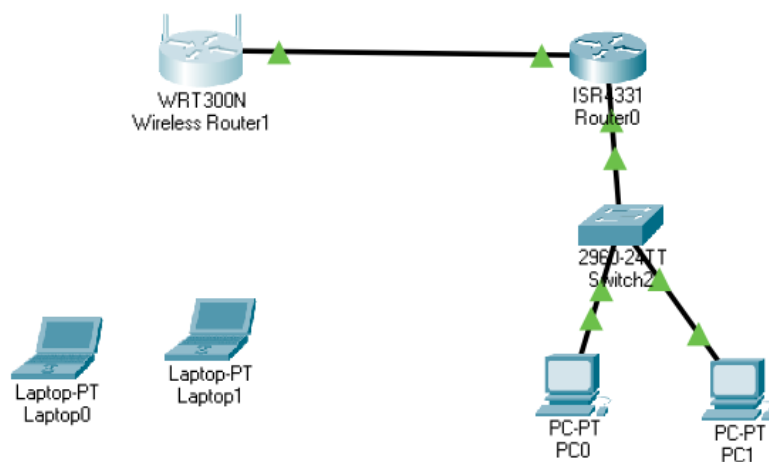


Institute of Computer Technology
B. Tech Computer Science and Engineering
Subject: Basics of Communication Systems (2CSE202)
PRACTICAL-EXAM

AIM: -

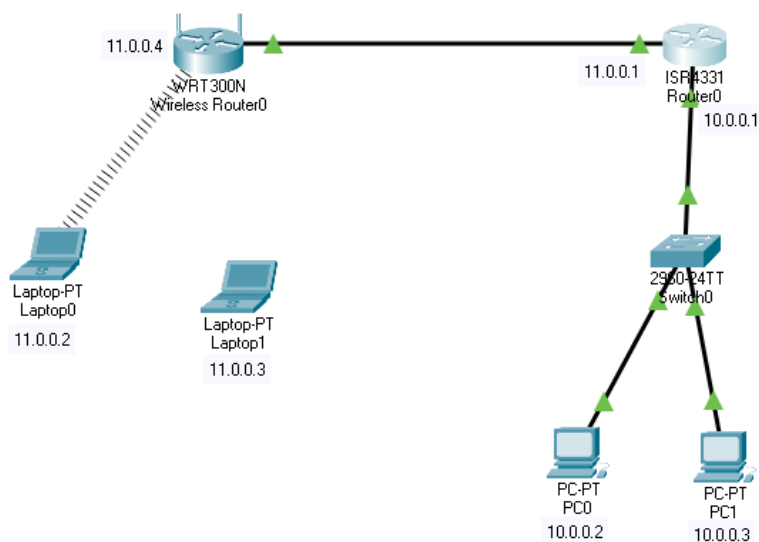
Create a wireless LAN as shown in following figure. Create wireless Access point with WEP key as your 11 digit enrollment number. Send ICMP packet from Laptop0 to PC0. Also create a MAC filter at wireless router in such a way that only laptop0 is able to connect with wireless router.

