Marwadi University	**Marwadi University** **Faculty of Technology** **Department of Information and Communication Technology**	
Subject: Mobile and pervasive Computing (01CT0716)	**Aim: Automation Project Lab using Motion Detector, Webcam and Wireless Router**	
Task 7	**Date: 24/10/2023**	**Enrolment No: 92110133013**

Aim: Automation Project Lab using Motion Detector, Webcam and Wireless Router

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1. Project Objective

The Objective of my project is to establish of the Wireless connectivity and its security also with the help of some Iot devices in cisco packet tracer, and this project is done with the simulation tool, server, router, mobile, tablet, motion detector, webcam and etc. The project aim to create a small wireless network in the lab or class room with security.

2. Equipment and Software

2.1 Hardware Components

- Server
- Router
- PC
- Laptop
- Phone
- Tablet
- Webcam
- Motion Detector

2.2 Software Components

-Packet Tracer (version 7.3 or later)

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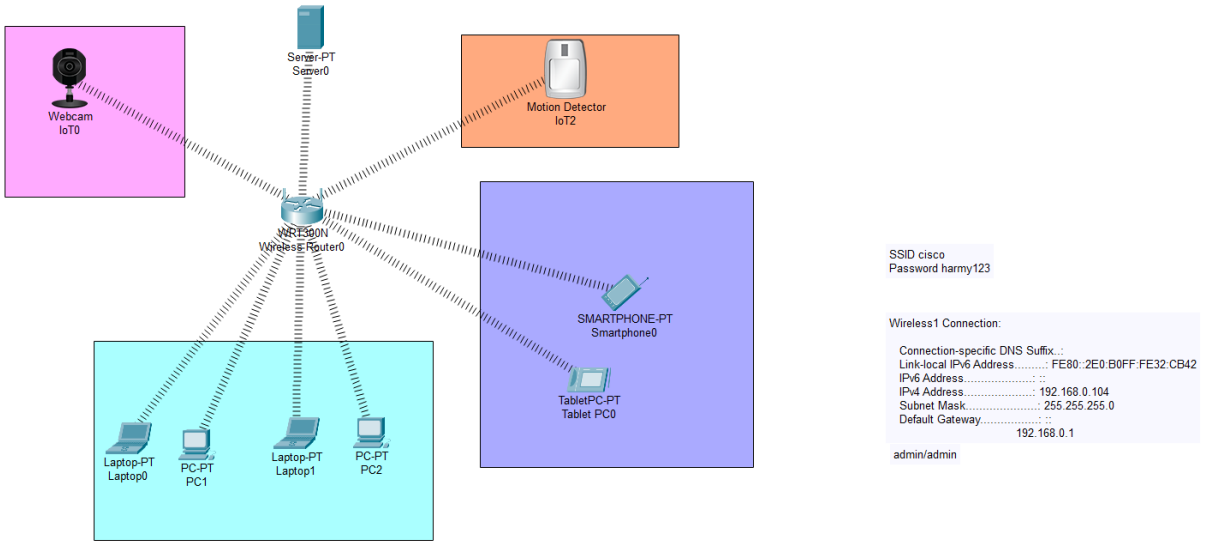
3. Network Topology



4. Implementation

4.1 Configure Wireless Router

-Take one Wireless Router (Wi-fi Router)

-Take laptop or pc's with wi-fi interface

4.2 Configure Security of wi-fi Router

- To make wireless router secure Give ID and Password

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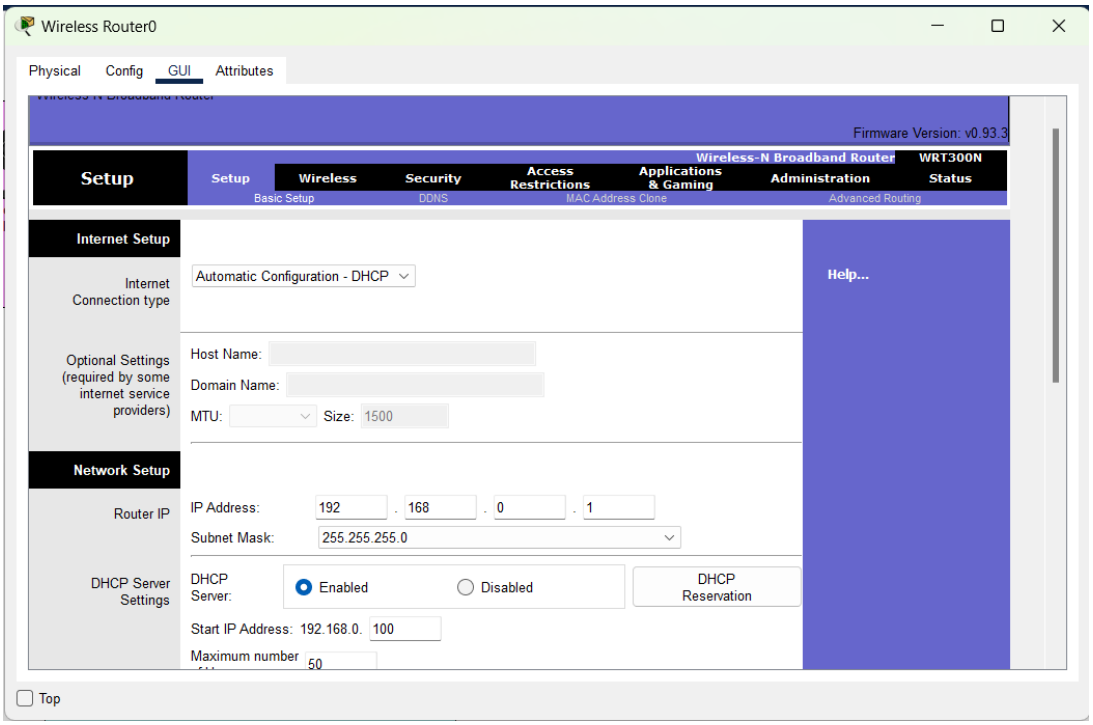
For This:

