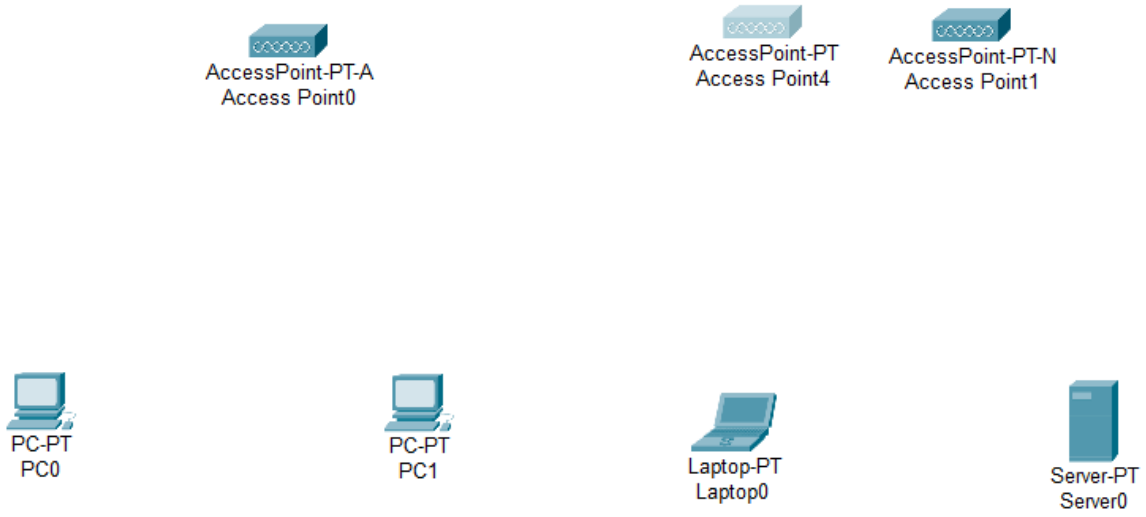
Practical -7

Aim: Implement a Wireless sensor network simulation.

Basic setup

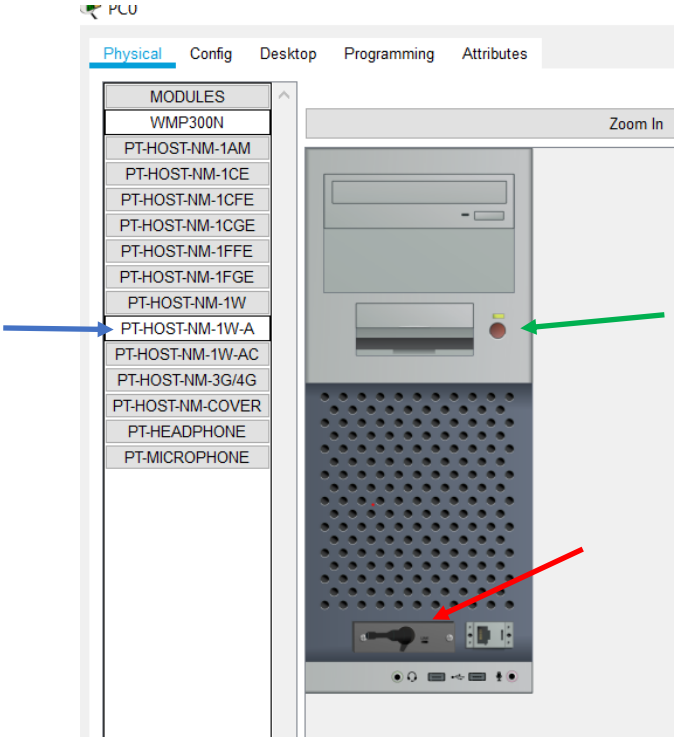


1: Create the following network using AccessPoint-PT-A and PC-PT.

2: Click on PC0 → Physical tab.

3: Turn off the CPU (off - green arrow) and remove the FastEthernet module (removing place in red arrow) and install PT-HOST-NM-1W-A (blue arrow) and turn On the CPU.

Note: when ON yellow light will glow above red on/off button.



