Выполнила: Федотова Дарина

Практическая работа 30 – Агрегирование каналов

1. Строю сеть

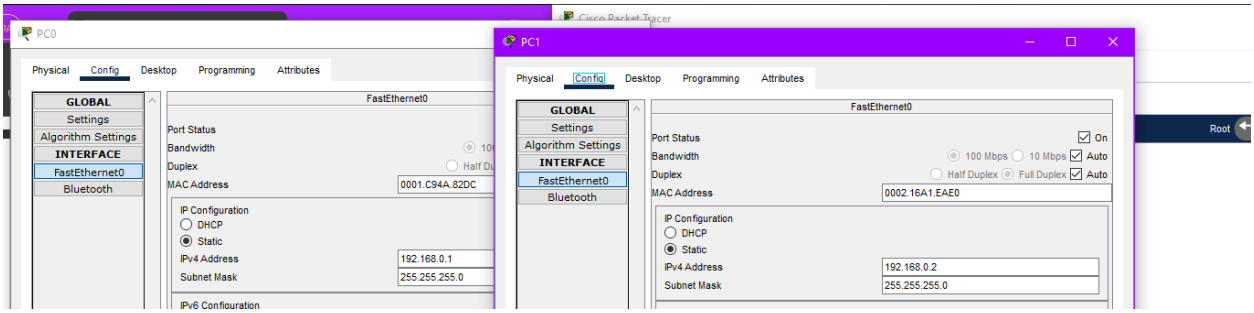
2. Конфигурирую Switch0

```
Switch>
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#int range fa0/1-2
Switch(config-if-range)#channel-group 1 mode ?
  active     Enable LACP unconditionally
  auto       Enable PAgP only if a PAgP device is detected
  desirable  Enable PAgP unconditionally
  on         Enable Etherchannel only
  passive    Enable LACP only if a LACP device is detected
Switch(config-if-range)#channel-group 1 mode on
Switch(config-if-range)#
Creating a port-channel interface Port-channel 1

%LINK-5-CHANGED: Interface Port-channel1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Port-channel1, changed state to up

Switch(config-if-range)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#wr memory
Building configuration...
[OK]
Switch#
Switch#
```

2. Конфигурирую Switch1

```
Switch>
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#int range fa0/1-2
Switch(config-if-range)#channel-group 1 mode on
Switch(config-if-range)#
Creating a port-channel interface Port-channel 1

%LINK-5-CHANGED: Interface Port-channel1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Port-channel1, changed state to up

Switch(config-if-range)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#wr memory
Building configuration...
[OK]
Switch#
Switch#
```

3. Задаю адреса пк



4. Пингую

```
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 = 1ms, Average = 0ms

C:\>
```

5. Отключаю один кабель

Switch0

```
Switch#
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#
Switch(config)#interface fa0/2
Switch(config-if)#shutdown

Switch(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to administratively down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to down

Switch(config-if)#ex
Switch(config)#ex
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#wr mamory
              ^
% Invalid input detected at '^' marker.

Switch#
Switch#wr memory
Building configuration...
[OK]
Switch#
```

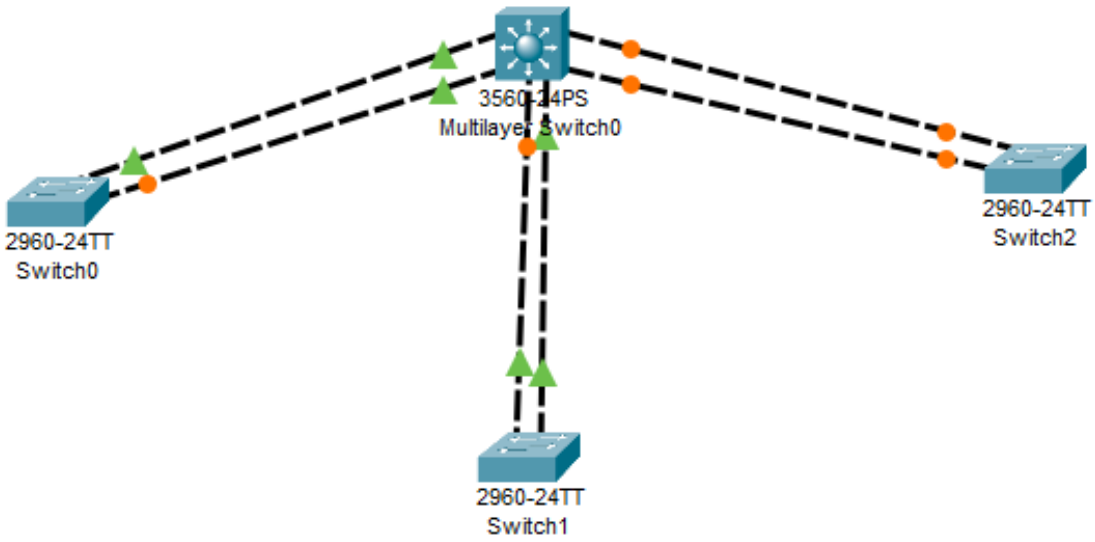
6. Пингую

```
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 = 1ms, Average = 0ms

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=2ms 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 = 2ms, Average = 0ms
```

