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## QUES 1 :

To Study basic network command and Network configuration commands

```
C:\WINDOWS\system32\cmd. X + v
Microsoft Windows [Version 10.0.22631.3447]
(c) Microsoft Corporation. All rights reserved.

C:\Users\RMC-5>ping facebook.com

Pinging facebook.com [163.70.146.35] with 32 bytes of data:
Reply from 163.70.146.35: bytes=32 time=11ms TTL=53
Reply from 163.70.146.35: bytes=32 time=10ms TTL=53
Reply from 163.70.146.35: bytes=32 time=24ms TTL=53
Request timed out.

Ping statistics for 163.70.146.35:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 10ms, Maximum = 24ms, Average = 15ms

C:\Users\RMC-5>
```

```
C:\WINDOWS\system32\cmd. X + v
Reply from 163.70.146.35: bytes=32 time=10ms TTL=53
Reply from 163.70.146.35: bytes=32 time=24ms TTL=53
Request timed out.

Ping statistics for 163.70.146.35:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 10ms, Maximum = 24ms, Average = 15ms

C:\Users\RMC-5>tracert facebook.com

Tracing route to facebook.com [163.70.146.35]
over a maximum of 30 hops:

  1  6 ms  3 ms  2 ms  10.142.0.1
  2  10 ms  7 ms  6 ms  172.31.8.241
  3  *  17 ms  32 ms  192.168.16.1
  4  11 ms  29 ms  22 ms  192.168.226.1
  5  13 ms  *  8 ms  192.168.0.241
  6  *  *  *  Request timed out.
  7  4 ms  9 ms  4 ms  cache.google.com [112.196.151.1]
  8  22 ms  *  36 ms  ae12.pr04.del1.tfbnw.net [157.240.76.144]
  9  40 ms  18 ms  47 ms  po404.asw02.del2.tfbnw.net [129.134.40.123]
 10  8 ms  10 ms  10 ms  psw02.del2.tfbnw.net [129.134.94.176]
 11  10 ms  19 ms  18 ms  157.240.38.119
 12  7 ms  8 ms  14 ms  edge-star-mini-shv-01-del2.facebook.com [163.70.146.35]

Trace complete.

C:\Users\RMC-5>
```

```
C:\Users\RMC-5>netstat
```

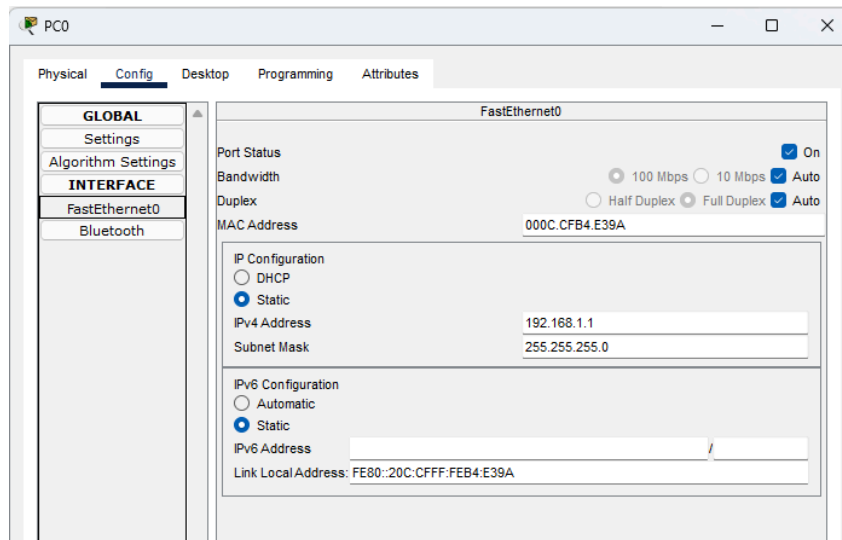
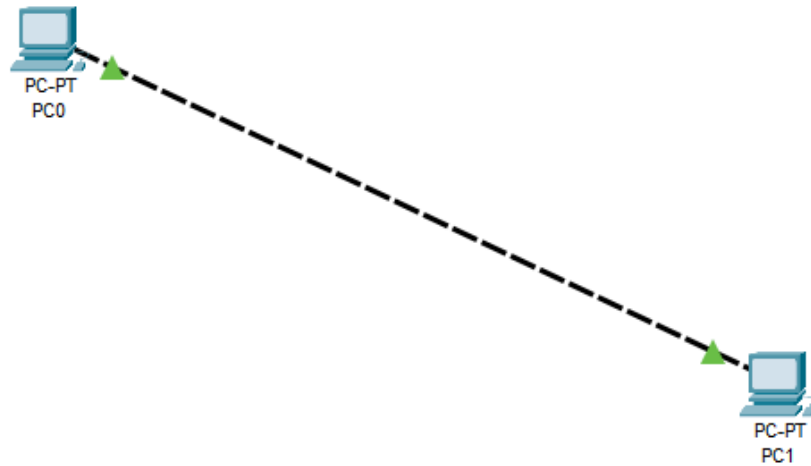
```
Active Connections
```

