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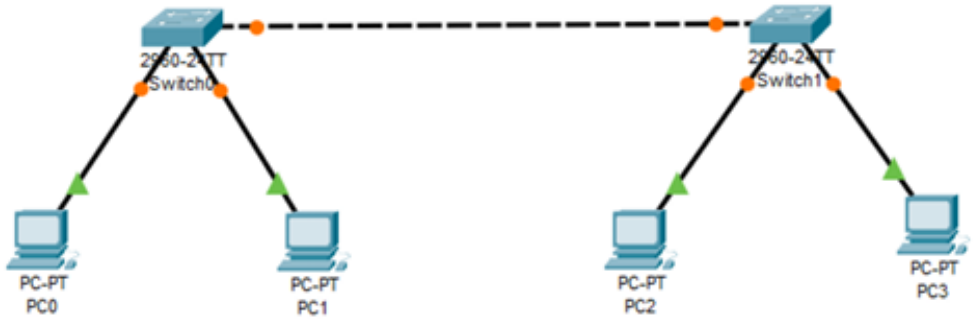
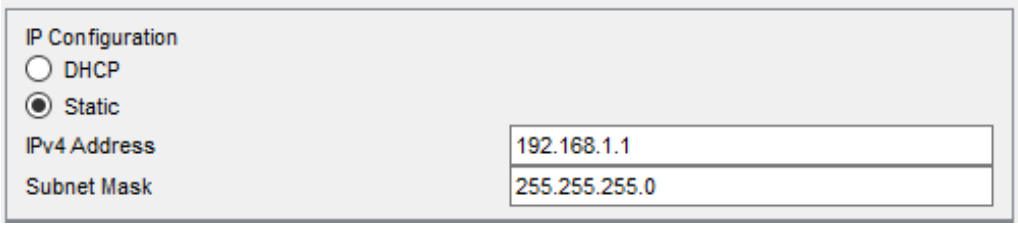
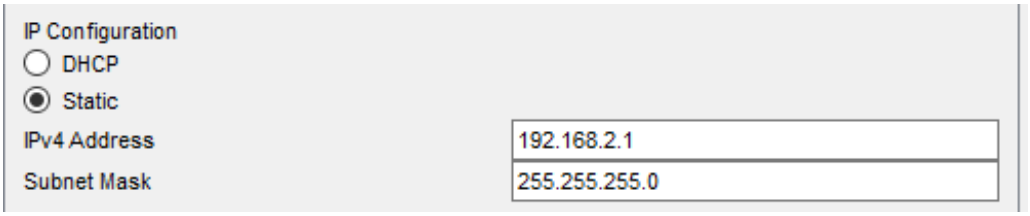
Практическая работа 26 – Связываем VLAN с помощью роутера

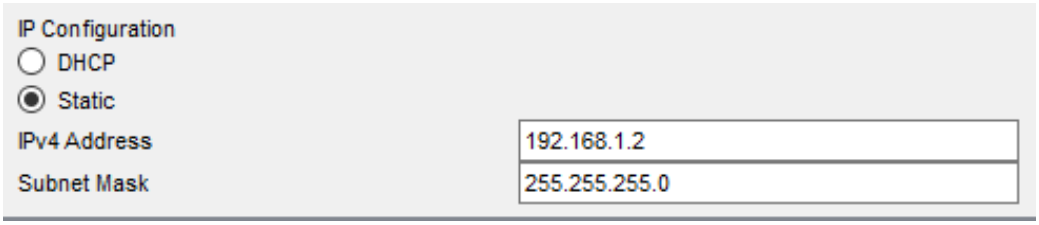
1. Строю сеть

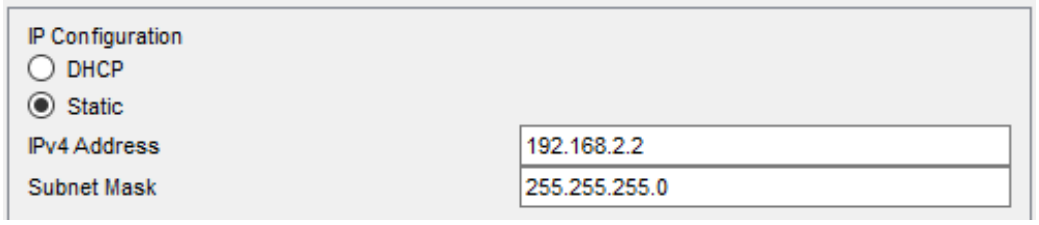


2. Настраиваю ip для каждого пк









3. Конфигурация 0 и 1 свитча (код идентичен)

```
Switch>
Switch>
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#int fa0/1
Switch(config-if)#sw ac vl 10
% Access VLAN does not exist. Creating vlan 10
Switch(config-if)#no sh
Switch(config-if)#int fa0/2
Switch(config-if)#sw ac vl 20
% Access VLAN does not exist. Creating vlan 20
Switch(config-if)#no sh
Switch(config-if)#ex
Switch(config)#
```

4. Прокладываю Trunk-порт (для 0 и 1 свитчей аналогично)

```
Switch#
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#
Switch(config)#int gi0/1
Switch(config-if)#sw mode trunk
Switch(config-if)#no sh
Switch(config-if)#ex
Switch(config)#
Switch(config)#
```

5. Пингую

```
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=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time=2ms TTL=128

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 = 2ms, Average = 0ms
```

6. Добавляю роутер и конфигурирую его

```
Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip ad 192.168.1.100
% Incomplete command.
Router(config-if)#ip ad 192.168.1.100 255.255.255.0
Router(config-if)#no sh
Router(config-if)#int fa1/0
Router(config-if)#ip ad 192.168.2.100 255.255.255.0
Router(config-if)#no sh
Router(config-if)#
Router(config-if)#
```

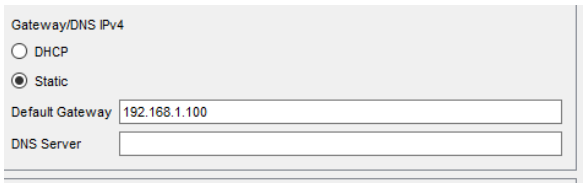
7. Конфигурирую свитчи 1 и 0 с роутером

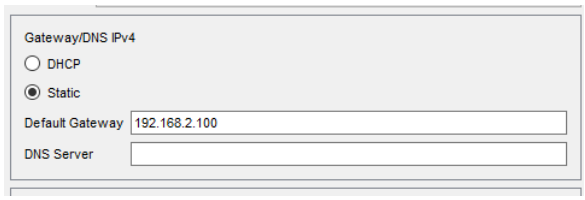
```
Switch>
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#int fa0/3
Switch(config-if)#sw ac vl 10
Switch(config-if)#no sh
Switch(config-if)#ex
Switch(config)#
```

```
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#int fo0/3
                   ^
% Invalid input detected at '^' marker.

Switch(config)#int fa0/3
Switch(config-if)#sw ac vl 20
Switch(config-if)#no sh
Switch(config-if)#ex
Switch(config)#
```

8. Добавляю шлюзы





Задания:

9. Пингую с ПК0 в ПК3

```
C:\>ping 192.168.2.2

Pinging 192.168.2.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.2: bytes=32 time=1ms TTL=127
Reply from 192.168.2.2: bytes=32 time=1ms TTL=127
Reply from 192.168.2.2: bytes=32 time=1ms TTL=127

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms
```

10. Добавляю vlan30 с двумя устройствами