

MOI
FLANI

Experiment No. 02

Date 9.01.25

Roll No. A054

Aim :- To connect the computers in Local Area Network.

Theory :-

Configuring a basic LAN :-

LAN Networks Properties :-

- Network : 192.168.1.0
- Subnet Mask : 255.255.255.0
- Default Gateway 192.168.1.1
- DNS server : NA or 0.0.0.0
- Host Address Range: 100 to 254

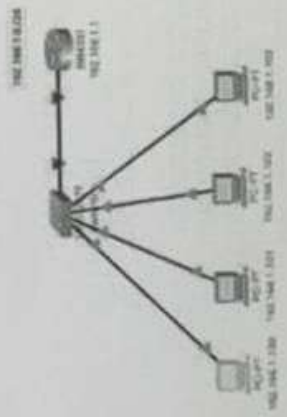
• Drag & Drop the following devices in workspace

- 3-4 Generic PCs
- 12960 24TT Switch
- 14331 Router

- Connect the Generic PCs Fast Ethernet Port 0 - Port X
- Connect the Router's Gigabit Ethernet Port 0/0/0
- Rename all devices to their IP Address except switch
- Rename devices by clicking on name, you can now edit
- At this point, you now have a Topological Network physically labelled but not yet configured

Configuring HOST PCs

- Click on a PC, go to Desktop & select "IP Configuration"



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IP Configuration

Interface: FastEthernet0

IP Configuration

DHCP

Static

IPv4 Address: 192.168.1.100

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

DNS Server: 0.0.0.0

IPv6 Configuration

Automatic

Static

IPv6 Address: /

Link Local Address: FE80::203:E4FF:FE07:C852

Default Gateway:

DNS Server:

802.1X

Use 802.1X Security

Authentication: MD5

Username:

Password:

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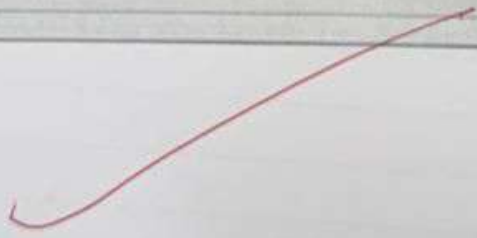
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Command Prompt
C:\>
C:\>
C:\>
C:\>
C:\>
C:\> ipconfig

FastEthernet0 Connection: (default port)
Connection-specific DNS Suffix...
Link-local IPv6 Address...: FE80::203:E4FF:FE07:C852
IPv6 Address...
IPv4 Address...: 192.168.1.100
Subnet Mask...: 255.255.255.0
Default Gateway...:
192.168.1.1

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:\>
```

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- Let the interface be FastEthernet0
- Under IP configuration select "static".
- Under IPv4 address, give your host an address here: 192.168.1.100
- You can now press TAB key to auto complete subnet Mask, if it doesn't work manually add the subnet Mask: 255.255.255.0.
- You may leave the DNS server field empty.
- We will not be dealing with IPv6 so will not do anything with & leave it as it is.
- Now your IP configuration page will look something like this :-
- Click X and now to verify that the configuration has been applied properly, select command prompt & run the command: `c:\> ipconfig`.
- In the output ensure that properties show up properly, if not just do the steps mentioned above again:.
- Now, repeat the above steps for all PCs in the network with different PCs increment the last octet (192.168.1.101, 192.168.1.102) and so on.

conclusion :- Hence we have successfully connected computers in Local Area Network.

GF
23/11/24