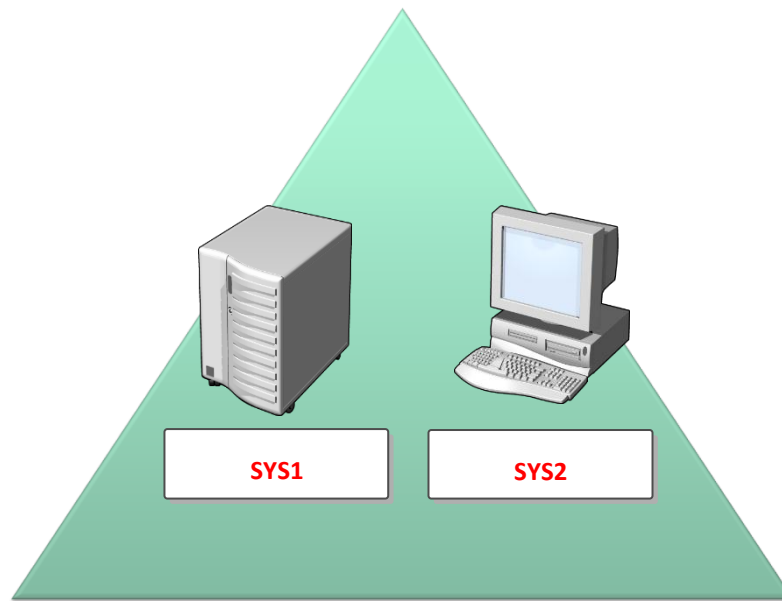# DYNAMIC HOST CONFIGURATION PROTOCOL (DHCP)

Prerequisites:

Before working on this lab, you must have

1.   A computer running windows 2012 server or Domain Controller.

2.   A computer running windows 2012 server or windows 7.

SYS1

SYS2

MICROSOFT.COM

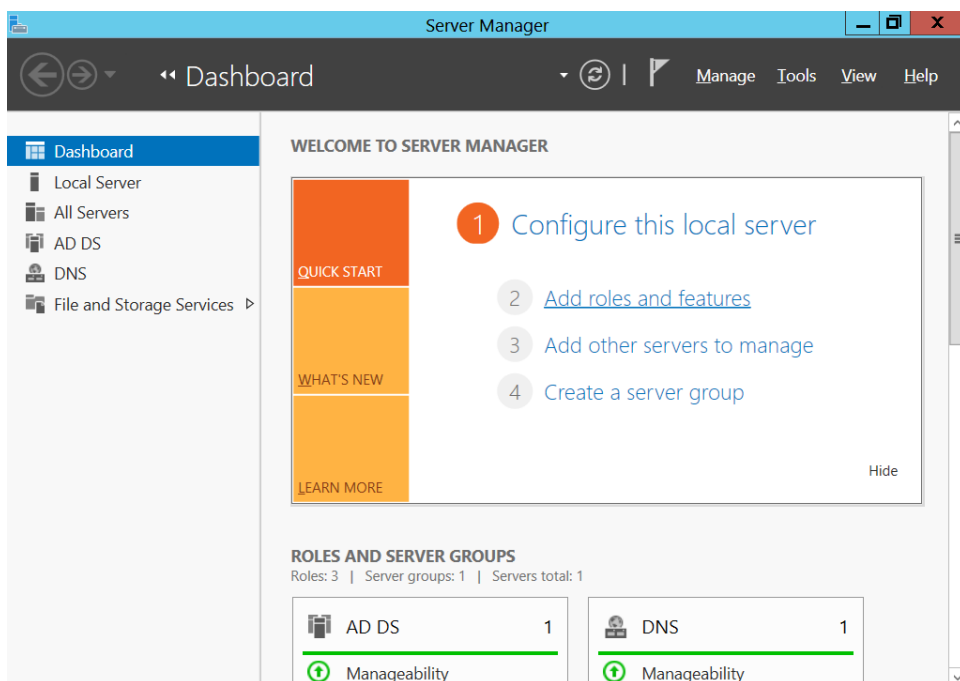| **SYS1**		**SYS2**	
Domain Controller / DHCP Server		**Member Server / Client**	
IP Address	10.0.0.1	IP Address	10.0.0.2
Subnet Mask	255.0.0.0	Subnet Mask	255.0.0.0
Preferred DNS	10.0.0.1	Preferred DNS	10.0.0.1

