5.0   INTRODUCTION

In many organisations today, computers are connected together by cable or by phone line in a network. In a network, a computer can be attached to computers in adjoining offices, adjoining buildings, and to computers around the globe. If you are connected to a network, you can open and save files on other computers or use resources attached to those computers, like printers and CD-ROM drive. Of course, you must have access permission

Windows 95 has come up with another bonanza, that is, Network Communication with other users. The users can connect with other users to share data files and peripheral devices, like Printers.

The communication tools of Windows 95 include E-Mail and connection to Internet.

5.1   OBJECTIVES

At the end of this unit you should be able to:

Set up the network configuration using Windows

Share folder and printers over a network

Browse the network

Set up connection for dial-up connectivity

5.2   NETWORK SETUP & CONFIGURATION

Assuming that the network administrator has already installed the network and established your computer as a workstation, you should be able to identify your computer network settings, like - the network name, the workgroup it belongs to, and how folders, drives, and other resources are shared on your computer.

To access other computers on your network, open the Network Neighbourhood object on the desktop. If your network is large, you can view the computers in your immediate workgroup. A **workgroup** is a collection of computers and computer users that share similar resources and belong to the same group. Whereas, **domain** that is similar to a workgroup is much larger in scale. Each domain has its own computers and workgroups and is managed independently of other domain.

To find out the network settings, double-click the "Network" object from the Control Panel window. In the Network window that is opened up, you will find three tabs - Configuration, Identification, and Access Control.

Configuration will display the network components that are installed, or removed, or properties are viewed. These are:

Client Software - It enables you to use files and printers shared on other network computers.

An *Adapter* - It is a hardware device that physically connects your computer to the network.

A *Protocol* - It is the set of rules a computer uses to communicate over a network. All computers connected to the same network must use the same protocol to communicate with each other.

In the same window, the **Primary Logon** is the client that is used to validate your user name and password, process any login script, and perform other start-up tasks.

Identification tab will open up the dialog box that displays the information to identify your computer on the network. In this, the *Computer name* is the name of your computer that other people see when they browse the network. The

Workgroup is the name of the local network that your network belongs to. The *Computer Description* text box provides the place to enter the description for your computer. Other users will view this information when they browse the network.

Access Control tab provides you the option to determine how the files on your computer and the resources attached to it are shared over the network. The two options are:

Share-level access control is used to specify the passwords that other network users must type to access the resources you share on your computer.

User-level access control enables you to validate or authenticate users before they can access your computer. This works only if your network has a special security server.

5.3   LOGGING ONTO THE NETWORK

The Network Administrator assigns the login name and the password to every person who will use the network.

If you are already working on Windows 95, to log on to the network, follow the given instructions:

1.   Click the **Start** button, and then click **Shut Down**.

2.   Click **Close All Programs and Log On As A Different User**.

3.   Click **Yes**.

4.   In the **Enter Network Password** box, type your user name and password.

5.4   MAPPING NETWORK DRIVES

In order to access folders on network drives from some applications, a drive letter must be assigned to these folders. These drives are not physical drives but the mapping is done for logical drives.

To map a drive letter to a network computer or folder, follow the given steps:

1.   In **My Computer** or **Network Neighbourhood**, locate the folder you want to map.

2.   Right-click the folder to open its context menu.

3.   In the **Drive** box, the next recommended drive is displayed. You can click on the down-arrow button to choose a different drive letter. In any case, it should not be the drive letter that is already in use.

4.   Type a path to the computer and folder in the **Path** field.

5.   Click **OK**.

To disconnect a mapped drive to make it free for other mappings, follow the given steps :

1.   Open the **My Computer** window.

2. Right-click the mapped object you want to disconnect.

3. From its context menu, select **Disconnect** to remove the mapping.

5.5   NETWORK BROWSING

Open the Network Neighbourhood window to browse the computers and resources on the network. Even it is easy to copy or move files on another network computer.

To locate a folder on another network computer, follow the given steps:

1. Open the **Network Neighbourhood** window in which computers in your network neighbourhood is displayed.

2. Locate and double-click the icon of the computer you want to access.

3. A window showing all the shared resources on that computer is opened. From here double-click the folder you want to work with.

In Windows 95 networks, the rights you have in a folder also apply to all the subfolders within the folder.

5.6   SHARING FOLDERS & PRINTERS

Folders and printers can be shared amongst different users on the network. Even you can share disk drives by using the method described below.

