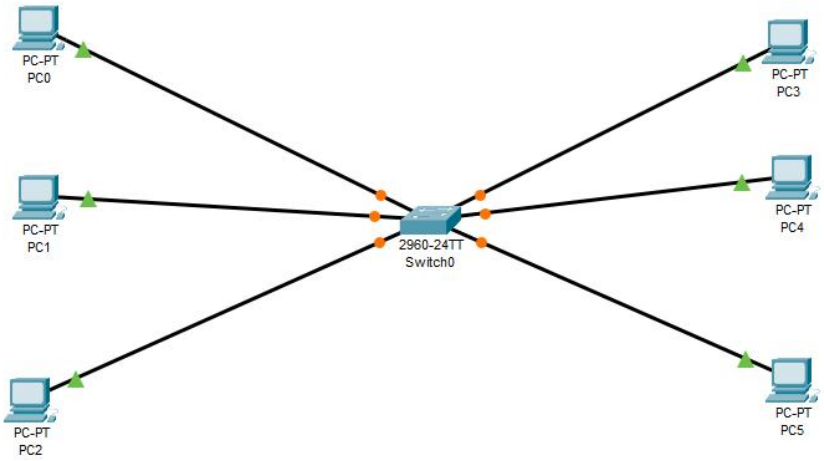
Практическая работа 12 – настройка передачи данных между сетями на маршрутизаторе

Построил сеть:



Прописал адреса: слева 192.168.0.x ; справа 192.168.1.x.

Ping

1) для адресов с похожими октетами:

```
C:\>ping 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:

Reply from 192.168.0.1: bytes=32 time<1ms TTL=128
Reply from 192.168.0.1: bytes=32 time=4ms TTL=128
Reply from 192.168.0.1: bytes=32 time=3ms TTL=128
Reply from 192.168.0.1: bytes=32 time=2ms TTL=128

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 4ms, Average = 2ms
```

Всё хорошо, пакеты получены.

2) один из первых трёх октетов различается:

```
C:\>ping 192.167.0.1

Pinging 192.167.0.1 with 32 bytes of data:


Ping statistics for 192.167.0.1:
    Packets: Sent = 1, Received = 0, Lost = 1 (100% loss),
```

Пакет потерян.

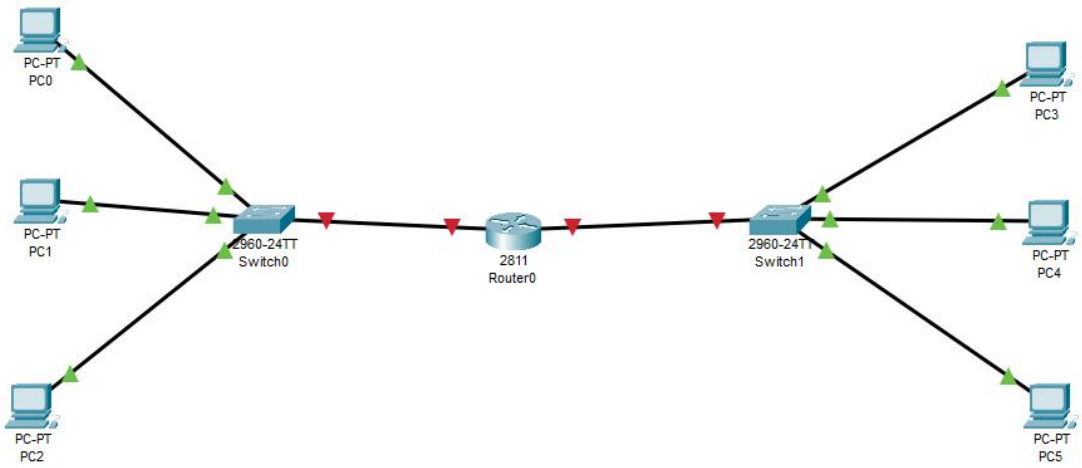
3) С изменяемым последним октетом:

```
C:\>ping 192.168.0.11

Pinging 192.168.0.11 with 32 bytes of data:


Ping statistics for 192.168.0.11:
    Packets: Sent = 1, Received = 0, Lost = 1 (100% loss),
```

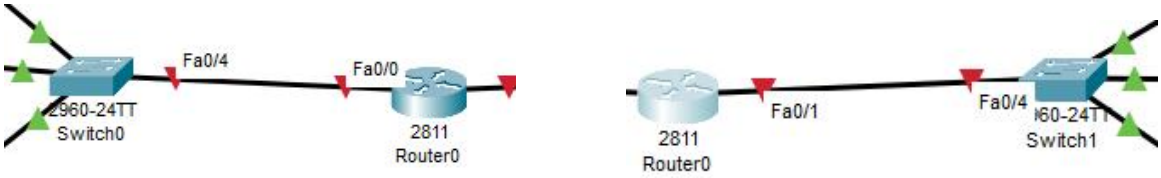
Пакет потерян.

Это происходит, так как устройств с такими адресами в сети нет.

