



INFORMATION TECHNOLOGY SUPPORT SERVICE

Level II

Learning Guide # 22

Unit of Competence:-	Administer Network Hardware and Peripheral
Module Title:-	Administering Network Hardware and Peripheral
LG Code:-	ICT ITS1 M06 LO5
TTLM Code:-	ICT ITS1 TTLM06 0919

LO5:- Configure peripheral services

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics: –

- Installing software to manage local and network-connected peripherals
- Using meaningful name for peripherals and control queues
- Configuring Security and access to make use of peripherals
- Configuring Workstation to allow applications
- Database programs, word processors, email programs, internet browsers, system browsers and spreadsheets

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Required software is installed to manage local and network-connected peripherals according to business.
- Requirement software peripherals according to business requirement.
- Meaningful names are used for peripherals and control queues.
- Security and access are configured to allow appropriate users to make use of peripherals.
- Workstation for peripherals is configured to allow applications to work with peripherals.

Learning instruction:

1. Read the specific objectives of this Learning Guide.
2. Follow the instruction describe below 1
3. Read the information written in the information “sheet 1, sheet 2, sheet 3 and sheet 4” , “in page 3.4.5.6.8.10 and 12 ” respectively
4. Accomplish the “self-check 1, self-check 2, self-check 3, self-check 4,” “in page 7,9,11, and 13” Respectively
5. If you earned a satisfactory evaluation from the “self-check” proceed to “operation sheet 1” “in page 14 and 15”
6. Do the” LAB “Test in page “16”

*Your teacher will evaluate your output either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work. But if satisfactory you can proceed to the next topic.

5.1 Installing software to manage local and network-connected peripherals

System installation and configuration: - A configuration that allows an operating system or application to automatically download and install system updates.

Network Management

Network management is defined as the process of managing a network for fault and performance using various tools and technologies to keep up with the business requirements. The objective of network management is to achieve an error free network.

Installation or setup is the act of making the system or program ready for execution. Because the process varies for each program and each computer, programs (including operating systems) often come with an installer, a specialized program responsible for doing whatever is needed for their installation.

Configuration is an arrangement of functional units according to their nature, number, and chief characteristics. Often, configuration pertains to the choice of hardware, software, firmware, settings, and documentation. The configuration affects system function and performance.

Self Check 1**Written Test**

Name: _____

Date: _____

Direction: filling the appropriate answer for the following question in the specie provided, if you have some clarifications- feel free to ask your teacher.

1. _____ that allows an operating system or application to automatically download and install system updates.
2. _____ is defined as the process of managing a network for fault and performance using various tools and technologies.
3. The objective of _____ is to achieve an error free network.
4. _____ is the act of making the system or program ready for execution.
5. _____ is an arrangement of functional units according to their nature, number, and chief characteristics.

Note: Satisfactory rating - 3 points

Unsatisfactory - below 3 points.

5.2 Using meaningful name for peripherals and control queues

A peripheral device is typically a device that is external to a computer and connected either wirelessly or via a cable, although some are internal to the digital system. A way of introducing students to peripheral devices is to start with a desktop computer with no other devices connected. Progressively add devices as the different user needs are introduced.

As you install and configure a printer you should keep to the network standards of the organisation, which should include naming conventions for peripherals and other devices.

Each organisation will have its own standards, but it is important that users can identify peripherals easily. There have been cases of users waiting by one printer for their report while it is being printed three floors away.

Naming conventions usually reflect the function of a peripheral, and in the case of a large office or global enterprise, the location. For example, the following may be used for a peripheral name of 15 characters:

Table 1: Peripheral naming convention using 15 characters

Characters	1– 4	5–7	8–10	11–15
Attributes reflected	City or town	Type of peripheral	Workplace location	Uniqueness of device, usually number sequence

Self Check 4

Written Test

Name: _____

Date: _____

Direction: filling the appropriate answer for the following question in the specie provided, if you have some clarifications- feel free to ask your teach.

1. _____ is conversation of naming peripheral 1-4 character.
2. _____ is conversation of naming peripheral 5-7 character.
3. _____ is conversation of naming peripheral 8-10 character.
4. _____ is conversation of naming peripheral 11-15 character.

Information Sheet – 3

Configuring Security and access to make use of peripherals

Note: Satisfactory rating - 3 points

Unsatisfactory - below 3 points .

5.3 Configuring Security and access to make use of peripherals

Network Connections

After establishing the physical or wireless connections of the computers, you can electronically connect them, test or check that they can "see" each other. Microsoft Windows XP makes networking ridiculously easy. In fact, when writing these lessons, after physically connecting the computers to the router and turning everything on, the whole network had been built and there was no particularly necessary configuration to perform.

