

CS361

# LABORATORY 8

**NAME:**

ARCHIT AGRAWAL

**ROLL NO. :**

202051213

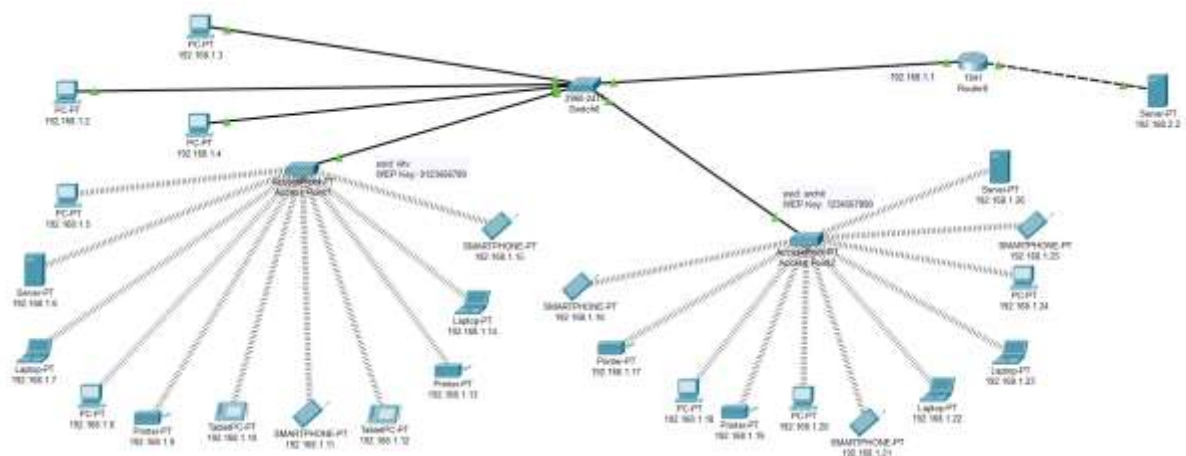
**SECTION:**

2B

## Problem:

- 1) Create a network between 3 pcs, Switch, Router and Server.
- 2) And take two wireless access points and connect them to switch.
- 3) Connect at least 10 wireless devices (wireless desktop, Laptop, Printers, wireless mobile, tabs & etc.) to each access point.
- 4) Connect a wireless server to access point 0 & access point 1.

- The network is shown in the image below.



- Take 3 PC's, connect them to a switch, connect switch with the router and server.



- Add two wireless access points to switch and connect at least 10 wireless devices (printers, laptops, desktop, tablet, smartphone etc.) with each access point and connect a server to each access point. (the whole network is shown at starting).

- a. **Configuring the Access Points:** Go to access point → Config → Port1. Set a SSID and WEP Key.

The screenshot shows the configuration window for Access Point1. The 'Config' tab is selected, and the 'Port 1' interface is chosen from the left sidebar. The 'Port Status' is checked and set to 'On'. The 'SSID' is 'iiitv', the '2.4 GHz Channel' is '6', and the 'Coverage Range (meters)' is '140.00'. Under 'Authentication', 'WEP' is selected. The 'WEP Key' is '0123456789'. The 'Encryption Type' is '40/64-Bits (10 Hex digits)'.

Port 1	
Port Status	<input checked="" type="checkbox"/> On
SSID	iiitv
2.4 GHz Channel	6
Coverage Range (meters)	140.00
<b>Authentication</b>	
<input type="radio"/> Disabled	<input checked="" type="radio"/> WEP
<input type="radio"/> WPA-PSK	<input type="radio"/> WPA2-PSK
WEP Key	0123456789
PSK Pass Phrase	
User ID	
Password	
Encryption Type	40/64-Bits (10 Hex digits)

