...necting devices because it connects

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Roll-61

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Practical-10

Aim - Establishment of wireless networking using actual devices and via network simulator. use of laptops and wifi Router.

Theory :-

A wireless network is a computer network that uses wireless data connections between network nodes.

Wireless networking is a method by which homes, telecommunications networks and business installations avoid the costly process of introducing cables into a building, or as a connection between various equipment locations. Admin telecommunication networks are generally implemented and administered using radio communication. This implementation takes place at the physical level of the OSI model network structure.

~~wireless~~ Network Simulator is a tool used for. Simulating the real world network on one computer by writing scripts in C++ or Python. Normally if we want to perform experiments, to see how our network works using various parameters.

we don't have required number of computers and routers for making different topologies. Even if we have these resources it is very expensive to build such a network for experiment purposes. So to overcome these drawbacks we used NS3, which is a discrete event network simulator.

Types of wireless Networks:-

(i) Wireless LANS :- connects two or more network devices using wireless distribution techniques.

(ii) wireless MANS :- connects two or more wireless LANS spreading over a metropolitan area

(iii) wireless WANS :- connects large areas comprising LANS and MANS and personal networks.

Procedure

Step-1. Drag one wireless Router.

Step-2- Drag two laptop say laptop 0 & laptop 1.

Step-3 - Click on laptop-0, go to physical section turn switch it off

Step-4 - Remove the module.

Step-5- Drag WPC300N module and add it to laptop 0.

Step-6 - Switch on the laptop 0.

Step-7 - Click laptop 1. Go to Physical.

Step-8 - Switch off laptop.

Step-9 - Remove the module.

Step-10 - Drag WPC300N module and Add to laptop 1.

Step 11 - Switch ON laptop.

Step 12 - Click on Router, then Go to Config then Go to wireless and Click on WEP.

Step 13 - Fill value of WEP key say abcde12345

Step 14 - Then Go to GUI, and Go to wireless and set Network name as Router.

Step 15 - Save the settings

Step-16 - Go to laptop 1, then Go to Desktop Section the Click on PC wireless and click on connect.

Step-17. Click on Refresh button, then Click on connect. and enter WEP key value.

Step-18 - Click on connect, After that you can see that Adapter is active.

Step-19 - Repeat the same step for laptop 0.

Step 20 - Go to command prompt of laptop 0 and type Ping 192.168.0.1

Step-21. Then Again go to command prompt and type Ping 192.168.0.101

Step-22 - Pass the Packet from laptop 0 to laptop 1..

We can see that Packet passed successfully.

network connecting devices :

