

EXPERIMENT – 10

AIM: - a) Internetworking with routers in CISCO PACKET TRACER simulator.

OUTPUT: -

PC0

Physical Config Desktop Programming Attributes

Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>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<1ms TTL=128
Reply from 10.0.0.3: bytes=32 time<1ms TTL=128
Reply from 10.0.0.3: bytes=32 time<1ms 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 = 1ms, Average = 0ms

C:\>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time<1ms TTL=128
Reply from 10.0.0.2: bytes=32 time<1ms TTL=128
Reply from 10.0.0.2: bytes=32 time<1ms TTL=128
Reply from 10.0.0.2: bytes=32 time<1ms 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 = 0ms, Maximum = 0ms, Average = 0ms

C:\>

Top

10.0.0.2

Physical Config Desktop Programming Attributes

Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.1:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Request timed out.
Reply from 192.168.1.1: bytes=32 time=10ms TTL=127
Reply from 192.168.1.1: bytes=32 time=1ms TTL=127
Reply from 192.168.1.1: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.1.1:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 10ms, Average = 3ms

C:\>ping 192.168.1.2

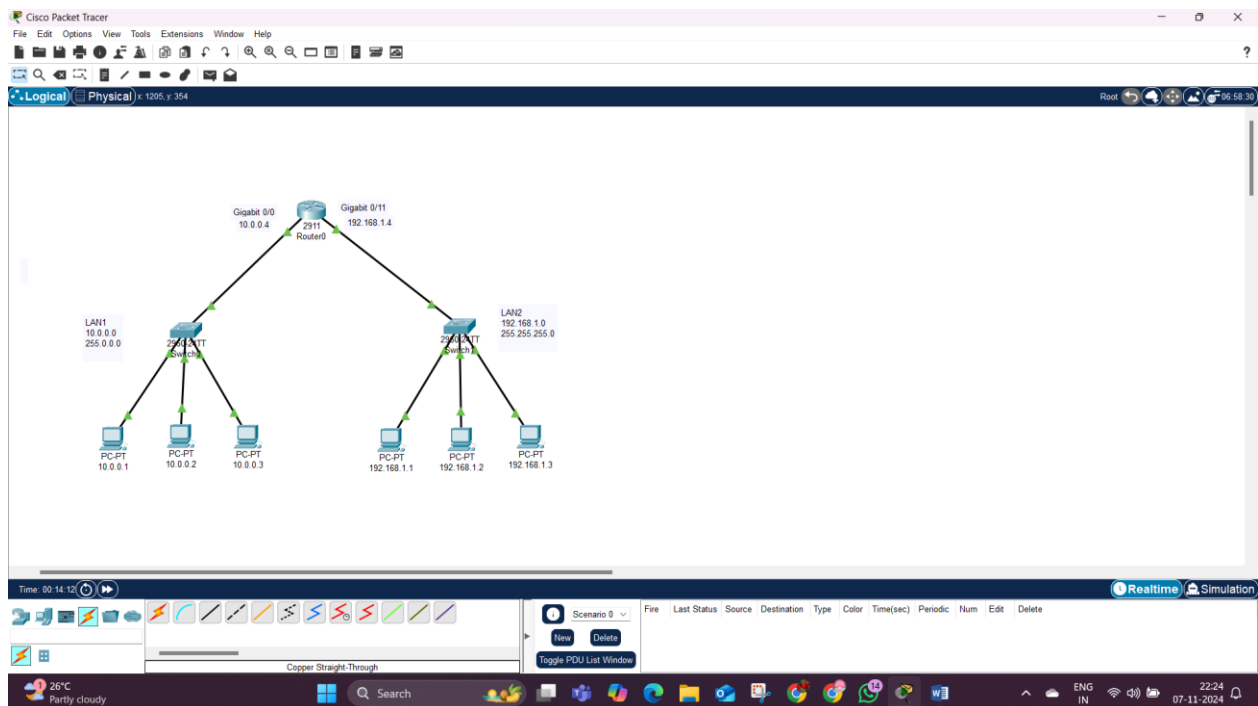
Pinging 192.168.1.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.1.2: bytes=32 time<1ms TTL=127
Reply from 192.168.1.2: bytes=32 time<1ms TTL=127
Reply from 192.168.1.2: bytes=32 time=12ms TTL=127

