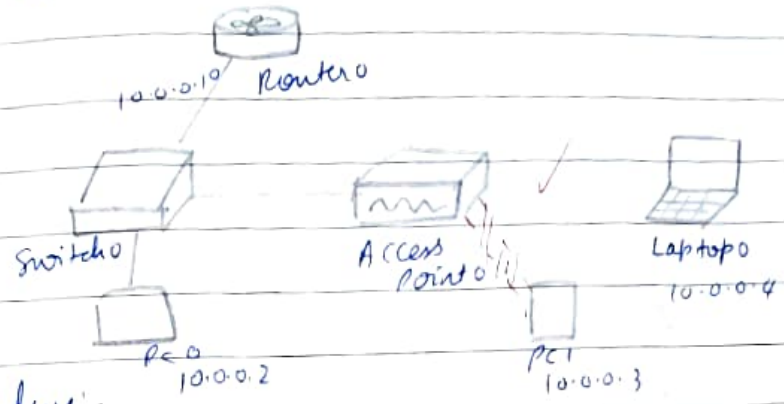
DATE 45

10/8/23

Experiment - 10

To construct a WLAN and make the nodes communicate wirelessly.

Topology :-



Procedure :-

i) construct above topology. use Access point-PT. connect that to router. Set the IP address of the PC connected with wire and gateway and configure Router3

ii) configure access Point3 → Port 1 → SSID Name - any name (WLAN here). select WEP any give any 10 digit hex key - 1234567890 here.

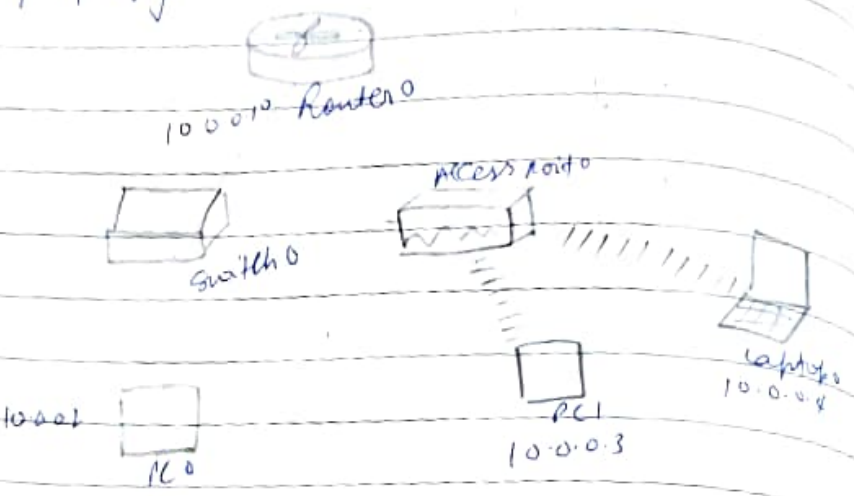
iii) To configure PC4 of Laptop wirelessly, switch off the device. Drag the existing PT-HOST-NM-1AM to the component listed in the LHS. Drag WMP300N wireless interface to the empty port of Switch on the device.

iv) Now, in the config tab, a new wireless interface would have been added. configure SSID, WEP, WEP key. IP address & gateway (as normally done) to the device.

```
Router> enable
Router# config t
Router(config)# interface fastethernet 0/0
Router(config-if)# ip address 10.0.0.10 255.0.0.0
Router(config-if)# no shut.
```

Result:-

Topology:-



in PC0 (10.0.0.2)

PC> ping 10.0.0.3

Pinging 10.0.0.3 with 32 bytes of data:

Reply from 10.0.0.3: bytes=32 time=21ms TTL=
Reply from 10.0.0.3: bytes=32 time=13ms TTL=
Reply from 10.0.0.3: bytes=32 time=6ms TTL=
Reply from 10.0.0.3: bytes=32 time=0ms TTL=

Ping statistics for 10.0.0.3:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 6 ms, Maximum = 21 ms, Average = 12 ms

Observation:-

i) Wireless local area network WLAN is a group of colocated computers or other devices that form a network based on radio transmission rather than wire connections.

ii) after the WLAN is setup, the linked connection appears in the topology from the access point.

