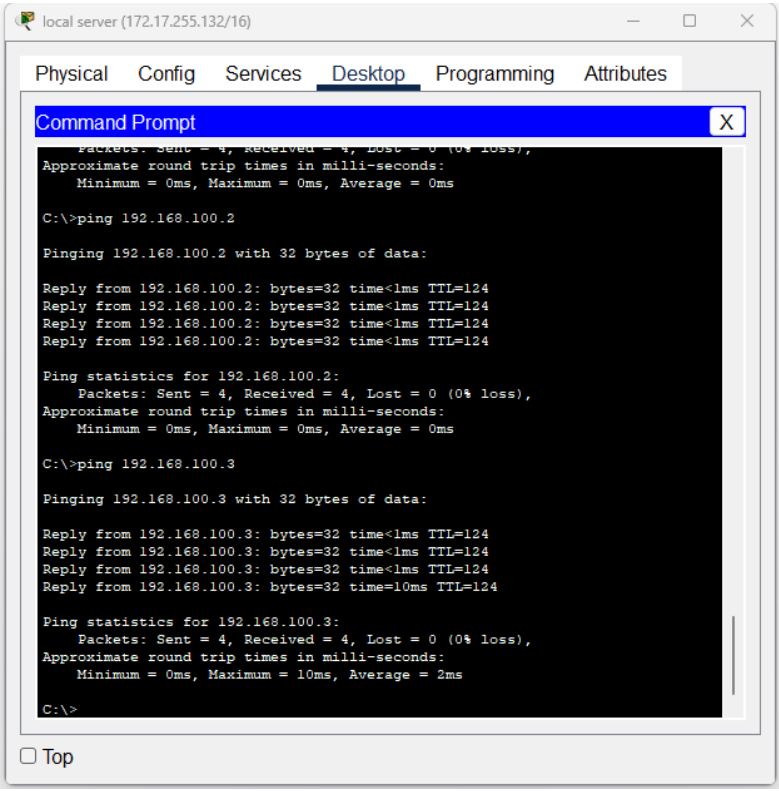
ping с сервера 172.17.255.132 на ПК 10.0.0.10 и 10.0.0.11



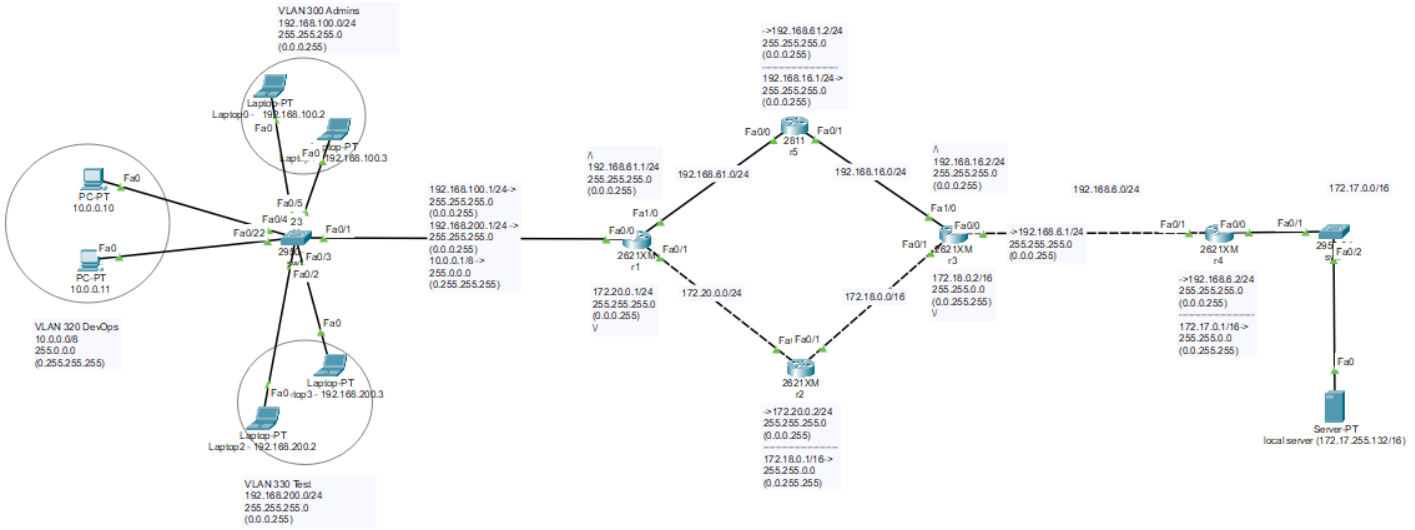


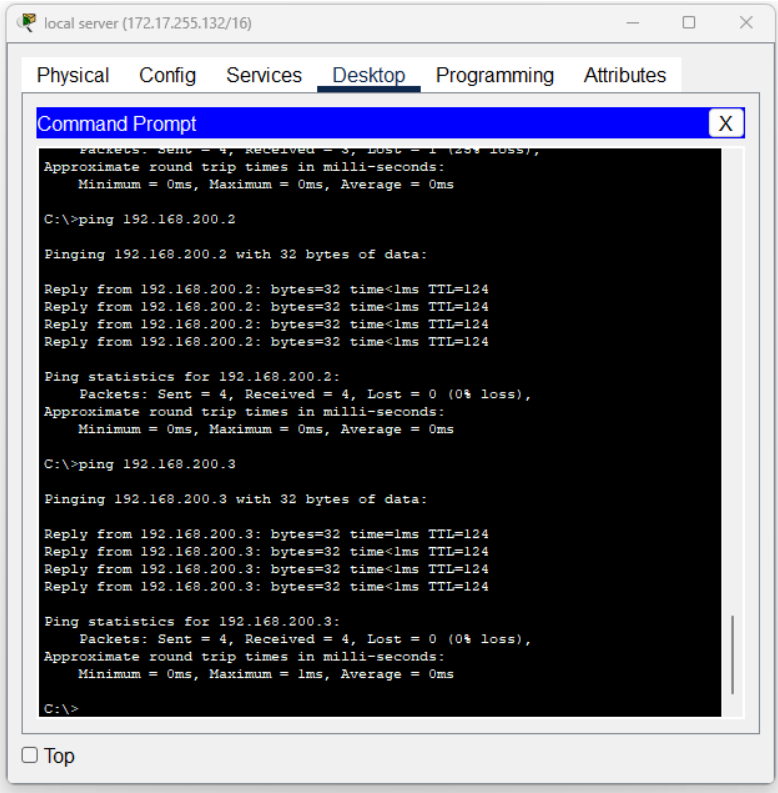
ping с сервера 172.17.255.132 на ПК 192.168.100.2 и 192.168.100.3



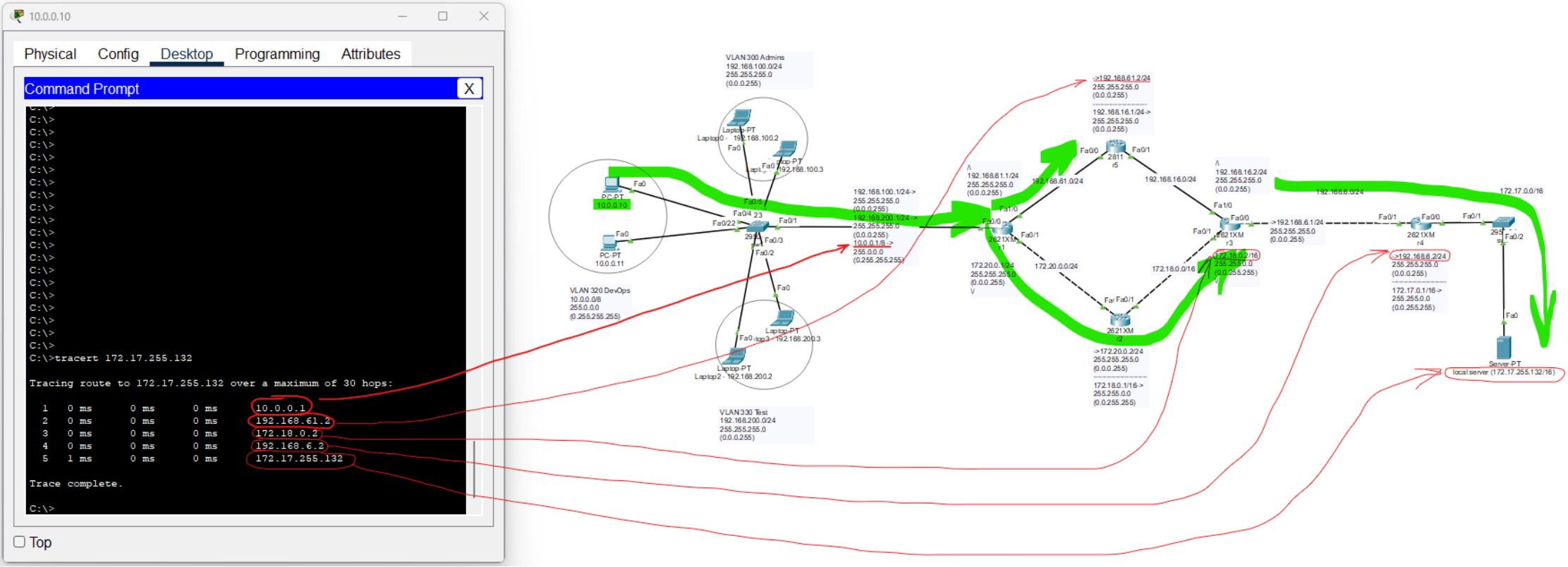


ping с сервера 172.17.255.132 на ПК 192.168.200.2 и 192.168.200.3

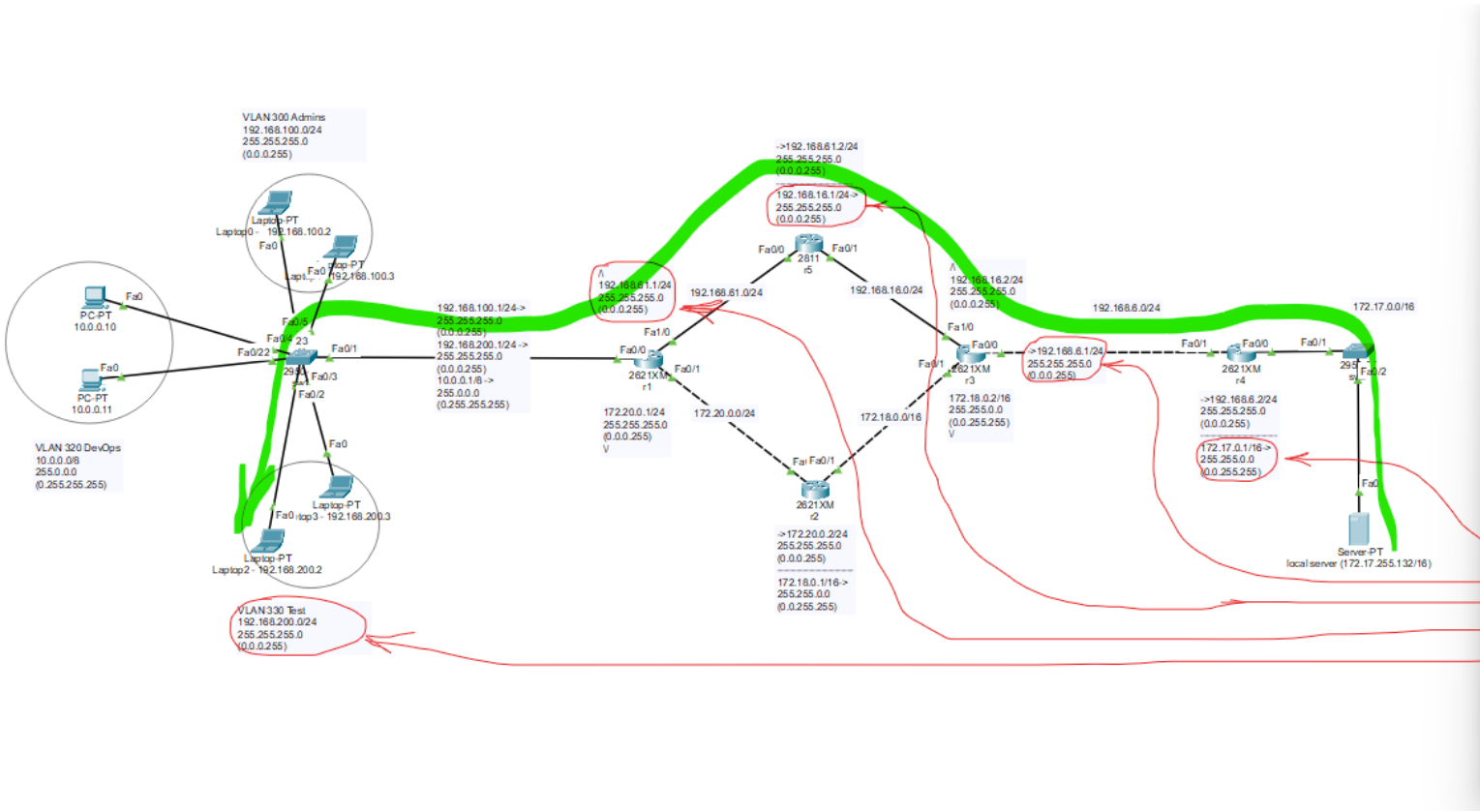


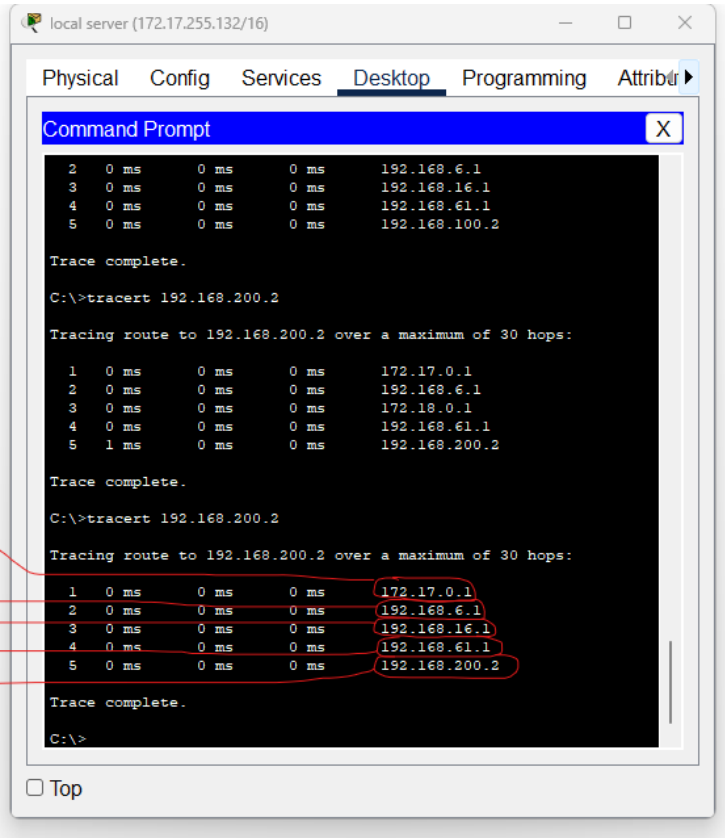


