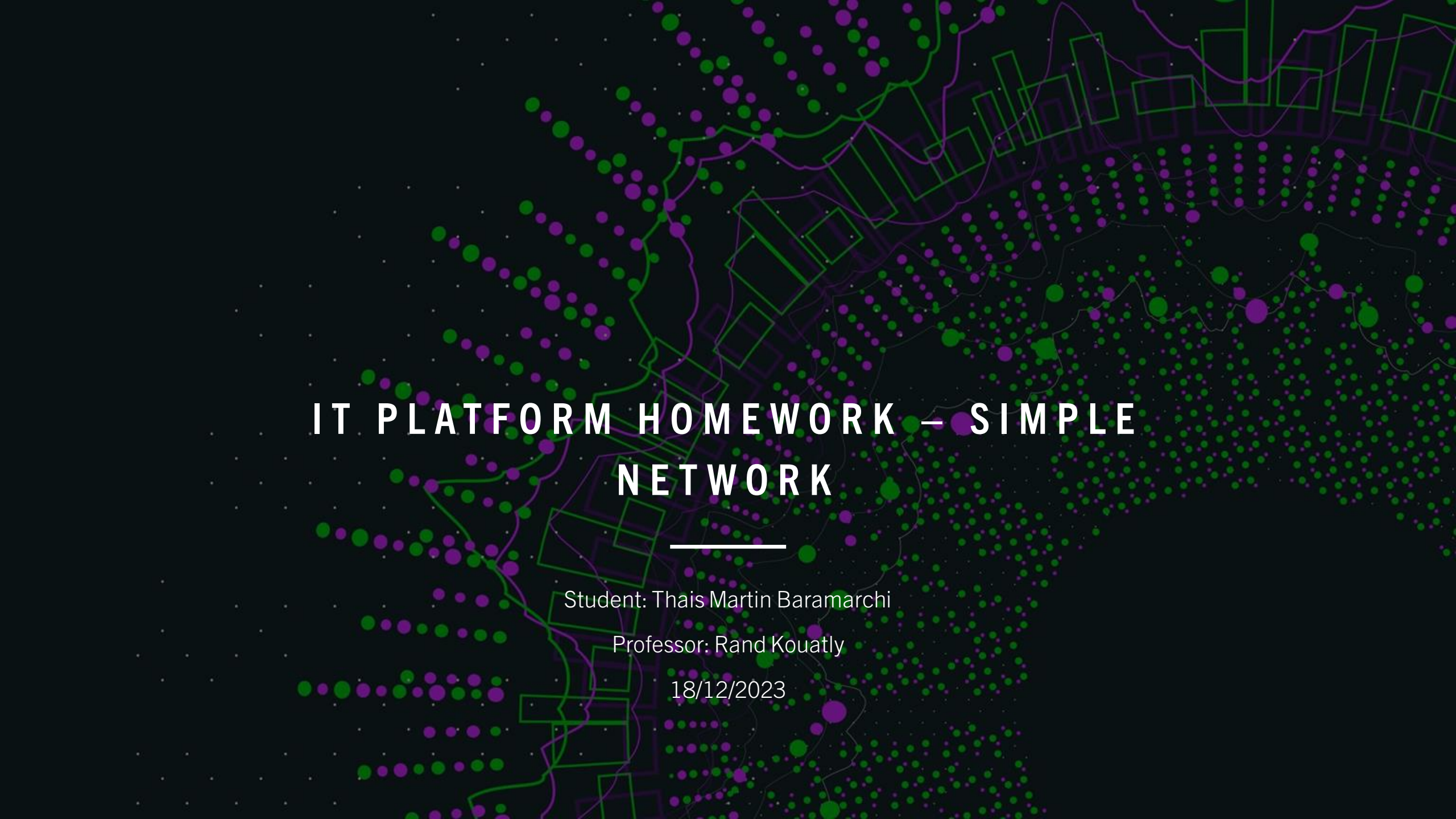

IT PLATFORM HOMEWORK – SIMPLE NETWORK

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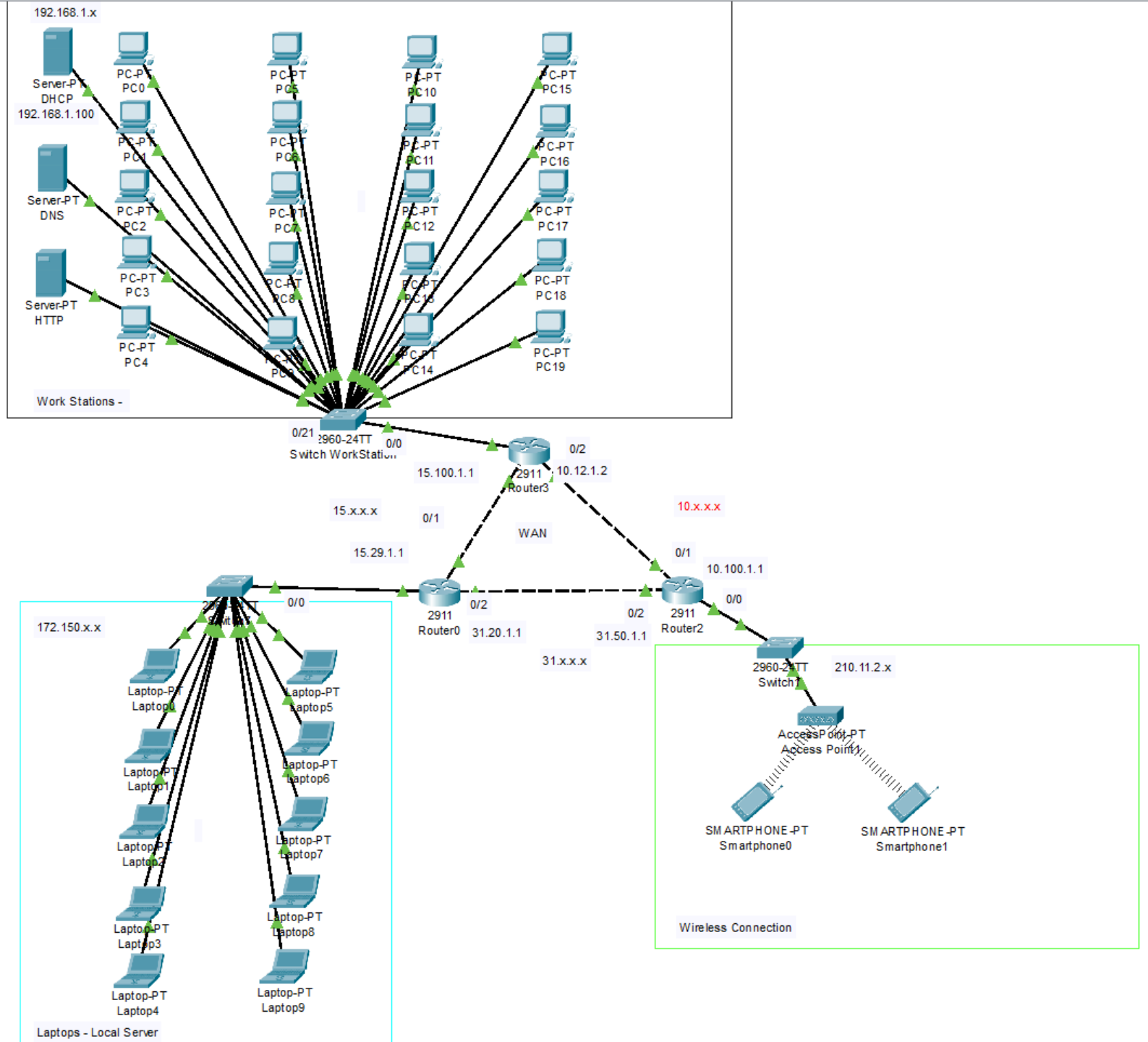
Professor: Rand Kouatly

18/12/2023



This is the full design of my network

I have used :

20 work stations;

3 servers;

3 routers;

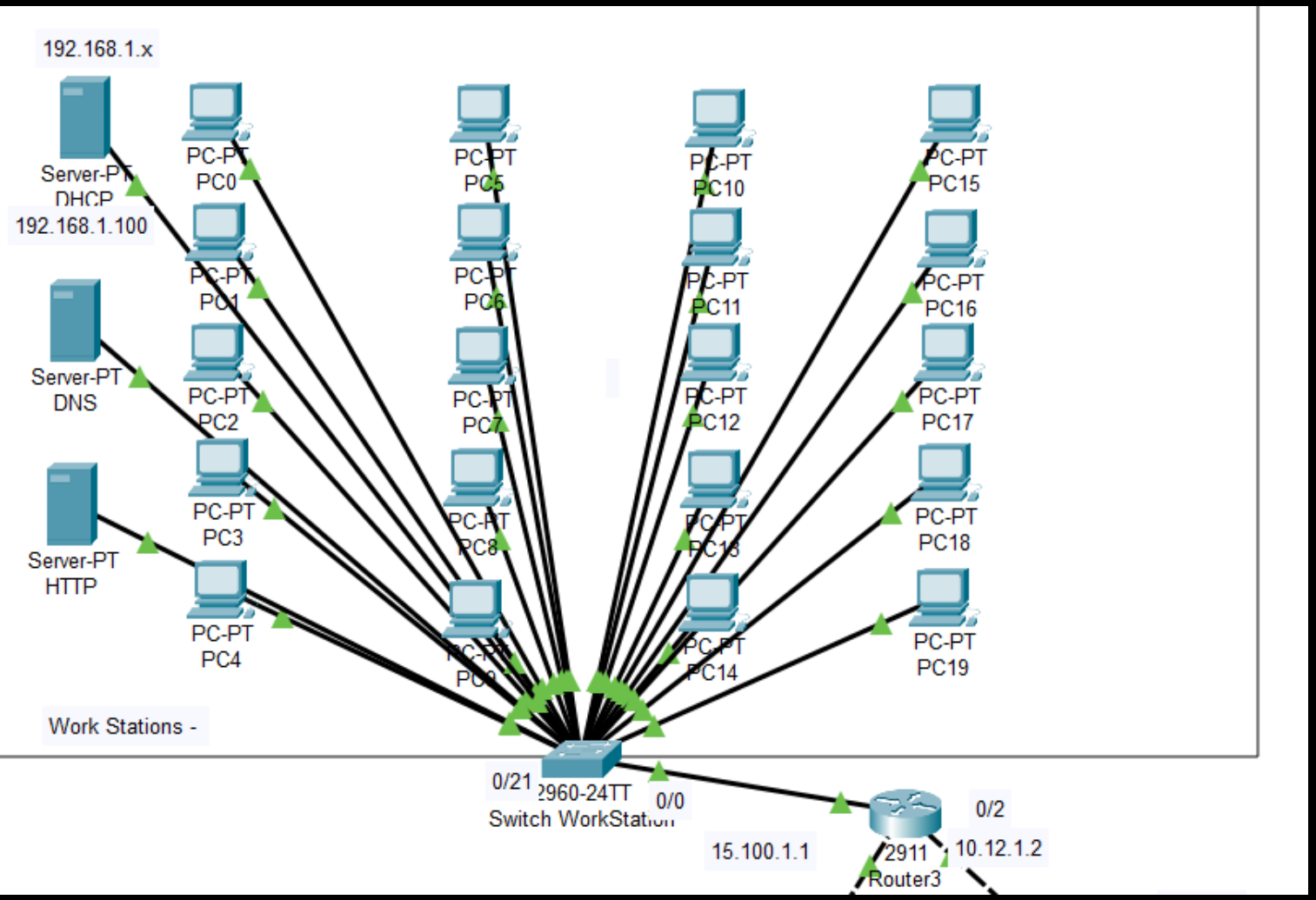
3 switches;