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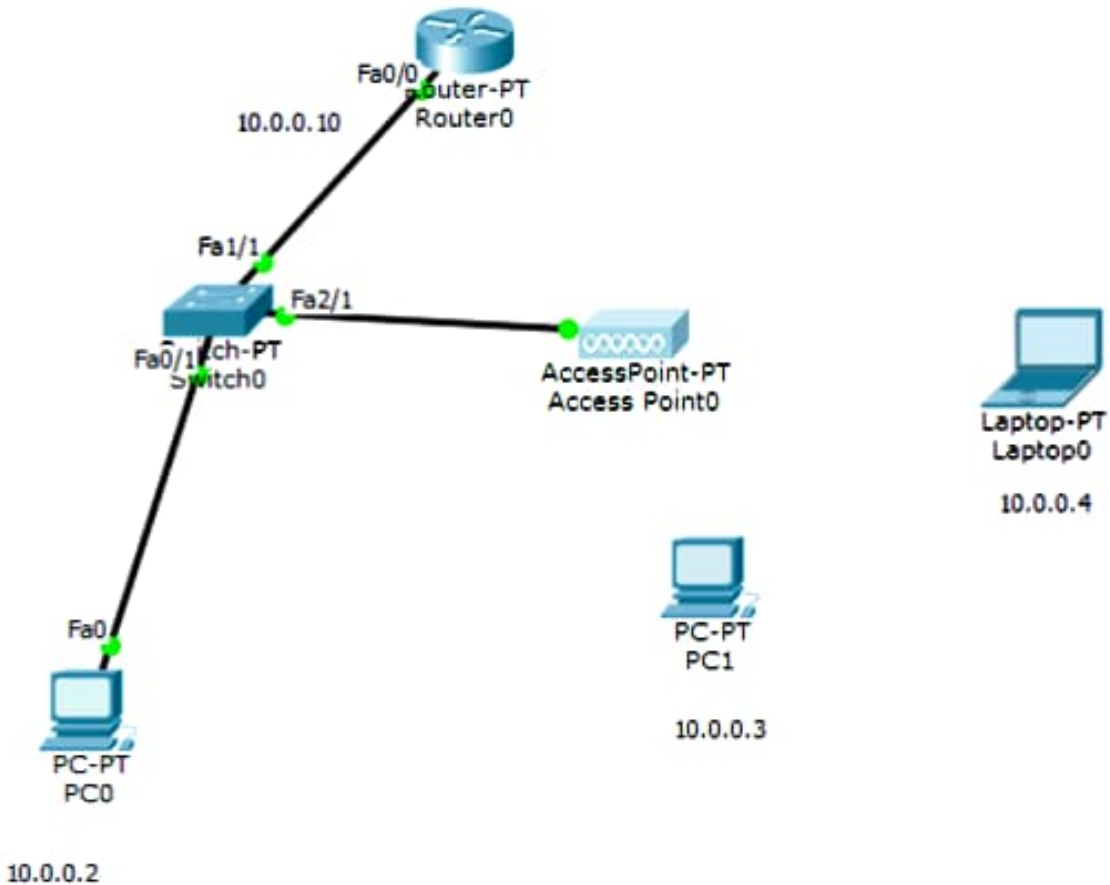

Fa0/0
uter-PT
Router0
10.0.0.10
Fa1/1
Fa2/1
Fa0/1
ch-PT
Switch0
AccessPoint-PT
Access Point0
Laptop-PT
Laptop0
10.0.0.4
PC-PT
PC1
10.0.0.3
Fa0
PC-PT
PC0
10.0.0.2