**SOLUTION**

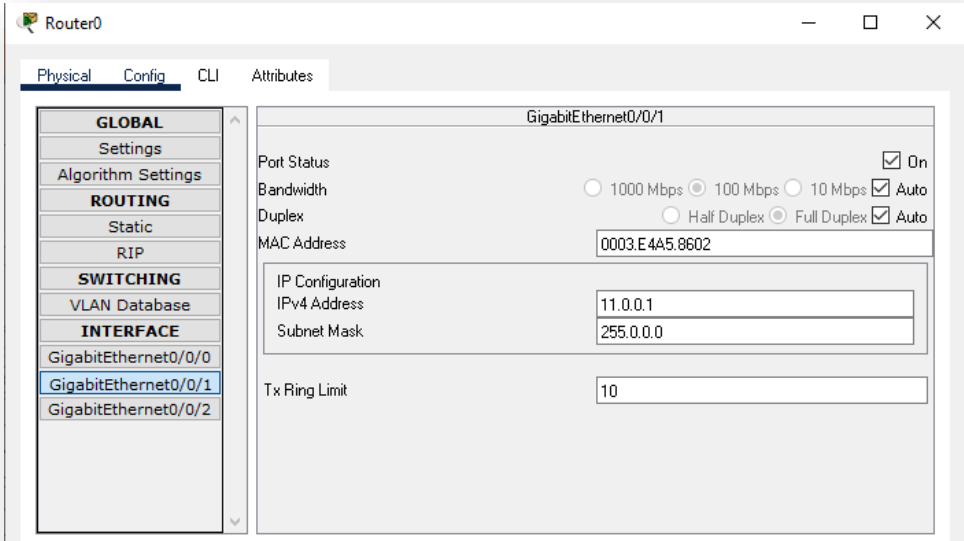
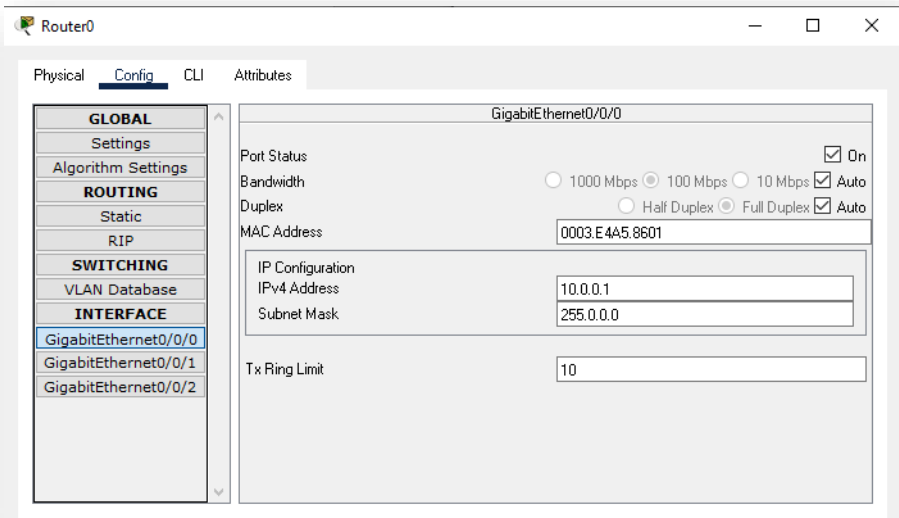
Configure the following devices as shown below: -

List of devices: -

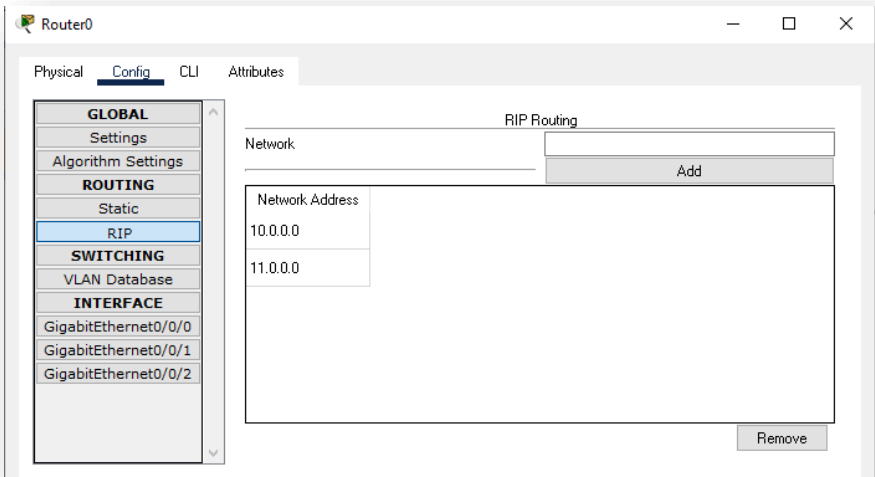
- Router0
- Switch0
- PC0, PC1
- Wireless Router0
- Laptop0, Laptop1



