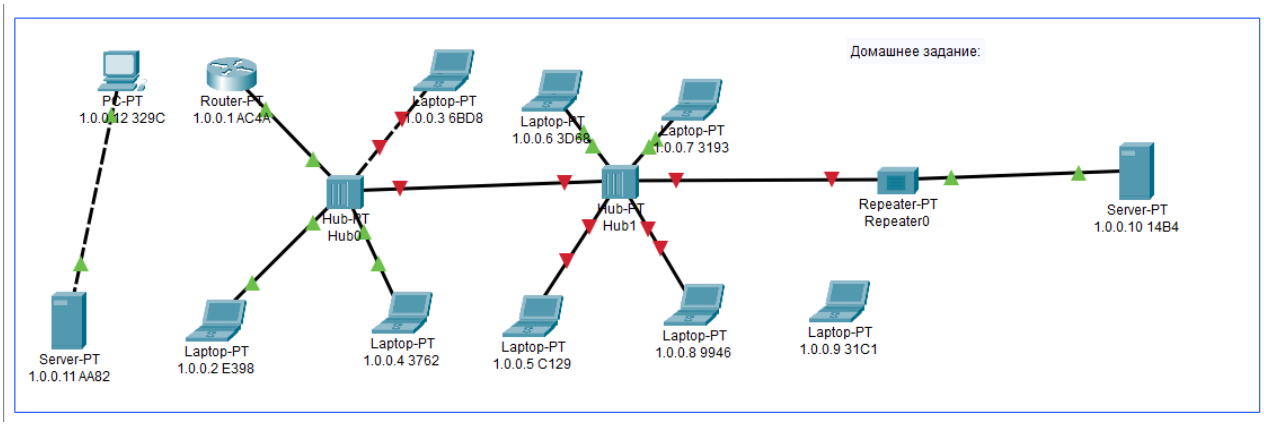
Компьютерные сети. ДЗ №1.

1. Подключаем Router-PT 1.0.0.1 AC4A к Hub-PT Hub0. Для этого необходимо заменить кабель типа витая пара с crossover на прямой. Проверяю доступность роутера: для этого на Laptop-PT 1.0.0.2 E398 запускаю ping до Router-PT. Результат ниже.



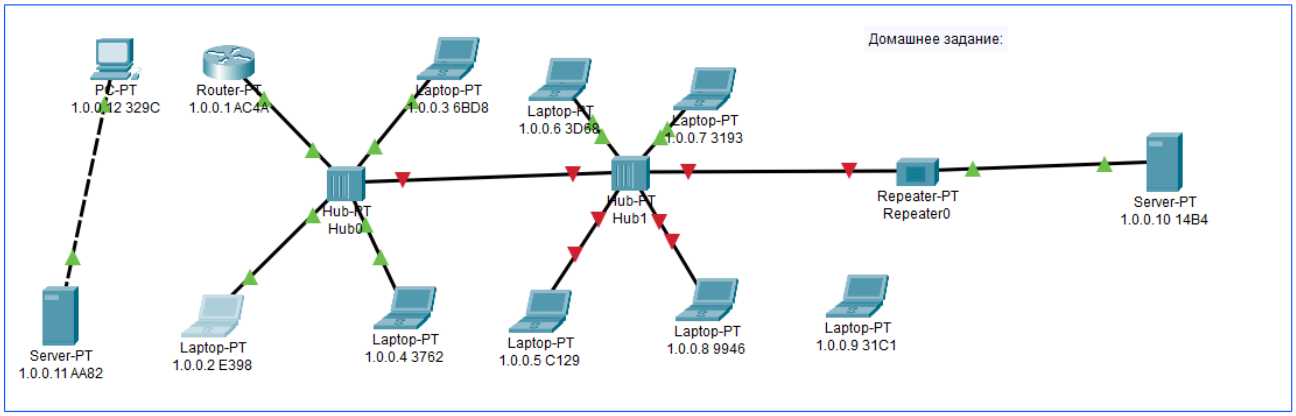
1.0.0.2 E398

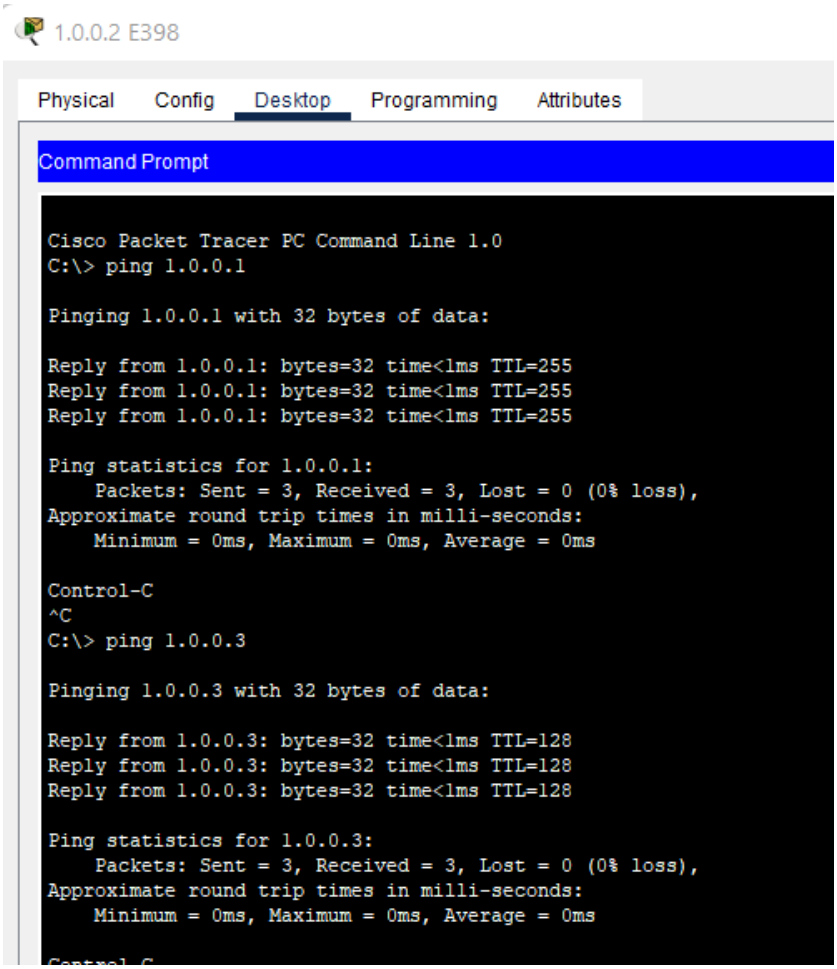
Physical Config Desktop Programming Attributes

