

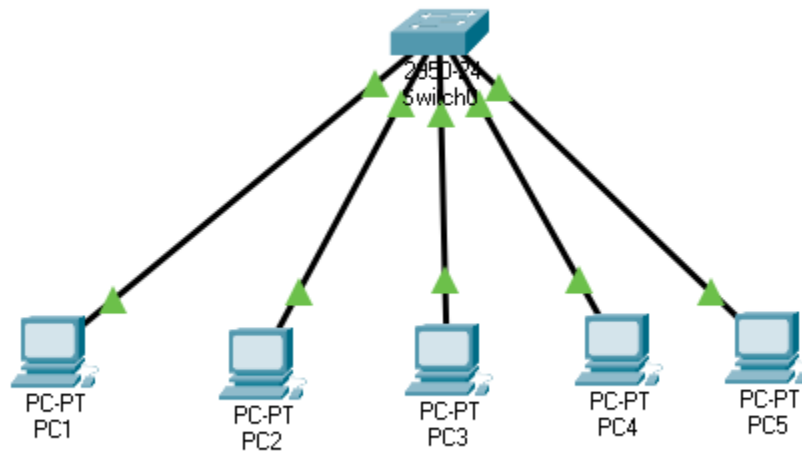
Name - TANYA GUPTA
Section - B
Student Id - 20712068

Course - MCA – 2nd SEM
Subject Name - Computer Networks
Univ. Roll No - 2001157

QUESTION 1

Question : Design a network with five PCs connect with a switch using a packet tracer.

Step 1: Establishing a connection between pc1, pc2, pc3 pc4 and pc5.



Step 2: Providing IP address to all the PCs.

PC1

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.10.2

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::205:5EFF:FEDA:21B0

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

PC2

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.10.3

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::20A:F3FF:FE83:3B51

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

PC3

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.10.4

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::201:96FF:FE36:1969

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

PC4

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.10.5

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::20C:CFFF:FEAA:D11

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

PC5

Physical Config **Desktop** Programming Attributes

IP Configuration

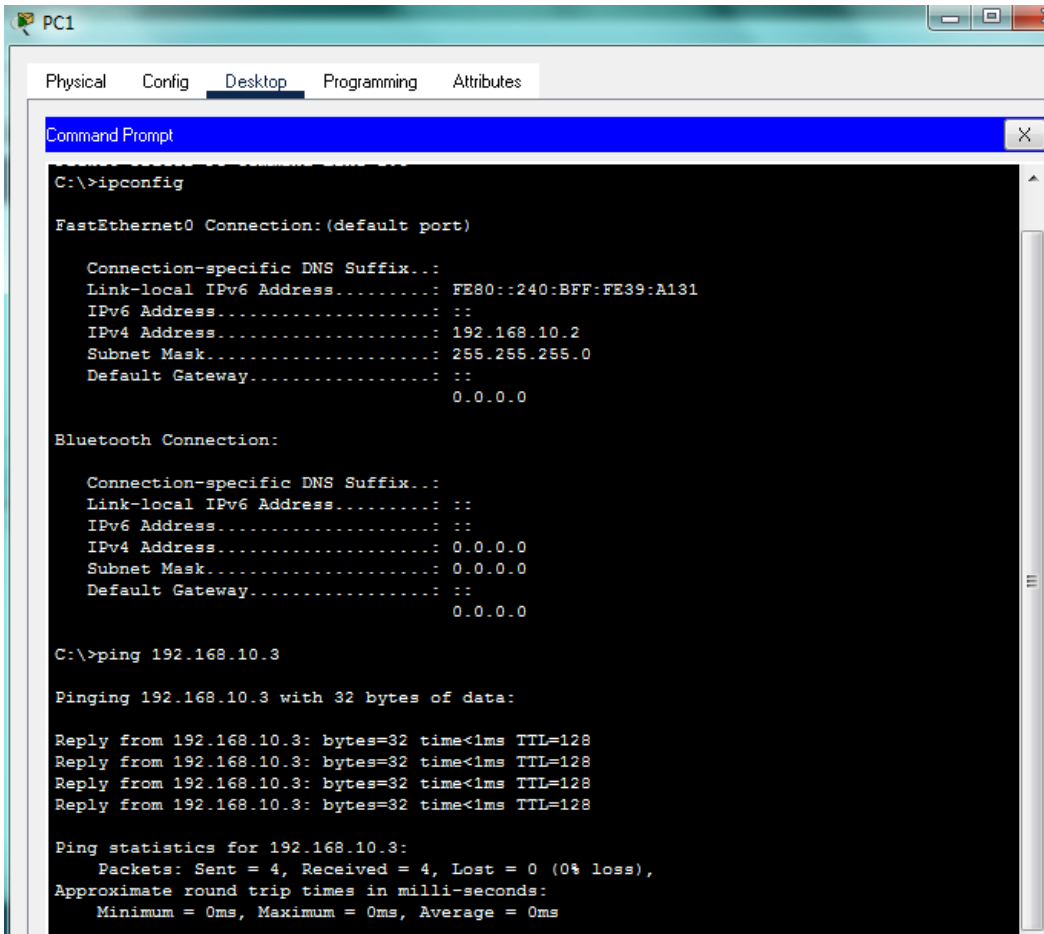
Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