- Go in router GUI, change in Internet Connection Type and select Automatic Configuration



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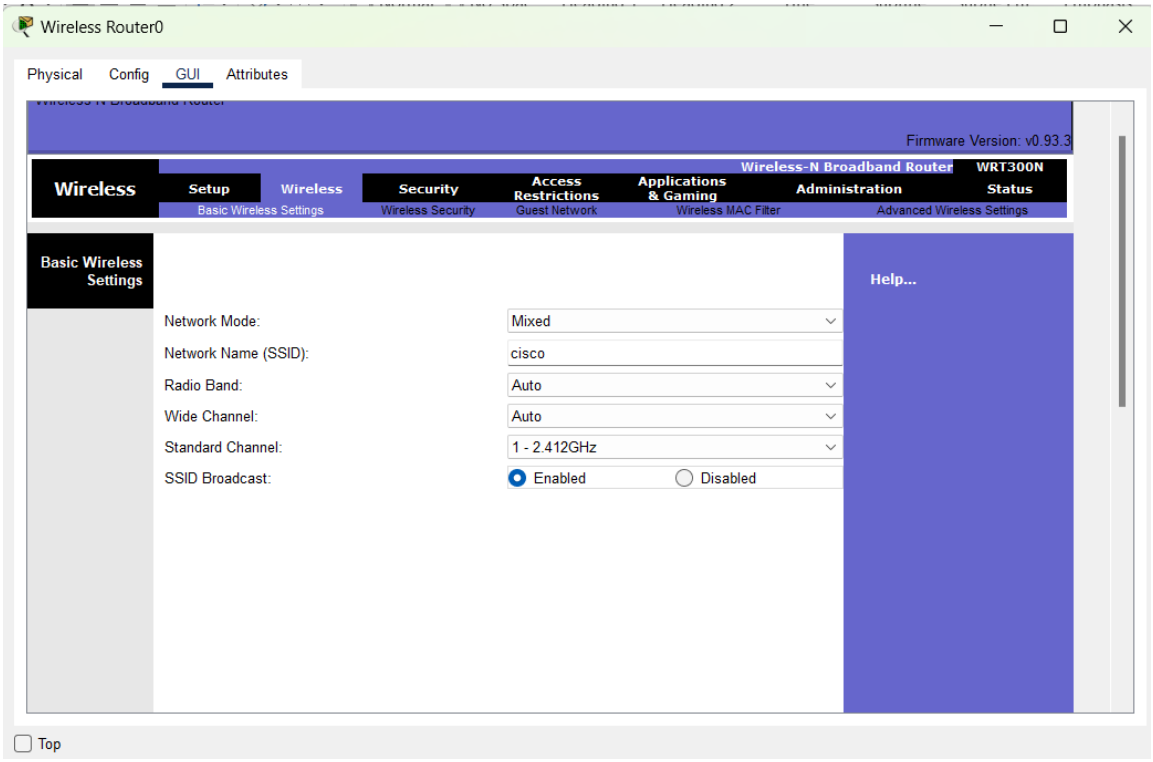
- Give network name like cisco