To share a folder with other people, follow the given steps :

1. In **My Computer**, click the folder you want to share.

2. On the **File** menu, click **Properties**.

3. Click the **Sharing** tab, and then click **Shared As**. If the Sharing tab is not visible, you need to enable file and print sharing services.

4. Choose options and fill out the options (described in detail below).

5. Click **OK**.

Fields in the **Shared As** area are:

Share Name - the name that will appear to other users when they browse the network.

Comment - to describe the object. Choose List from the View menu of a Network Neighbourhood window to see the shared resources and their comments.

Options of the **Access Type** area are:

Read-only - Other users can read files from the device but they cannot change them without copying them to their own computers first.

Full - Other users can read and write files to and from the device.

Depends on Password - The user has both Read-only and Full access rights for the device, but he must type the correct password to gain access.

Options in the **Password** area are:

Read-only Password - to gain read-only access to the device.

Full-access Password - to gain read and writes access to the device.

5.7   CONNECTING TO ANOTHER COMPUTER ON YOUR NETWORK

Connection to another computer on your network enables you to see files and folders on that computer only if they are shared. The connection can be either a Dial-up connection or through Cables. Both of these are discussed below.

5.7.1   Dial-up

To set up a network connection by using Dial-Up Networking, the steps are:

1. Double-click the **My Computer** icon, and then double-click **Dial-Up Networking**. If you do not see a Dial-Up Networking folder in My Computer, then it is not installed.

2. Follow the instructions on the screen.

If you have already set up one or more Dial-Up connections, you can double-click **Make New Connection** to create a new connection. To dial a connection that you have already set up, double-click its icon in the **Dial-Up Networking** window.

5.7.2   Using Cables

To set up a direct cable connection, the steps are:

1. Click the **Start** button, and then point to **Programs**.

2. Point to **Accessories**, and then click **Direct Cable Connection**. If you
    do not see Direct Cable Connection in your Accessories menu, then it is not installed.

3. Follow the instructions on the screen.

If you have already successfully run Direct Cable Connection on this computer, the connection wizard does not appear unless you click **Change in the Direct Cable Connection** dialog box. The wizard then starts, and you can change your previous settings.

5.8   E-MAIL

E-Mail is a sophisticated network communication. You can call it as an electronic postal system. The users can exchange messages within minutes. Even the data files and large documents can be sent through E-Mail. With Windows 95, this can be done either using Microsoft Exchange or Microsoft Network.

With Microsoft Exchange, you can send and receive electronic mail. You send messages from and store all messages in Microsoft Exchange, so there is one convenient place to look for all your messages. To open **Microsoft Exchange** to

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send or receive a message, double-click the **Inbox** icon on your desktop. If the Inbox icon is not on your desktop, then Microsoft Exchange is not installed.

Also an access to the **Microsoft Network**, a new on-line service, is a feature of Windows 95. With the Microsoft Network, you can exchange messages with people around the world; read the latest news, sports, weather, and financial information; find answers to your technical questions; download from thousands of useful programs; connect to the Internet, and more!

To start The Microsoft Network, double-click The **Microsoft Network** icon on your desktop.

5.9 INTERNET

The Internet is a global interconnected "web" of computers and computer networks. Schools, institutions, businesses, hospitals, research institutes, and other entities are connected to the Internet and make their systems available to the public. The underlying connections include the dial-up telephone network and satellite and ground-based microwave links. The new computers and networks are constantly added and the electronic pathways of information are constantly changing.

E-Mail services are available on the Internet. Your access to some of the information may be free and unrestricted, may depend on access privileges, or may be quite expensive.

Connecting to the Internet

There are many ways you can connect to the Internet using Windows. Two of these are:

1. You can sign up for The Microsoft Network on-line service.

2. You can create a Dial-Up Networking connection to an Internet access provider.

Following are the steps to follow, if you are creating Dial-Up Networking connection to an Internet access provider:

1. Getting an Internet account

When you call an Internet access provider to sign up for Internet account, make sure you get the following information:

User name

Password

Access phone number

Your host name and domain name

Domain Name Server (DNS) server address

The **access provider** may also provide the following information:

IP address and subnet mask

DNS search order (if required)

Gateway address

Authentication procedure (whether or not they require a terminal window to log on)

Use a PPP account if your provider offers it. If your organisation has a direct connection to the Internet, you can skip this step.

