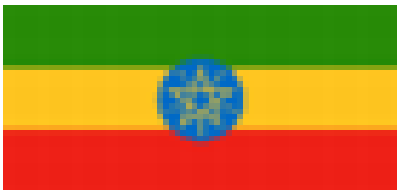
BULE HORA TVET COLLEGE



Ethiopian TVET-System

HARDWARE AND NETWORK SERVICING

LEVEL III

Learning guide #3

Unit of Competence:

Configure and Administer Server

By

Endalkachew Fikre

BULE HORA TVET COLLEGE

Table of Contents

1.

Confirm server specification 1

2. Practical Learning: Installing the Server Operating System....4
3. Server Role Configuration....7
   3.1 Configuring Active Directory....8
4. Joining a Domain....18
   4.1 Creating a Computer Account....18
5. Network Management....21
   6. Introduction....21
   7. Network Management with Win XP....21
   8. Network Management with Windows Server 2003....22
9. The Microsoft Management Console....24
   9.1 Introduction....24
   9.2 Practical Learning: Introducing the MMC....24
   9.3 Practical Learning: Customizing the MMC....28
10. SECURE FILES AND FOLDERS....31
11. Assigning disk quota....36
12. WHAT IS IIS?....41
13. WHAT IS HTTP? Its purpose?....41
14. WHAT IS FTP? Its purpose?....41
15. Sharing file by using IP address (FTP)....41
16. Sharing webpage....52
17. Domain Name System[DNS]....55
18. Setting up a DHCP Server....61
19. Managing Printers....67
20. Terminal server role....70
   20.1 Installing a Terminal Services Server....70
   20.2 Configuring a Terminal Services Server....71

By Endalkachew

Fikre

Confirm server specification

1. **Confirmation of Network operating system**, **server applications**and server design compatibility with the system.

Windows Server 2003 Network Administration Goals:

- ✓ To ensure that network resources such as files, folders, and printers are available to users
- ✓ To secure the network so that available resources are only accessible to users who have been granted the proper permissions

Windows Server 2003 Editions

- ✓ Multiple versions of Windows Server 2003 exist
- ✓ Each version is defined to meet the need of a certain market segment

Versions include:

- Standard Edition
- Enterprise Edition
- Datacenter Edition
- Web Edition

Standard Edition

- ✓ Designed for everyday needs of small to medium businesses or as a departmental server for larger organizations
- ✓ Provides file and print services, secure Internet connectivity, centralized management of network resources

Table 1-1 Windows Server 2003, Standard Edition, system requirements and feature support

Specification/Feature	Value
Minimum CPU speed	133 MHz
Recommended minimum CPU speed	550 MHz
Minimum RAM	128 MB
Recommended minimum RAM	256 MB
Maximum RAM supported	4 GB
Multiprocessor support	Up to 4 CPUs
Operating system disk space requirements	1.5 GB Free space
Clustering support	None
Itanium support	None
Active Directory support	Domain controller, Member server
Supported upgrades	Windows NT 4.0 Server (SP5), Windows NT 4.0 Terminal Server Edition (SP5), Windows 2000 Server

Enterprise Edition

Generally used for medium to large businesses

- ✓ Designed for organizations that require better performance, reliability, and availability than Standard Edition provides
- ✓ Provides support for mission-critical applications
- ✓ Available in both 32 and 64-bit editions

Table 1-2 Windows Server 2003, Enterprise Edition, system requirements and feature support

Specification/Feature	Value
Minimum CPU speed	133 MHz (x86), 733 MHz (Itanium)
Recommended minimum CPU speed	733 MHz
Minimum RAM	128 MB
Recommended minimum RAM	256 MB
Maximum RAM supported	32 GB (x86), 64 GB (Itanium)
Multiprocessor support	Up to 8 CPUs
Operating system disk space requirements	1.5 GB (x86), 2.0 GB (Itanium)
Clustering support	Up to 8 nodes

Datacenter Edition

- ✓ Designed for mission-critical applications, very large databases, and information access that requires the highest levels of availability
- ✓ Can only be obtained from Original Equipment Manufacturers (OEMs)

Table 1-3 Windows Server 2003, Datacenter Edition, system requirements and feature support

Specification/Feature	Value
Minimum CPU speed	400 MHz (x86), 733 MHz (Itanium)
Recommended minimum CPU speed	733 MHz
Minimum RAM	512 MB
Recommended minimum RAM	1 GB
Maximum RAM supported	64 GB (x86), 512 GB (Itanium)
Multiprocessor support	Minimum 8 CPUs required, Maximum 32 CPUs supported (x86), Maximum 64 CPUs supported (Itanium)
Operating system disk space requirements	1.5 GB (x86), 2.0 GB (Itanium)
Clustering support	Up to 8 nodes
Itanium support	Yes
Active Directory support	Domain controller, Member server
Supported upgrades (x86 only)	Windows 2000 Datacenter Server

Web Edition

- ✓ Lower-cost edition
- ✓ Designed for hosting and deploying Web services and applications
- ✓ Meant for small to large companies or departments that develop and/or deploy Web services
- ✓ Can only be obtained from Original Equipment Manufacturers (OEMs)

Table 1-4 Windows Server 2003, Web Edition, system requirements and feature support

Specification/Feature	Value
Minimum CPU speed	133 MHz
Recommended minimum CPU speed	550 MHz
Minimum RAM	128 MB
Recommended minimum RAM	256 MB
Maximum RAM supported	2 GB
Multiprocessor support	Up to 2 CPUs
Operating system disk space requirements	1.5 GB
Clustering support	None
Itanium support	None
Active Directory support	Member server only
Supported upgrades	None

Server Operating System

As its name implies, the role of a server is to serve. To perform this job, it must be loaded with a special operating system. On this project, we cover a network that deals with a Microsoft-based network. The company publishes a server operating system named Microsoft Windows Server 2003.

Before acquiring the operating system, you may fit one of the following descriptions:

When choosing the machine, make sure it meets the following requirements:

- 133-MHz processor required; 550-MHz recommended; up to eight processors supported on one server
- 128 MB of RAM minimum required; 256 MB or more recommended; 32 GB maximum
- 1.25 to 2 GB of available hard disk space
- CD-ROM or DVD-ROM drive
- VGA or hardware that supports console redirection required; Super VGA supporting 800 x 600 or higher-resolution monitor recommended

Installations and Connections

New Installation

After acquiring a computer, you may have one that is ready but doesn't have an operating. You may have a computer with an operating system but that OS cannot be upgraded into Microsoft Windows Server 2003. In one of these cases, you would need to perform a new installation.

Practical Learning: Installing the Server Operating System

- If the computer doesn't have an operating system but it meets all the requirements and it can boot from the CD, start the computer. Restart the computer. You should receive a message stating "**Press any Key To Boot From CD"**.
- Press any key to start the installation.
- When the installation starts, it will display a blue screen with **Windows Setup** on top and some messages on the status bar (bottom of screen).
  After a while, the screen will change and display a new title based on the version of

operating system you are installing. For example, if you are installing Microsoft Windows Server 2003 Enterprise Edition, the title would display **Windows Server 2003, Enterprise Edition Setup**

The body of the screen will present options to you. To continue the installation, press Enter

- The next screen will show the Windows Licensing Agreement. Read it. After reading it, if you accept the terms of the license, press F8. If you don't like what it says, press ESC and stop the installation.
- The next screen asks you to select the partition you want to use to install the operating system:
    - If you have only one partition and it looks small, such as less than 8 GB, simply select it
    - If you have only one partition and that, regardless of its size, you want to use it wholly to install the OS, select it
    - If you have only one partition but it is large and you want to create various partitions, first make sure it is selected it. Then, press C to partition it. The next screen would ask how much space you want to use for the new partition. By default, it will propose the total space for it. To reduce it, first press Backspace a few times to delete the numbers, then type the desired number of megabytes, and press Enter. Press the down arrow key to select the **Unpartitioned Space** option and press C. Continue in the same way until you have created the desired partitions
    - If you have many partitions already, to specify which one will be used to hold the operating system, use the up and down arrow keys to select it
- After selecting the partition you will use, press Enter to install the OS in it
- The next screen will ask you to format the selected partition and specify the type of file system you want to use. Select the **Format The Partition Using The NTFS File System** option and press Enter
- In the next screen, the partition will get formatted. This may take a few minutes.
  Once the formatting is over, the installation will continue by copying files.
  After a while, a wizard, titled Windows Setup, will come up. Its first page

presents you with two options.

The first choice consists of changing the Regional and Language Options.

The second option consists of making changes to the way the keyboard will interpret text.

Once again, if you are installing the OS intended for a US audience, the US English is selected by default. If you want to change it, click Details. This would open the Text Services and Input Languages dialog box. You can change the language by clicking the arrow of the combo box. After making the change, you can click OK. To ignore any change, you can click Cancel or press Esc.

After dealing with the Windows Setup dialog box, click Next

- The next screen requests that you enter your name or the name of the primary person who will be using the computer. You must type a name other than Administrator or Guest
- The other text box, Organization, expects the name of the company. Make sure that you provide this information
- After entering the name and the organization, click Next or press Enter
- The next page of the wizard requests the Product Key, which you must enter
- After typing the product key, click Next
- The next page of the wizard shows the options available for licensing. You should accept the Per Server option and click Next
- The next page of the wizard, expects you to type the computer name. It also suggests a default, based on the company name you would have entered previously as the Organization. You can accept the suggested name, which you can still change later on, or you can type a new name
- We haven't mentioned "user accounts" yet but during installation, a user object is created and it is named Administrator. When setting up the operating system, you must give a password to this account. Obviously the password should not be too easy. Fortunately you can give it temporary password and change it later on as your network, skills, and concerned improve. You must enter the password in the Administrator Password text box and type it again in the Confirm Password text box. Make sure you remember this password because you will need it just after the installation
- After specifying the password, click Next
- The next page of the wizard allows you to set the date, the time, and the time zone that the server will use. Most of the time, the computer finds out the right date and the right time and it select them. On the other hand, you should adjust the time zone if the default

is not the right one. This page of the wizard also allows you the let the computer adjust its clock when daylight time is switched during the year. The option to change this is selected by default. If you don't want the computer to take care of that, you can remove the check mark on the check box.

After changing the options or making sure that they are right, click Next

- After clicking next, the wizard is closed and the installation continues copying files.
  After a few minutes, a new wizard, titled Windows Setup, comes up. This time, it will ask you to accept or change the network settings of the server. The first option allows you to let the installation take care of networking details. The second option allows you to manually set them.
- The next page of the wizard allows you to actually make this computer into a server. Accept the first option not to "join" a domain. The wizard suggests WORKGROUP as the name of the "domain". If you don't like that name, change it. If you can't come up with a domain, you can use the one we will use. For our lessons, our domain will be called Neptune. In this case, in the top text box, type **NEPTUNE**
- After entering the name of the domain, click Next
- After clicking Next, the wizard will start copying the files, again.
  Once the installation has finished copying the files, the computer will start. When the computer comes back, you will be asked to log in.
  Press Ctrl + Alt + Delete to log in
- Accept the User Name as Administrator.
  In the Password text box, type the password you entered during the installation
- Click OK.
  If you see a window titled Manage Your Server, congratulations: you have finished installed Microsoft Windows Server 2003

Server Role Configuration

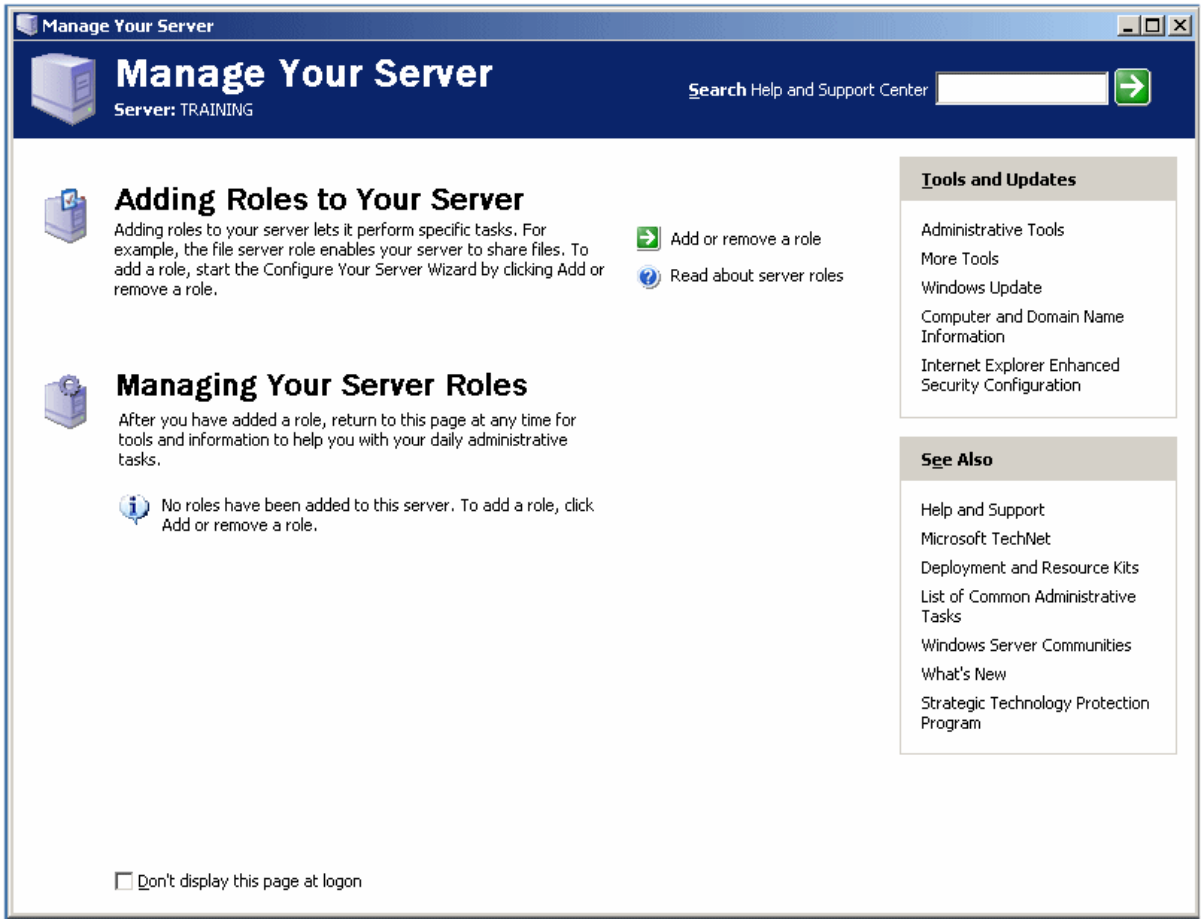
After you have installed Microsoft Windows Server 2003 as we did above, it is primarily a regular computer. To use it as a server, you must properly transform. Fortunately, this is an easy process. When the computer comes up and displays the desktop, the first window you see, titled Manage Your Server, allows you define the "role" of the computer. A convenient link is available in the middle of the window.

Method 1:

Steps: Click start ➔ click run ➔ type dcpromo and press enter

Method 2:

Steps: Click Start ➔All programs ➔ Administrative tools ➔ click Manage your server

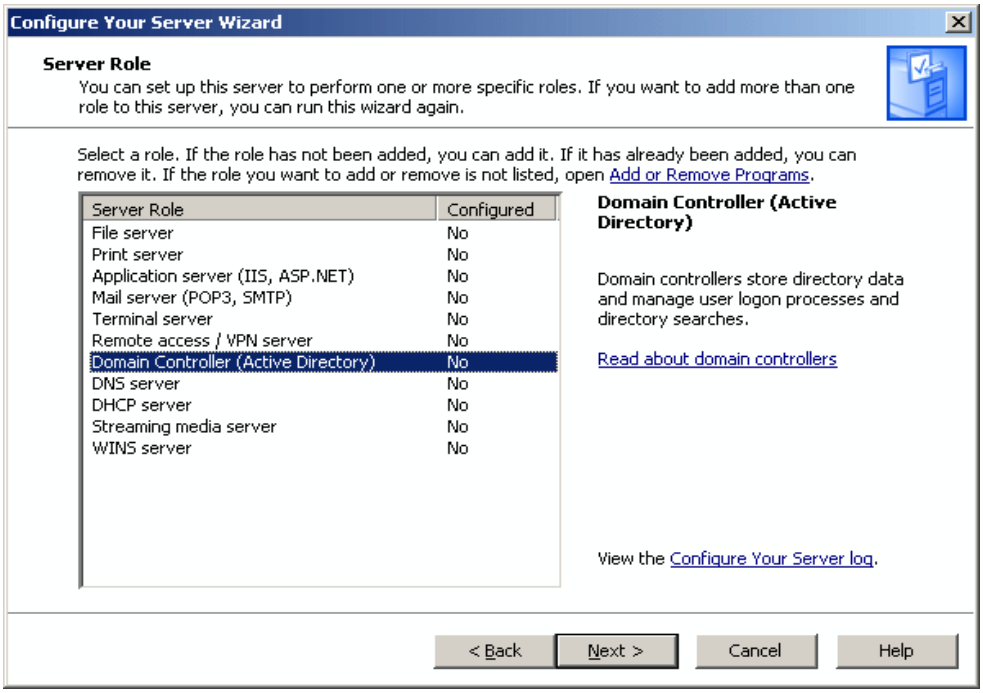


Practical Learning:

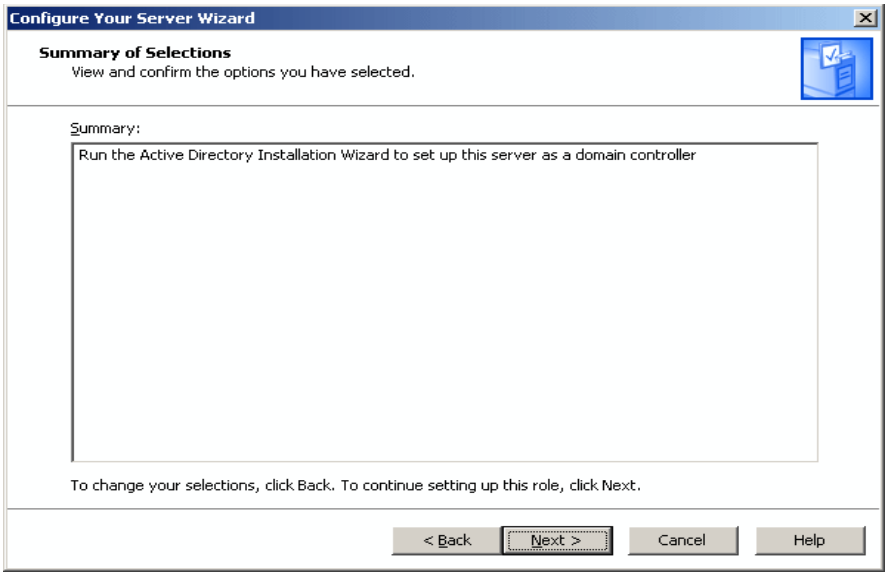
Configuring Active Directory

1. Read the text in the window and click Add Or Remove A Role
2. The first page of the wizard presents a summary of the actions you must have taken before continuing:
   Read it and click Next
3. A dialog box will display briefly and then display a list of the roles you can assign to the server.

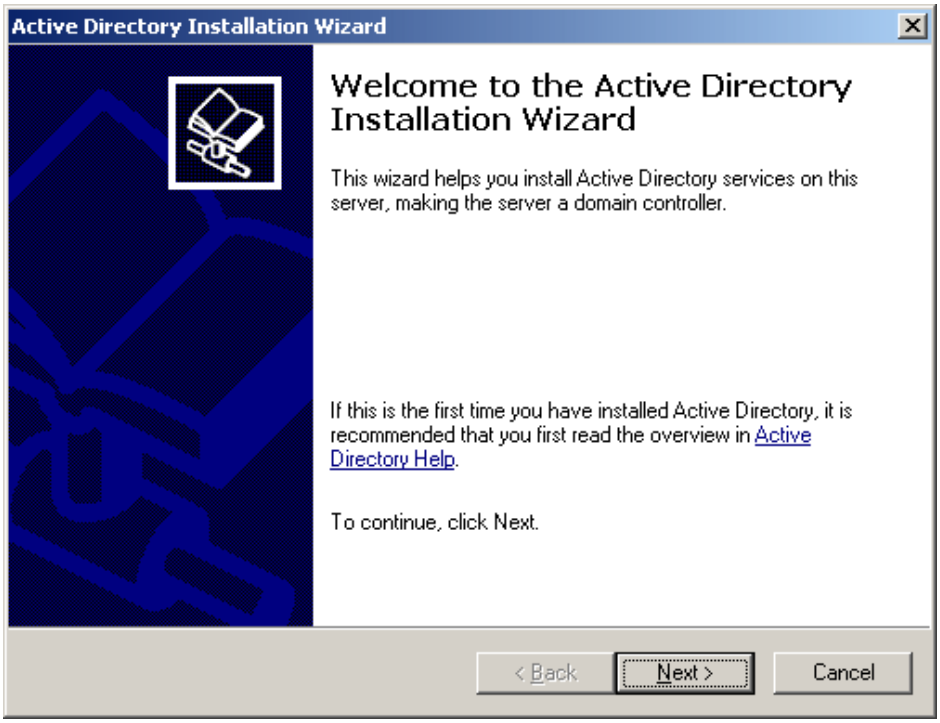
In the list, click Domain Controller (Active Directory)



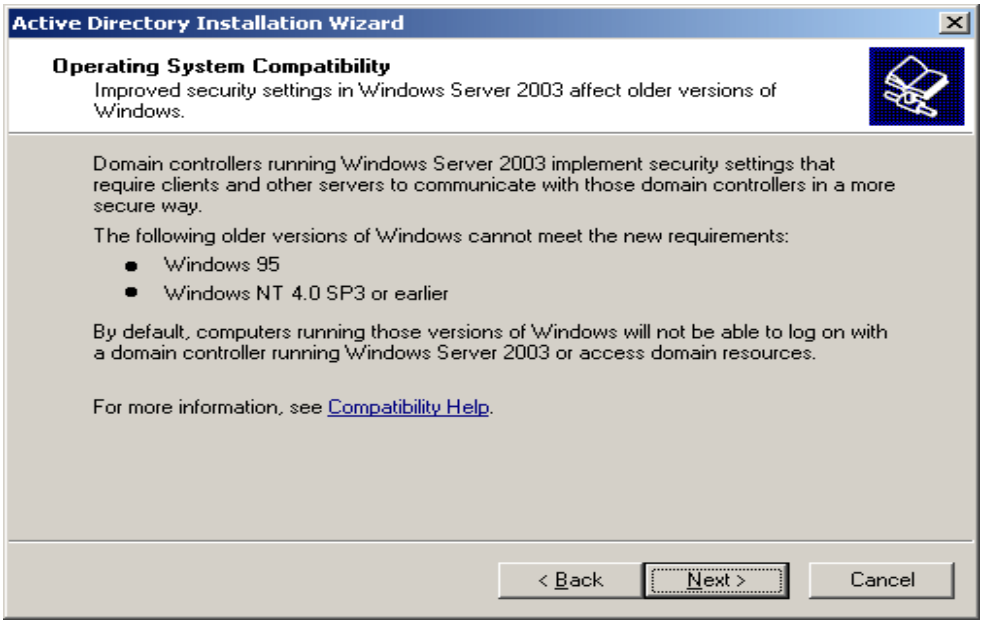
4. Click Next



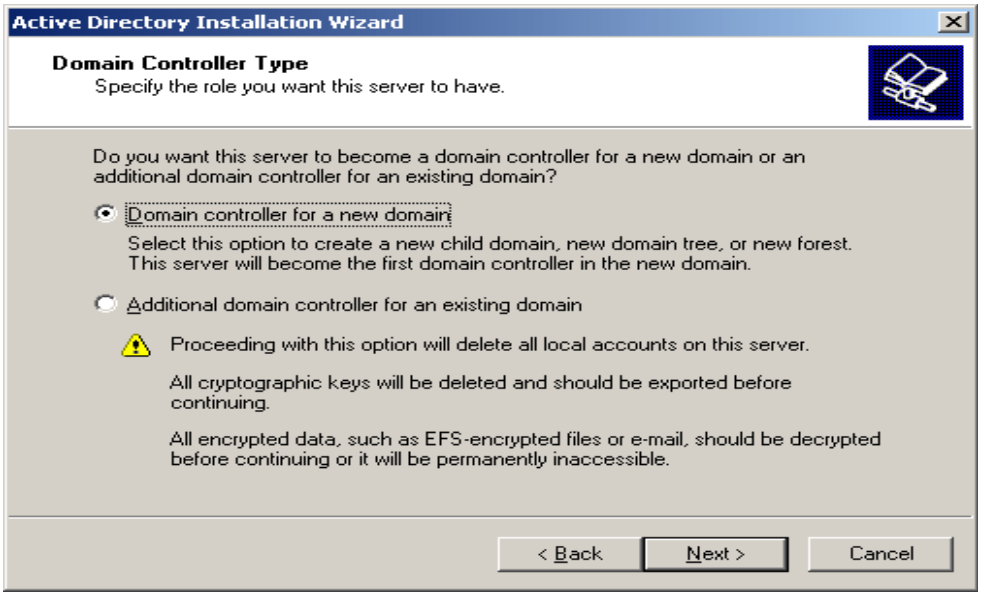
5. Click Next to Run The Active Directory Installation Wizard
6. Another wizard, titled Active Directory Installation Wizard, comes up. Read its text and click Next



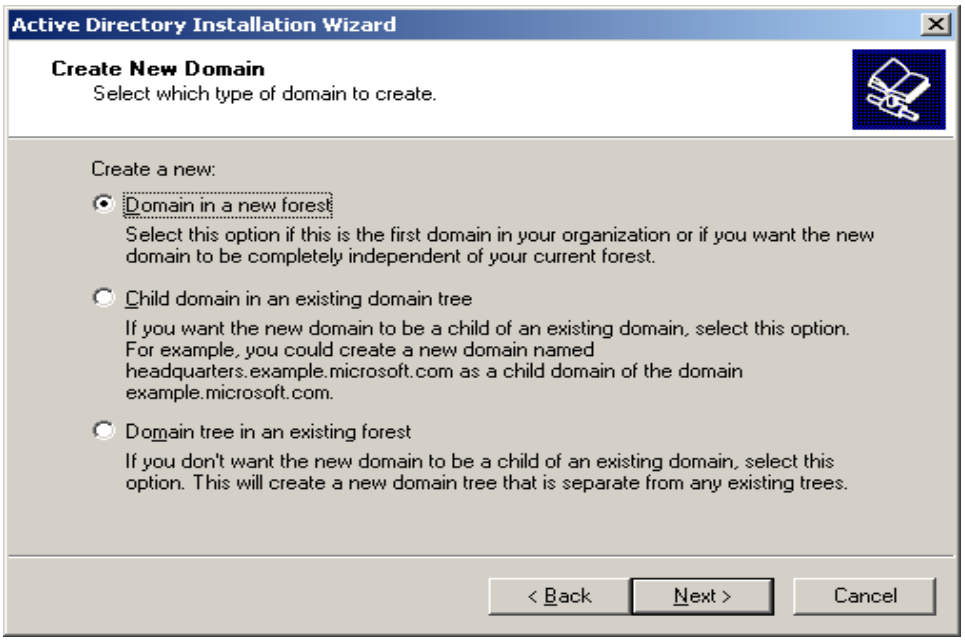
7. In the second page of the wizard, read the text again, and click Next



8. In the third page of the wizard, you must specify whether this is the first or an additional domain controller. As this is the first, accept the first radio button and click Next

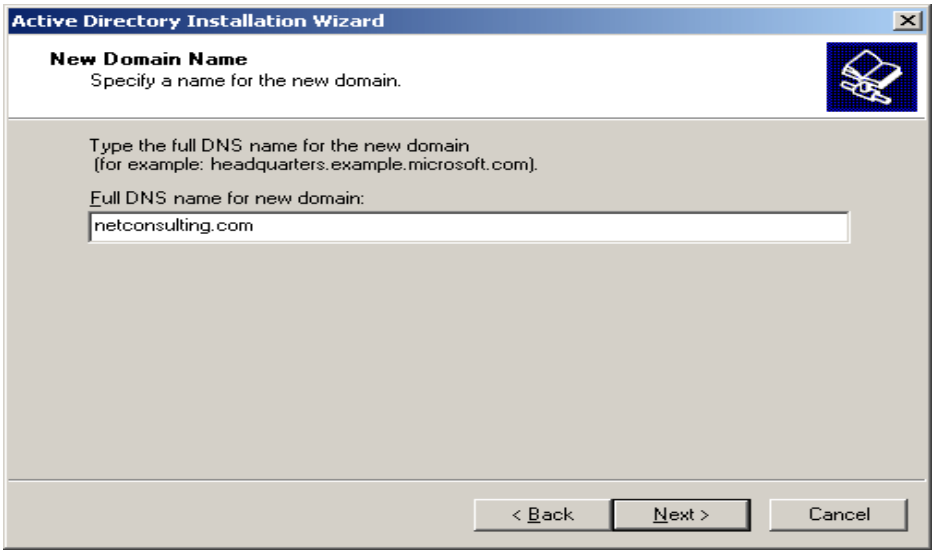


9. In the fourth page of the wizard, accept the first radio button and click Next

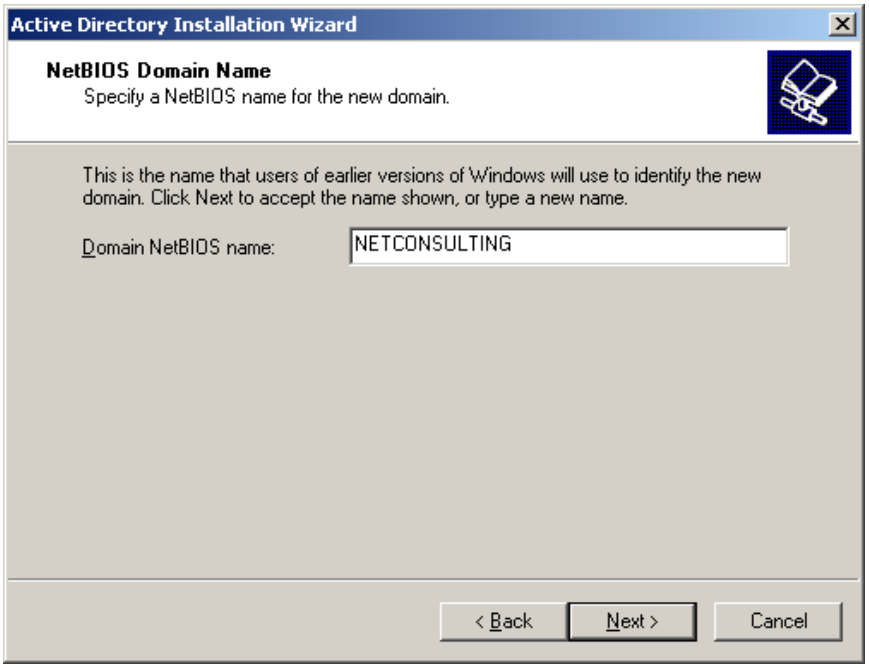


10. In the fifth page, you must enter the name of the domain. The name should be followed by an Internet domain name (**.com**, **.net**, **.org**, **.us**, etc). If you have a domain in mind,

type it. If you don't have a domain in mind, for our lessons, type **netconsulting.com**