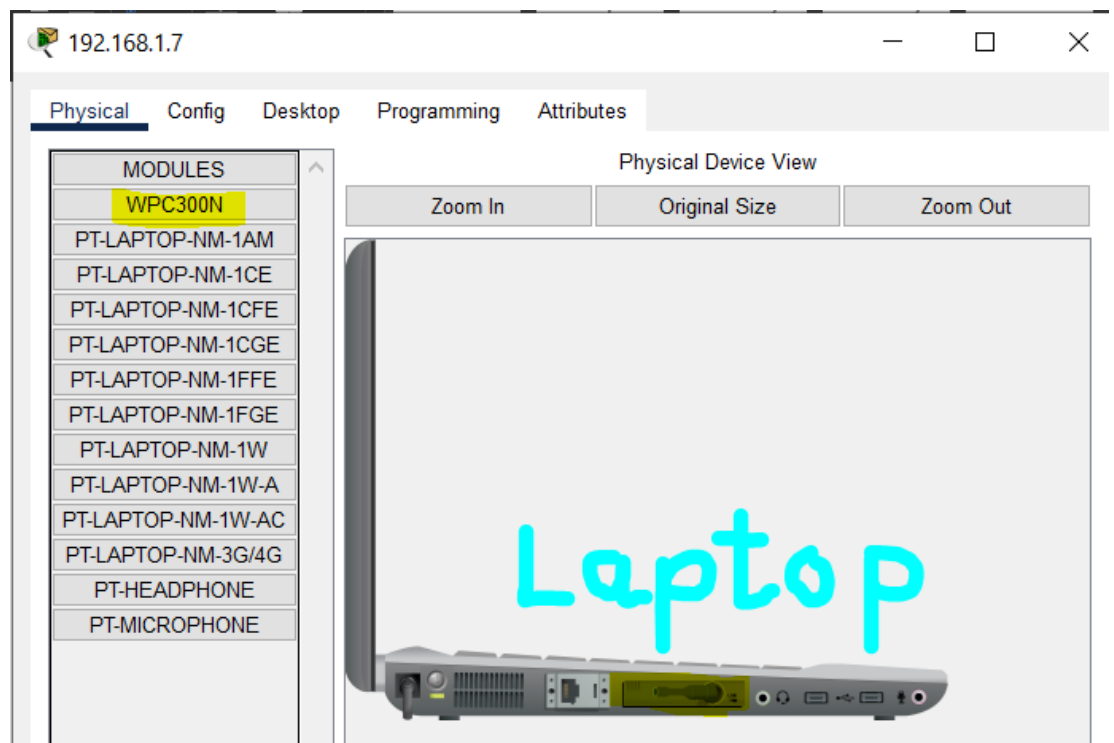
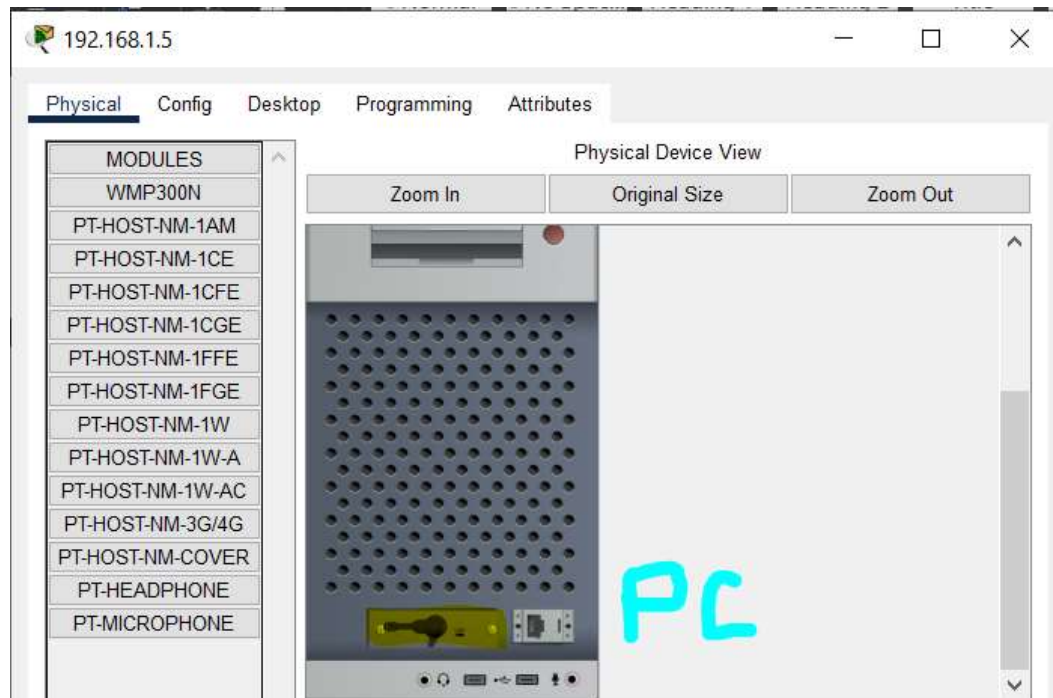
Set another SSID and WEP key for the other access point.