10 laptops;

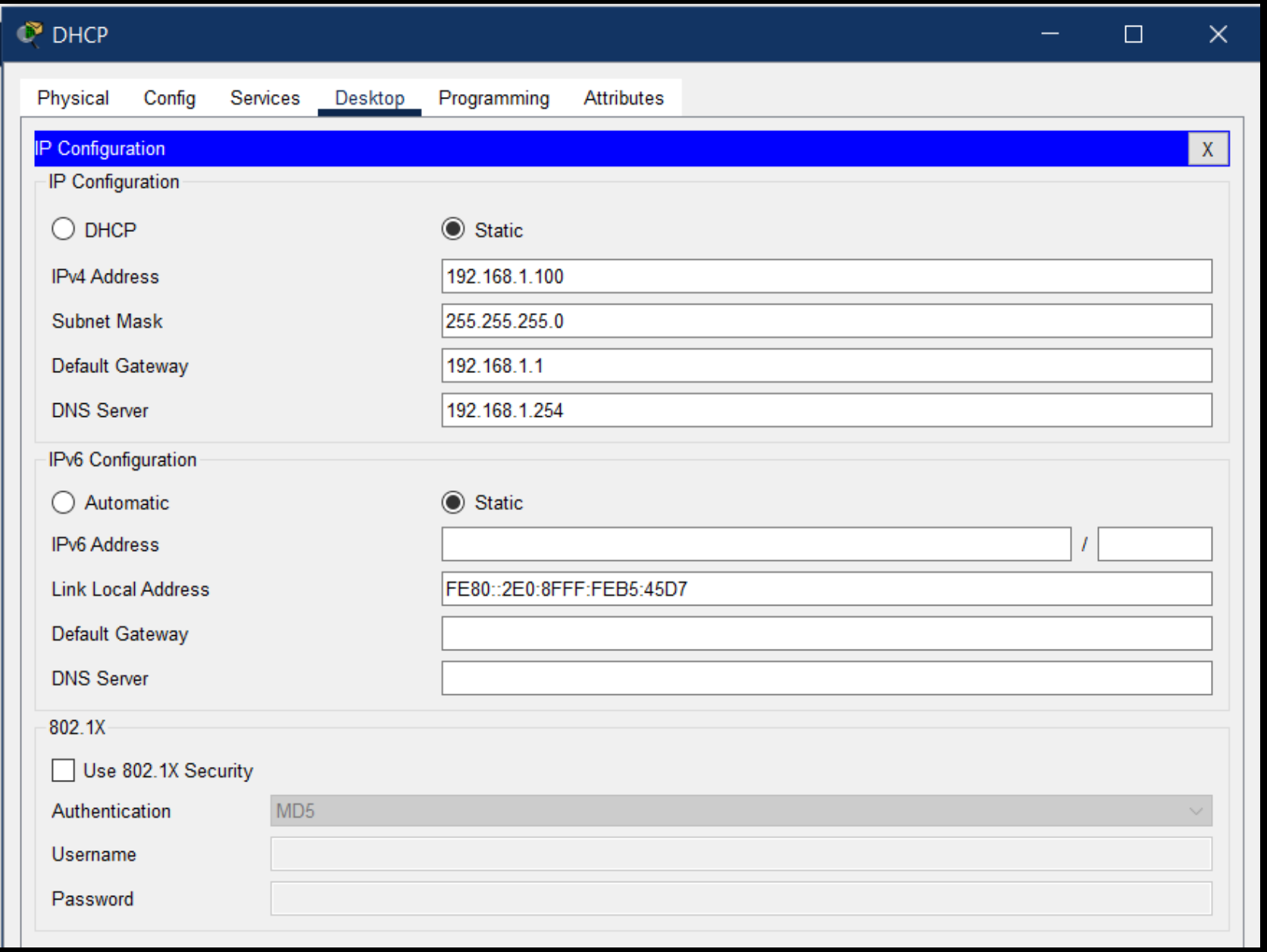
1 wireless access point;

2 smartphones.

Working Station Zone



- This is my main network
- I have the DHCP server, the DNS server and the HTTP server, I also have the Work Stations here
- I also have a switch connected to all of them with a straight copper cable and this switch is connected to Router 3
- This area has a type C IP – 192.168.1.x



Working Station Zone - DHCP

- This is the Ip configuration page of the DHCP
- The Ip adress of the DHCP server is 192.168.1.100

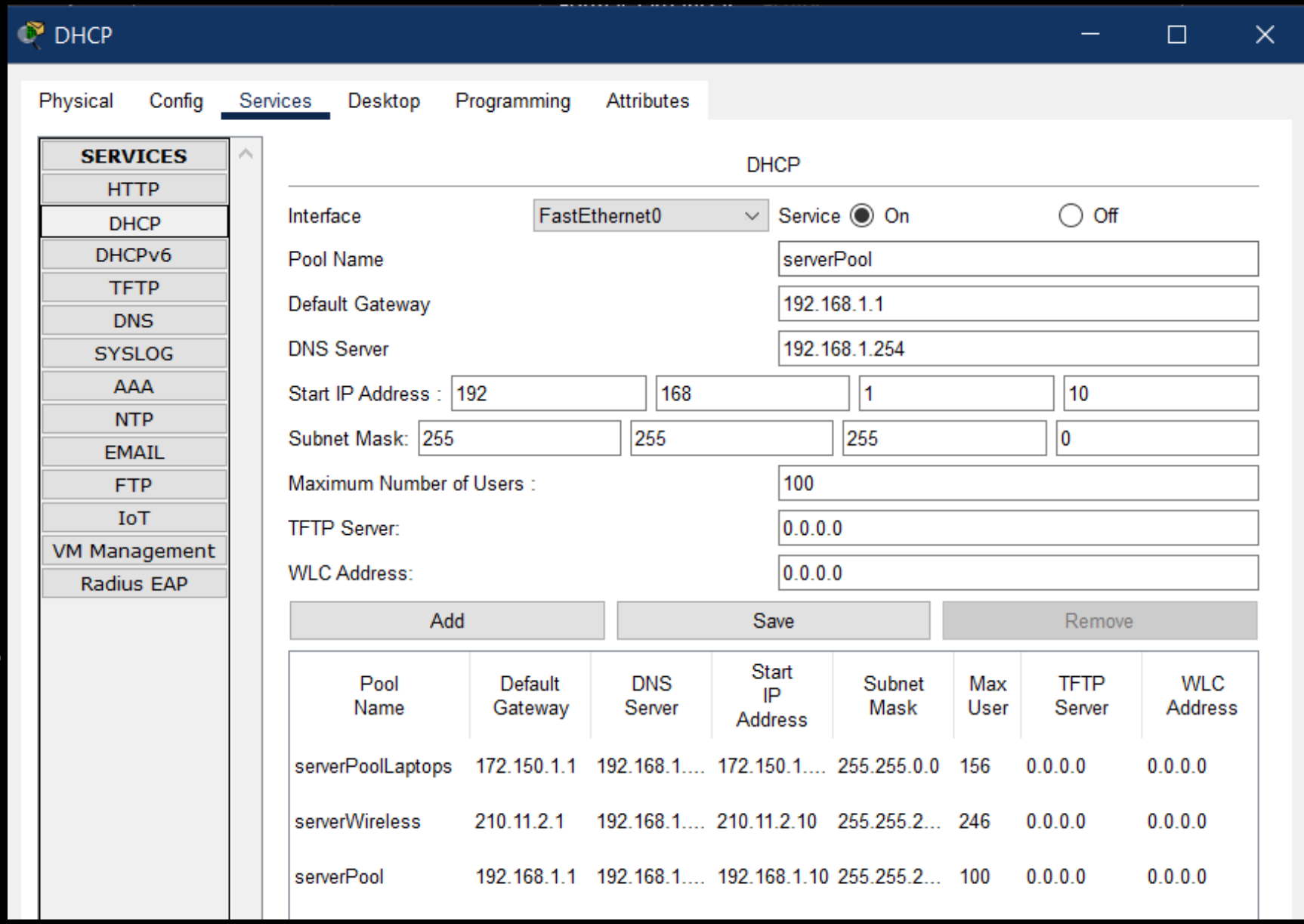
Working Station Zone - DHCP

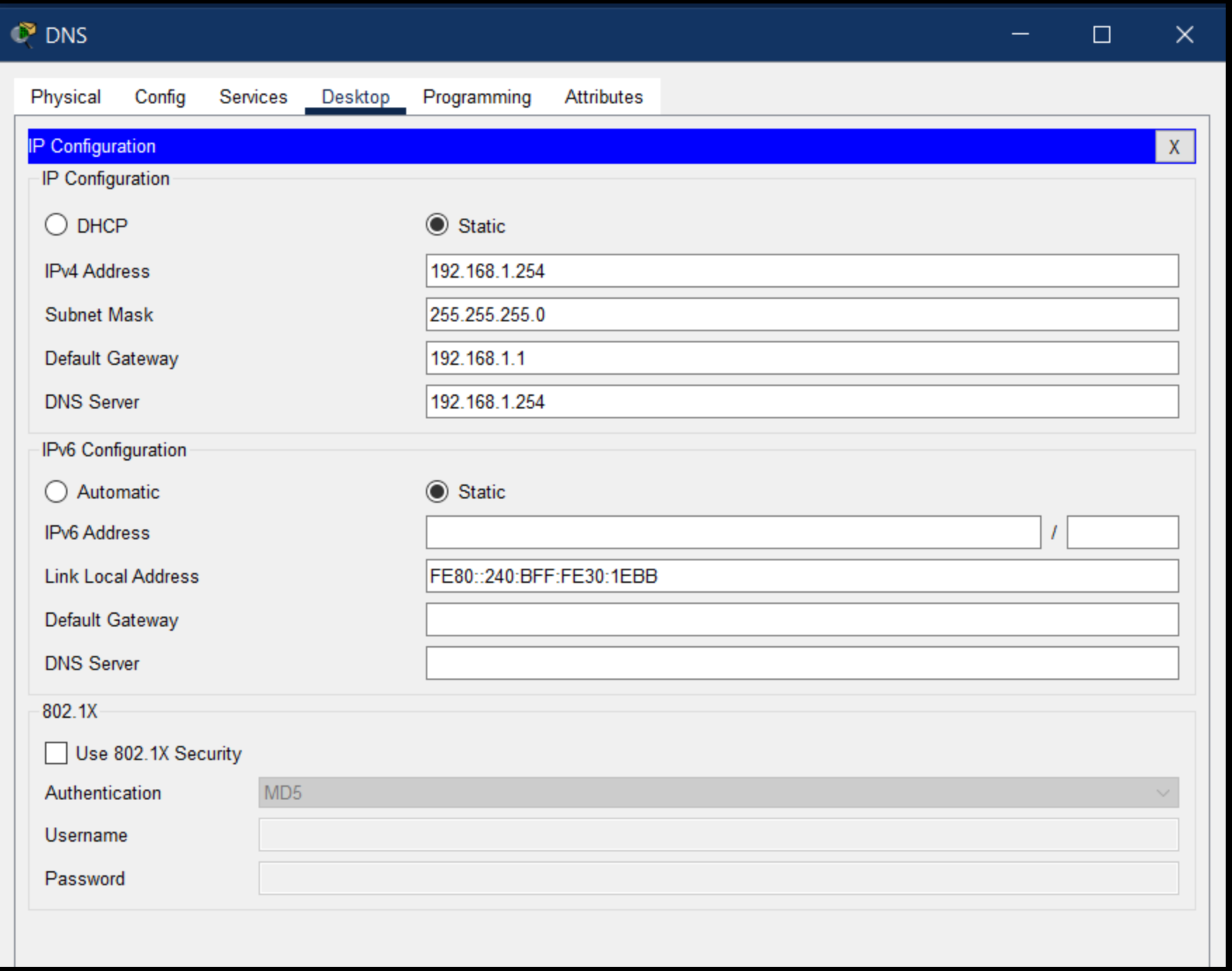
- These are the Configurations of my DHCP server;
- I added 3 Ip addresses, one for each square of my network:

  - serverPool -> 192.168.1.10 – C type Ip

  - serverPoolLaptops -> 172.150.1.1 – B type Ip

  - serverWireless -> 210.11.2.1 – C type Ip



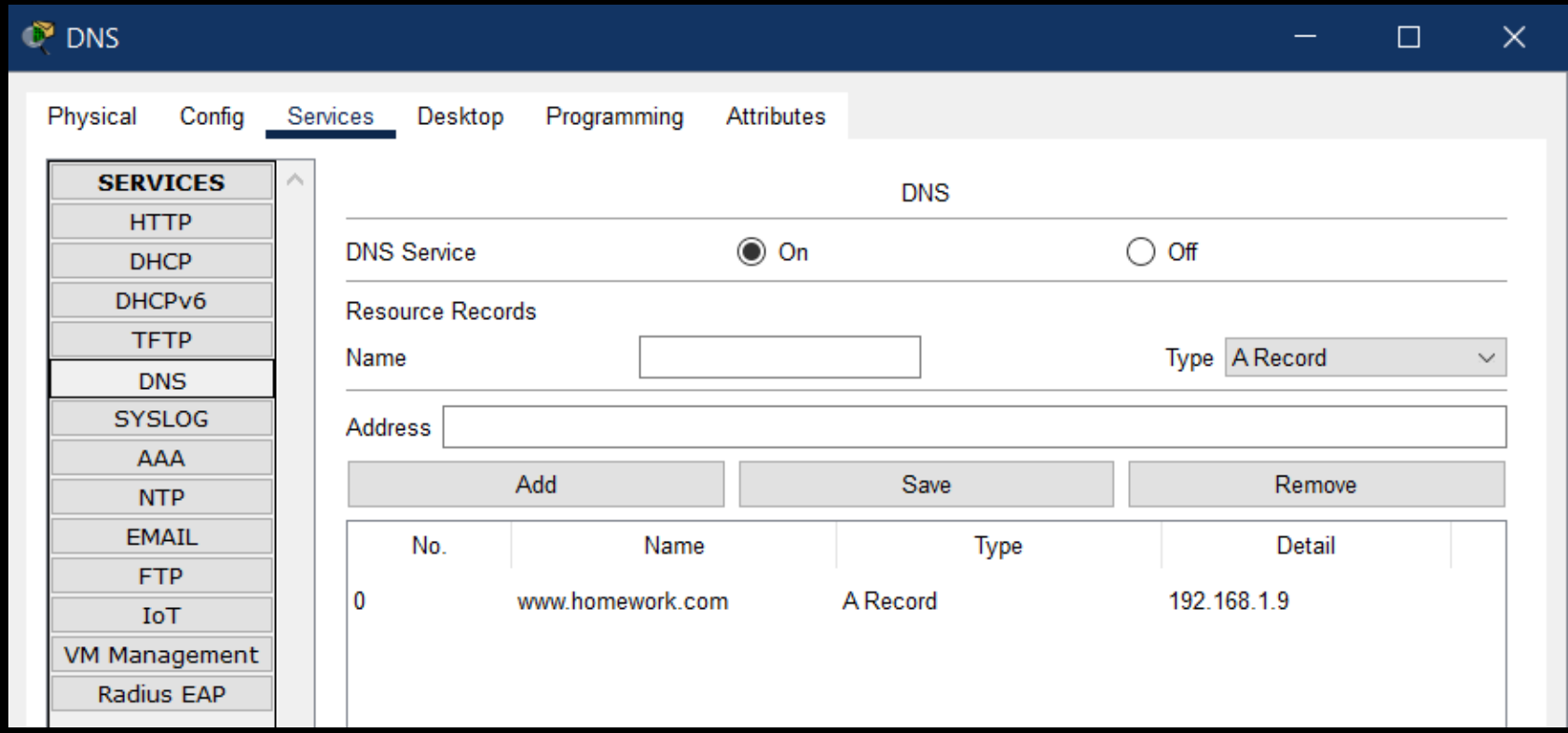


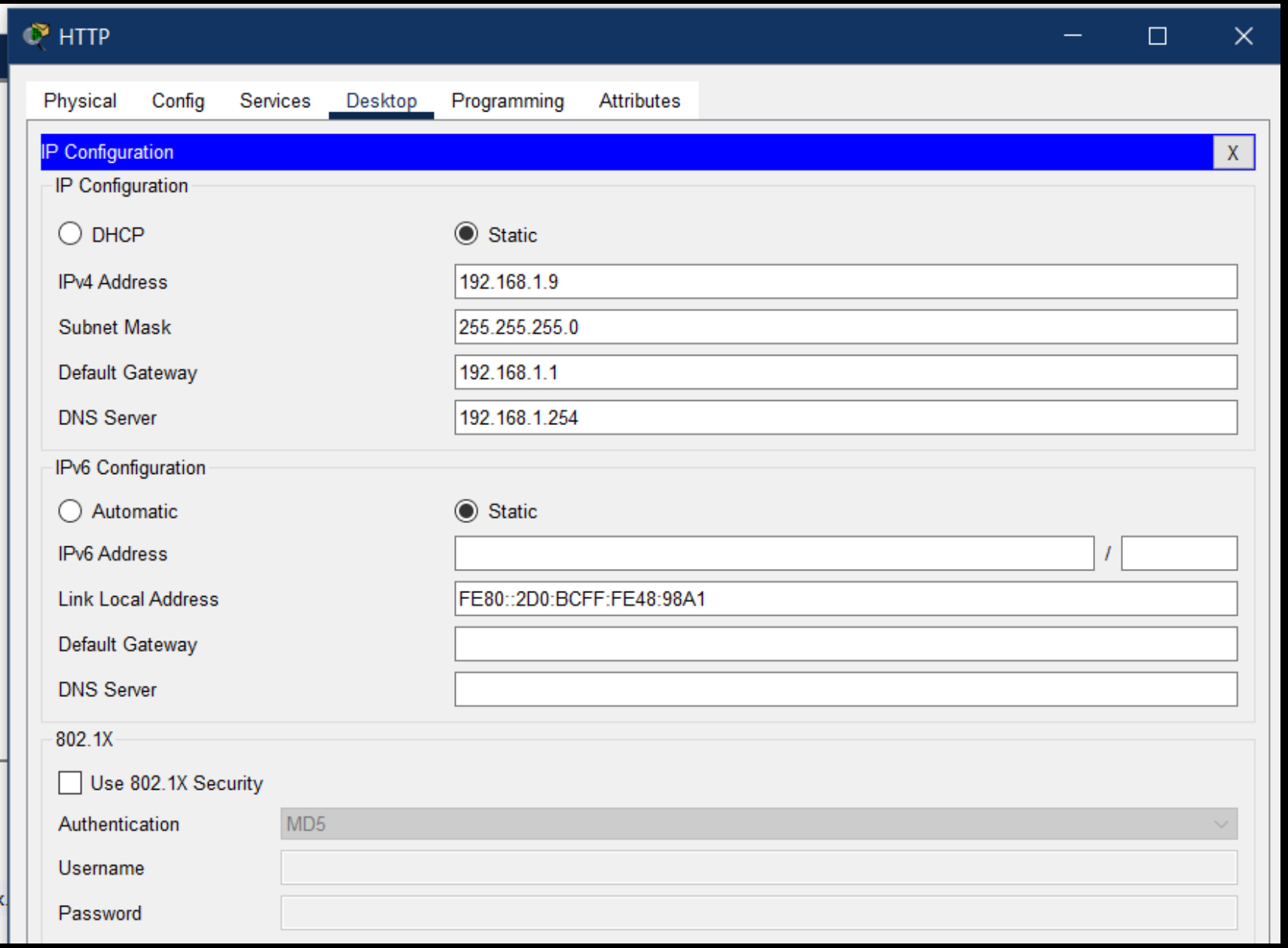
Working Station Zone - DNS

- This is the Ip configuration page of the DNS
- The Ip adress of the DNS server is 192.168.1.254 -> this appears in all of the devices Ip page, on the DNS Server area

Working Station Zone - DNS

- Inside the DNS server I need to put all of the desired website addresses.
- My website name is www.homework.com , you can Search it using either the name or the Ip adress – 192.168.1.