Lab – 1: Installing DHCP Service
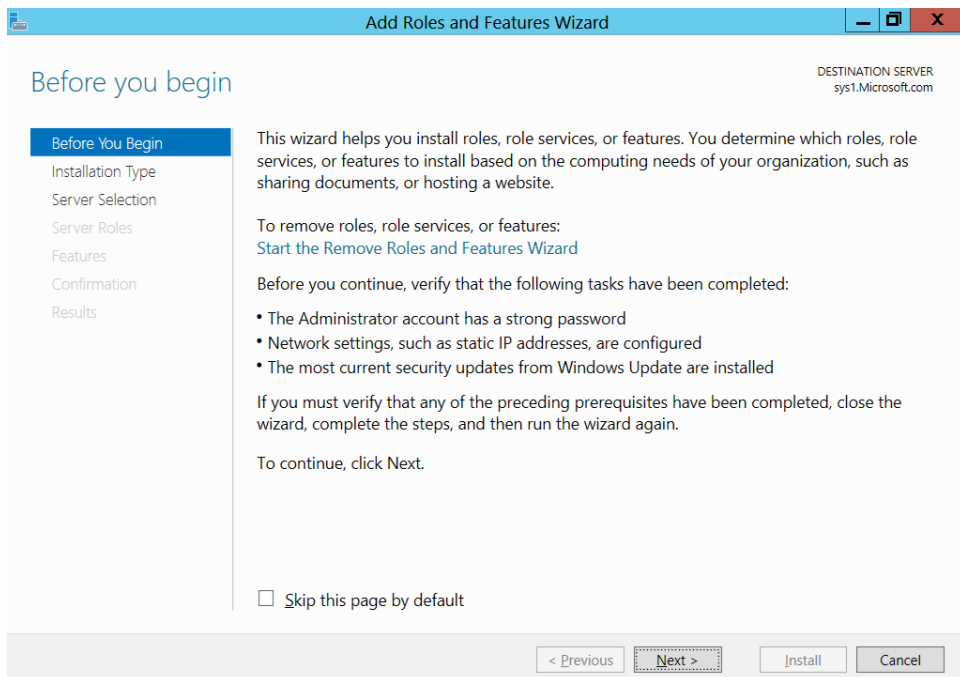
SYS1 - CONFIGURATION
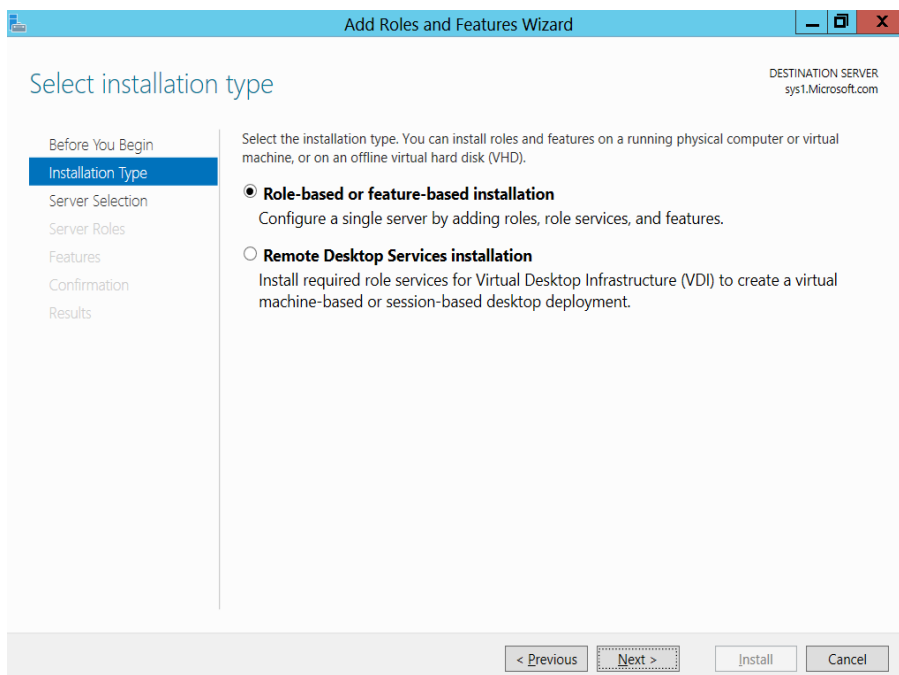
1. Click **Server Manager.**

2. In the Server Manager Console, Select **Add roles and features**

3.   In Before you begin page, click **Next.**

4.   Select **Role-based or feature-based installation,** click **Next.**
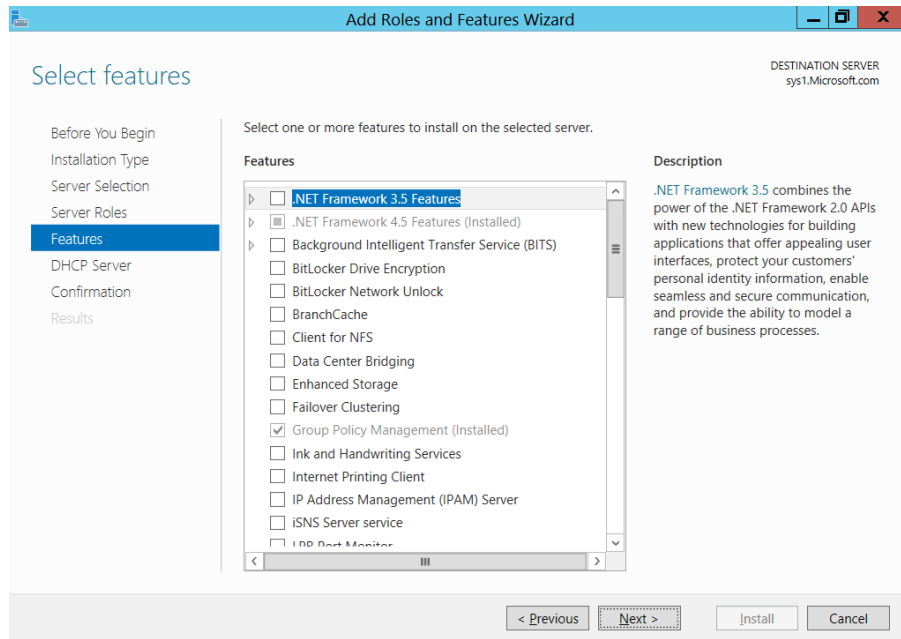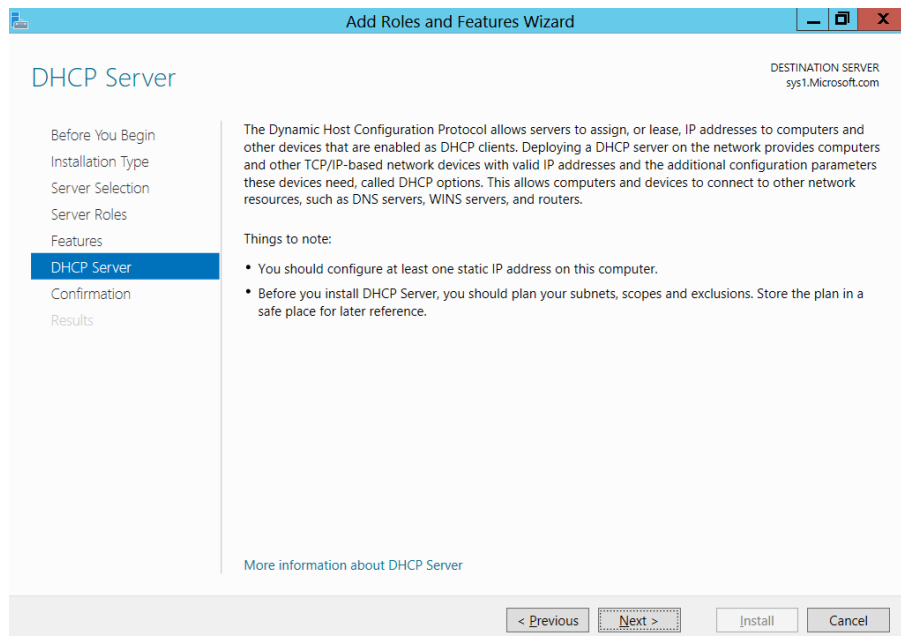
5.   Select a server (**sys1.Microsoft.com**) from the server pool and click **Next**.
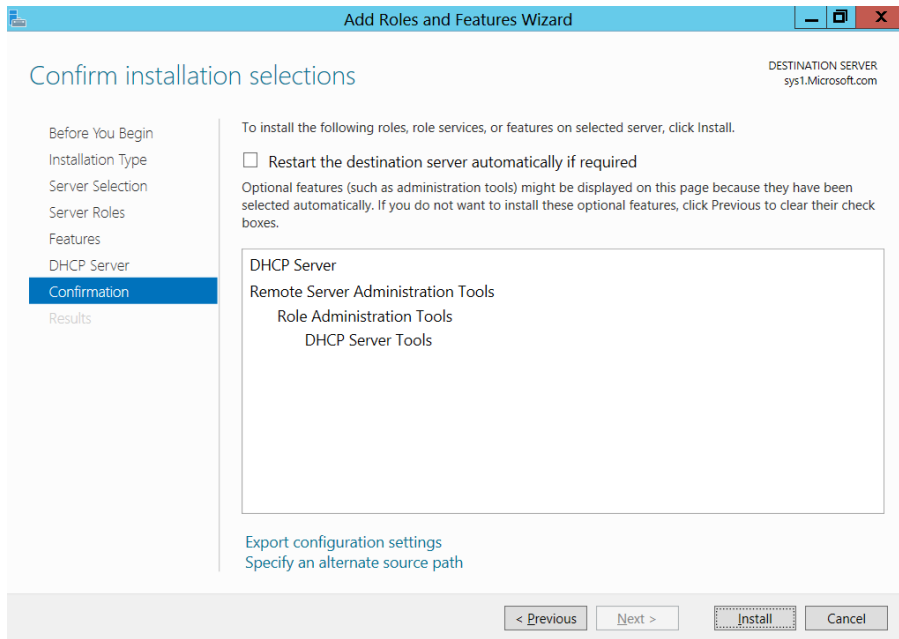

