

[2CEIT503 COMPUTER NETWORKS]

Practical: 2

AIM- Implementation of small network using HUB or SWITCH by which more than 2 PC's can communicate.

- A. Design Peer to peer Network.
- B. Design Star topology.



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Practical: 2

EQUIPMENTS:

- 1.) Two laptops
- 2.) 2 lan cable
- 3.) Router

EXPLAINATION:

- Connecting 2 PC's with Hub or Switch:-
2 straight through cables from 2 PC's are connected to 2 Normal Port of Hub or Switch and first their physical connectivity is checked by ping command with the IP add of other the PC's and if the IP of same PC is entered than it checks whether the NIC is working or not.
- Here we have created a small network between two PC's using switch.

Step-1

- ✓ Here in the below given figure we have physically connected two PC's using switch.
- ✓ Here by connecting two PC's we can access all files and folders from one PC to another PC.

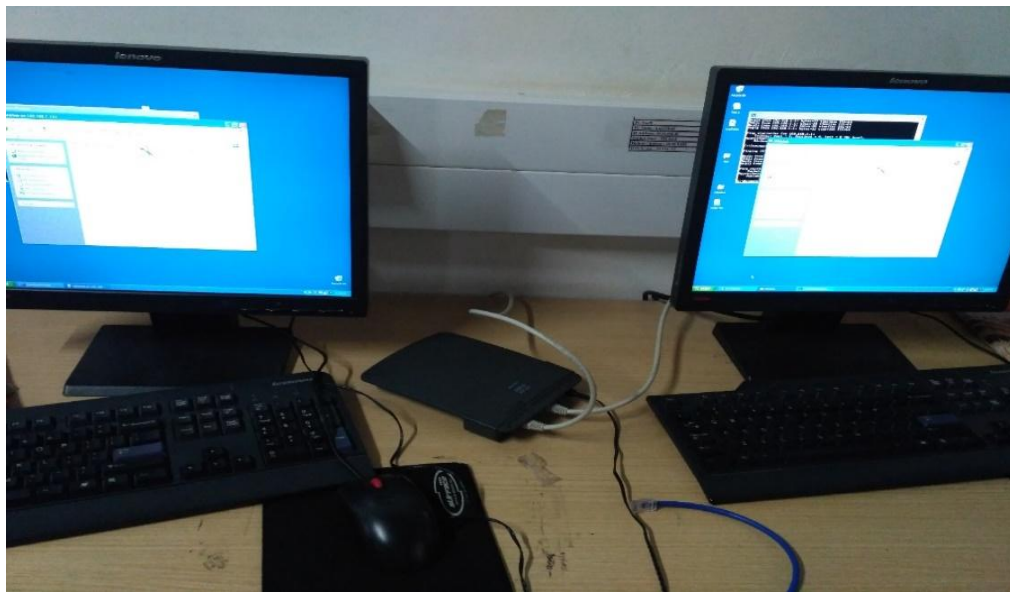
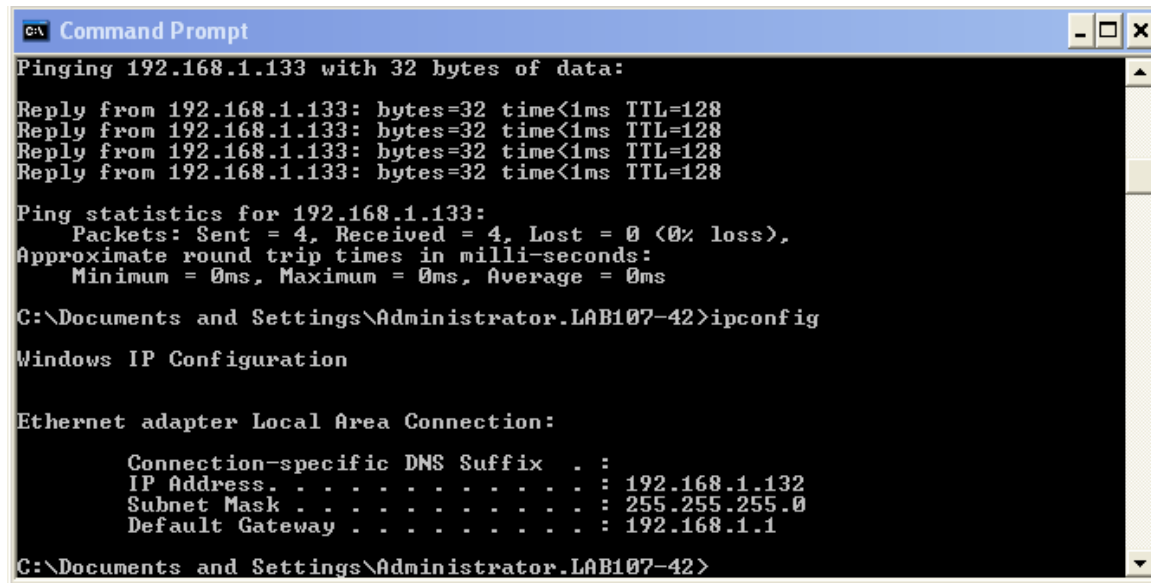


