RAMANUJAN COLLEGE

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Course -> B.Sc(H)Computer Science
Subject :Computer network

Q1. To Study basic network command and Network configuration commands.

-> ping

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.4

Pinging 192.168.1.4 with 32 bytes of data:

Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

->netstat

```
C:\>netstat

Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    192.168.1.2:2500       192.168.1.5:443        CLOSING
  TCP    192.168.1.2:2502       192.168.1.5:443        CLOSING
C:\>netstat

Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    0.0.0.0:2500           192.168.1.5:443        SYN_SENT
  TCP    0.0.0.0:2501           192.168.1.5:80         SYN_SENT
```

-> ipconfig

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

   Connection-specific DNS Suffix..:
   Link-local IPv6 Address.....: FE80::2E0:8FFF:FE52:3BC7
   IPv6 Address.....: ::
   IPv4 Address.....: 192.168.1.2
   Subnet Mask.....: 255.255.255.0
   Default Gateway.....: ::
                                 0.0.0.0

Bluetooth Connection:

   Connection-specific DNS Suffix..:
   Link-local IPv6 Address.....: ::
   IPv6 Address.....: ::
   IPv4 Address.....: 0.0.0.0
   Subnet Mask.....: 0.0.0.0
   Default Gateway.....: ::
                                 0.0.0.0
```

->tracert

```
C:\>tracert 192.168.1.3

Tracing route to 192.168.1.3 over a maximum of 30 hops:

  1   *        *        8 ms      192.168.1.3

Trace complete.

C:\>nslookup

Server: [255.255.255.255]
Address:   255.255.255.255
```

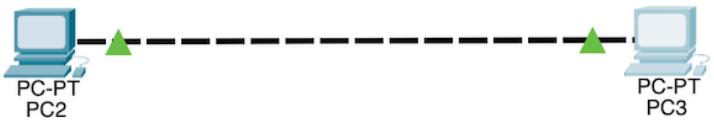
->arp

```
C:\>arp -d
C:\>arp -a
No ARP Entries Found
C:\>ping 192.168.10.1

Pinging 192.168.10.1 with 32 bytes of data:

Reply from 192.168.10.1: bytes=32 time<1ms TTL=128
Reply from 192.168.10.1: bytes=32 time<1ms TTL=128
Reply from 192.168.10.1: bytes=32 time<1ms TTL=128
Reply from 192.168.10.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>arp -a
  Internet Address      Physical Address      Type
  192.168.10.1          0009.7c8a.a184        dynamic

C:\>ping 192.168.10.3

Pinging 192.168.10.3 with 32 bytes of data:

Reply from 192.168.10.3: bytes=32 time=1ms TTL=128
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

->nslookup

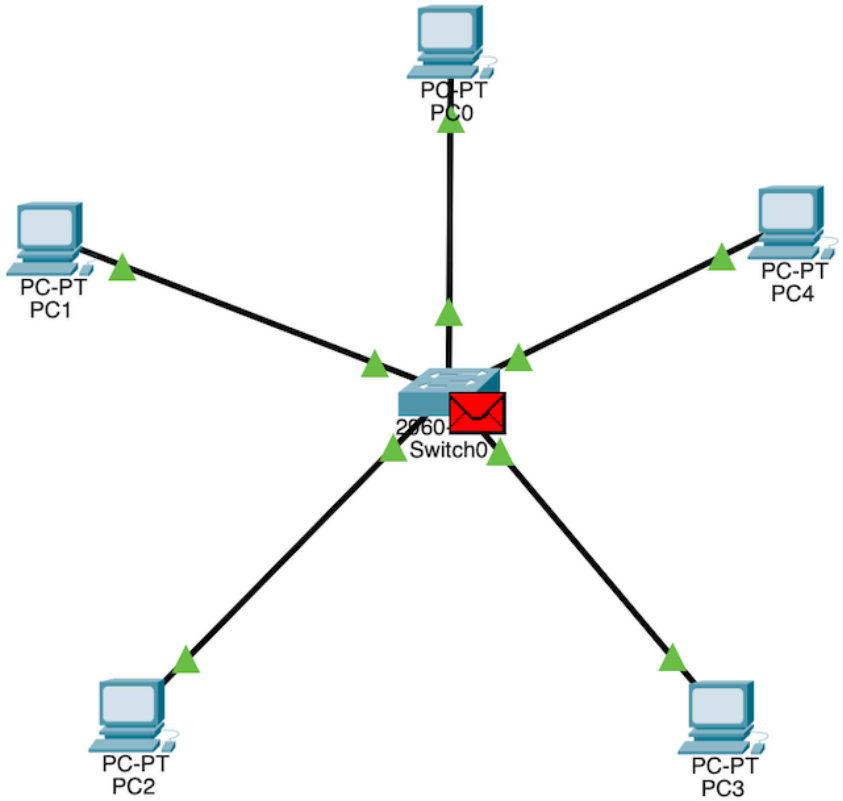
```
C:\>nslookup

Server: [255.255.255.255]
Address:   255.255.255.255
```