Command Prompt

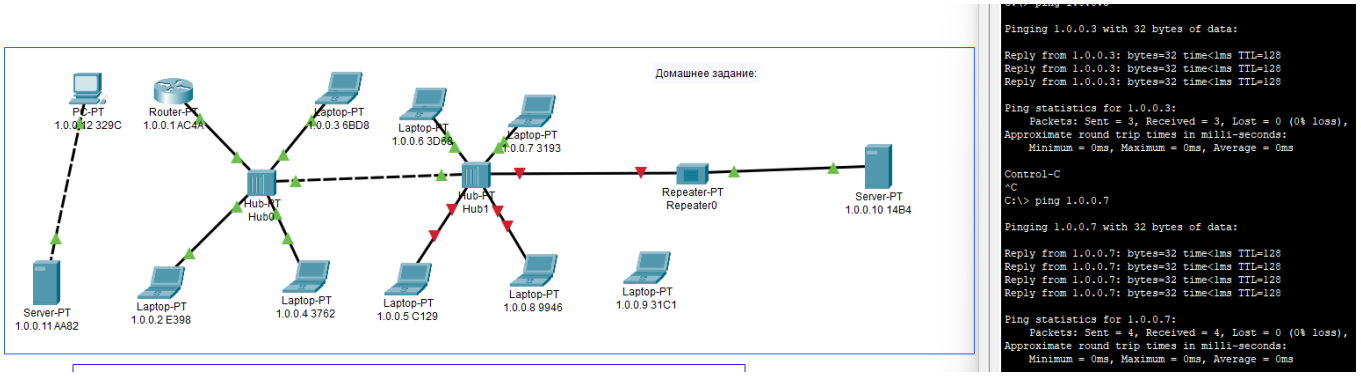
```
Cisco Packet Tracer PC Command Line 1.0
C:\> ping 1.0.0.1

Pinging 1.0.0.1 with 32 bytes of data:

Reply from 1.0.0.1: bytes=32 time<1ms TTL=255
Reply from 1.0.0.1: bytes=32 time<1ms TTL=255
Reply from 1.0.0.1: bytes=32 time<1ms TTL=255

Ping statistics for 1.0.0.1:
    Packets: Sent = 3, Received = 3, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

Control-C
^C
C:\>
```

2. Аналогично действиям в п.1. делаю для Laptop-PT 1.0.0.3 6BD8:

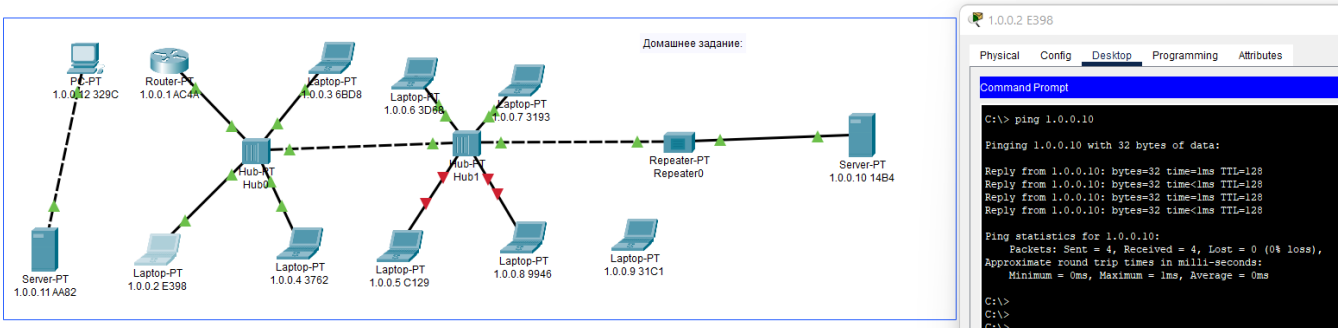




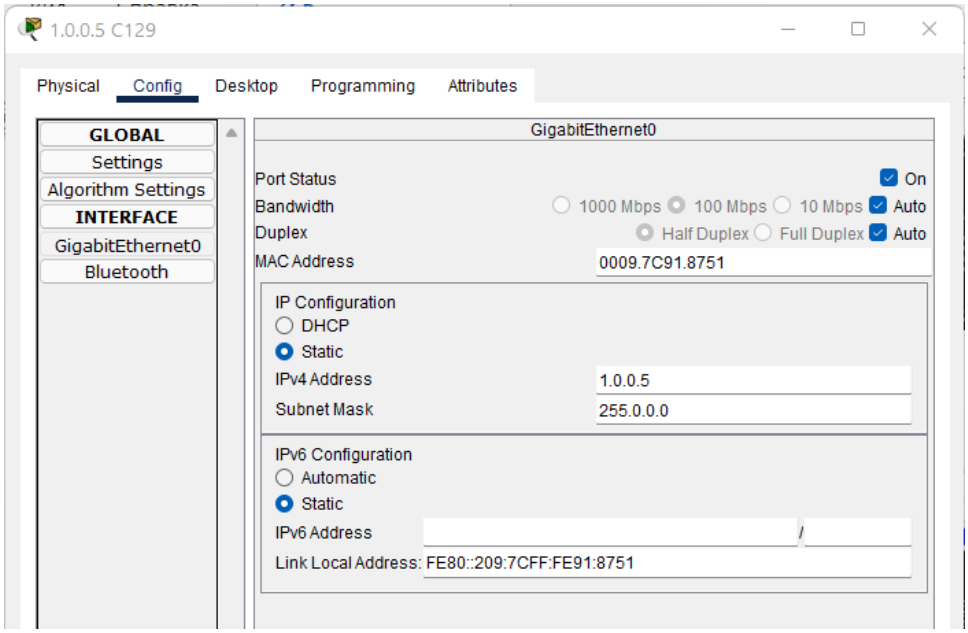
3. Меняю прямой кабель на crossover между Hub-PT Hub0 и Hub-PT Hub1. Проверяю доступность Laptop-PT 1.0.0.7 3193:

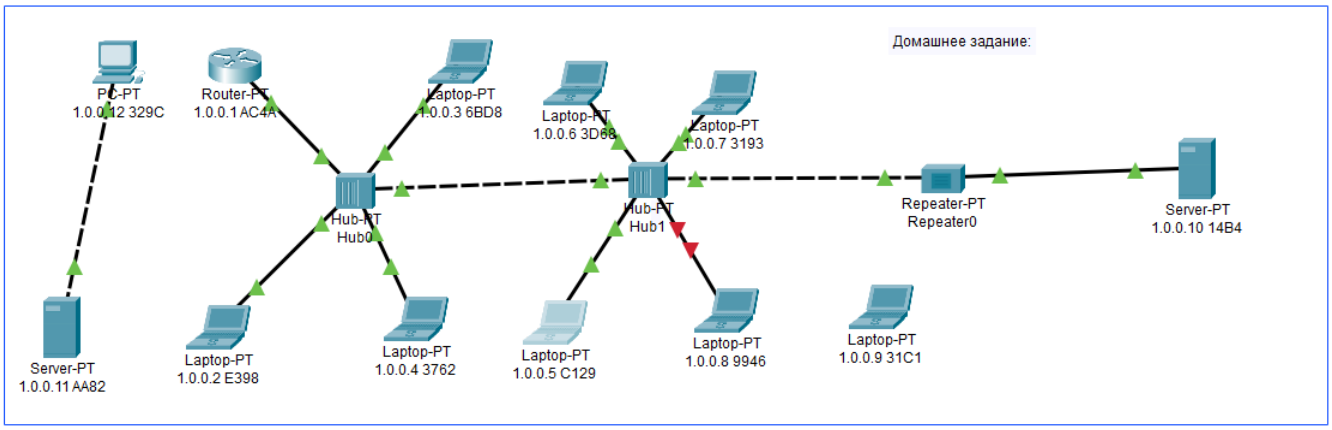


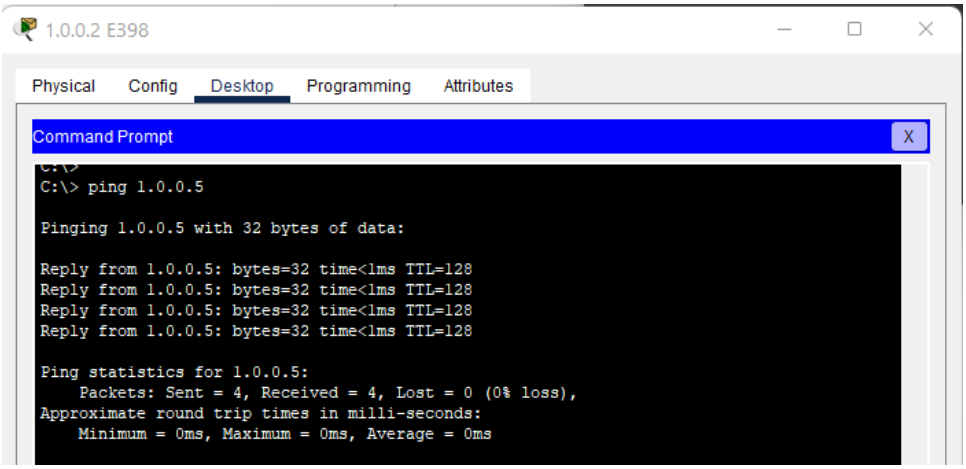
4. Аналогично действиям в п.3. меняю кабель в соединении Hub-PT Hub1 – Repeater-PT Repeater0 и проверяю доступность сервера Server-PT 1.0.0.10 14B4:



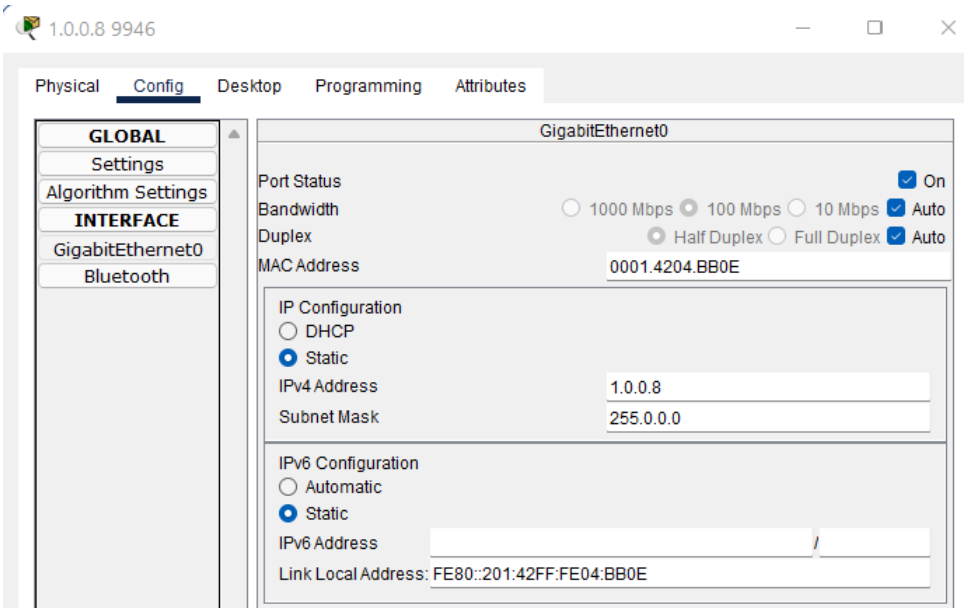
5. Laptop-PT 1.0.0.5 C129 - линк поднимается путем изменения настроек режима дуплекса. Тут проблема в том, что сетевой интерфейс на Laptop гигабитный, в то время как порт на Hub Fast Ethernet. Линк не поднимется, надо ставить 100Mbps FD принудительно, либо в автосогласование, что я и сделал. Пингом до Laptop-PT 1.0.0.5 C129 проверяю доступность:

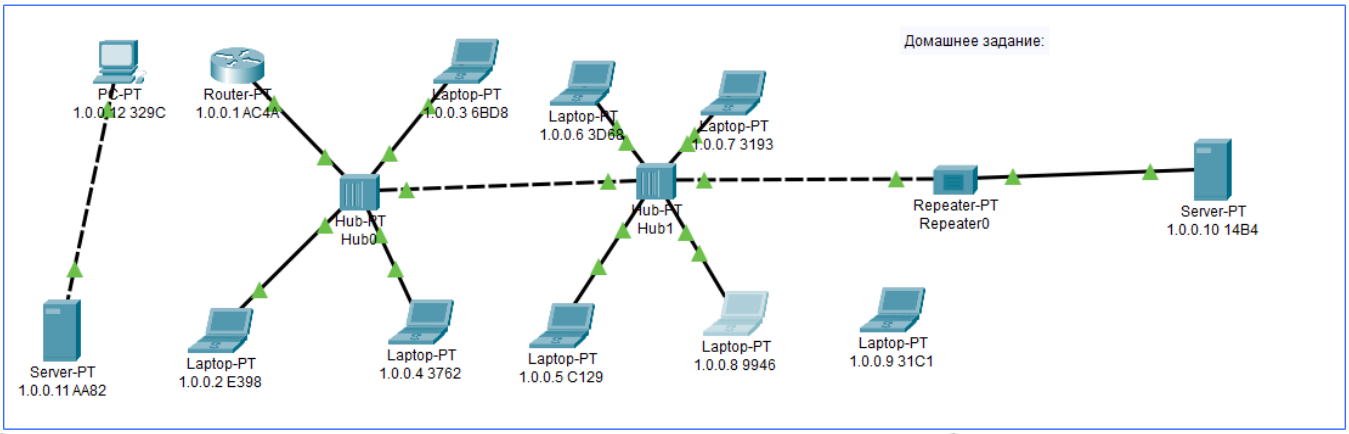


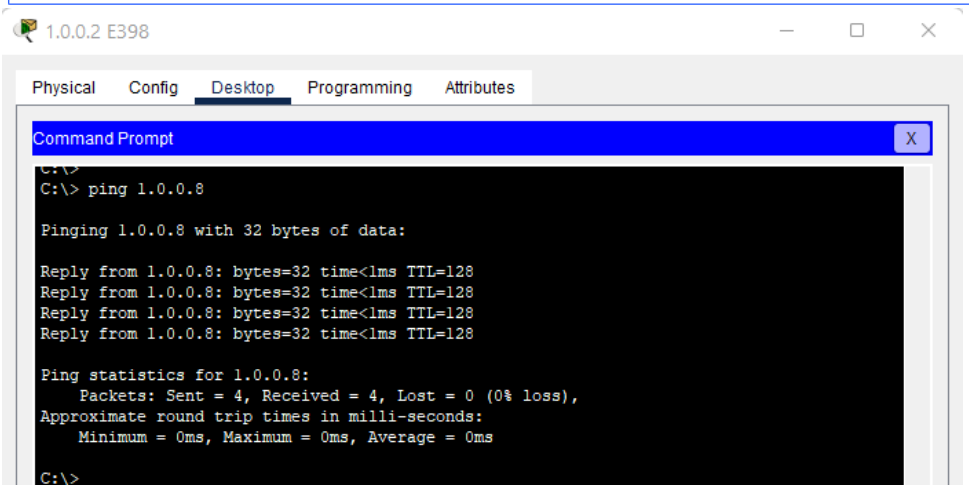




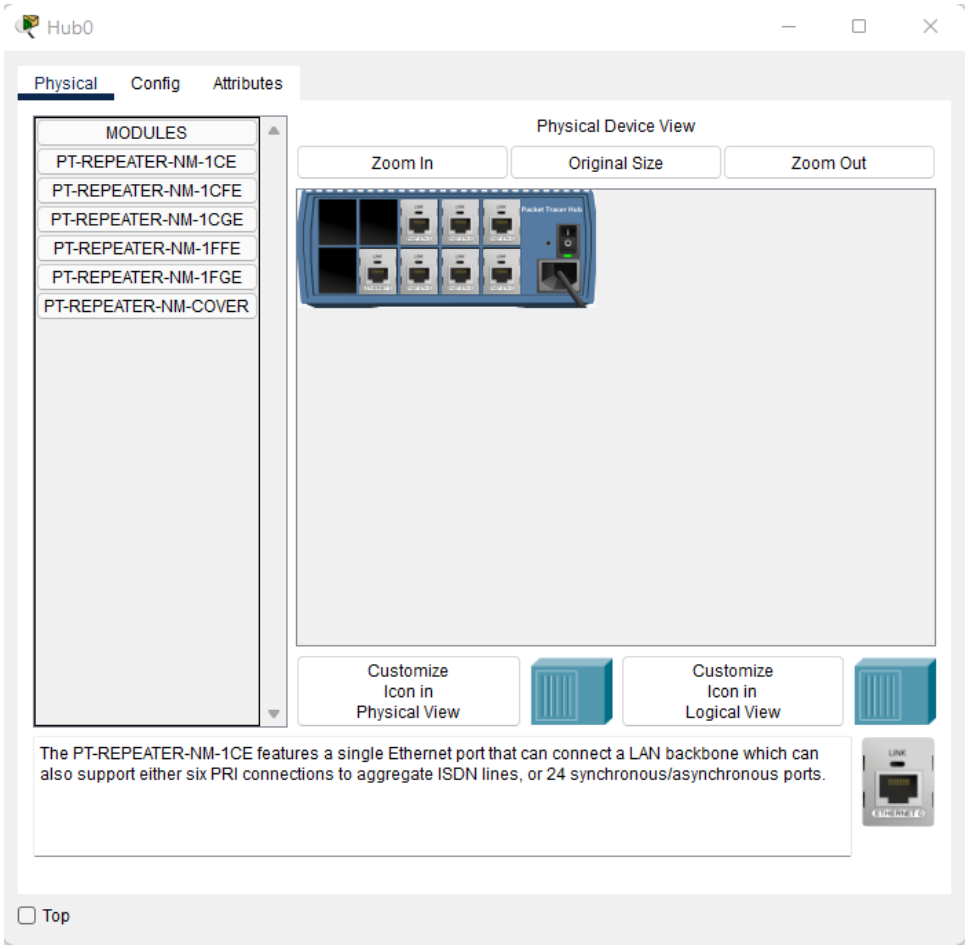
6. Аналогично действиям в п.5. меняю режим дуплекса на Laptop-PT 1.0.0.8 9946. Тут проблема в том, что сетевой интерфейс на Laptop гигабитный, в то время как порт на Hub Fast Ethernet. Линк не поднимется, надо ставить 100Mbps FD принудительно, либо в автосогласование, что я и сделал. Проверка доступности laptop также командой ping.