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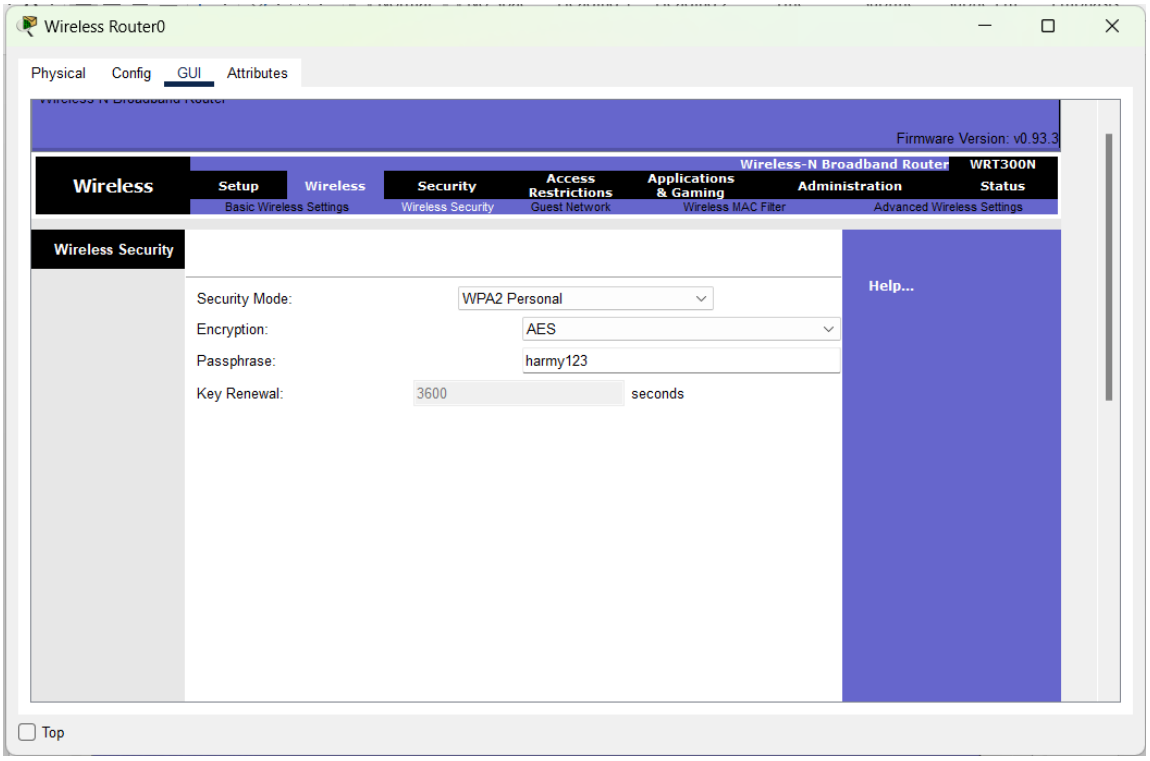
- Give Password like harmy123



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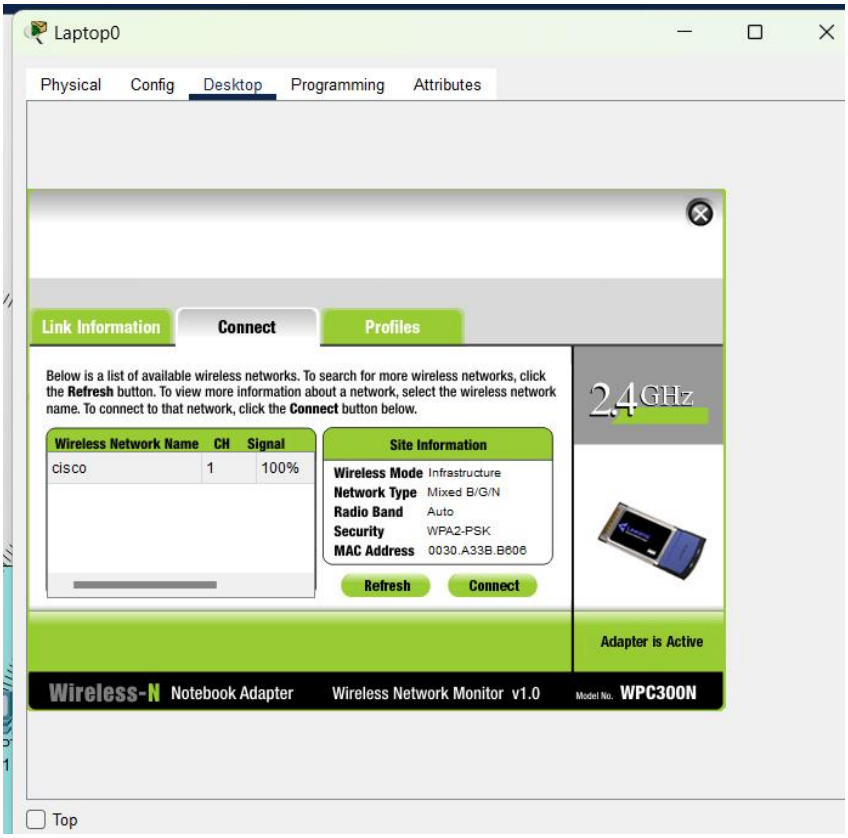
- And now if you want to connect any devices with router so first you need to enter password and connect any devices. (for security purpose)