(1) Router0: -
Give IP address accordingly



Add RIP routing in router for convinence,



(2) PCs: -
PC0

PC0

Physical

Config

Desktop

Programming

Attributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

DHCP

Static

IPv4 Address10.0.0.2

Subnet Mask255.0.0.0

Default Gateway10.0.0.1

DNS Server0.0.0.0

IPv6 Configuration

Automatic

Static

IPv6 Address

Link Local AddressFE80::202:4AFF:FE00:B227

Default Gateway

DNS Server

802.1X

Use 802.1X Security

AuthenticationMD5

Username

Password

PC1

PC1

Physical

Config

Desktop

Programming

Attributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

DHCP

Static

IPv4 Address10.0.0.3

Subnet Mask255.0.0.0

Default Gateway10.0.0.1

DNS Server0.0.0.0

IPv6 Configuration

Automatic

Static

IPv6 Address

Link Local AddressFE80::202:4AFF:FE18:4CBE

Default Gateway

DNS Server

802.1X

Use 802.1X Security

AuthenticationMD5

Username

Password

BASICS OF COMMUNICATION SYSTEMS (2CSE202)

3

(3) Wireless Router0: -
Configure the Wireless Router0 as follows: -

Wireless Router0

Physical Config GUI Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

Internet

LAN

Wireless

Internet Settings

IP Configuration

☐ DHCP

☒ Static

☐ PPPoE

UserName

Password

IPv4 Address

Subnet Mask

Default Gateway

DNS Server

Wireless Router0

Physical Config GUI Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

Internet

LAN

Wireless

LAN Settings

IP Configuration

IPv4 Address

Subnet Mask

Wireless Router0

Physical Config GUI Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

Internet

LAN

Wireless

Wireless Settings

SSID

2.4 GHz Channel

Coverage Range (meters)

