Windows Server 2008

NETWORK ADMINISTRATION LABMANUAL

Student Name: _____

Faculty Name: _____

Institute Name: _____

Branch Name: _____

Batch Date : _____

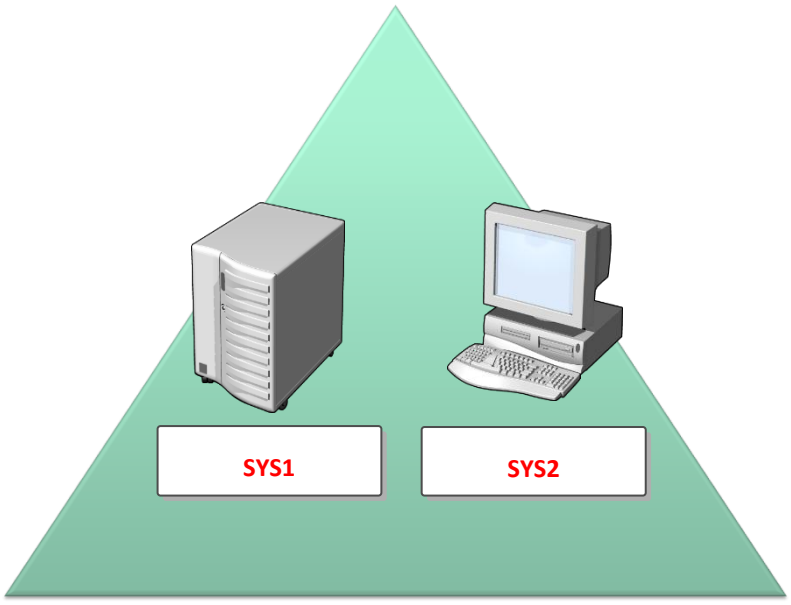
INDEX

DYNAMIC HOST CONFIGURATION PROTOCOL (DHCP)

Prerequisites:

Before working on this lab, you must have

1. A computer running windows 2008 server or Domain Controller.
2. A computer running windows 2008 server or windows 7.



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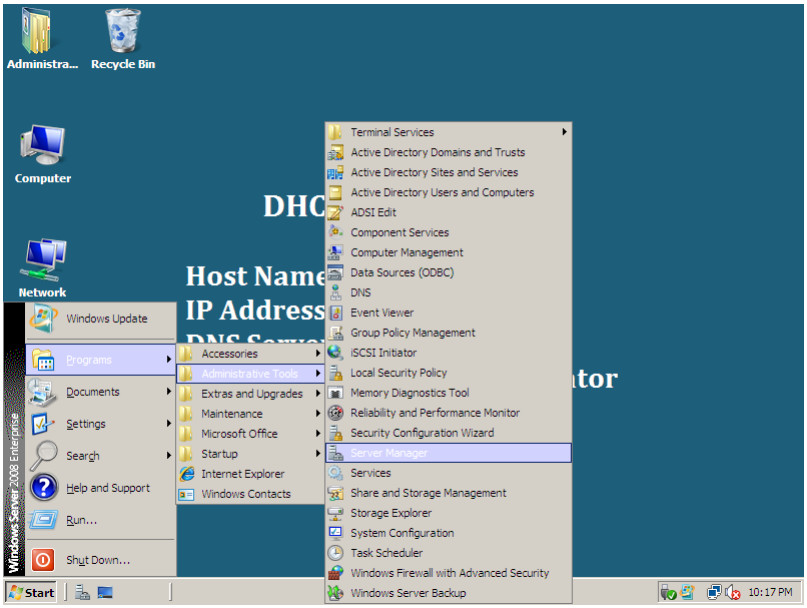
SYS1		**SYS2**	
Domain Controller / DHCP Server		**Member Server / Client**	
IP Address	10.0.0.1	IP Address	10.0.0.2
Subnet Mask	255.0.0.0	Subnet Mask	255.0.0.0
Preferred DNS	10.0.0.1	Preferred DNS	10.0.0.1

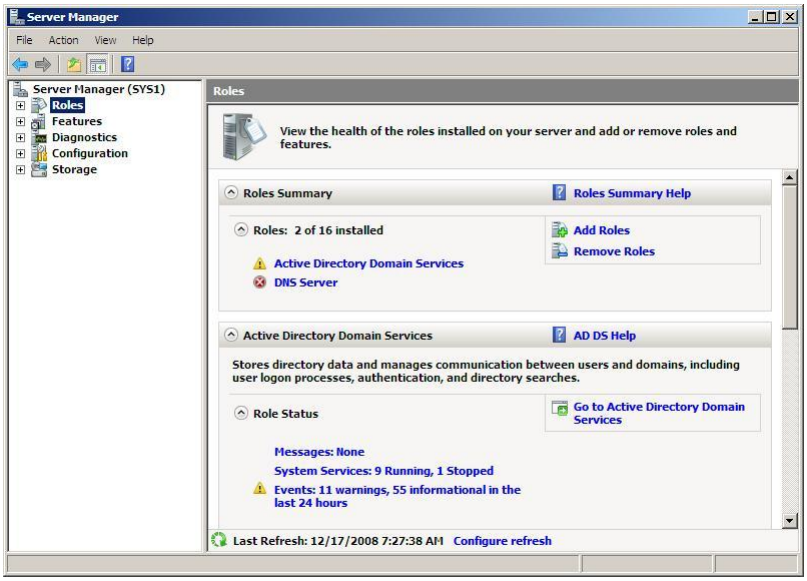
Lab – 1: Installing DHCP Service

SYS1 - CONFIGURATION

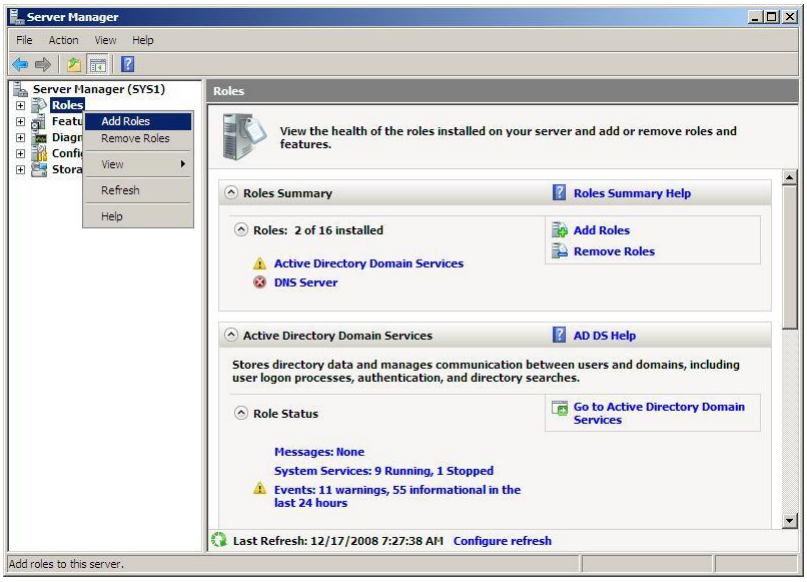
1. Select Start →Programs →Administrative Tools →**Server Manager.**



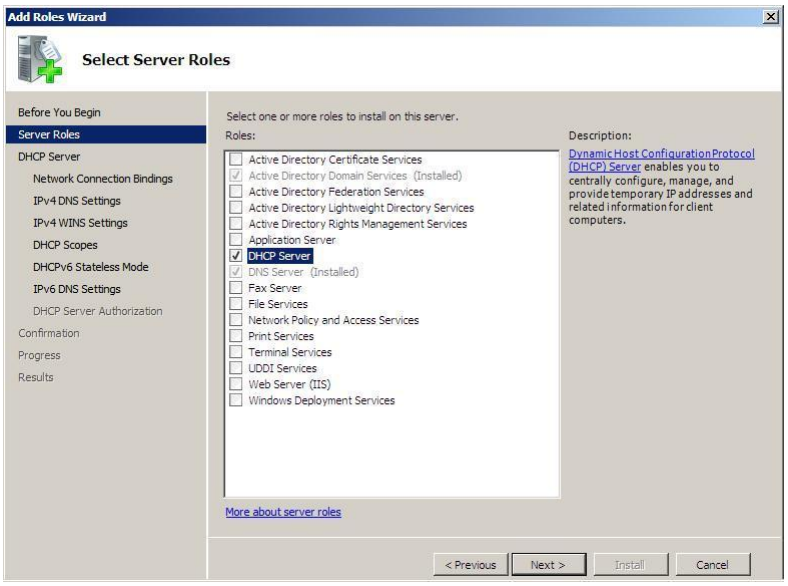
2. In the Server Manager Console, Select **Roles**



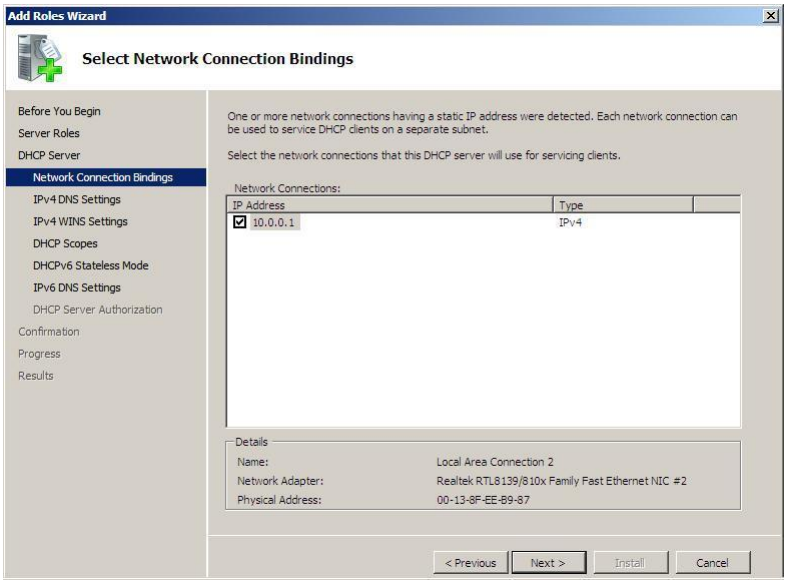
3. Right click Roles and Click **Add Roles**.



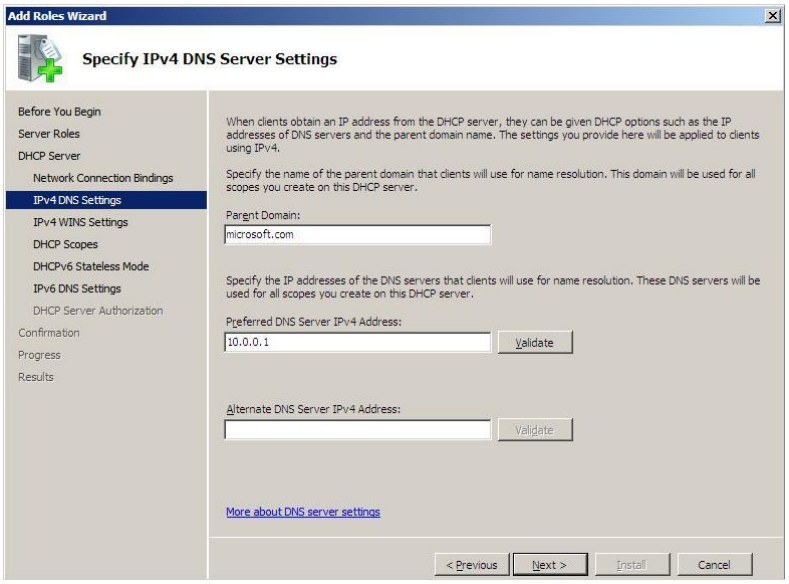
4. In **Add Roles** dialog box select the check box next to **DHCP Server** Role & click **Next**.



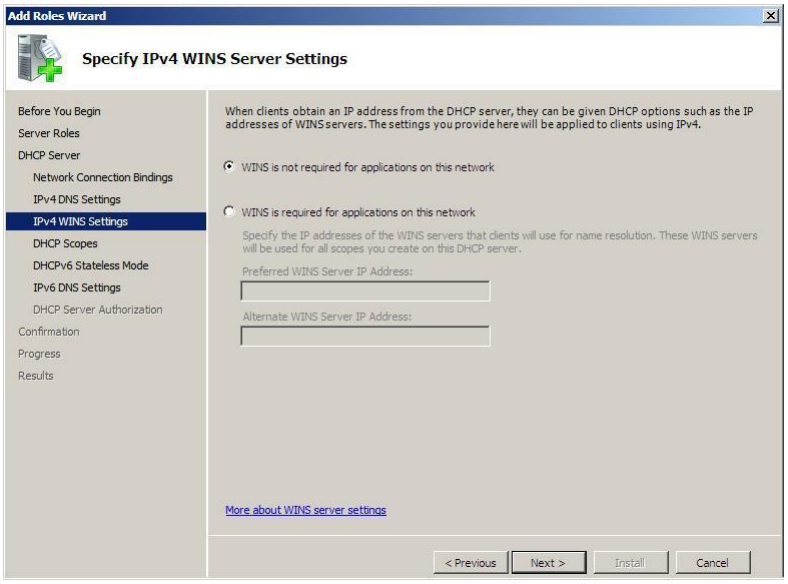
5. Again click **Next**, and Select the Network Interface that the DHCP Server will use to serve the Clients (By default it will be selected) and click **Next**.



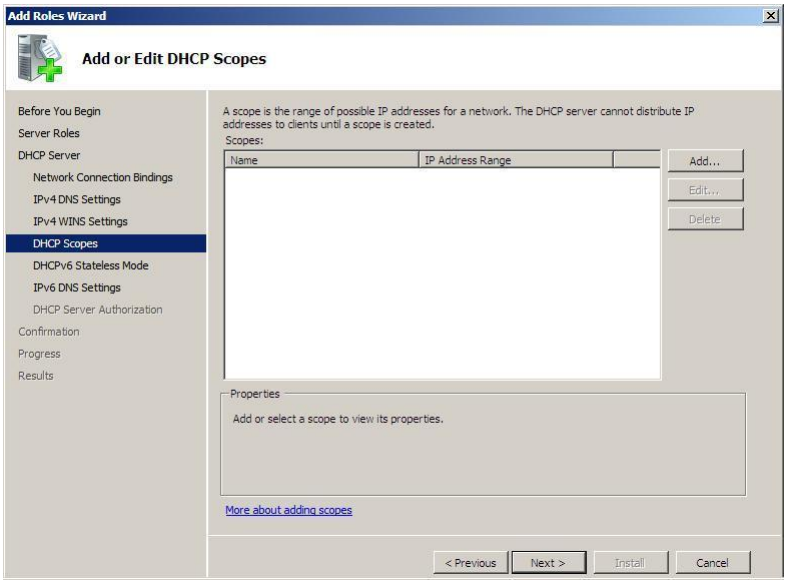
6. Mention the Parent Domain name & DNS server IP address (By default it will be given) click **Validate** & click **Next.**



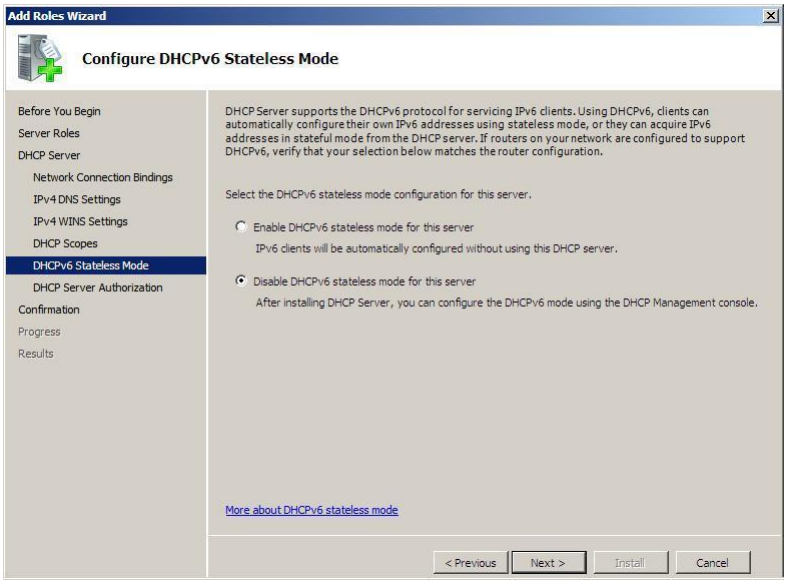
7. Select **WINS is not required** (Default) click **Next**.



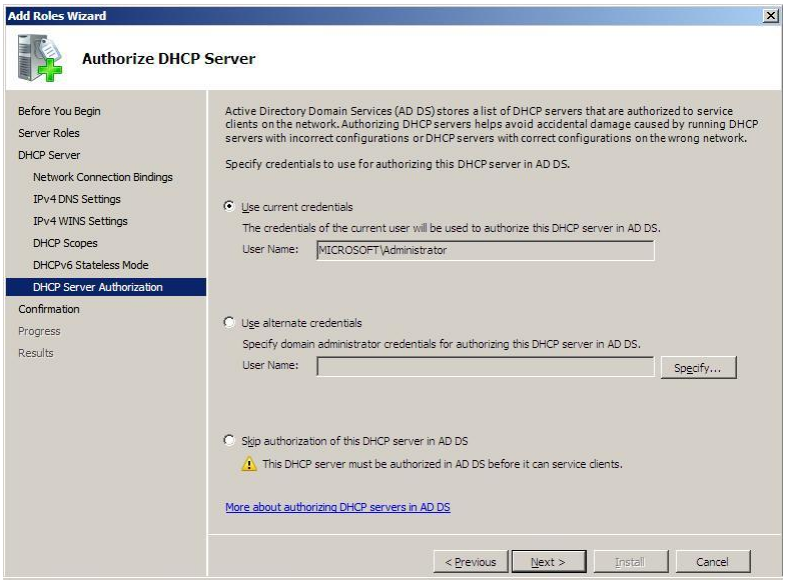
8. Add the scopes (Can be added later), click **Next**.



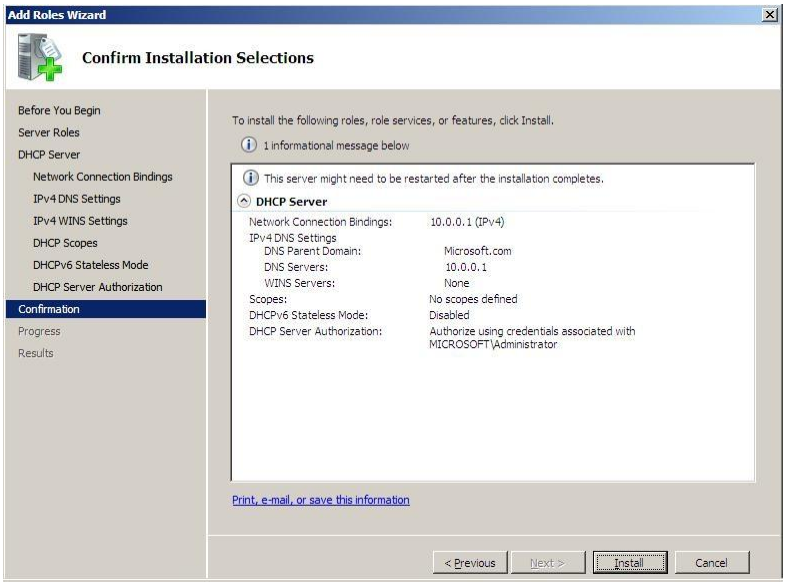
9. Select **Disable IPv6 Stateless mode** & click **Next**.



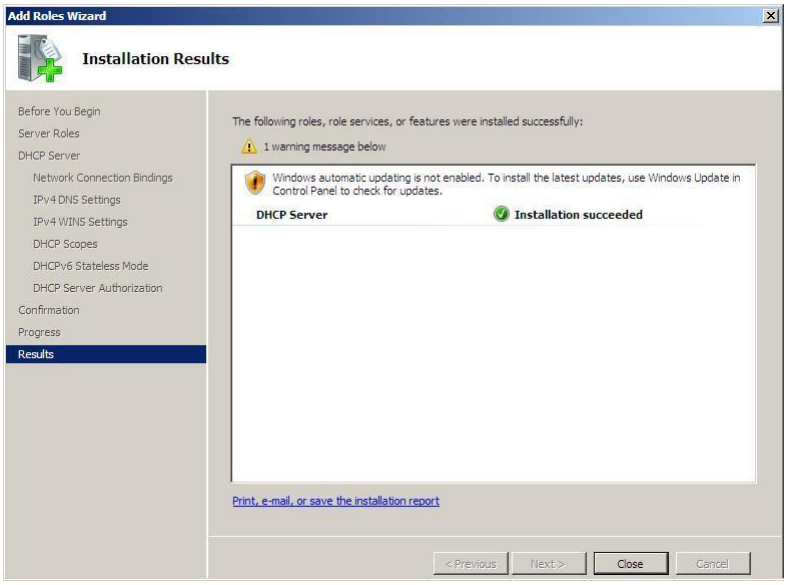
10. To authorize the DHCP server select **Use Current Credentials** & click **Next**.



11. Confirm the Installation Selections & click **Install**.



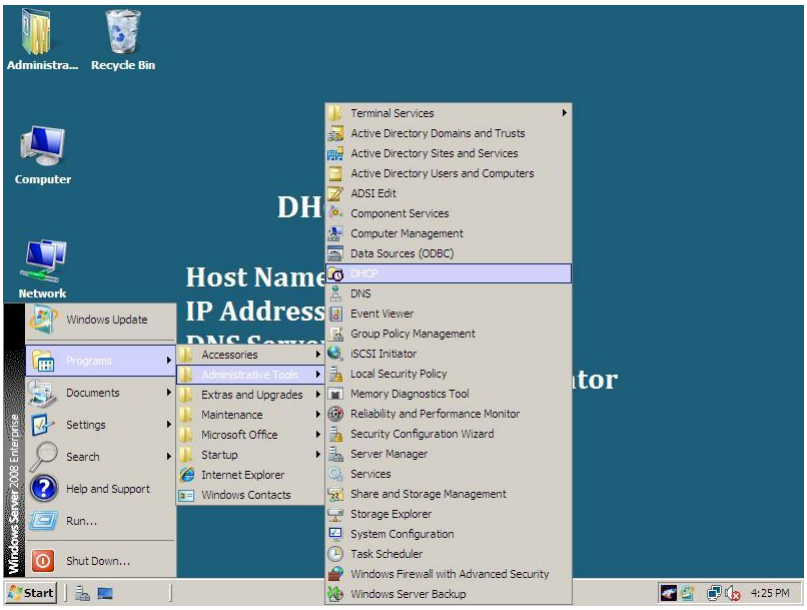
12. Installation will Start & Installation will be Succeeded, and click **Close**.



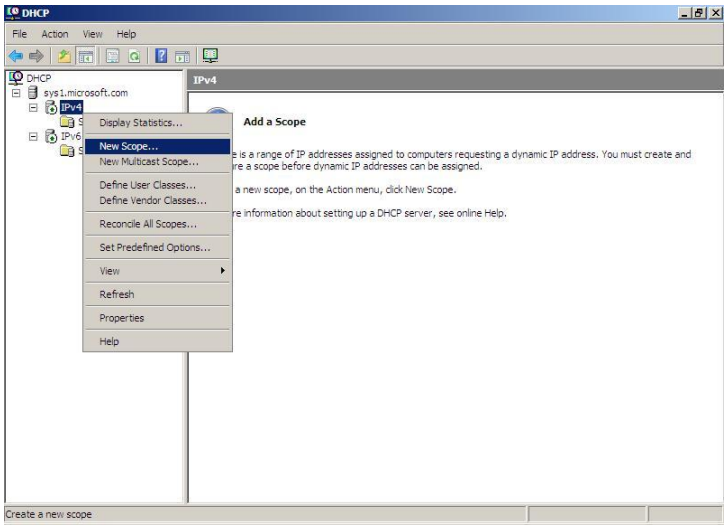
13. DHCP Server Role will be installed.

Lab – 2: Creating a scope

1. Select Start → Programs → Administrative Tools →**DHCP.**

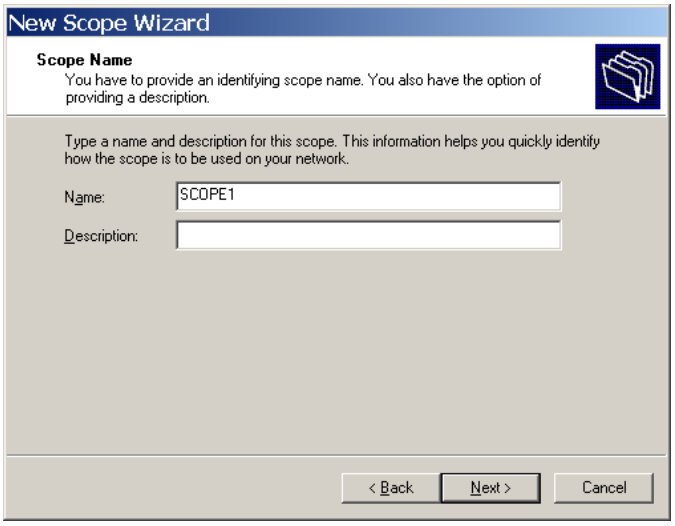


2. Expand the System name →Right click IPv4→select **New Scope**

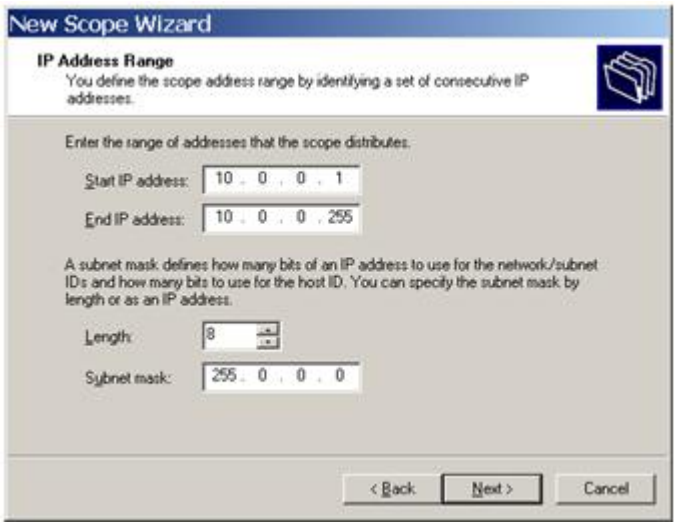


3. The New Scope wizard starts. click **Next.**

4. In the Scope Name screen, type in a name and a **description** for the scope in the text boxes provided. Click **Next**.

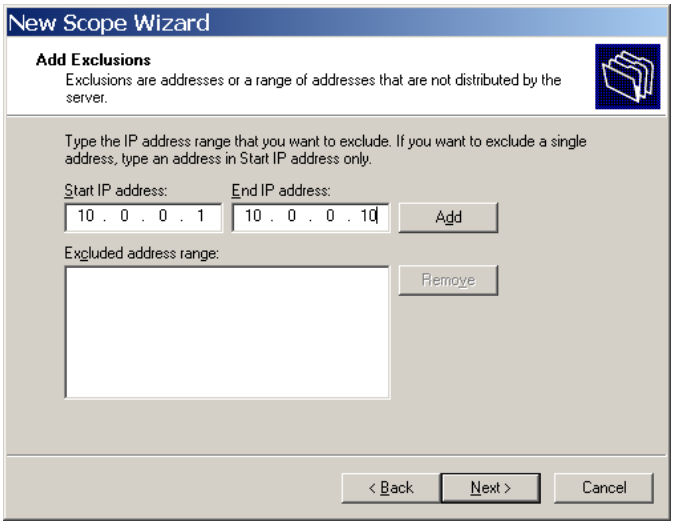


5. The IP Address Range screen appears. In the **"Start IP address"** and **"End IP address"** text boxes, enter the IP addresses that will define the range of the scope and the subnet mask. click **Next.**

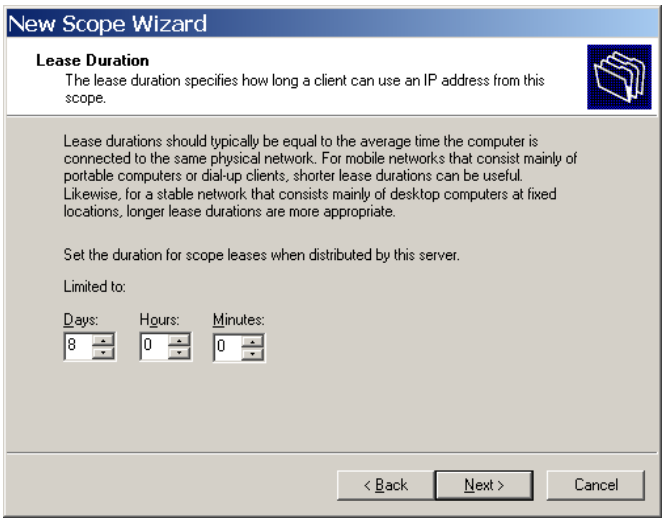


Note: Mention the scope range in the same network of DHCP server.

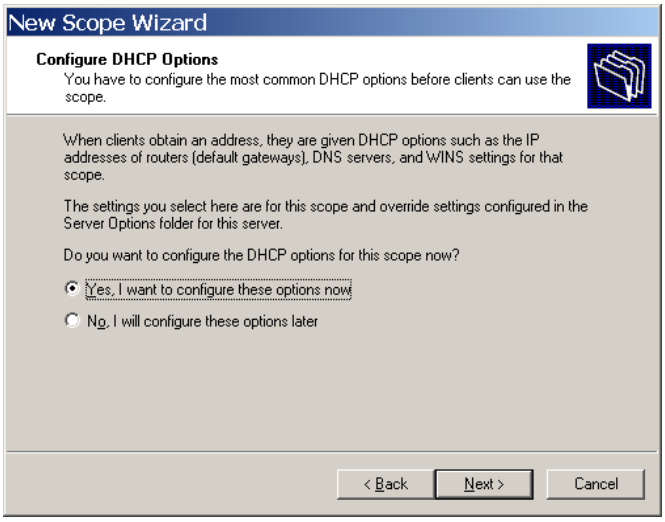
6. To exclude IP addresses, enter the **Start and end IP address** of the range you want to exclude and click **Add**. click **Next.**



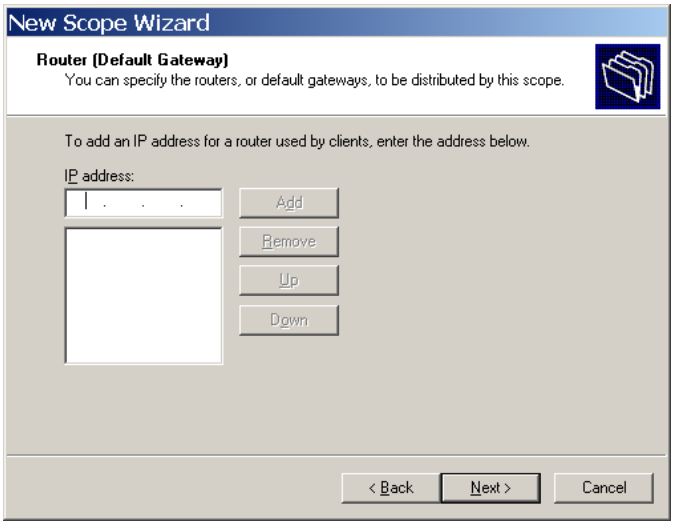
7. In the **Lease Duration** screen, either accept the default DHCP lease duration of **eight days**, or configure custom lease duration. click Next.



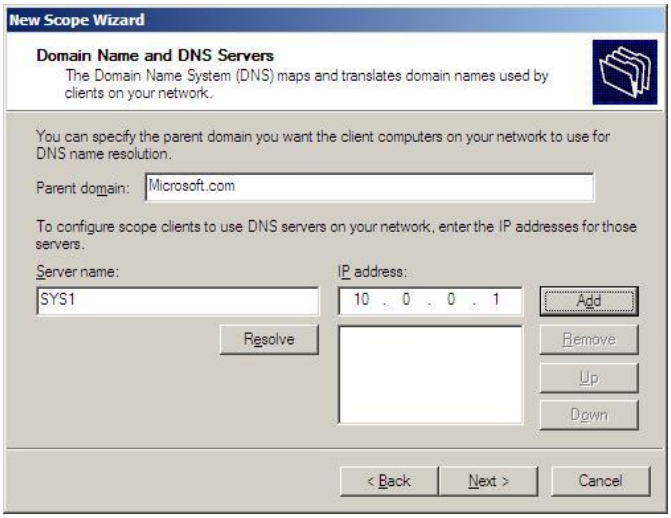
8. In the Configure DHCP Options screen, choose **Yes, I want to configure these options now** to configure DHCP options for this scope (such as routers, DNS, and WINS settings) now. click **Next.**



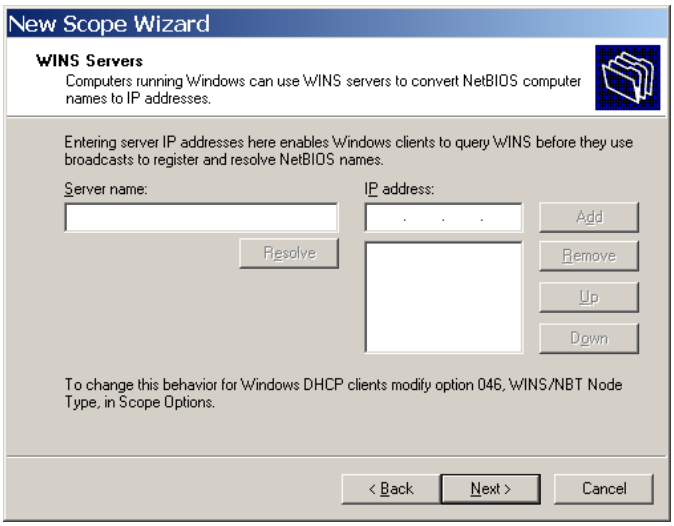
9. In the **Router** (Default Gateway) screen, enter the IP address of the r**outer** that will function as the **default gateway** for this scope clients and click **Add**. Or, if you don't have a **Router** in your network, just click **Next.**



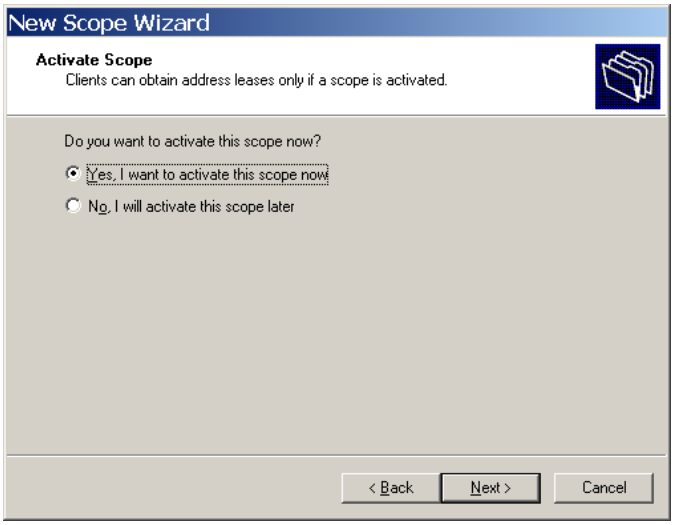
10. In the **Domain Name** and **DNS Servers** screen enter the name of the Parent Domain &IP address of the DNS server, click **Add→** click **Next.**



11. In the **WINS Servers** screen enter the IP address of the **WINS server**. Click **Add.** click **Next**. Or, if you don't have a WINS server on your network, just click **Next.**

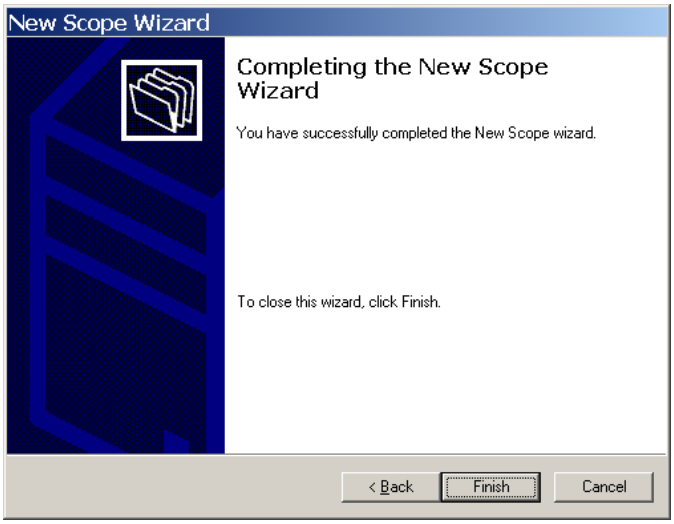


12. In the Activate Scope screen, select **YES** and click **Next.**



Note: A DHCP server can't assign IP addresses until the scope is activated.

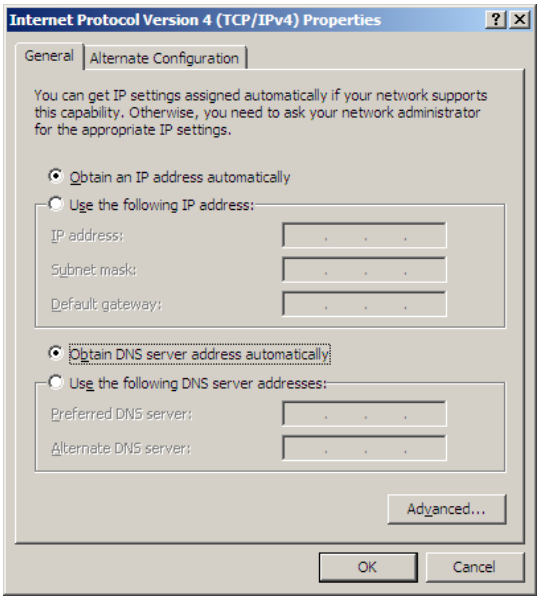
13. Click **Finish** to complete the creation of Scope**.**



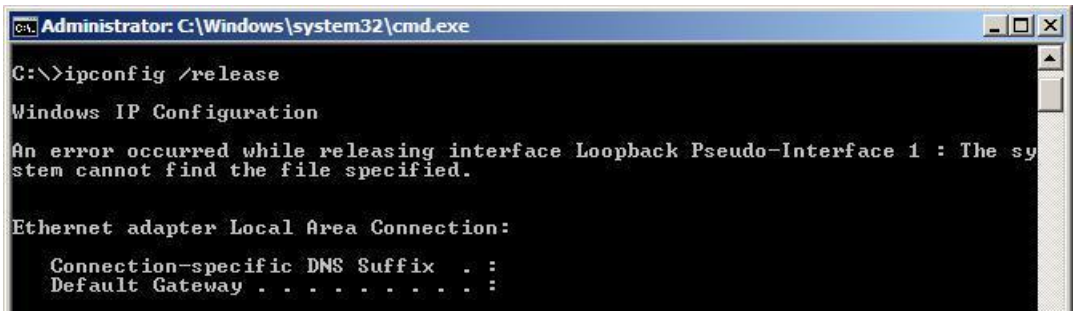
SYS2 - CONFIGURATION

Verification: In DHCP Client

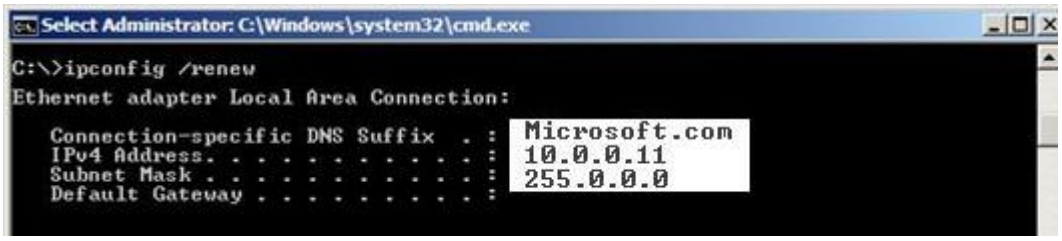
1. Right click on network Icon →Select properties →click View Status and select properties →Select Internet protocol Version 4 (TCP/IPv4) Properties and select **Obtain an IP Address automatically & Obtain an DNS Server Address Automatically →OK**



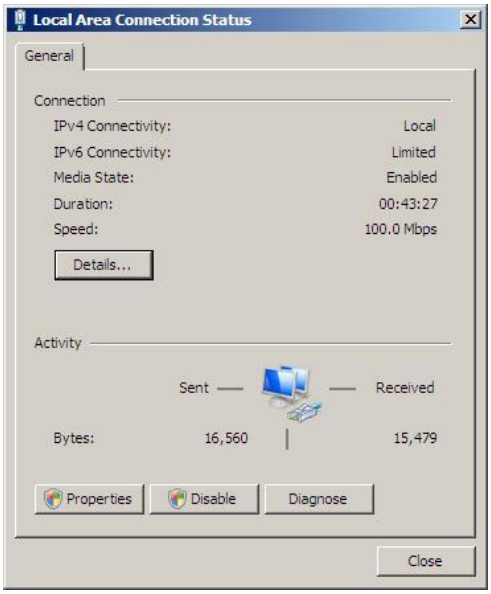
2. Open the **Command Prompt →**and type **ipconfig /release**

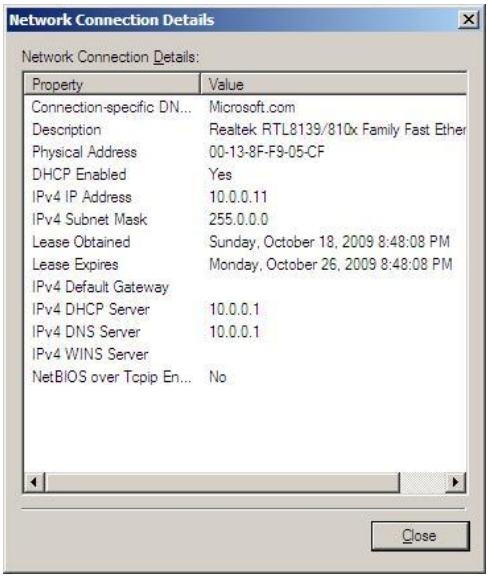


3. Then type **ipconfig /renew**



4. After that Right click on network Icon →Select properties →click View Status and click **Details** to View the IP address.

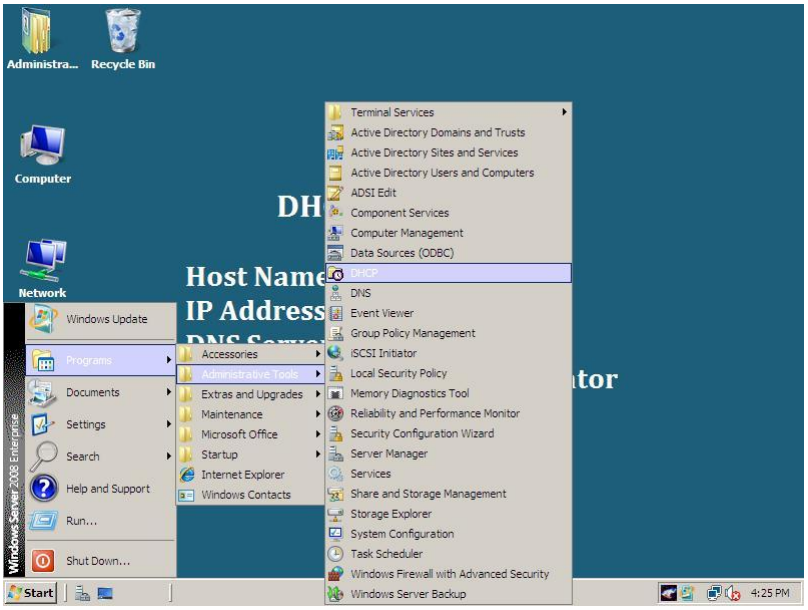




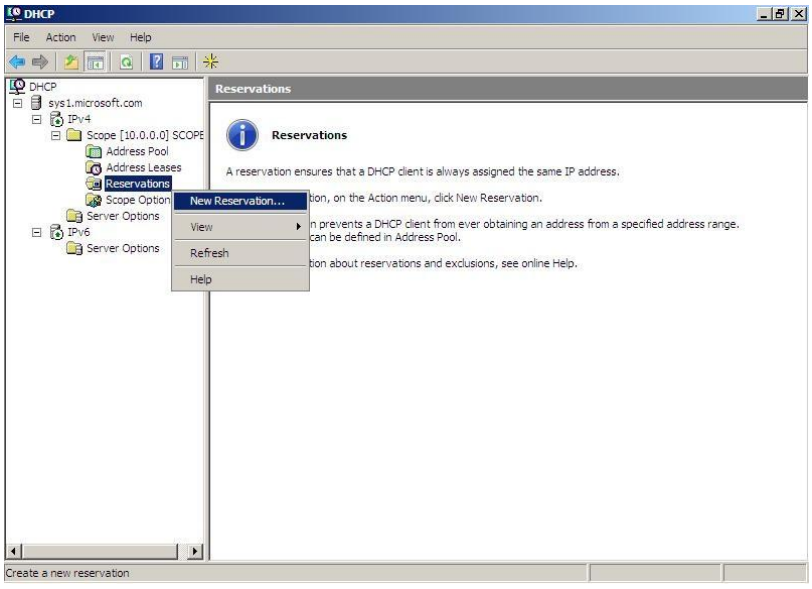
Lab – 3: Creating DHCP Reservations

SYS1 - CONFIGURATION

1. Select Start → Programs → Administrative Tools →**DHCP**

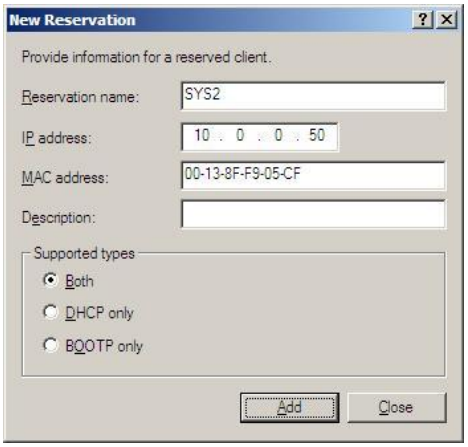


2. In the left pane of the DHCP dialog box, expand the scope→ Right click **Reservation** →Select **New Reservation**



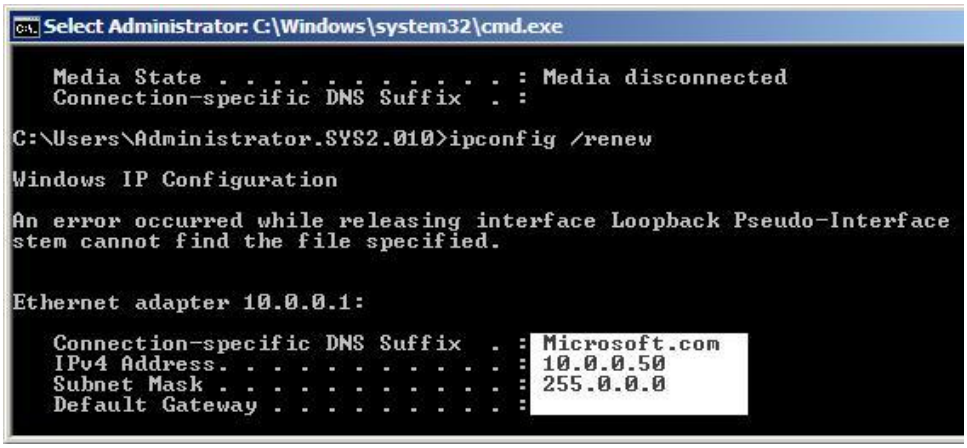
3. Type in a name for the reservation in the **"Reservation name"** text box. Then, in the **"IP address"** text box, mention the IP address that you want to be reserved. Then, enter the MAC address of the network adapter of the computer for which the reservation is being made in the box provided →click **add** →click **close.**

   Note: To Know the MAC or Physical address of the client type **ipconfig /all** or **getmac** in command prompt of client computer.



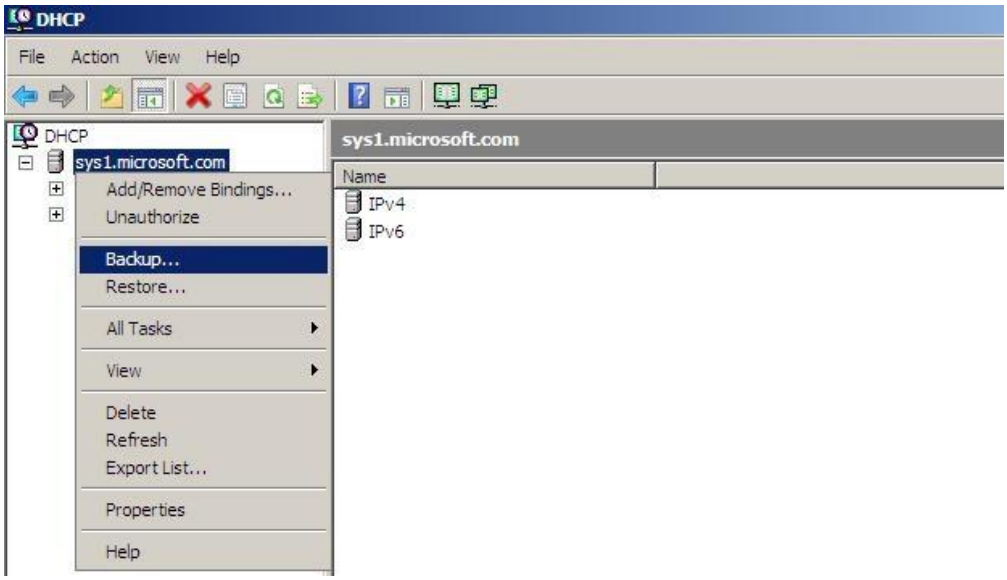
Check the output in the client computer (SYS2).

4. In the command prompt type **ipconfig /release** and **ipconfig /renew.**

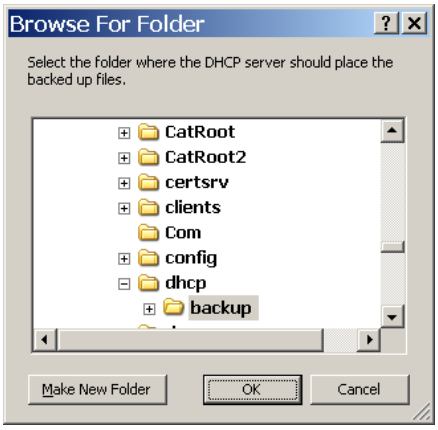


Lab – 4: DHCP Server Backup and Restore

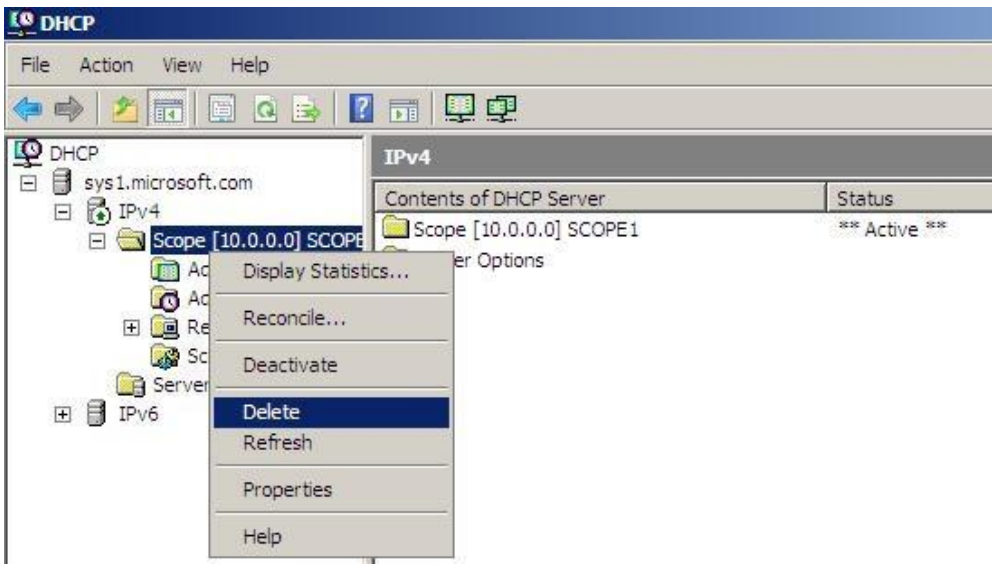
1. Open **DHCP server** →Right click the system name →select **Backup**



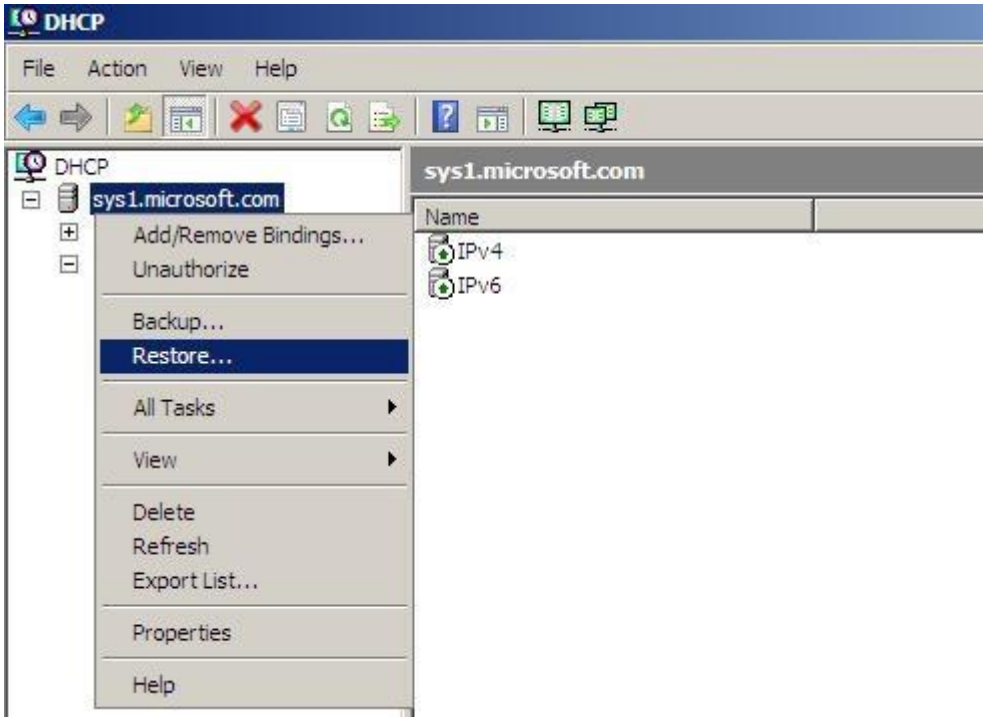
2. Select the Location to save the **backup file →OK**



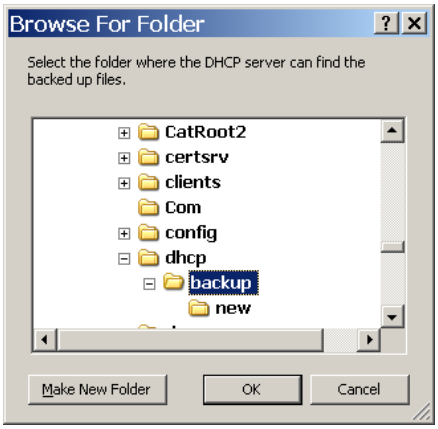
3. **Delete** the scope



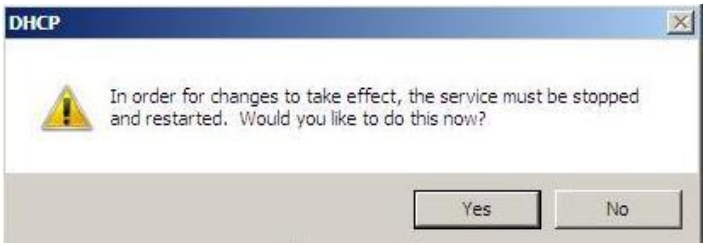
4. Open **DHCP server** →Right click the system name →select **Restore.**



5. Select the location of file for **restoring.**



6. Click **yes** in the message and **refresh.**

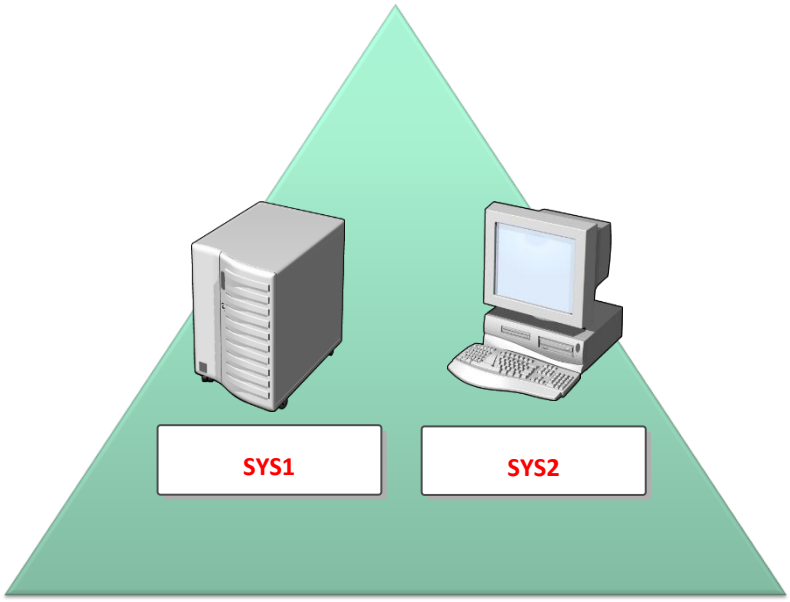


DOMAIN NAMING SYSTEM (DNS)

Prerequisites:

Before working on this lab, you must have

1. A computer running windows 2008 server or Domain Controller.
2. A computer running windows 2008 server.



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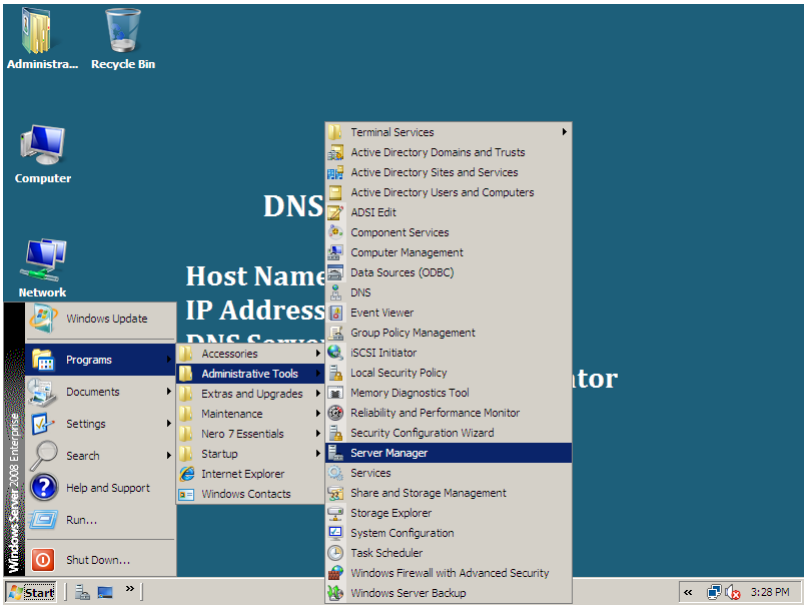
SYS1		**SYS2**	
Domain Controller / DNS Server		**Member Server / DNS Server**	
IP Address	10.0.0.1	IP Address	10.0.0.2
Subnet Mask	255.0.0.0	Subnet Mask	255.0.0.0
Preferred DNS	10.0.0.1	Preferred DNS	10.0.0.2

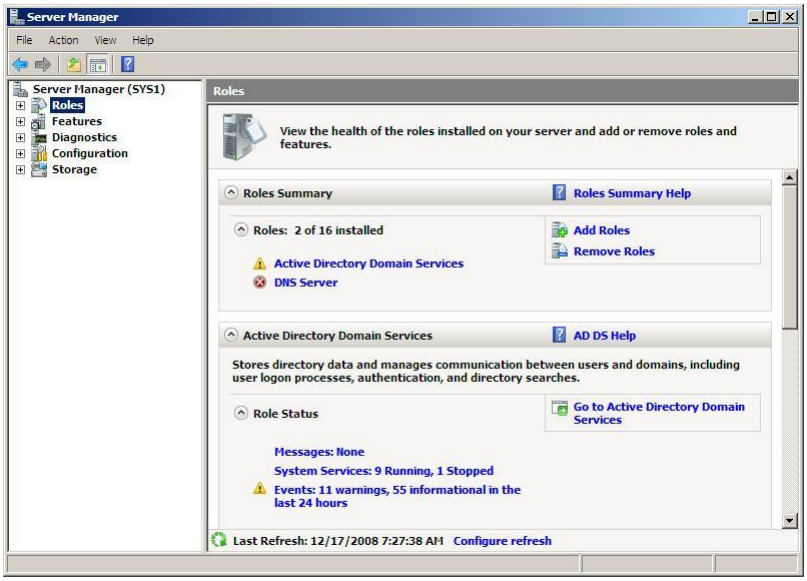
Lab – 1: Installing DNS Service

SYS1 -CONFIGURATION

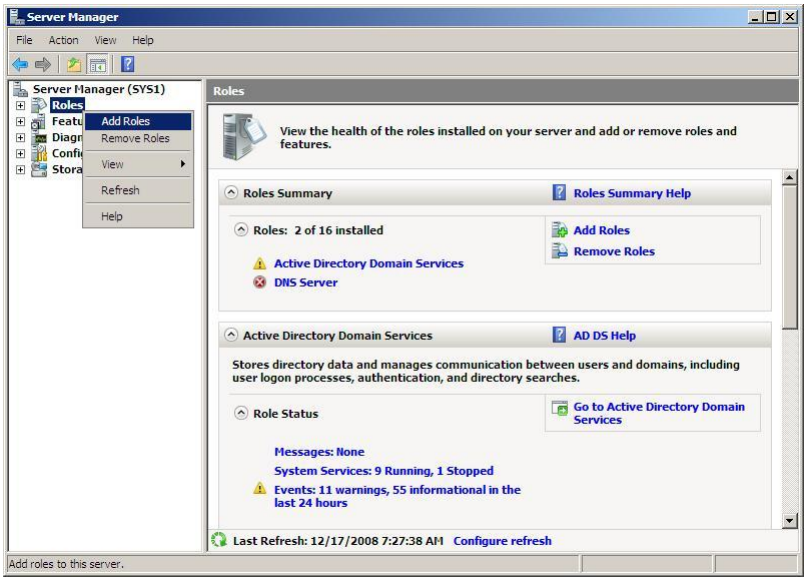
1. Select Start →Programs →Administrative Tools→**Server Manager**.



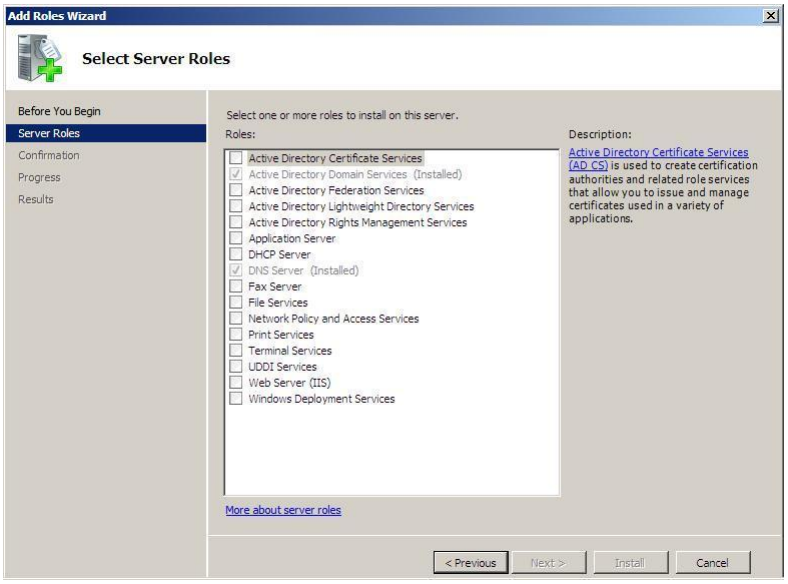
2. In the Server Manager Console, Select **Roles**



3. Right click on Roles and click **Add Roles**.



4. In **Add Roles** dialog box select the check box next to **DNS Server** Role & click **Next →Next→ Install → Finish.**

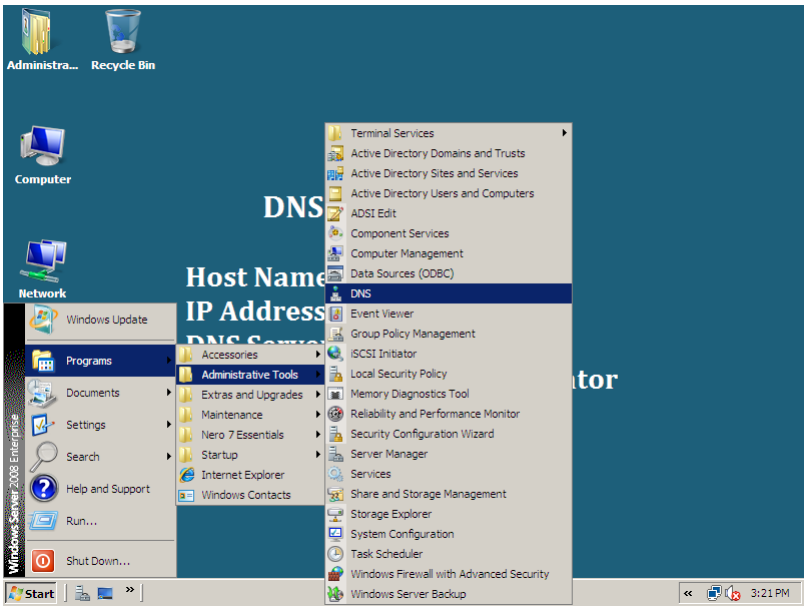


Note: On **Domain Controller**, by default DNS Server Role will be installed**.**

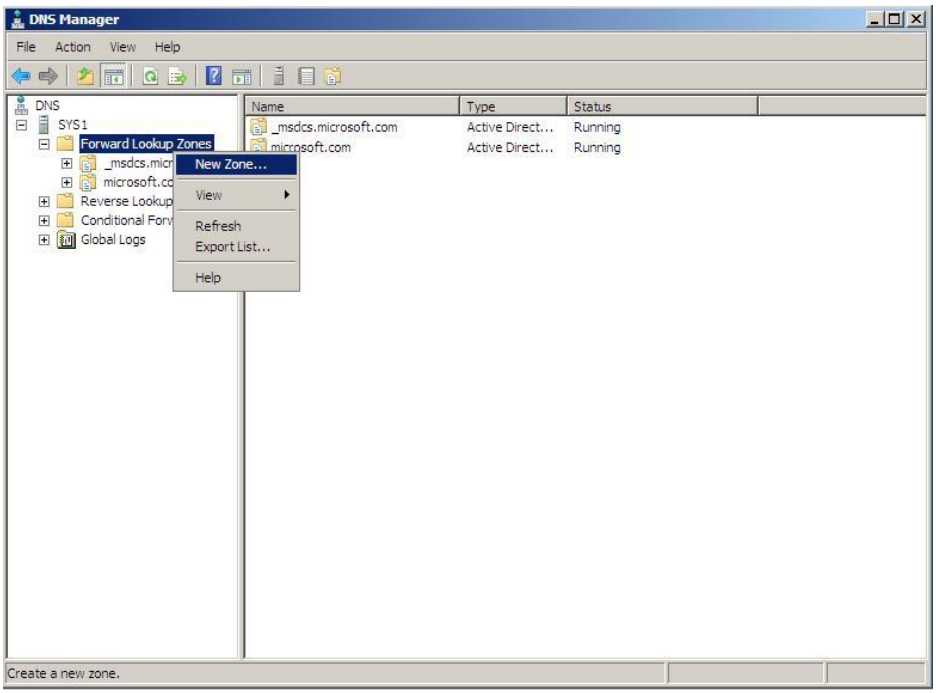
On **Member Server** we have to install the DNS Server Role Manually using the same process.

Lab – 2: Creating Standard Primary - Forward Lookup Zone

1. Select Start → Programs → Administrative Tools →**DNS.**

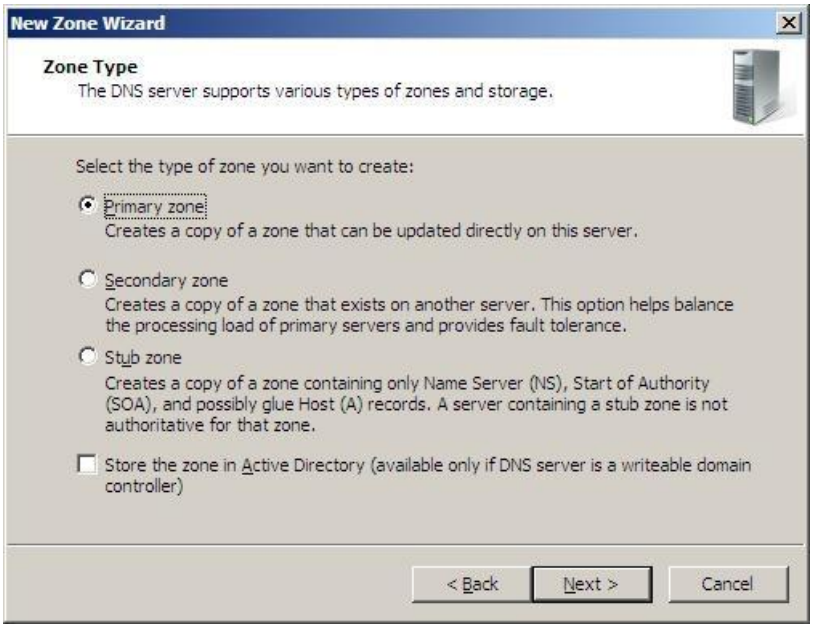


2. In the DNS dialog box, Expand the **DNS server name** in the **left pane** Right click the **Forward Lookup Zones** →select **New Zone**

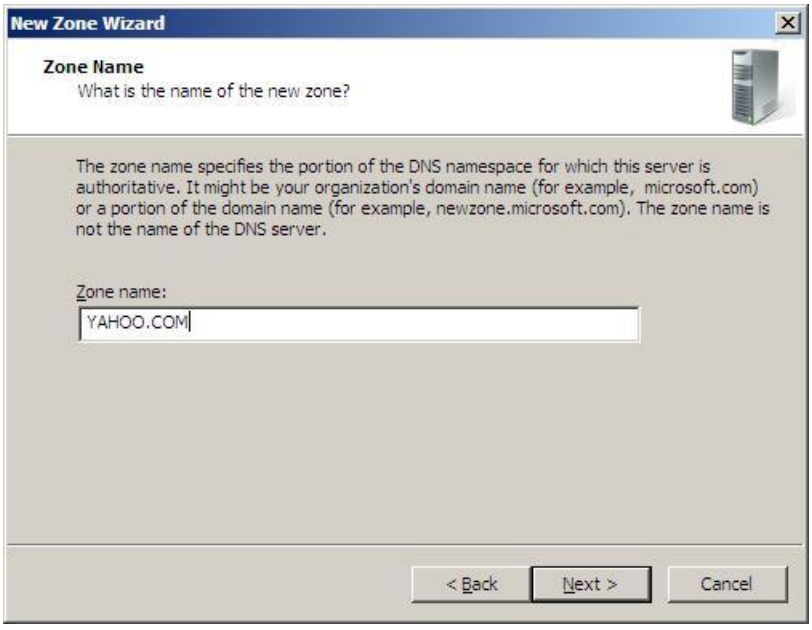


3. In the welcome to new zone wizard click **Next**

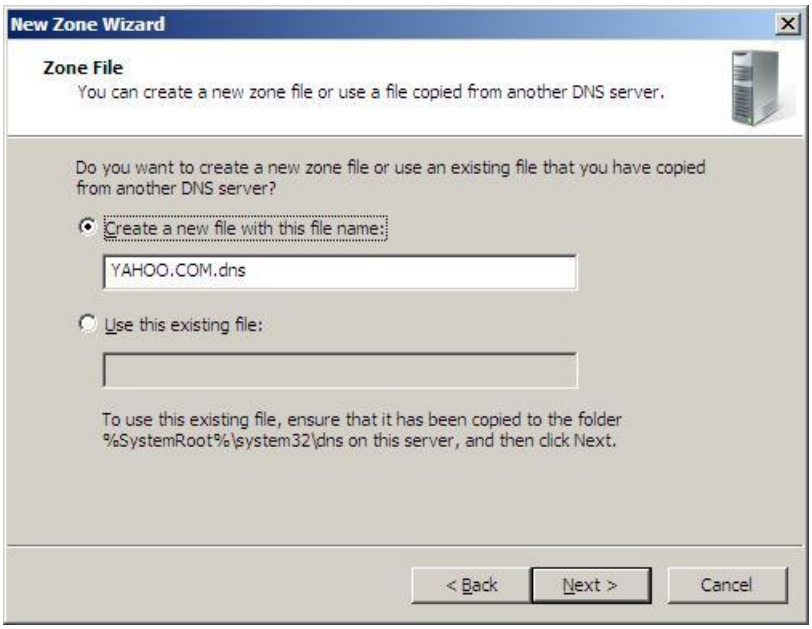
4. Select **“Primary Zone”** and Remove the check box for **"Store the zone in Active Directory"**, click **Next.**



5. In the Zone Name screen, type in the name of the zone you are creating. This name is usually the FQDN of the DNS domain that the zone will contain, such as **YAHOO.COM** →click **Next.**

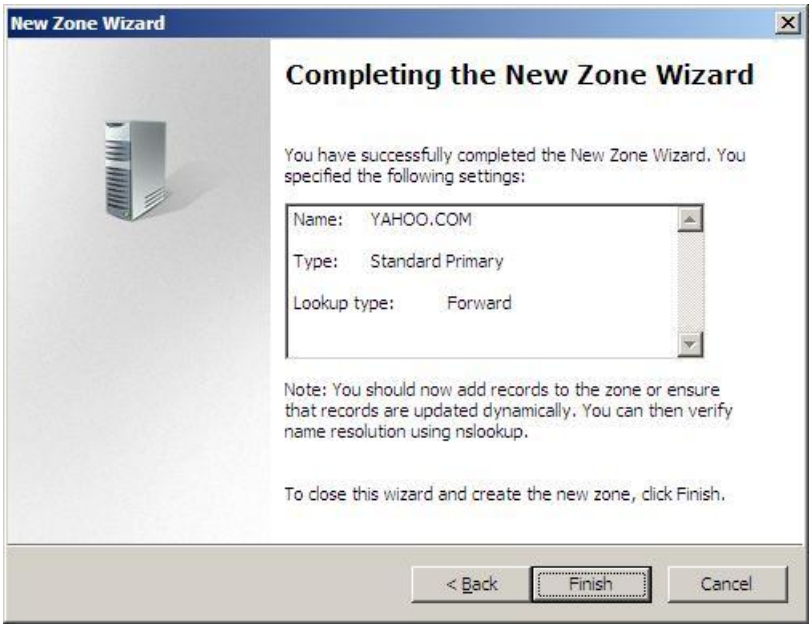


6. The Zone File screen appears. In this screen, you can either create a new zone file for the new zone, or configure the new zone to use an existing file. click **Next.**



7. In dynamic Update Select **"Allow both non-secure and secure dynamic update"**→click **Next.**

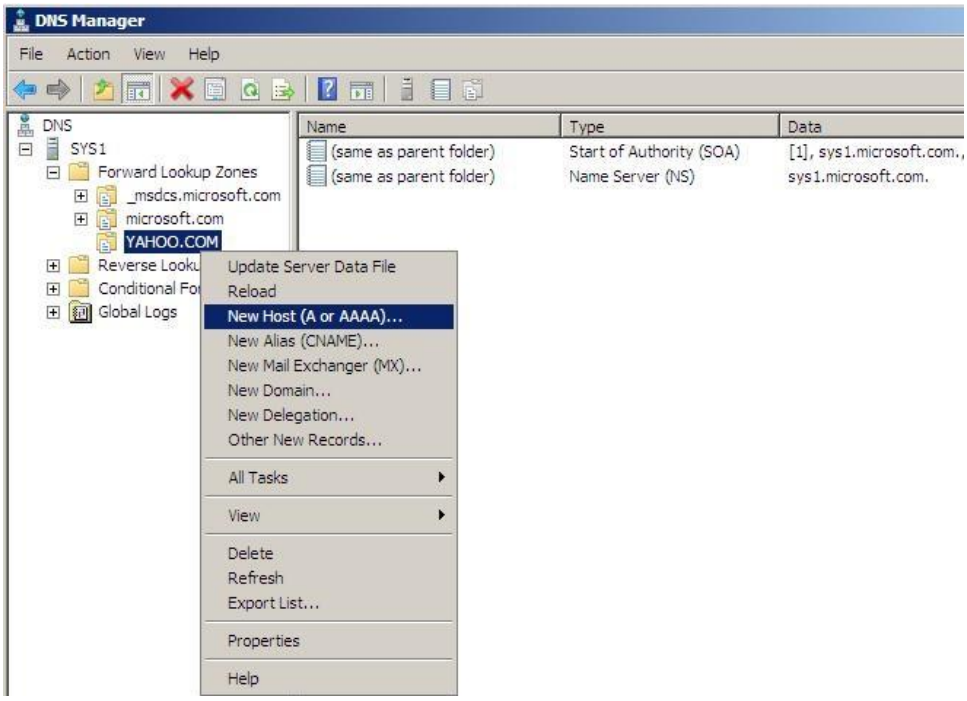
8. The Completing the New Zone Wizard screen appears. Click **Finish.**



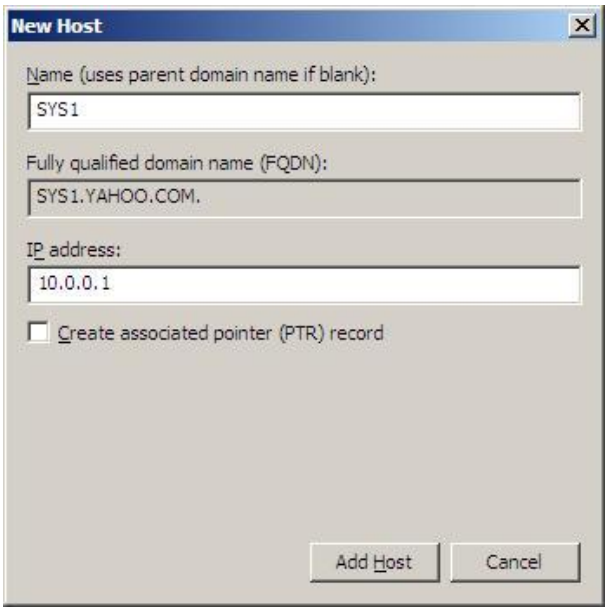
9. In the DNS Console, the new zone you created appears in the right pane.

Creating Host Records for the standard primary zone

1. Select Start → Programs → Administrative Tools →**DNS.**
2. Right click the zone and select **New Host.**

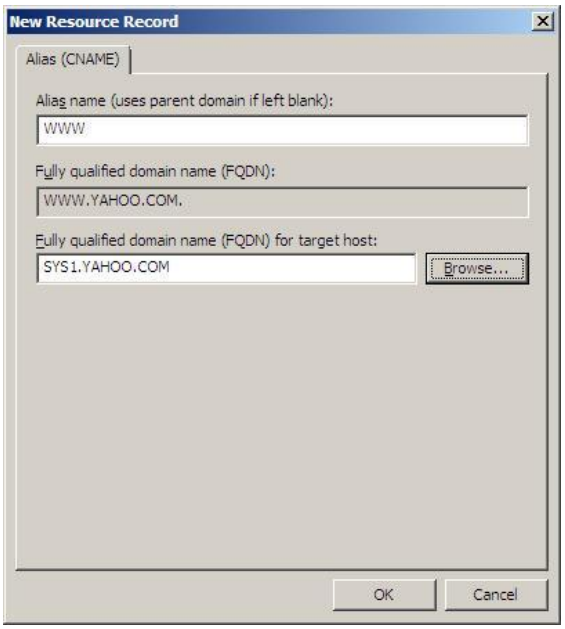


3. In the host name dialog box enter the **Host name** for which you are configuring the record Ex: **SYS1** & enter the **corresponding IP address of the host** →click **'Add Host' →OK →Done.**



Creating an Alias record for the host record

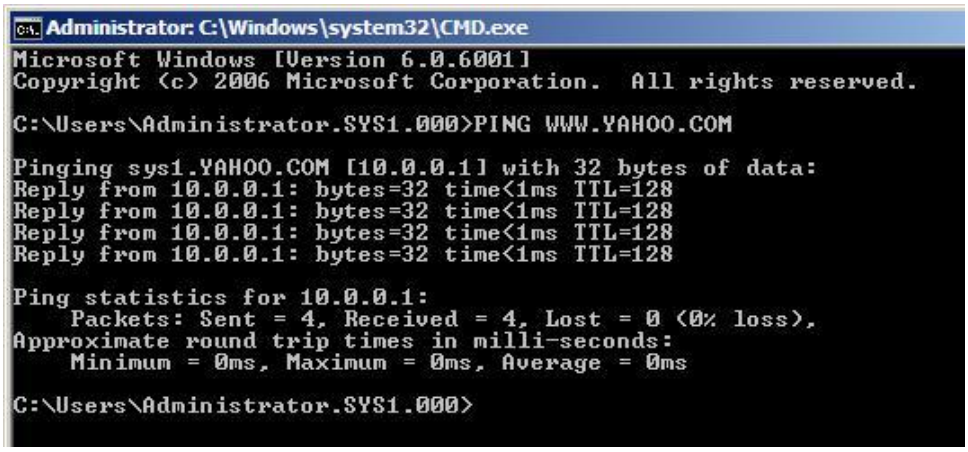
1. Select Start → Programs → Administrative Tools →**DNS.**
2. Right click the zone and select **New Alias.**
3. Enter the name in the **'Alias Name'** dialog box Ex: www
4. Click Browse →Double click system name →double click Forward Lookup Zone →double click the zone name →select the host name →click **OK→OK**



VERIFICATION:

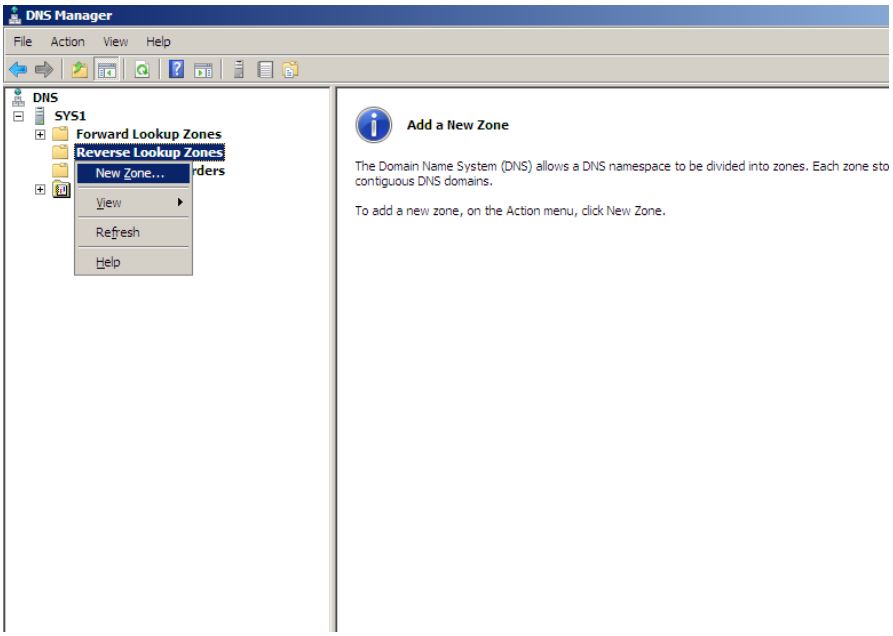
1. Open **Command Prompt** →type **ping FQDN** (Fully Qualified Domain Name)

   Ex: Ping SYS1.YAHOO.COM (or) Ping WWW.YAHOO.COM
2. Name should be resolved into IP Address.



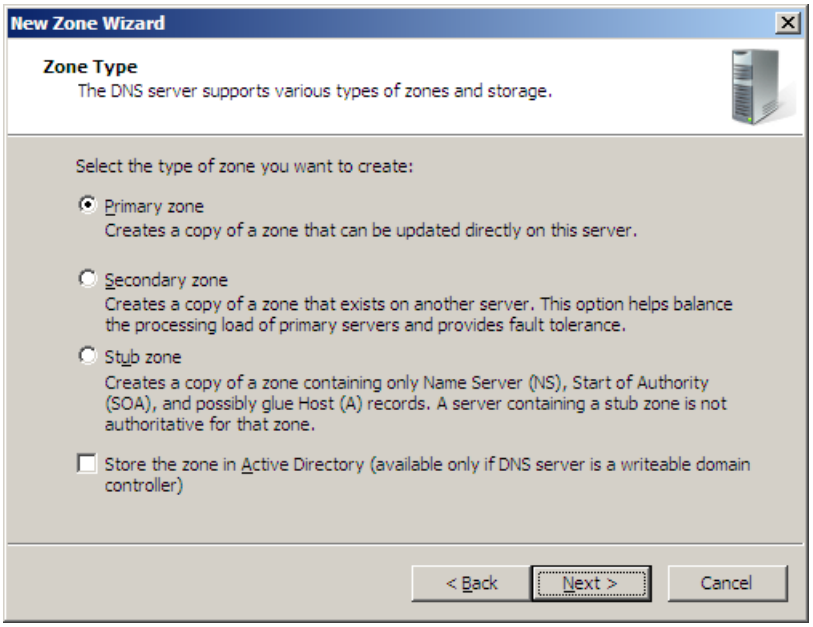
Lab – 3: Creating Standard Primary - Reverse Lookup Zone

1. Select Start → Programs → Administrative Tools →**DNS.**
2. In the DNS dialog box, Expand the **DNS server's name** in the **left pane** Right click the **Reverse Lookup Zones** →Select **New Zone.**

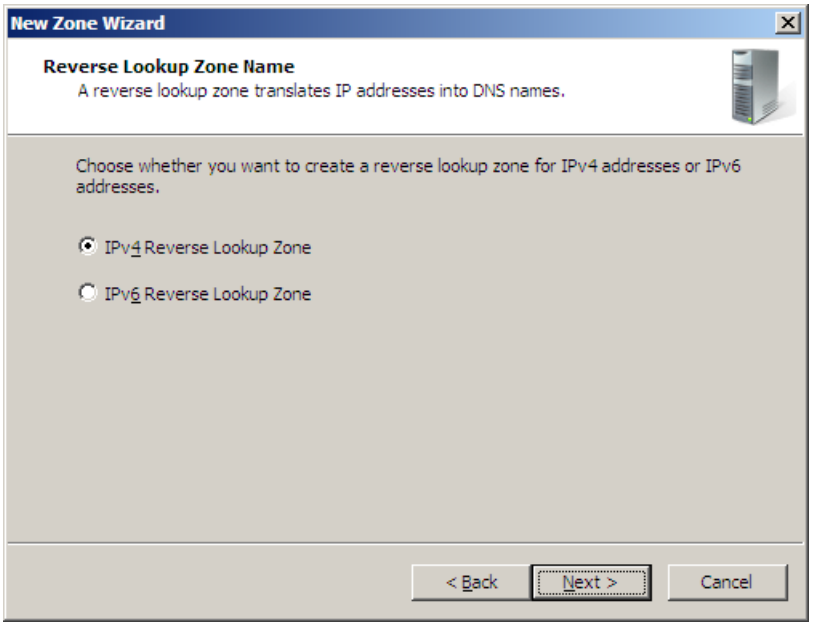


3. Click **Next**

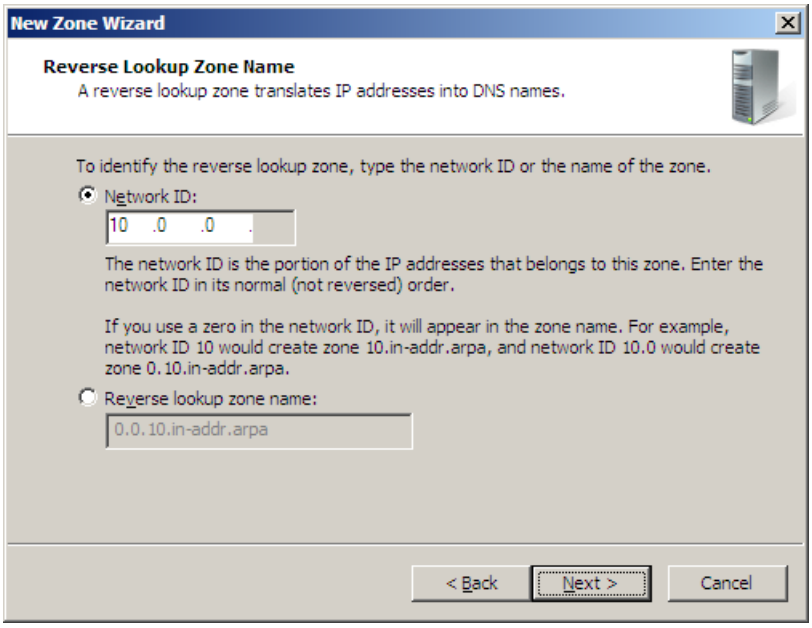
4. Select **“Primary Zone”** and Remove the check box for **"Store the zone in Active Directory"**, click **Next.**



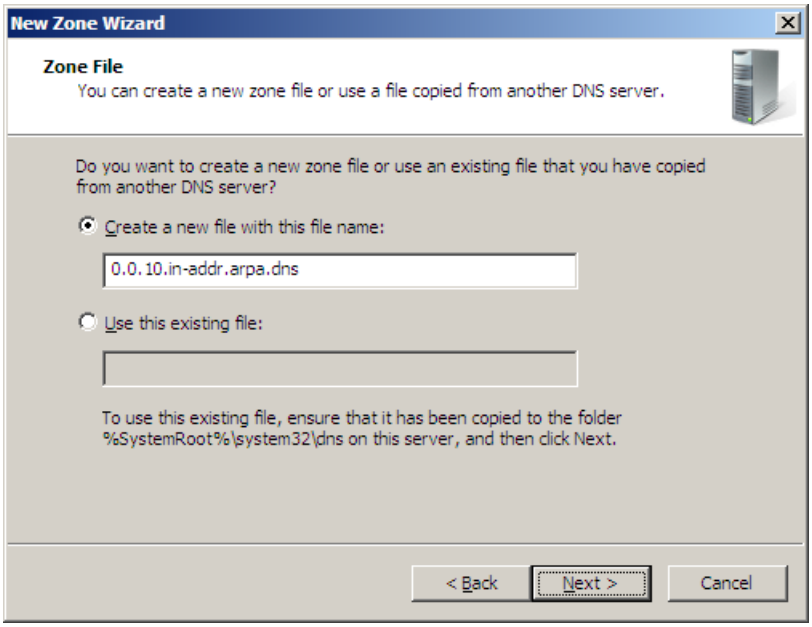
5. Check **IPv4** Reverse Lookup Zone



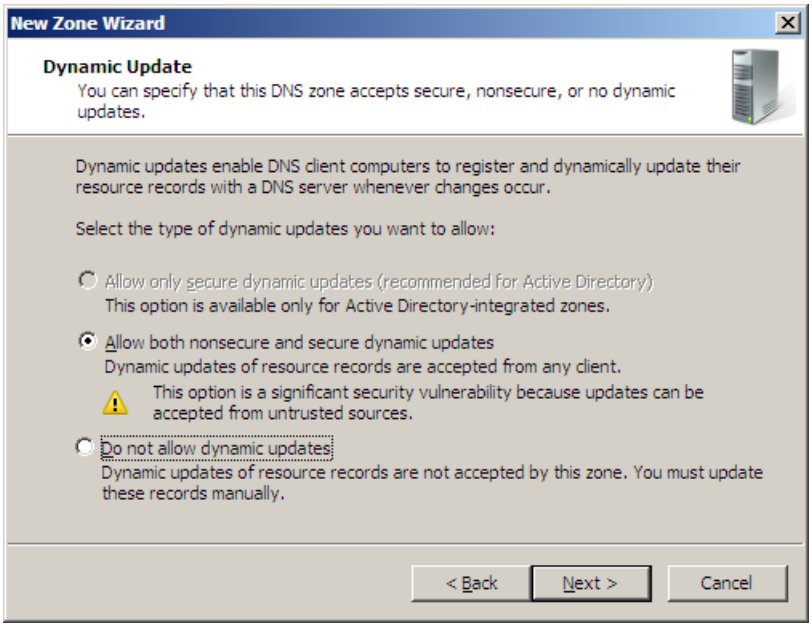
6. In the network ID give the first three octets Ex: 10.0.0→**Next**



7. Click **Next**

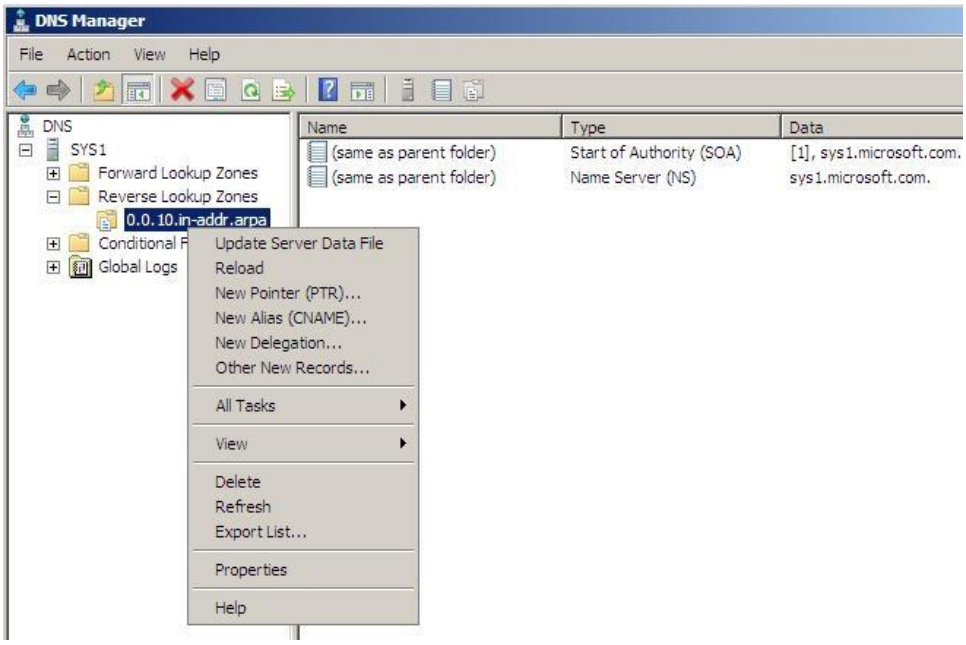


8. In dynamic Update Select **"Allow both non-secure and secure dynamic update"**→click **Next** →**Finish**

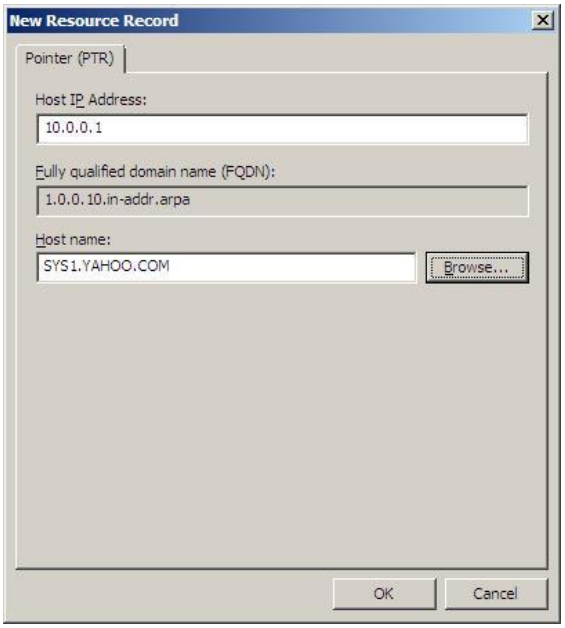


Creating pointer record

1. Select Start →Programs →Administrative Tools →DNS
2. Expand Reverse lookup zone and Right click the zone →select **New Pointer**

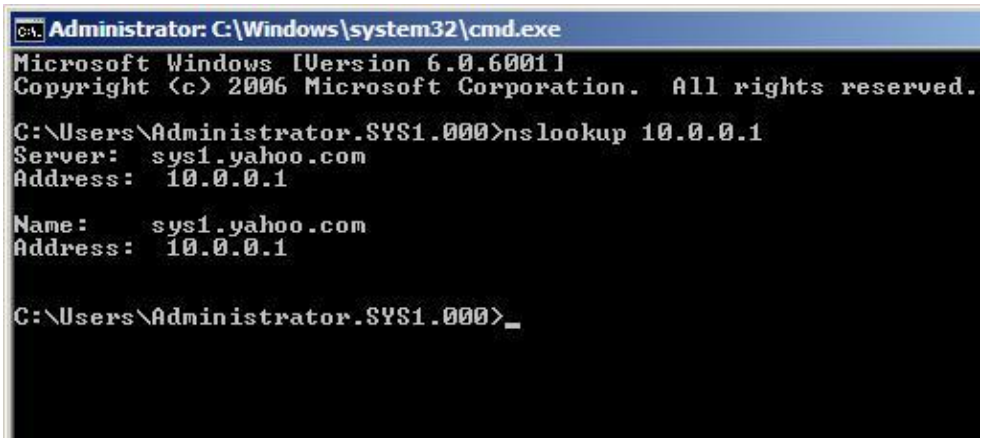


3. In the pointer record give the fourth octet →click browse →double click server name (SYS1) →double click Forward Lookup Zone →double click the zone name(Yahoo.com) →double click the host name (SYS1) →**OK**



Verification:

1. Open the command prompt and type **nslookup 10.0.0.1**



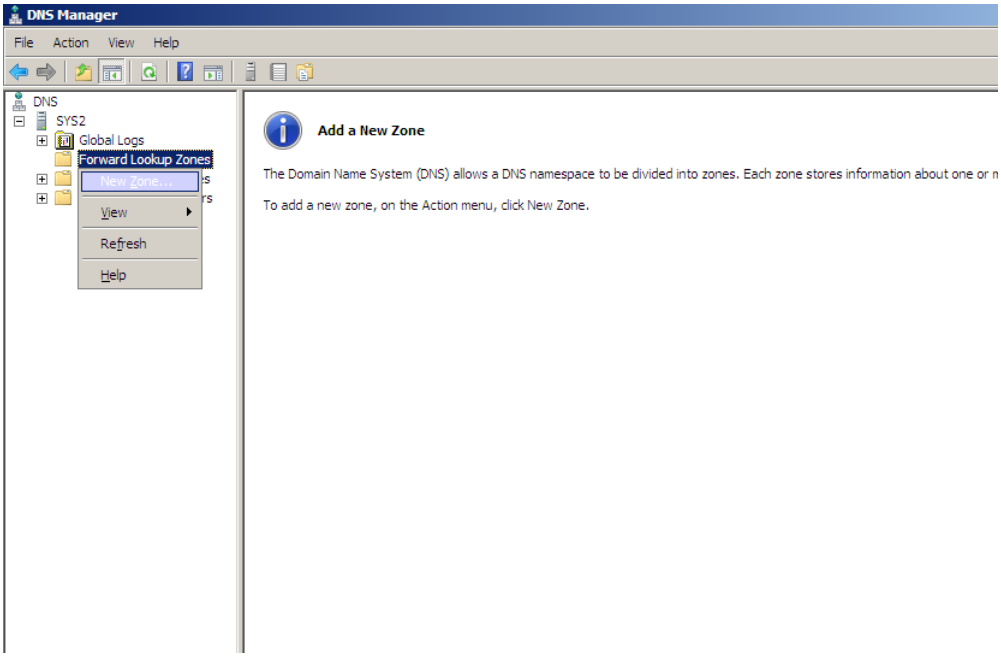
Lab – 4: Creating secondary zone

SYS1 - CONFIGURATION

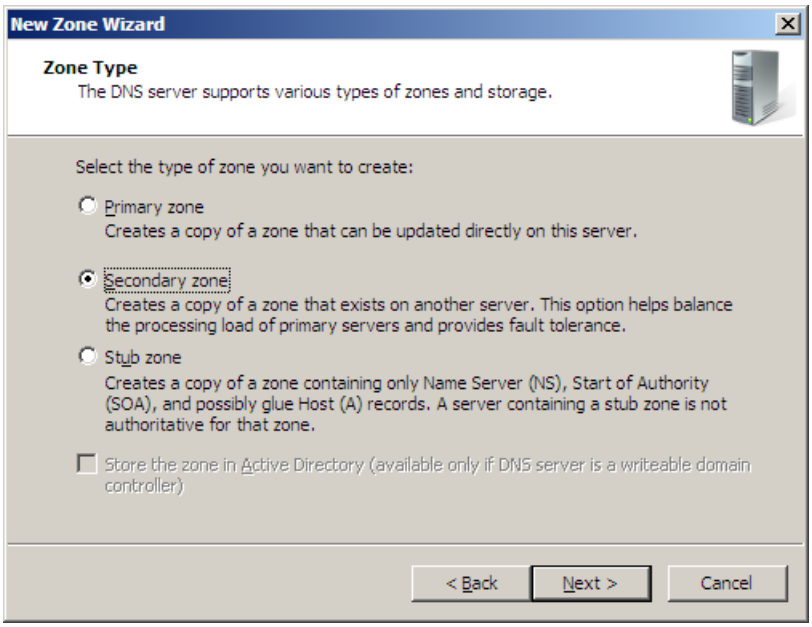
1. In **SYS1** one primary zone should be present. E.g.: Yahoo.com

SYS2 - CONFIGURATION

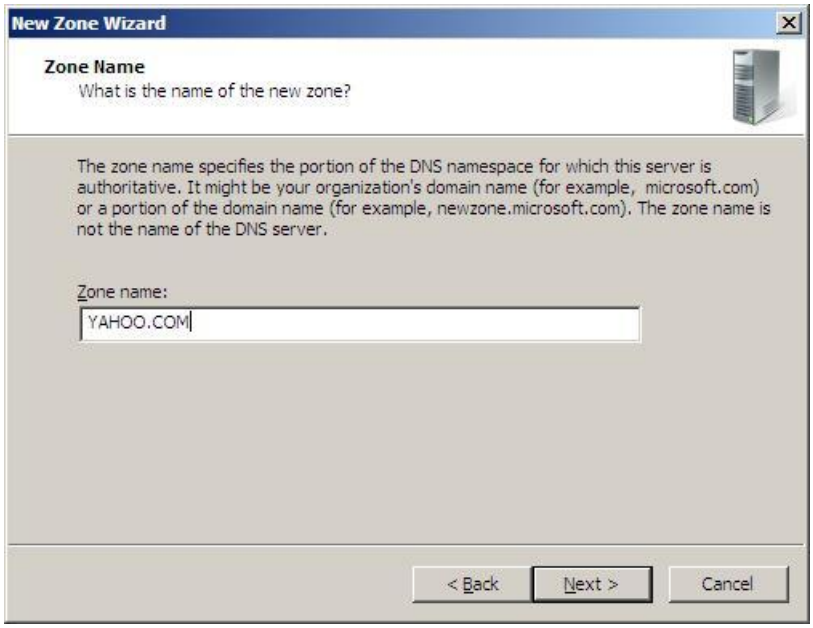
2. Select Start → Programs → Administrative Tools →**DNS.**
3. In the DNS dialog box, Expand the DNS server's name in the left pane.
4. Right click **Forward Lookup Zones** →select **new zone** →Next



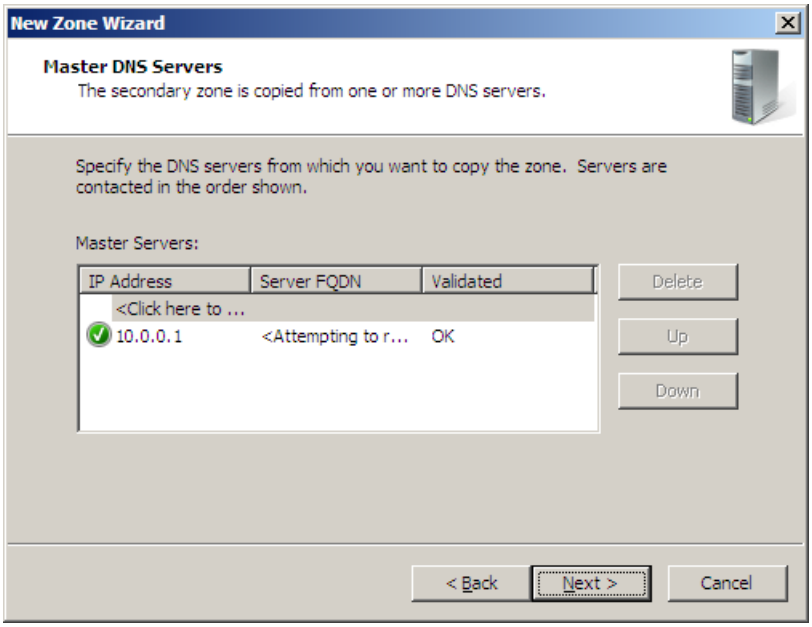
5. Select **Secondary zone →Next**



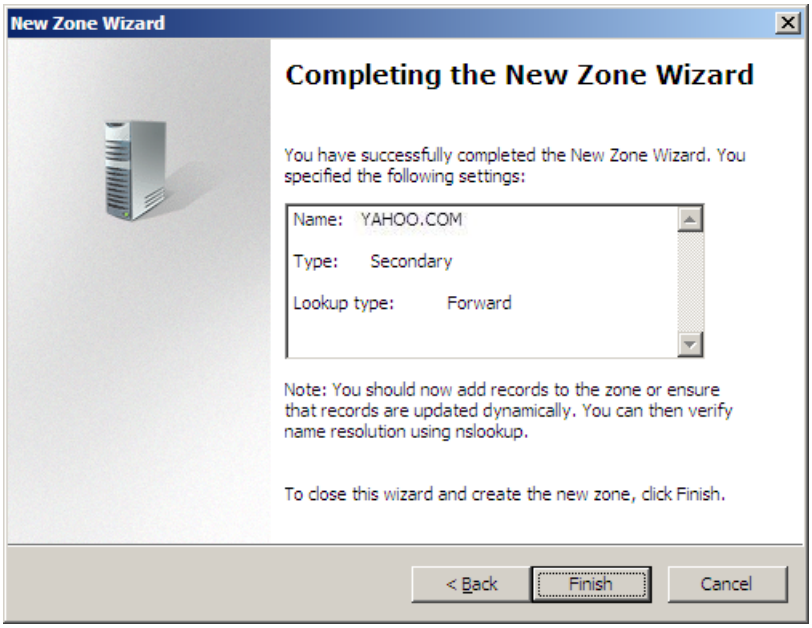
6. Give the name of **primary zone** →click **Next.**



7. Give the **IP address of primary zone** Ex: 10.0.0.1 →click **Next.**



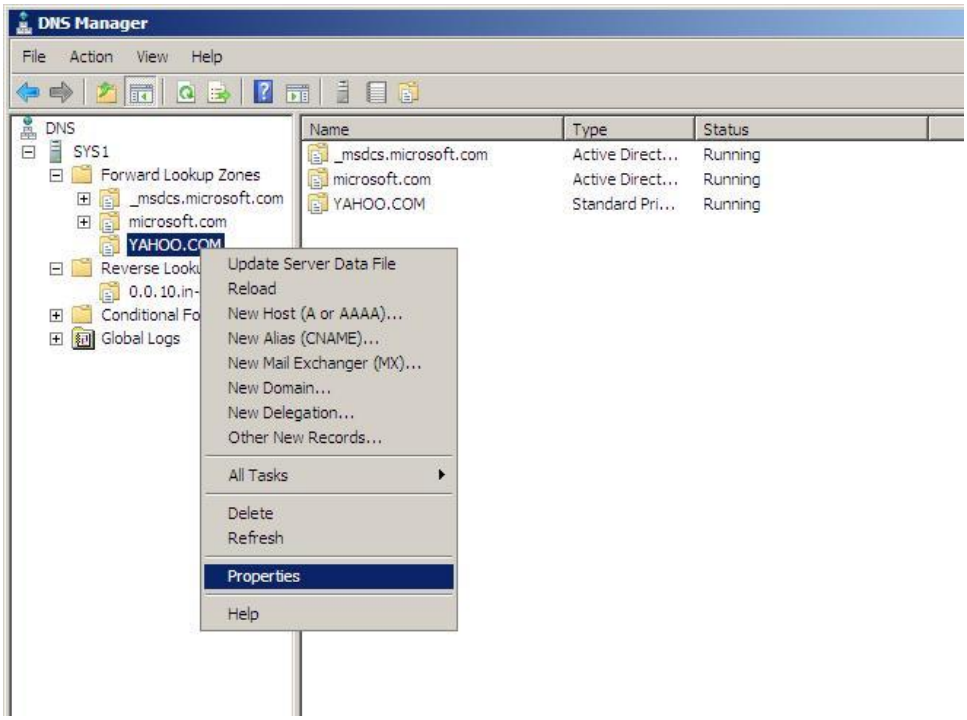
8. Click **Next→ Finish.**



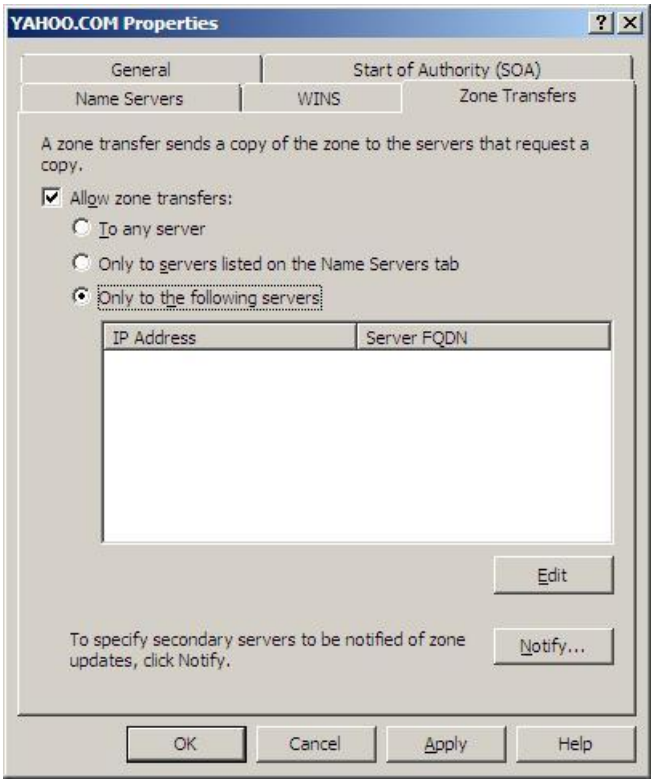
Allow zone transfers to secondary zone

SYS1-CONFIGURATION

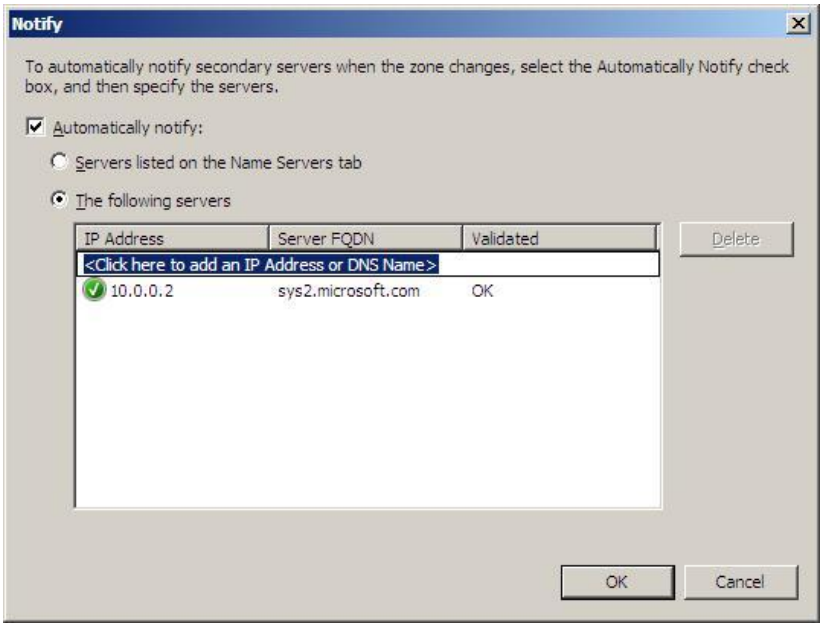
1. Select Start → Programs → Administrative Tools →**DNS.**
2. In the DNS dialog box, Expand the DNS server's name in the left pane → Expand Forward Lookup Zone →Right click **primary zone** →select properties.