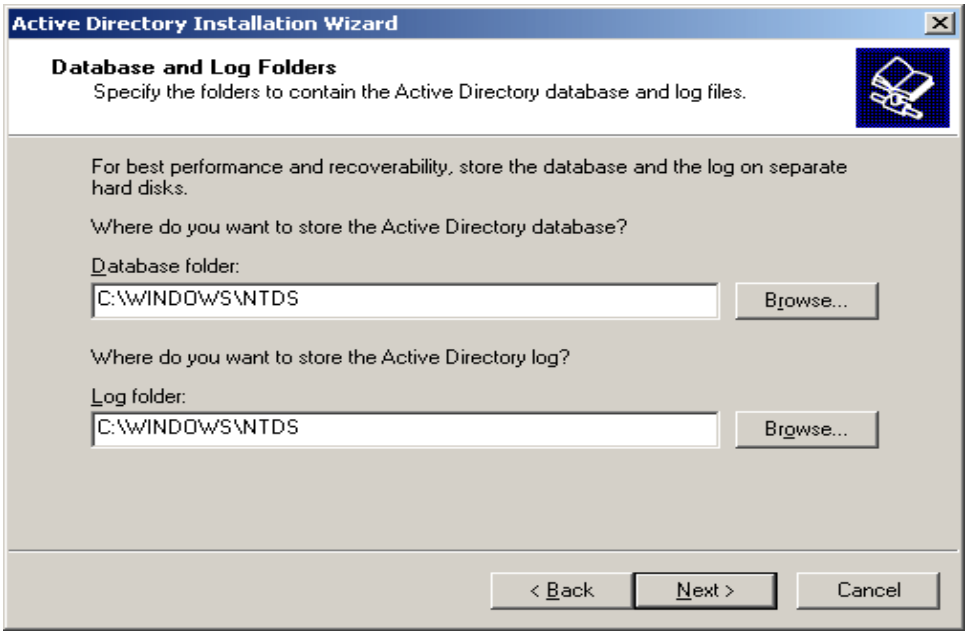


11. Click Next
12. In the next page of the wizard, a suggested NetBIOS name displays, intended for earlier versions of Windows":



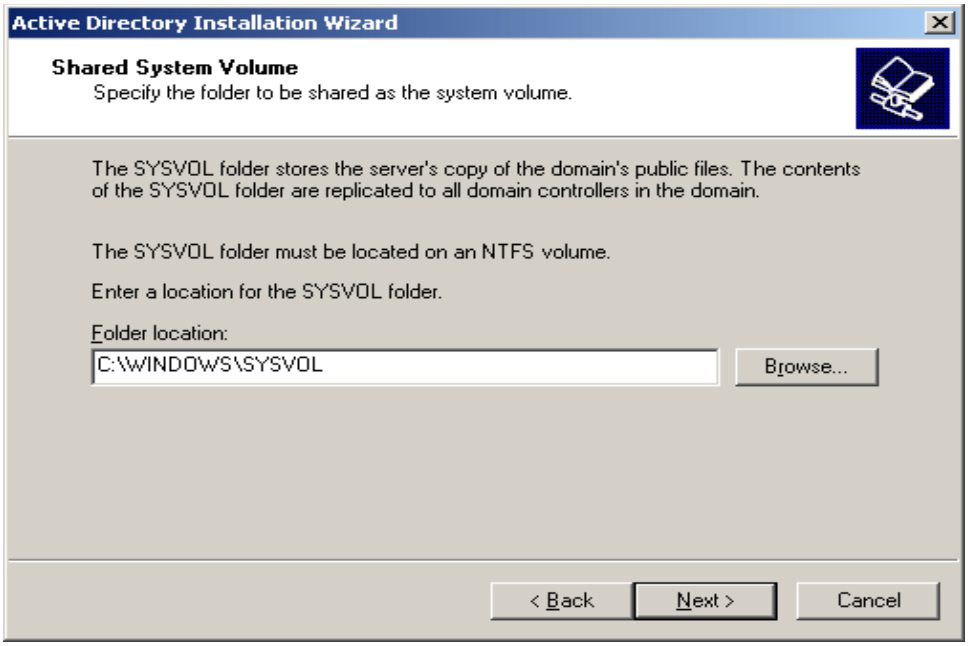
Accept it and click Next

13. The next page allows you to specify where the Active Directory information would be stored:



Accept the default and click Next

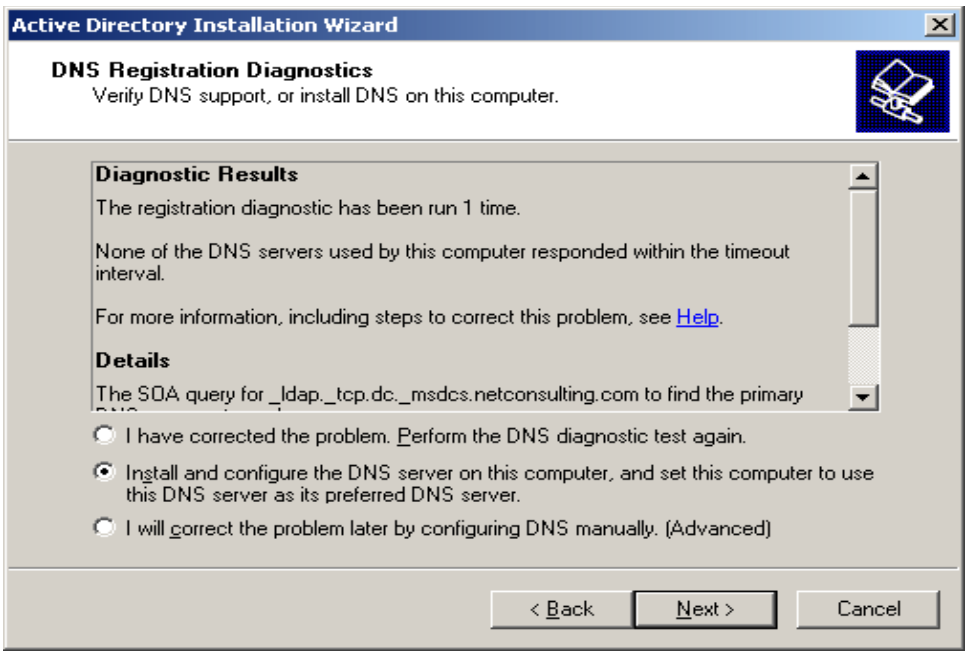
14. The next page specifies where the domain's public files would be stored:



Accept the default and click Next

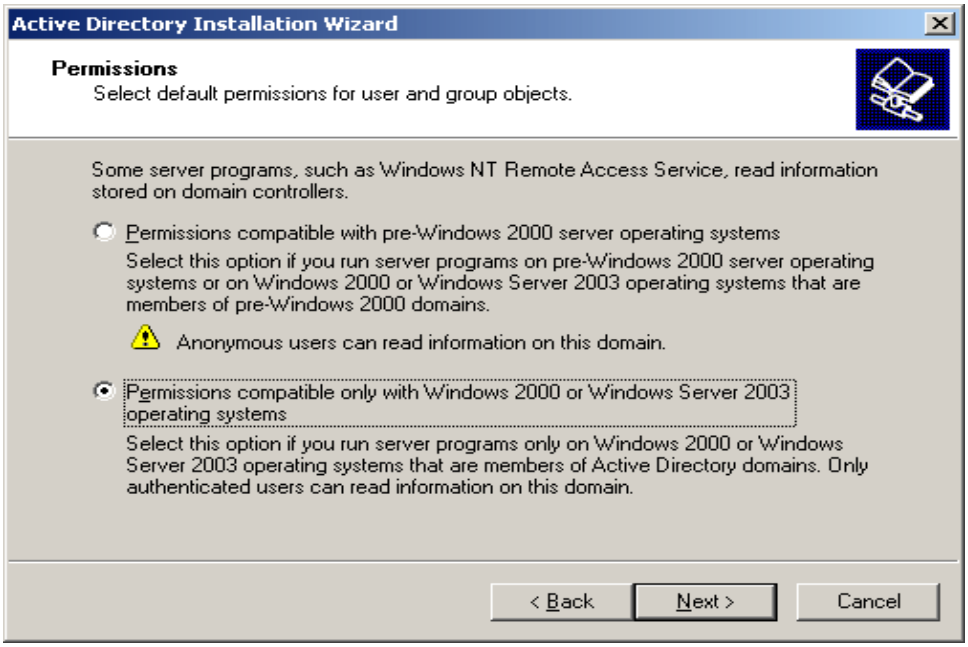
15. After a few seconds, the next page allows you to install DNS.

    Read the options:



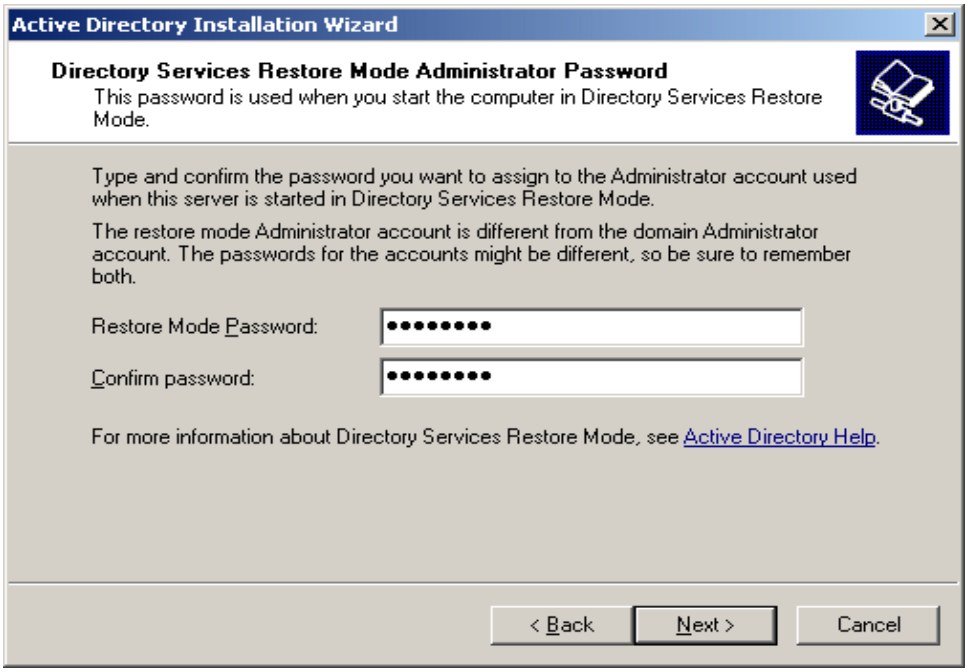
Accept the suggested second radio button and click Next

16. The next page allows you to set the default permissions:



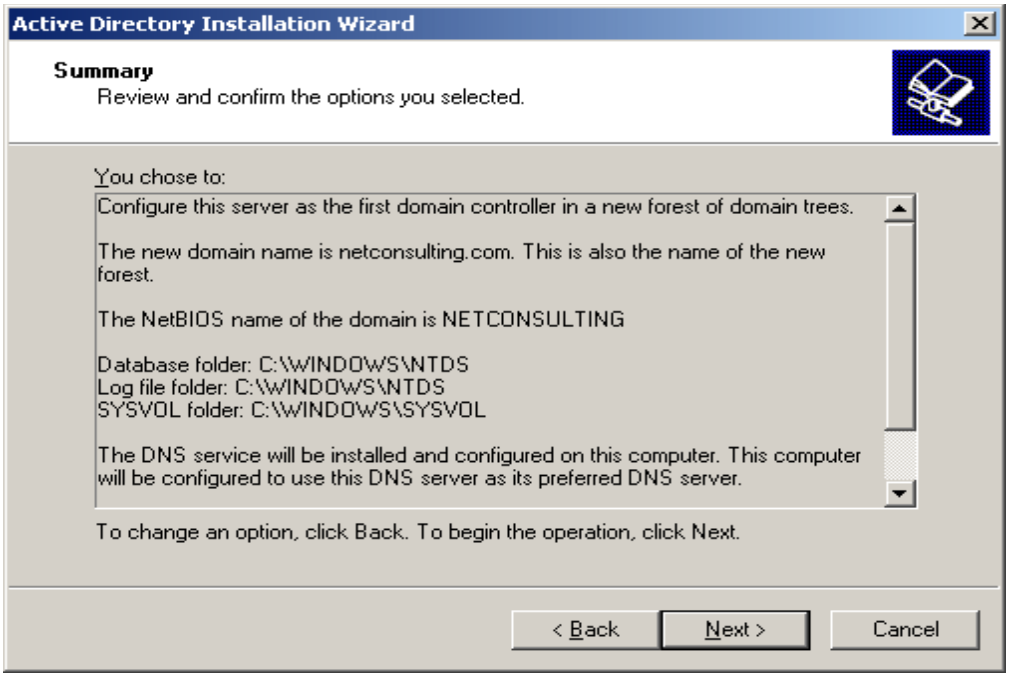
Accept the suggested second radio button and click Next

17. The next page prompts you to create a password used to start the server in "Restore Mode". Enter a password in both text boxes:



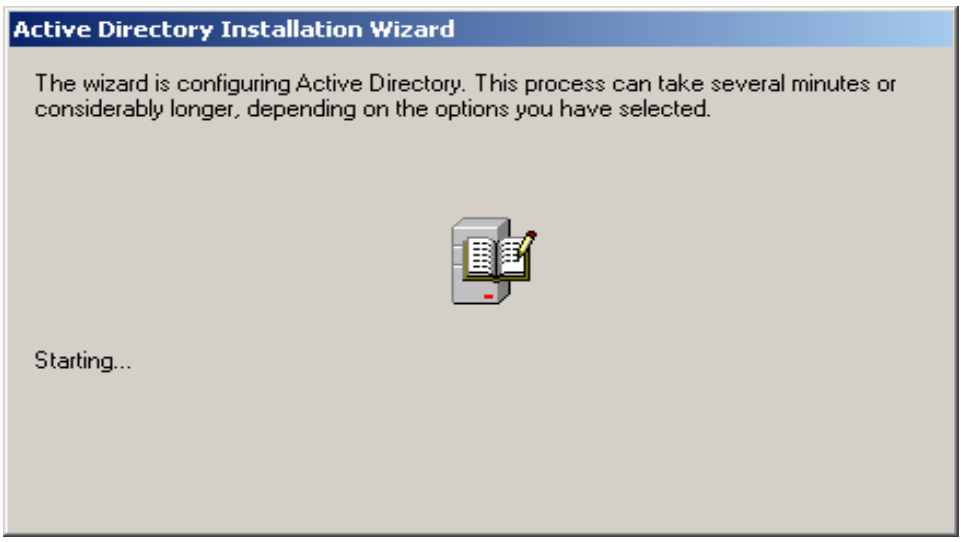
18. Click Next

19. The next page displays a summary of your selections:

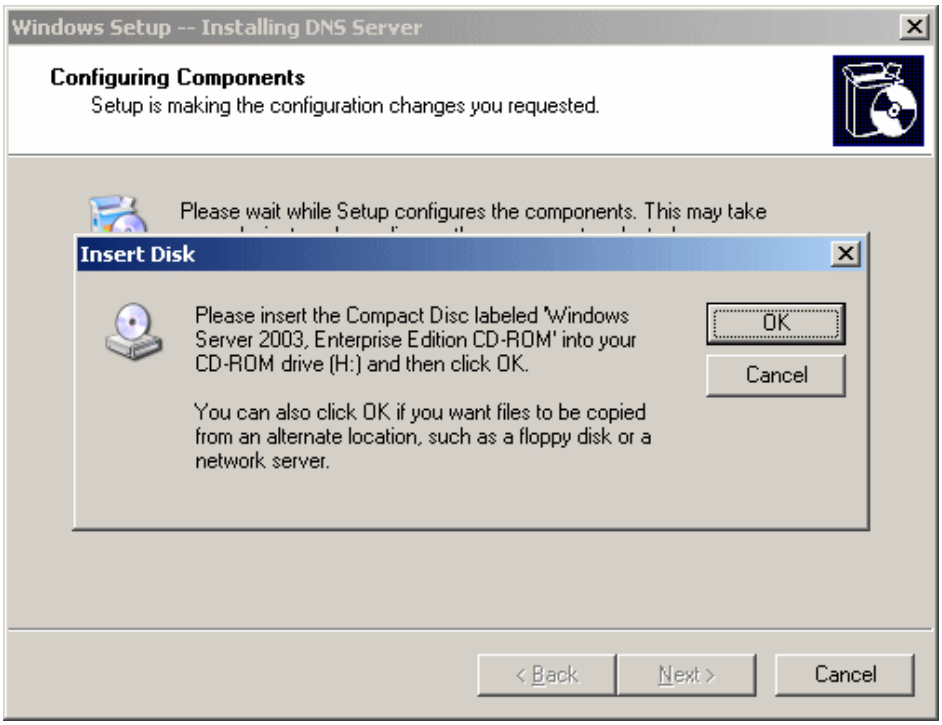


Read the text and click Next

20. The wizard will start creating and configuring Active Directory:



After a while, if you don't have the Microsoft Windows Server 2003 CD in the drive, you may be prompted to supply it:



Do so

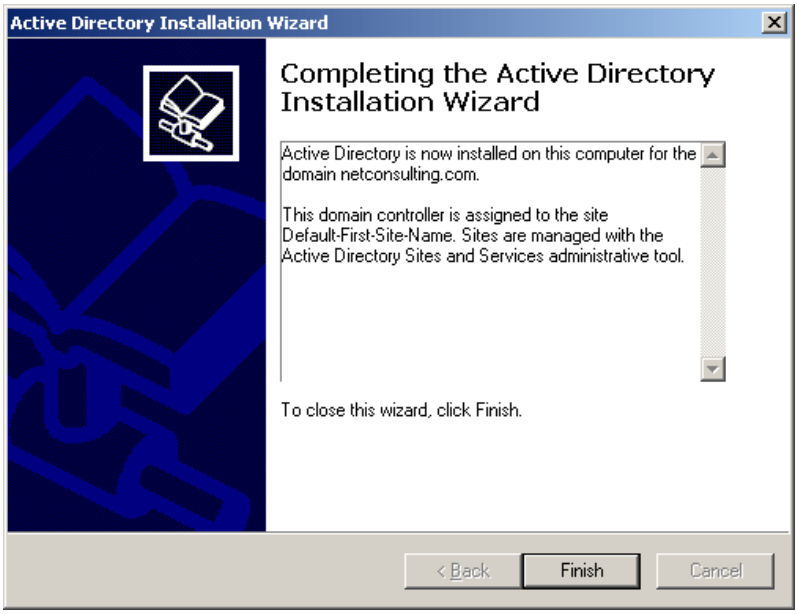
After a few seconds, you may receive a message box informing you that your computer

has a static IP address. Click OK

When the dialog box comes up, simply click OK

another message box will come up. Click it and click OK. The wizard will continue copying files.

After a few seconds, the last page of the wizard will display. Read its summary and click finish



21. You will be asked to restart the computer:



If you have a CD in the CD drive, remove it and click Restart New

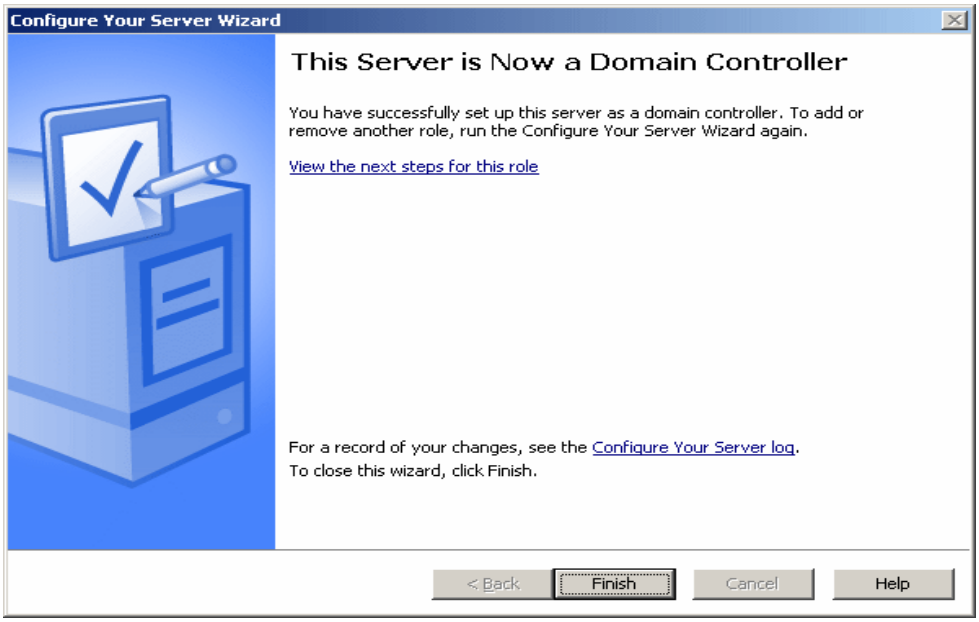
22. When the computer comes up, click the Options button and make sure that the name of the domain is selected in the Log On To text box.

Make sure that Administrator is specified in the User Name text box.

Enter your administrator's password

23. Click OK

After the computer displays the desktop, a dialog box titled Configure Your Server will let you know whether the installation of Active Directory was successful:



24. Click Finish

Joining a Domain

Creating a Computer Account

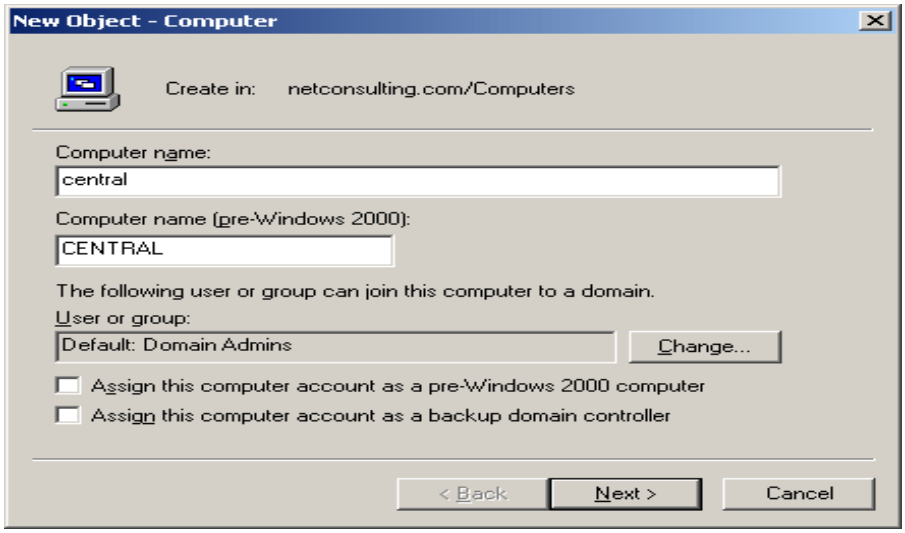
After creating a domain, you can add client computers to it. In our examples, we will add workstations that run Microsoft Windows XP Professional. There are two actions to adding a client to a Microsoft Windows Server 2003 domain but only one is required.

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 examle:



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

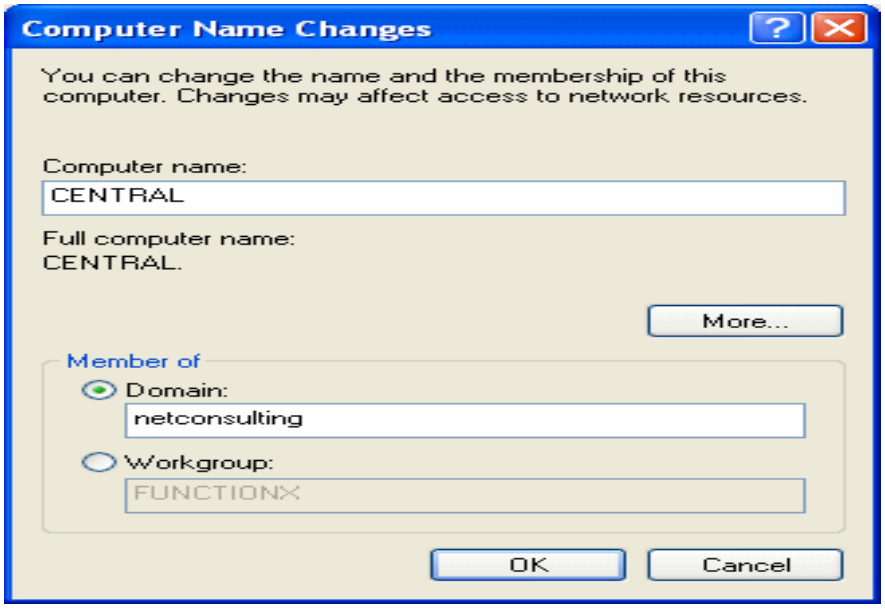
2. In the System Properties, click Computer Name

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

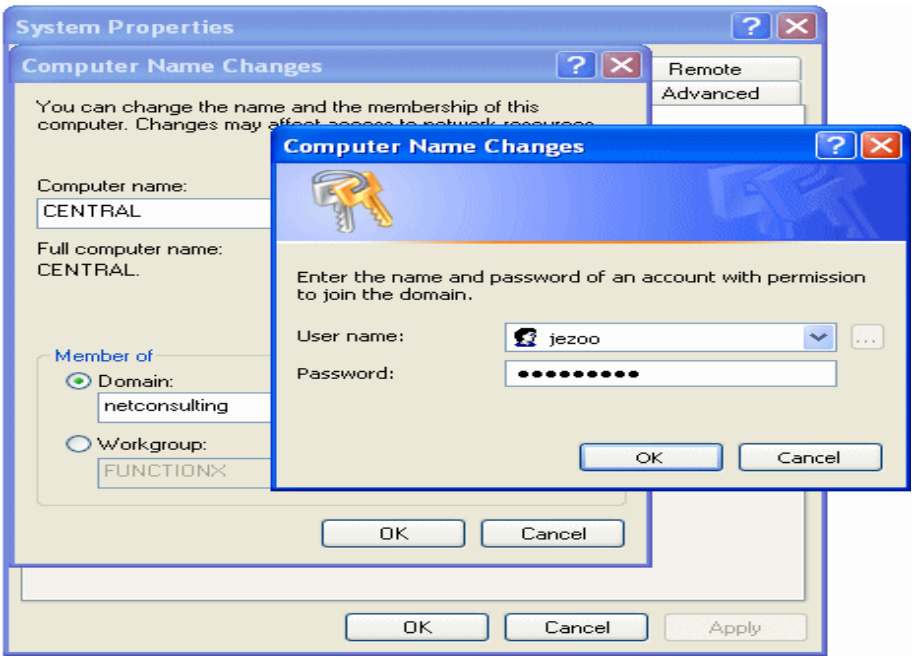
5. In the Member Of section, click the Domain radio button

6. Click the Domain text box and enter the name of the domain

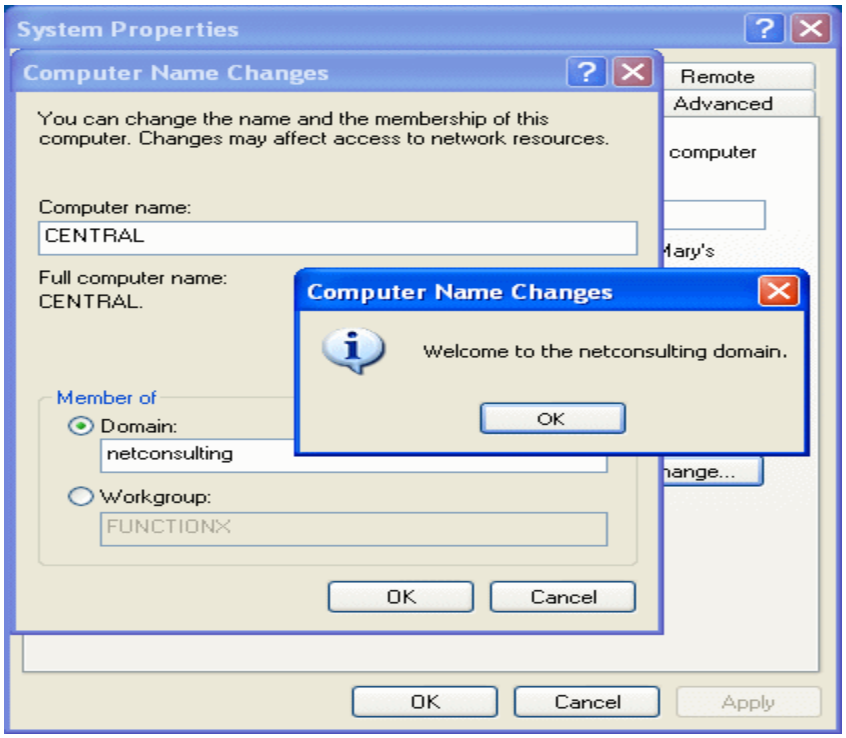


7. After specifying the name of the computer and the domain to join, click OK

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:



Network Management

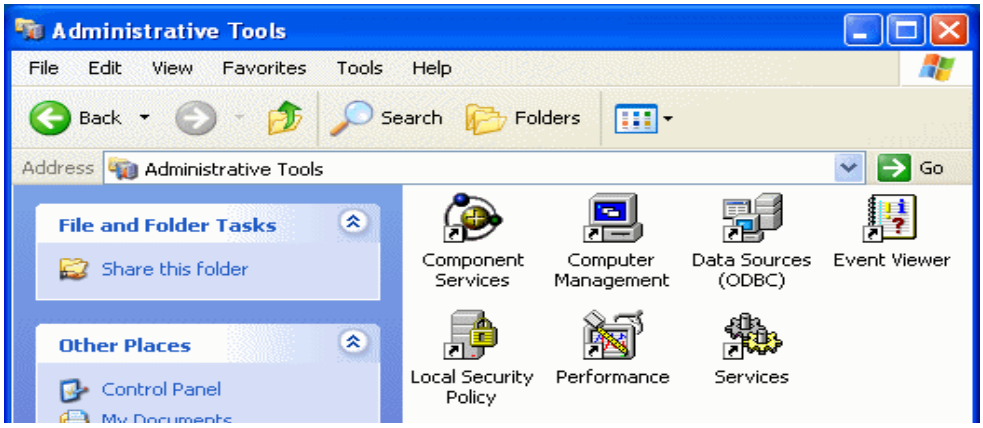
Management Overview

Introduction

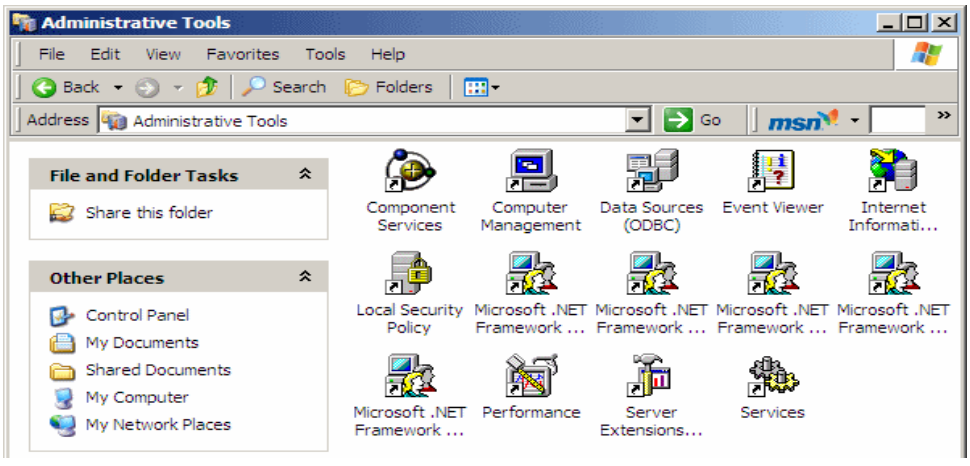
As a network administrator, you will perform various tasks to keep the network up and running. These include computers, users (the people who use the network), the peripherals (the other machines attached either to the computers or directly to the network. To make this possible, both Microsoft Windows XP Professional and Windows Server 2003 provide the various tools you will need. If you are managing a peer-to-peer network, the former provides local and possibly small network tools to manage workstations. For a client/server network, Microsoft Windows Server 2003 provides all the tools you need to locally or remotely manage the servers or the clients.