Proto	Local Address	Foreign Address	State
TCP	10.142.2.251:7680	10.142.0.178:50536	ESTABLISHED
TCP	10.142.2.251:60257	104.192.108.132:http	ESTABLISHED
TCP	10.142.2.251:60263	20.198.119.143:https	ESTABLISHED
TCP	10.142.2.251:60654	a104-101-17-176:https	CLOSE_WAIT
TCP	10.142.2.251:60655	a104-101-17-176:https	CLOSE_WAIT
TCP	10.142.2.251:61489	10.142.4.8:8009	ESTABLISHED
TCP	10.142.2.251:61999	del11s11-in-f8:https	TIME_WAIT
TCP	10.142.2.251:62003	del12s05-in-f14:https	TIME_WAIT
TCP	10.142.2.251:62020	10.142.4.8:8009	ESTABLISHED
TCP	10.142.2.251:62039	a23-200-216-67:https	CLOSE_WAIT

```
^C
```

```
C:\Users\RMC-5>
```

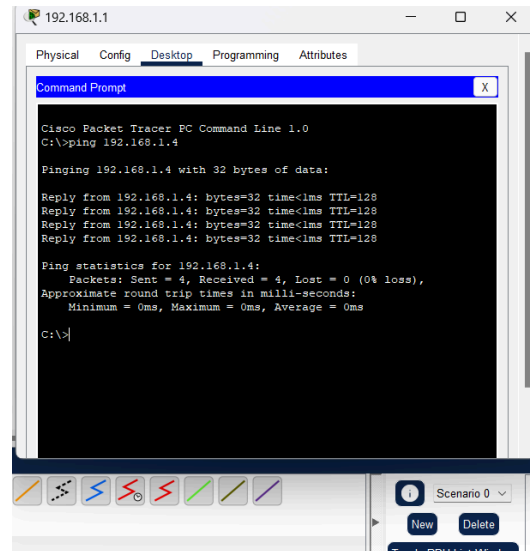
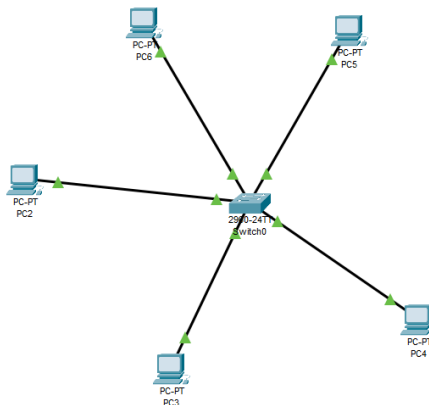
## Q2. To study and perform PC to PC communication



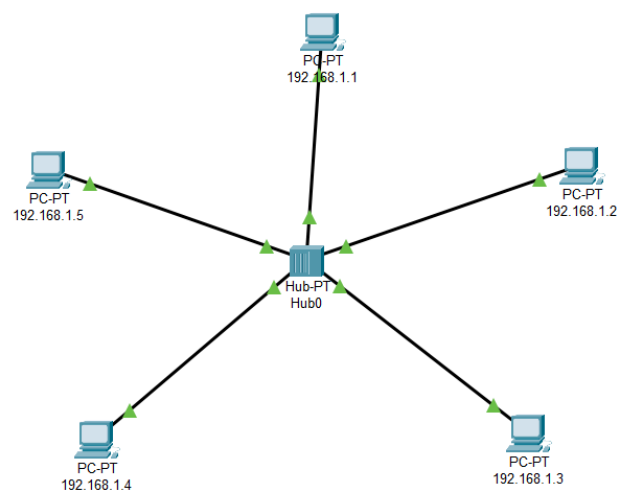
### Q3. To create Star topology using Hub and Switch.