Ping statistics for 192.168.1.2:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 12ms, Average = 4ms

C:\>

Top



Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x: 1612, y: 455

Simulation Panel

Event List

Vis.	Time(sec)	Last Device
0.000	--	--
0.000	--	--
0.001	10.0.0.1	--
0.002	Switch0	--
0.002	Switch0	--
0.002	Switch0	--
0.003	Router0	--

Reset Simulation Constant Delay Captured to: 0.003 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PaGP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Scenario 0

New Delete

Toggle PDU List Window

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

In Progress 10.0.0.1 192.168.1.1 ICMP 0.000 N 0 (edit) (delete)

26°C Partly cloudy

ENG IN 22:30 07-11-2024

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x: 108, y: 57

Simulation Panel

Event List

Vis.	Time(sec)	Last Device
0.000	--	--
0.000	--	--
0.001	10.0.0.1	--
0.002	Switch0	--
0.002	Switch0	--
0.002	Switch0	--
0.003	Router0	--
0.004	Switch0	--
0.004	--	--

Reset Simulation Constant Delay Captured to: 0.004 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PaGP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Scenario 0

New Delete

Toggle PDU List Window

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

In Progress 10.0.0.1 192.168.1.1 ICMP 0.000 N 0 (edit) (delete)

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ENG IN 22:30 07-11-2024

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x 835, y 23

Root 10:08:30

Simulation Panel

Event List

Vis.	Time(sec)	Last Device
0.000	-	-
0.000	-	-
0.001	10.0.0.1	-
0.002	Switch0	-
0.002	Switch0	-
0.003	Router0	-
0.004	Switch0	-
0.004	-	-
0.005	10.0.0.1	-

Reset Simulation Constant Delay Captured to: 0.005 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, Iot, Iot TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPv2, RIPv3, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Time: 00:18:51.604 PLAY CONTROLS

Scenario 0

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
In Progress	10.0.0.1	192.168.1.1	ICMP		0.000	N	0	(edit)	(delete)	

Toggle PDU List Window

Copper Straight-Through

26°C Partly cloudy

ENG IN 22:31 07-11-2024

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x 881, y 4

Root 10:25:00

Simulation Panel

Event List

Vis.	Time(sec)	Last Device
0.000	-	-
0.000	-	-
0.001	10.0.0.1	-
0.002	Switch0	-
0.002	Switch0	-
0.002	Switch0	-
0.003	Router0	-
0.004	Switch0	-
0.004	-	-
0.005	10.0.0.1	-
0.006	Switch0	-
0.007	Router0	-

Reset Simulation Constant Delay Captured to: 0.007 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, Iot, Iot TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPv2, RIPv3, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Time: 00:18:51.604 PLAY CONTROLS

Scenario 0

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
In Progress	10.0.0.1	192.168.1.1	ICMP		0.000	N	0	(edit)	(delete)	

Toggle PDU List Window

Copper Straight-Through

26°C Partly cloudy

ENG IN 22:31 07-11-2024

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x:1152, y:9

Root 10.33.30

Simulation Panel

Event List

Vis.	Time(sec)	Last Device
	0.000	-
	0.001	10.0.0.1
	0.002	Switch0
	0.002	Switch0
	0.003	Router0
	0.004	Switch0
	0.004	-
	0.005	10.0.0.1
	0.006	Switch0
	0.007	Router0
	0.008	Switch1

Reset Simulation Constant Delay Captured to: 0.008 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PaGP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPv2, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Time: 00:18:51.600 PLAY CONTROLS

Scenario 0

New Delete

Toggle PDU List Window

Copper Straight-Through

26°C Partly cloudy

Search

ENG IN 22:32 07-11-2024

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x:478, y:90

Root 10.43.00

Simulation Panel

Event List

Vis.	Time(sec)	Last Device
	0.002	Switch0
	0.002	Switch0
	0.002	Switch0
	0.003	Router0
	0.004	Switch0
	0.004	-
	0.005	10.0.0.1
	0.006	Switch0
	0.007	Router0
	0.008	Switch1
	0.009	192.168.1.1
	0.010	Switch1