Q2. To study and perform PC to PC communication

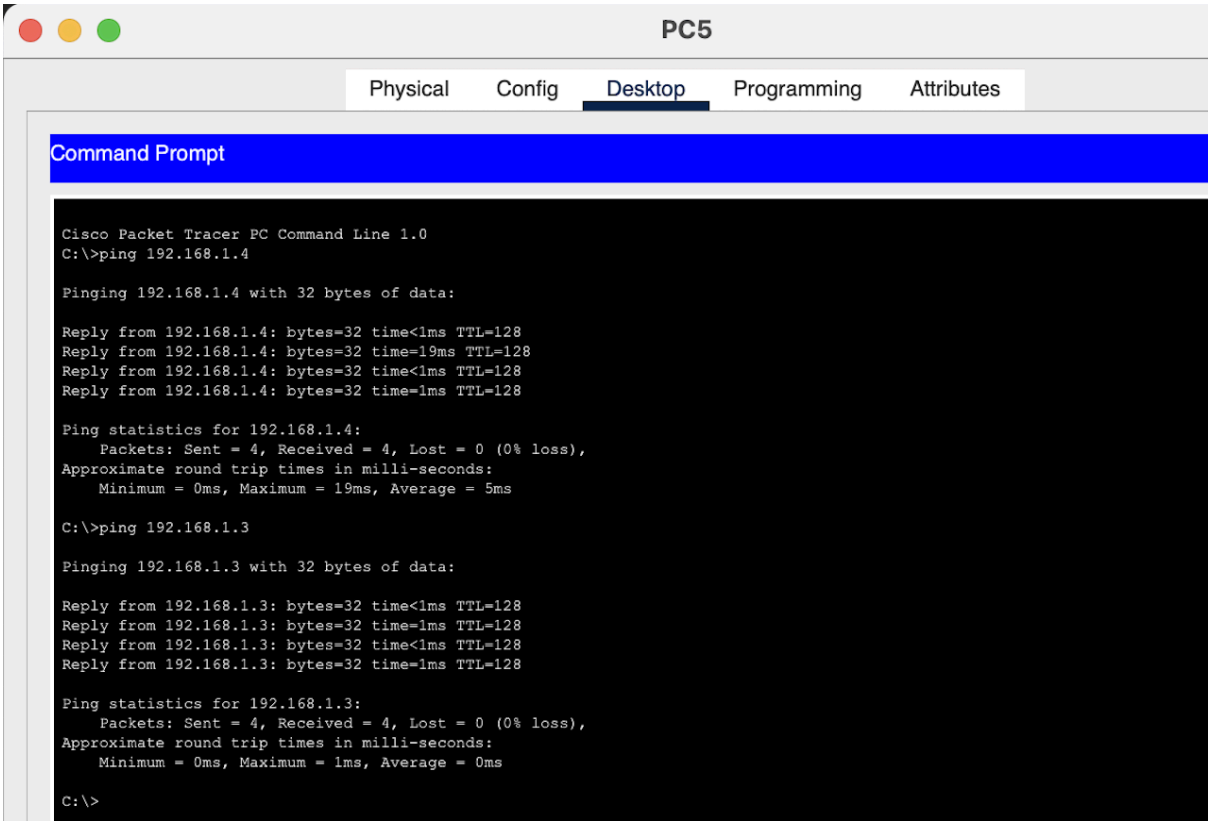


Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC2	PC3	IC...		0.000	N	0	(...	(delete)