2. Убедиться что трафик от компов до сервера ходит через два маршрута с помощью ECMP.

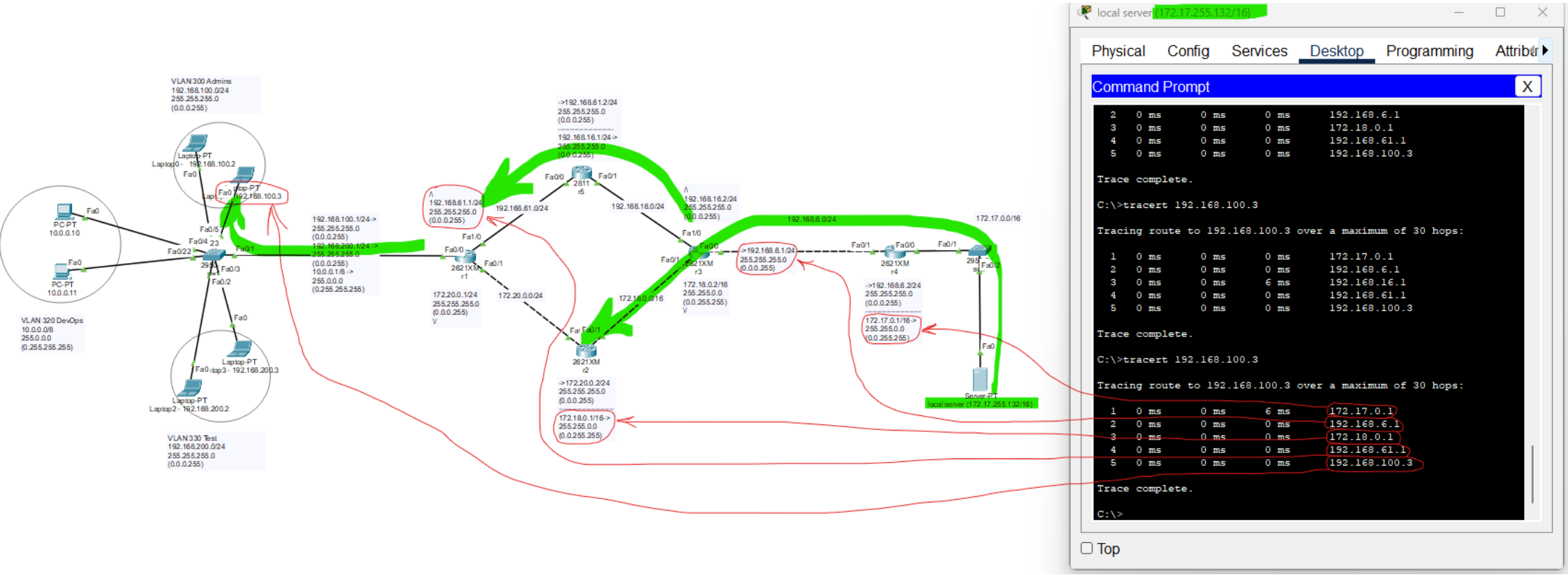


При использовании tracert 172.17.255.132 с ПК 10.0.0.10 можно увидеть что трафик (пакеты данных) проходит через r5 и r2.





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



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
                   [110/4] via 172.20.0.2, 04:15:36, FastEthernet0/1