3. Select **zone transfers** Tab →check the box for **Allow zone transfers** →select **only to the following servers.**



4. Click **Edit** and mention the **Computer IP address of secondary zone.** Click Notify →Select **to the following servers** →and mention the **Computer IP address of secondary zone.**



5. Click Apply →**OK** → Again Click Apply →**OK.**

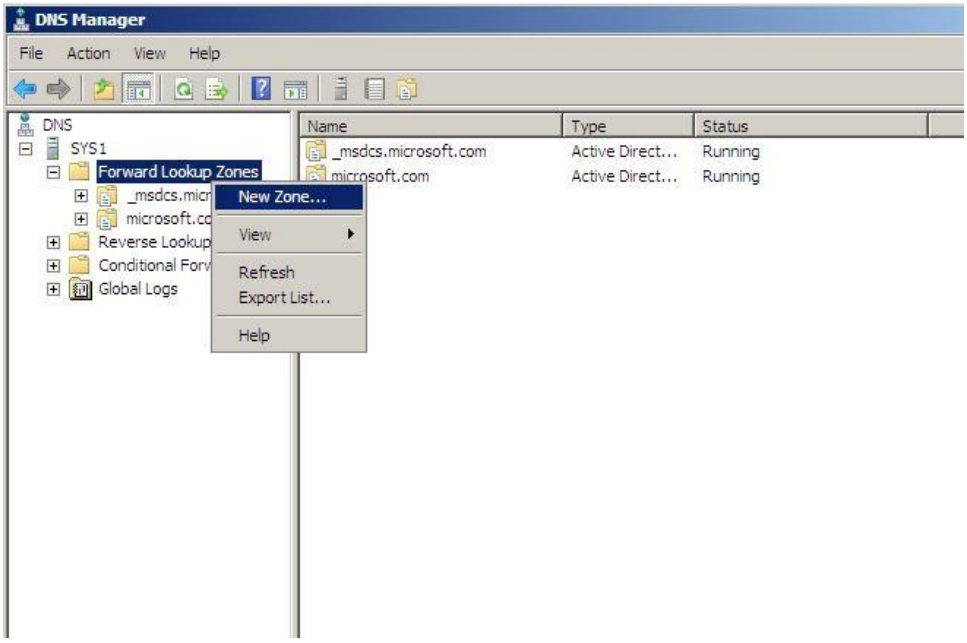
Lab – 5: Creating Stub zone

SYS1-CONFIGURATION

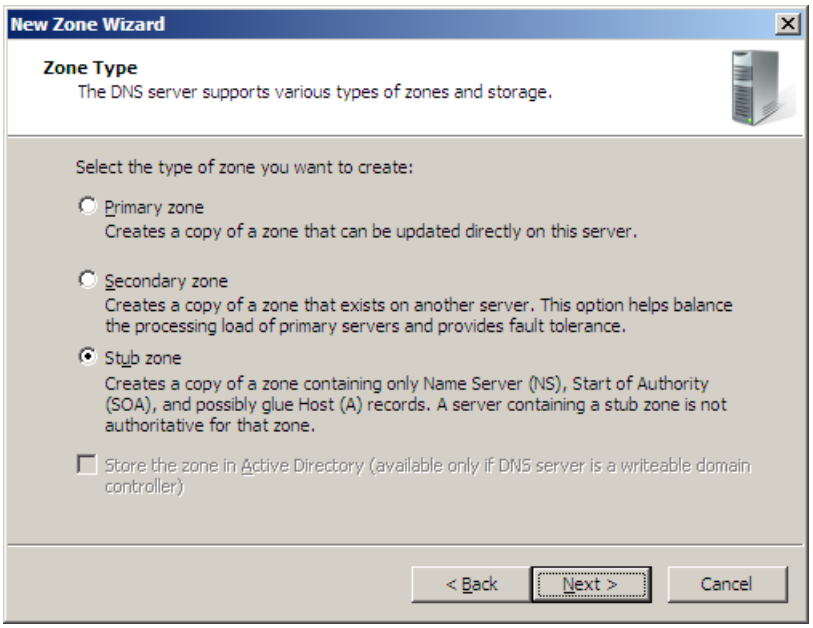
1. Log on to **SYS1** and create a primary zone **Msn.com** along with host and alias records.

SYS2-CONFIGURATION

1. Log on to **SYS2** and Select Start → Programs → Administrative Tools →**DNS.**
2. In the DNS dialog box, Expand **DNS server name** in the left pane Right click **Forward Lookup Zones** →Select **new zone** →**Next**

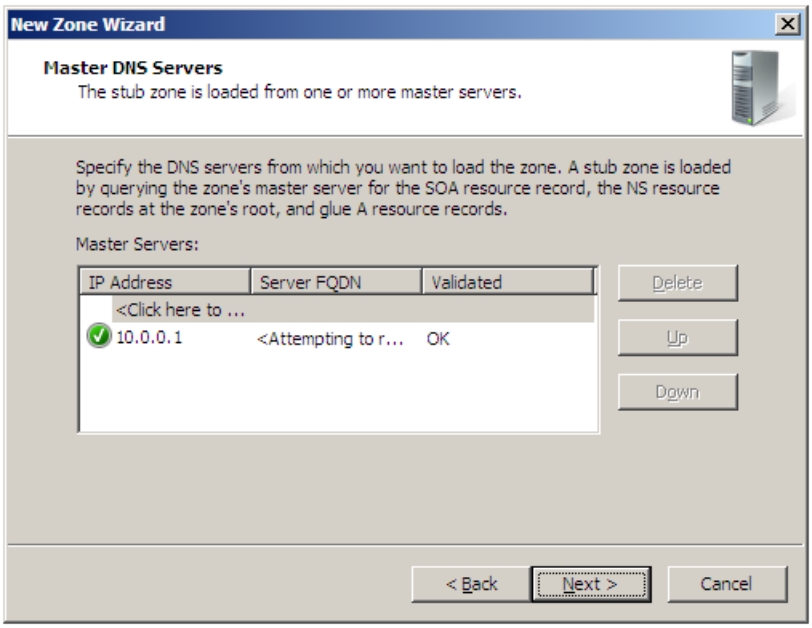


4. Select **Stub zone** →**Next**



5. Give the name of **primary zone (Msn.com)** →click **Next.**

6. Give the **IP address of primary zone** Ex: 10.0.0.1→click **Next.**

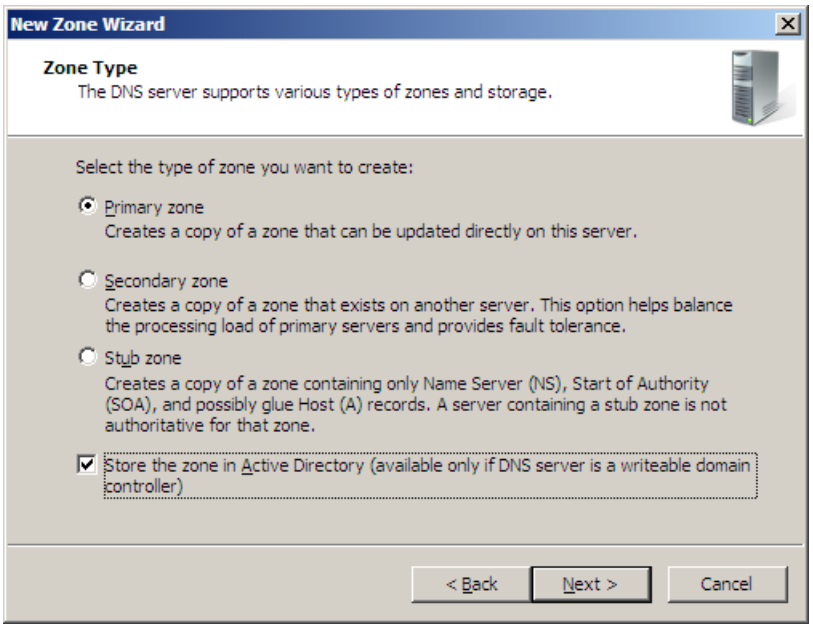


9. Click Next →**Finish.**

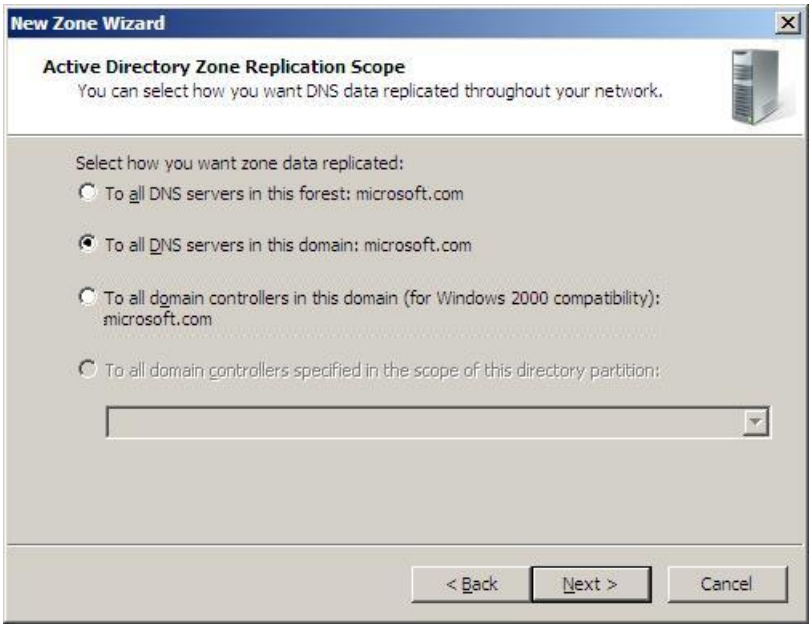
10. **Refresh the stub zone** and verify for records.

Lab – 6: Creating Active Directory Integrated Primary zone

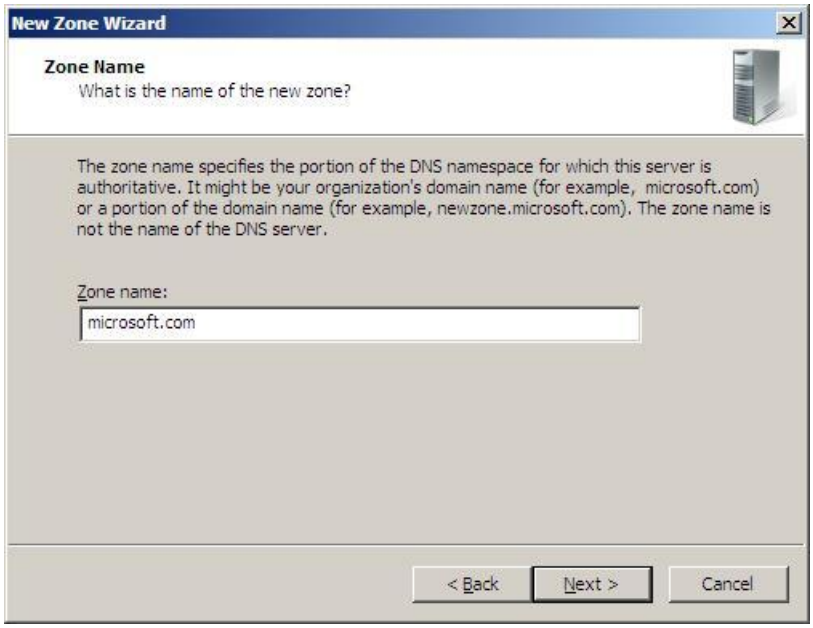
1. Select Start → Programs → Administrative Tools →**DNS.**
2. In the DNS dialog box, expand the DNS server's name in the left pane Right click **Forward Lookup Zones** →select **new zone**
3. Click Next → Accept the default option of **"Primary Zone"** and Select the check box for **"Store the zone in Active Directory"** →click **Next.**



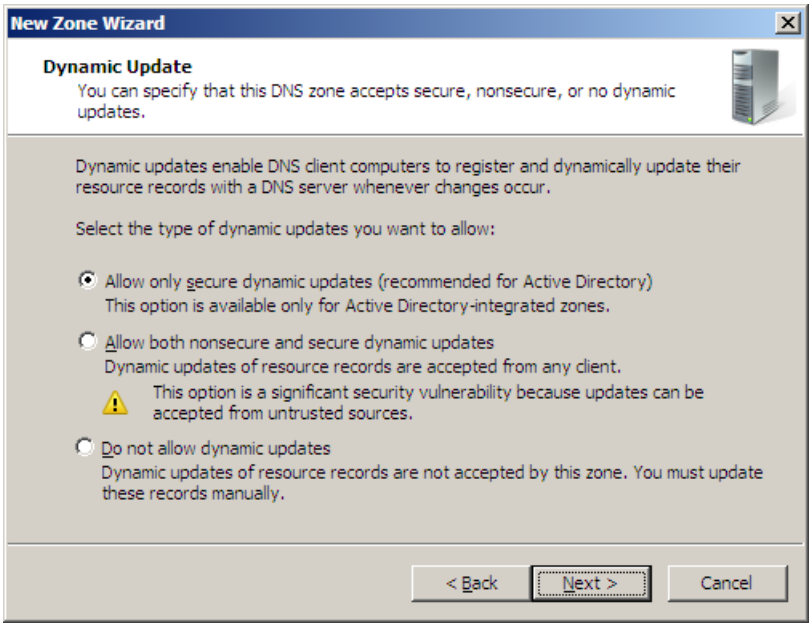
4. In AD Zone Replication Scope, Select the **"To all DNS servers in Active directory domain"**→click **Next.**



5. Give the Zone Name same as the **domain name** (Ex: Microsoft.com) click **Next.**



6. Select **"Allow only secure and dynamic update"** →click **Next →Finish.**

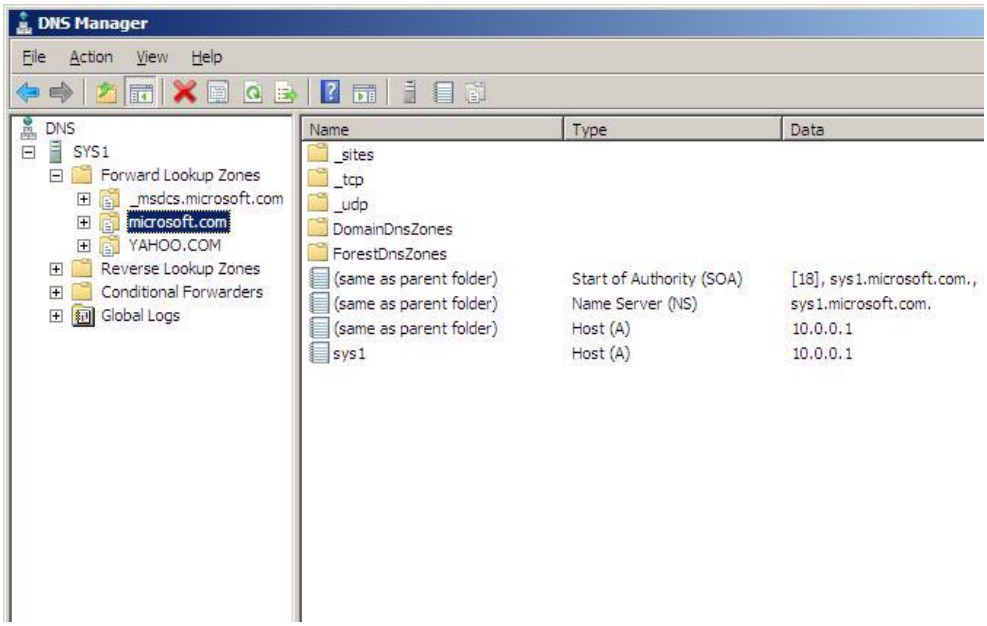


Verification:

1. Verify for the Service records in Microsoft.com zone.

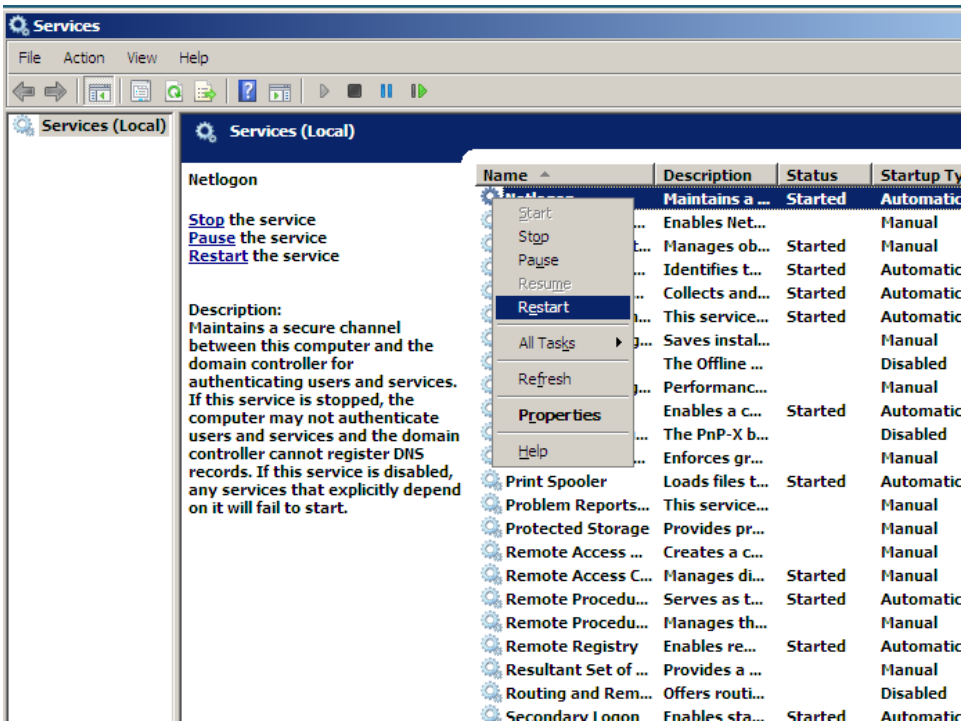
   NOTE: Service records are available only for the zone with the domain name.

2. In **DC** by default the service records are created in the DNS server in the zone with domain name.



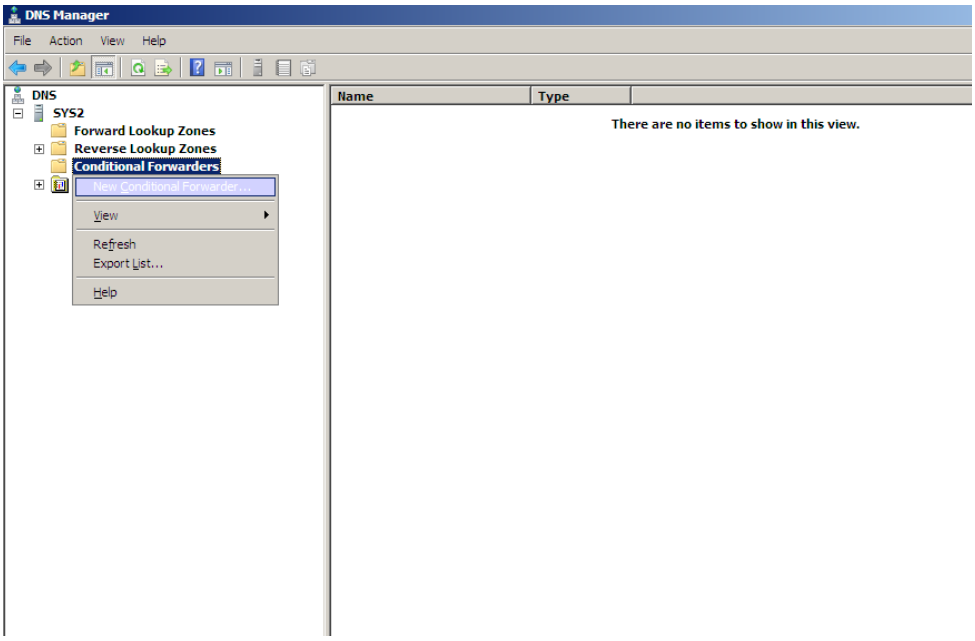
Note: To get the missing records restart the services **Netlogon and DNS Server.**

3. Select Start →Programs →Administrative Tools →Services → Right click on **Netlogon** and click **restart,** Right click on **DNS Server** and click **restart.**

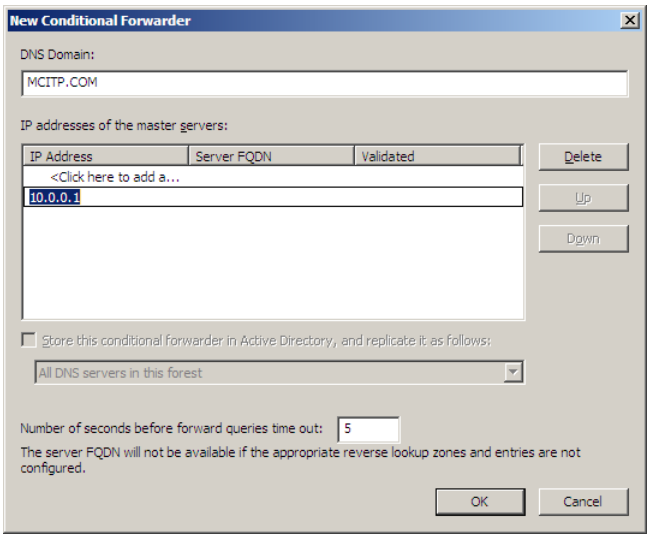


Lab – 7: Conditional Forwarders

1. In **SYS1** create a zone with the name Ex: **MCITP.COM** with host and alias records.
2. In **SYS1** open the command prompt and type ping www.MCITP.COM
3. There will be a reply from 10.0.0.1
4. In **SYS2** assign the **IP Address** and **Preferred DNS** as **10.0.0.2**
5. In **SYS2** open the command prompt and type ping www.MCITP.COM
6. There will not be any reply because the information is in 10.0.0.1
7. If **SYS2** has to resolve the query then configure forwarders in **SYS2** properties.
8. Go to DNS dialog box in **SYS2** →Right click on **conditional forwarders** →select **New conditional forwarders**



9. Mention the DNS Domain as **MCITP.COM** and add the IP address of primary zone.



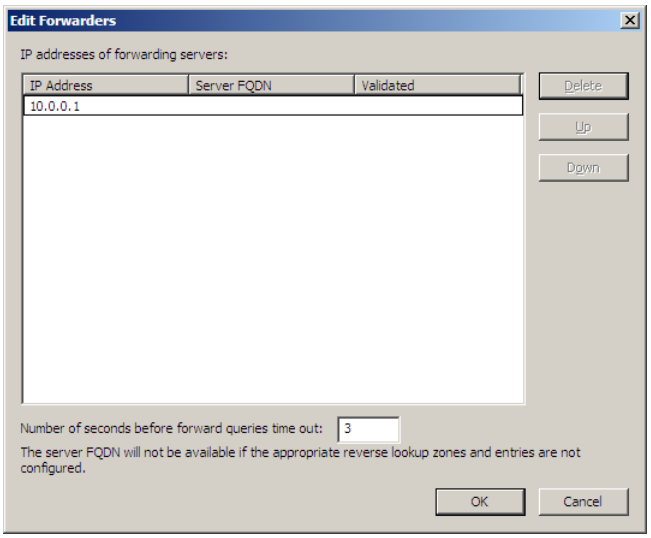
10. In **SYS2** open the command prompt and type ping www.MCITP.COM
11. There will be a reply from 10.0.0.1

Note: Only MCITP.COM names can be resolved with the above process.

Lab – 8: Forwarders

1. In **SYS1** create a zone with the domain name Ex: **Microsoft.com** with host and alias records.
2. In **SYS1** open the command prompt and type ping www.Microsoft.com
3. There will be a reply from 10.0.0.1
4. In **SYS2** assign the **IP Address** and **Preferred DNS** as **10.0.0.2**
5. In **SYS2** open the command prompt and type ping www.Microsoft.com
6. There will not be any reply because the information is in 10.0.0.1
7. If **SYS2** has to resolve the query then configure forwarders in **SYS2** properties.
8. Open DNS in **SYS2**→Right click**SYS2**→select properties →select forwarders → click Edit.

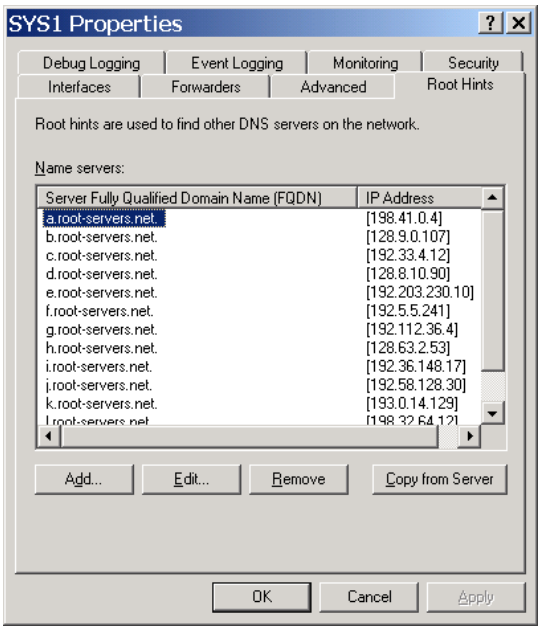
9. Mention the IP address of primary zone →click **OK** →click **OK**.



10. In **SYS2** open the command prompt and type ping www.Microsoft.com
11. There will be a reply from 10.0.0.1

Lab – 9: Root Hints

1. Root hints contain the information of 13 root servers
2. Open DNS →Right click the system name →select properties →select root hints



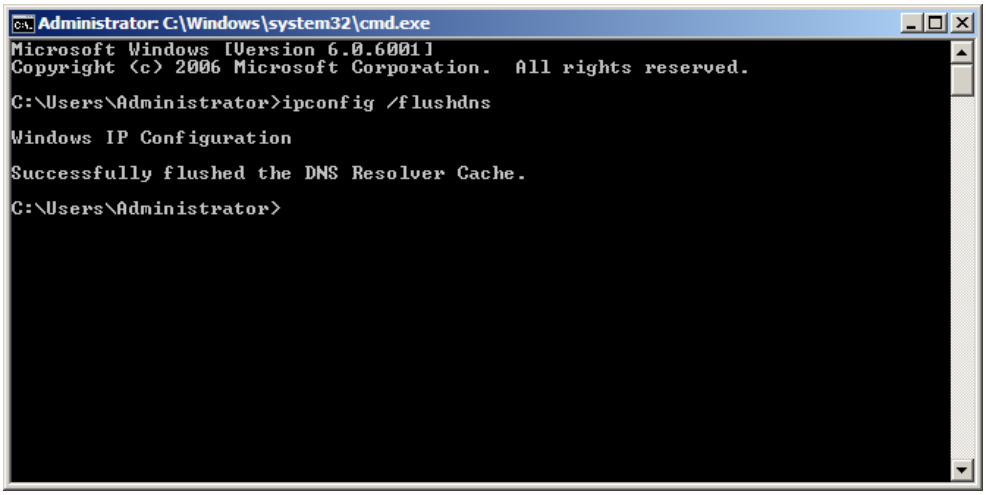
Lab – 10: Cache server

1. To see the information present in the cache type the command

   "Ipconfig /displaydns"

2. To clear the cache information type the command

   "Ipconfig /flushdns"

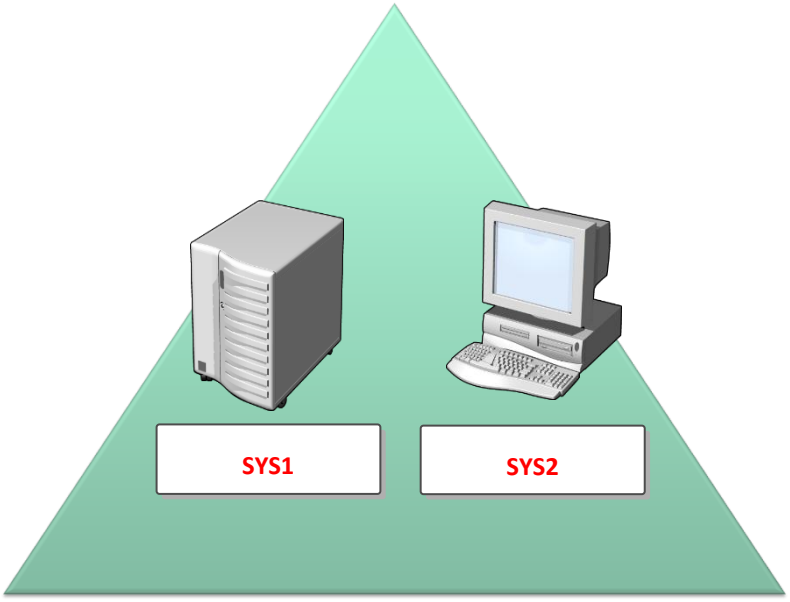


INTERNET INFORMATION SERVICES (IIS) - WEB SERVER

Prerequisites:

Before working on this lab, you must have

1. A computer running windows 2008 server or Domain Controller.
2. A computer running windows 2008 server or Windows 7.



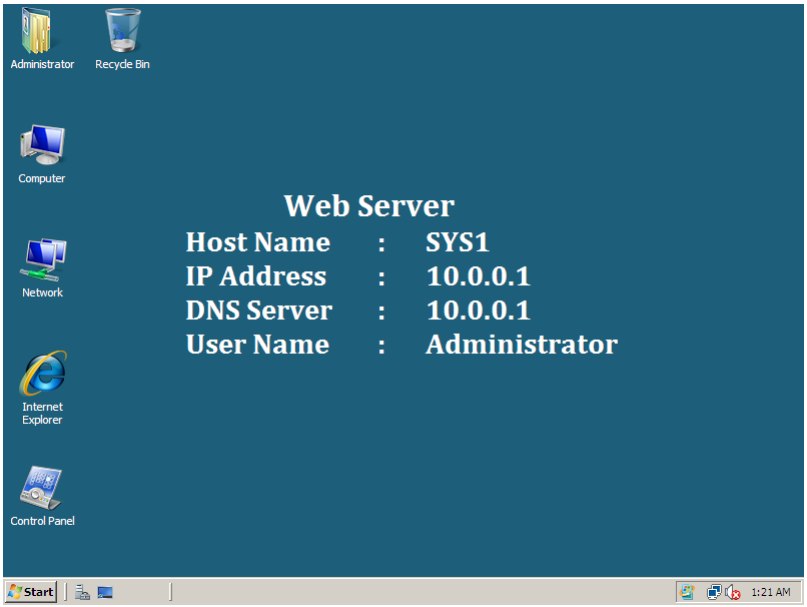
MICROSOFT.COM

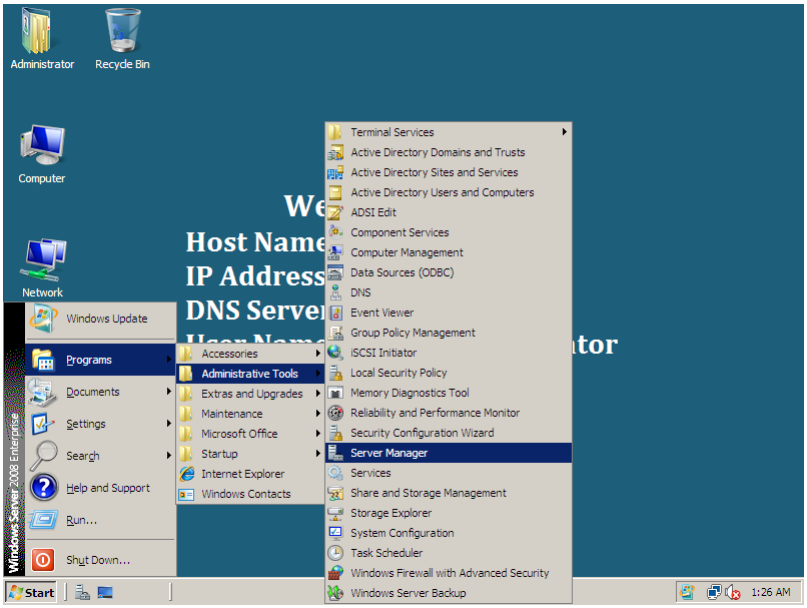
SYS1		**SYS2**	
Domain Controller/DNS/Web Server		**Member Server / Client**	
IP Address	10.0.0.1	IP Address	10.0.0.2
Subnet Mask	255.0.0.0	Subnet Mask	255.0.0.0
Preferred DNS	10.0.0.1	Preferred DNS	10.0.0.1

Lab – 1: Installing Internet Information Services - Web Server

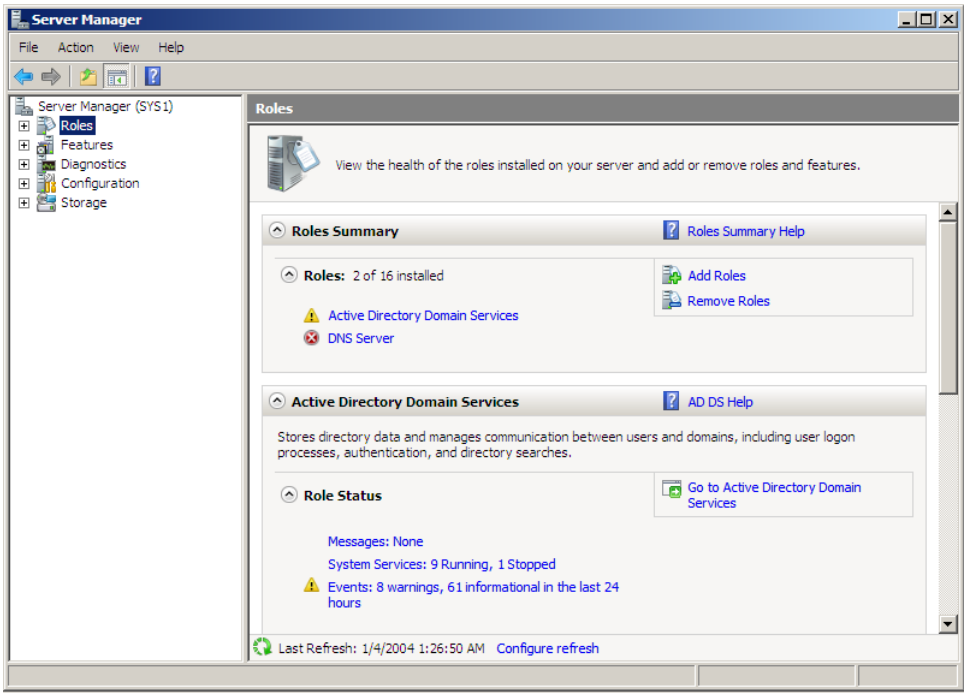
SYS1- CONFIGURATION

1. Go to Start →Programs →Administrative Tools →**Server Manager**.

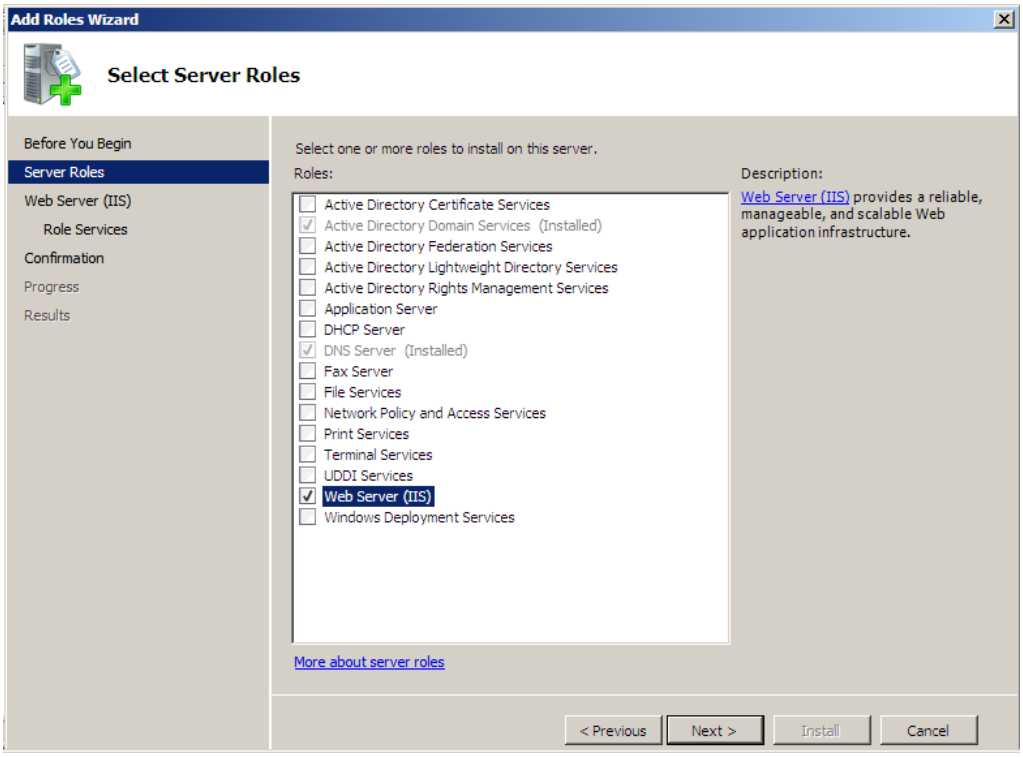




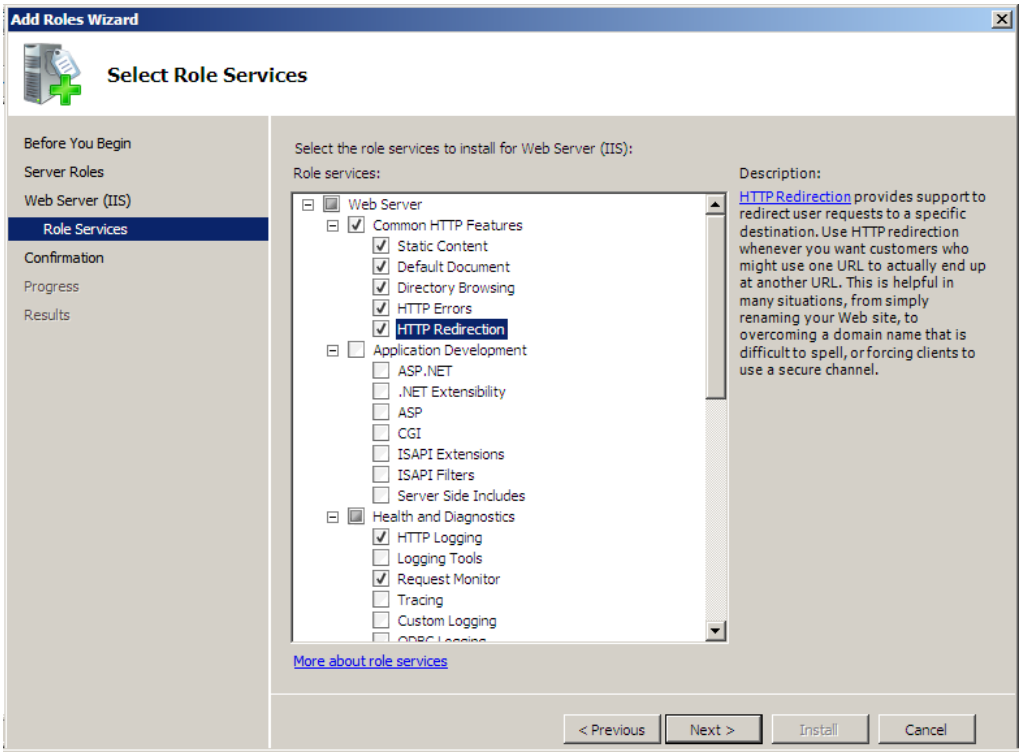
2. In the Server Manager → Select **Roles** and select **Add Roles**.



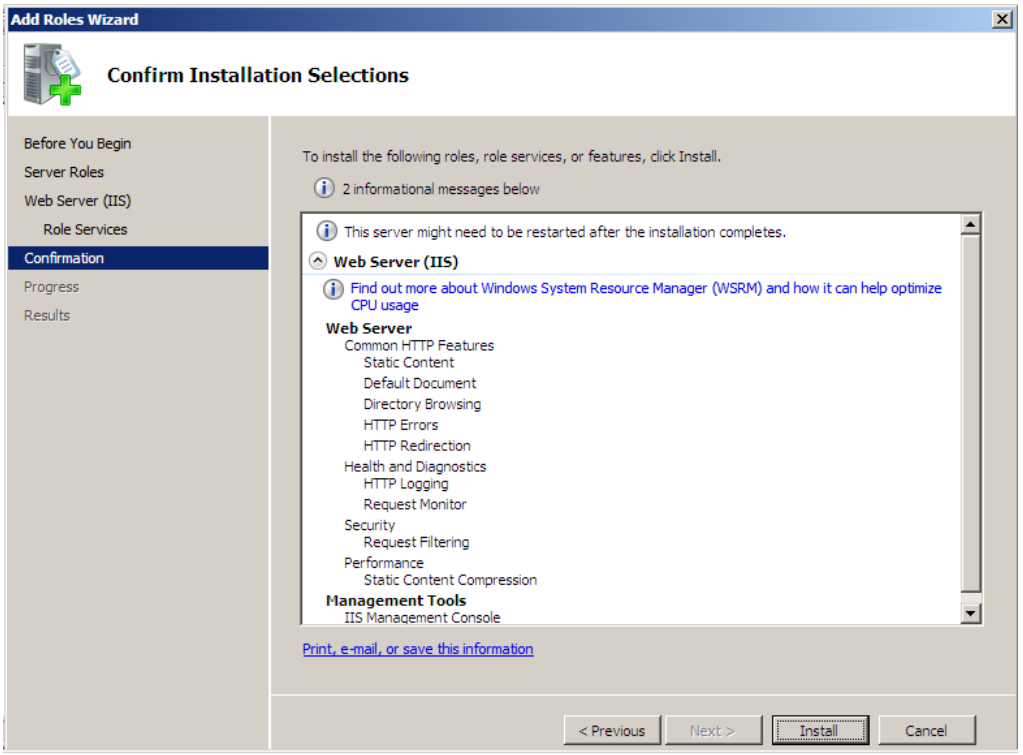
3. In the **Add Roles wizard** →select the Check box for **Web Server (IIS).**



4. Select the Check box for **HTTP Redirection.**



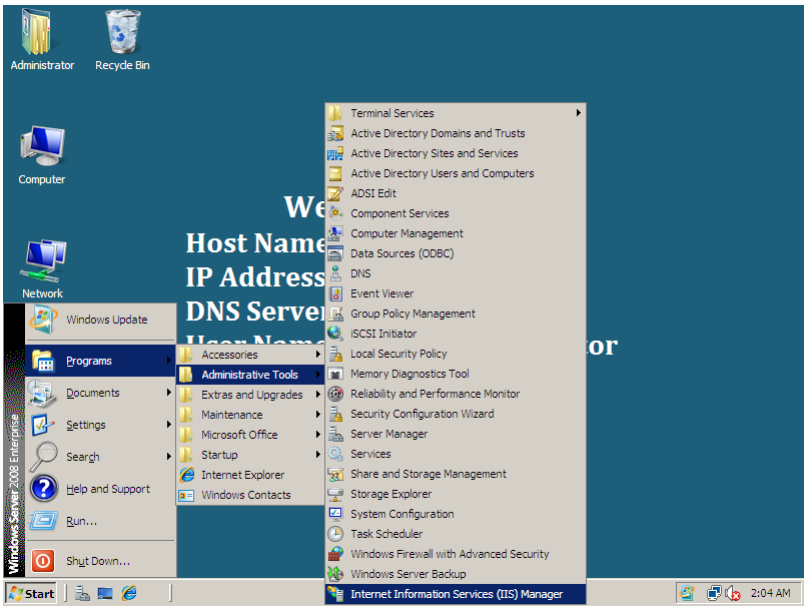
5. Click **Next** and click **Install.**



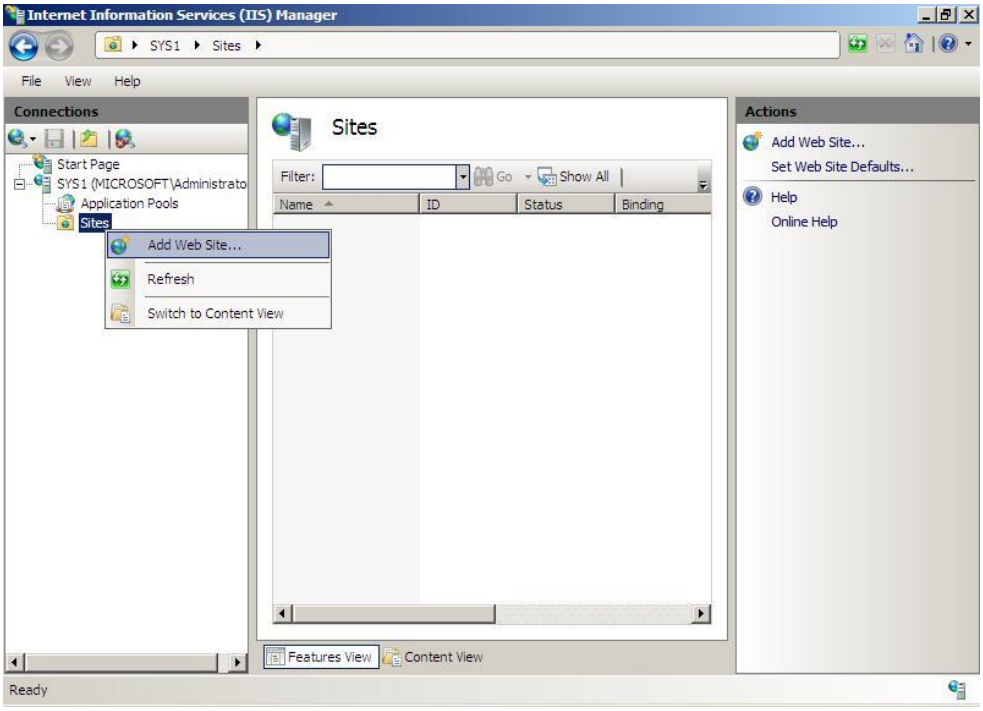
7. Click **Finish.**

Lab – 2: Creating a Web Site

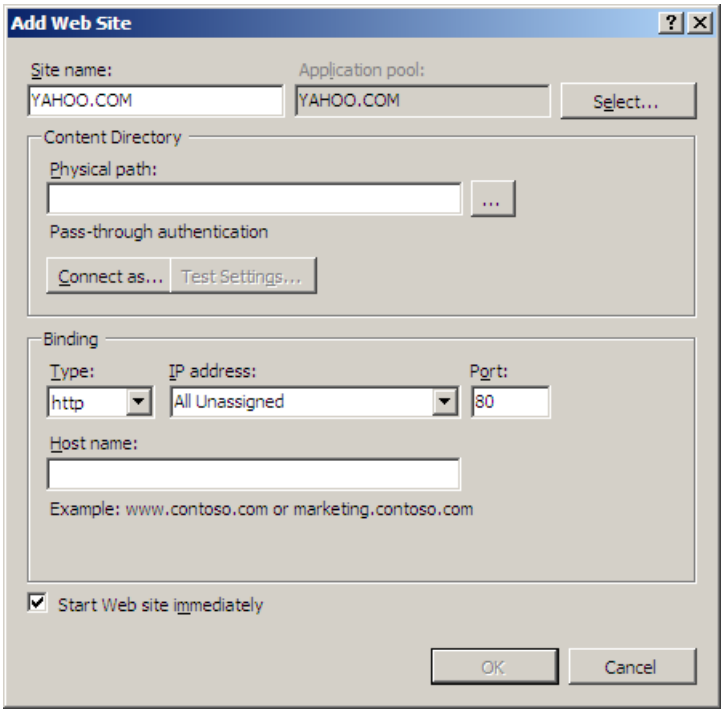
1. Select Start→Programs→Administrative Tools→**Internet Information Services Manager.**



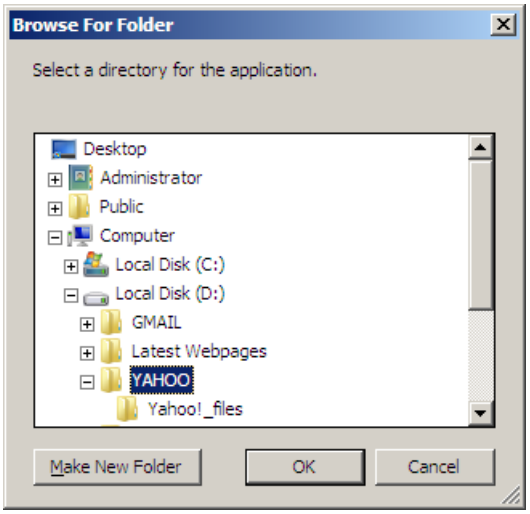
2. In the left pane of the **Internet Information Services**, Expand the server →Right click on sites and select **Add Web Site.**



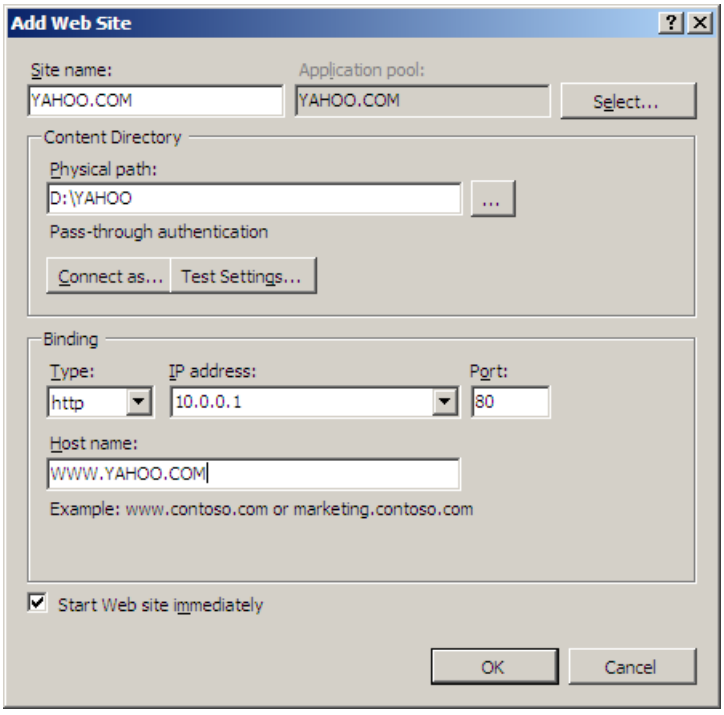
3. **Add Web Site** wizard opens →In the Site name type a **Name for the Website** Ex:**YAHOO.COM**



4. In Physical path, browse and select the location of **Home Directory (webpage)**



5. Select one **IP address (10.0.0.1)** from the drop-down list.
6. Specify the Host name Ex: WWW.YAHOO.COM & click **OK**.

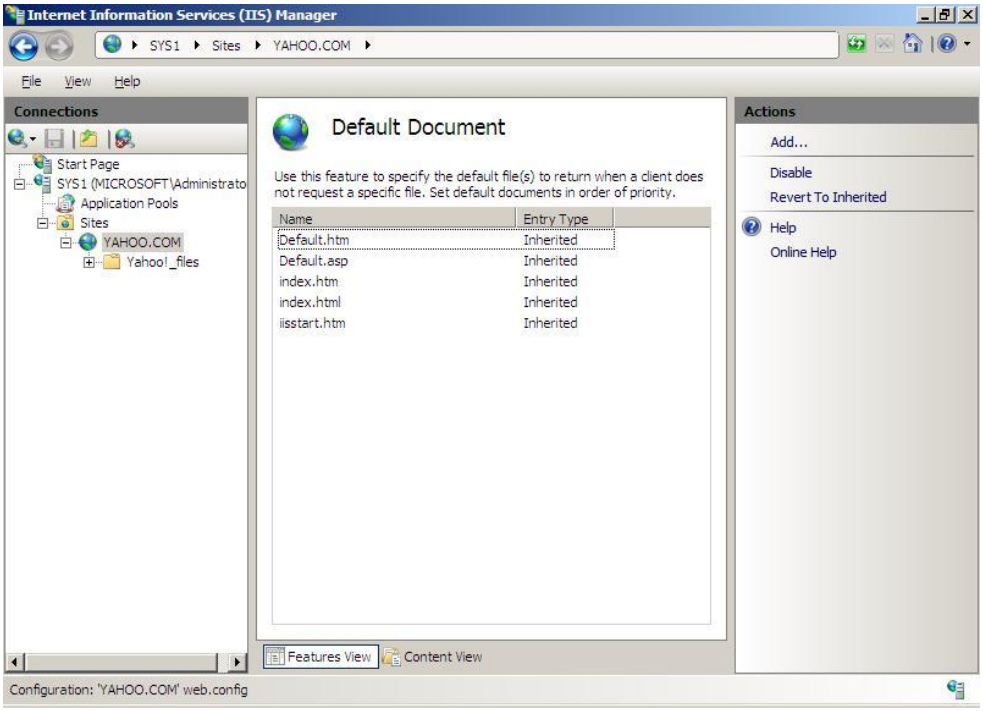


7. **Web Site** will be successfully added.

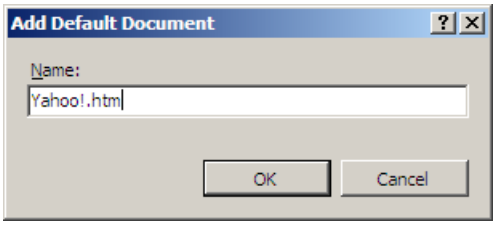
Adding the Default Document for the website

1. Open IIS →expand sites →select website →on **Actions pane** →click **Explore** →Select the **Webpage** →Right click & select **Rename**→ **Copy the webpage name**
2. In IIS →expand sites → select website→ Open **Default Document feature.**

3. Click **Add**



4. Mention (Paste) the html file name (with Extension of file) Ex: Yahoo!.htm →click **OK.**



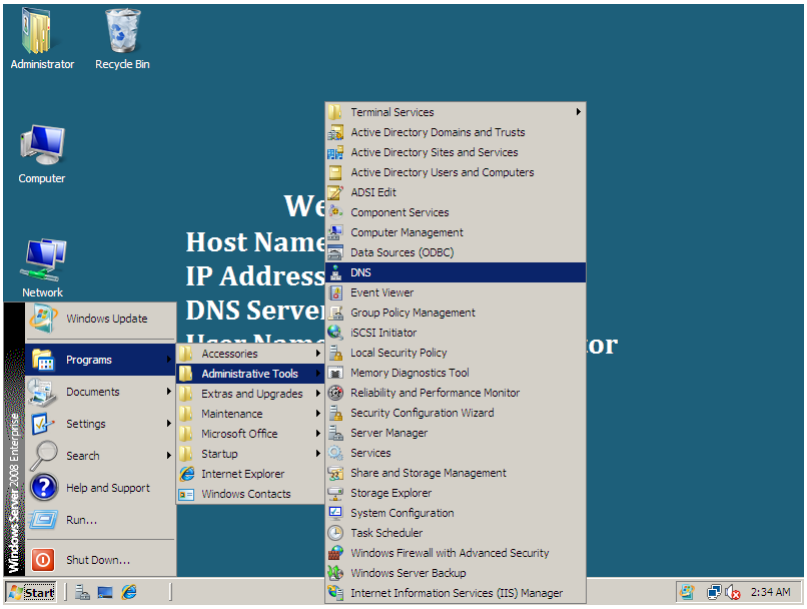
Enable Directory Browsing for the web site

1. Open IIS →expand sites and select the website (YAHOO.COM)

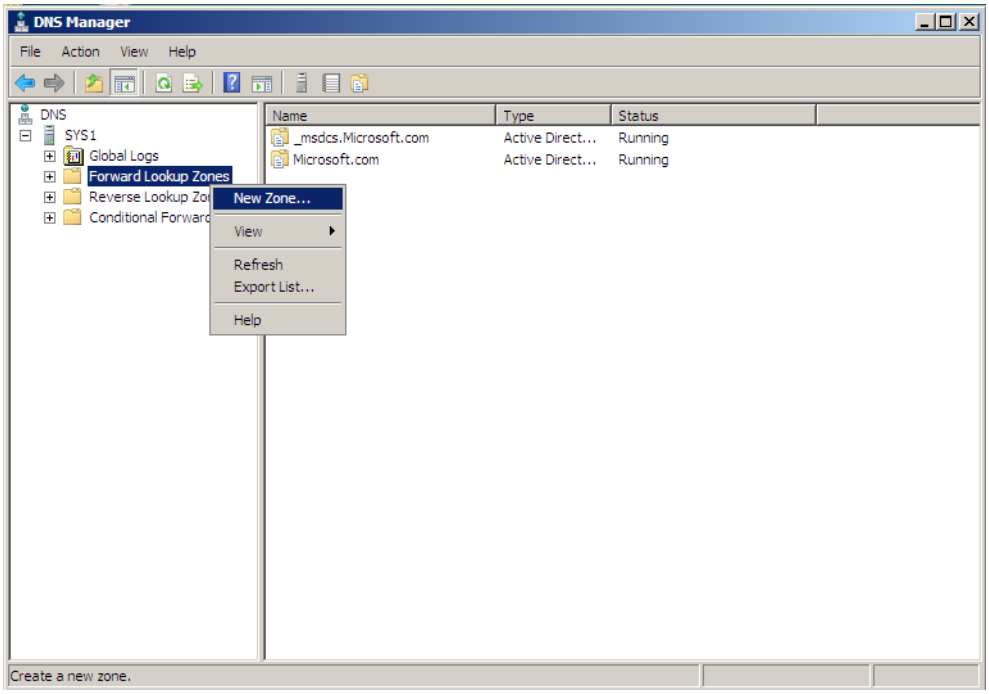
2. Open **Directory Browsing Feature** →and click **Enable.** (on Actions pane)

DNS Configuration for the Website

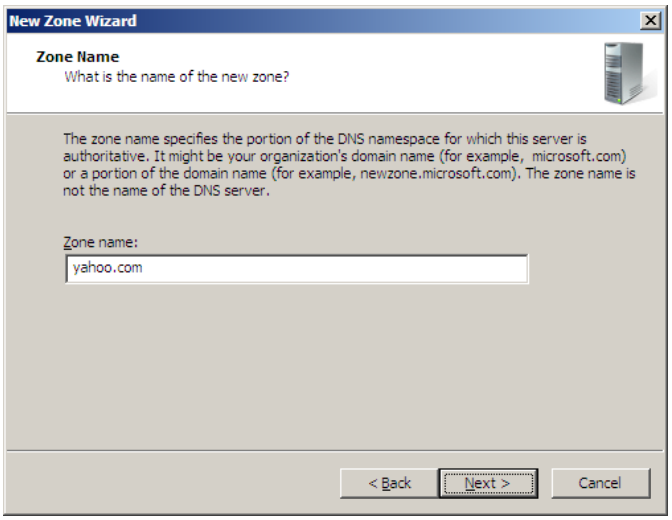
1. Select Start → Programs → Administrative Tools →**DNS**



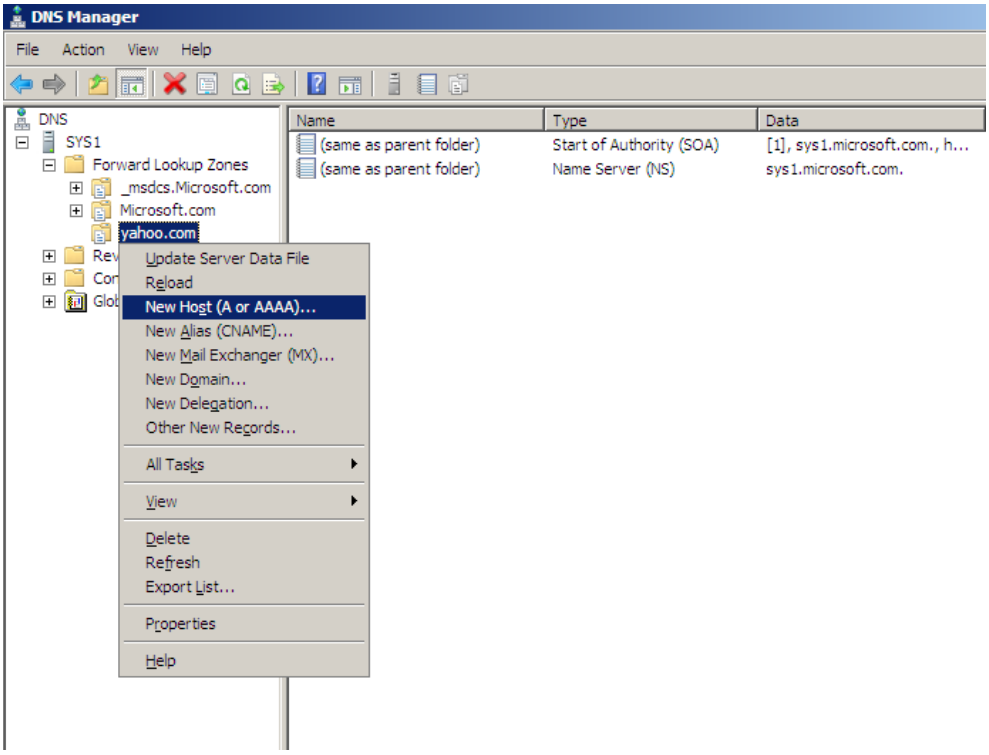
2. Select **forward lookup zone** → Right click select **new zone**



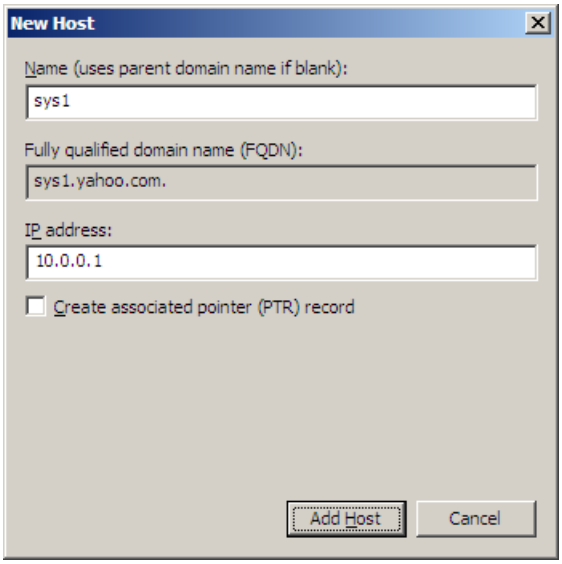
3. Create a new primary zone in **forward lookup zone &** mention the website **domain name** (Ex:YAHOO.COM)



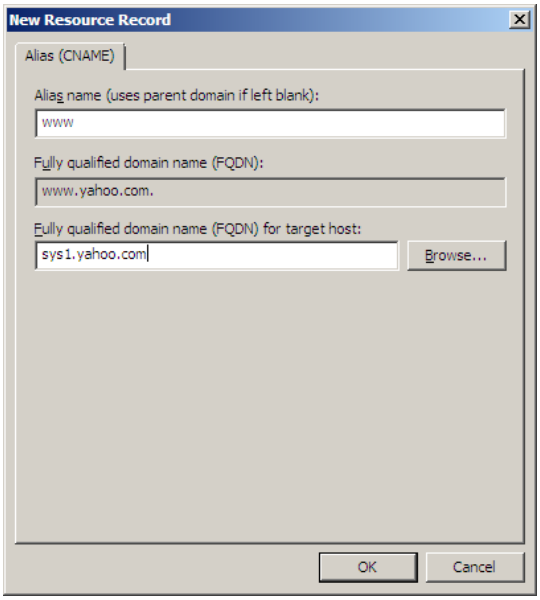
4. Select the zone →Right click select **New Host**



5. Mention the **Web Server name and IP Address →Add Host →OK →Done.**

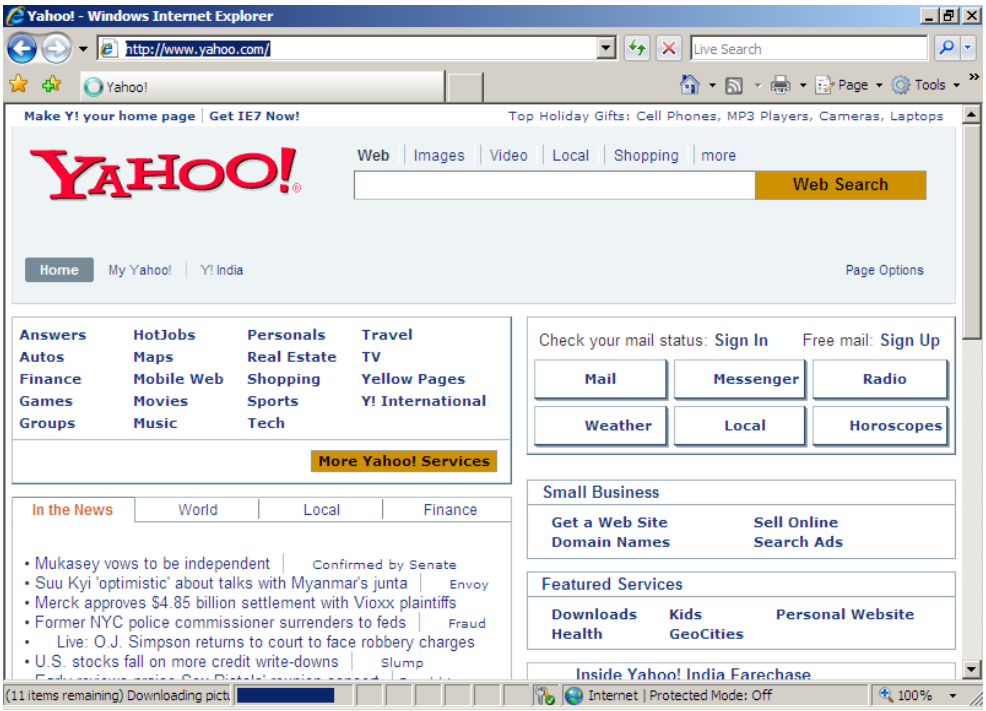


6. Select the zone →Right click select **New Alias** &Create an **Alias** (E.g.: www) for the host, which you specified in the host header for the site →click **OK.**



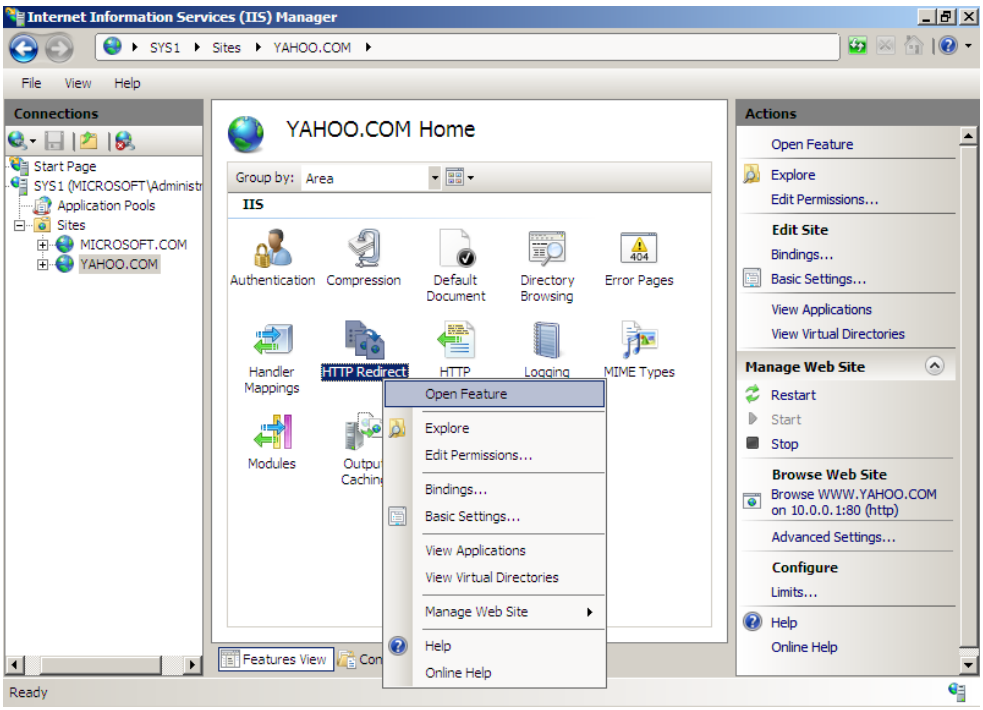
VERIFICATION:

1. Open **Internet Explorer** or any browser and access the **website**

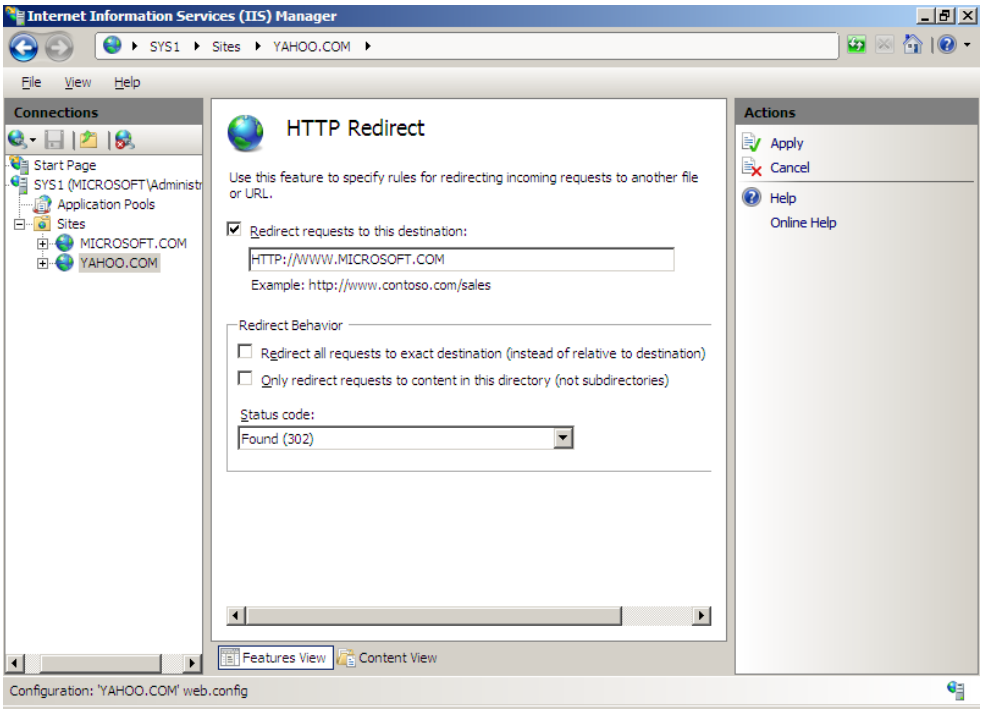


Lab – 3: Configuring redirection of Websites

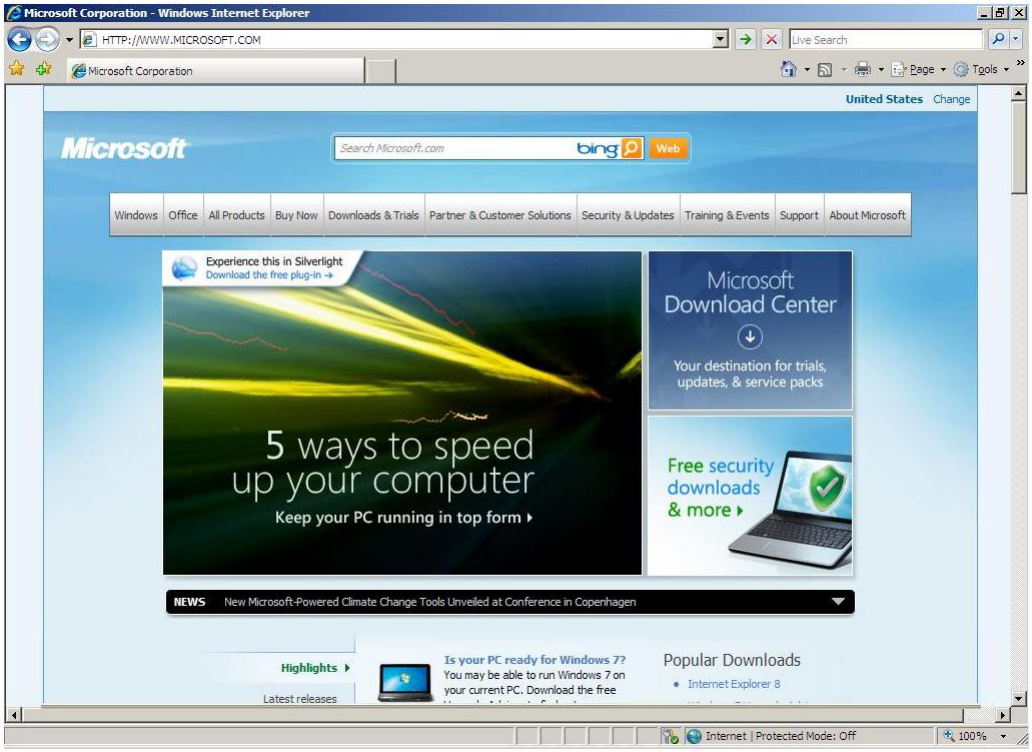
1. Select Start →Programs →Administrative Tools →**Internet Information Services Manager,** Create **two websites,** Ex: **YAHOO.COM** and **MICROSOFT.COM**
2. If YAHOO has to be redirected to MICROSOFT then Select **YAHOO.COM** →Open **HTTP Redirect** feature



3. Select the check box **Redirect requests to this destination** give the destination as http://www.MICROSOFT.com & click **Apply** in the actions Pane.



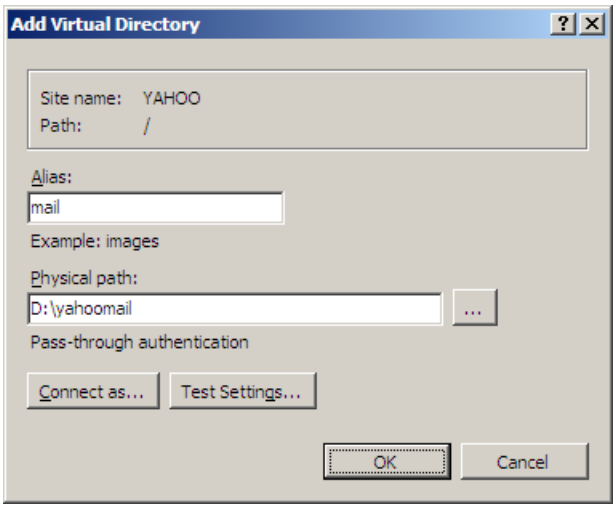
4. Open I**nternet Explorer** or any browser and access **Yahoo (www.yahoo.com)** and it will **be automatically redirected to MICROSOFT (www.MICROSOFT.com).**



Lab – 4: Creating virtual directory

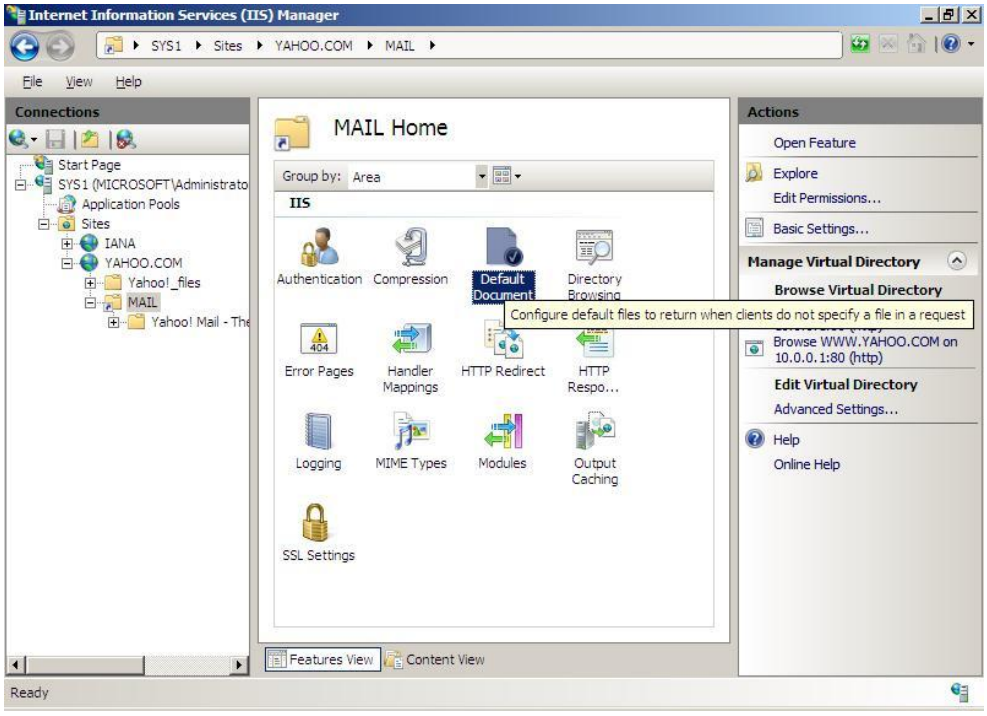
1. Select Start →Programs →Administrative Tools →**Internet Information Services Manager.**
2. Expand the system name, Select the Web Site (Yahoo) for which you want to create Virtual Directory →Right click and select **Add Virtual Directory.**

3. Specify the **Alias** name to the **virtual directory** (Ex: mail), and **Browse** to select the physical path Ex:**(D:\Yahoomail)** → click **OK.**



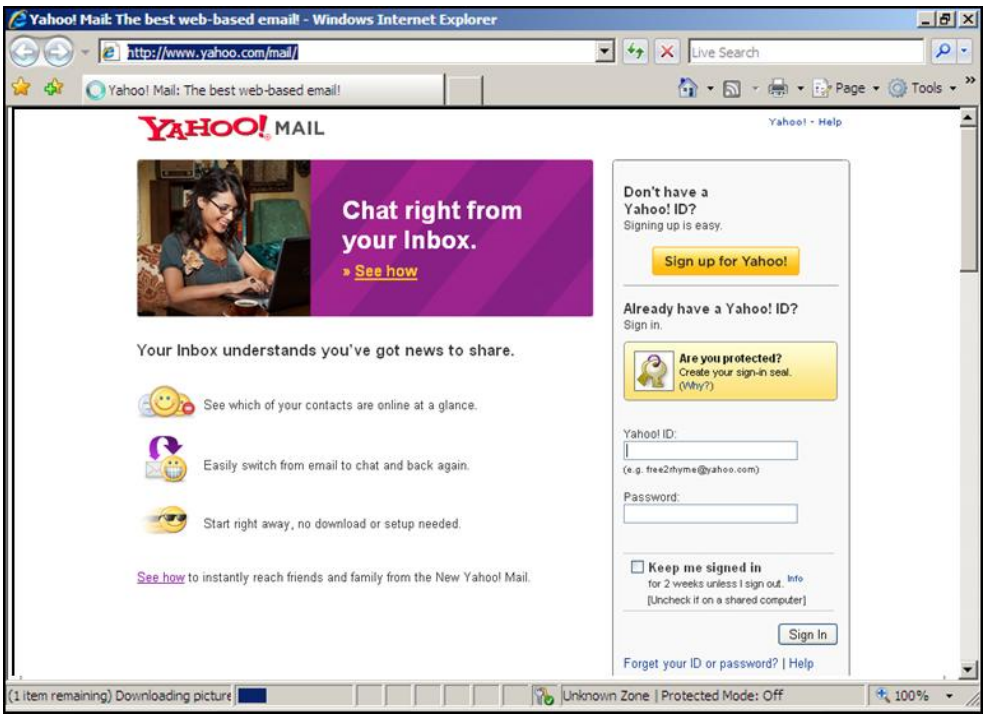
4. Virtual Directory will be created.

5. Add the **Default Document** for the **Virtual Directory →OK**



6. To access the virtual directory specify the syntax in **Internet Explorer** http://websitename/virtualdirectoryname

   Ex: **http://www.Yahoo.com/mail**



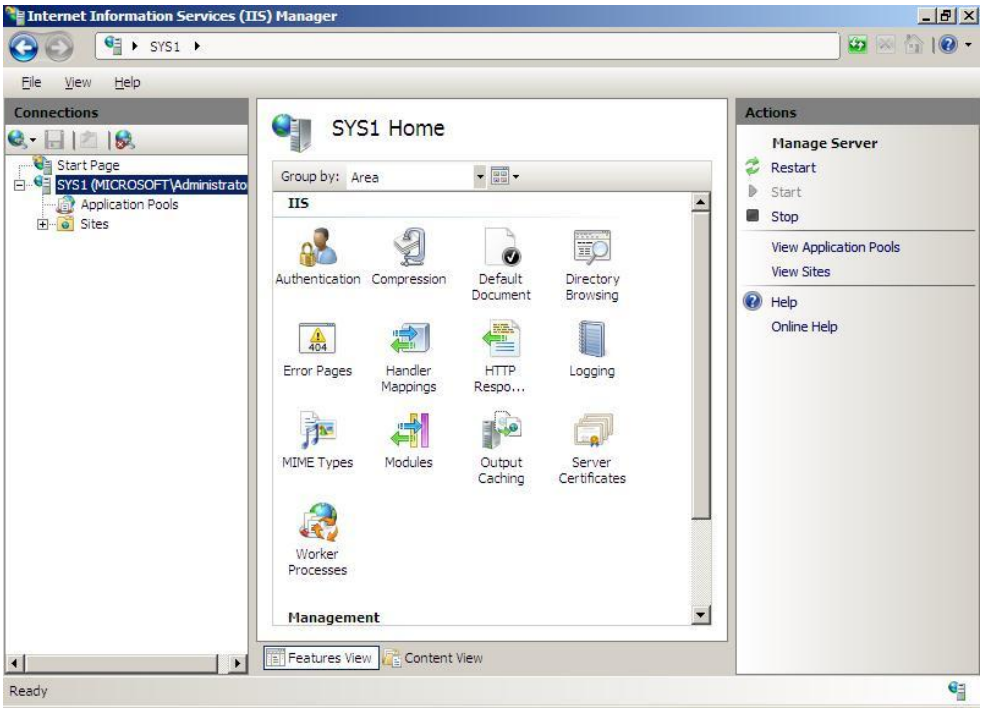
Lab – 5: Changing the Web Site IP address or Port no

1. Select Start →Programs →Administrative Tools→**Internet Information Services Manager.**
2. Select the Web site → and click **Bindings** in the Actions Pane.

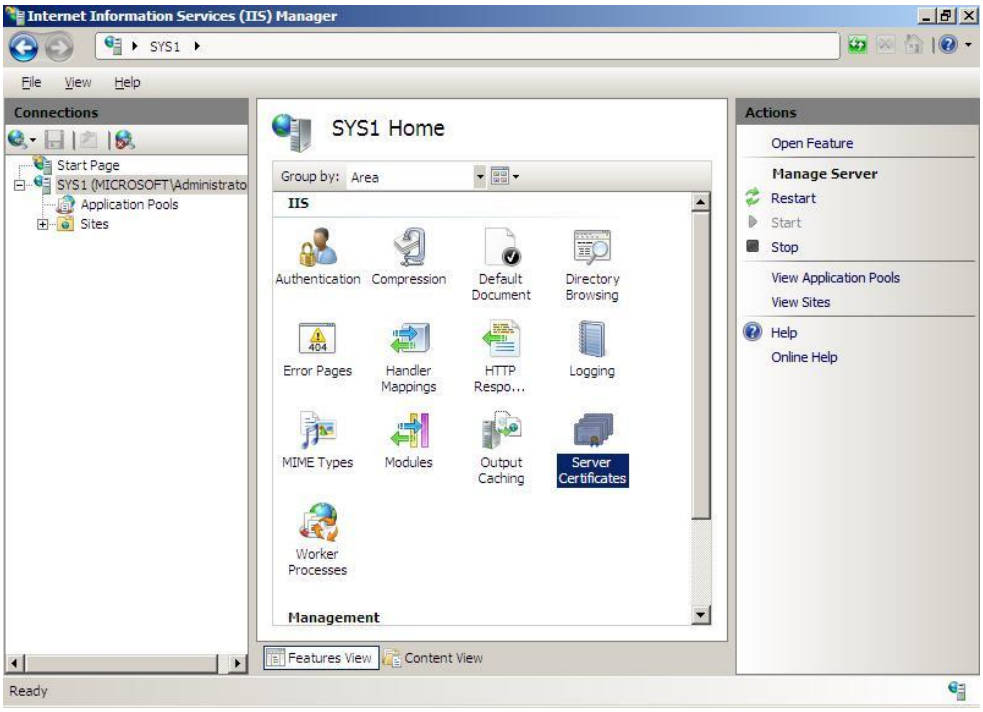
3. Click **edit** and change the **IP address or port number or host name.**
4. If the port number is changed then the website can be accessed only by specifying the port number **http://www.yahoo.com:port_number**

Lab – 6: Creating Self-Signed Certificate for HTTPS Website

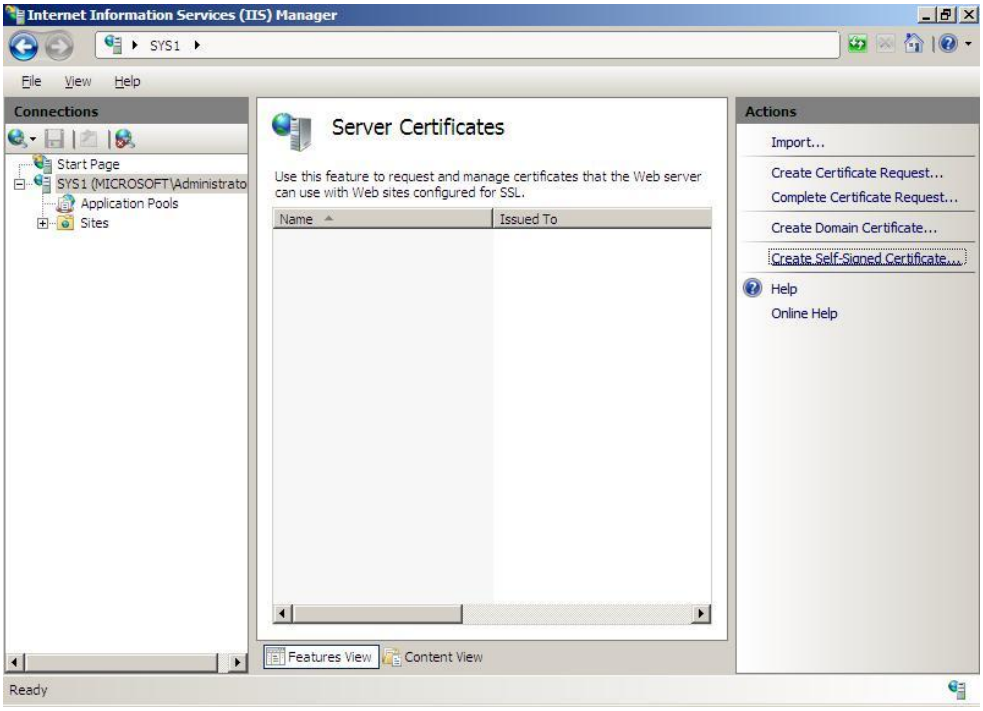
1. Select Start → Programs → Administrative Tools → **Internet Information Services Manager.**
2. Select the system name



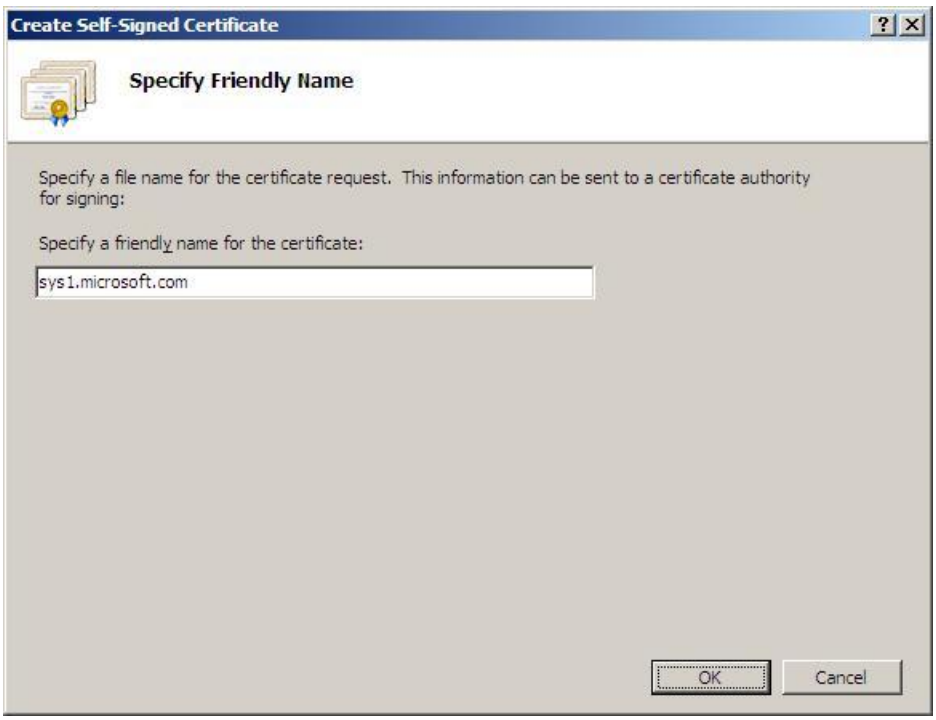
3. Double-click on "**Server Certificates"**



4. Click “Create Self-Signed Certificate”

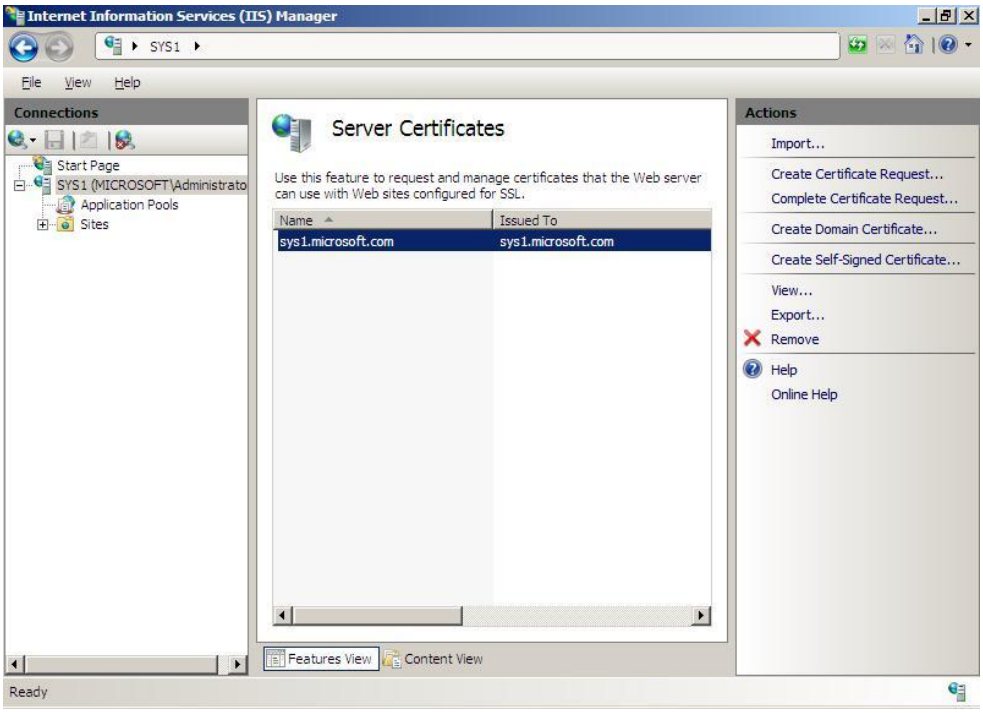


5. Mention the Certificate name E.g.: Sys1.Microsoft.com (FQDN of Web server)



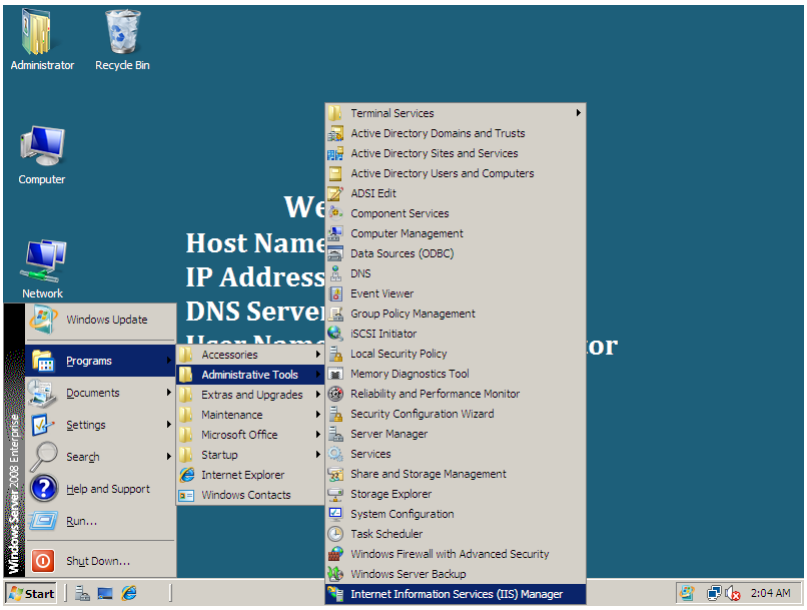
6. Click OK.