To virtually connect the network, Microsoft Windows 7 provides the Network Setup Wizard, which is a series of dialog boxes that can guide you in this process.

Making a peripheral available on the network does not necessarily mean that every single user should have access. Drives may be shared and then permissions allocated to users or groups. All other peripherals will normally provide some means of restricting access.

Setting security access and permissions can help keep peripherals in peak condition. For example, a high-speed laser printer of minimal quality may always print large label runs, or invoices for thousands of clients. A laser printer running at a slower speed but with high print quality may do letters and documents. This uses the advantages of both without placing undue stress on the slower machine. Setting security access and permissions can also ensure protection for confidential documents or activities.

Just how a peripheral is secured will depend upon the operating system used. Windows-based operating systems use the concept of sharing. Sharing a printer works in a similar way to sharing drives. The administrator can select a printer and designate the users that may access it, or set a level of access such as read only, read and execute, modify or full access. In most cases, network administrators enable user access by the following method:

- 1 Connect the peripheral and install the drivers.
- 2 Share the peripheral.
- 3 Allow access to certain users or groups of users.

- 4 Set the security level for each user or group of users. For example, this may be read only, or read and execute, or modify or full access.
- 5 On the client's computer, allow access to the peripheral.
- 6 Install the drivers for the peripheral on the client's computer.

Self Check 4**Written Test**

Name: _____

Date: _____

Instruction: Choose the best answer for the following question, if you have some clarifications – feel free to ask your teacher.

1. Connection of networking is
 - A. To sharing different resources
 - B. To sharing different files
 - C. sharing of document
 - D. All
2. Network administration is
 - A. Controlling the overall activity of the computer
 - B. Controlling the all networking
 - C. Giving same permission for the user
 - D. All
3. The administrator can select a printer and designate the users that may access it
 - A. Set a level of access such as read only
 - B. Read and execute
 - C. Modify or full access
 - D. All

Note: Satisfactory rating - 3 points**Unsatisfactory - below 3 points.**

5.4 Configuring Workstation to allow applications

Configuring workstation

- Perform appropriate steps to set up a basic workstation
 - Plug in cables
 - Power on computer
 - Follow initial operating system setup wizard
 - Localization settings
 - Screen resolution
 - Audio settings
 - Install security software
 - Configure peripherals (if applicable)
 - Uninstall unneeded software (if applicable)
 - Configure and verify Internet connection
 - Install additional software (if applicable)
 - Run software and security updates
 - Other user accounts (if applicable)
 - Basic cable management
- Given a scenario, use software management best practices
 - Install / uninstall
 - OS features
 - Applications
 - Drivers
 - Patching / updates for OS, drivers, applications and security software
 - Scheduling
 - Frequency
 - Automatic updates
 - Software version identification and compatibility

- Licensing
 - Product keys
 - Single / multi-license

Configure keyboard, mouse, display, sound, etc.

- Windows: Review Microsoft: Working with Control Panel. Use Control Panel applets to configure keyboard, mouse, display, sound, and other settings.

Create user accounts.

- Windows: Review Microsoft: Create a User Account and Microsoft: Change Use Account Types. Create a new administrator account and a new standard user account. Test the accounts and identify differences between the account types. Delete the accounts when you're finished.

5.5 Database programs, word processors, email programs, internet browsers, system browsers and spreadsheets

A **database program** is the heart of a business information system and provides file creation, data entry, update, query and reporting functions. The traditional term for **database software** is "database management system"

A **word processor** is software or a device that allows users to create, edit, and print documents. It enables you to write text, store it electronically, display it on a screen, modify it by entering commands and characters from the keyboard, and print it. Of all **computer** applications, **word processing** is the most common.

Top 10 Email Programs

- Thunderbird. Thunderbird is a free email client brought to you by Mozilla. ...
- Gmail. Gmail is a browser-based email program provided to you by Google. ...
- Outlook. Outlook is a paid email client by Microsoft. ...
- Hotmail. Hotmail is Microsoft Network's (MSN) solution to free web-based email. ...
- Outlook Express. ...
- Eudora. ...
- Opera. ...
- Yahoo! Mail.

A web **browser**, or simply "**browser**," is an application used to access and view websites. Common web browsers include Microsoft **Internet** Explorer, Google Chrome, Mozilla Firefox, and Apple Safari. For **example**, Ajax enables a **browser** to dynamically update information on a webpage without the need to reload the page.