O    172.18.0.0/16 [110/2] via 172.20.0.2, 04:15:36, FastEthernet0/1
     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
                    [110/3] via 172.20.0.2, 04:15:36, FastEthernet0/1
O    192.168.16.0/24 [110/2] via 192.168.61.2, 04:15:36, FastEthernet1/0
C    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>
```

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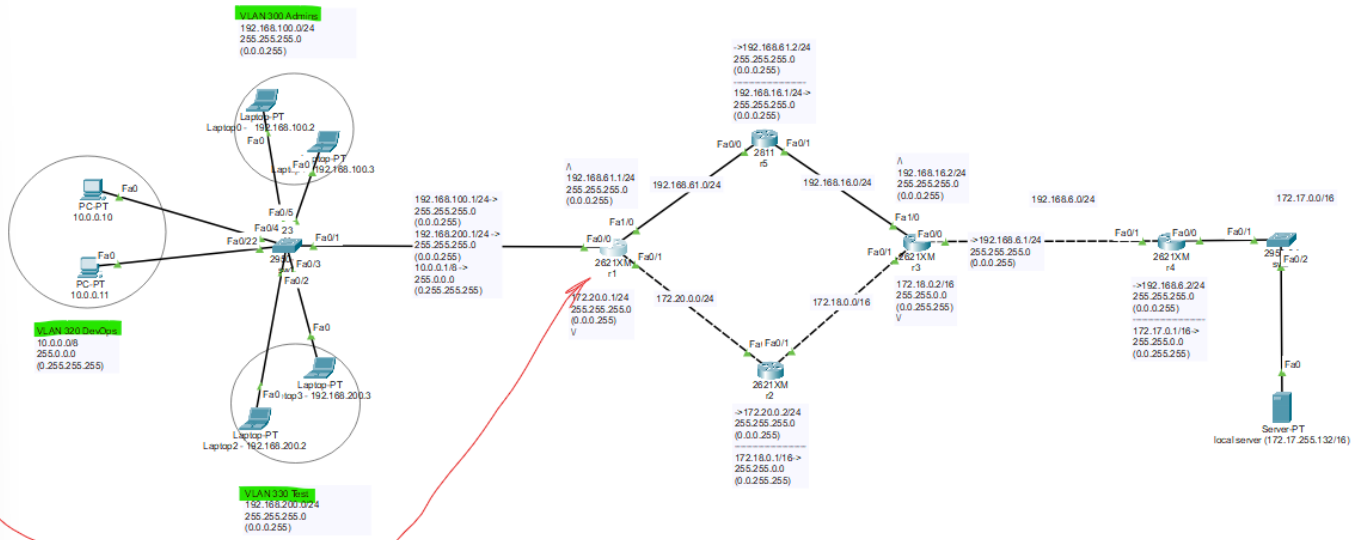