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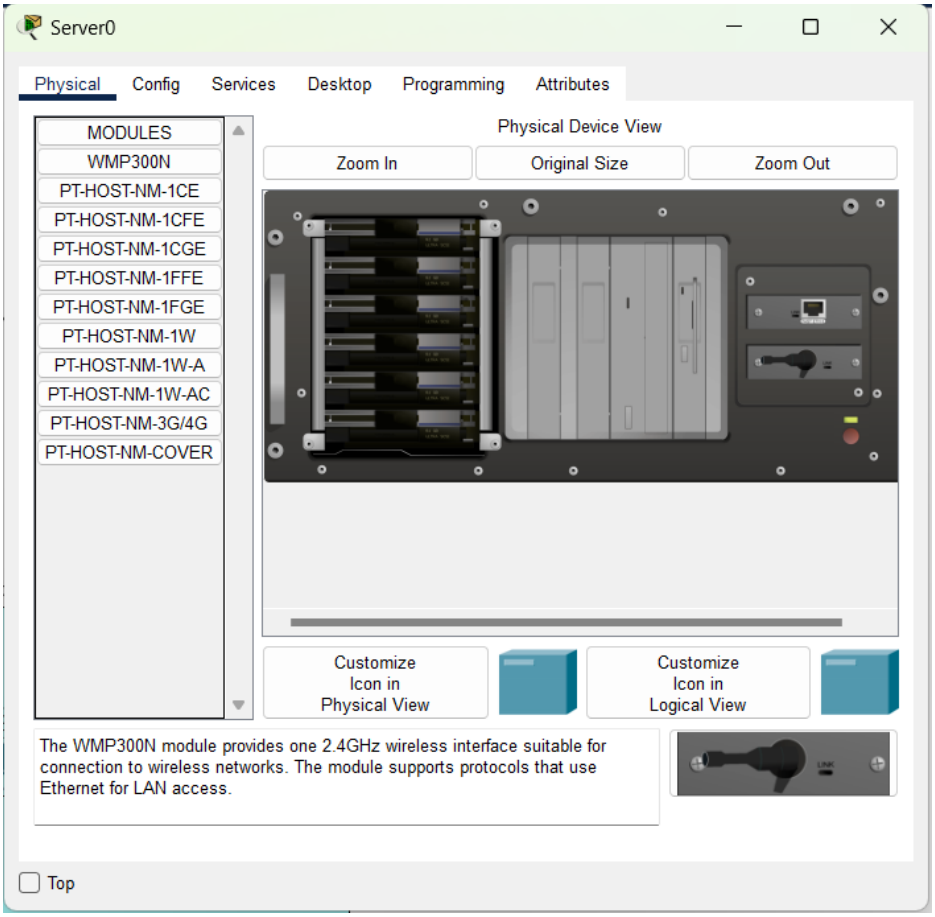
4.3 Configure Server

- For connect server with wi-fi add single band router



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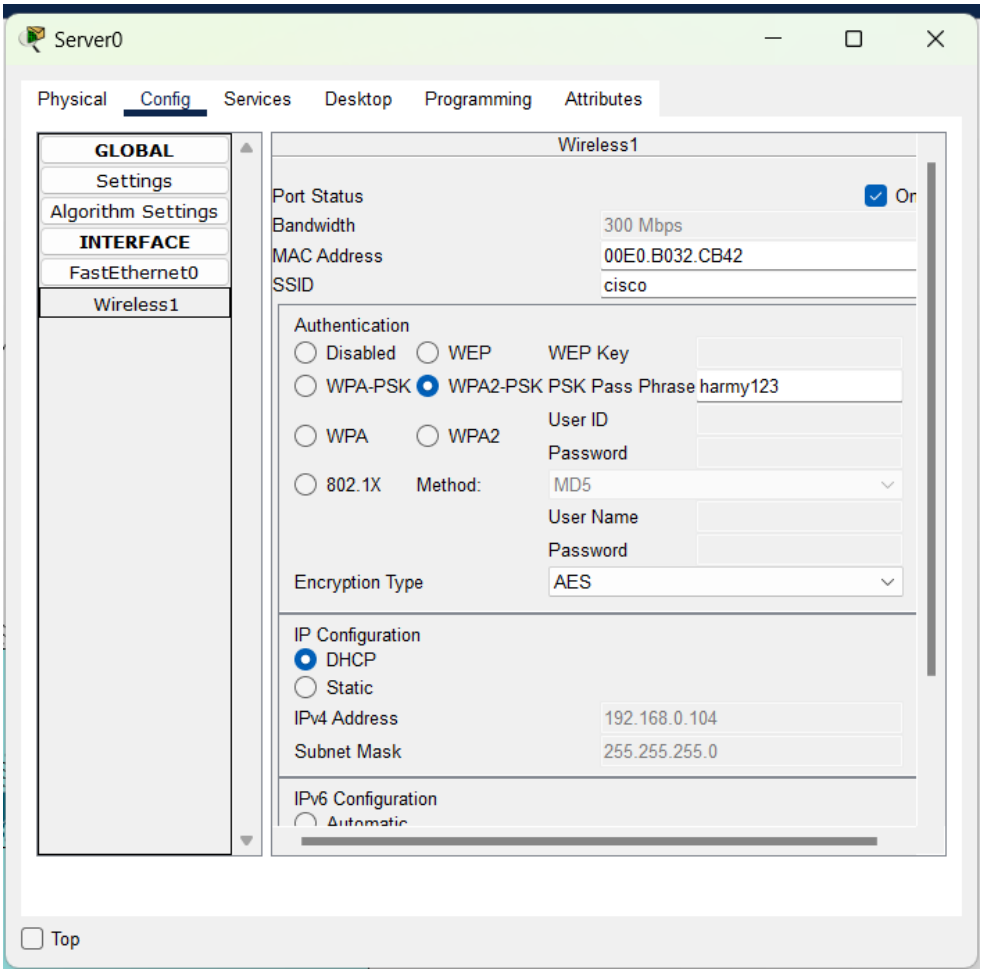
- And then give SSID and Password on the Server