7. Certificate is created

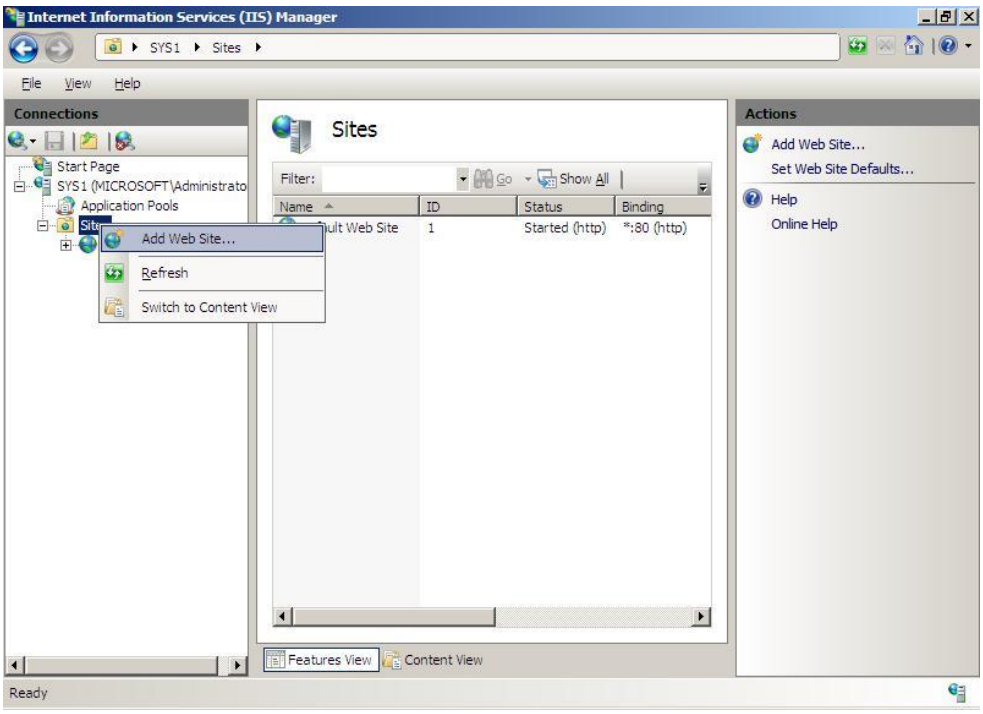


Lab – 7: Creating a HTTPS Web Site

1. Select Start → Programs → Administrative Tools → **Internet Information Services Manager.**

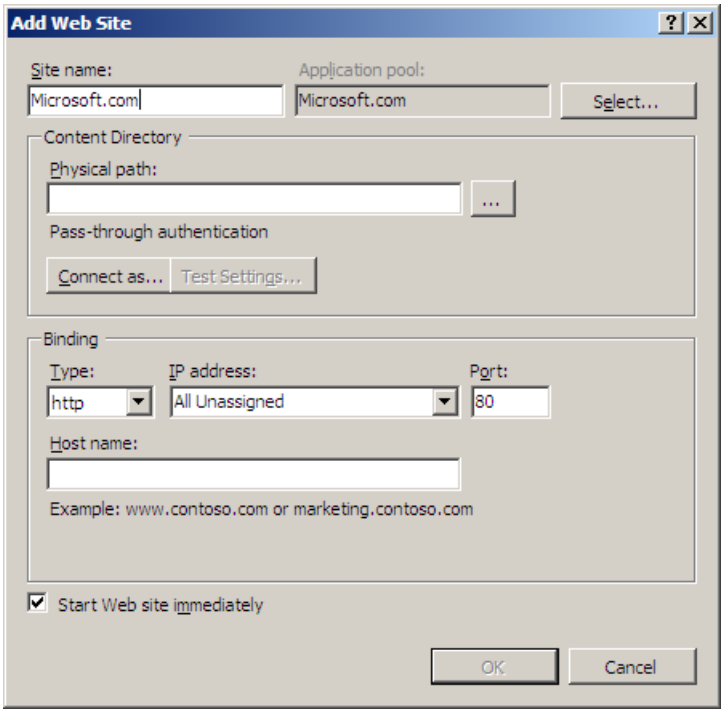


2. In the left pane of the **Internet Information Services**, Expand the server → Right click on sites and select **Add Web Site.**

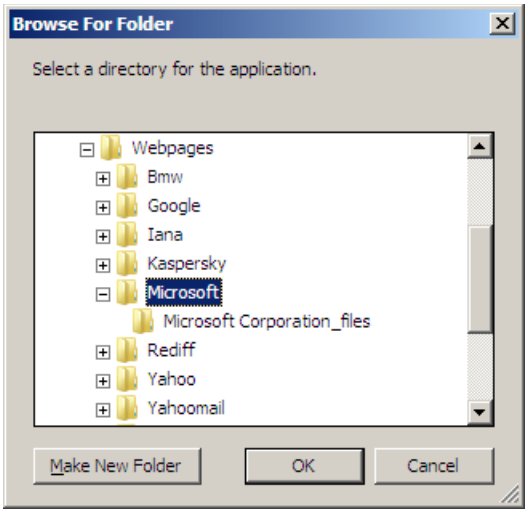


3. **Add Web Site** wizard opens → In the Site name type a **Name for the Web site**

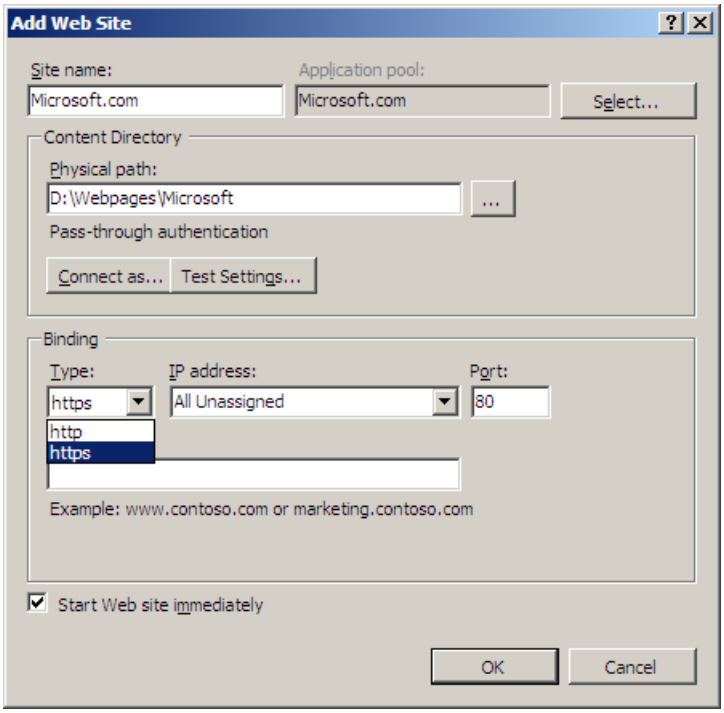
   Ex: **Microsoft.com**



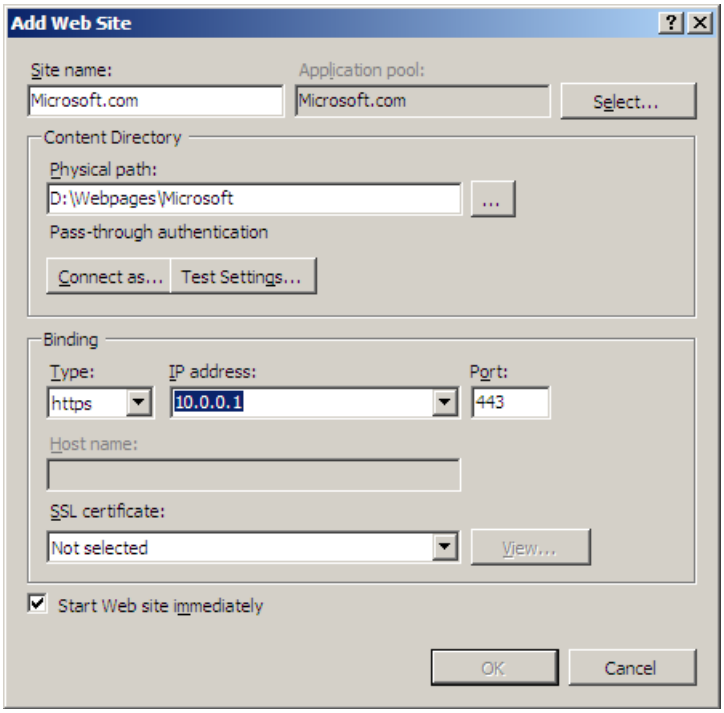
4. In Physical path, browse and select the location of **Home Directory (Webpage's Folder)**



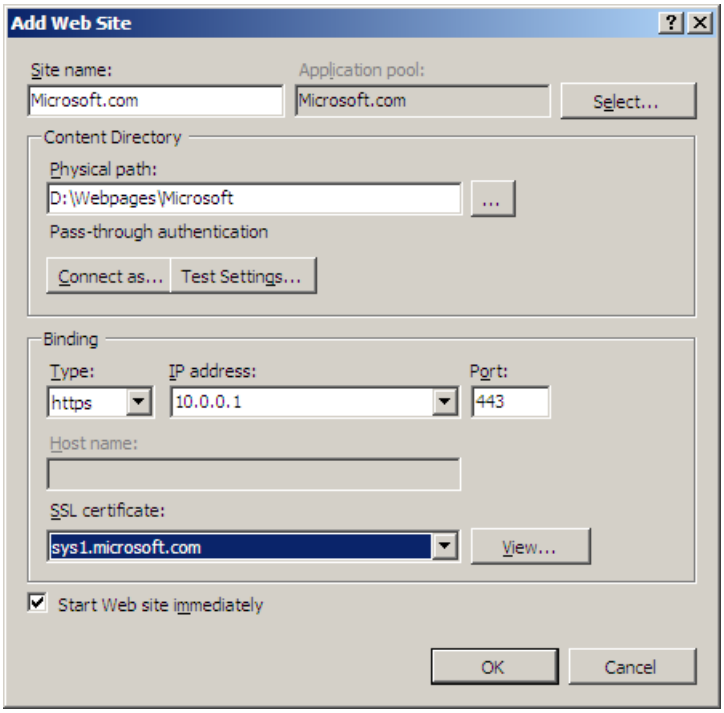
5. Select the protocol as **HTTPS**



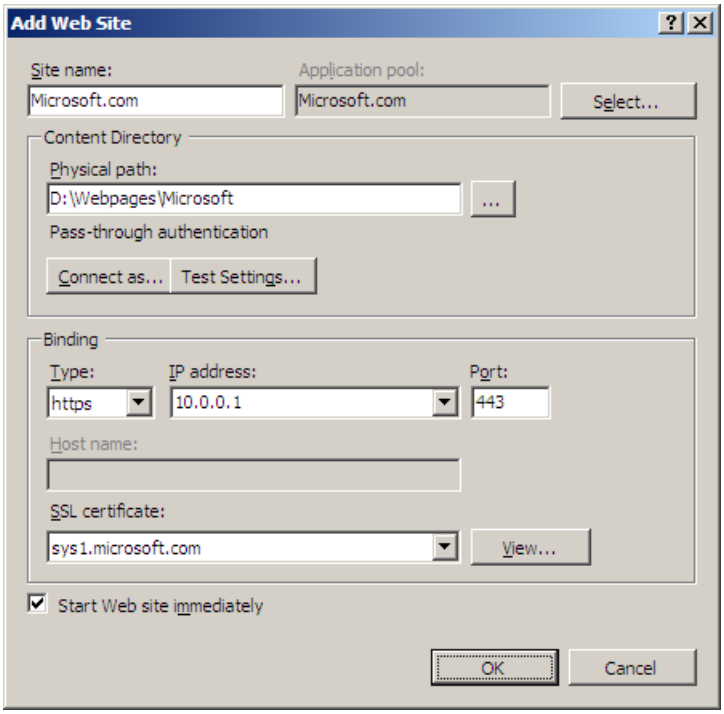
6. Select one **IP address** from the drop-down list box.



7. Select the SSL Certificate, Ex: SYS1.MICROSOFT.COM.



8. Click **OK.**



9. **Web Site** will be successfully added.
10. Enable **Directory Browsing**.(Repeat the process of Directory Browsing)
11. Apply **Default Document.** (Repeat the process of Default Document)

Accessing the HTTPS site from the Web Server

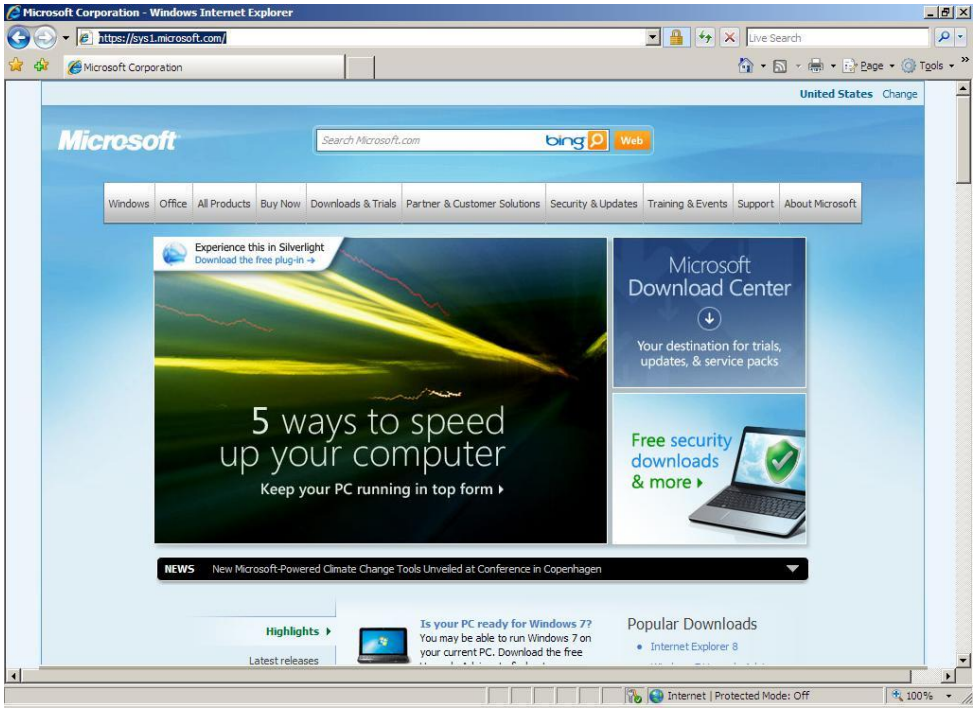
SYS1 – CONFIGURATION

1. Open the browser and type **https://certificate-name**

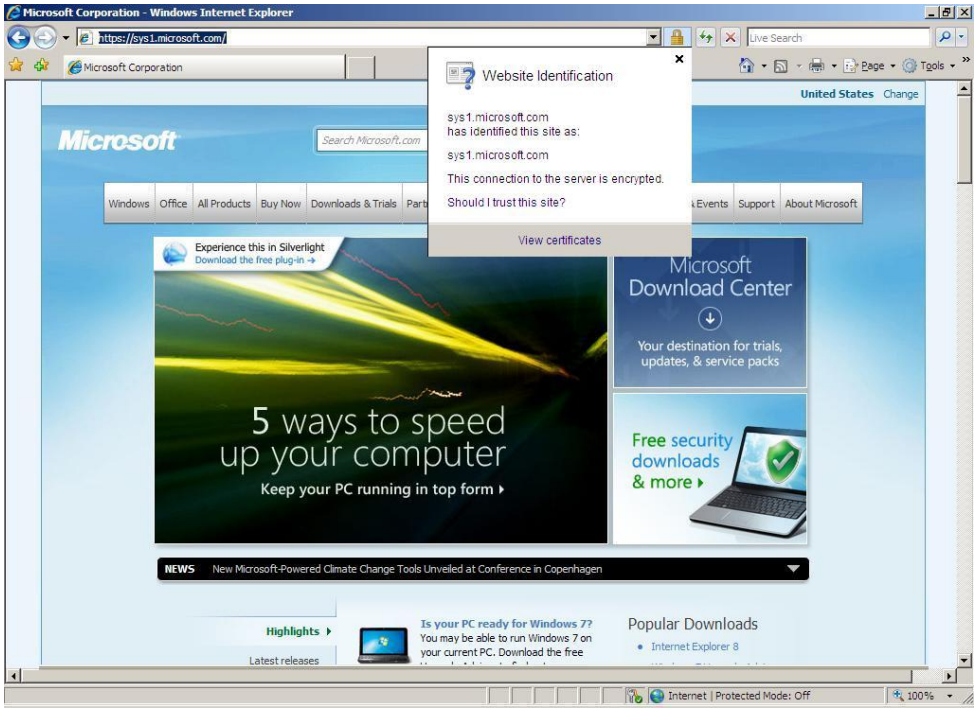
   Ex: Https://sys1.microsoft.com

2. An warning will be given, click OK to proceed

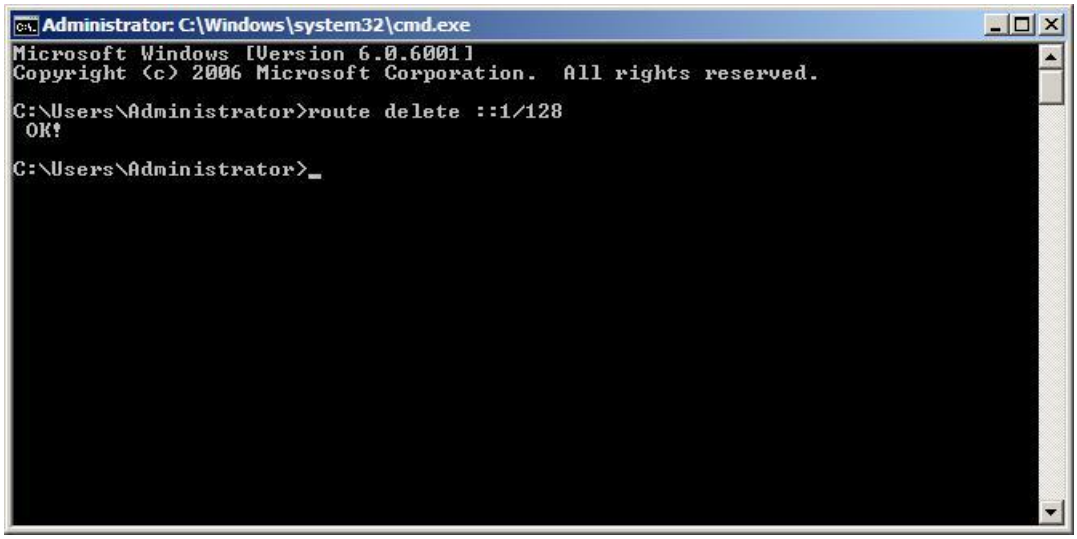
3. Web site is displayed



4. Click on the Yellow Lock beside Address bar, to see the website security status.



5. Sometimes Website will not be displayed. If it is not displayed, then go to cmd and type **Route Delete ::1/128**



Accessing the HTTPS site from the Client Computer

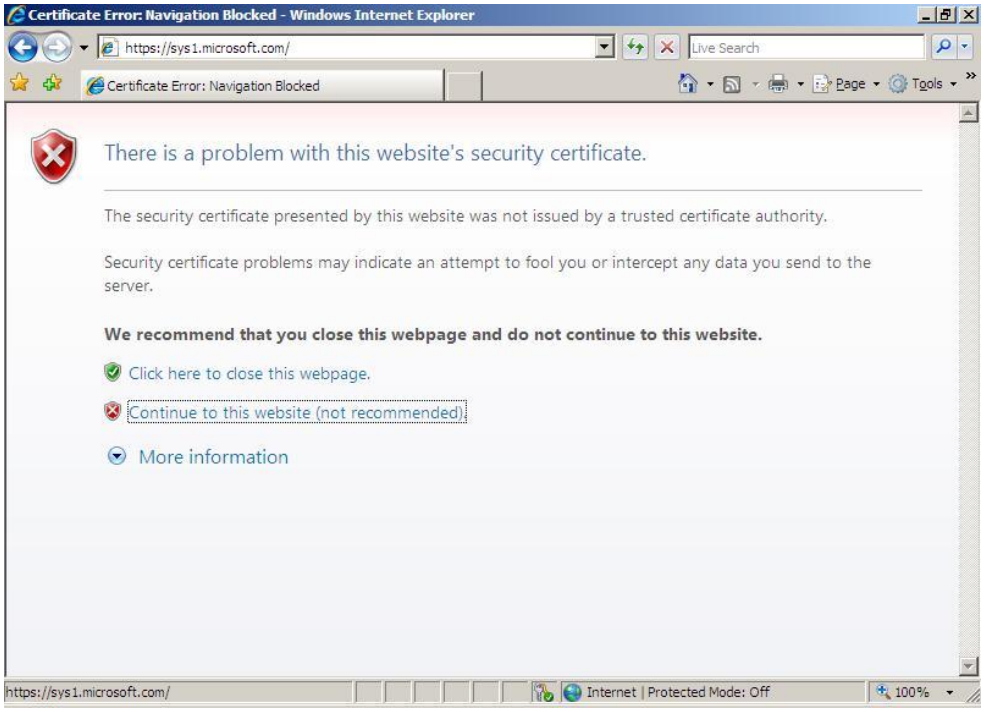
SYS2 – CONFIGURATION

1. Open the browser and type **https://certificate-name**

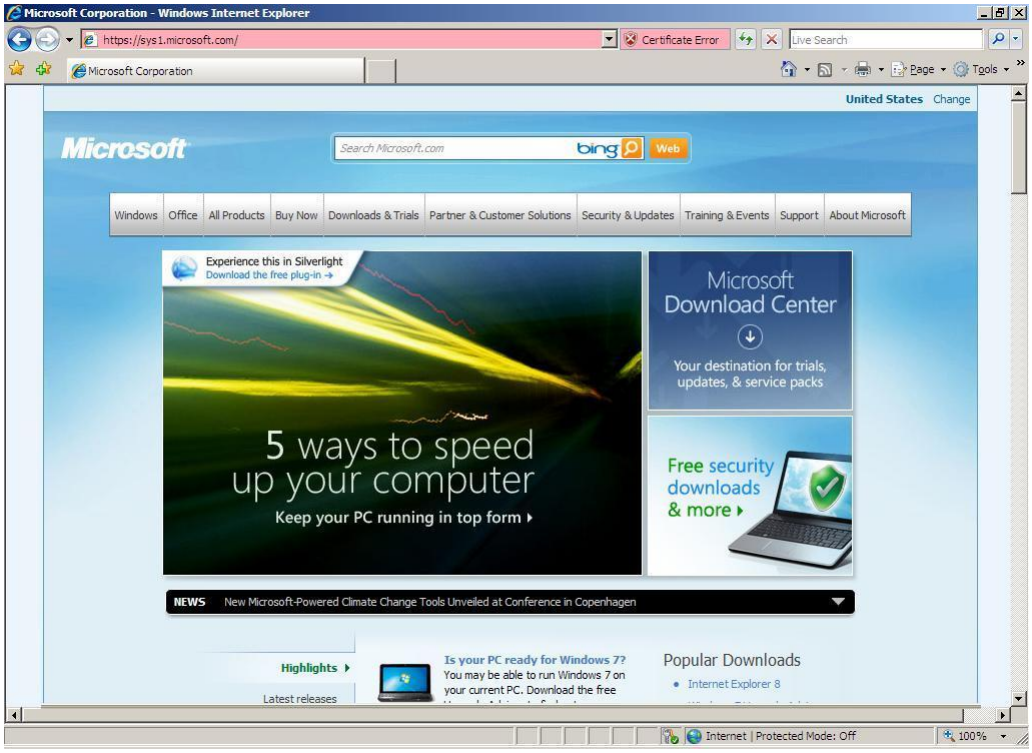
   Ex: Https://sys1.microsoft.com

2. An warning will be given, click OK to proceed

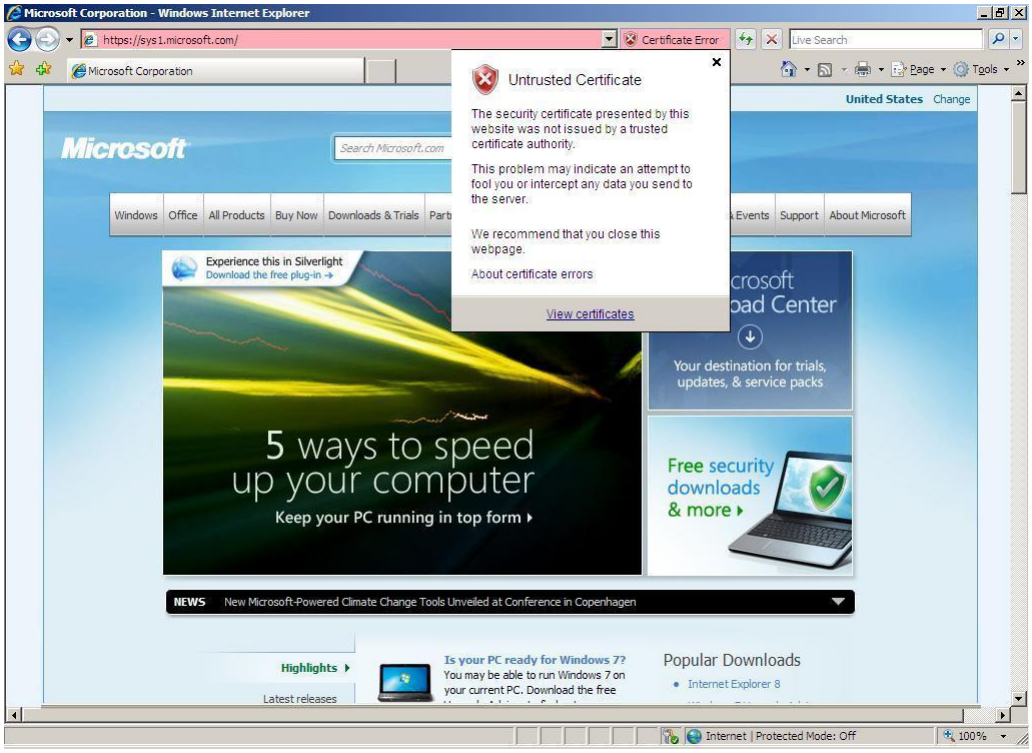
3. There is a problem with Website's Security Certificate (The Security Certificate presented by website was not issued by a Trusted Certification Authority), Click on **Continue to this Web site (Not Recommended)**



4. Web site is displayed but there is a **Certificate Error**

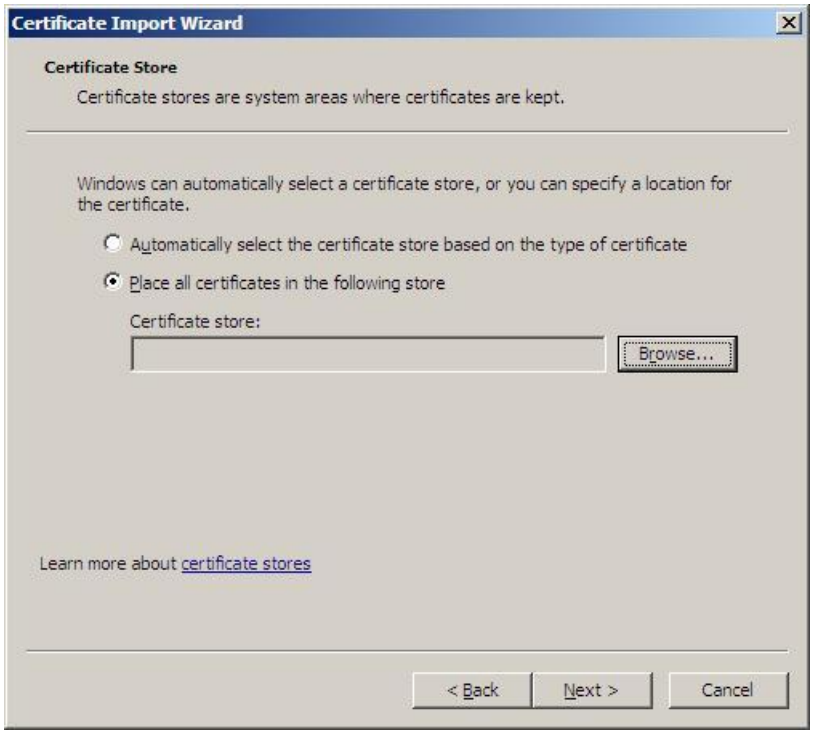


5. Click on **Certificate Error** and Click on **View Certificates**



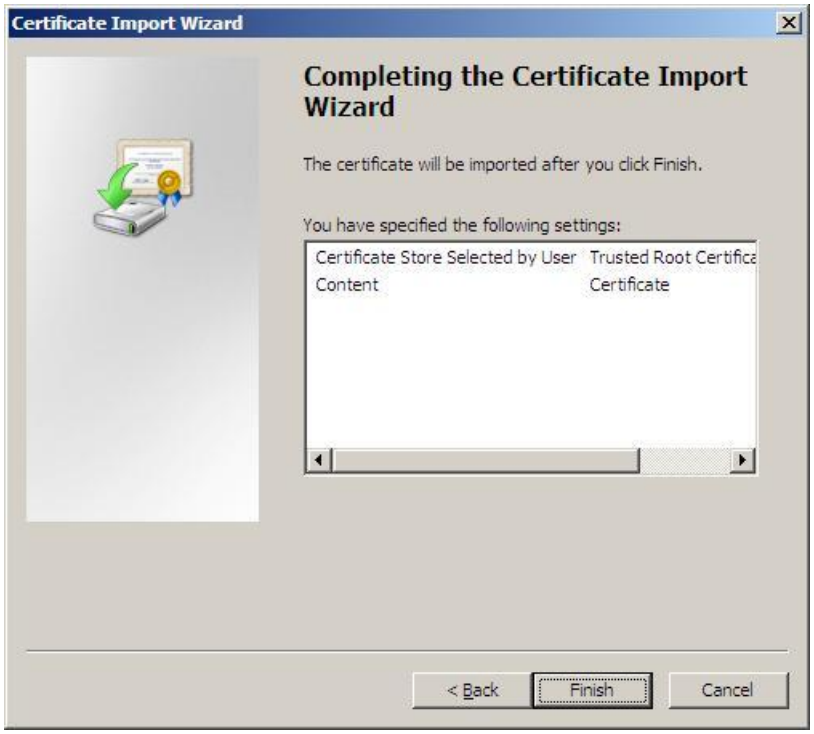
6. Click on **Install Certificate**

7. Click Next → Select **Place all certificates in the following store** → Click **Browse**.



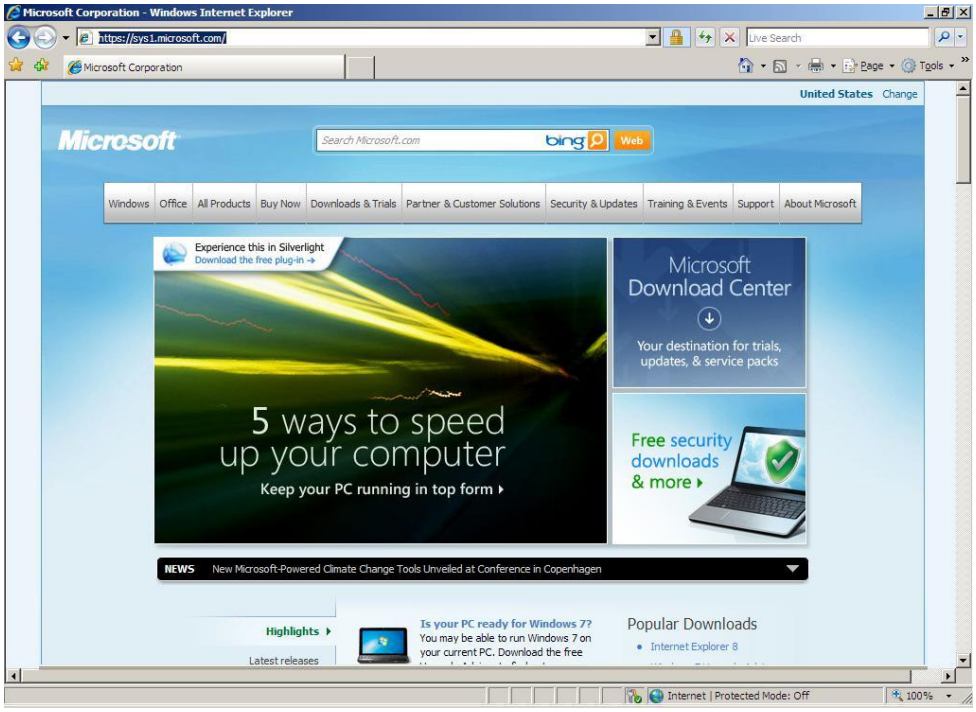
8. Select **Trusted Root Certification Authority** → Click **OK** → Click **Next**

9. Click **Finish**

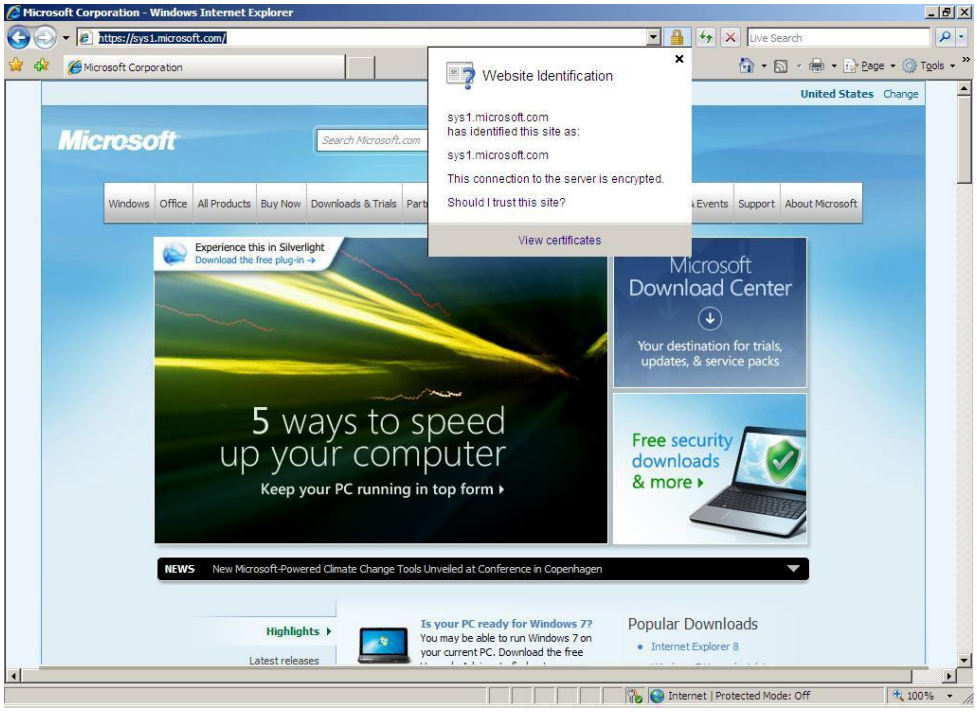


10. Click **Yes** → Click **OK** → Click **OK.**

11. Web site is displayed



12. Click on the Yellow Lock beside Address bar, to see the website security status.

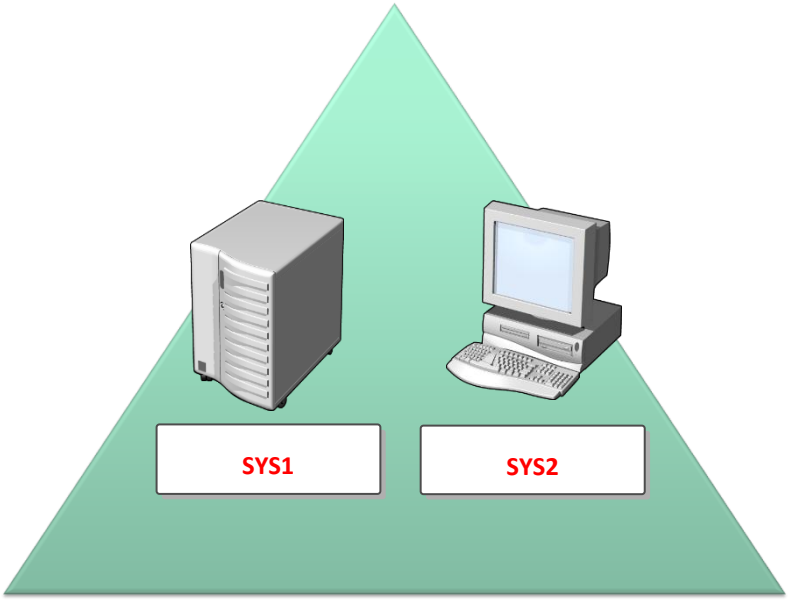


INTERNET INFORMATION SERVICES (IIS) - FTP SERVER

Prerequisites:

Before working on this lab, you must have

1. A computer running windows 2008 server or Domain Controller.
2. A computer running windows 2008 server or windows 7.



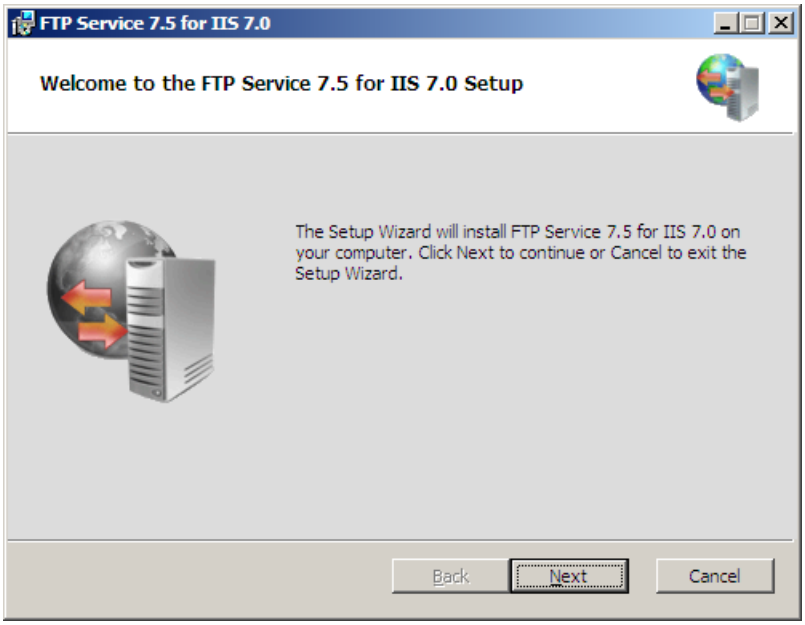
MICROSOFT.COM

SYS1		**SYS2**	
Domain Controller/FTP Server		**Member Server / Client**	
IP Address	10.0.0.1	IP Address	10.0.0.2
Subnet Mask	255.0.0.0	Subnet Mask	255.0.0.0
Preferred DNS	10.0.0.1	Preferred DNS	10.0.0.1

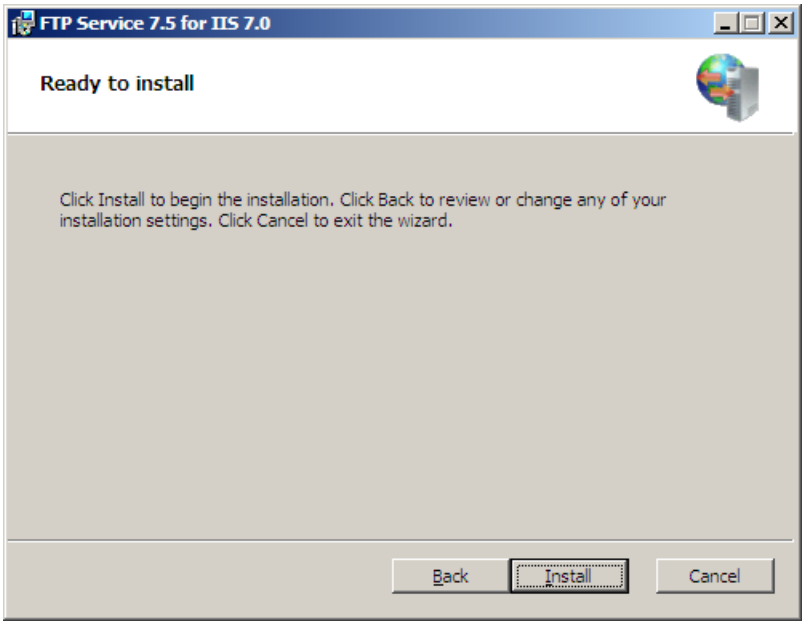
Lab – 1: Installing Internet Information Services - FTP Server

SYS1- CONFIGURATION

1. Web server (IIS) should be installed.
2. Open any Drive **Ex:- D:** and install the FTP Application (ftp7).



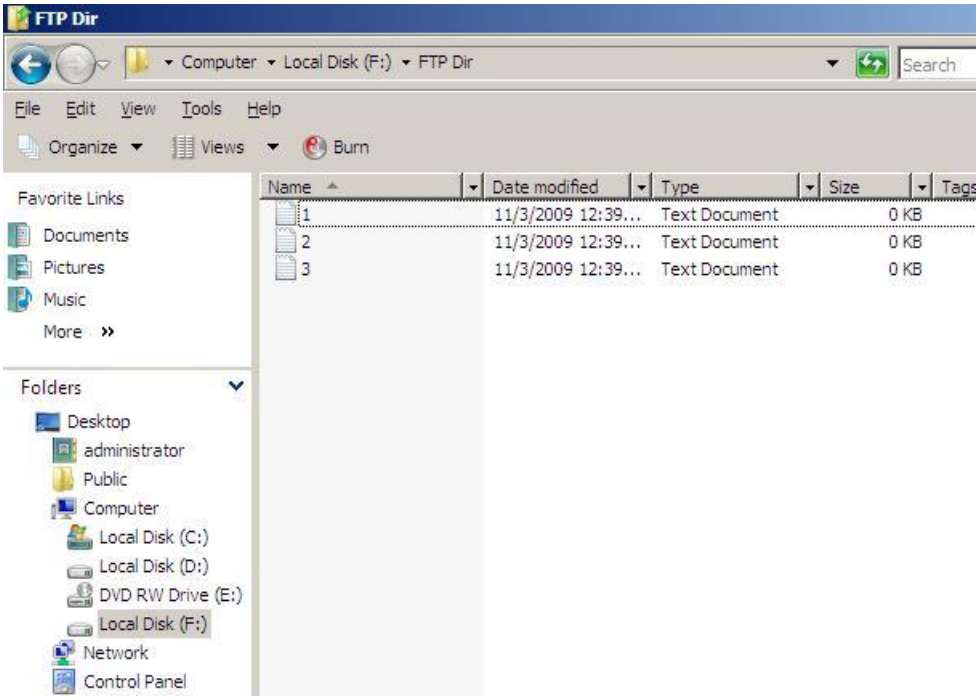
3. Click Next → Check the box "I accept the license terms" → Click Next → Click Next → Click Install



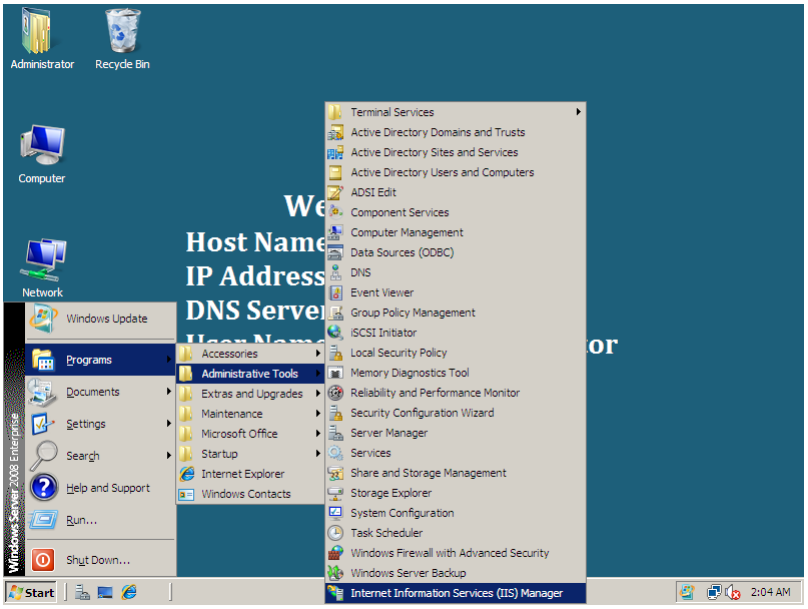
4. Click Finish.

Lab – 2: Creating Do not Isolate user FTP Site

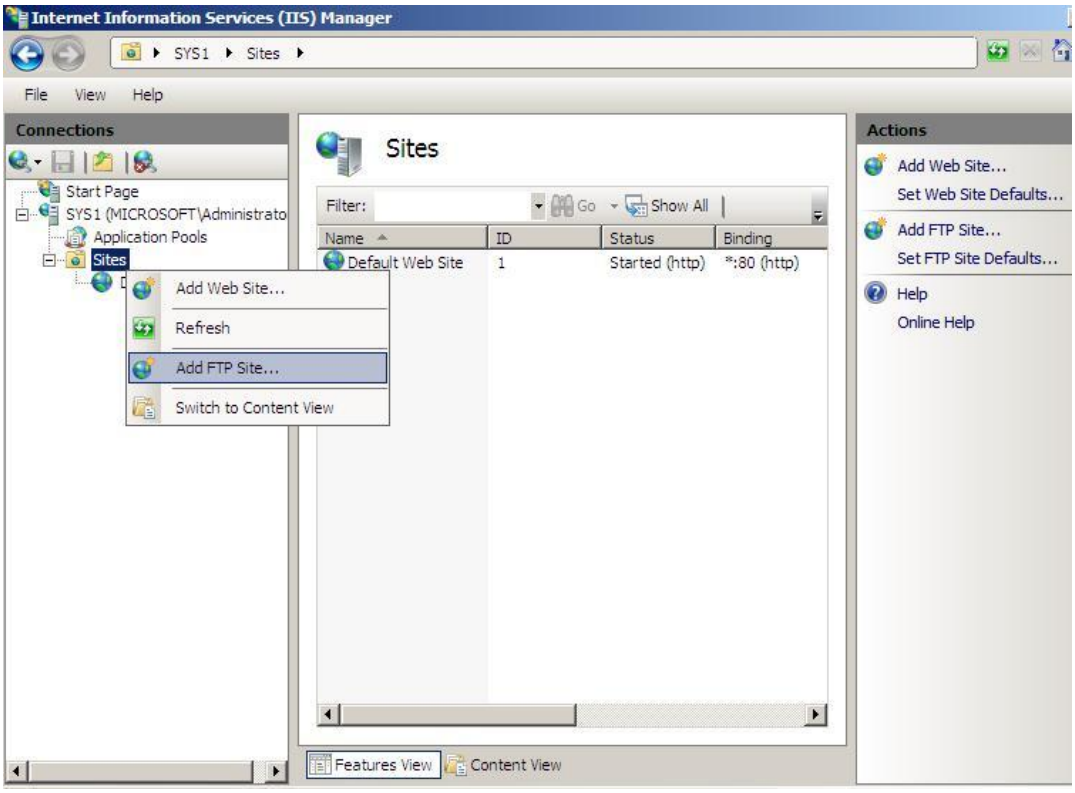
1. Open any drive and **create a folder (**Ex: **FTP Dir)** → Open the folder and **create some files** Ex: 1.txt, 2.txt, 3.txt.



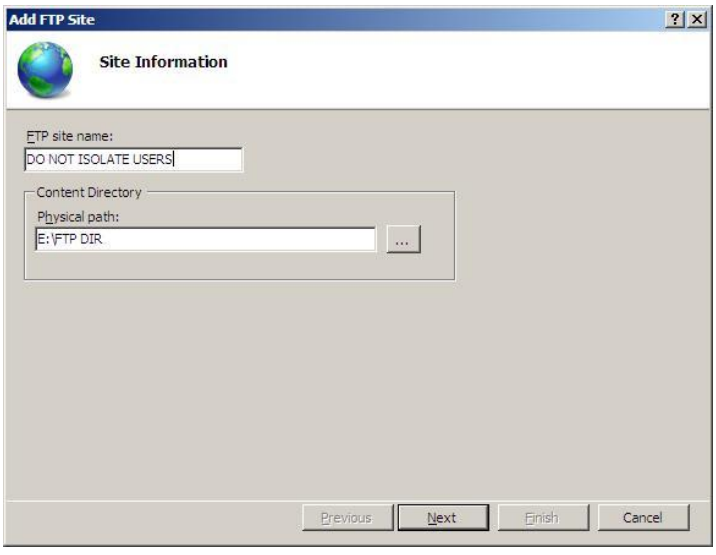
2. Select Start → Programs → Administrative Tools → **Internet Information Services (IIS) Manager.**



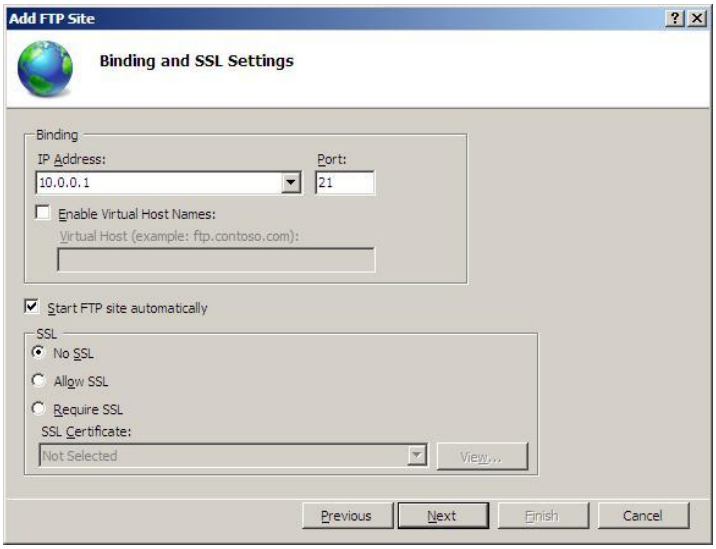
3. In the left pane of the **Internet Information Services** dialog box → Expand the server → Right click on **Sites** and select **ADD FTP Site**



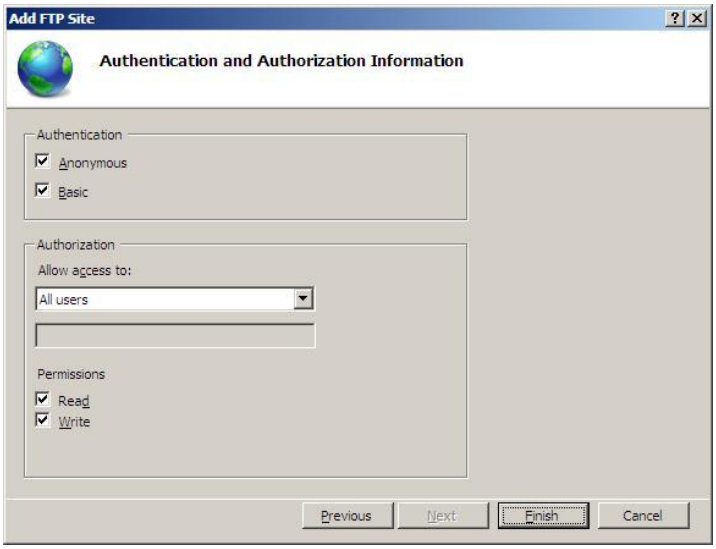
4. In Site Information screen, enter the FTP site name, and enter the path to the home folder (Content Directory) you want to assign to this FTP site. This can be either a local path or a UNC path of the shared folder → you can **browse for this folder** if you need to → click **Next.**



5. In the **Bindings and SSL Settings** dialog box select the IP address and port no. and select **"NO SSL".**



6. In Authentication and Authorization Information dialog box Check the box for **Anonymous and Basic**, Select **All Users**, Check the box for **Read and Write** → click **Finish.**

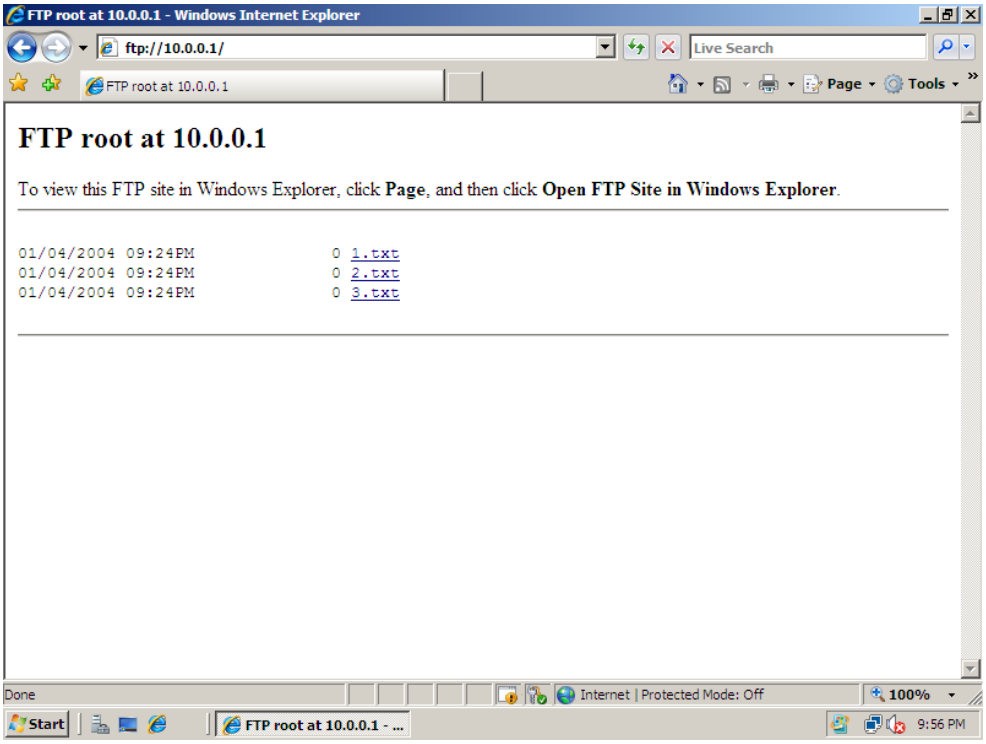


Accessing the FTP site from the Client systems

SYS2 – CONFIGURATION

Go to any Computer → Open Internet Explorer and type **ftp://ftp_ip_address** and Press Enter.

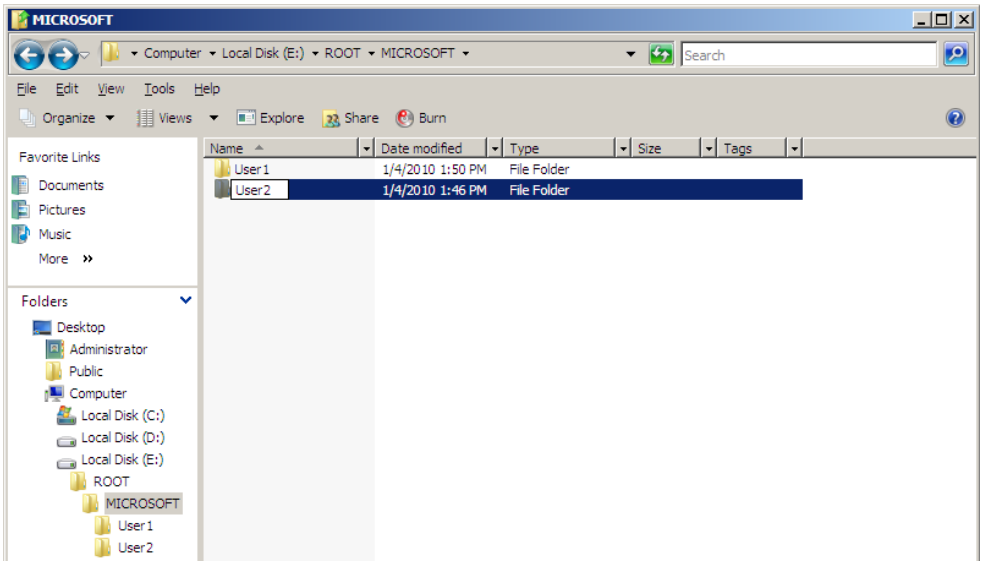
Ex: ftp://10.0.0.1



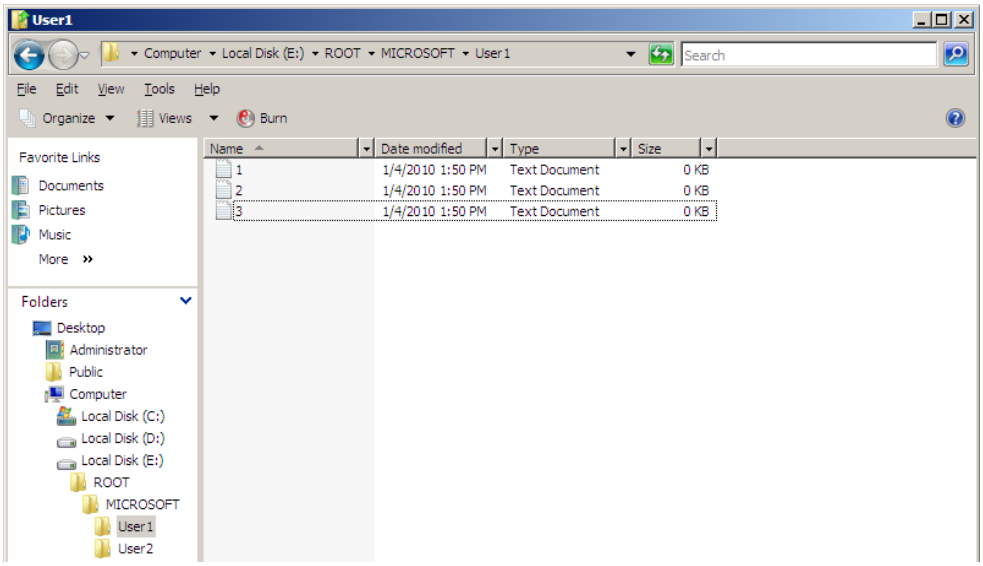
Lab – 3: Creating Isolate user FTP site

SYS1 –CONFIGURATION

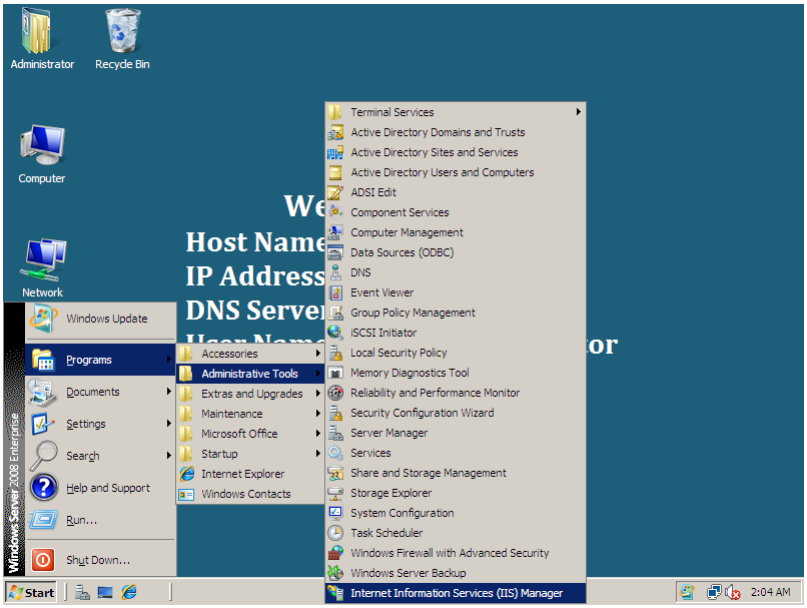
1. Open Active directory users and computers and create users **(**Ex**: User1, User2).**
2. In any Drive create a folder named **Root**.
3. Open root and create a folder with the domain's NetBIOS name **MICROSOFT**.
4. Open the folder **MICROSOFT** and create folders with user names **User1, User2.**



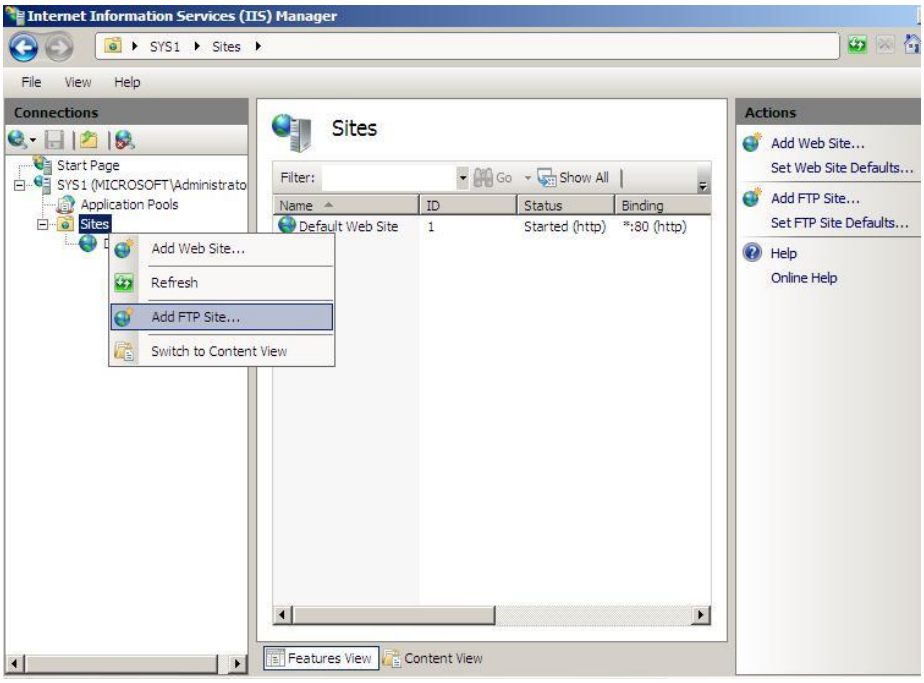
5. Open user name folders and create some files.



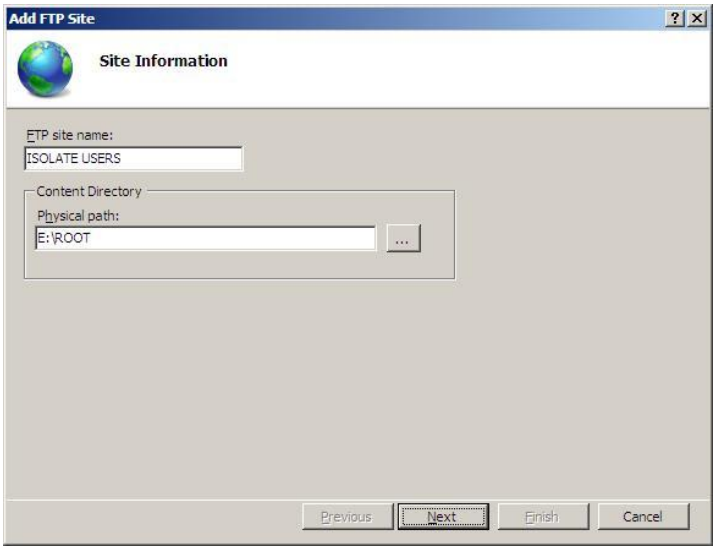
6. Select Start → Programs → Administrative Tools → **Internet Information Services (IIS) Manager.**



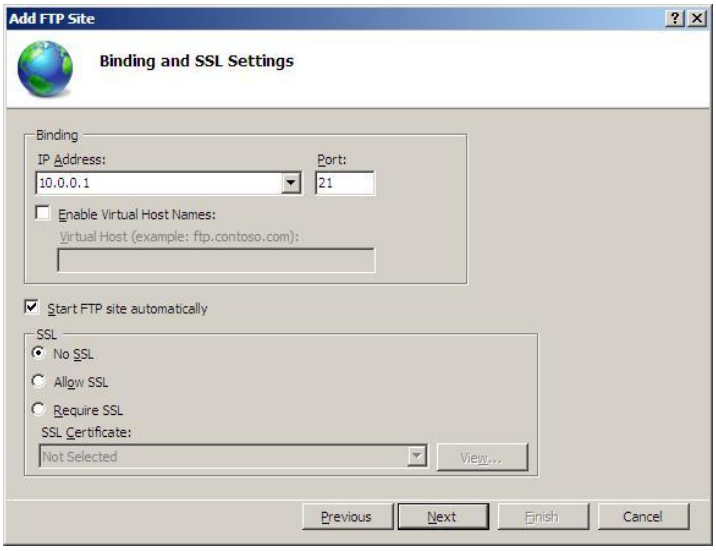
7. In the left pane of the **Internet Information Services** dialog box → Expand the server → Right click on **Sites** and select **ADD FTP Site**



8. In Site Information screen, enter the FTP site name, and enter the path to the home folder (Content Directory) you want to assign to this FTP site. This can be either a local path or a UNC path of the shared folder → you can **browse for this folder** if you need to → click **Next.**



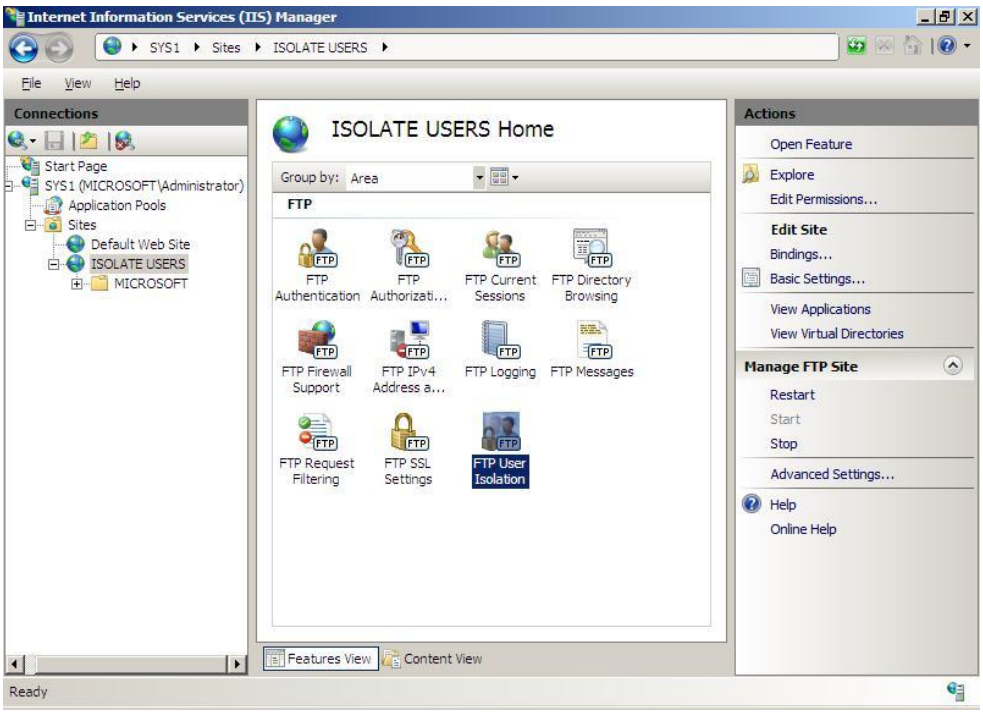
9. In the **Bindings and SSL Settings** dialog box select the IP address and port no. and select **"NO SSL".**



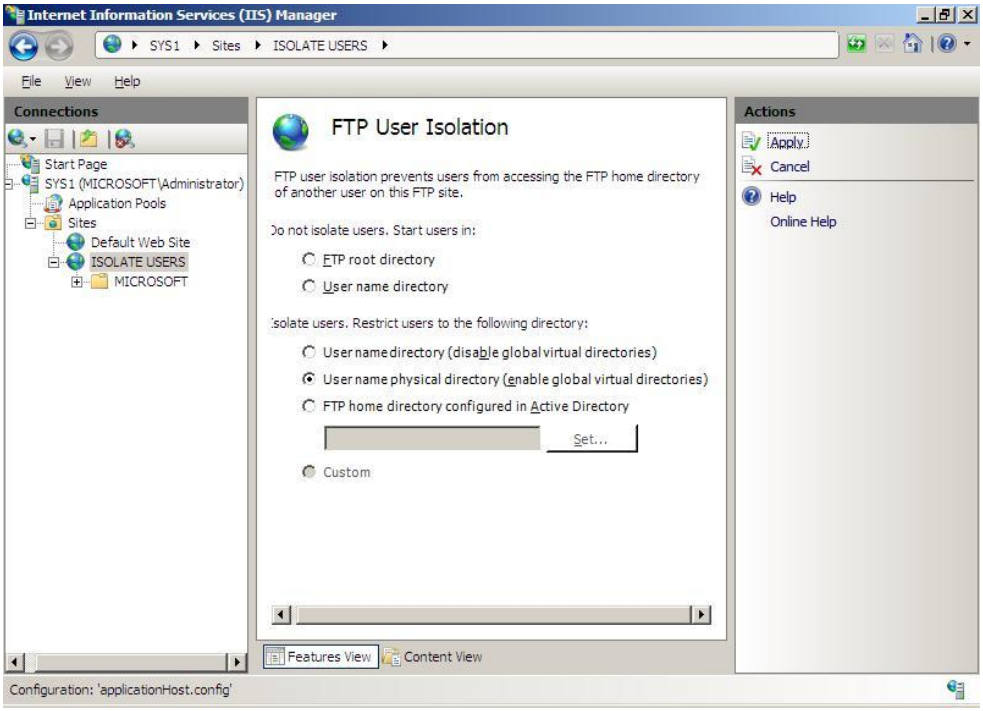
Note: In one computer we cannot run 2 ftp sites on the same IP address & on the same port number. Any one should be changed.

10. In Authentication and Authorization Information dialog box Check the box for **Anonymous and Basic**, Select **All Users**, Check the box for **Read and Write** → click **Finish.**

11. **Select the FTP Site** and select **FTP User Isolation** Option



12. Select the option **"User name Physical Directory"** → click **Apply.**

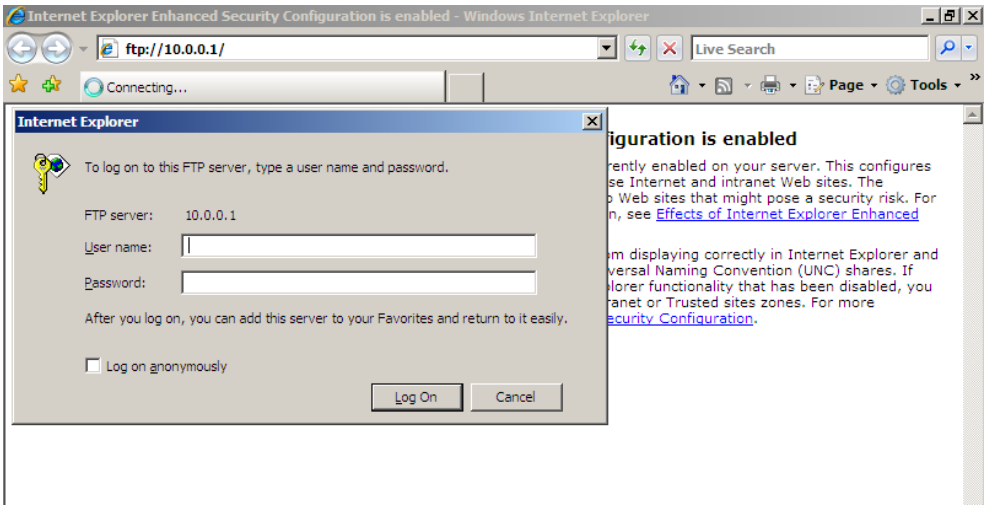


Accessing the FTP site from the Client systems

SYS2 – CONFIGURATION

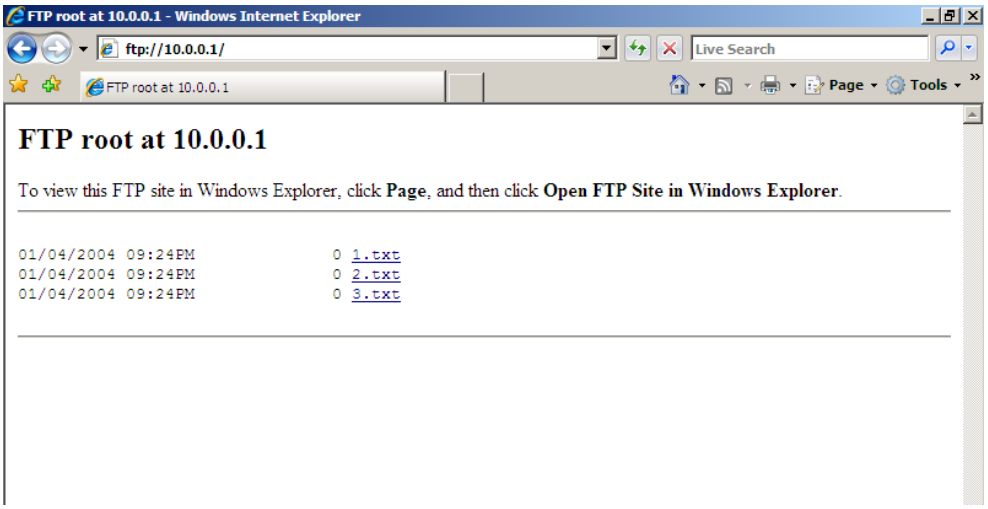
1. Open the browser and type **ftp://ftp_ip_address:port number (If the ftp site port is not default (21))**

   Ex: ftp://10.0.0.1:2100 or ftp://10.0.0.1



2. Give the **username** and the **password**.

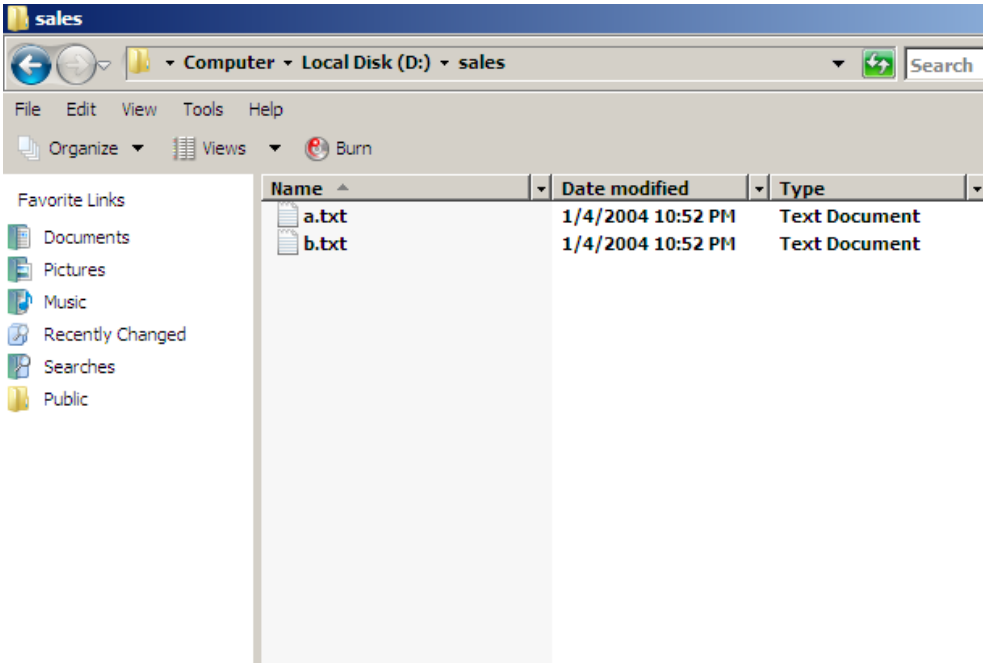
3. **User Home Directory** will be displayed.



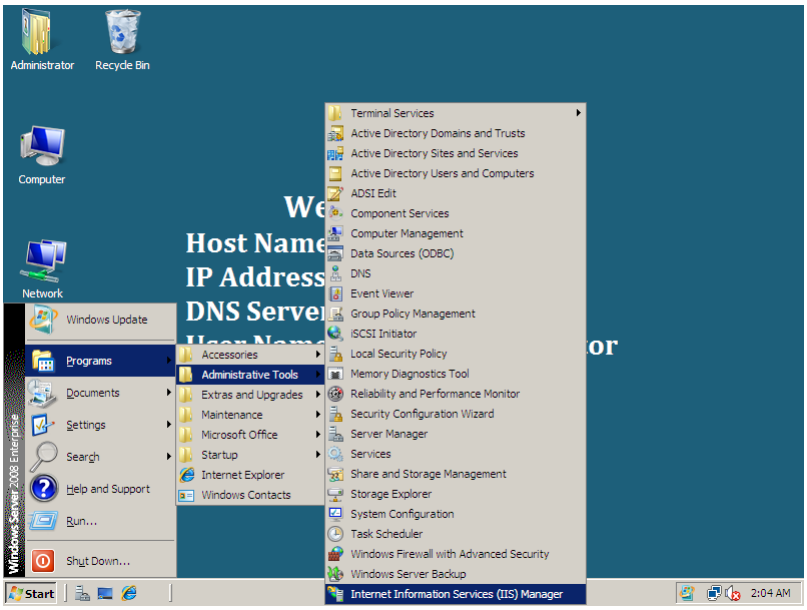
Lab – 4: Creating Isolate user using Active Directory FTP site

SYS1 –CONFIGURATION

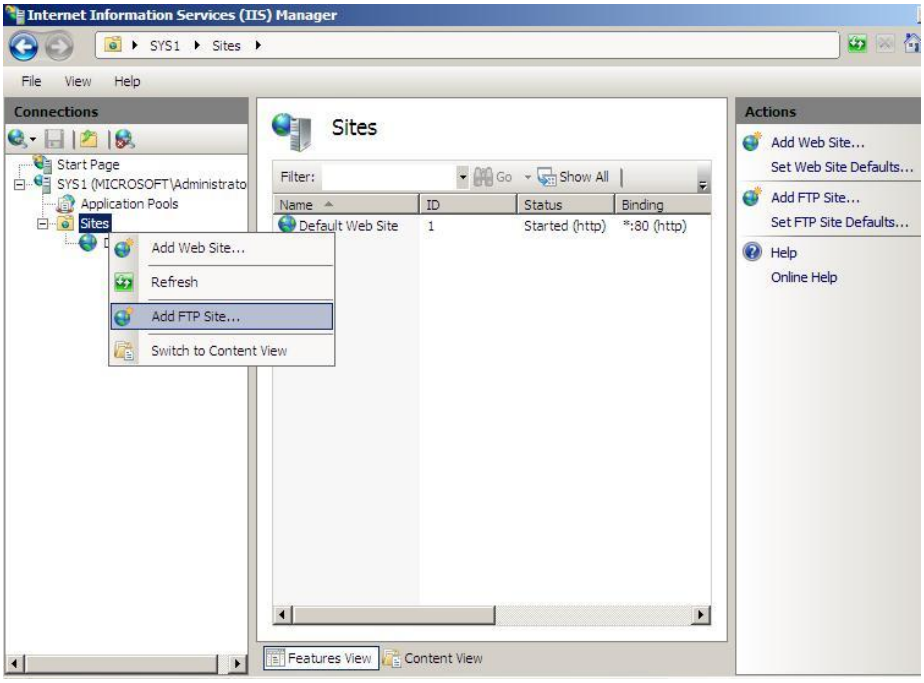
1. Open any **drive (**Ex: **D:\)**and **create a folder (**Ex: **Sales)** → Open the folder and **create some files** (Ex: a.txt, b.txt).



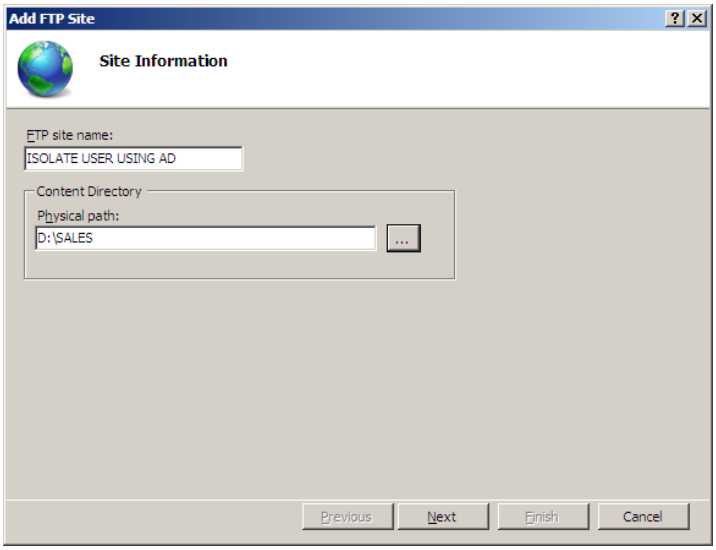
2. Select Start → Programs → Administrative Tools → **Internet Information Services (IIS) Manager.**



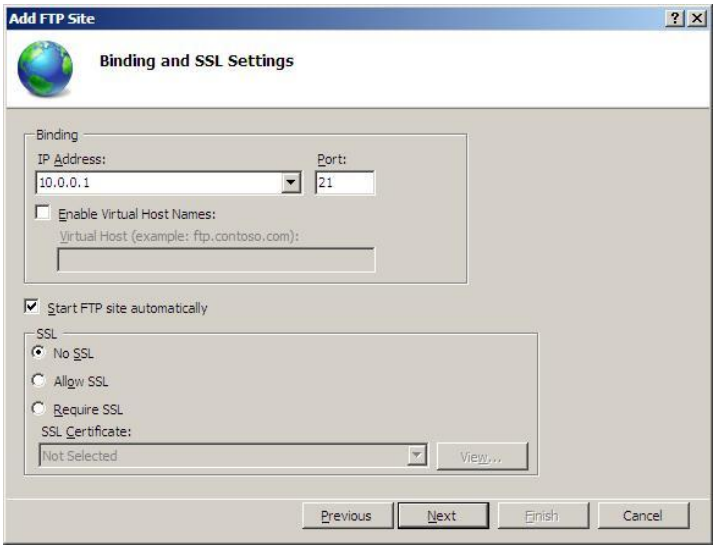
3. In the left pane of the **Internet Information Services** dialog box → Expand the server → Right click on **Sites** and select **ADD FTP Site**



4. In Site Information screen, enter the FTP site name, and enter the path to the home folder (Content Directory) you want to assign to this FTP site. This can be either a local path or a UNC path of the shared folder → you can **browse for this folder** if you need to → click **Next.**

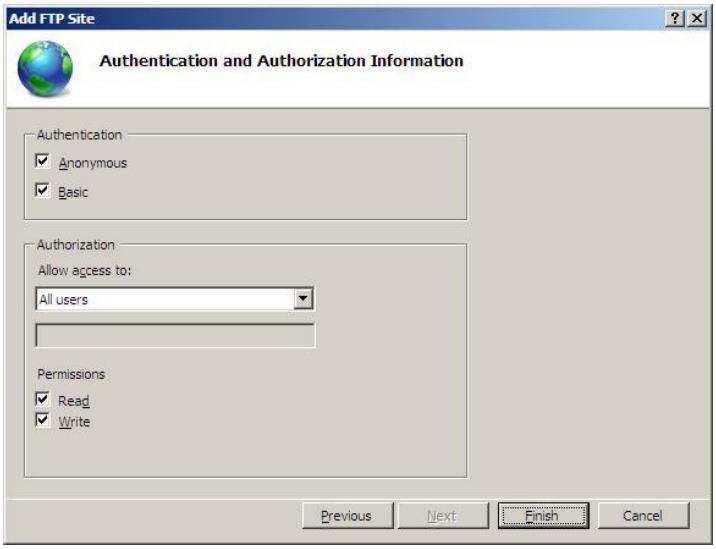


5. In the **Bindings and SSL Settings** dialog box select the IP address and port no. and select **"NO SSL".**

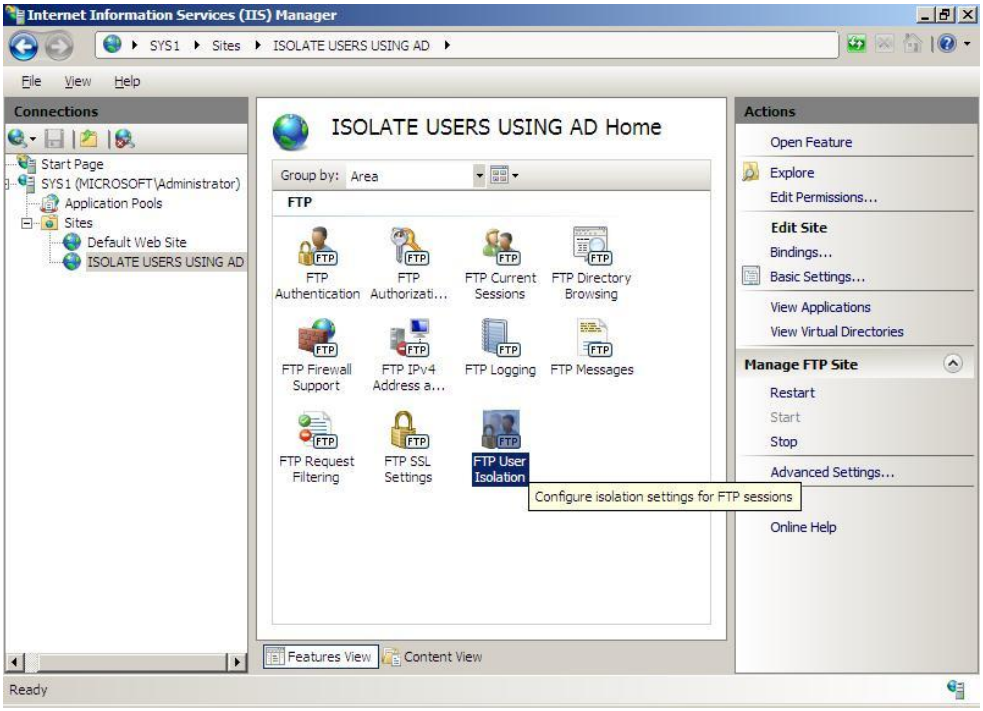


Note: In one computer we cannot run 2 ftp sites on the same IP address & on the same port number. Any one should be changed.

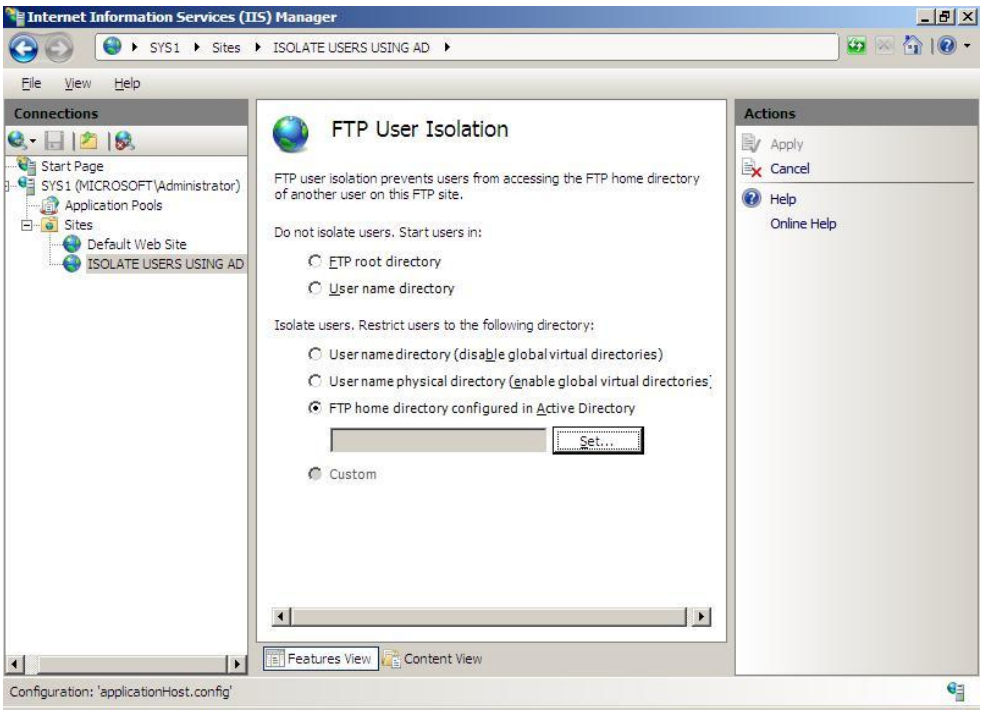
6. In Authentication and Authorization Information dialog box Check the box for **Anonymous and Basic**, Select **All Users**, Check the box for **Read and Write** → click **Finish.**



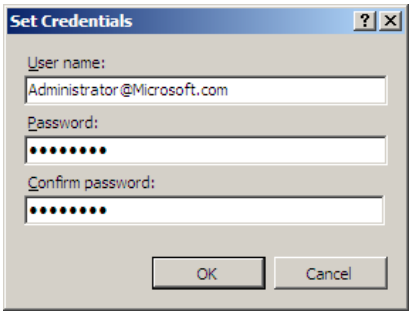
7. **Select the FTP Site** and select **FTP User Isolation** Option

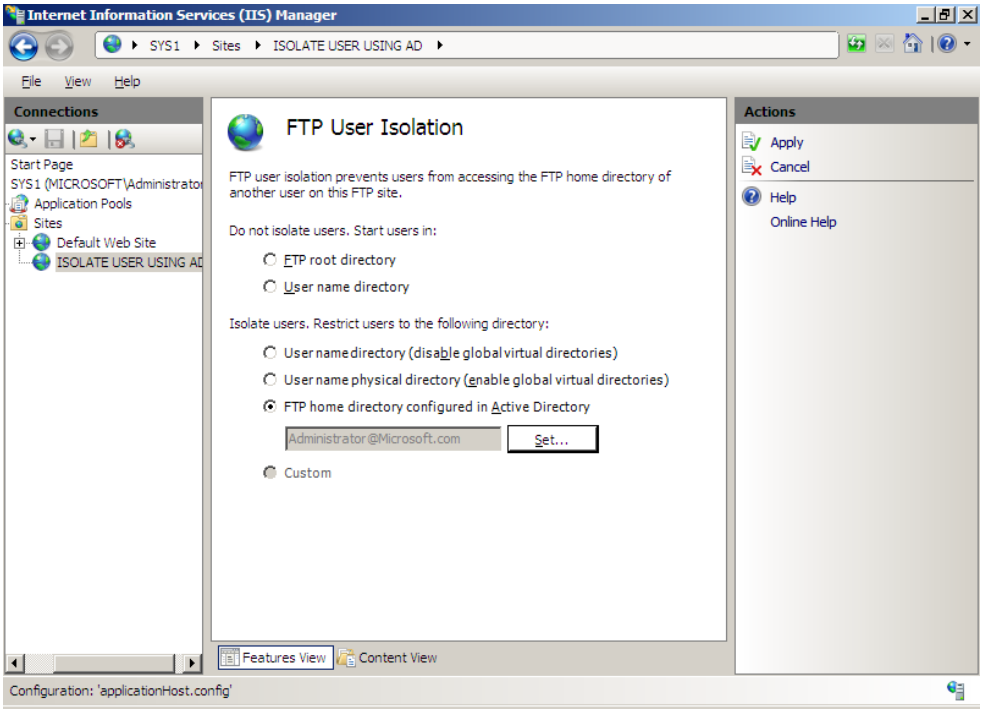


8. Select **"FTP home directory configured in Active Directory"** → click **Set.**



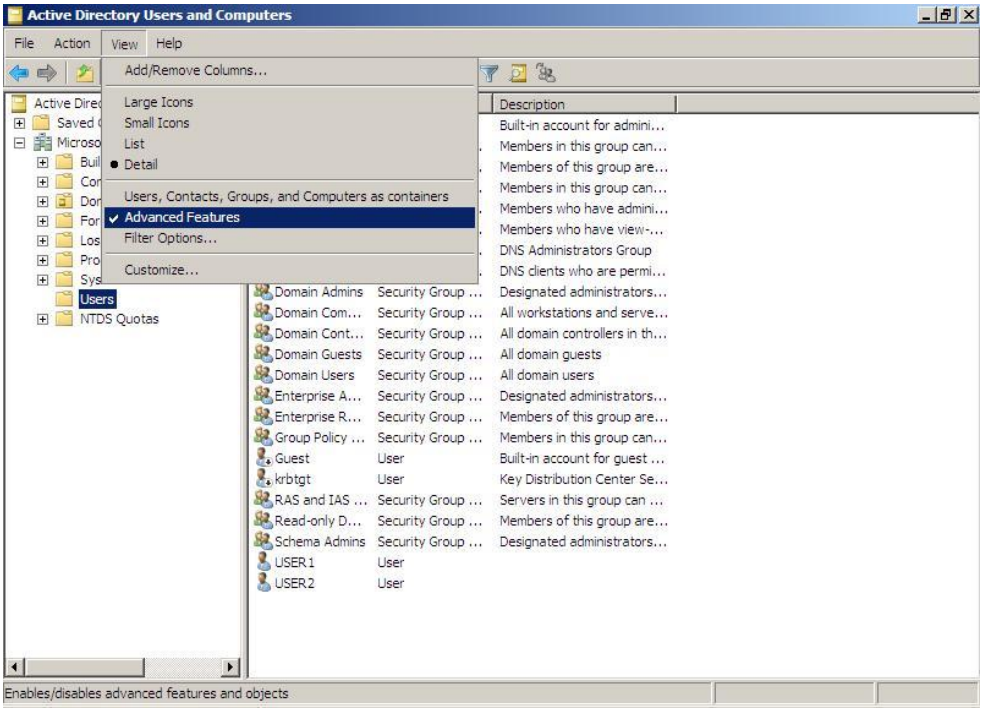
9. Mention the User name as **Administrator@Microsoft.com**, provide the password and confirm the password → Click **OK**



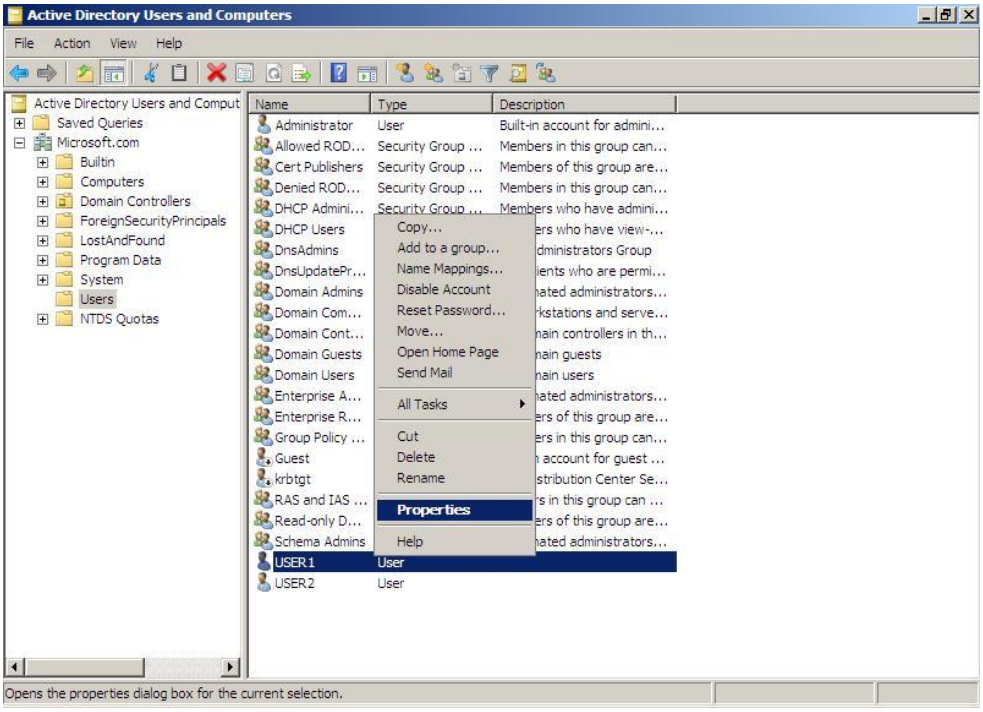


How to set Active Directory properties

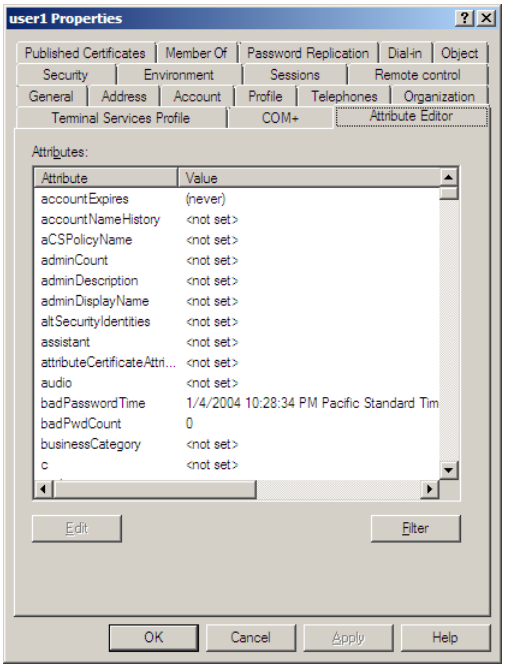
1. Open **Active Directory Users and computers** → click **View** → Select **Advanced Features**



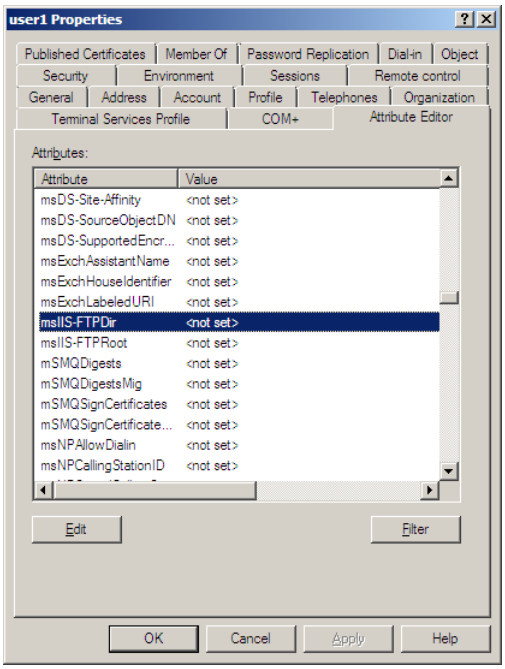
2. Right click on the User account **(**Ex: **User1)** → Select **Properties**



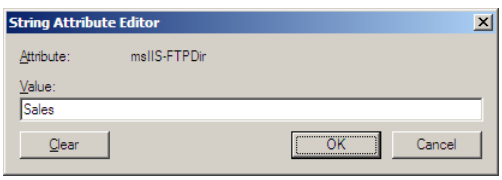
3. Select **Attribute Editor**



4. Select **msIIS- FTPDir**

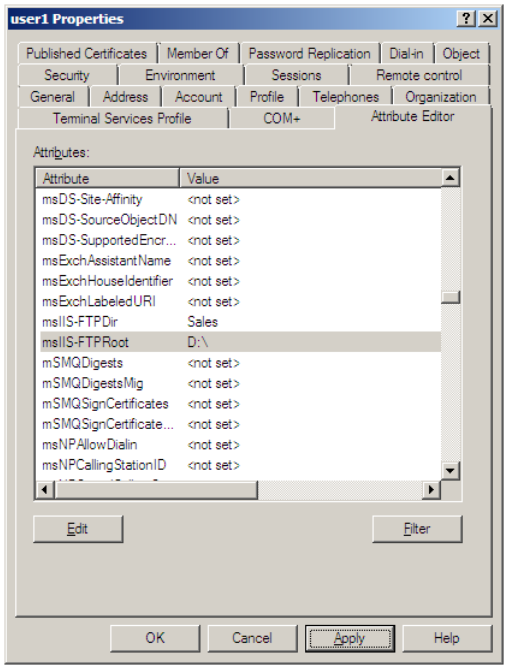


5. Click **Edit** and Mention the **Folder name (**Ex: **Sales)** → click **OK.**



6. Select **msIIS- FTPRoot** → click **Edit** and Mention the **Path of the Directory (**Ex: **D:\)** → click **OK.**

7. Verify the values given → click **Apply & OK.**

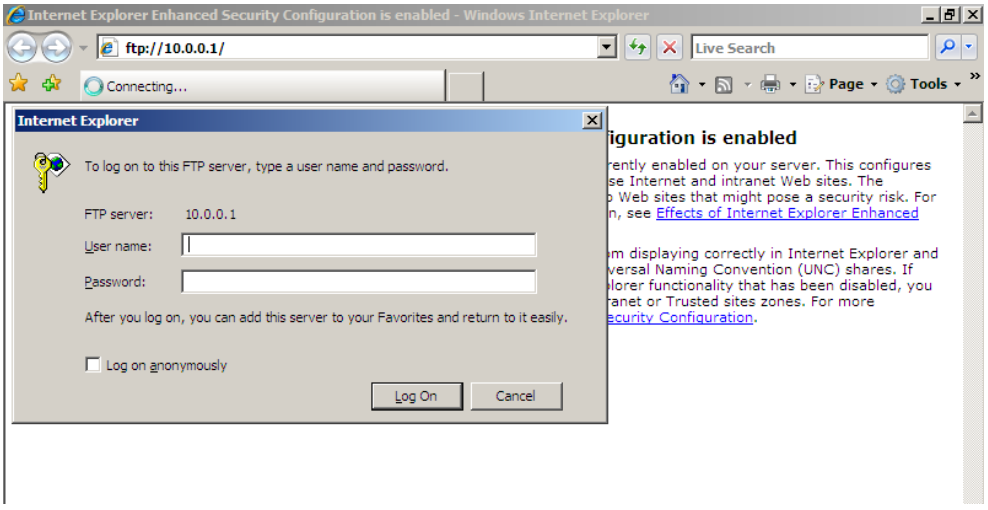


Accessing the FTP site from the Client systems

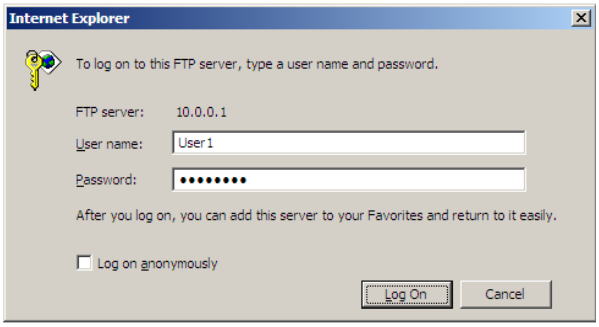
SYS2 – CONFIGURATION

1. Open the browser and type **ftp://ftp_ip_address:port number (If the ftp site port is not default (21))**

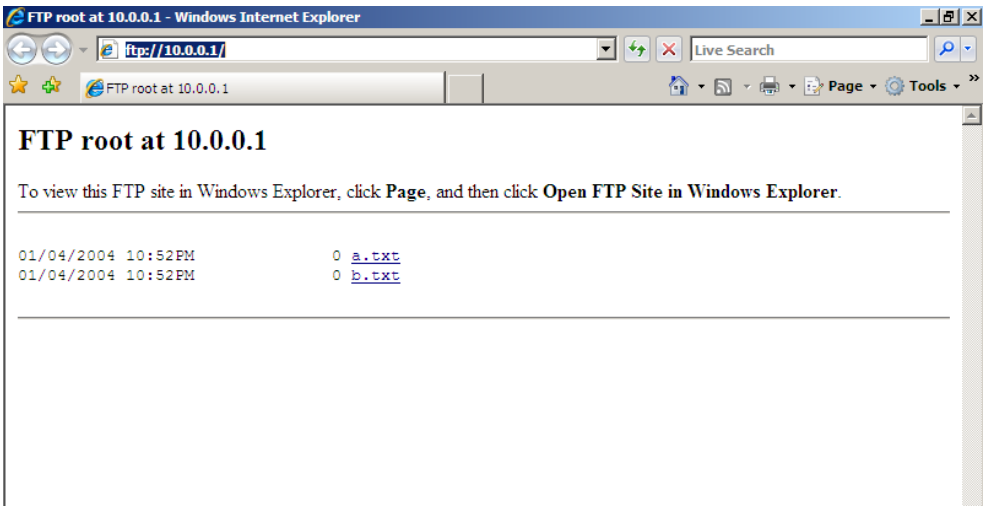
   Ex: ftp://10.0.0.1:2110 or ftp://10.0.0.1



2. Give the **username** and the **password**.



3. **User Home Directory** will be displayed.