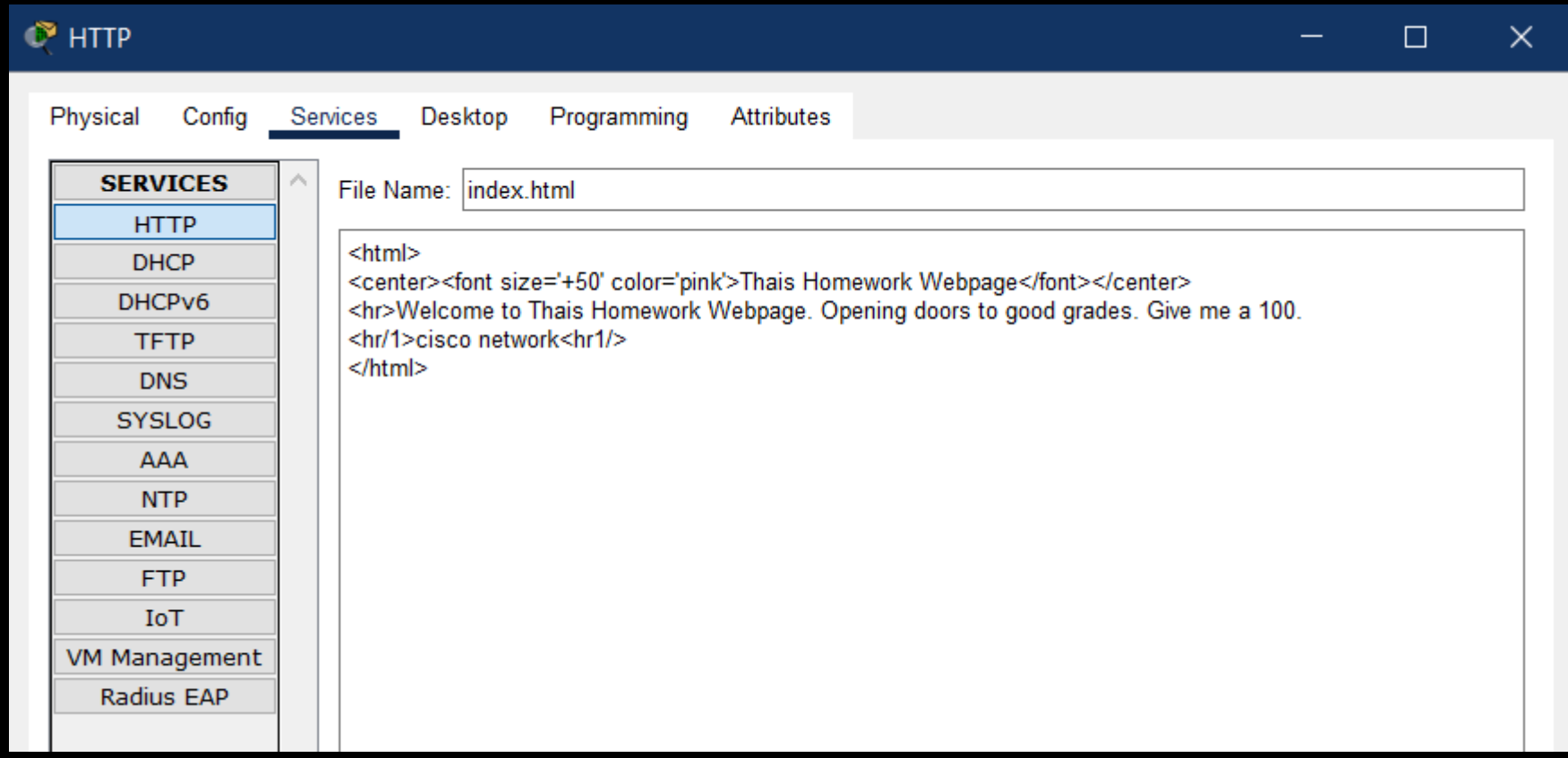


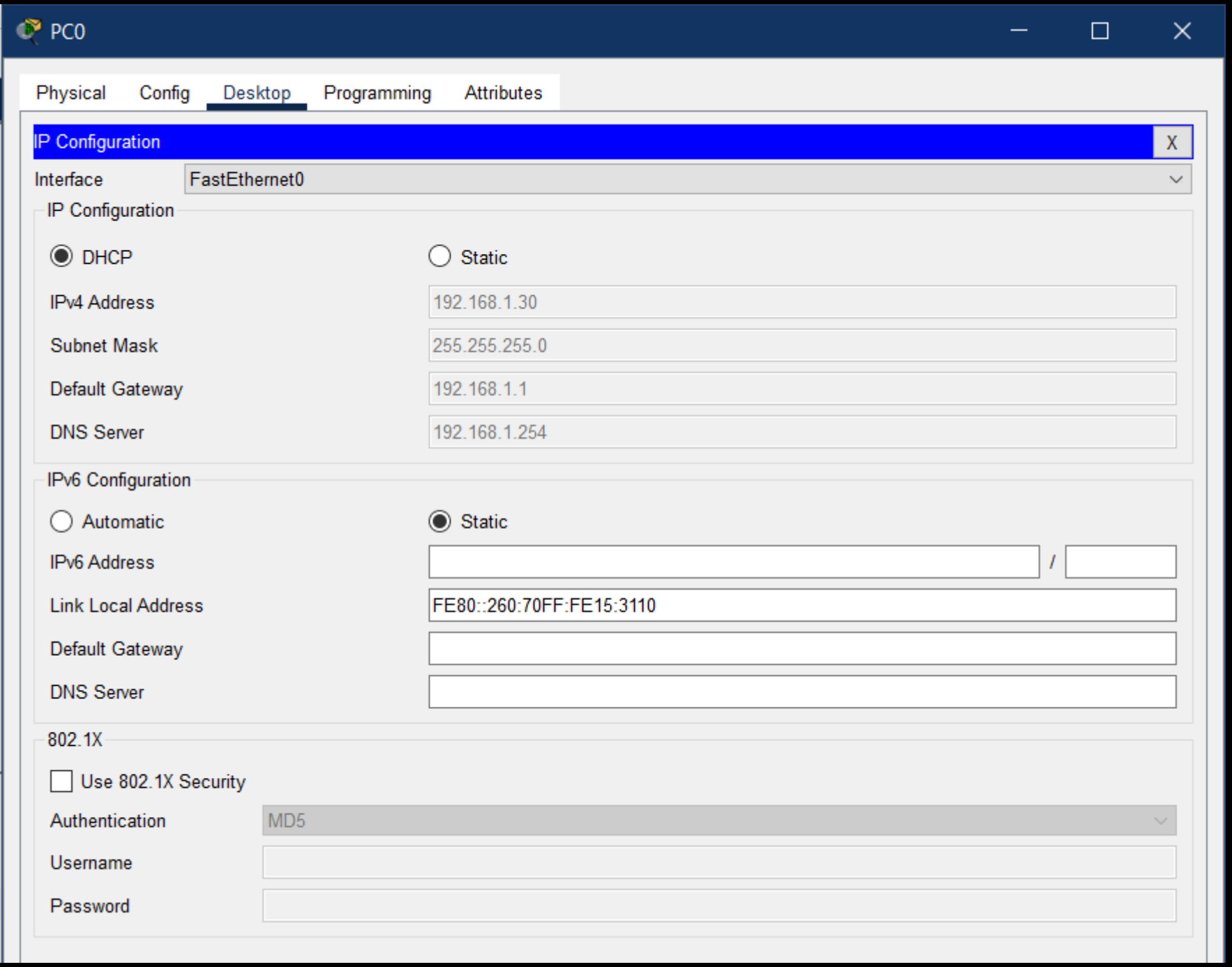
Working Station Zone - HTTP

- This is the Ip configuration page of the HTTP
- The Ip adress of the HTTP server is 192.168.1.9

Working Station Zone - HTTP

- This is my code inside the HTTP – index slot

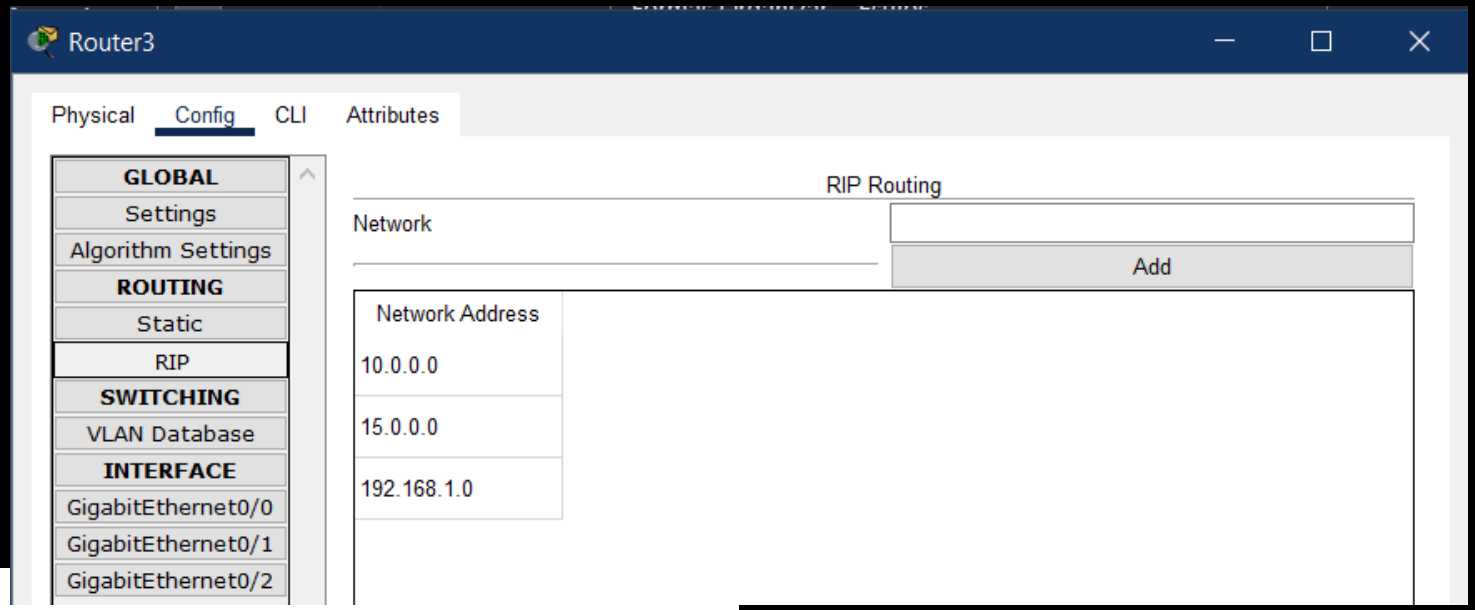




Working Station Zone - PC

- This is the Ip configuration page of a work station
- The Ip address is decided automatically by the DHCP