4. A connection will be made between Accesspoint and PC0

5. Click on PC1 and click on physical tab.

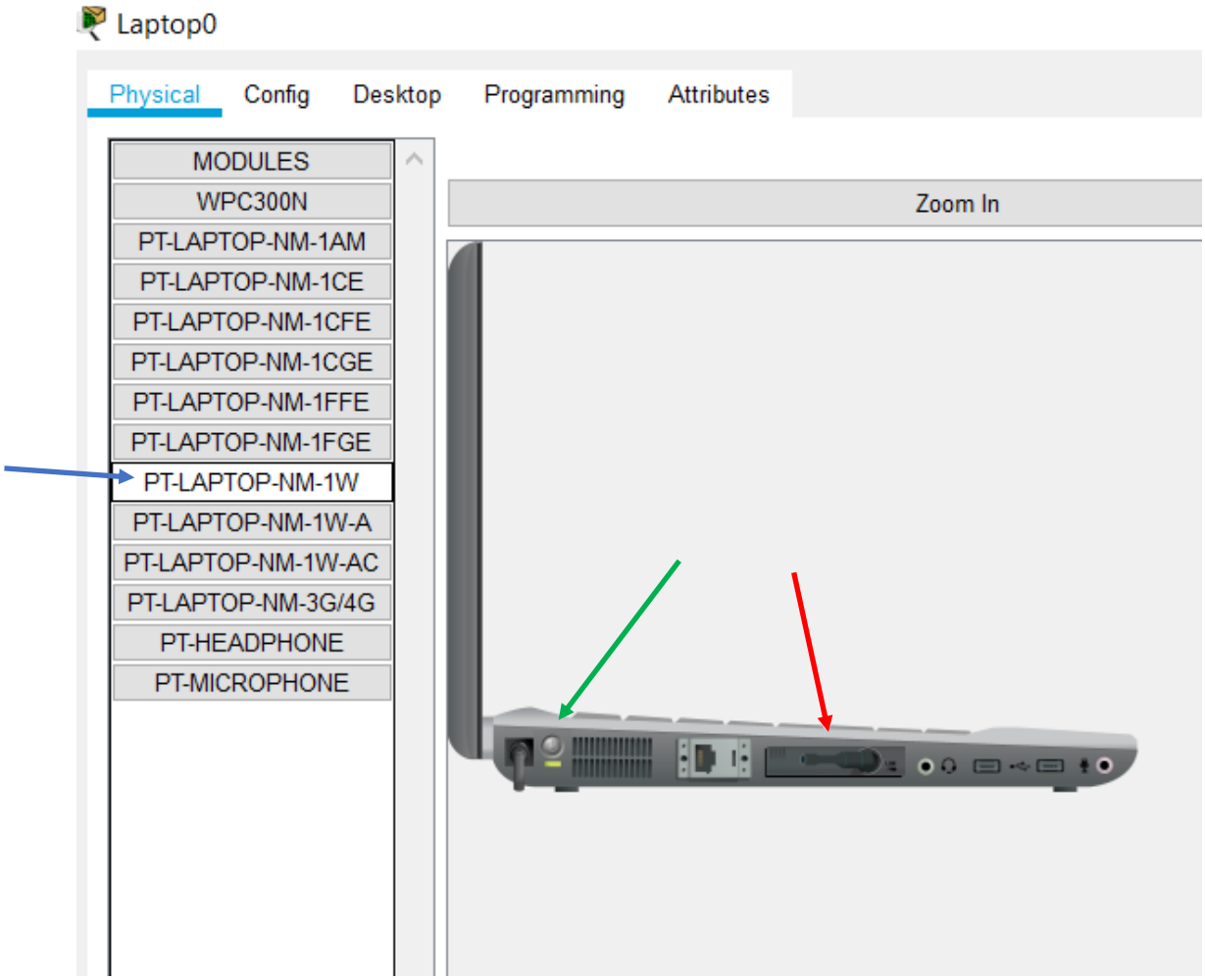
6. Repeat step 3 and see if the connection is done between PC1 and Accesspoint.

Now similarly for laptop

7. Click on Laptop → Physical tab.

8. Turn off the Laptop (off - green arrow) and remove the PT-LAPTOP-NM-1CFE module (removing place in red arrow) and install PT-LAPTOP-NM-1W (blue arrow) and turn On the Laptop.