Reset Simulation Constant Delay Captured to: 0.010 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PaGP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPv2, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Time: 00:18:51.607 PLAY CONTROLS

Scenario 0

New Delete

Toggle PDU List Window

Copper Straight-Through

26°C Partly cloudy

Search

ENG IN 22:32 07-11-2024

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x 500, y 18

Simulation Panel

Event List

Vis.	Time(sec)	Last Device
0.002	Switch0	
0.003	Router0	
0.004	Switch0	
0.004	--	
0.005	10.0.0.1	
0.006	Switch0	
0.007	Router0	
0.008	Switch1	
0.009	192.168.1.1	
0.010	Switch1	
0.011	Router0	
0.012	Switch0	

Reset Simulation Constant Delay Captured to: 0.012 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Time: 00:18:51.609 PLAY CONTROLS

Scenario 0

New Delete

Toggle PDU List Window

Copper Straight-Through

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	10.0.0.1	192.168.1.1	ICMP		0.000	N	0	(edit)	(delete)

26°C Partly cloudy

Search

ENG IN

22:32 07-11-2024

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	10.0.0.1	192.168.1.1	ICMP		0.000	N	0	(edit)	(delete)

RESULT: -

Router have been successfully done in CISCO PACKET TRACER.

AIM: - b) Design and configure an internetwork using wireless router, DHCP server and internet cloud.

OUTPUT: -

The screenshot shows the 'Internet Setup' page of the Wireless Router0 GUI. The page is titled 'Wireless-N Broadband Router' with 'Firmware Version: v0.93.3' and 'WRT300N' status. The 'Setup' tab is active, with sub-tabs for 'Basic Setup', 'Wireless', 'Security', 'Access Restrictions', 'Applications & Gaming', 'Administration', and 'Status'. The 'Internet Setup' section includes 'Internet Connection type' set to 'Automatic Configuration - DHCP', 'Host Name', 'Domain Name', and 'MTU' set to 1500. The 'Network Setup' section includes 'Router IP' set to 192.168.0.1 and 'Subnet Mask' set to 255.255.255.0. The 'DHCP Server Settings' section includes 'DHCP Server' set to 'Disabled', 'Start IP Address' set to 192.168.0.100, 'Maximum number of Users' set to 50, 'IP Address Range' set to 192.168.0.100 - 149, 'Client Lease Time' set to 0 minutes, and 'Static DNS' settings.

Wireless Router0

Physical Config **GUI** Attributes

Wireless-N Broadband Router Firmware Version: v0.93.3 WRT300N

Setup Setup **Wireless** Security Access Restrictions Applications & Gaming Administration Status

Basic Setup DHCP MAC Address Clone Advanced Routing

Internet Setup

Internet Connection type: Automatic Configuration - DHCP

Optional Settings (required by some internet service providers): Host Name: Domain Name: MTU: Size: 1500

Network Setup

Router IP: IP Address: 192 . 168 . 0 . 1 Subnet Mask: 255.255.255.0

DHCP Server Settings: DHCP Server: ☐ Enabled ☒ Disabled DHCP Reservation

Start IP Address: 192.168.0.100

Maximum number of Users: 50

IP Address Range: 192.168.0.100 - 149

Client Lease Time: 0 minutes (0 means one day)

Static DNS 1: 0 . 0 . 0 . 0

Static DNS 2: 0 . 0 . 0 . 0

Static DNS 3: 0 . 0 . 0 . 0

WINS: 0 . 0 . 0 . 0

☐ Top

The screenshot shows the 'Wireless' page of the Wireless Router0 GUI. The page is titled 'Wireless-N Broadband Router' with 'Firmware Version: v0.93.3' and 'WRT300N' status. The 'Wireless' tab is active, with sub-tabs for 'Basic Wireless Settings', 'Wireless Security', 'Guest Network', 'Wireless MAC Filter', and 'Advanced Wireless Settings'. The 'Basic Wireless Settings' section includes 'Network Mode' set to 'Mixed', 'Network Name (SSID)' set to 'MyHomeNetwork', 'Radio Band' set to 'Auto', 'Wide Channel' set to 'Auto', 'Standard Channel' set to '1 - 2.412GHz', and 'SSID Broadcast' set to 'Enabled'.