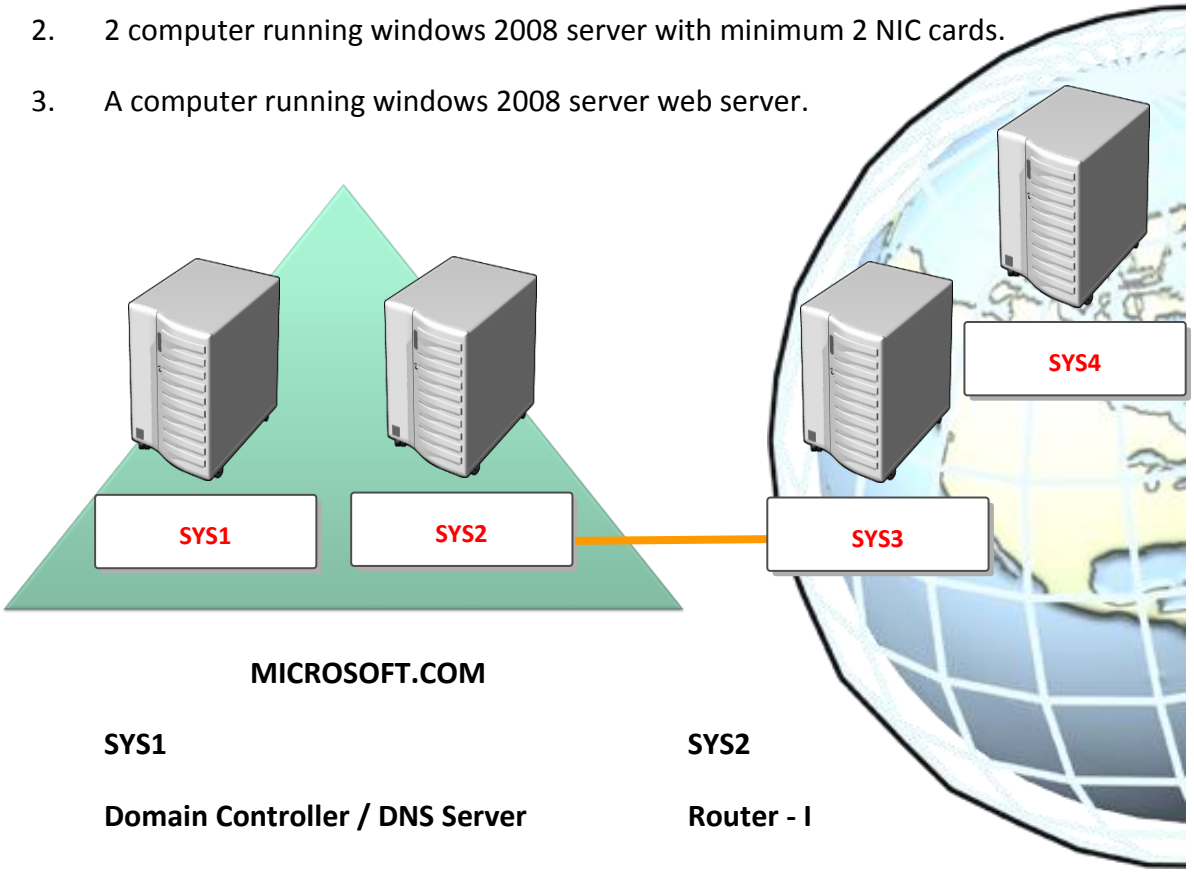


ROUTING

Prerequisites:

Before working on this lab, you must have

1. A computer running windows 2008 server Domain Controller.
2. 2 computer running windows 2008 server with minimum 2 NIC cards.
3. A computer running windows 2008 server web server.



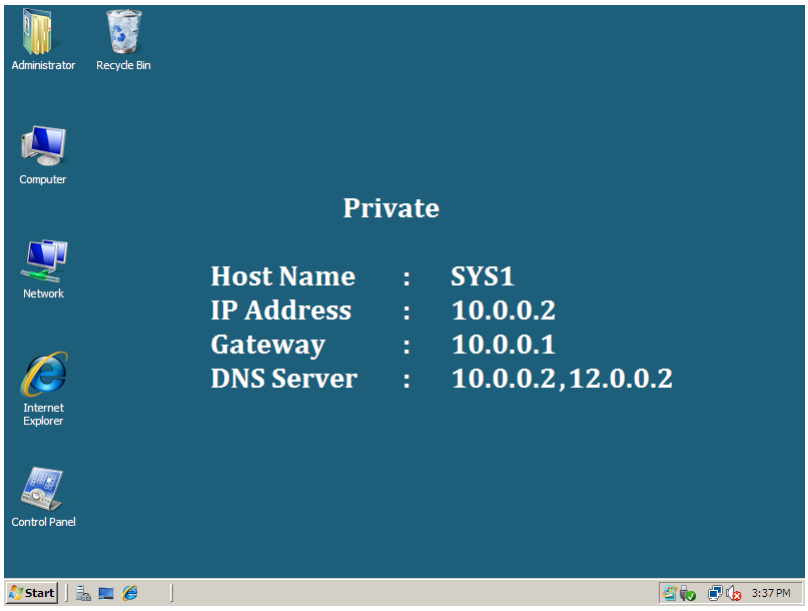
MICROSOFT.COM

SYS1		**SYS2**	
Domain Controller / DNS Server		**Router - I**	
IP Address	10.0.0.2	IP Address	10.0.0.1, 11.0.0.1
Subnet Mask	255.0.0.0	Subnet Mask	255.0.0.0
Gateway	10.0.0.1	Gateway	----------
DNS Server	10.0.0.2, 12.0.0.2	DNS Server	10.0.0.2
SYS3		**SYS4**	
Router – II		**Web server / DNS Server**	
IP Address	11.0.0.2,12.0.0.1	IP Address	12.0.0.2
Subnet Mask	255.0.0.0	Subnet Mask	255.0.0.0
Gateway	----------	Gateway	12.0.0.1
DNS Server	12.0.0.2	DNS Server	12.0.0.2, 12.0.0.1

Lab – 1: Assigning the IP Address to Configure Routing

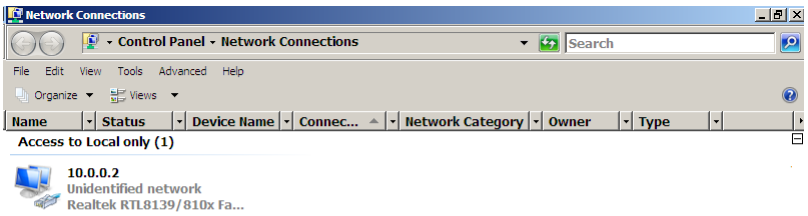
ON PRIVATE:

1. Logon to **Private.**

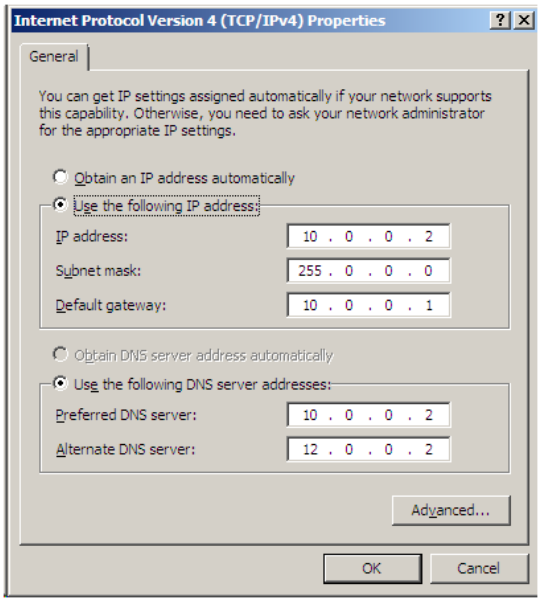


2. **Check the IP settings:**

Right click on **network icon** →click **Manage Network Connections** →Right click **NIC card** →click **properties**



3. Right click on **NIC card** →click **properties** →**Internet Protocol Version 4 (TCP/IPv4)** → **properties** → Define the IP address as mentioned below.

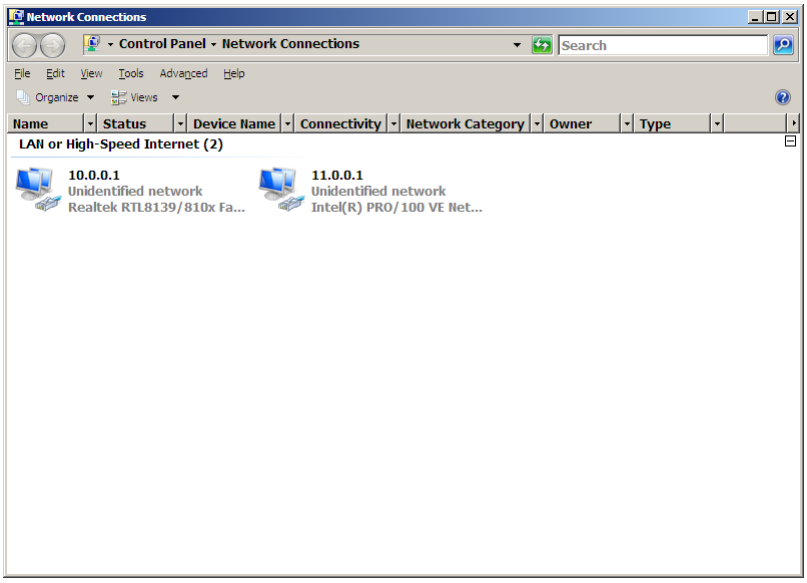


ON ROUTER 1:

1. Logon to **Router1**

2. **Check the IP settings:**

Right click on **network icon** →click **Manage Network Connections**→ Right click **NIC card** →click **properties** →**Internet Protocol Version 4 (TCP/IPv4)** → **properties**→ Define the IP address as mentioned below.

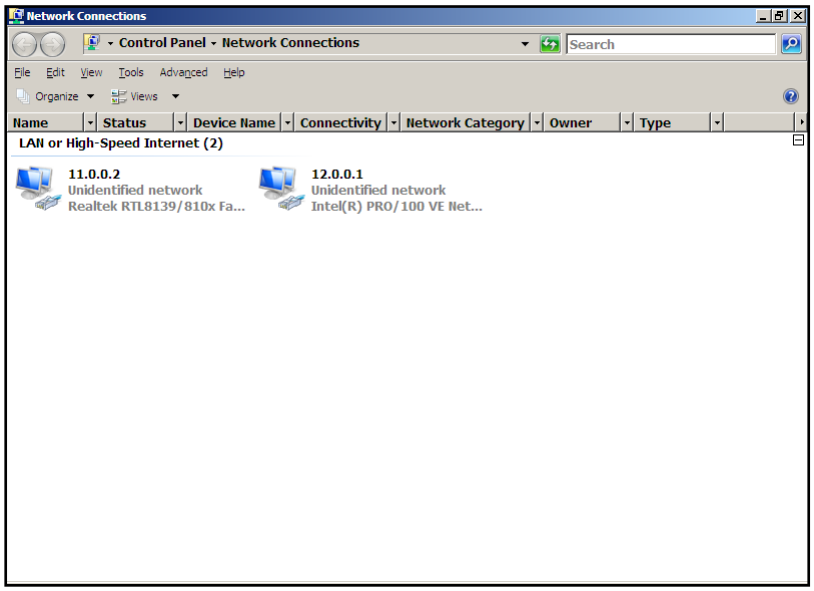


On ROUTER 2:

1. Log on to **Router2**

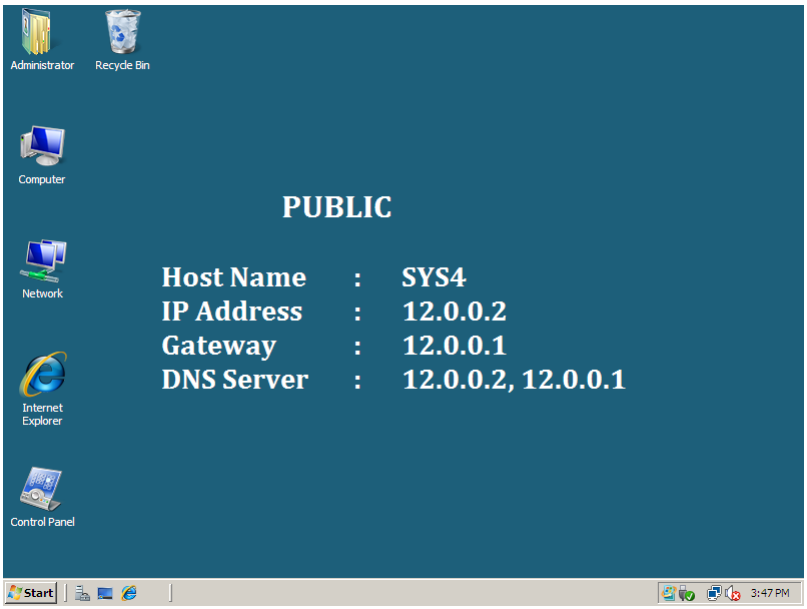
2. **Check the IP settings**:

   Right click on **network icon** →click **Manage Network Connections** → Right click **NIC card** →click **properties** →**Internet Protocol Version 4 (TCP/IPv4)** → **properties**→ Define the IP address as mentioned below.



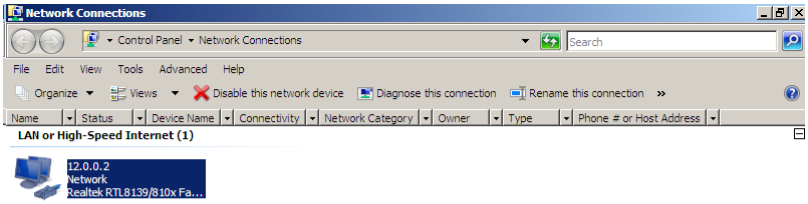
On PUBLIC:

1. Logon to **Public**

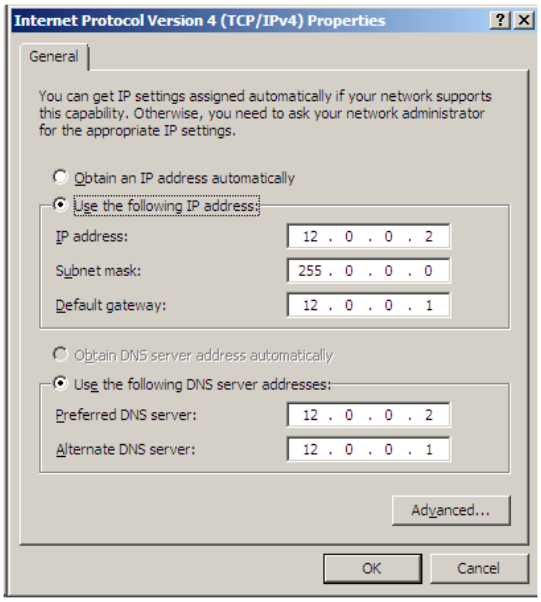


2. **Check the IP settings**:

   Right click on **network icon** →click **Manage Network Connections**.



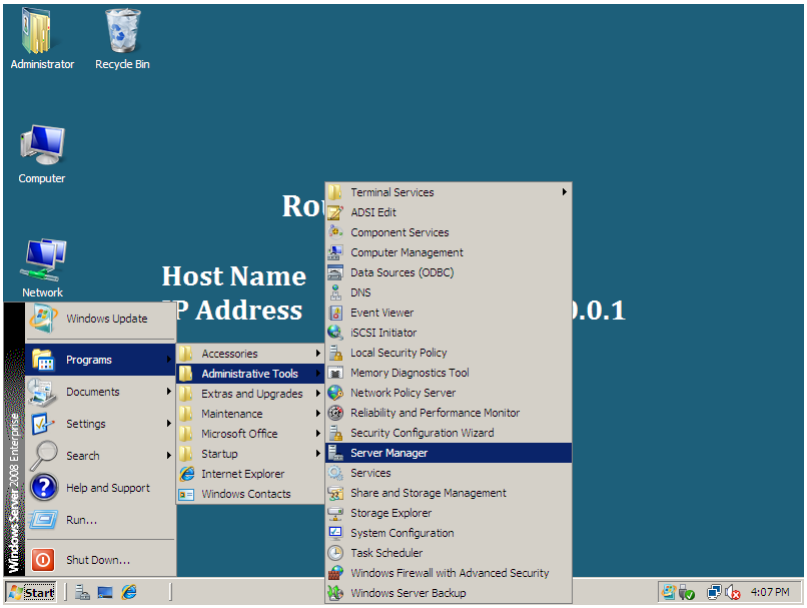
3. Right click on **NIC card** →click **properties** →**Internet Protocol Version 4 (TCP/IPv4)** → **properties**→ Define the IP address as mentioned below.



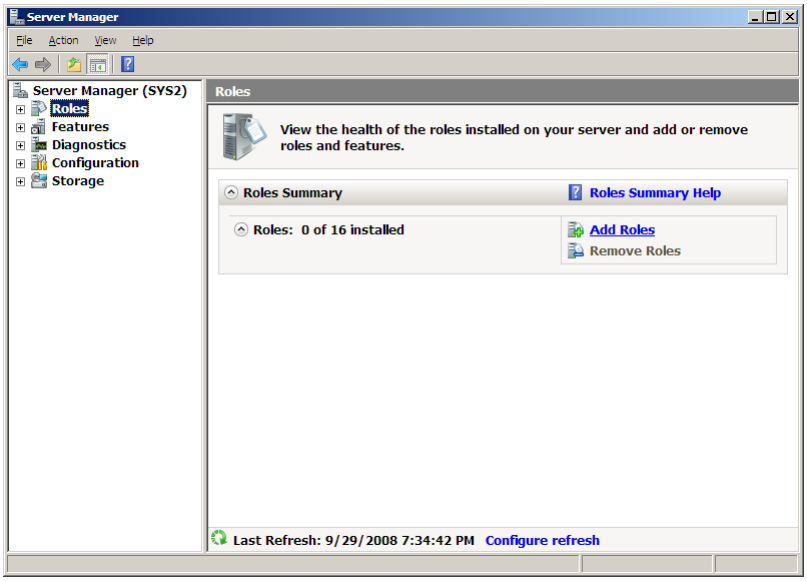
Lab – 2: Installing Routing Service on Router1 & Router2

SYS2– CONFIGURATION

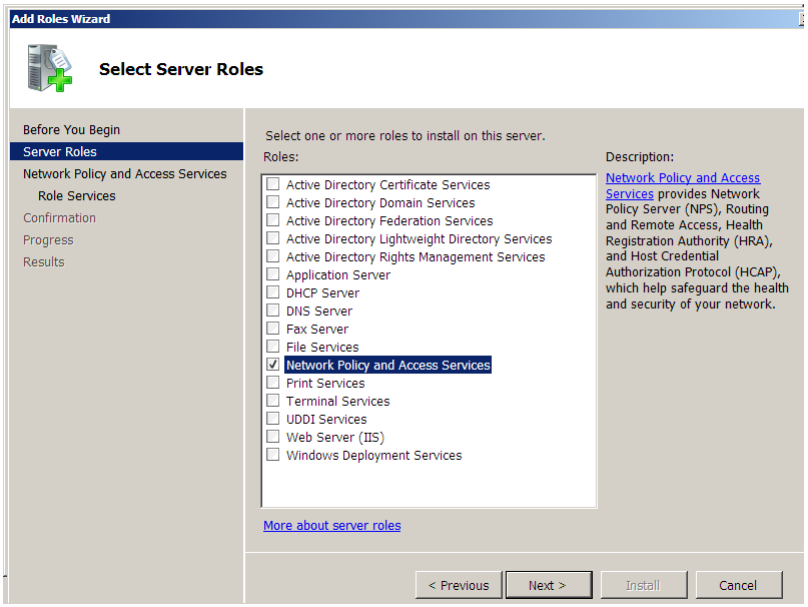
1. Click Start →Programs →Administrative Tools→ **Server Manager**



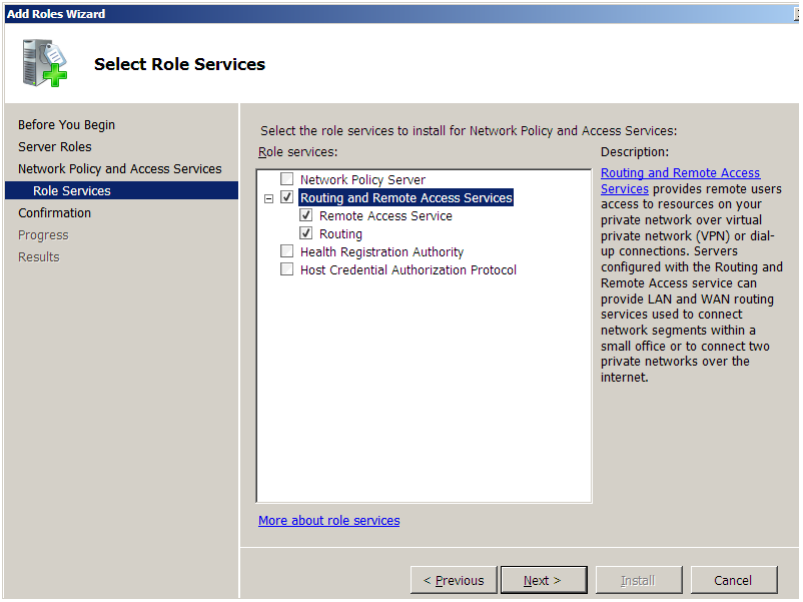
2. Select **Roles** →click **Add Roles**



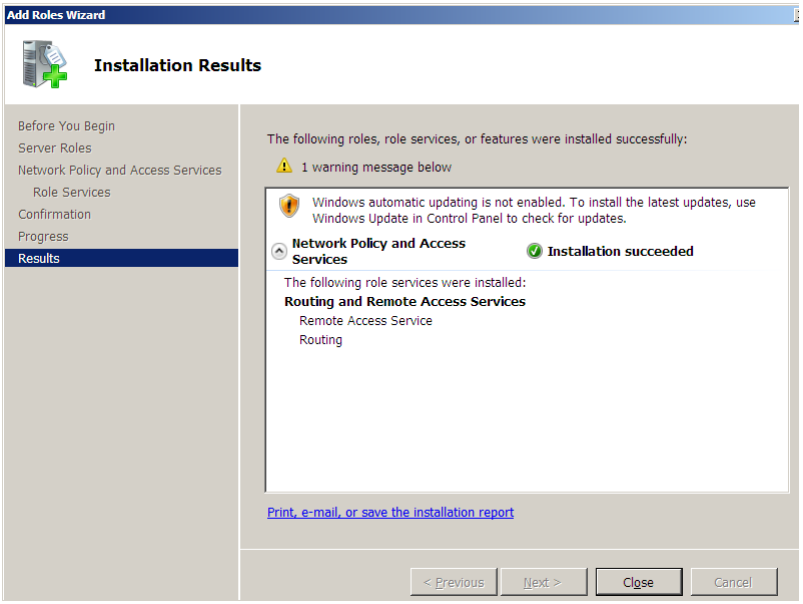
3. Select the Check Box for **Network policy And Access Services** →click **Next**



4. Select the Check Box for **Routing And Remote Access Services** →click **Next** →click **Install**



5. Installation will be Completed →click **Close**

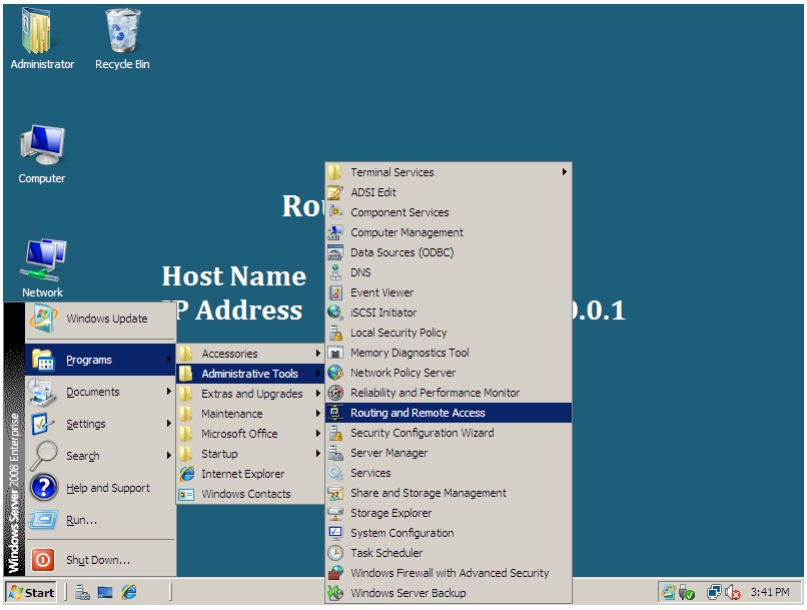


<u>Note</u>: - Repeat the process of LAB2 on Router-2 (SYS3) also.

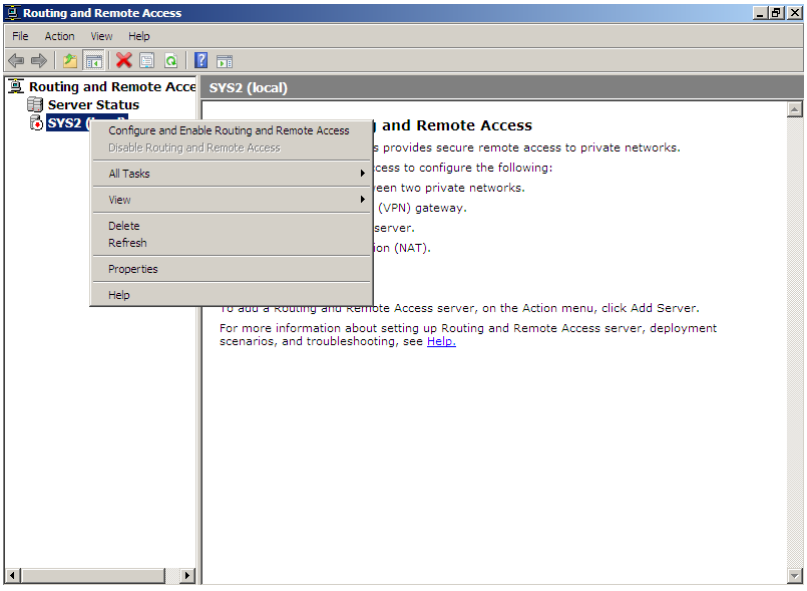
Lab – 3: Enabling Routing on Router1 & Router2

SYS2 – CONFIGURATION

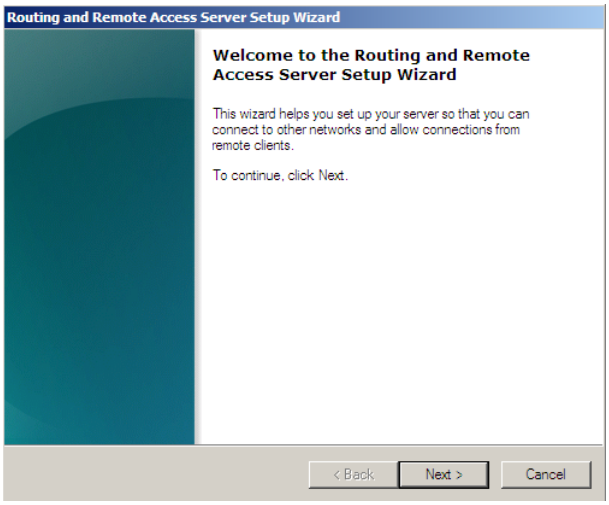
1. Click Start →Programs →Administrative Tools→ Routing And Remote Access



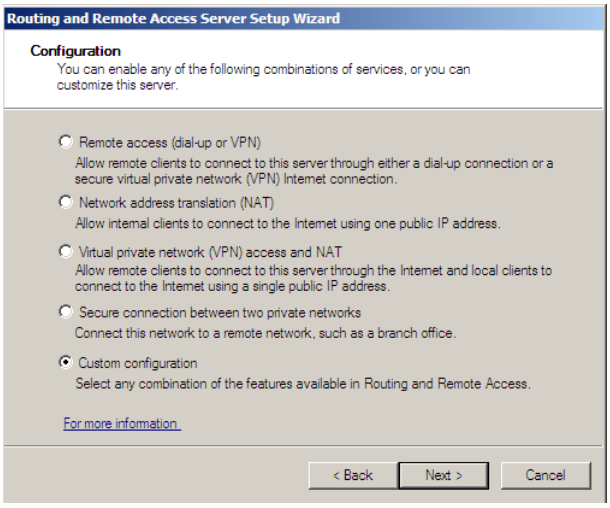
2. Right click on system name **Configure & Enable Routing and Remote Access**



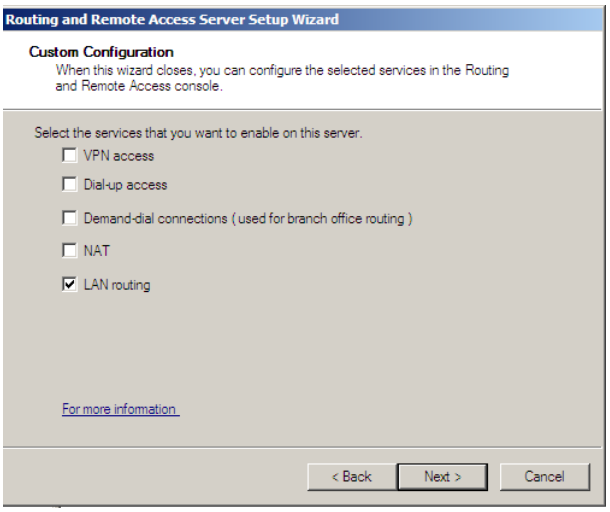
3. Click **Next**



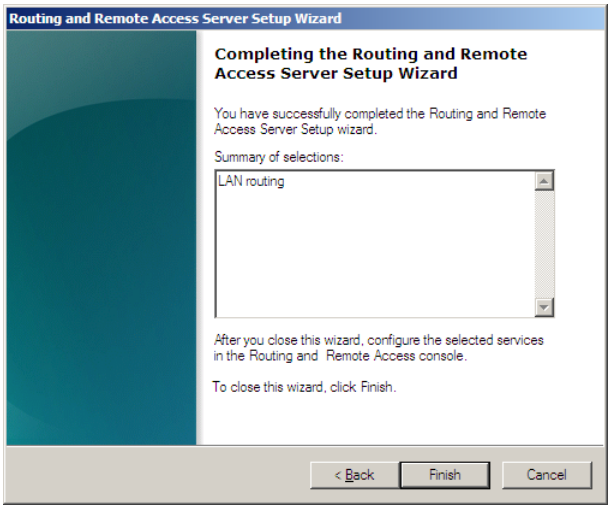
4. Select **Custom configuration** →click **Next.**



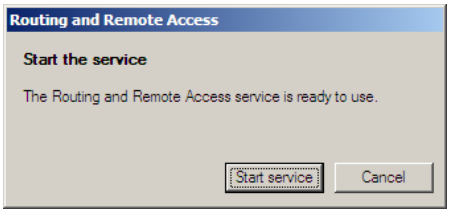
5. Select **LAN routing →Next**

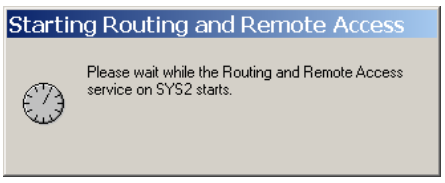


6. Click **Finish**



7. Click **Start service**





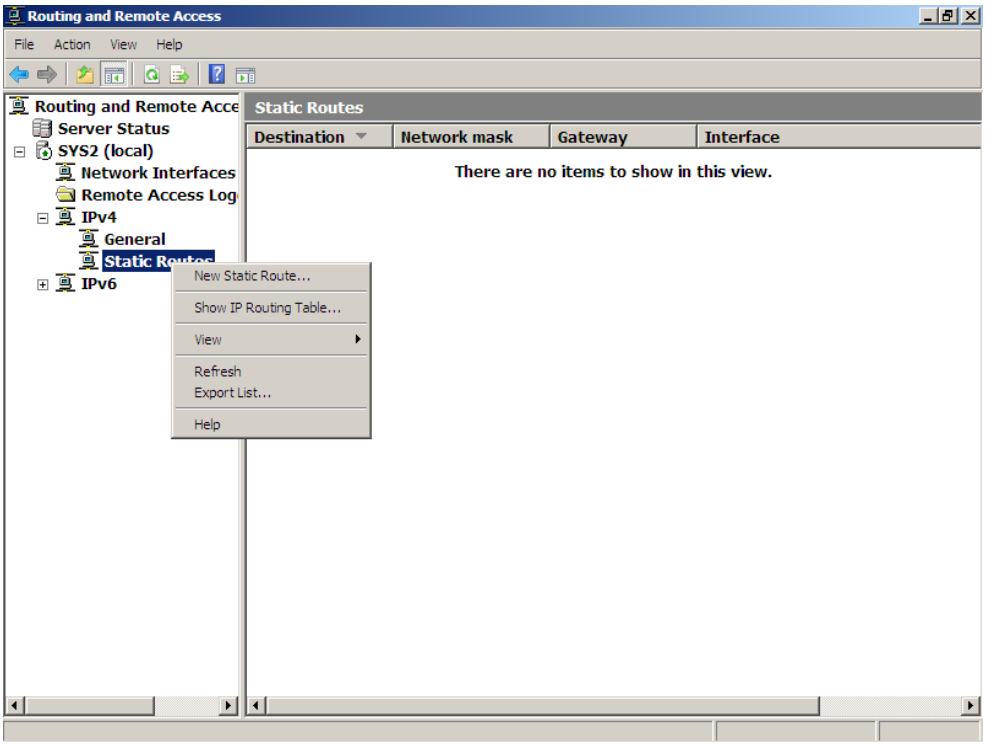
<u>Note</u>: - Repeat the process of LAB3 on Router-2 (SYS3) also.

Lab – 4: Configuring Static Routes

SYS2 – CONFIGURATION

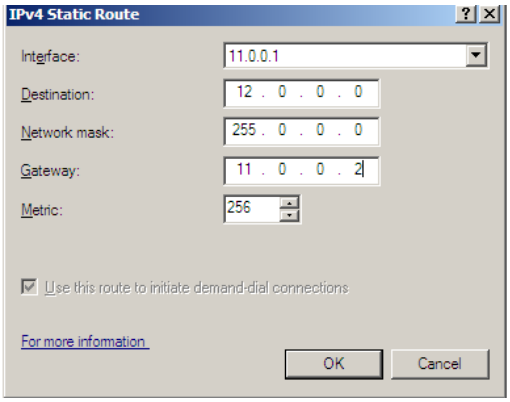
ON ROUTER 1:

1. Go to Routing and Remote access →Expand System name →Expand **IPv4**→Select **Static Routes**→ Right click **New Static Route**



2. Define the static route as mentioned below →click **OK.**

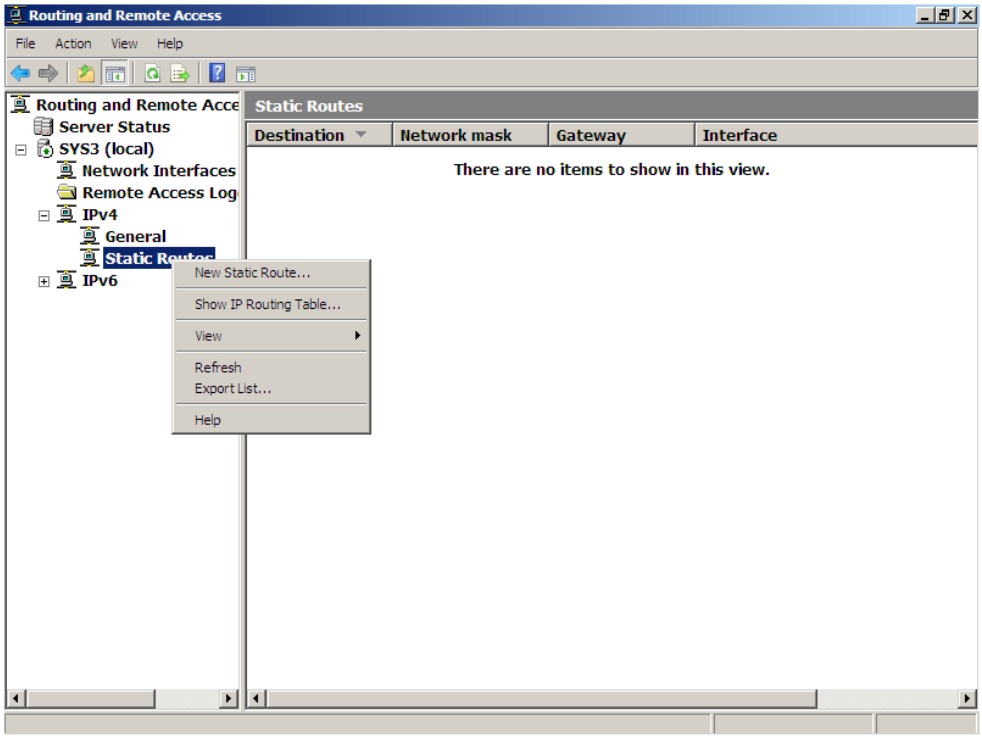
Interface	11.0.0.1
Destination	12.0.0.0
Network Mask	255.0.0.0
Gateway	11.0.0.2
Metric	256



SYS3 – CONFIGURATION

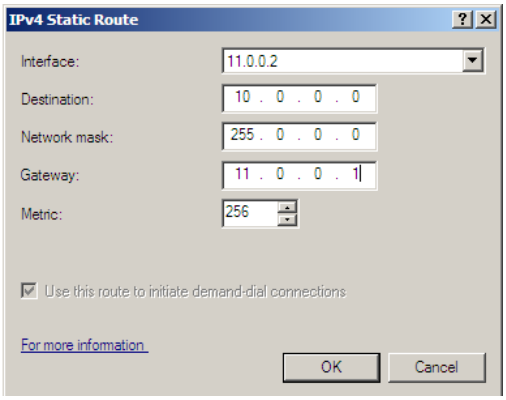
ON ROUTER 2:

1. Go to Routing and Remote access →Expand System name →Expand **IPv4** →Select **Static Routes**→ Right click **New Static Route**



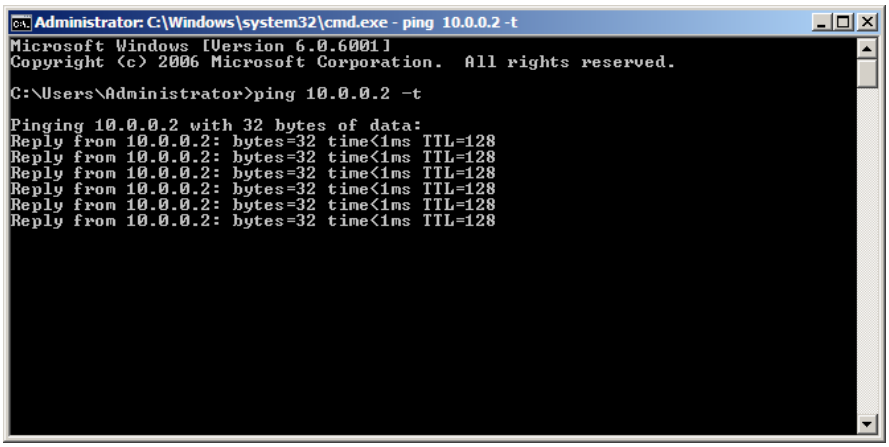
2. Define the static route as mentioned below →click **OK.**

Interface	11.0.0.2
Destination	10.0.0.0
Network Mask	255.0.0.0
Gateway	11.0.0.1
Metric	256



Verification:

1. Check the connectivity between 10.0.0.0 and 12.0.0.0 Networks.
2. Log on to **SYS4**(12.0.0.2)→ Go to Start →Run →CMD →**Ping 10.0.0.2 –t** and verify for reply



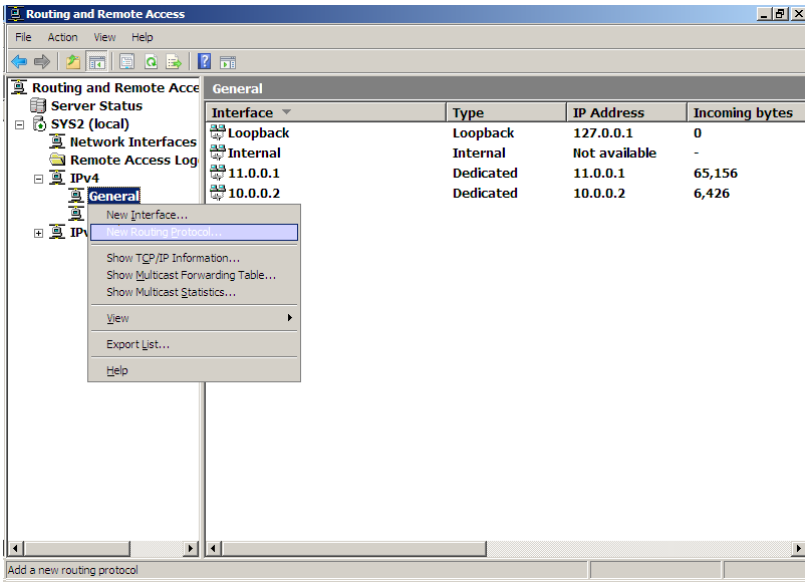
3. Log on to **SYS1** (10.0.0.2) →Open the Internet Explorer & access http://www.whatismyip.com (Website is present on 12.0.0.2), so communication is there between both networks

Lab – 5: Configuring Network Address Translation

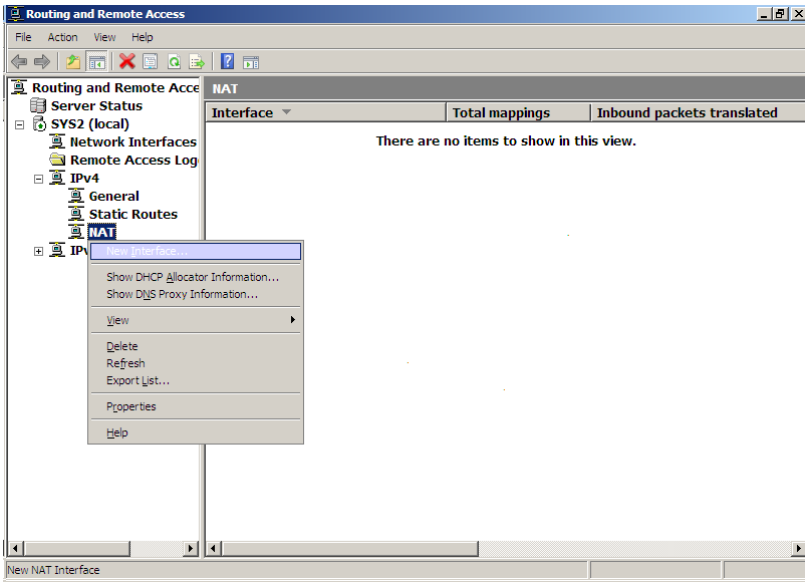
SYS2 – CONFIGURATION

OnROUTER1:

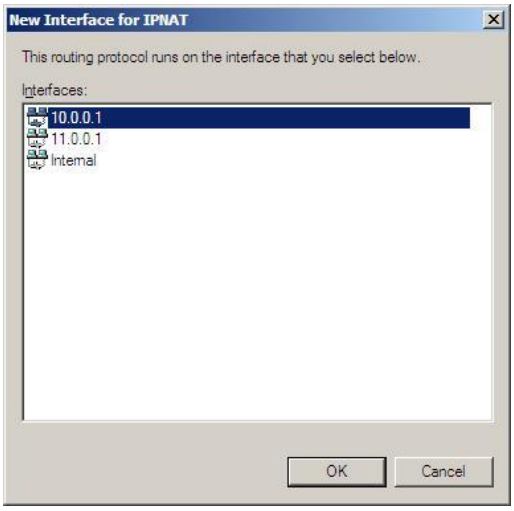
1. Go to Routing and Remote access →Expand System name → Expand **IPv4**
2. Right click on **General** →Select **New Routing Protocol**



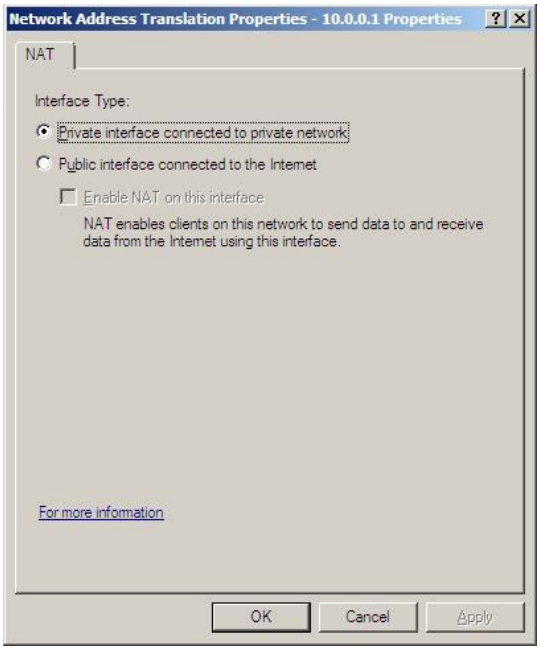
3. Select **NAT** →click **OK**
4. Right click on **NAT** →Select **New interface**



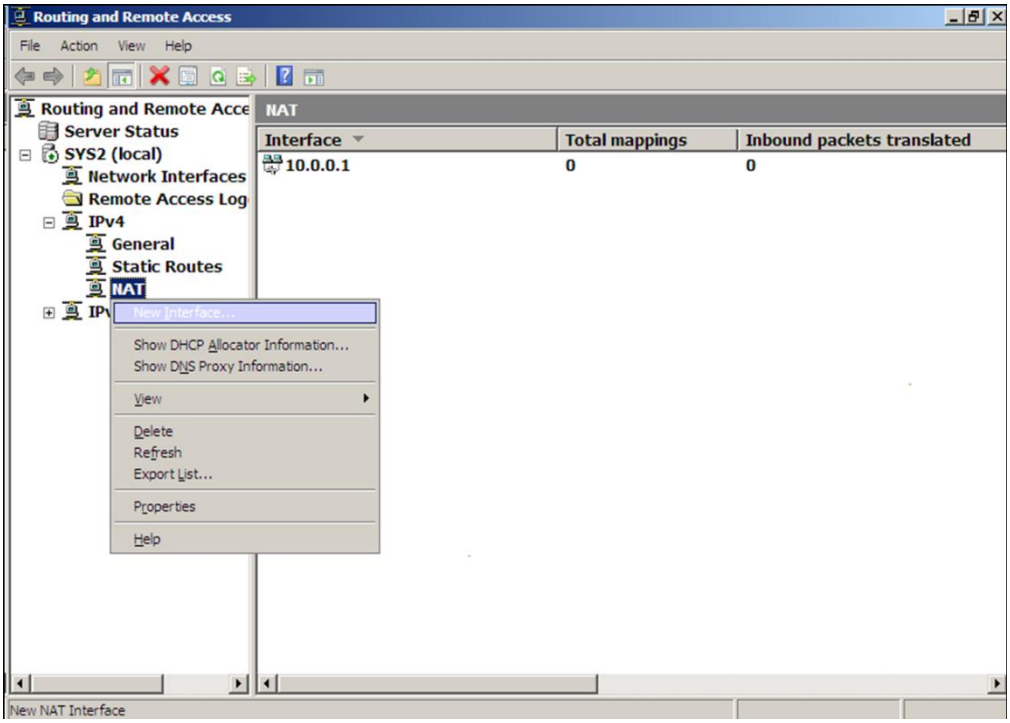
5. Select **LAN** interface →click **OK**



6. Select **Private interface** →click **OK**.

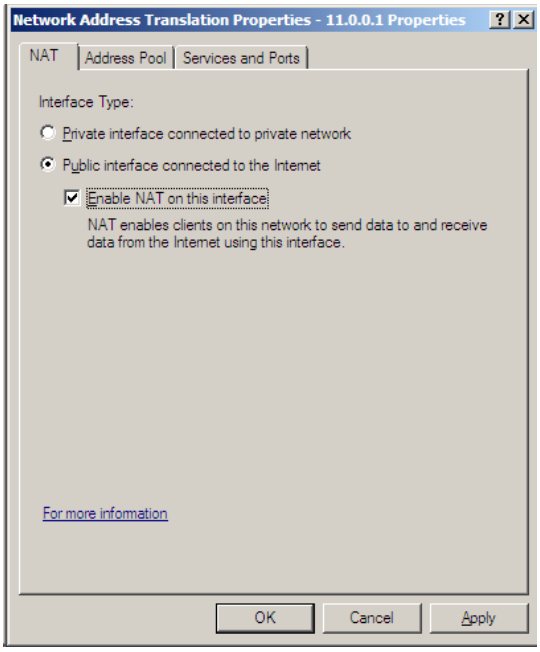


7. Again Right click on **NAT** →Select **New interface**



8. Select **WAN** Interface (11.0.0.1)→click **OK**

9. Select **Public interface**, & Select **Enable NAT** →click **OK.**

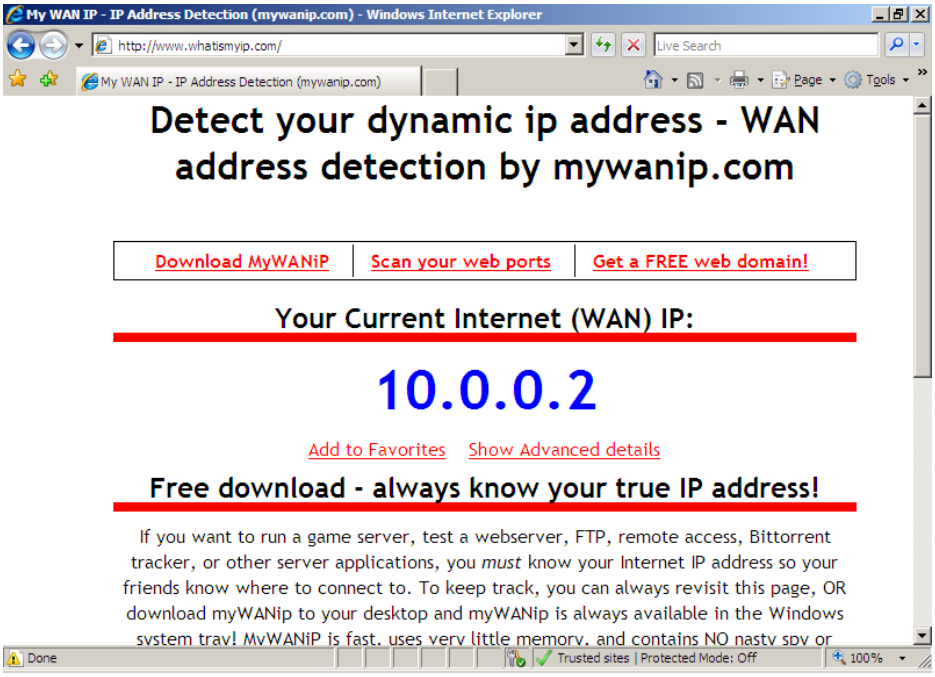


Verification:

Before Natting:

On Private → Open Internet Explorer & access http://www.whatismyip.com

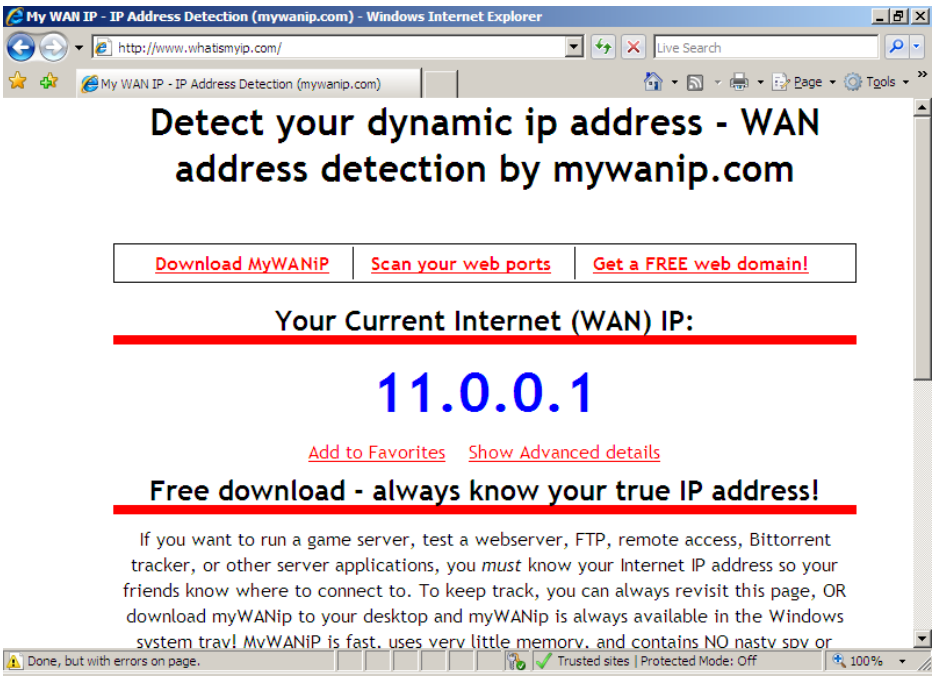
the IP address is shown as 10.0.0.2 Private IP.



After Natting:

On Private → Open Internet Explorer & access http://www.whatismyip.com

the IP address is shown as 11.0.0.1 Public IP.



Lab – 6: Configuring DHCP Relay Agent

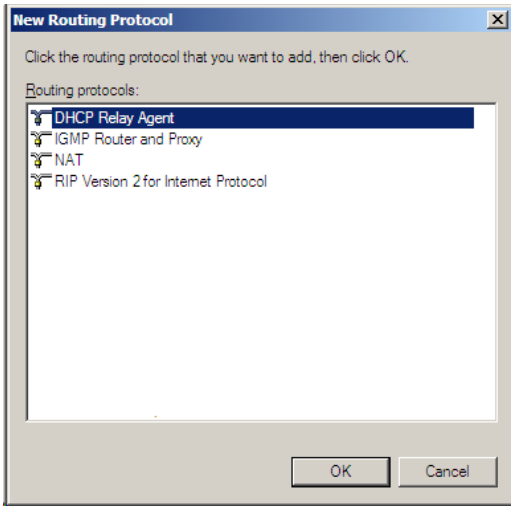
SYS1-CONFIGURATION

Note: Install DHCP service and create a scope with 12.0.0.10 to 12.0.0.100 with the router IP as 12.0.0.1.

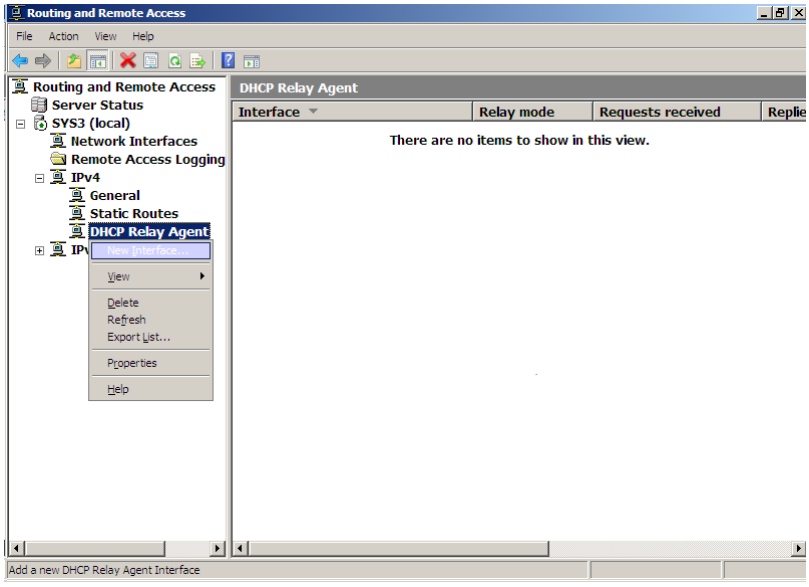
On Router2

SYS3-CONFIGURATION

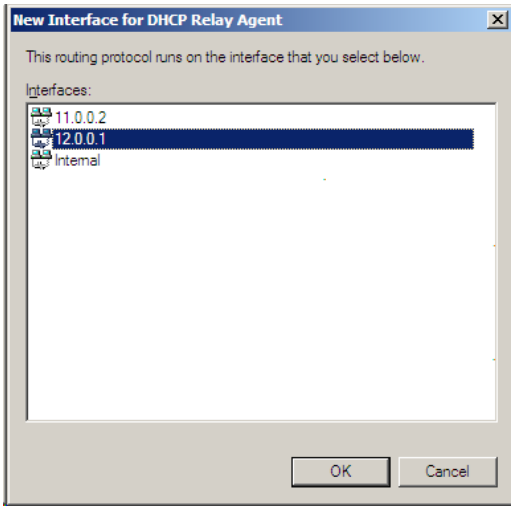
1. Go to **Routing and Remote Access** →Expand **System name** →Expand **IPv4**
2. Right click **General** →Select **New Routing Protocol**
3. Select **DHCP Relay agent** →click **OK**.

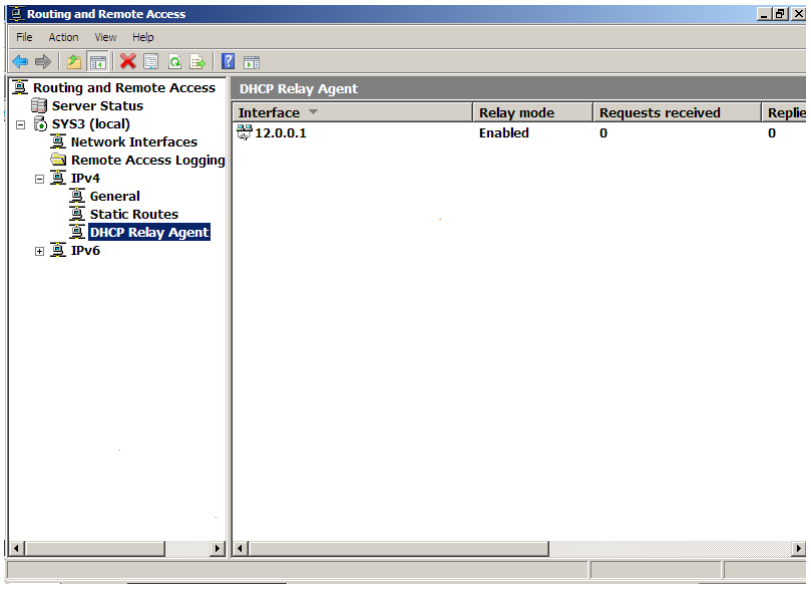


4. Right click on **DHCP Relay Agent**, Select **New Interface.**

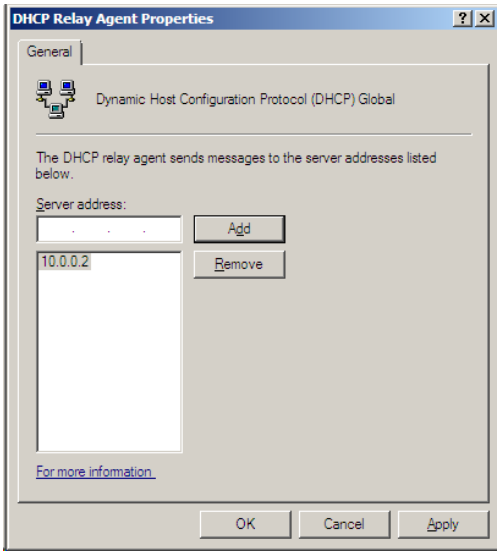


5. Select **12.0.0.1 Interface** →click **OK** →and click **OK.**





6. Right click on **DHCP Relay Agent** →**Properties** → Enter the IP Address of **DHCP Server (10.0.0.2)**→click **Add** →**Apply** and **OK**



Verification:

SYS4-CONFIGURATION

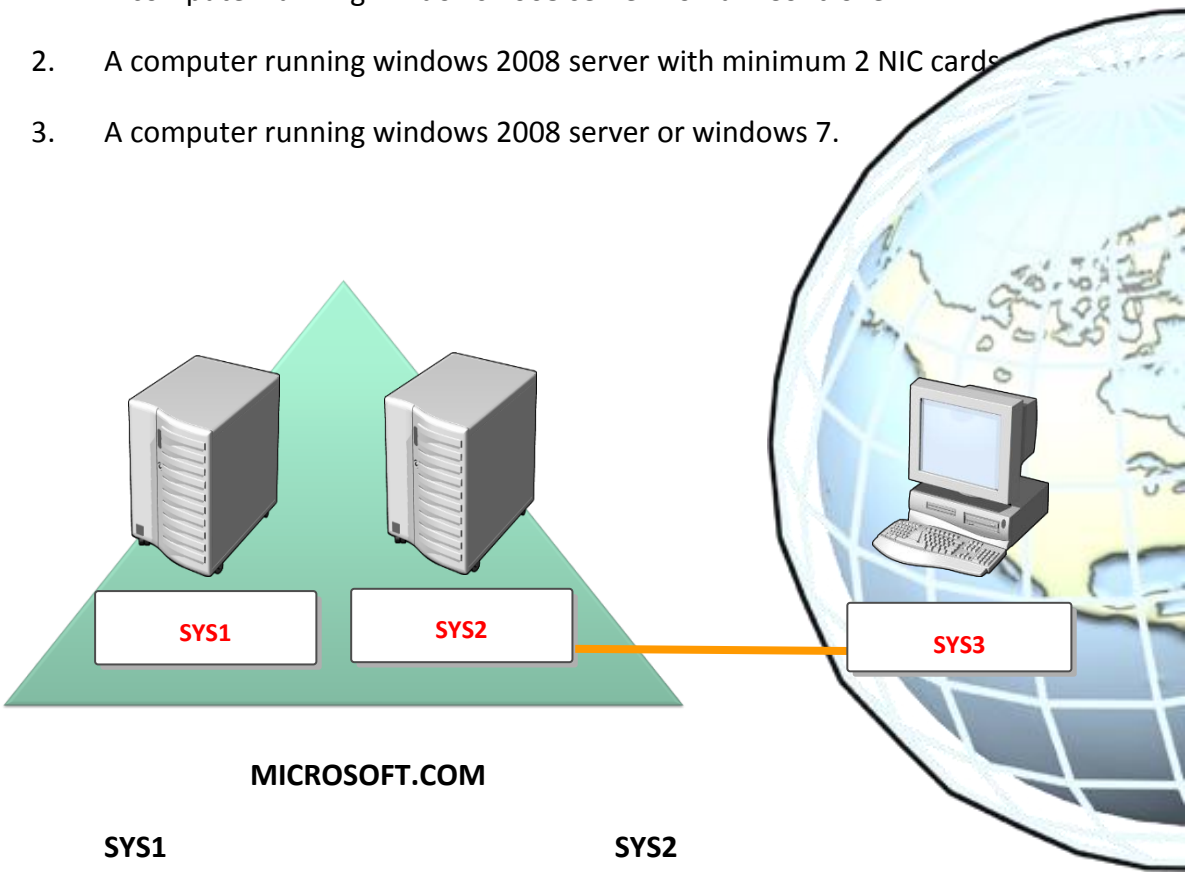
1. Log on as **Administrator** to DHCP Client **(SYS4)** and set the IP address to **obtain the IP address automatically.**
2. Start → Run →Cmd →**ipconfig /release**.
3. Type **ipconfig /renew.**
4. An IP address will be assigned by DHCP server.
5. Check the IP Address by typing **ipconfig /all.**

REMOTE ACCESS SERVICES (RAS)

Prerequisites:

Before working on this lab, you must have

1. A computer running windows 2008 server Domain Controller.
2. A computer running windows 2008 server with minimum 2 NIC cards
3. A computer running windows 2008 server or windows 7.



MICROSOFT.COM

SYS1

Domain Controller / DNS Server

IP Address 10.0.0.2

Subnet Mask 255.0.0.0

Preferred DNS 10.0.0.2

SYS2

RAS Server / VPN Server

IP Address 10.0.0.1

Subnet Mask 255.0.0.0

Preferred DNS 10.0.0.2

SYS3

RAS Client (PPP Dial-in Interface)

IP Address ----------

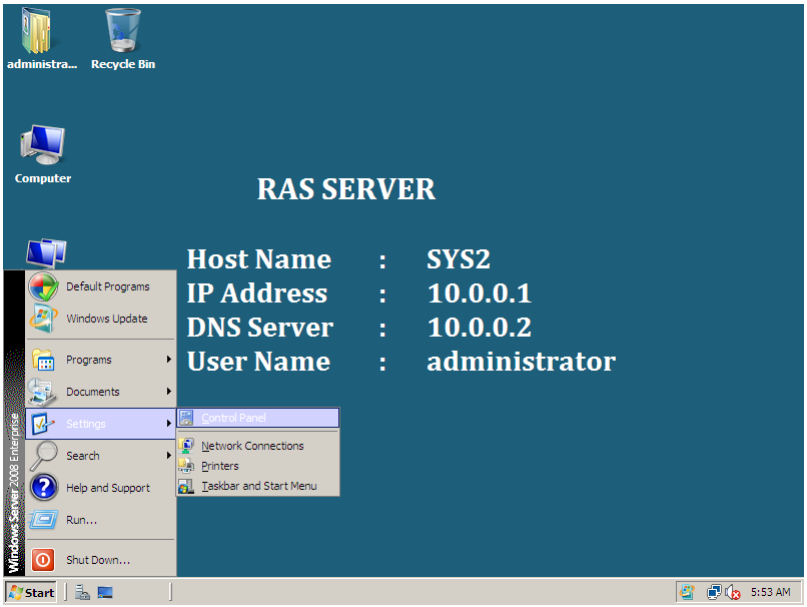
Subnet Mask ----------

Preferred DNS ----------

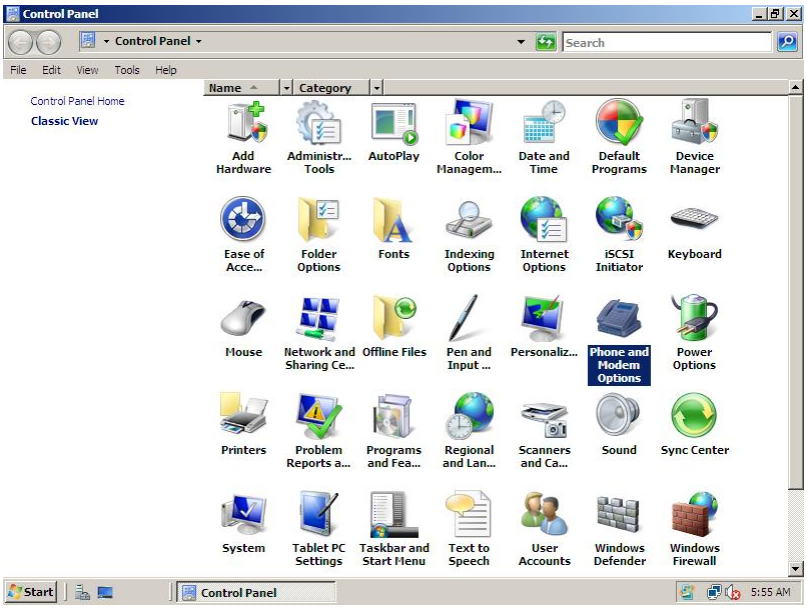
Lab – 1: Configuring MODEM on RAS Server and RAS Client

SYS2 – CONFIGURATION

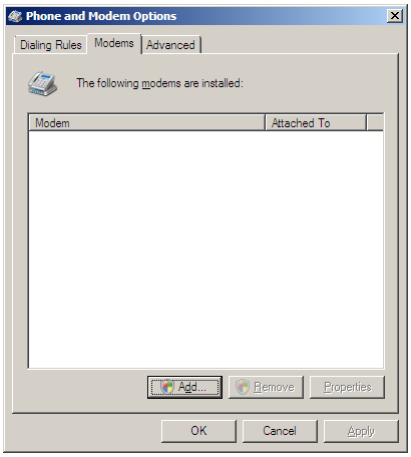
1. Select Start →Settings →**Control Panel**



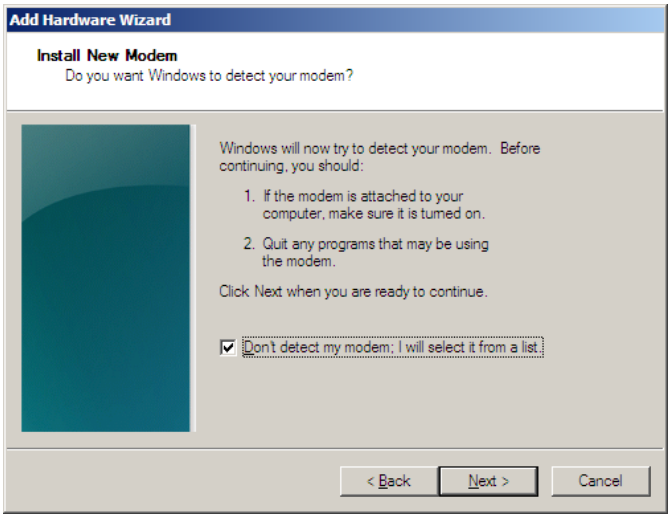
2. A Control Panel wizard will appear →Double click **Phone and Modem.**



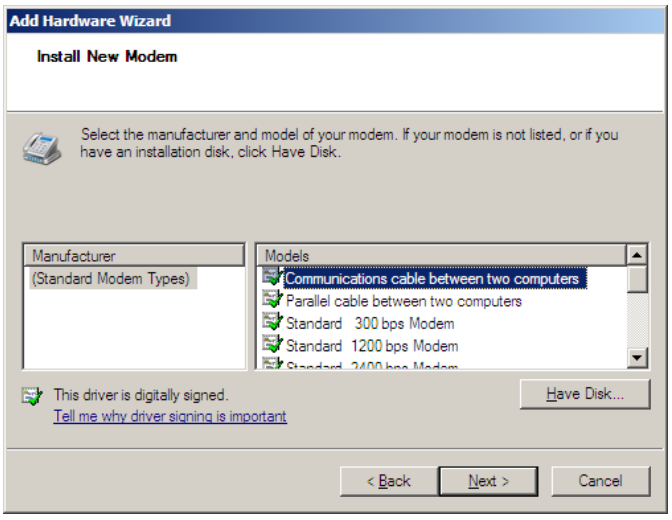
3. A Phone and Modem option wizard appears, go to **MODEMS** tab →click **ADD**.



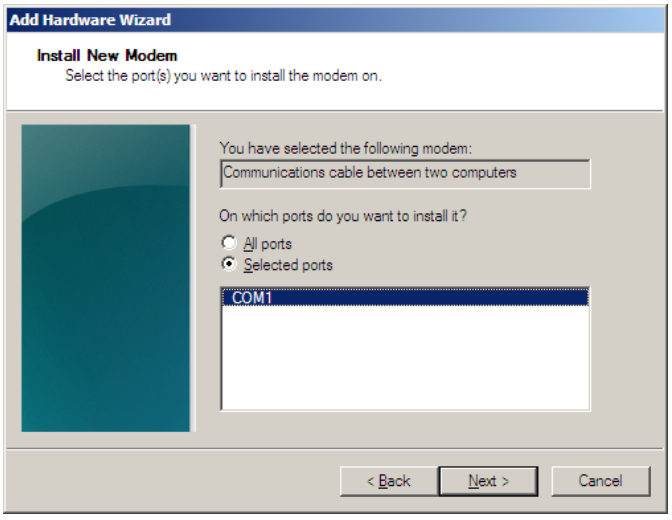
4. Select **"Don't detect my modem: I will select it from a list"** →click **Next.**



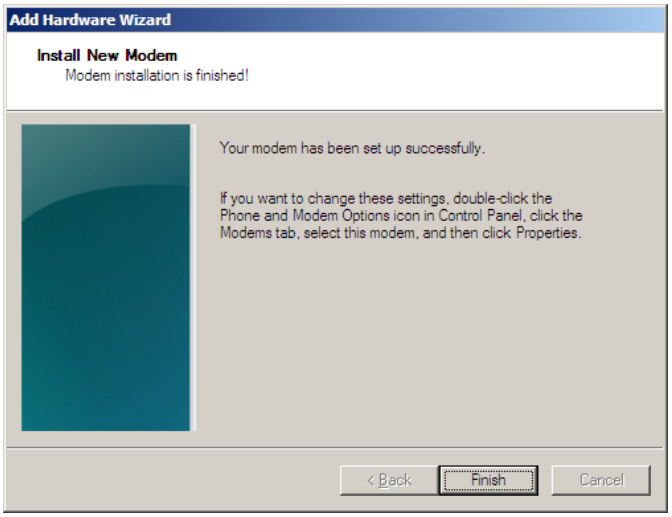
5. **For Lab→** Select **"Communication cable between two computers"** →click **Next.**



6. Select the **COM1** port (Default) and click **Next**.



7. A modem installation complete wizard appears →click **Finish.**

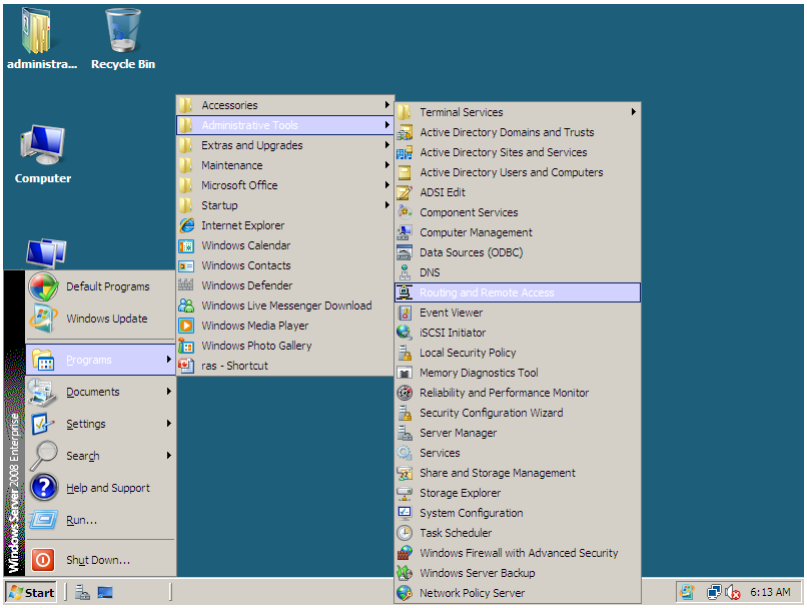


Note: - Repeat the process of LAB1 on RAS Client (SYS3) also.

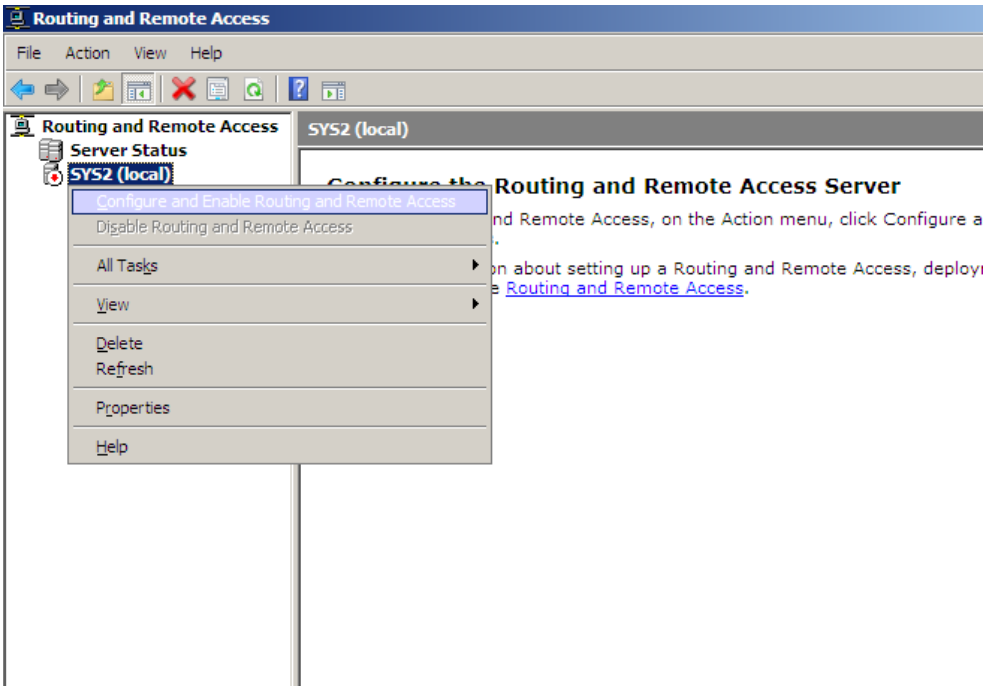
Lab – 2: Configuring Remote Access Service

SYS2 – CONFIGURATION

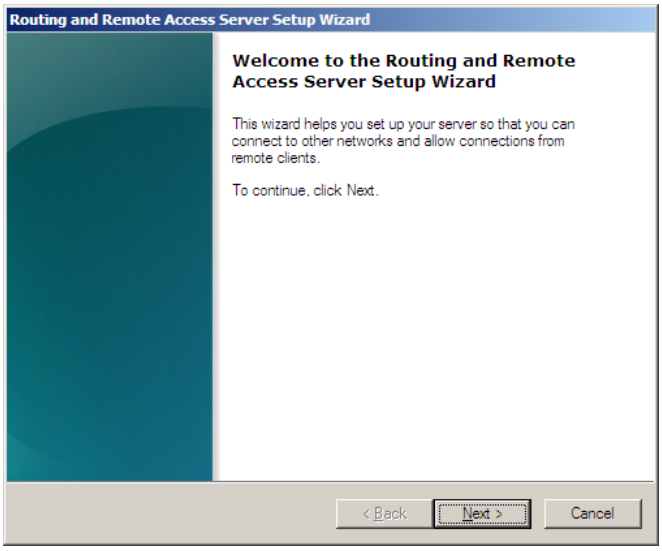
1. Go to Start →Programs →Administrative Tools →**Routing & Remote Access**.



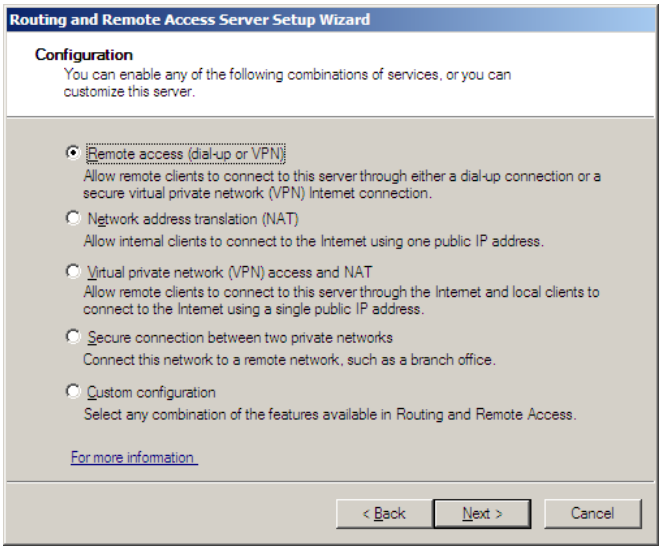
2. Right click on the **server name →Configure and Enable Routing and Remote access.**



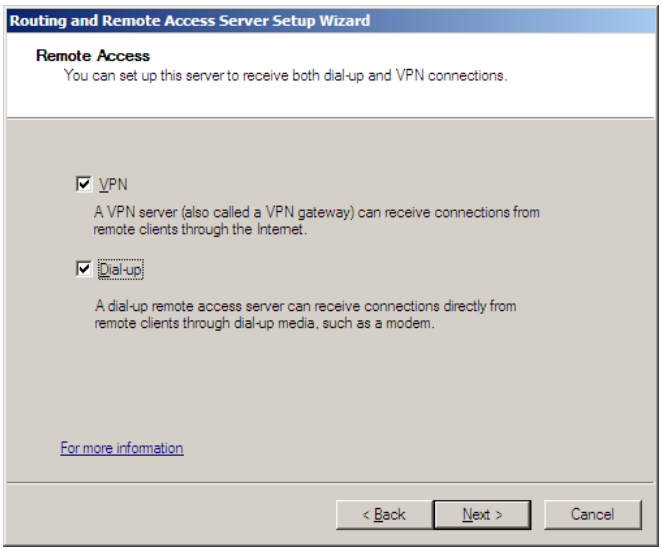
3. Click **Next**.



4. Select **Remote access**.

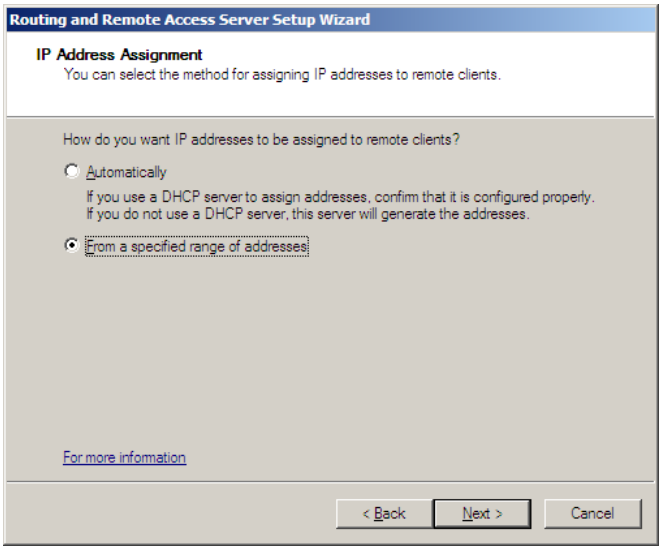


5. Select **Dial-up and VPN** →click **Next.**

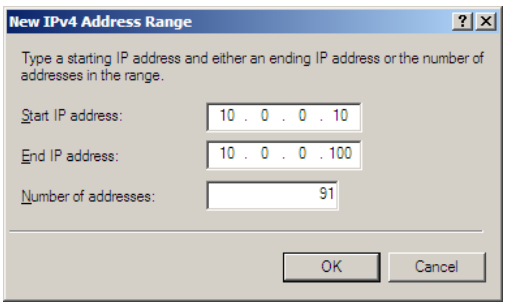


6. Select the **Internet (Public) Interface** i.e., **11.0.0.1** and remove the check box for **Enable Security** →click **Next**

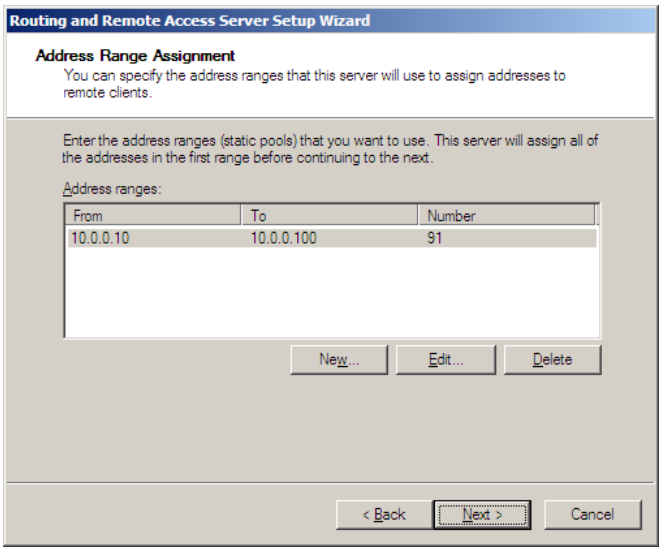
7. Select **from a Specified range** and click **Next**.



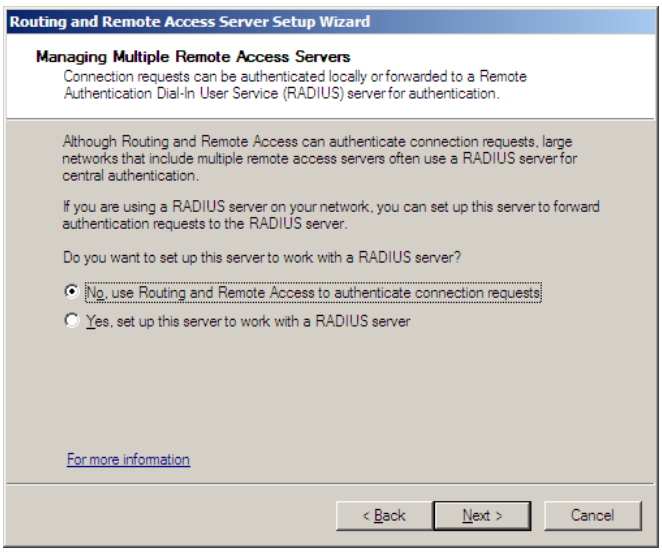
8. Click **New** to specify the address range that this it will assign to the Remote Clients &Specify the IP address range from: **10.0.0.10 to 10.0.0.100** → click **OK**.



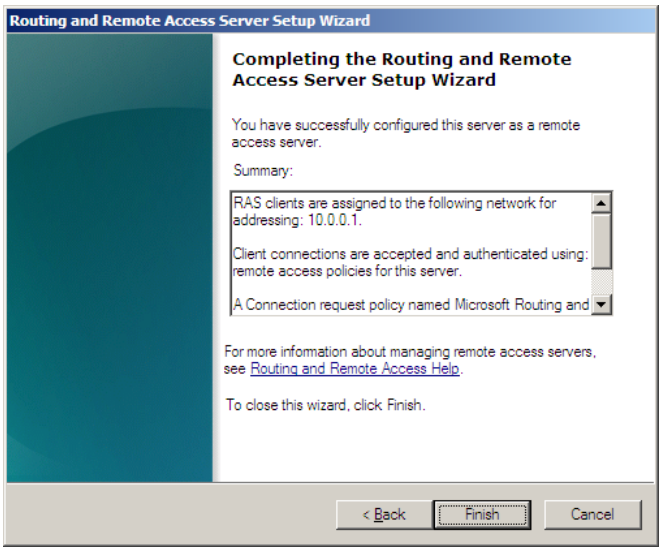
9. Click **Next**.

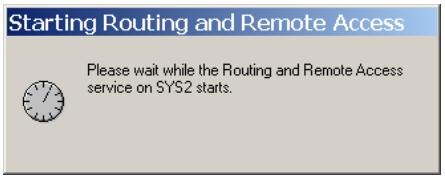


10. Select **No, use Routing and Remote Access to authenticate** →click **Next.**

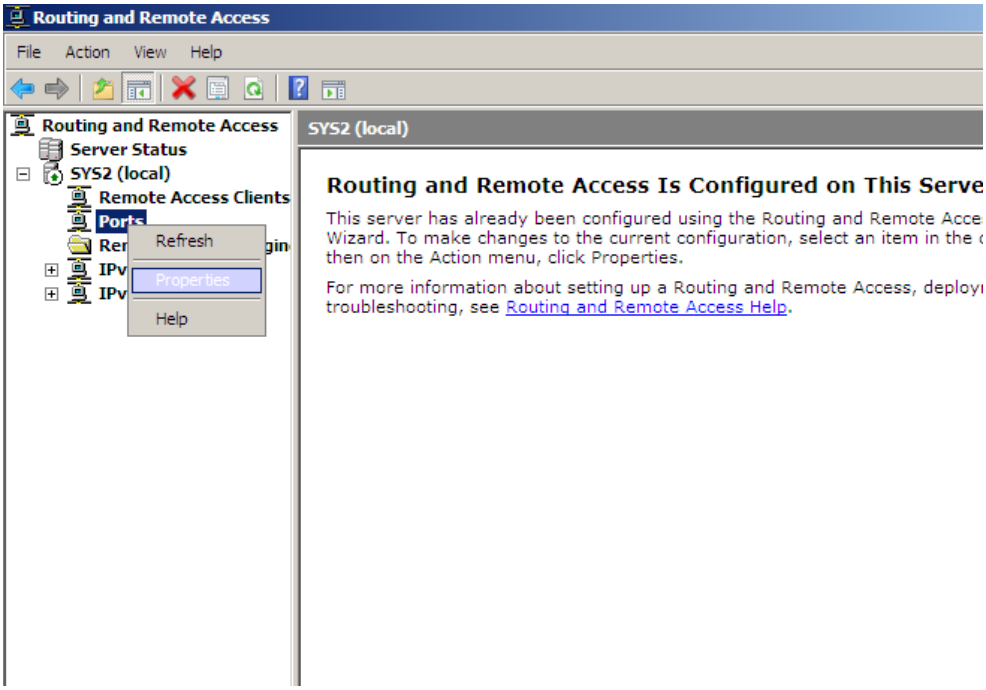


11. Click **Finish**.

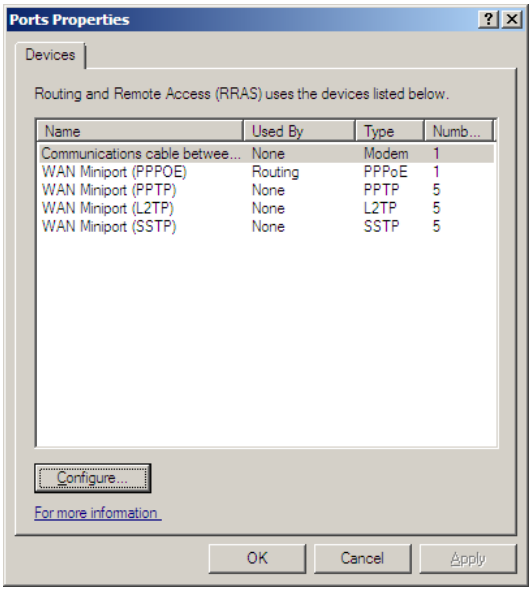




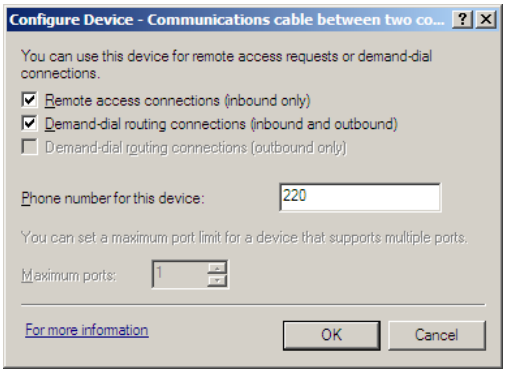
12. Right click on **Ports** and select **Properties**



13. Select **Communications cable between two computers** and click **Configure**



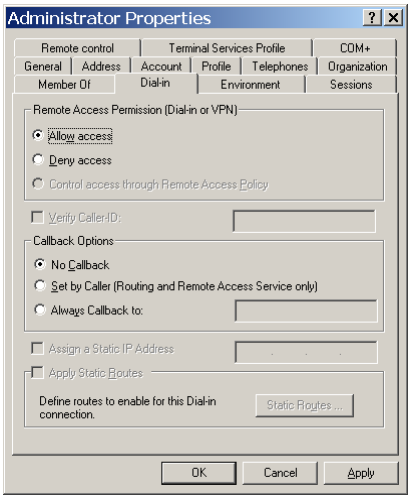
14. Select the Check box **Remote access Connections** →specify any **phone number**.