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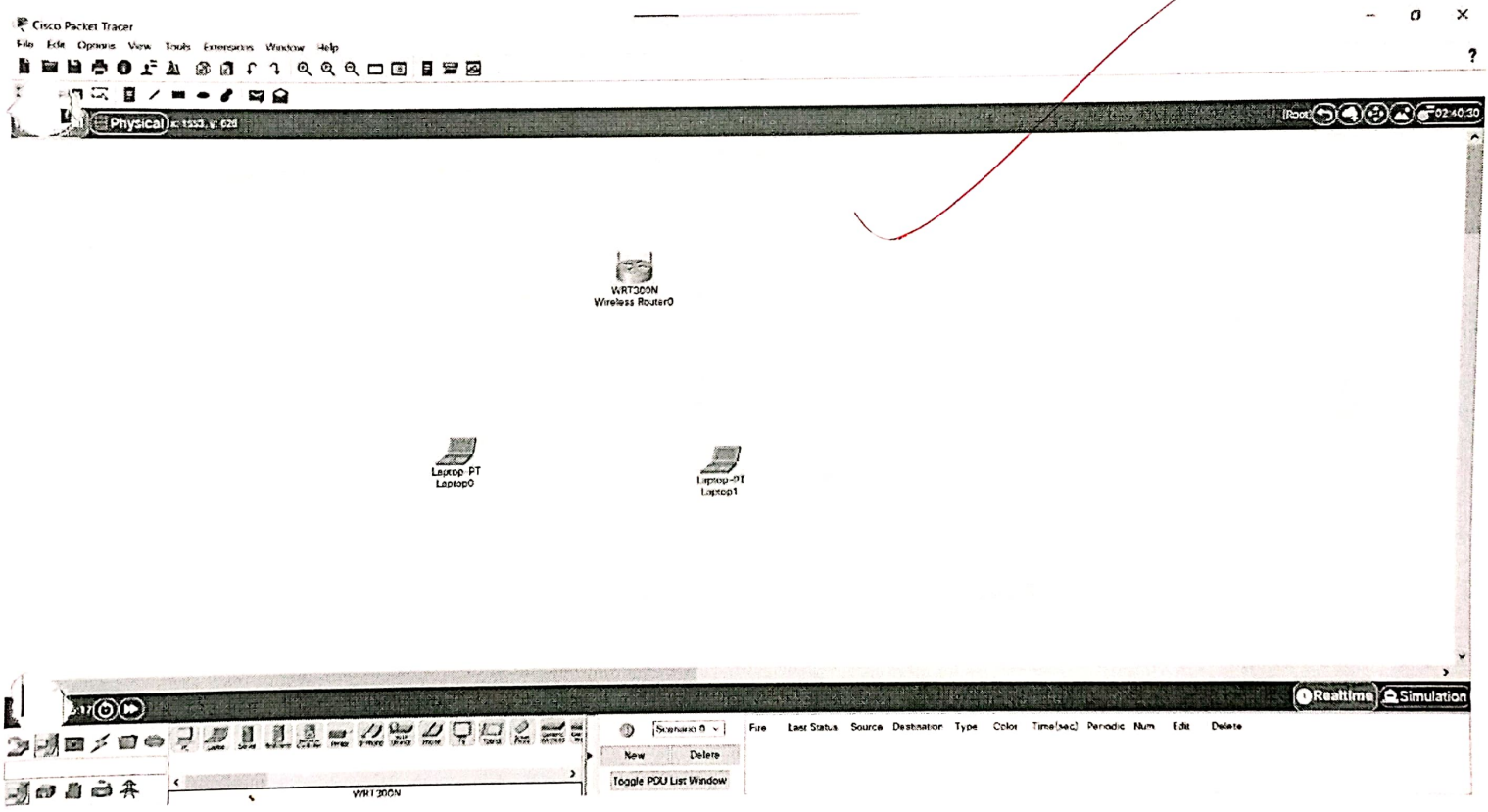