6.   In select server roles, check the box DHCP Server and click **Next.**

7.   In select features, click **Next**.
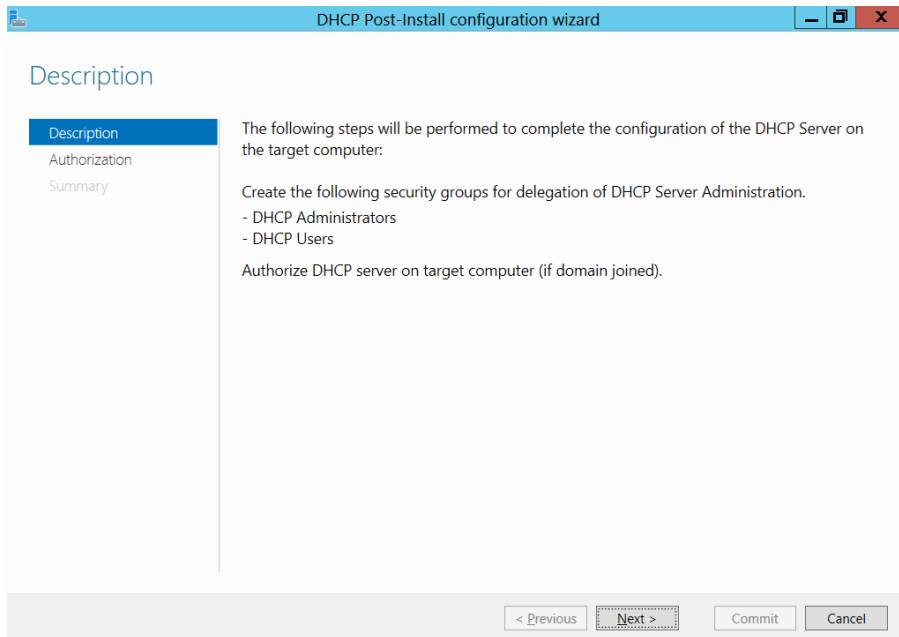

8.   Click **Next**.

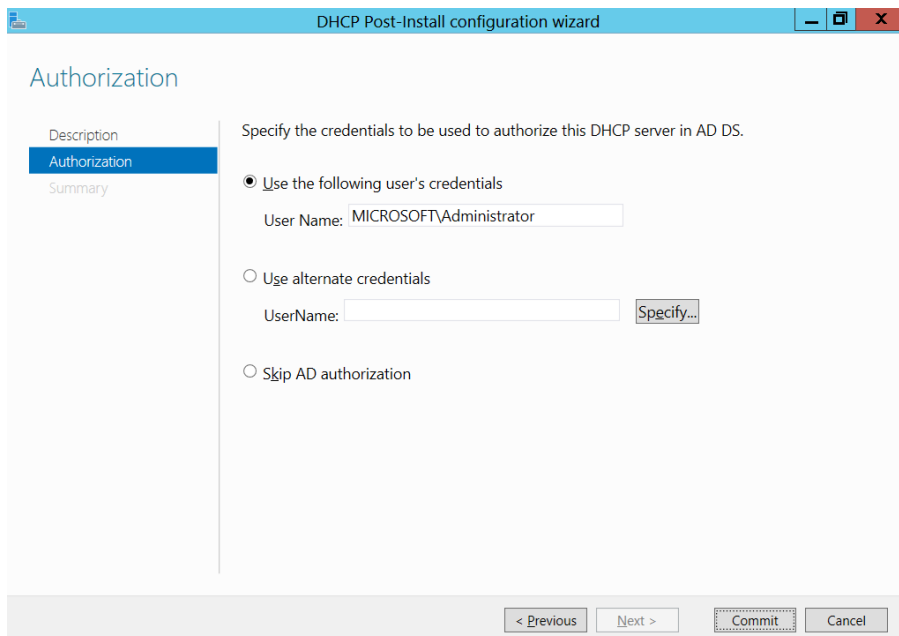9. Check Restart the destination server automatically if required and click **Install**.

