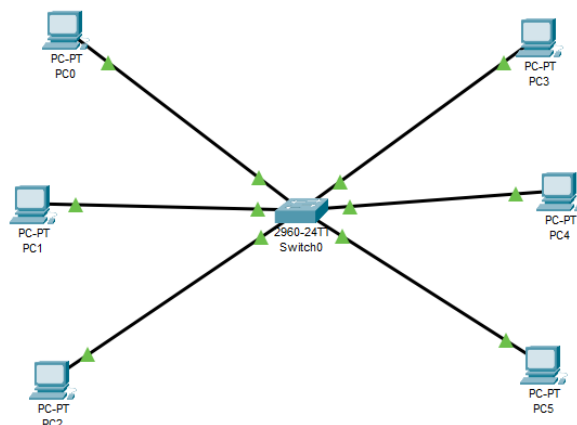


Практическая работа 12

Строим сеть из 6 ПК и одного коммутатора



Настраиваем статические ip-адреса слева 192.168.0.x справа 192.168.1.x

Теперь пингуем адреса

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.0.2

Pinging 192.168.0.2 with 32 bytes of data:

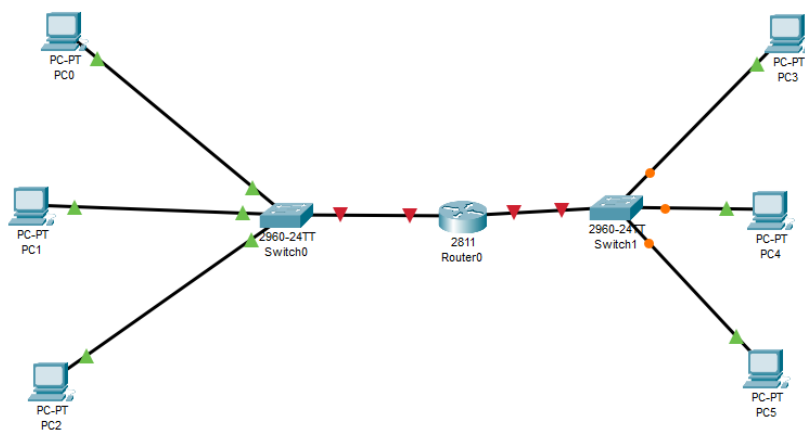
Reply from 192.168.0.2: bytes=32 time=1ms TTL=128
Reply from 192.168.0.2: bytes=32 time=5ms TTL=128
Reply from 192.168.0.2: bytes=32 time<1ms TTL=128
Reply from 192.168.0.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 5ms, Average = 1ms
```

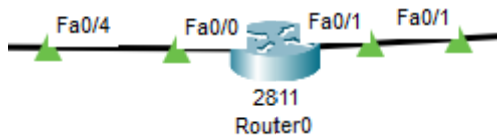
Как видно адреса из 192.168.0.x не могут взаимодействовать с адресами 192.168.1.x. Это происходит из-за того, что они находятся в разных подсетях и не видят друг друга.

Решение:

Разбиваем сеть на две части с коммутатором и соединяем их маршрутизатором



Включаем порты



Настраиваем левый порт

FastEthernet0/0	
Port Status	<input checked="" type="checkbox"/> On
Bandwidth	<input checked="" type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
Duplex	<input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
MAC Address	0090.0CC1.AC01
IP Configuration	
IPv4 Address	192.168.0.254
Subnet Mask	255.255.255.0
Tx Ring Limit	10

И правый

FastEthernet0/1	
Port Status	<input checked="" type="checkbox"/> On
Bandwidth	<input checked="" type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
Duplex	<input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
MAC Address	0090.0CC1.AC02
IP Configuration	
IPv4 Address	192.168.1.254
Subnet Mask	255.255.255.0
Tx Ring Limit	10

В консоли роутера проверяем правую и левую сторону

Левая

```
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:

Reply to request 0 from 192.168.0.1, 0 ms
Reply to request 0 from 192.168.0.2, 0 ms
Reply to request 0 from 192.168.0.3, 0 ms
Reply to request 1 from 192.168.0.1, 0 ms
Reply to request 1 from 192.168.0.2, 0 ms
Reply to request 1 from 192.168.0.3, 0 ms
Reply to request 2 from 192.168.0.1, 0 ms
Reply to request 2 from 192.168.0.2, 0 ms
Reply to request 2 from 192.168.0.3, 0 ms
Reply to request 3 from 192.168.0.1, 0 ms
Reply to request 3 from 192.168.0.2, 0 ms
Reply to request 3 from 192.168.0.3, 0 ms
Reply to request 4 from 192.168.0.1, 0 ms
Reply to request 4 from 192.168.0.2, 0 ms
Reply to request 4 from 192.168.0.3, 0 ms

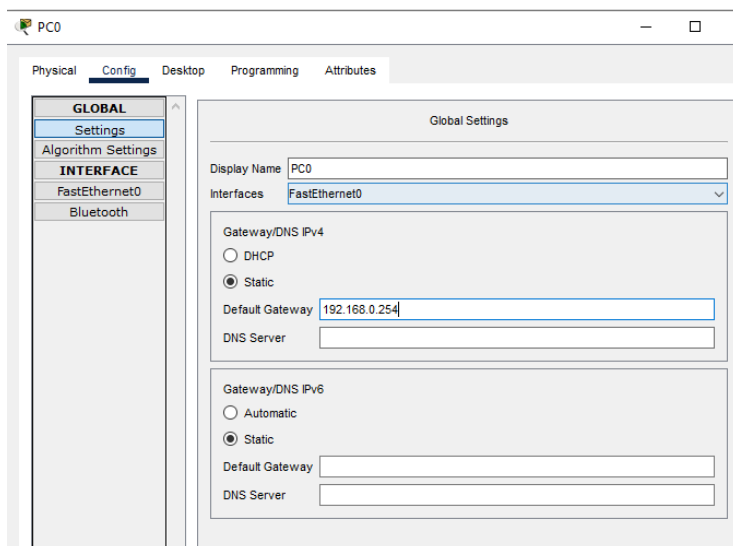
Router#ping 192.168.1.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.1.0, timeout is 2 seconds:

Reply to request 0 from 192.168.1.1, 0 ms
Reply to request 0 from 192.168.1.2, 0 ms
Reply to request 0 from 192.168.1.3, 0 ms
Reply to request 1 from 192.168.1.1, 0 ms
Reply to request 1 from 192.168.1.2, 0 ms
Reply to request 1 from 192.168.1.3, 0 ms
Reply to request 2 from 192.168.1.1, 0 ms
Reply to request 2 from 192.168.1.2, 0 ms
Reply to request 2 from 192.168.1.3, 0 ms
Reply to request 3 from 192.168.1.1, 0 ms
Reply to request 3 from 192.168.1.2, 0 ms
Reply to request 3 from 192.168.1.3, 0 ms
Reply to request 4 from 192.168.1.1, 0 ms
Reply to request 4 from 192.168.1.2, 0 ms
Reply to request 4 from 192.168.1.3, 0 ms
```

Команда show ip route отображает все известные и подключенные маршруты к роутеру. Так можно узнать какие адреса ему доступны.

Настраиваем шлюз для ПК



И для всех остальных

С PC0 пингуем другие PC

```
C:\>ping 192.168.0.2

Pinging 192.168.0.2 with 32 bytes of data:

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

Ping statistics for 192.168.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time<1ms TTL=127
Reply from 192.168.1.2: bytes=32 time<1ms TTL=127
Reply from 192.168.1.2: bytes=32 time<1ms TTL=127
Reply from 192.168.1.2: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Все работает