Working Station Zone – Router3

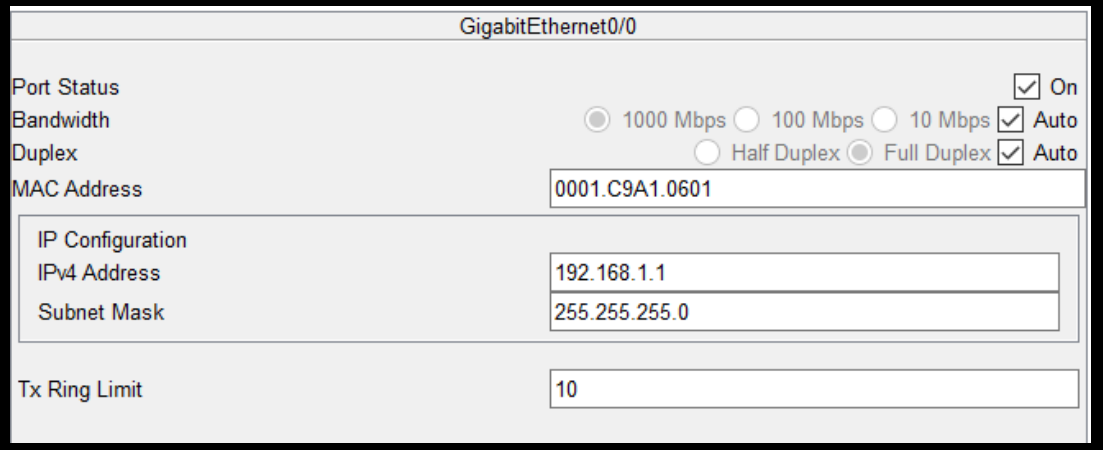


- This is the Router3 RIP configurations

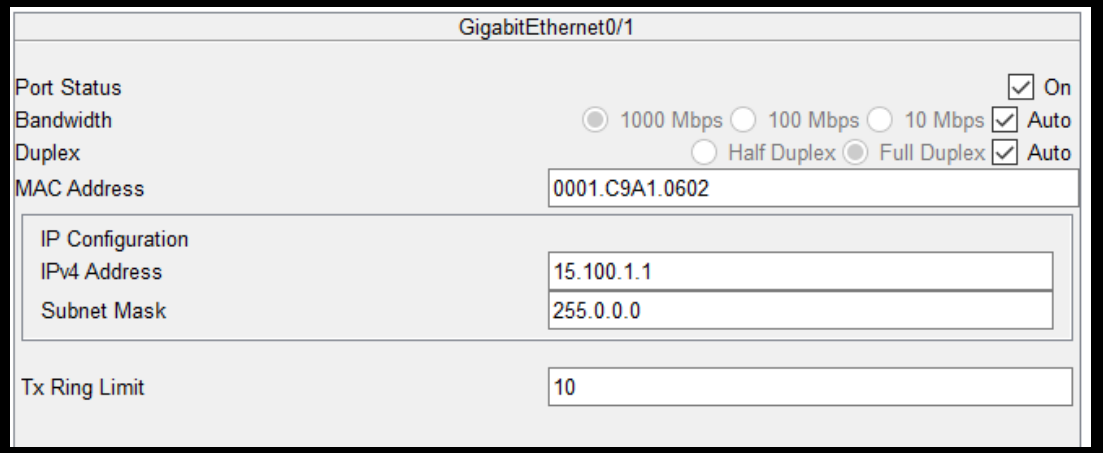
```
Router>enable
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface GigabitEthernet 0/0
Router(config-if)#ip helper-address 192.168.1.100
Router(config-if)#exit
Router(config)#interface GigabitEthernet 0/1
Router(config-if)#ip helper-address 192.168.1.100
Router(config-if)#exit
Router(config)#interface GigabitEthernet 0/2
Router(config-if)#ip helper-address 192.168.1.100
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
```

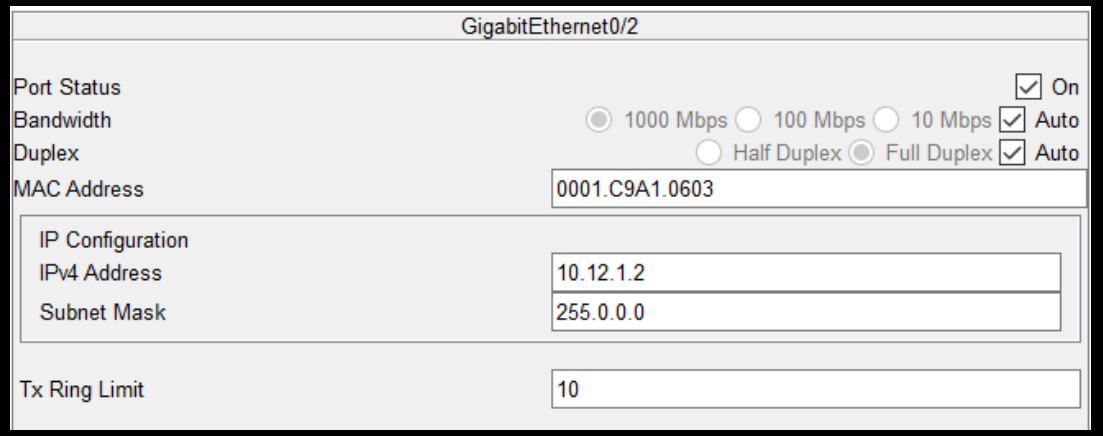
- This the code that I used inside all of the Routers so they would know from where to get the Ip adresses and where to send them
- I also had to code for the router to save the configurations



- This is the cable that is connected to the switch that is connected to the servers, so i had to put the ip address of the DHCP server – type C ip
- 192.168.1.x

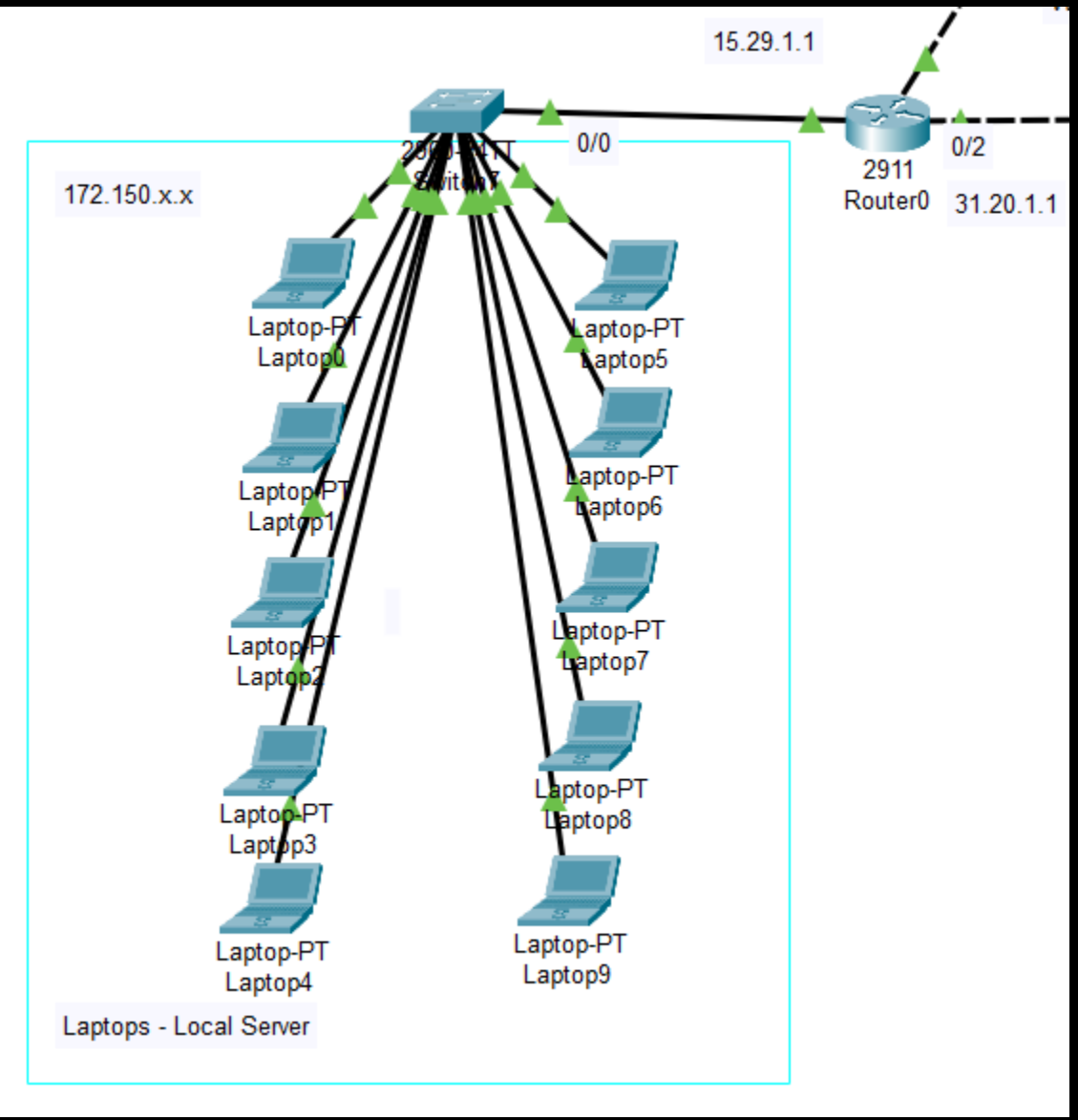


- This is the cable that is connected to the Router0, so i had to create an address for the network between the two of them – type A ip
- 15.x.x.x



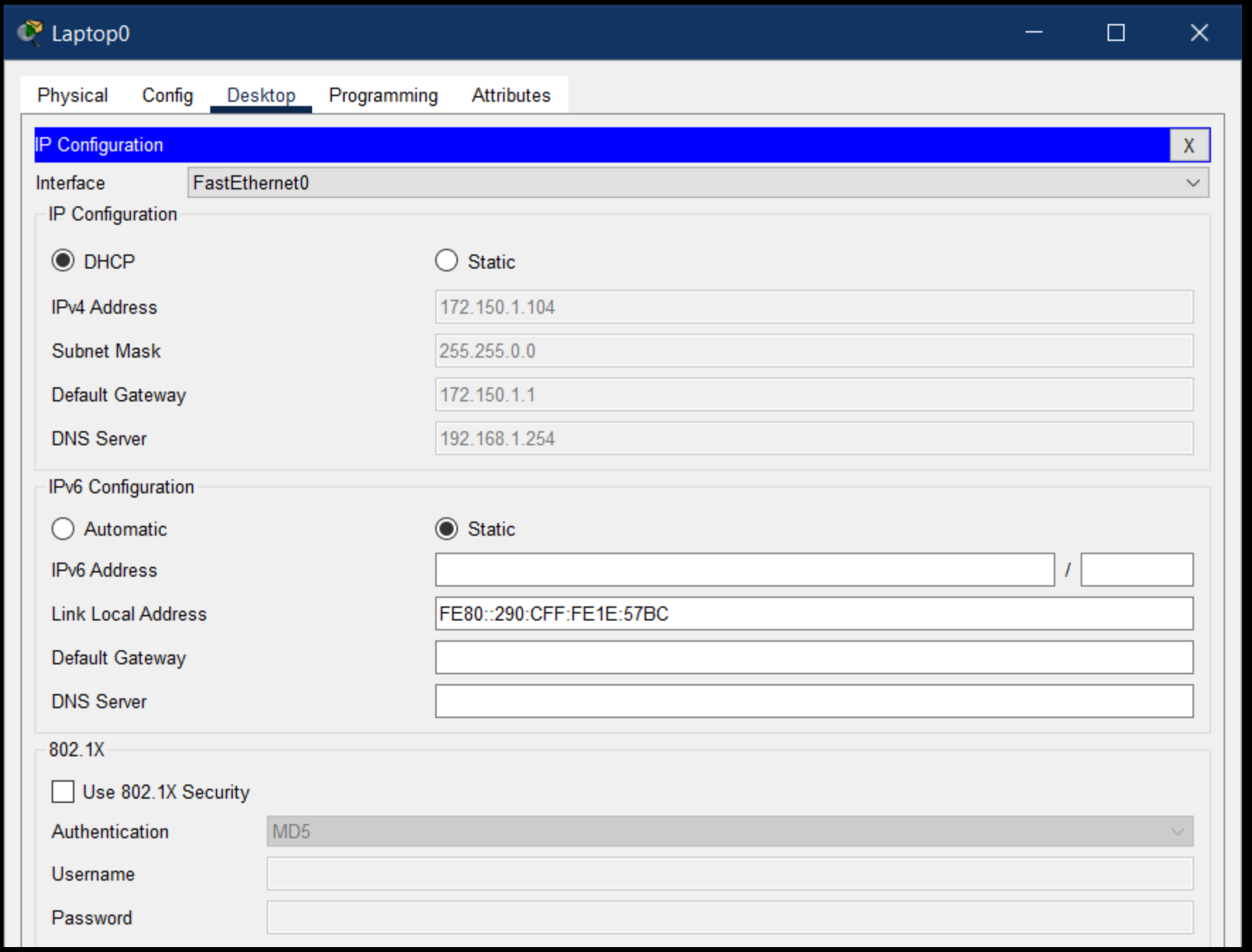
- This is the cable that is connected to the Router2, so i had to create an address for the network between the two of them – type A ip
- 10.x.x.x