The screenshot shows the configuration window for Access Point2. The 'Config' tab is selected, and the 'Port 1' interface is chosen from the left sidebar. The 'Port Status' is checked and set to 'On'. The 'SSID' is 'archit', the '2.4 GHz Channel' is '6', and the 'Coverage Range (meters)' is '140.00'. Under 'Authentication', 'WEP' is selected. The 'WEP Key' is '1234567890'. The 'Encryption Type' is '40/64-Bits (10 Hex digits)'.

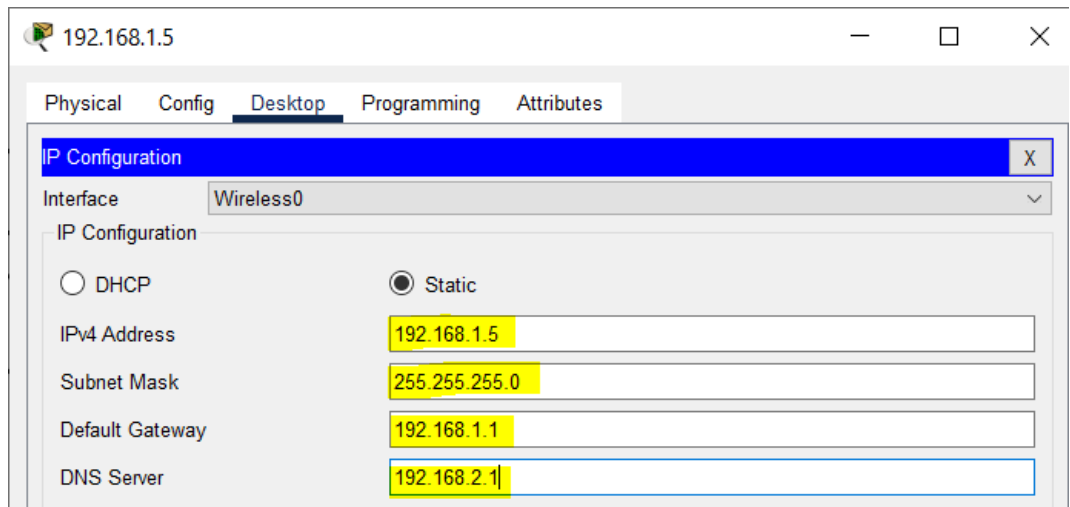
Port 1	
Port Status	<input checked="" type="checkbox"/> On
SSID	archit
2.4 GHz Channel	6
Coverage Range (meters)	140.00
<b>Authentication</b>	
<input type="radio"/> Disabled	<input checked="" type="radio"/> WEP
<input type="radio"/> WPA-PSK	<input type="radio"/> WPA2-PSK
WEP Key	1234567890
PSK Pass Phrase	
User ID	
Password	
Encryption Type	40/64-Bits (10 Hex digits)

**b. Configuring each PC, Laptop and Printer and Server:**

- ⇒ Go to Physical → turn off the device → remove the inserted module by dragging it out → insert the WMP300N module for PC, Server and Printer, while the WPC300N for laptop → turn on the device.



⇒ Configure the IP for each of these devices.