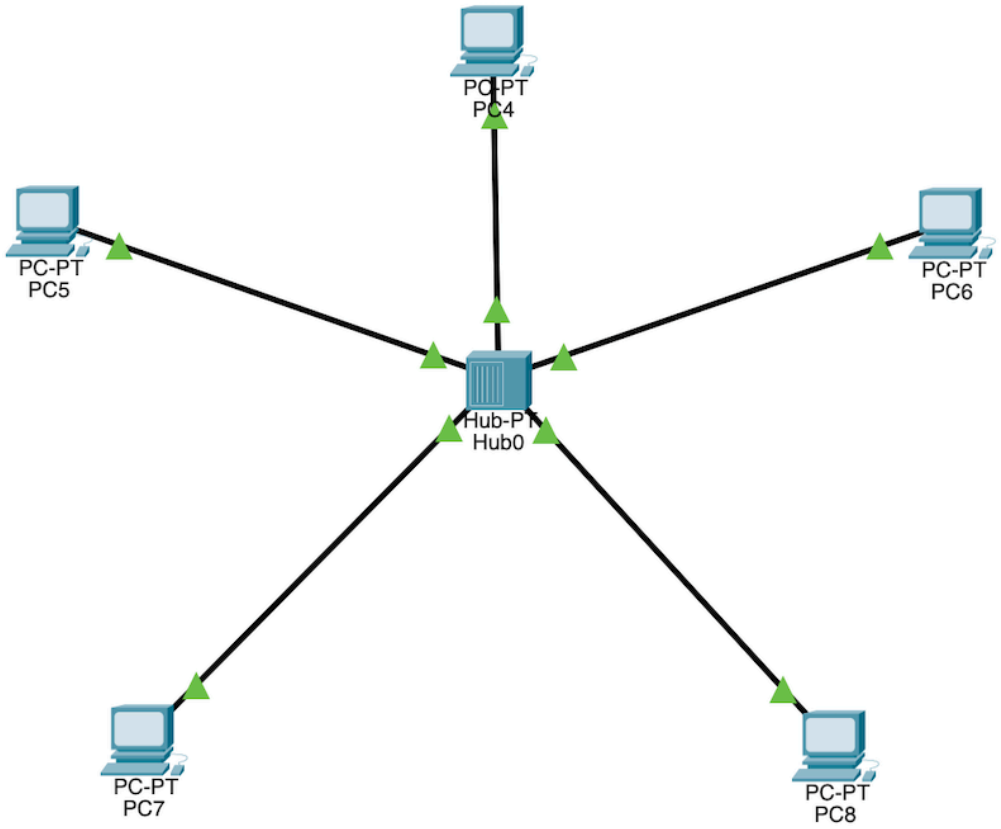
Q3. To create Star topology using Hub and Switch.
(i) Using Switch



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC1	PC3	IC...		0.000	N	0	(...	(delete)