Figure 2.1

Step-2

- ✓ After connecting two PC's physically we'll now connect them through configuring.
- ✓ First goto the cmd prompt and know the ip address and subnet mask of the machine by writing cmd:-ipconfig

Practical: 2



```
C:\> Command Prompt

Pinging 192.168.1.133 with 32 bytes of data:

Reply from 192.168.1.133: bytes=32 time<1ms TTL=128
Reply from 192.168.1.133: bytes=32 time<1ms TTL=128
Reply from 192.168.1.133: bytes=32 time<1ms TTL=128
Reply from 192.168.1.133: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.133:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Administrator.LAB107-42>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . .               : 192.168.1.132
    Subnet Mask . . . . .             : 255.255.255.0
    Default Gateway . . . . .         : 192.168.1.1

C:\Documents and Settings\Administrator.LAB107-42>
```

Figure 2.2

Step-3

- ✓ Goto Local Area Connection Status→General→Properties and add ip and subnet mask of the PC.

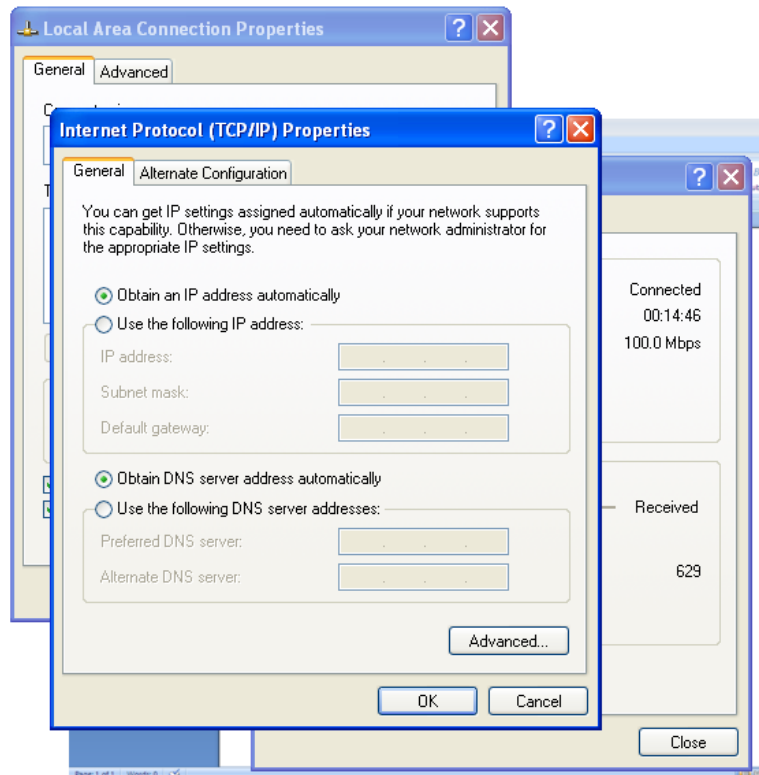
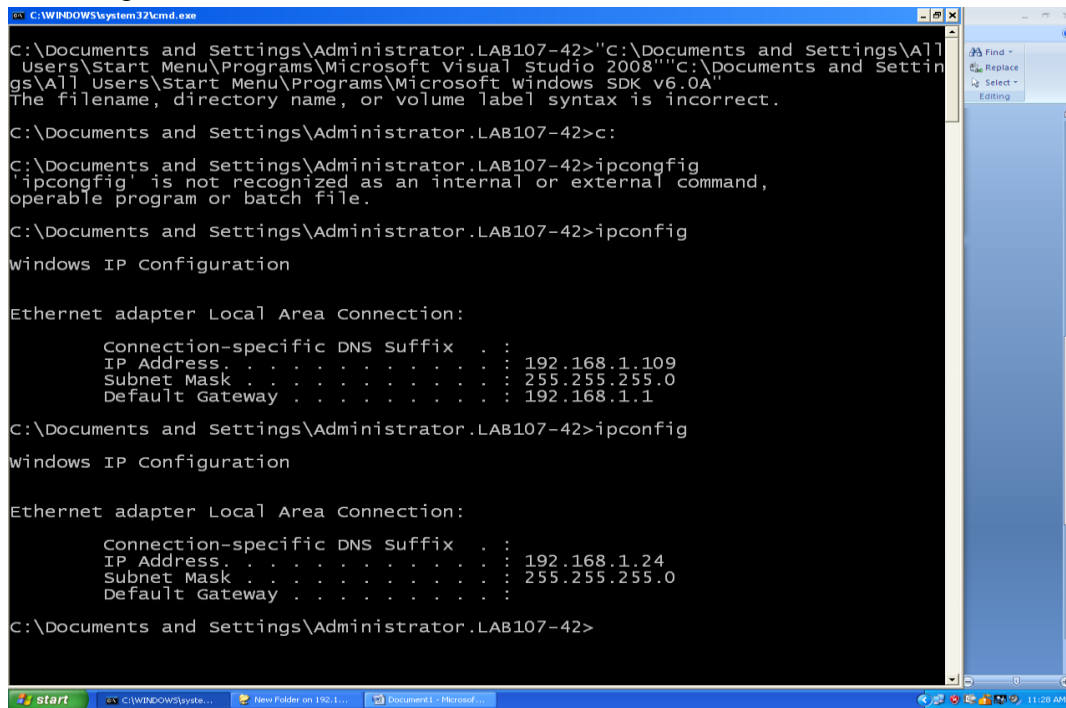