The **System Browser** is an effective tool for finding components that are not assigned to a **system**. The System Browser opens a separate window that displays a hierarchical list of all the components in each discipline in a project, either by **systems** or by zones

A **spreadsheet** or **worksheet** is a file made of rows and columns that help sort data, arrange data easily, and calculate numerical data. What makes a **spreadsheet** software program unique is its ability to calculate values using mathematical formulas and the data in cells.

Self Check 1**Written Test**

Name: _____

Date: _____

Direction: filling the appropriate answer for the following question in the specie provided, if you have some clarifications- feel free to ask your teach.

1. _____ is the heart of a business information system and provides file creation, data entry, update, query and reporting functions.
2. _____ is software or a device that allows users to create, edit, and print documents.
3. _____ is a browser-based email program provided to you by Google.
4. _____ is an application used to access and view websites.
5. _____ is an effective tool for finding components that are not assigned to a system.

Note: Satisfactory rating - 3 points

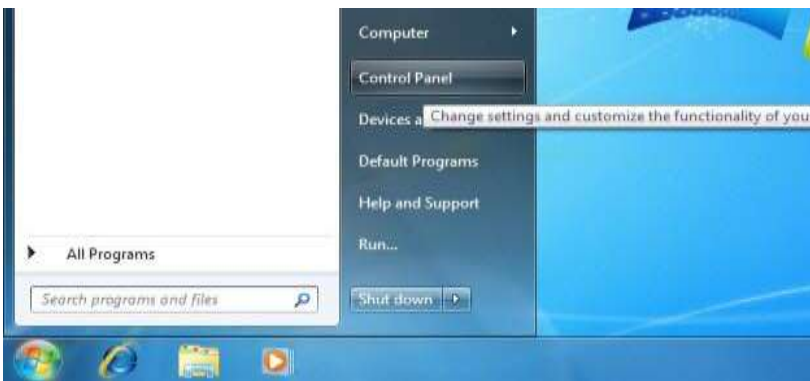
Unsatisfactory - below 3 point.

Windows 7, as with many of the different operating systems available, has a number of different network functions which can be configured.

How to configure advanced IPv4 parameters

Advanced IPv4 Configuration

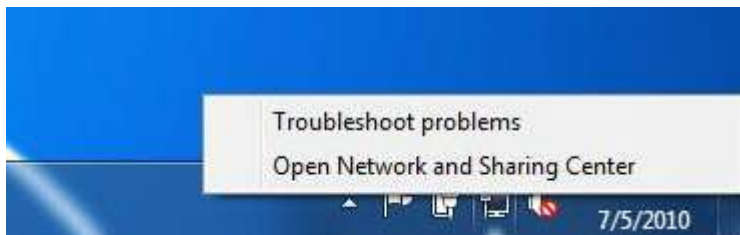
Accessing the Network and Sharing Center can be done in two ways. The first way to access it is via the control panel. Select the Windows 7 Orb and then select the control panel option:



There are several views which are available for the control panel; by default the category view is used. When using the category view, the option that you need to select is called **View network status and Tasks**, as shown below. This will bring you to the Network and Sharing Center.



The second way to gain access to the Network and Sharing Center is through the network icon which is displayed in the system tray when a network interface has been enabled. When you right-click this icon the option to open the Network and Sharing Center is given.



Once the Network and Sharing Center is open there is an option which allows the change of adapter settings which is shown in the upper left hand corner of the window.



Once in the **Network Connections** window, you can select an interface (either wired or wireless) that you want to configure with a static IP address.

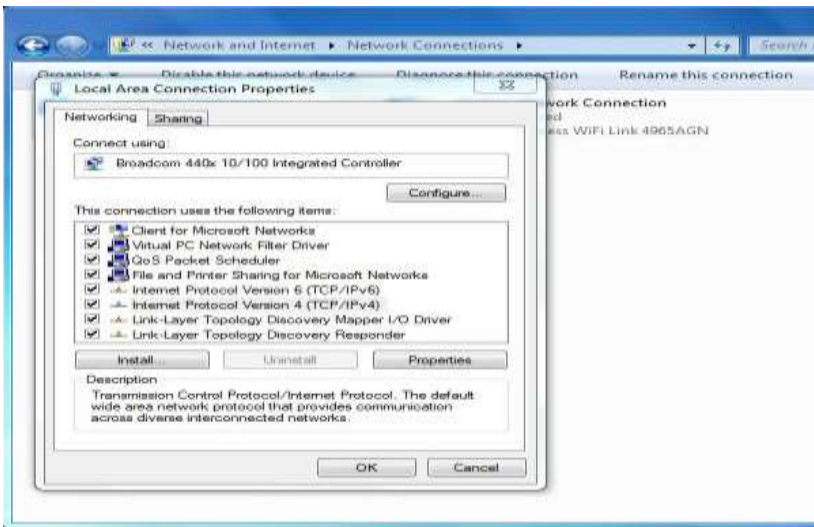


By right-clicking on the correct interface a sub-menu pops up; from this menu you can select the properties option.