#### (i) Using Switch

#### (ii) using Hub



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	192.1...	192.168.1.4	ICMP		0.000	N	0	(edit)	(delete)



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	192.1...	192.168.1.4	ICMP		0.000	N	0	(edit)	
	Successful	192.1...	192.168.1.4	ICMP		0.000	N	1	(edit)	

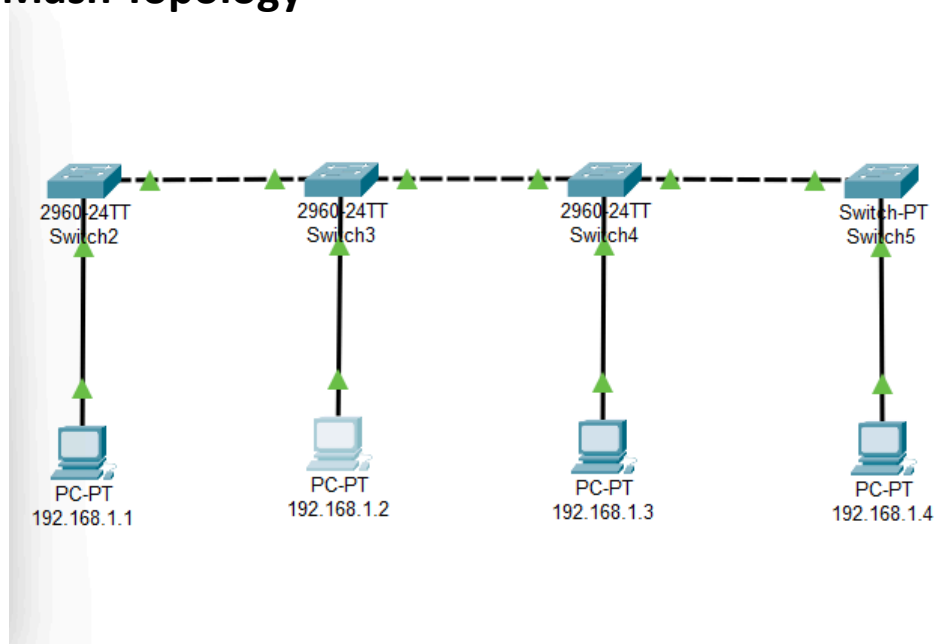
**Q4. To create Bus, Ring, Tree, Hybrid, Mash topologies.**