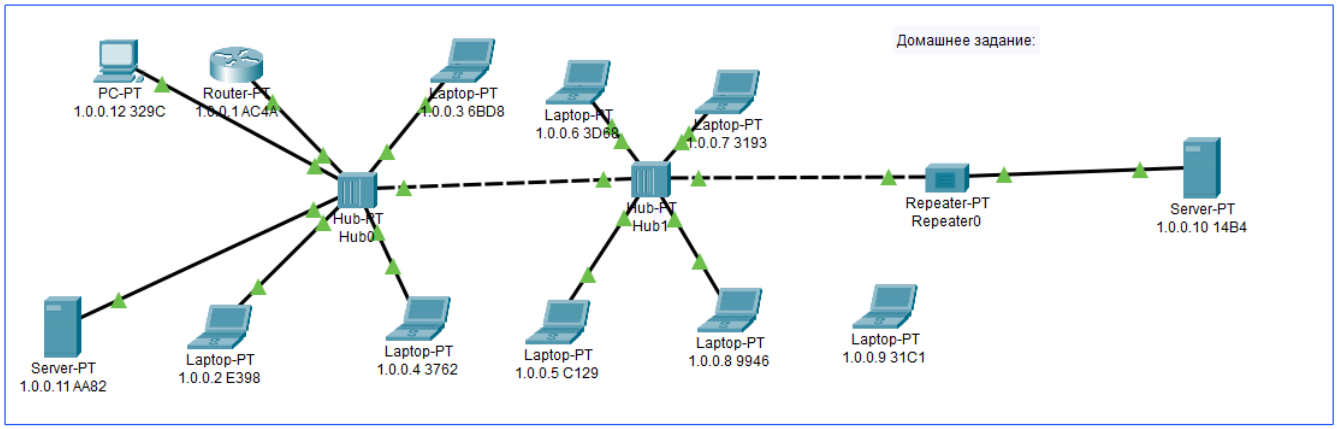




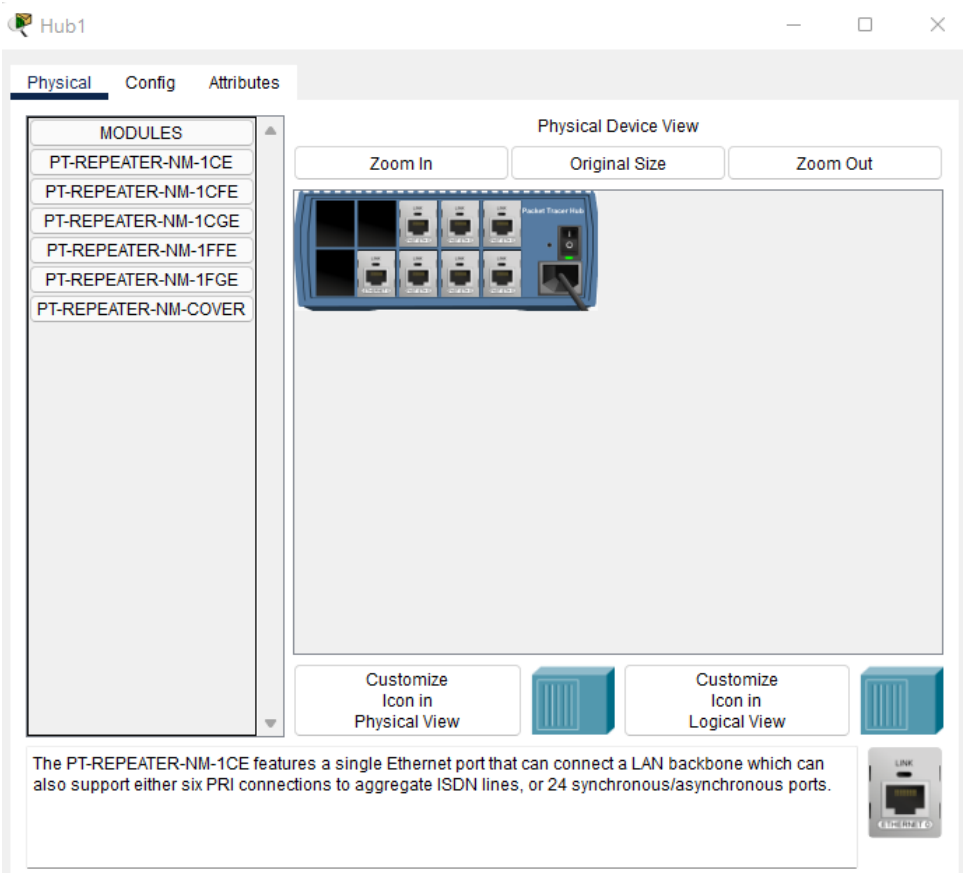


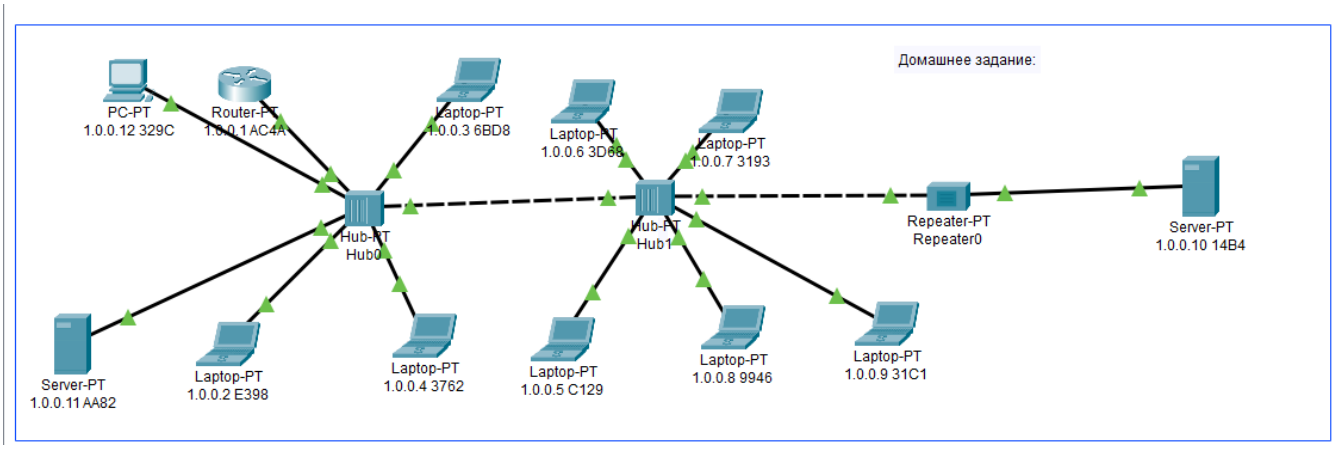
7. Нужно подключить в сеть еще 3 устройства - Laptop-PT 1.0.0.9 31C1, Server-PT 1.0.0.11 AA82 и PC-PT 1.0.0.12 329C. Удаляю соединение между Server-PT 1.0.0.11 AA82 и PC-PT 1.0.0.12 329C, и каждое устройство подключаю к Hub0. На Hub0 предварительно ставлю еще одну сетевую карту:





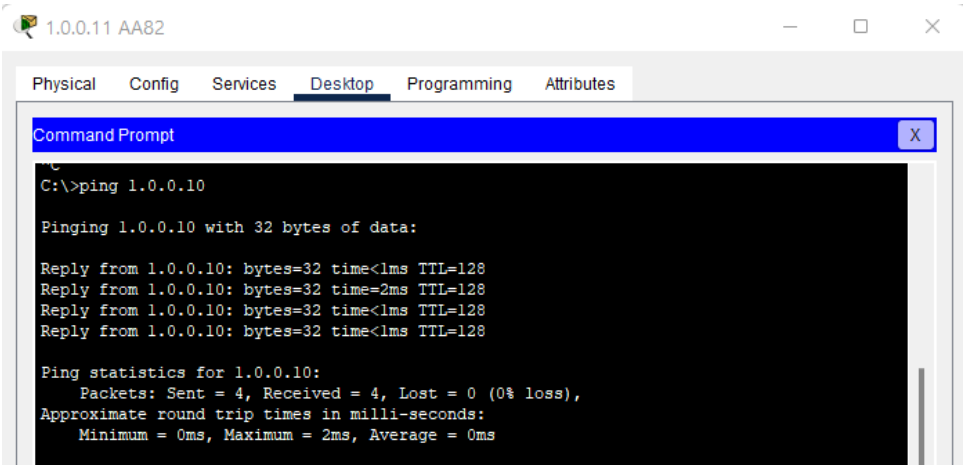
Подключаю Laptop-PT 1.0.0.9 31C1 к Hub1, добавить на нем предварительно еще одну сетевую карту и соединяю прямым проводом:



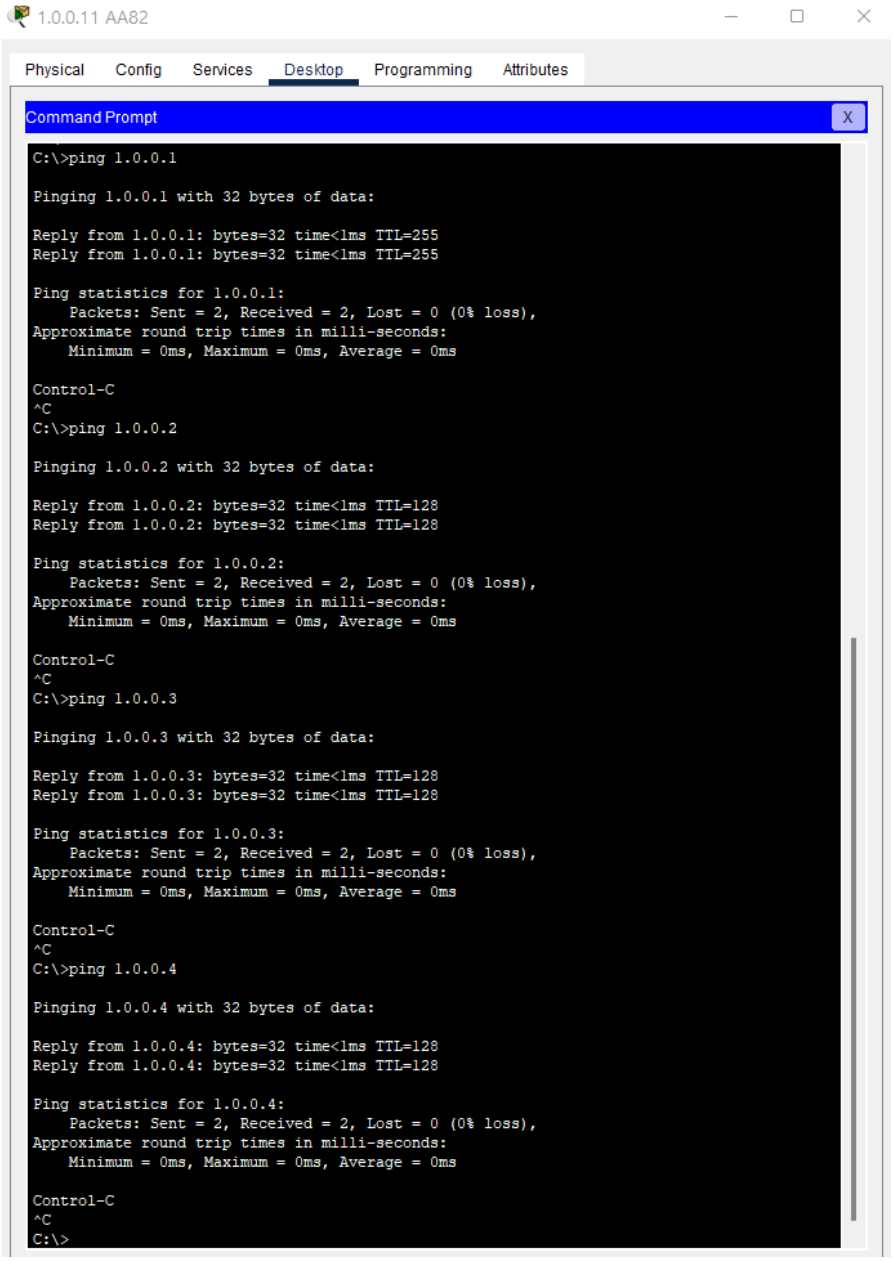


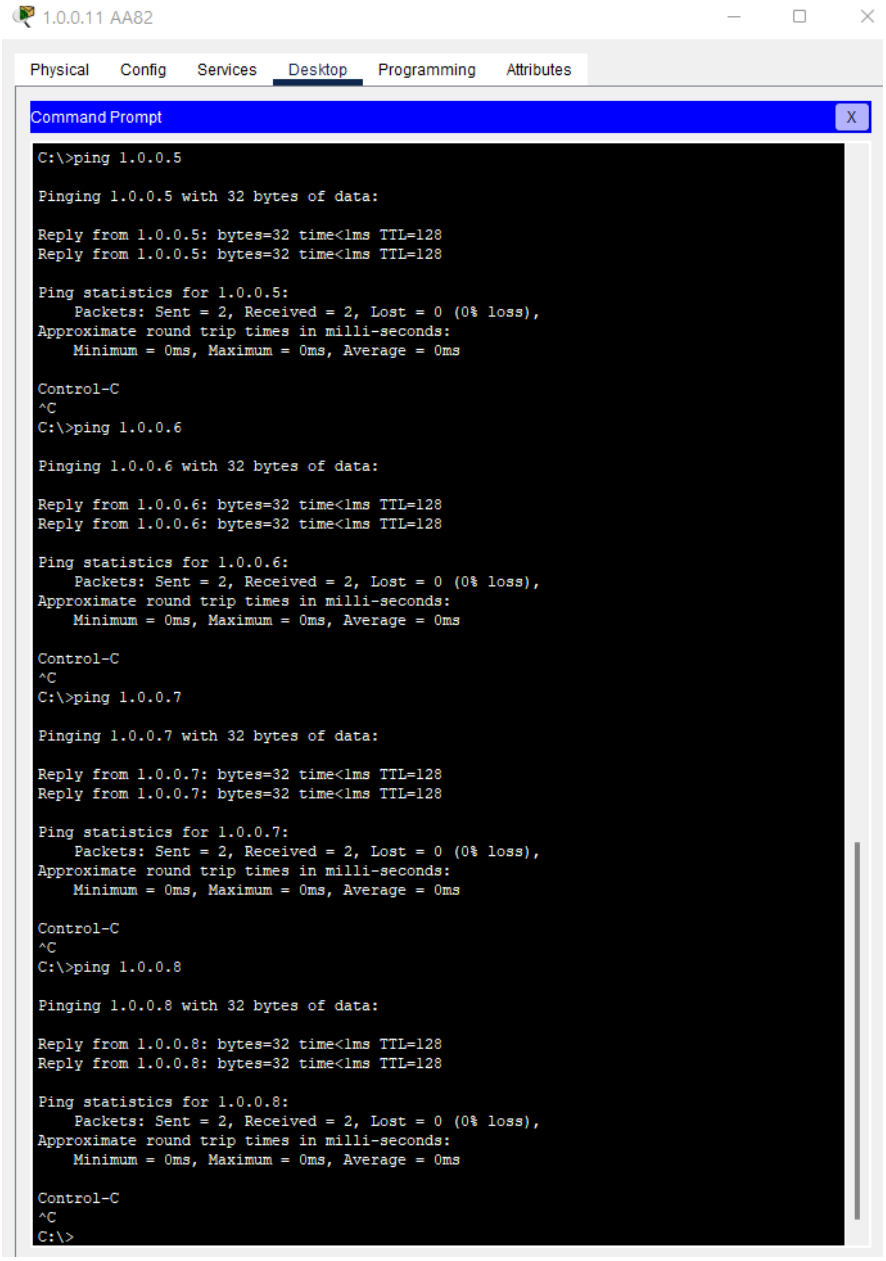
8. Вся сеть теперь готова к использованию. Дополнительно проверяю доступность командой Ping с сервера 1.0.0.11 до всех устройств в сети.

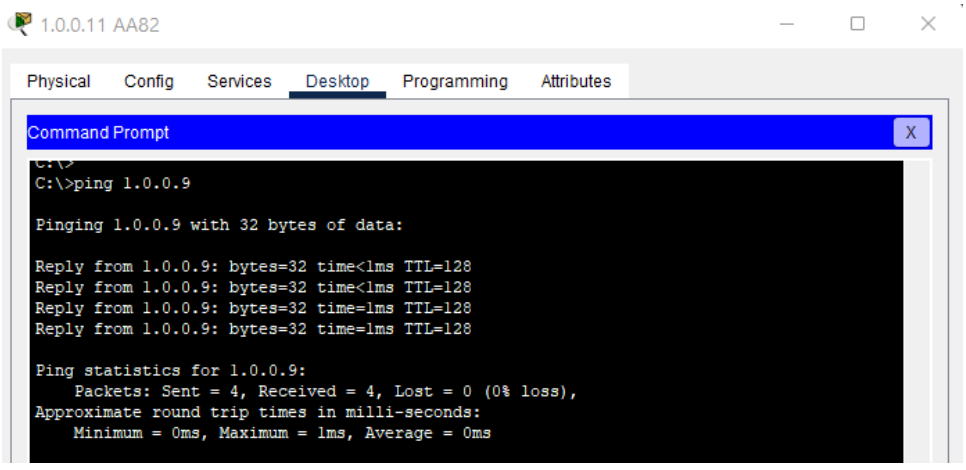
1) Между серверами 1.0.0.11 и 1.0.0.10:



2) до всех остальных по очереди:

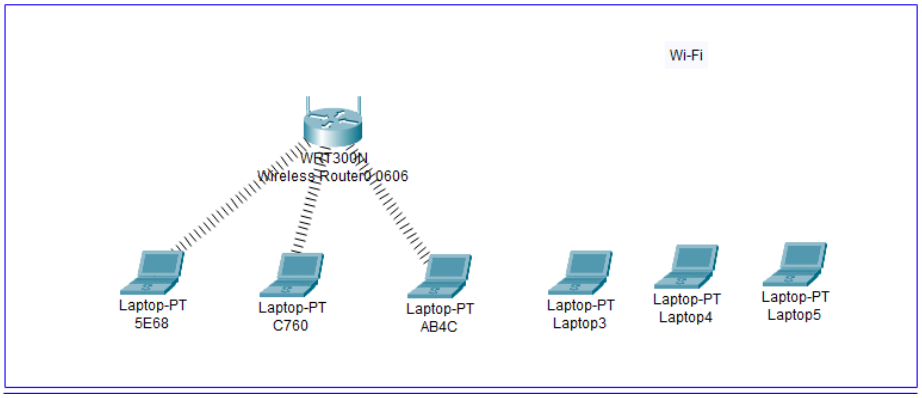



1.0.0.11 AA82
Physical
Config
Services
Desktop
Programming
Attributes
Command Prompt
X
C:\>ping 1.0.0.5
Pinging 1.0.0.5 with 32 bytes of data:
Reply from 1.0.0.5: bytes=32 time<1ms TTL=128
Reply from 1.0.0.5: bytes=32 time<1ms TTL=128
Ping statistics for 1.0.0.5:
Packets: Sent = 2, Received = 2, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
Control-C
^C
C:\>ping 1.0.0.6
Pinging 1.0.0.6 with 32 bytes of data:
Reply from 1.0.0.6: bytes=32 time<1ms TTL=128
Reply from 1.0.0.6: bytes=32 time<1ms TTL=128
Ping statistics for 1.0.0.6:
Packets: Sent = 2, Received = 2, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
Control-C
^C
C:\>ping 1.0.0.7
Pinging 1.0.0.7 with 32 bytes of data:
Reply from 1.0.0.7: bytes=32 time<1ms TTL=128
Reply from 1.0.0.7: bytes=32 time<1ms TTL=128
Ping statistics for 1.0.0.7:
Packets: Sent = 2, Received = 2, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
Control-C
^C
C:\>ping 1.0.0.8
Pinging 1.0.0.8 with 32 bytes of data:
Reply from 1.0.0.8: bytes=32 time<1ms TTL=128
Reply from 1.0.0.8: bytes=32 time<1ms TTL=128
Ping statistics for 1.0.0.8:
Packets: Sent = 2, Received = 2, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
Control-C
^C
C:\>

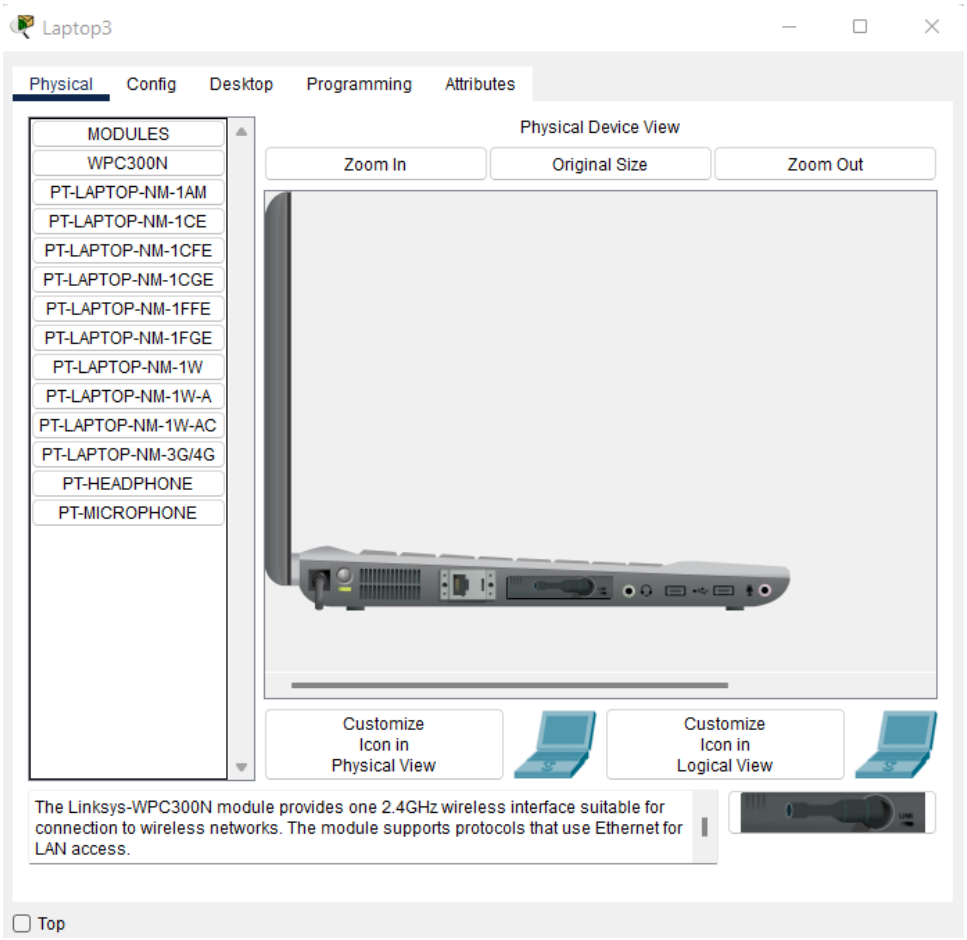

1.0.0.11 AA82
Physical
Config
Services
Desktop
Programming
Attributes
Command Prompt
X
C:\>ping 1.0.0.9
Pinging 1.0.0.9 with 32 bytes of data:
Reply from 1.0.0.9: bytes=32 time<1ms TTL=128
Reply from 1.0.0.9: bytes=32 time<1ms TTL=128
Reply from 1.0.0.9: bytes=32 time=1ms TTL=128
Reply from 1.0.0.9: bytes=32 time=1ms TTL=128
Ping statistics for 1.0.0.9:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms

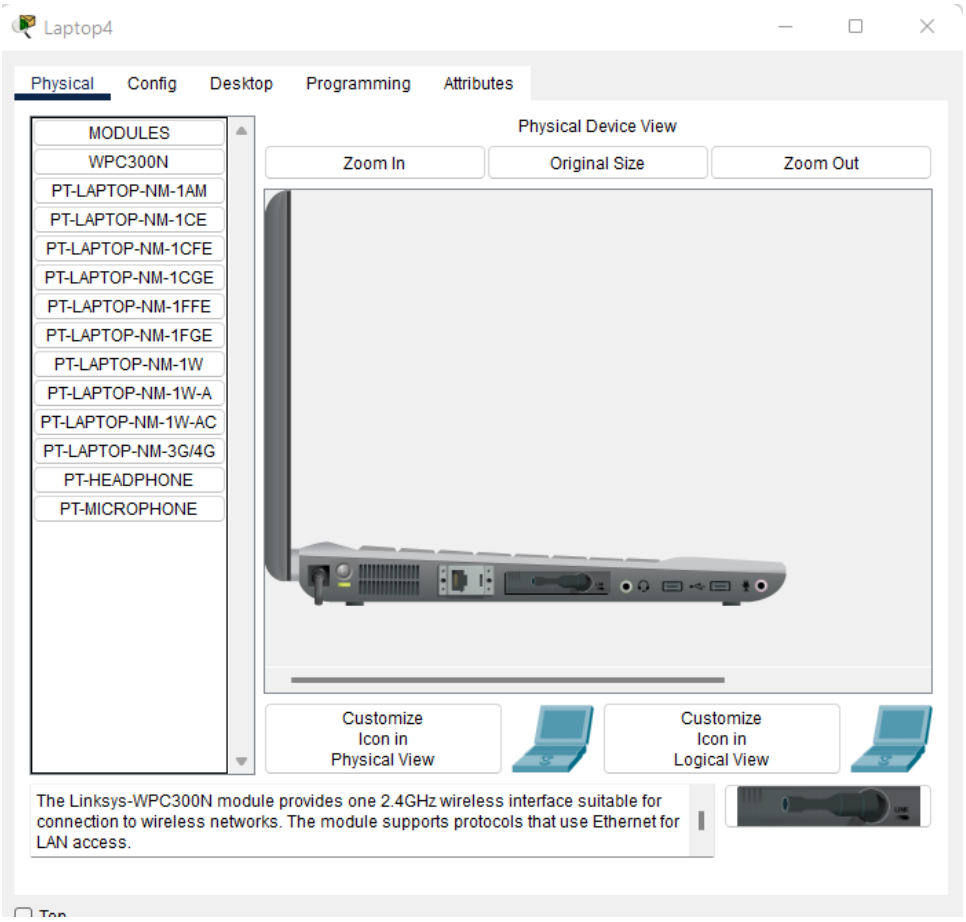
9. Теперь по схеме с Wi-Fi. Для подключения Laptop’ов r Wireless Router 0606, заменим сетевые карты для подключения кабелем на карты с Wi-Fi (отключаю ноутбук, удаляю карту LAN, ставлю карту с Wi-Fi, включаю). Сетевая получает настройки от роутера автоматически по DHCP, проверяю пингом каждый подключенный таким образом Laptop.