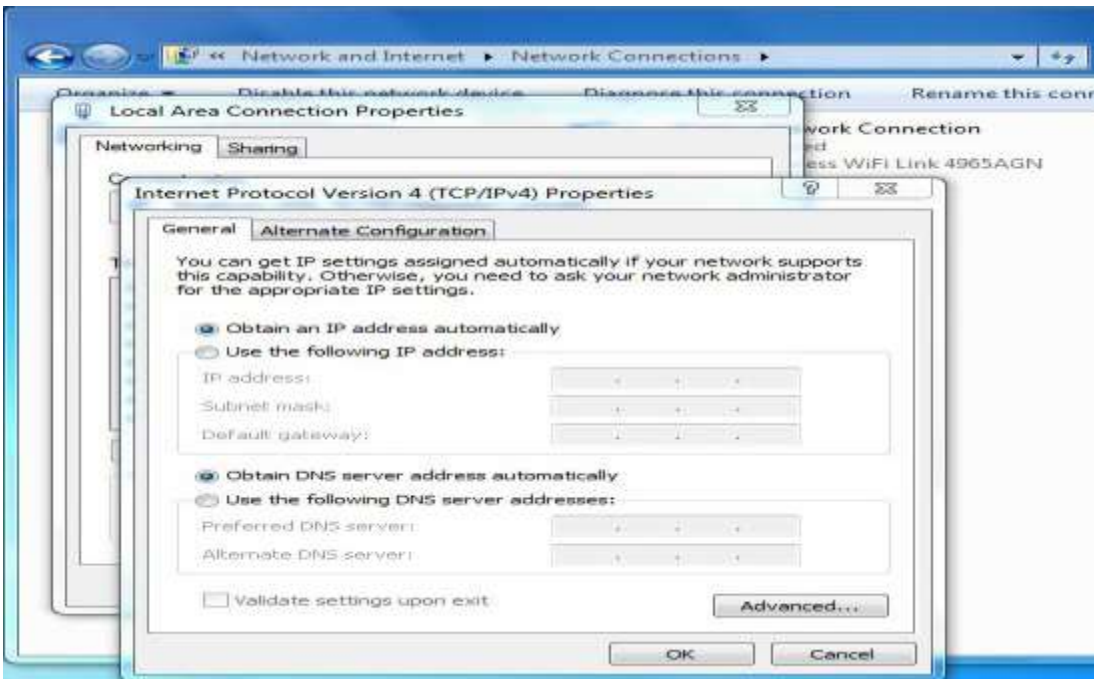


Once the properties option is selected the interface properties windows will be displayed. This screen gives the option to configure a number of different network parameters.

This section is focused on advanced IPv4 configuration parameters, to configure these settings select the IPv4 option. Once the IPv4 option is selected the properties button will be enabled, press on this properties button.

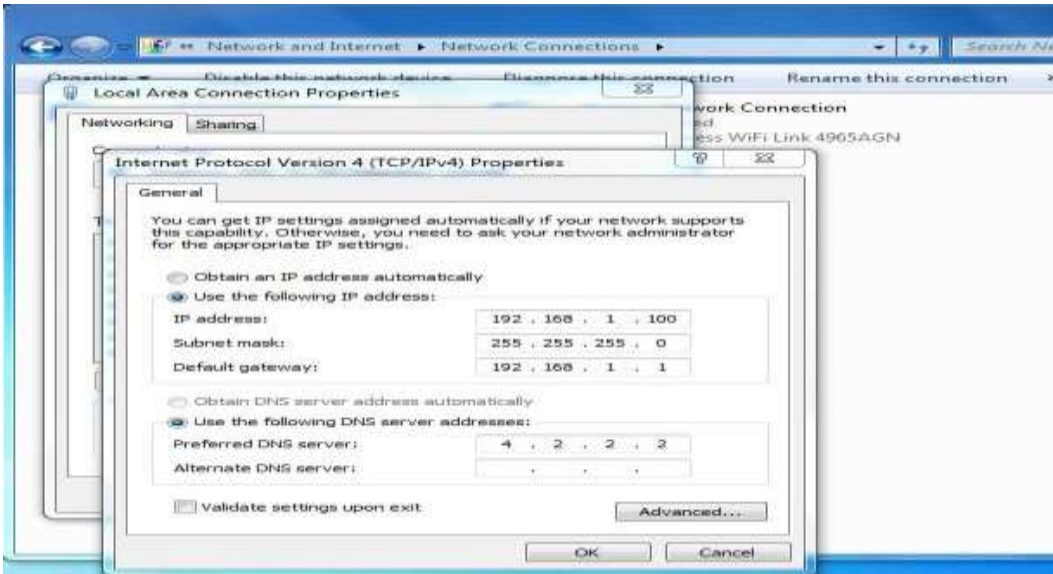


When the properties button is pressed the IPv4 properties window is shown.