ROUTER3



LAN

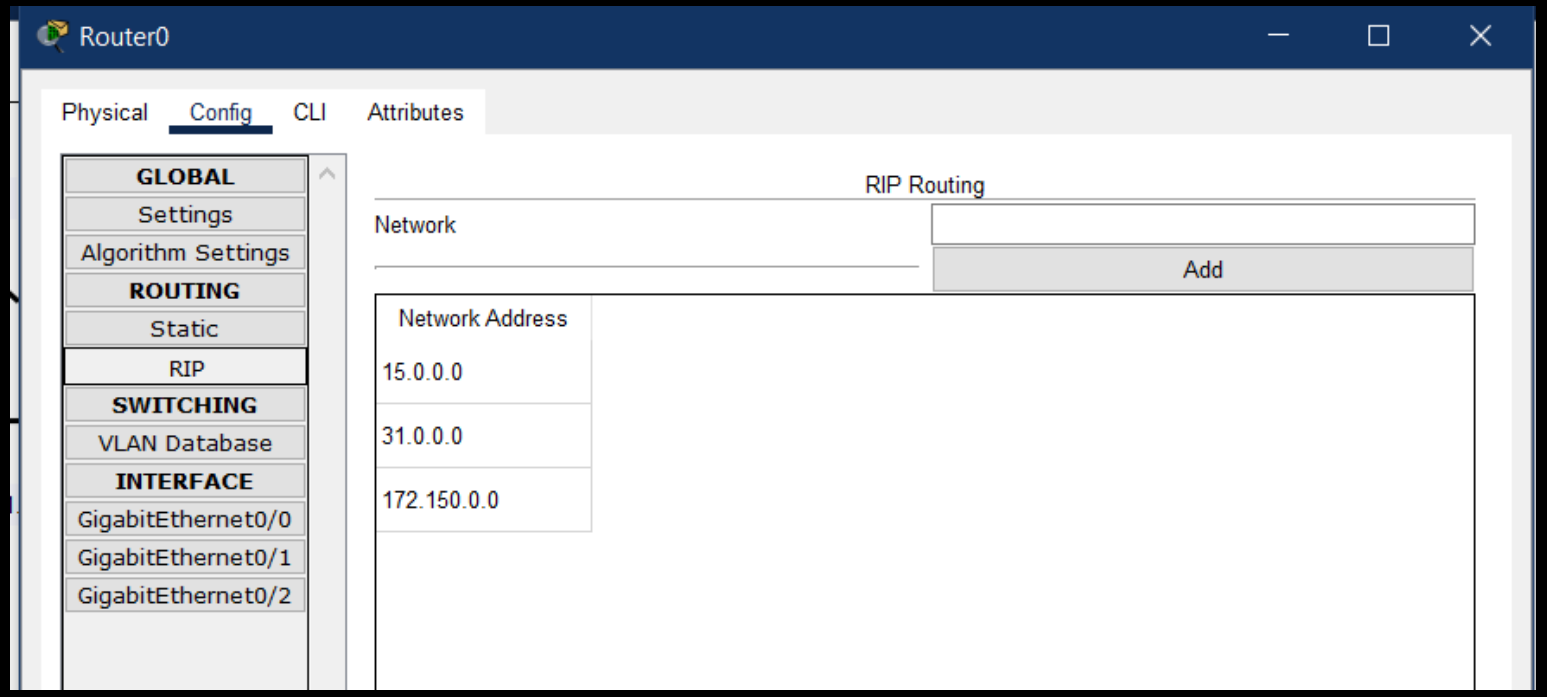
- This is my LAN
- I also have a switch connected to all of them with a straight copper cable and this switch is connected to Router 3
- This area has a type B IP – 172.150.x.x



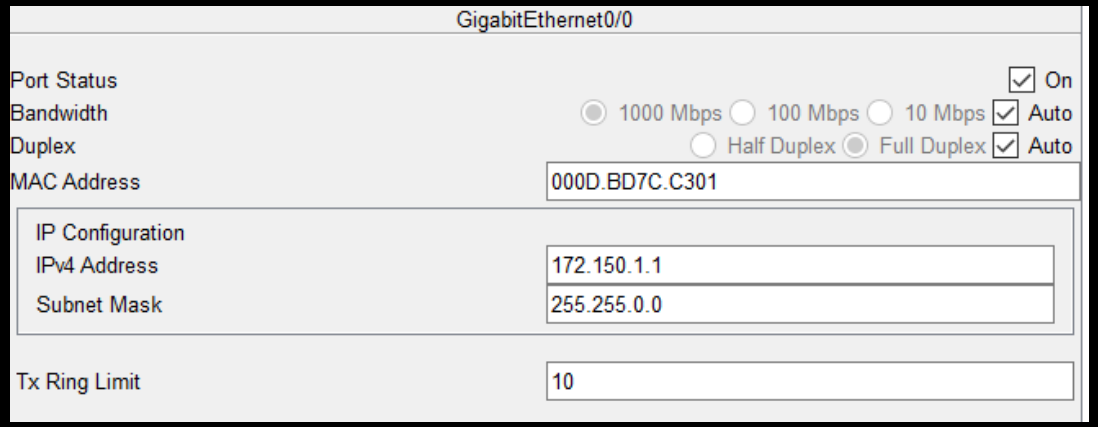
LAN - Laptop

- This is the Ip configuration page of a laptop
- The Ip address is decided automatically by the DHCP

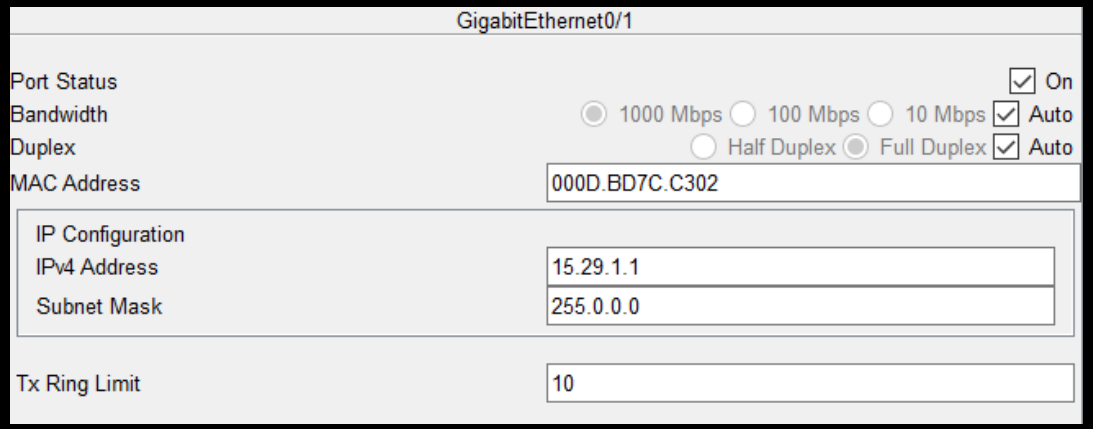
ROUTER0



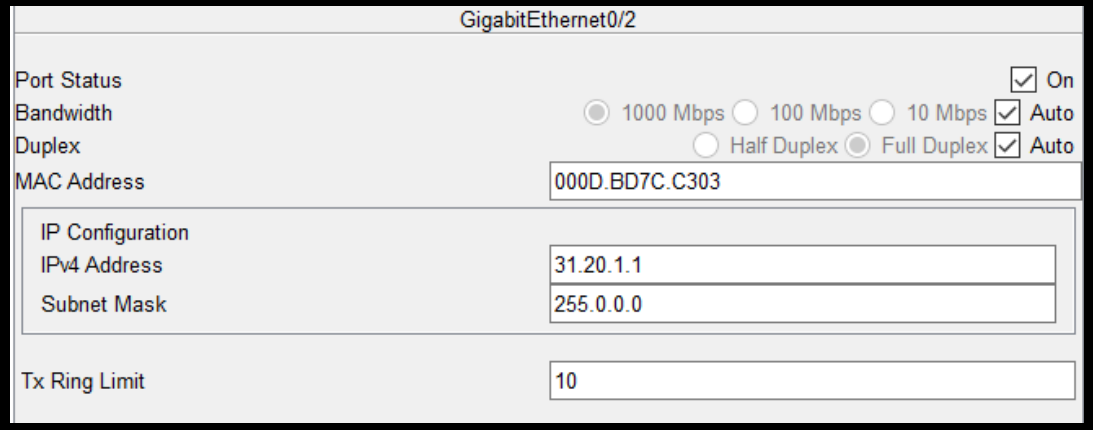
- This is the Router0 RIP configurations



- This is the cable that is connected to the switch that is connected to the laptops, so i created a ip address for this area and I added it to the DHCP– type B ip
- 172.150.x.x