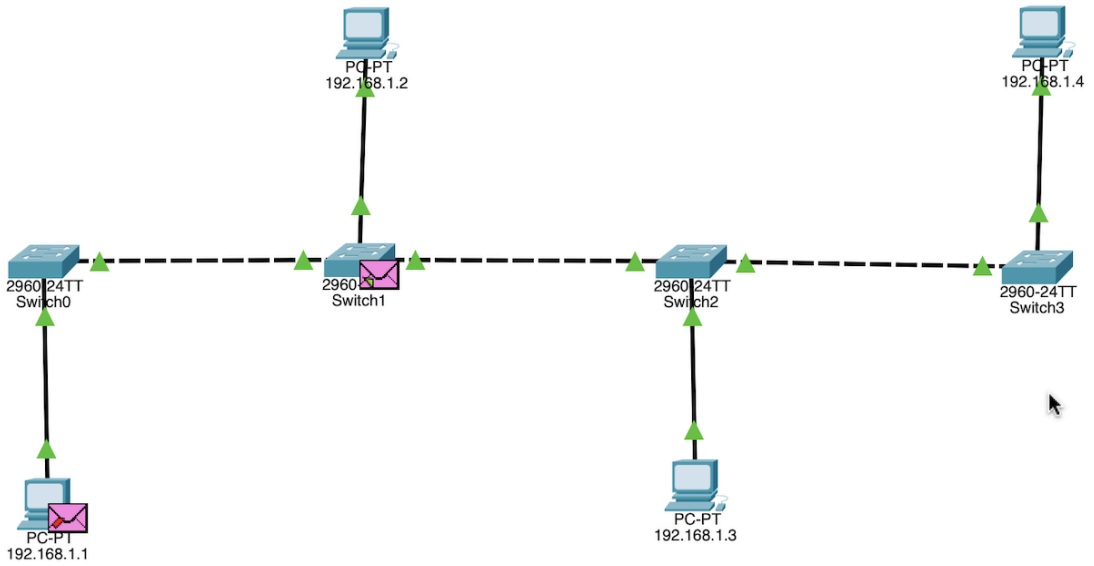
(ii) Using Hub



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC1	PC3	IC...		0.000	N	0	(...	(delete)

Q4. To create Bus, Tree, Hybrid, Mesh topologies.

(i) Bus Topology



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	192....	192.168....	IC...		0.000	N	0	(...	(delete)

192.168.1.1

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.4

Pinging 192.168.1.4 with 32 bytes of data:

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Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```
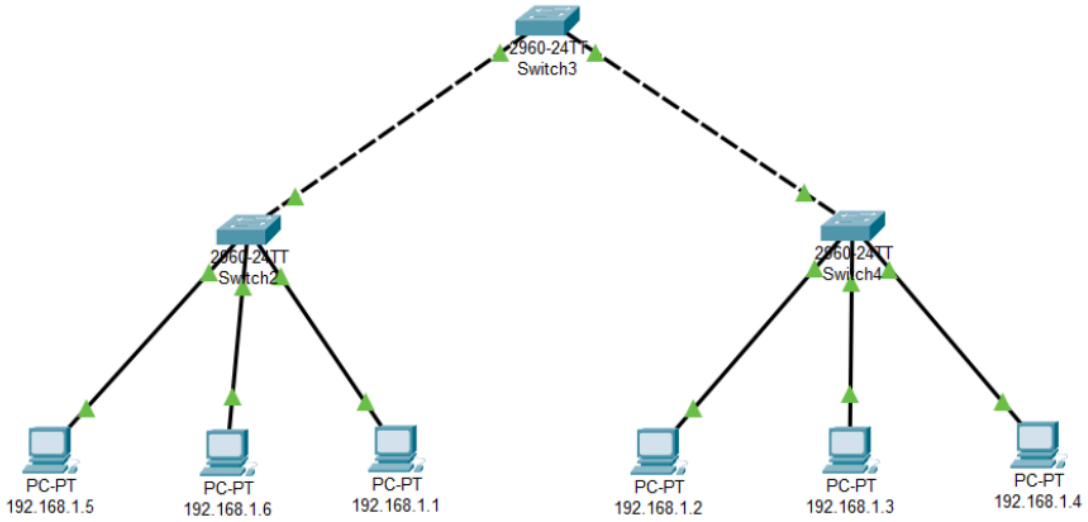
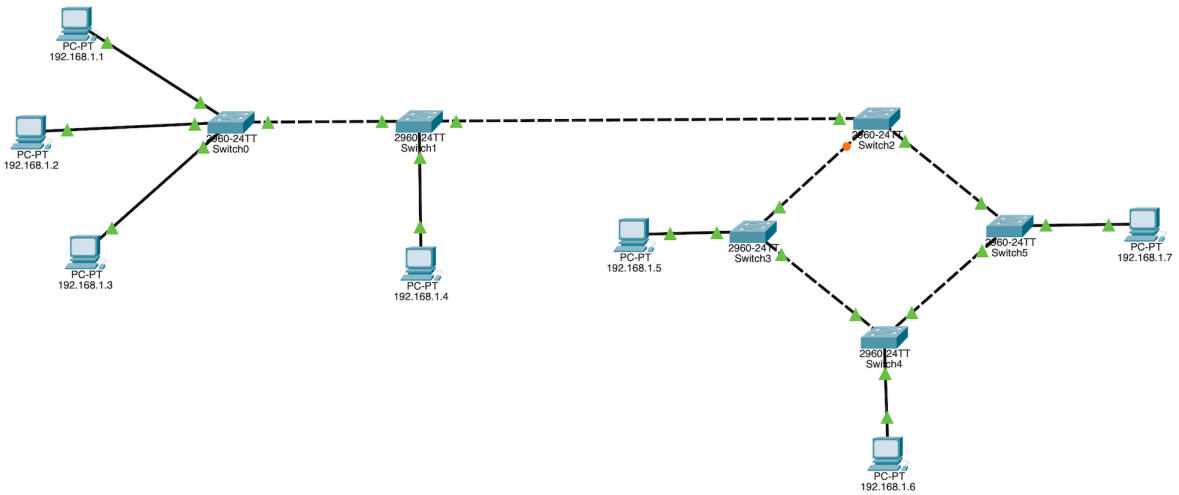

