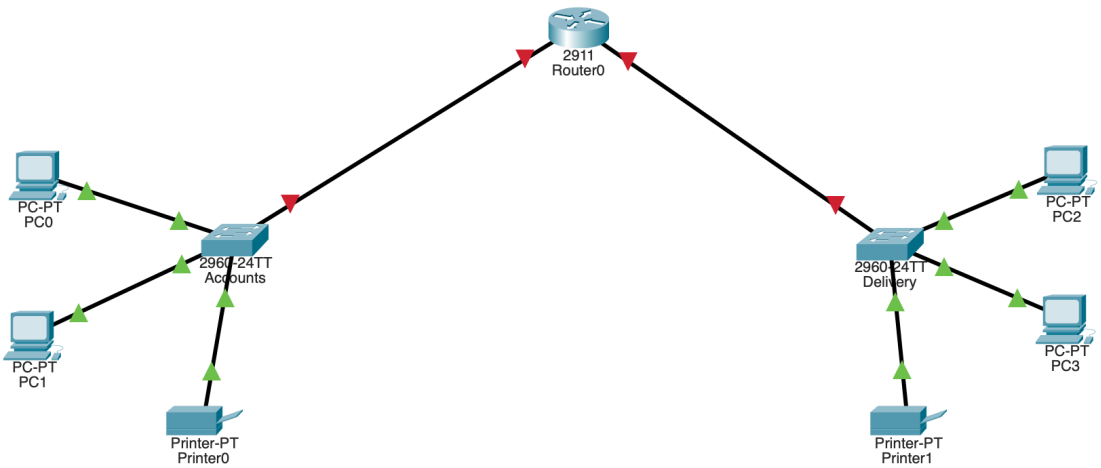
In this project I will be creating a simple network to connect the “Accounts” and “Delivery” departments.

We will need 1 Router and 2 Switches, one switch for each department.

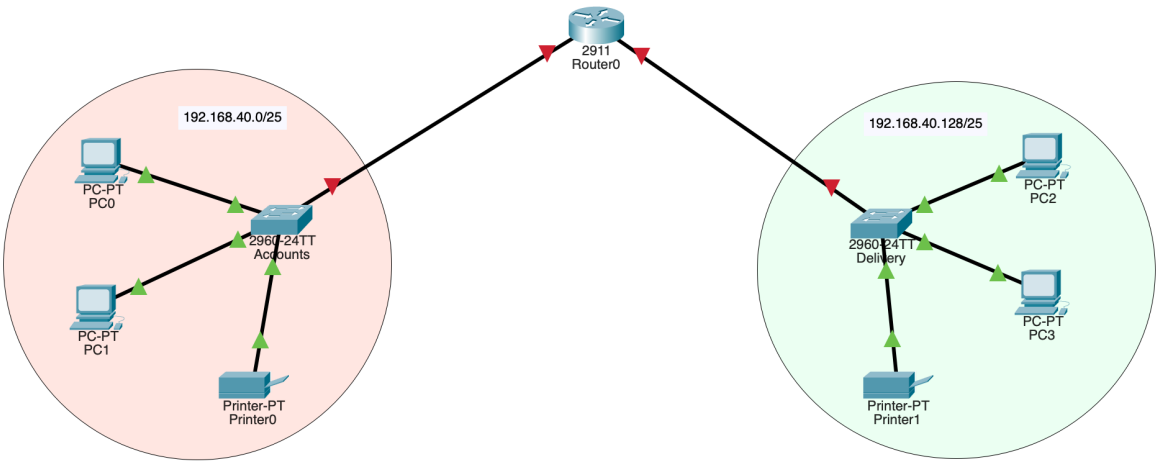
Each department will have 2 PCs and 1 Printer. After that we can then connect the devices with the appropriate cables.



Now given a Network of 192.168.40.0, we will create 2 subnets from this because we have 2 departments.

The first subnet mask will be 255.255.255.128 with a Network ID of 192.168.40.128 with a range of valid hosts from 192.168.40.1 - 192.168.40.126 and it will have a Broadcast ID of 192.168.40.127

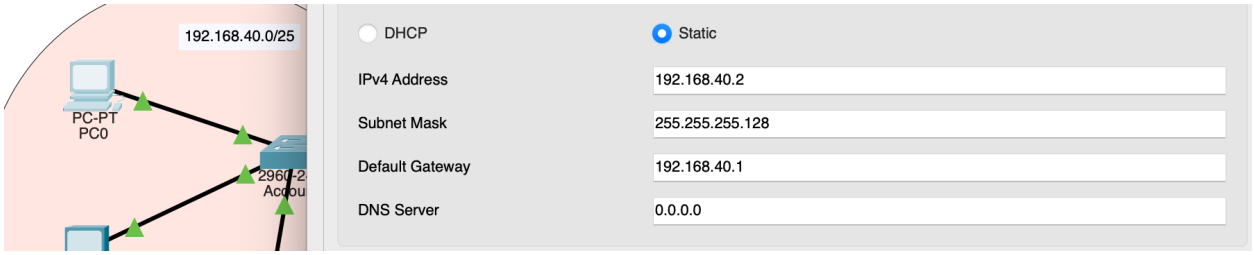
The second subnet mask will be 255.255.255.128 with a Network ID of 192.168.40.0 with a range of valid hosts from 192.168.40.129 - 192.168.40.254 and it will have a Broadcast ID of 192.168.40.255



Then we assign the Interface IPs from the Router to the Switches

```
interface GigabitEthernet0/0
 ip address 192.168.40.1 255.255.255.128
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 ip address 192.168.40.129 255.255.255.128
 duplex auto
 speed auto
```

Now we configure all the devices with appropriate IPs and test the connections.



Testing 192.168.40.130(computer - PC2) to see if we can ping 192.168.40.2 (computer - PC0)

```
Pinging 192.168.40.130 with 32 bytes of data:

Reply from 192.168.40.130: bytes=32 time<1ms TTL=127
Reply from 192.168.40.130: bytes=32 time<1ms TTL=127
Reply from 192.168.40.130: bytes=32 time=20ms TTL=127
Reply from 192.168.40.130: bytes=32 time=2ms TTL=127

Ping statistics for 192.168.40.130:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 20ms, Average = 5ms
```

Testing 192.168.40.131(computer - PC3) to see if we can ping 192.168.40.4 (printer - Printer0)

```
Pinging 192.168.40.4 with 32 bytes of data:

Request timed out.
Reply from 192.168.40.4: bytes=32 time=18ms TTL=127
Reply from 192.168.40.4: bytes=32 time=18ms TTL=127
Reply from 192.168.40.4: bytes=32 time=1ms TTL=127

Ping statistics for 192.168.40.4:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 18ms, Average = 12ms
```

Everything in our network seems to be connected and running well. Our network is now complete.