Network Management with Win XP

Most of the tools used to locally manage a Microsoft Windows XP Professional or a peer-to-peer network are listed in the Administrative Tools window. To open it, you can open Control Panel and double-click Administrative Tools:



As you install more software or libraries to your computer, the tools may increase in sophistication and number. Here is an example:

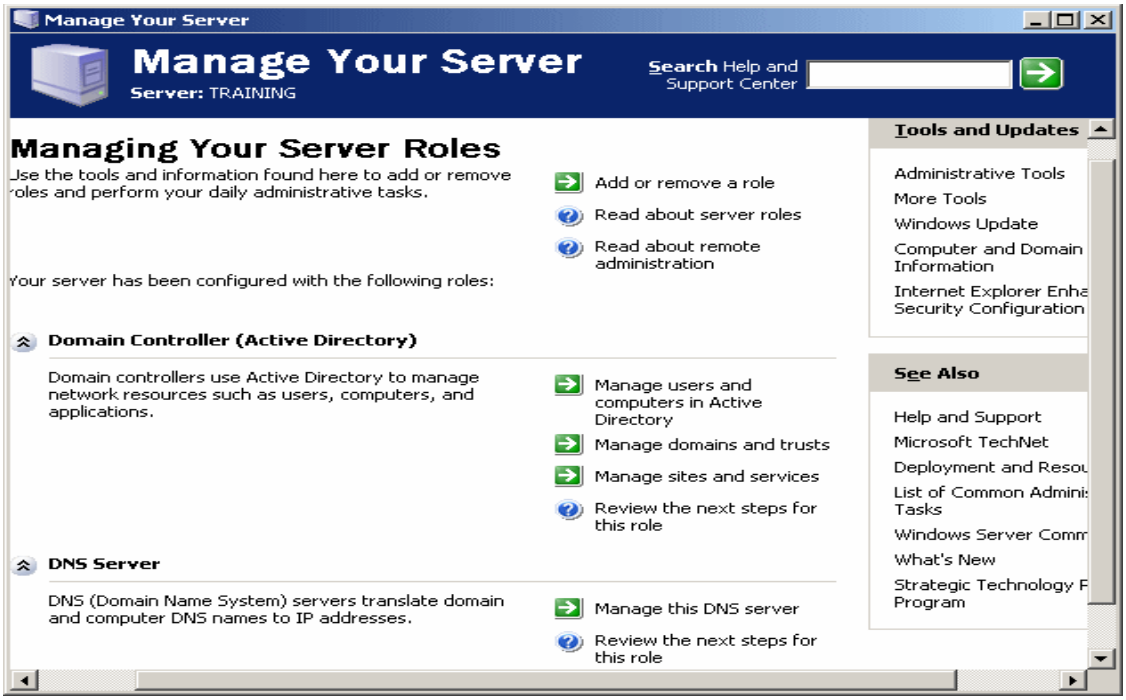


To use a tool, you can double-click it.

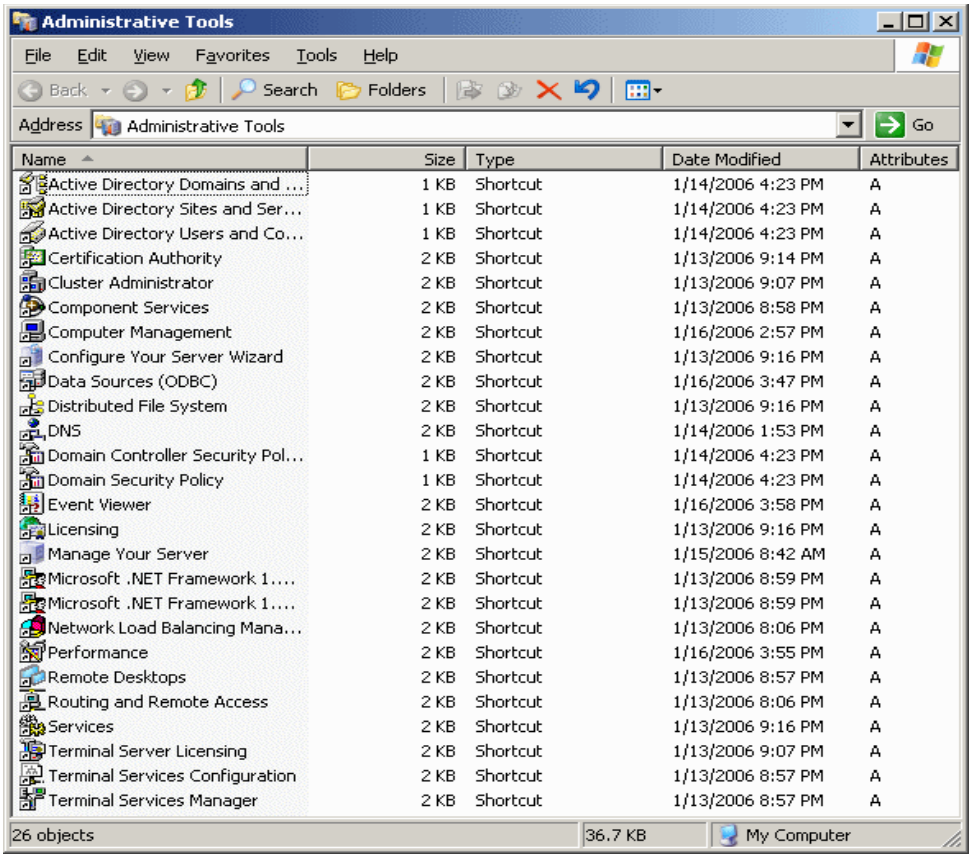
Network Management with Windows Server 2003

Like Microsoft Windows XP Professional, Windows Server 2003 groups its administration routines under an ensemble referred to as Administrative Tools. Unlike the former, the later provides various ways of accessing the tools.

After you have just setup Microsoft Windows Server 2003 and installed Active Directory, the first window that comes up provides some of the most regular tools you will need to administer the network:



The middle section of this window provides only a limited list of tools, considered to be the most regularly used. Alternatively, you can display the whole list of tools in a window. To do this, under the Tools and Updates Section, you can click Administrative Tools:

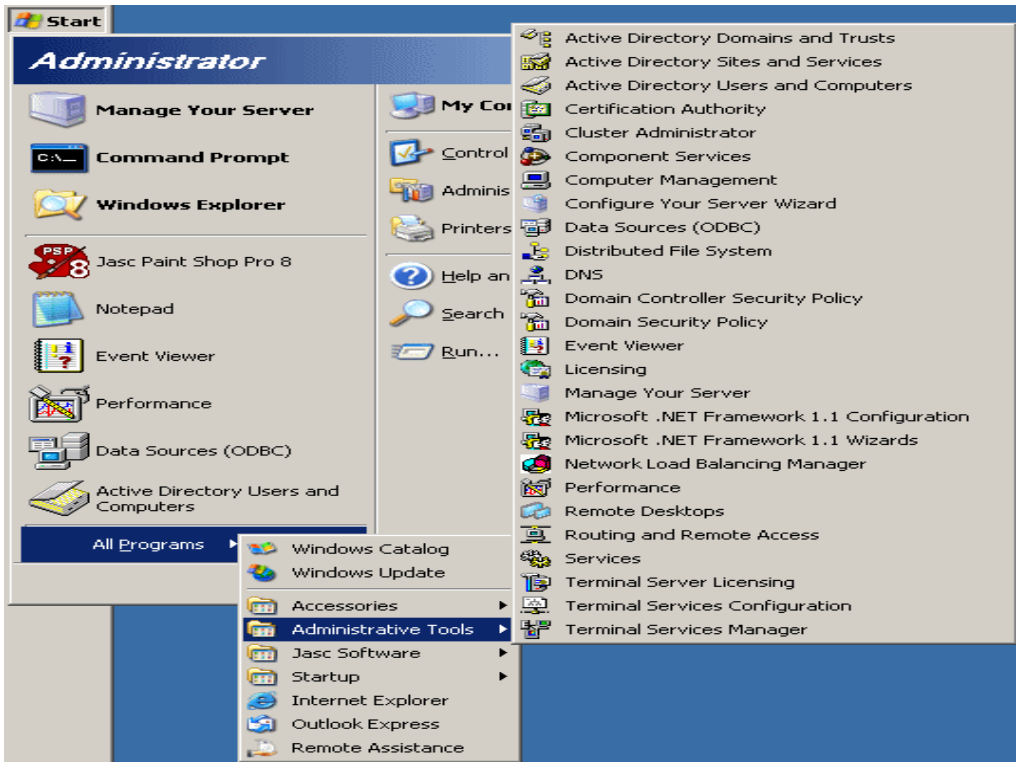


To use a tool, you can double-click it.

Another technique you can access the tools consists of clicking Start -> Administrative Tools:



Another technique consists of click Start -> All Programs -> Administrative Tools



You can also click Start -> Control Panel ->**Administrative Tools**.

With any of these previous techniques, to use a tool, simply click it from the menu.

The Microsoft Management Console

Introduction

If you have some experience with Windows Explorer of Microsoft Windows 9X and later, you may be aware that, in that same window, you can open your folders, view your files, open Control Panel, or even view a web page. In the same way, to make computer and network management easy, Microsoft Windows XP and Windows Server 2003 provide a common window named Microsoft Management Console or MMC. This makes it possible for all routine operations to be performed in a window that primary looks the same regardless of the task being performed. You can perform all routines operations without formally being aware that you are using the MMC.

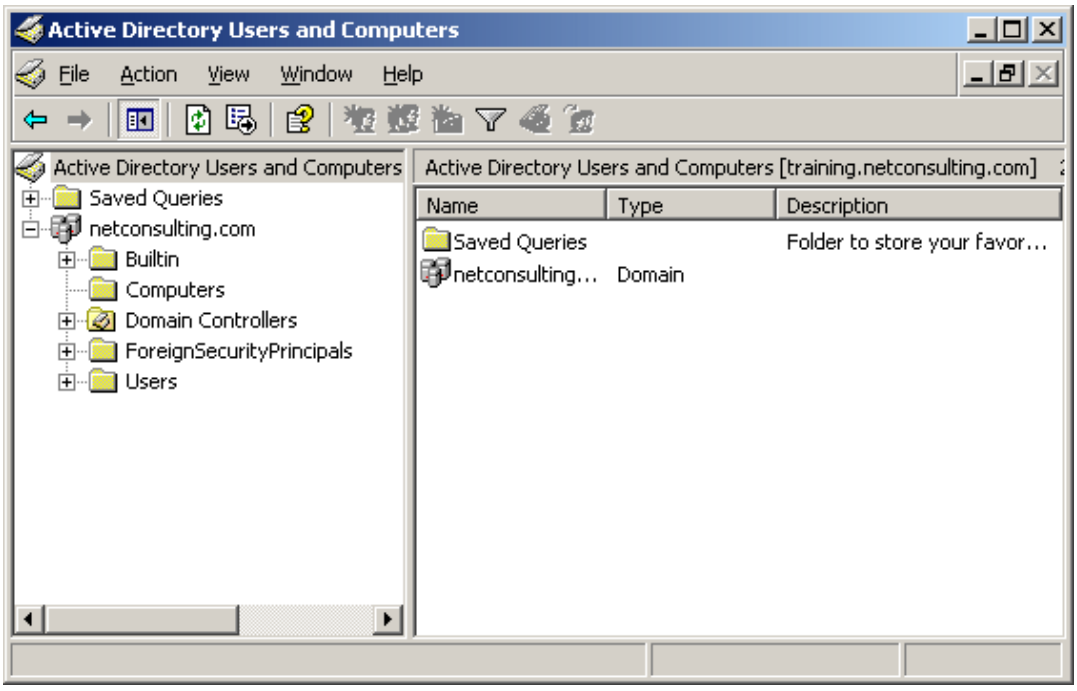
Practical Learning: Introducing the MMC

1. To view examples of administrative applications that share an interface,

- If you are using Microsoft Windows XP Professional, click open Control Panel, double-click Administrative Tools, and double-click Computer Management

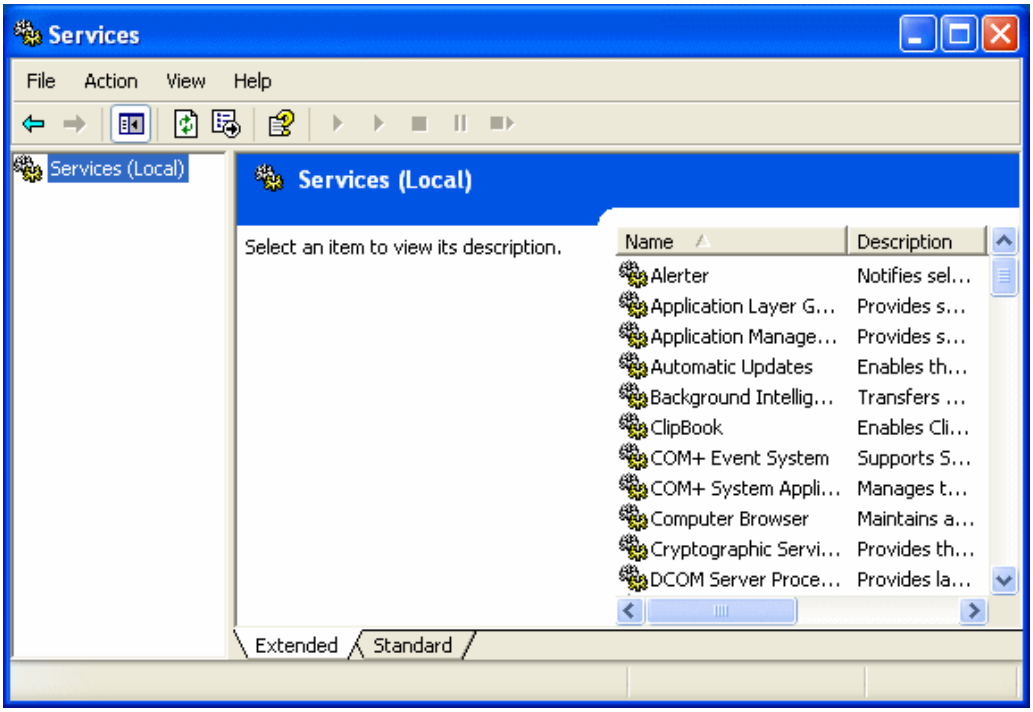


- If you are using Microsoft Windows Server 2003, click Start -> Administrative tools -> Active Directory Users and Computers

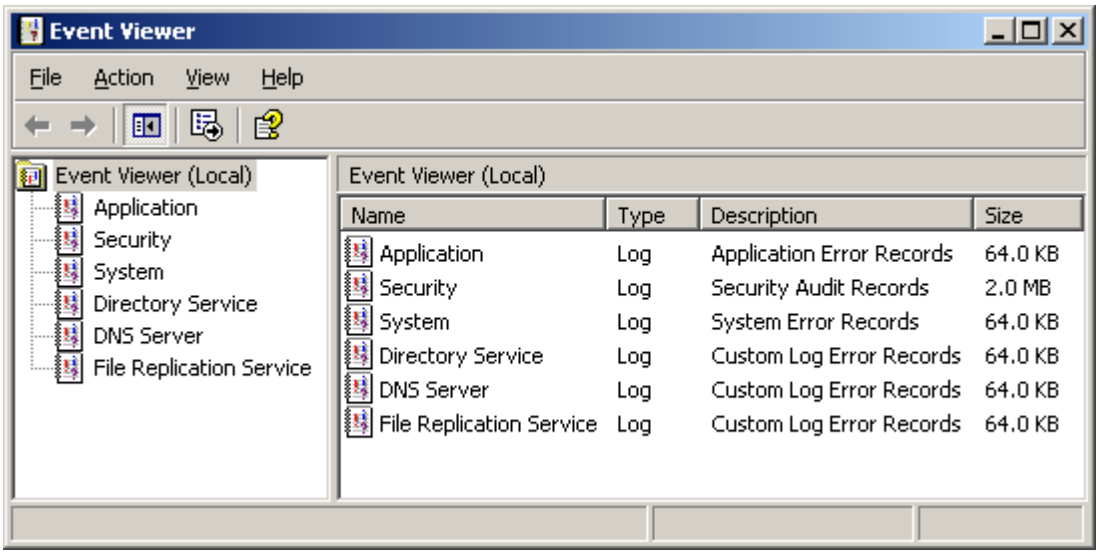


2. To one more administrative window:

- If you are using Microsoft Windows XP Professional, in the Administrative Tools window, double-click Services



- If you are using Microsoft Windows Server 2003, click Start -> All Programs -> Administrative tools -> Event Viewer



3. Close the windows

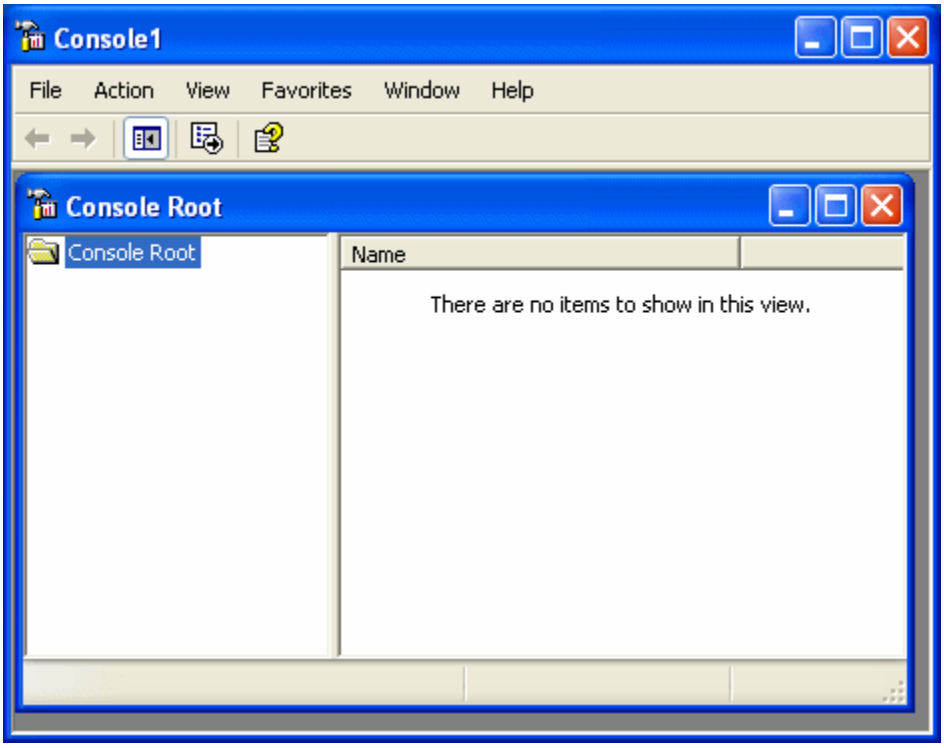
MMC from Nothing

You might have noticed that the windows of the MMC have the same menu items File, Action, View, and Help. This is because many tools share them. Inside of the MMC, a tool you use is called a snap-in. This is because it is simply an application that is added in the MMC. Once the tool has been "snapped" in the MMC, it displays as a console.

As you manage your network, you may find out that there are some tools you need constantly more than others. Instead of always opening only one tool at a time, you can create your own customized version of the MMC and include in it the tools you use most regularly. Also, if you are the supervisor of a group of administrators, you can create special versions of the MMC to let them perform their daily routines. If you are the administrator of a small network for a client, since you cannot work in their office all the time, you can create a type of MMC that they can use while you are away or as you guide them over the phone.

Before grouping the desired tools or customizing the way the MMC looks with a particular tool, you can start by opening an "empty" MMC, that is, an MMC without a particular tool. To do this, you can click Start -> Run, type **mmc** (or **mmc.exe**), and press Enter.

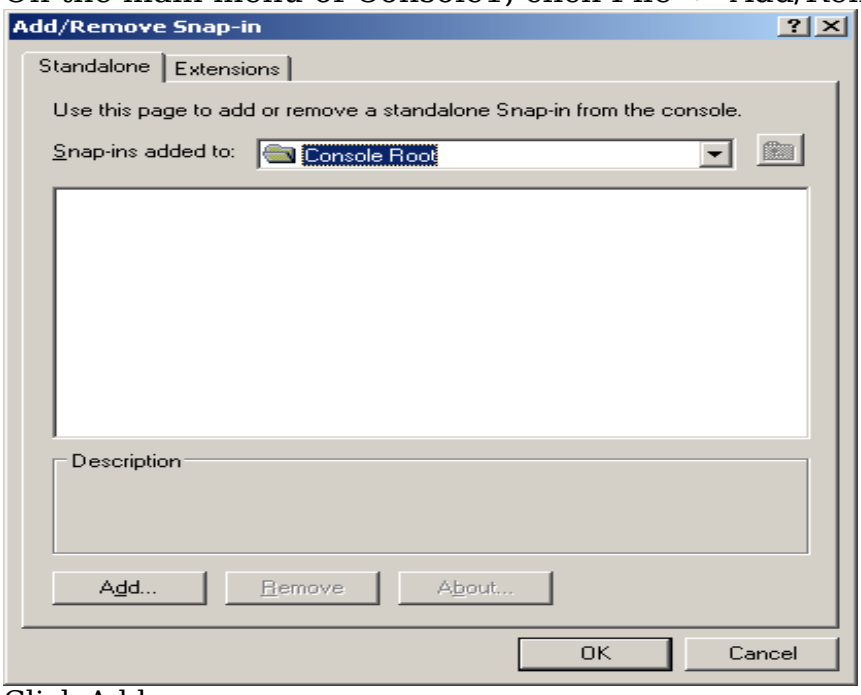
The MMC appears as a window titled Console1 and a first node labeled Console Root:



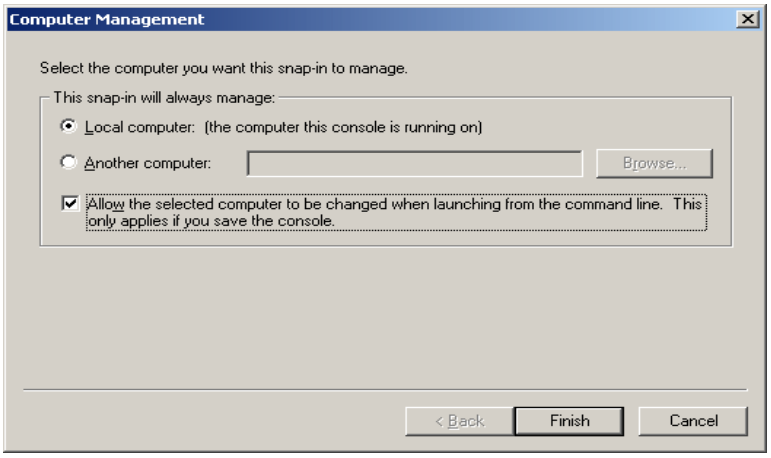
The first action to take would consist of adding the desired tool(s) to the window. To do this, you can click File -> Add/Remove Snap-in... and follow the wizard.
After creating an MMC console, you can save it as a file. The file would have the extension .msc.

Practical Learning: Customizing the MMC

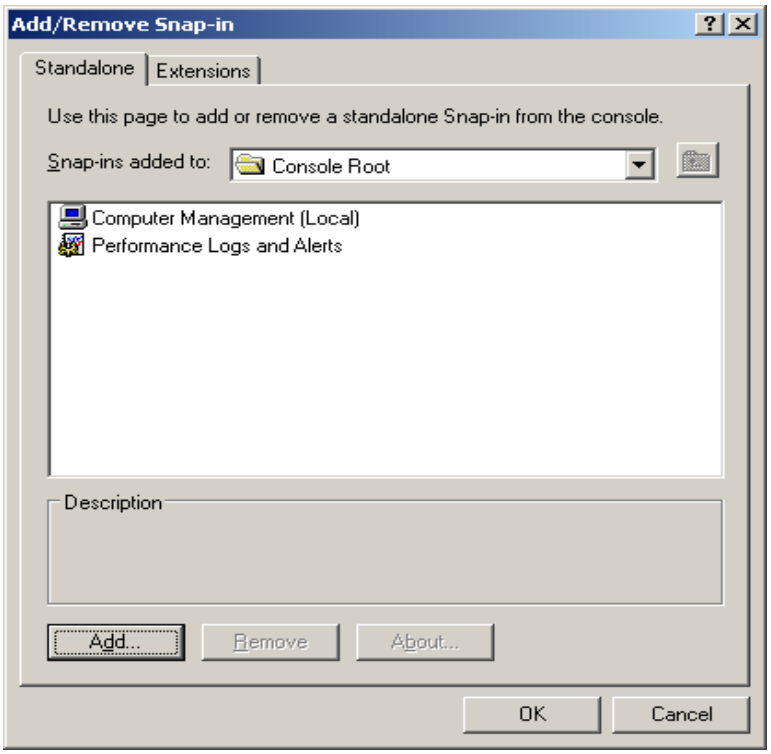
1. If necessary, launch Microsoft Windows XP Professional or Windows Server 2003. On the taskbar, click Start -> Run
2. Type **mmc** and press Enter
3. On the main menu of Console1, click File -> Add/Remove Snap-in...