10. Select **Complete DHCP configuration**.
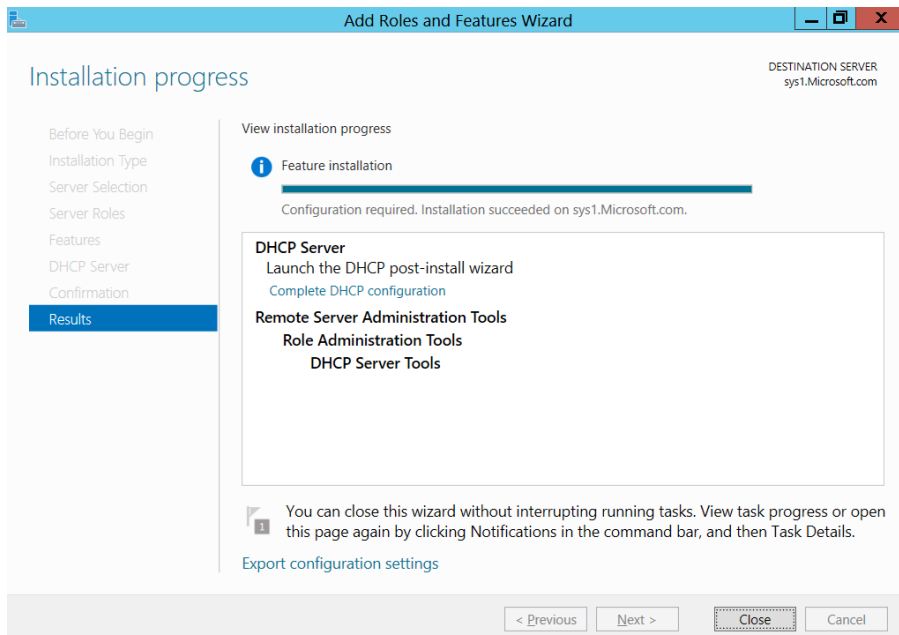
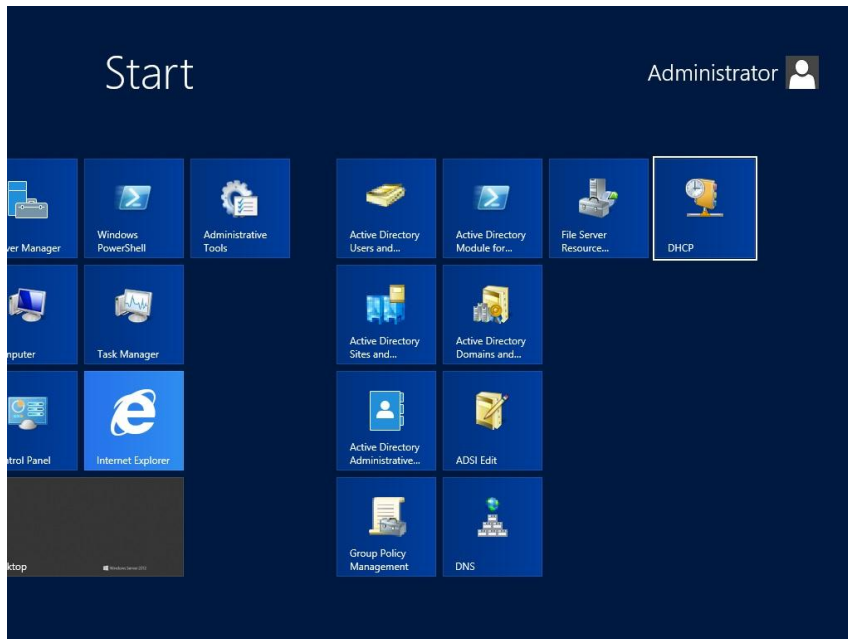11. In DHCP Post-install configuration wizard, click **Next**.

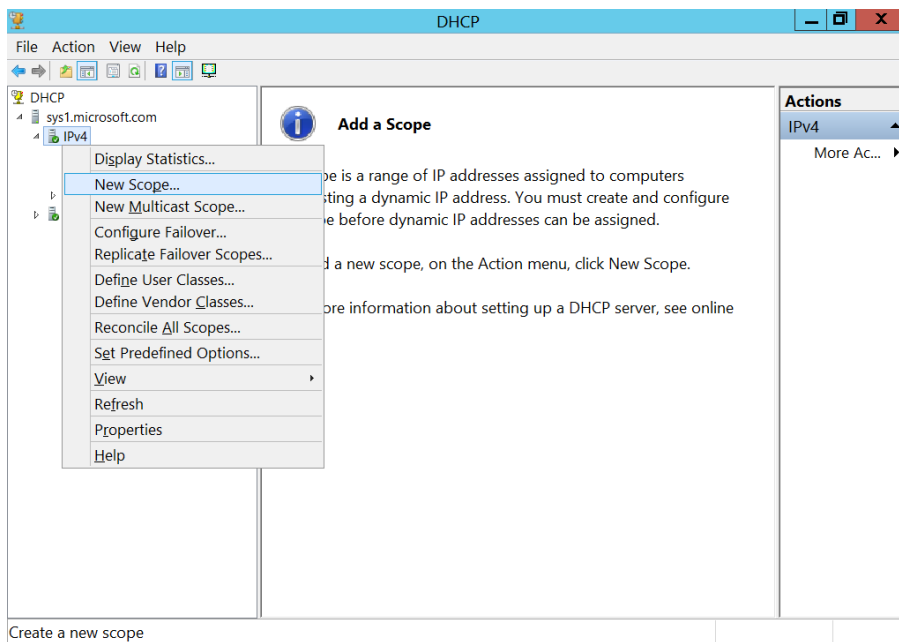12. Click **Commit** to Authorize the DHCP Server.