From the IPv4 properties screen you can choose to enter static IP or DNS entries, configure the use of multiple IP addresses on a single interface, configure the use of DNS suffixes, WINS servers and change the setting of NetBIOS over IP. All of these different tasks are shown below.

The following figure shows that a static IP address and DNS address (es) can be configured from the main screen. It is possible to statically configure DNS servers while also obtaining an IP address automatically but it is not possible to have DNS servers obtained automatically with a static IP address.

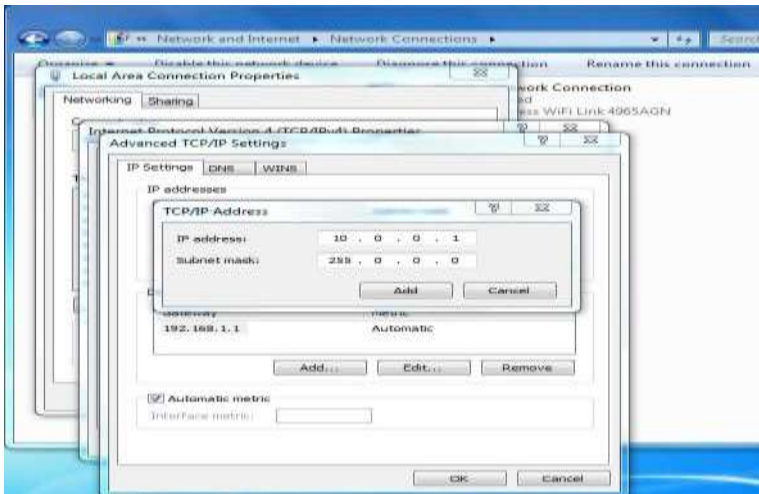
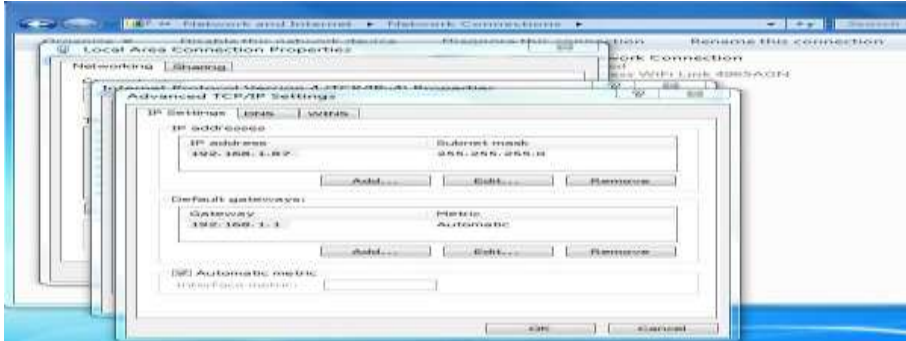


If more advanced configuration is required then the use of the advanced IPv4 settings is required. To gain access to these settings press the **advanced** button.

IP Settings in Windows 7

- The IP settings tab gives the option to add multiple IP addresses to the interface, (this is typically used when an IP address transition is happening from one IP network to another; this gives the ability to speak on both networks), multiple default gateways to the interface (keep in mind that each new network will require a matching gateway which is reachable from that network) and the configuration of a metric for the interface.