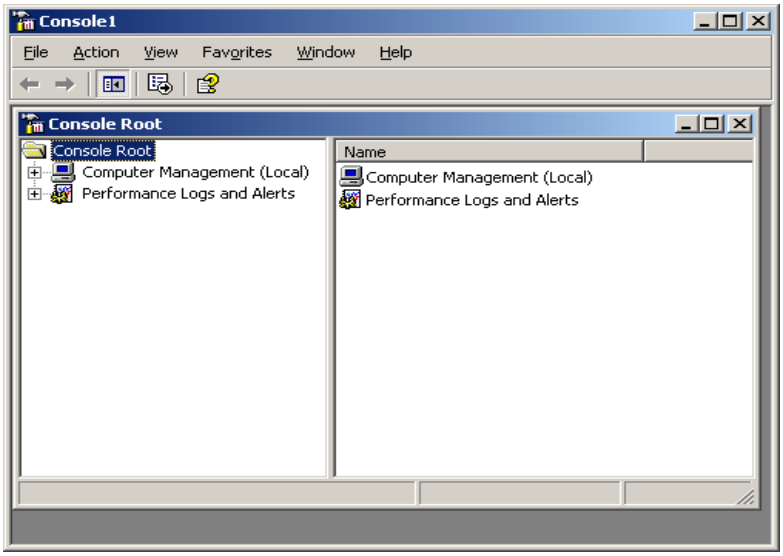
4. Click Add...
5. Under the Snap-In header, click Computer Management and click Add
6. In the Computer Management wizard, accept the **Local Computer** radio button. Click the **Allow the Selected Computer to be Changed**... check box



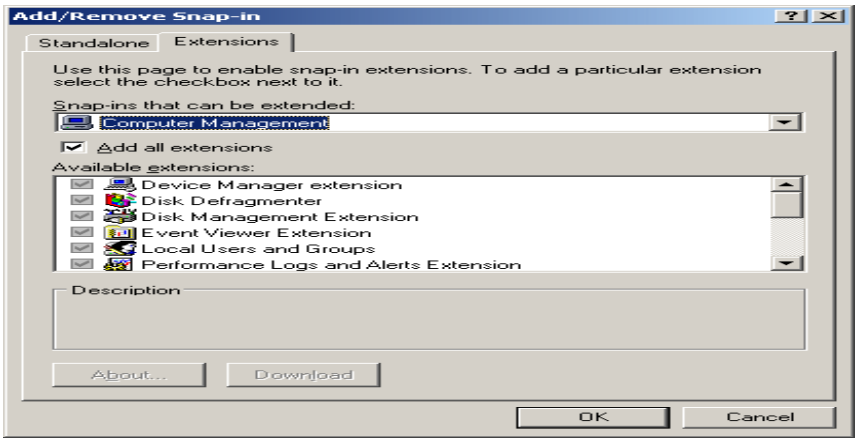
7. Click Finish
8. Once again, in the Add Standalone Snap-in dialog box, click Performance Logs and Alerts) and click Add
9. Click Close



10. Click OK

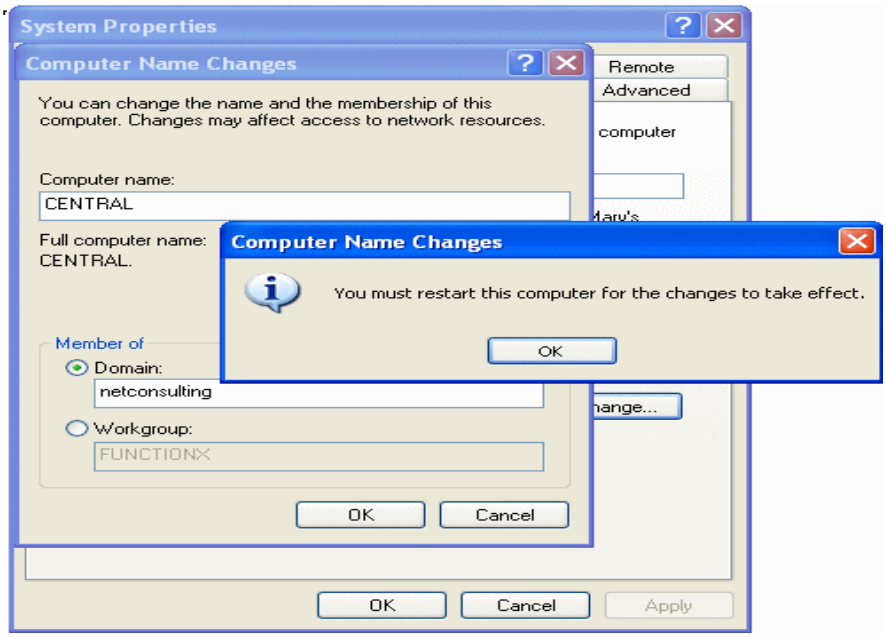


11. To save and click the MMC, on the main menu, click File -> Save As...
12. Set the file name to Computer Performance and click Save
13. To close the MMC, on the main menu, click File -> Exit
14. To reopen the MMC, on the taskbar, click Start -> Run...
15. Type **mmc** and press Enter
16. To open a previously saved MMC, on the main menu, click File -> Open
17. Click Computer Management.msc and click Open
18. To review the current tools available, on the main menu, click File -> Add/Remove Snap-in...
19. In the Add/Remove Snapp-in dialog box, click the Extensions tab and, if necessary, in the combo box, select Computer Management



20. Click OK

1. Once you click OK, you will be asked to restart the computer, which you should do.



   When asked whether you want to restart the computer, click Yes
2. 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
3. If necessary, change the User Name in the top text box.
   In the Password text box, enter the password associated with the user name ➔ Click OK

SECURE FILES AND FOLDERS

I. Sharing folder

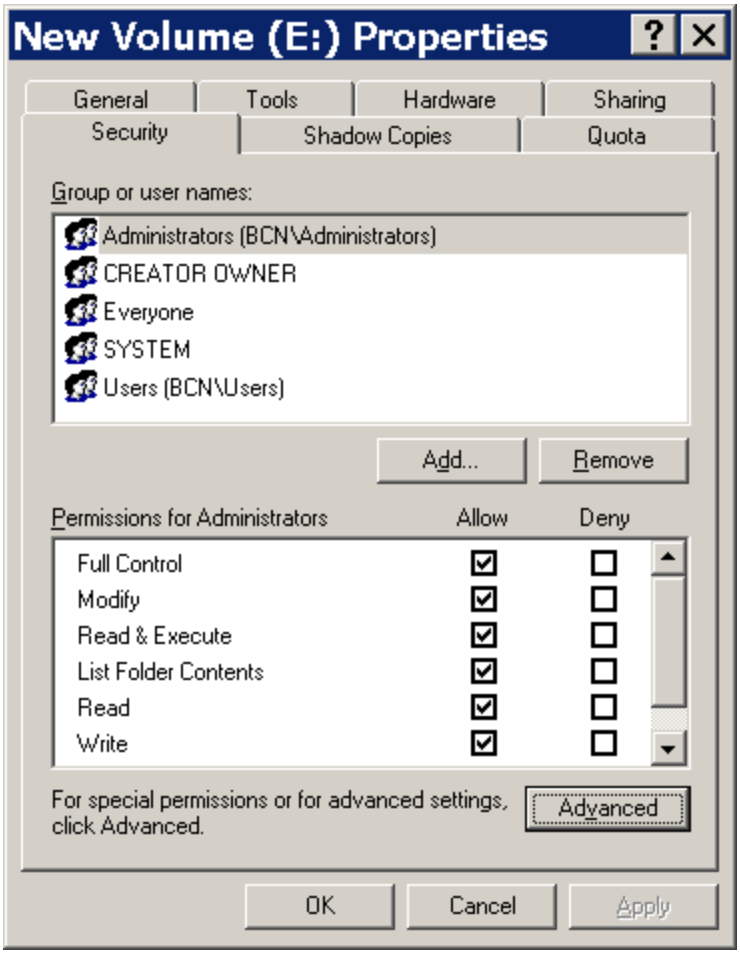
Servers, typically kept in locked rooms, store the company resources (folders, files, documents, spreadsheets, etc). These servers are locked behind closed doors so that the only access that employees have to the resources is over the network. In order for employees to access the resources stored on the servers, the server must be configured to allow the employees to access the resources over the network. For a Windows environment, this is done through shared folders.

You can share and allocate a folder for clients from the server. And you can assign different permissions for the shared folder.

In order to protect the resources that are made available through shared folders, administrators must configure “permissions” for the folders and files that are made available over the network. There are two types of permissions that can be configured on shared folders: share and NTFS

NTFS permissions are an attribute of the folder or file for which they are configured. The NTFS permissions include both standard and special levels of settings. The standard settings are combinations of the special permissions, making the configuration more efficient and easier to establish. These permissions include the following, as shown in Figure below:

- Full Control
- Modify
- Read & Execute
- List Folder Contents
- Read
- Write



NTFS permissions are associated with the object, so the permissions are always connected with the object during a rename, move, or archive of the object.

Share permissions are only associated with the folder that is being shared. For example, if there are 5 subfolders below the folder that is shared, only the initial shared folder can have share permissions configured on it. NTFS permissions can be established on every file and folder within the data storage structure, even if a folder is not shared.

Share permissions are configured on the Sharing tab of the shared folder. On this tab, you will have a Permissions button, which exposes the share permissions when selected, as shown in Figure below.

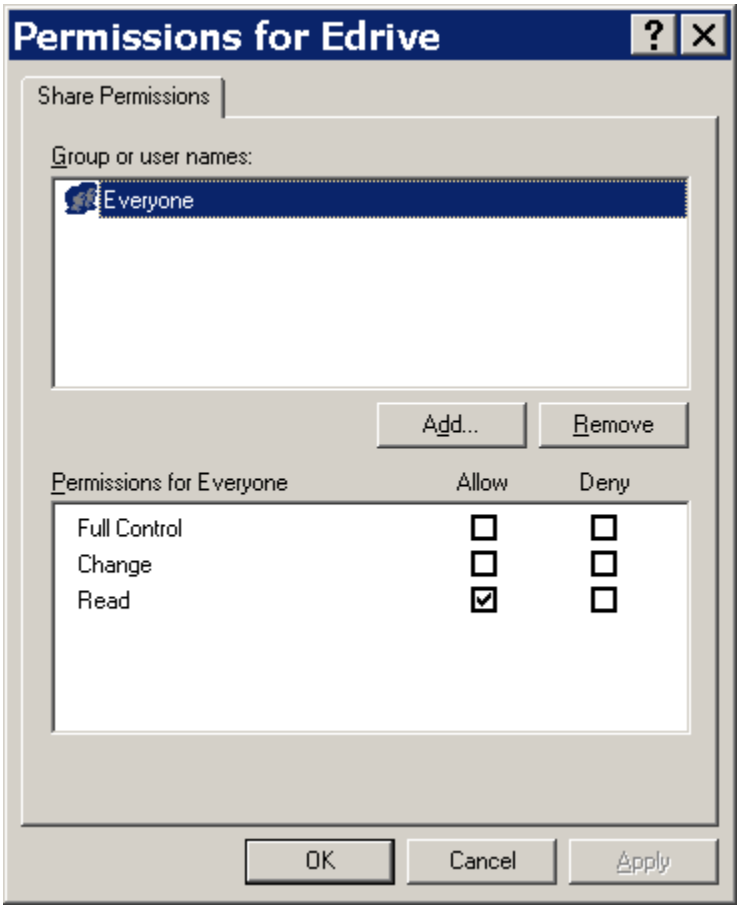


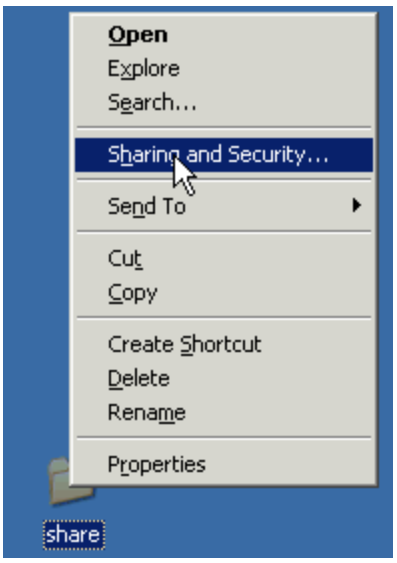
Figure : Share permissions on a shared folder

As you can see, the share permissions standard list of options is not as robust as the NTFS permissions. The share permissions only provide Full Control, Change, and Read. There are no special permissions available for share permissions, so the standard permissions are as granular as you can go for this set of access control.

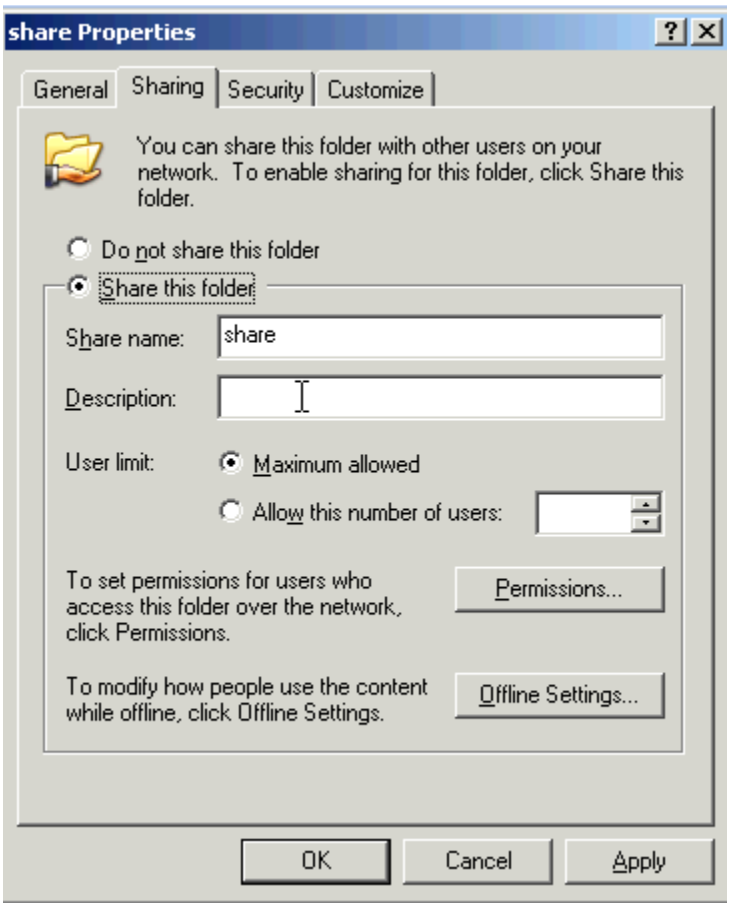
The share permissions are not part of the folder or file, so when the share name is changed, the folder is moved, or the folder is backed up, the share permissions are not included. This makes for a fragile control of the share permissions if the folder is modified.

Steps to share folders

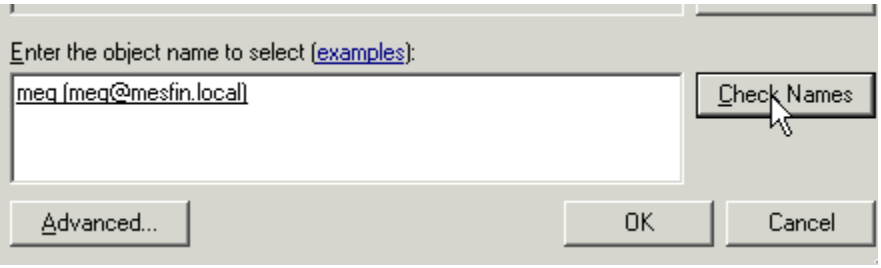
1. **Right click on the folder you want to share and click on Sharing and Security…**



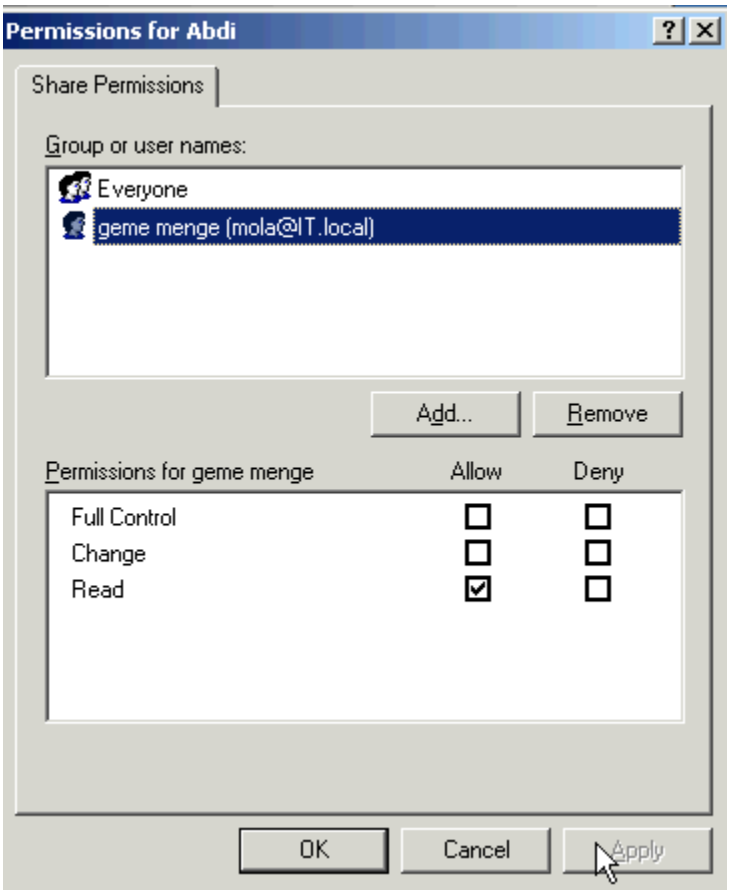
2. Check share this folder option button under Share properties window and assign share name and user limit as needed. Then click on Permissions… Button



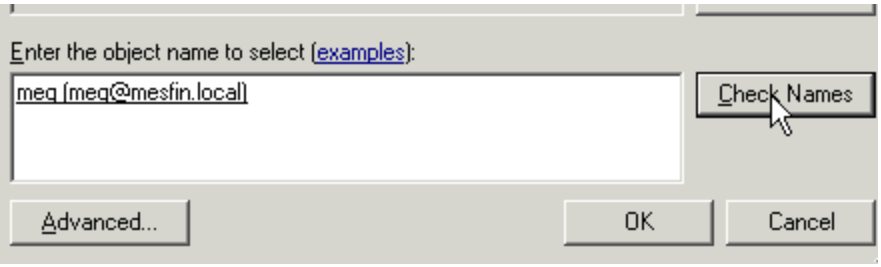
3. **Remove everyone and add the user you want and click ok**



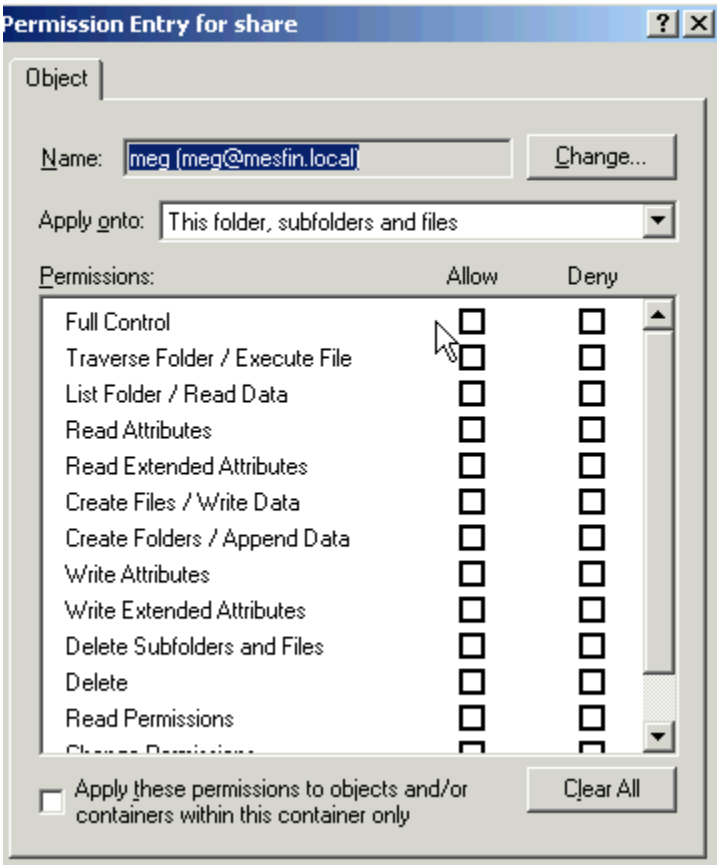
4. **Assign the share permissions by checking on permissions check box then click Apply and ok**



5. **Under Security tab Click Add button to add a user in the list**



6. **Select the user and check the necessary security permissions you want to assign for that user and click Apply then click ok.**

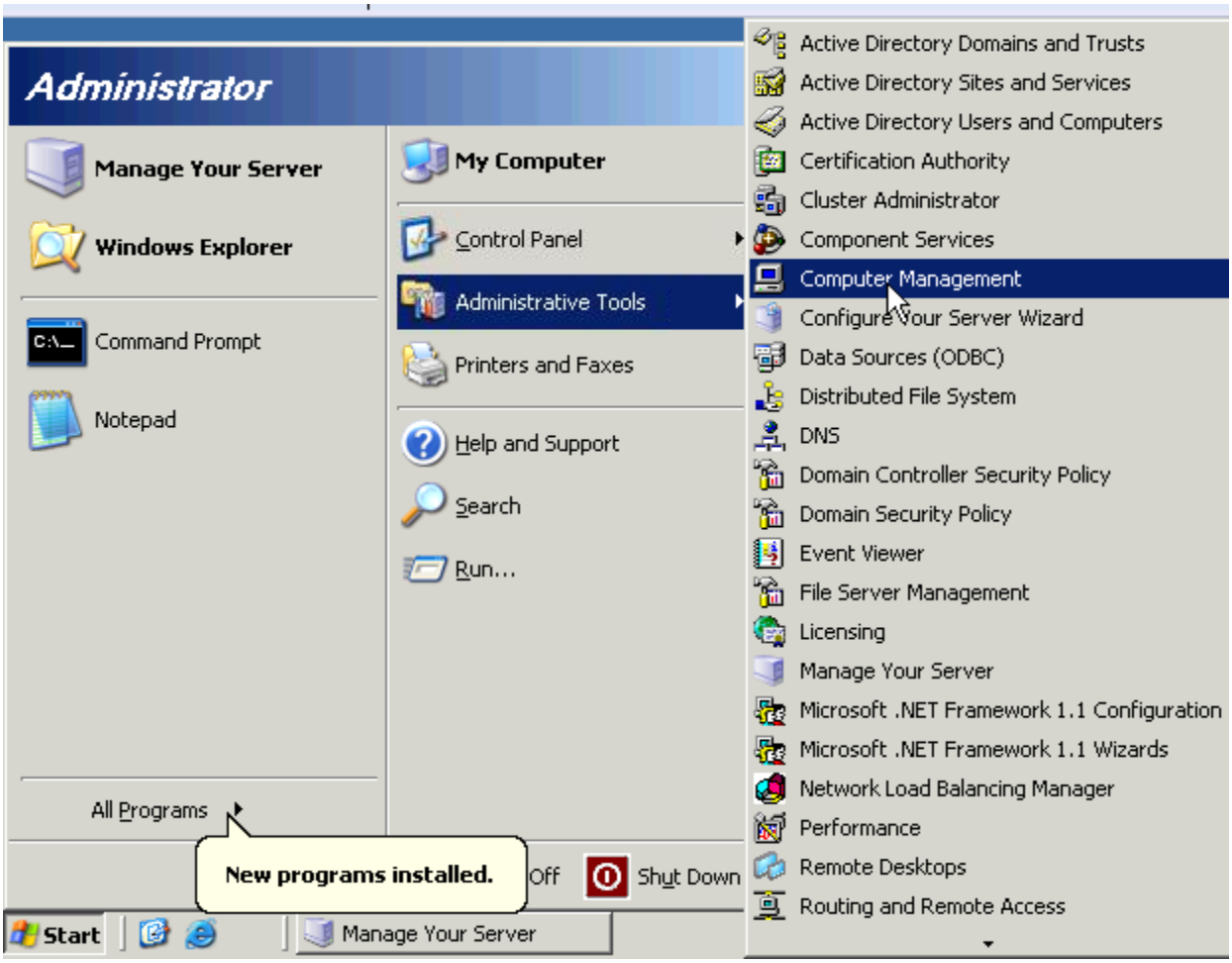


Then the user can acess the shared file with its assigned security permissions.

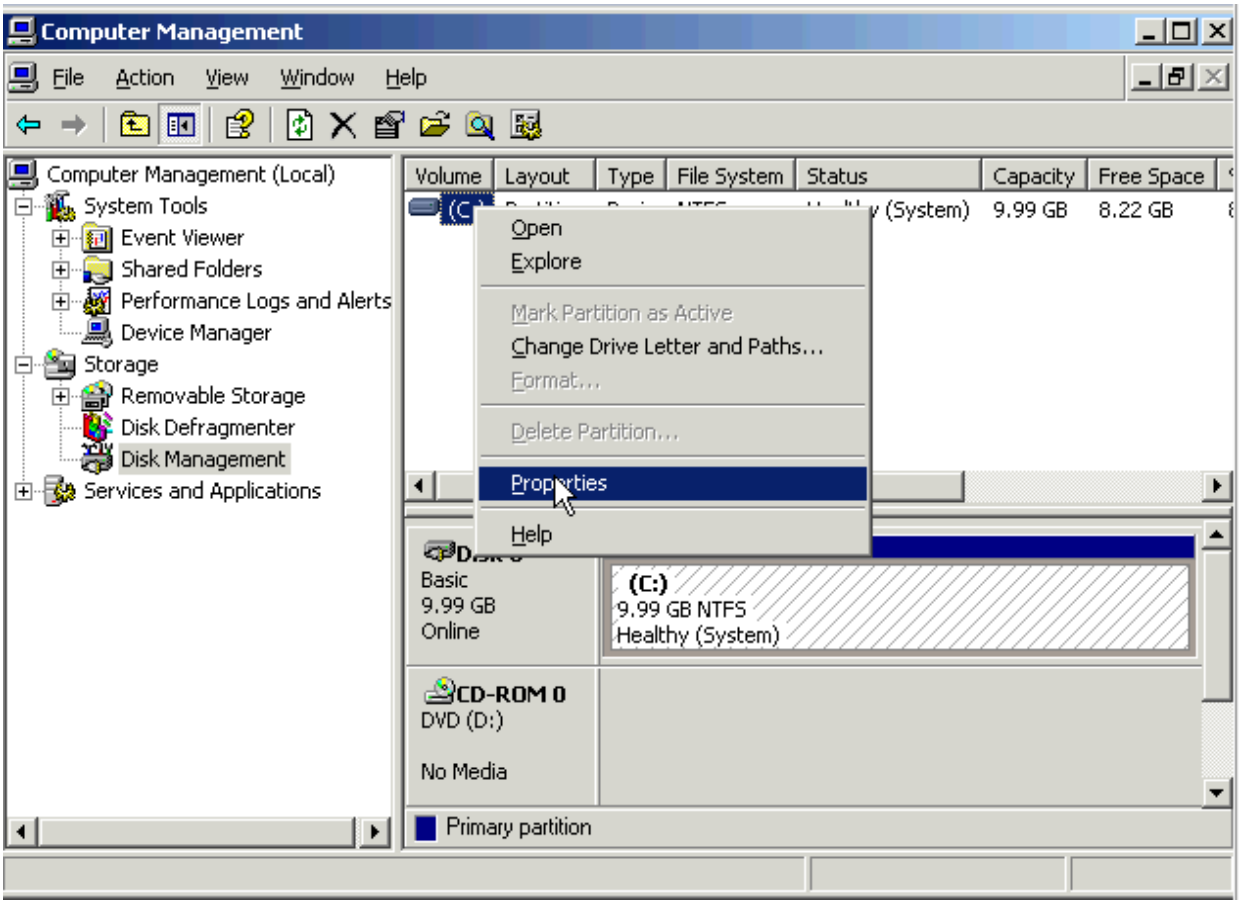
Assigning disk quota

Sometimes you need to assigned disk quota for clients to use from the server. Then you can specify the disk size you assign for the client by following the following steps.

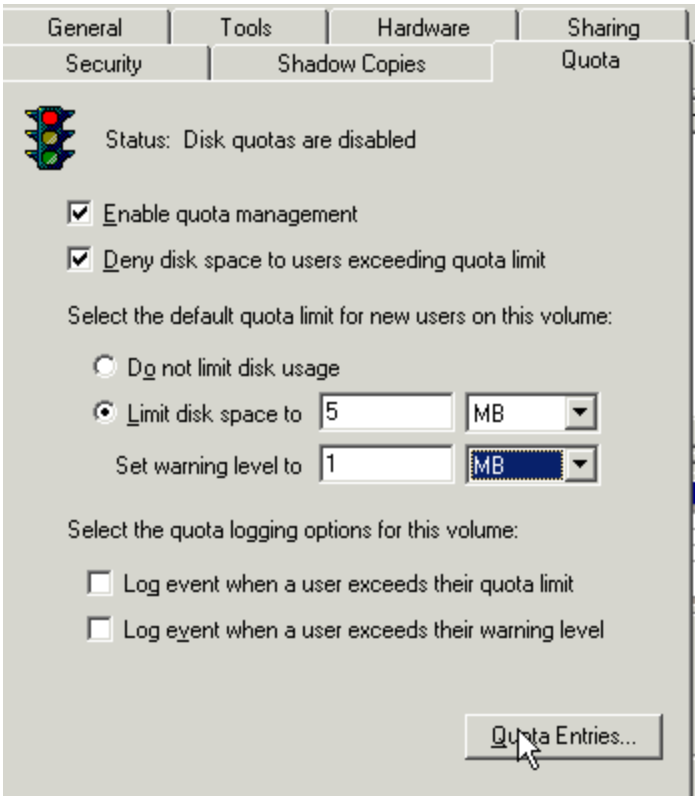
1. **Go to Start → then Administrative tools → then click on Computer Management**



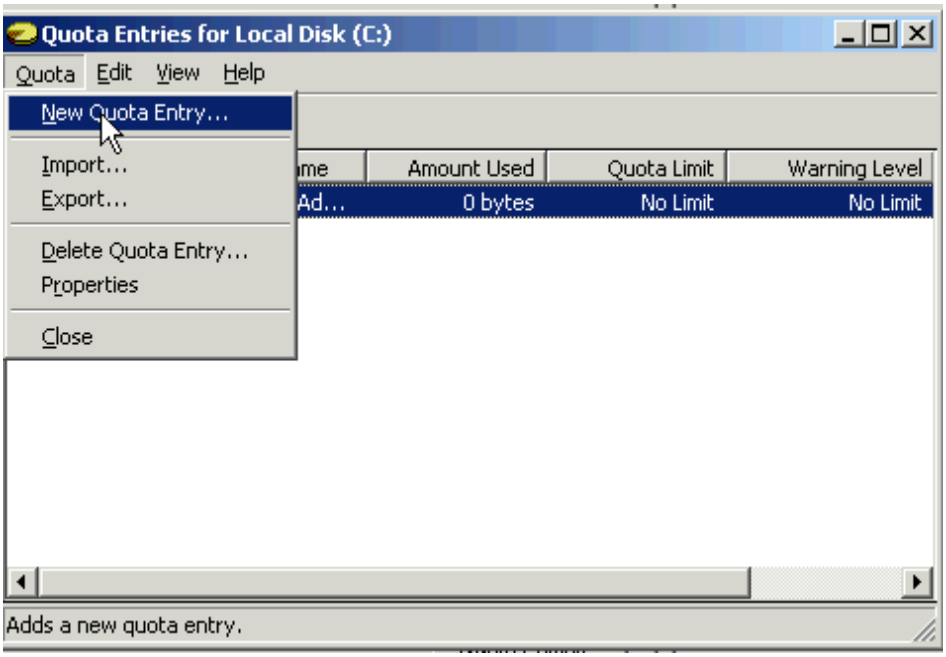
2. **Under computer management window click on Disk Management right click on the C:/ drive then click on properties**



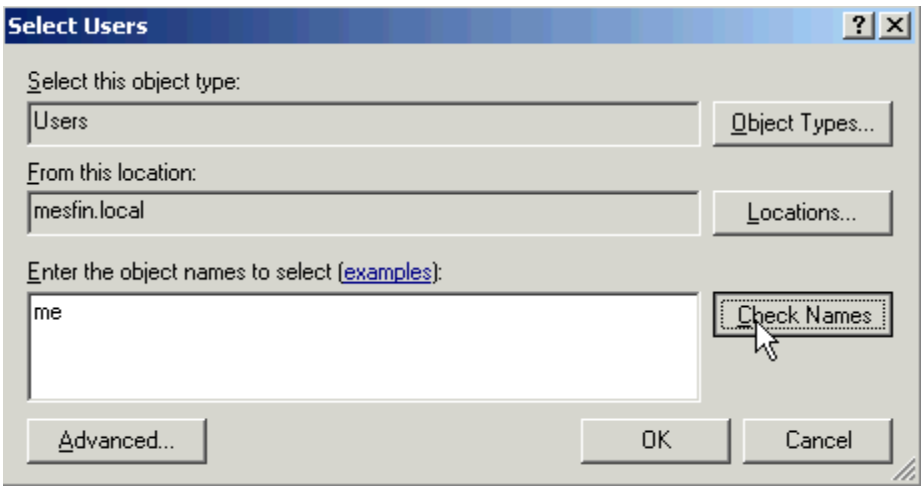
3. **Under Disk management properties window click on Quota tab and check on The Enable quota management and Deny disk space to users exceeding quota limit check boxs and check on Limit disk space to option button and assign the maximum disk space you need to allocate for the user then click on Quota Entries… button.**



4. **Click on Quota menu bar and click on New Quota Entry… under quota entries for Local disk (C://) window**



5. **Under user select window Add the user you want to assign the disk quota write the user name under enter the object names to select Text area and click on Check Names button then click ok**



6. **Under New quota entry window click on Limit disk space to option button and write the amount of space you want to allocate and write the set warning level to boxes then click apply then click ok**



7. **Click ok and apply as necessary to finalize the quota allocationthen the quota aloocated to the user**

WHAT IS IIS?