| | |
|-----------------|---------------|
| IPv4 Address | 192.168.10.6 |
| Subnet Mask | 255.255.255.0 |
| Default Gateway | 0.0.0.0 |
| DNS Server | 0.0.0.0 |

Step 3: Configuring the IP address and connecting all PC with each other using ping command.



The screenshot shows a window titled "PC1" with tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is active, displaying a "Command Prompt" window. The command prompt shows the output of the `ipconfig` command, displaying details for the FastEthernet0 and Bluetooth connections. It then shows the output of the `ping 192.168.10.3` command, indicating successful connectivity with 0% loss.

```
C:\>ipconfig

FastEthernet0 Connection: (default port)

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: FE80::240:BFF:FE39:A131
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 192.168.10.2
    Subnet Mask . . . . .: 255.255.255.0
    Default Gateway . . . . .: ::
                                0.0.0.0

Bluetooth Connection:

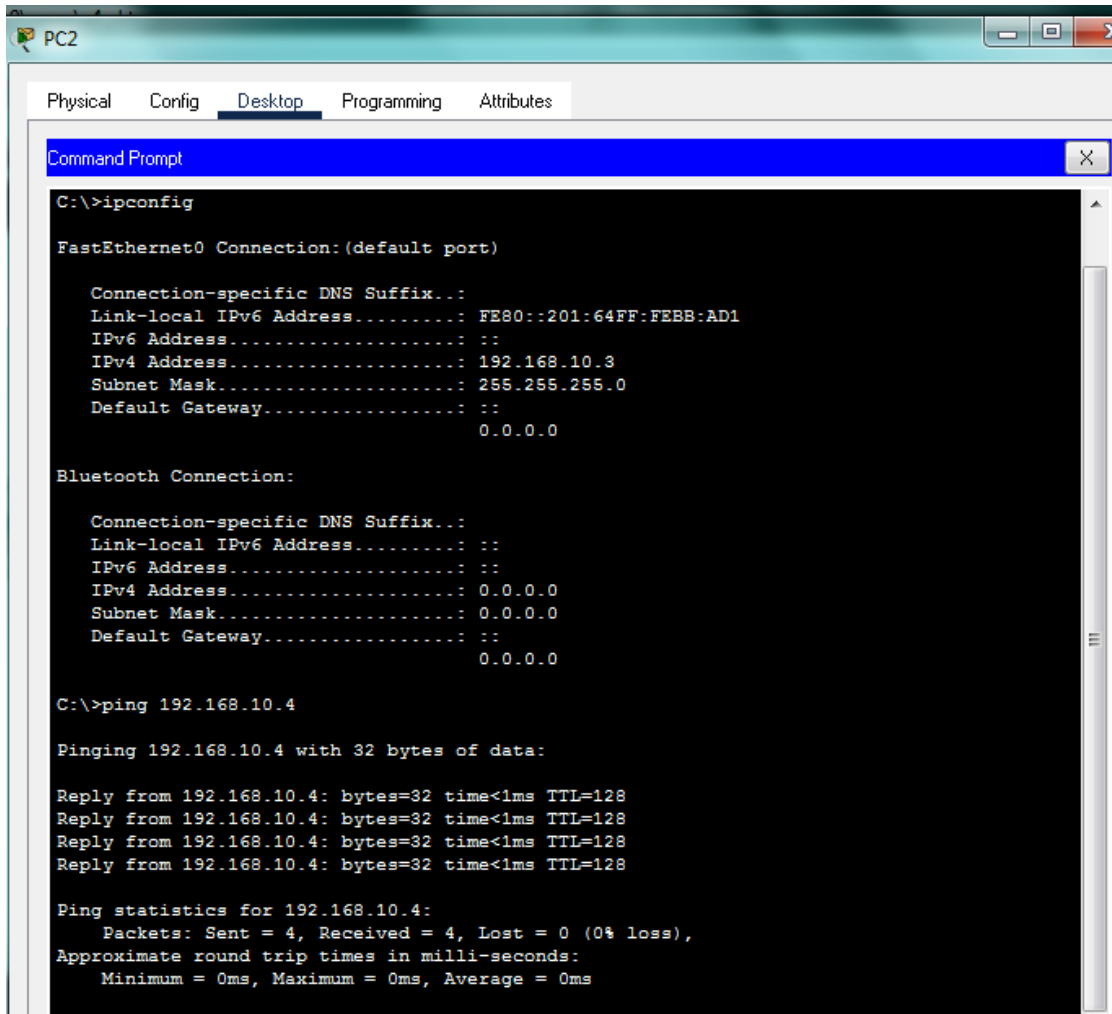
    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: ::
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 0.0.0.0
    Subnet Mask . . . . .: 0.0.0.0
    Default Gateway . . . . .: ::
                                0.0.0.0

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 = 0ms, Average = 0ms
```