Wireless Router0

Physical Config **GUI** Attributes

Wireless-N Broadband Router Firmware Version: v0.93.3 WRT300N

Wireless Setup Wireless Security Access Restrictions Applications & Gaming Administration Status

Basic Wireless Settings Wireless Security Guest Network Wireless MAC Filter Advanced Wireless Settings

Basic Wireless Settings

Network Mode: Mixed

Network Name (SSID): MyHomeNetwork

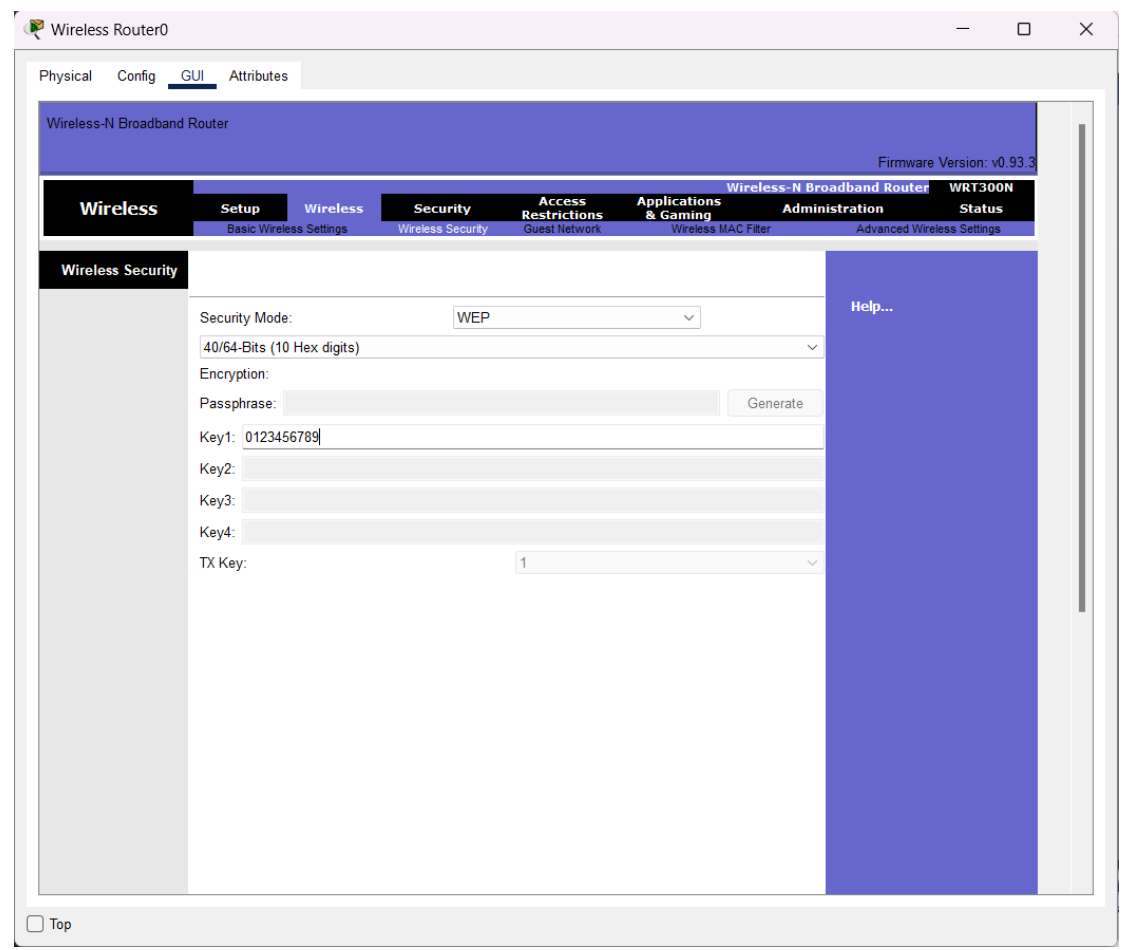
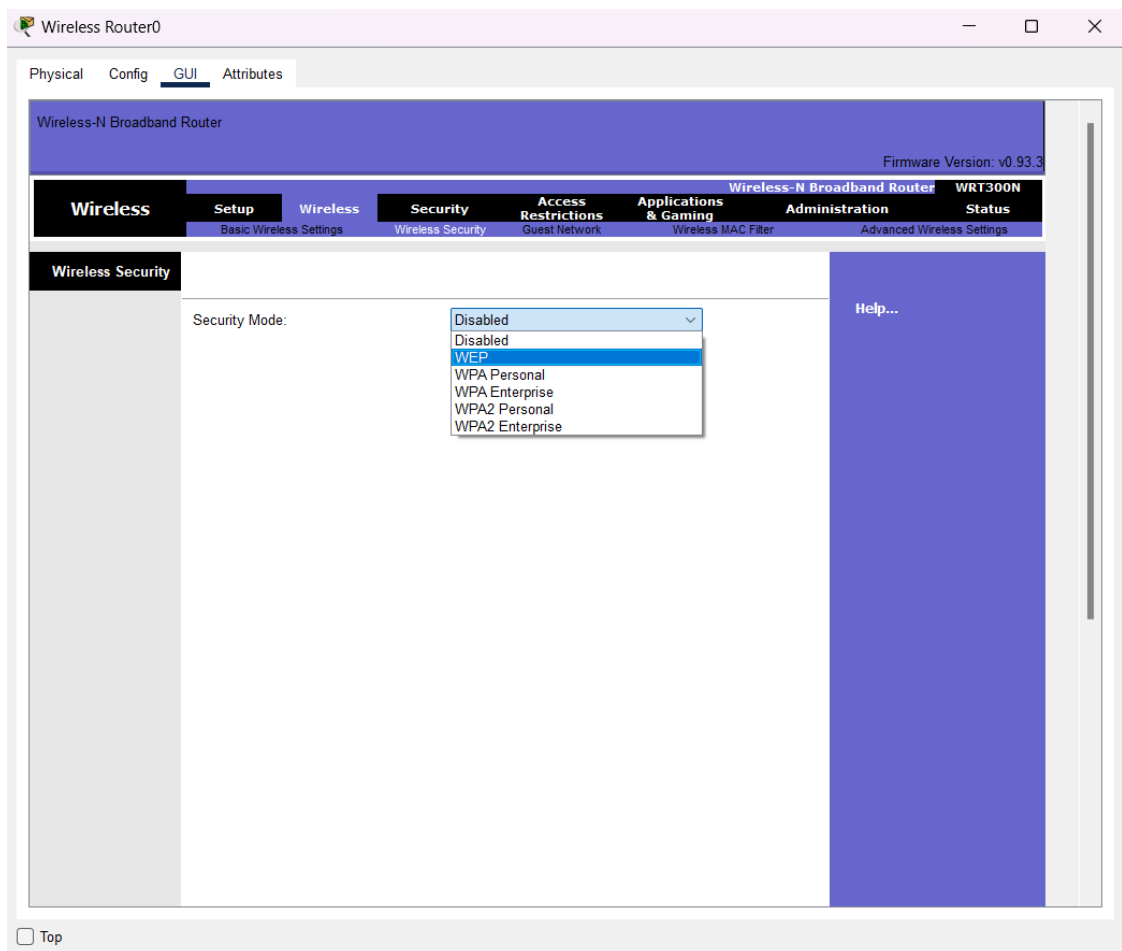
Radio Band: Auto