Основное отличие во времени передачи пакетов, с двойным соединением передача происходит быстрее

ДИНАМИЧЕСКОЕ АГРЕГИРОВАНИЕ КАНАЛОВ (LACP)

7. Строю сеть

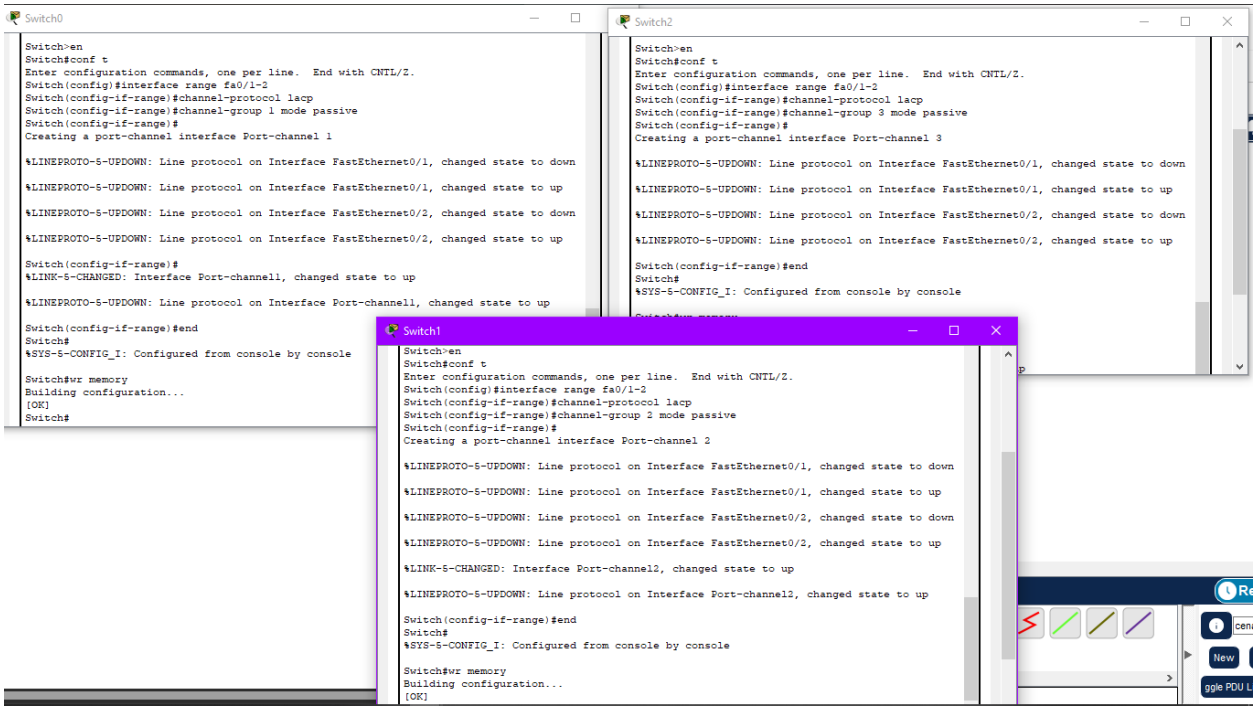


8. Прописываю код для коммутатора 3560

```
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface range fa0/1-2
Switch(config-if-range)#channel-protocol lacp
Switch(config-if-range)#channel-group 1 mode active
Switch(config-if-range)#
Creating a port-channel interface Port-channel 1

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up

Switch(config-if-range)#
Switch(config-if-range)#interface range fa0/3-4
Switch(config-if-range)#channel-protocol lacp
Switch(config-if-range)#channel-group 2 mode active
Switch(config-if-range)#
Creating a port-channel interface Port-channel 2

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up

Switch(config-if-range)#interface range fa0/5-6
Switch(config-if-range)#channel-protocol lacp
Switch(config-if-range)#channel-group 3 mode active
Switch(config-if-range)#
Creating a port-channel interface Port-channel 3
```

```
Switch(config-if-range)#
Creating a port-channel interface Port-channel 3

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/6, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/6, changed state to up

Switch(config-if-range)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#wr memory
Building configuration...
[OK]
Switch#
```

9. Теперь для Switch 2960 0-2



10. Подключаем ПК и пингуем