13. Click **Close** to Complete the Authorization of DHCP Server.
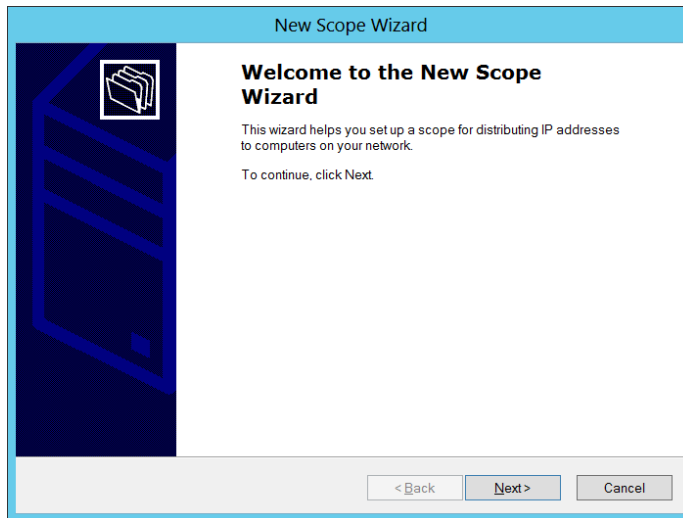
Lab – 2: <u>Creating a scope</u>
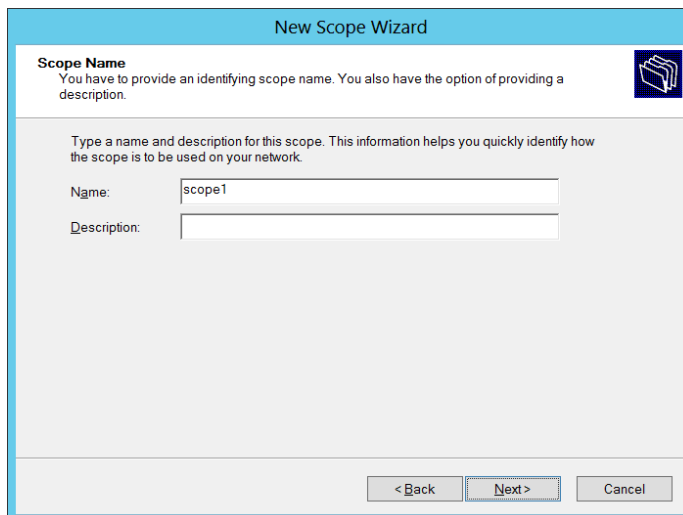
1. Go to Start, select **DHCP.**

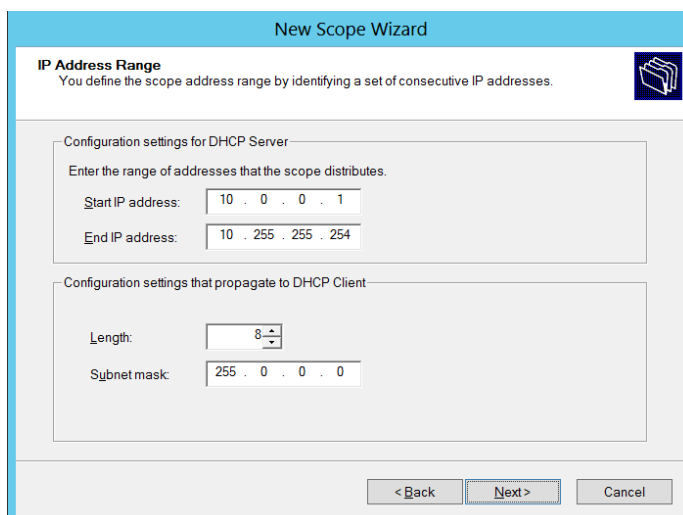2. Expand the System name →right click IPv4 →select **New Scope**

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

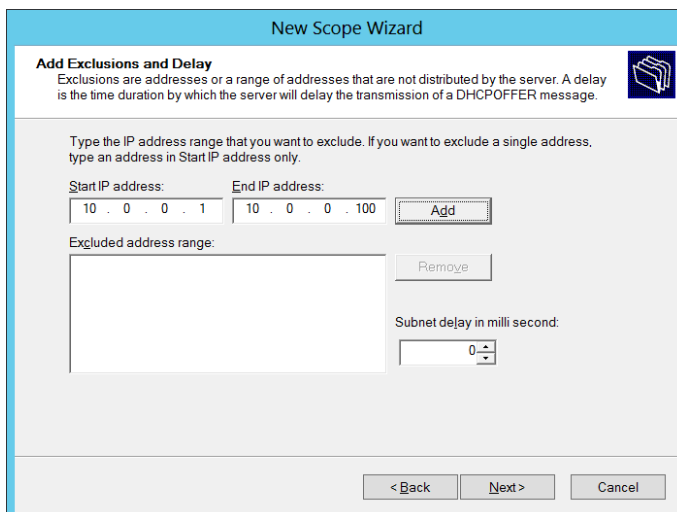4. Enter **Name** and a **Description** for the scope and click **Next**.

5. Enter the IP Address Range to be leased to clients, click **Next.**
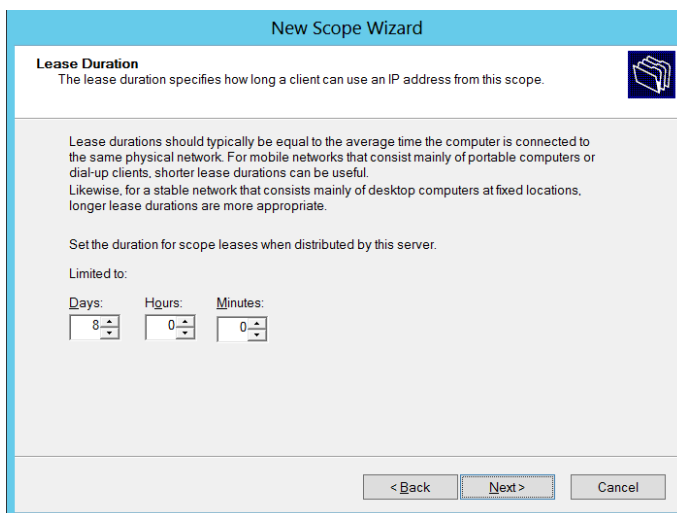

Note: Mention the scope range in the same network of DHCP server.