**(i) Bus Topology**

**(ii) Tree Topology**

**(iii) Hybrid Topology**

**(iv) Mash Topology**



```
192.168.1.2

Physical  Config  Desktop  Programming  Attributes

Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.3

Pinging 192.168.1.3 with 32 bytes of data:

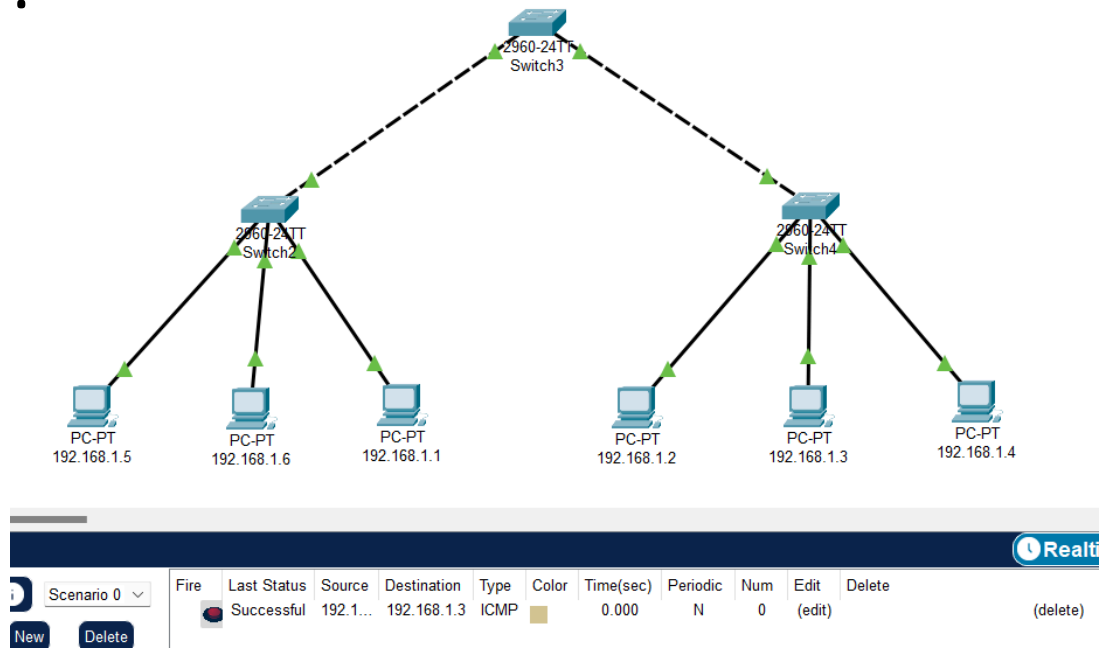
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128
Reply from 192.168.1.3: bytes=32 time=7ms TTL=128
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128
Reply from 192.168.1.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 7ms, Average = 1ms

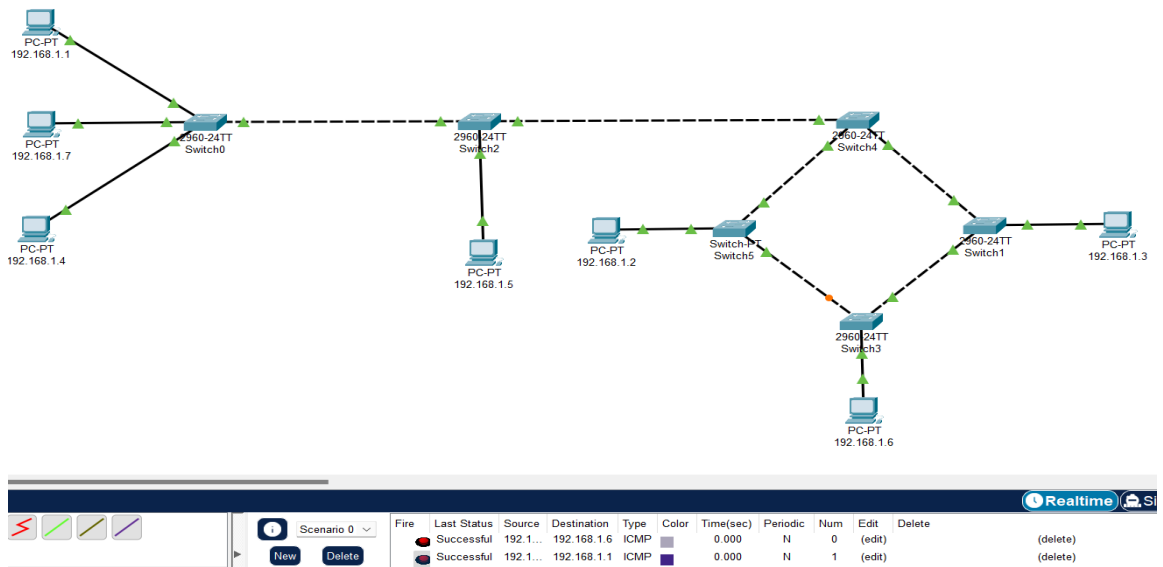
C:\>
```

ire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	192.1...	192.168.1.2	ICMP		0.000	N	0	(edit)	
	Successful	192.1...	192.168.1.3	ICMP		0.000	N	1	(edit)	