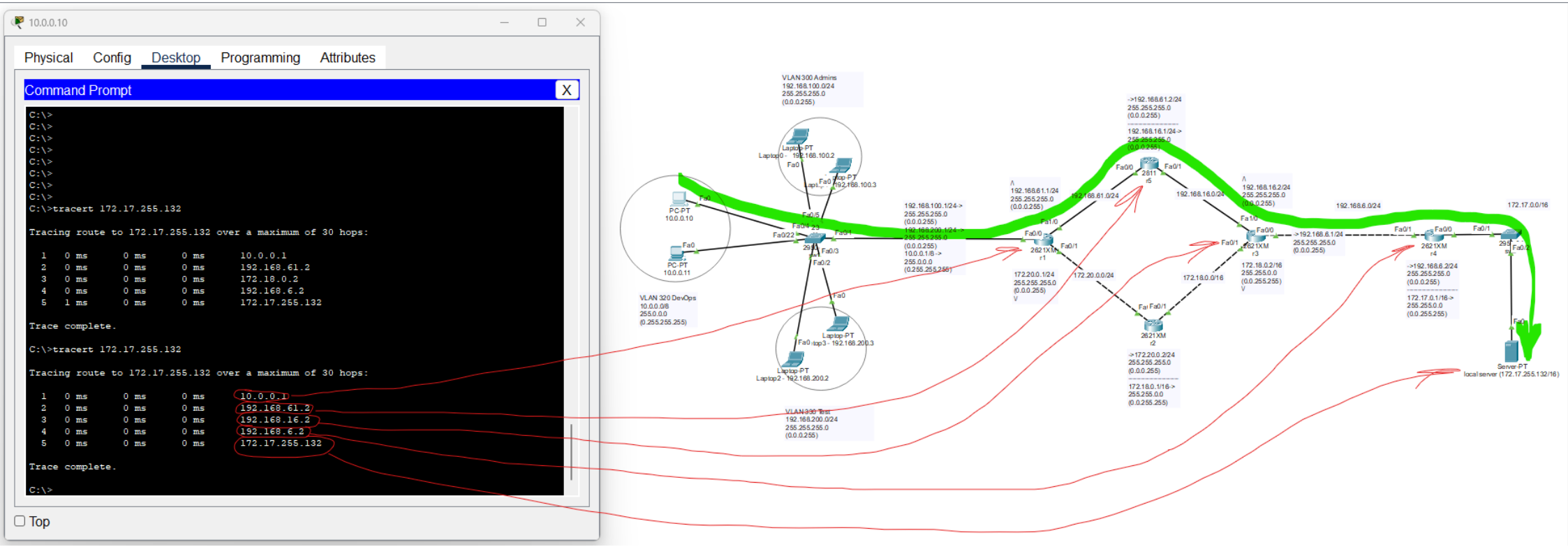
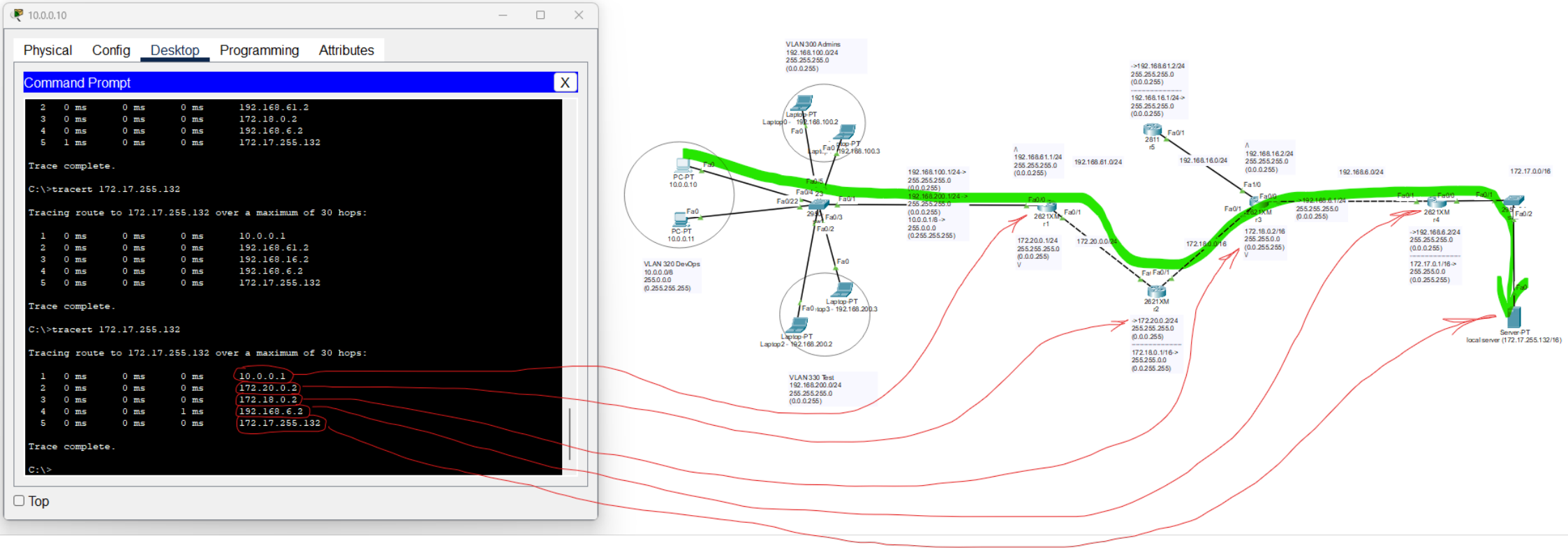


4. Поймать трейс на любом компе, когда он пойдет через r5. Удалить один из линков на r5. Снова сделать трейс, убедиться что трафик пошел по резервному пути. Скинуть скриншот с разными трейсами.
Скинуть еще один скриншот с изменившейся таблицей маршрутизации с r1.




10.0.0.10
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
2 0 ms 0 ms 0 ms 192.168.61.2