(ii) Tree Topology



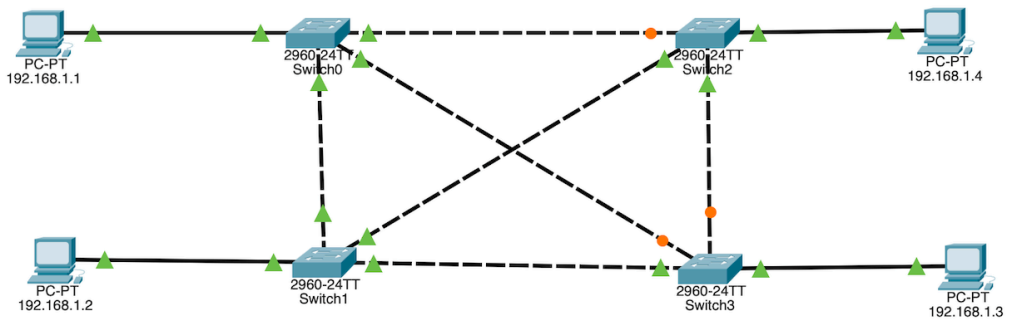
Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	192.1...	192.168.1.3	ICMP		0.000	N	0	(edit)	

(iii) Hybrid Topology



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	192....	192.168....	IC...		0.000	N	0	(...	(delete)

(iv) Mesh Topology



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	192....	192.168....	IC...		0.000	N	0	(...	(delete)

Q5. Perform an initial Switch configuration.

->Name

```
Switch>enable
Switch#congihure terminal
              ^
% Invalid input detected at '^' marker.

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

-> Password

```
cseswitch>enable
cseswitch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
cseswitch(config)#enable password
% Incomplete command.
cseswitch(config)#enable password cse123
cseswitch(config)#exit
```

Q6. Perform an initial Router configuration

-> Host Setting

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname AyushRouter
AyushRouter(config)#enable password Ayush123
AyushRouter(config)#enable secret Ayu123
AyushRouter(config)#
```

->Set a Message Of The Day (MOTD) banner for the user.

```
AyushRouter(config)#
AyushRouter(config)#banner motd $
Enter TEXT message.  End with the character '$'.
Hello , I AM AYUSH
$
```

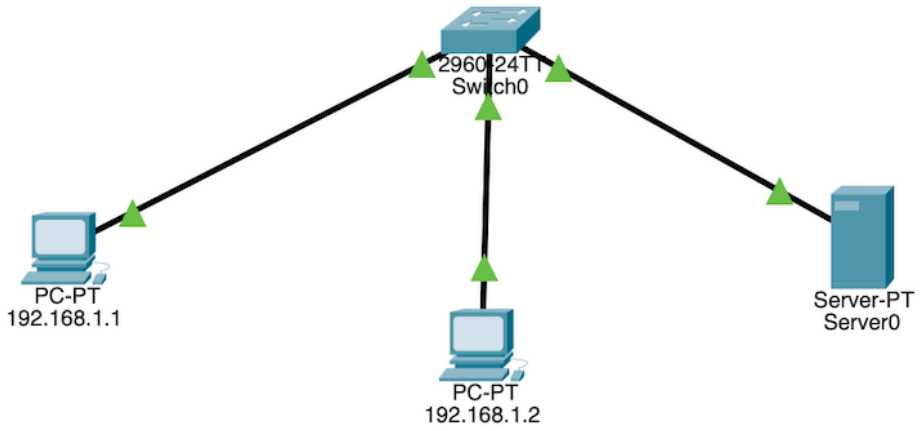
-> To configure the line control password.

```
AyushRouter(config)#line con 0
AyushRouter(config-line)#password Ayu123
AyushRouter(config-line)#login
AyushRouter(config-line)#exit
AyushRouter(config)#
```