Lab – 3: Giving permission to user

SYS1 – CONFIGURATION

1. On **Domain Controller** login as **Administrator**
2. Go to **Active Directory Users and computers** →Select the user **U1 or Administrator** →Right click →**Properties**→ Select **Dial-in** tab →**Select Allow access** →**Apply** →**OK.**

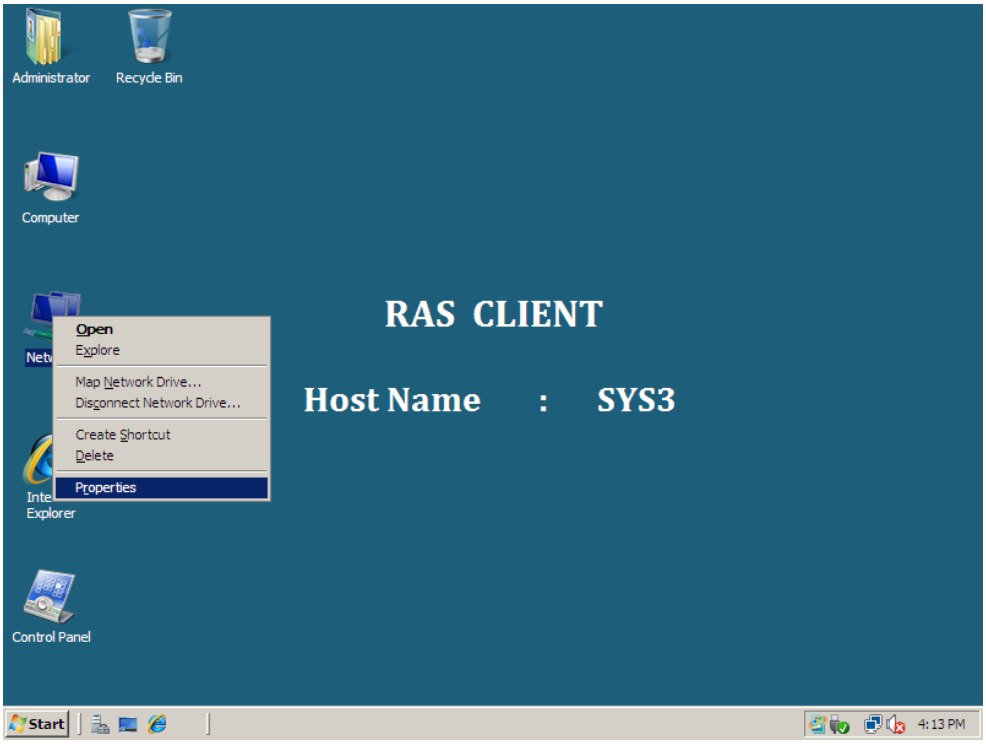


Lab – 4: Establishing Dial-up connection from RAS Client

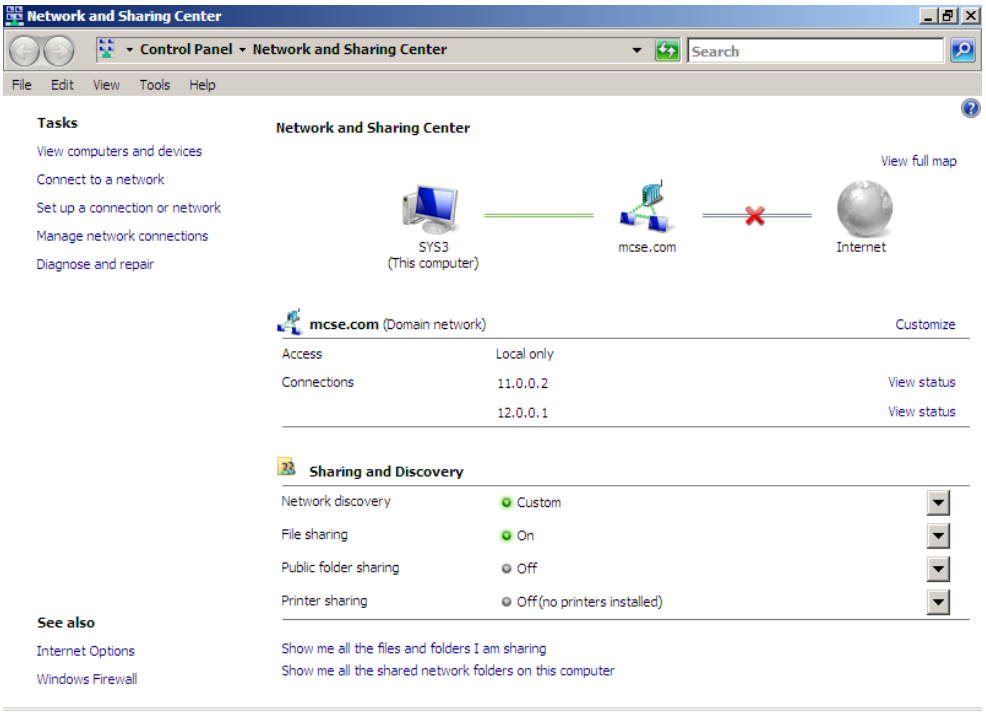
Note: Configure the Modem in **RAS Client** also as in **RAS Server**

SYS3 – CONFIGURATION

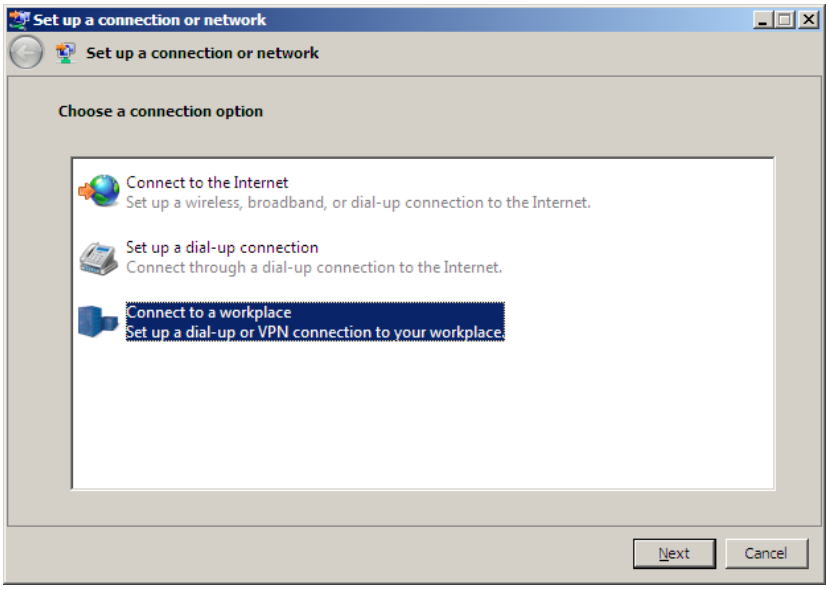
1. Log on to **RAS Client (SYS3),**Right click on **Network icon →Properties**.



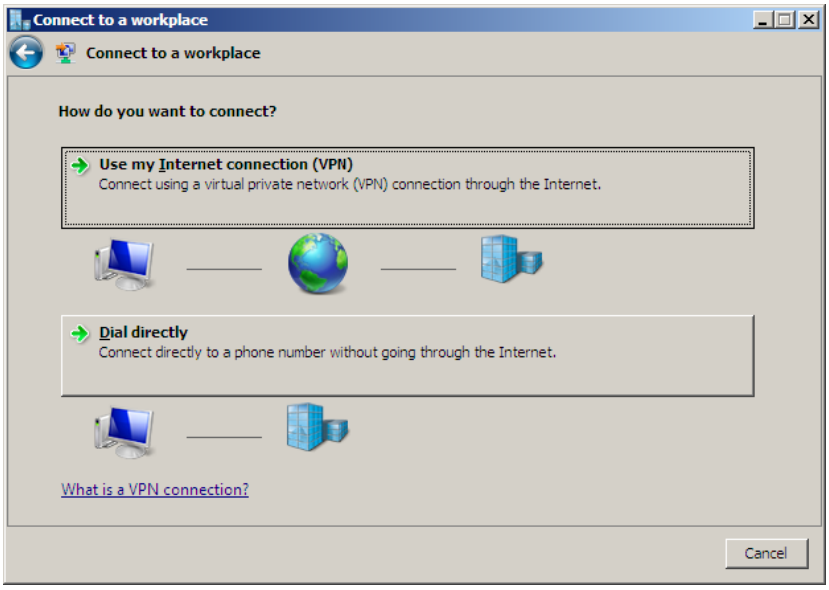
2. Select **Set up a Connection or network**



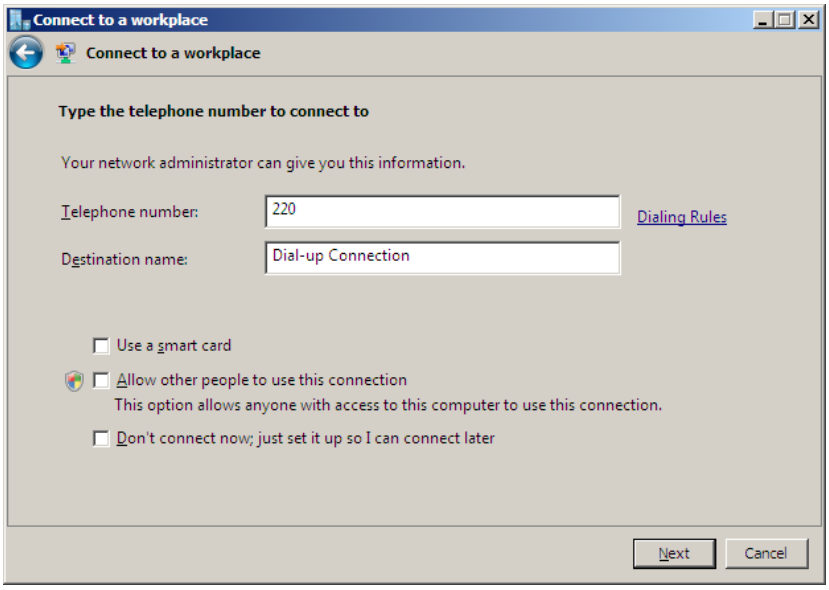
3. Select **Connect to a workplace** →click **Next.**



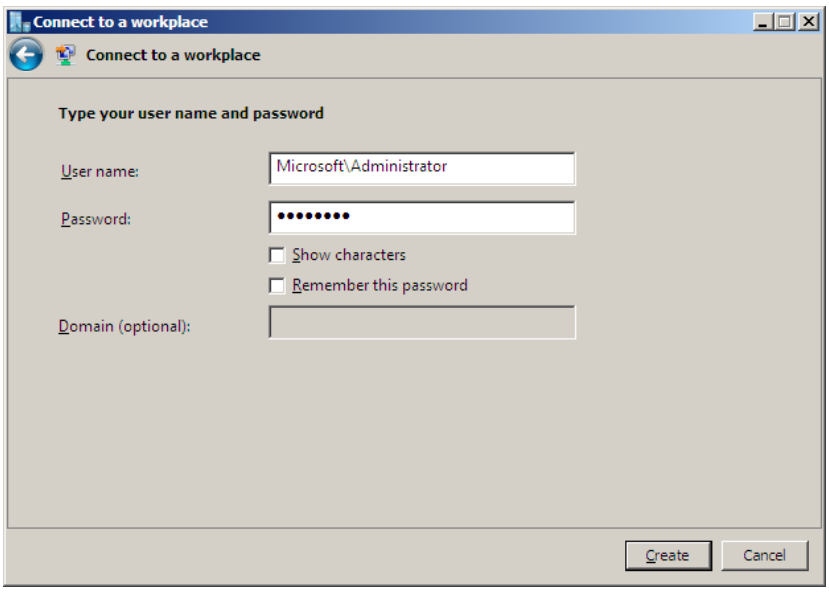
4. Select **Connect Directly** →click **Next.**



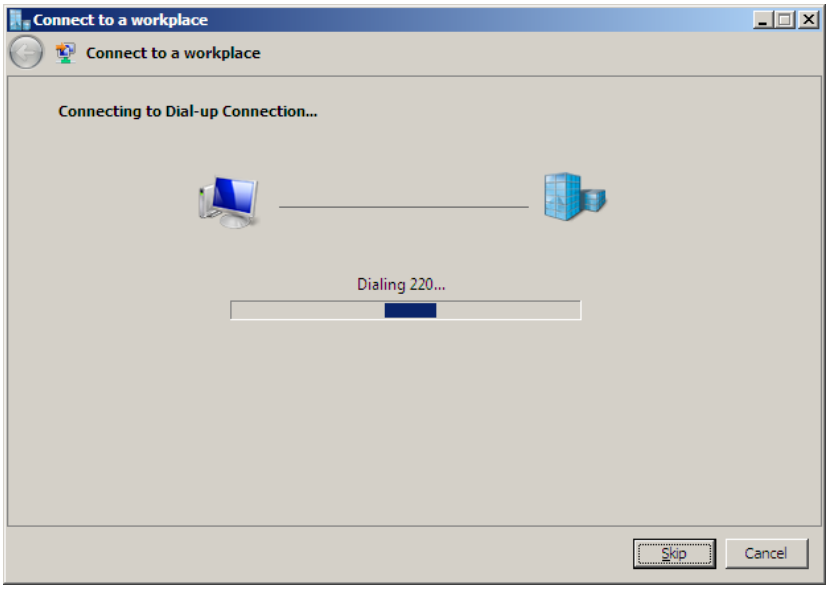
5. Mention the **Telephone Number** (Server Phone Number) →click **Next.**



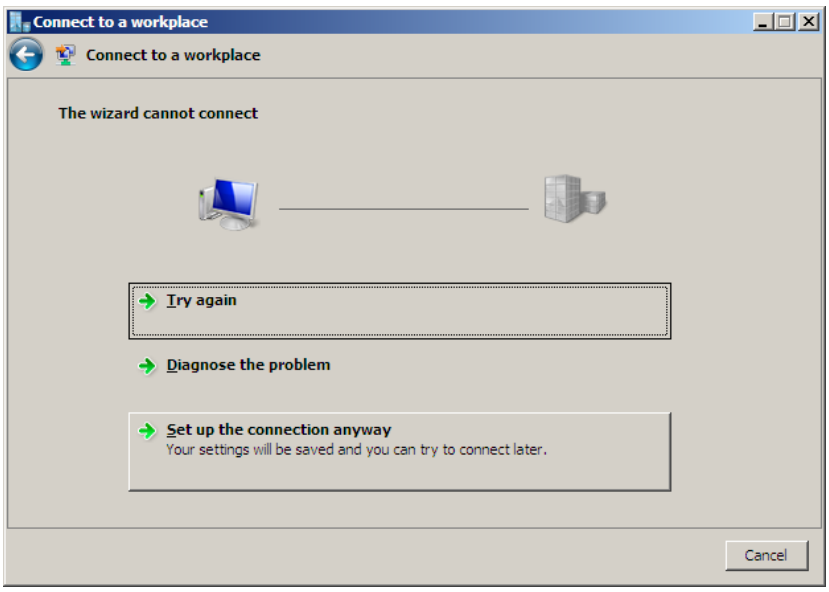
6. Mention the **User or Administrator Credentials** →click **Connect.**



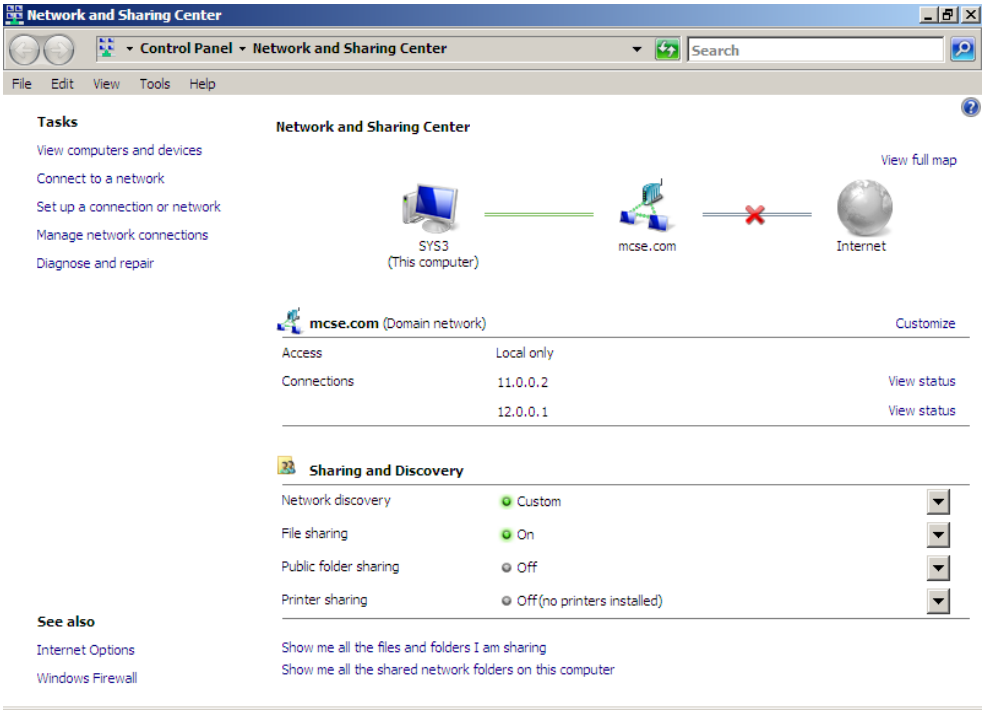
7. Wizard is **dialing the connection** to the mentioned phone number.



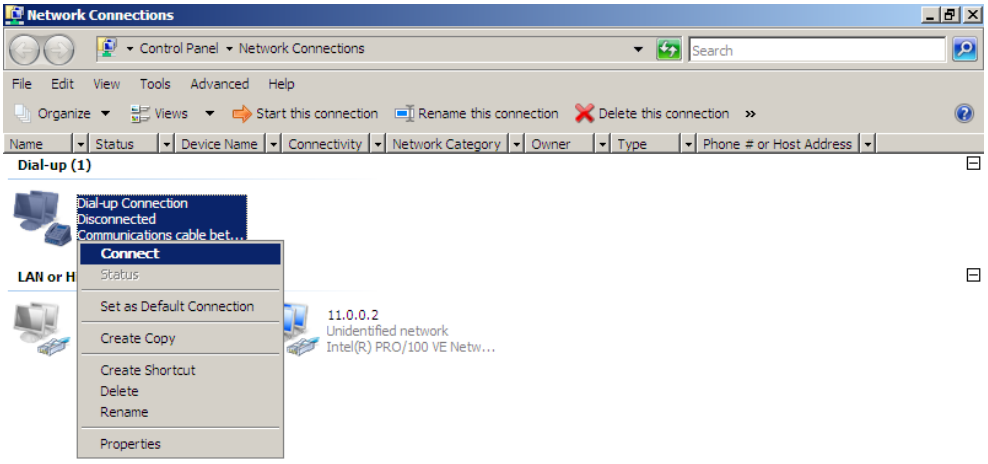
8. If the wizard cannot connect →click **Set up the connection anyway.**



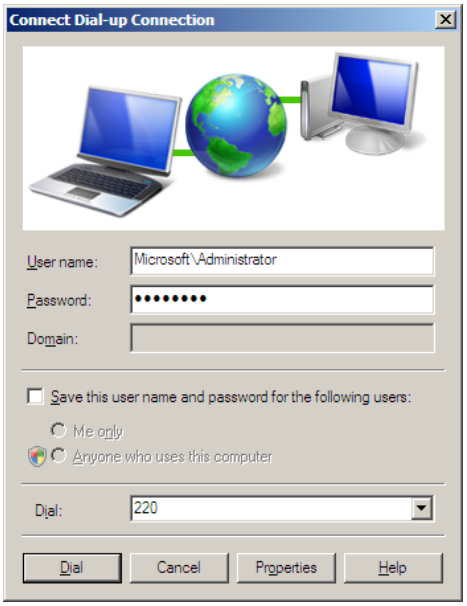
9. Click **Manage Network Connections**.



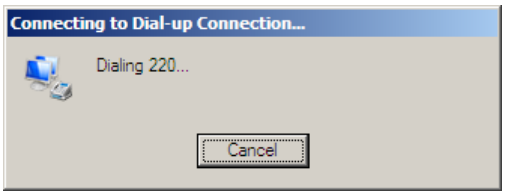
10. Right click on **Dial-up Connection**, →click **Connect.**



11. Mention the **User or Administrator Credentials** →click **Dial**.



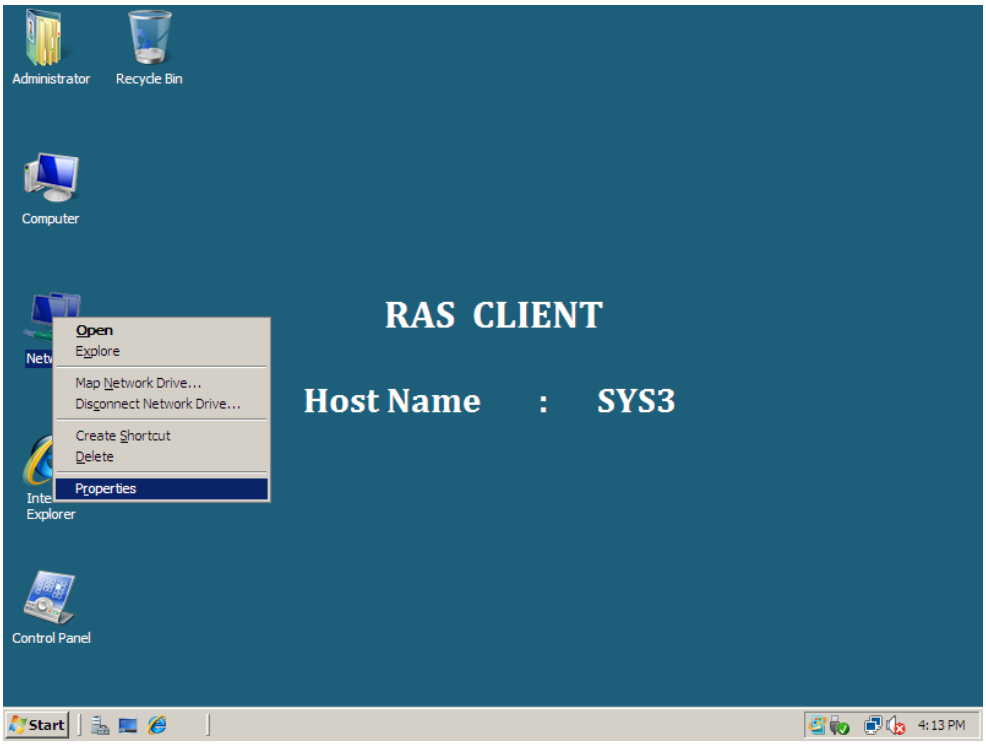
12. Windows is **dialing** the connection → **Client will be connected** to **RAS Server**.



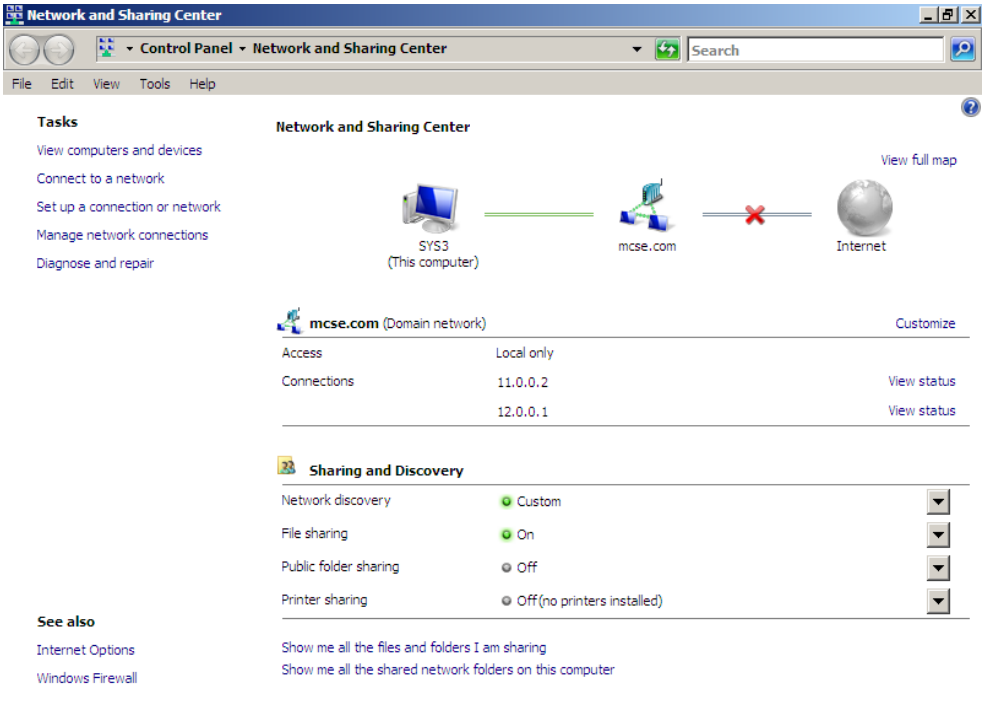
Lab – 5: Establishing VPN Connections

SYS3 – CONFIGURATION

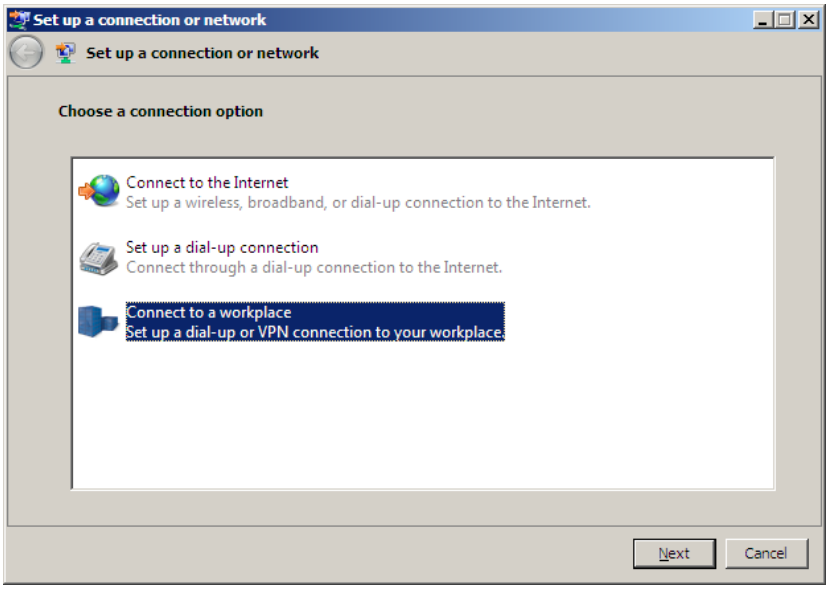
1. Log on to **RAS Client (SYS3),** Right click on **Network icon →Properties**.



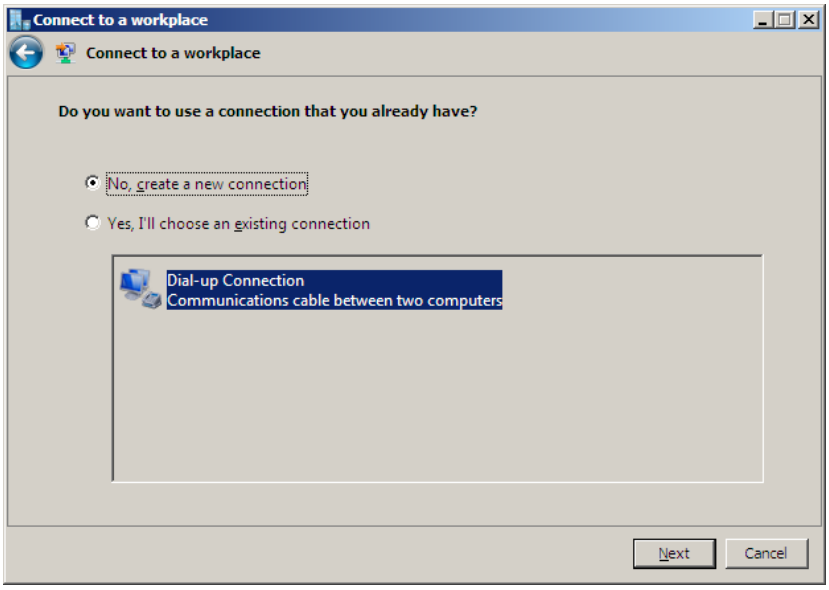
2. Select **Set up a Connection or network**



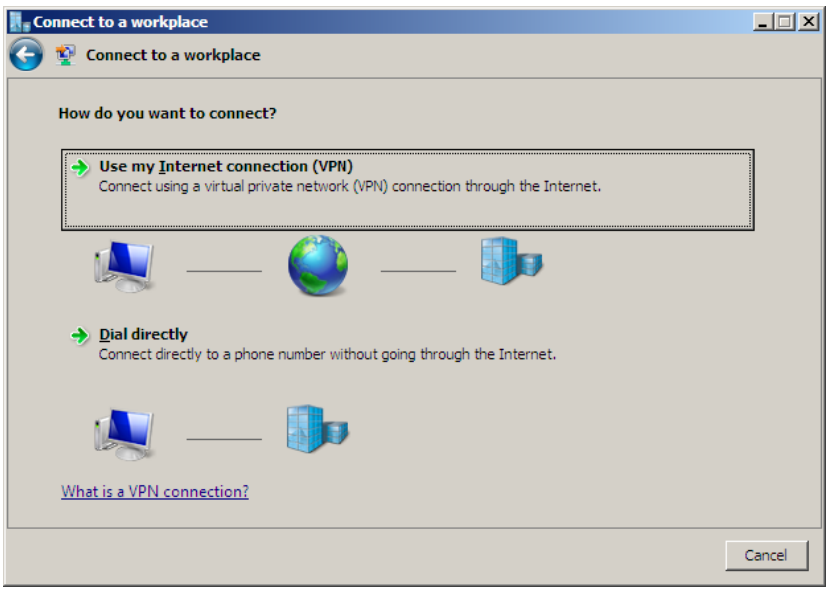
3. Connect to a workplace →click **Next.**



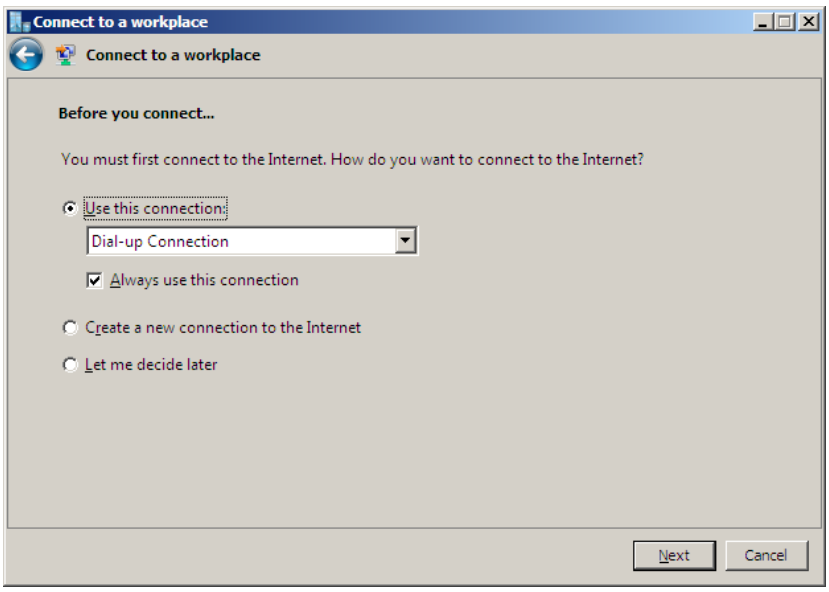
4. Select **No, Create a new connection** click **Next.**



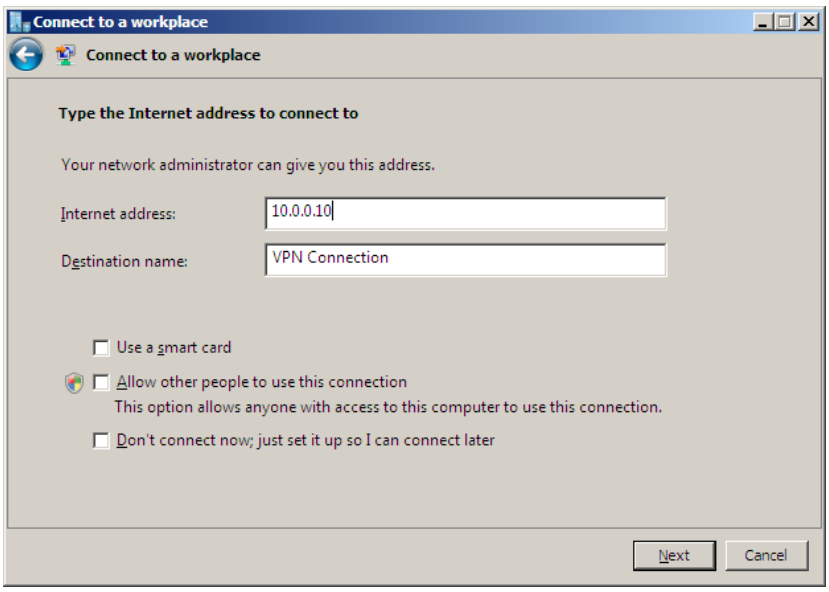
5. Select **Use my Internet connection (VPN)**→click **Next.**



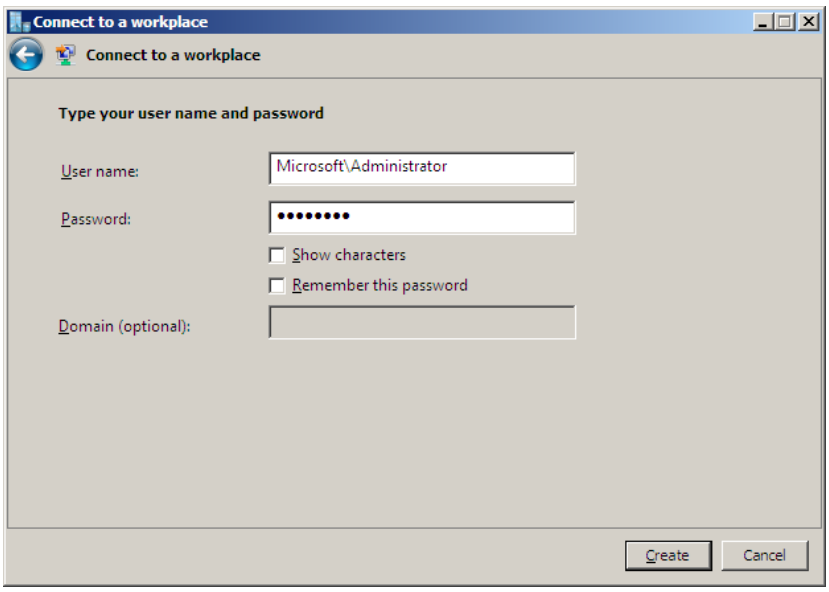
6. Select **Use this Connection** →click **Next.**



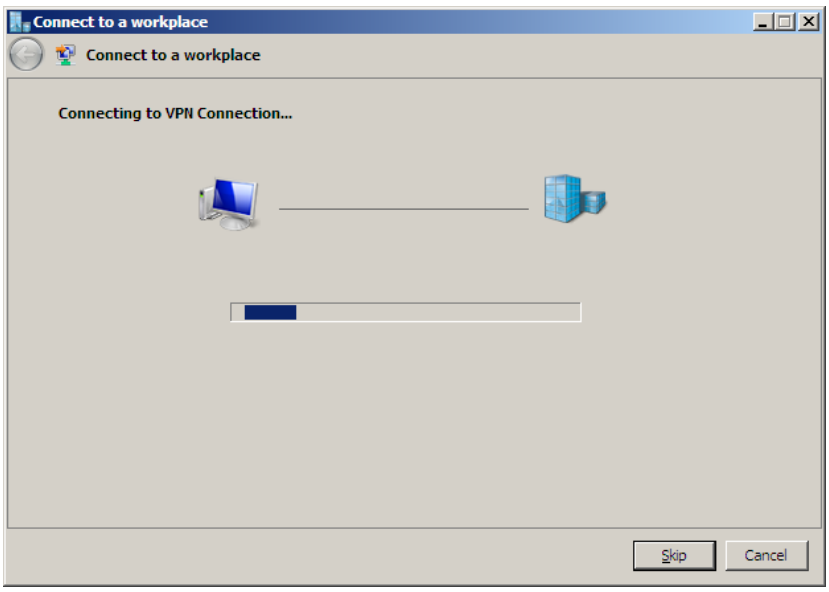
7. Mention the **IP Address of VPN Server** →click **Next**



8. Mention the **User or Administrator Credentials** →click **Connect.**

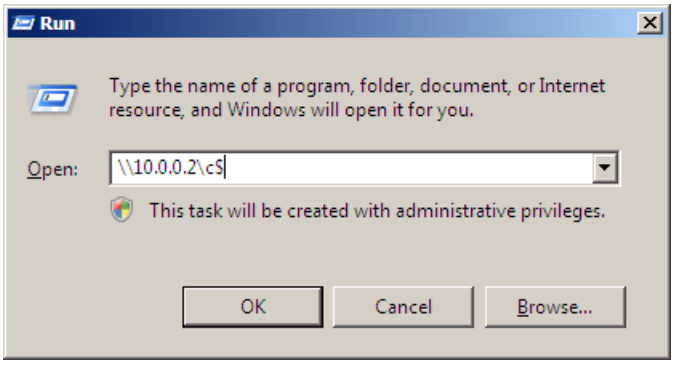


9. Wizard is **dialing the connection** to the **VPN Server.**



10. Connection is created successfully.
11. Go to **Command prompt & type Ipconfig /all** to view the IP Address of the Client computer.
12. **Now try to access the LAN Network.**
13. Go to Start → Run → type **\\LAN computer IP address\Drive$ or Share folder name**

    Ex:**\\10.0.0.2\c$**

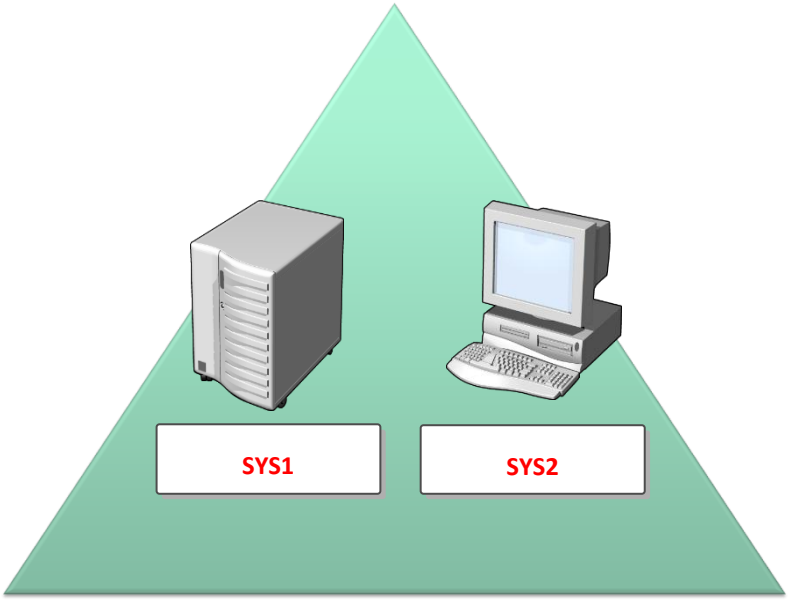


TERMINAL SERVICES (T S)

Prerequisites:

Before working on this lab, you must have

1. A computer running windows 2008 server or Domain Controller.
2. A computer running windows 2008 server or windows 7.



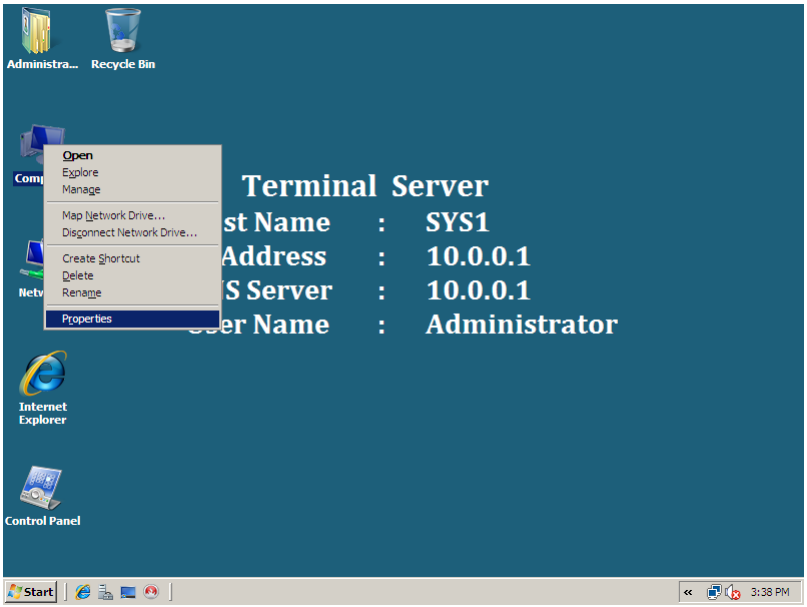
MICROSOFT.COM

SYS1		**SYS2**	
Domain Controller / Terminal Server		**Member Server / Client**	
IP Address	10.0.0.1	IP Address	10.0.0.2
Subnet Mask	255.0.0.0	Subnet Mask	255.0.0.0
Preferred DNS	10.0.0.1	Preferred DNS	10.0.0.1

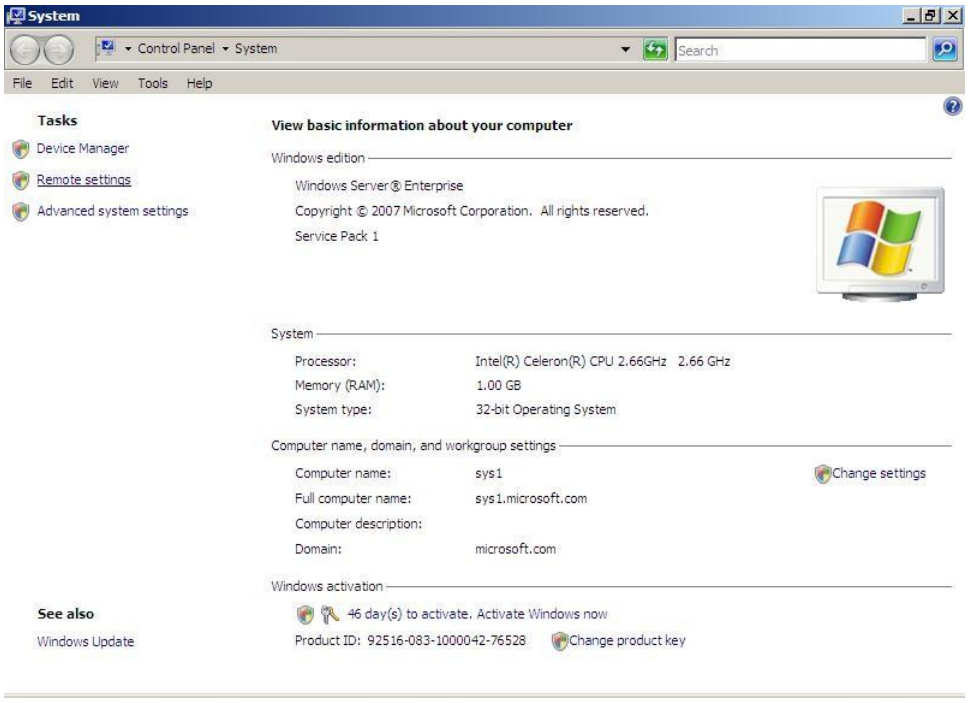
Lab – 1: Configuring Terminal Server in Remote Administration mode

SYS1 – CONFIGURATION

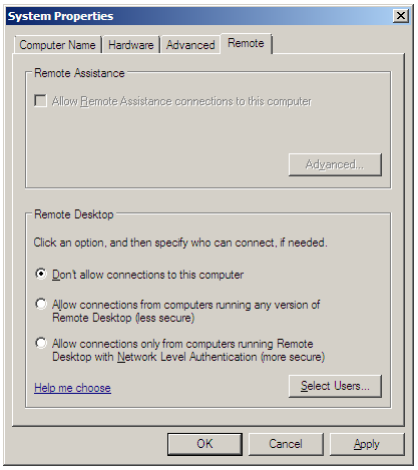
1. Right click on Computer → Properties



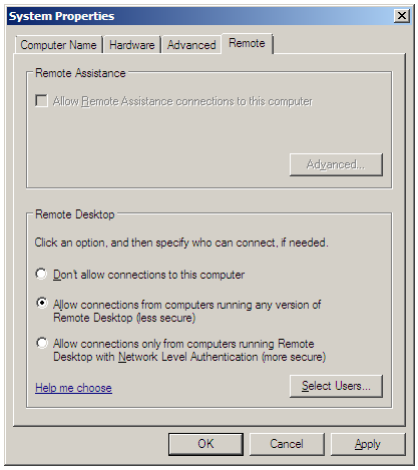
3. Select **Remote Settings**.



4. Check the box **"Allow Connections from computers running any version"**.



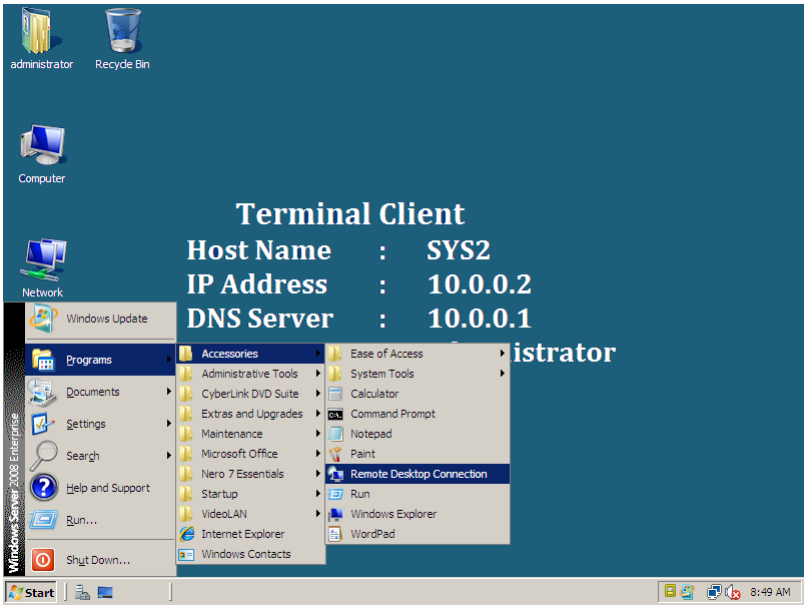
5. Click **Apply →OK.**



Go to Terminal Client (SYS2)

1. Start → Program → Accessories →**Remote Desktop Connection**

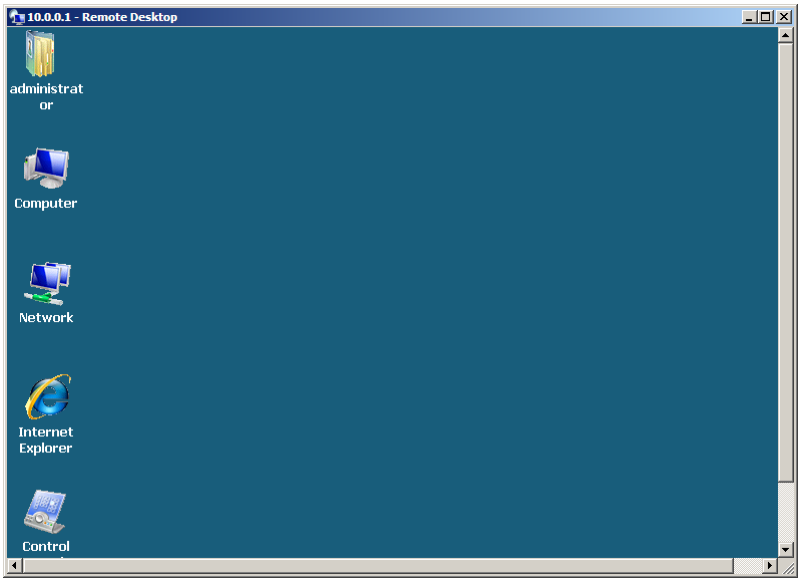
   (OR) Start →Run → type **MSTSC**



2. Specify the IP Address 10.0.0.1 or computer name of terminal server →click **Connect**.

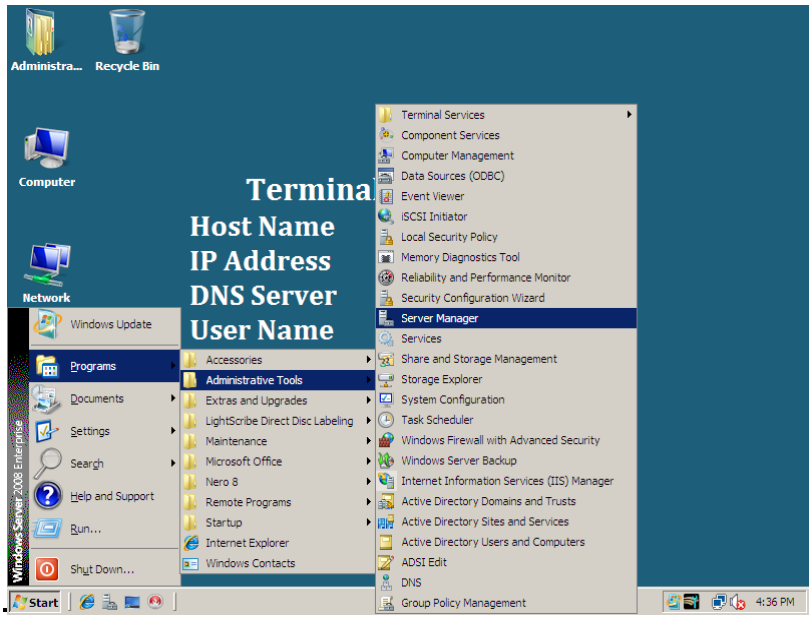
3. Specify username as **Administrator** and type the password. →click **OK**

4. The **Administrator** will connect to the Terminal Server Remotely.

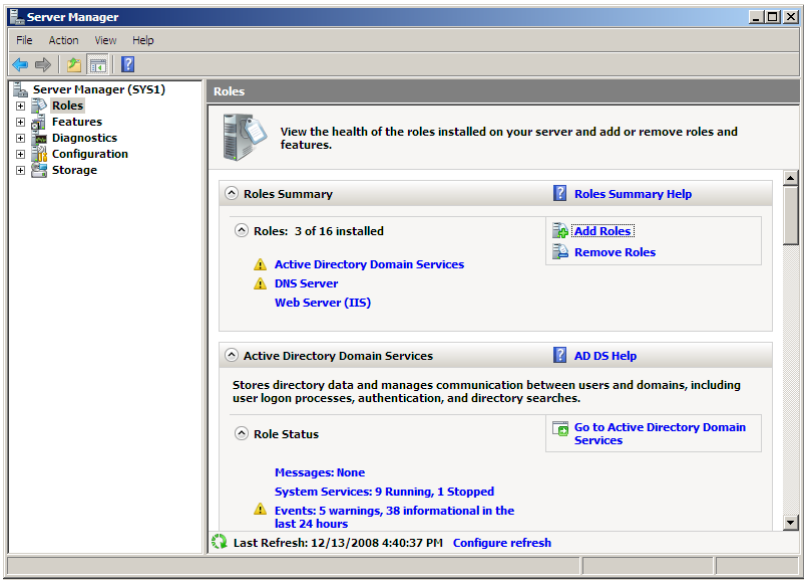


Lab – 2: Configuring Terminal Server in Application Server Mode

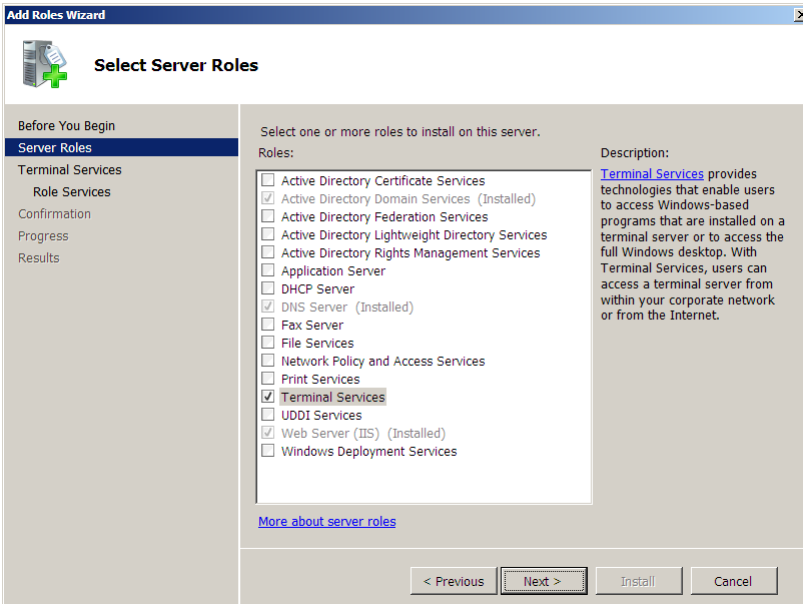
1. Go to **SYS1**→Select Start →Administrative Tools →**Server Manager**.



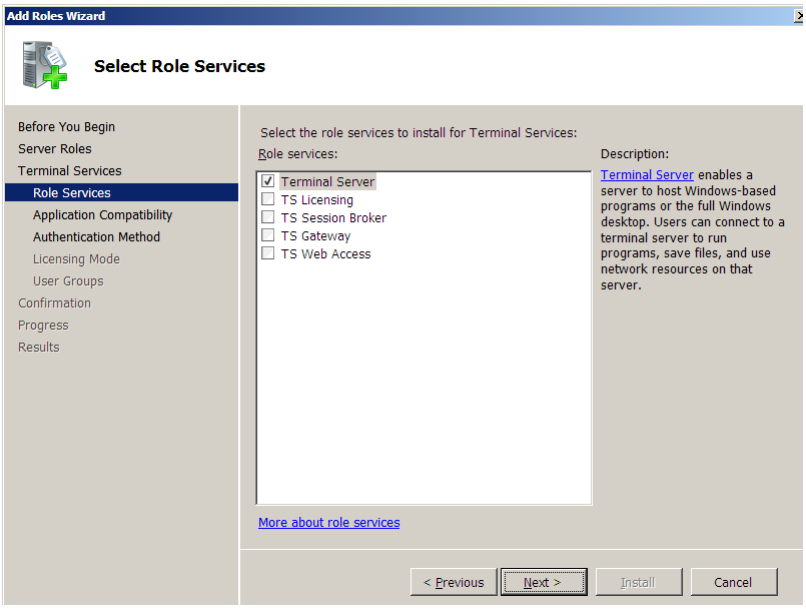
2. In **Server manager** Console, Select **Roles** → Select **Add roles.**



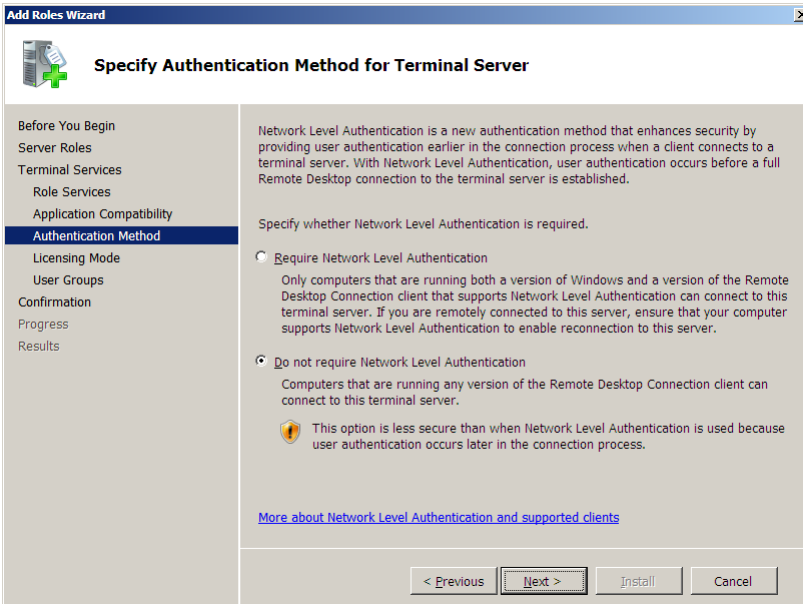
3. In the Add roles wizard, select the check box for **Terminal Services** →click **Next.**



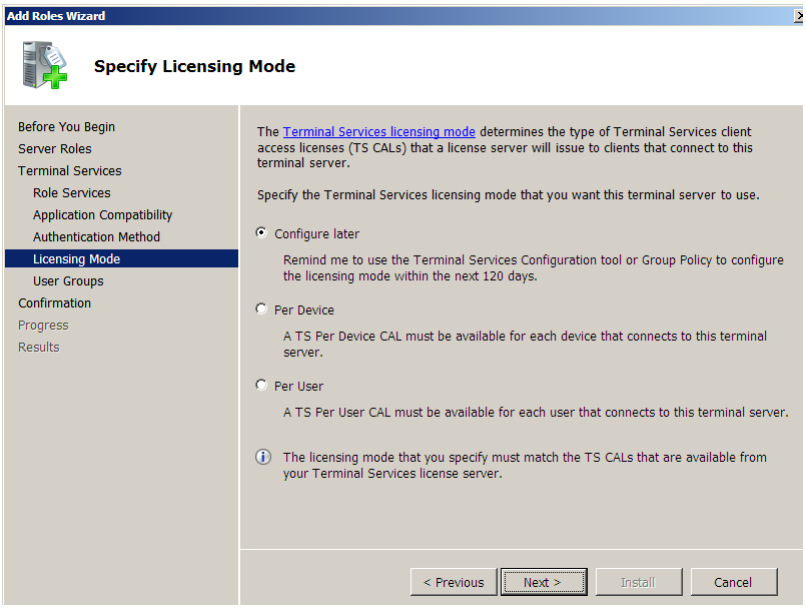
4. Click **Next** →Select the Check box for **Terminal Server** →Select Install Terminal Server anyway (If prompted) →click **Next** →click **Next.**



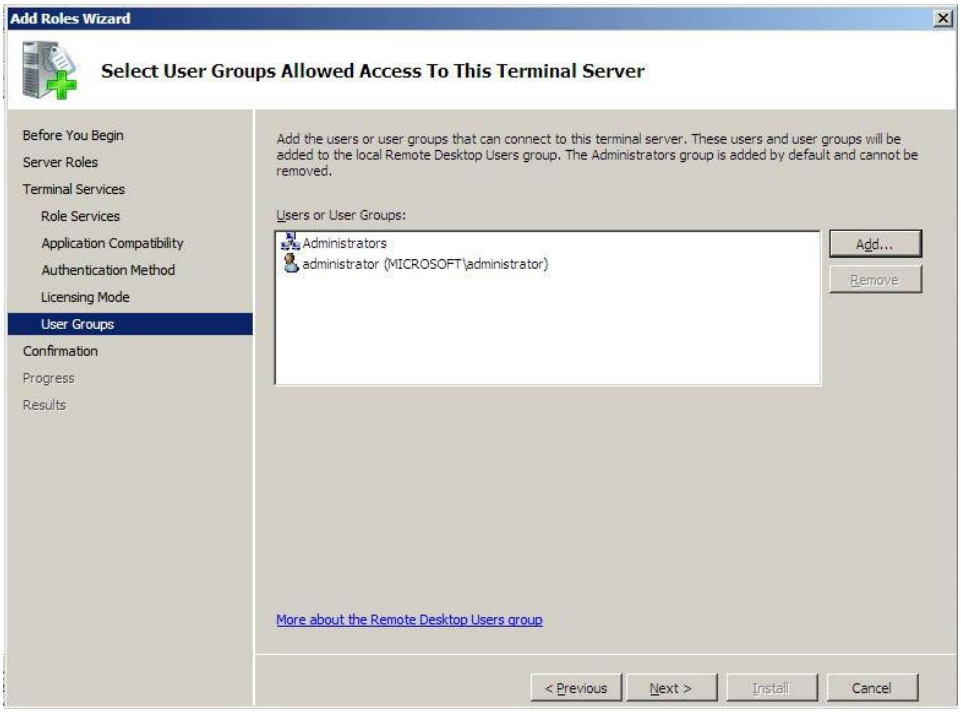
5. Select **Do not require Network Level Authentication** →click **Next.**



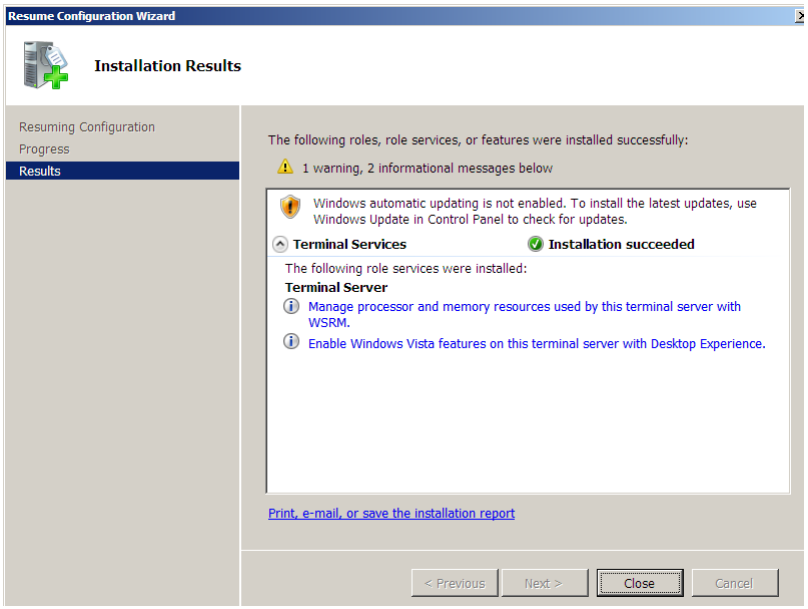
6. Select **Configure later** →click **Next**



7. Add the users who should access the Terminal Server (Can be added later). Leave it **Default** →click **Next** →click **Next** →click **Install**



8. Restart the server (If prompted) →click **close** → **Installation completed.**



Verification:

SYS1 - CONFIGURATION

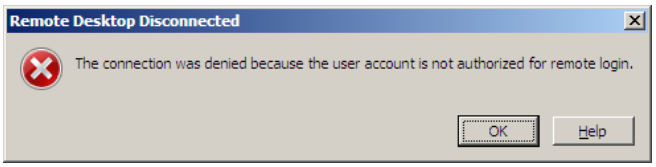
1. Log on as **Administrator** go to **Active Directory Users and Computers**.
2. Create Some **User Accounts (**Ex: **User1)**.

SYS2 - CONFIGURATION

1. Go to Terminal Client → go to Run →**MSTSC** →click **OK**.
2. Specify the IP Address or computer name of terminal server →click **Connect**.

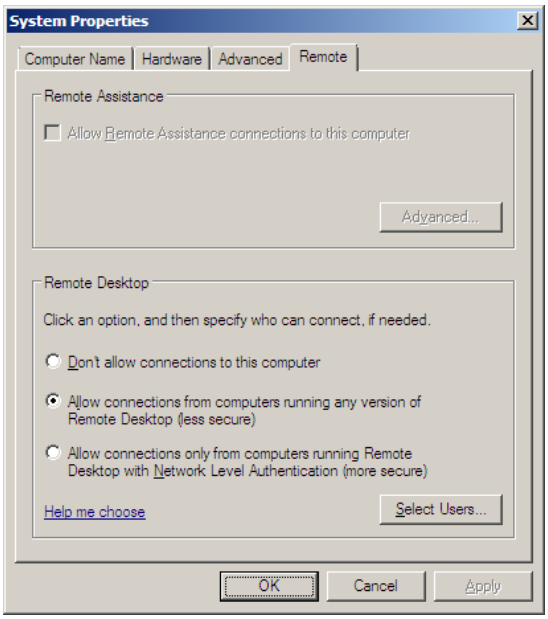
3. Specify username and type the password. →click **OK**

4. **Message**: The Connect was denied because the user accounts is not authorized.

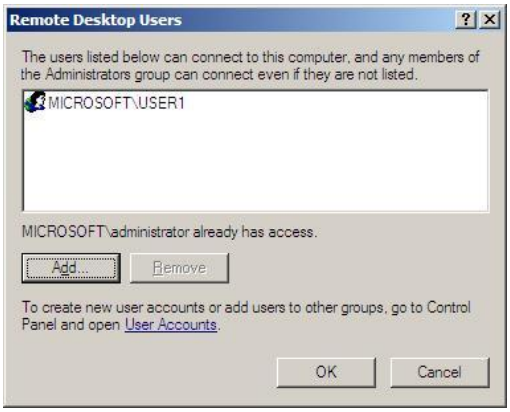


SYS1 - CONFIGURATION

5. **To authorize the User:** On Terminal Server →Right click on Computer icon →**Properties** →Select **Remote Settings** →click **Select Users**



6. Click **Add** →and **Add the users** →click **OK.**

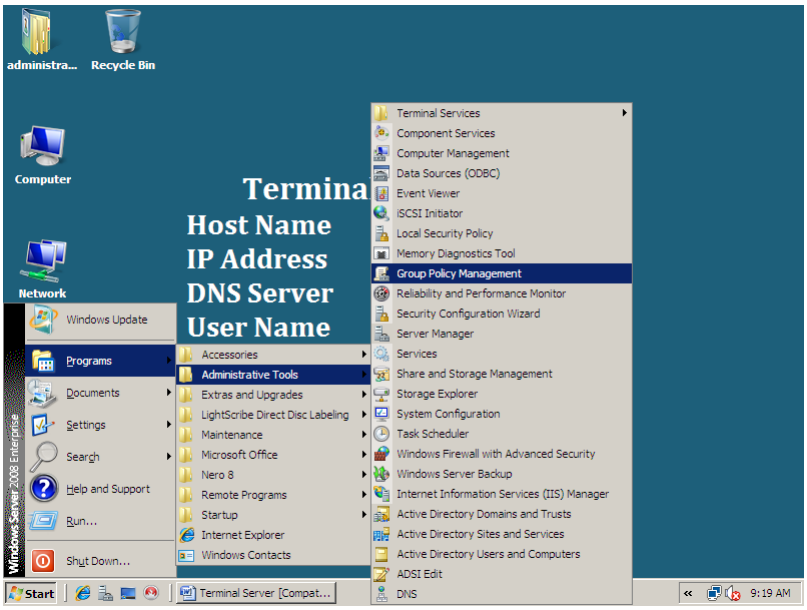


SYS2 - CONFIGURATION

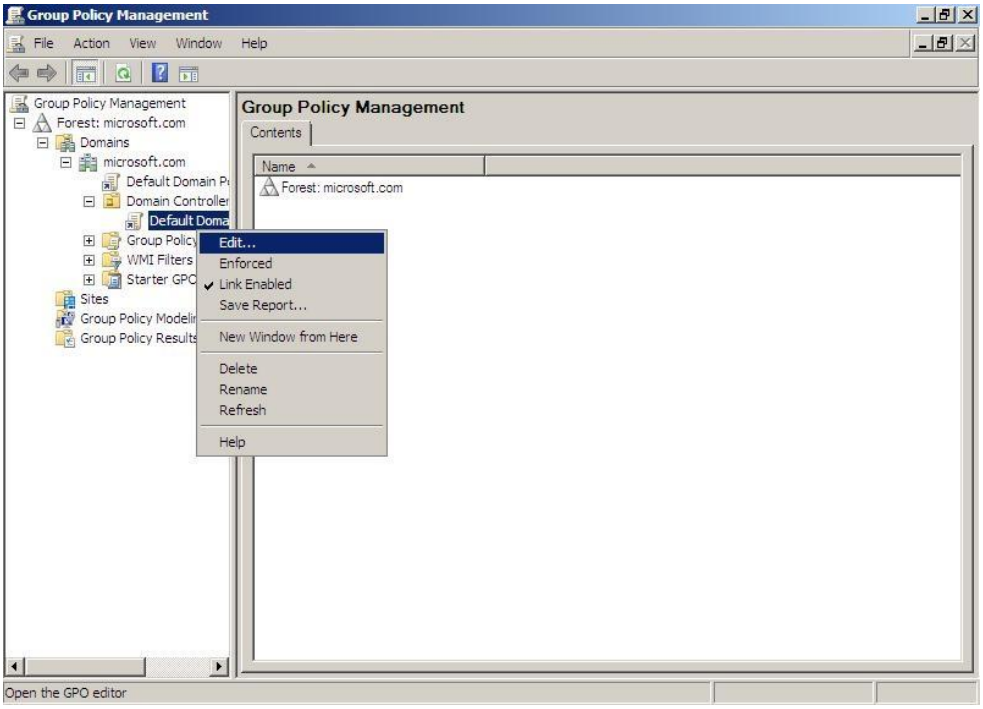
7. Go to Terminal Client → go to Run →**MSTSC** →click **OK**.
8. Specify the IP Address or computer name of terminal server →click **Connect**.
9. Specify username and type the password. →click **OK**
10. **Error Message**: To Logon to this computer you must be granted the allow logon through Terminal Services right.

SYS1 - CONFIGURATION

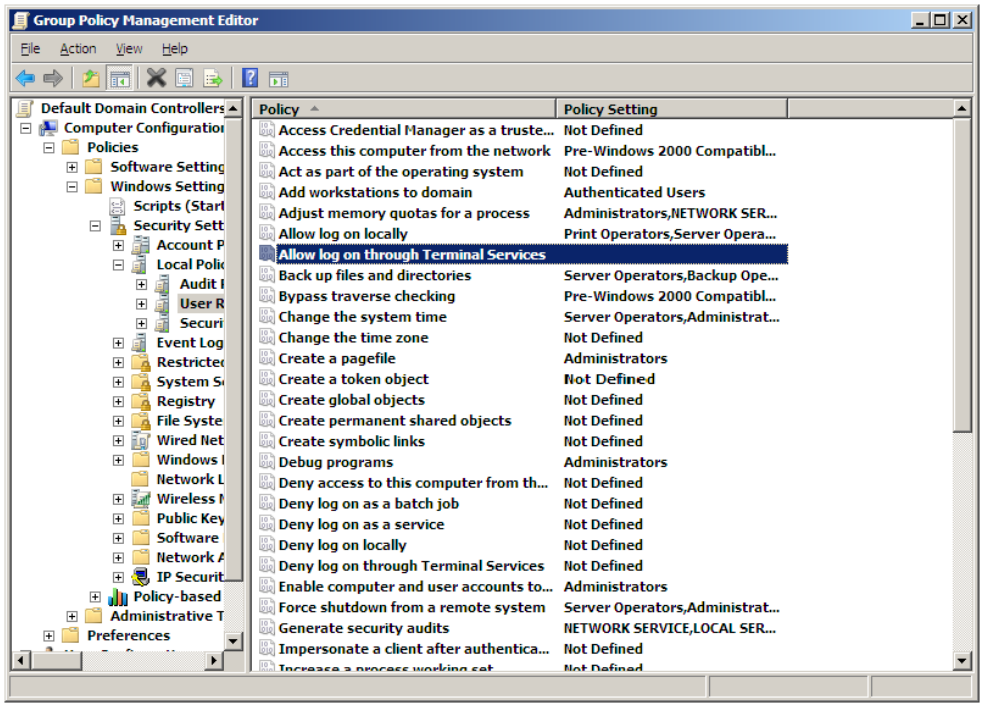
11. **To Allow the User to Login to Terminal Server**: Go to Terminal Server (**SYS1**) Go to Start→ **Program** →Administrative Tools→ **Group Policy Management**



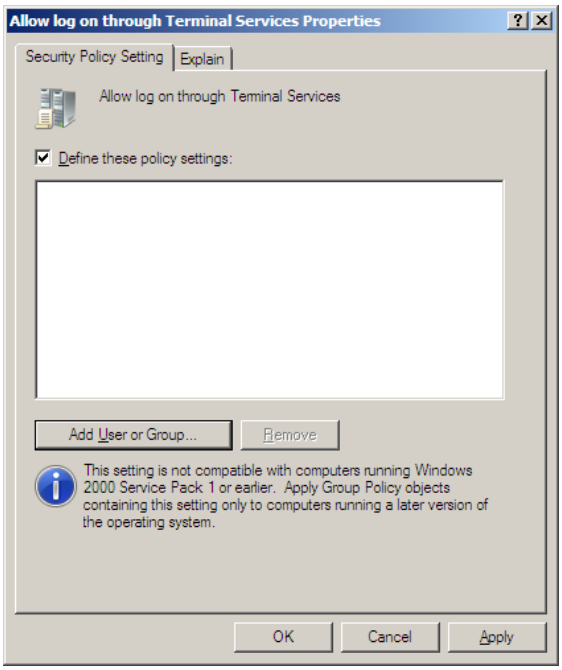
12. Expand **Domains** →Expand **Domain name (Microsoft.com)** →Expand **Domain Controllers**→ Right click **Default Domain Controllers Policy** and Select **Edit**



13. In **Computer Configuration** Policies → Expand **Policies** → Expand **Windows Settings** → Expand **Security Settings** →Select **Local policies** →Select **User Rights Assignment**→ Right click **Allow Log on Through Terminal Services**→ **Properties**



14. Click Add User or Group→**Add** the appropriate user →**OK**

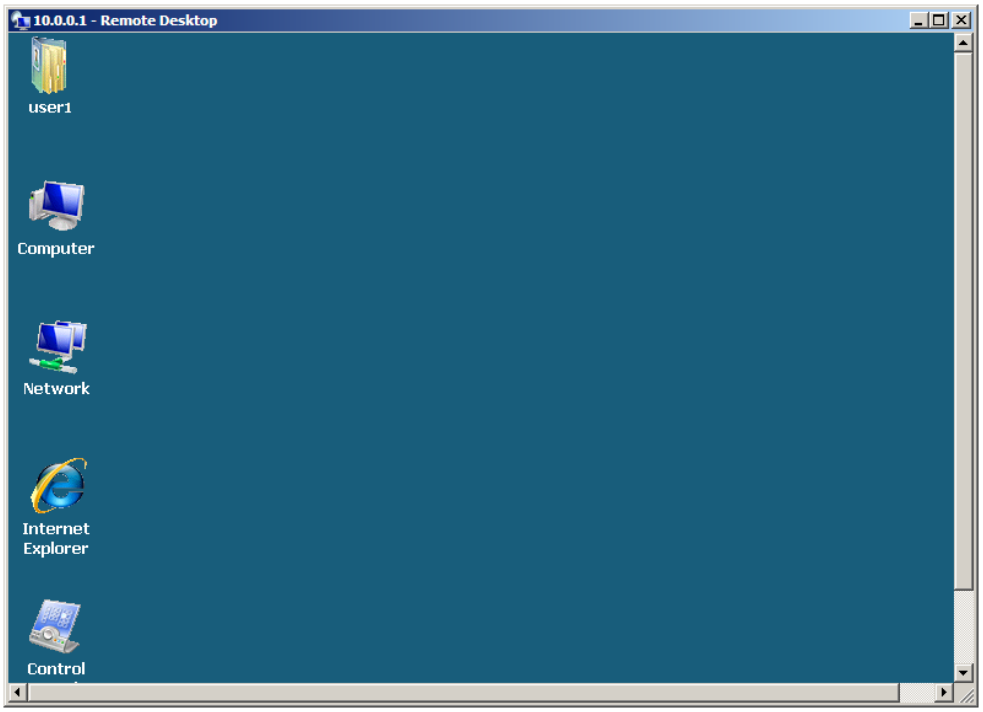


15. Click Start→ Run→ type **GPUPDATE**

SYS2 - CONFIGURATION

16. Go to Terminal Client → go to Run →**MSTSC** →click **OK**.
17. Specify the IP Address or computer name of terminal server →click **Connect**.
18. Specify username and type the password. →click **OK**

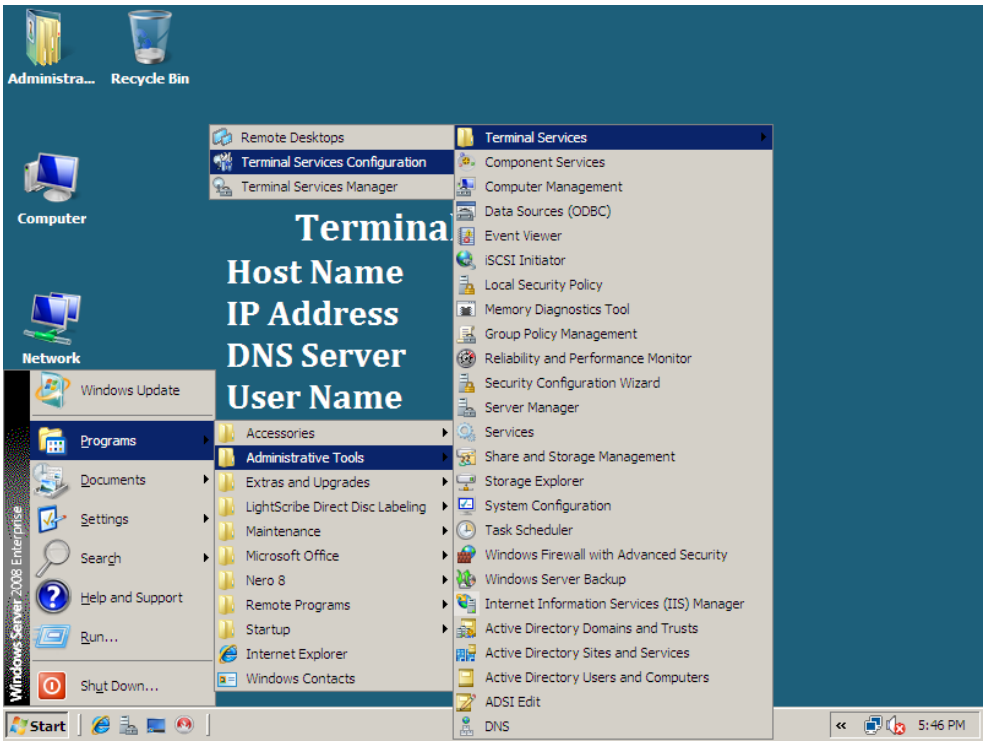
19. Now the user can also logon to Terminal server



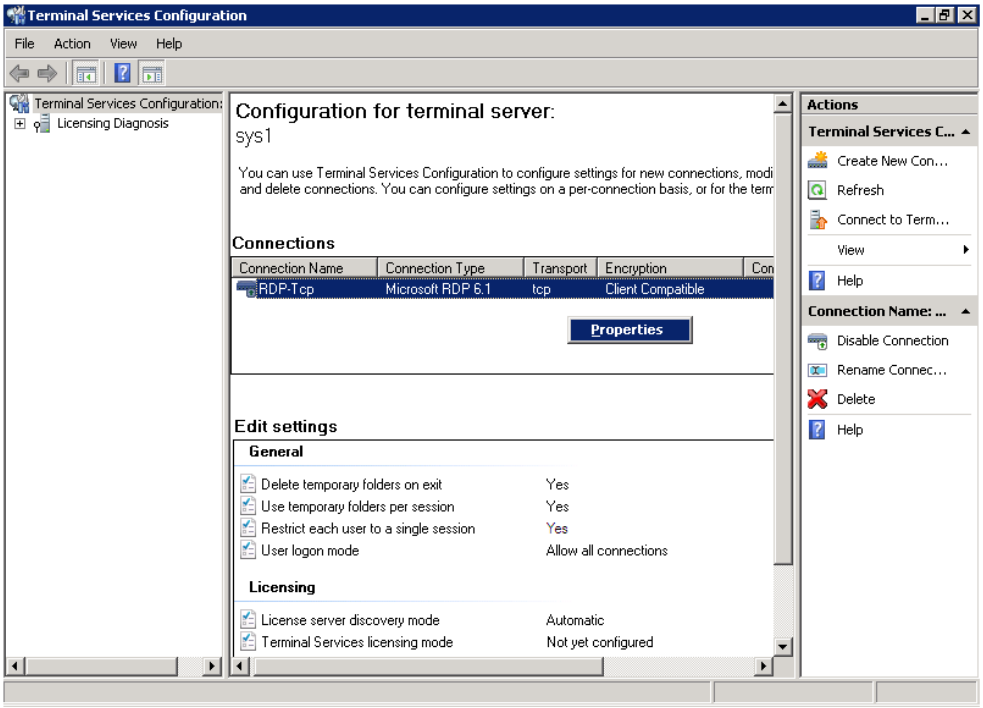
Lab – 3: Monitoring Terminal Services Sessions

Level of Controls: **View the Session** and **Interact with the Session**.

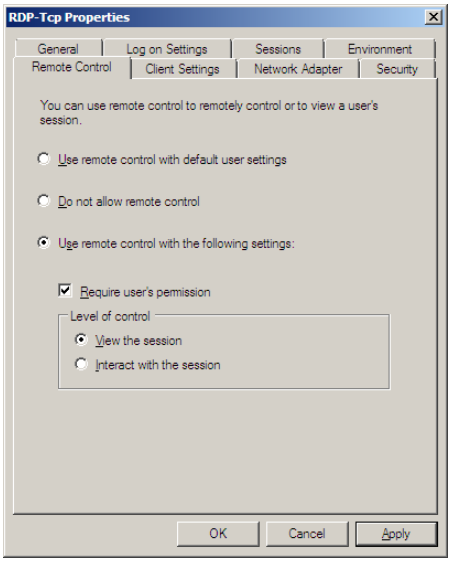
1. On Terminal Server Start →Programs →Administrative Tools →Terminal Services →**Terminal Services Configuration**.



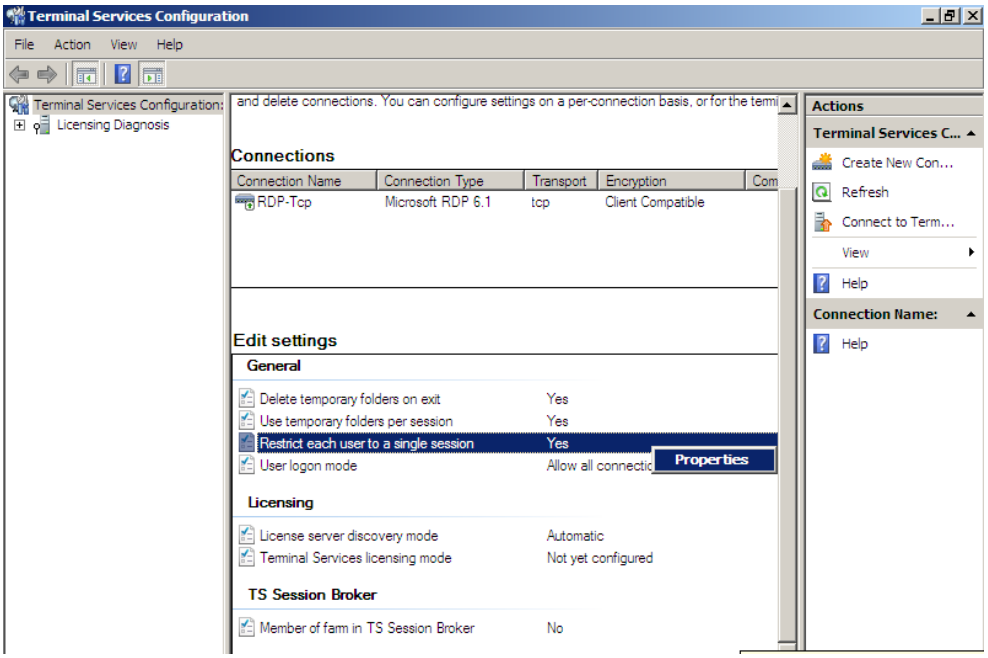
2. Right click **RDP-Tcp** →Select **Properties**.



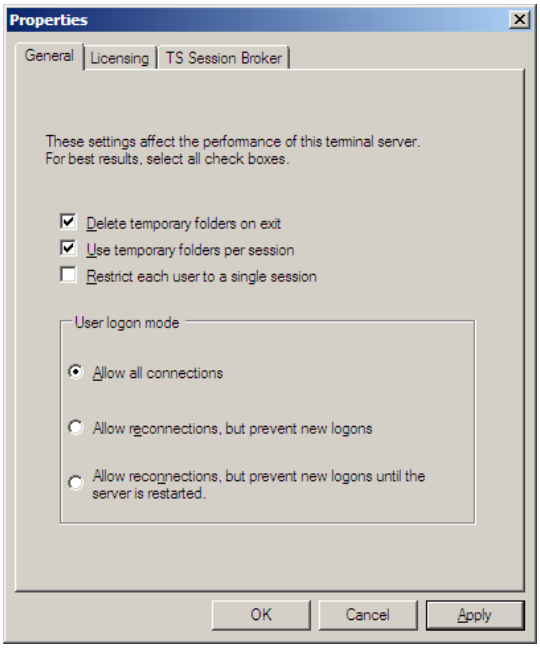
3. Select **Remote Control** Tab → Select **Use remote control with the following settings** →Check the box **Requires User's Permission**→ In level of Control Select **View the session** →click **Apply** →click **OK.**



4. To monitor user Session Log in as an **Administrator** on Terminal Server using **Remote Desktop Connection**.
5. **<u>Note</u>:- By default Administrator cannot access the remote desktop of Terminal server from Terminal Server itself. To allow Administrator**
6. Go to Start → Programs→ Administrative Tools →Terminal Services →**Terminal Services Configuration**
7. Right click **Restrict each user to single session →properties**



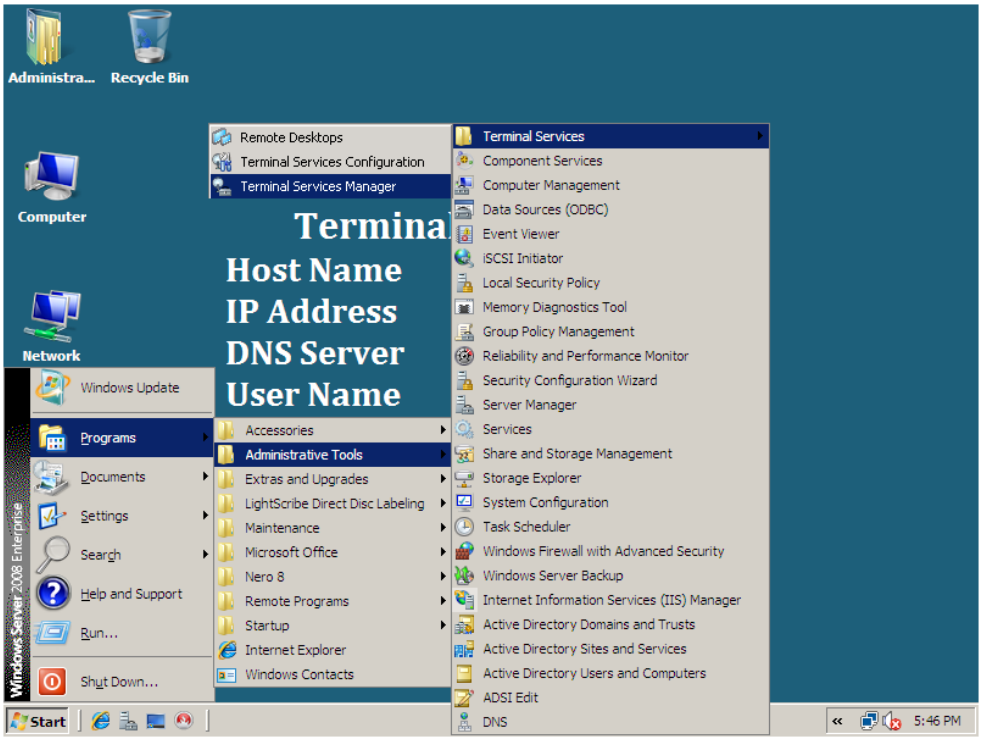
8. **Uncheck the box Restrict each user to a single session →**click **Apply →**click **OK.**



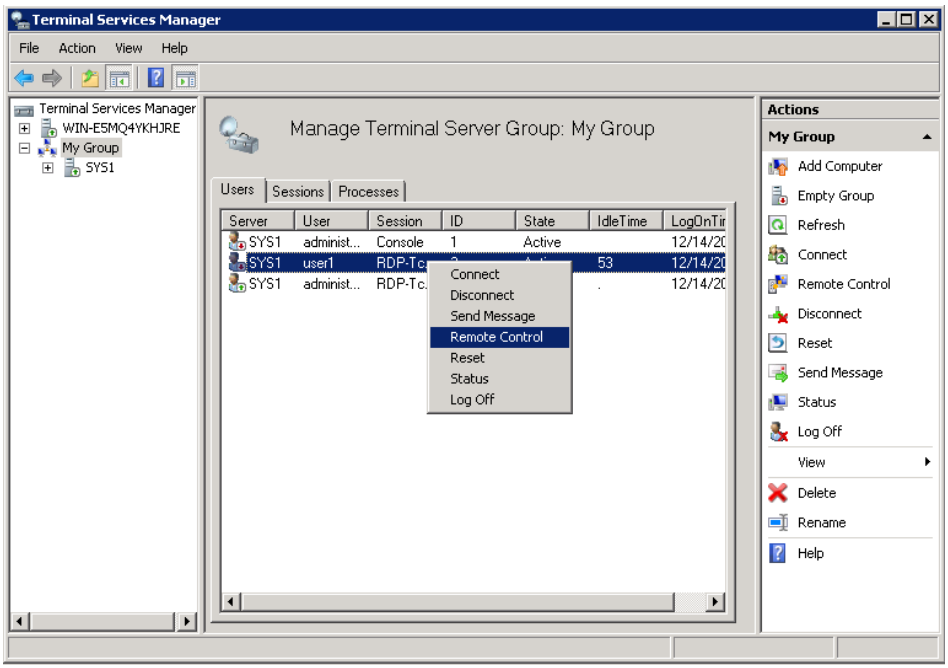
9. To monitor user Session Log in as an **Administrator** on Terminal Server using **Remote Desktop Connection**

10. Mention the **Administrator Credentials →**click **OK**.

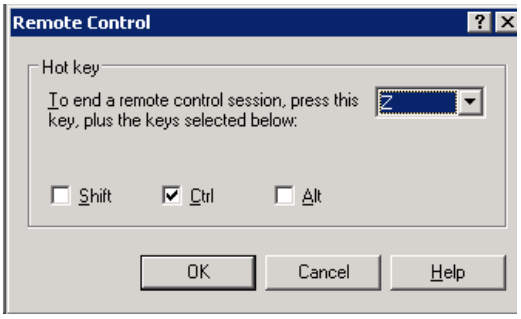
11. **<u>To monitor the Users</u>:** now go to Start **(From remote Desktop)** →Programs →Administrative Tools →**Terminal Services** →**Terminal Services Manager**.



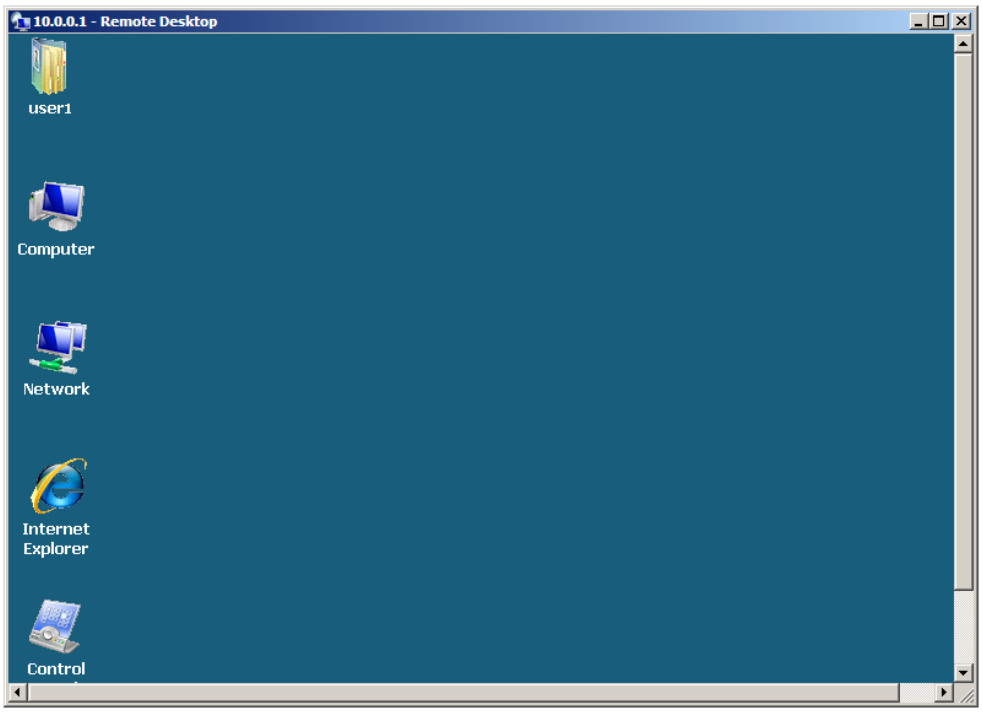
12. Right click the **User session** →Select **Remote Control**



13. Select the hot keys →**OK**



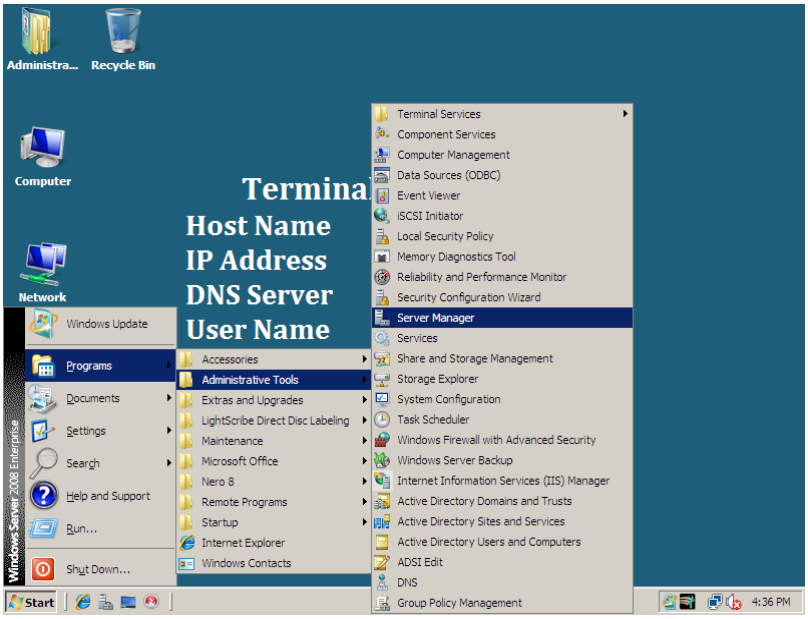
14. Now **Administrator** is connected to user's session.



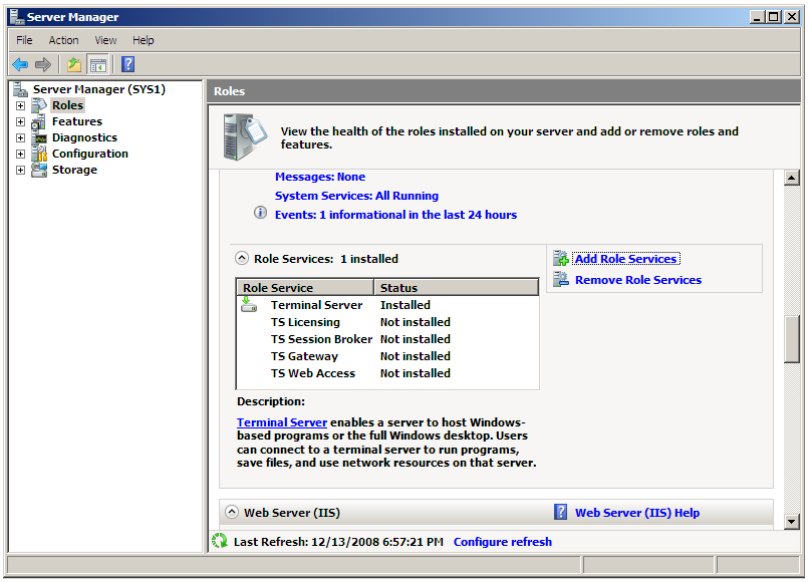
Lab – 4: Installing Terminal Services Web Access

SYS1 - CONFIGURATION

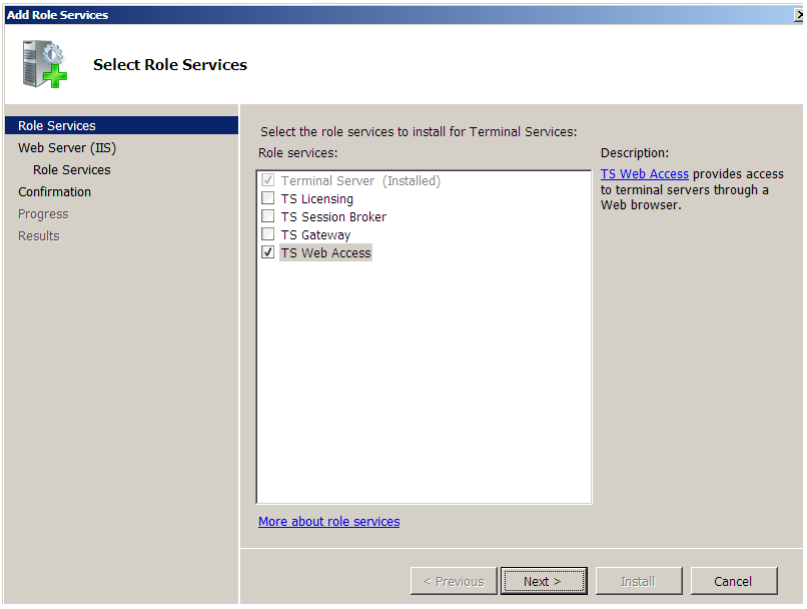
1. Go to **SYS1** →Select Start →Programs →Administrative Tools →**Server Manager**.