Internet Information Services 6 (IIS 6) is a powerful platform for hosting web sites on both the public Internet and on private intranets

WHAT IS HTTP?Its purpose?

HTTP (port 80): HTTP stands for HyperText Transfer Protocol, an Internet protocol that enables the distribution of hypertext documents. Hypertext is text that is specially coded using a standard system called Hypertext Markup Language (HTML). The HTML codes are used to create links. These links can be textual or graphic, and when clicked on, can "link" the user to another resource such as other HTML documents, text files, graphics, animation and sound. HTTP is based on the client/server principle. HTTP allows a client to establish a connection to an HTTP server (also known as a web server) and make a request. The server accepts the connection initiated by the client and sends back a response. An HTTP request identifies the resource that the client is interested in and tells the server what "action" to take on the resource. When a user selects a hypertext link, the client program (also known as a web browser) on the client computer uses HTTP to contact the server, identify a resource, and ask the server to respond with an action. The server accepts the request, and then uses HTTP to respond to or perform the action.

WHAT IS FTP? Its purpose?

FTP

FTP stands for File Transfer Protocol. This is both a program and the method used to transfer files between computers. Anonymous FTP is an option that allows users to transfer files from thousands of host computers on the Internet to their personal computer account. FTP sites contain books, articles, software, games, images, sounds, multimedia, course work, data sets, and more.

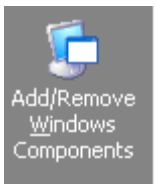
If your computer is directly connected to the Internet via an Ethernet cable, you can use one of several PC software programs, such as WS_FTP for Windows, to conduct a file transfer.

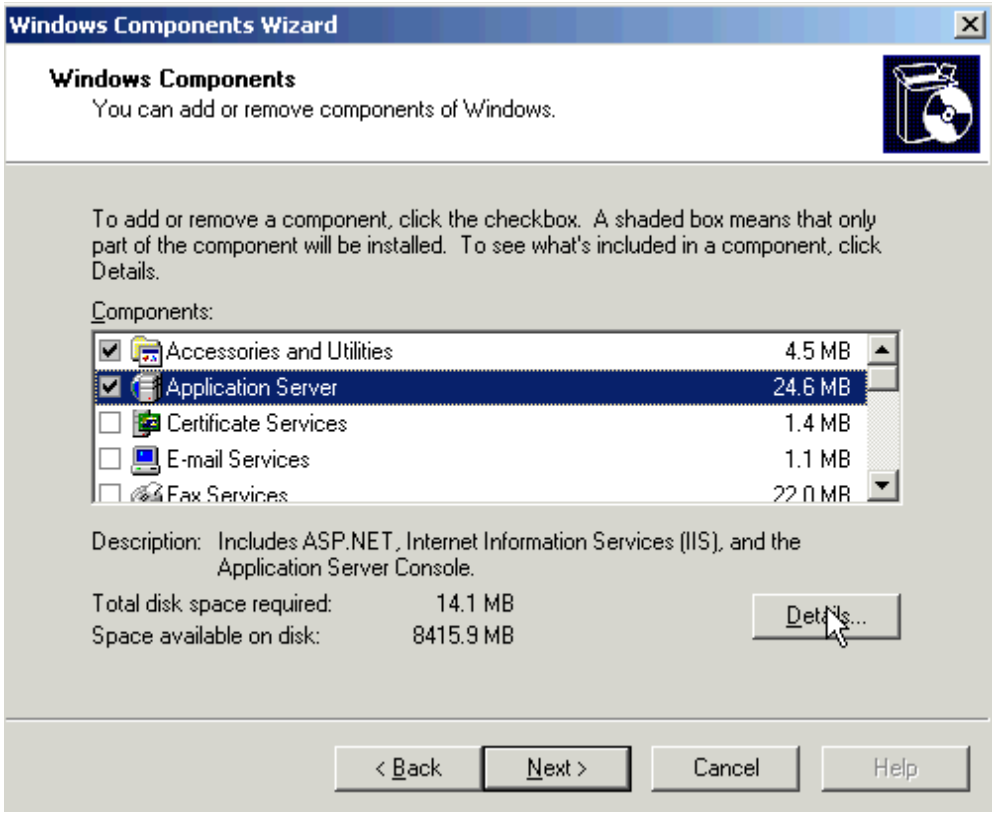
FTP transfers can be performed on the World Wide Web without the need for special software. In this case, the Web browser will suffice. Whenever you download software from a Web site to your local machine, you are using FTP.

Sharing file by using IP address (FTP)

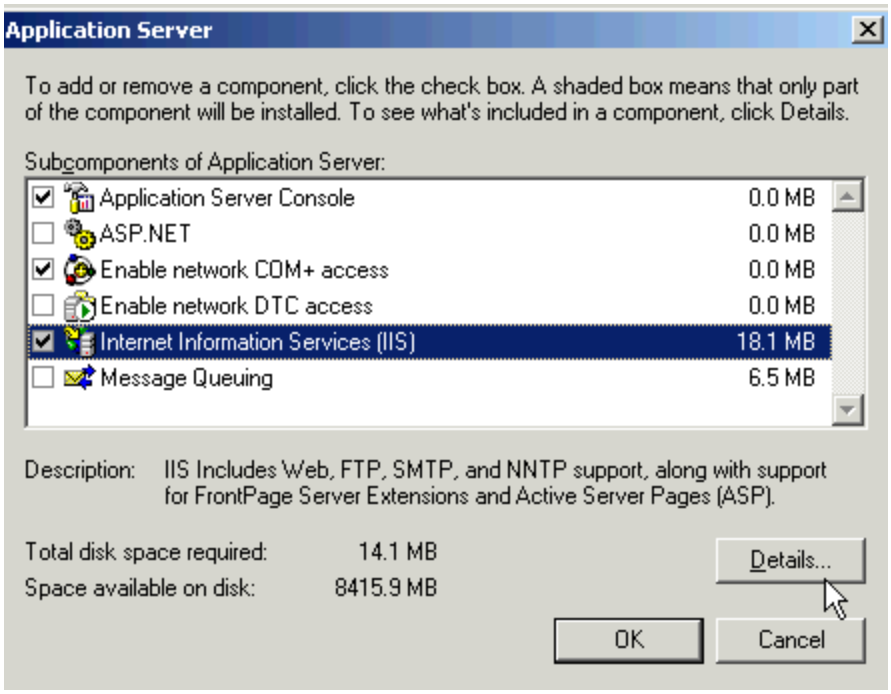
Install IIS under windows components in Add and remove window

1. Click on start  on server
2. Click on Add and remove programs

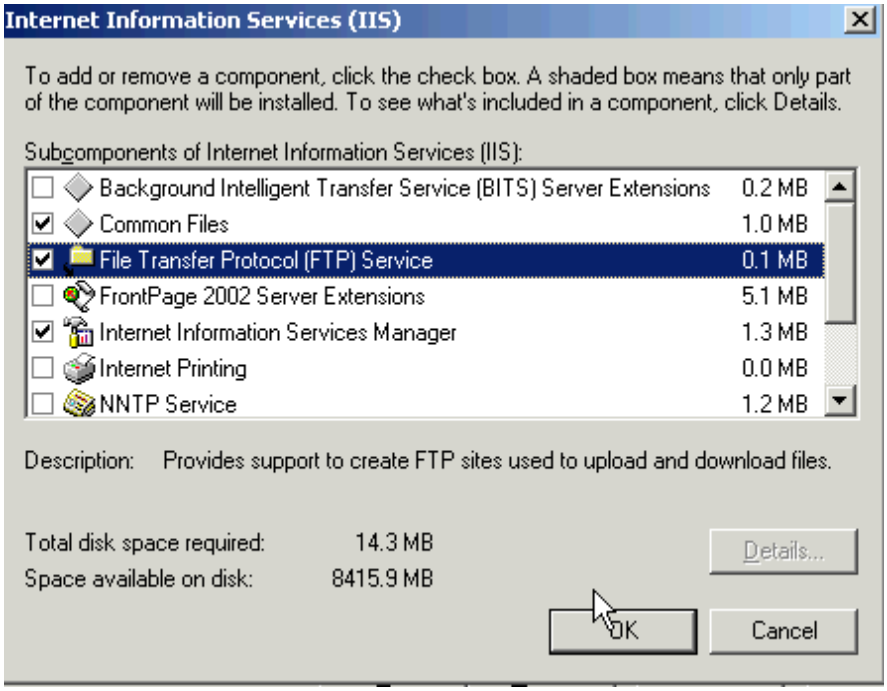
3. Click Add/Remove windows components 



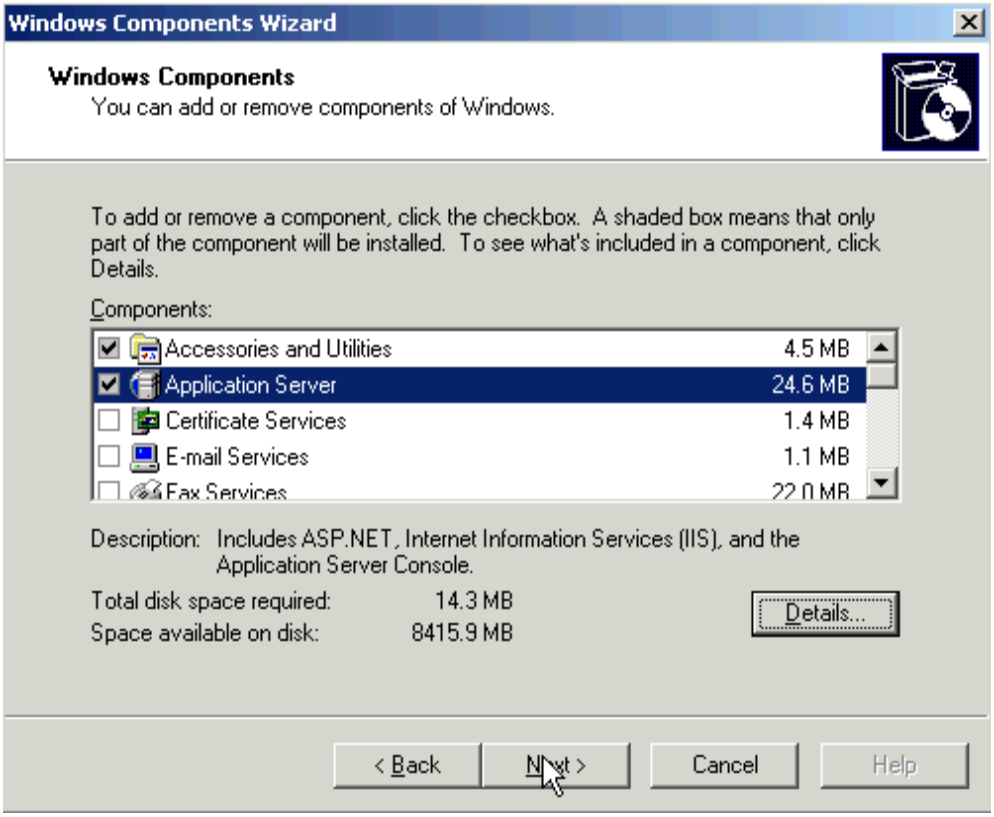
4. Check ***Application server*** under Windows Component wizard and click ***Details*** ... button



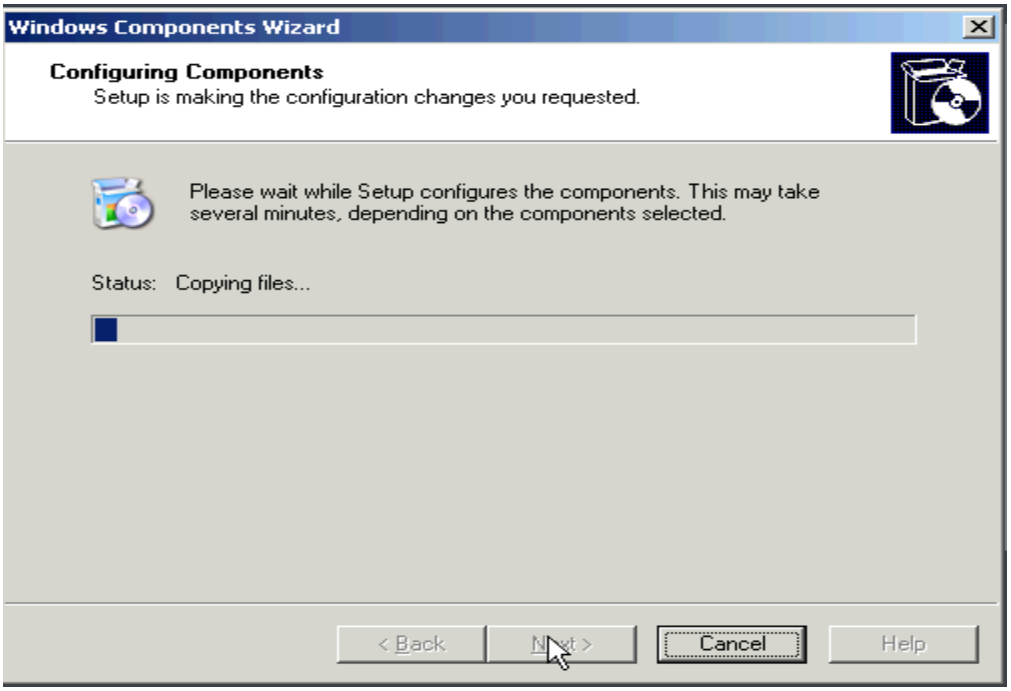
5. Check ***Internet Information Services (IIS***) under Application server window and click **Details** ...



6. Check ***File Transfer Protocol (FTP) service*** under Application server window and click **Ok**
7. Click ok under Application server window



8. Then click ***Next*** under **Windows Components wizard**

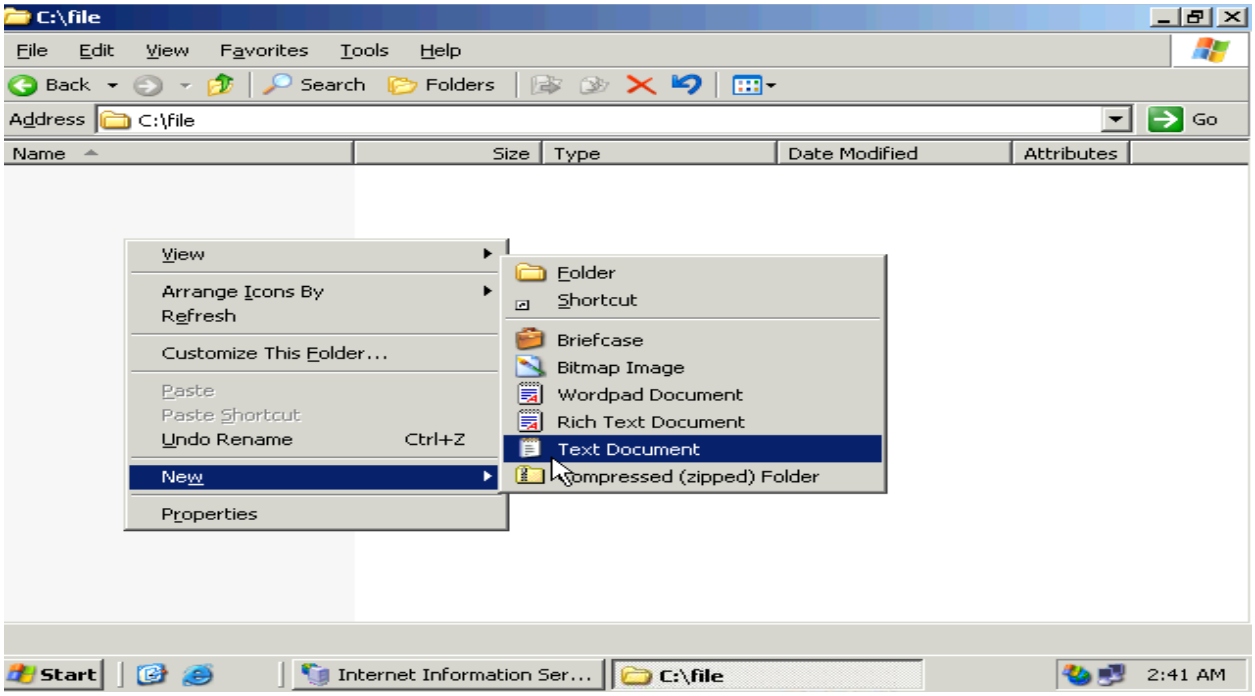


9. Configuring components starts and please wait until the setup configure the component
10. Insert Windows server CD when the installation request you to insert the CD

11. When the components installation finalized **completing the windows components wizard** displayed.



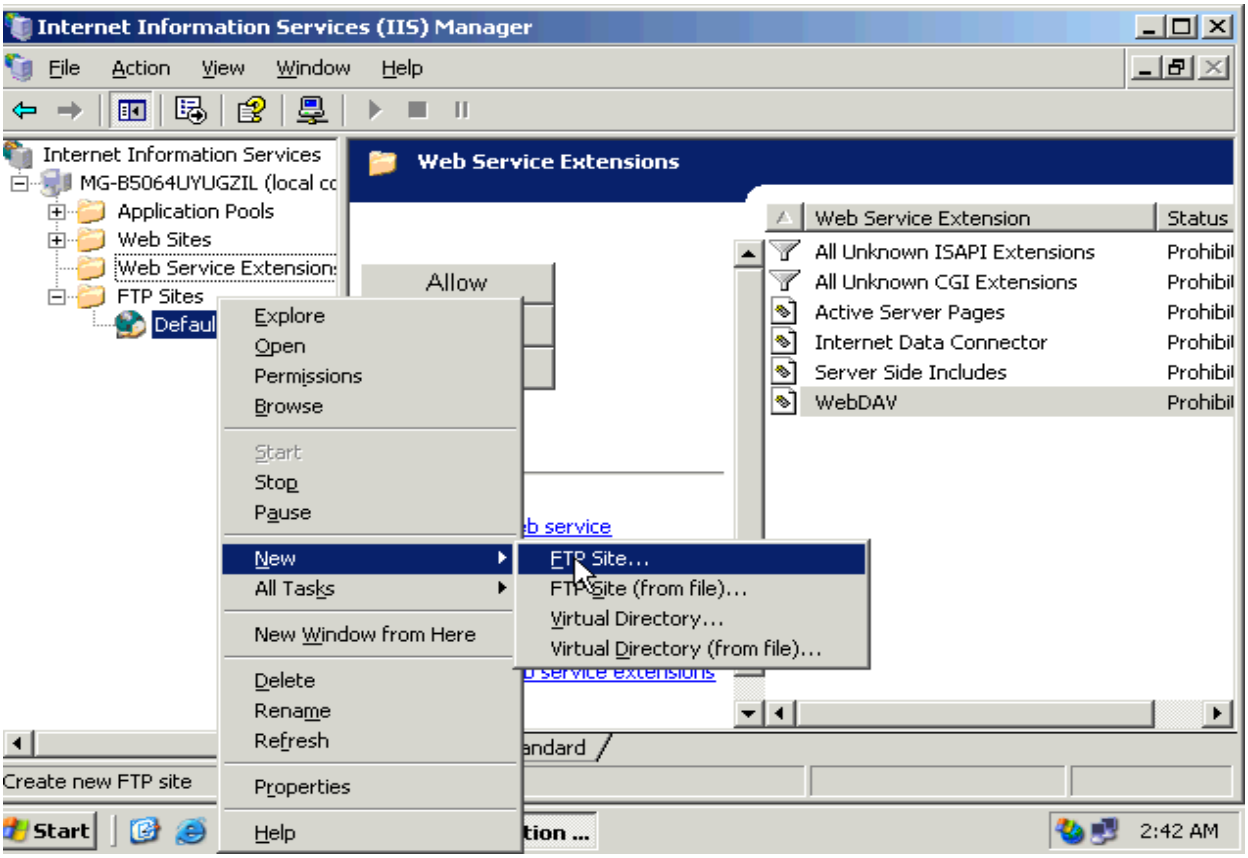
12. Click finish to finalize the installation
13. Create a file that you want to share using FTP under C:/



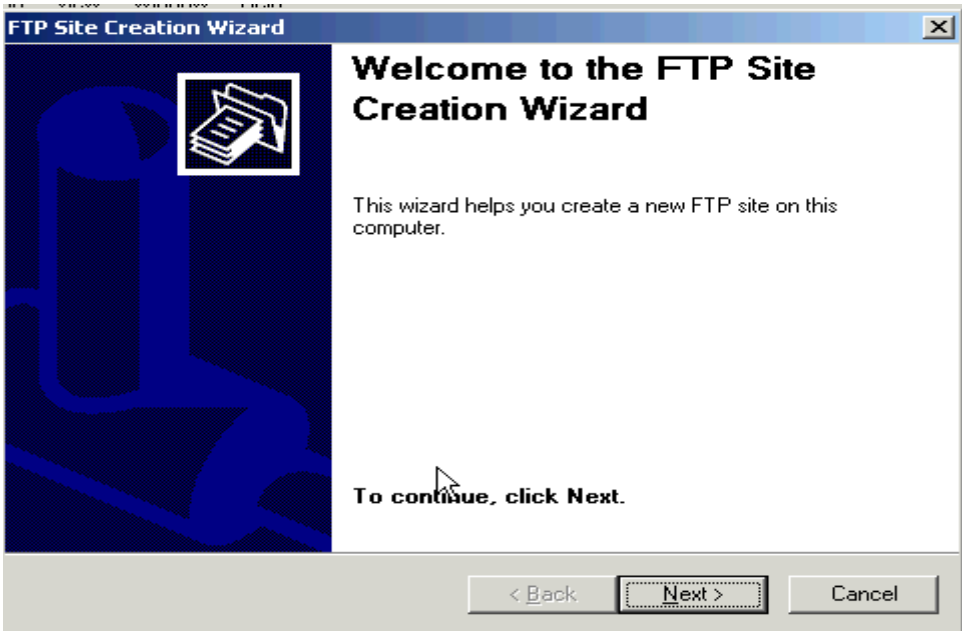
14. Then go to IIS by clicking on start



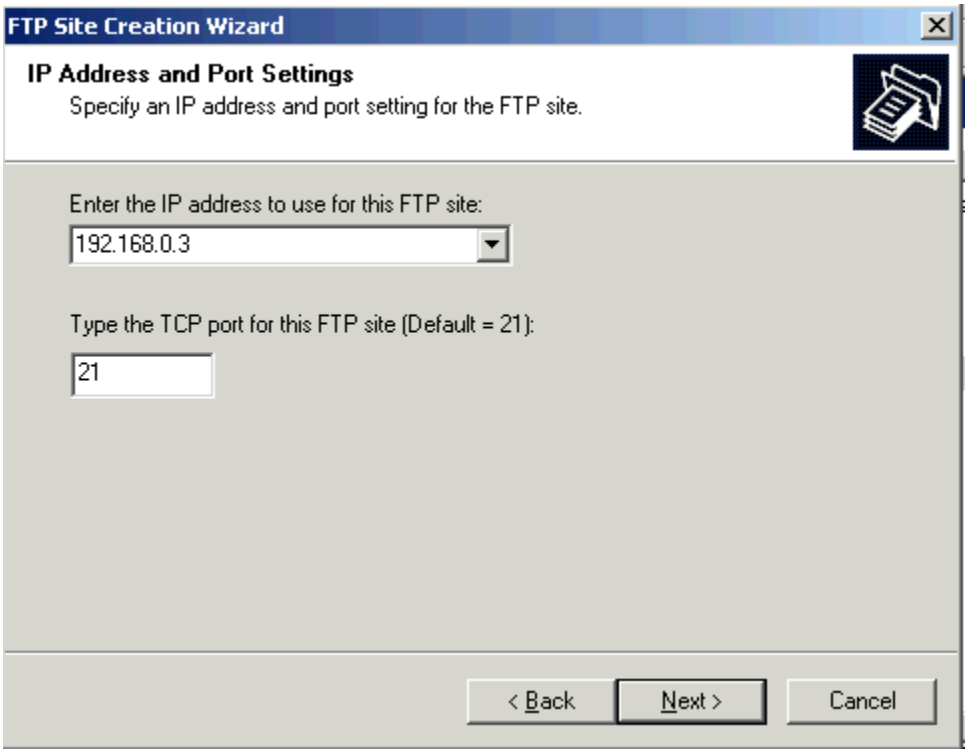
15. Then IIS window opened and Right click on FTP Sites and go to New then Click FTP Site…



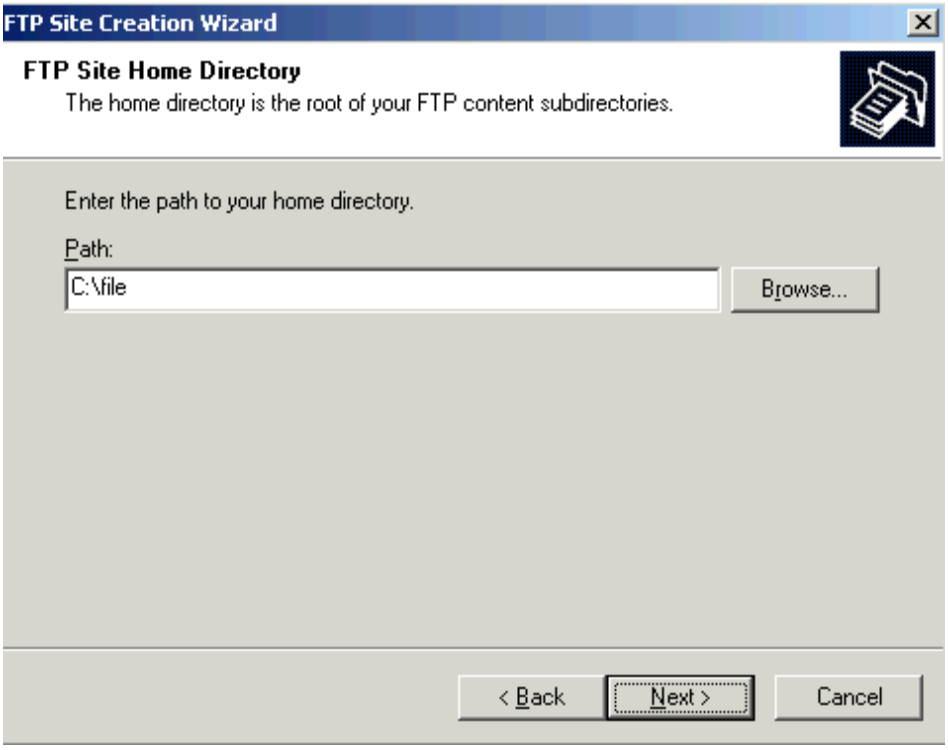
16. FTP Site Creation Wizard opened click Next



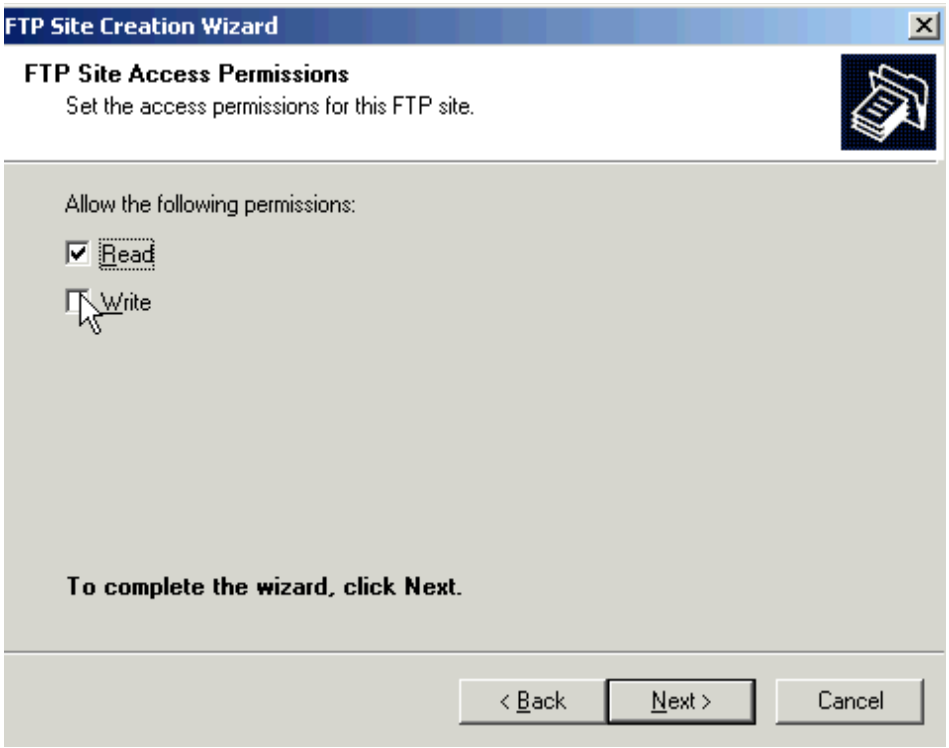
17. Under **FTP Site Description Type the File description** of the FTP site and click **Next**
18. Enter **IP Address** to use for the FTP site and click **Next**