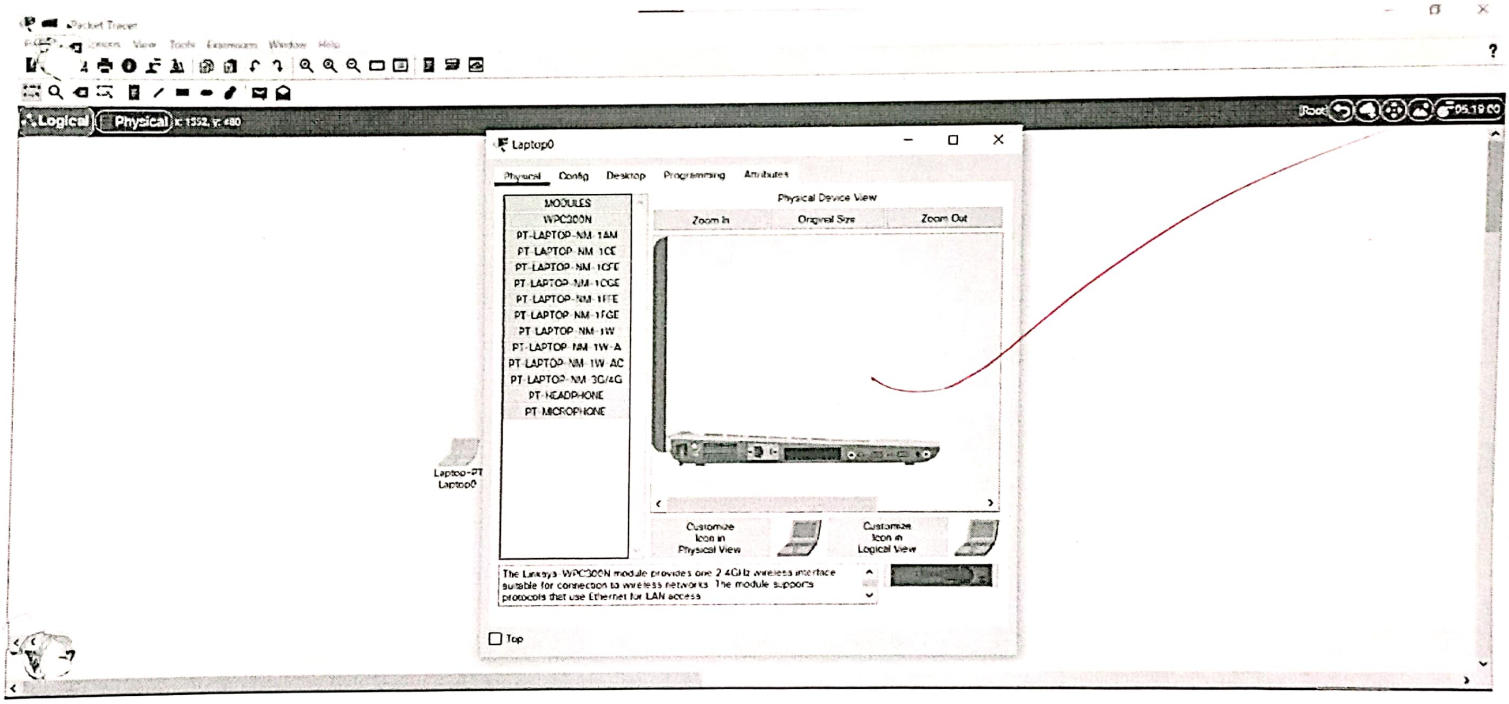