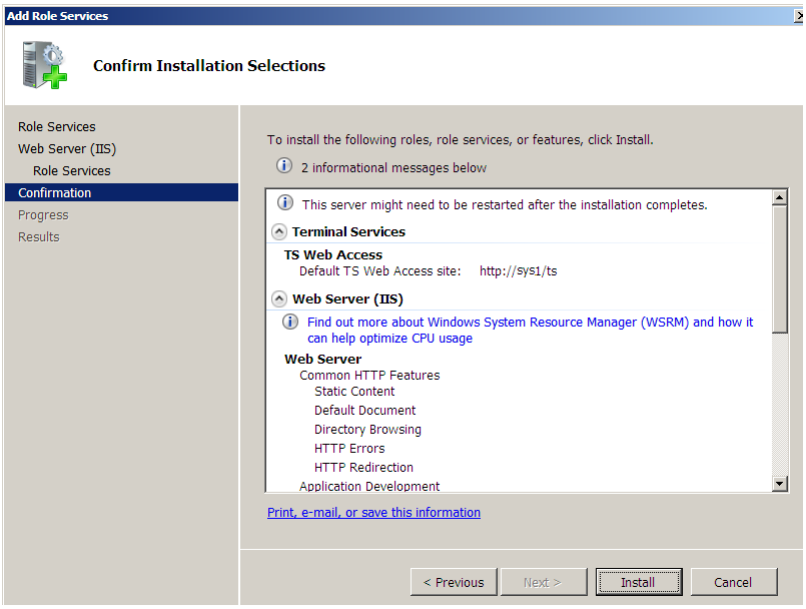
2. In **Server manager** Console, Select **Roles** → Select **Terminal Services** →click **Add role services.**



3. Select the check box for **TS Web Access** →click **Next** →click **Next.**



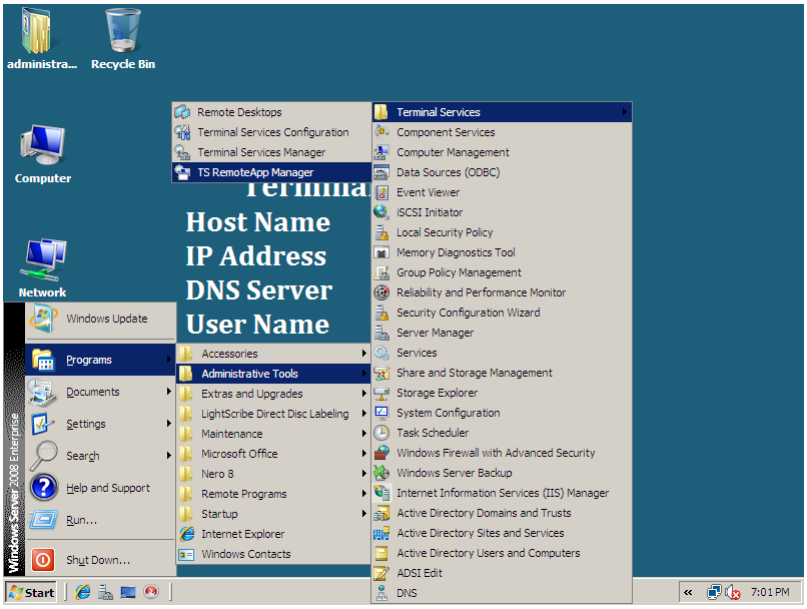
4. Click **Next** →click **Next** →click **Install** →click **Close.**



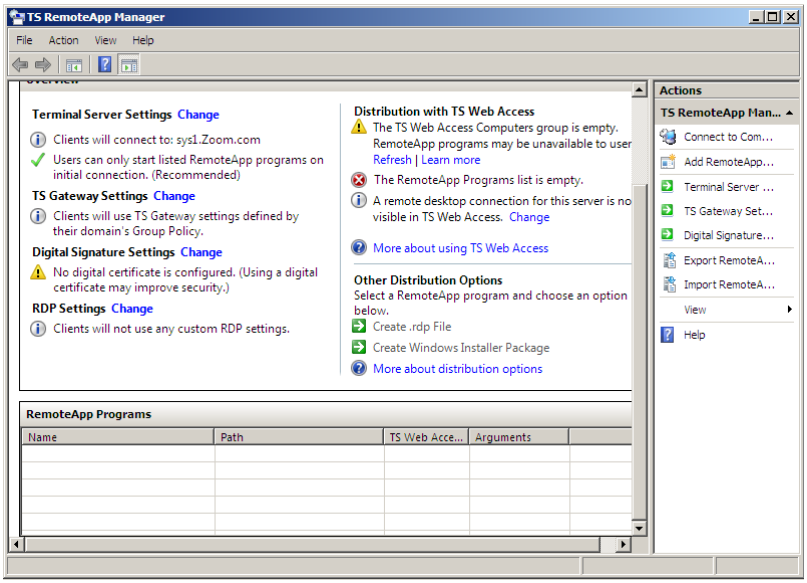
Lab – 5: Configuring Terminal Services RemoteApp Programs

SYS1 - CONFIGURATION

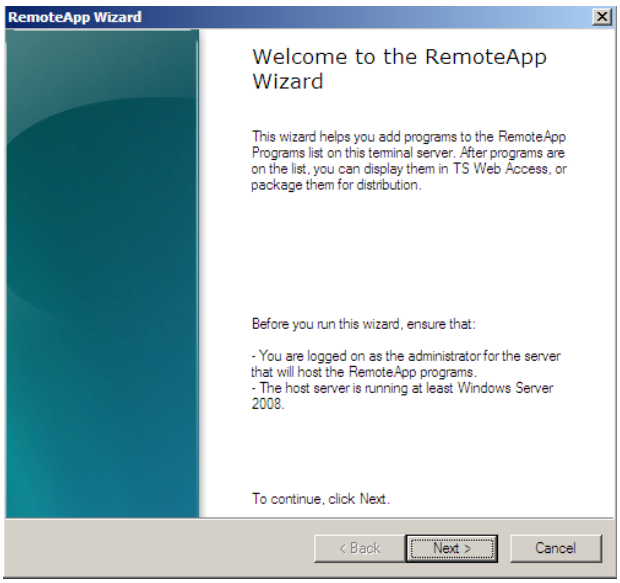
1. Select Start →Programs →Administrative Tools →**Terminal Services → TS RemoteApp Manager.**



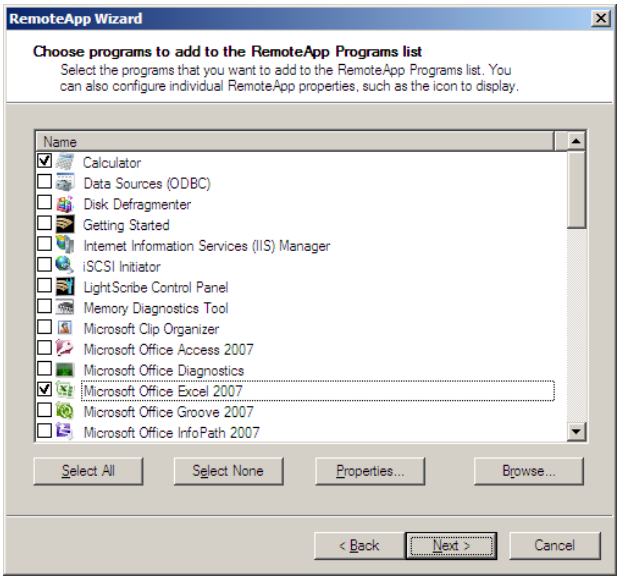
2. In the left pane **Actions** →click **Add RemoteApp Programs.**



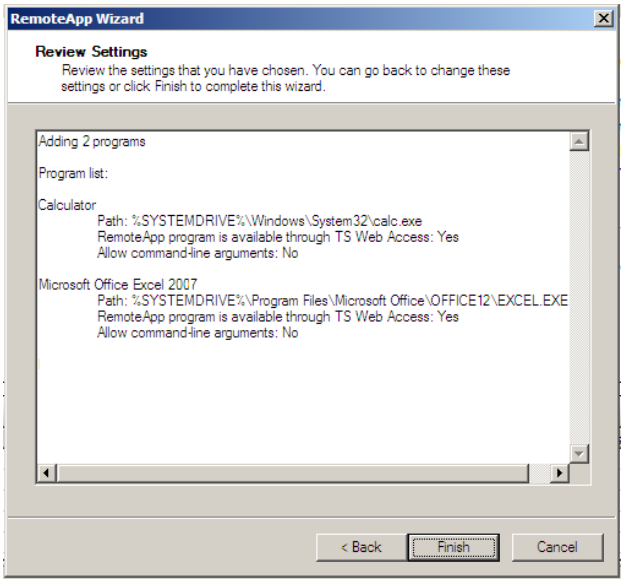
3. Click **Next.**



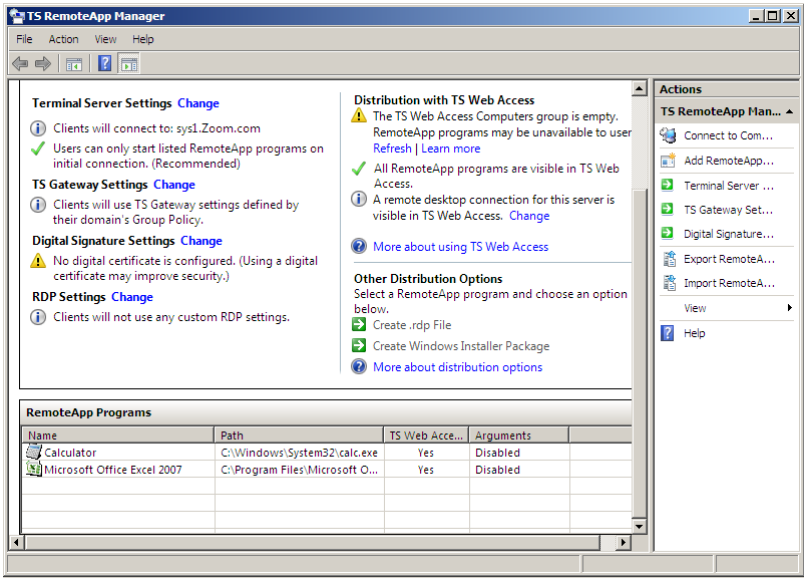
4. Select the **Programs** that you want to add and click **Next.**



5. Click **Finish.**



6. Verify that **RemoteApp programs** are **added** at the last of the window**.**



Accessing the Terminal Server from the Client systems

SYS2 – CONFIGURATION

1. Go to any Computer → Open Internet Explorer and type

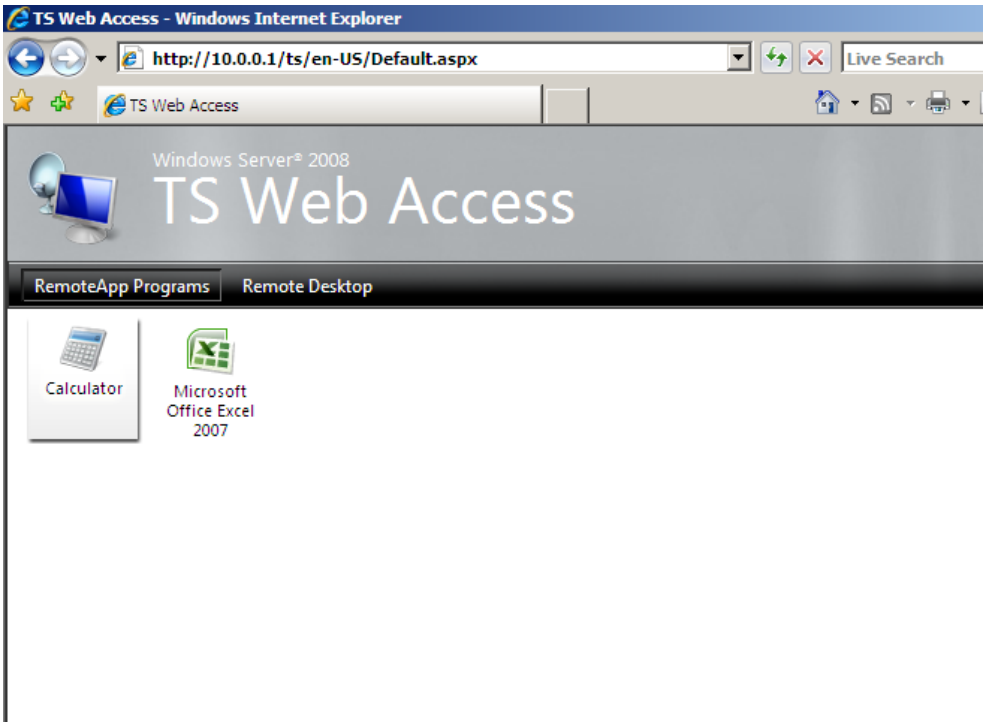
   Http://Terminal_server_ip_address/ts and Press Enter

2. Ex: **http://10.0.0.1/ts**

3. Mention the **user name and password** →click **OK**

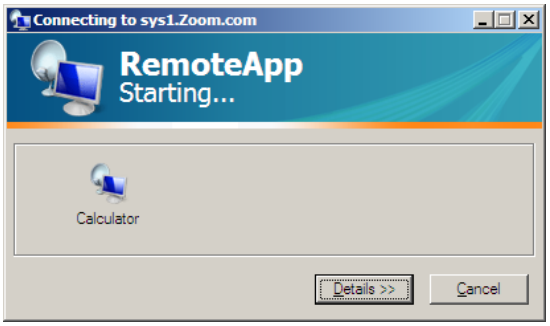
4. **TS Web access Website** will be displayed.

5. Click on the **Application** which u want to access **(**Ex: **Calculator)**.

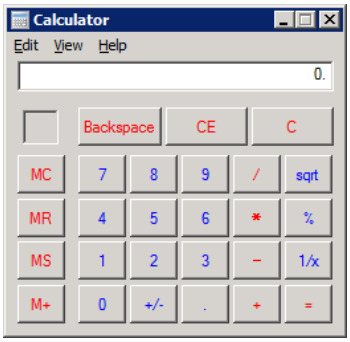


6. Click **Connect**→ Mention the **user credentials**→ click **OK**.

7. **RemoteApp** program will be **starting**.



8. **RemoteApp program** will start.

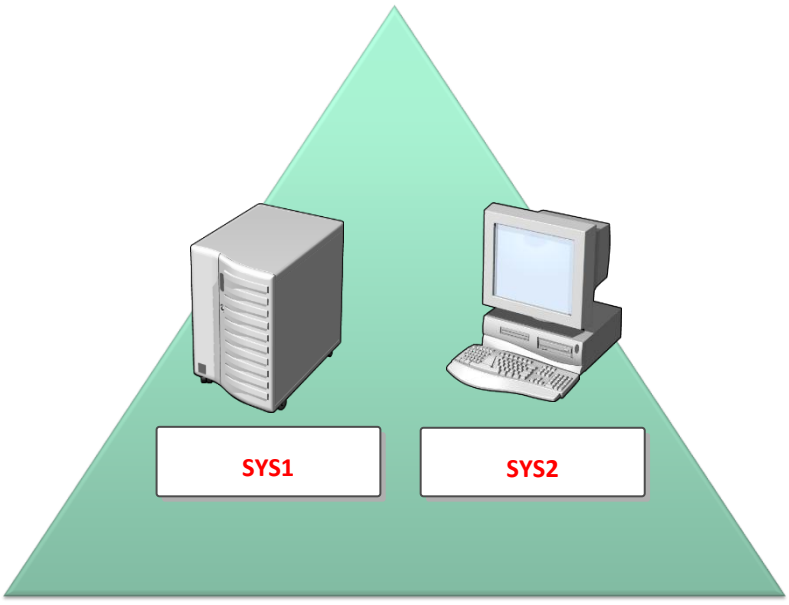


WINDOWS DEPLOYMENT SERVICES (WDS)

Prerequisites:

Before working on this lab, you must have

1. A computer running windows 2008 server Domain Controller, DHCP with Scope, DNS with Services records.
2. A computer with or without any Operating system.



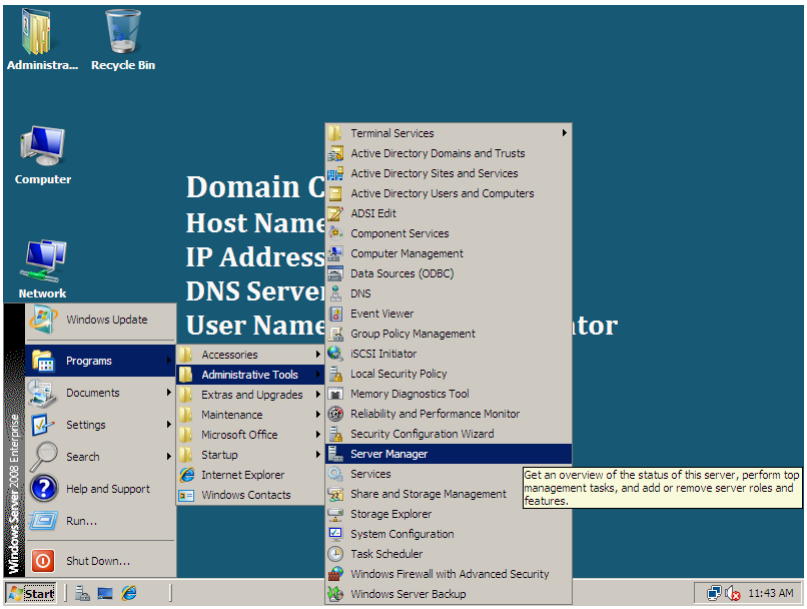
MICROSOFT.COM

SYS1		**SYS2**	
Domain Controller / WDS Server		**WDS Client**	
IP Address	10.0.0.1	IP Address	----------
Subnet Mask	255.0.0.0	Subnet Mask	----------
Preferred DNS	10.0.0.1	Preferred DNS	----------

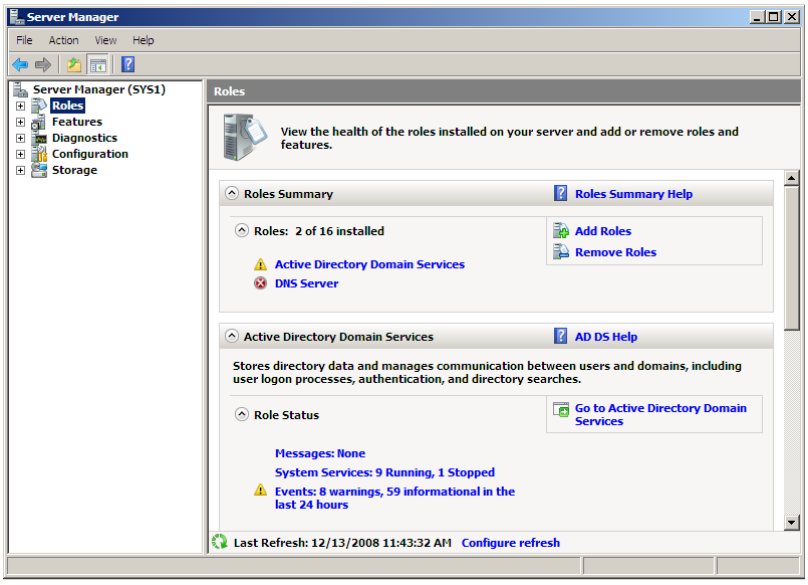
Lab – 1: Installing Windows Deployment Services

SYS1 – CONFIGURATION

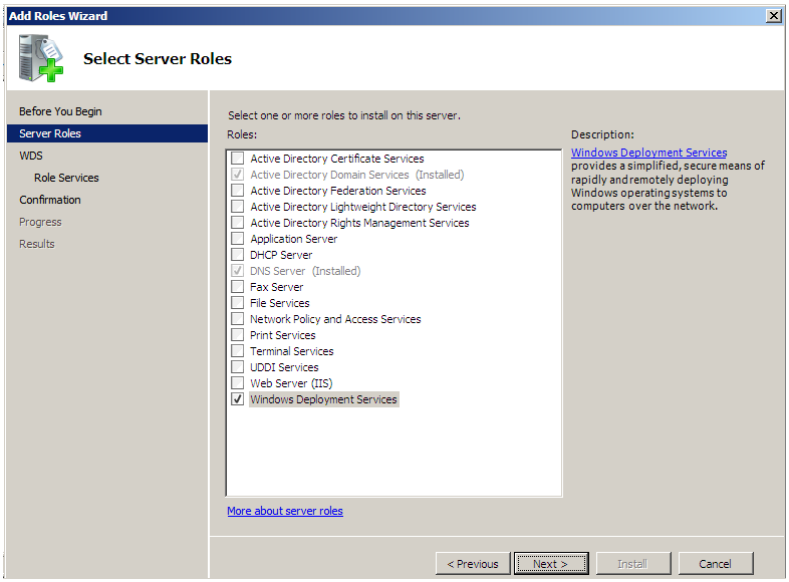
1. Select Start →Programs→ Administrative Tools→ Server Manager



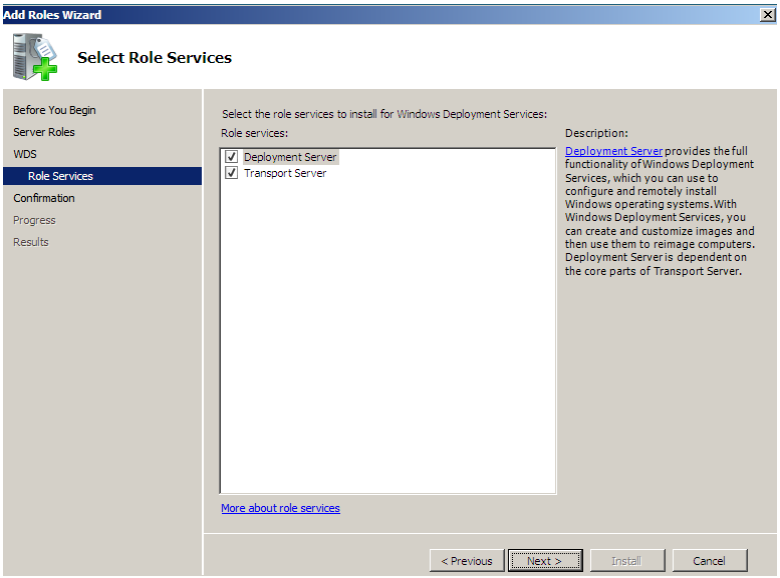
2. In the Server Manager Select **Roles** and Select **Add Roles**.



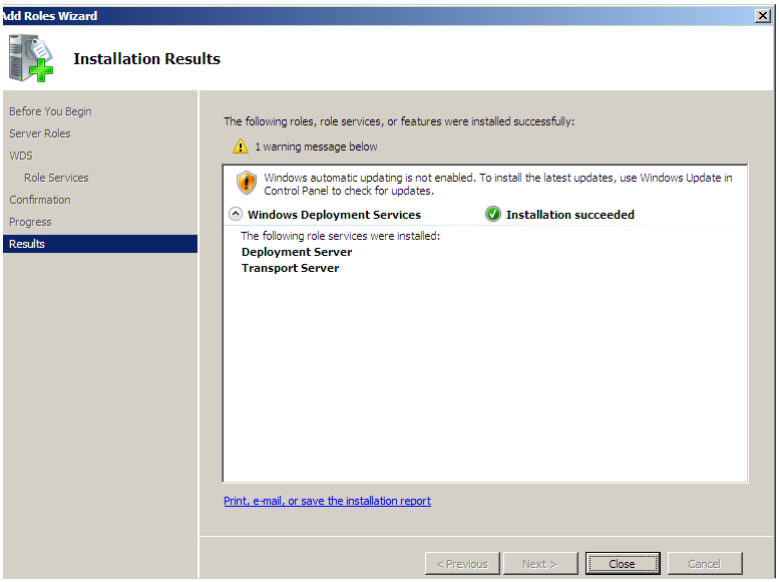
3. In the Select **Server Roles Wizard** check the box **Windows Deployment Services** and click **Next→ Next.**



4. Check the box **Deployment Server** and **Transport Server**, **click Next.**



5. Click **Install** →click **Close.**



Note: SYS1 – CONFIGURATION

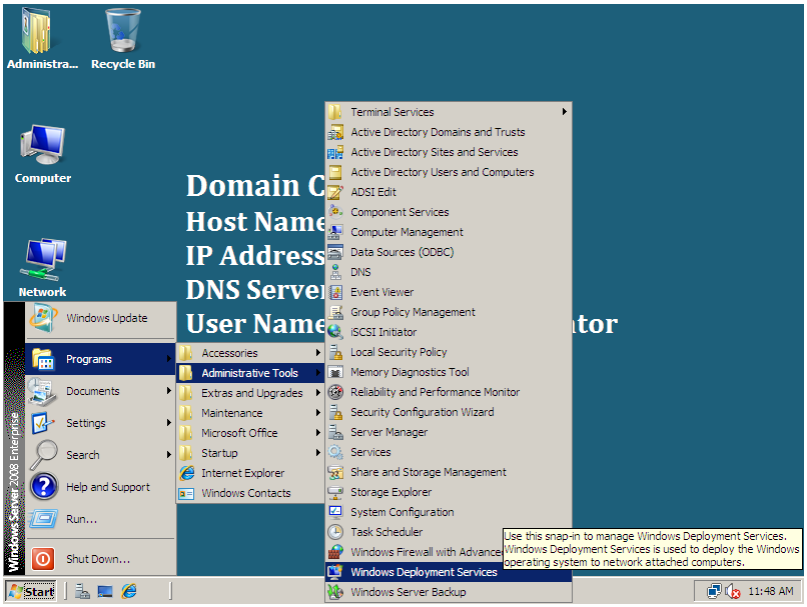
Install the DHCP Service (If not installed) and create a scope in the DHCP.

Give the range (10.0.0.10 – 10.0.0.100), and in the DHCP scope options mention the Domain name (Microsoft.com) and mention the DNS server IP address (10.0.0.1).

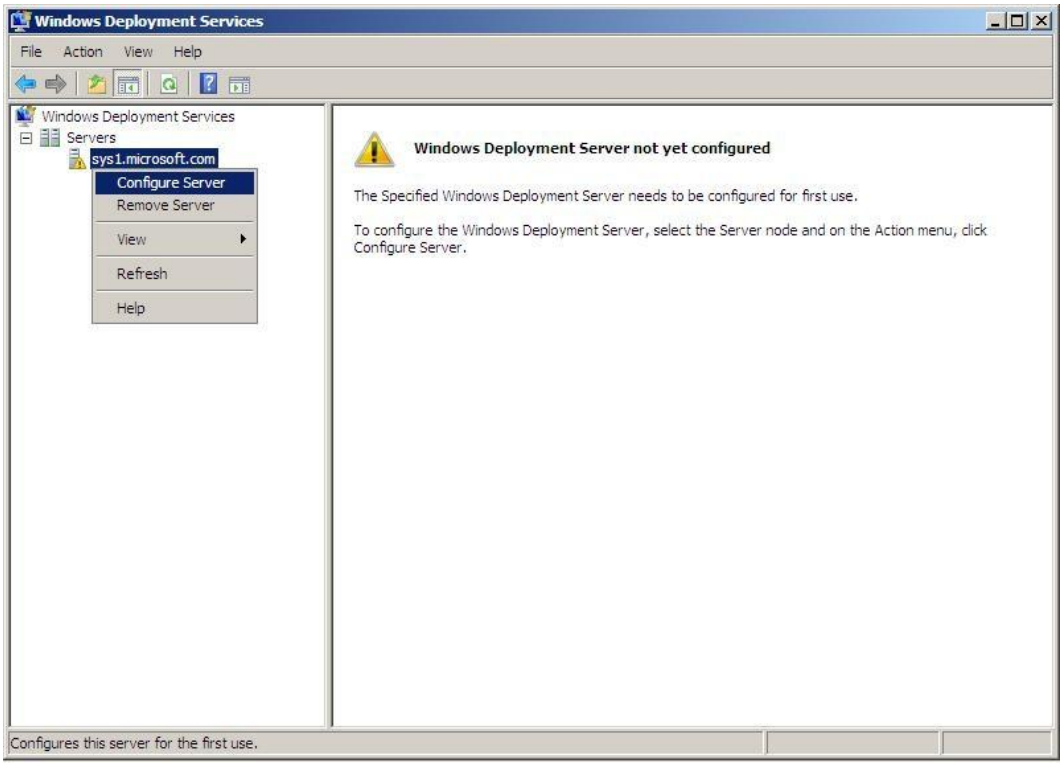
Lab – 2: Configuring Windows Deployment Services

SYS1 – CONFIGURATION

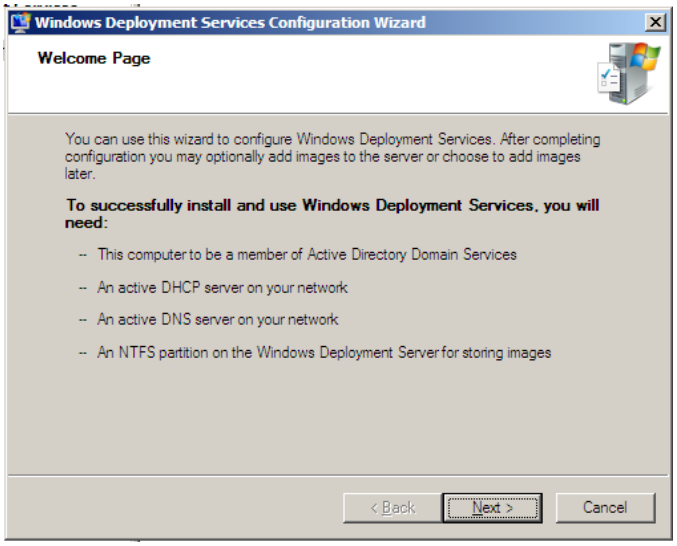
1. Select Start → Programs → Administrative Tool →**Windows Deployment Services.**



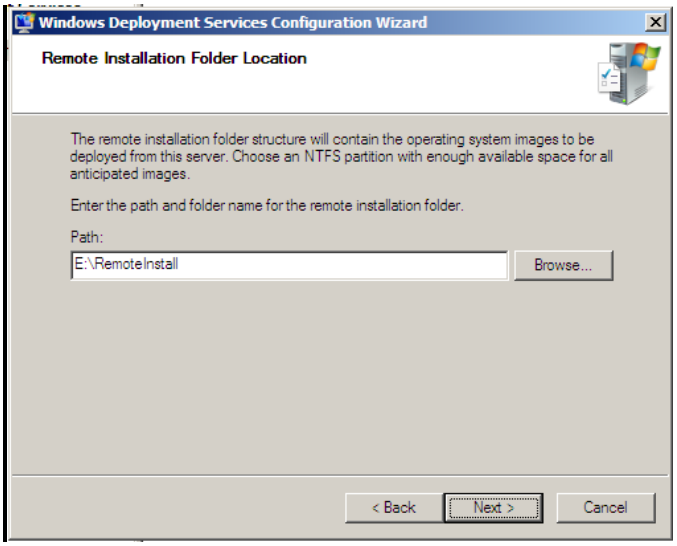
2. Right click **Server Name** Select **Configure Server.**



3. Click **Next.**



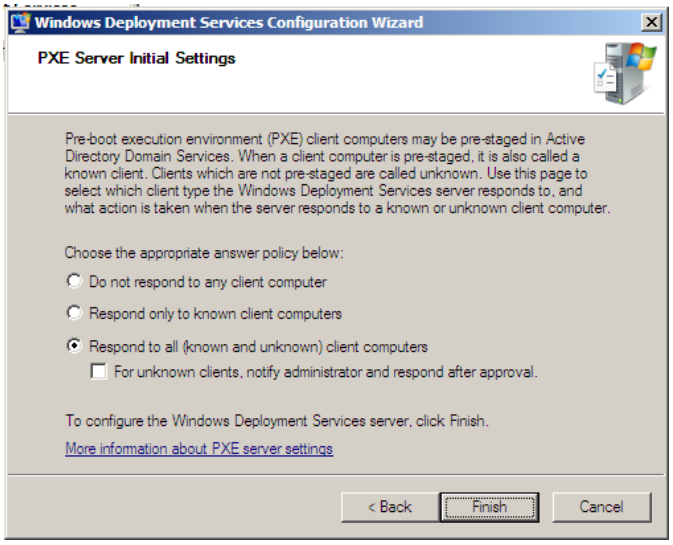
4. Browse and select any empty drive to store **Image Folder** (or) change the Drive letter **click Next.**



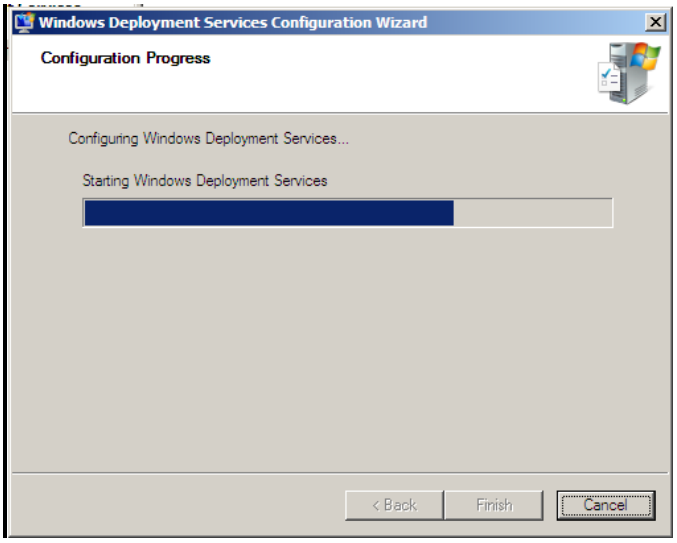
Note: If the WDS server is a DHCP server also then one more wizard will be displayed indicating that the WDS service should not listen on port 67.

So, we have to check the boxes, **Do not listen on port 67** and **Configure DHCP option tag 60 in all DHCP scope options to PXE Client.**

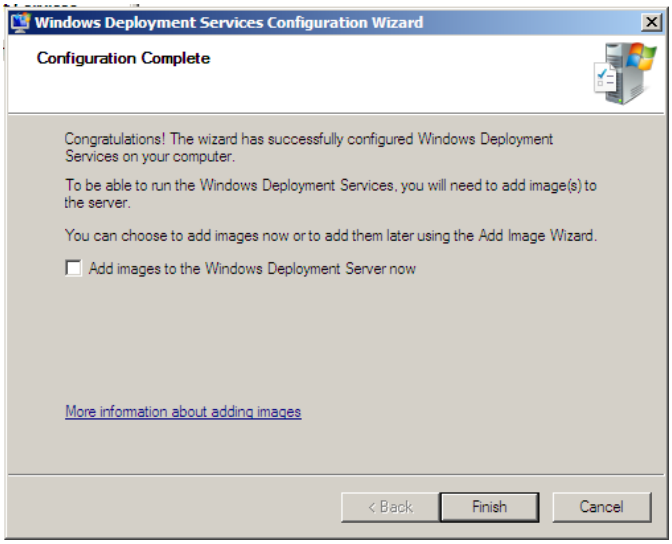
5. Select **Respond to all Known and Unknown Client Computers**, and click **Next.**



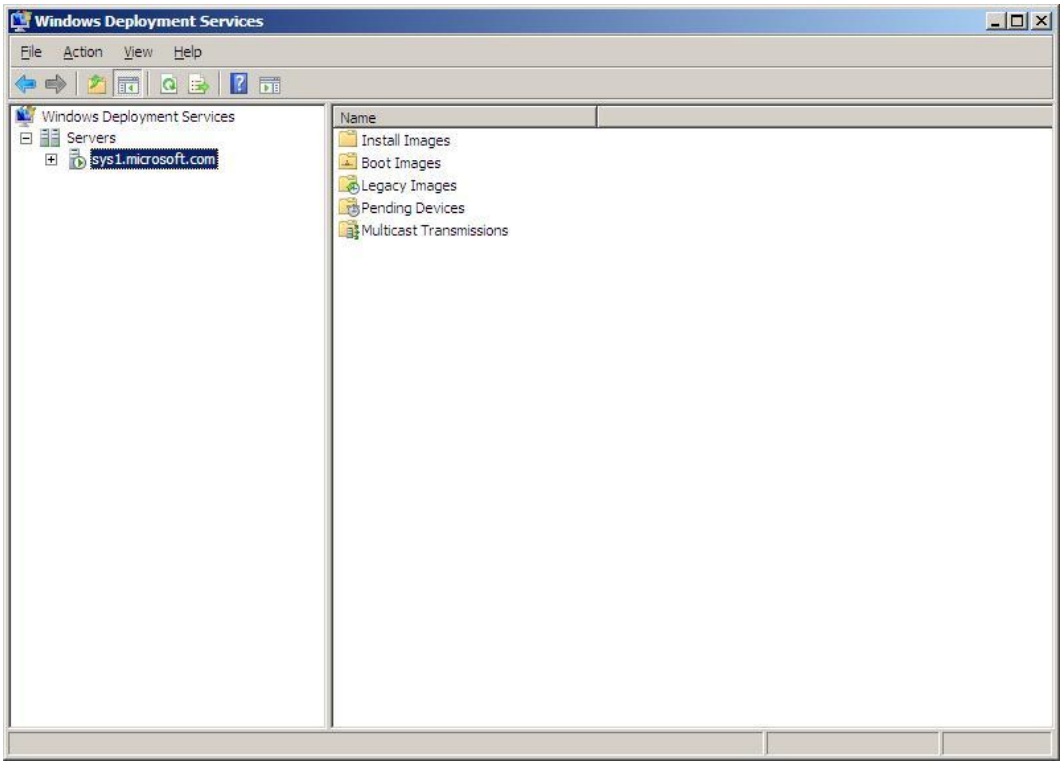
6. Wizard will Configure the **WDS Server**



7. Uncheck the box **Add Images** to Windows Deployment Server now, and **click Finish.**

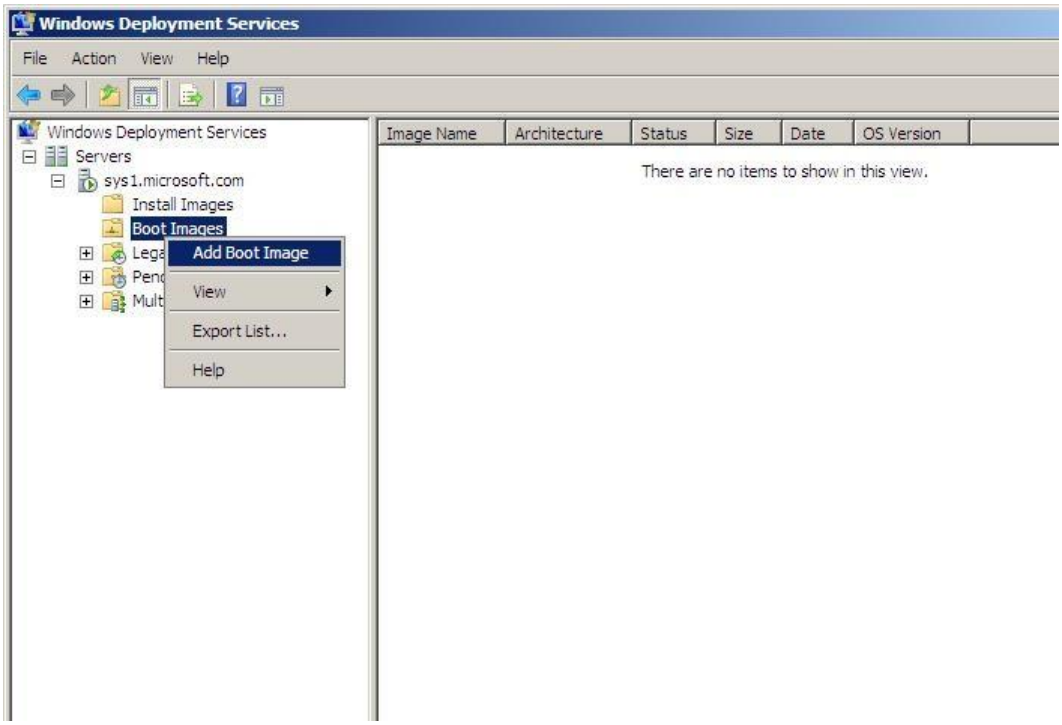


8. **WDS** Server Service Configured Successfully and started.

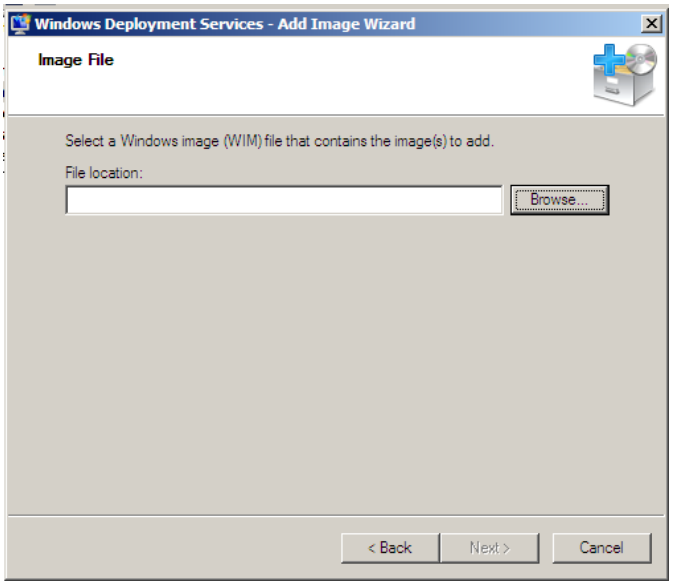


Lab – 3: Adding Windows 2008 Boot Image to WDS Server

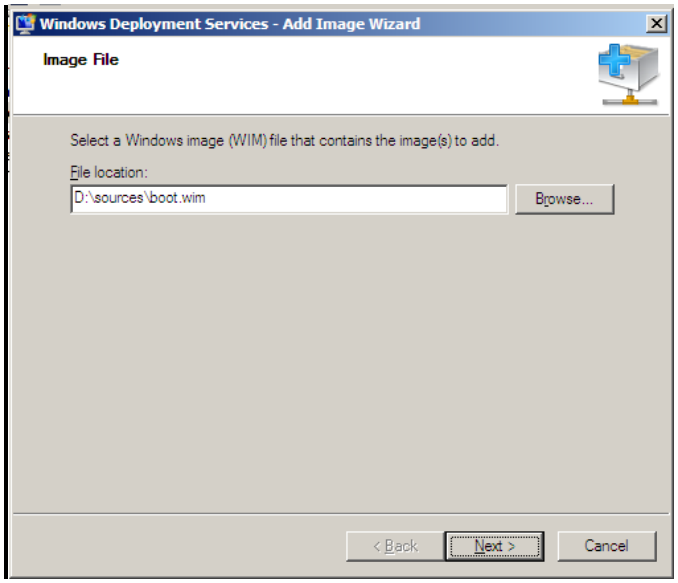
1. Right click Boot Images Select **Add Boot Image.**



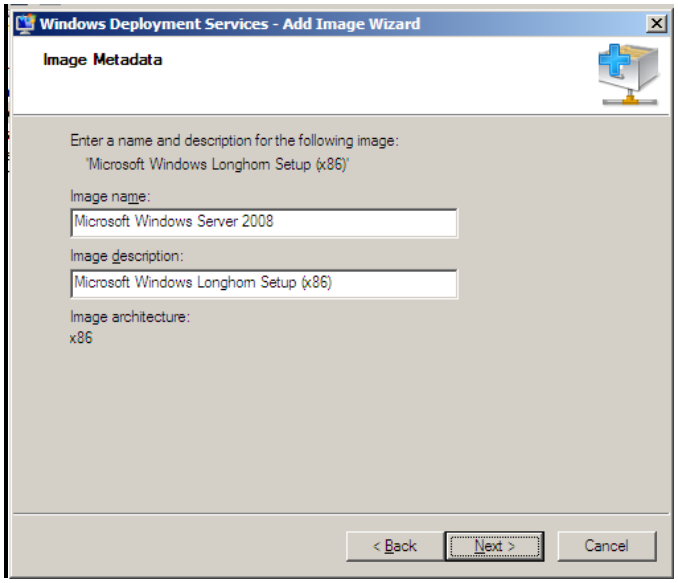
2. Browse and Select **boot.wim** file from 2008 OS DVD **(**Ex: **D:\Sources\boot.wim)**



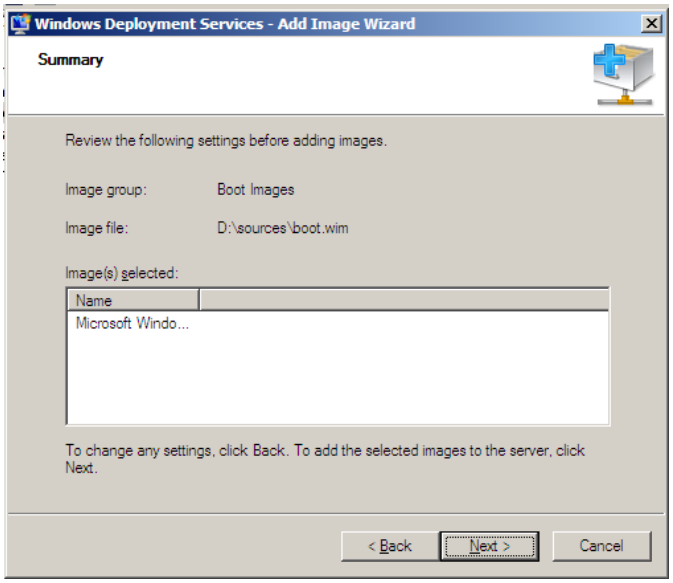
3. Click **Next.**



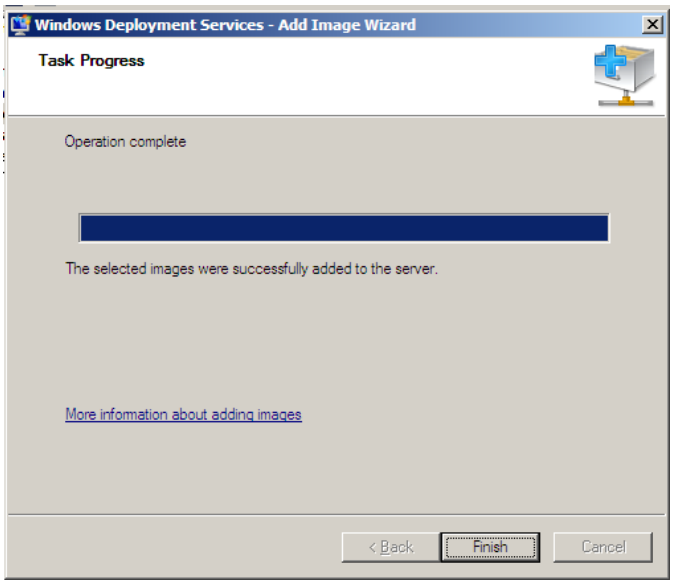
4. Give Name to image Ex: **Windows Server 2008.**



5. Click **Next.**

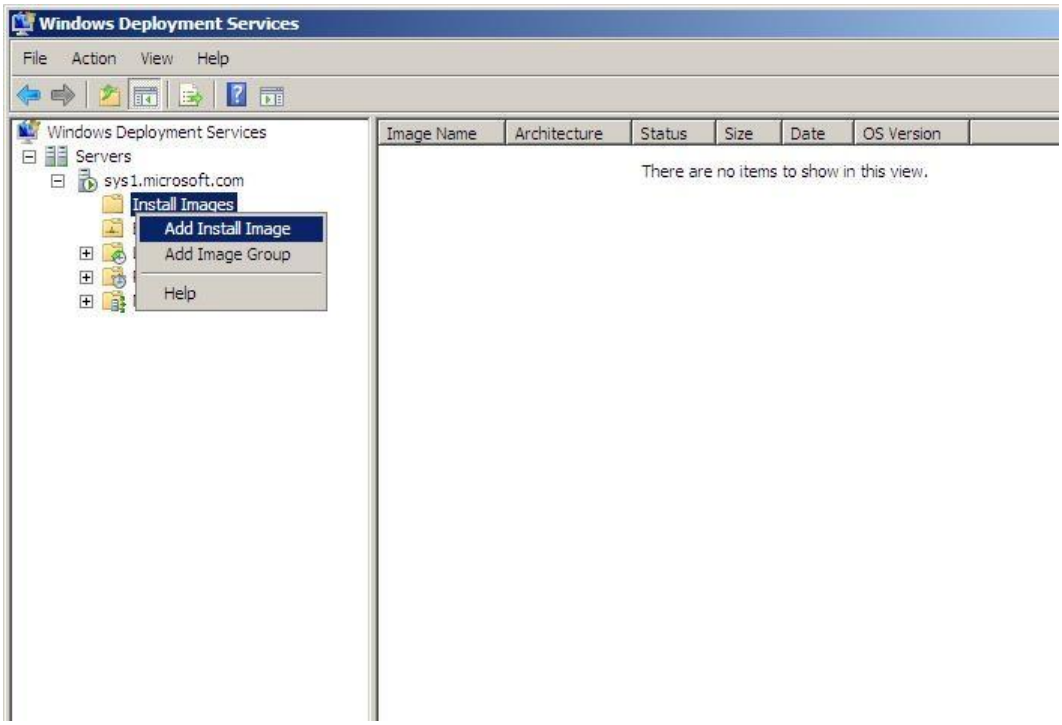


6. Image will be added →click **Finish.**

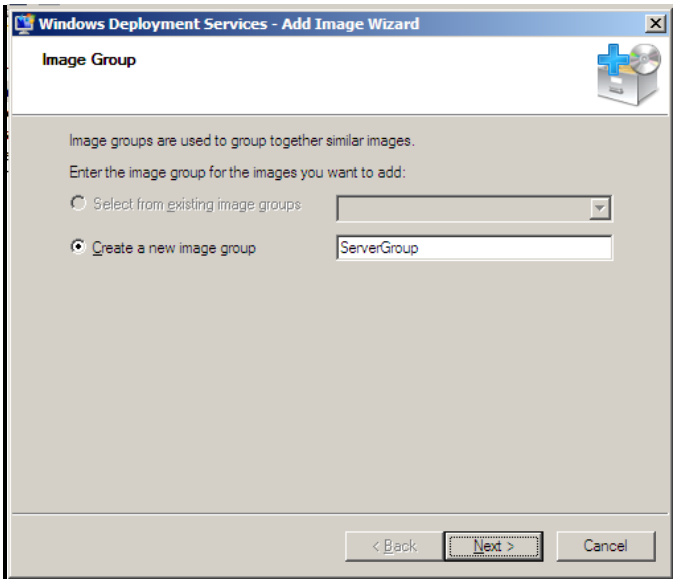


Lab – 4: Adding Windows 2008 Install Image to WDS Server

1. Right click Install Images Select **Add Install Image.**

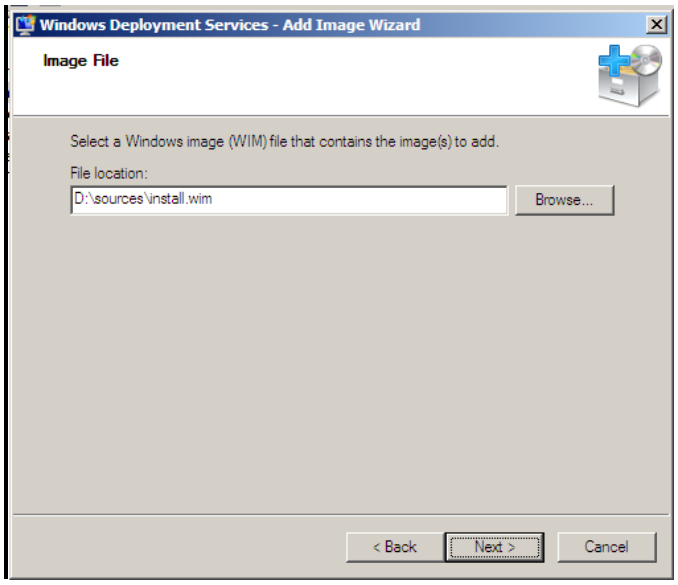


2. Give Name to Image Group Ex: **Server Group** and click **Next.**

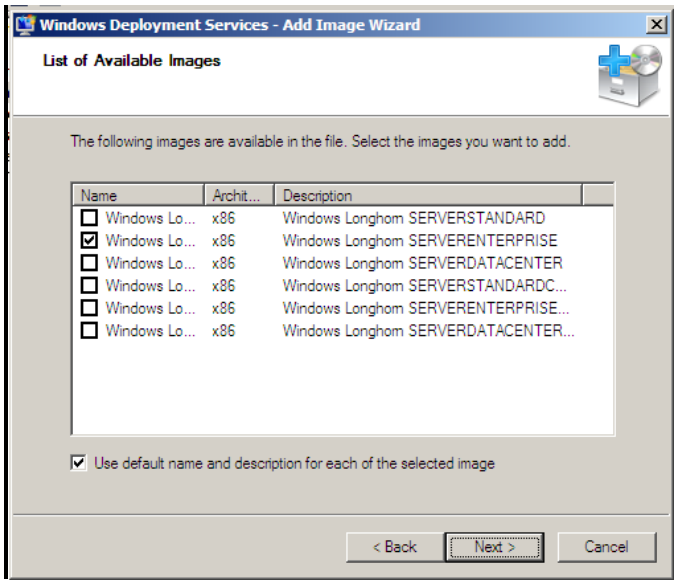


3. Browse and select **Install.wim** file from 2008 OS DVD **(**Ex: **D:\Sources\install.wim)**

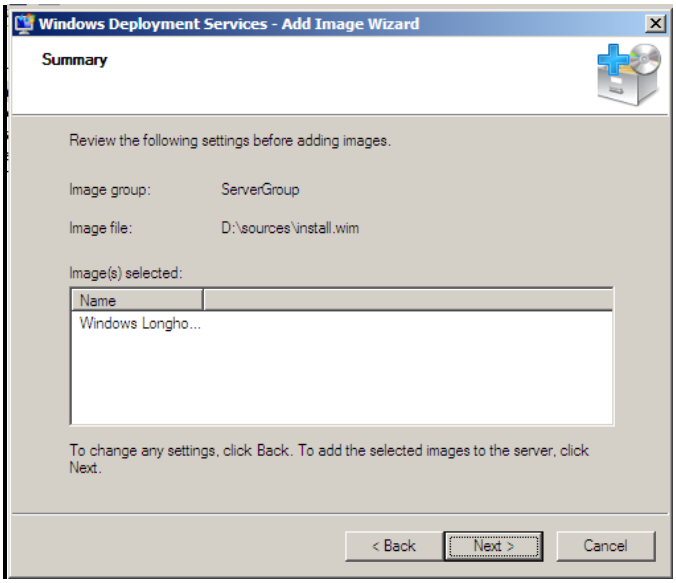
→click **Next.**



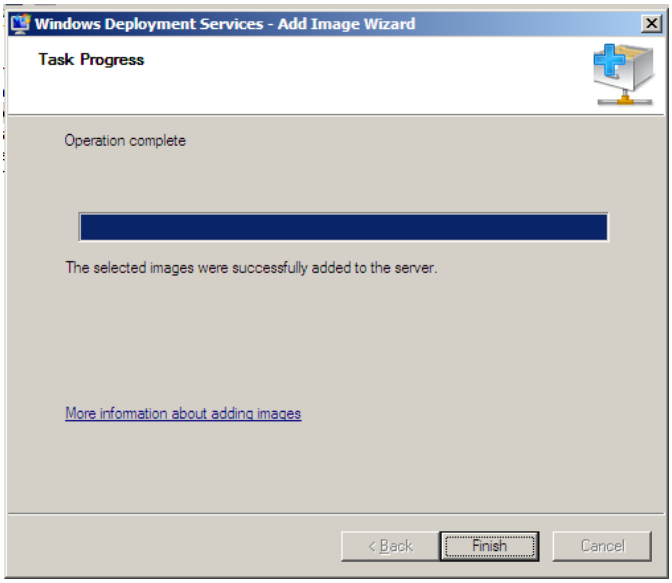
4. Select **Windows Server Enterprise** and click **Next.**



5. Click **Next**



6. Click **Finish.**



Verification:

1. Boot the **Client system** with **PXE NIC Card**
2. Press **F12key** when prompted to start the **Installation**.
3. Then mention the **Administrator** Credential.
4. Select the Operating System which you want to install.
5. Select the Partition to install the O.S and follow the instructions.

DISK MANAGEMENT

Prerequisites:

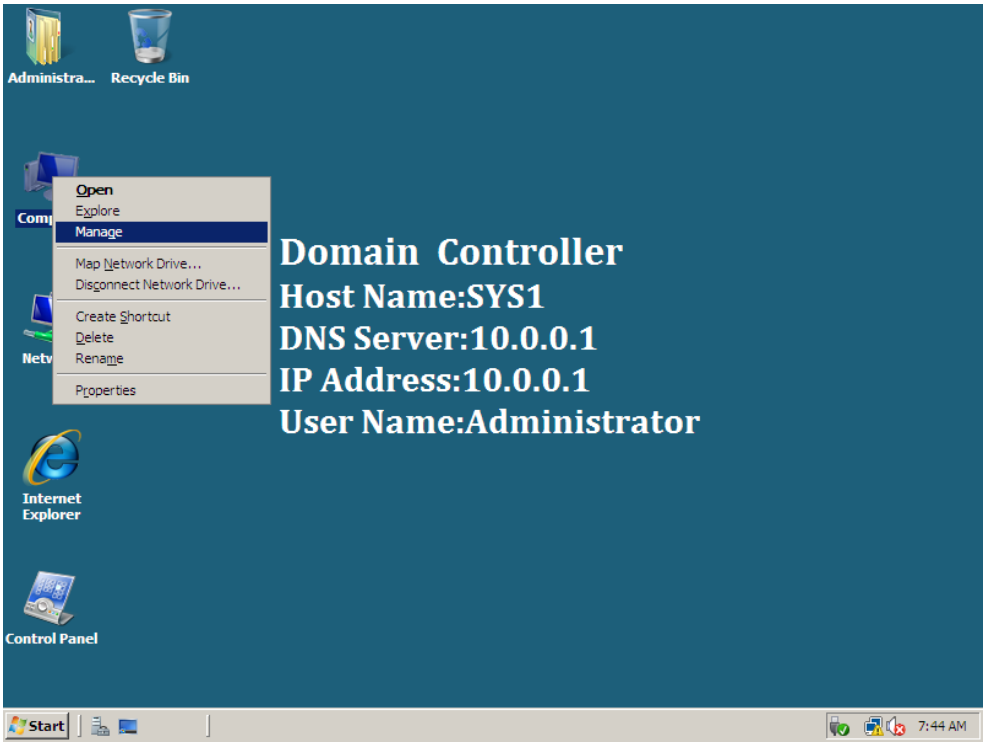
Before working on this lab, you must have

1. A computer running windows 2008 server with at least 3 Hard disks.

SYS1

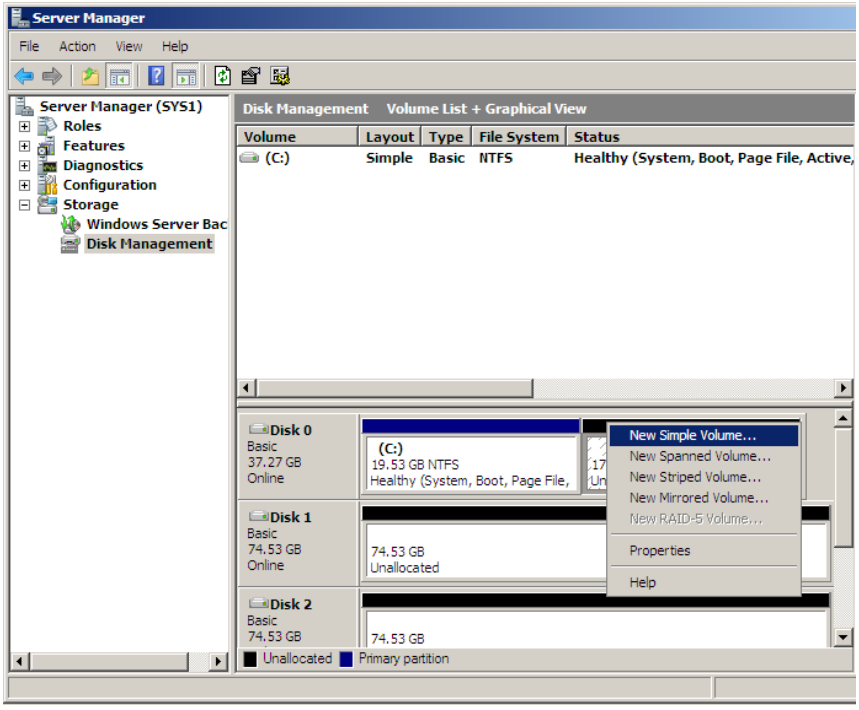
Lab – 1: Creating Primary Partitions

1. Right click **Computer →Manage**

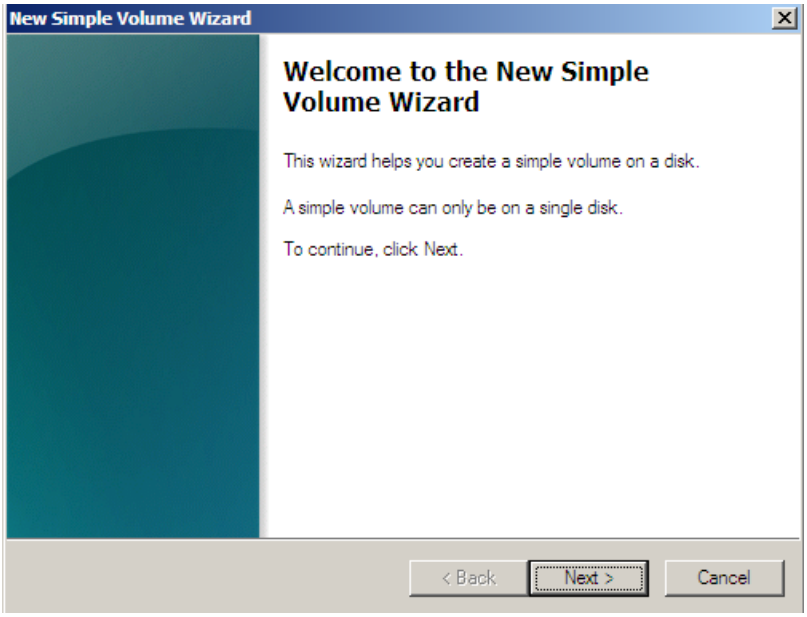


2. Expand Storage, Select **Disk Management, on Basic Disk** Right click on **Unallocated Space to create primary partition**.

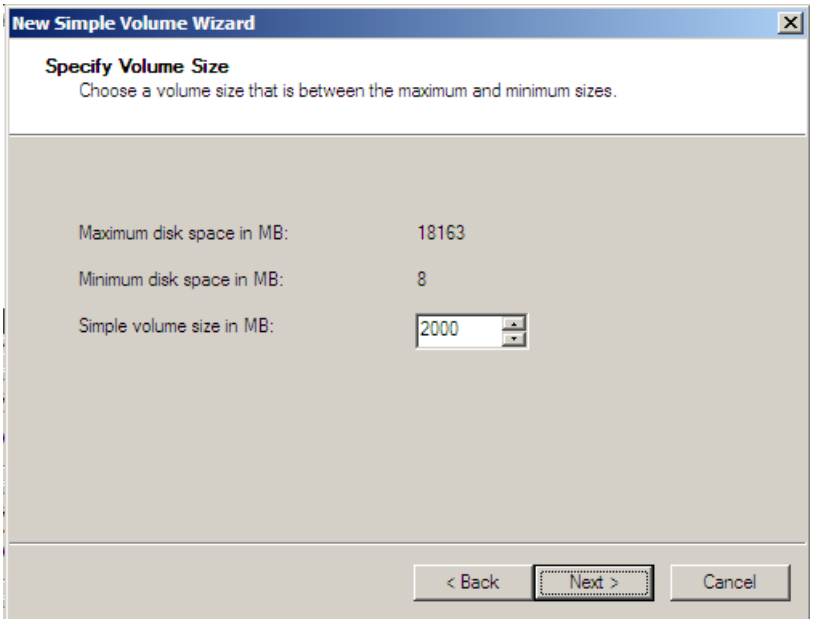
3. Select **New Simple Volume**.



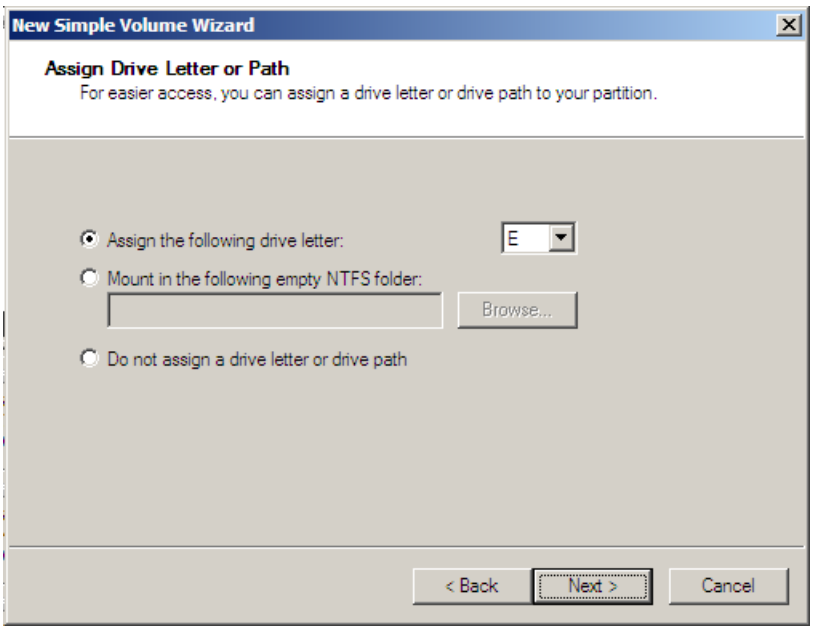
4. Click **Next**.



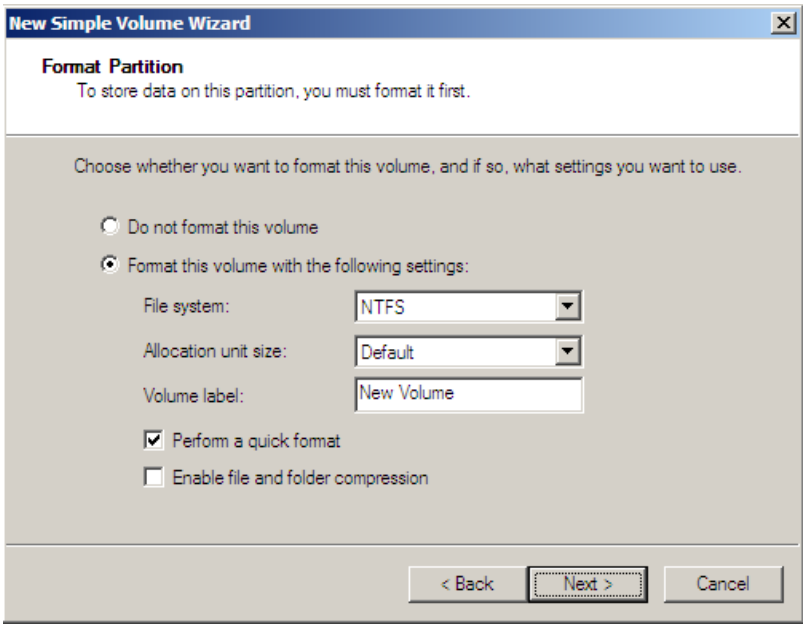
5. Give Volume Size and click **Next.**



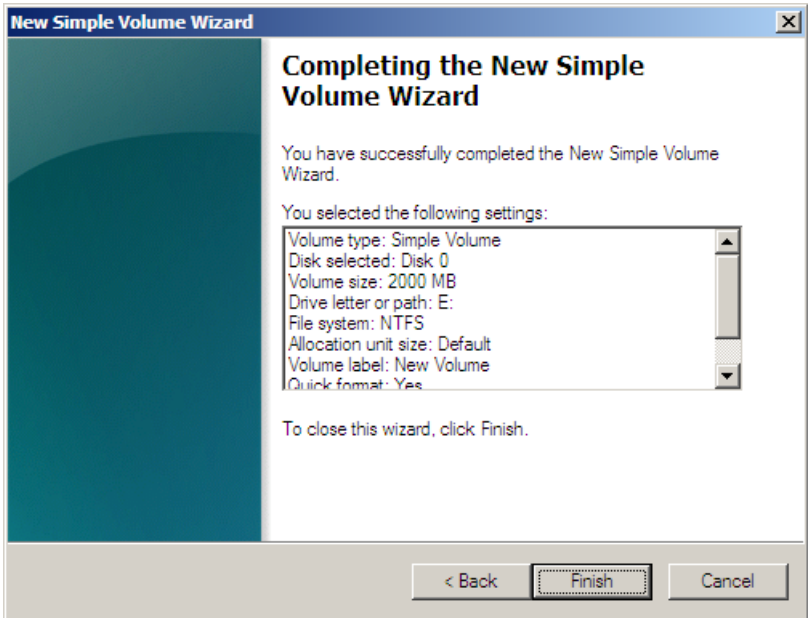
6. Assign **Drive Letter** →click **Next**



7. Select the file system as **NTFS** →Select **Perform a Quick Format** →click **Next**

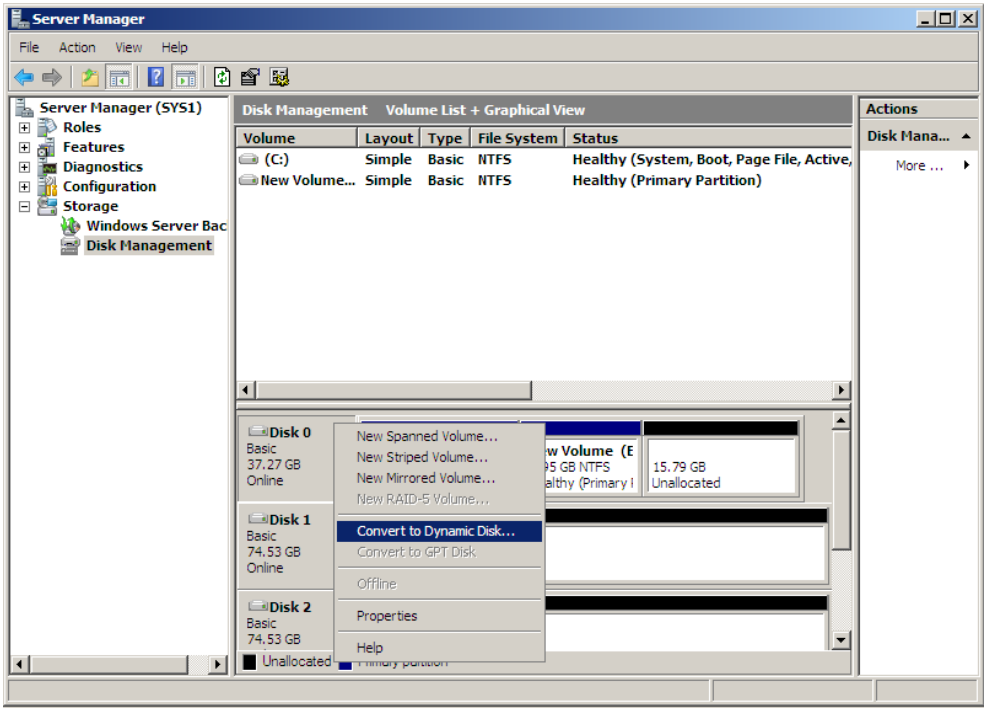


8. Click **Finish.**

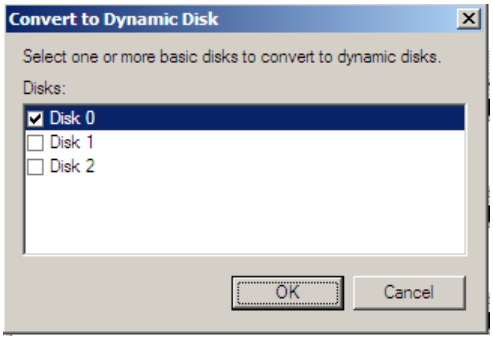


Lab – 2: Converting Basic Disk to Dynamic Disk

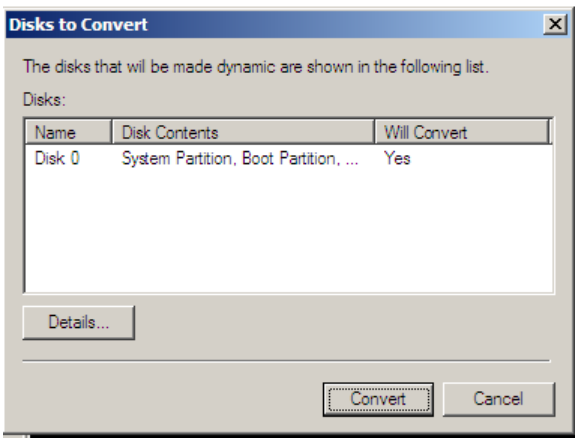
1. Go to **Disk Management**→ Right click on **Basic Disk** →Select **Convert to Dynamic Disk**



2. Select the Disks →click **OK.**

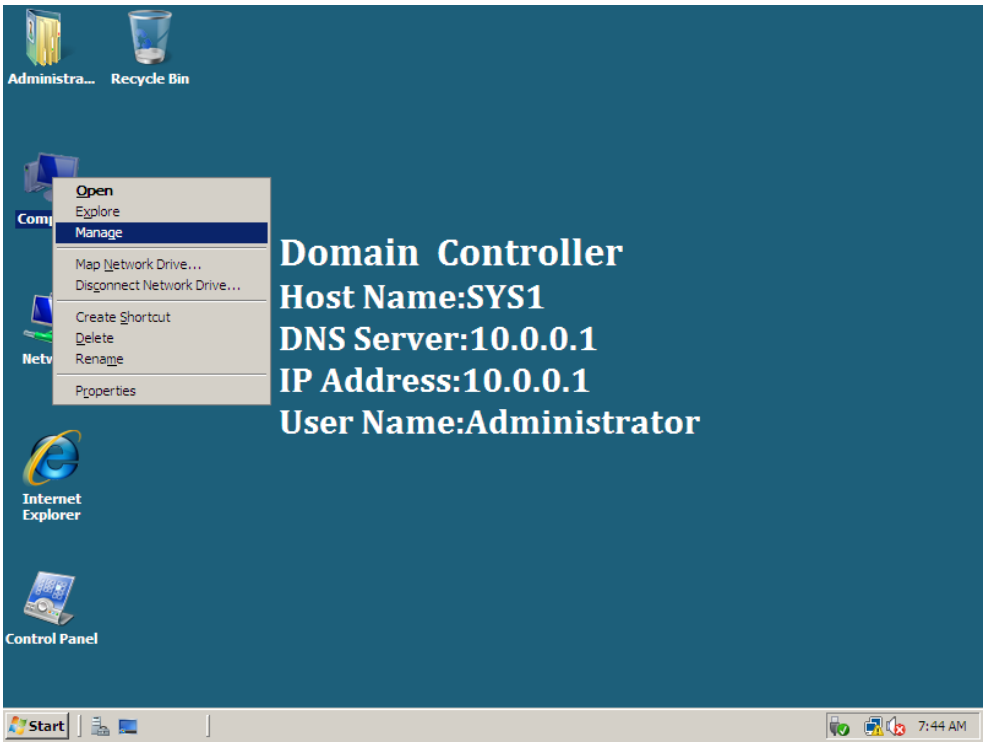


3. Click **Convert** →click **Yes.**



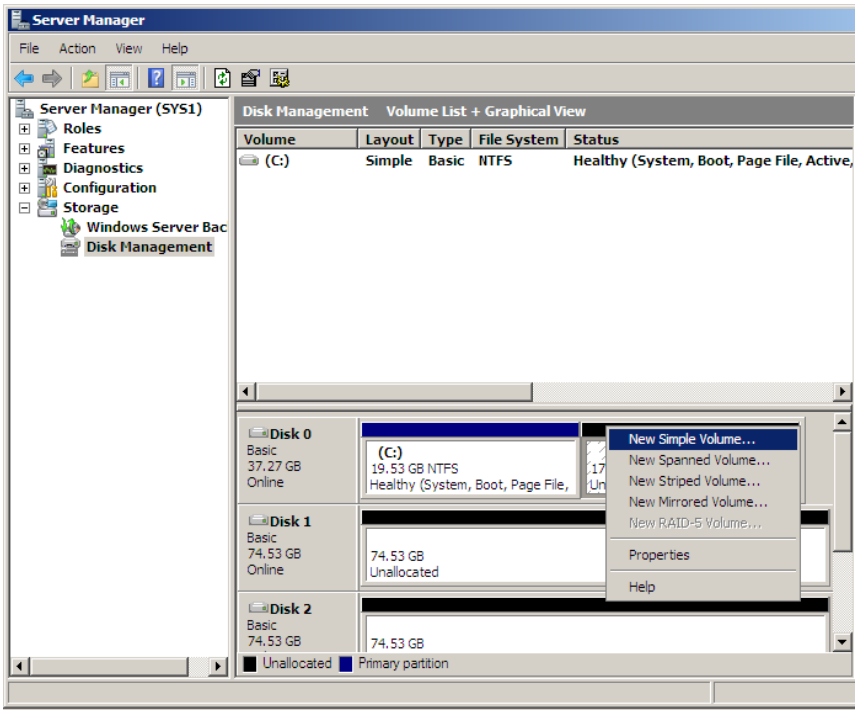
Lab – 3: Creating Simple Volume

1. Right click on **Computer →Manage**.

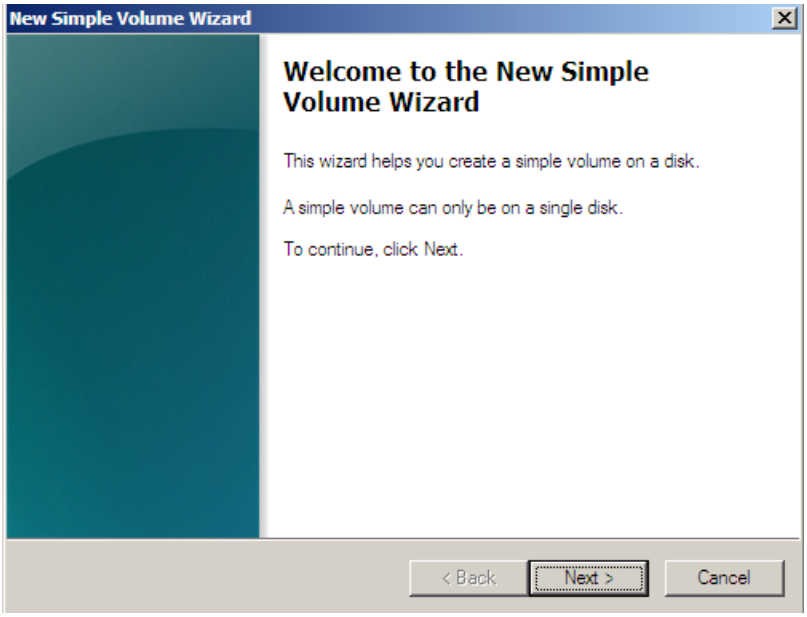


2. Expand Storage, Select **Disk Management**.

3. Right-click the **unallocated space on dynamic disk →**click **New Simple Volume**.

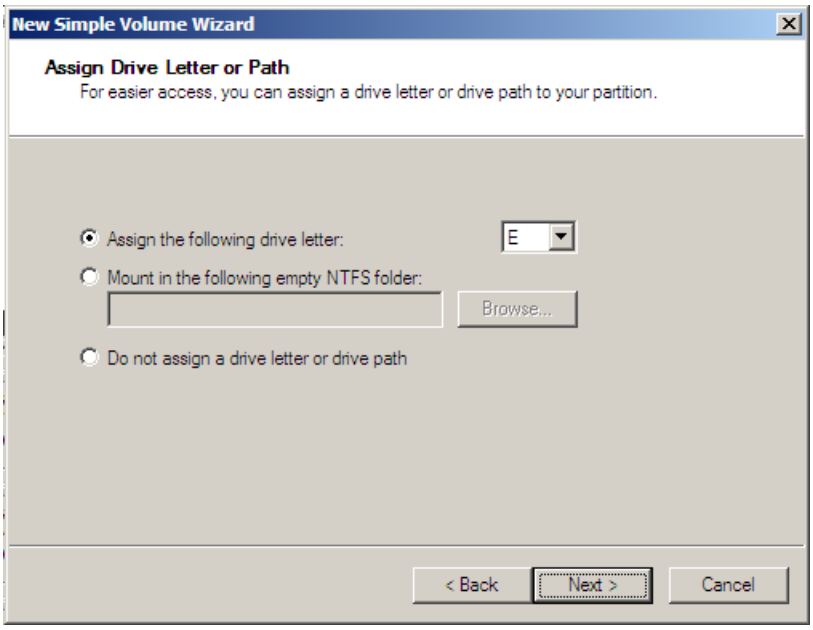


4. Click **Next**.

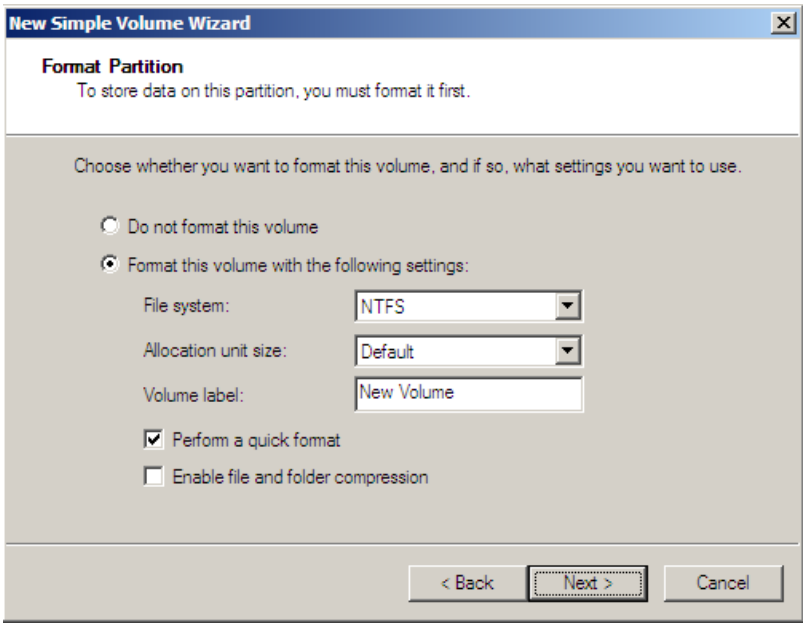


5. Select the dynamic Disk you want to use, and then click **add** →Assign the Disk Space for the Simple Volume

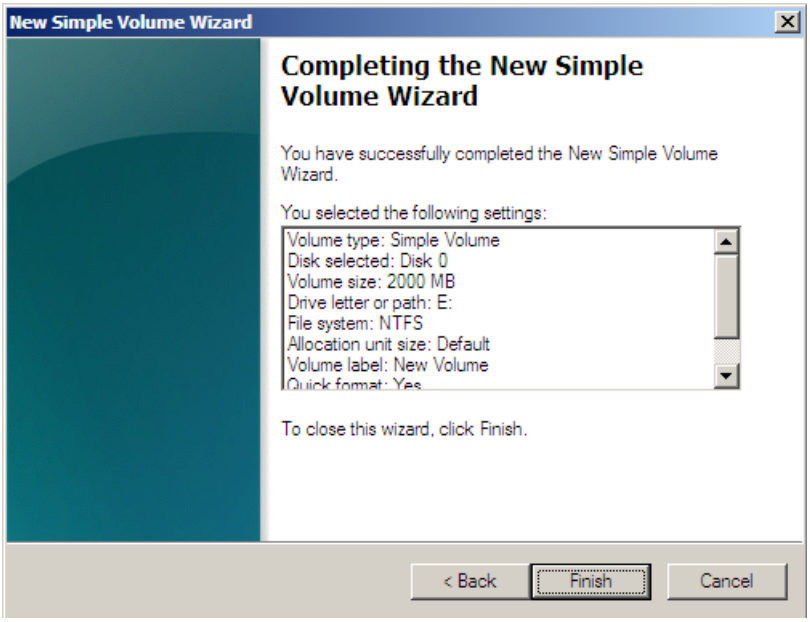
6. Assign **Drive Letter** →click **Next**



7. Select the file system as **NTFS** to format →Select **Perform a Quick Format** →click **Next**



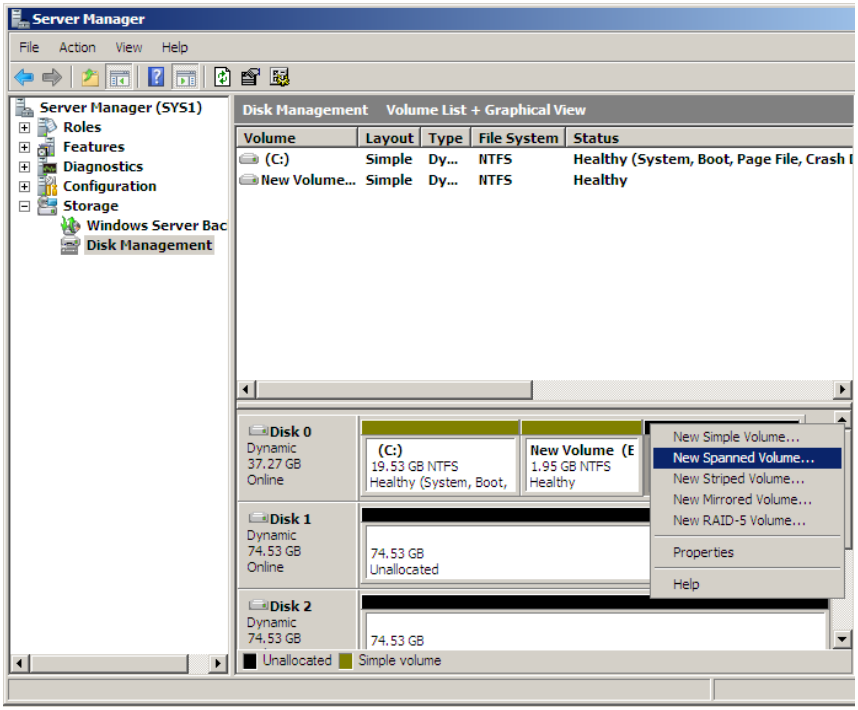
8. Click **Finish.**



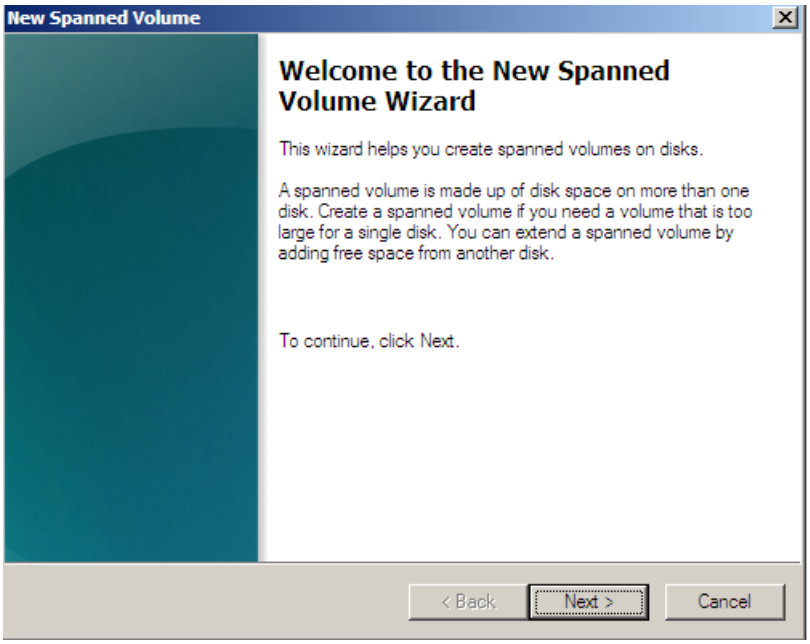
9. Simple **Volume is created.**

Lab – 4: Creating Spanned Volume

1. Right click on **Computer →Manage →**Expand Storage **→Disk Management**.
2. Right-click the unallocated space on the dynamic disk on which you want to create **Spanned volume** and then click **New Spanned Volume**.

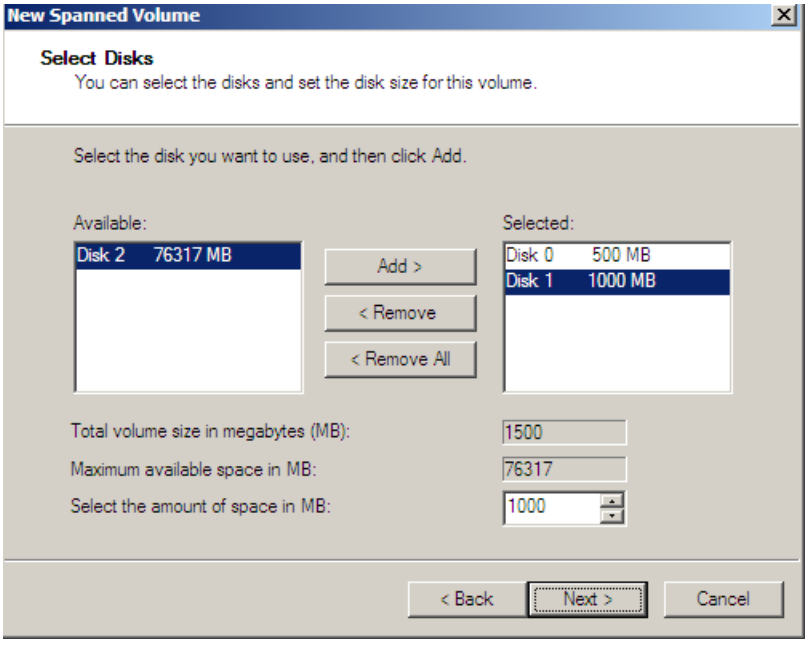


3. Click **Next.**

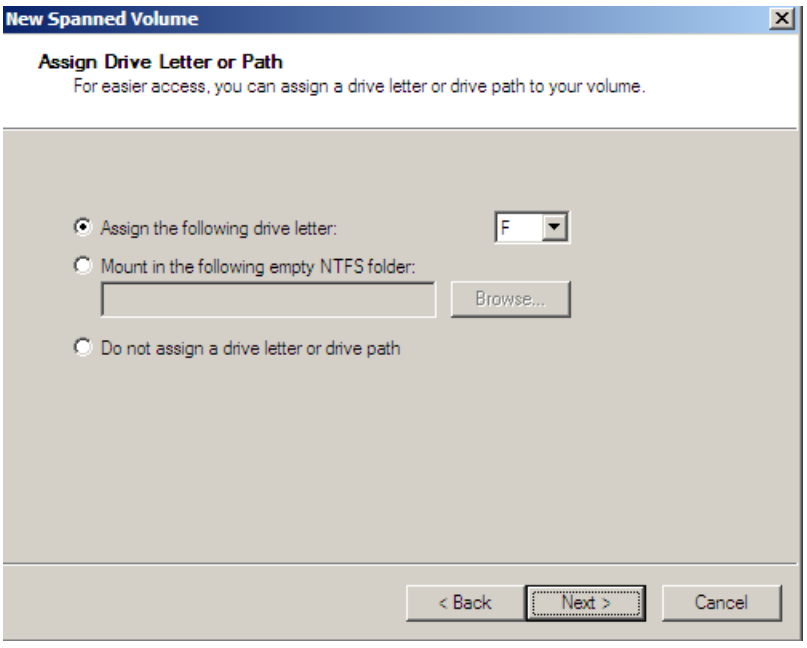


4. Select the dynamic Disk you want to use, and then click **add**

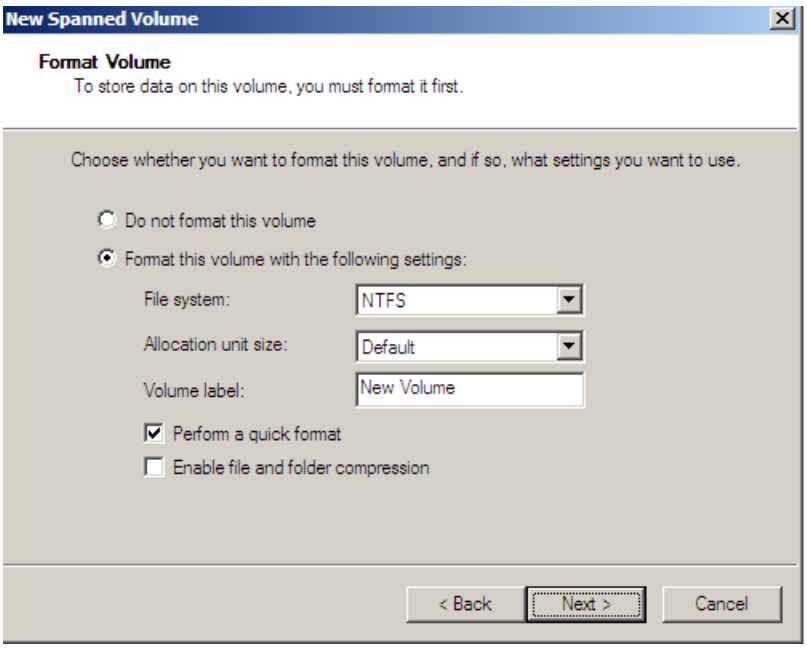
5. Assign the Disk Space for the Spanned Volume for both disks →click **Next**



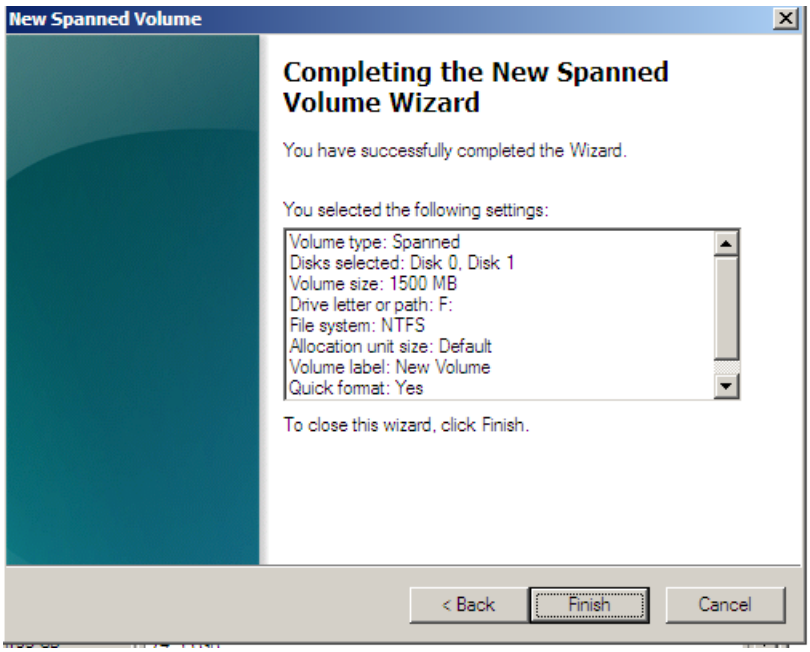
6. Assign Drive Letter →click **Next.**



7. Select the file system as **NTFS** →Select **Perform a Quick Format** →click **Next.**



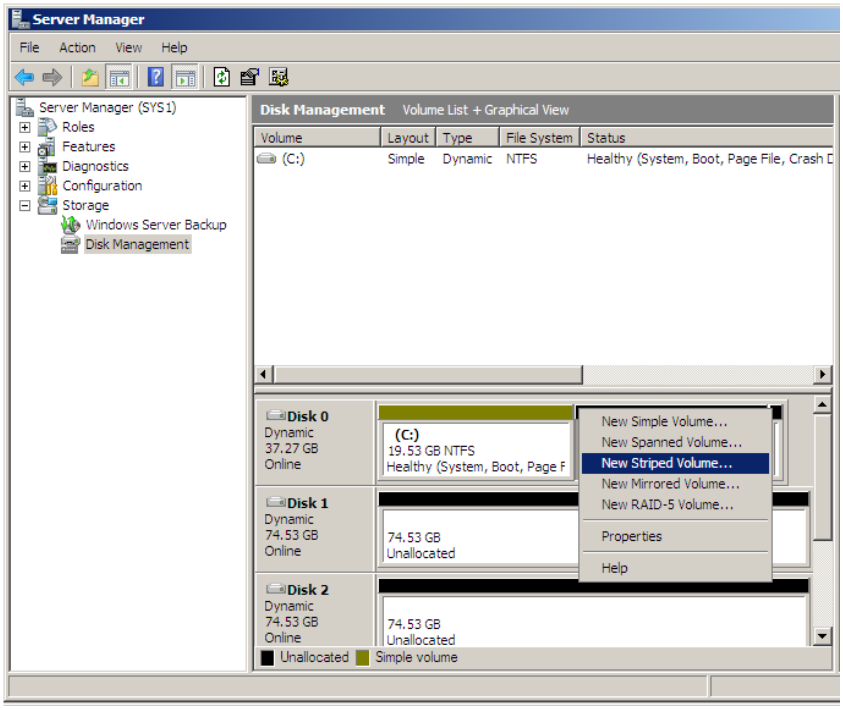
8. Click **Finish**.



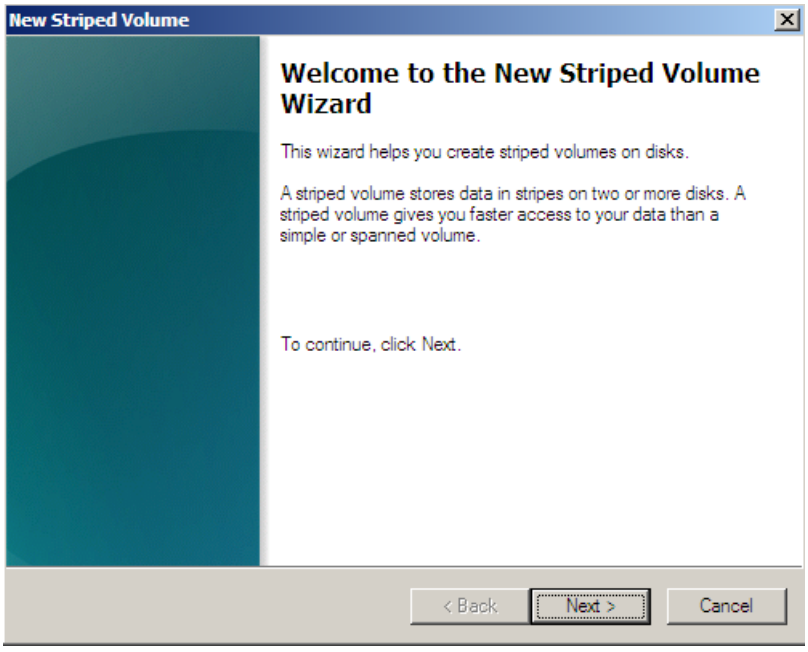
9. Spanned Volume is created

Lab – 5: Creating Striped Volume

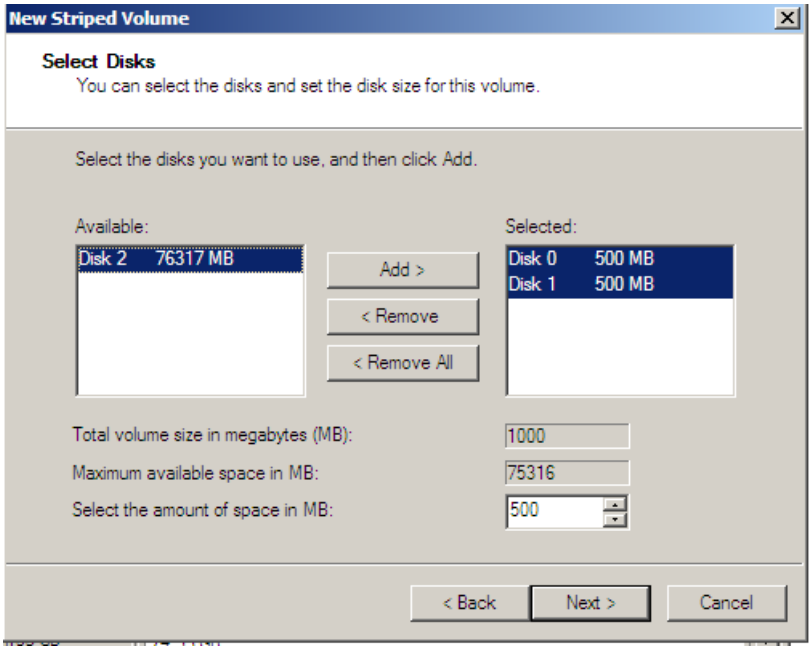
1. Right click on Computer →**Manage** →Expand Storage →**Disk Management** →Right-click on **unallocated space in dynamic disk** →click **New Striped Volume**.