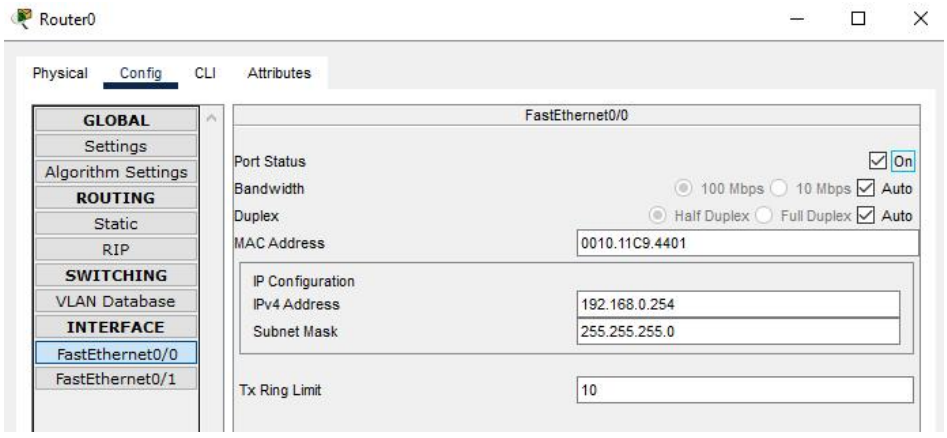
Изменил построение сети:



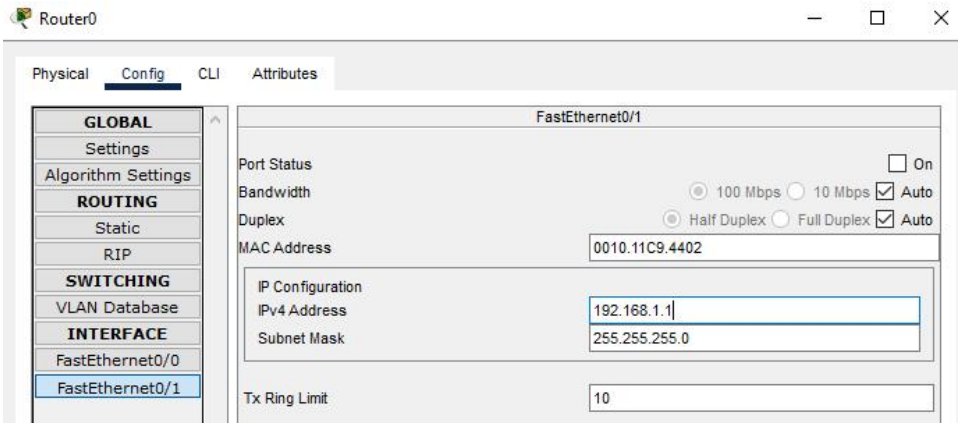
Навёл курсор на витую пару:



Настроил порт Fa0/0:



Настроил порт Fa0/1:



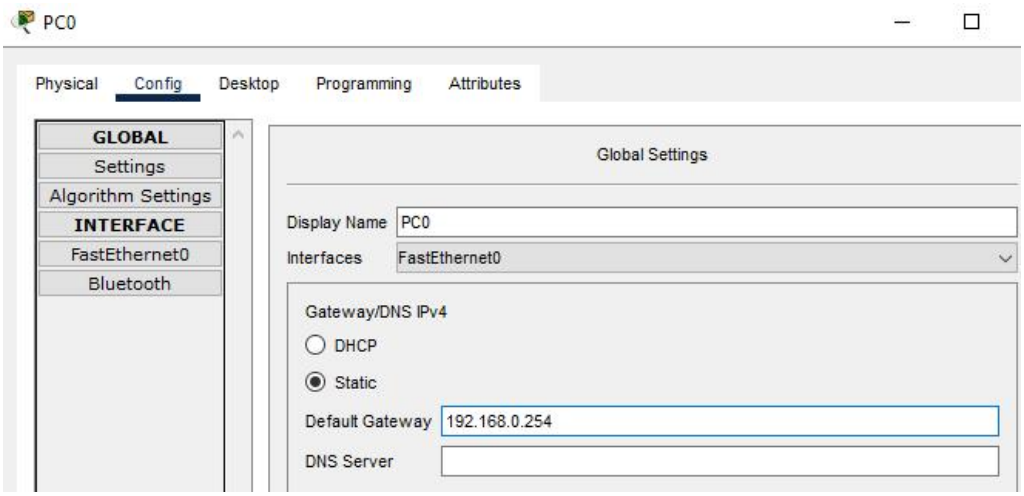
Проверил команду ping в терминале роутера:

```
Router#ping 192.168.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.0.0, timeout is 2 seconds:
```

Show ip route:

```
Router#show 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

     192.168.0.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.0.0/24 is directly connected, FastEthernet0/0
L       192.168.0.254/32 is directly connected, FastEthernet0/0
     192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.1.0/24 is directly connected, FastEthernet0/1
L       192.168.1.1/32 is directly connected, FastEthernet0/1
```

Установил шлюз по умолчанию:



Протестировал с помощью ping:

```
C:\>ping 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:

Reply from 192.168.0.1: bytes=32 time=4ms TTL=128
Reply from 192.168.0.1: bytes=32 time=9ms TTL=128
Reply from 192.168.0.1: bytes=32 time=9ms TTL=128
Reply from 192.168.0.1: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 9ms, Average = 5ms

C:\>ping 192.168.0.0

Pinging 192.168.0.0 with 32 bytes of data:

Reply from 192.168.0.2: bytes=32 time<1ms TTL=128
Reply from 192.168.0.3: bytes=32 time<1ms TTL=128
Reply from 192.168.0.2: bytes=32 time<1ms TTL=128
Reply from 192.168.0.3: bytes=32 time<1ms TTL=128
Reply from 192.168.0.254: bytes=32 time<1ms TTL=255
Reply from 192.168.0.2: bytes=32 time<1ms TTL=128
Reply from 192.168.0.3: bytes=32 time<1ms TTL=128
Reply from 192.168.0.254: bytes=32 time<1ms TTL=255
Reply from 192.168.0.2: bytes=32 time<1ms TTL=128
Reply from 192.168.0.3: bytes=32 time<1ms TTL=128
Reply from 192.168.0.254: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.0.0:
    Packets: Sent = 4, Received = 11, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```