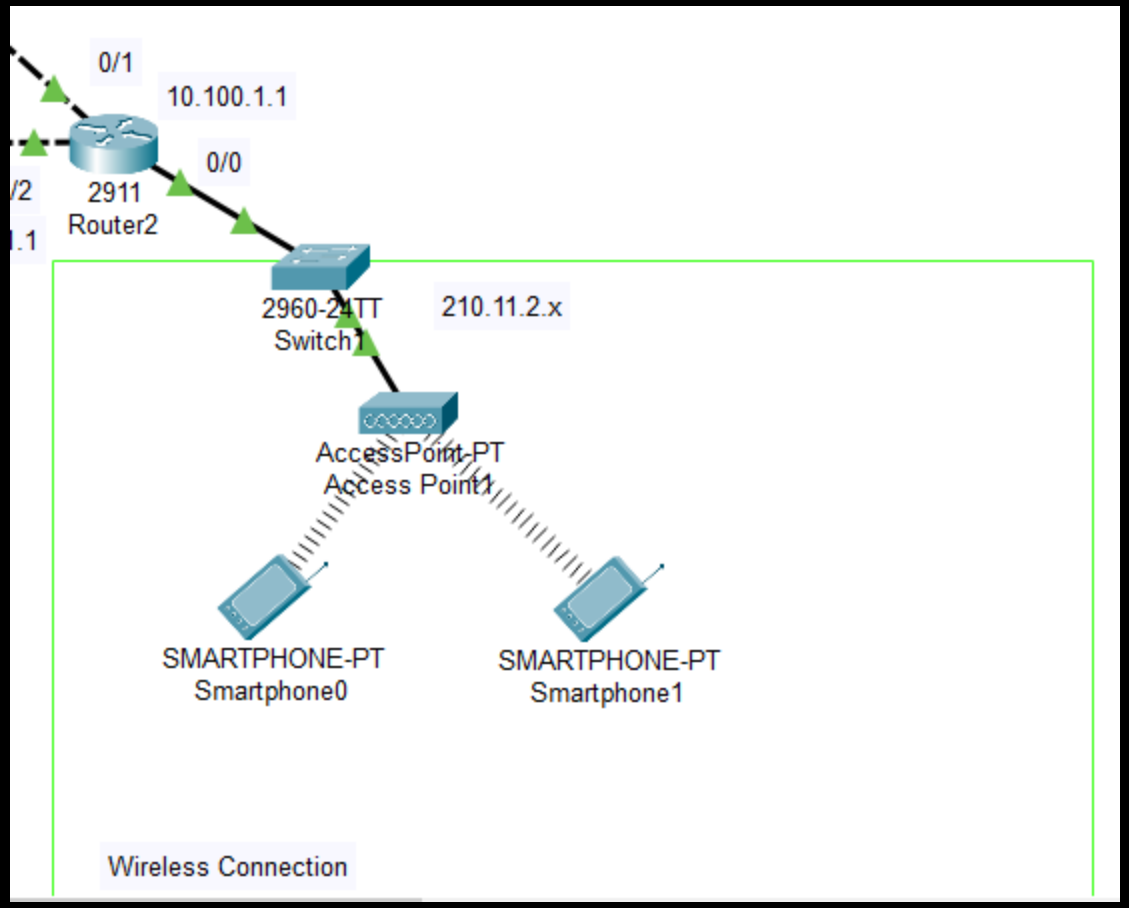


- This is the cable that is connected to the Router3, so i had to follow the ip decided before– type A ip
- 15.x.x.x



- This is the cable that is connected to the Router2, so i had to create an address for the network between the two of them – type A ip
- 31.x.x.x

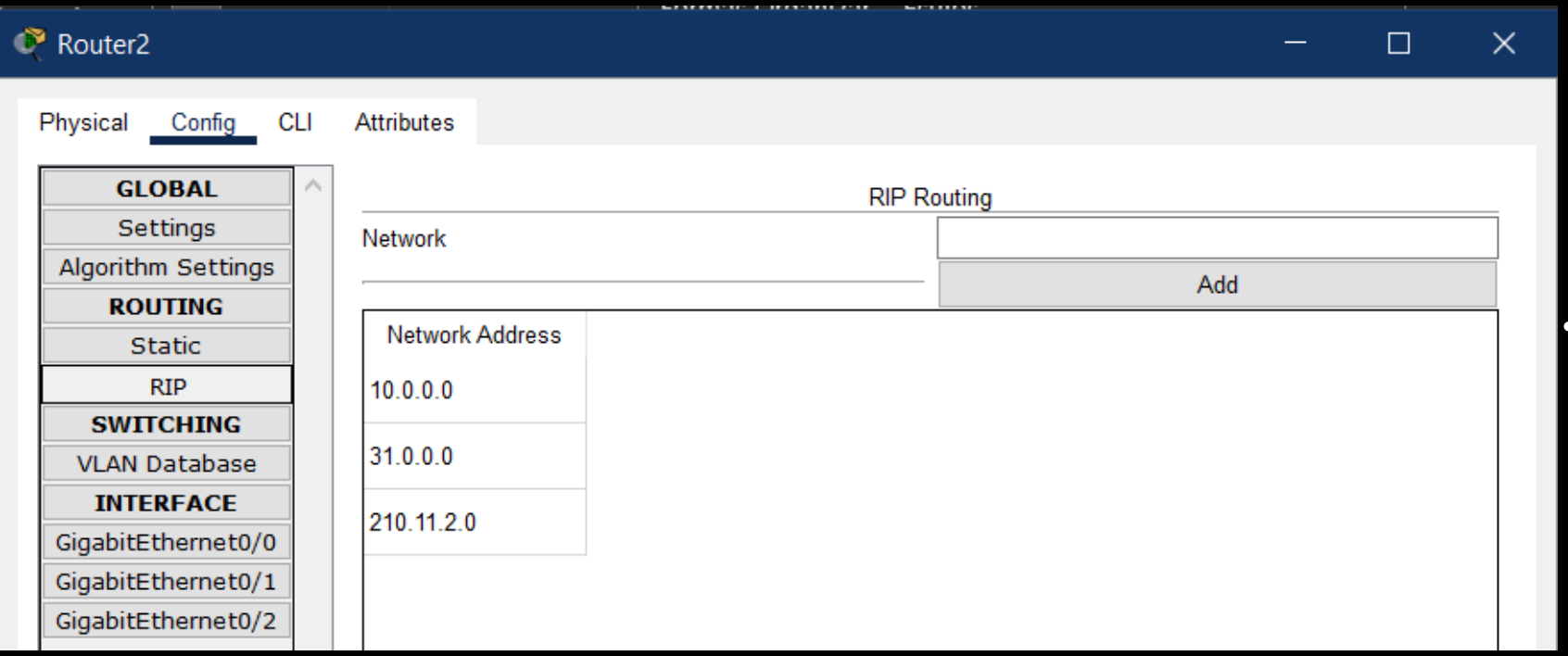
ROUTER0



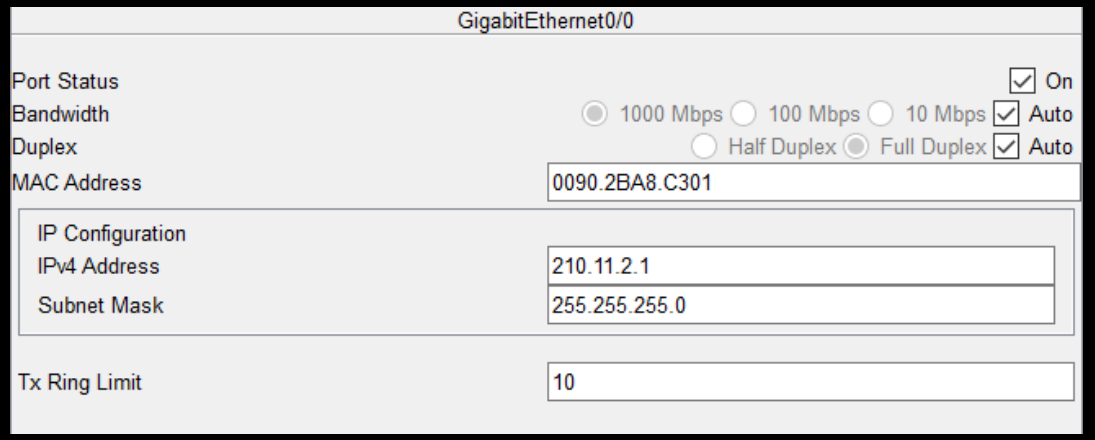
Wireless Connection Area

- This is my Wireless Connection Network
- I have an access point connected to the switch
- This area has a type C IP – 210.11.2.x

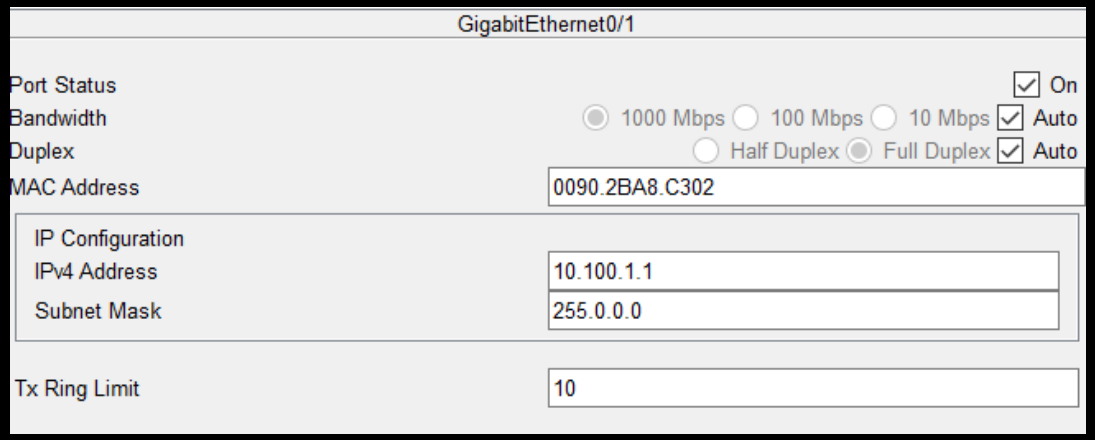
Wireless Connection Area - ROUTER2



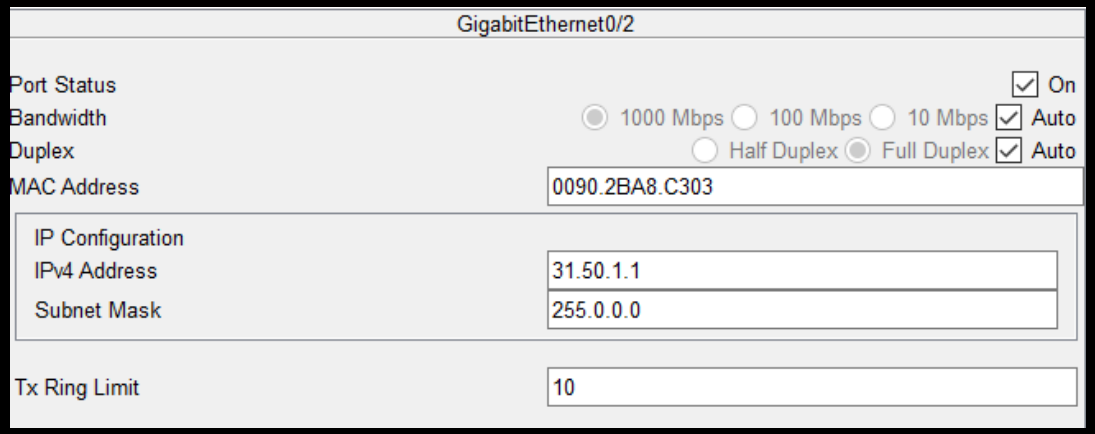
- This is the Router2 RIP configurations



- This is the cable that is connected to the switch that is connected to my acess point, so i created a ip address for this area and I added it to the DHCP– type C ip
- 210.11.2.x