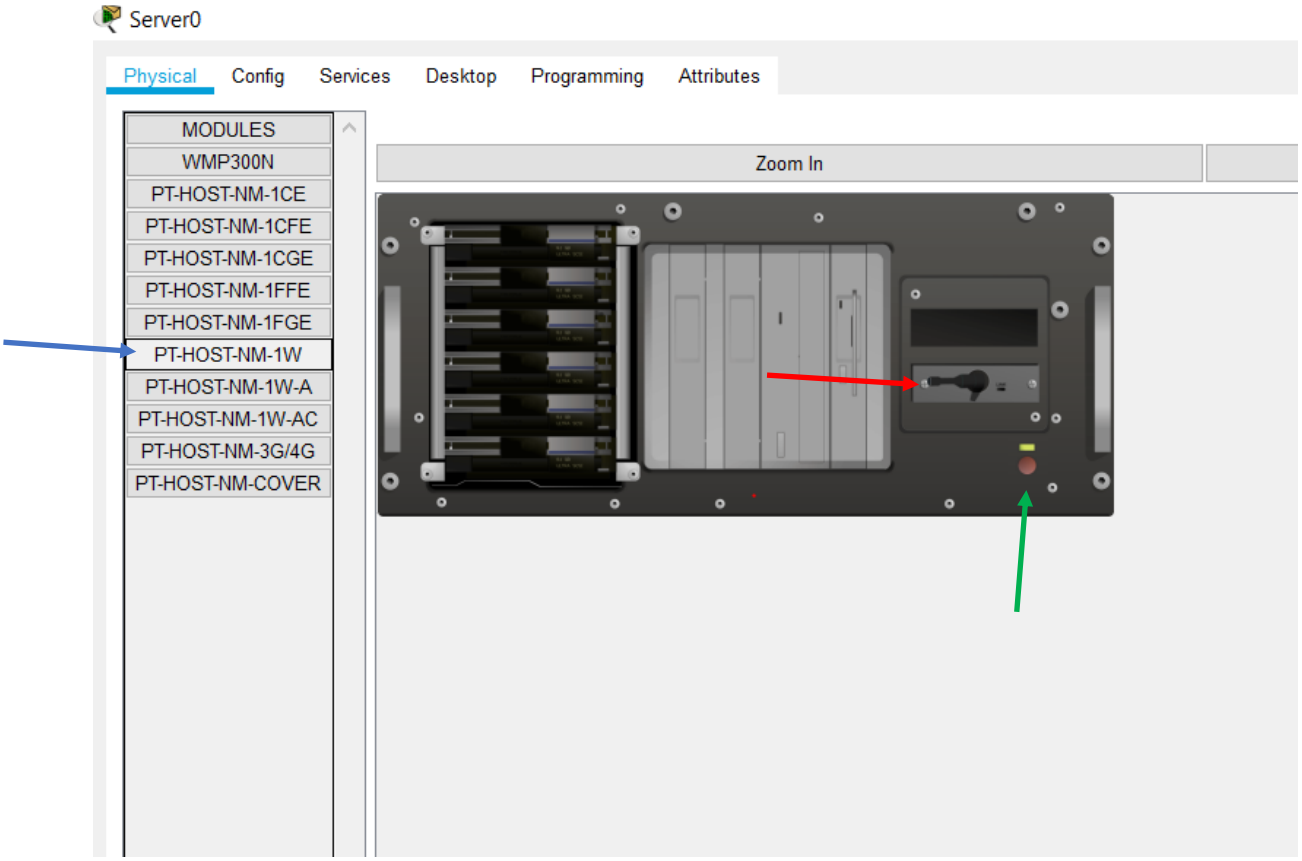
A connection will be made between Accesspoint-PT-N and Server