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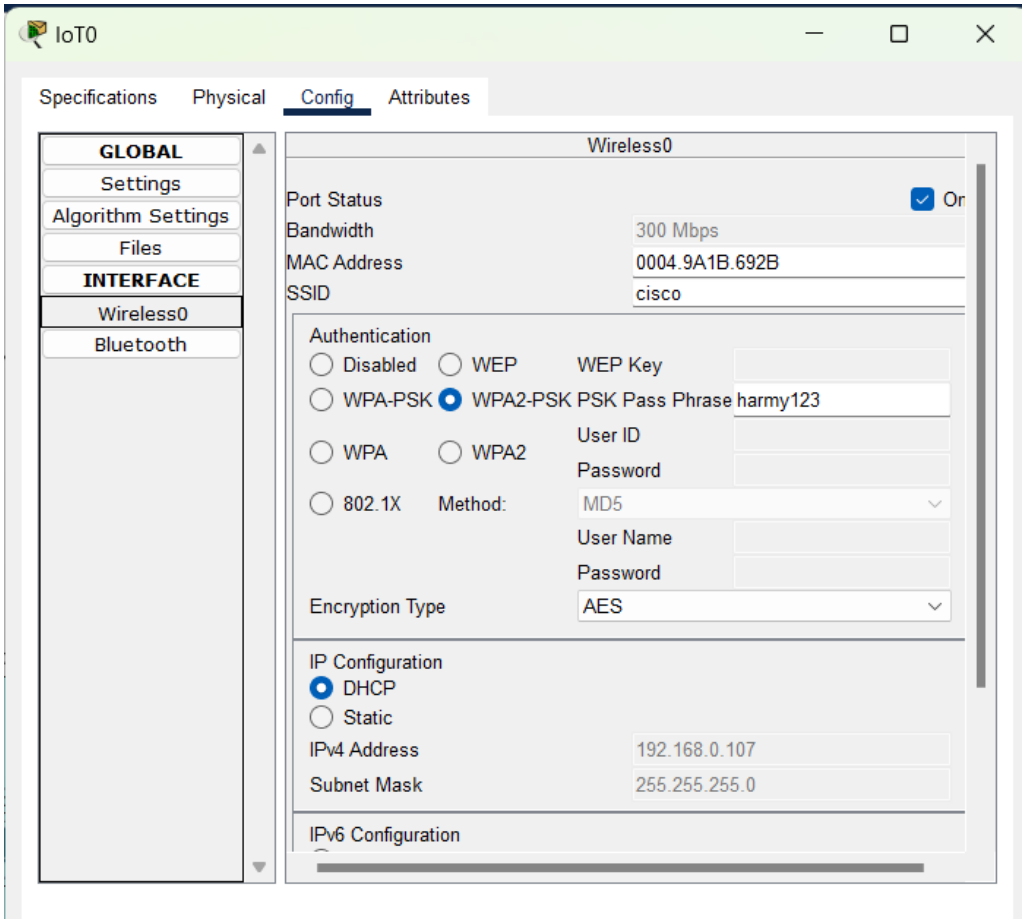
4.4 Set up IoT Devices