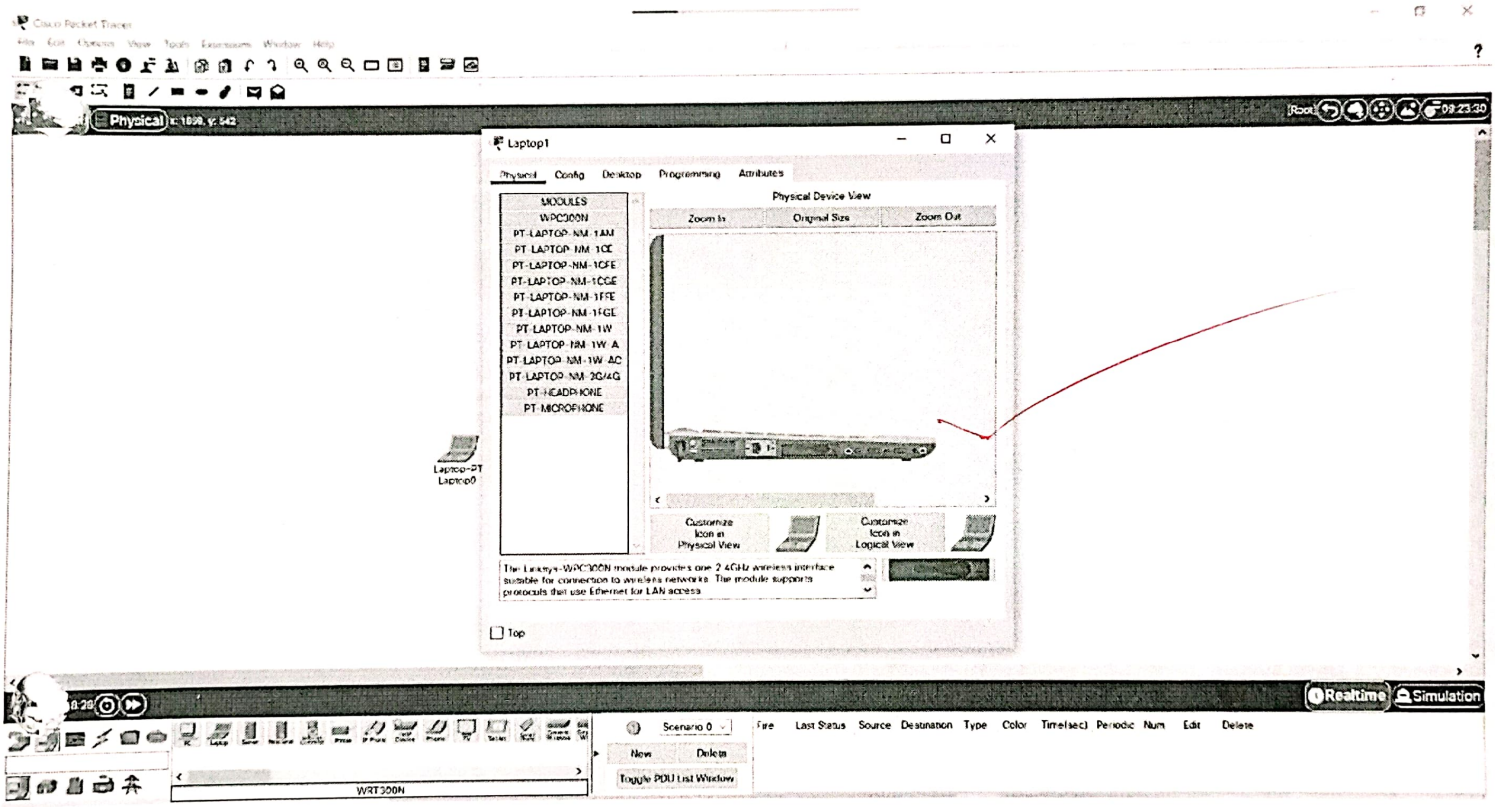
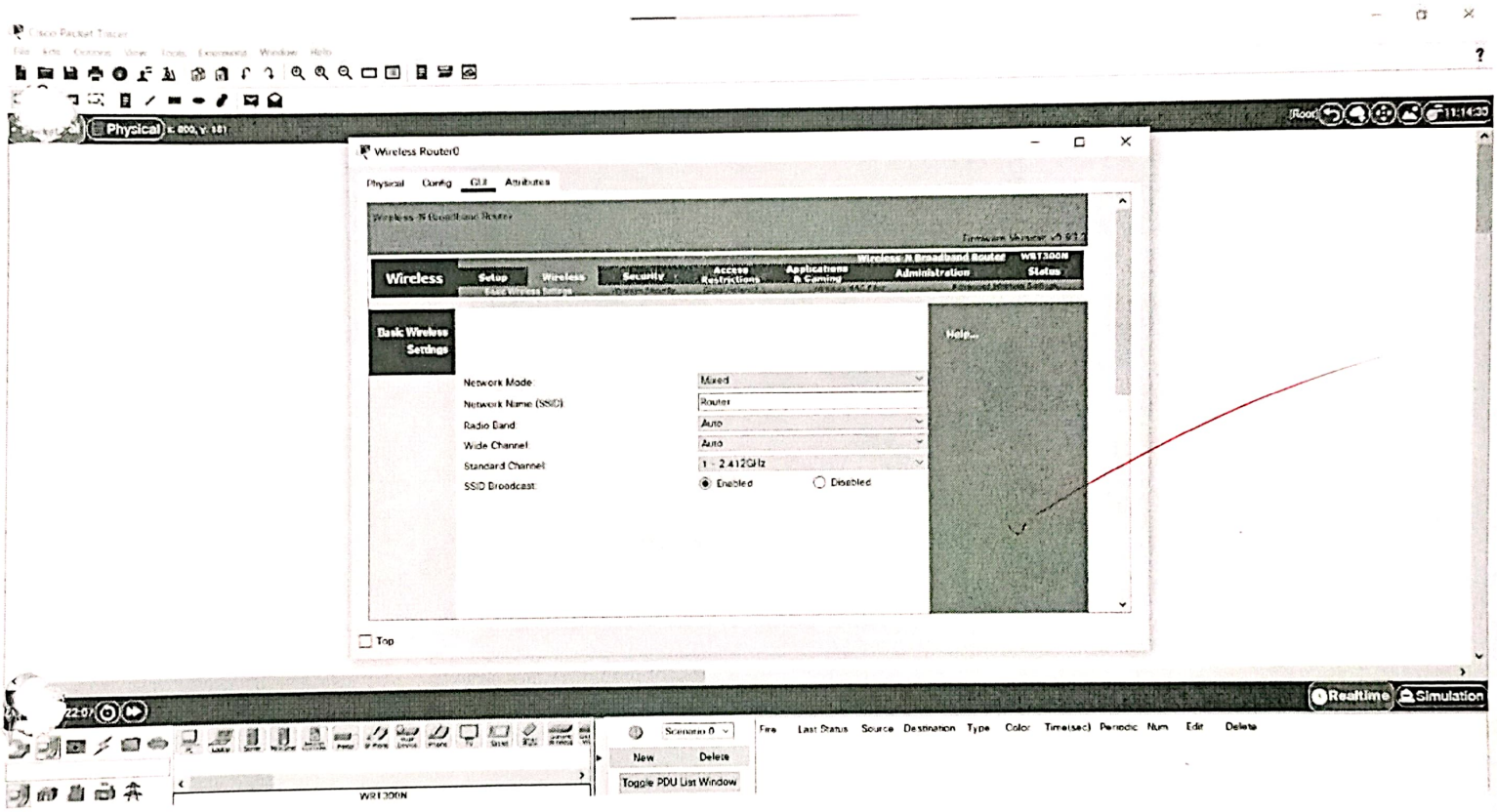