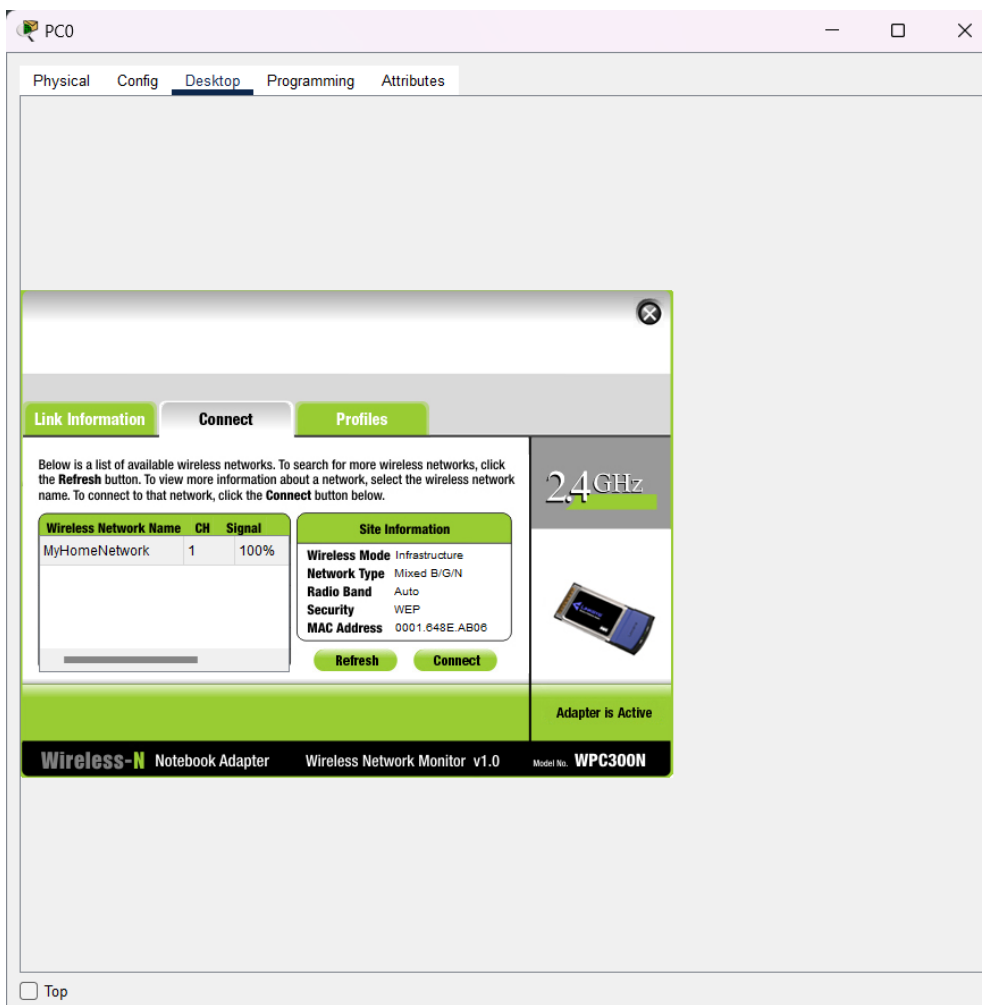
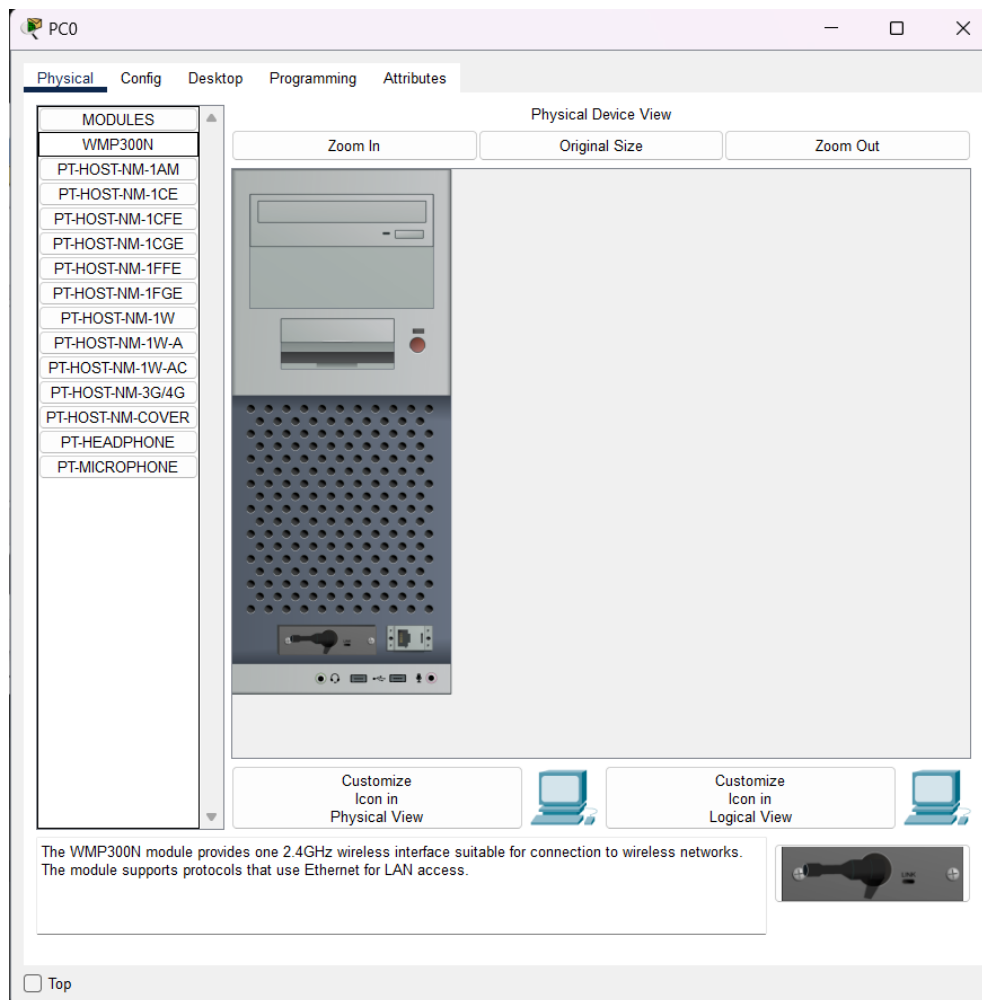
Wide Channel: Auto