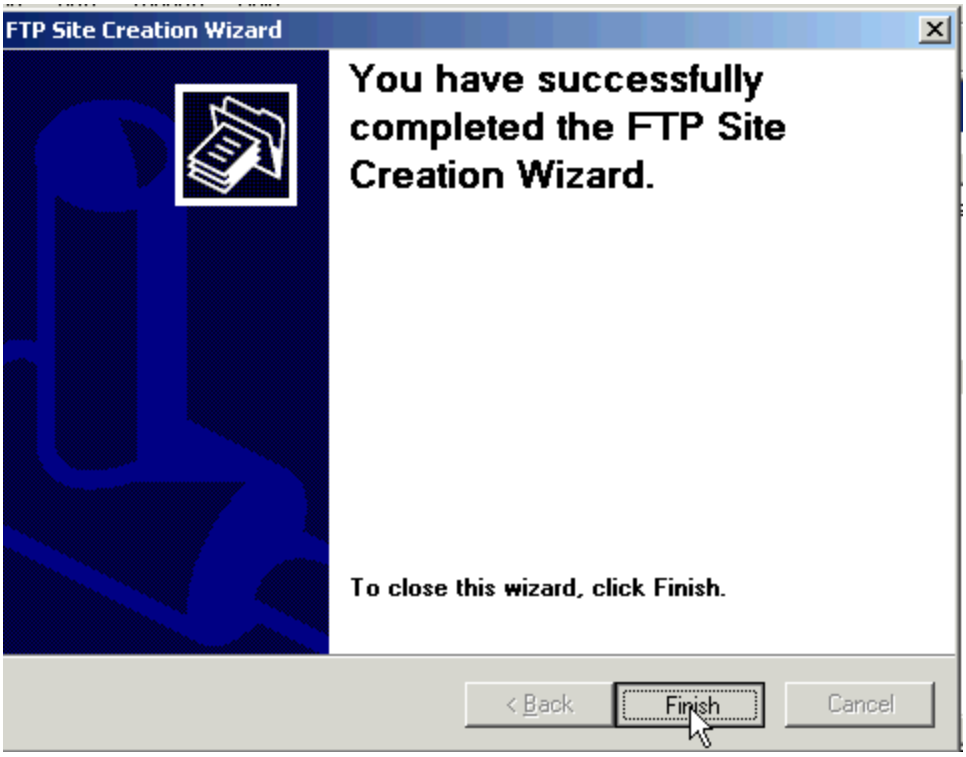
19. Click Next
20. Under FTP Site Home Directory window Enter the path of your File location and click Next



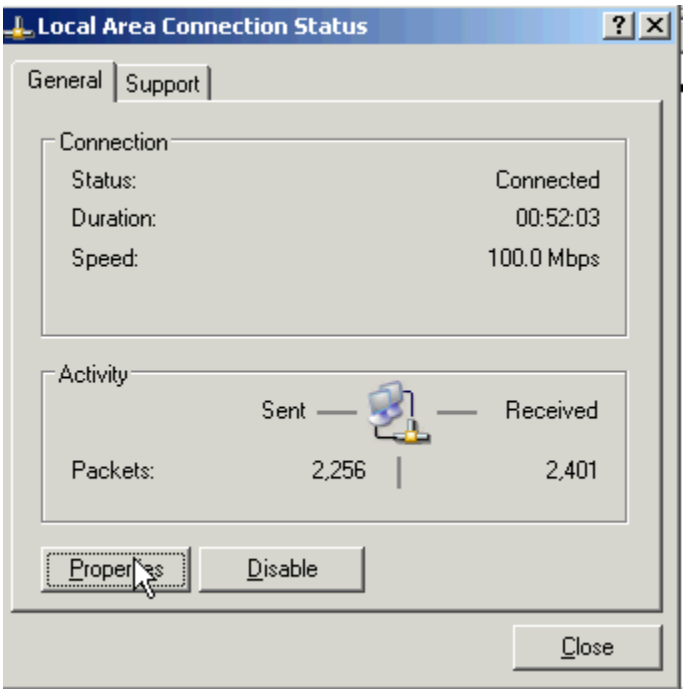
21. Assign file site access permissions and click Next



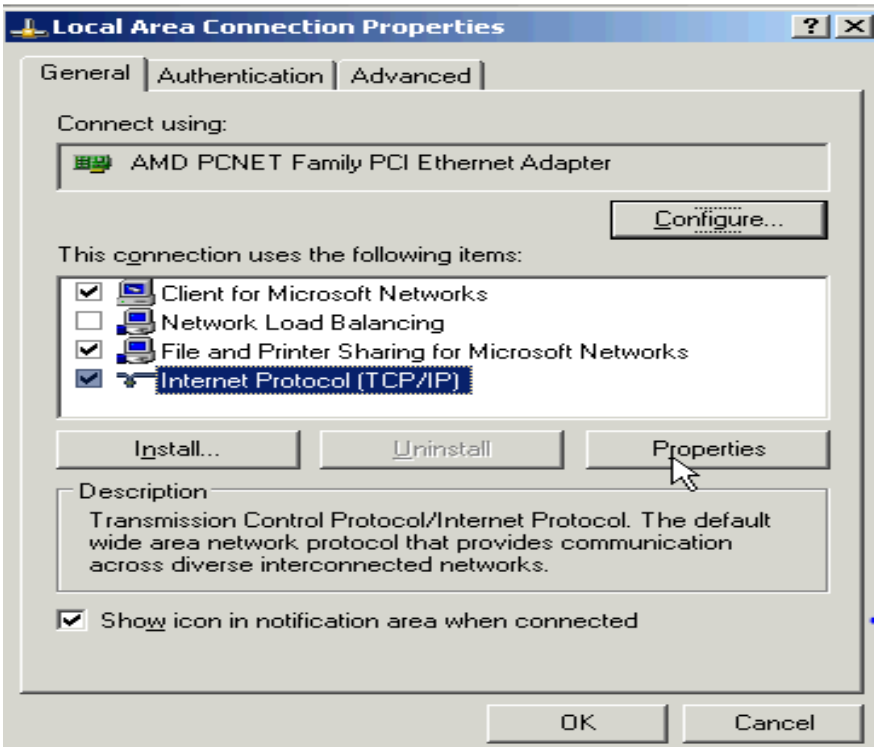
22. Finally click Finish



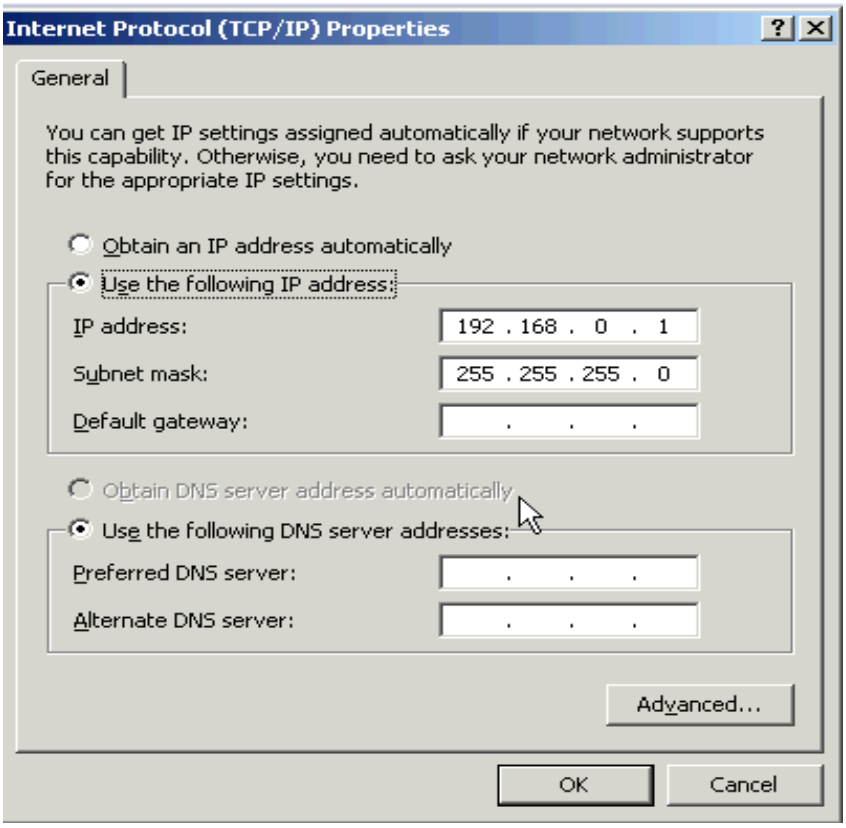
23. Then Go to Local Area Connection Status and click Properties



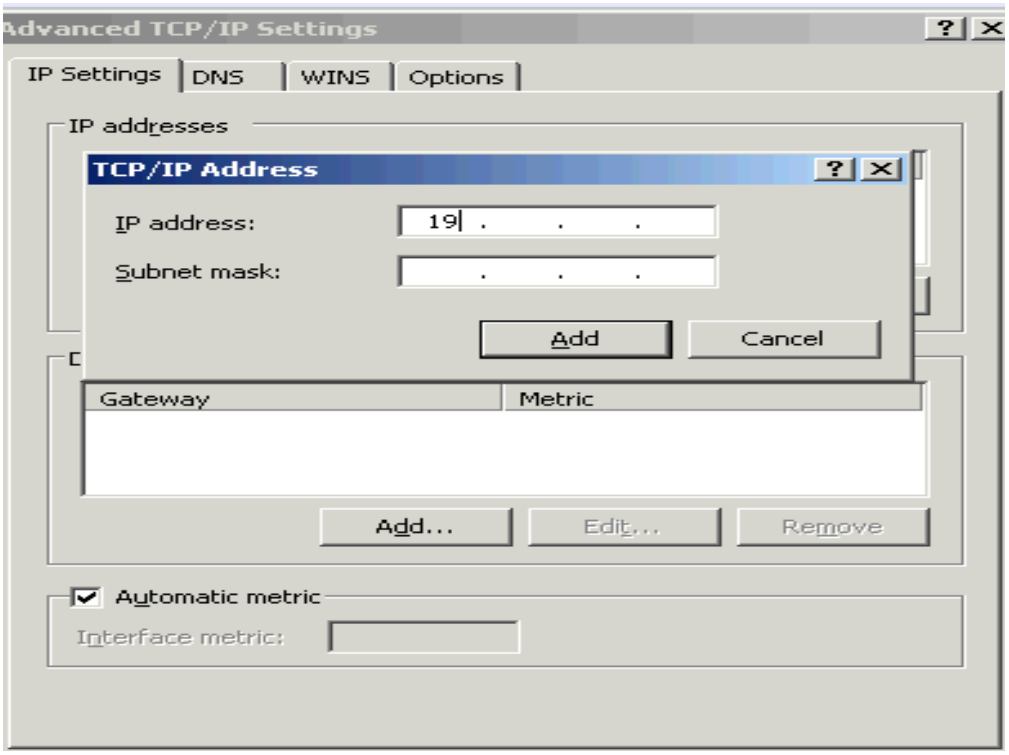
24. Click on Internet Protocol (TCP/IP) and click Properties



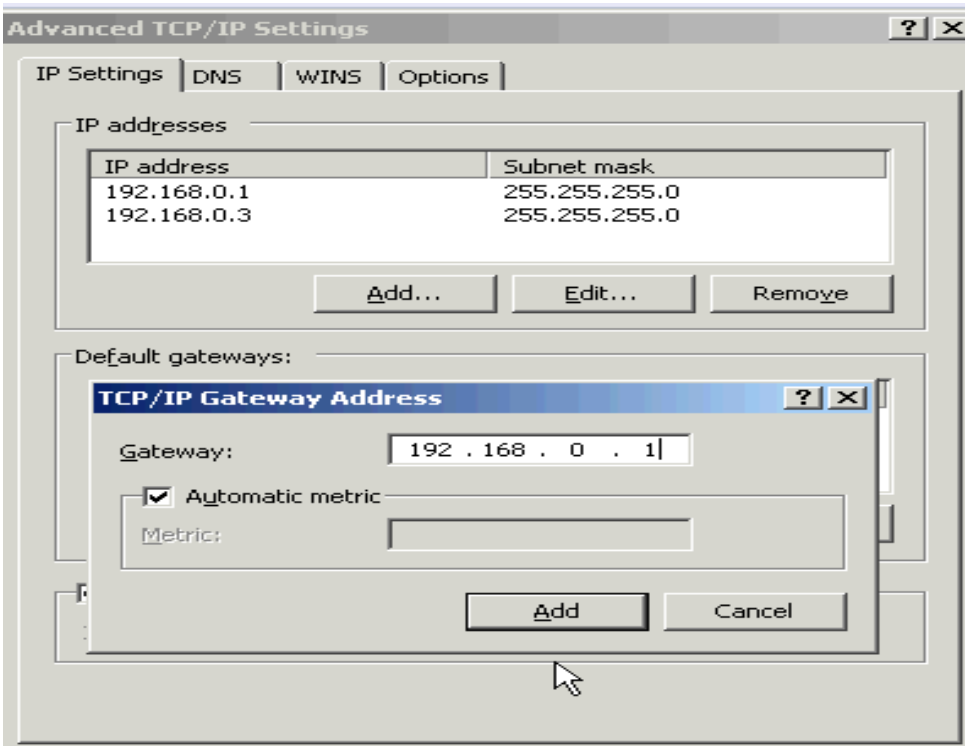
25. TCP/IP properties and click Advanced button



26. On Advanced TCP/IP Settings Click Add button under IP address frame and Enter the IP address of your FTP file you assigned with subnet mask and click Add



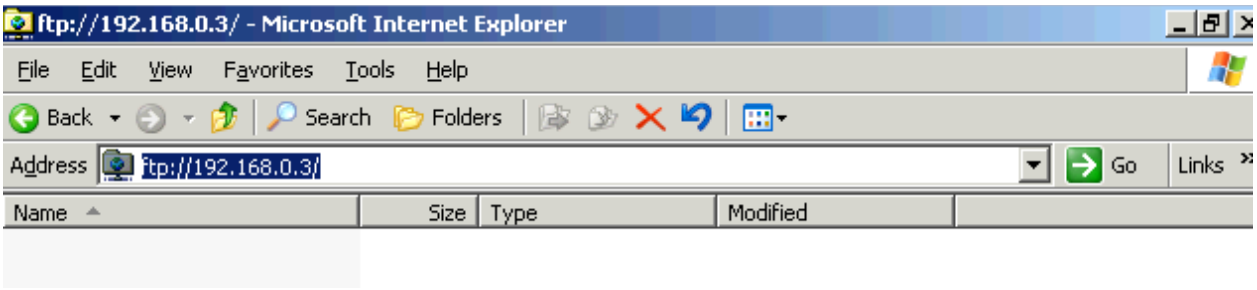
27. Click Add button under Default getaways frame and enter the IP address of your default getaway then click Add button finally



28. Then click ok two times and finally click Close

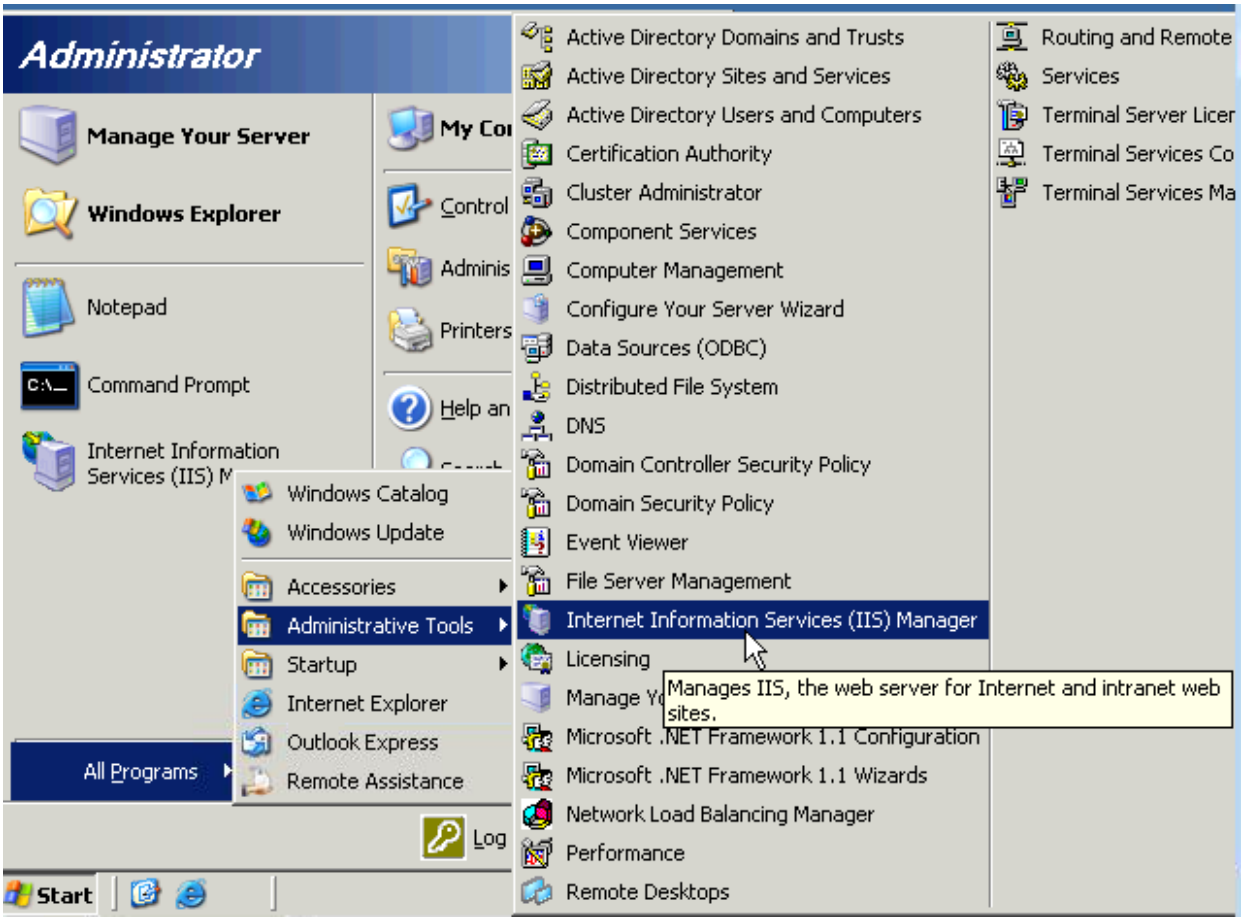
Step IV

Open your browser (Internet explorer) and type **ftp://adressoftheftp** example **ftp://192.168.0.3** on the address bar of the browser and click go or press enter from keyboard

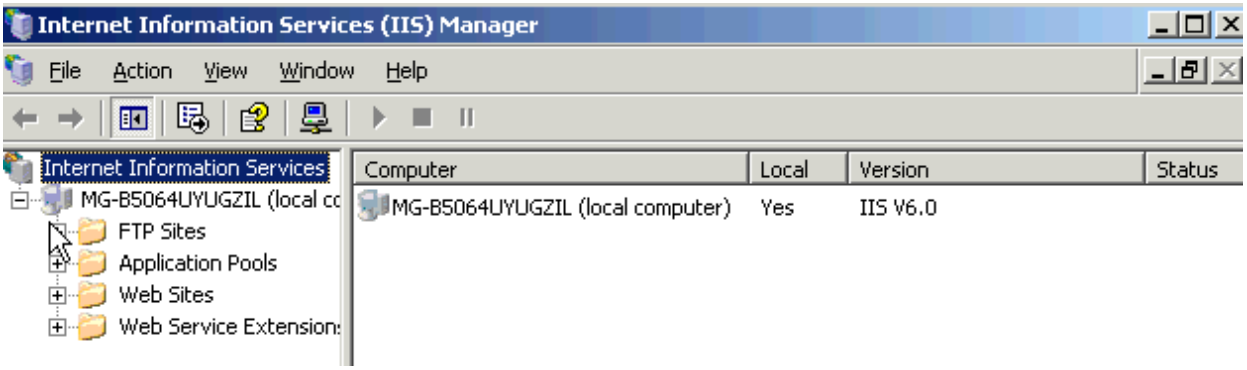


Sharing webpage

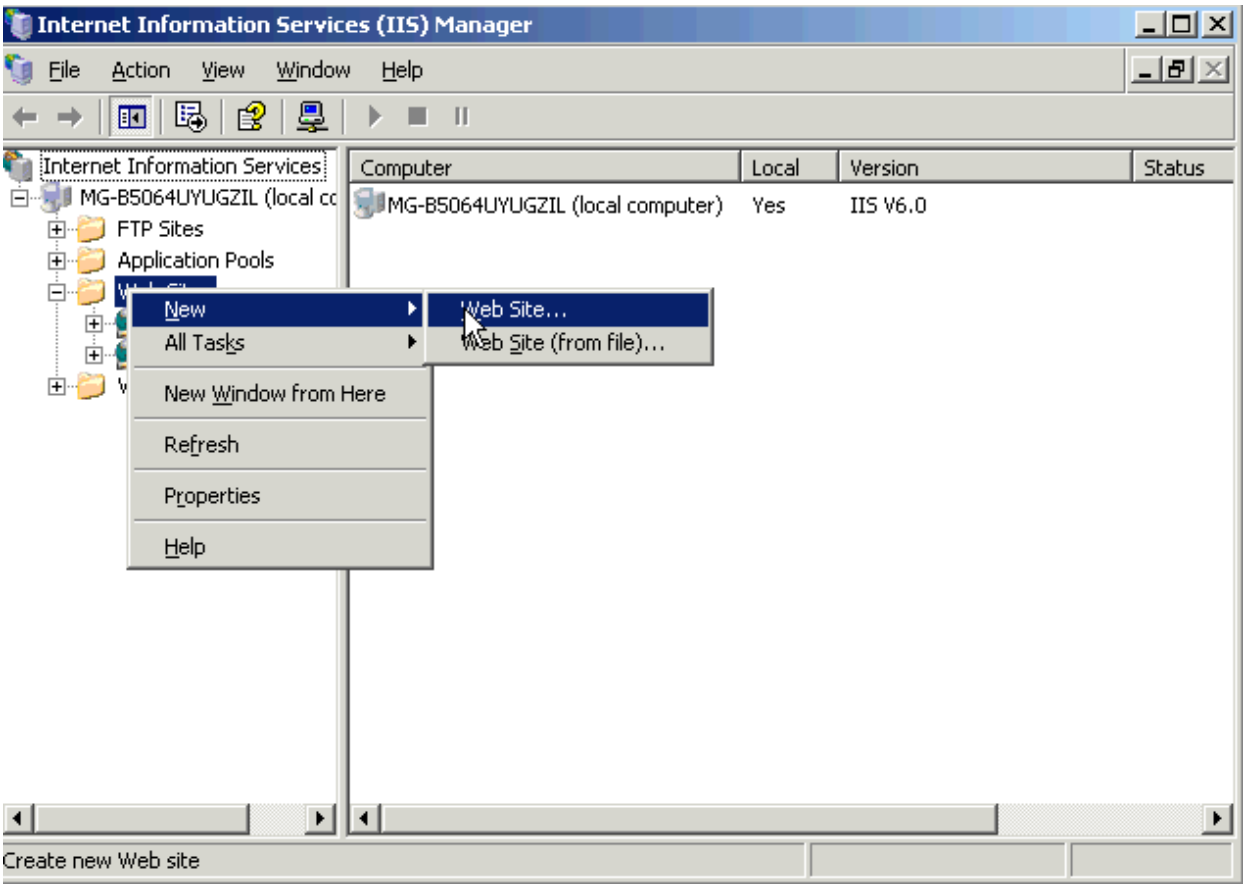
1. Create and save a webpage under C:/your folder/
2. Go to Internet Information Services (IIS) Manager



3. IIS manager windows opened

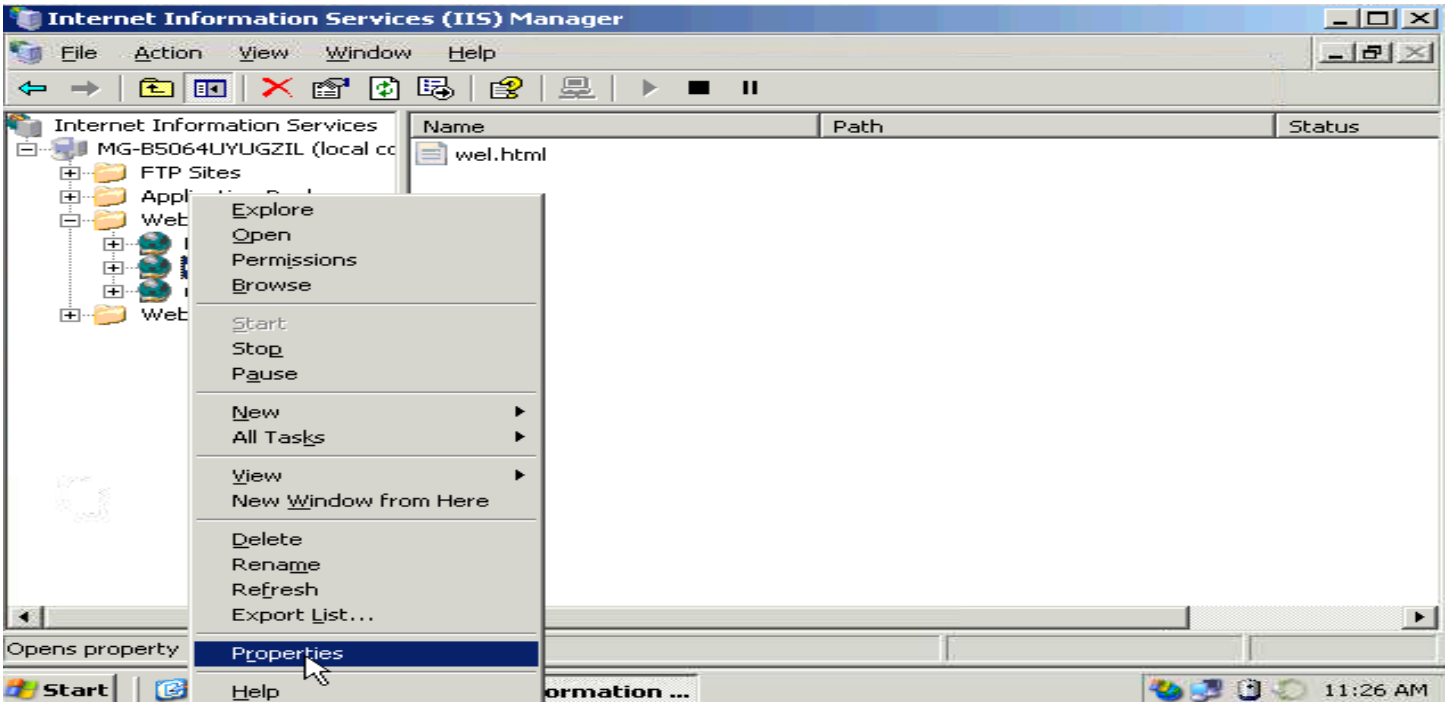


4. Right click on Website and locate on New then click on Website

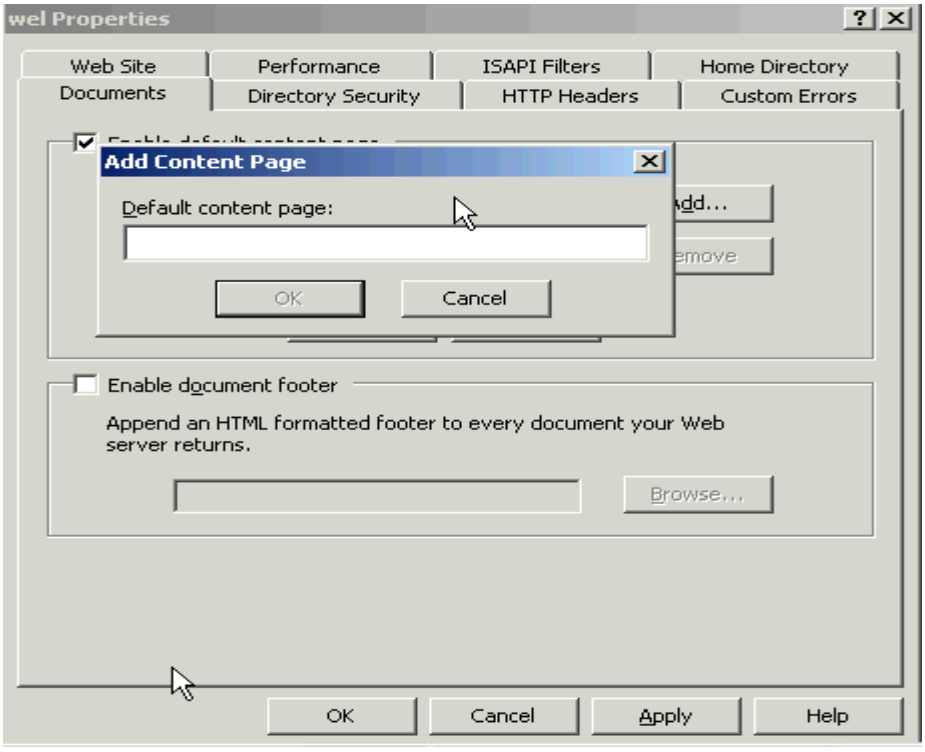


5. Website creation wizard opened then click Next
6. Enter the description of the website and click Next
7. Enter the IP address for your website and click next
8. Show the path of your website and click Next
9. Set website access permissions and click Next
10. Finally click Finish

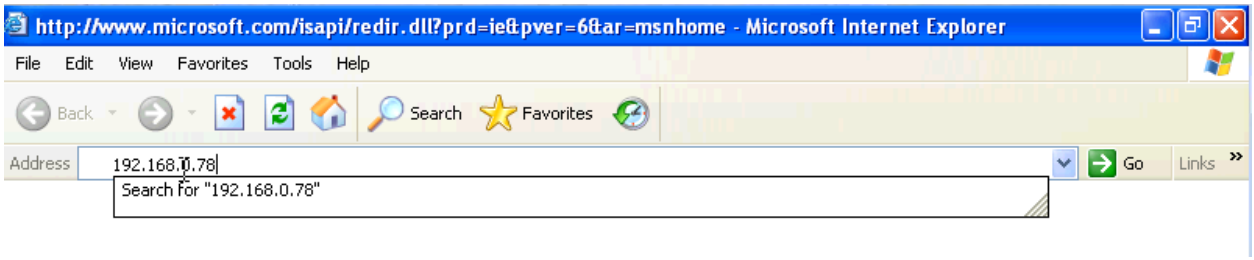
11. Right click on your website name you create and click on Properties



12. Under documents tab remove all enable default content pages and add your website name and click ok



13. Click on apply the click ok
14. Go to Local Area connection Status and recreate the process you follows to enable FTP file advanced TCP/IP setting
15. Finally on webbrowser type the address of the website you assigned while configuring the website on the address bar of your browser(example 192.168.0.78) then press enter or click go



Domain Name System[DNS]

DNS [port 53): DNS stands for Domain Name System. It helps users to find their way around the Internet. Every computer on the Internet has a unique address – just like a telephone number – which is a rather complicated string of numbers. It is called its "IP address" (IP stands for "Internet Protocol").