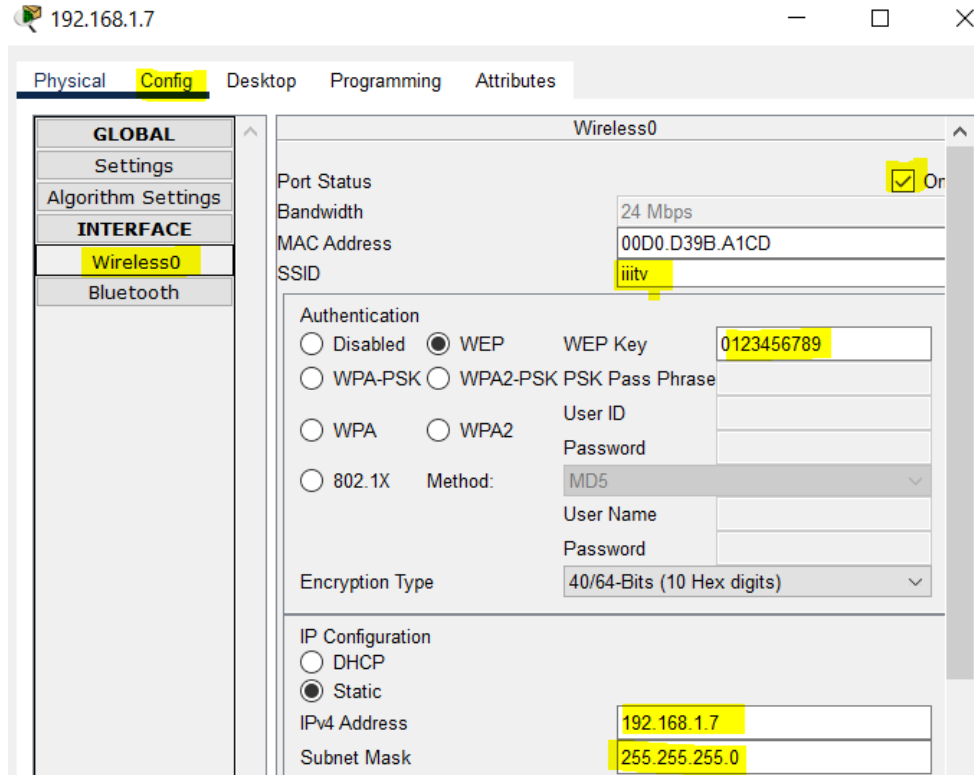
The screenshot shows a window titled "192.168.1.5" with tabs for Physical, Config, Desktop, Programming, and Attributes. The "Config" tab is active, and the "IP Configuration" section is expanded. The "Interface" dropdown is set to "Wireless0". Under "IP Configuration", the "Static" radio button is selected. The fields for IPv4 Address, Subnet Mask, Default Gateway, and DNS Server are all highlighted in yellow. The values entered are: IPv4 Address: 192.168.1.5, Subnet Mask: 255.255.255.0, Default Gateway: 192.168.1.1, and DNS Server: 192.168.2.1.

Field	Value
IPv4 Address	192.168.1.5
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1
DNS Server	192.168.2.1

The DNS server is the server with IP 192.168.2.1 (shown later).

⇒ Now, go to config → Wireless0 → enter the SSID and WEP key of the access point to which you want to connect the device.

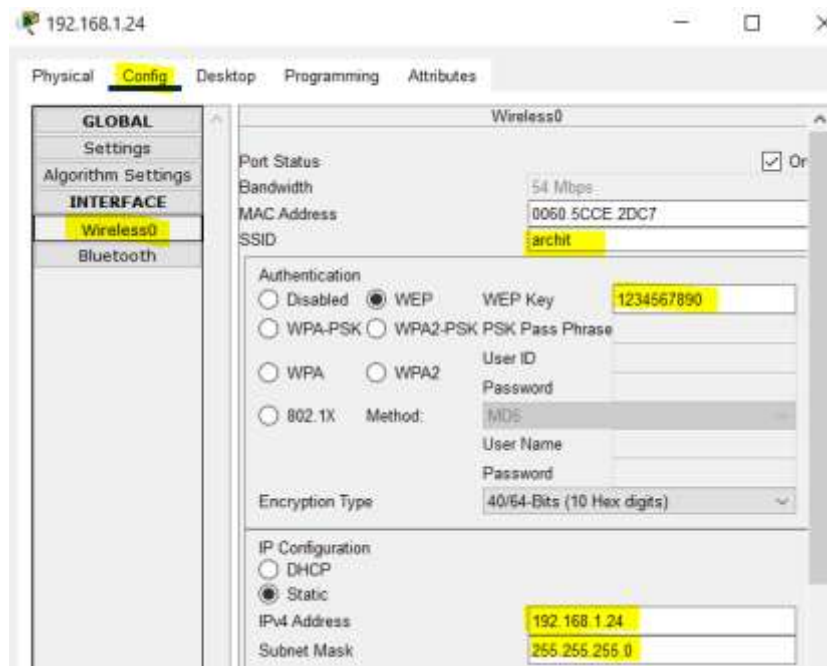
A device connected to access point 0.