- Now connect motion detector and web cam with wi-fi



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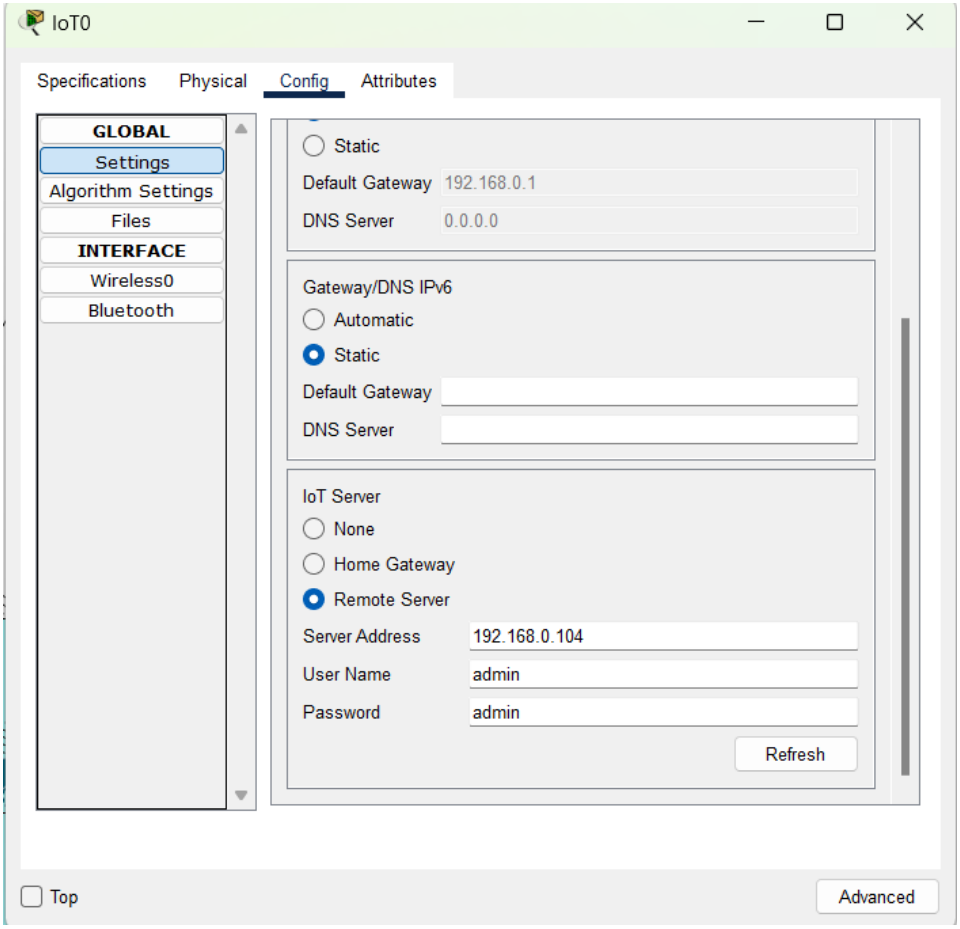
- To connect webcam and motion detector with server (Add server address ,username and password)



- And now all the devices are connected with same network
- This network is take ip address automatically with the help of DHCP
- Server ip is 192.168.0.104
- Router ip is 192.168.0.1

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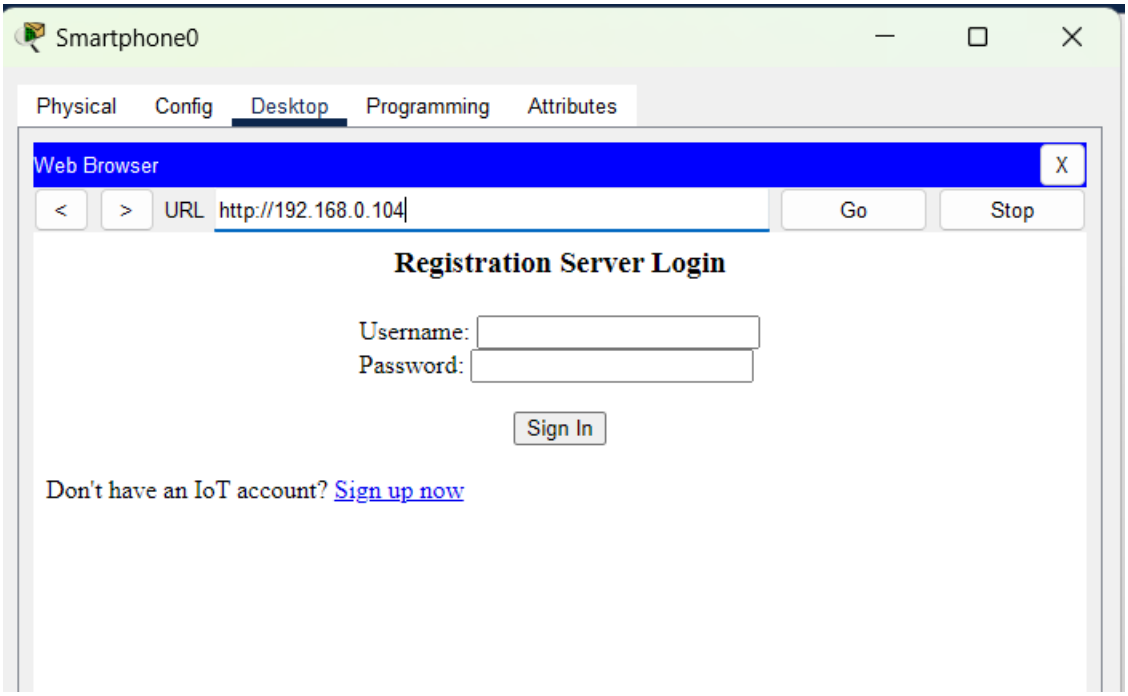
- To moniter all this things in smart phone