- The metric option is only used when more than one interface is used for connectivity. The interface with the lowest metric will get priority until the higher priority interface goes down or is disabled. All of these tasks are shown in the following figures:



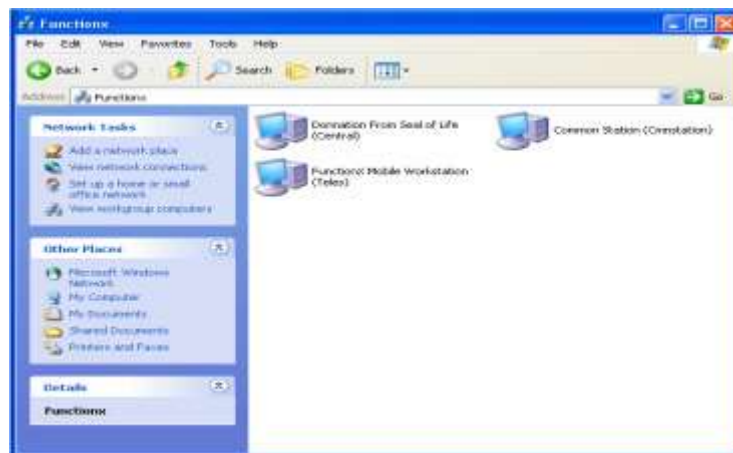
Practical Learning: Viewing the Connected Computers

1. On one of the computers, click Start -> My Network Places.

If you don't see that option in the right column of the Start menu, depending of your configuration, click Start -> Settings -> Network Connections. Then, under Other Places, click My Network Places.

As an alternative, you can click Start -> Control Panel or Start -> Settings -> Control Panel. Under Other Places, click My Network Places.

2. Under Network Tasks, click View Workgroup Computers



Joining a Domain

Creating a Computer Account

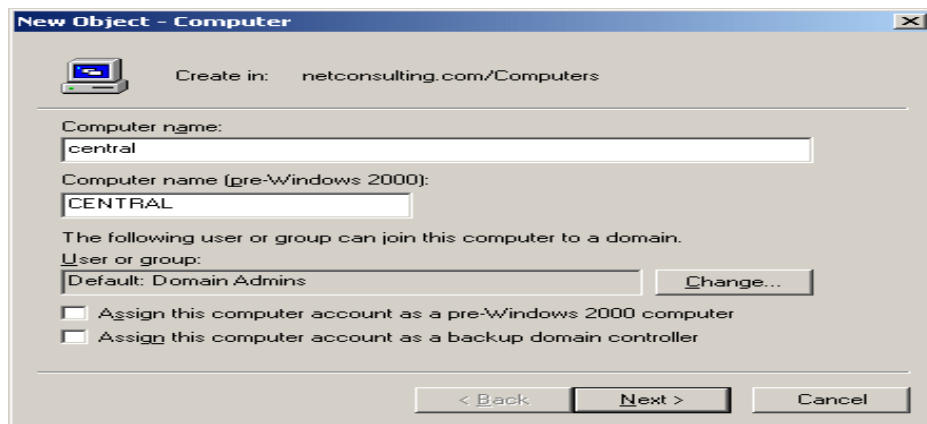
After creating a domain, you can add client computers to it. In our examples, we will add workstations that run Microsoft Windows XP Professional. There are two actions to adding a client to a Microsoft Windows Server 2003 domain but only one is required.

Before physically or electronically adding a client to a domain, you can first create a computer account for it. To create a computer account, you have various alternatives:

- If using the Manage Your Server window, you can click Manage Users And Computers In Active Directory
- You can also click Start -> Administrative Tools -> Active Directory Users And Computers
- You can also click Start -> Control Panel -> Administrative Tools -> Active Directory Users And Computers

Any of these actions would open the Active Directory Users and Computers window. In the left frame, expand the name of the domain. Then you can right-click the name of the domain -> New -> Computer. This would open the New Object - Computer dialog box. In the Computer Name text box, enter the name of the computer. The operating systems before Windows 2000 don't use very long names. Therefore, when naming a computer, keep this in mind and give a name made of fewer than 15 characters. After naming the computer, click Next twice and click Finish.

Instead of right-clicking the name of the domain, in the Active Directory Users And Computers, you can expand the name of the domain, right-click the Computers node -> New -> Computer. As mentioned already, in the first page of the New Object - Computer wizard, you can type a name for the computer. Here is an example:



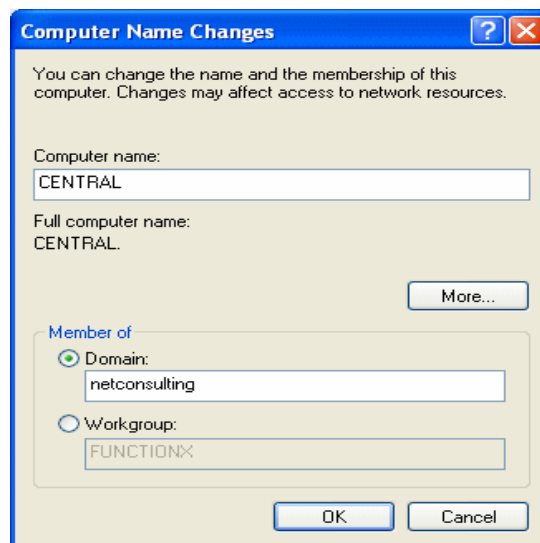
Then click Next, Next, and Finish.