6. To exclude IP addresses, enter the **Start and end IP address**, click **Add**. Click **Next.**
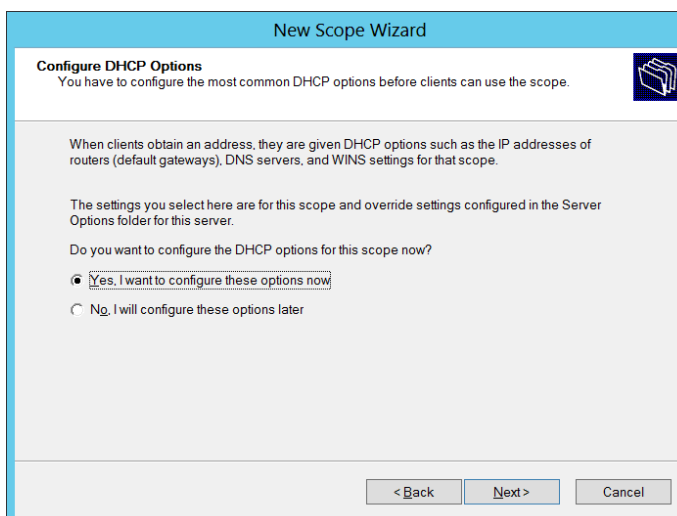

7. In the **Lease Duration** screen, you can Increase or Decrease the value, click **Next**.
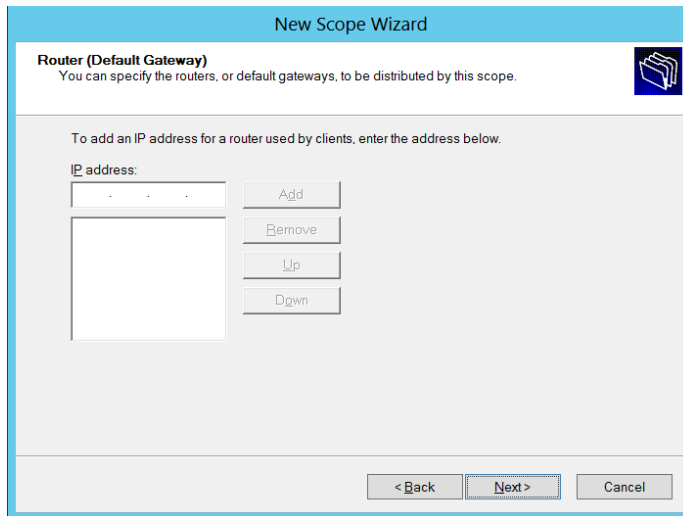
8. In the Configure DHCP Options screen, choose **Yes, to** configure DHCP options for this scope (such as routers, DNS, and WINS settings) now. Click **Next.**
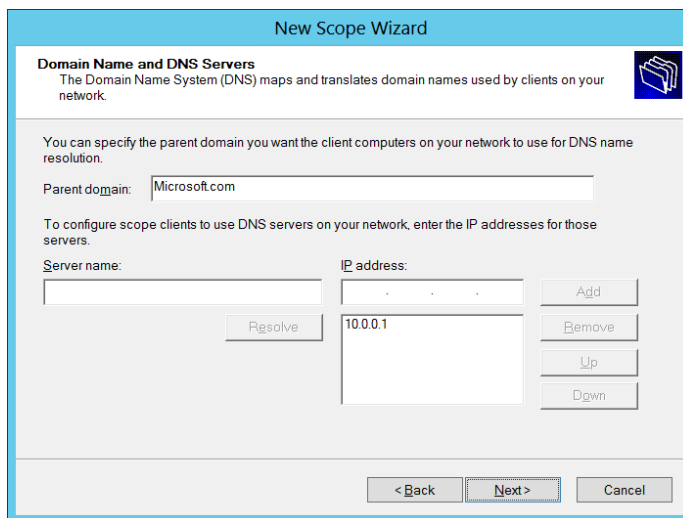
9. In the **Router** (Default Gateway) screen, enter the IP address of the **router** that will function as the **default gateway** for this scope clients and click **Add**. Or, if you don't have a **Router** in your network, just click **Next.**

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**, 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**.**
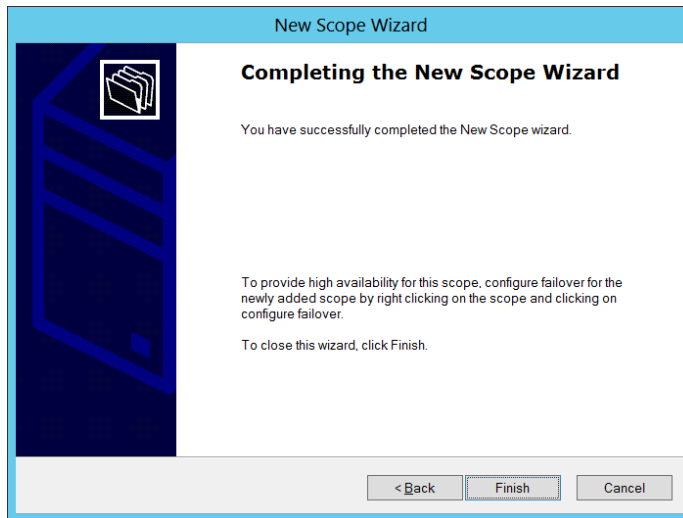
SYS2 - CONFIGURATION

Verification: In DHCP Client

1. Right click 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** and **Obtain an DNS Server Address Automatically** →OK
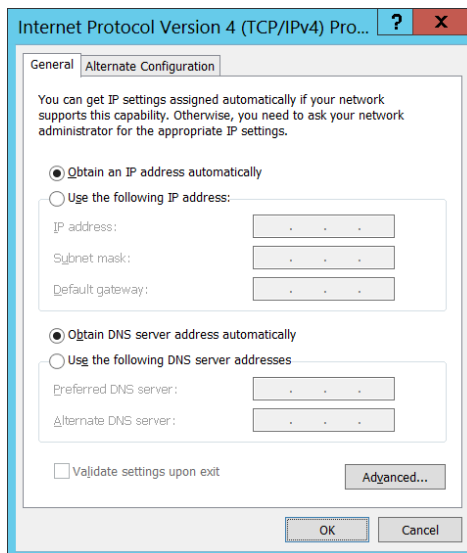
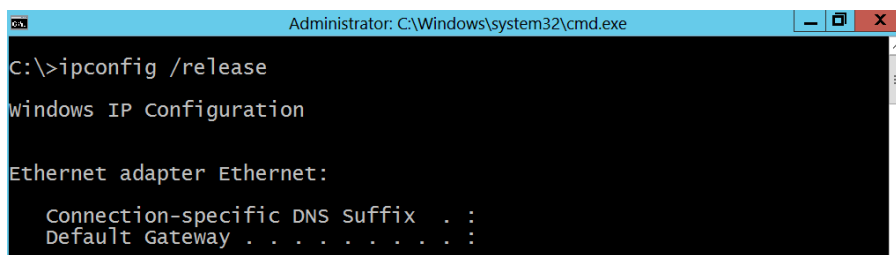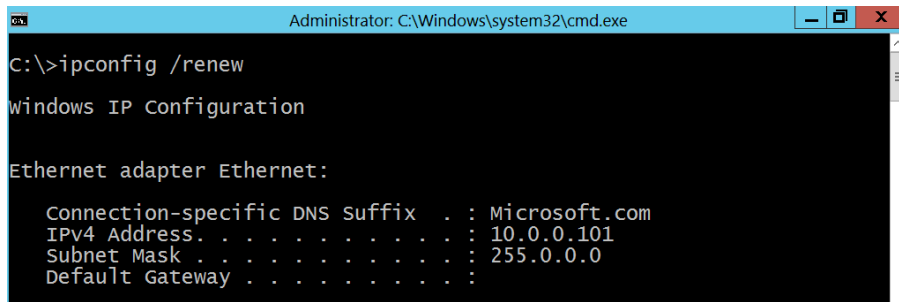2. Open the **Command Prompt** →and type **ipconfig /release**