Изначальная схема:

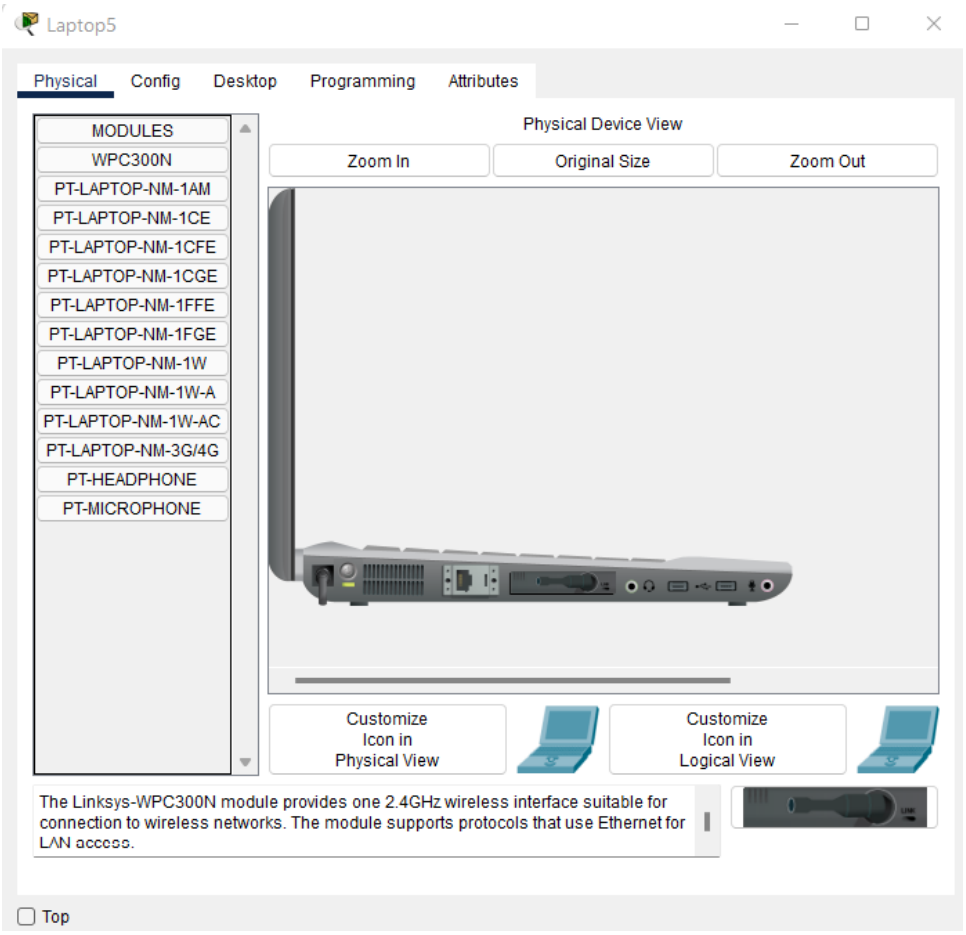


Добавляю Wi-Fi сетевую карту на Laptop’ы:

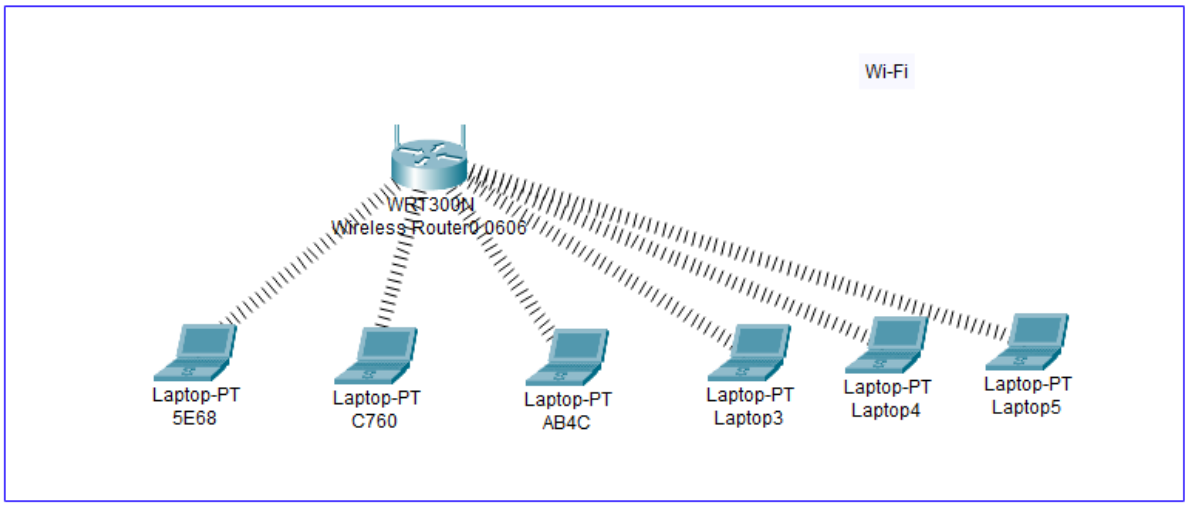




Laptop 5 достаточно было просто включить, сетевая карта с Wi-Fi в нем уже установлена.



Все “поднялось”:



Проверяю:


Laptop5
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.0.101
Pinging 192.168.0.101 with 32 bytes of data:
Reply from 192.168.0.101: bytes=32 time=27ms TTL=128
Reply from 192.168.0.101: bytes=32 time=23ms TTL=128
Ping statistics for 192.168.0.101:
Packets: Sent = 2, Received = 2, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 23ms, Maximum = 27ms, Average = 25ms
Control-C
^C
C:\>ping 192.168.0.102
Pinging 192.168.0.102 with 32 bytes of data:
Reply from 192.168.0.102: bytes=32 time=44ms TTL=128
Reply from 192.168.0.102: bytes=32 time=20ms TTL=128
Reply from 192.168.0.102: bytes=32 time=19ms TTL=128
Ping statistics for 192.168.0.102:
Packets: Sent = 3, Received = 3, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 19ms, Maximum = 44ms, Average = 27ms
Control-C
^C
C:\>ping 192.168.0.103
Pinging 192.168.0.103 with 32 bytes of data:
Reply from 192.168.0.103: bytes=32 time=54ms TTL=128
Reply from 192.168.0.103: bytes=32 time=25ms TTL=128
Ping statistics for 192.168.0.103:
Packets: Sent = 2, Received = 2, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 25ms, Maximum = 54ms, Average = 39ms
Control-C
^C
C:\>ping 192.168.0.104
Pinging 192.168.0.104 with 32 bytes of data:
Reply from 192.168.0.104: bytes=32 time=52ms TTL=128
Reply from 192.168.0.104: bytes=32 time=18ms TTL=128
Ping statistics for 192.168.0.104:
Packets: Sent = 2, Received = 2, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 18ms, Maximum = 52ms, Average = 35ms