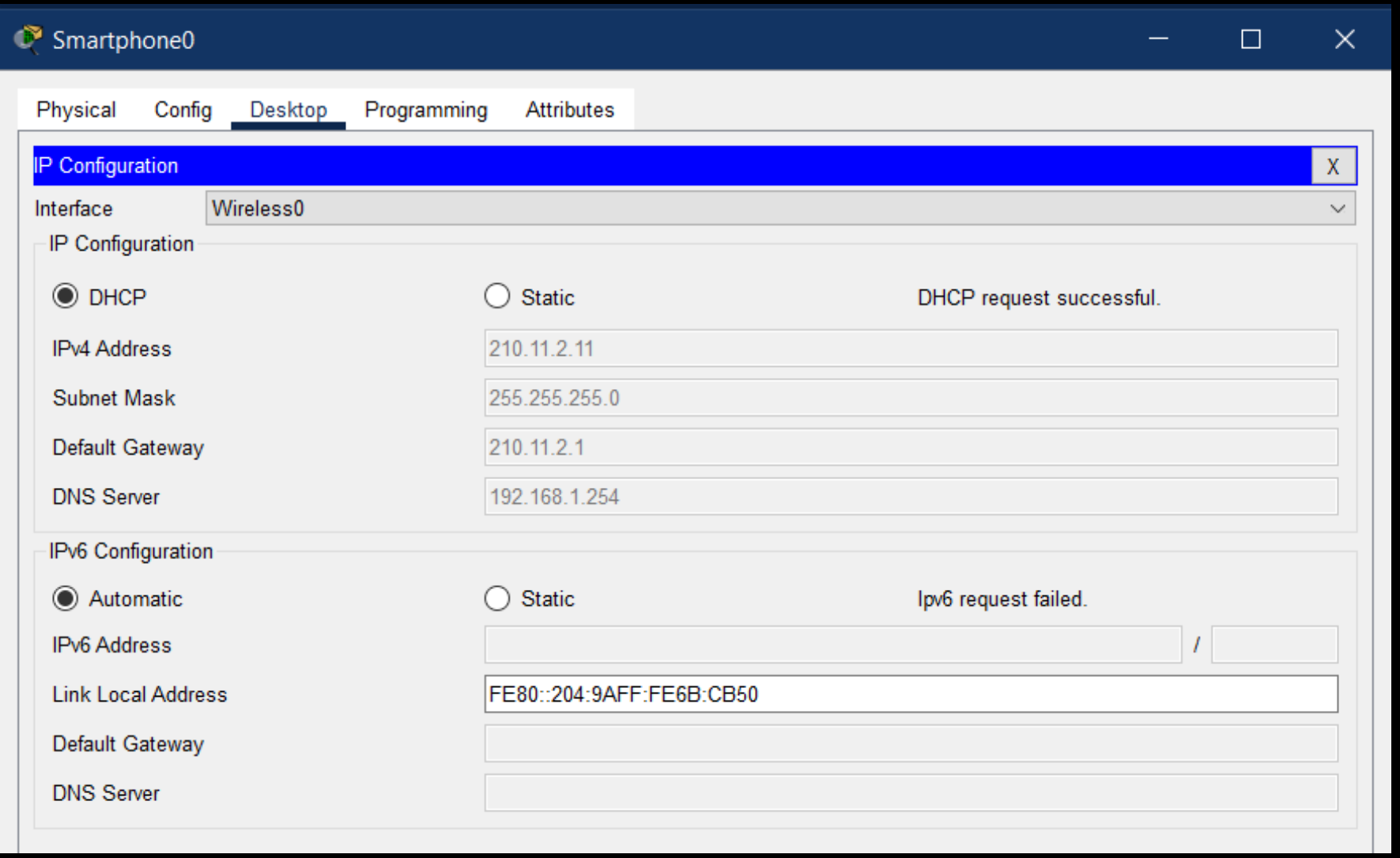
- This is the cable that is connected to the Router3, so i had to follow the ip decided before– type A ip
- 10.x.x.x



- This is the cable that is connected to the Router0, so i had to follow the ip decided before– type A ip
- 31.x.x.x

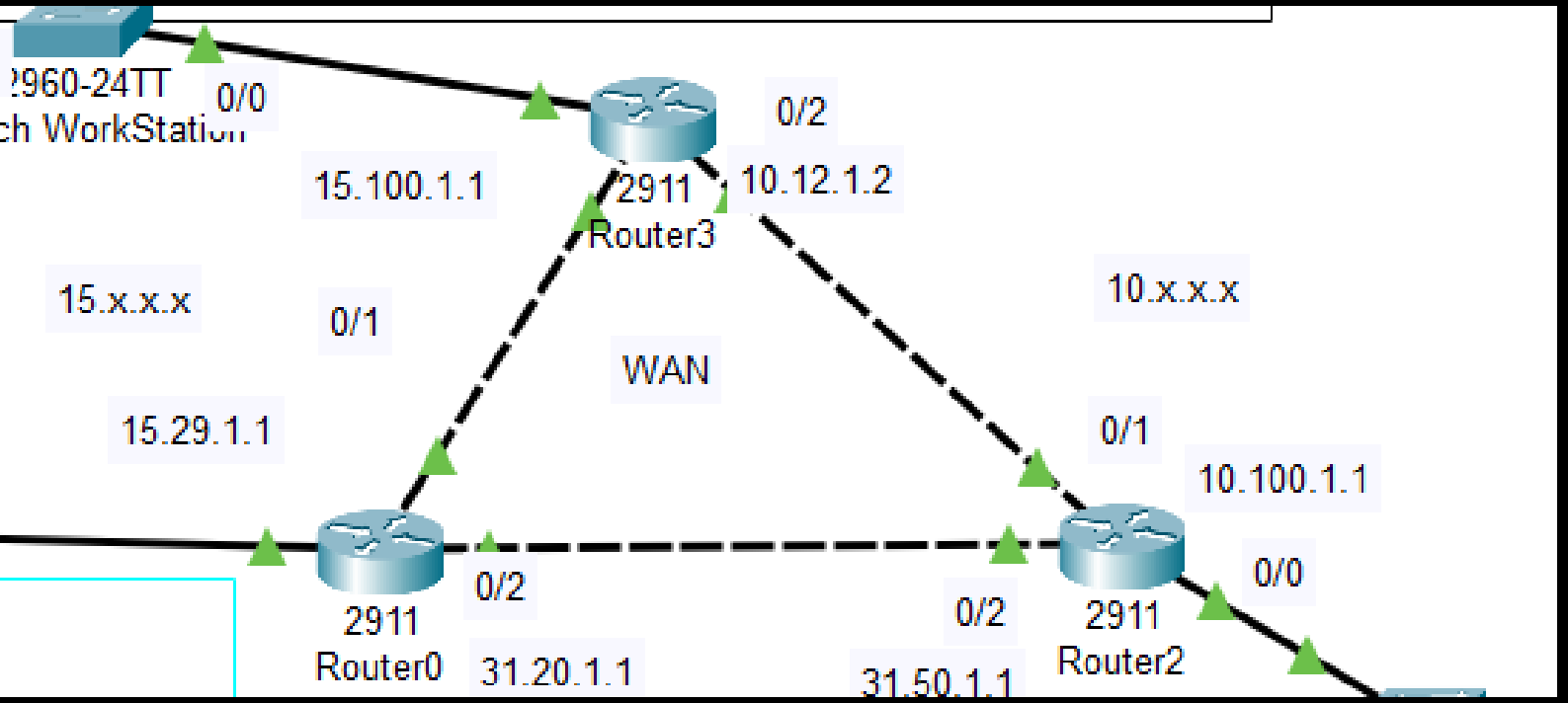
ROUTER2

Wireless Connection Area - Smartphone



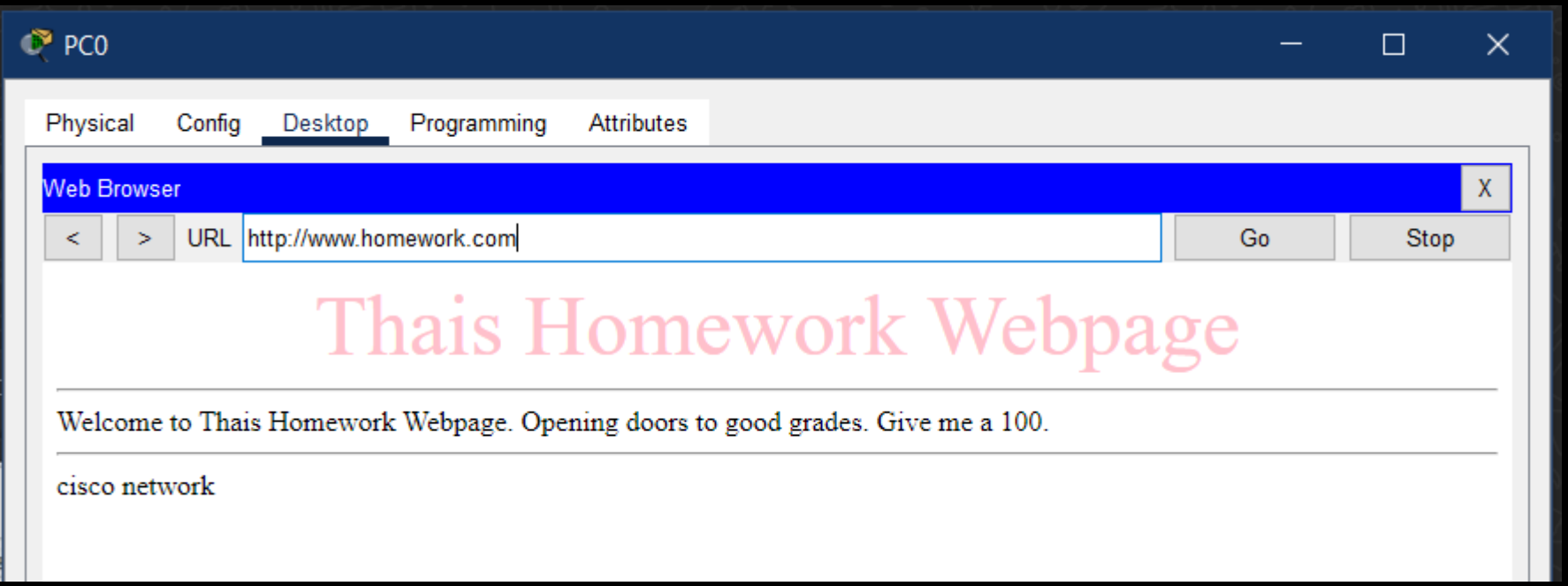
- This is the Ip configuration page of a smartphone
- The Ip address is decided automatically by the DHCP

WAN



- This is my WAN
- It has 3 networks, all of them are A type
- On the left side of the triangle it is – 15.x.x.x
- On the right side of the triangle it is – 10.x.x.x
- On the base of the triangle it is – 31.x.x.x

Web Server



- To acess the web server you can either type www.homework.com or you can put the ip address 192.168.1.254