Authentication

☐ Disabled

☐ WEP

☐ WPA-PSK

☐ WPA

☒ WPA2-PSK

☐ WPA2

WEP Key

PSK Pass Phrase

RADIUS Server Settings

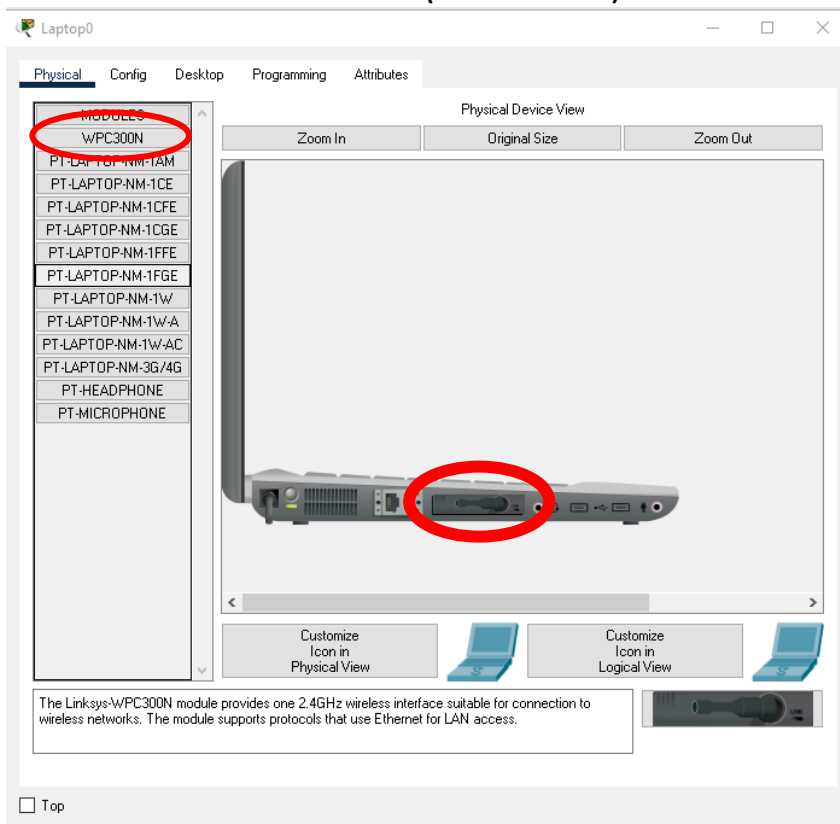
IP Address

Shared Secret

Encryption Type

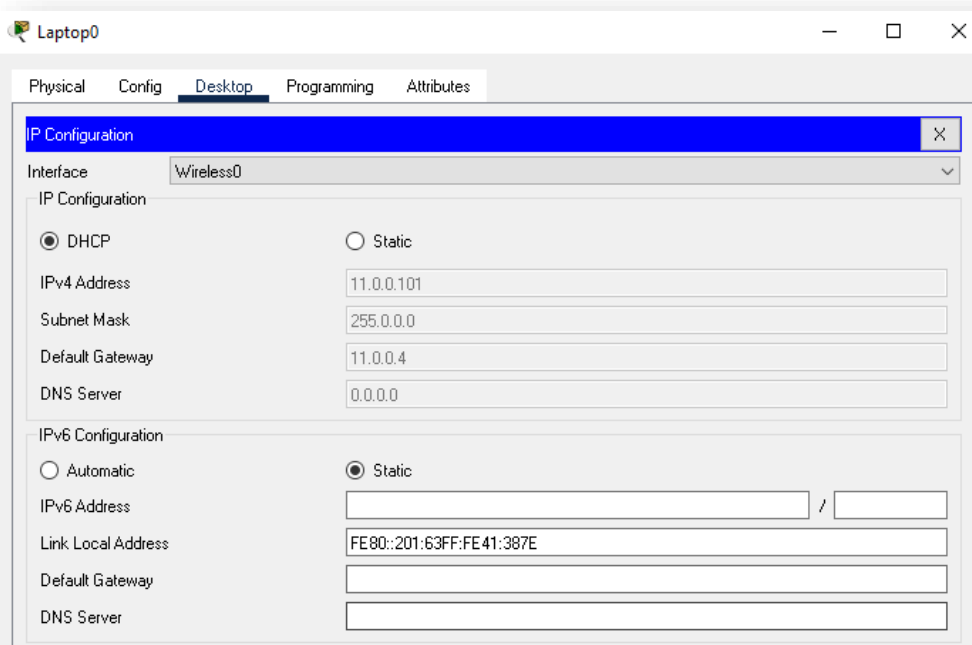
(4) Laptops: -

- First of all, we have to add wireless module (WPC300N) in laptops.
- For that we have to turn off laptop remove the existing hardware and add wireless module (WPC300N).