Joining a Domain

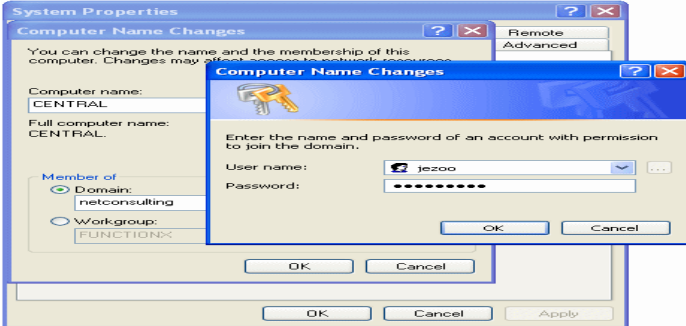
After creating an account for a computer, you can add it to the domain. This is referred to as joining a domain. Normally, primarily creating an account for a computer is not required although it's a good idea. When joining a domain, if the computer you are adding doesn't have one already, an account would be created for it.

To join a domain using Microsoft Windows XP Professional:

1. First display the System Properties dialog box. To do this,
 - You can right-click My Computer and click Properties...
 - You can display Control Panel and double-click System
2. In the System Properties, click Computer Name
3. Click Change...
4. In the Computer Name text box, enter the desired name of the computer. If you had already created an account in the domain for this computer, type that name
5. In the Member Of section, click the Domain radio button
6. Click the Domain text box and enter the name of the domain

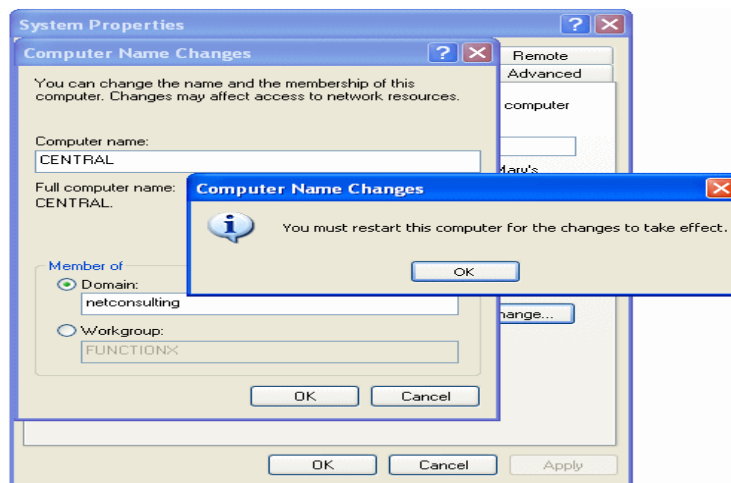


7. After specifying the name of the computer and the domain to join, click OK
8. You would then be asked to provide a user name and a password for a user who has the permissions to join let a computer join a domain



9. After entering a user and a password, click OK. If you have the right to add computers to the domain, you would receive a Welcome message and click OK:





10. Once you click OK, you will be asked to restart the computer, which you should do. Therefore, in the System Properties dialog box, click OK.
11. When asked whether you want to restart the computer, click Yes.
12. After the computer has restarted, when it displays the Log On To Windows dialog box, click the arrow of the Log On To combo box and select the name of the domain.
13. If necessary, change the User Name in the top text box.
In the Password text box, enter the password associated with the user name
14. Click OK.