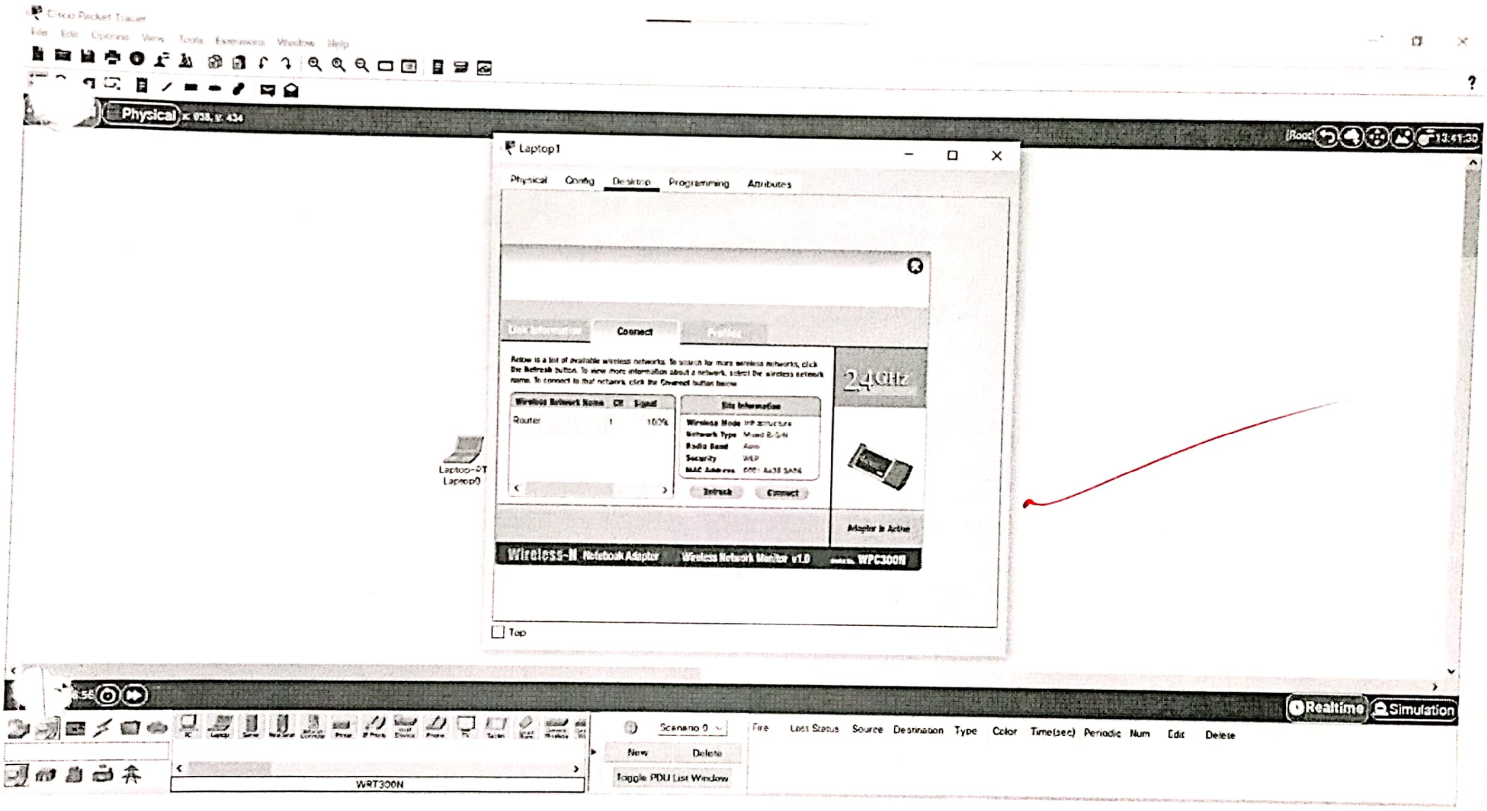
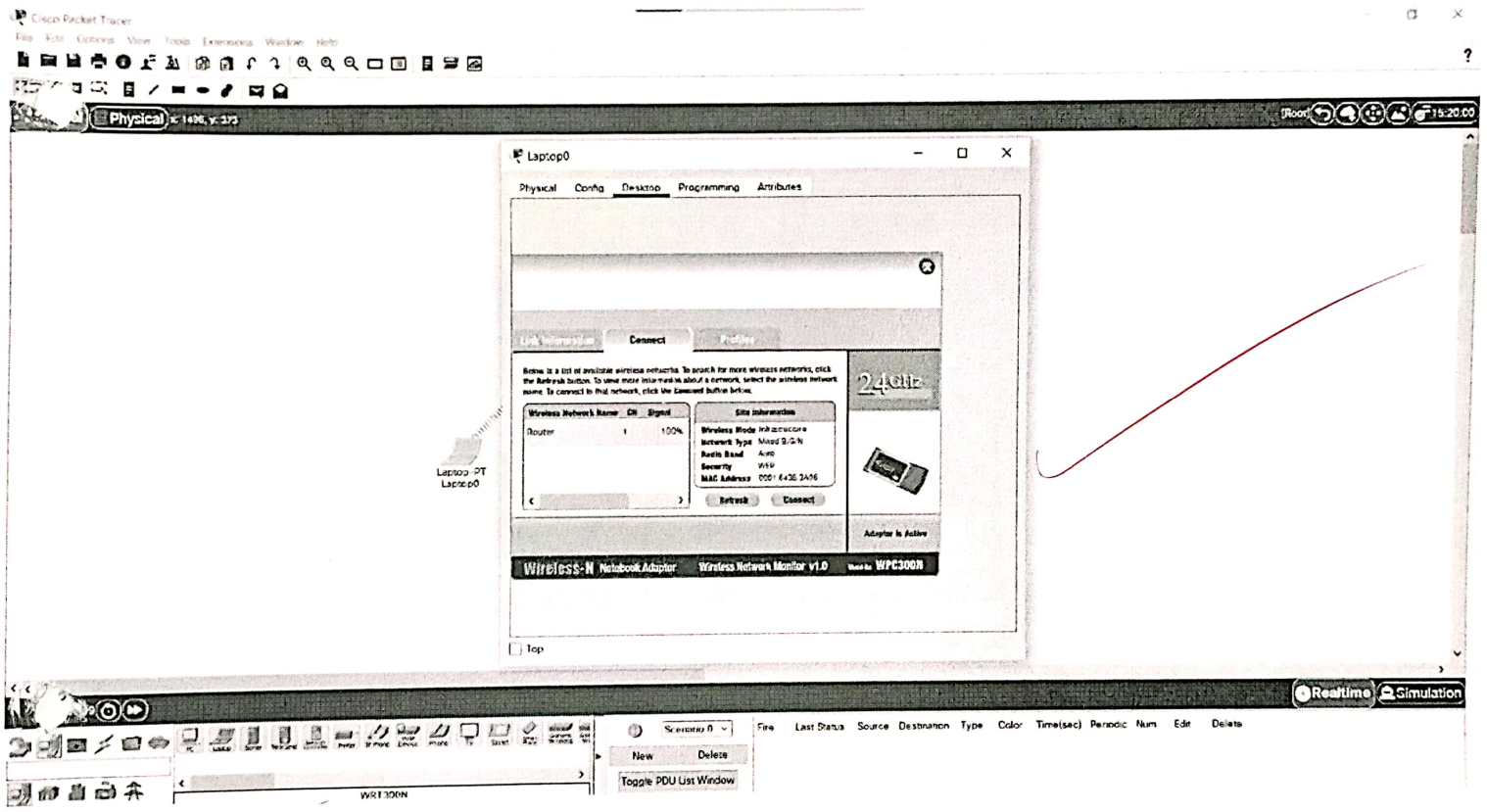