-> Enable secret :

```
AyushRouter(config)#line con 0
AyushRouter(config-line)#password cisco
AyushRouter(config-line)#enable secret Ayush123
The enable secret you have chosen is the same as your enable password.
This is not recommended.  Re-enter the enable secret.
AyushRouter(config)#enable secret Ayu123
AyushRouter(config)#service password-encryption
AyushRouter(config)#exit
AyushRouter#
%SYS-5-CONFIG_I: Configured from console by console
```

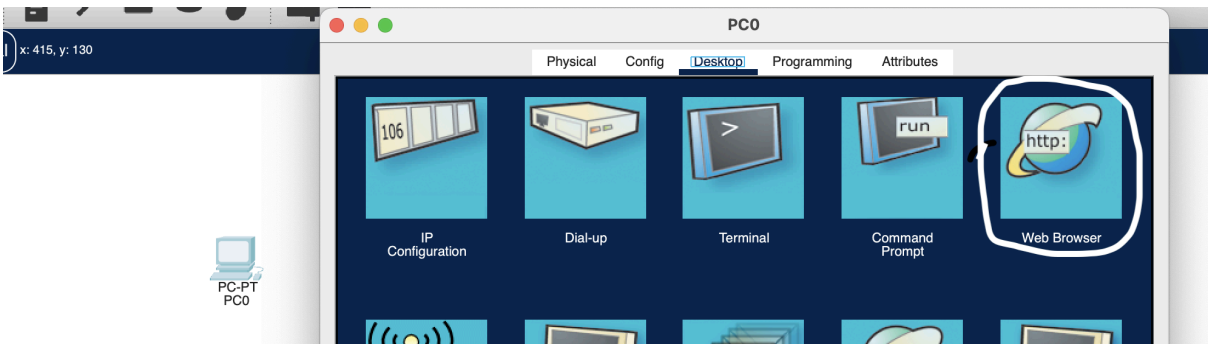
Q7. To implement Client-server Network.

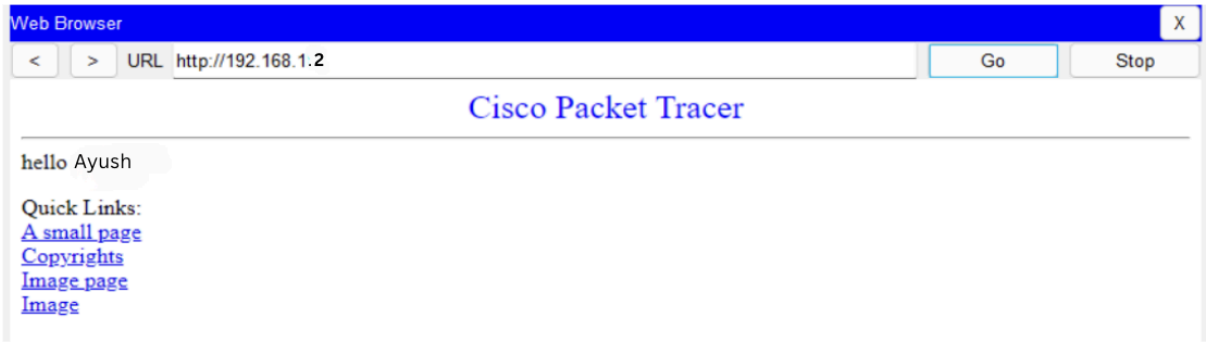


Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	192....	192.168....	IC...		0.000	N	0	(...	(delete)

