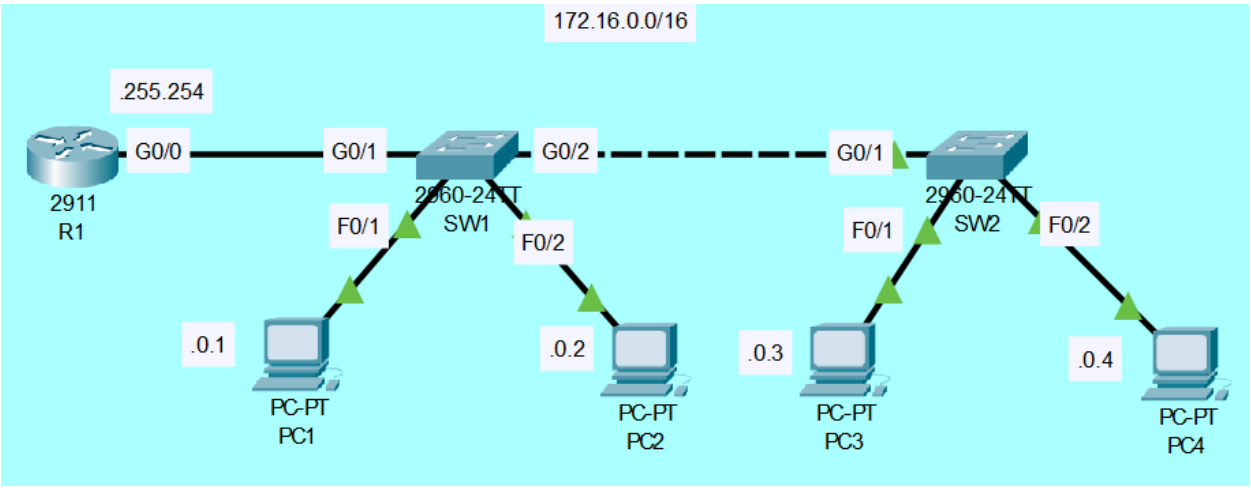
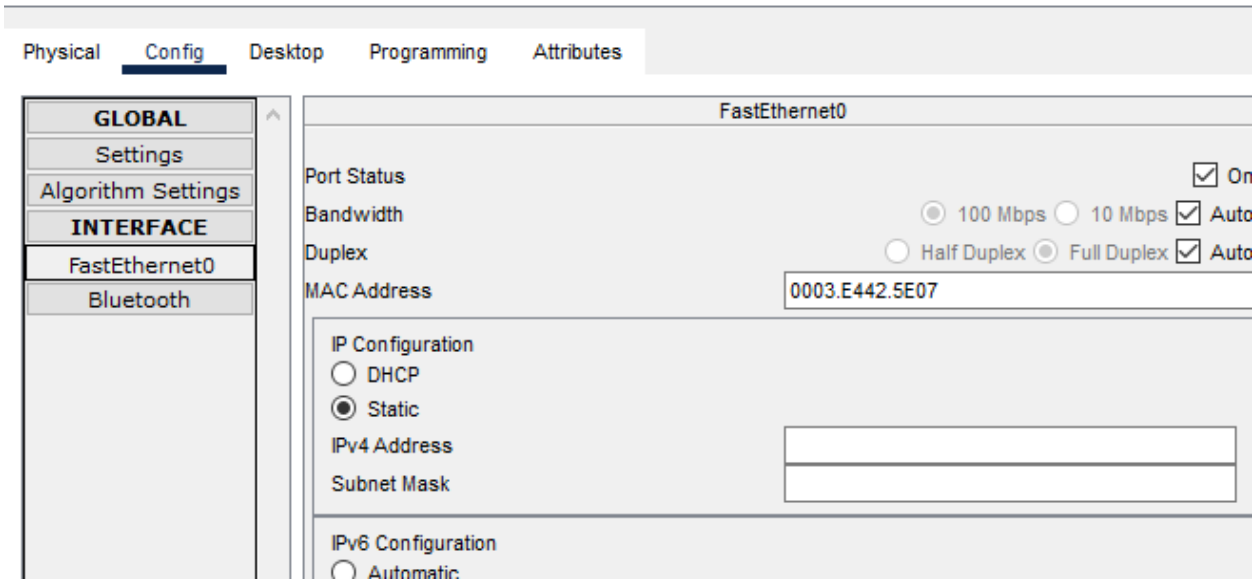


1. Lets configure the host names of the switch and the router
   SW1: #Hostname sw1
   SW2: #Hostname sw2
   R1: #hostname R1

2. Lets now configure the ip addresses on the router and all the computers

   To configure the ip addresses manually without dhcp you have to click on each pc and manually assign the ip address