Now similarly for server

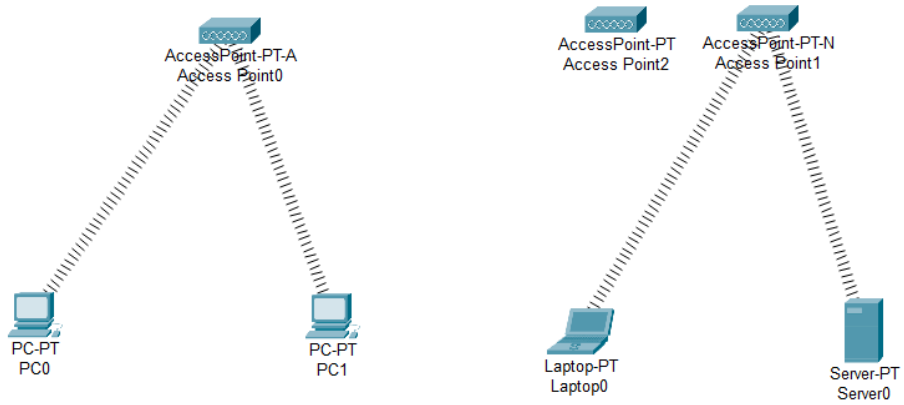
9. Click on Server and click on Physical tab.

10. Turn off the Server (off - green arrow) and remove the PT-HOST-NM-1CFE module (removing place in red arrow) and install PT-HOST-NM-1W (blue arrow) and turn On the Server.



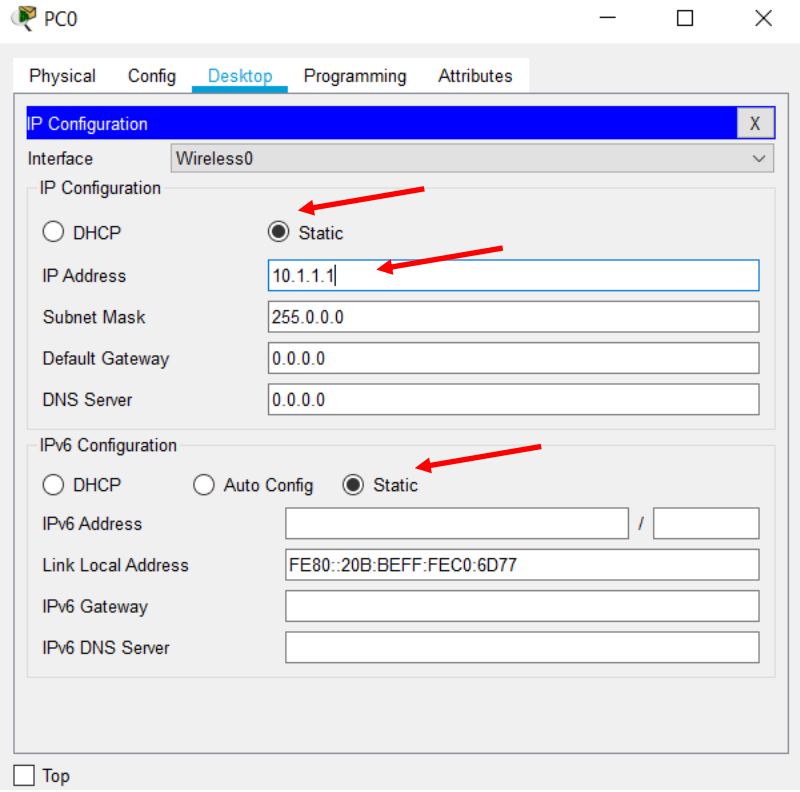
A connection will be made between Accesspoint-PT-N and Server.

After these stes the setup looks like:



11. Click on PC0 → Desktop → IP Configuration & set the IP config:

Select both the static options & give IP Address as 10.1.1.1



Similarly for **PC1**

12. Click on PC1 → Desktop → IP Configuration & set the IP config:

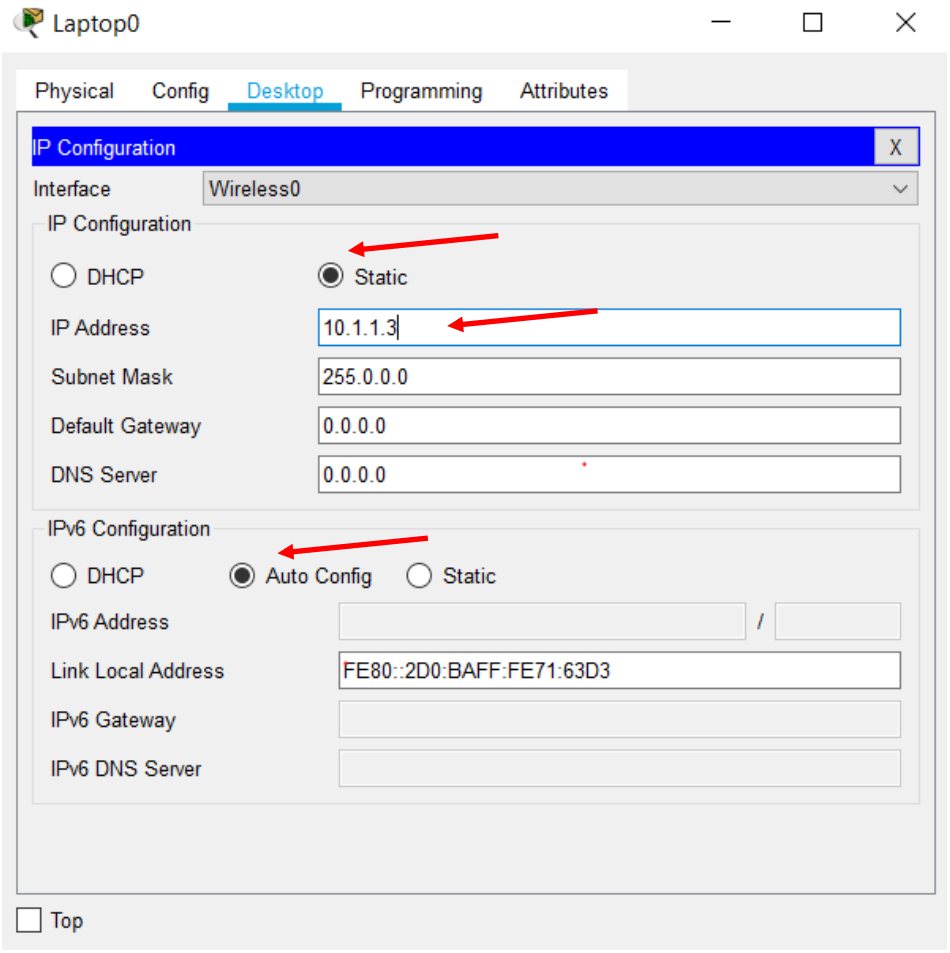
Select both the static options & give IP Address as 10.1.1.2

Similaly for **laptop**

13. Click on Laptop → Desktop → IP Configuration & set the IP config:

Select first option as **static** for IP configuration & give IP Address as 10.1.1.3\

Select second option **Auto Config** for Ipv6 Configuration.



Similarly for **server**

14. Click on server → Desktop → IP Configuration & set the IP config:

Select both the static options & give IP Address as 10.1.1.4

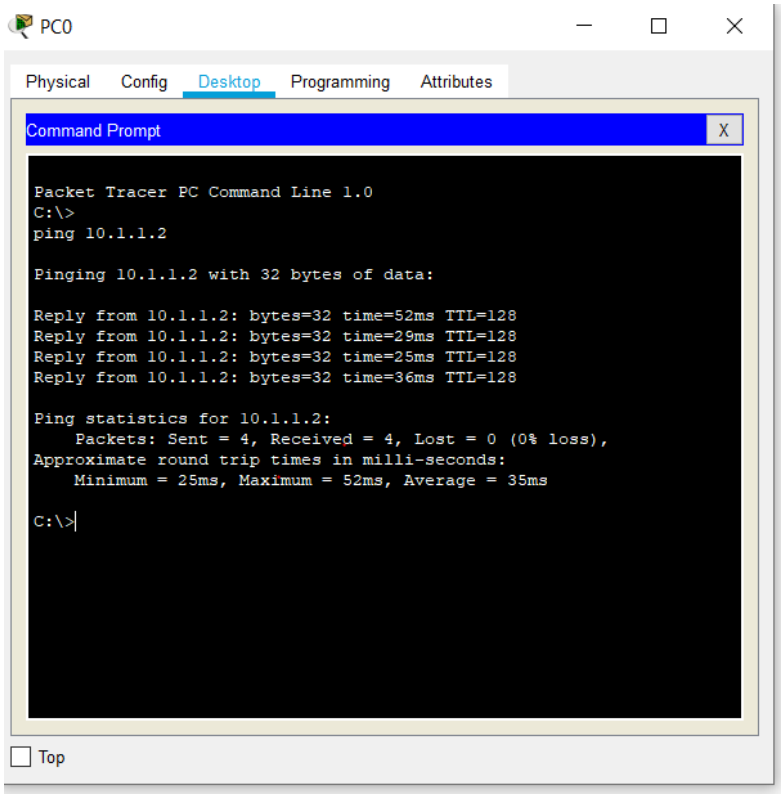
15.Testing connections:

Test Access PointA

a. Ping PC1 (10.1.1.2) from PC0. The ping should succeed.