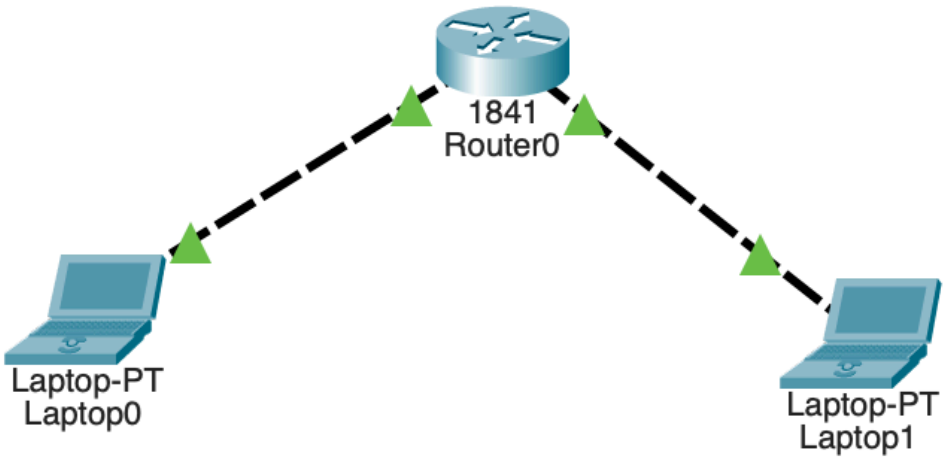
STEP 1 -> In any pc go to the web server.

STEP 2 -> Enter IP Address of server connected to your switch in web server URL.
Then press GO.

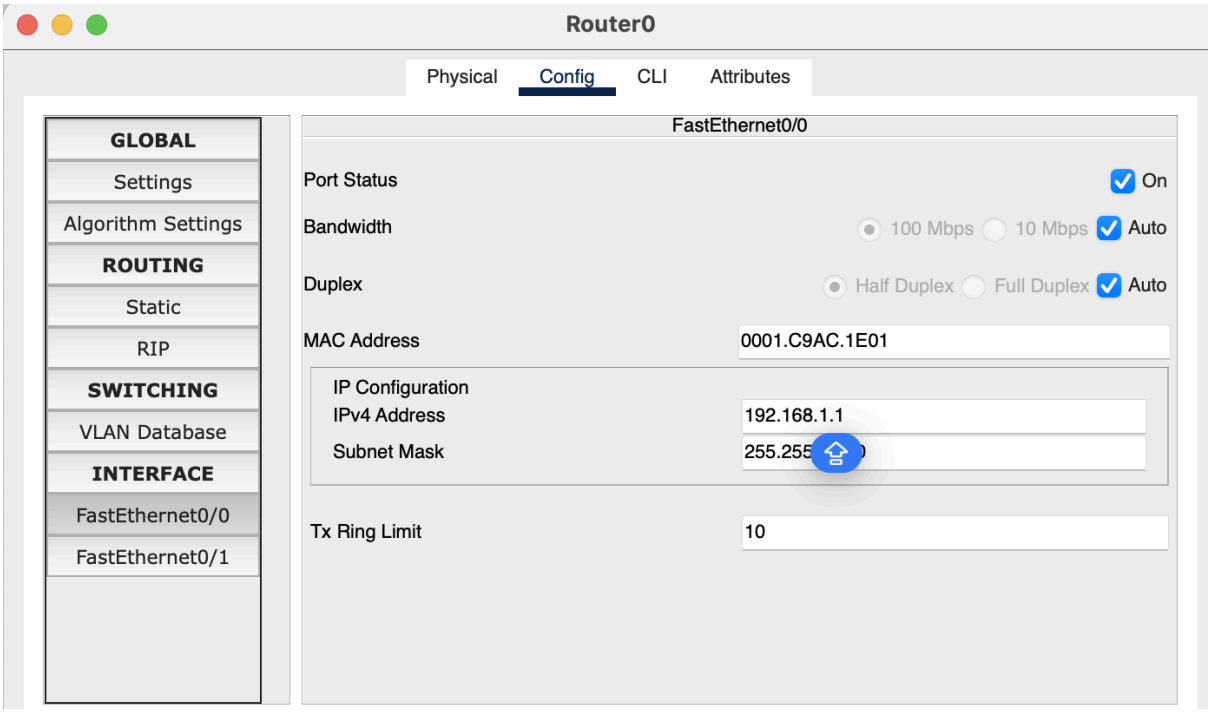




Q8. To implement connection between devices using router.



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
	Successful	Laptop0	Laptop1	ICMP		0.000	N	0


Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
FastEthernet0/0
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0001.C9AC.1E01
IP Configuration
IPv4 Address
192.168.1.1
Subnet Mask
Tx Ring Limit
10

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