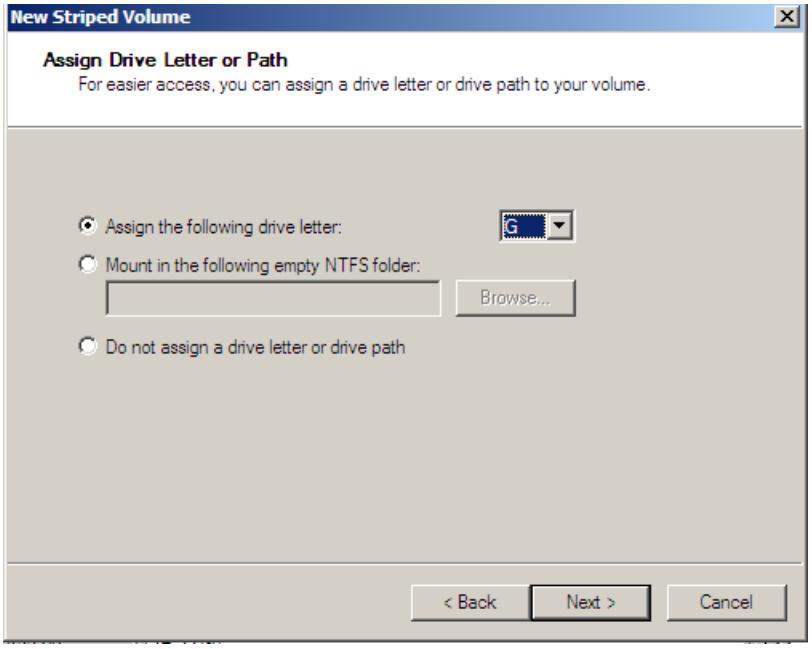
2. Click **Next.**



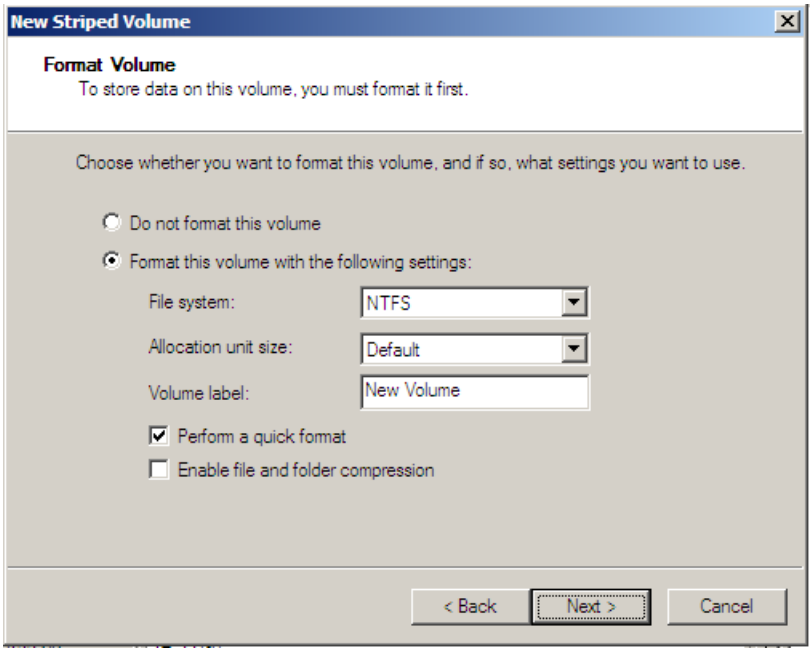
3. Select the dynamic disk you want to use and then click **add** → assign the **Disk Space** for the **Striped Volume for both disks** →click **Next.**



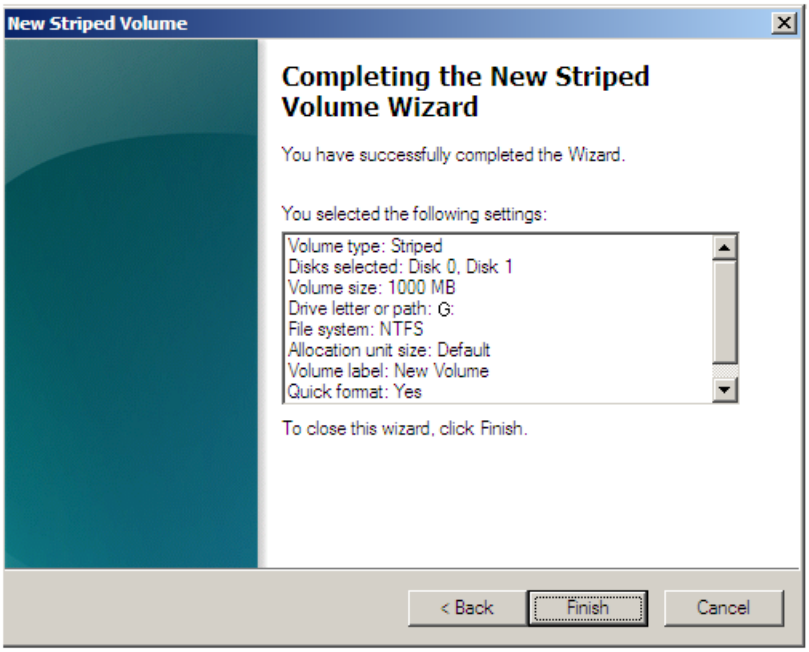
4. Assign Drive Letter →click **Next.**



5. Select the file system as **NTFS** →Select **Perform a Quick Format** →click **Next.**



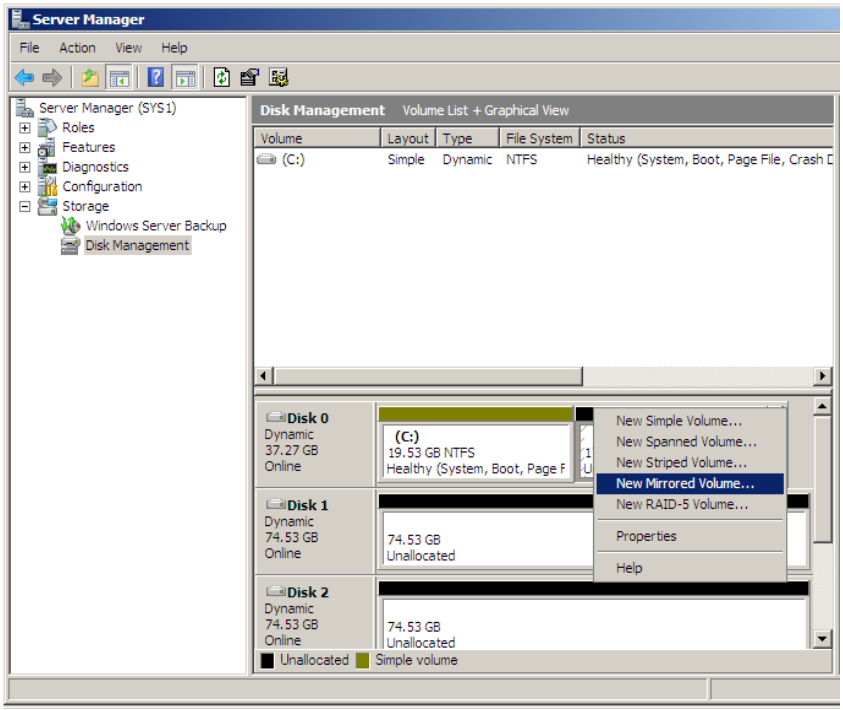
6. Click **Finish.**



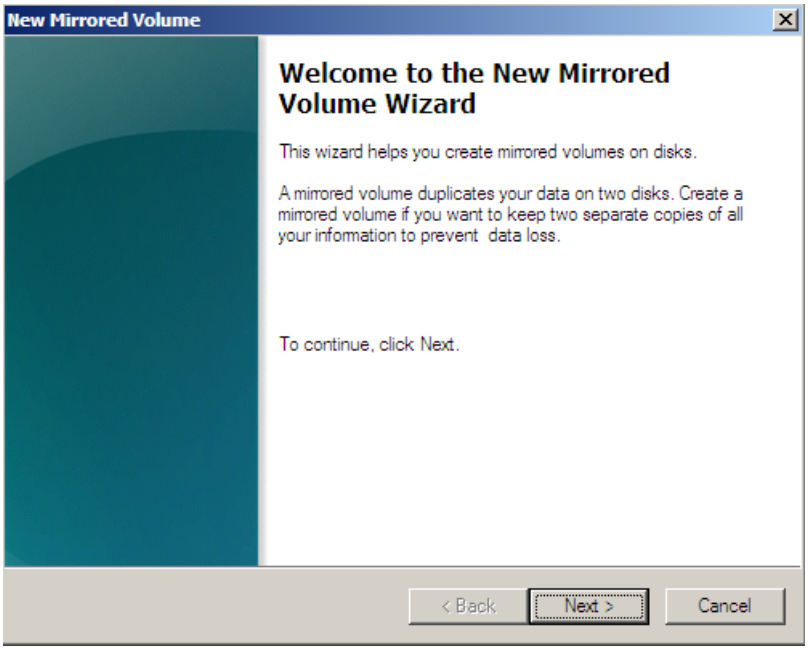
7. A Stripped Volume is created.

Lab – 6: Creating Mirrored Volume

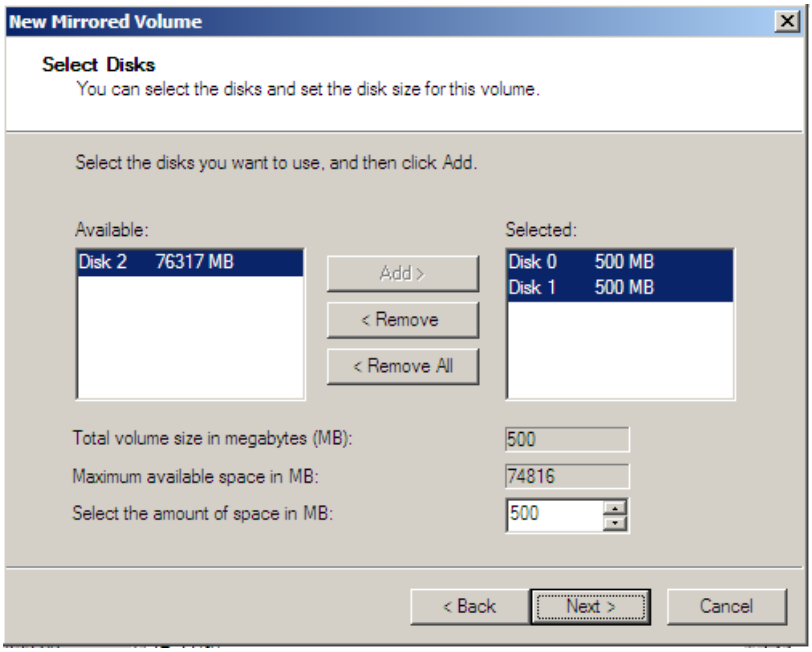
1. Right click on Computer →**Manage** →Expand Storage →**Disk Management** →Right click on **unallocated space on dynamic disk** →click **New Mirrored Volume**.



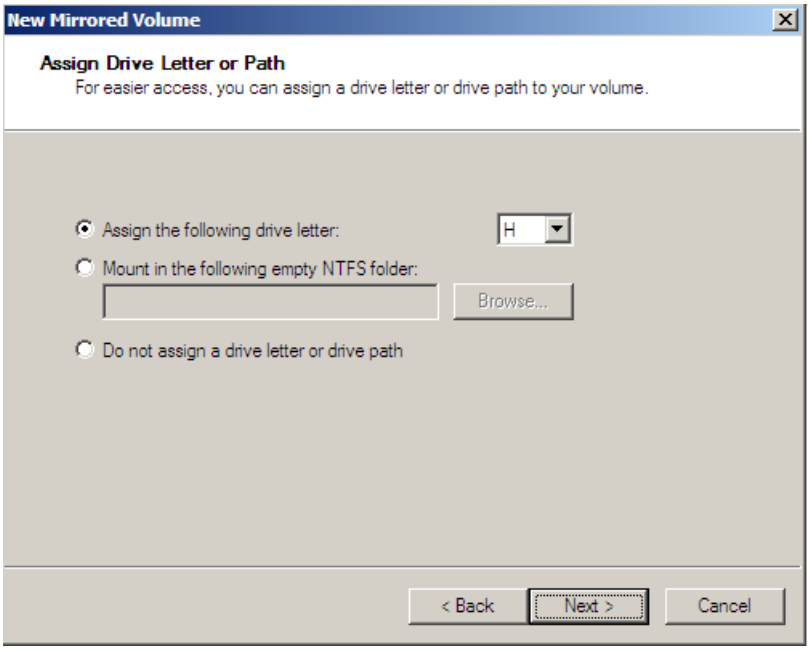
2. Click **Next**



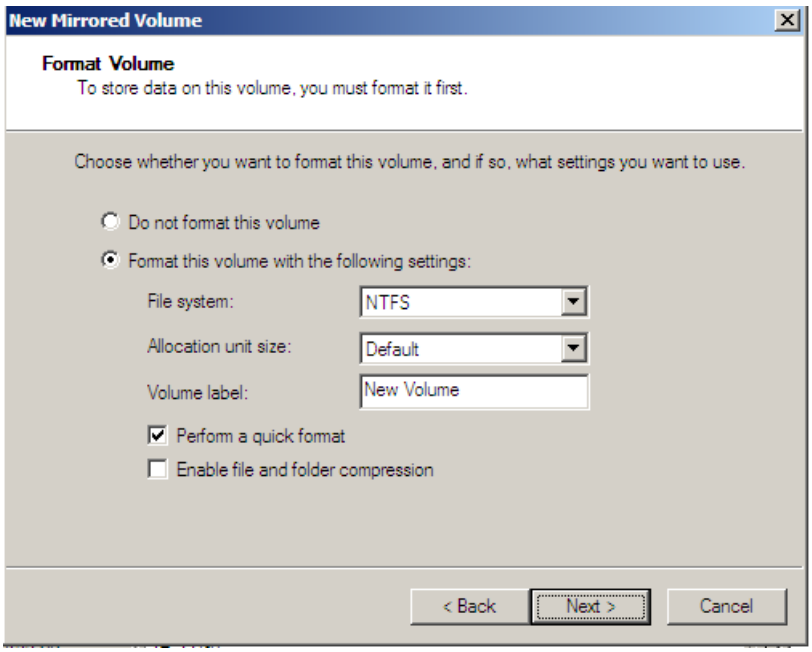
3. Select the **dynamic disk** You want to use, and then **click add** →Assign the **Disk Space** for the Mirrored Volume for **both disks (**Ex: **500)**→click **Next**



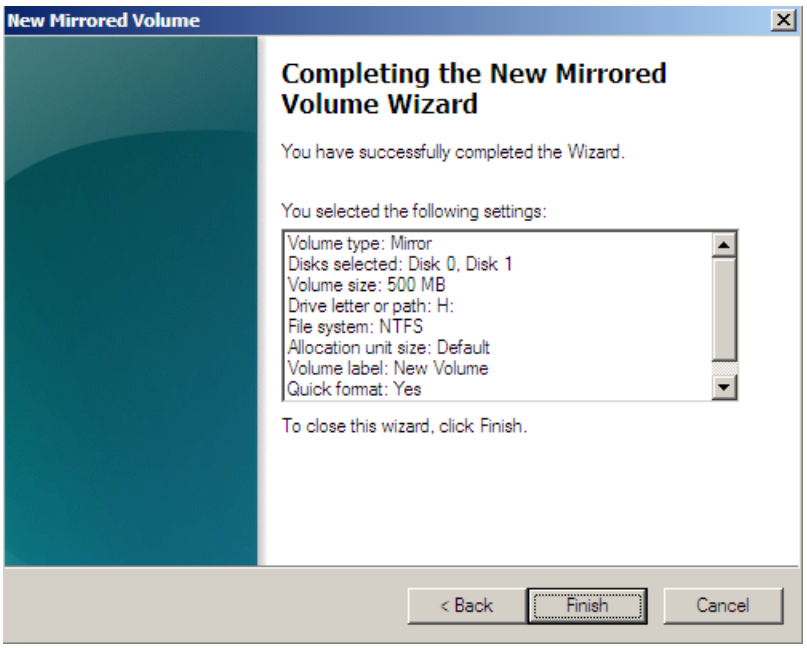
4. Assign Drive Letter →click **Next**



5. Select the file system as **NTFS** →Select **Perform a Quick Format** →click **Next.**



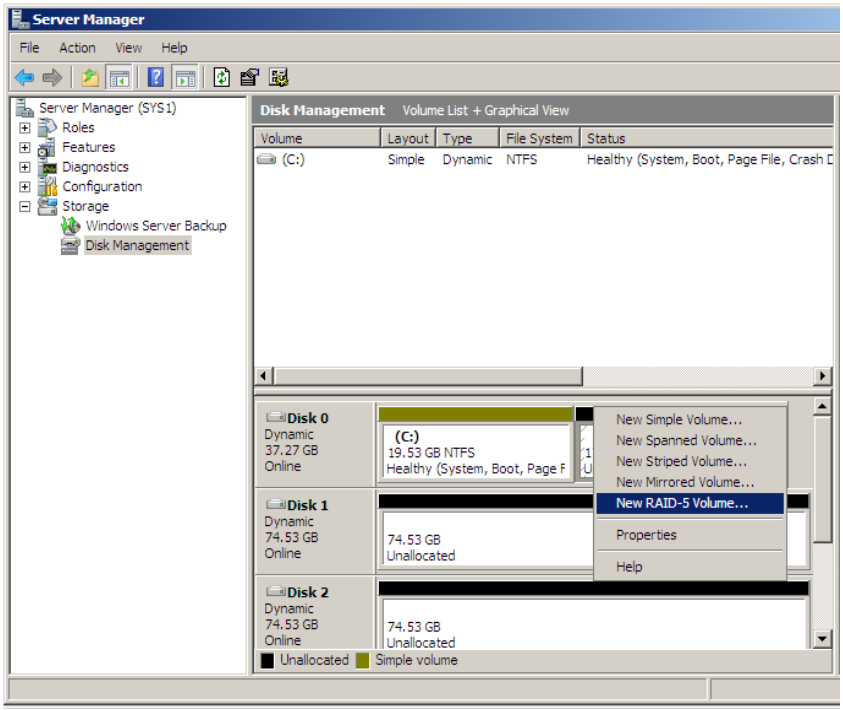
6. Click **Finish.**



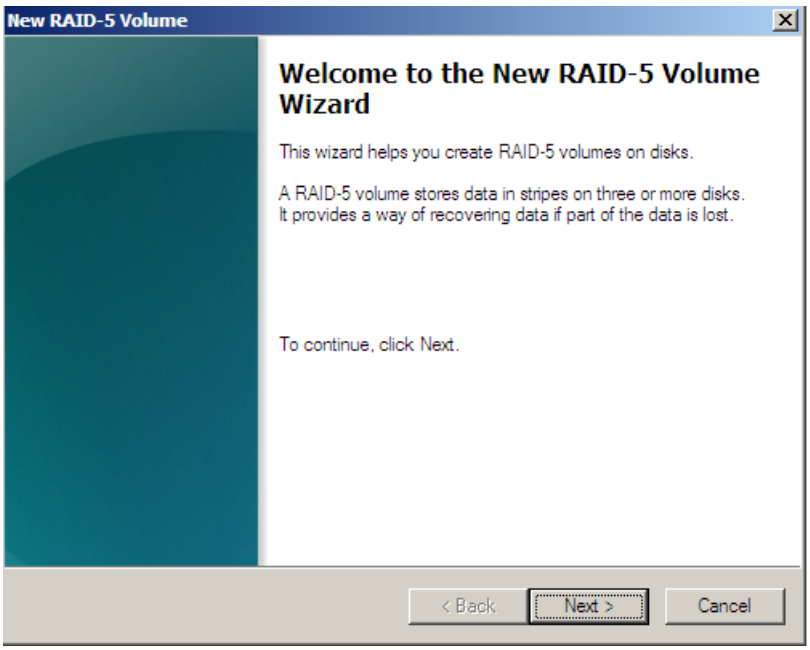
7. The mirrored Volume is created.

Lab – 7: Creating RAID-5 Volume

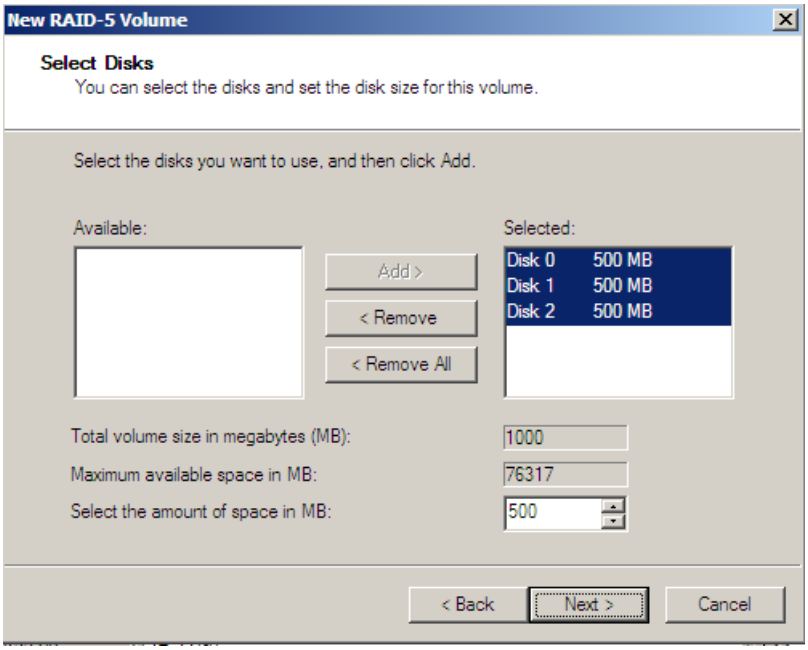
1. Right click on Computer →**Manage** → Expand Storage →**Disk Management** →Right click on **unallocated space** on the **dynamic disk** →click **New Raid5 Volume**.



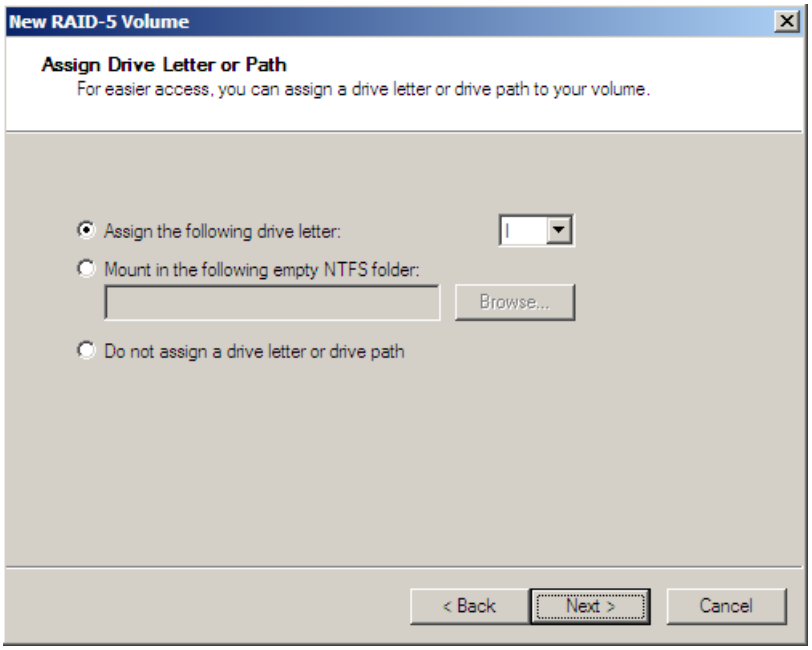
2. Click **Next**.



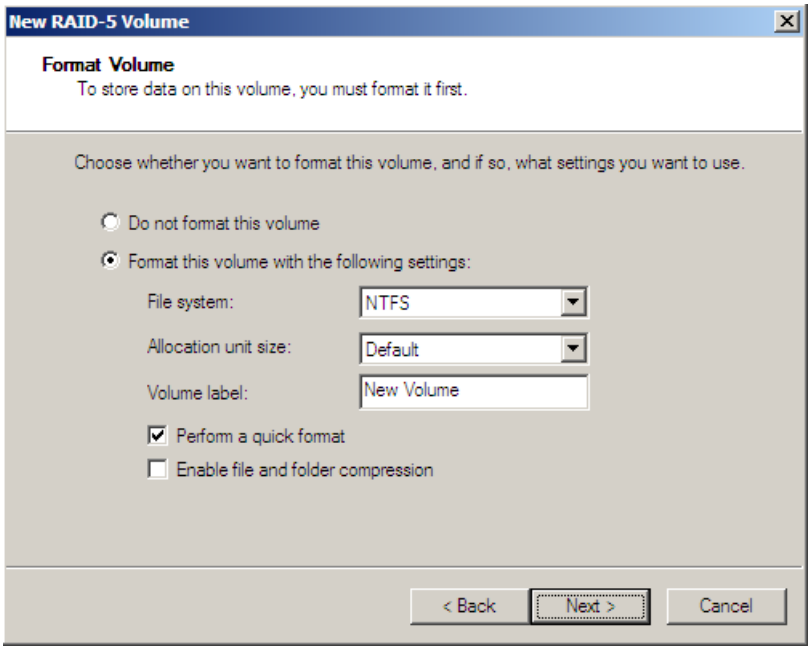
3. Select the dynamic disks you want to use, and then click **Add** →Assign the **Disk Space** for the **RAID 5** Volume for all disks (Ex: 500)→click **Next.**



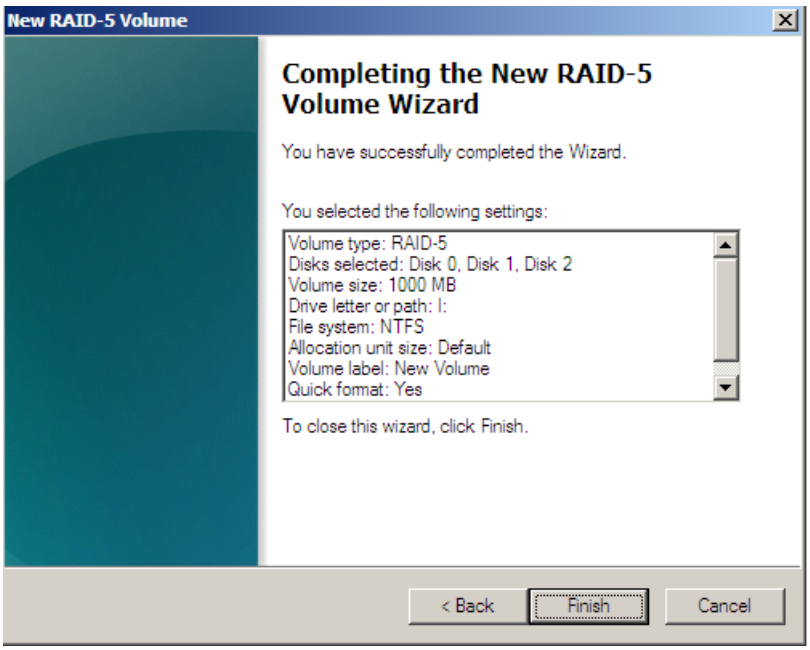
4. Assign Drive Letter →click **Next.**



5. Select the file system as **NTFS** →Select **Perform a Quick Format** →click **Next.**



6. Click **Finish.**



7. The RAID-5 Volume is created.

SERVER CORE AND DATA BACKUP

INSTALLING WINDOWS 2008 SERVER CORE OPERATING SYSTEM

Prerequisites:

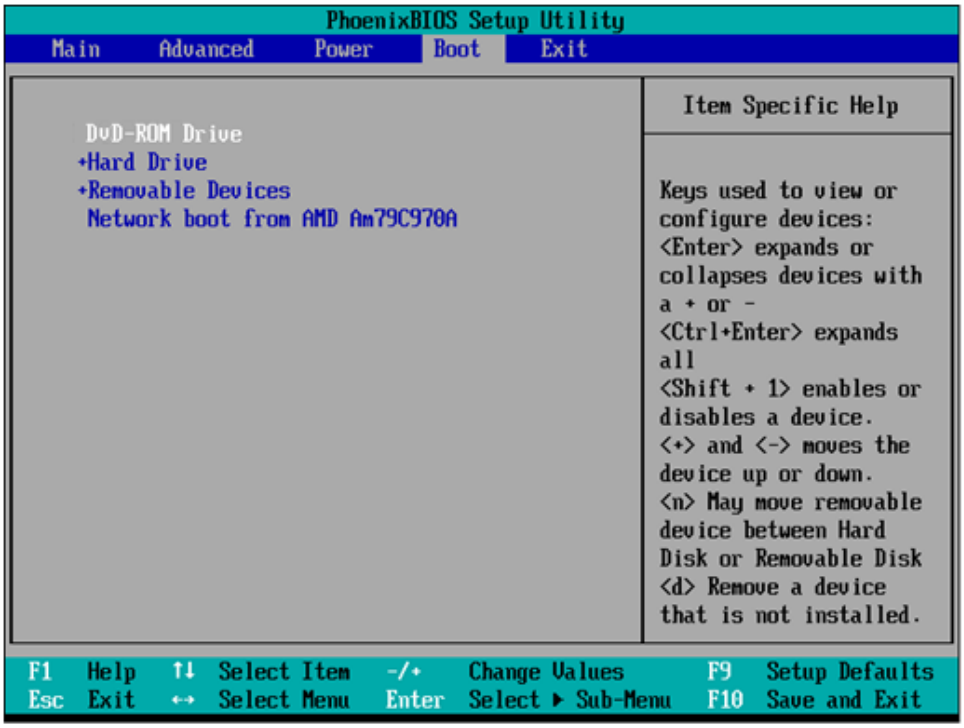
Before working on this lab, you must have

1. A Computer and Windows Server 2008 Operating System DVD.

Lab – 1: Installing Windows 2008 Server Core Operating System

1. Restart the System and go to **BIOS**.

2. Set the First Boot Device as **DVD ROM**.



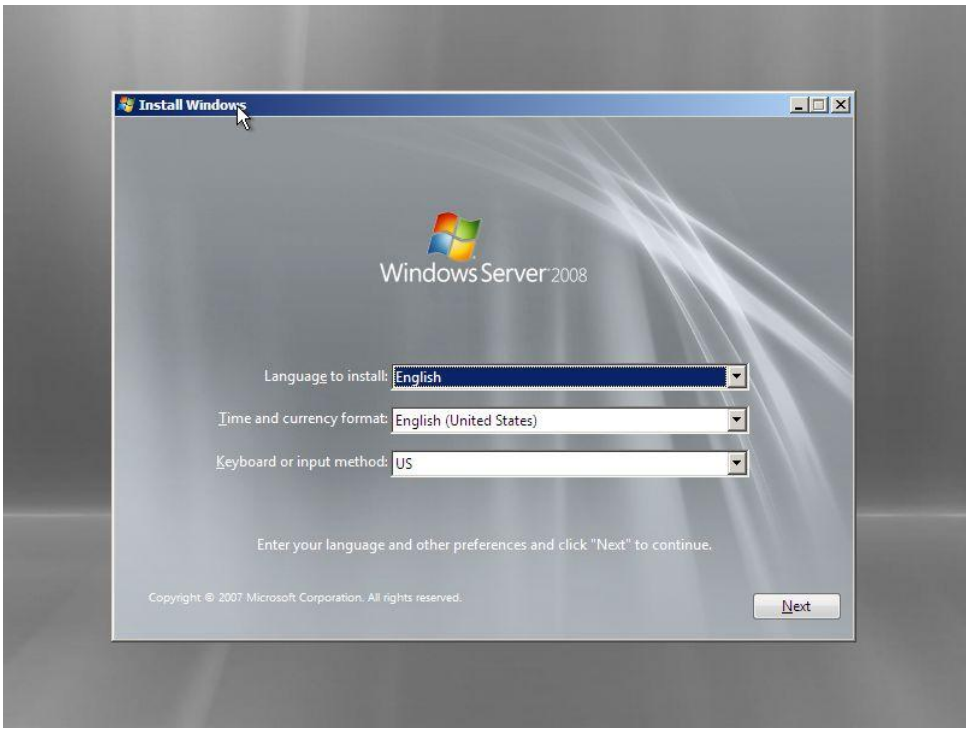
3. Save the settings by Pressing **F10** and click **YES**.

4. Insert **Windows Server 2008DVD** and Restart the system.

5. **Press any key to boot from the CD or DVD**.

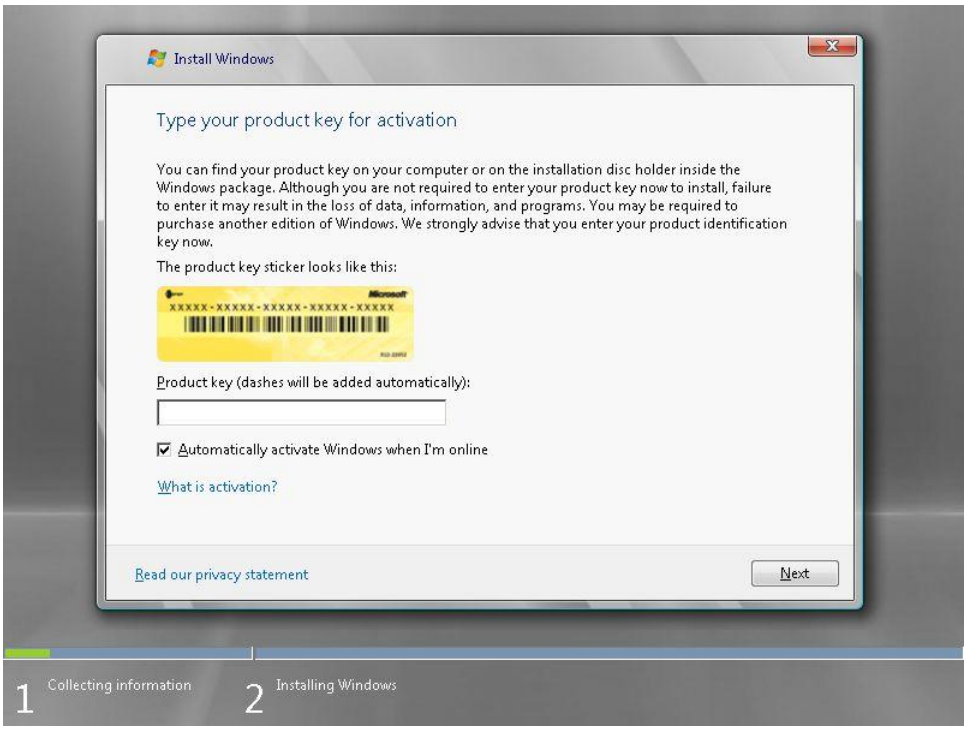
6. System copies the files from DVD.

7. Select the language to install **English**.



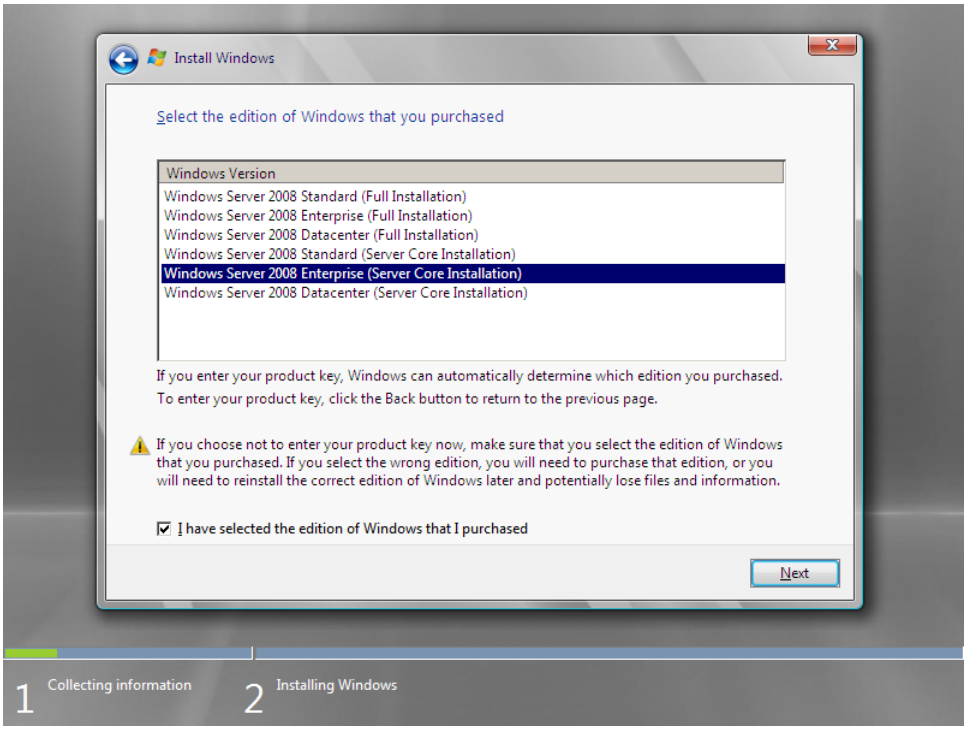
8. Click **Install now.**

9. Leave the Product Key blank, and click **Next.** (Product key can be entered later.)

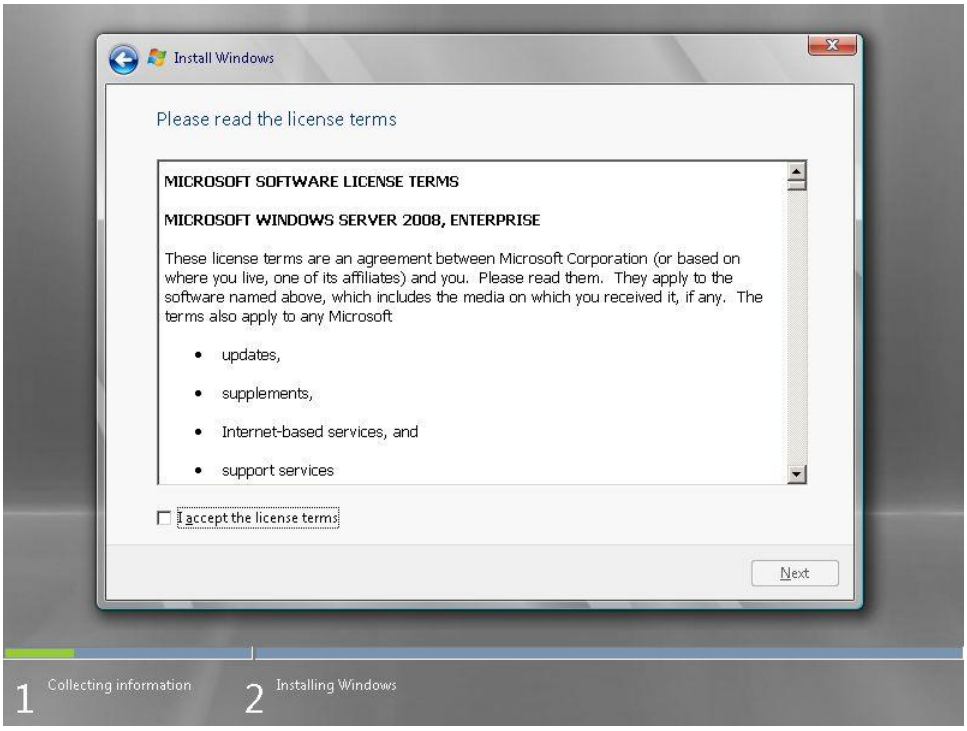


10. Click **NO**.

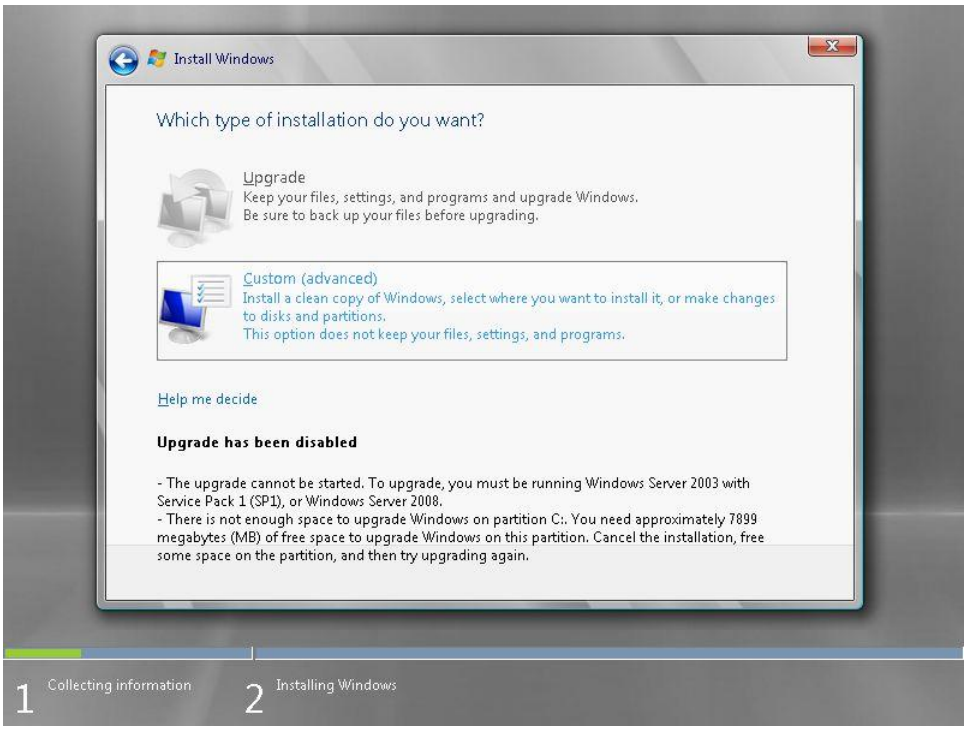
11. Select the edition of Windows-**Windows Server 2008 Enterprise (Server Core Installation)** and check the box **I have selected the edition of windows that I purchased**.



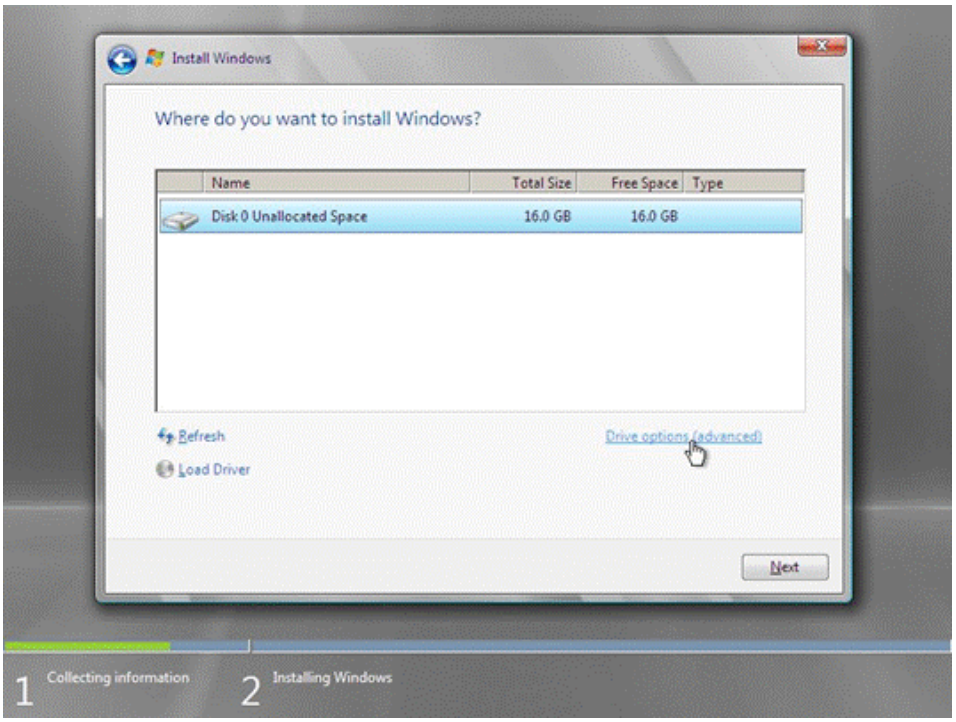
12. Check the box **I accept the license terms**



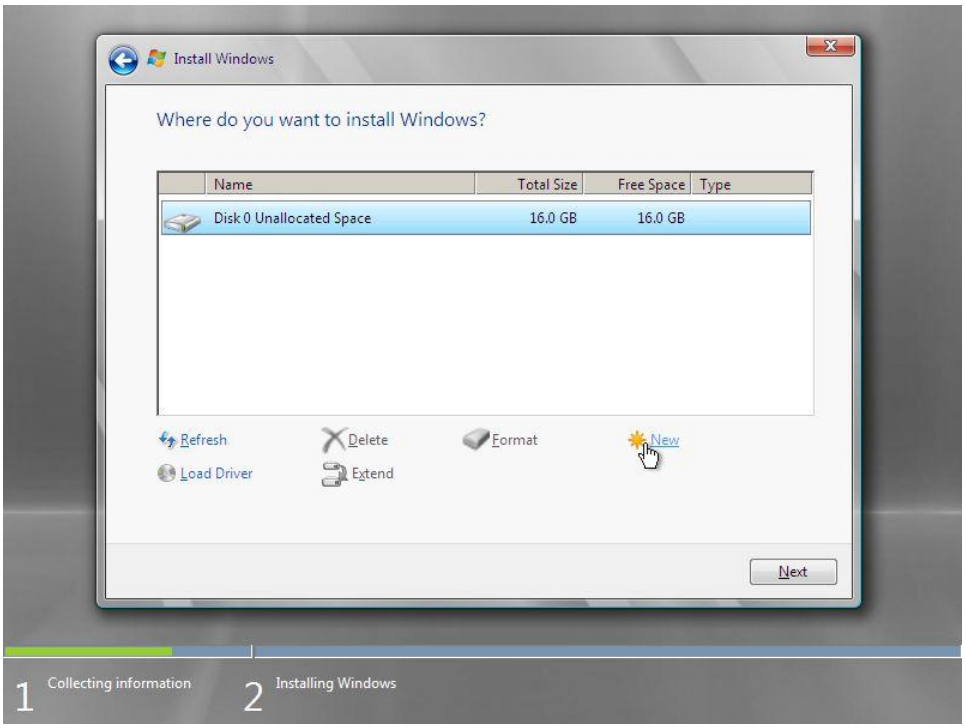
13. Select **Custom Installation**.



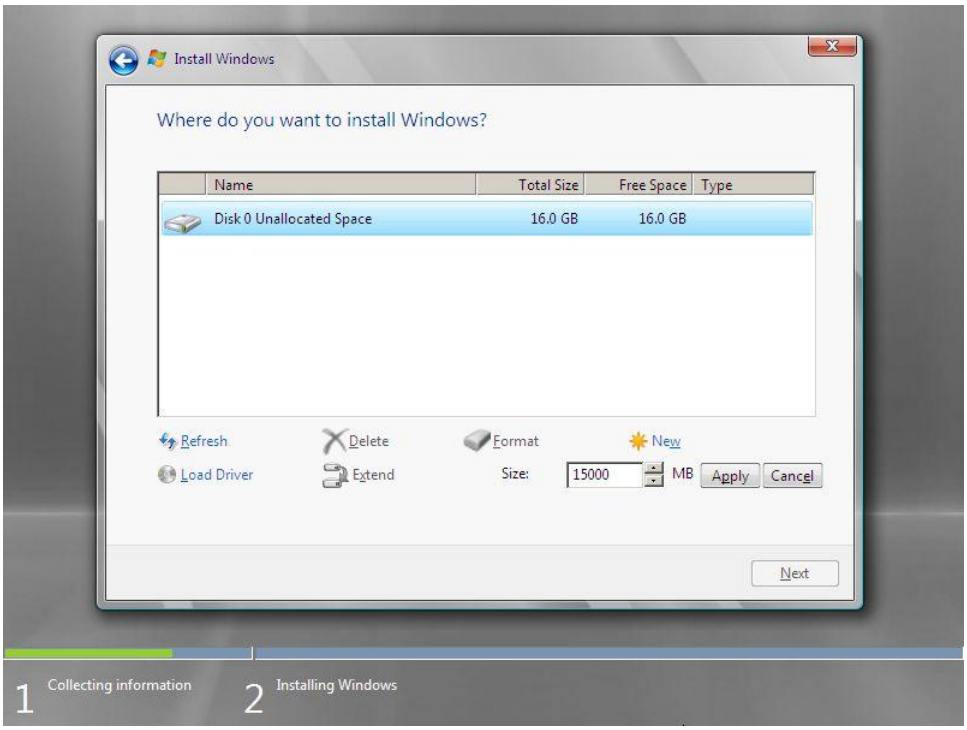
14. Click **Drive options.**



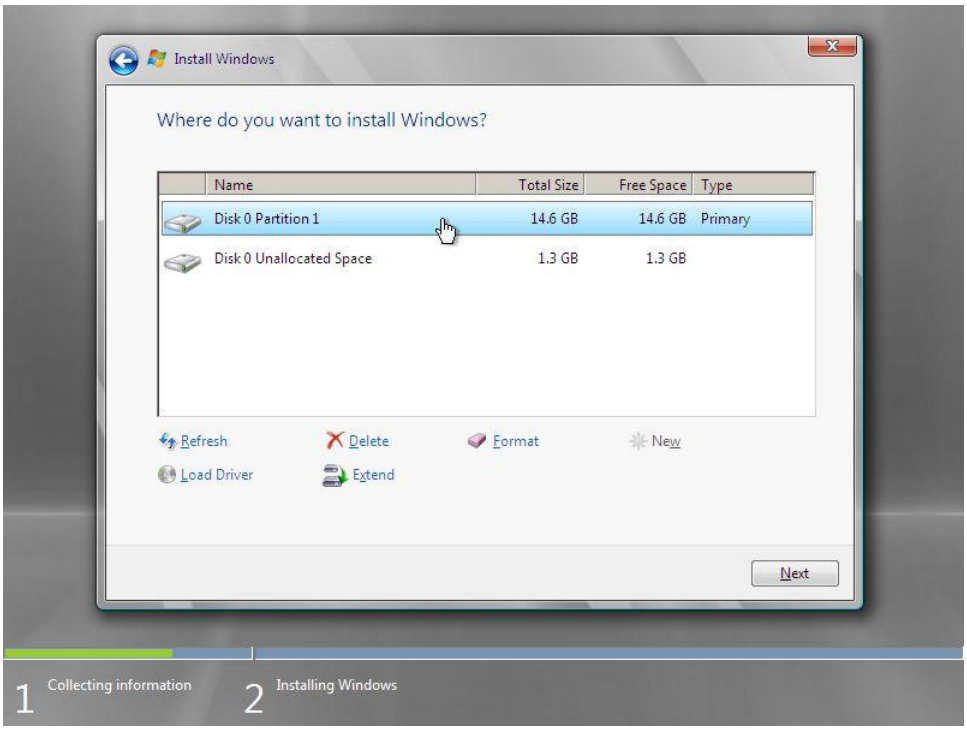
15. Select Unallocated Space and click **New.**



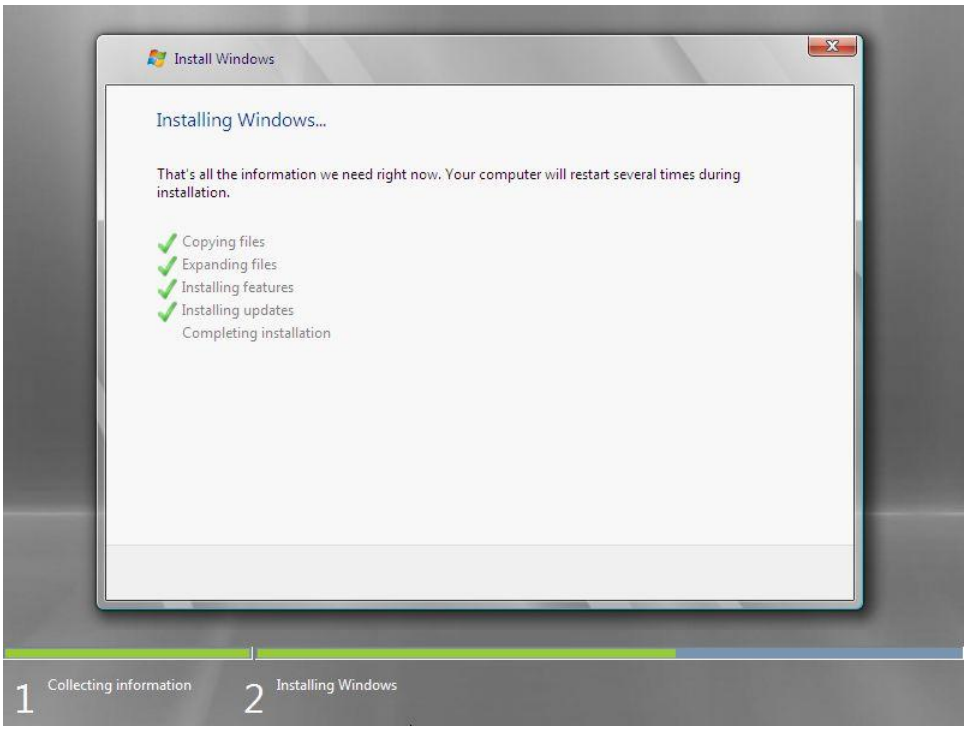
16. Enter the size for the partition, and click **Apply**.



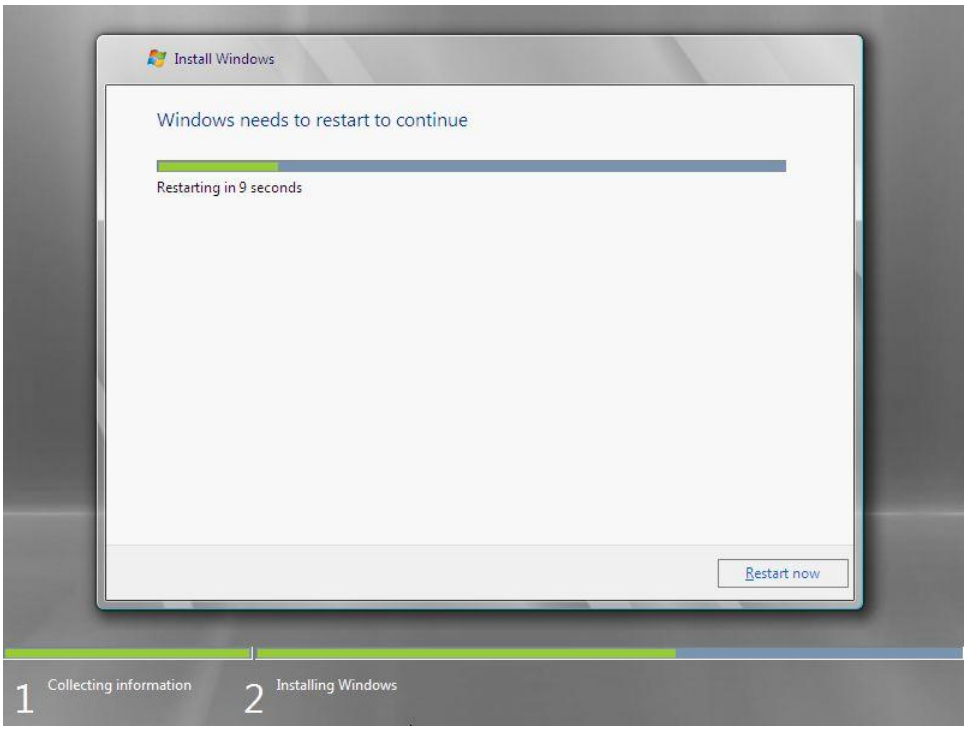
17. Select the **Partition** and click **Next**.



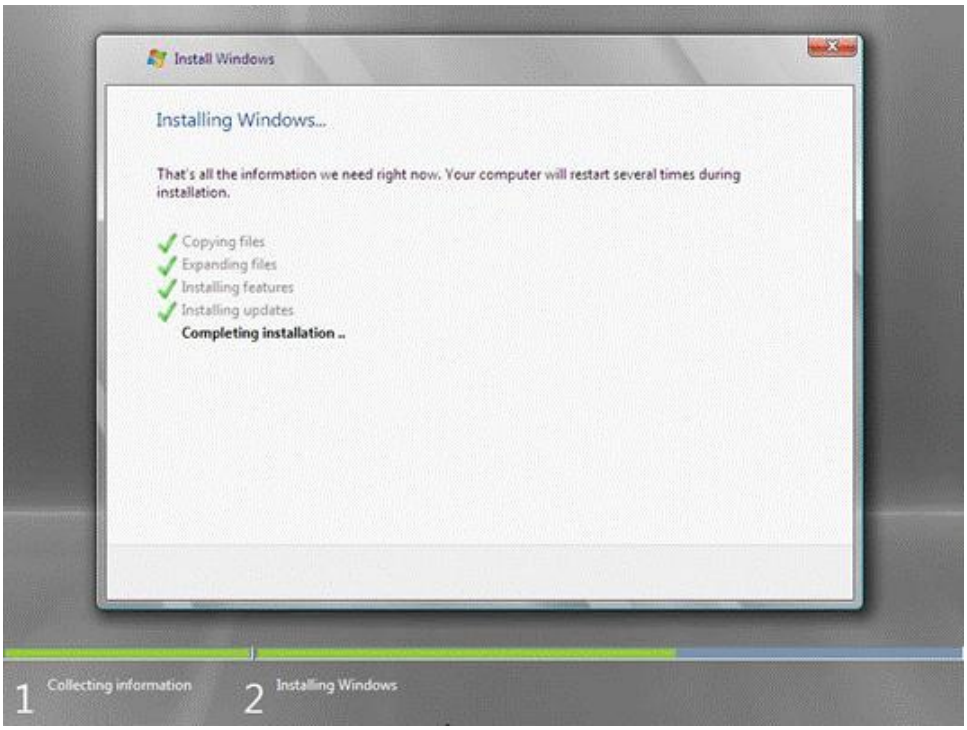
18. Windows Installation will Start.



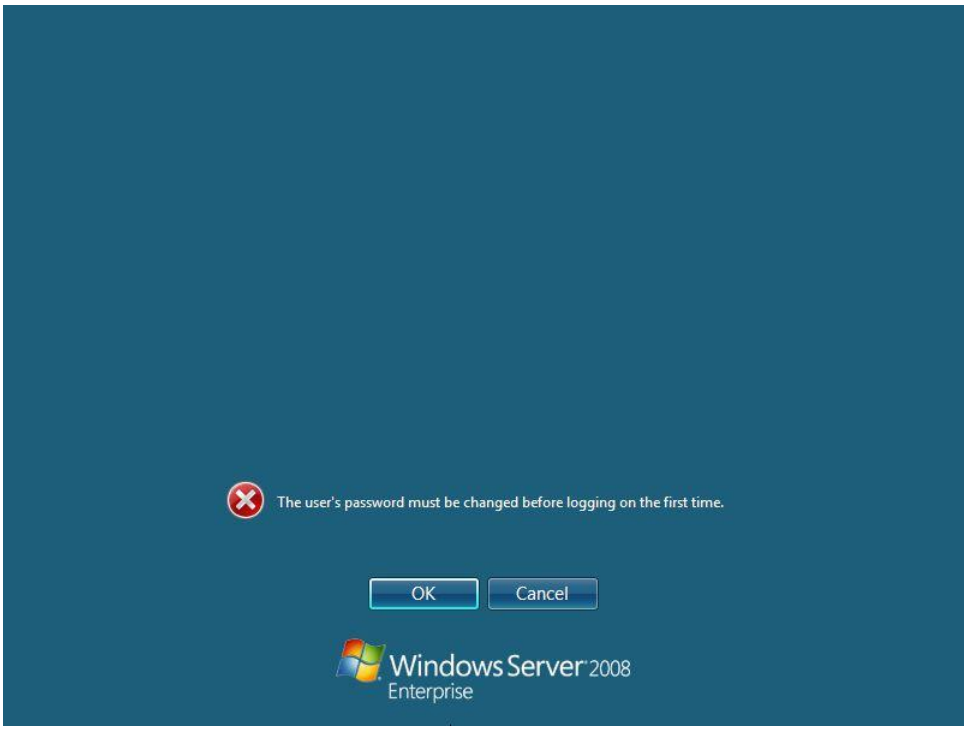
19. System Restarts.



20. Completes the Installation, and system will be restarted.

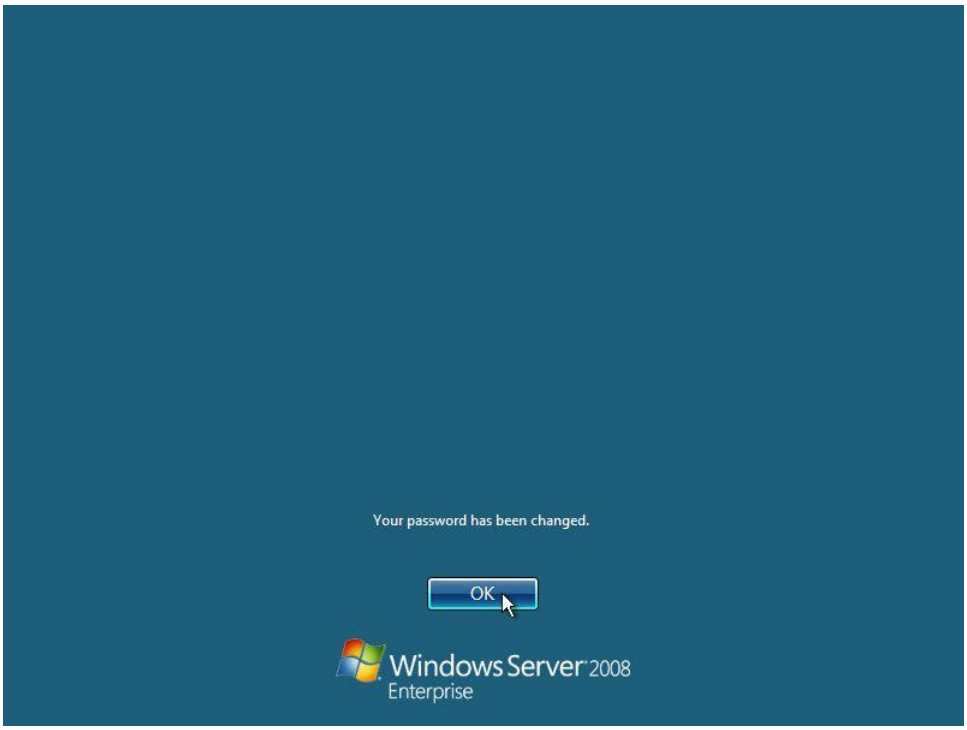


21. Click **OK,** (User's password must be changed before logging on the first time.)

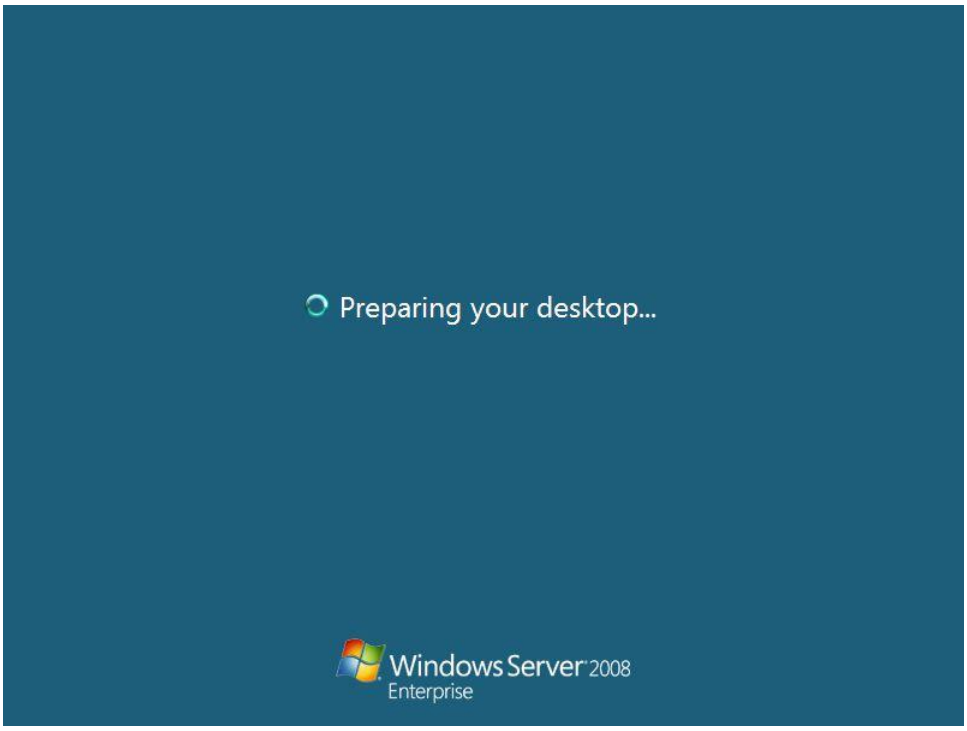


22. Enter the **New Password** and **Confirm the password** and Press **Enter**.

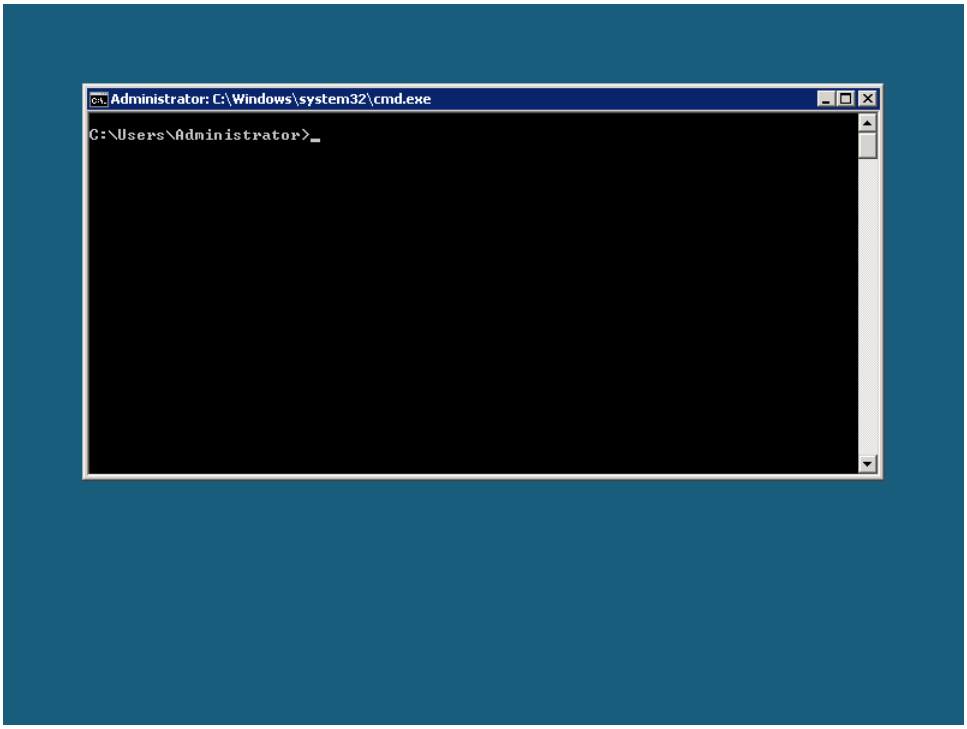
23. Click **OK.** (Your password has been changed.)



24. It Prepares the Desktop**.**



25. Finally **Administrator** has logged in and the command prompt is opened for management of Server Core.

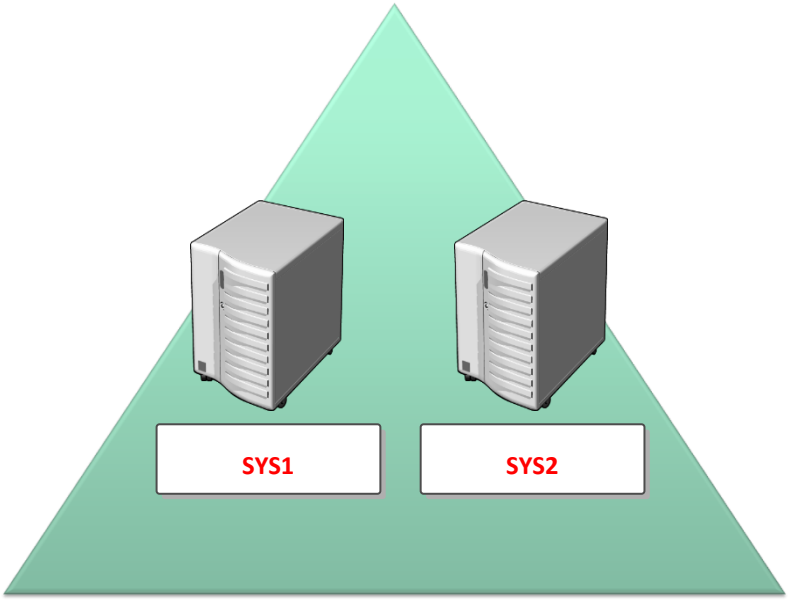


Configuring Windows 2008 Server Core

Prerequisites:

Before working on this lab, you must have

1. A computer running windows 2008 server Domain Controller.
2. A computer running windows 2008 server core.



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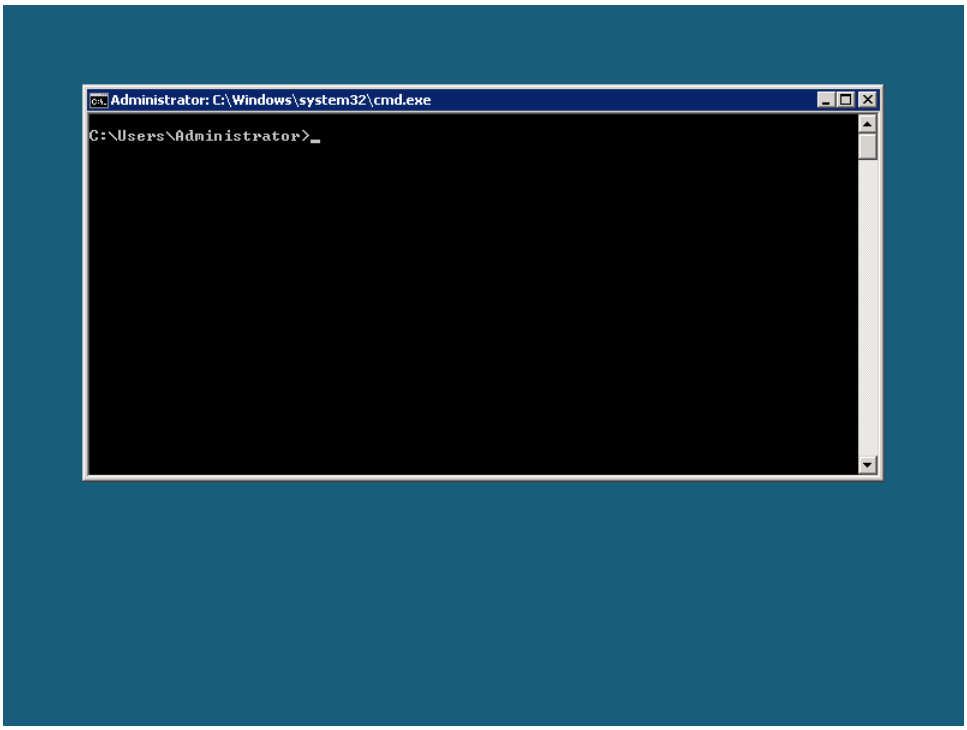
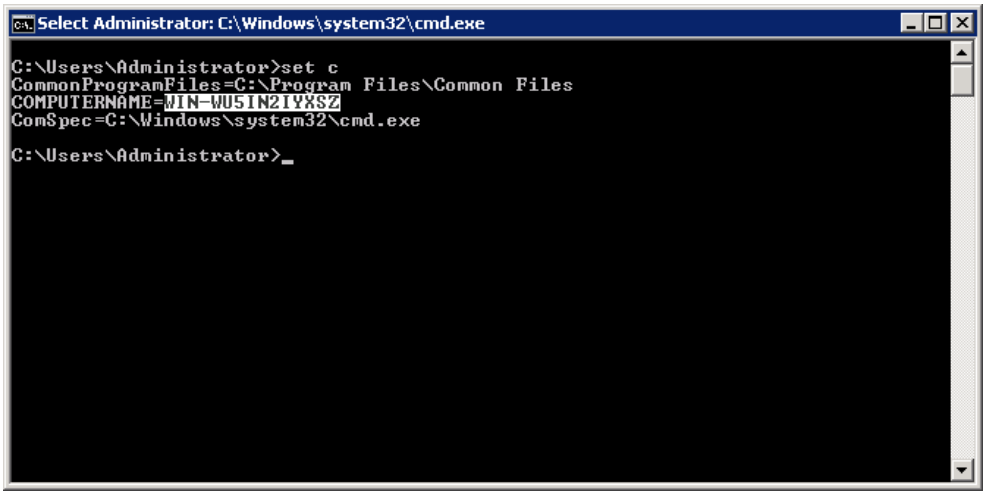
SYS1		**SYS2**	
Domain Controller / DNS Server		**Member Server with Server Core O.S**	
IP Address	10.0.0.1	IP Address	10.0.0.2
Subnet Mask	255.0.0.0	Subnet Mask	255.0.0.0
Preferred DNS	10.0.0.1	Preferred DNS	10.0.0.1

Lab – 2: Configuring Windows 2008 Server Core

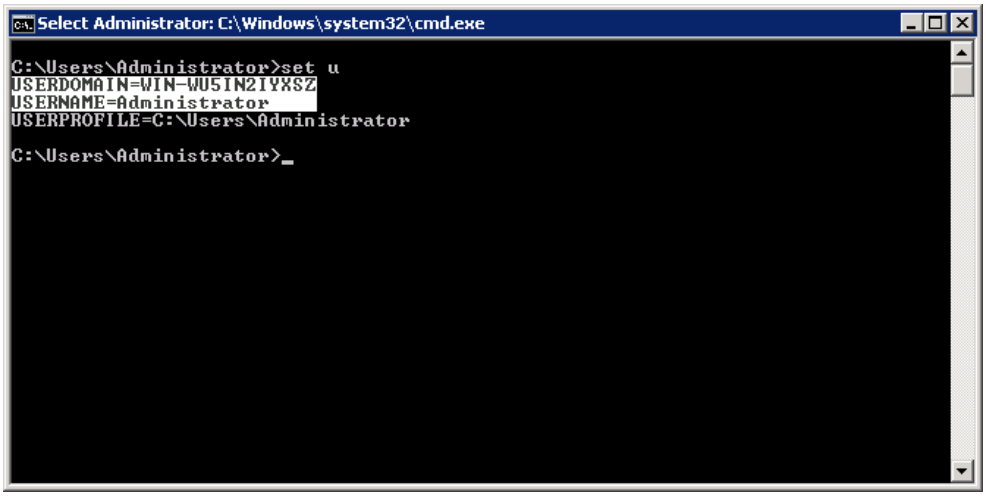
1. Login as **Administrator** on a server running **Server Core.**



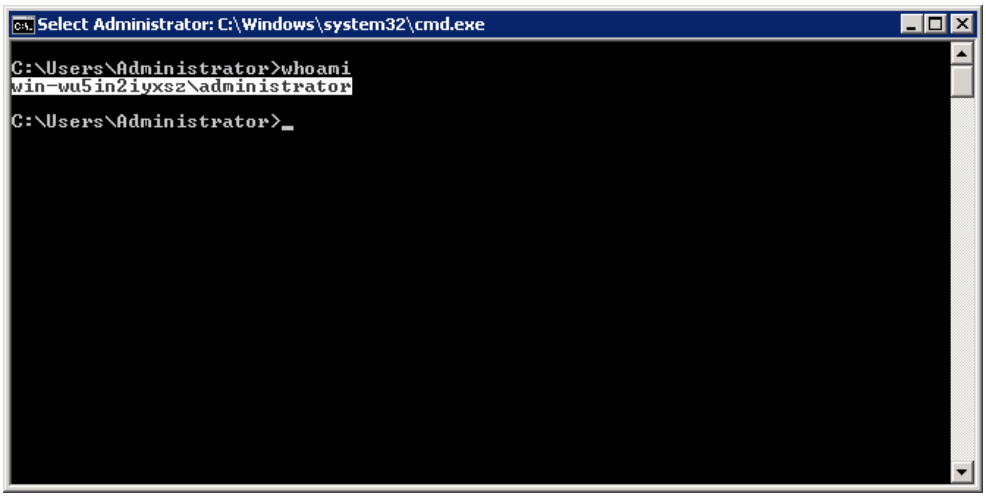
2. To view the computer name, type **set c**.



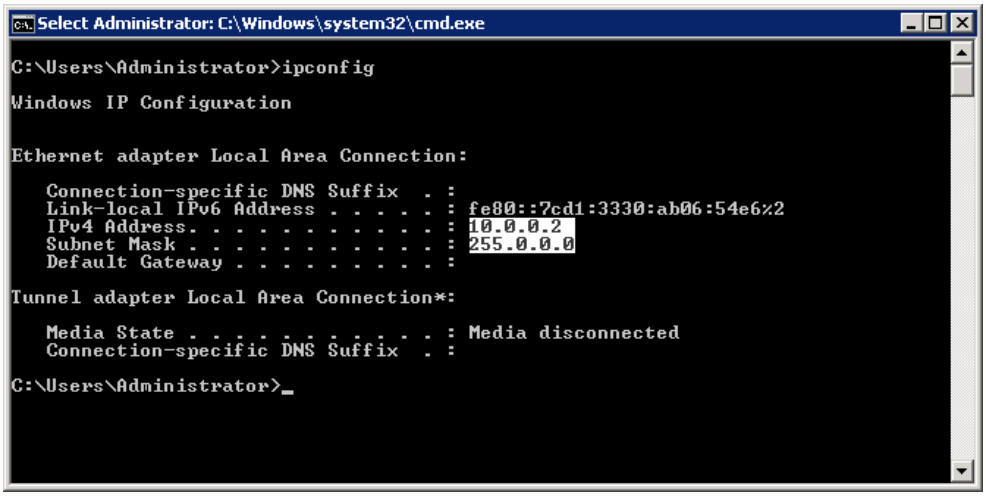
3. To view the **user name &user domain**, type **set u**.



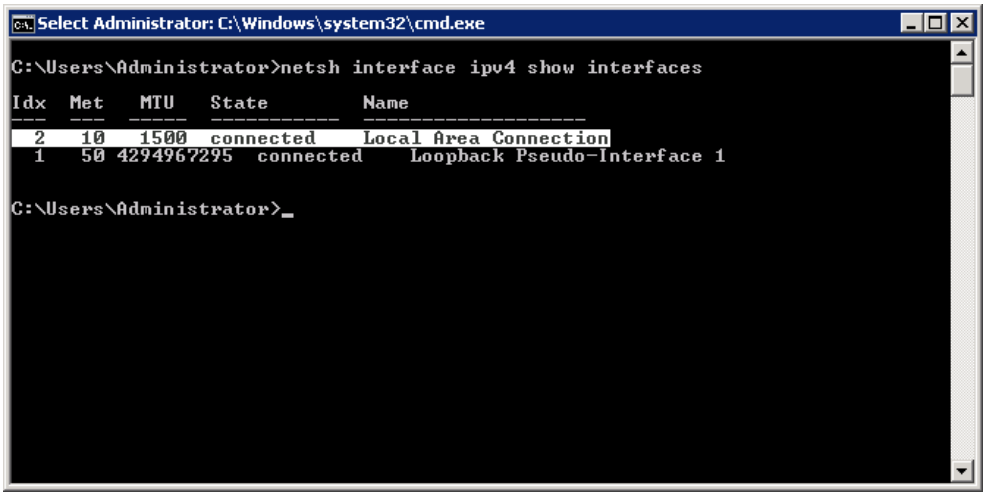
4. To view the **currently logged on account**, type **whoami**.



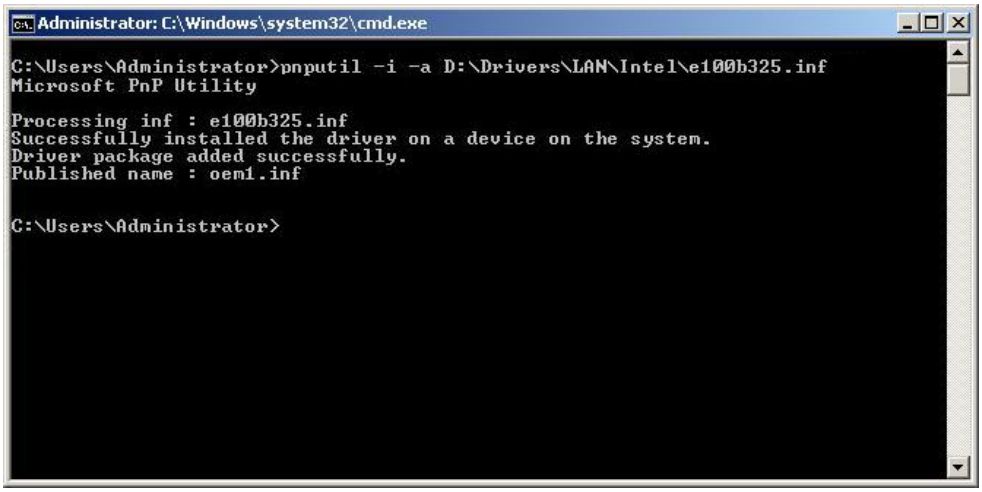
5. To View the **IP Address**, type **ipconfig**



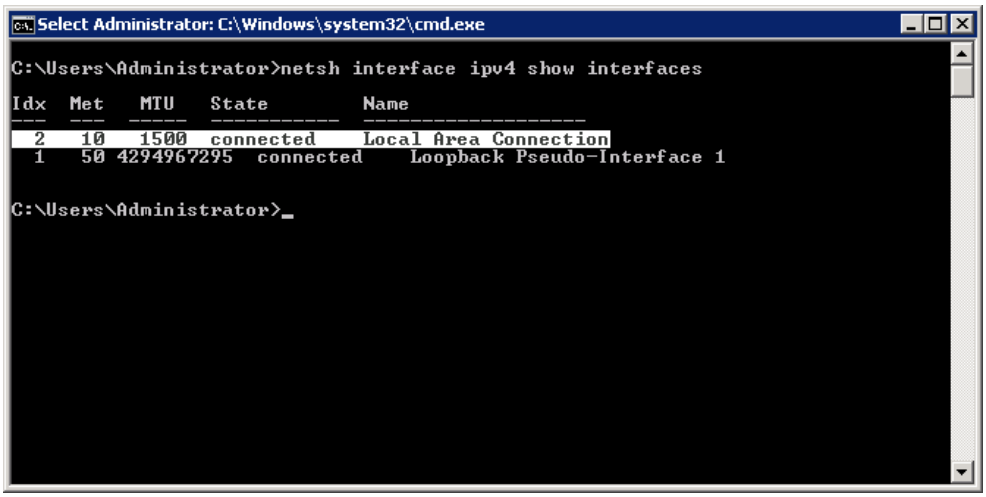
6. To view the **network interfaces**, type **netsh interface ipv4 show interfaces**.



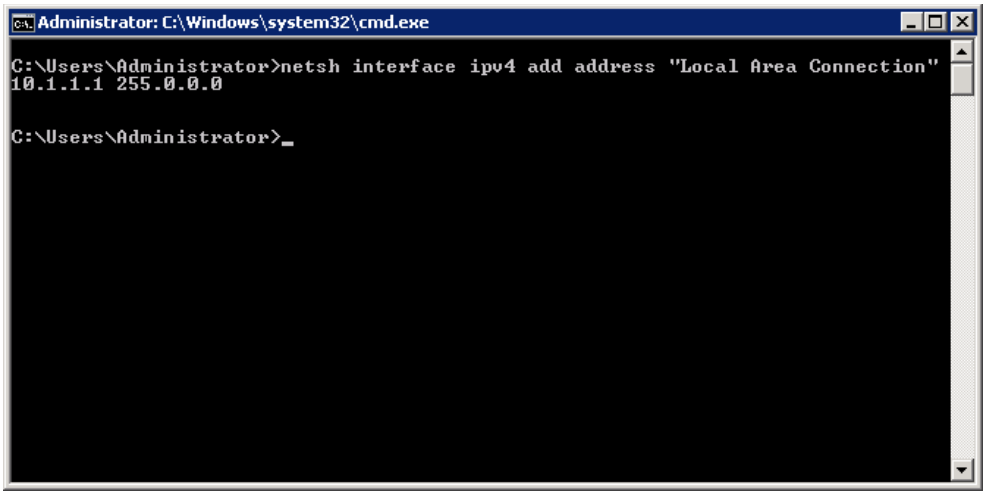
a. If above command does not show any interfaces then, To **Install NIC Drivers**, Type **"pnputil -i -a D:\LAN Drivers\Driver.inf"**



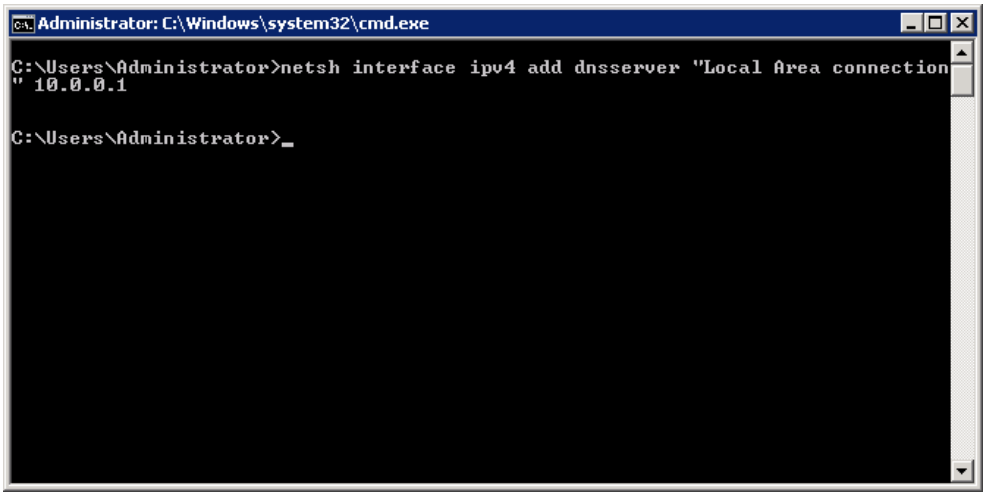
b. To verify the **network interfaces**, type **netsh interface ipv4 show interfaces**.



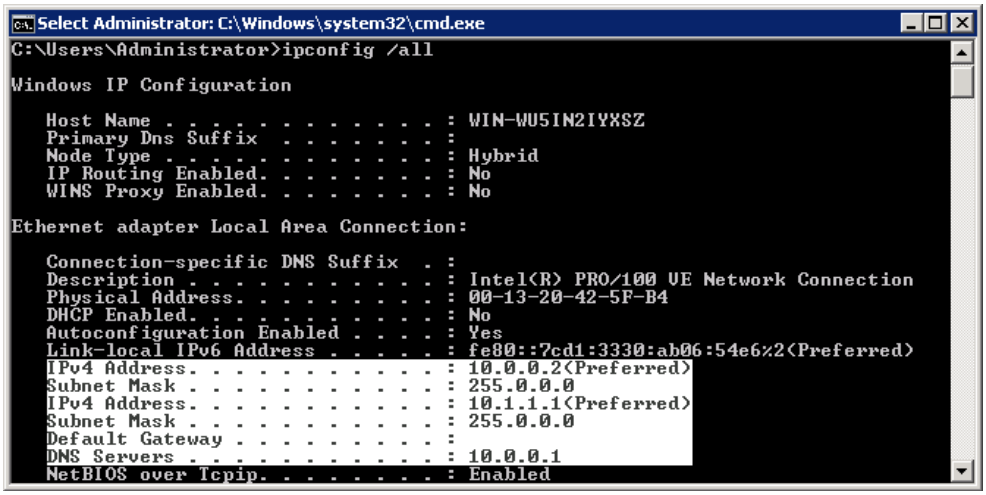
7. To **assign the IP Address**, type **netsh interface ipv4 add address "Local Area Connection"10.1.1.1 255.0.0.0**



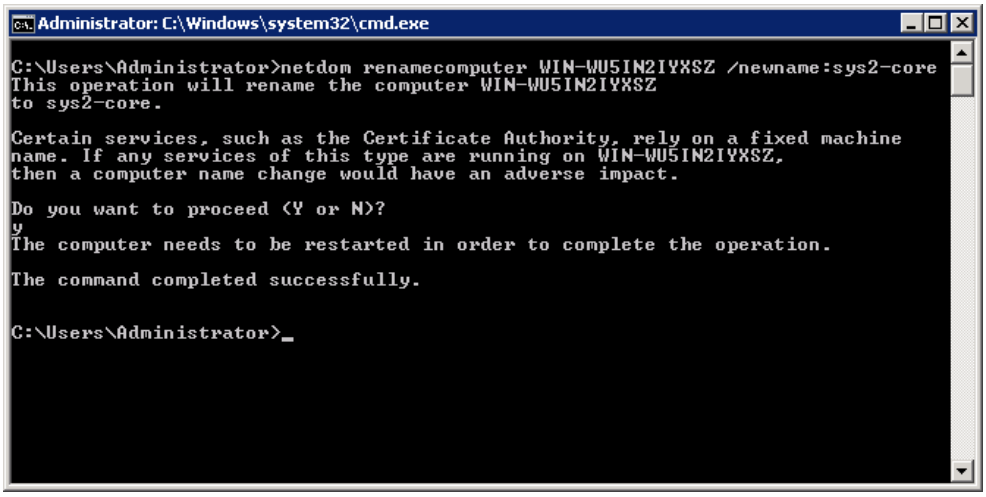
8. To **add Dns server address**, type **netsh interface ipv4 add dnsserver "Local Area Connection" 10.0.0.1**



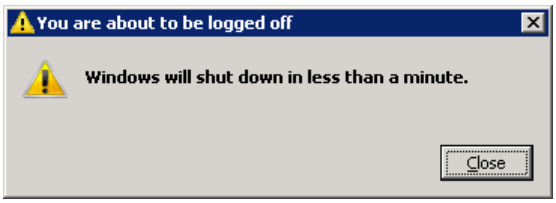
9. To Verify the **IP Address & preferred dns address**, type **ipconfig /all**



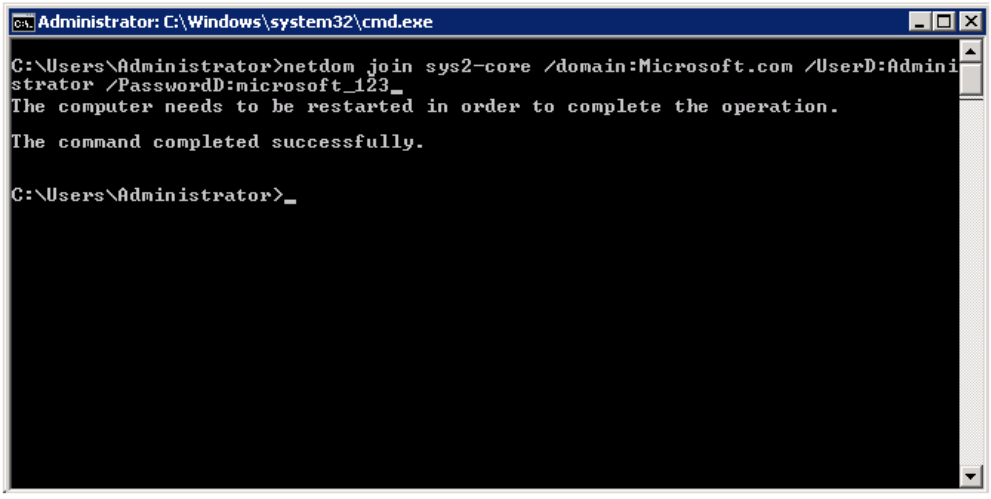
10. To **change the computer name**, type **netdom renamecomputer computername /newname:New-computer-name**



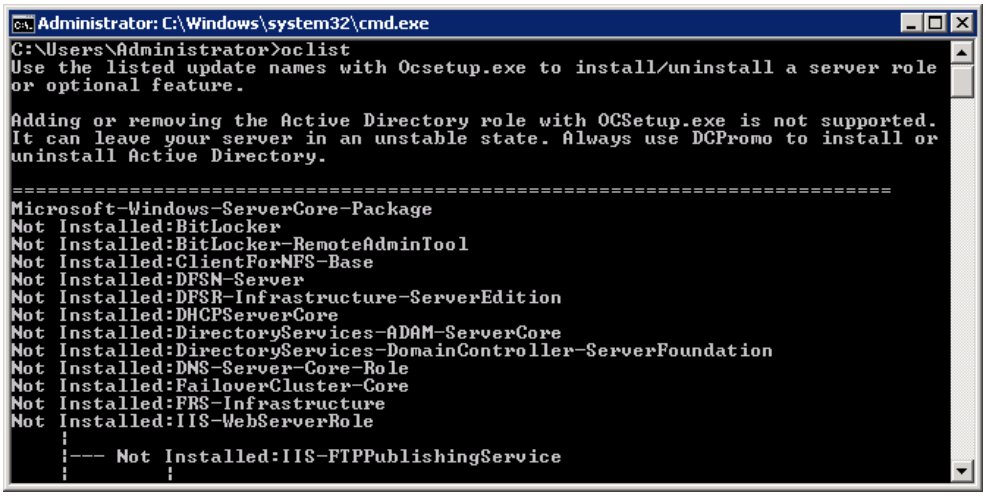
11. To restart the computer, type **shutdown /r**, **Computer will restart.**



12. To join the server to the domain, type **netdom join sys2-core /domain:Microsoft.com /UserD:Administrator /PasswordD:Microsoft_123**

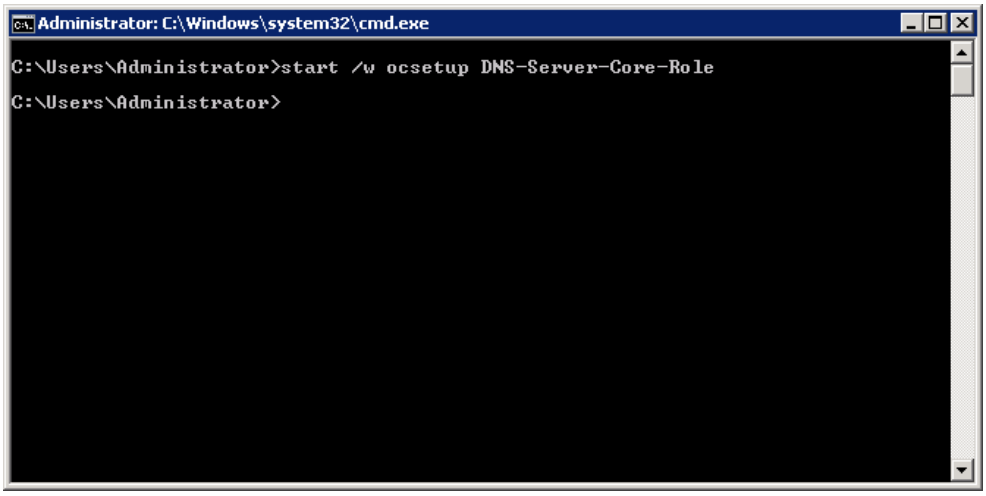


13. To View the installed roles or services, type **oclist.**

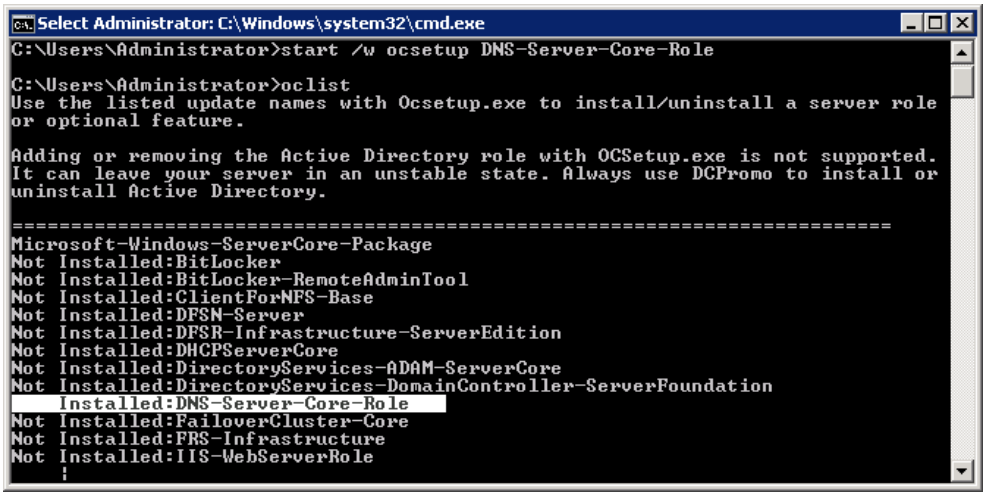


14. To **Install** any role or service, type **start /w ocsetup*Role or Feature name***

    Ex: **start /w ocsetup DNS-Server-Core-Role**

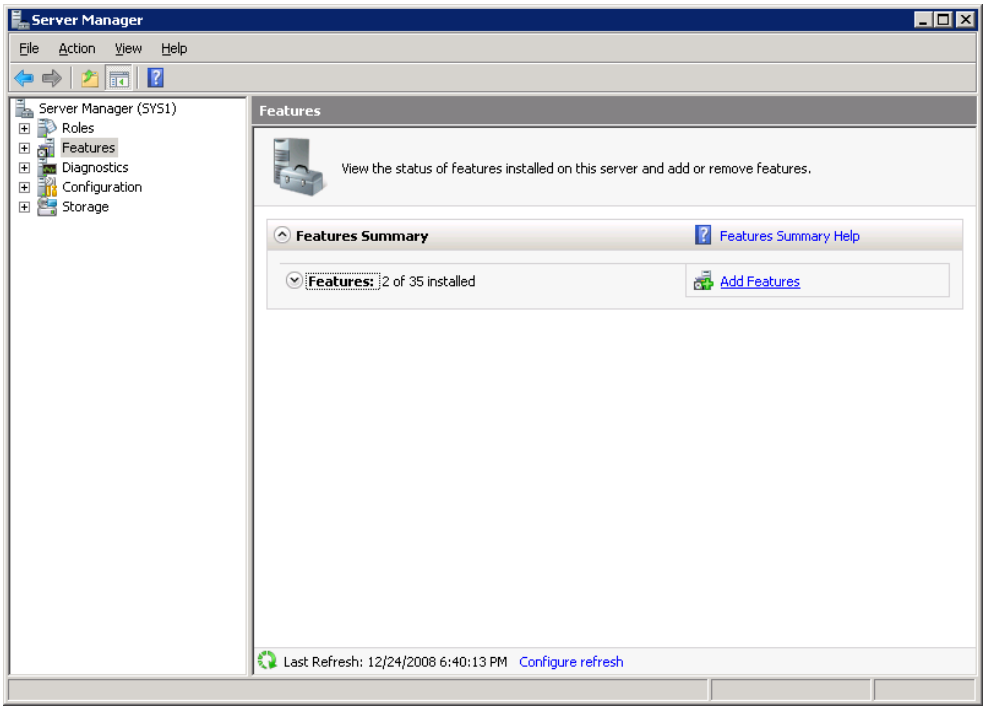


15. **For Verification:** Type **oclist→** it will display **DNS-Server-Core-role as Installed**

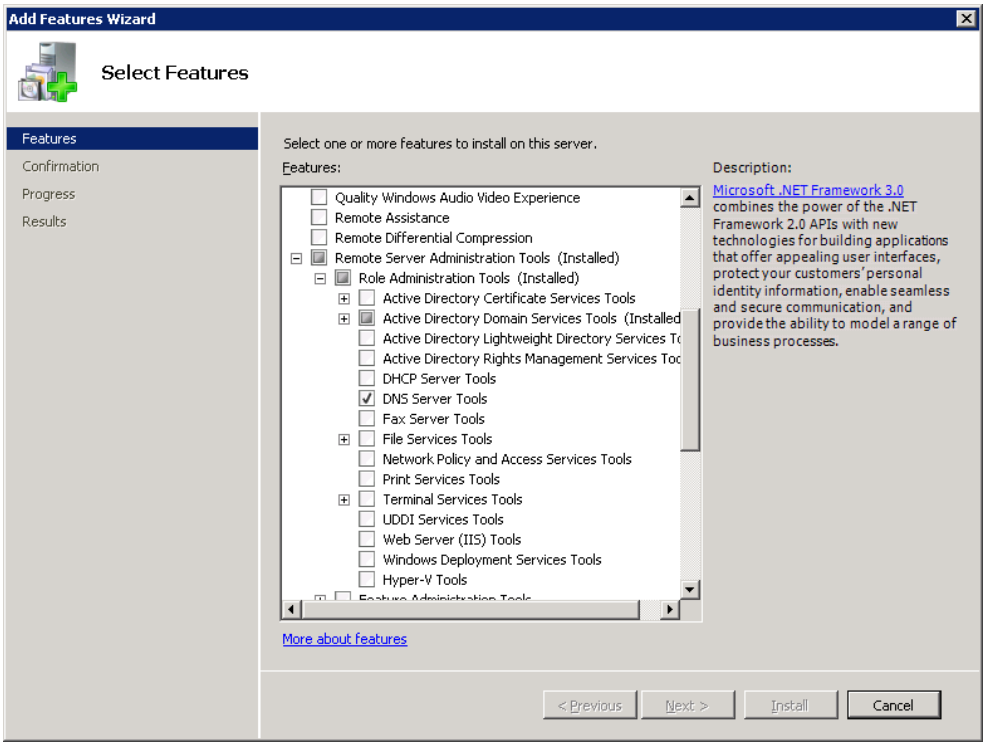


16. **<u>To manage the Dns server on Server core</u>**

On other system (SYS1): Go to Start→ Select Programs→ Select Administrative Tools→ Select **Server Manager** → Select **Features** → Select **Add Features.**

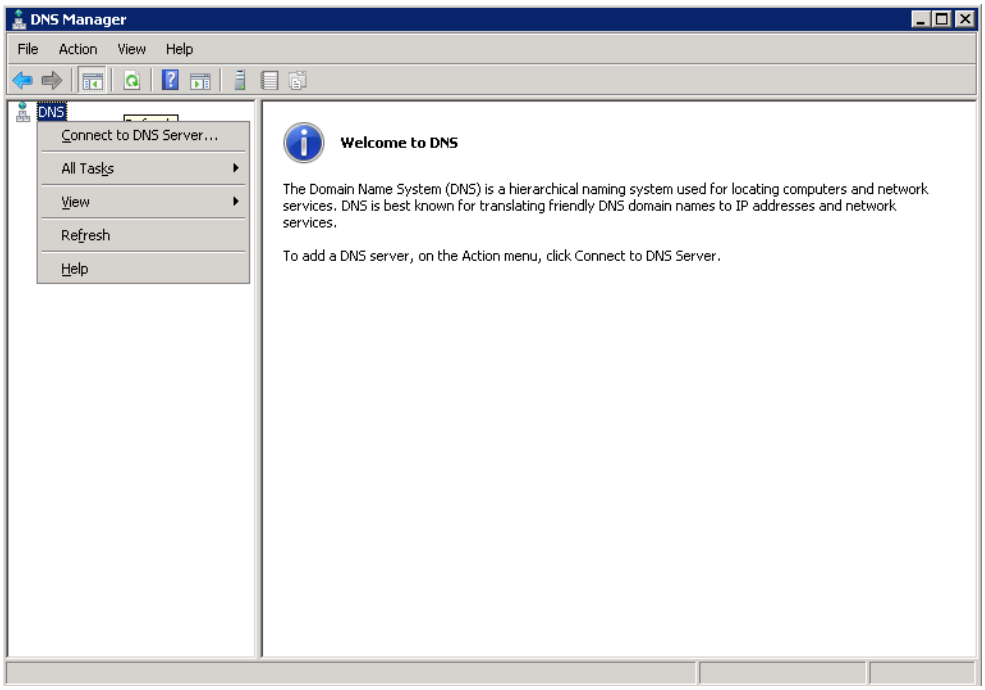


17. Expand **Remote Server Administration Tools → Role Administration Tools →** Select the Check box for **DNS Server tools →**click **Next →**click **Install**