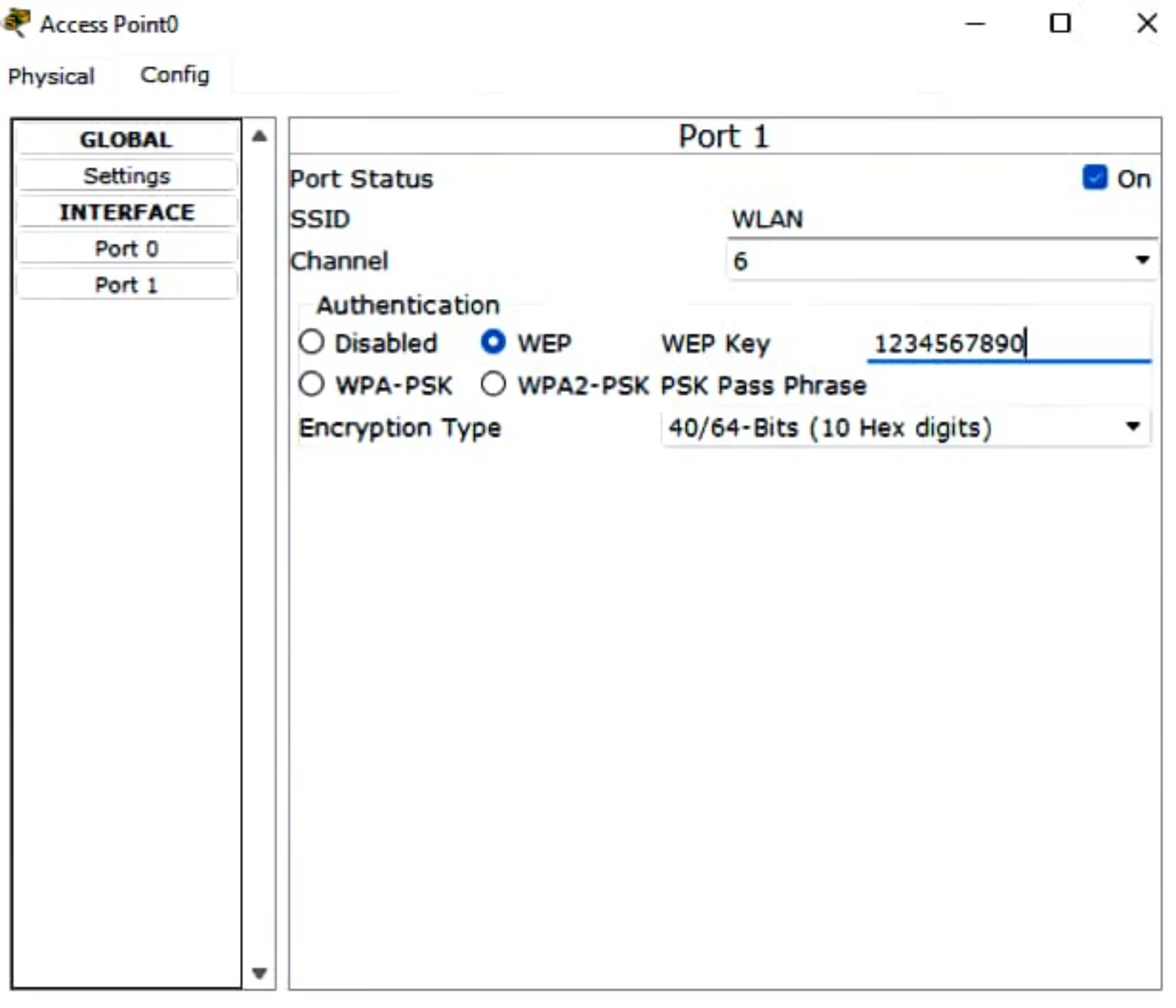
Router0

Physical Config CLI

IOS Command Line Interface

```
4 FastEthernet/IEEE 802.3 interface(s)
2 Low-speed serial(sync/async) network interface(s)
32K bytes of non-volatile configuration memory.
63488K bytes of ATA CompactFlash (Read/Write)


         --- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: n


Press RETURN to get started!



Router>enable
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface fastethernet 0/0
Router(config-if)#ip address 10.0.0.10 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to
up
exit
Router(config)#
```

Copy Paste


Access Point0
Physical
Config
GLOBAL
Settings
INTERFACE
Port 0
Port 1
Port 1
Port Status
On
SSID
WLAN
Channel
6
Authentication
Disabled
WEP
WEP Key
1234567890
WPA-PSK
WPA2-PSK
PSK Pass Phrase
Encryption Type
40/64-Bits (10 Hex digits)