For that,

- Go in web browser and create account and type username and password



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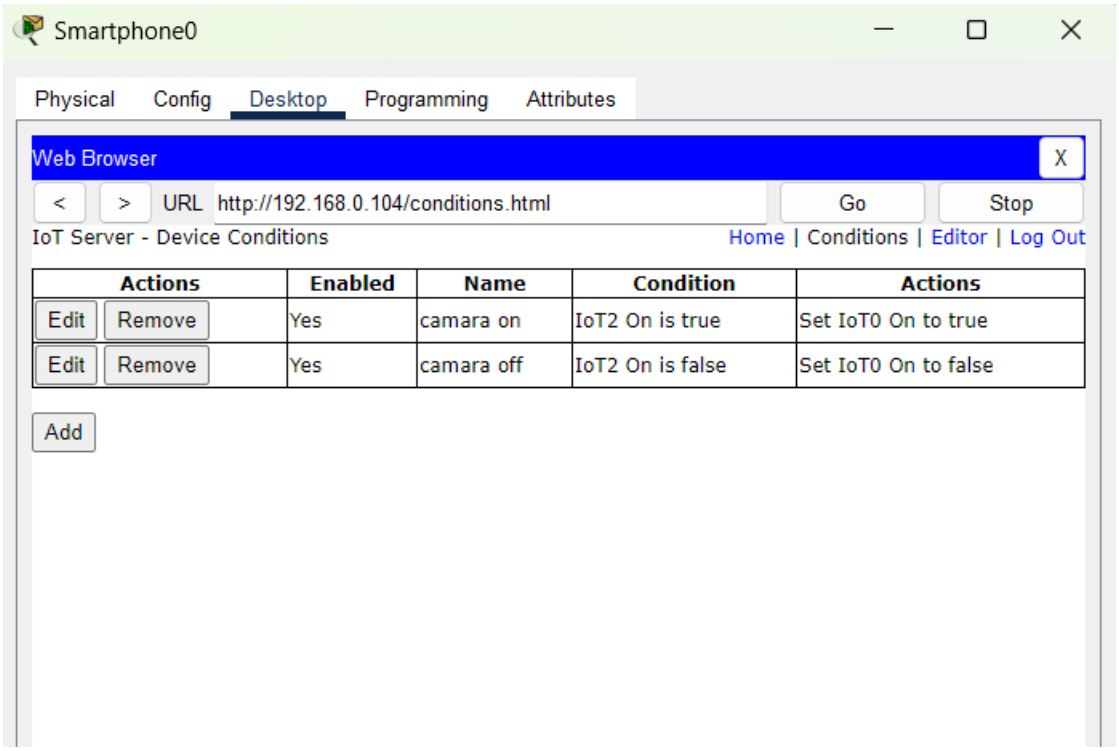
- And here you can give the conditions based on the requirements.



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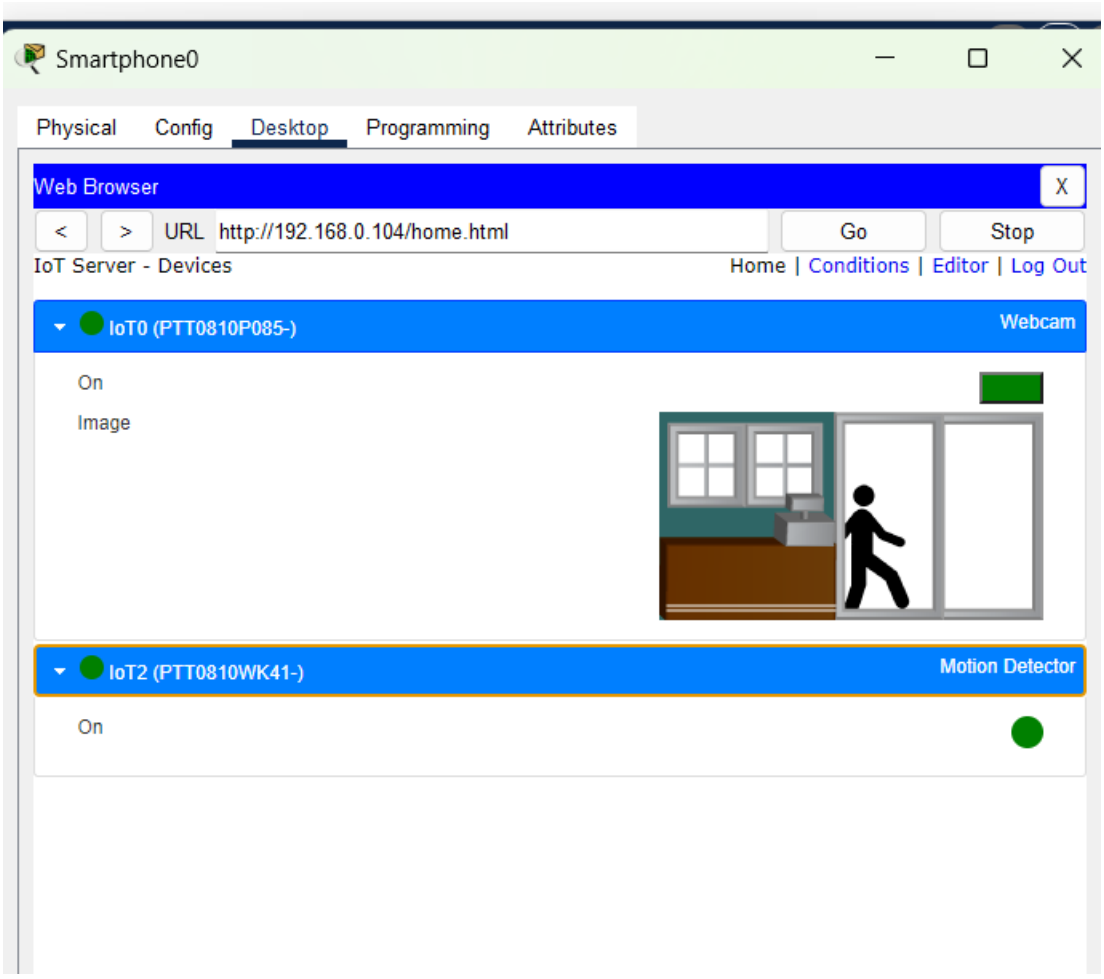
- Last Check the output (if motion is detected than webcam is on otherwise off)