Figure 2.3

Practical: 2

Step-4

- ✓ Doing same on the another PC.



```
C:\Documents and Settings\Administrator.LAB107-42>"c:\Documents and Settings\All
Users\Start Menu\Programs\Microsoft Visual Studio 2008""c:\Documents and Settin
gs\All Users\Start Menu\Programs\Microsoft Windows SDK v6.0A"
The filename, directory name, or volume label syntax is incorrect.

C:\Documents and Settings\Administrator.LAB107-42>c:

C:\Documents and Settings\Administrator.LAB107-42>ipconfig
'ipconfig' is not recognized as an internal or external command,
operable program or batch file.

C:\Documents and Settings\Administrator.LAB107-42>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . . : 192.168.1.109
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.1

C:\Documents and Settings\Administrator.LAB107-42>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

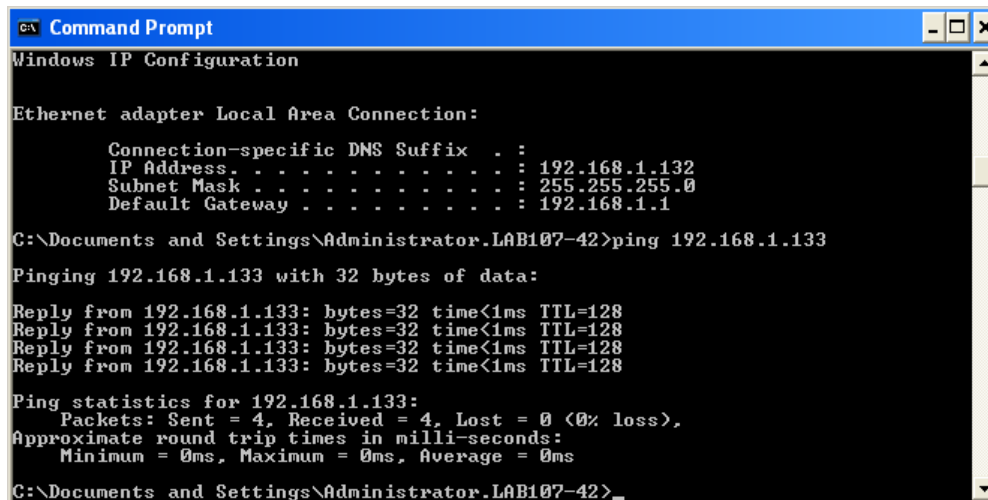
    Connection-specific DNS Suffix  . : 
    IP Address. . . . . : 192.168.1.24
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 

C:\Documents and Settings\Administrator.LAB107-42>
```

Figure 2.4

Step-5

- ✓ Now by using ping command we will communicate with another PC.
- ✓ Eg:- ping 192.168.1.1
- ✓ If lost=0 then we have successfully connected with the other PC and now we can access other PC's files and folders.
- ✓ Also doing same on the another PC.



```
Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . . : 192.168.1.132
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.1

C:\Documents and Settings\Administrator.LAB107-42>ping 192.168.1.133

Pinging 192.168.1.133 with 32 bytes of data:

Reply from 192.168.1.133: bytes=32 time<1ms TTL=128
Reply from 192.168.1.133: bytes=32 time<1ms TTL=128
Reply from 192.168.1.133: bytes=32 time<1ms TTL=128
Reply from 192.168.1.133: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.133:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Administrator.LAB107-42>
```

Figure 2.5

Practical: 2

Solution:

- A. http://vlabs.iitb.ac.in/vlabs-dev/labs_local/computer-networks/labs/exp1/exp1.html
- B. http://vlabs.iitb.ac.in/vlabs-dev/labs_local/computer-networks/labs/exp2/index.php