PC1

Physical Config Desktop Custom Interface

MODULES

WMP300N

PT-HOST-NM-1AM

PT-HOST-NM-1CE

PT-HOST-NM-1CFE

PT-HOST-NM-1CGE

PT-HOST-NM-1FFE

PT-HOST-NM-1FGE

PT-HOST-NM-1W

PT-HOST-NM-1W-A

PT-HOST-NM-3G/4G

PT-HEADPHONE

PT-MICROPHONE

PT-CAMERA

PT-USB-HARD-DRIVE

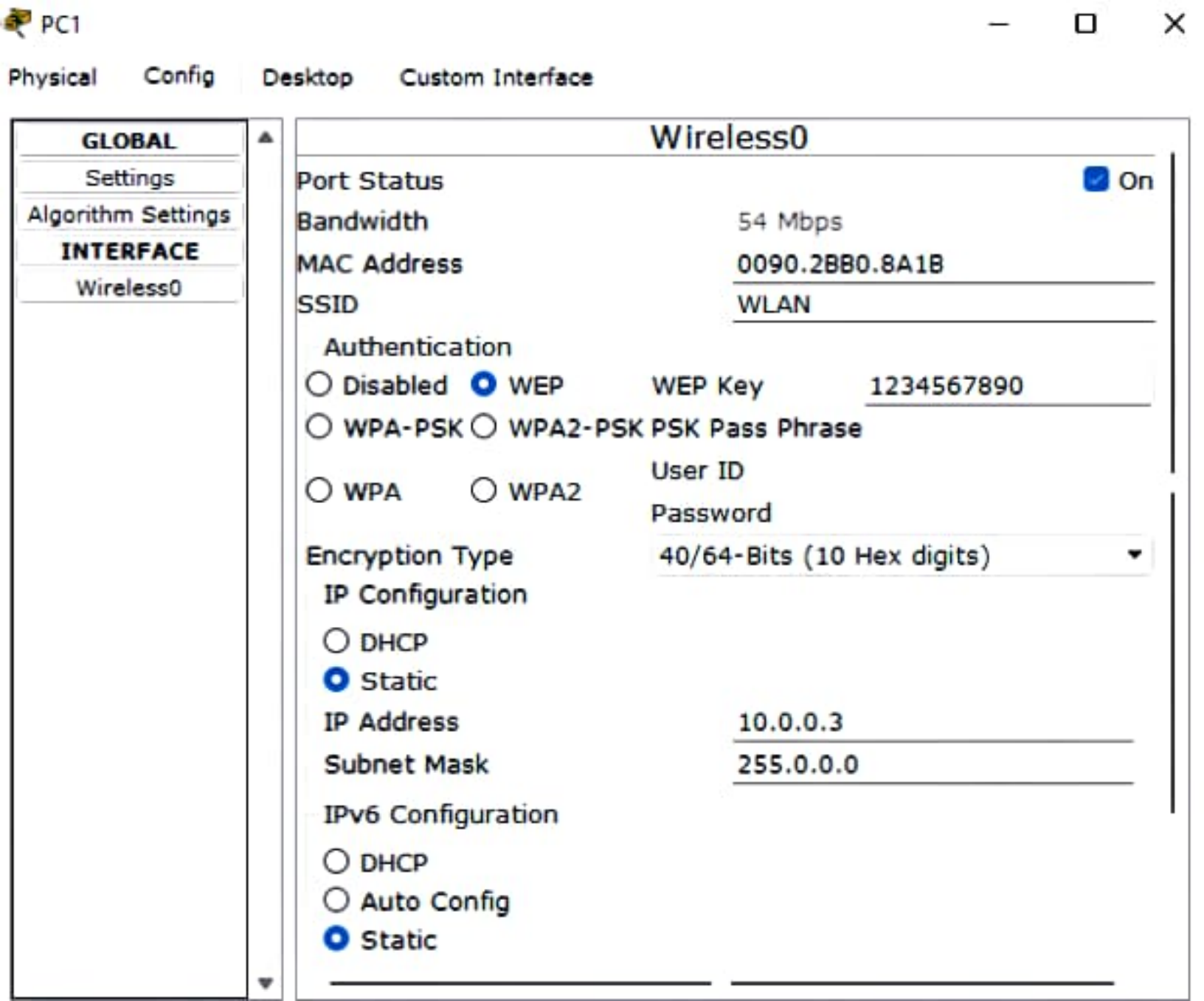
Physical Device View

Zoom In | Original Size | Zoom Out

Customize Icon in Physical View

Customize Icon in Logical View

The Linksys-WMP300N module provides one 2.4GHz wireless interface suitable for connection to wireless networks. The module supports protocols that use Ethernet for LAN access.