The screenshot shows a window titled "192.168.1.7" with tabs for Physical, Config, Desktop, Programming, and Attributes. The "Config" tab is active, and the "Wireless0" interface is selected. The "Port Status" checkbox is checked. The "Bandwidth" is set to 24 Mbps. The "MAC Address" is 00D0.D39B.A1CD. The "SSID" is "iitv". Under "Authentication", the "WEP" radio button is selected, and the "WEP Key" is 0123456789. The "Encryption Type" is set to "40/64-Bits (10 Hex digits)". The "IP Configuration" section at the bottom shows the "Static" radio button selected, with the IPv4 Address set to 192.168.1.7 and the Subnet Mask set to 255.255.255.0.

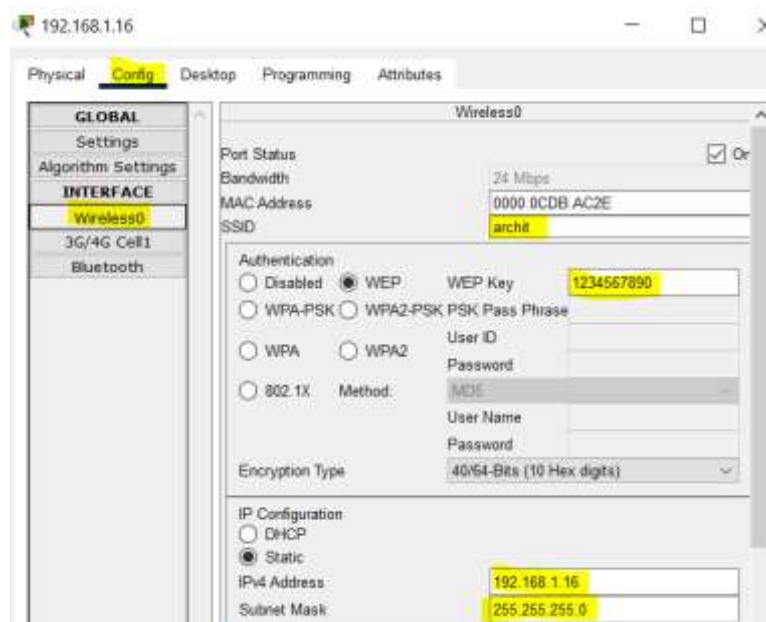
Field	Value
Port Status	<input checked="" type="checkbox"/>
Bandwidth	24 Mbps
MAC Address	00D0.D39B.A1CD
SSID	iitv
Authentication	WEP
WEP Key	0123456789
Encryption Type	40/64-Bits (10 Hex digits)
IP Configuration	Static
IPv4 Address	192.168.1.7
Subnet Mask	255.255.255.0

A device connected to access point 1.



A wireless connection can be seen between device and access point in the network now.

- c. **Configuring each Smartphone and Tablet:** It is similar to PC or laptop as done in above, but we don't need any physical configuration. Hence, configure the IP directly and then go to config → wireless0 → enter the SSID and WEP key of the access point to which you want to connect the device.



- Configure the server connected to the other network (192.168.2.0).

192.168.2.1

Physical Config Services **Desktop** Programming Attributes

**IP Configuration** X

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.2.1

Subnet Mask 255.255.255.0

Default Gateway 192.168.2.2

DNS Server 192.168.2.1

Use this server as DNS server.

