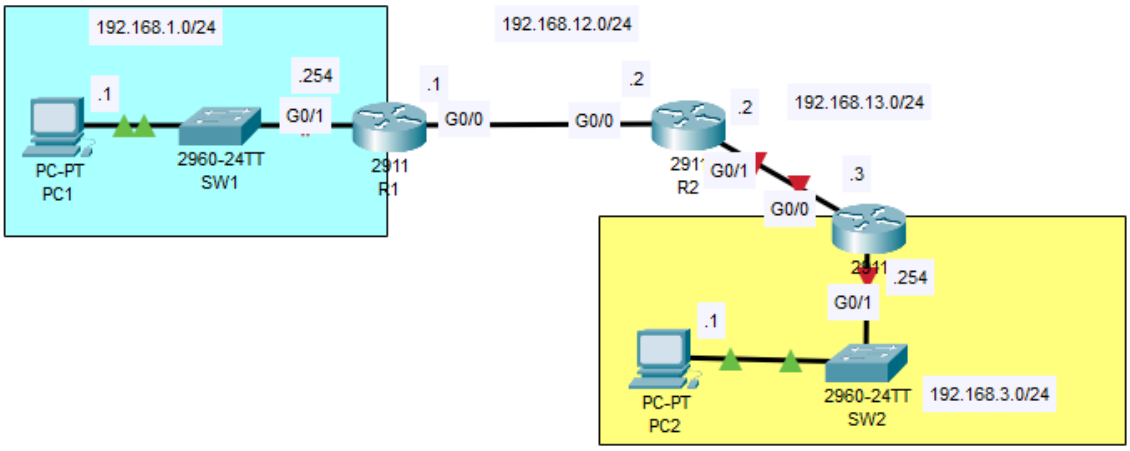

1. Configure the pcs and routers according to the network diagram (Hostname, ip addresses, etc, remember we have to manually configure the ip addresses and the default gateway we do not have to configure any switches in this lab)

The first step would be to configure the pcs with the default gateway of the router to reach out to the internet to communicate with each other. You would click on the pc and go to the interface setting and add 192.168.1.1 for pc1 and for the default gateway add 192.168.1.254 and for pc2 add the ip address 192.168.3.1 and for the default gateway 192.168.3.254

Now lets begin with router1:

R1#int g0/1
R1#ip address 192.168.1.254 255.255.255.0
R1#desc to pc1
R1#No shutdown
R1#int g0/0
R1#ip address 192.168.12.1 255.255.255.0
R1#to r2
R1#no shutdown

```
Router(config)#ip route ?
  A.B.C.D  Destination prefix
Router(config)#ip route 192.168.3.0 255.255.255.0 192.168.12.2
Router(config)#do sh ip int br
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     192.168.12.1    YES manual up                    up
GigabitEthernet0/1     192.168.1.254   YES manual up                    up
GigabitEthernet0/2     unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
```

Now lets begin with Router 2:

R2#int g0/0
R2#ip address 192.168.12.2 255.255.255.0
R2#desc to r1
R2#no shut
R2#int g0/1
R2#desc to r3
R2#ip address 192.168.13.2 255.255.255.0
R2#no shut

```
Router(config)#do sh ip int br
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     192.168.12.2    YES manual up                    up
GigabitEthernet0/1     192.168.13.2    YES manual up                    up
GigabitEthernet0/2     unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
Router(config)#
```

R3#int g0/0
R3#ip address 192.168.13.3 255.255.255.0
R3#desc to r2
R3#no shut
R3#INT G0/1
R3#ip address 1912.168.13.3 255.255.255.0
R3#desc to pc2
R3#no shut

```
Router(config)#do sh ip int br
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     192.168.13.3    YES manual up                    up
GigabitEthernet0/1     192.168.3.254   YES manual up                    up
GigabitEthernet0/2     unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
```

2. Configure the static routes on the routers to enable PC1 to successfully ping pc 2

R1#ip route 192.168.3.0 255.255.255.0 192.168.12.2

```
Gateway of last resort is not set

     192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.1.0/24 is directly connected, GigabitEthernet0/1
L       192.168.1.254/32 is directly connected, GigabitEthernet0/1
S    192.168.3.0/24 [1/0] via 192.168.12.2
     192.168.12.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.12.0/24 is directly connected, GigabitEthernet0/0
L       192.168.12.1/32 is directly connected, GigabitEthernet0/0
```

R2#ip route 192.168.1.0 255.255.255.0 192.168.12.1

R2#ip route 192.168.3.0 255.255.255.0 192.168.13.3

```
Gateway of last resort is not set

S    192.168.1.0/24 [1/0] via 192.168.12.1
S    192.168.3.0/24 [1/0] via 192.168.13.3
     192.168.12.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.12.0/24 is directly connected, GigabitEthernet0/0
L       192.168.12.2/32 is directly connected, GigabitEthernet0/0
     192.168.13.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.13.0/24 is directly connected, GigabitEthernet0/1
L       192.168.13.2/32 is directly connected, GigabitEthernet0/1
```

R3#ip route 192.168.1.0 255.255.255.0 192.168.13.2

```
S    192.168.1.0/24 [1/0] via 192.168.13.2
     192.168.3.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.3.0/24 is directly connected, GigabitEthernet0/1
L       192.168.3.254/32 is directly connected, GigabitEthernet0/1
     192.168.13.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.13.0/24 is directly connected, GigabitEthernet0/0
L       192.168.13.3/32 is directly connected, GigabitEthernet0/0
```

Now the pcs should be able to ping each other

```
C:\>ping 192.168.3.1

Pinging 192.168.3.1 with 32 bytes of data:

Reply from 192.168.3.1: bytes=32 time<1ms TTL=125
Reply from 192.168.3.1: bytes=32 time=1ms TTL=125
Reply from 192.168.3.1: bytes=32 time=10ms TTL=125
Reply from 192.168.3.1: bytes=32 time=1ms TTL=125

Ping statistics for 192.168.3.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 10ms, Average = 3ms
```