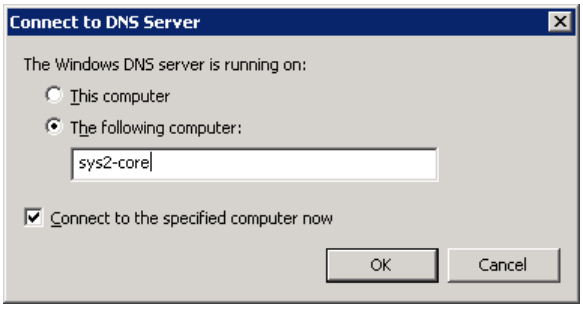


18. **<u>To Configure DNS Server of Server Core</u>**

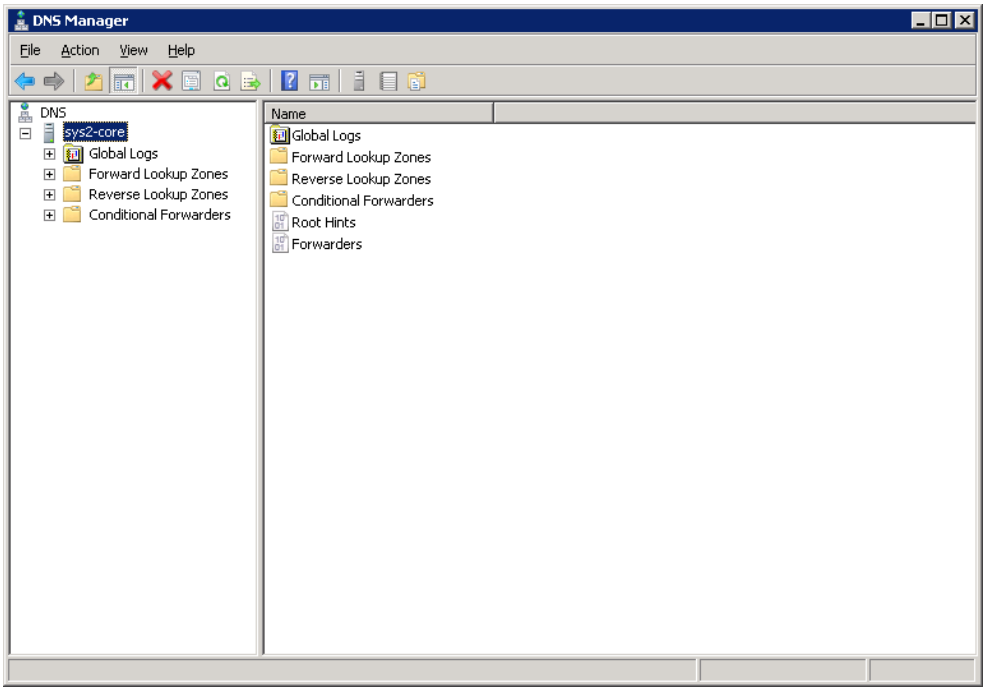
On other system (SYS1): Go to Start→ Select Programs→ Select Administrative Tools→ Select **DNS** →Right click **DNS** →click **Connect to DNS Server**



19. Mention the Computer name of **Server core (sys2-core)** →click **OK.**

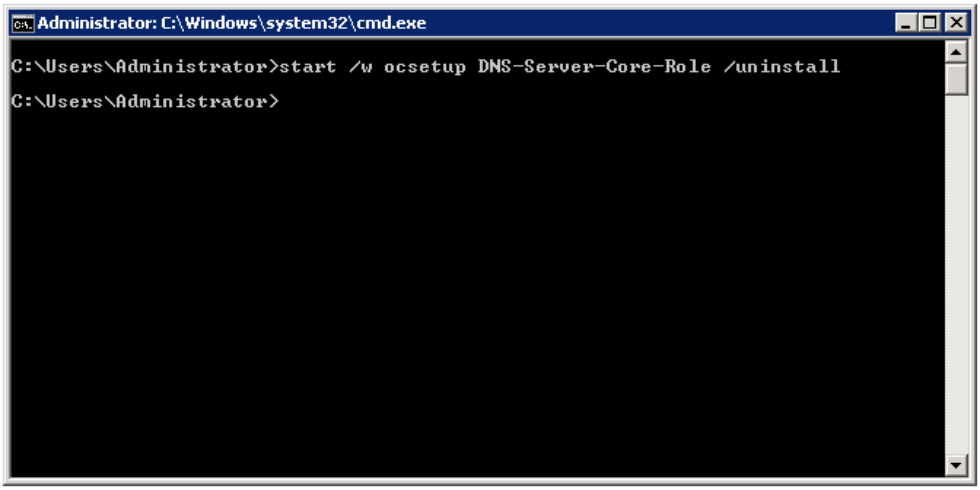


20. Connected to Server Core



21. To Uninstall any role or service, type **start /w ocsetup*Role or Feature name* /uninstall**

    Ex: **start /w ocsetup DNS-Server-Core-Role /uninstall**

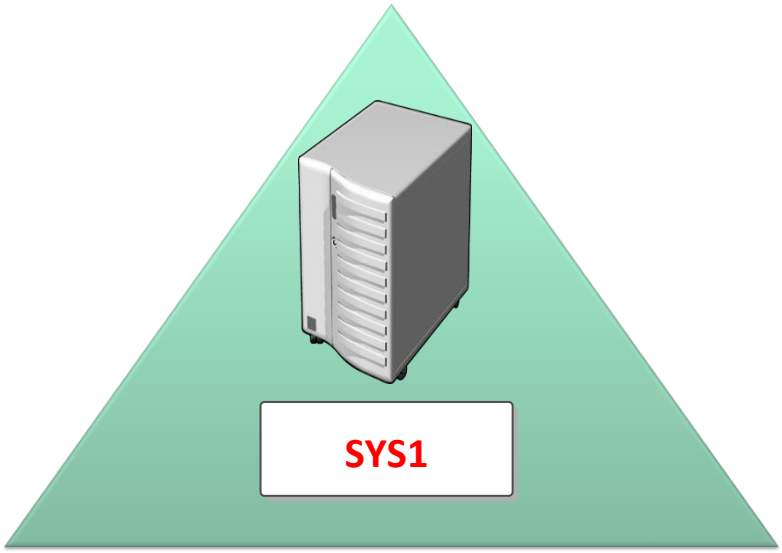


CONFIGURING WINDOWS SERVER BACKUP & RECOVERY

Prerequisites:

Before working on this lab, you must have

1. A Computer with Windows Server 2008 Domain Controller



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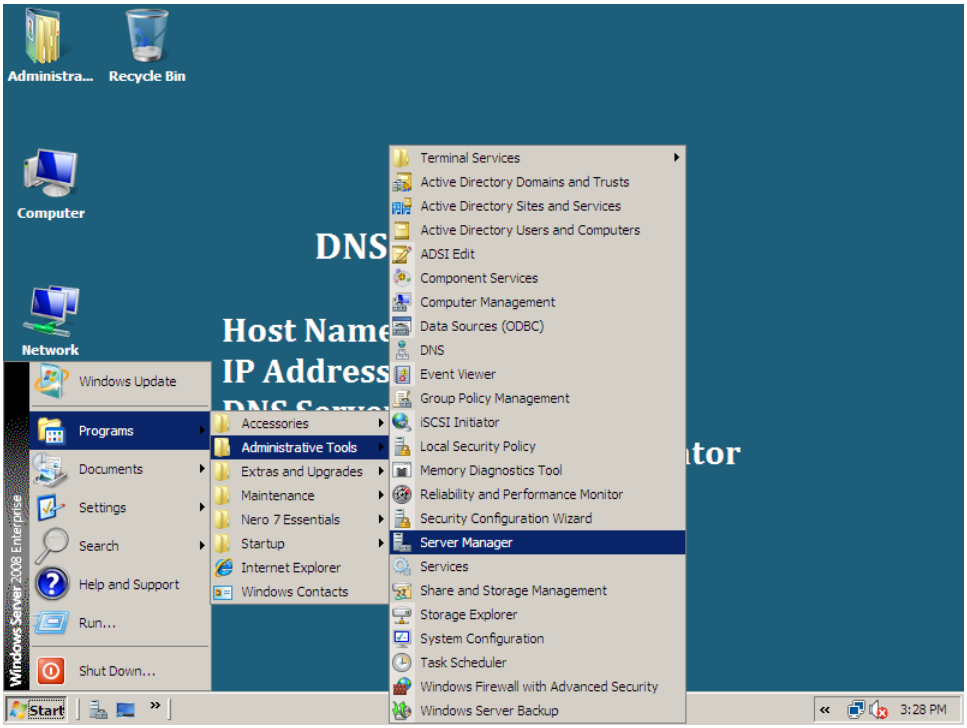
SYS1

Domain Controller

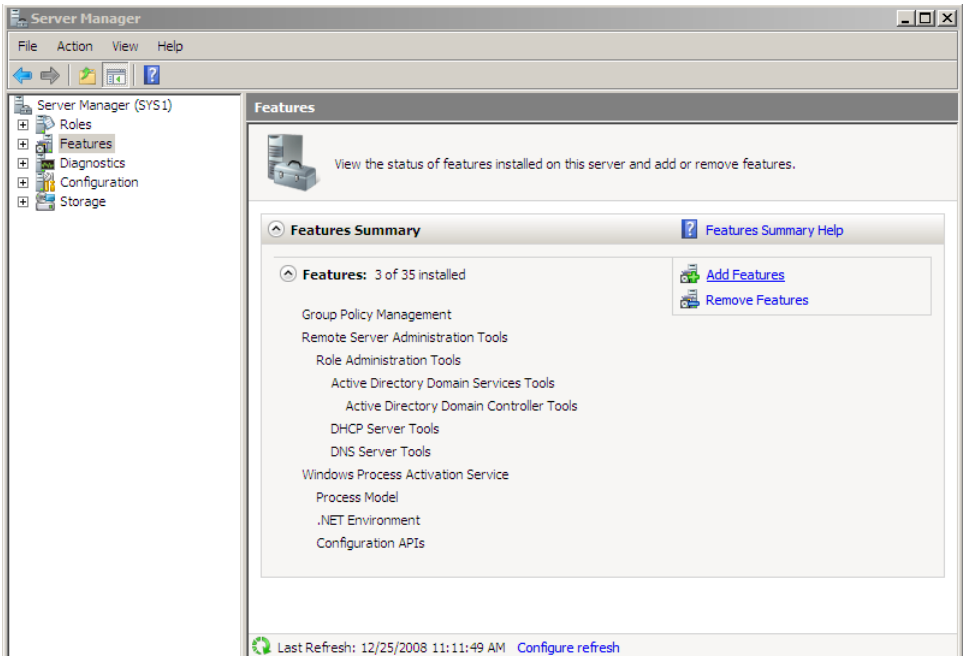
IP Address	10.0.0.1
Subnet Mask	255.0.0.0
Preferred DNS	10.0.0.1

Lab – 3: Configuring Windows Server Backup and Recovery

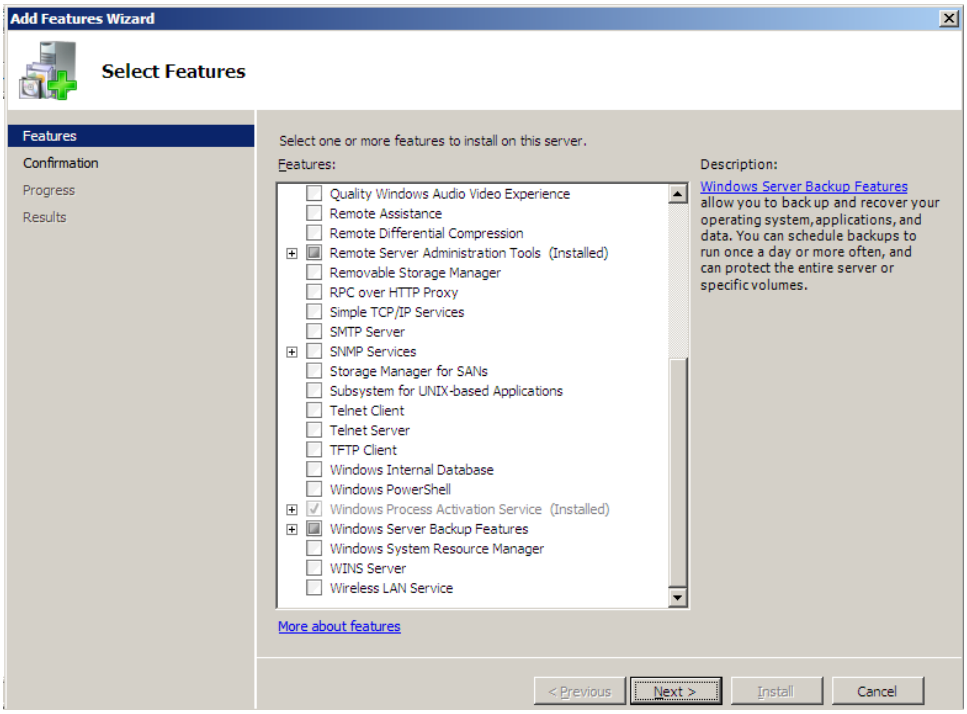
1. Login as **Administrator**, Start→Programs→Administrative Tools→**Server Manager.**



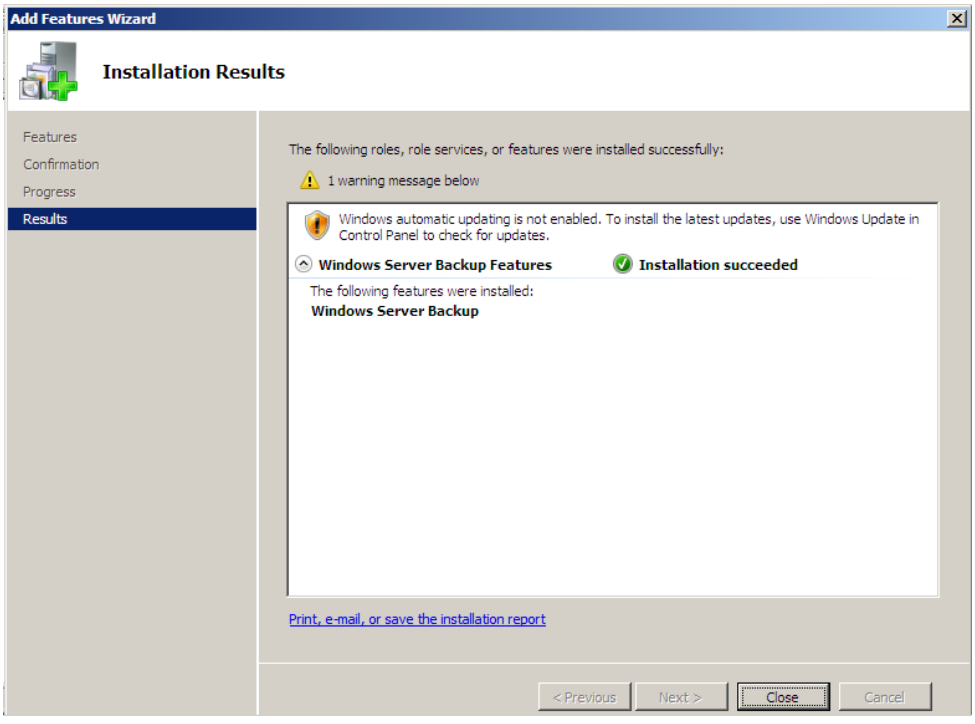
2. Select **Features** and click **Add Features.**



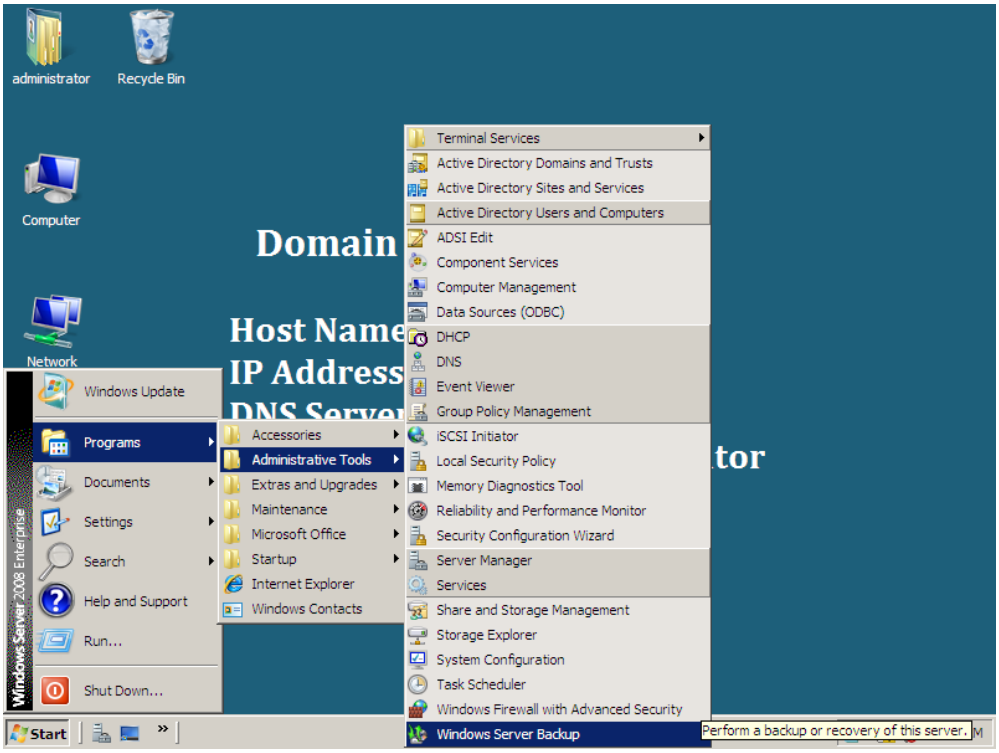
3. Click **Next** → check **Windows Server Backup Features** and **Next**→ click **Install.**



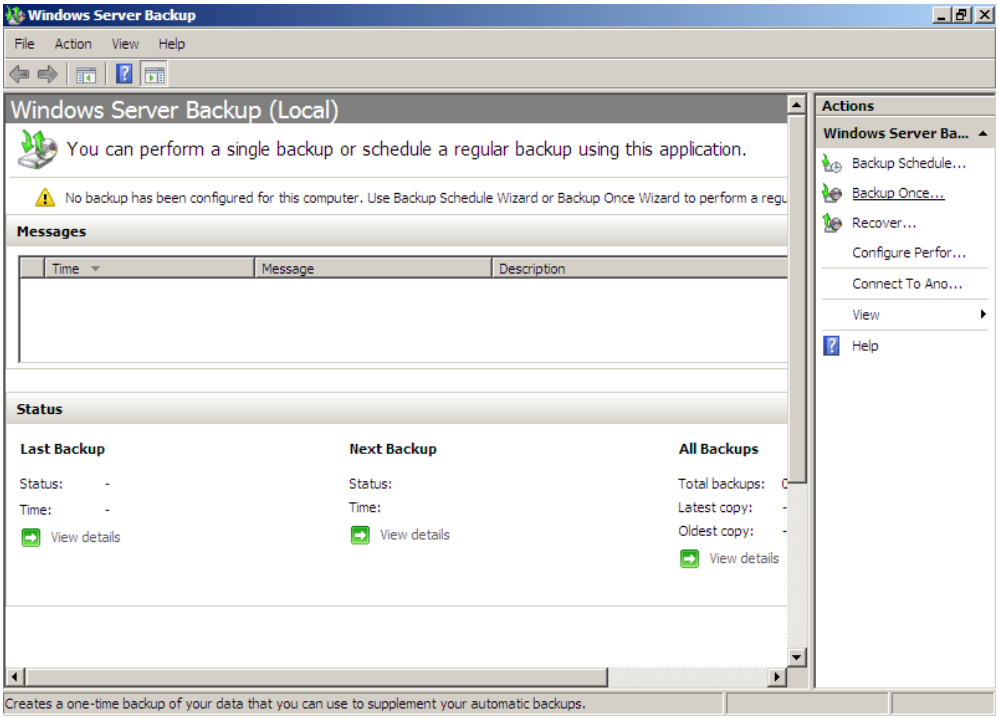
4. After Installation click **Close**.



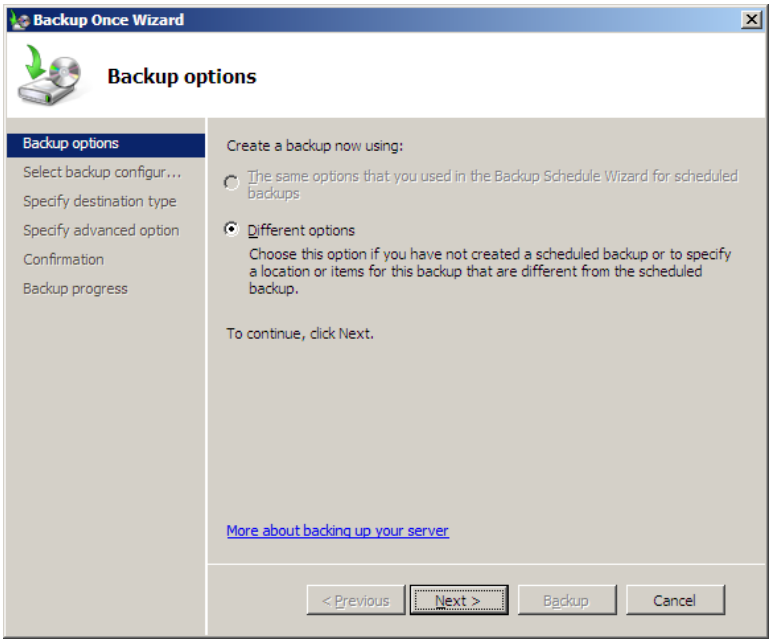
5. Start→Programs→Administrative Tools→**Windows Server Backup.**



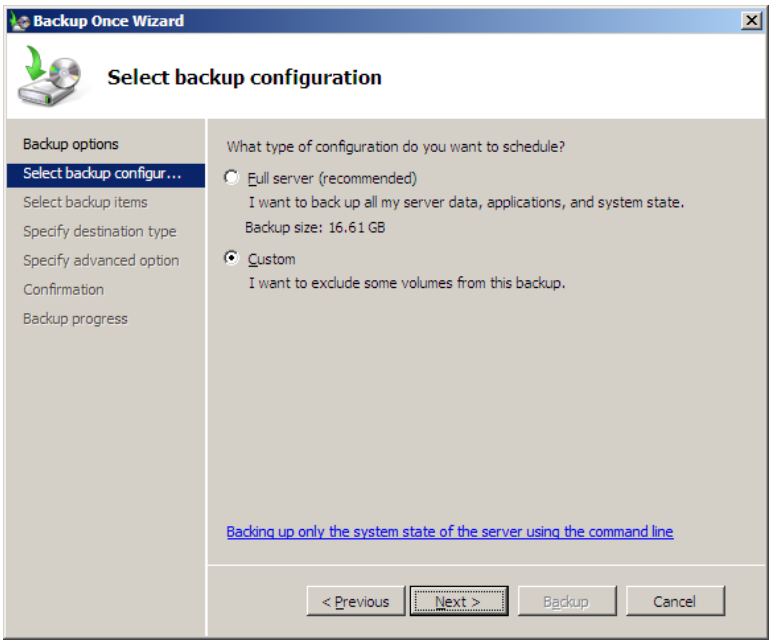
6. Select **Backup Once** .



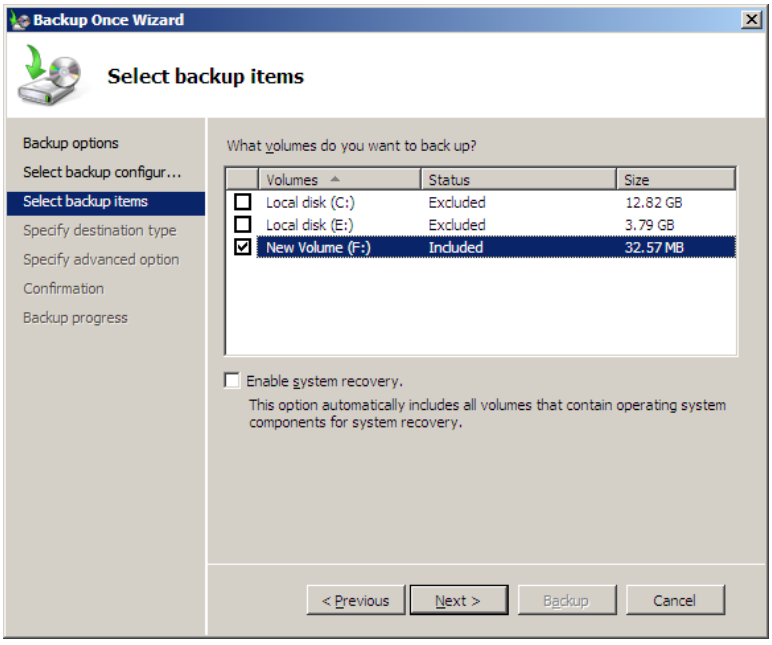
7. Select **Different Options** →click **Next**



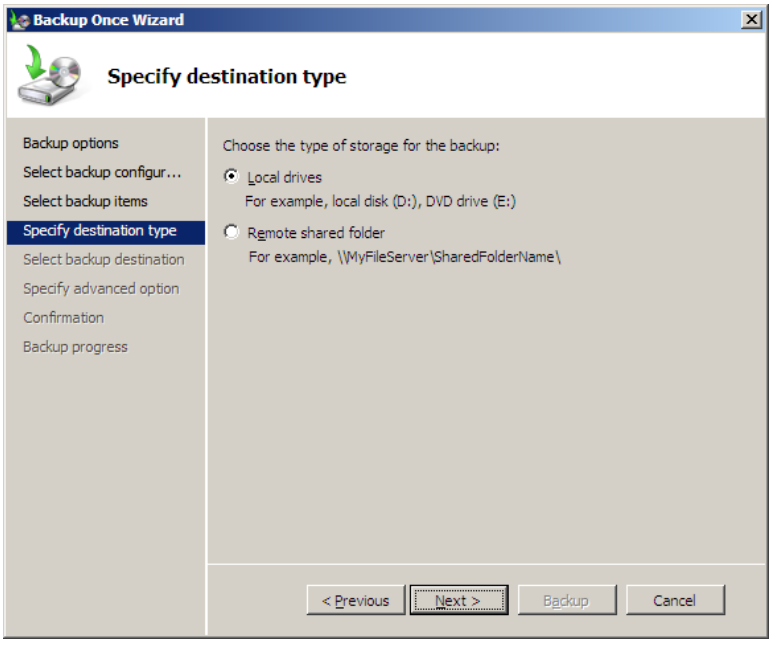
8. Select **Custom** →click **Next**



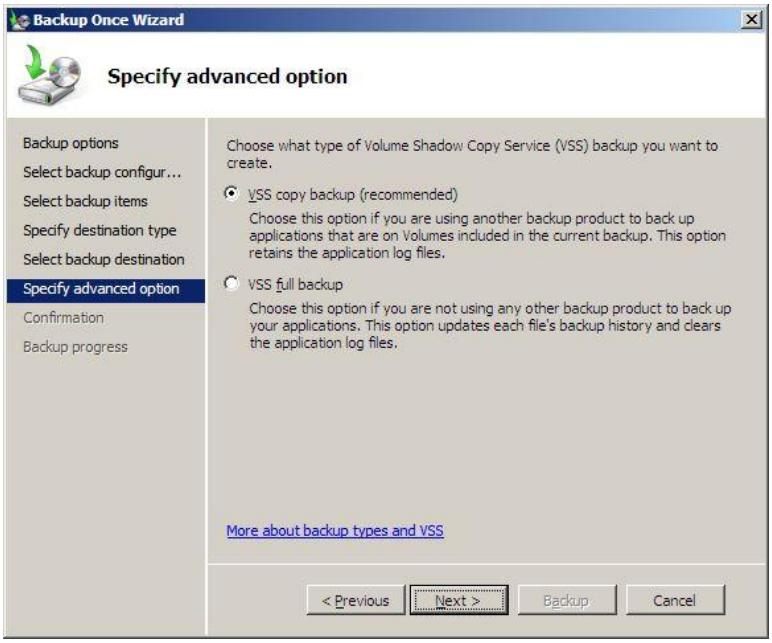
9. Uncheck the box **Enable System recovery →Next** and Select which drive we want to take backup select that drive and **Next.**



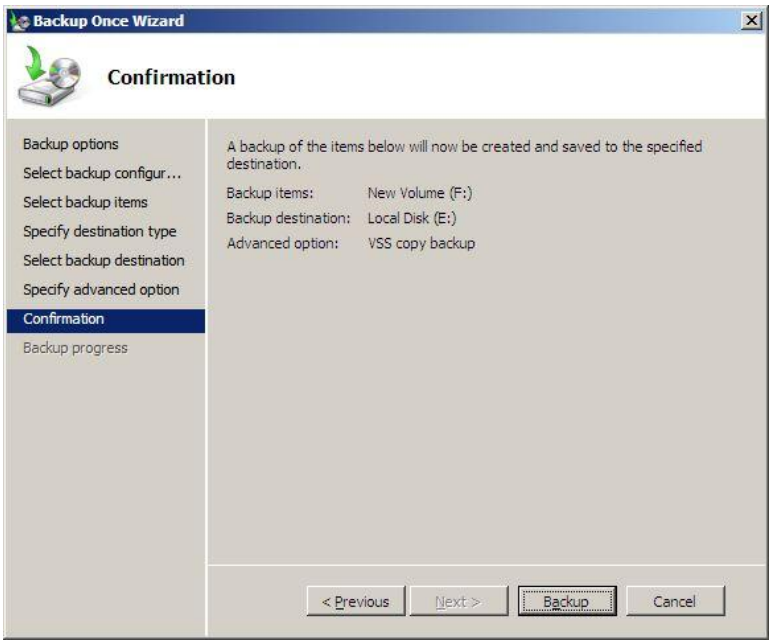
10. Select the destination type **Local drives →**click **Next →**Select the Backup Destination **(Any Drive) →** click **Next.**



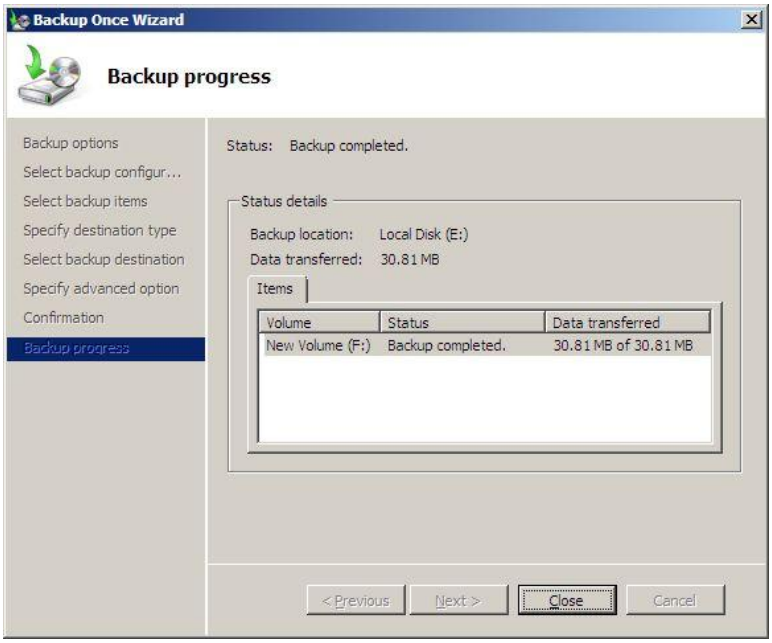
11. Select **VSS copy backup** and click **Next**.



12. Confirm the Options and click **Backup.**

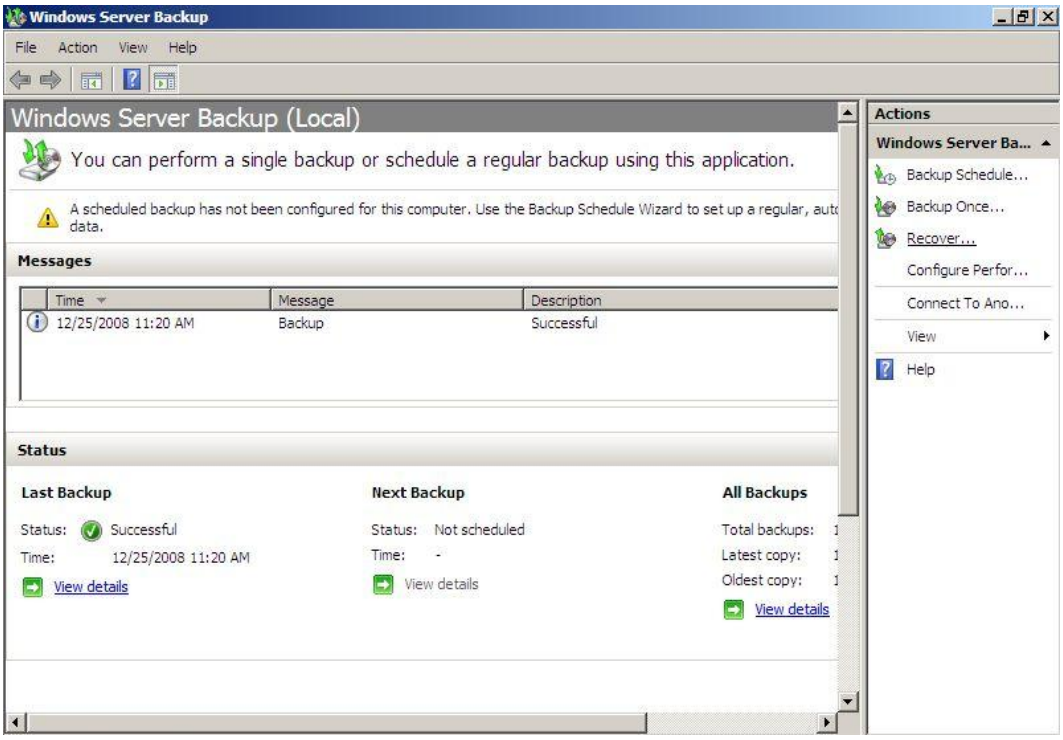


13. Finally click **Close.**

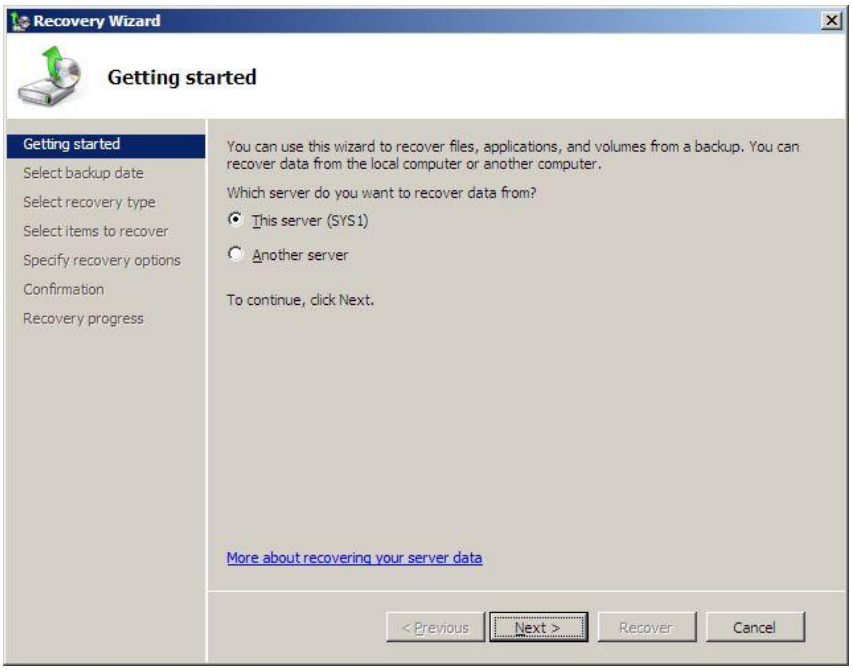


How to Recover the Data from Backup File.

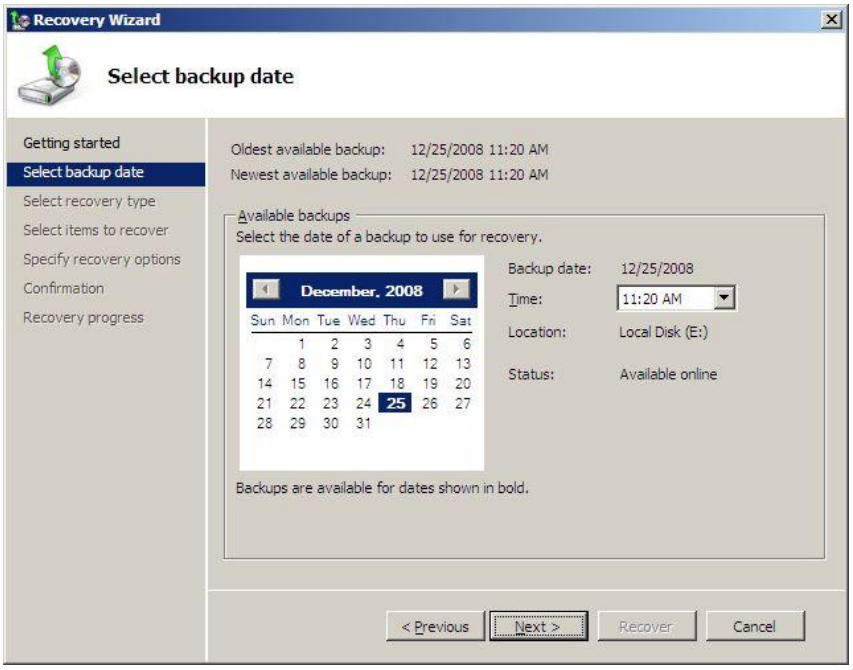
1. Before Restoration, go to the drive and delete the data. (only for Lab purpose)
2. Select Start→ Programs→ Administrative Tools→ Windows Server Backup→ select **Recover.**



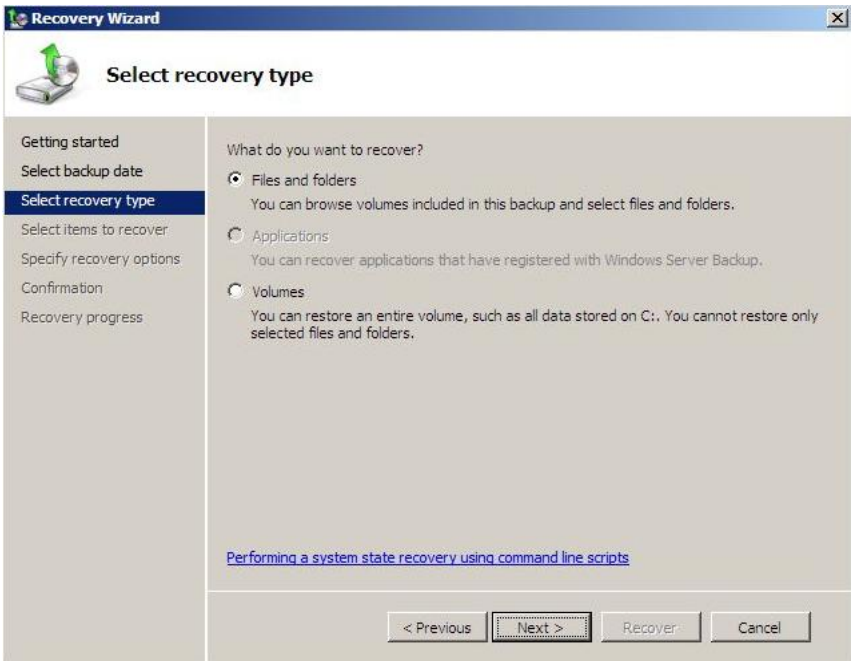
3. Select **This serve**r and click **Next.**



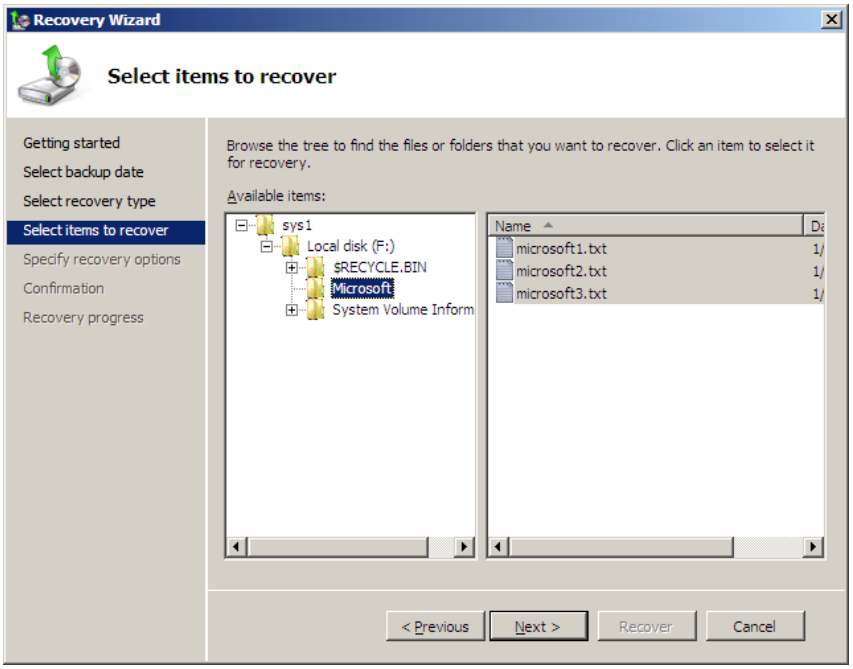
4. Select **Date** and **Time** of the backup file to be restored, click **Next.**



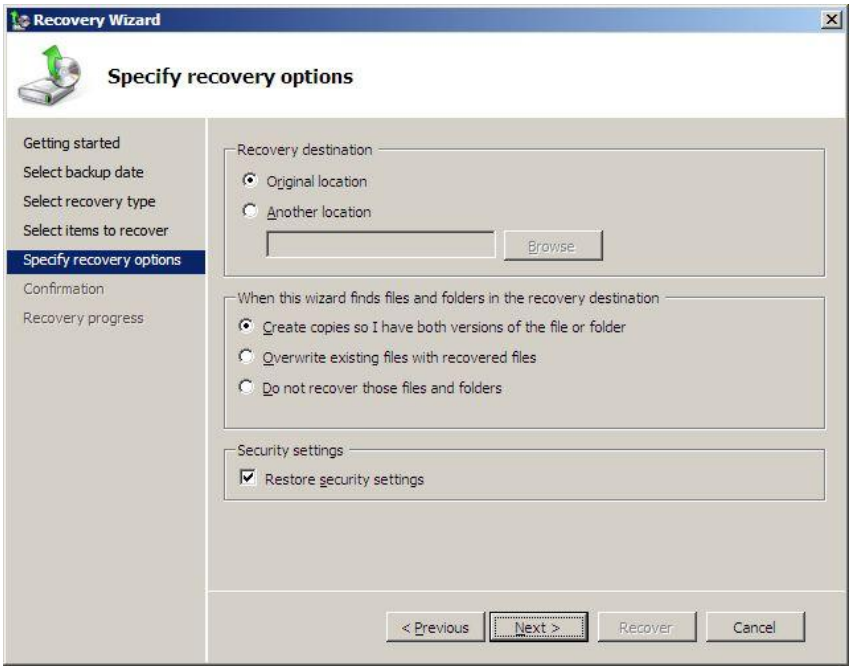
5. Select **Files** and **Folders** and click **Next.**



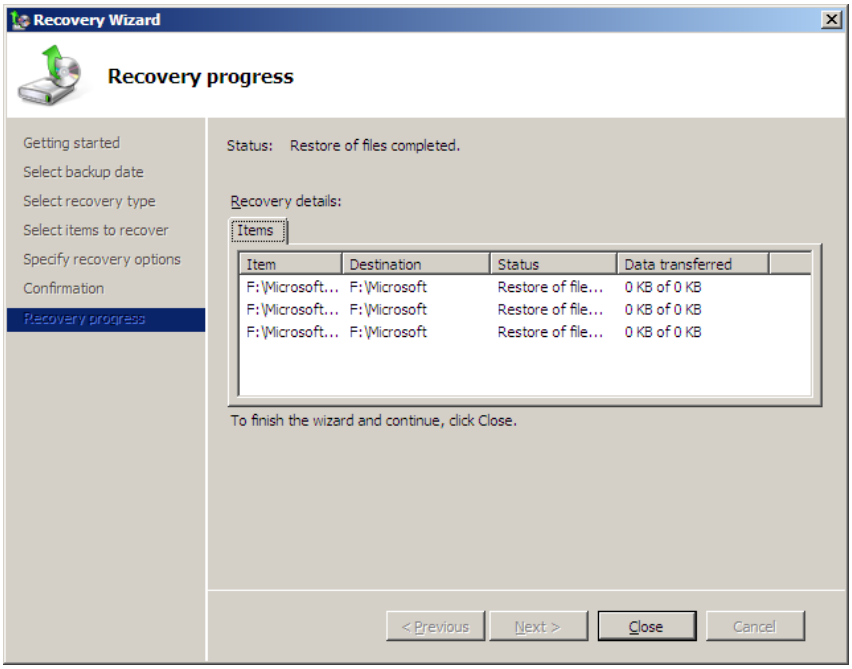
6. Select the **folder** or **files** to be recovered and click **Next**.



7. Select **Original Location** and click **Next.**



8. After the Restoration click **Close.**



Verification:

1. Go to the **drive** and verify for the **folder** and **files**.

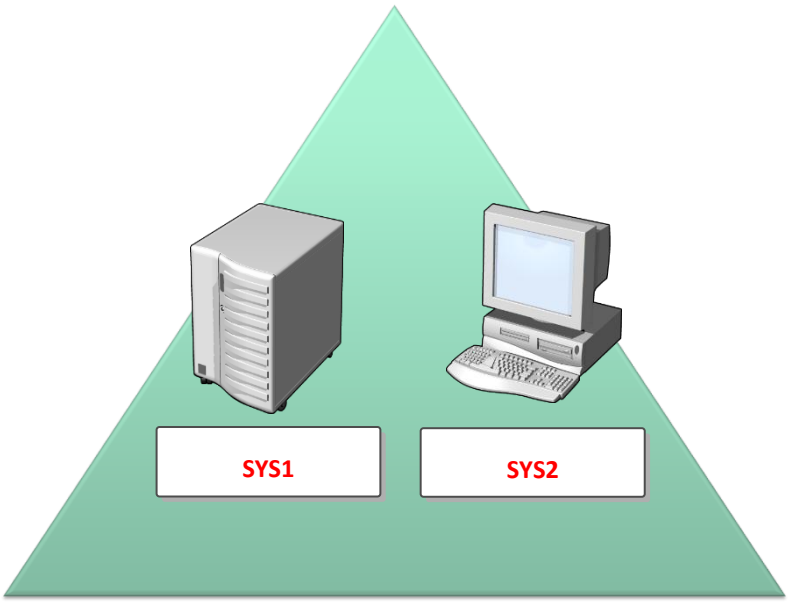
ADVANCED TOPICS

DISTRIBUTED FILE SYSTEM AND GROUPS

Prerequisites:

Before working on this lab, you must have

1. A computer running windows 2008 server Domain Controller.
2. A computer running windows 2008 server or Member Server.



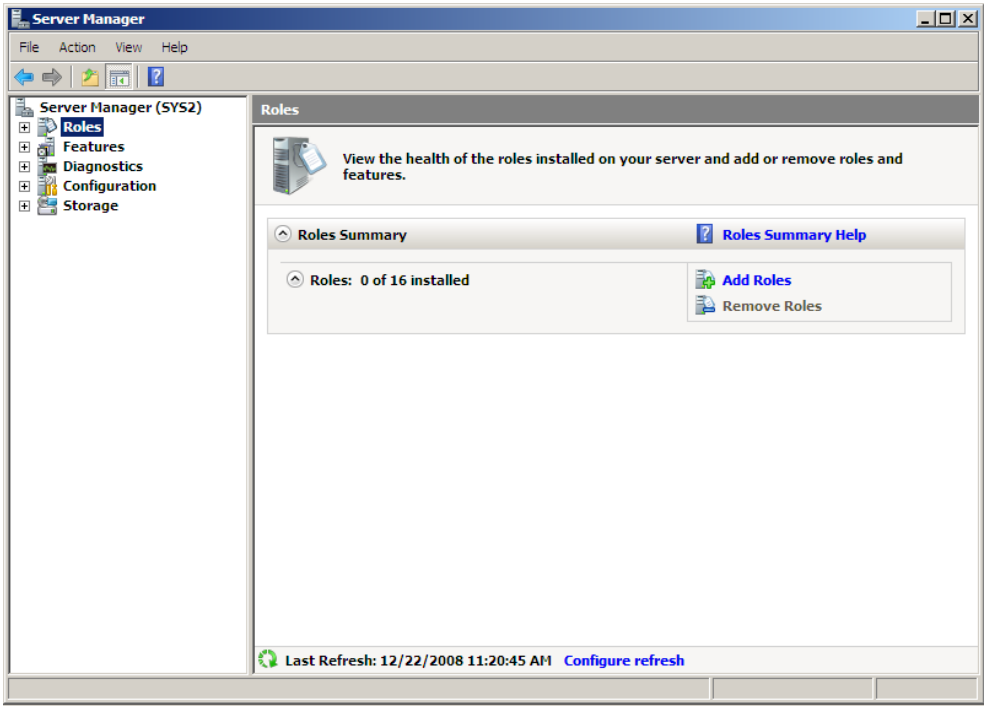
MICROSOFT.COM

SYS1		**SYS2**	
Domain Controller		**Member Server**	
IP Address	10.0.0.1	IP Address	10.0.0.2
Subnet Mask	255.0.0.0	Subnet Mask	255.0.0.0
Preferred DNS	10.0.0.1	Preferred DNS	10.0.0.1

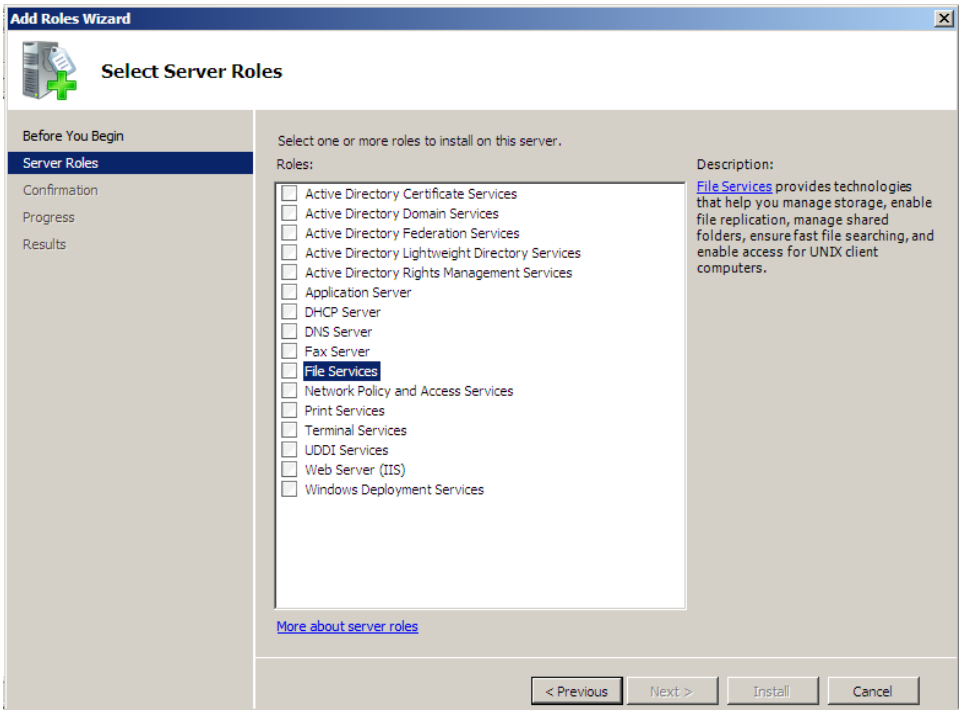
DISTRIBUTED FILE SYSTEM

Installing Distributed File System (DFS)

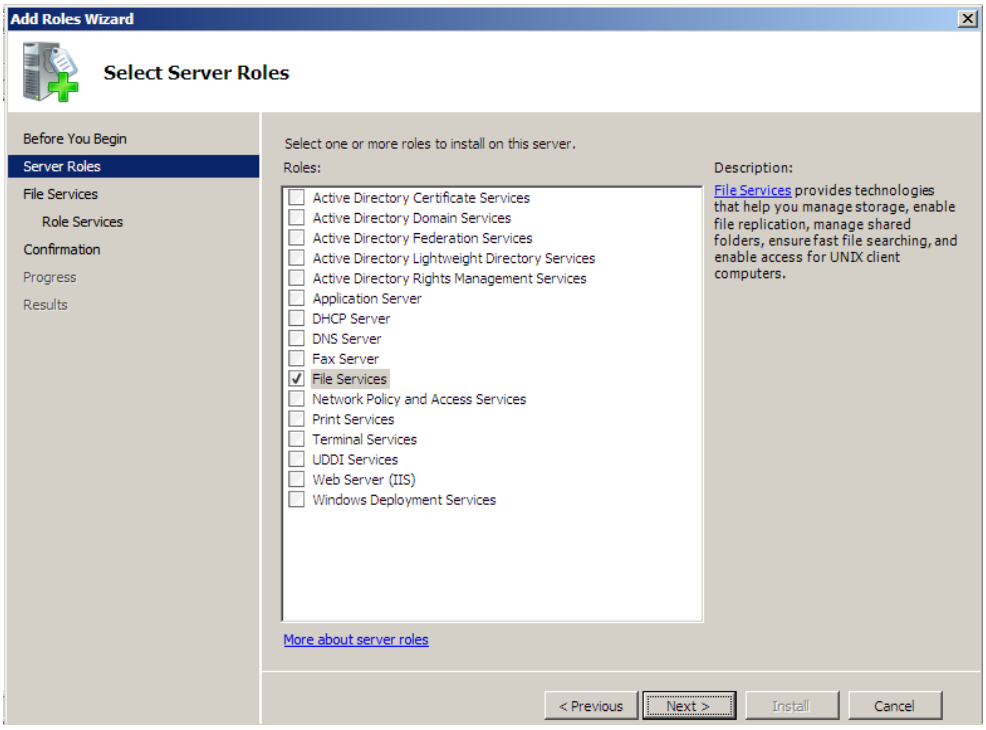
1. In **SYS2** (**Member Server**) go to Start →Programs →Administrative Tools →**Server Manager** → click **Roles**



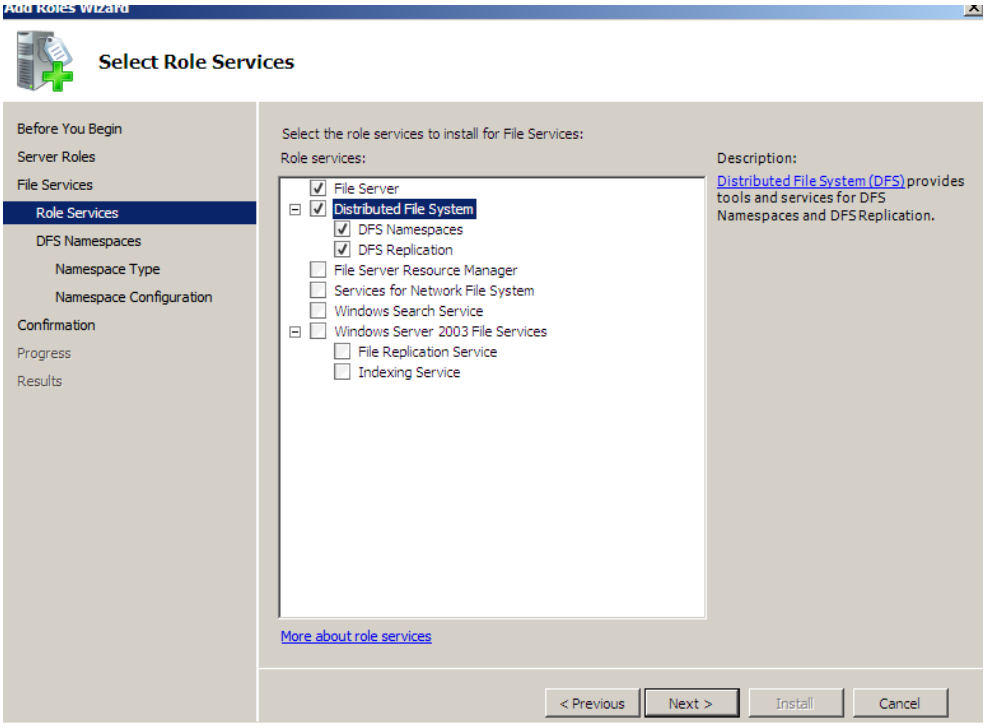
2. Click On **Add Roles**



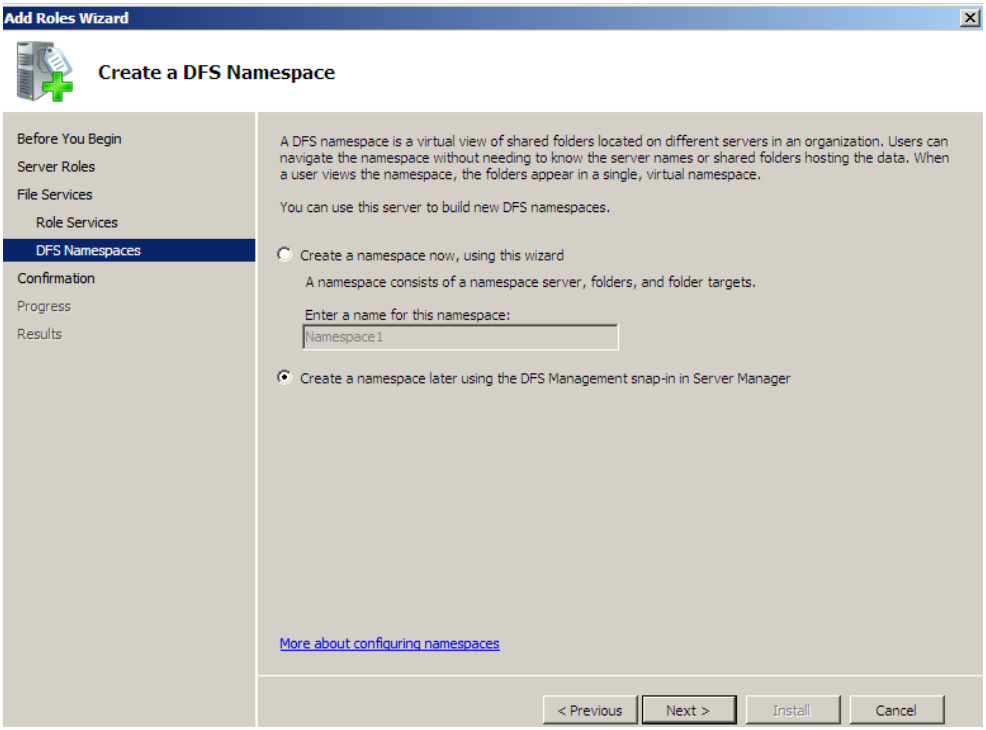
3. Select **File Services** →click **Next**



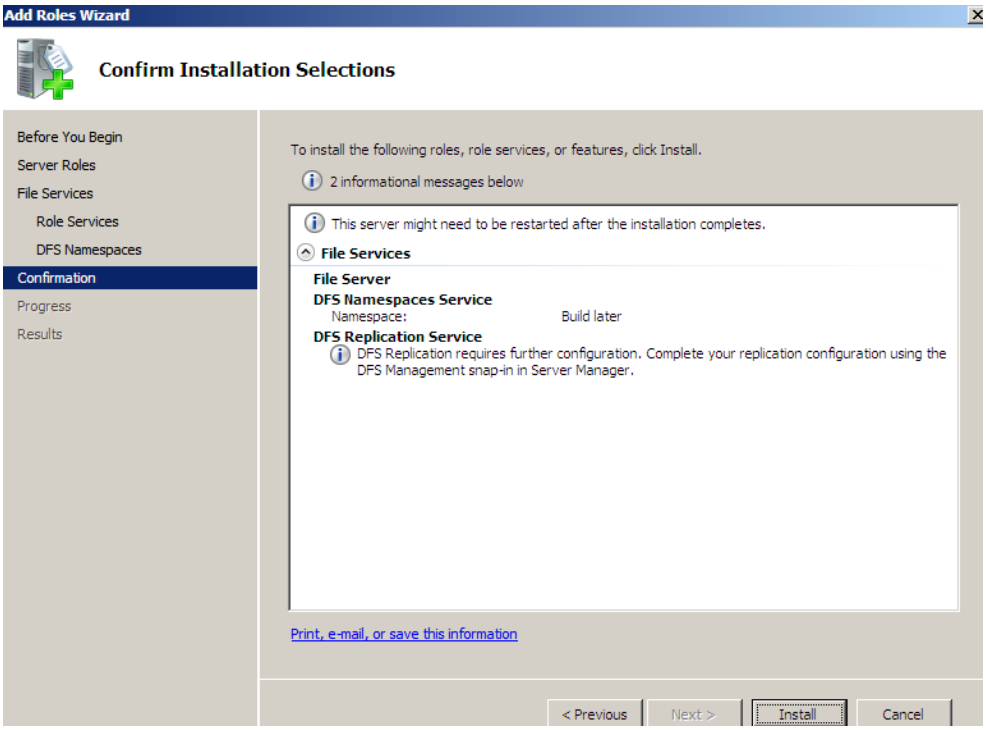
4. Check the box **Distributed File System**→ click **Next.**



5. Select **Create a Namespace Later** and click **Next**

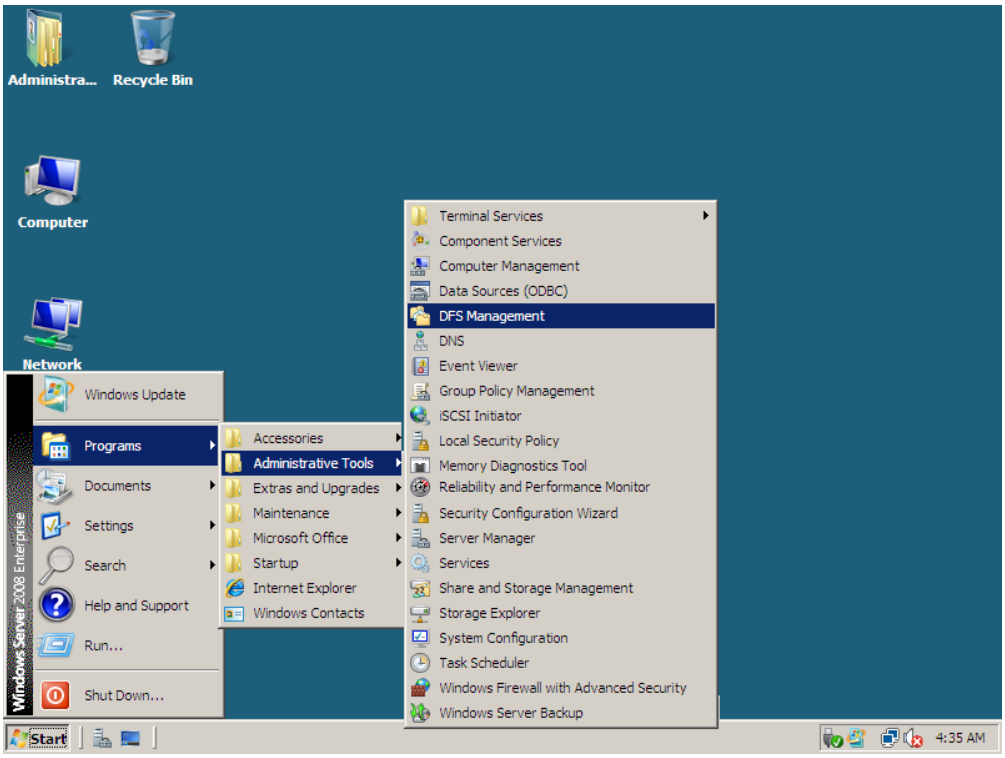


6. Click **Install** and click **Close**

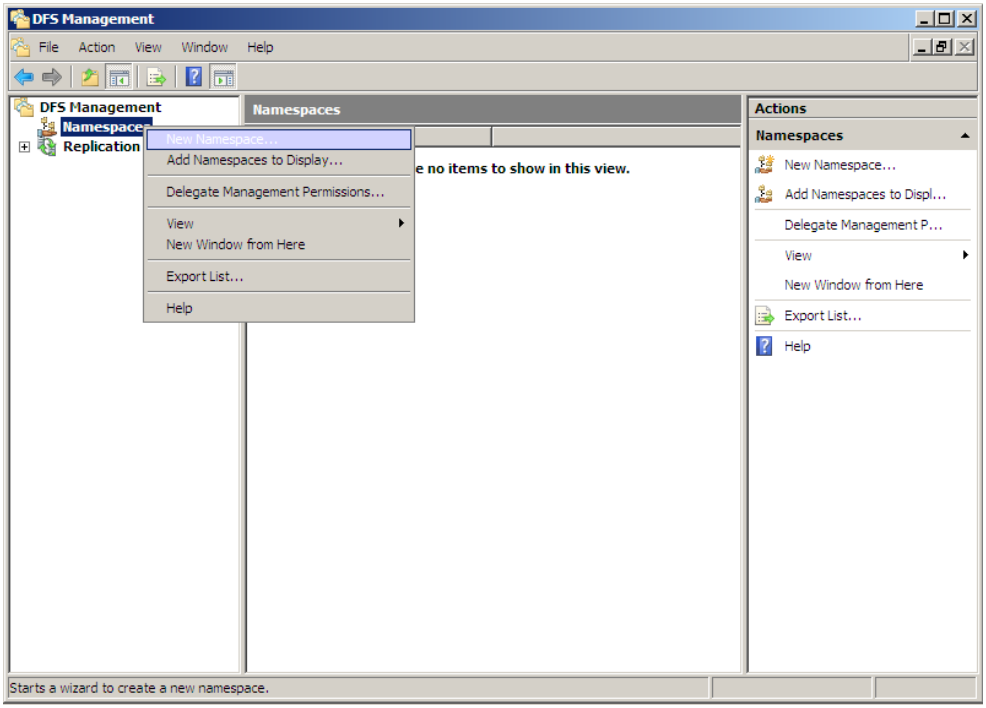


Configuring Namespace In DFS

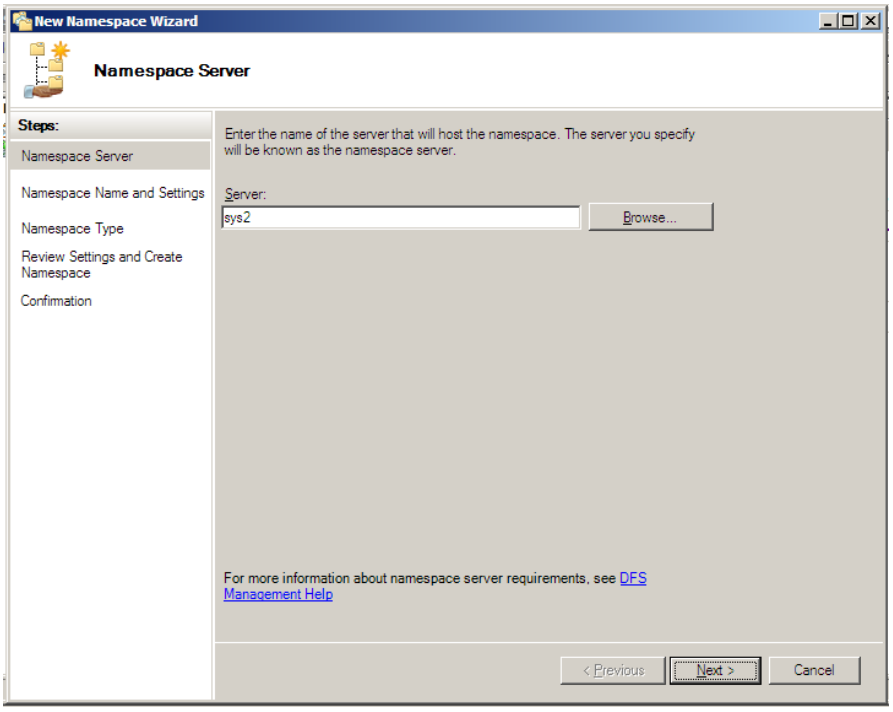
1. In **SYS2** (**Member Server**) Go to Start → Programs → Administrative Tools → **DFS MANAGEMENT.**



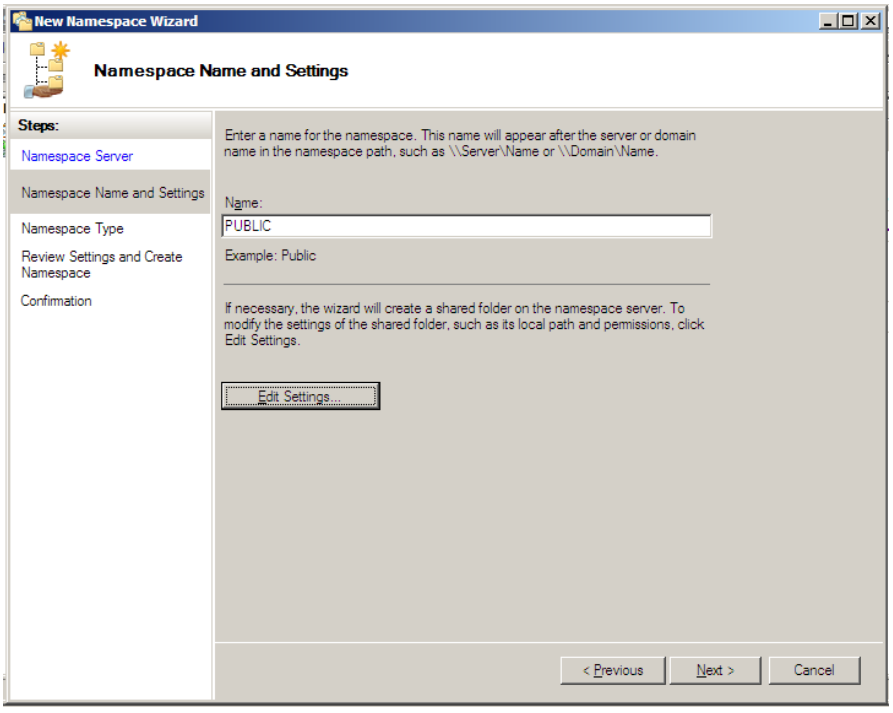
2. Right click On **Namespaces** and Select **New Namespace**



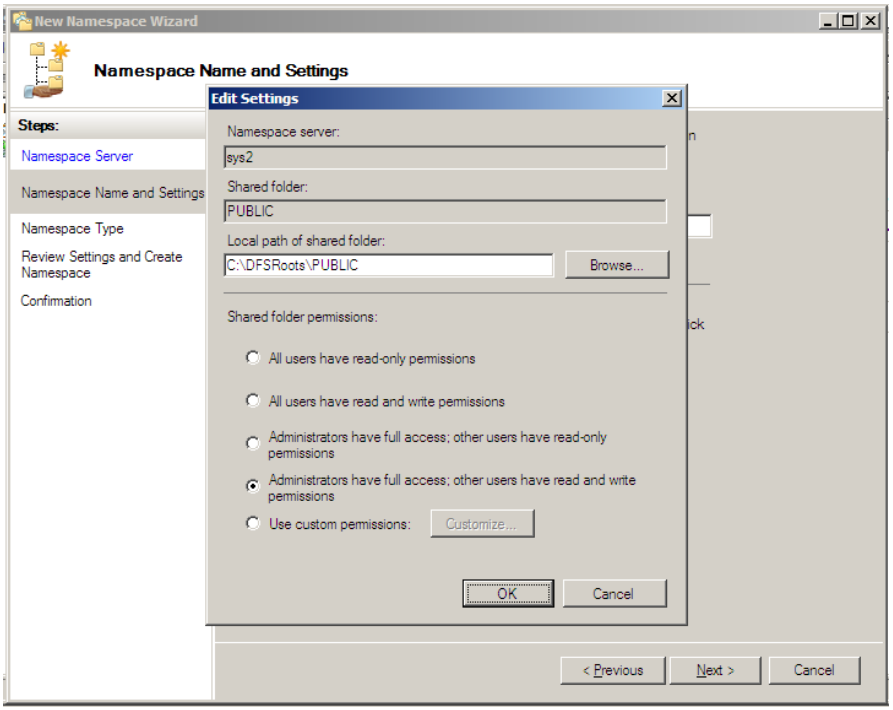
3. Enter the **Server Name** in which **DFS Installed** and Select **Next.**



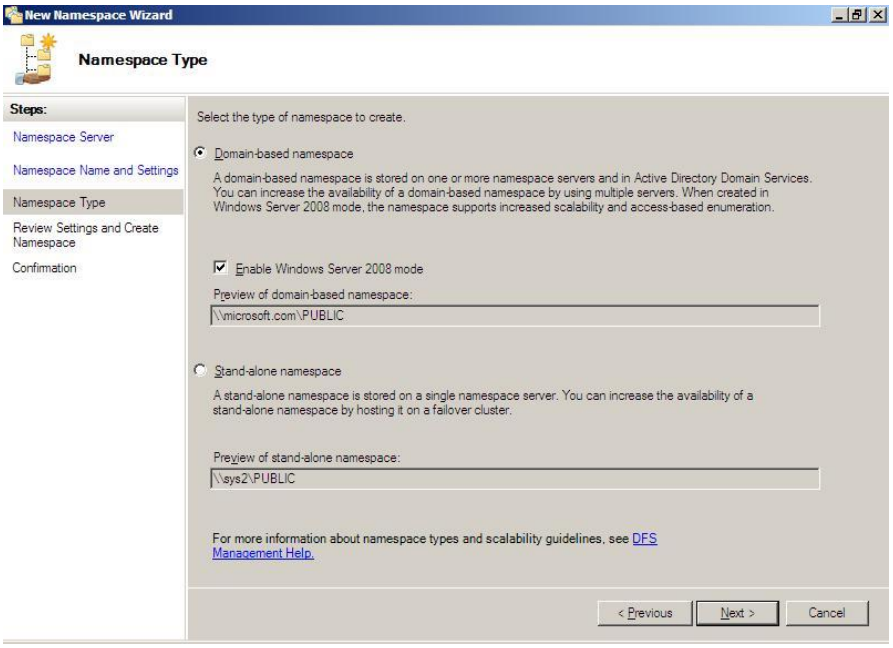
4. Enter **Name** for the **Name Space (Public)**and click **Edit Settings.**



5. Select the Permissions **Administrators have full access, other users have read and write permissions**, and click **Next.**



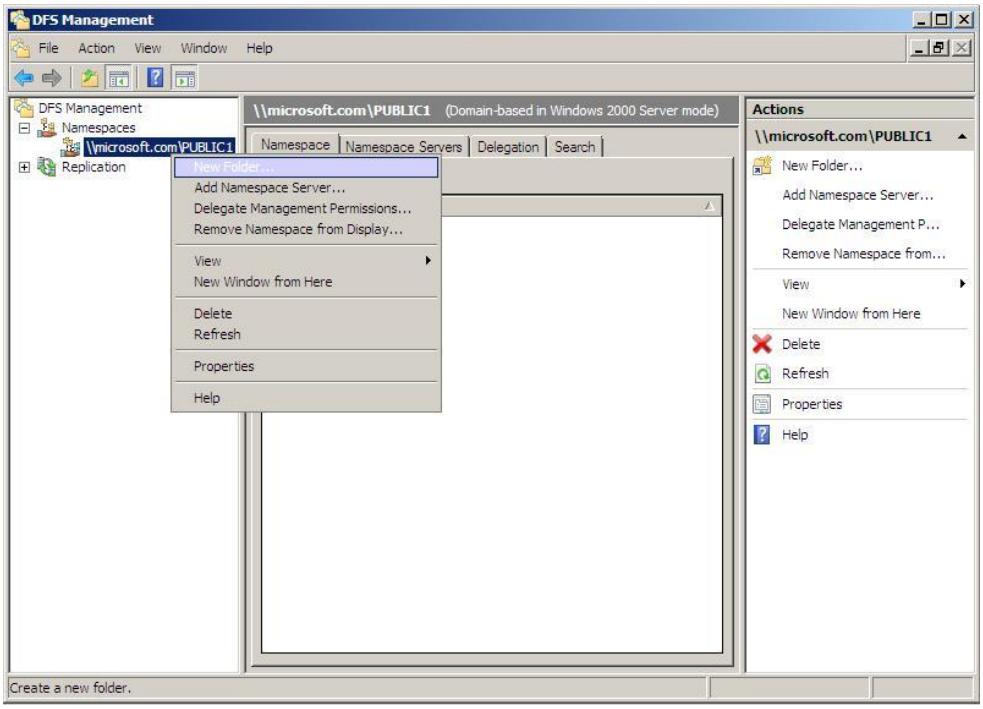
6. Select **Domain Based Namespace** →click **Next**



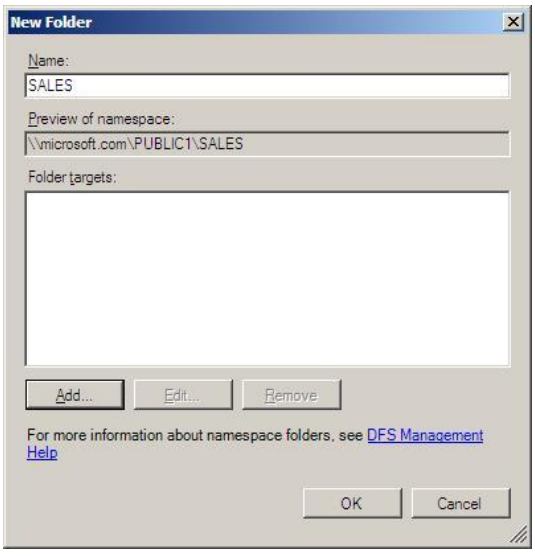
7. Click on **Create** and Select **Close**

Configuring New Folder In Namespace

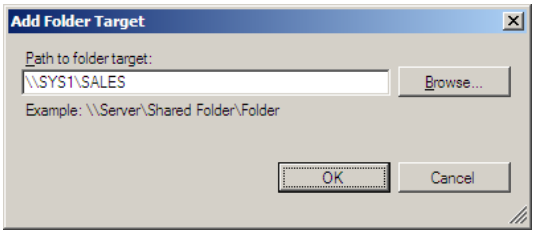
1. In **SYS1 (DC)** open any **Drive** which is formatted with **NTFS**
2. **Create a shared folder (Sales)** and give permission of **Co-Owner For Everyone**
3. In **SYS2 (Member Server)** go to **DFS Management** and Expand Namespaces
4. Right click on namespace name and **Select New Folder**



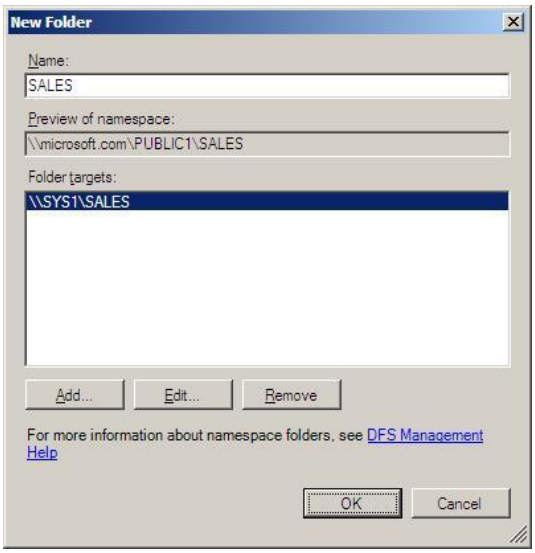
5. Give the name for **NEWFOLDER (SALES)** and click Add.



6. Enter the path for folder target (**\\Systemname\Sharefoldername**) & **Select OK.**

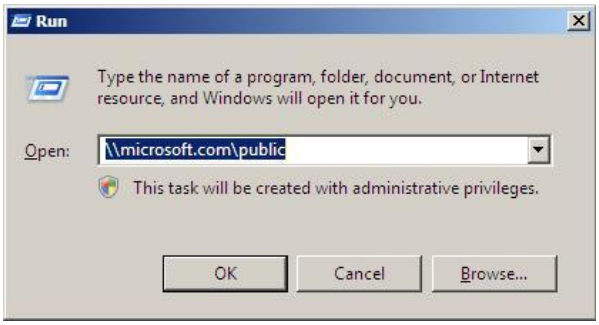


7. Click **OK.**



VERIFICATION:

1. **In SYS2 (Member Server) Go to Run →type (\\Domainname\Namespace Name)**

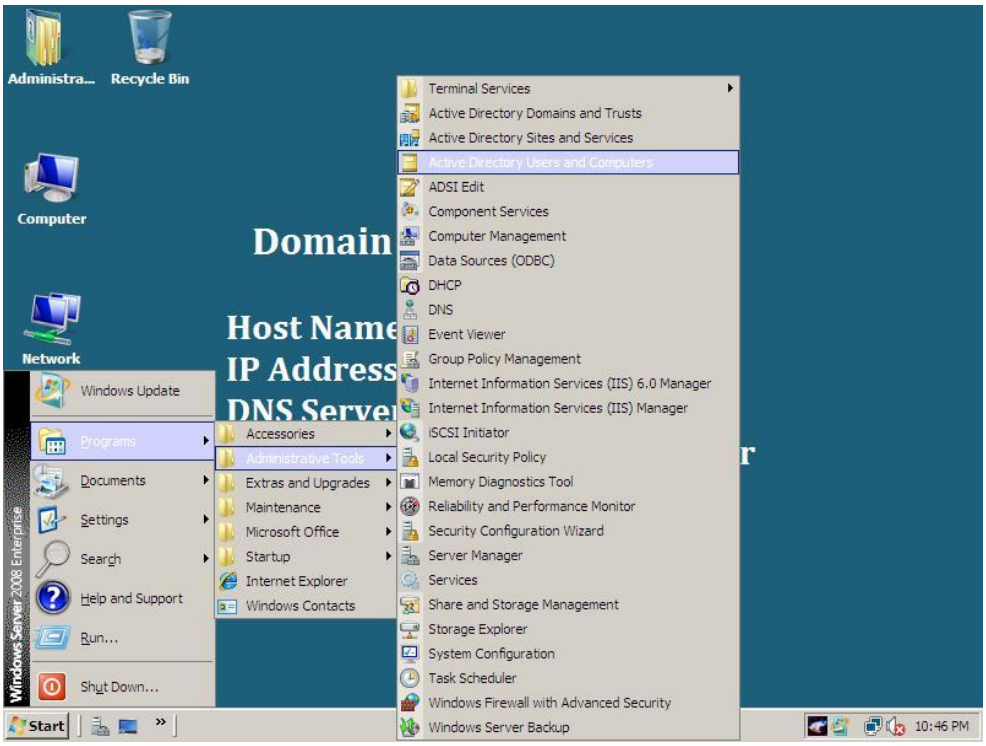


2. It will display the contents (Folders) of Namespace.

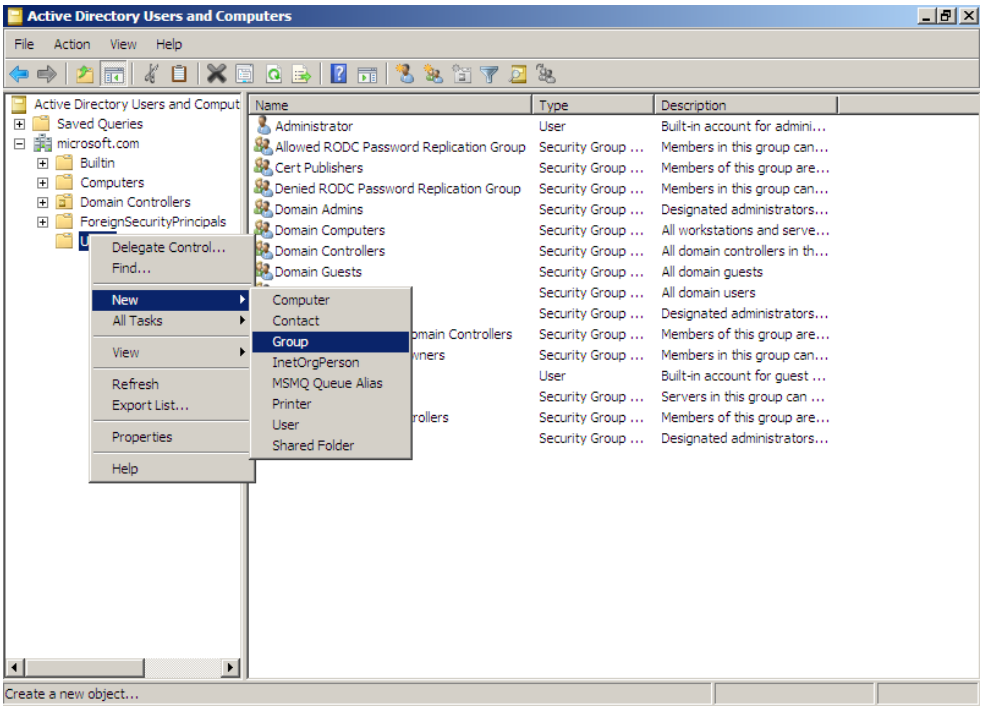
GROUPS

Creating Groups

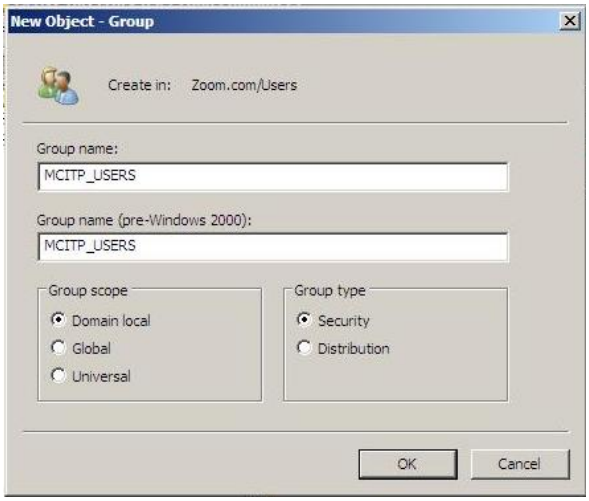
1. Login as **Administrator** on a **Domain Controller.**
2. Go to Start →Programs →Administrative Tools→ **Active Directory Users and Computers.**



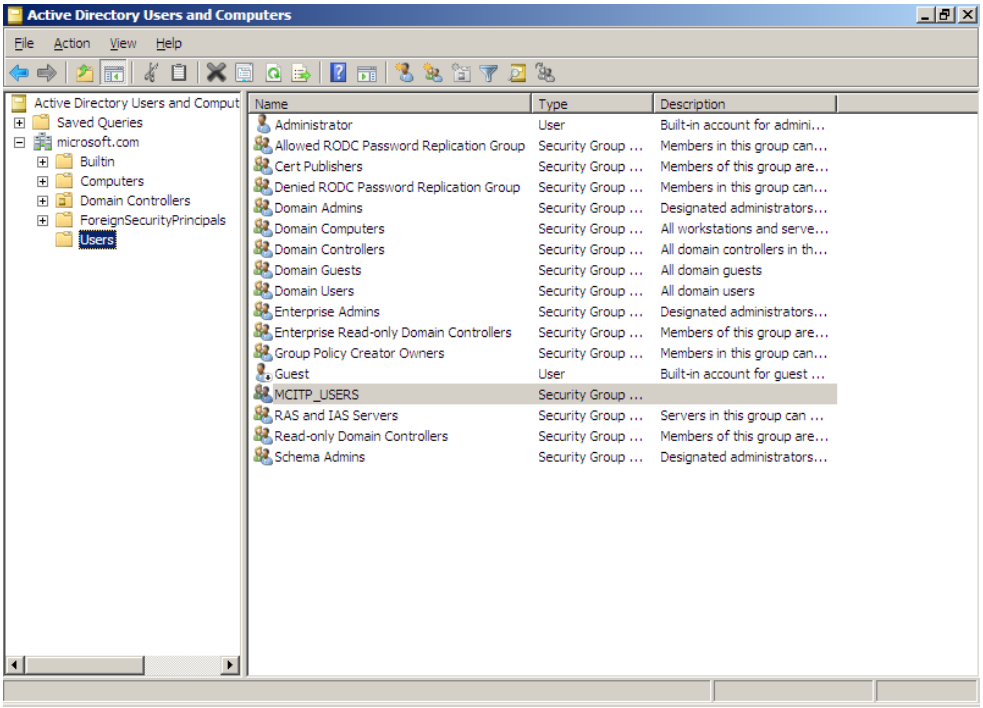
3. Right click **Users** → Select **New** → **Group**.



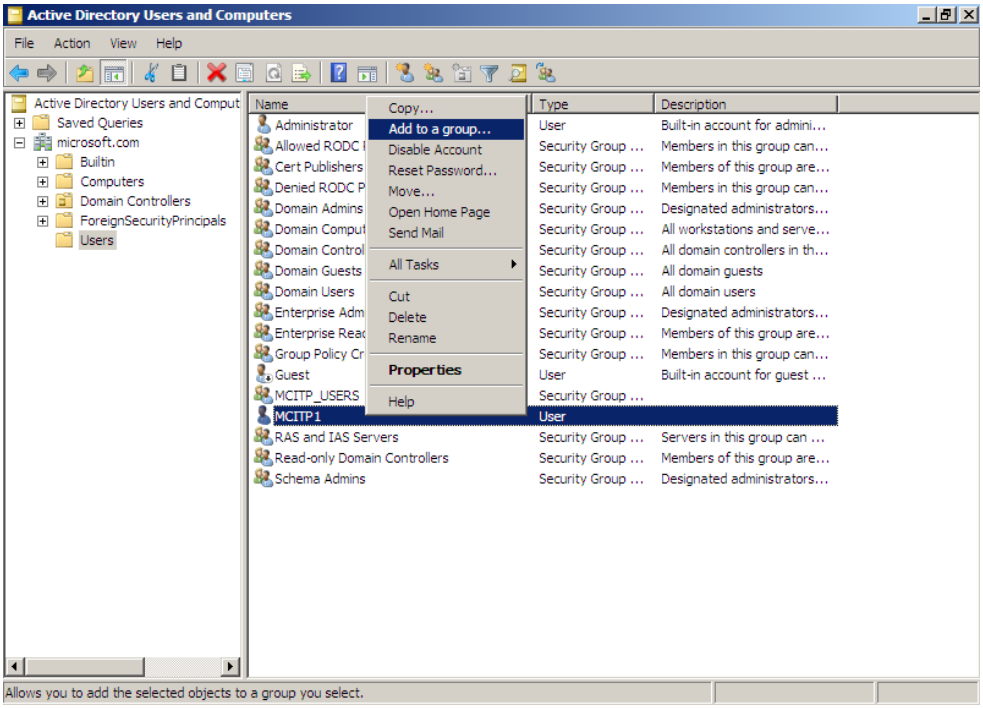
4. Mention the **Group name** & Select the Group Scope as **Domain Local**& Group type as **Security**.



5. Group will be created successfully.

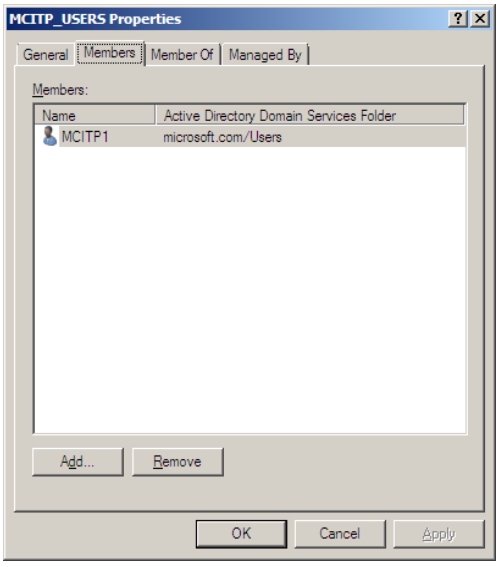


6. To add any users to this group, Right click on User account & Select **Add to a group** →Mention the group name as **MCITP_USERS** →click **OK.**

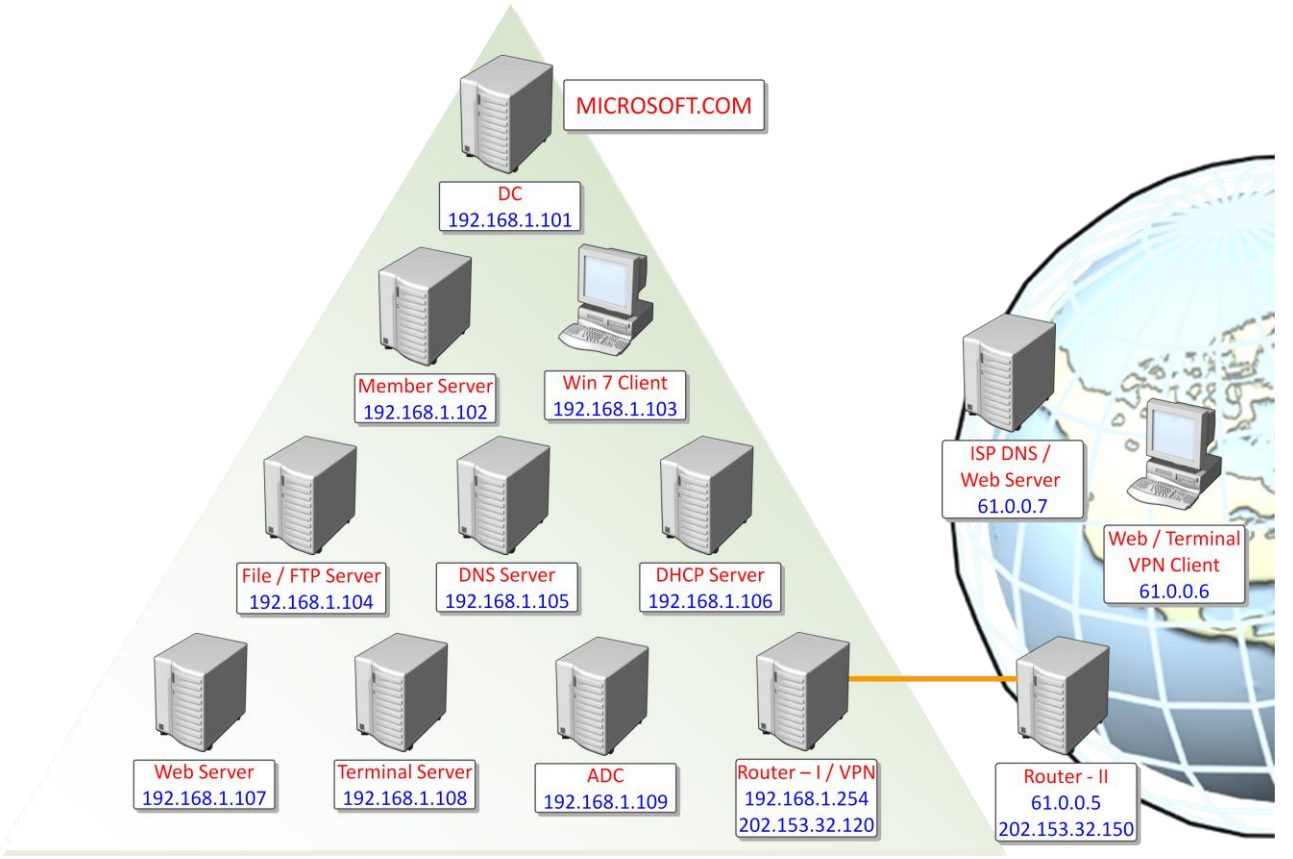


For Verification:

1. Go to **Active Directory Users and Computers** →Right click on **Group** →Select **Properties** →Select **Members** Tab → **Verify for the User.**



LIVE SETUP


MICROSOFT.COM
DC
192.168.1.101
Member Server
192.168.1.102
Win 7 Client
192.168.1.103
File / FTP Server
192.168.1.104
DNS Server
192.168.1.105
DHCP Server
192.168.1.106
Web Server
192.168.1.107
Terminal Server
192.168.1.108
ADC
192.168.1.109
Router – I / VPN
192.168.1.254
202.153.32.120
ISP DNS /
Web Server
61.0.0.7
Web / Terminal
VPN Client
61.0.0.6
Router - II
61.0.0.5
202.153.32.150

DOCUMENTATION OF LIVE SETUP

Prerequisite:

Internal Network

Servers:

Domain Controller	– 192.168.1.101
File server	– 192.168.1.104
DNS server	– 192.168.1.105
DHCP server	– 192.168.1.106
Local Web server	– 192.168.1.107
FTP server	– 192.168.1.104
Terminal {RDP} server	– 192.168.1.108
Additional Domain controller	– 192.168.1.109
VPN server	– 192.168.1.254

Clients:

Member Server	– 192.168.1.102
Windows 7 Client	– 192.168.1.103

Router I

LAN Interface	– 192.168.1.254
WAN Interface	– 202.153.32.120

External Network:

Router II

WAN Interface	– 202.153.32.150
WAN2 Interface	– 61.0.0.5

Clients:

Client	– 61.0.0.6
Web server	– 61.0.0.7

Configure 61.0.0.7 as Internet Web Server and DNS Server for www.Whatismyip.com

CONFIGURATION STEPS

- Configure **192.168.1.101 as Domain Controller** along with DNS with the name **Microsoft.com**
- **Join** all the systems to the domain (Windows 2008 / Windows 7)
- **Create Users on DC** & login using the same user from Client (Windows 2008 / Windows 7)
- Configure **192.168.1.104 as File Server**
    - User profiles - Roaming
- Configure the Separate **DNS server** for Domain {obtain SRV Records} **on 192.168.1.105**
- Configure **192.168.1.106 as DHCP Server**
    - Scope
    - Reservation for File server etc,
    - Assign Dynamic IP's to all systems
- Configure **192.168.1.107 as Web Server** for www.Microsoft.com
    - Create DNS zone for this site on DNS server only {192.168.1.105}.
    - Access this web site from Internal network
- Configure **192.168.1.104 as FTP Server**
    - Access this FTP site from Internal network
- Configure **192.168.1.108 as Terminal {RDP} Server**
    - Access this Terminal server from Internal network

- Configure **192.168.1.109 as ADC for Microsoft.com**
    - Turn off the DC & login as user from **Client** or **Member Server**.
- Configure **192.168.1.254 as Private Router I** and **WAN IP is 202.153.32.120**
    - Add Static Route for 61.0.0.0 network
- Configure **202.153.32.150 as the Public Router II** and **WAN IP is 61.0.0.5**
    - Add Static Route for 192.168.1.0 network
    - Access www.Microsoft.comfrom External network
    - Access the Local FTP site from External network
- Configure **Router I as NAT server**
    - Configure Local DNS Server to forward the request to ISP DNS server{61.0.0.7}
    - Access www.whatismyip.comfrom Internal network
- Configure **ROUTER1 as VPN Server**
    - Access the VPN server from External network
- Maintain **61.0.0.6 as public client** to access Terminal Server, VPN Server & Web sites.
    - Create a VPN Tunnel from **61.0.0.6** to **202.153.32.120**
    - Access www.Microsoft.com from External network through VPN
    - Access the Terminal server from External network through VPN