The image shows a screenshot of a PC2 window with a tabbed interface. The 'Desktop' tab is active, displaying a Command Prompt window. The Command Prompt shows the output of the 'ipconfig' command, detailing network settings for 'FastEthernet0' and 'Bluetooth'. It also shows the output of a 'ping 192.168.10.4' command, indicating successful connectivity with 0% loss.

```
C:\>ipconfig

FastEthernet0 Connection: (default port)

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: FE80::201:64FF:FE8B:AD1
    IPv6 Address . . . . .: ::
    IPv4 Address. . . . .: 192.168.10.3
    Subnet Mask . . . . .: 255.255.255.0
    Default Gateway . . . . .: ::
                                0.0.0.0

Bluetooth Connection:

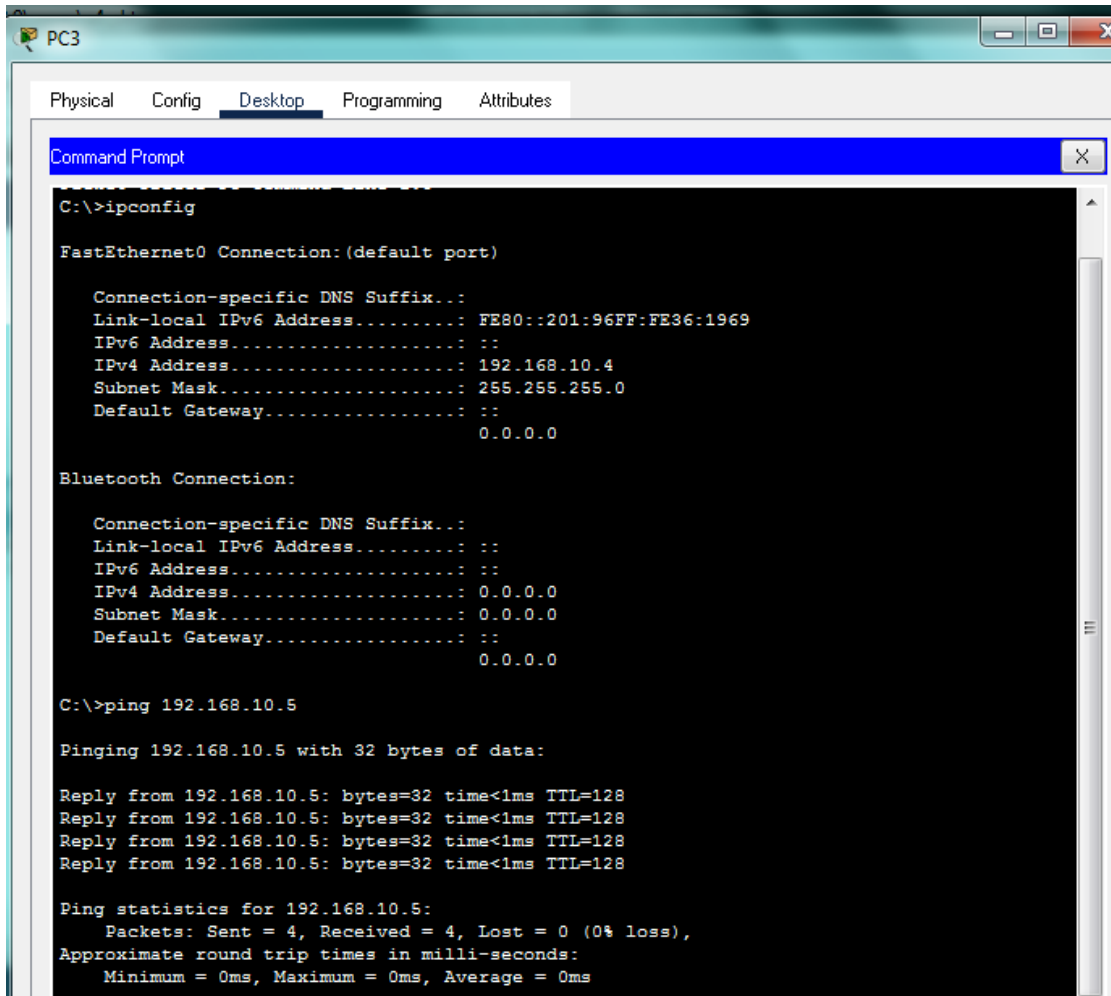
    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: ::
    IPv6 Address . . . . .: ::
    IPv4 Address. . . . .: 0.0.0.0
    Subnet Mask . . . . .: 0.0.0.0
    Default Gateway . . . . .: ::
                                0.0.0.0

C:\>ping 192.168.10.4

Pinging 192.168.10.4 with 32 bytes of data:

Reply from 192.168.10.4: bytes=32 time<1ms TTL=128
Reply from 192.168.10.4: bytes=32 time<1ms TTL=128
Reply from 192.168.10.4: bytes=32 time<1ms TTL=128
Reply from 192.168.10.4: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```



The screenshot shows a window titled "PC3" with a tabbed interface. The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt shows the output of the "ipconfig" command, detailing network settings for "FastEthernet0" and "Bluetooth" connections. It then shows the output of a "ping 192.168.10.5" command, including four successful replies and ping statistics.

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: FE80::201:96FF:FE36:1969
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 192.168.10.4
    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

C:\>ping 192.168.10.5

Pinging 192.168.10.5 with 32 bytes of data:

Reply from 192.168.10.5: bytes=32 time<1ms TTL=128
Reply from 192.168.10.5: bytes=32 time<1ms TTL=128
Reply from 192.168.10.5: bytes=32 time<1ms TTL=128
Reply from 192.168.10.5: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

PC4

Physical Config Desktop Programming Attributes

Command Prompt

```
C:\>ipconfig

FastEthernet0 Connection: (default port)

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: FE80::20C:CFFF:FEAA:D11
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 192.168.10.5
    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

C:\>ping 192.168.10.2

Pinging 192.168.10.2 with 32 bytes of data:

Reply from 192.168.10.2: bytes=32 time<1ms TTL=128
Reply from 192.168.10.2: bytes=32 time=1ms TTL=128
Reply from 192.168.10.2: bytes=32 time<1ms TTL=128
Reply from 192.168.10.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```



```
C:\>ipconfig

FastEthernet0 Connection: (default port)

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: FE80::20B:BEFF:FE6C:CCE8
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 192.168.10.6
    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

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 = 0ms, Average = 0ms
```