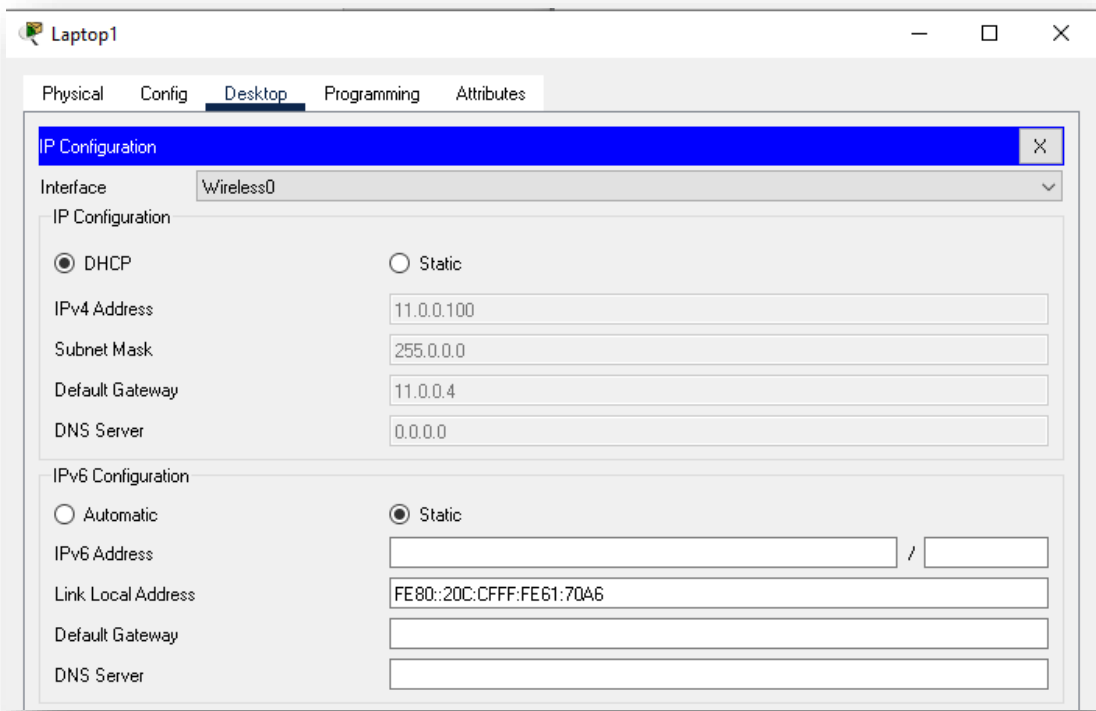


- Then we will have to add IP addresses to laptops as follows: -

Laptop0: -

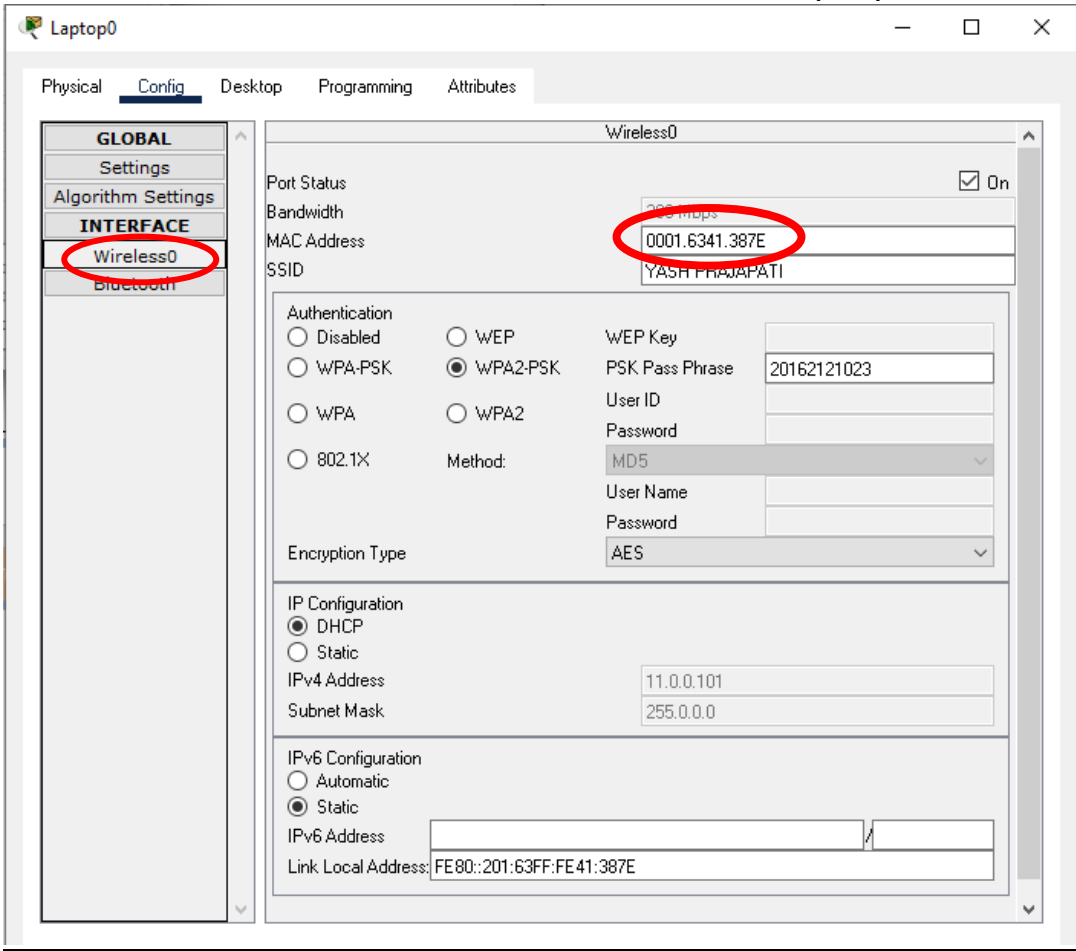


Laptop1: -

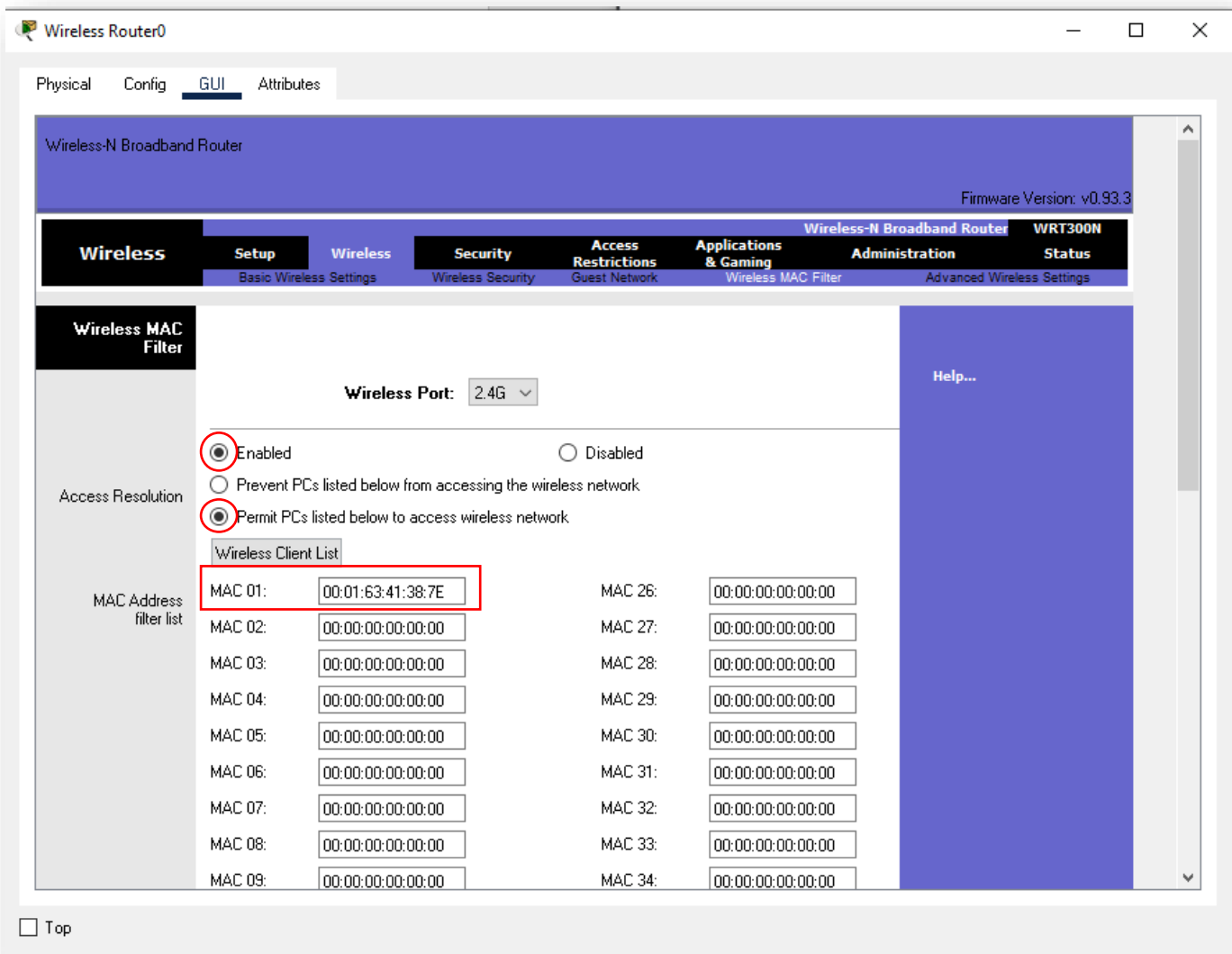


Now for MAC filtering at wireless router