3. Then type **ipconfig /renew**

4. After that Right click on network Icon →Select properties →click View Status and click **Details**.
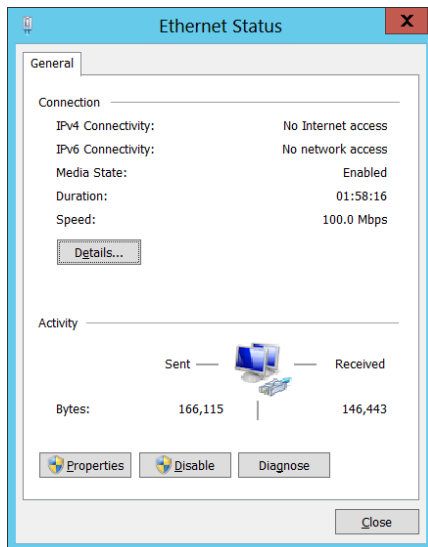
5. Verify the IP Address leased by the DHCP Server along with the lease duration and DHCP Server and DNS Server details.
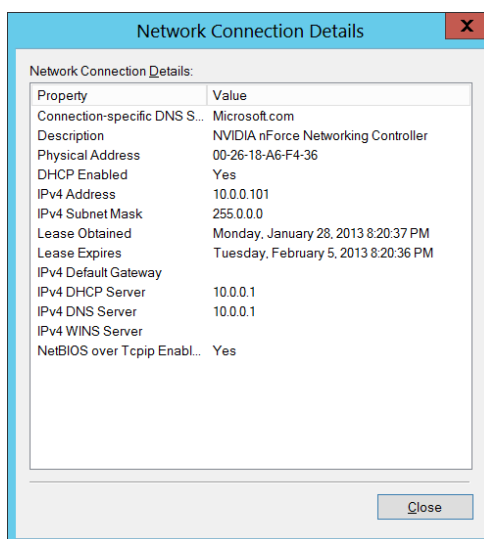
Lab – 3: Creating DHCP Reservations

SYS1 - CONFIGURATION
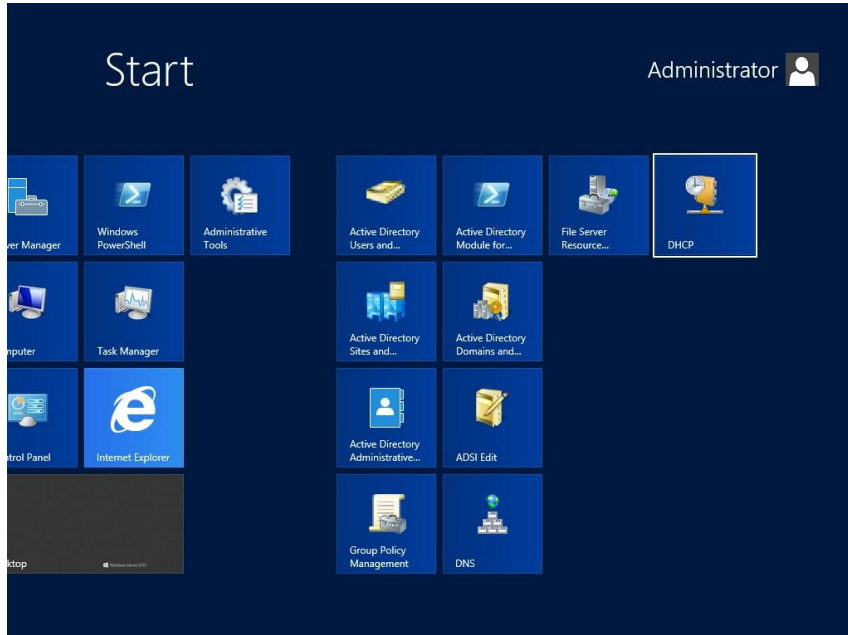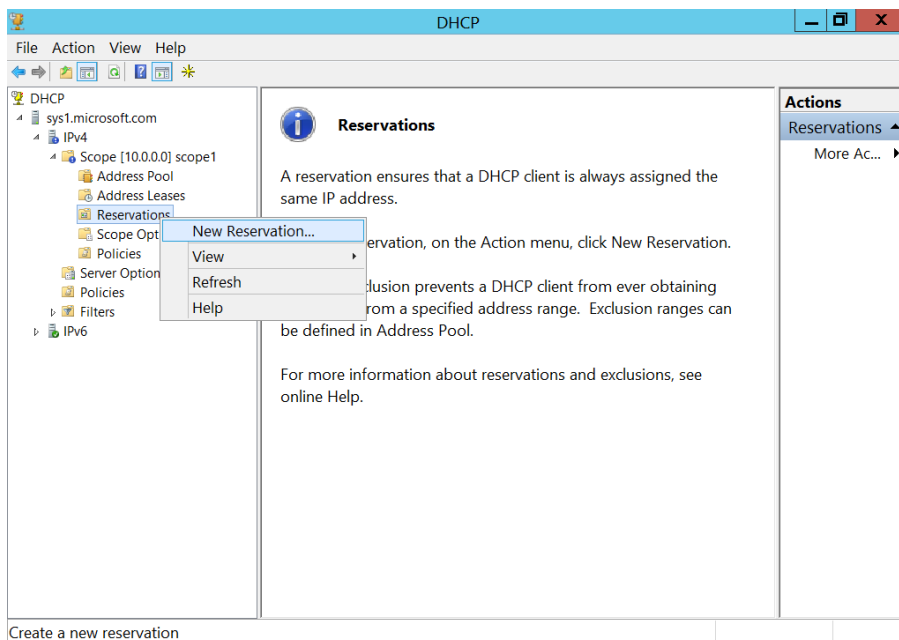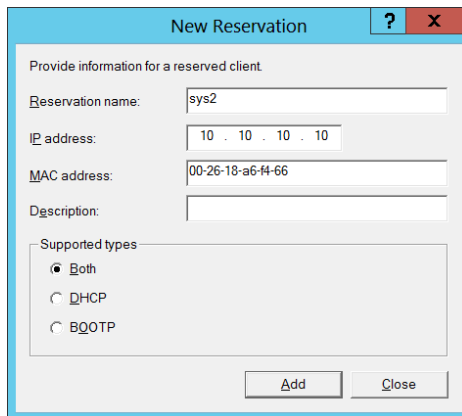
1.   Go to Start, select **DHCP**.

