

# Date :18-08-2025

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## Ex.-No-2-Interconnecting-Two-LANs-Using-a-Router-Basic-Router-Configuration

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### Objective

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To configure a router to connect two separate LANs and enable communication between them using static IP addressing.

### Apparatus/Tools Required

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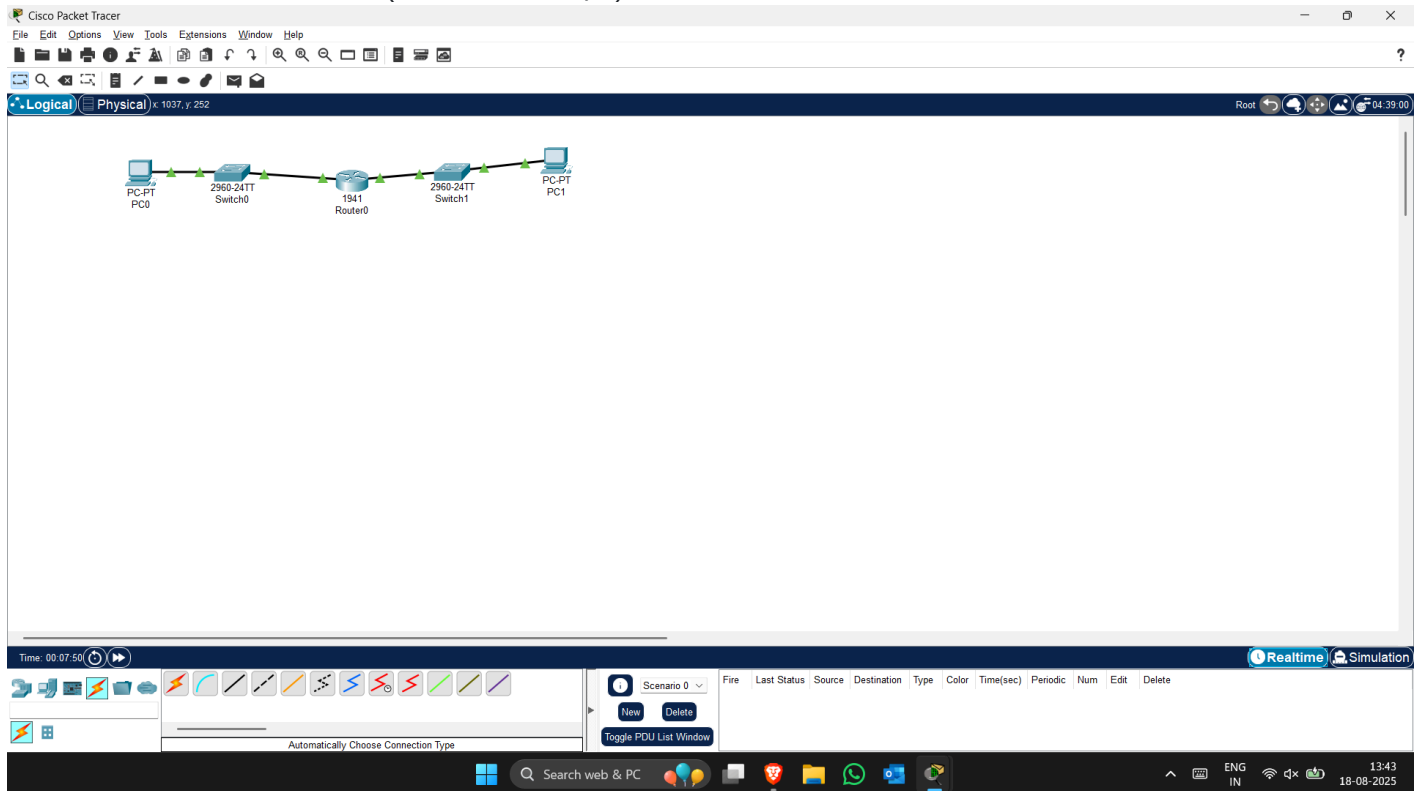
- Cisco Packet Tracer
- 2 PCs
- 2 Switches
- 1 Router (e.g., 1841 or 2911)
- Straight-through cables

### Network Topology Diagram

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## Description:

- PC0 → Switch0 → Router (FastEthernet0/0)
- PC1 → Switch1 → Router (FastEthernet0/1)



# IP Addressing Table

Device	Interface	IP Address	Subnet Mask
PC0	NIC	192.168.1.10	255.255.255.0
PC1	NIC	192.168.2.10	255.255.255.0
Router0	FastEthernet0/0	192.168.1.1	255.255.255.0
Router0	FastEthernet0/1	192.168.2.1	255.255.255.0

## Procedure

1. Open Cisco Packet Tracer and add 2 PCs, 2 Switches, and 1 Router.
2. Connect each PC to a switch, and each switch to the router using straight-through cables.
3. Assign IP addresses to both PCs according to the IP table.
4. Configure the router interfaces:
  - o FastEthernet0/0 → 192.168.1.1
  - o FastEthernet0/1 → 192.168.2.1
5. Use no shutdown on both router interfaces to activate them.
6. Set each PC's default gateway:
  - o PC0 → 192.168.1.1
  - o PC1 → 192.168.2.1
7. Test connectivity using ping from PC0 to PC1.

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Router# configure terminal

```
Router(config-if)# ip address 192.168.1.1 255.255.255.0
```

```
Router(config)# interface fastethernet0/1
```

```
Router(config-if)# no shutdown
```

## • IP configurations on PCs

Device Name: PC0  
Device Model: PC-PT

Port	Link	IP Address	IPv6 Address	MAC Address
Ethernet0	Up	192.168.1.10/24	<not set>	0060.2F65.E117
Bluetooth	Down	<not set>	<not set>	0003.B44C.4031

Gateway: 192.168.1.1  
DNS Server: <not set>  
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > PC0

Simulation Panel

Event List

Vis.	Time(sec)	Last Device
	5.836	Switch0
	5.895	--
	5.896	Switch0
	6.521	--
	6.522	Switch1
	6.522	Switch1
	6.814	--
	6.815	Switch0
	6.815	Switch0
	8.522	--
	8.523	Switch1
	8.523	Switch1

Reset Simulation ☒ Constant Delay Captured to: 8.523 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

Scenario 0

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

New Delete

Toggle PDU List Window

Automatically Choose Connection Type

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## • Successful ping between PC0 and PC1

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.10

Pinging 192.168.2.10 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.10: bytes=32 time=8ms TTL=127
Reply from 192.168.2.10: bytes=32 time=8ms TTL=127
Reply from 192.168.2.10: bytes=32 time=8ms TTL=127

Ping statistics for 192.168.2.10:
    Packets: Sent = 4, Received = 3, Loss = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 8ms, Maximum = 8ms, Average = 8ms

C:\>
```

Simulation Panel

Event List

Vis.	Time(sec)	Last Device
	12.681	--
	12.682	Switch1
	12.682	Switch1
	12.998	--
	12.999	Switch0
	12.999	Switch0
	14.681	--
	14.682	Switch1
	14.682	Switch1
	14.996	--
	14.997	Switch0
	14.997	Switch0

Reset Simulation ☒ Constant Delay Captured to: 14.997 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

Scenario 0

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

New Delete

Toggle PDU List Window

Automatically Choose Connection Type

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## Result

Successfully configured a router to connect two LANs. Communication between PC0 and PC1 across different networks was tested and verified.