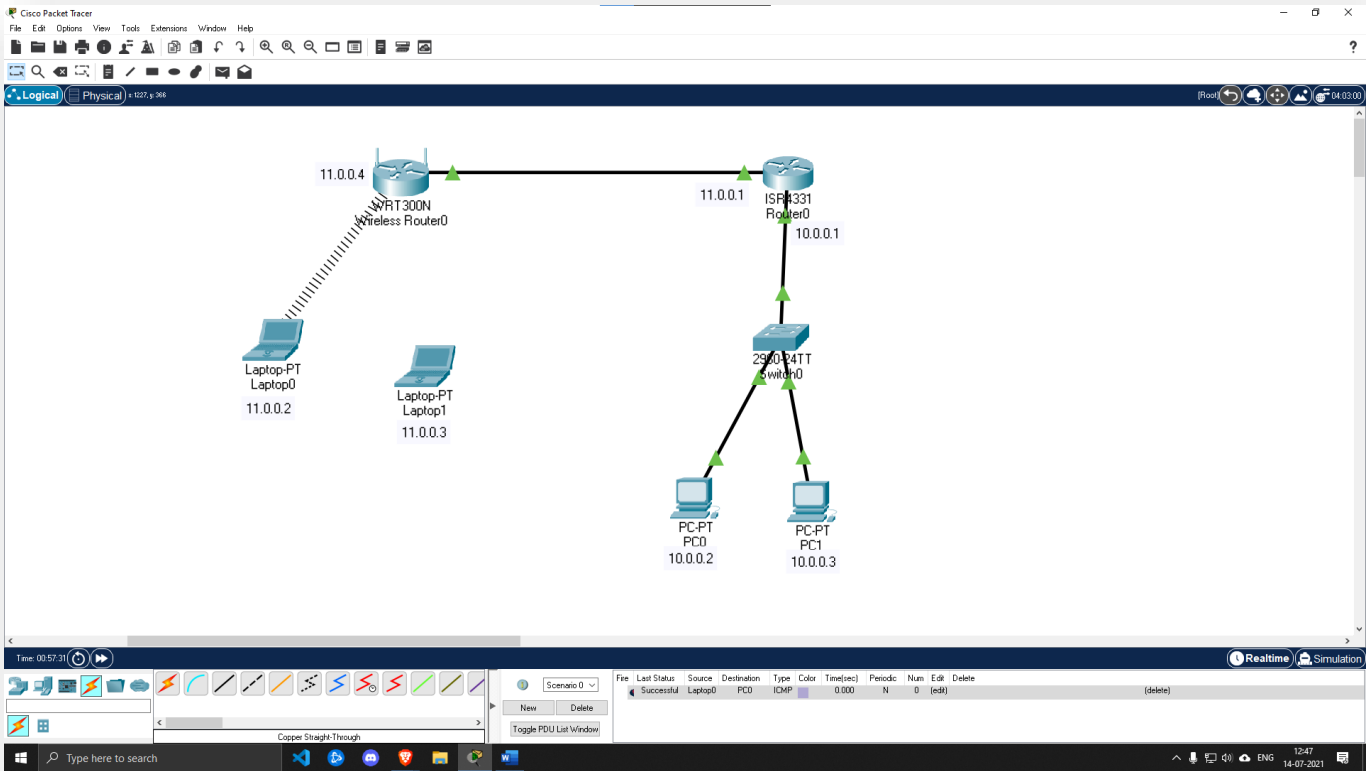
- First we will need to see the MAC address of Laptop0



- Now goto Wireless Router0, click on “GUI”
- In GUI, goto “Wireless” and in wireless goto “Wireless MAC filter”.
- Click on enable option and click on “Permit PCs listed below to access wireless network” add the MAC address of Laptop0 in the list.



CONCLUSION



As per ques, we are now able to send ICMP packet from Laptop0 to PC0. And we also created a MAC filter at wireless router in such a way that only laptop0 is able to connect with wireless router.