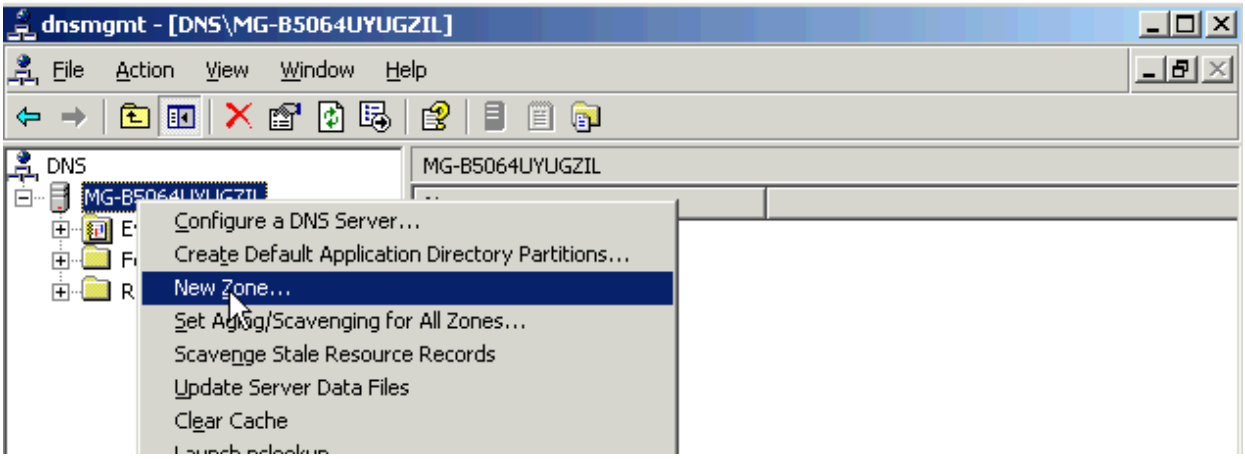
But it is hard to remember everyone's IP address. The DNS makes it easier by allowing a familiar string of letters (the "domain name") to be used instead of the arcane IP address. So instead of typing 192.0.34.65, you can type *www.icann.org.* It is a "mnemonic" device that makes addresses easier to remember.

Translating the name into the IP address is called "resolving the domain name." The goal of the DNS is for any Internet user any place in the world to reach a specific website IP address by entering its domain nameSTEPS to create domain name for existing webpage address

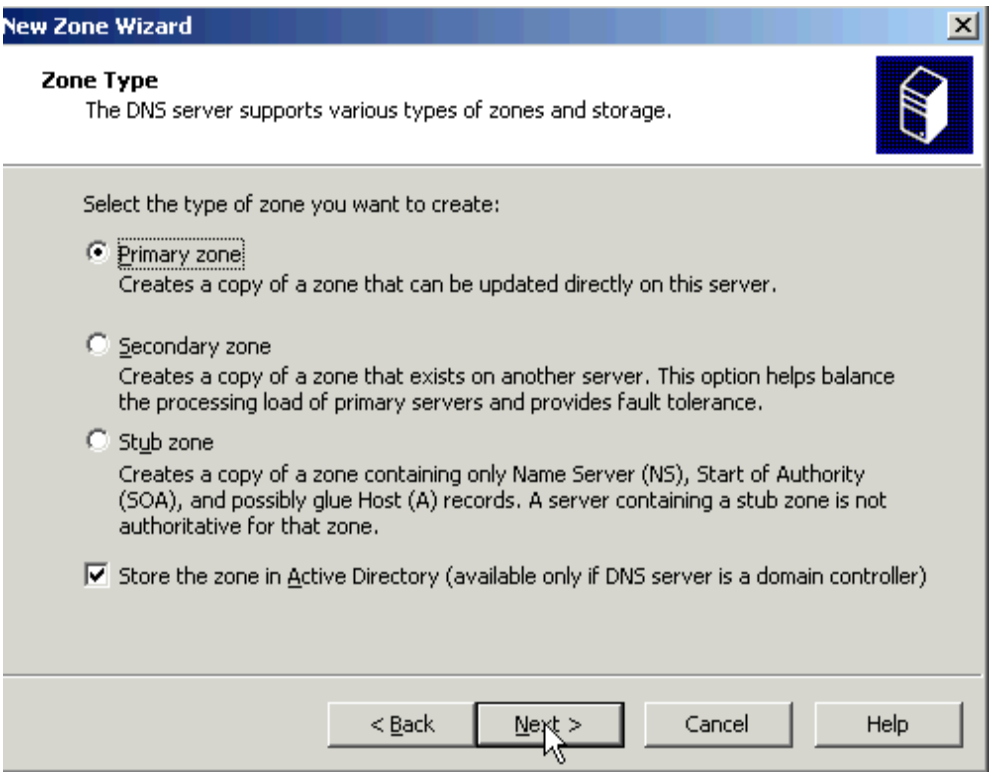
1. Go to DNS



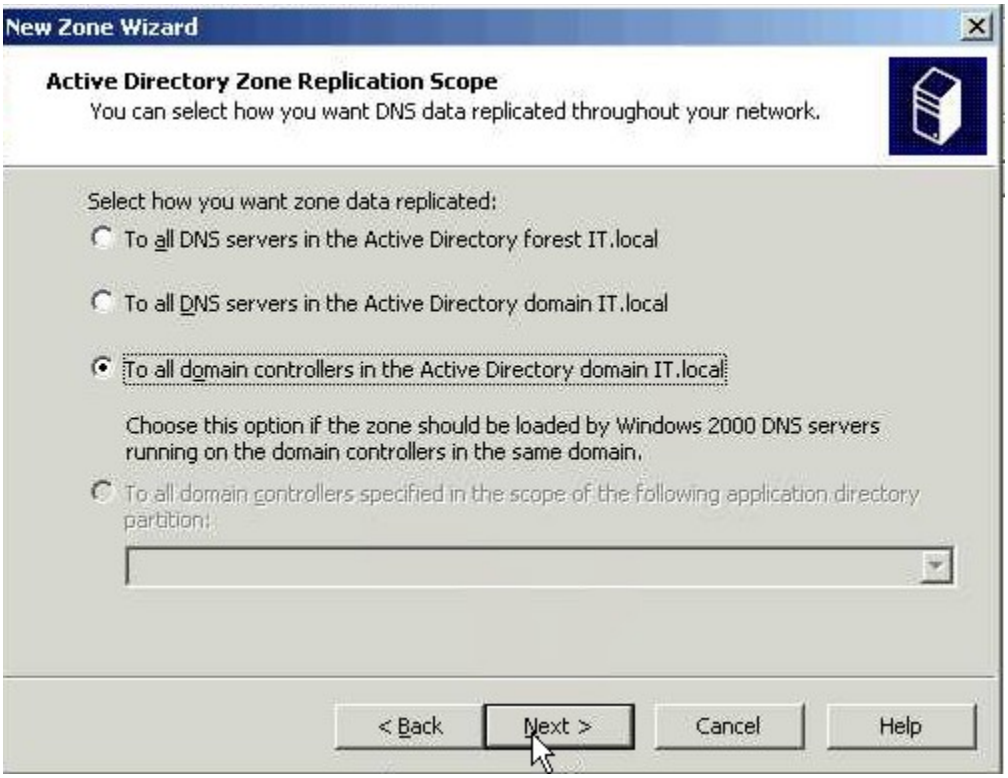
2. Under **dnsmgmt** window right click on _____ click on **new zone**



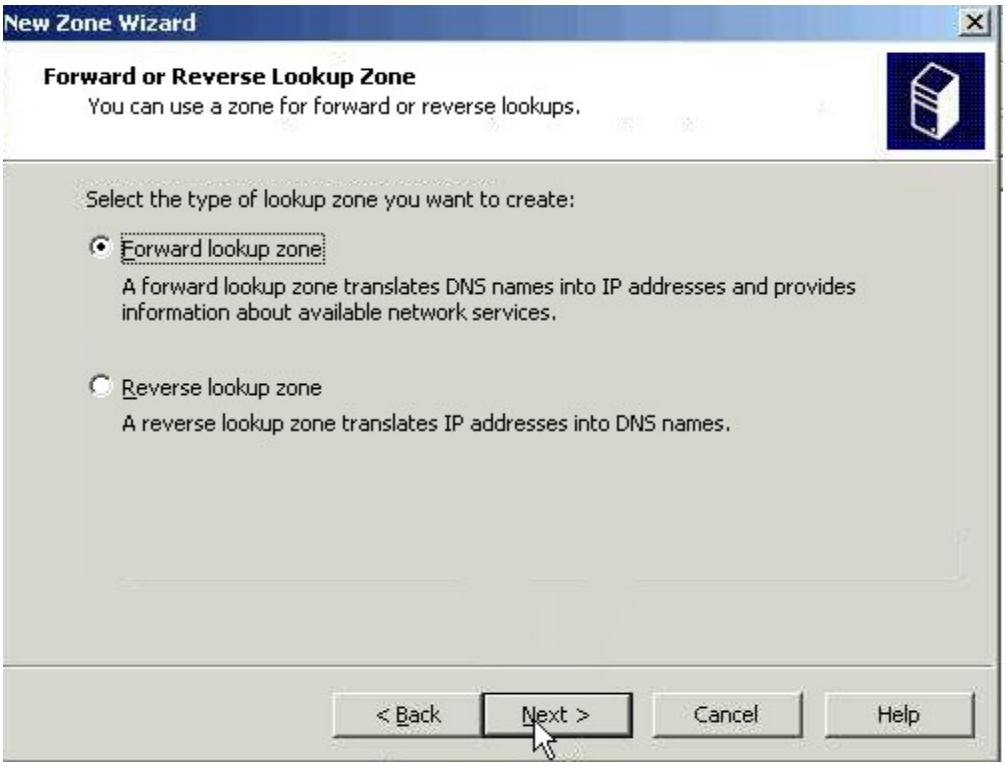
3. New zone wizard opened and Click next under Type zone name
4. Select the type of zone you want to create and Click next



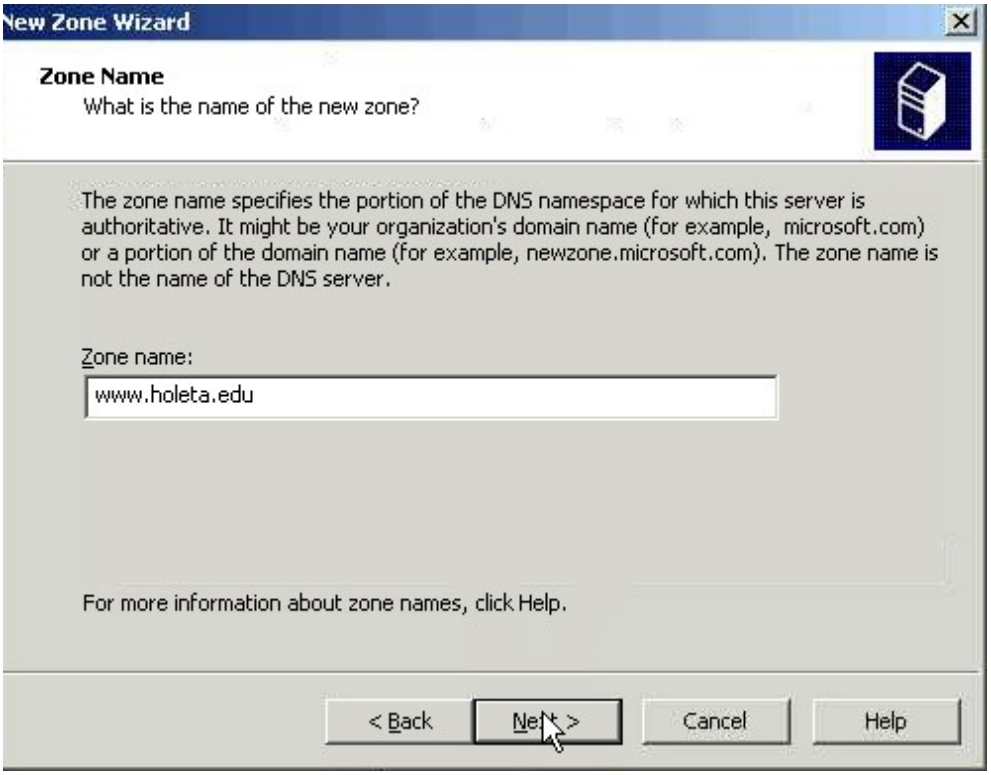
5. Select active Directory zone replication scope and click next



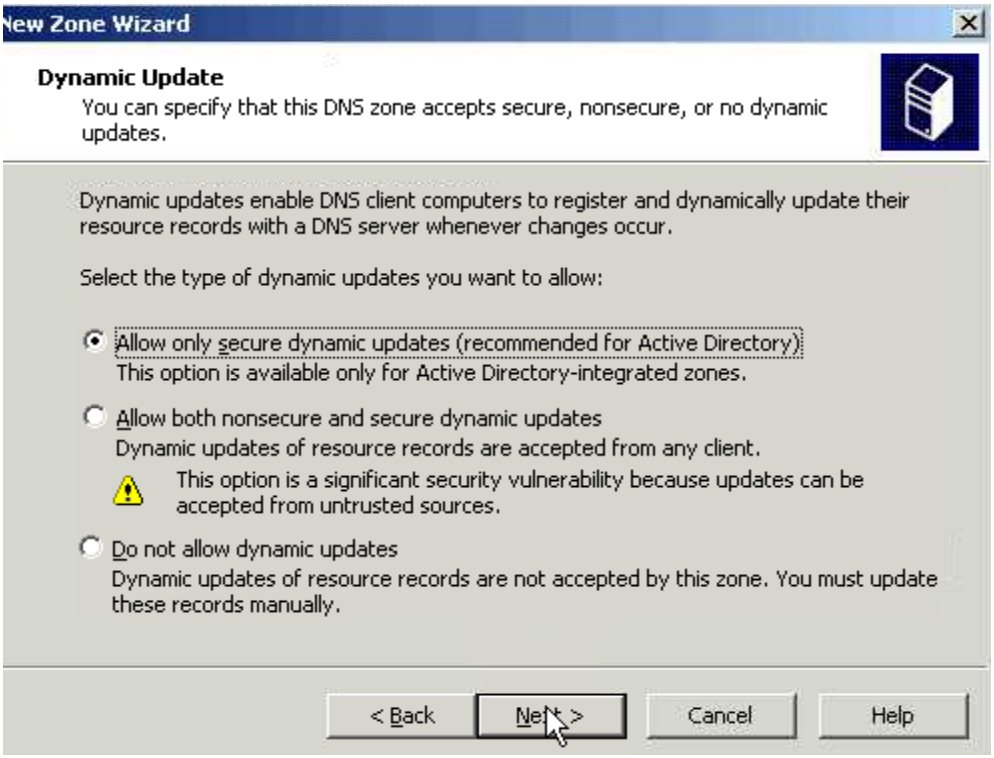
6. Select Forward or Reverse lookup zone then click next



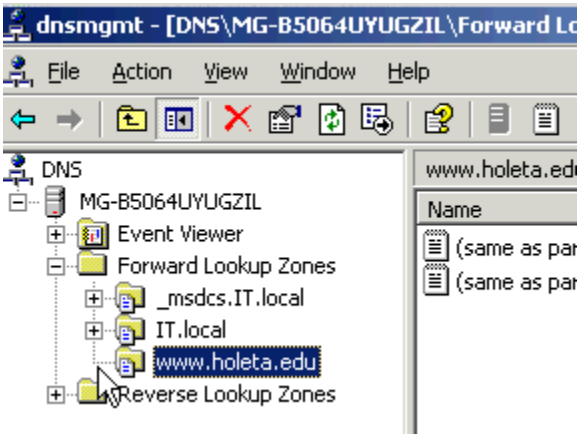
7. Enter Zone name and click next



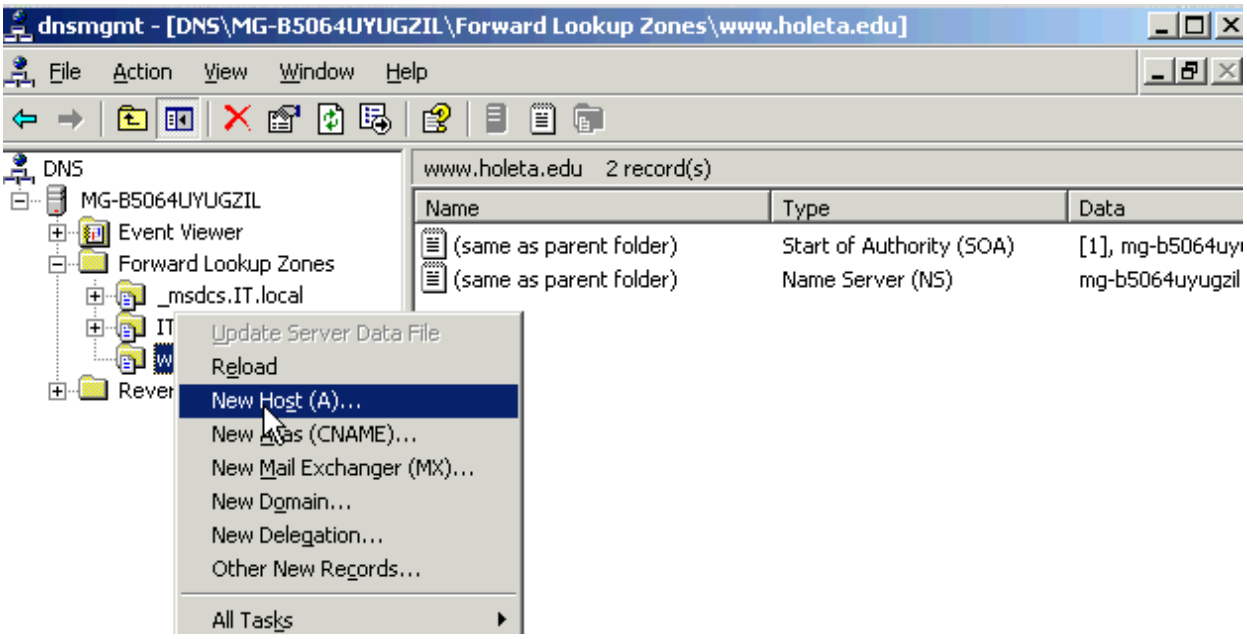
8. Select dynamic update and click next



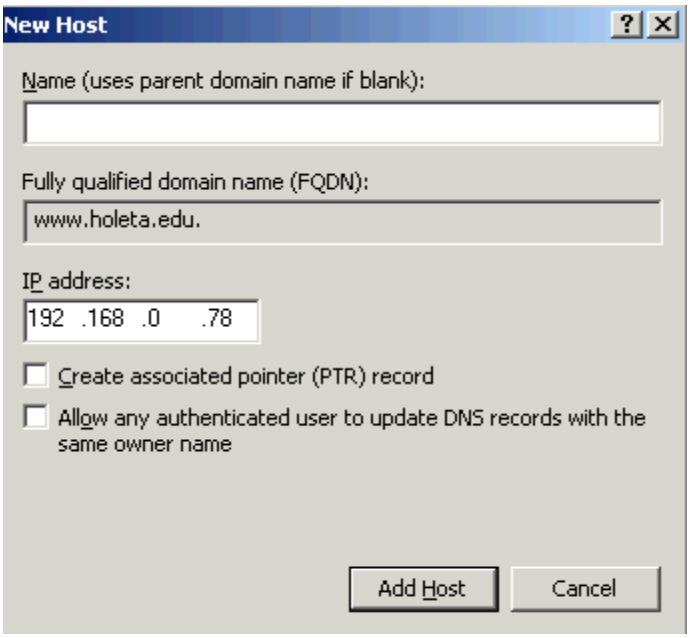
9. Click Finish
10. Go to



11. Right click on your zone name example **www.holeta.edu** then click on New Host (A)…



12. Under new host window Enter the IP address of the webpage you give for your http file then click **Add Host** then click **Done**



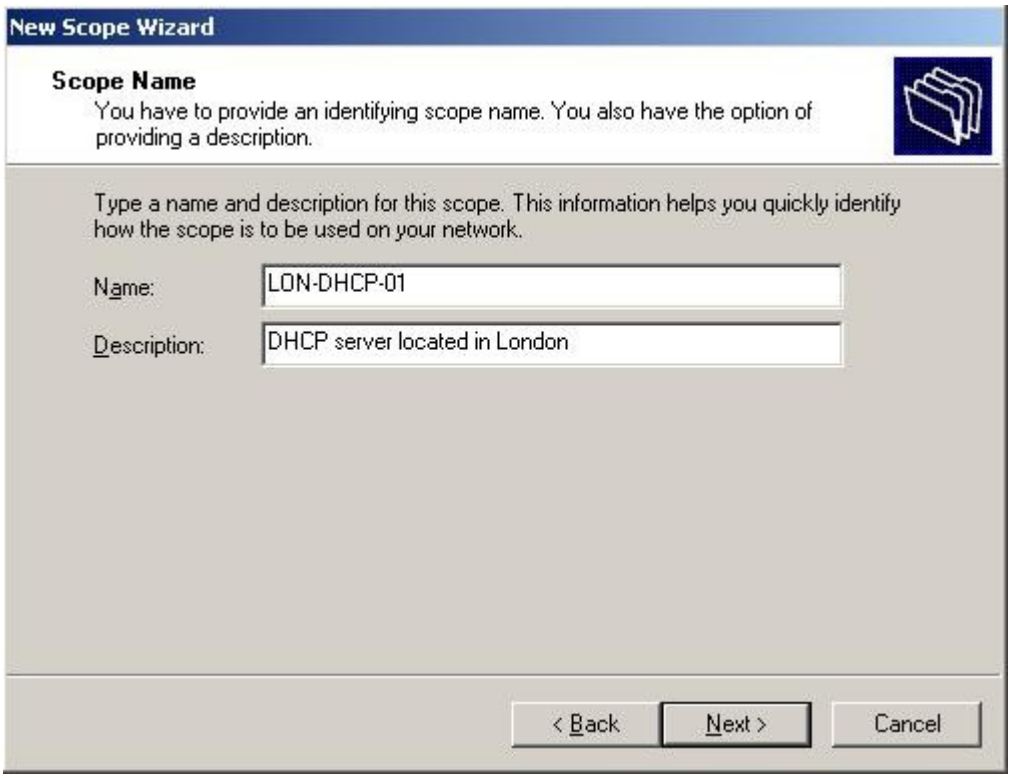
13. Finally click ok

Finally on web browser type the Domain name of the website you assigned while configuring the DNS on the address bar of your browser(example **www.holeta.edu**) then press enter or click go

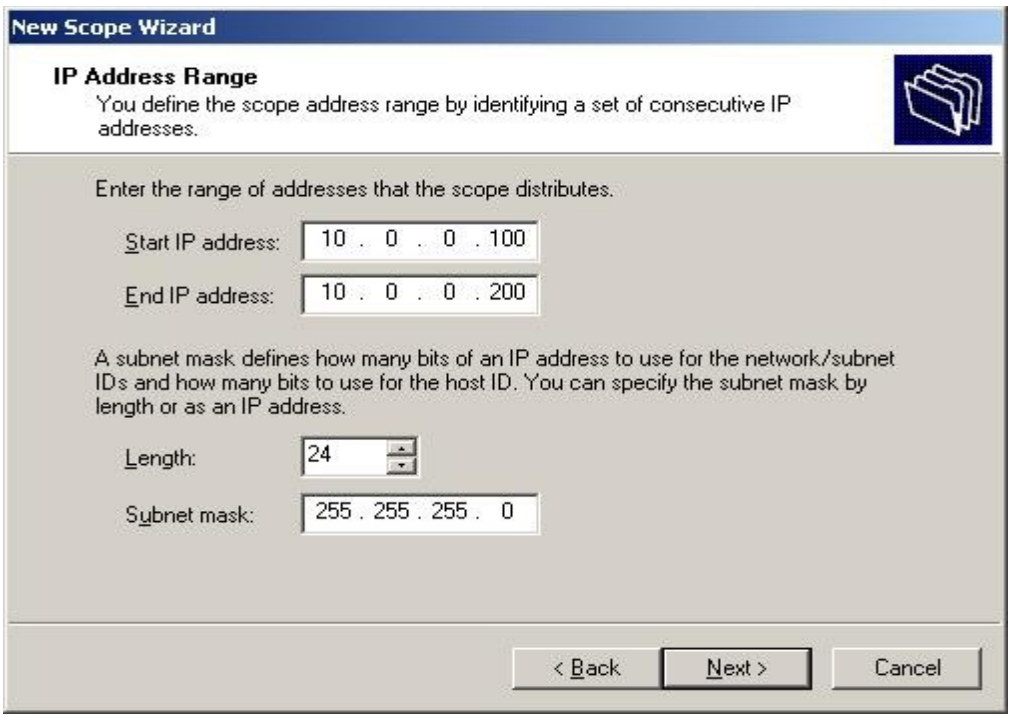
SETTING UP A DHCP SERVER

This will serve as a step-by-step guide on how to setup a DHCP server.
Installing the DHCP server is made quite easy in Windows 2003. By using the "Manage your server" wizard, you are able to enter the details you require and have the wizard set the basics for you. Open to "Manage your server" wizard, select the DHCP server option for the list of server roles and press Next.
You will be asked to enter the name and description of your scope.

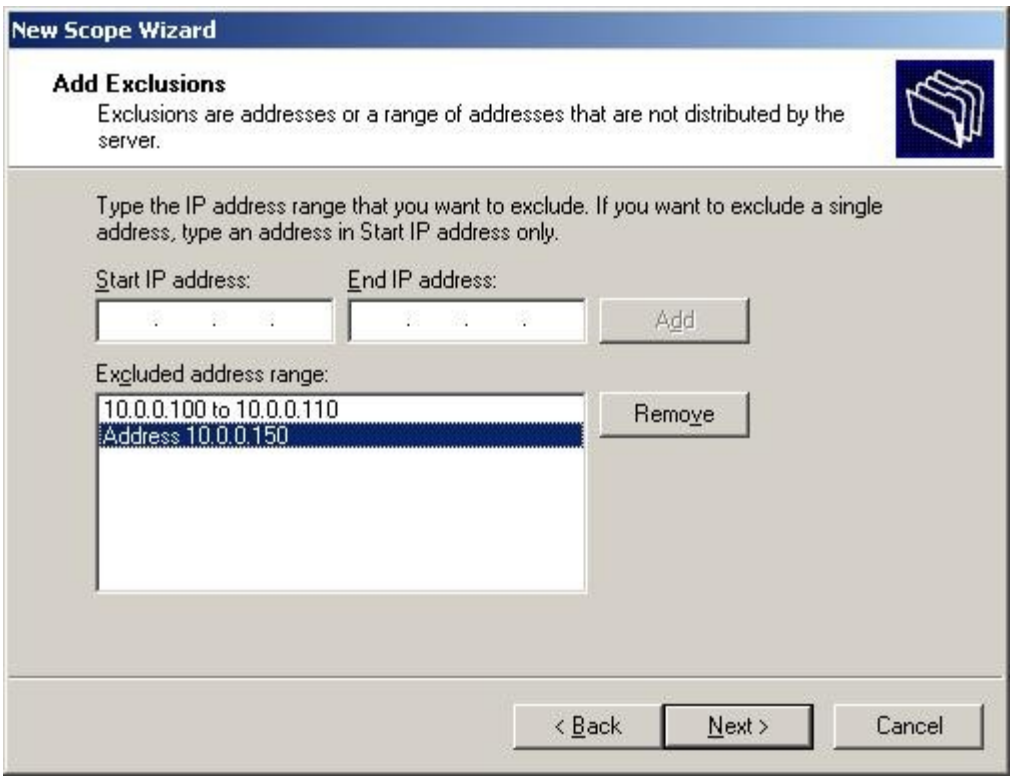
Scope: A scope is a collection of IP addresses for computers on a subnet that use DHCP.



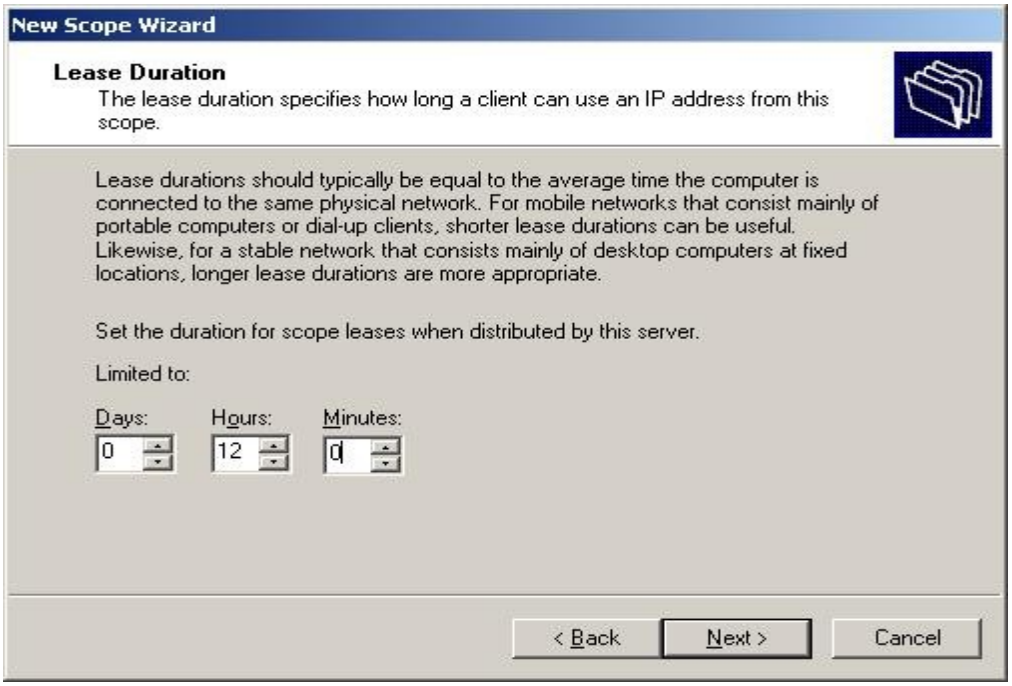
The next window will ask you to define the range of addresses that the scope will distribute across the network and the subnet mask for the IP address. Enter the appropriate details and click next.