PC1
Physical
Config
Desktop
Custom Interface
GLOBAL
Settings
Algorithm Settings
INTERFACE
Wireless0
Wireless0
Port Status
On
Bandwidth
54 Mbps
MAC Address
0090.2BB0.8A1B
SSID
WLAN
Authentication
Disabled
WEP
WEP Key
1234567890
WPA-PSK
WPA2-PSK
PSK Pass Phrase
User ID
WPA
WPA2
Password
Encryption Type
40/64-Bits (10 Hex digits)
IP Configuration
DHCP
Static
IP Address
10.0.0.3
Subnet Mask
255.0.0.0
IPv6 Configuration
DHCP
Auto Config
Static

Laptop0

Physical Config Desktop Custom Interface

MODULES

WPC300N

PT-LAPTOP-NM-1AM

PT-LAPTOP-NM-1CE

PT-LAPTOP-NM-1CFE

PT-LAPTOP-NM-1CGE

PT-LAPTOP-NM-1FFE

PT-LAPTOP-NM-1FGE

PT-LAPTOP-NM-1W

PT-LAPTOP-NM-1W-A

PT-LAPTOP-NM-3G/4G

PT-HEADPHONE

PT-MICROPHONE

PT-CAMERA

PT-USB-HARD-DRIVE

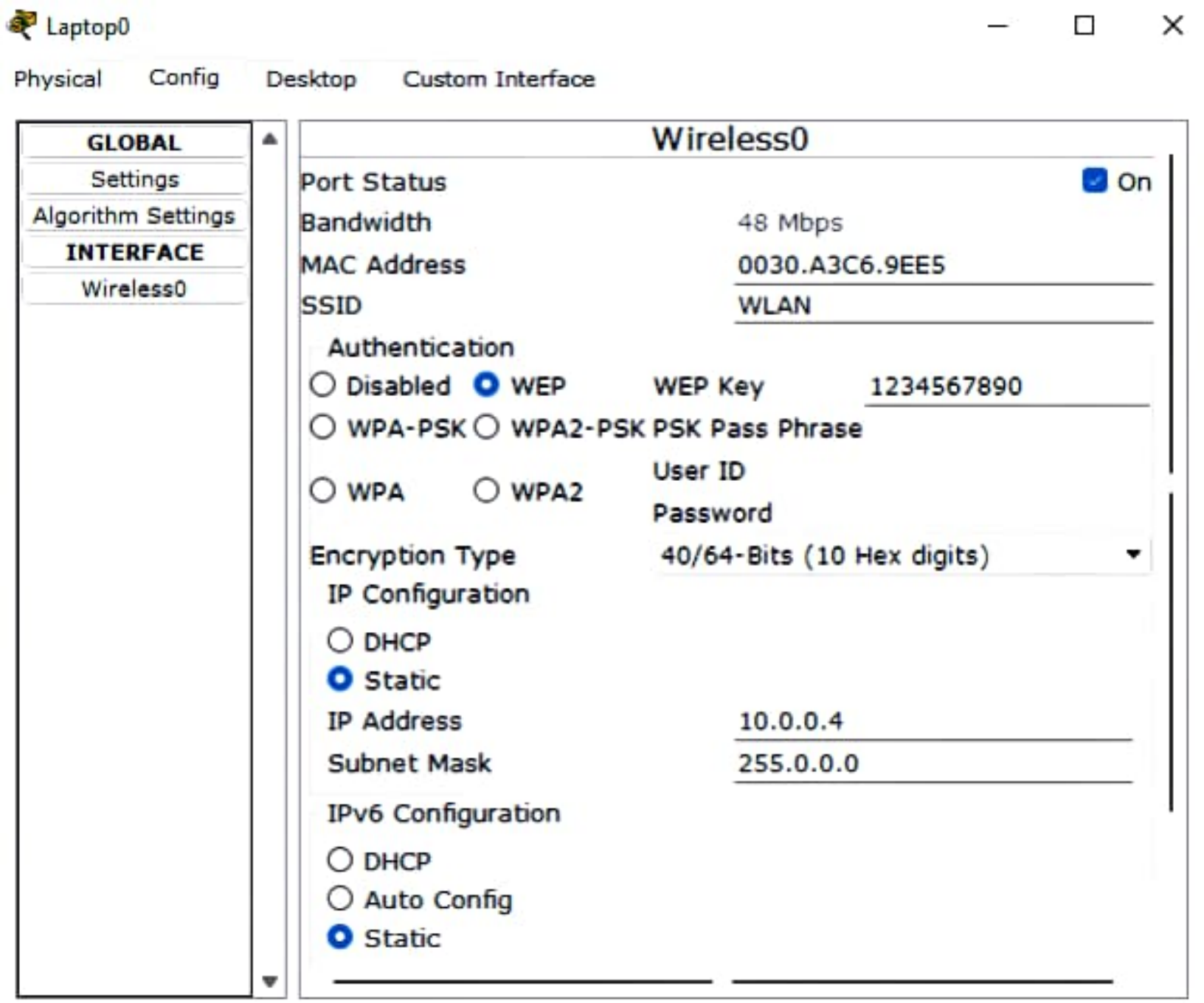
Physical Device View

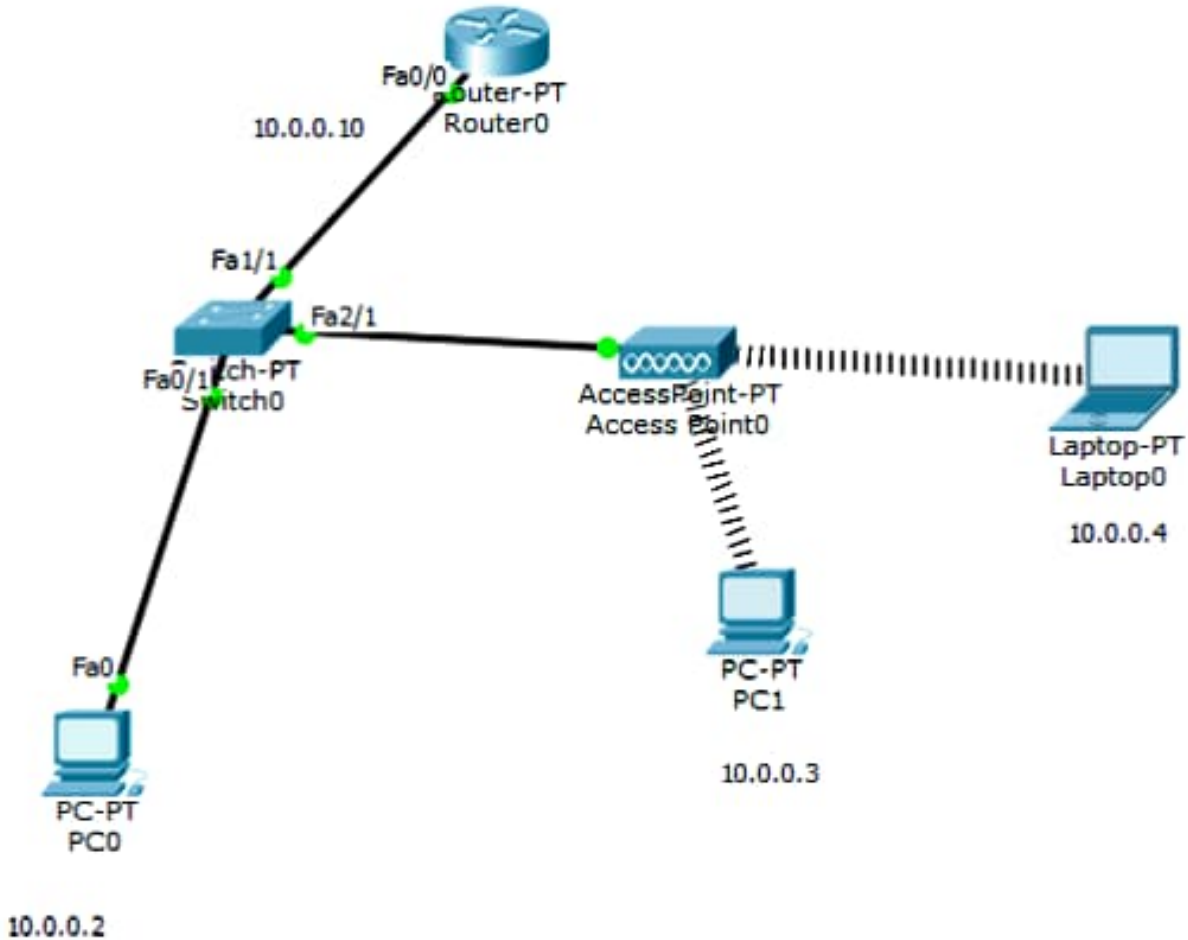
Zoom In | Original Size | Zoom Out

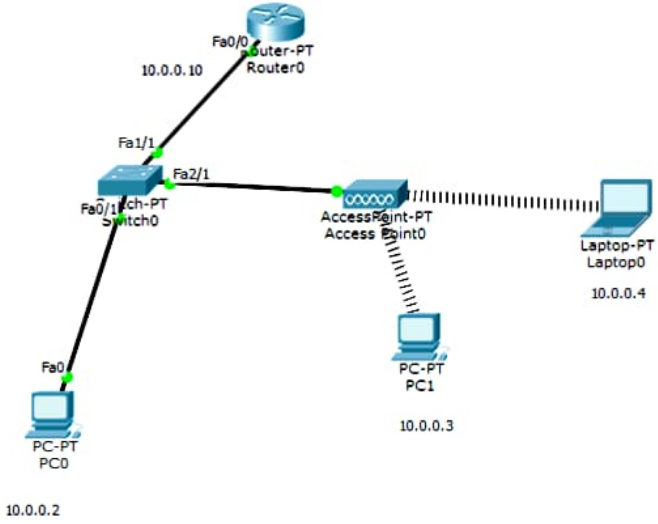
Customize Icon in Physical View

Customize Icon in Logical View

The Linksys-WPC300N module provides one 2.4GHz wireless interface suitable for connection to wireless networks. The module supports protocols that use Ethernet for LAN access.


Laptop0
Physical
Config
Desktop
Custom Interface
GLOBAL
Settings
Algorithm Settings
INTERFACE
Wireless0
Wireless0
Port Status
On
Bandwidth
48 Mbps
MAC Address
0030.A3C6.9EE5
SSID
WLAN
Authentication
Disabled
WEP
WEP Key
1234567890
WPA-PSK
WPA2-PSK
PSK Pass Phrase
WPA
WPA2
User ID
Password
Encryption Type
40/64-Bits (10 Hex digits)
IP Configuration
DHCP
Static
IP Address
10.0.0.4
Subnet Mask
255.0.0.0
IPv6 Configuration
DHCP
Auto Config
Static


Fa0/0
Router-PT
Router0
10.0.0.10
Fa1/1
Fa2/1
Fa0/1
Switch0
AccessPoint-PT
Access Point0
Laptop-PT
Laptop0
10.0.0.4
Fa0
PC-PT
PC1
10.0.0.3
PC-PT
PC0
10.0.0.2