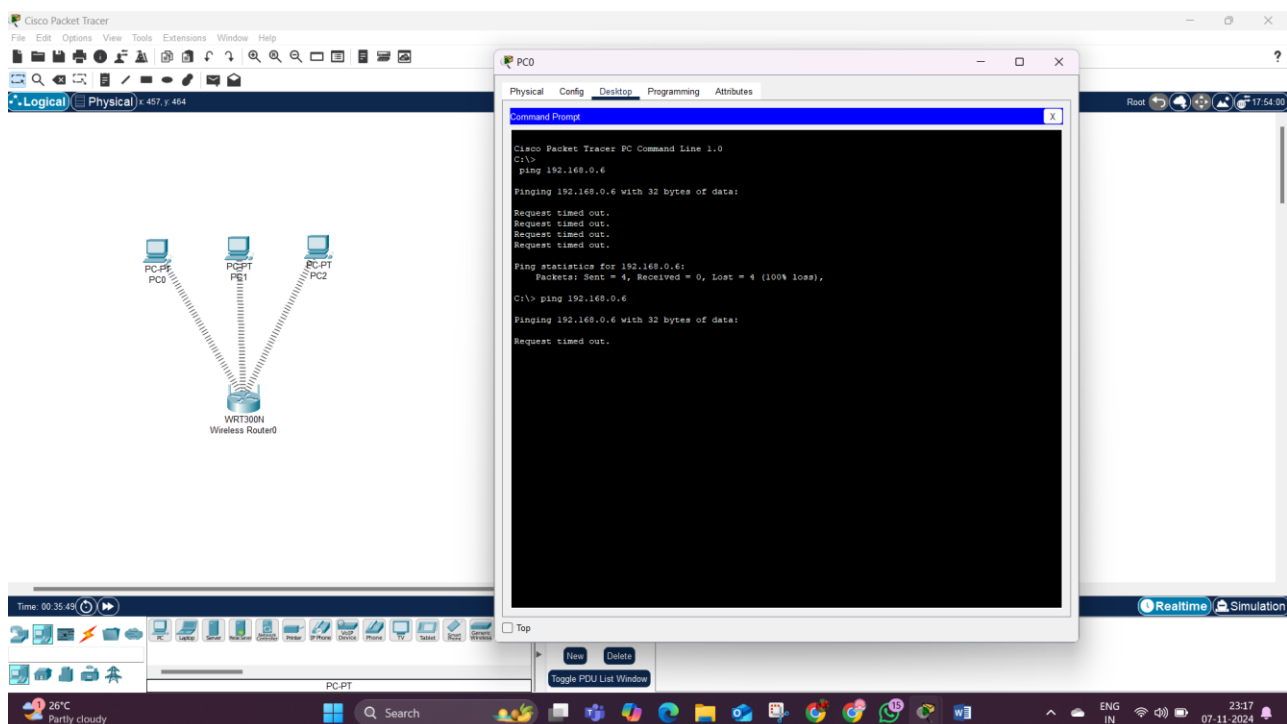
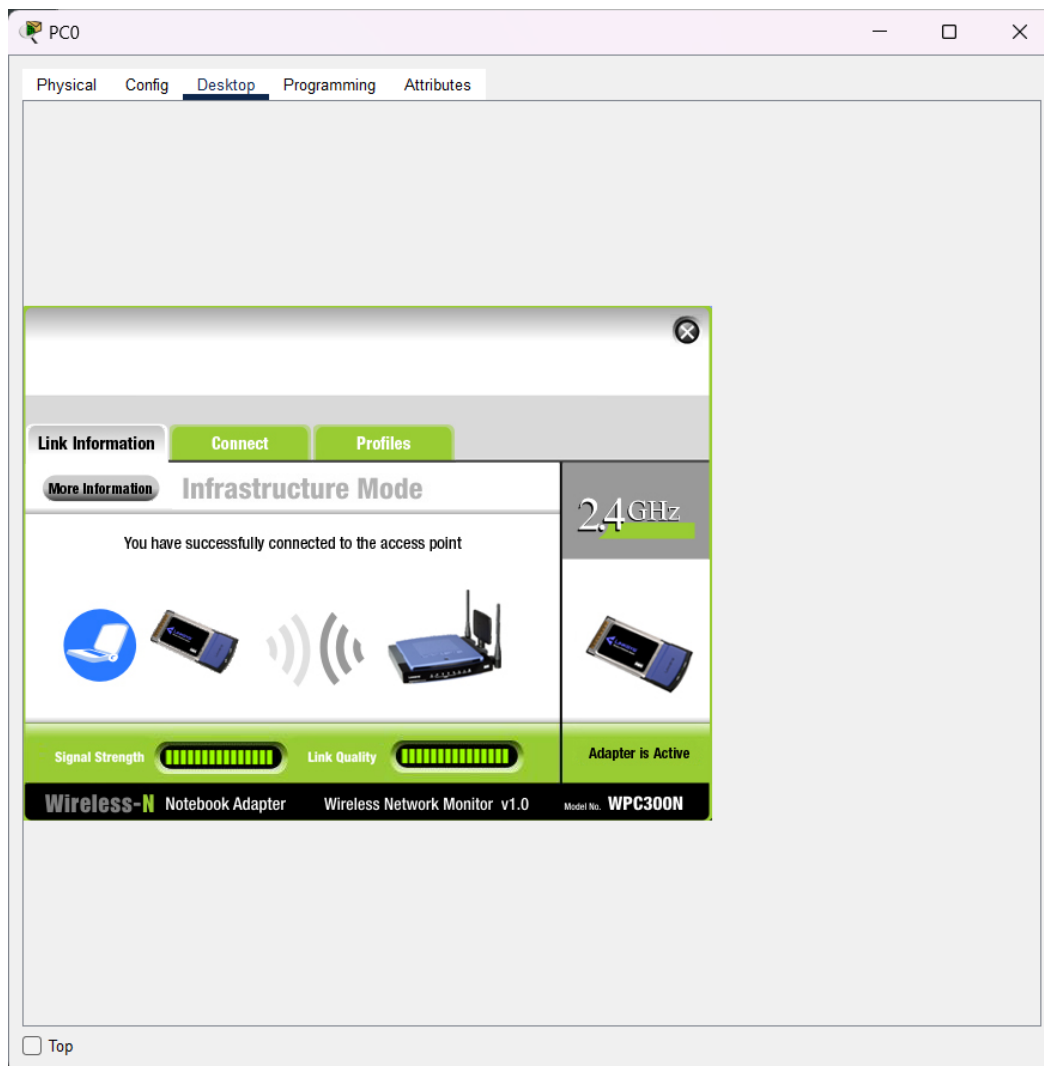
Standard Channel: 1 - 2.412GHz

SSID Broadcast: ☒ Enabled ☐ Disabled

☐ Top







RESULT: -

Wireless Router have been successfully done in CISCO PACKET TRACER.