192.168.2.1

Physical Config **Services** Desktop Programming Attributes

**SERVICES**

HTTP

DHCP

DHCPv6

TFTP

**DNS**

SYSLOG

AAA

NTP

EMAIL

FTP

IoT

VM Management

Radius EAP

DNS

DNS Service ☒ On ☐ Off

Resource Records

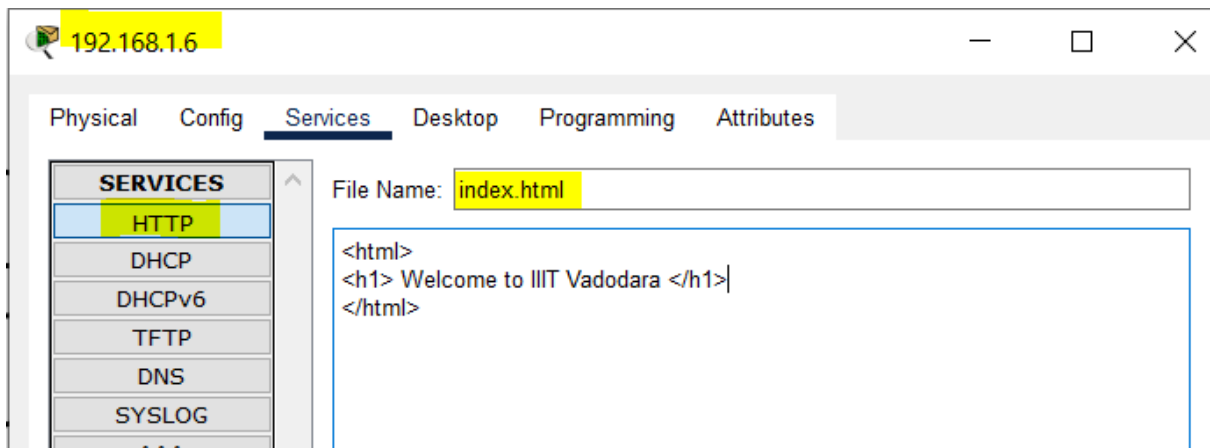
Name  Type A Record

Address

Add Save Remove

No.	Name	Type	Detail
0	iiitvadodara.com	A Record	192.168.1.6
1	myrecords.com	A Record	192.168.1.26

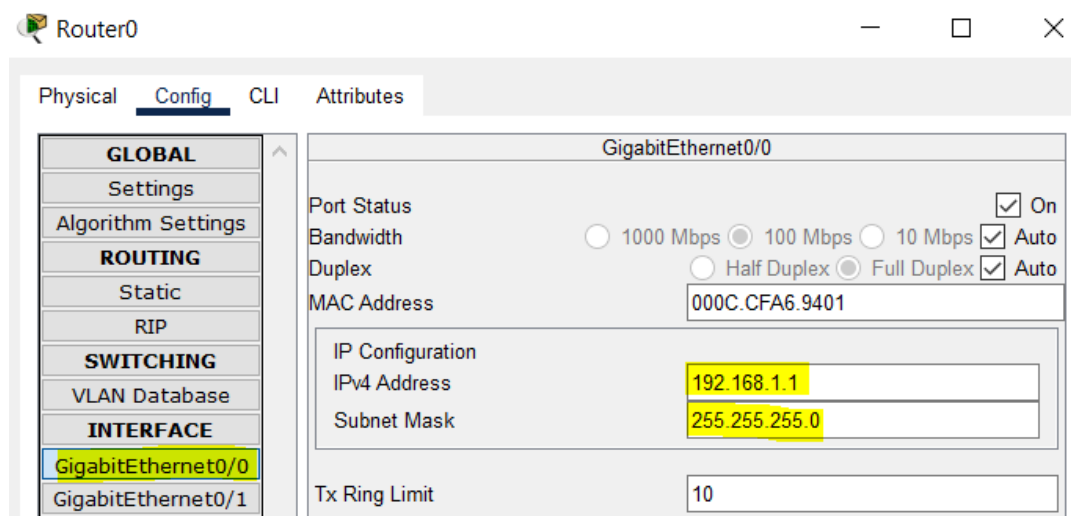
- Configure the server connected to “iitv” access network (use as web server)



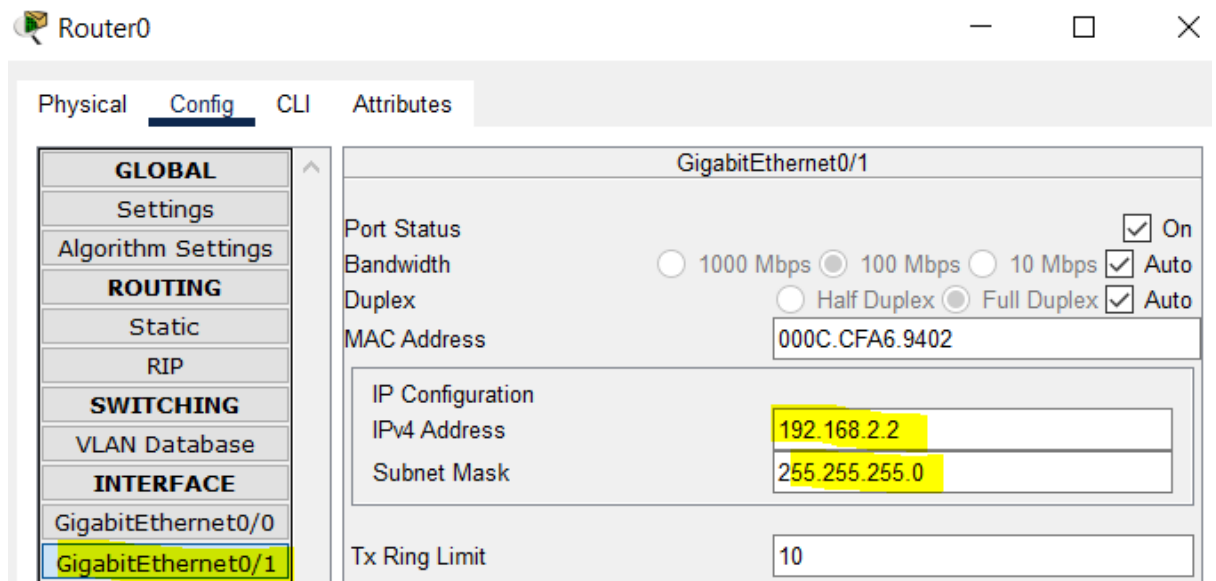
- Configure the server connected to “archit” access network (use as web server)