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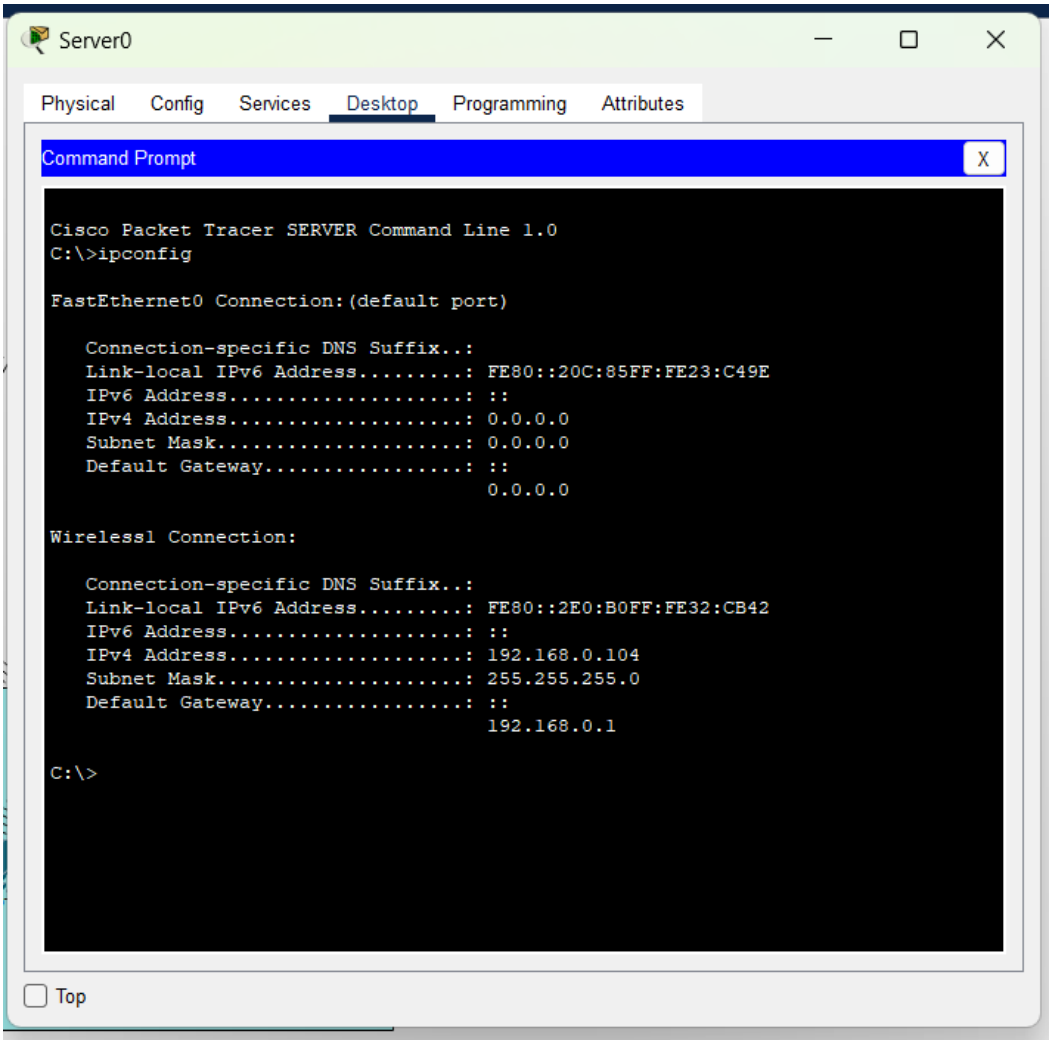
5. Testing and Troubleshooting

5.1 Connectivity Testing

- Check all the pc's are connected with the server or not
- To check ip address are assigned automatically or not



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6. Conclusion

From this project I conclude that we can add some security this in router like password and also you can add some ip address to connect with router. You can also block the user so that they cannot use our wi-fi. And all the devices connect with the same network and for monitoring this things with same network you can use smart phone also.

7. Future Enhancements

In future in this project you can add many more devices for the security purpose and you can also create large network and add the ip address in router GUI and then use this wi-fi.

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