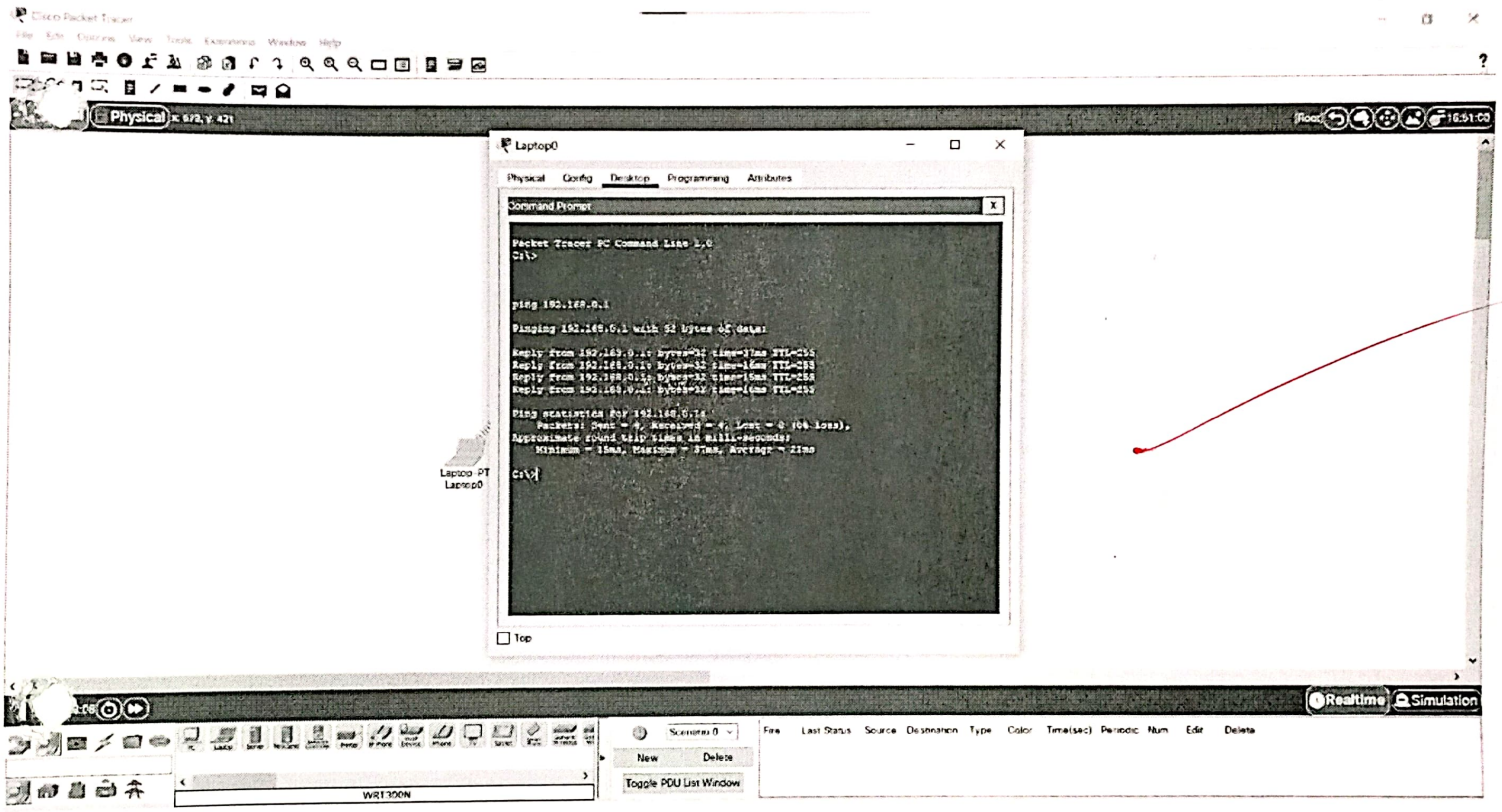

Logical
Physical
Laptop0
Physical
Config
Desktop
Programming
Attributes
MODULES
WPC300N
PT-LAPTOP-NM-1AM
PT-LAPTOP-NM-1CE
PT-LAPTOP-NM-1CFE
PT-LAPTOP-NM-1CGE
PT-LAPTOP-NM-1FFE
PT-LAPTOP-NM-1FGE
PT-LAPTOP-NM-1W
PT-LAPTOP-NM-1W-A
PT-LAPTOP-NM-1W-AC
PT-LAPTOP-NM-3G/4G
PT-HEADPHONE
PT-MICROPHONE
Physical 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
Top
Laptop-PT
Laptop0