Operation Sheet – 5

Physical Connections

Physical Connections

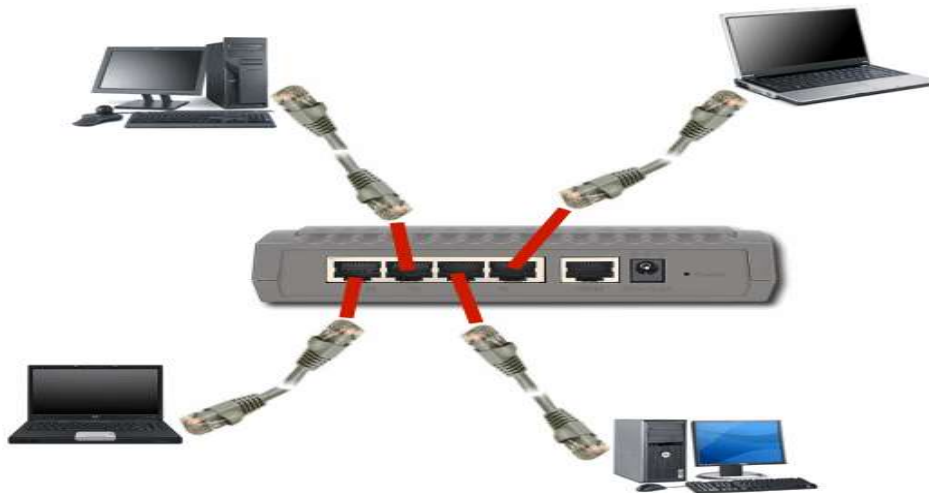
Wired Networking

After installing the operating systems on the computers that will primarily participate in the network, you can "physically" connect the computers and the router. You can start connecting the pieces whether the computers are on or off.

Practical Learning: Wiring the Network

1. Shut down all computers and the router (if necessary)

2. Turn on one computer you will use to setup the router
3. Your router should have come equipped with a piece of paper or a brochure of just a few pages that lists the instructions to follow to setup the router. One of the early instructions may ask you to insert the CD that came with the router, in the CD drive and wait for the instructions. Follow these instructions faithfully
4. After setting up and configuring the router, turn it off and turn off the computer you used to set it up (this step is optional)
5. Connect each of the other computers to the router using an RJ-45 cable for each connection:



If you had turned off (some of) the machines, first turn on the router. Then, after a few seconds, turn on the computers. If you receive some messages indicating that a network was detected, fine. If not, don't worry, we will check the network later.

Wireless Networking

If you plan to setup a wireless network using a wireless router, you will need to use one computer to set it up.

Practical Learning: Wirelessly Connecting a Network

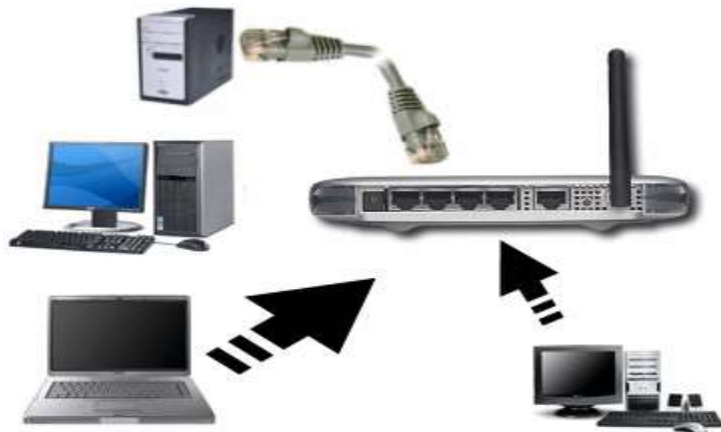
1. Start the computer you will use to setup the router (you should turn the others off):



2. Most, if not all, wireless routers come with very easy to follow instructions. Most of them usually ask you to first insert the CD that accompanies the router, that is, before physically installing the router. Consult the documentation (usually just one or a few pieces of paper or a small brochure) and faithfully follow its CD's instructions. At one time, the instructions would indicate to you when to connect the computer and the wireless router. To do this, you will use a cable (usually supplied to you) to connect one end to the computer and another end to the router:



3. Because the steps to perform depend on the router (or the manufacturer), we will let you perform as described by their documentation
4. After installing and setting up the wireless router, turn it off and turn the computer off
5. If you didn't yet, install the wireless network card(s) on the other computer(s). For any computer that doesn't have a wireless network card but has a wired network card, connect it to a port of the wireless router using an RJ-45 cable. The computers that have a network card will not need a physical connection to the wireless router:



6. Turn on the router. After a few seconds, turn on the computers one by one.
You may not need to check whether they work at this time or not. We will check this later

Lap Test	Practical Demonstration
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Name: _____
Time started: _____

Date: _____
Time finished: _____

Instructions: You are required to perform the following individually with the presence of your teacher.

- *Your teacher will evaluate your output either satisfactory or unsatisfactory. If*

unsatisfactory, your teacher shall advice you on additional work. But if satisfactory, you can proceed to the next topic.

1. Configuring a small local area networking physical connection?

2. Configuring a wireless connection?

3. Installing network software?

List of reference material

1. Book

- Beginners-intro-email-part1.
- Computer Hardware_ Hardware Components and Internal PC Connection.
- Computer Networking & Hardware Concepts.
- Computer-Networks--Introduction_Computer_Networking(1)
- Internet-Access-Education_2017120

2. Web adders links

- www.wikipedia.com
- www.google.com
- web1.keira-h.school.nsw.edu.au/faculties/IT/