


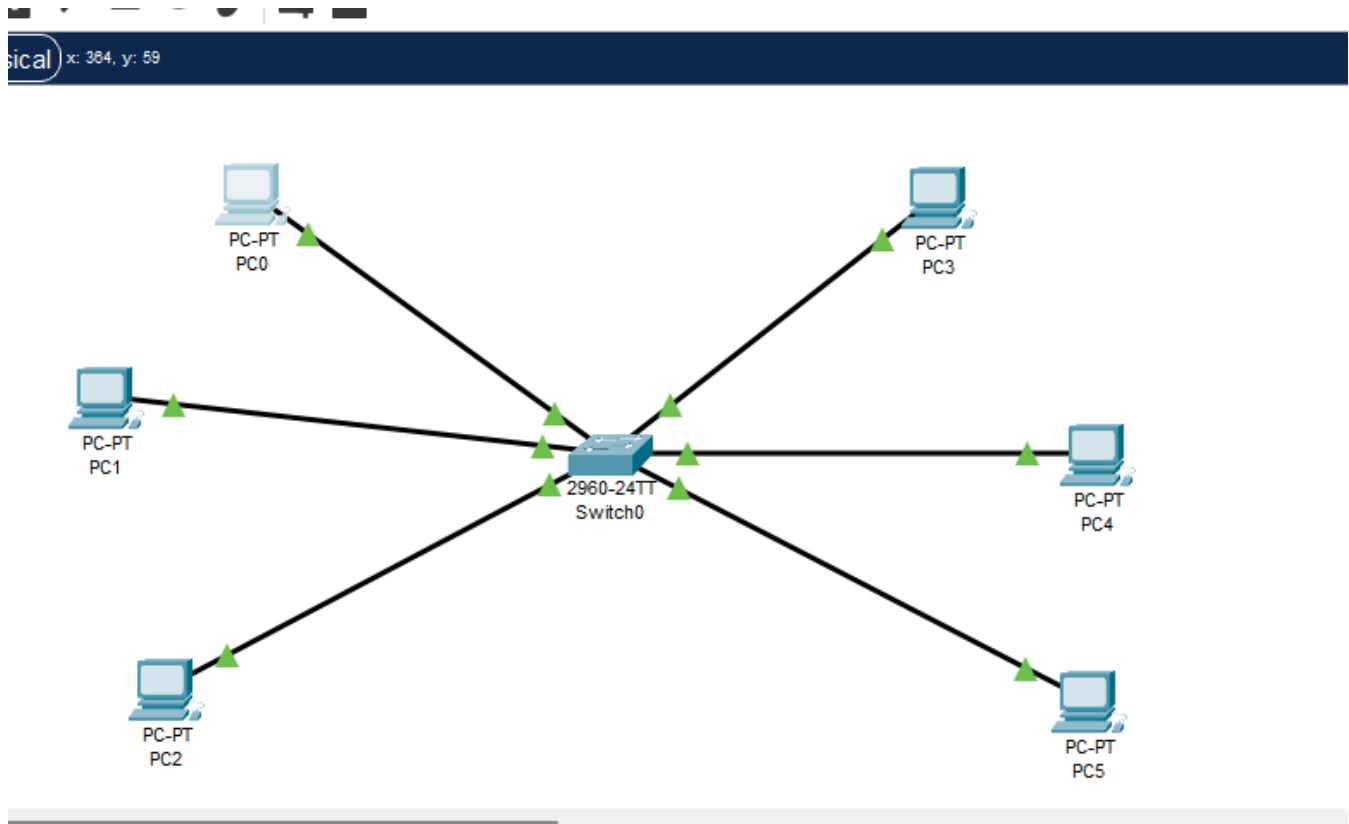
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|  Marwadi University Marwadi Chandarana Group | Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology | |
| Subject: Computer Networks (01CT0503) | Aim: Simulate star topology and check the connectivity between devices. | |
| Experiment No: 03 | Date: 22-08-2024 | Enrolment No: 92200133021 |


Aim: Simulate star topology and check the connectivity between devices.

Step – 1: Take PC and Switches.



Step – 2 : Connect PC and Switches via cables.



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Step – 3 : Give the IP address to all PCs.

PC0

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 10.0.0.1

Subnet Mask 255.0.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

PC1

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 10.0.0.2

Subnet Mask 255.0.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0


IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address

Link Local Address FE80::20C:85FF:FEE7:D06C

Default Gateway

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PC2

Physical
Config
Desktop
Programming
Attributes

IP Configuration

Interface
FastEthernet0

IP Configuration

☐ DHCP
☒ Static

IPv4 Address
10.0.0.3

Subnet Mask
255.0.0.0

Default Gateway
0.0.0.0

DNS Server
0.0.0.0

IPv6 Configuration

☐ Automatic
☒ Static

IPv6 Address

Link Local Address
FE80::20D:BDFF:FE71:CDCA

Default Gateway

DNS Server

802.1X

PC3

Physical
Config
Desktop
Programming
Attributes

IP Configuration

Interface
FastEthernet0

IP Configuration

☐ DHCP
☒ Static

IPv4 Address
10.0.0.4

Subnet Mask
255.0.0.0

Default Gateway
0.0.0.0

DNS Server
0.0.0.0

IPv6 Configuration


☐ Automatic
☒ Static

IPv6 Address

Link Local Address
FE80::200:CFF:FE4A:6330

Default Gateway

DNS Server

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PC4

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 10.0.0.5

Subnet Mask 255.0.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address

Link Local Address FE80::202:4AFF:FE27:A854

PC5

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 10.0.0.6

Subnet Mask 255.0.0.0

Default Gateway 0.0.0.0


DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address

Link Local Address FE80::201:96FF:FEE7:17A4

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Step – 4 : Check connections in command prompt.

PC0

Physical Config Desktop Programming Attributes

Command Prompt

```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data:

Reply from 10.0.0.4: bytes=32 time=3ms TTL=128
Reply from 10.0.0.4: bytes=32 time<1ms TTL=128
Reply from 10.0.0.4: bytes=32 time<1ms TTL=128
Reply from 10.0.0.4: bytes=32 time<1ms TTL=128

Ping statistics for 10.0.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 3ms, 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 = 1ms, Average = 0ms

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Conclusion:

In a Star topology simulation using Packet Tracer, I connected multiple devices to a central switch, making it easier to manage and troubleshoot network connections. I verified device communication using the ping command, which tests the ability of one device to reach another over the network. By sending ping requests, I ensured that each device was properly connected to the switch and could communicate seamlessly.