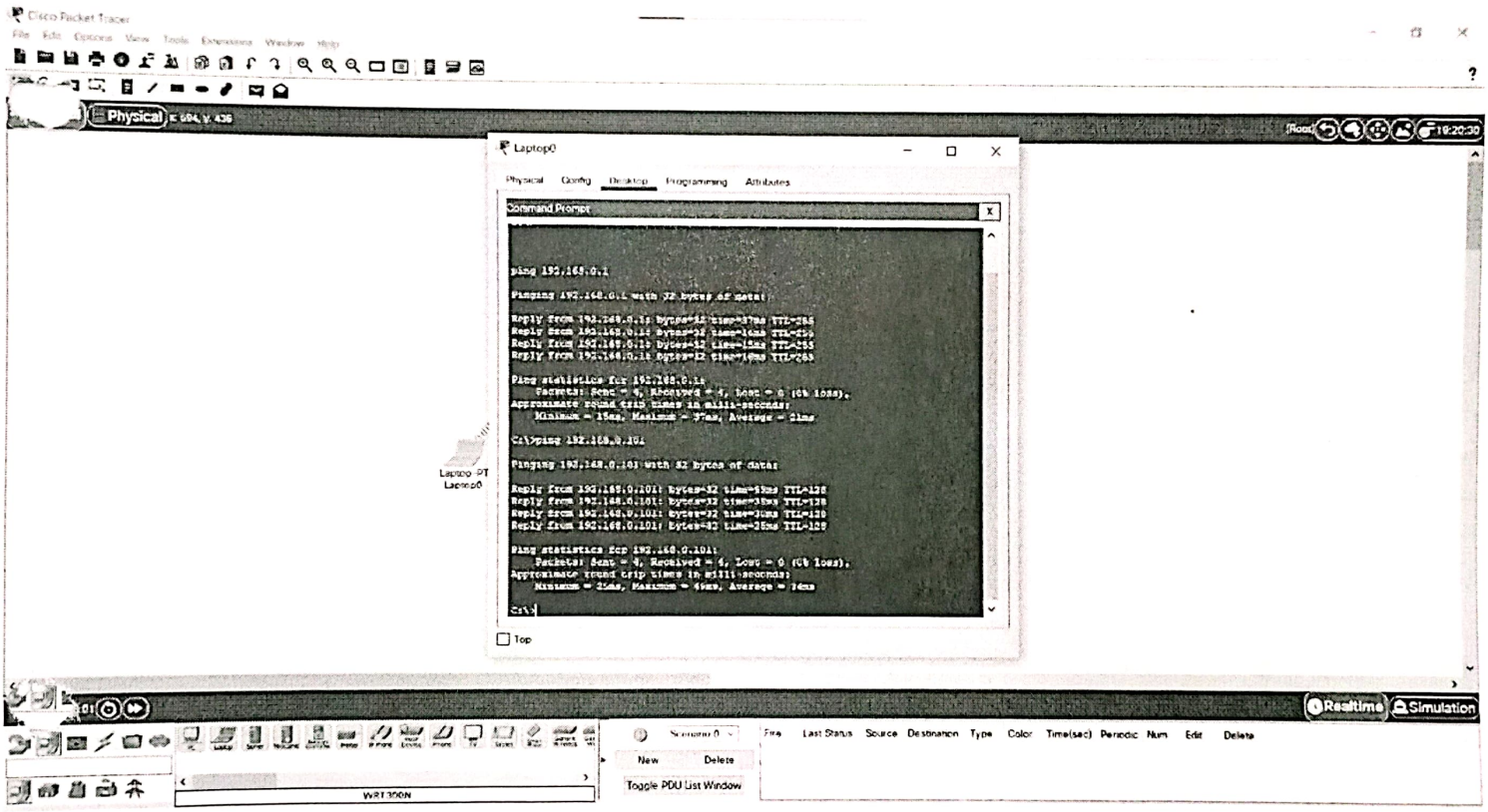

Cisco Packet Tracer
Physical
Laptop1
Physical
Config
Desktop
Programming
Attributes
MODULES
WPC300N
PT-LAPTOP-NM-1AM
PT-LAPTOP-NM-1CE
PT-LAPTOP-NM-1CFE
PT-LAPTOP-NM-1CGE
PT-LAPTOP-NM-1FFE
PT-LAPTOP-NM-1FGE
PT-LAPTOP-NM-1W
PT-LAPTOP-NM-1W-A
PT-LAPTOP-NM-1W-AC
PT-LAPTOP-NM-2G/4G
PT-HEADPHONE
PT-MICROPHONE
Physical Device View
Zoom In
Original Size
Zoom Out
Customize Icon in Physical View
Customize Icon in Logical View
Top
Laptop-PT
Laptop0
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
WRT300N