To Ping click on PC0 → Desktop → Command prompt

Write command: ping 10.1.1.2

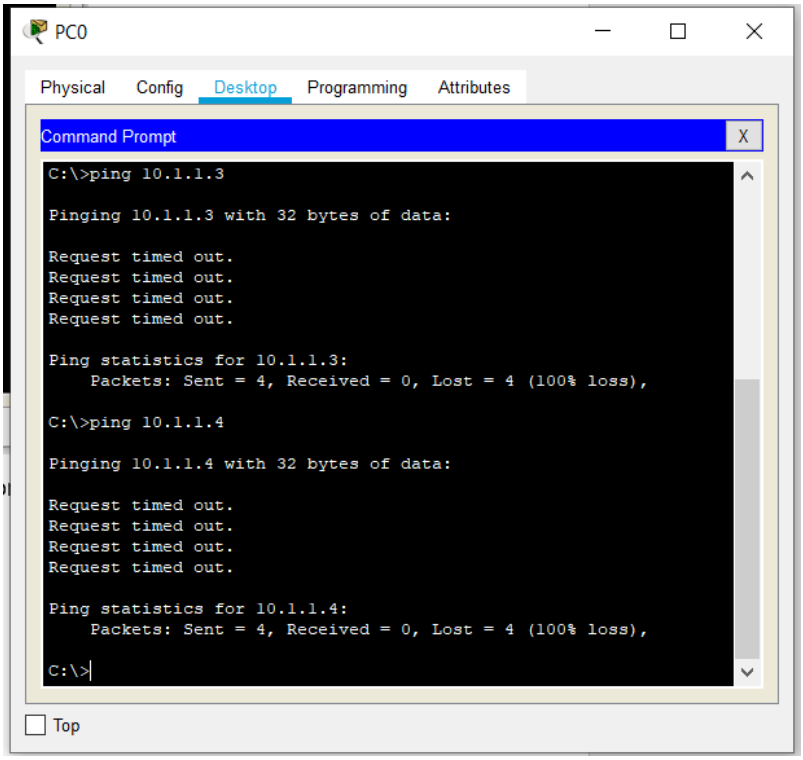


b. Ping Laptop0(10.1.1.3) and Server0 (10.1.1.4) from PC0. The pings should fail.

Similarly on the same terminal write the commands:

ping 10.1.1.3

ping 10.1.1.4



16.Test Access PointN

a.Ping Server0 (10.1.1.4) from Laptop0. The ping should succeed.