3 0 ms 0 ms 0 ms 172.18.0.2
4 0 ms 0 ms 0 ms 192.168.6.2
5 1 ms 0 ms 0 ms 172.17.255.132
Trace complete.
C:\>tracert 172.17.255.132
Tracing route to 172.17.255.132 over a maximum of 30 hops:
1 0 ms 0 ms 0 ms 10.0.0.1
2 0 ms 0 ms 0 ms 192.168.61.2
3 0 ms 0 ms 0 ms 192.168.16.2
4 0 ms 0 ms 0 ms 192.168.6.2
5 0 ms 0 ms 0 ms 172.17.255.132
Trace complete.
C:\>tracert 172.17.255.132
Tracing route to 172.17.255.132 over a maximum of 30 hops:
1 0 ms 0 ms 0 ms 10.0.0.1
2 0 ms 0 ms 0 ms 172.20.0.2
3 0 ms 0 ms 0 ms 172.18.0.2
4 0 ms 0 ms 1 ms 192.168.6.2
5 0 ms 0 ms 0 ms 172.17.255.132
Trace complete.
C:\>
Top
VLAN 300 Admins
192.168.100.0/24
255.255.255.0
(0.0.0.255)
VLAN 320 DevOps
10.0.0.0/8
255.0.0.0
(0.255.255.255)
VLAN 330 Test
192.168.200.0/24
255.255.255.0
(0.0.0.255)
192.168.61.0/24
192.168.16.0/24
192.168.6.0/24
172.17.0.0/16
172.20.0.0/24
172.18.0.0/16
PC-PT
10.0.0.10
PC-PT
10.0.0.11
Laptop-PT
Laptop0 - 192.168.100.2
Laptop-PT
192.168.100.3
Laptop-PT
Laptop3 - 192.168.200.3
Laptop-PT
Laptop2 - 192.168.200.2
2811
r5
2621XM
r1
2621XM
r2
2621XM
r3
2621XM
r4
Server-PT
local server (172.17.255.132/16)

r1

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
     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 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>
```

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