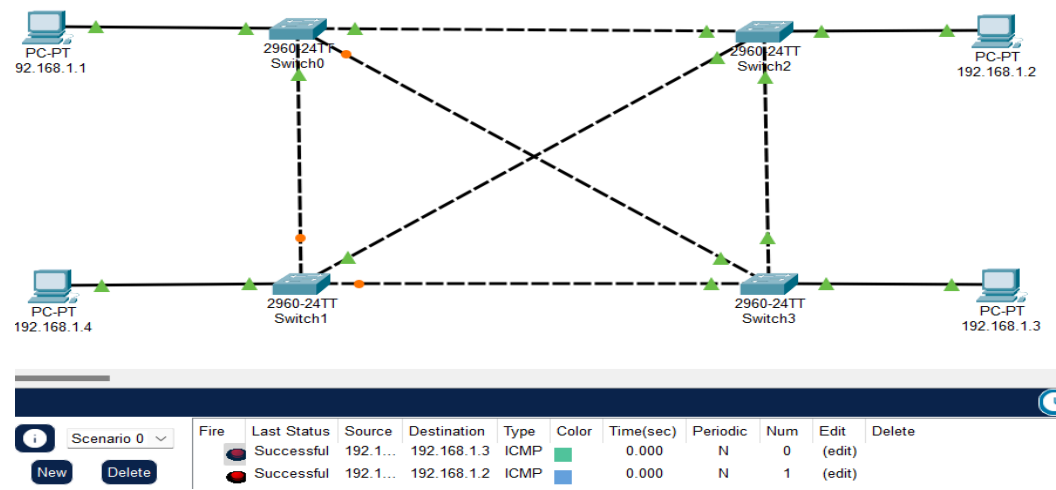
## Tree :



## Hybrid :



# Mesh :



## Ques 5 : Perform an initial Switch configuration.



### HostName :

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname myswitch
myswitch(config)#exit
myswitch#
%SYS-5-CONFIG_I: Configured from console by console
myswitch#
```

### Password :

```
myswitch>enable
myswitch#configur terminal
Enter configuration commands, one per line.  End with CNTL/Z.
myswitch(config)#enable password myl23
myswitch(config)#exit
```



## Q6. Perform an initial Router configuration

Host setting password

```
Router>
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname
% Incomplete command.
Router(config)#
Router(config)#hostname madhav_router
madhav_router(config)#
madhav_router(config)#enable password madhav_ag
madhav_router(config)#
madhav_router(config)#enable secret madhav_1234
madhav_router(config)#
madhav_router(config)#
```

---

Message of the day :

```
madhav_router(config)#banner motd $
Enter TEXT message. End with the character '$'.
welcome to madhav's router
$

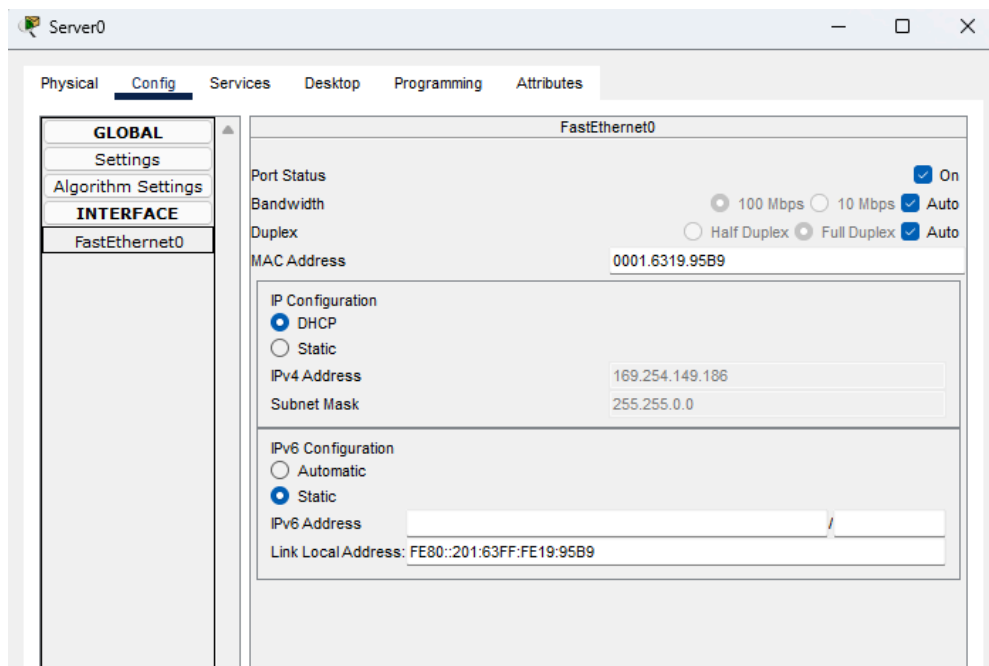
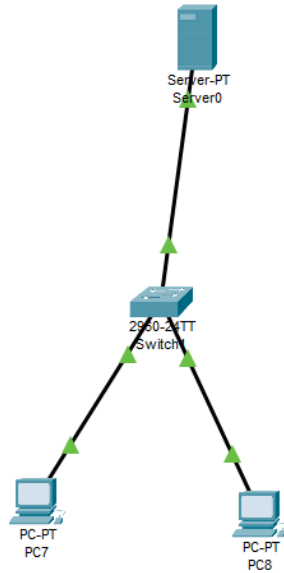
madhav_router(config)#
madhav_router(config)#
madhav_router(config)#
```

Enable Secret :