- Finally, configure the router.

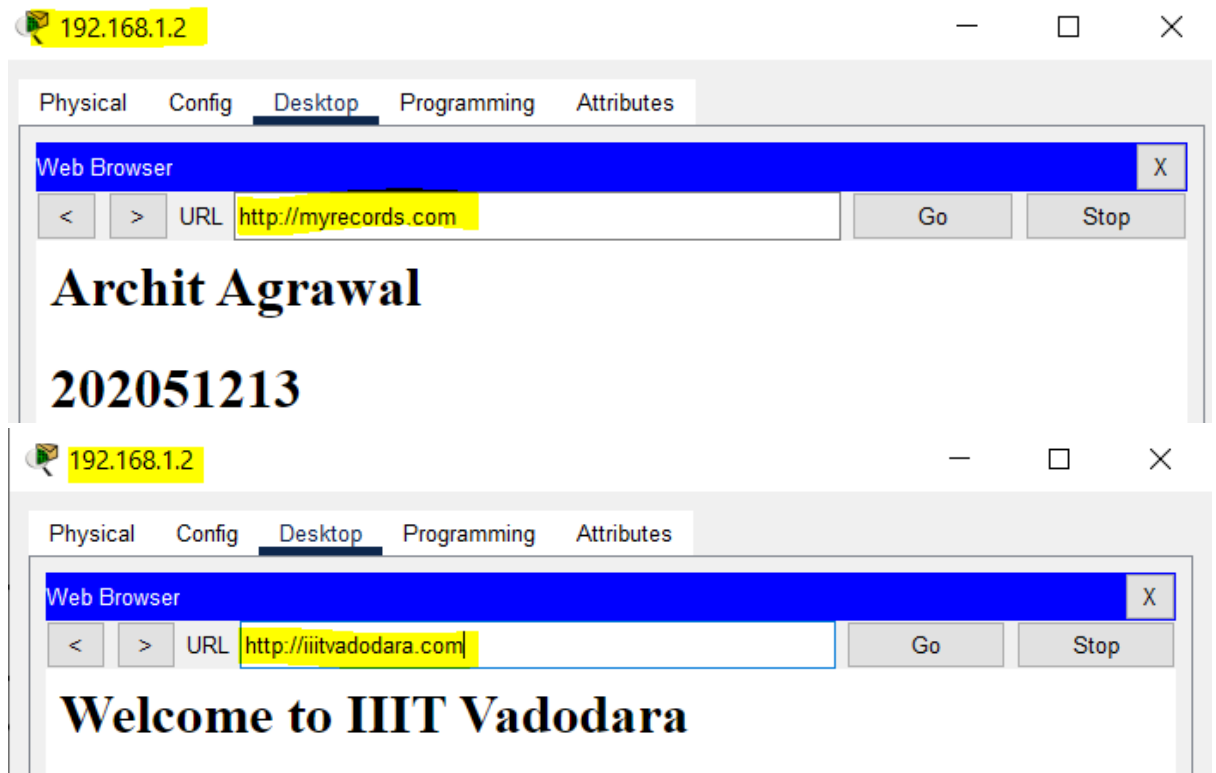






- The network is configured and we can check it by hitting the domain names of the websites from any end device in the network.

a. From PC's connected to switch via cables.



b. From devices connected to access point 0 wirelessly.



c. From devices connected to access point 1 wirelessly.