2.   Setting up your communications hardware

You need a modem (9600 bps or faster is recommended) to connect to the Internet. If your organisation has a direct connection to the Internet, you can use a network adapter card instead of a modem.

3.   Make sure you have Dial-Up Networking installed

Double-click the My Computer icon on your desktop. If you do not see a Dial-Up Networking icon, then follow the given steps:

1. Display **Add/Remove Programs** window.

2. Click **Communications**, and then click **Details**.

3. Check **Dial-Up Networking**, and then click **OK**.

4.   Install the Windows 95 TCP/IP protocol

Display Network properties. If you see (in the displayed list) that the Windows 95 TCP/IP protocol is not installed, then follow the given steps:

1. Click **Add**.

2. Click **Protocol**, and then click **Add**.

3. Click **Microsoft**, and then click **TCP/IP**.

4. Click **OK**.

5. Click **Dial-Up Adapter**, and then click **Properties**. If your organisation has a direct Internet connection, click your network adapter, and then click Properties.

6. Click the **Bindings** tab, and then make sure the **TCP/IP** check box is checked.

When you install TCP/IP, it is bound to all of your adapters by default. If you have a network card and do not use TCP/IP with it, click the **Bindings** tab, and then remove TCP/IP.

5.   Entering TCP/IP information

1. Open up **Network properties**.

2. Click **TCP/IP** (If there is more than one TCP/IP entry, click TCP/IP -> Dial-Up Adapter), and then click **Properties**.

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3. On the **IP Address** tab, if your provider gave you an IP address, click **Specify an IP Address**, and then type your IP address and subnet mask.

4. If your provider did not give you an IP address, click **Obtain an IP Address Automatically**.

6.   Setting up a connection to your access provider

In Dial-Up Networking, double-click Make New Connection. (If it is your first Dial-Up Networking connection, you will be prompted automatically.) And follow the instructions on your screen.

1. Using your right mouse button, click the **Connection** icon, and then click **Properties**.

2. If your provider requires a terminal window to log in, click **Configure**. Click the **Options** tab, make sure **Bring Up Terminal Window After Dialling** is checked, and then click **OK**.

3. In the Properties for the connection, click **Server Type**, and then make sure the type of server is set to **PPP**.

You can decrease the time required to connect by making sure that the following options are not checked:

*   Log On To Network

*   NetBEUI

*   IPX/SPX Compatible

7.   Dialing your Internet access provider

Double-click the connection, enter your name and password, and then click **Connect**. Follow the instructions provided by your Internet access provider for browsing the Internet, reading e-mail, and accessing information.

Check Your Progress

1. What is a Computer Network ?

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    ……

2. What are the advantages of Network ?

    ……
    ……

3. How can you find out about the other computers and the resources on your network ?

    ……
    ……

4. What are the different ways by which you can connect to the network ?

    ……
    ……

5. What is an E-mail service and where is it available ?

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5.10   SUMMARY

In this session, you have learned:

1.   The users can connect with other users to share data files and peripheral devices, like Printers.

2.   The communication tools of Windows 95 include E-Mail and connection to Internet.

3.   In a network, a computer can be attached to computers in adjoining offices, adjoining buildings, and to computers around the globe.

4.   To access other computers on your network, open the Network Neighbourhood object on the desktop.

5.   The Network Administrator assigns the login name and the password to every person who will use the network.

6.   In order to access folders on network drives from some applications, a drive letter must be assigned to these folders.

7.   The Network Neighbourhood window is used to browse the computers and resources on the network, and to copy or move files on another network computer.

8.   In Windows 95 networks, the rights you have in a folder also apply to all the subfolders within the folder.

9.   Connection to another computer can be either a Dial-up connection or through Cables on your network that enables you to see files and folders on that computer only if they are shared.

10.   E-Mail is a sophisticated network communication that is also called as an electronic postal system, through which the users can exchange messages, data files and large documents within minutes. With Windows 95, this can be done either using Microsoft Exchange or Microsoft Network.

11.   The Internet is a global interconnected "web" of computers and computer networks.

12.   The two ways of connecting to the Internet using Windows are either you can sign up for The Microsoft Network on-line service, or you can create a Dial-Up Networking connection to an Internet access provider.

5.11   MODEL ANSWERS

The questions given in the 'Check Your Progress' have been designed only at the conceptual level and the answers to these questions are directly available in the unit. Therefore, Model Answers have not been provided. However, as this block is more practical oriented, therefore, students are advised to try the commands given, on their terminals.