```
-----
madhav_router(config)#enable password madhav123
madhav_router(config)#secret madhav1234
^
% Invalid input detected at '^' marker.

madhav_router(config)#enable secret madhav1234
madhav_router(config)#service password-encryption
madhav_router(config)#exit
madhav_router#
%SYS-5-CONFIG_I: Configured from console by console
madhav_router#
```

## Q7. To implement Client-server Network.



PC7

Physical

Config

Desktop

Programming

Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status

☒ On

Bandwidth

☒ 100 Mbps
☐ 10 Mbps

Duplex

☐ Half Duplex
☒ Full Duplex

MAC Address

0001.4389.A8CE

IP Configuration

☒ DHCP
☐ Static

IPv4 Address

169.254.168.207

Subnet Mask

255.255.0.0

IPv6 Configuration

☐ Automatic
☒ Static

IPv6 Address

Link Local Address

FE80::201:43FF:FE89:A8CE

PC8

Physical

Config

Desktop

Programming

Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status

☒ On

Bandwidth

☒ 100 Mbps
☐ 10 Mbps

Duplex

☐ Half Duplex
☒ Full Duplex

MAC Address

00E0.8F04.352B

IP Configuration

☒ DHCP
☐ Static

IPv4 Address

Subnet Mask



IPv6 Configuration

☐ Automatic
☒ Static

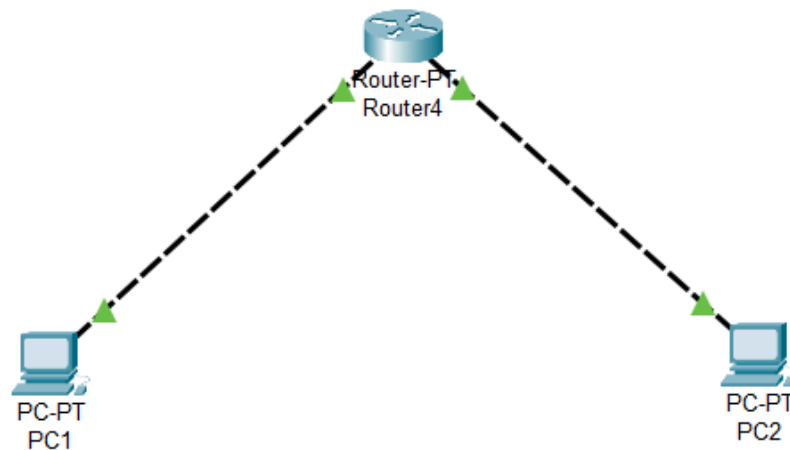
IPv6 Address







Link Local Address

FE80::2E0:8FFF:FE04:352B

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	Server0	PC7	ICMP		0.000	N	0	(edit)	

**Q8. To implement connection between devices using router.**



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC1	Router4	ICMP		0.000	N	0	(edit)	
	Successful	PC2	Router4	ICMP		0.000	N	1	(edit)	
	Successful	PC1	PC2	ICMP		0.000	N	2	(edit)	

Physical
**Config**
CLI
Attributes

**GLOBAL**
Settings
Algorithm Settings
**ROUTING**
Static
RIP
**INTERFACE**
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0

FastEthernet0/0

Port Status
Bandwidth
Duplex
MAC Address
0030.A312.09D5

IP Configuration

IPv4 Address
192.168.1.1
Subnet Mask
255.255.255.0

Tx Ring Limit
10