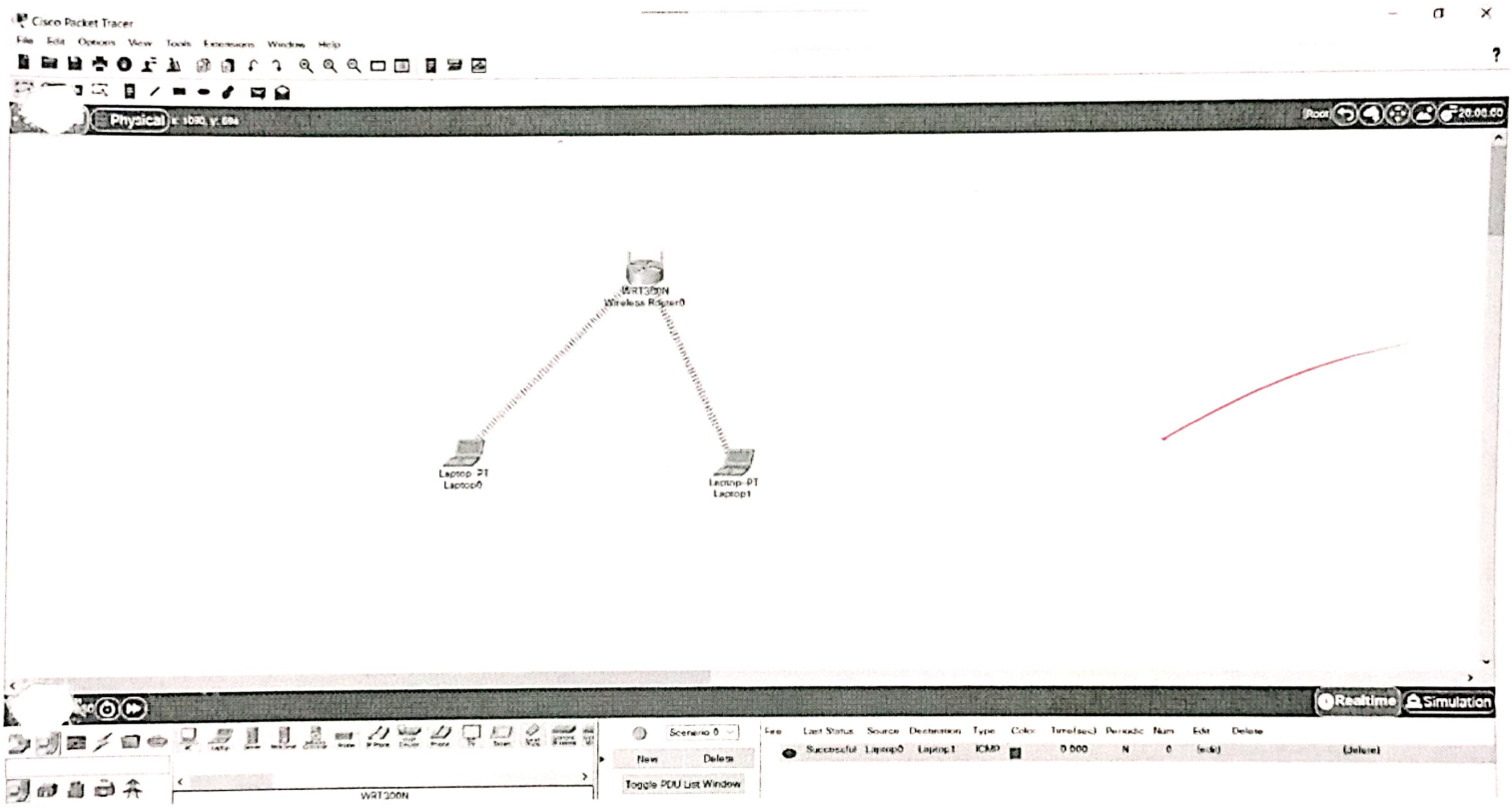

Physical
Wireless Router0
Physical
Config
GUI
Attributes
Wireless
Setup
Wireless
Security
Access Restrictions
Applications & Gaming
Administration
Status
Basic Wireless Settings
Help...
Network Mode:
Mixed
Network Name (SSID):
Router
Radio Band:
Auto
Wide Channel:
Auto
Standard Channel:
1 - 2.412GHz
SSID Broadcast:
Enabled
Disabled
Top
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
WRT300N


Cisco Packet Tracer
Physical
Laptop1
Physical
Config
Desktop
Programming
Attributes
Connect
2.4GHz
Router
Refresh
Connect
Wireless-N Notebook Adapter
Wireless Network Monitor V1.0
WPC300N
Top
Laptop-PT
Laptop0
Realtime
Simulation
WRT300N
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete


Cisco Packet Tracer
Physical
Laptop0
Physical
Config
Desktop
Programming
Attributes
Connect
Refresh
Disconnect
2.4GHz
Wireless-N Notebook Adapter
Wireless Network Monitor v1.0
WPC300N
Laptop-PT
Laptop0
Top
Realtime
Simulation
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
New
Delete
Toggle PDU List Window
WRT300N


Cisco Packet Tracer
Physical
Laptop0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>
ping 192.168.0.1
Pinging 192.168.0.1 with 32 bytes of data:
Reply from 192.168.0.1: bytes=32 time=17ms TTL=255
Reply from 192.168.0.1: bytes=32 time=16ms TTL=255
Reply from 192.168.0.1: bytes=32 time=15ms TTL=255
Reply from 192.168.0.1: bytes=32 time=16ms TTL=255
Ping statistics for 192.168.0.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 15ms, Maximum = 17ms, Average = 16ms
C:\>
Top
Laptop-PT
Laptop0
Realtime
Simulation
WRT300N
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete


Cisco Packet Tracer
Physical
Laptop0
Physical
Config
Desktop
Programming
Attributes
Command Prompt
ping 192.168.0.1
Pinging 192.168.0.1 with 32 bytes of data:
Reply from 192.168.0.1: bytes=32 time=37ms TTL=255
Reply from 192.168.0.1: bytes=32 time<1ms TTL=255
Reply from 192.168.0.1: bytes=32 time<1ms TTL=255
Reply from 192.168.0.1: bytes=32 time<1ms TTL=255
Ping statistics for 192.168.0.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 15ms, Maximum = 37ms, Average = 21ms
C:\>ping 192.168.0.101
Pinging 192.168.0.101 with 32 bytes of data:
Reply from 192.168.0.101: bytes=32 time=43ms TTL=128
Reply from 192.168.0.101: bytes=32 time=38ms TTL=128
Reply from 192.168.0.101: bytes=32 time=30ms TTL=128
Reply from 192.168.0.101: bytes=32 time=25ms TTL=128
Ping statistics for 192.168.0.101:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 25ms, Maximum = 43ms, Average = 34ms
C:\>
Top
Laptop-PT
Laptop0
Realtime
Simulation
WRT300N
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete


Cisco Packet Tracer
File Edit Options View Tools Extensions Window Help
Physical
WRT300N
Wireless Router0
Laptop-PT
Laptop0
Laptop-PT
Laptop1
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
WRT300N
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Successful Laptop0 Laptop1 ICMP 0.000 N 0 (edit) (delete)

Conclusion :

In this practical, I learnt about establishment of wireless connection using two PCs, laptop and router.

Assessment of the Experiment / Assignment :

Timely Submission (07)	Presentation (06)	Understanding (12)	Total (25)	Signature of Teahcer with date
07	05	10	22	