To Ping click on Laptop → Desktop → Command prompt

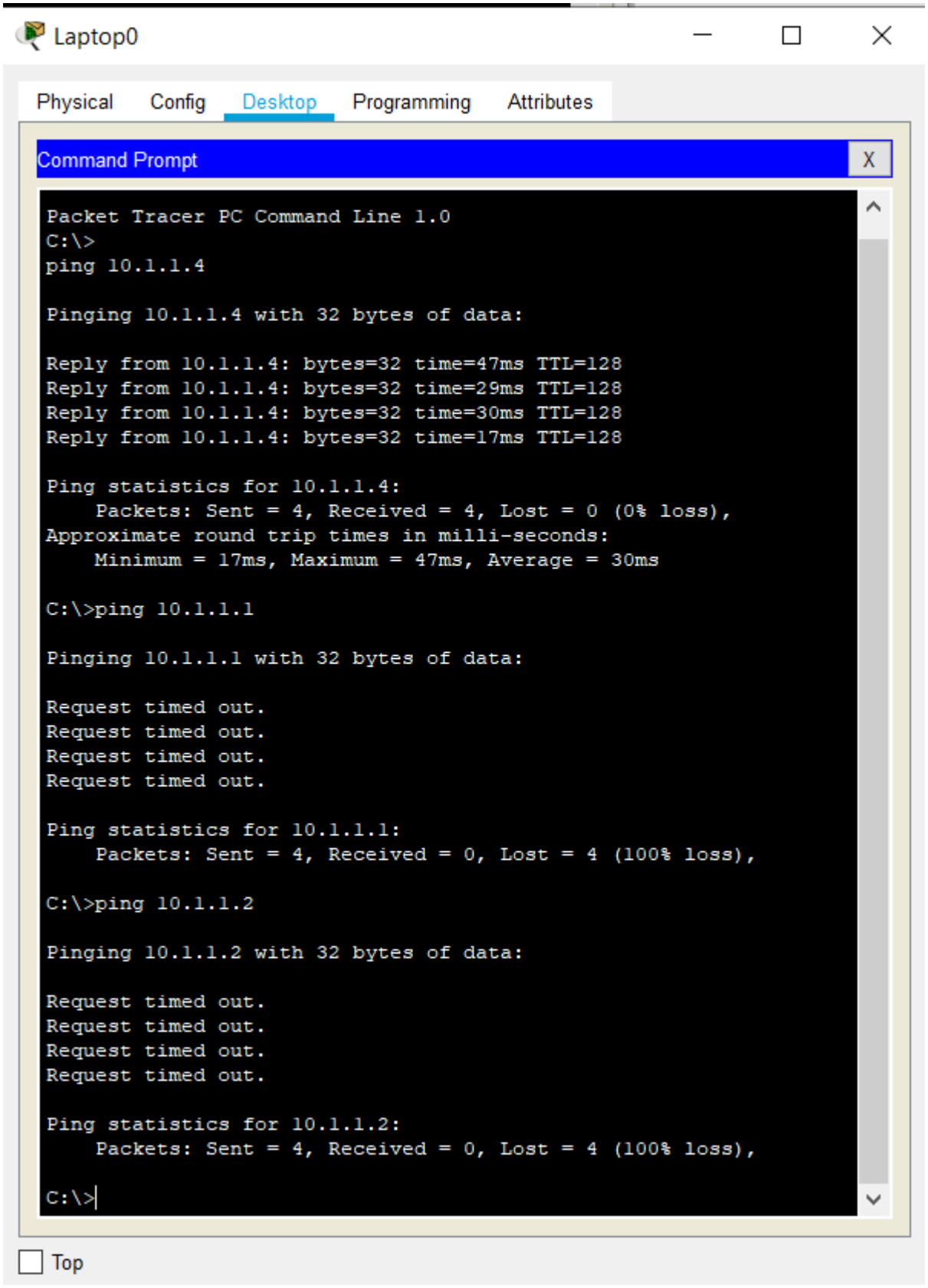
Write command: ping 10.1.1.4

b. Ping PC0 (10.1.1.1) and PC1 (10.1.1.2) from Laptop0. The pings should fail.

Similarly on the same terminal write the commands:

ping 10.1.1.1

ping 10.1.1.2

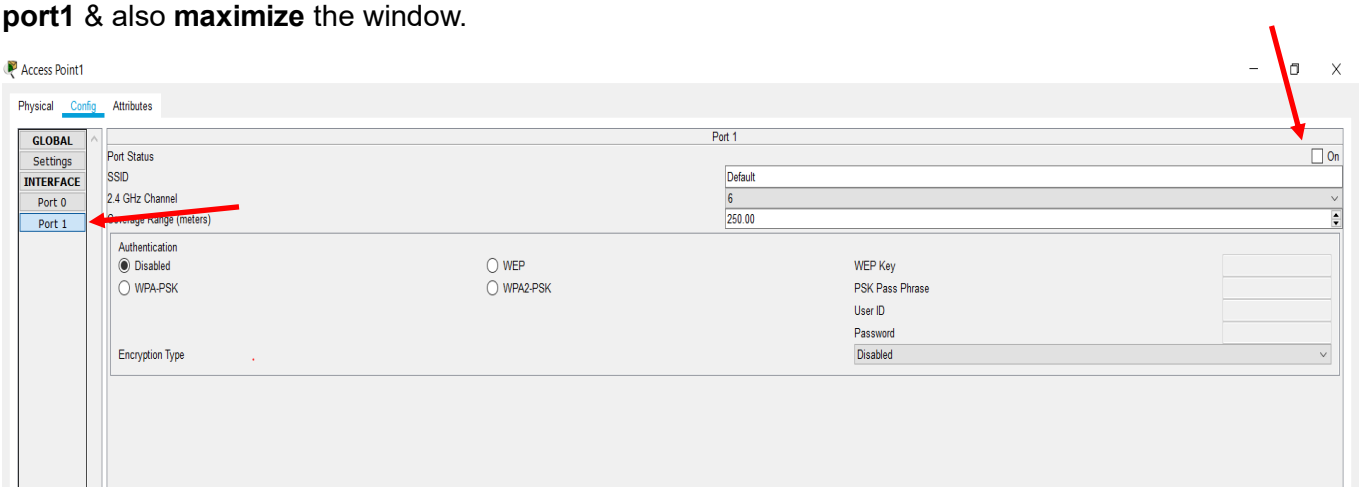

Laptop0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Packet Tracer PC Command Line 1.0
C:\>
ping 10.1.1.4
Pinging 10.1.1.4 with 32 bytes of data:
Reply from 10.1.1.4: bytes=32 time=47ms TTL=128
Reply from 10.1.1.4: bytes=32 time=29ms TTL=128
Reply from 10.1.1.4: bytes=32 time=30ms TTL=128
Reply from 10.1.1.4: bytes=32 time=17ms TTL=128
Ping statistics for 10.1.1.4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 17ms, Maximum = 47ms, Average = 30ms
C:\>ping 10.1.1.1
Pinging 10.1.1.1 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 10.1.1.1:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>ping 10.1.1.2
Pinging 10.1.1.2 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 10.1.1.2:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>
Top

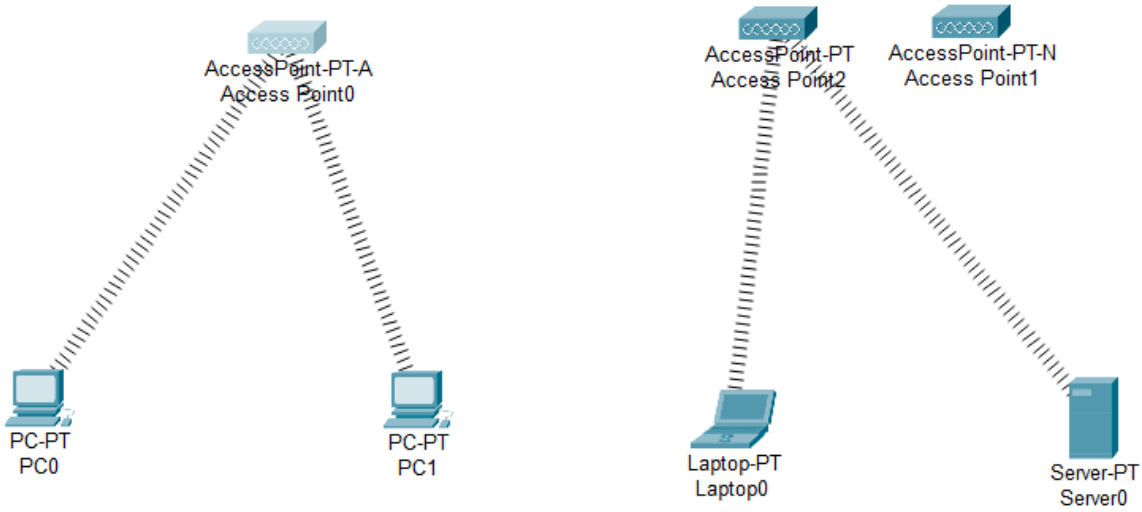
17. Now Turn off the port of AccesspointN

a. Turn on Port1 on Access Point3 and turn off Port1 on Access PointN. Laptop0 and

Server0 should associate with Access Point3.

To **turn off/on** you need to **select the access point** & then **go to config** then **click on port1** & also **maximize** the window.





Lastly ping server (10.1.1.4) from laptop using command:

Ping 10.1.1.4

Ping will be successful