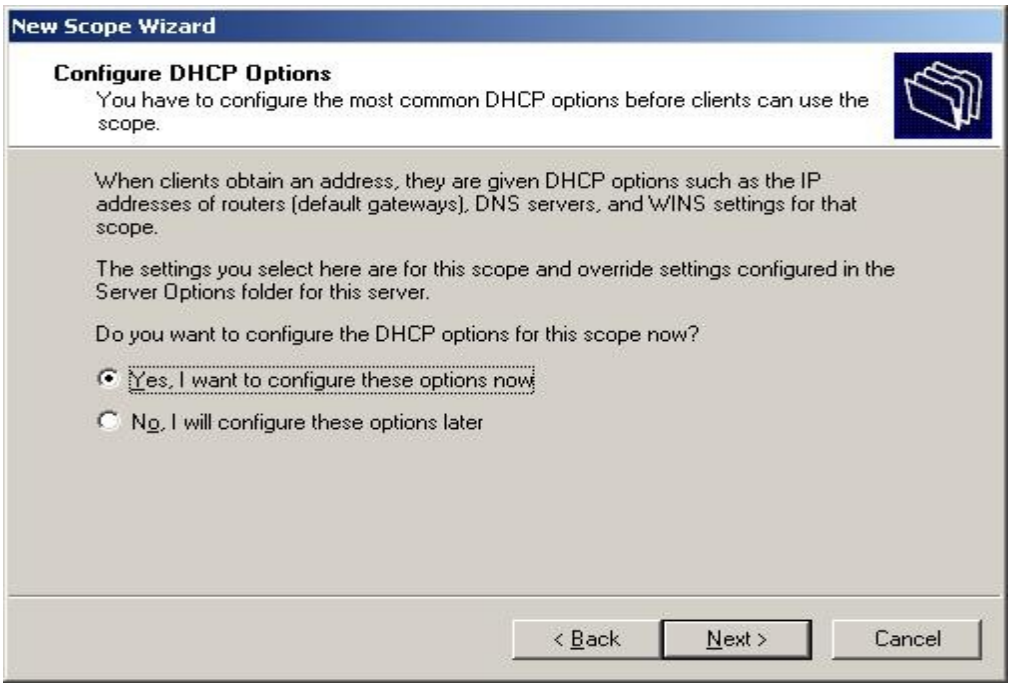
You are shown a window in which you must add any exclusions to the range of IP addresses you specified in the previous window. If for example, the IP address 10.0.0.150 is that of the company router then you won't want the DHCP server to be able to distribute that address as well. In this example I have excluded a range of IP addresses, 10.0.0.100 to 10.0.0.110, and a single address, 10.0.0.150. In this case, eleven IP's will be reserved and not distributed amongst the network clients.



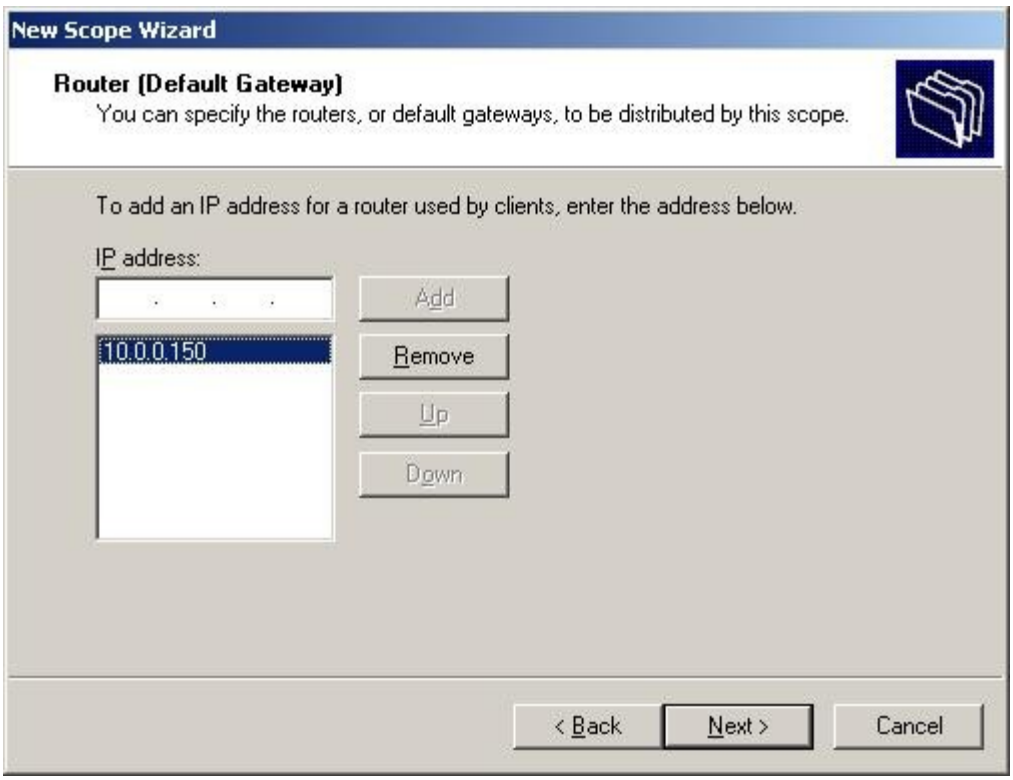
It is now time to set the lease duration for how long a client can use an IP address assigned to it from this scope. It is recommended to add longer leases for a fixed network (in the office for example) and shorter leases for remote connections or laptop computers. In this example I have set a lease duration of twelve hours since the network clients would be a fixed desktop computer in a local office and the usual working time is eight hours.



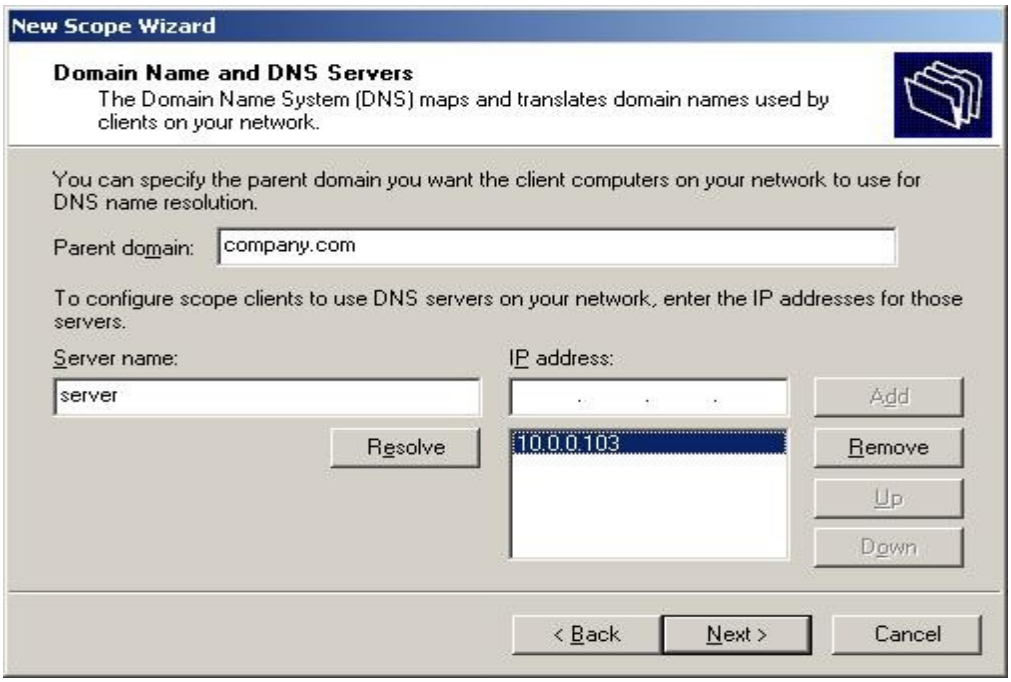
You are given a choice of whether or not you wish to configure the DHCP options for the scope now or later. If you choose Yes then the upcoming screenshots will be of use to you. Choosing No will allow you to configure these options at a later stage.



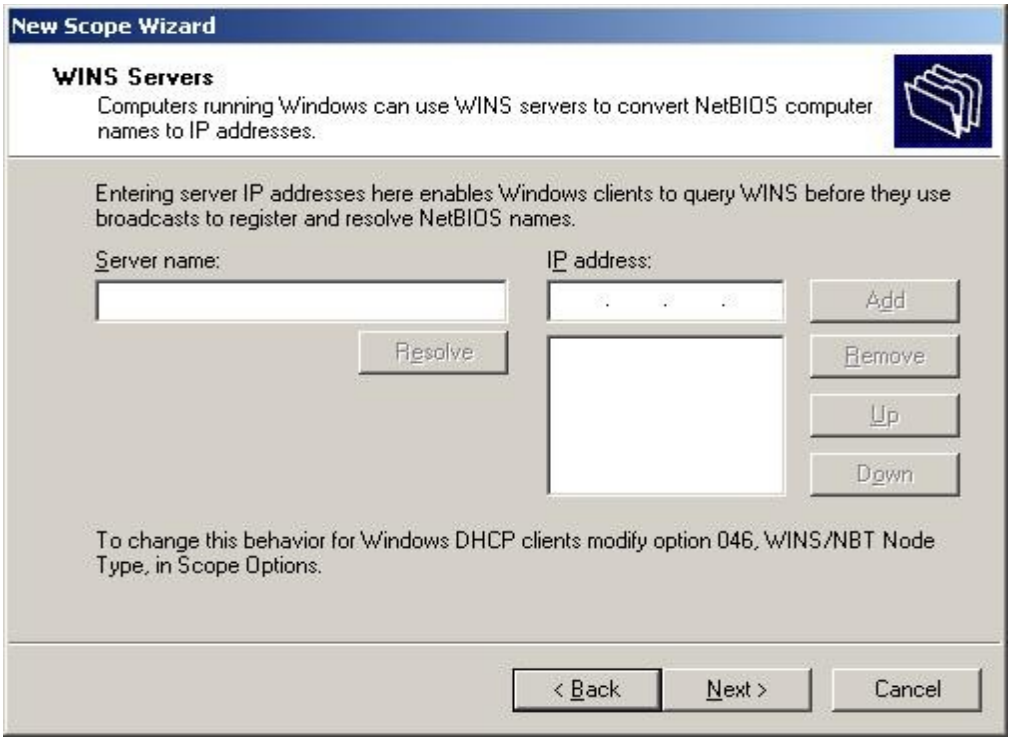
The router, or gateway, IP address may be entered in next. The client computers will then know which router to use.



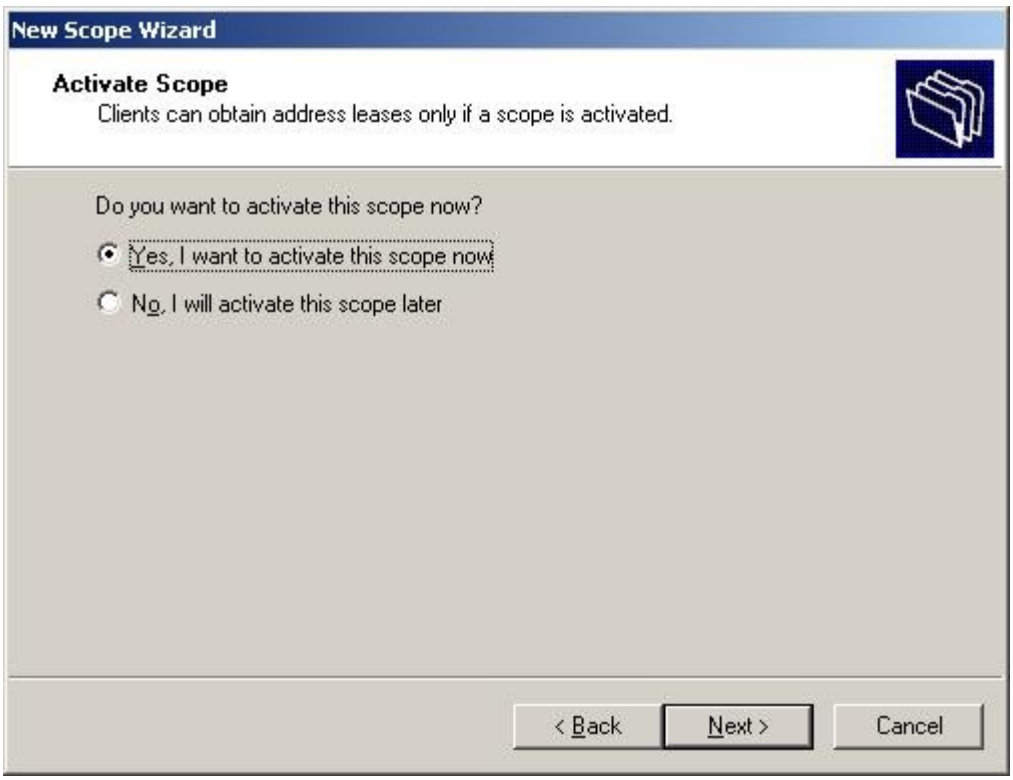
In the following window, the DNS and domain name settings can be entered. The DNS server IP address will be distributed by the DHCP server and given to the client.



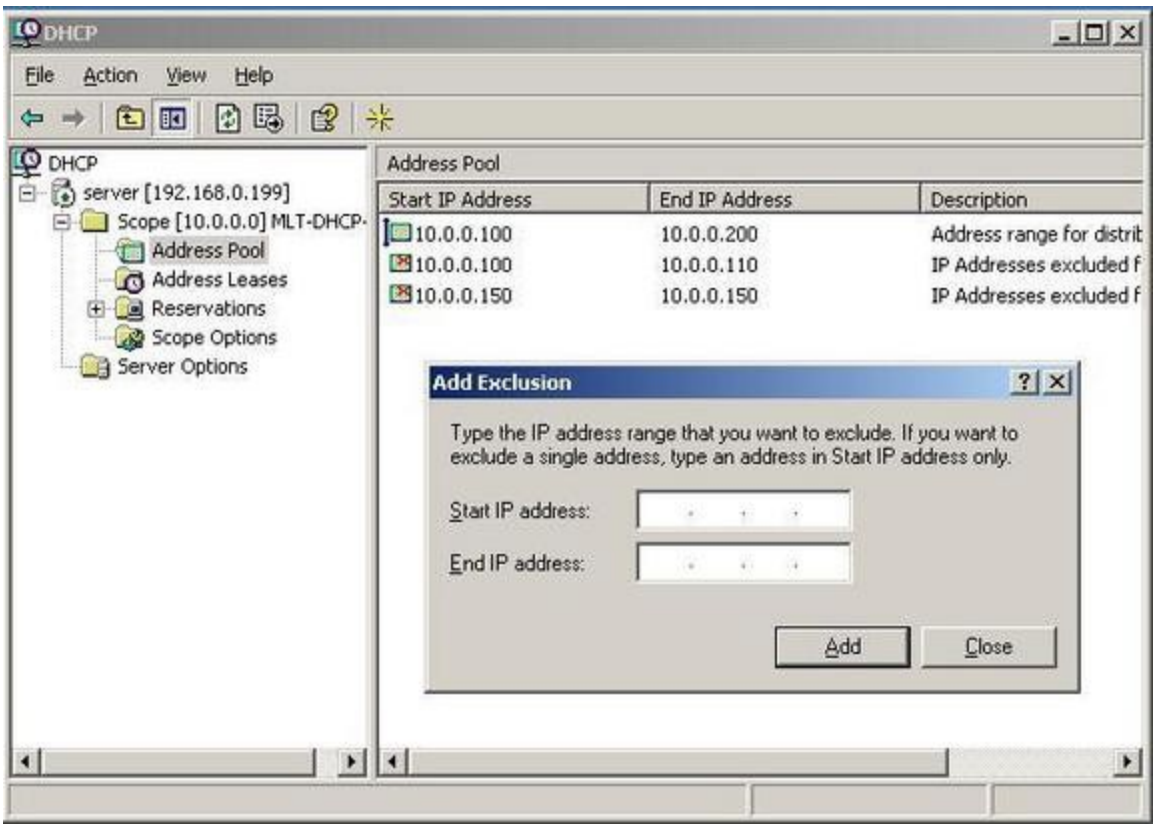
If you have WINS setup then here is where to enter the IP Address of the WINS server. You can just input the server name into the appropriate box and press "Resolve" to allow it to find the IP address itself.



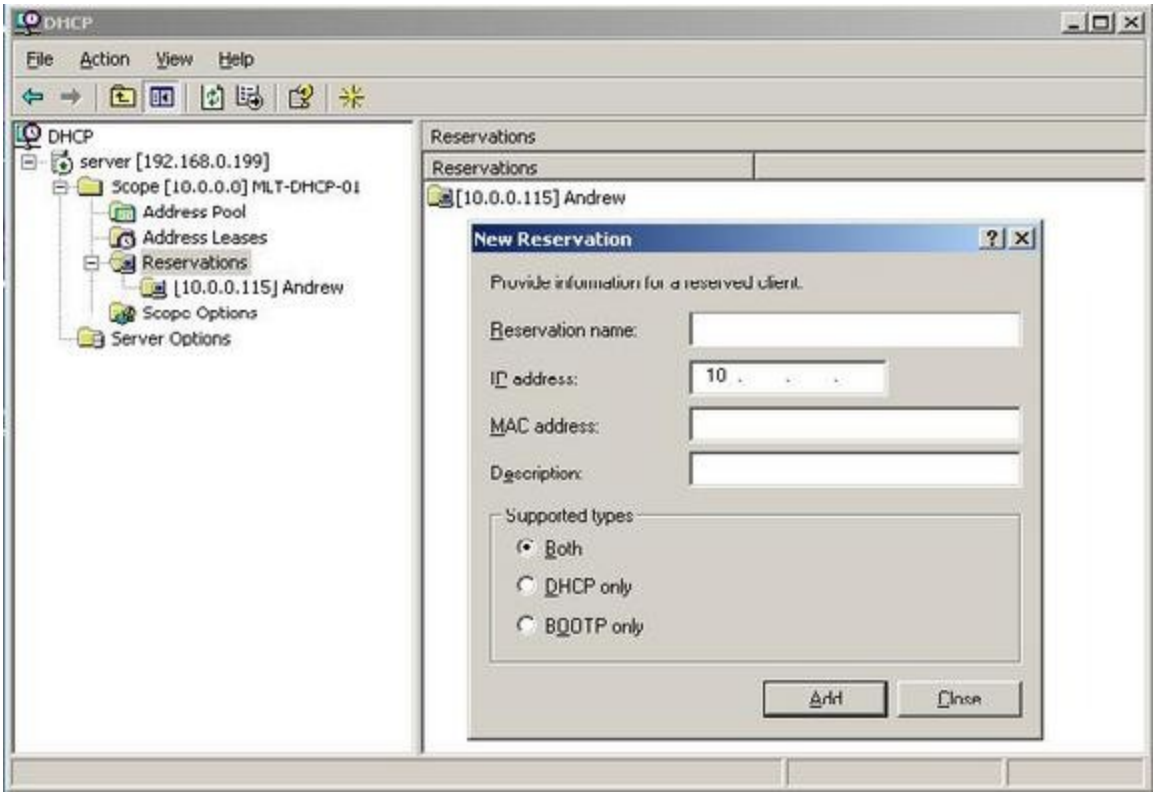
The last step is to activate the scope - just press next when you see the window below. The DHCP server will not work unless you do this.



The DHCP server has now been installed with the basic settings in place. The next stage is to configure it to the needs of your network structure.
Hereunder is a simple explanation of how to configure a DHCP server.
The address pool displays a list of IP ranges assigned for distribution and IP address exclusions. You are able to add an exclusion by right clicking the address pool text on the left hand side of the mmc window and selecting "new exclusion range". This will bring up a window (as seen below) which will allow you to enter an address range to be added. Entering only the start IP will add a single IP address.



DHCP servers permit you to reserve an IP address for a client. This means that the specific network client will have the same IP for as long as you wanted it to. To do this you will have to know the physical address (MAC) of each network card. Enter the reservation name, desired IP address, MAC address and description - choose whether you want to support DHCP or BOOTP and press add. The new reservation will be added to the list. As an example, I have reserved an IP address (10.0.0.115) for a client computer called Andrew.



If you right click scope options and press "configure options" you will be taken to a window in which you can configure more servers and their parameters. These settings will be distributed by the DHCP server along with the IP address. Server options act as a default for all the scopes in the DHCP server. However, scope options take preference over server options.

In my opinion, the DHCP server in Windows 2003 is excellent! It has been improved from the Windows 2000 version and is classified as essential for large networks. Imagine having to configure each and every client manually - it would take up a lot of time and require far more troubleshooting if a problem was to arise. Before touching any settings related to DHCP, it is best to make a plan of your network and think about the range of IPs to use for the computers.

Managing Printers
Creating Printers

In this exercise, you will manually create two local printers—one to share and one that will
not be shared. You will manually specify their print device configuration.
To add the first printer, follow these steps:

1) Select Start ➔Printers And Faxes.
2) Double-click the Add Printer icon. The Add Printer Wizard will start. Click the Next button to continue.
3) In the Local Or Network Printer dialog box, select the Local Printer Attached To This Computer radio button. Make sure that the Automatically Detect And Install My Plug And Play Printer checkbox is not checked and click the Next button.
4) In the Select The Printer Port dialog box, select the Use The Following Port radio button, select LPT1 in the list box, and click the Next button.
5) In the Install Printer Software dialog box, choose HP in the Manufacturer list box and HP OfficeJet Pro 1170Cxi in the Printers list box. Then click the Next button.
6) In the Name Your Printer dialog box, leave the default name of HP OfficeJet Pro 1170Cxi and click the Next button.
7) In the Printer Sharing dialog box, select the Share Name radio button and type **HPOJPro** in the Share Name text box. Then click the Next button.
8) In the Location And Comment dialog box, type **Training Room** in the Location text box and **Color Printer** in the Comment text box. Click the Next button.
9) In the Print Test Page dialog box, select the No radio button to skip printing a test page and click the Next button
10) In the Completing The Add Printer Wizard dialog box, click the Finish button. To add the second printer, follow these steps:
11) In the Printers And Faxes Control Panel, double-click the Add Printer icon.
12) When the Add Printer Wizard starts, click the Next button to continue.
13) In the Local Or Network Printer dialog box, select the Local Printer Attached To This Computer radio button. Make sure that Automatically Detect And Install My Plug And Play Printer is not checked and click the Next button.
14) In the Select The Printer Port dialog box, select the Use The Following Port radio button, select LPT2 in the list box, and click the Next button.
15) In the Install Printer Software dialog box that appears, choose HP in the Manufacturer list box and HP LaserJet 4Si in the Printers list box. Then click the Next button.
16) In the Name Your Printer dialog box, leave the default name of HP LaserJet 4Si and click the Next button
17) In the Printer Sharing dialog box, select the Do Not Share This Printer radio button and click the Next button.

18) In the Print Test Page dialog box, select No to skip printing a test page and click the Next button.
19) In the Completing The Add Printer Wizard dialog box, click the Finish button.
20) Leave the window open for the next lab.

Sharing an Existing Printer

In this exercise, you will share an existing printer.
This exercise assumes that you have completed Exercise 7.1.

1) If it's not already open, select Start _ Printers And Faxes, right-click HP LaserJet 4Si, and choose Properties.
2) Click the Sharing tab.
3) Click the Share This Printer radio button. Accept the default value, HPLaserJ.
4) Click the Apply button, then click the OK button to close the dialog box.
5) Leave the window open for the next lab.

Managing Advanced Printer Properties

In this exercise, you will configure some advanced printer properties.

1) If it's not already open, select Start _ Printers And Faxes, right-click HP LaserJet 4Si, and select Properties.
2) Click the Advanced tab.
3) Click the Available From radio button and specify that the printer is available from 12:00 A.M to 6:00A.M
4) Click the Start Printing After Last Page Is Spooled radio button.Managing Printing **25**
5) Click the Separator Page button. In the Separator Page dialog box, click the Browse buttonand choose the sysprint.sep file. Click the Open button, then click the OK button in theSeparator Page dialog box.
6) Click the OK button to close the printer Properties dialog box.
7) Leave the window open for the next labs in this section.

Assigning Print Permissions

In this exercise, you will assign print permissions.

1) Don't close the window from the previous lab yet. From your Windows Server 2003domain controller, using the Active Directory Users And Computers utility, create twousers named **Kim**and **Jennifer**. (See Exercise 3.2 on how to create a user.) Deselect the User Must Change Password At Next Logon option.
2) Using the Active Directory Users And Computers utility, verify that you have a group named **Execs**. If you do not, then create a new group called Execs. (See Exercise 3.7 on how to create a group.) Place Kim in the Execs group.
3) Switch to the Printers and Faxes window, right-click HP LaserJet 4Si, and select Properties.
4) Click the Security tab and click the Add button.
5) In the Select Users, Computers, Or Groups dialog box, type in **Execs**. Click the OK buttonto continue.
6) In the Security tab, highlight the Execs group. By default, the Allow checkbox should be selected for the Print permission. Leave the default setting. Highlight

the Everyone group and click the Remove button. Click OK to close the Printer Properties dialog box and savethe changes. Leave the window open for the next lab.

Managing Printers and Print Documents

In this exercise, you will manage printers and print documents.
This exercise assumes that you have completed the previous exercises in thissection.

1) Select Start ➔Printers And Faxes, right-click HP LaserJet 4Si, and select Pause Printing.
2) Select Start ➔All Programs ➔Accessories ➔Notepad.
3) Create a new text file and then select File ➔Save As. In the Save As dialog box, save the filein the default location, My Documents, as **PrintMe.txt**. Click the Save button.
4) While still in Notepad, select File _ Print. Select HP LaserJet 4Si and click the Print button.Repeat this step two more times so that you have sent a total of three print jobs. Close Notepad.
5) Select Start _ Printers And Faxes and double-click HP LaserJet 4Si. At the top of the window,you will see that the status of the printer is Paused.
6) Right-click one of the print jobs in the print queue and select Cancel. The print job will bedeleted after you confirm the cancellation.
7) Right-click one of the print jobs in the print queue and select Properties. The print job Propertiesdialog box appears. Change Notify from Administrator to Kim. Set the Priority from1 to 99. For Schedule, select Only From 12:00 A.M. to 4:00 A.M. Then click the OK button.
8) Close all of the dialog boxes.

Monitoring Print Queue Status

In this exercise, you will use the System Monitor utility to monitor print queue status.

1) Select Start ➔Administrative Tools ➔Performance.
2) From System Monitor, click the Add button (button that looks like a plus sign).
3) The Add Counters dialog box will appear.
4) Select the Print Queue Performance Object from the pull-down menu.
5) Click the All Counters radio button and the Add button. Click the Close button.

Administering Terminal Services

Terminal server role

Configure this computer as a terminal server by installing the Terminal Server component, which provides centralized deployment of applications.

Using a terminal server, users in remote locations can run programs, save files, and use network resources as though those resources were installed on the users' own computers. By installing programs on a terminal server, you can ensure that all users are using the same version of a program. If you plan to use this computer to allow multiple users to access a program at the same time from a single point of installation,

configure this computer as a terminal server.

However, if you plan to use this computer for remote administration on Windows Server 2003 operating systems, you do not need to install Terminal Server. Instead, you can use Remote Desktop for Administration (formerly Terminal Services in Remote Administration mode), which is installed by default on computers running one of the Windows Server 2003 operating systems. After you enable remote connections, Remote Desktop for Administration allows you to remotely manage servers from any client over a LAN, WAN, or dial-up connection. Up to two remote sessions, plus the console session, can be accessed at the same time, without requiring Terminal Server Licensing. For more information about Remote Desktop for Administration.

In this section, you will administer terminal services on the server.

Installing a Terminal Services Server

In the following exercise, you install Terminal Services.

1) Select Start ➔Control Panel ➔Add Or Remove Programs.
2) In the Add or Remove Programs window, click Add/Remove Windows Components.
3) The Windows Components Wizard will automatically start. Check the Terminal Servercheckbox and click the Next button.
4) The Terminal Server Setup page will appear. You'll be presented with information notifying you that certain applications may not work properly after installing Terminal Servicesin Terminal Server mode and that you will need to have Terminal Server Licensing configuredwithin 120 days. Click the Next button.
5) The Terminal Server Setup page for security settings will appear. You can select Full Securityor Relaxed Security. Select the Relaxed Security option and click the Next button to continue.
6) The appropriate files will be copied from the Windows Server 2003 distribution CD. The Completing the Windows Components Wizard page will appear. Click the Finish button.
7) The System Settings Change page will appear. This prompts you to reboot the computer.Click Yes.

Configuring a Terminal Services Server

In this exercise, you will use the Terminal Services Configuration utility to configure the Terminal
Services server you installed.

1) Select Start ➔Administrative Tools ➔Terminal Services Configuration.
2) In the Terminal Services Configuration window, expand the Connections folder and thenright-click the RDP-Tcp connection and select Properties.
3) In the General tab of the RDP-Tcp Properties dialog box, select **High** from the EncryptionLevel drop-down list.
4) Click the **Sessions** tab. Check the first Override User Settings checkbox and specify 15 minutesfor the Idle Session Limit option.

5) Click the Remote Control tab. Click the Use Remote Control With The Following Settingsradio button and select the Interact With The Session radio button.
6) Click the OK button to close the RDP-Tcp Properties dialog box.
7) Close all of the windows and return to the lab selection screen.

Lap Test Practical Demonastration

Task

Before commencing your tasks ensure you:

- Adjust your workstation according to OH&S principles
- Check your workstation and immediate work area for hazards

INSTRUCTION: DO THE FOLLOWING PRACTICAL TASKS AND SHOW THEIR RESULTS.

I) INSTALL A SERVER OPERATING SYSTEM

WHAT YOU WILL NEED

To do this activity you'll need:

- Windows 2003 server.
- Windows XP pack 3

II) Install Active Directory and create DOMAIN tvet.com

III) User Account Configuration

a) Create an account for a new trainer- Amen Mengistu -who will be working in the ICT department. She is to be given **full access** to the trainees list and training packages **read-only** access to the Mark list. She should only be allowed to log on from her desktop computer, which is called **tvet.com**

You have found out from the TVET's procedures that:

- users are to be able to change passwords
- users must change the initial password given by the administrator, which is a random password
- the department is used as a description
- the user id is the First name plus Last name.

b) Amen is to be allowed access only between 8:00 am and 6:00 **pm Monday to Friday.**

IV) CONFIGURE DHCP SERVICES

- Once you have installed the server operating system, your task is to configure the server to provide dynamic host configuration protocol (DHCP) services to client computers on the network.
- To do this you will need to determine how to configure and enable the DHCP service on the server. You will need to plan your own IP address ranges for this task.

V) Create Any **web document** and access it using its **ip address** and **domain namesystem**

VI) Create any **file**and save it under c:\ and access it using its ip address.