PC0

Physical Config Desktop Custom Interface

Command Prompt X

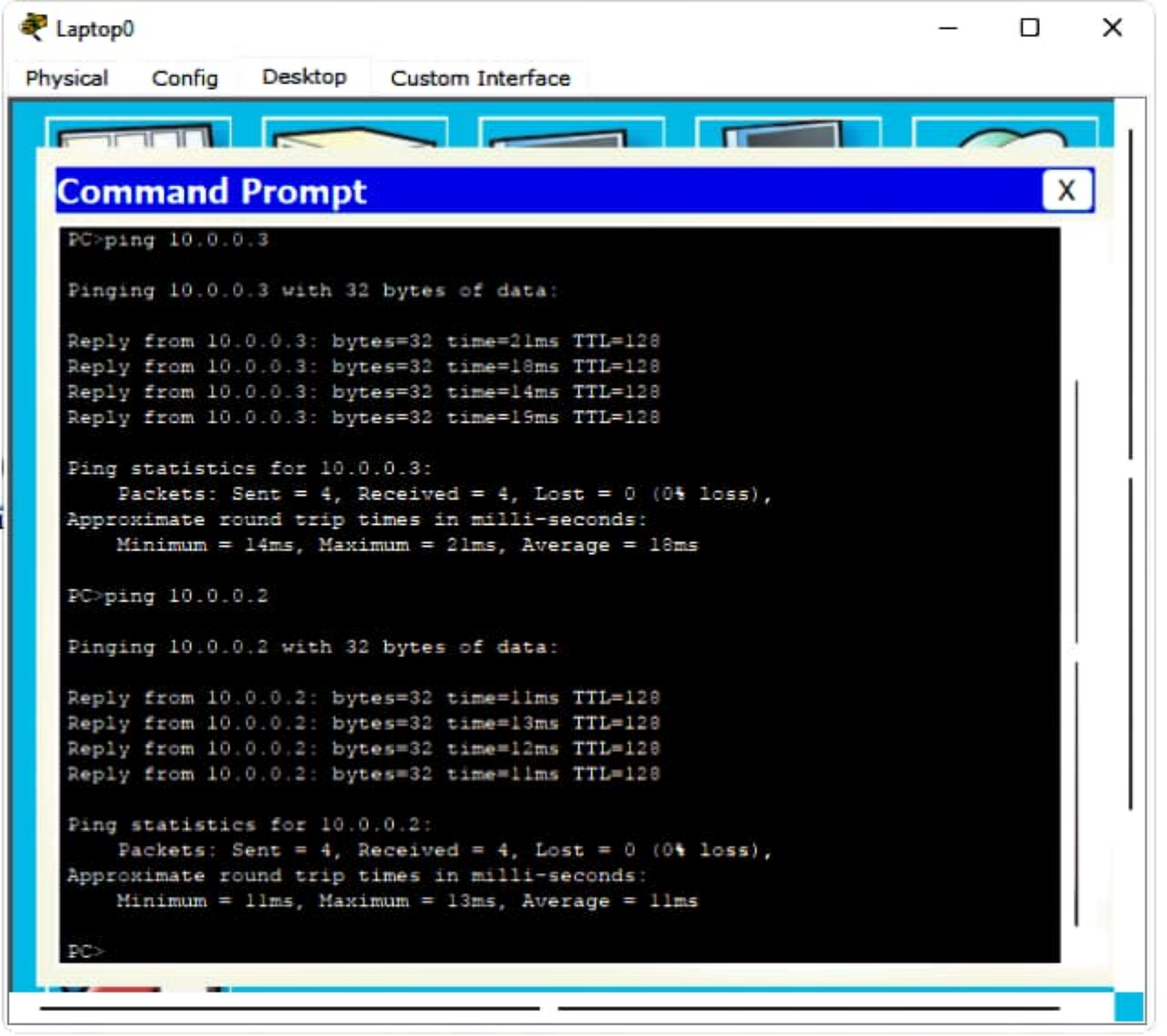
```
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.3

Pinging 10.0.0.3 with 32 bytes of data:

Reply from 10.0.0.3: bytes=32 time=21ms TTL=128
Reply from 10.0.0.3: bytes=32 time=13ms TTL=128
Reply from 10.0.0.3: bytes=32 time=6ms TTL=128
Reply from 10.0.0.3: bytes=32 time=8ms TTL=128

Ping statistics for 10.0.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 6ms, Maximum = 21ms, Average = 12ms

PC>ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data:

Reply from 10.0.0.4: bytes=32 time=20ms TTL=128
Reply from 10.0.0.4: bytes=32 time=11ms TTL=128
Reply from 10.0.0.4: bytes=32 time=4ms TTL=128
Reply from 10.0.0.4: bytes=32 time=8ms TTL=128

Ping statistics for 10.0.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 4ms, Maximum = 20ms, Average = 10ms
```

PC1

Physical Config Desktop Custom Interface

Command Prompt

```
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.3

Pinging 10.0.0.3 with 32 bytes of data:

Reply from 10.0.0.3: bytes=32 time=1ms TTL=128
Reply from 10.0.0.3: bytes=32 time=5ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=4ms TTL=128

Ping statistics for 10.0.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 5ms, Average = 2ms

PC>ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data:

Reply from 10.0.0.4: bytes=32 time=28ms TTL=128
Reply from 10.0.0.4: bytes=32 time=18ms TTL=128
Reply from 10.0.0.4: bytes=32 time=14ms TTL=128
Reply from 10.0.0.4: bytes=32 time=12ms TTL=128

Ping statistics for 10.0.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 12ms, Maximum = 28ms, Average = 18ms
```


Laptop0
Physical
Config
Desktop
Custom Interface
Command Prompt
X
PC>ping 10.0.0.3
Pinging 10.0.0.3 with 32 bytes of data:
Reply from 10.0.0.3: bytes=32 time=21ms TTL=128
Reply from 10.0.0.3: bytes=32 time=18ms TTL=128
Reply from 10.0.0.3: bytes=32 time=14ms TTL=128
Reply from 10.0.0.3: bytes=32 time=19ms TTL=128
Ping statistics for 10.0.0.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 14ms, Maximum = 21ms, Average = 18ms
PC>ping 10.0.0.2
Pinging 10.0.0.2 with 32 bytes of data:
Reply from 10.0.0.2: bytes=32 time=11ms TTL=128
Reply from 10.0.0.2: bytes=32 time=13ms TTL=128
Reply from 10.0.0.2: bytes=32 time=12ms TTL=128
Reply from 10.0.0.2: bytes=32 time=11ms TTL=128
Ping statistics for 10.0.0.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 11ms, Maximum = 13ms, Average = 11ms
PC>