   You would click on each and then type in the corresponding ip address (this is before DHCP)

   R1#Ip address 172.16.255.254 255.255.0.0
   R1#no shut

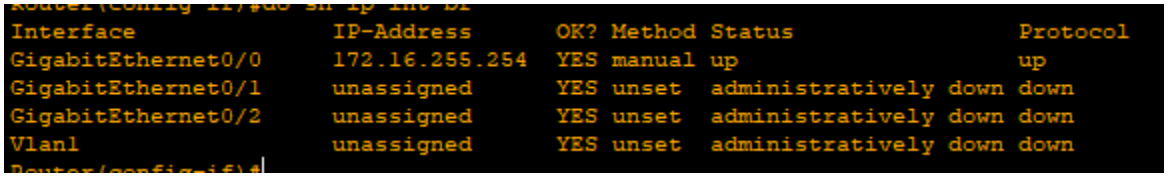
3. Lets manually configure the duplex settings on each interface connected to the other network devices

   Switches typically auto-negotiate speed settings based on the capabilities of the computer's NIC and the switch interface, aiming to operate at the highest compatible speed. However, a duplex mismatch can occur if one device is set to auto-negotiate and the other is manually set to full duplex.

   However to set the speed manually we can go into the switches and routers and configure the following:

   R1 Since we know its a gigabit ethernet link it will be operating at 1000mbs so:

   R1#int g0/0
   R1# speed 1000
   R1#duplex full
   Lets also set the description here as well to knock out step 4 and disable any interfaces that are not in use on step five
   R1#Description ##link to sw1##
   R1#do sh ip int br



   We can see that there is some ports that are currently unassigned so its best practice to go ahead and shut them off

   #int range gig0/0-0/2
   #shutdown
   #description not in use

Now let's check the switches

#SW1 #do show int status

```
Switch(config)#do show int status
Port      Name               Status       Vlan       Duplex  Speed Type
Fa0/1                        connected    1          auto    auto  10/100BaseTX
Fa0/2                        connected    1          auto    auto  10/100BaseTX
Fa0/3                        notconnect   1          auto    auto  10/100BaseTX
Fa0/4                        notconnect   1          auto    auto  10/100BaseTX
Fa0/5                        notconnect   1          auto    auto  10/100BaseTX
Fa0/6                        notconnect   1          auto    auto  10/100BaseTX
Fa0/7                        notconnect   1          auto    auto  10/100BaseTX
Fa0/8                        notconnect   1          auto    auto  10/100BaseTX
Fa0/9                        notconnect   1          auto    auto  10/100BaseTX
Fa0/10                       notconnect   1          auto    auto  10/100BaseTX
Fa0/11                       notconnect   1          auto    auto  10/100BaseTX
Fa0/12                       notconnect   1          auto    auto  10/100BaseTX
Fa0/13                       notconnect   1          auto    auto  10/100BaseTX
Fa0/14                       notconnect   1          auto    auto  10/100BaseTX
Fa0/15                       notconnect   1          auto    auto  10/100BaseTX
Fa0/16                       notconnect   1          auto    auto  10/100BaseTX
Fa0/17                       notconnect   1          auto    auto  10/100BaseTX
Fa0/18                       notconnect   1          auto    auto  10/100BaseTX
Fa0/19                       notconnect   1          auto    auto  10/100BaseTX
Fa0/20                       notconnect   1          auto    auto  10/100BaseTX
Fa0/21                       notconnect   1          auto    auto  10/100BaseTX
Fa0/22                       notconnect   1          auto    auto  10/100BaseTX
Fa0/23                       notconnect   1          auto    auto  10/100BaseTX
Fa0/24                       notconnect   1          auto    auto  10/100BaseTX
Gig0/1                       connected    1          auto    auto  10/100BaseTX
Gig0/2                       connected    1          auto    auto  10/100BaseTX
```

#int fa0/3-0/24
#desc not in use
#shutdown
#int gig0/1,0/2
#desc not in use
#shutdown

And now for the duplex settings,

SW1#int g0/1
SW1#speed 1000
SW1#duplex full
SW1#desc to R1
SW1#int g0/2
SW1#speed 1000
SW1#duplex full
SW1#desc to sw 2

And lastly for the SW2:

#int fa0/3-0/24
#desc not in use
#shutdown
#int gig0/1,0/2
#desc not in use
#shutdown

#int g0/1
#speed 1000
#duplex full
#desc connection to sw1

4. Configure descriptions on each interface

   See previous configuration

5. Lets now disable the interfaces that are not in use by the other switches

   See previous configruation

6. Save the configuration

   #do wr

   make sure to do this on devices so you can save the running configuration into the saved config