2.   In the left pane of the DHCP Console, expand the Scope→ Right click **Reservation**
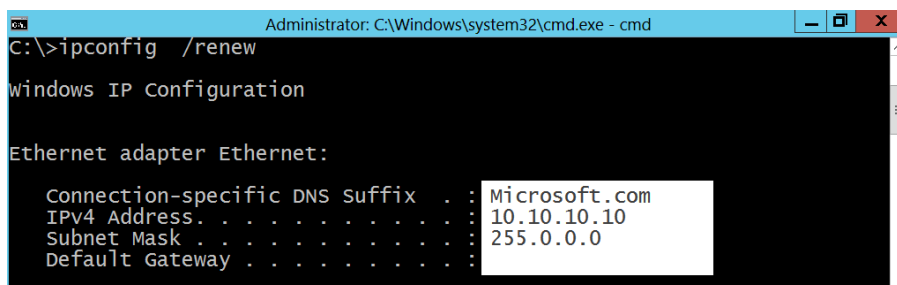
→Select **New Reservation**

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.
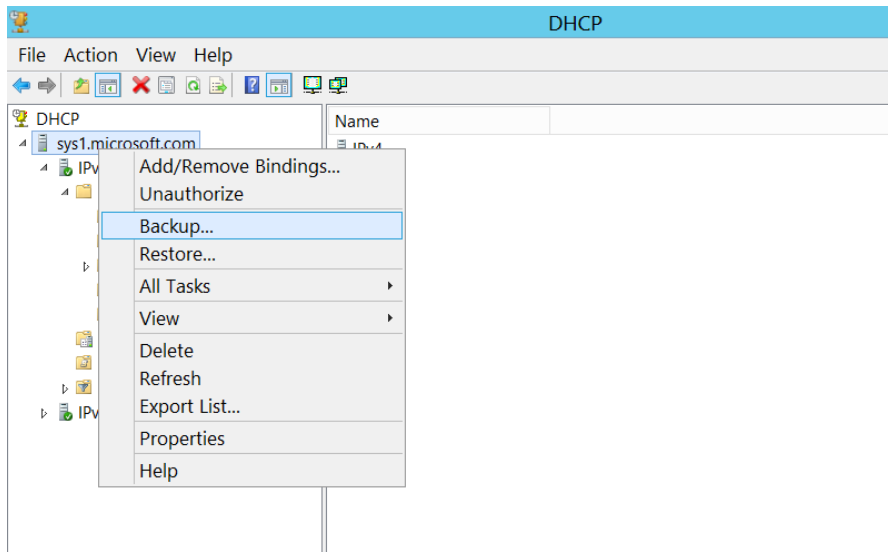

Check the output in the client computer (SYS2).

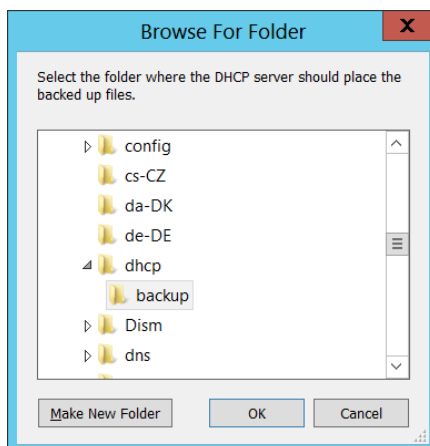4. In the command prompt type **ipconfig /release** and **ipconfig /renew.**

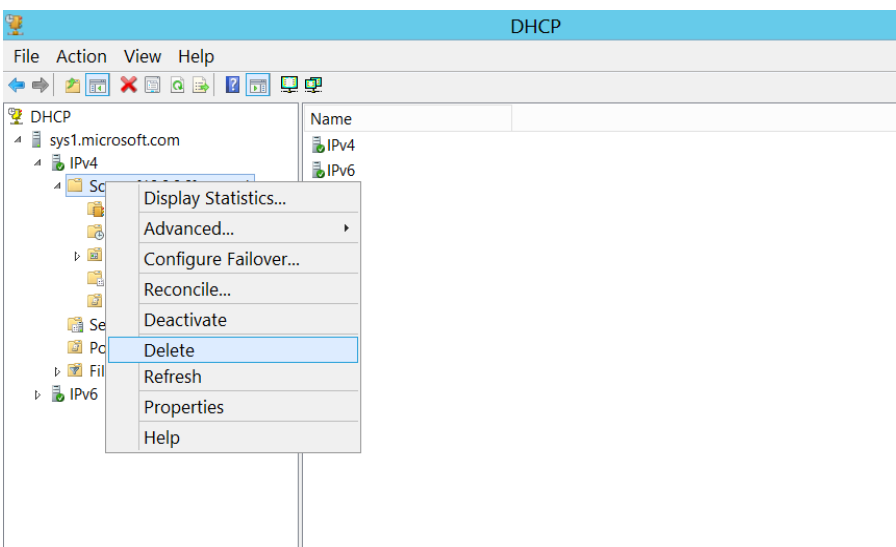## Lab – 4:DHCPServer Backup and Restore

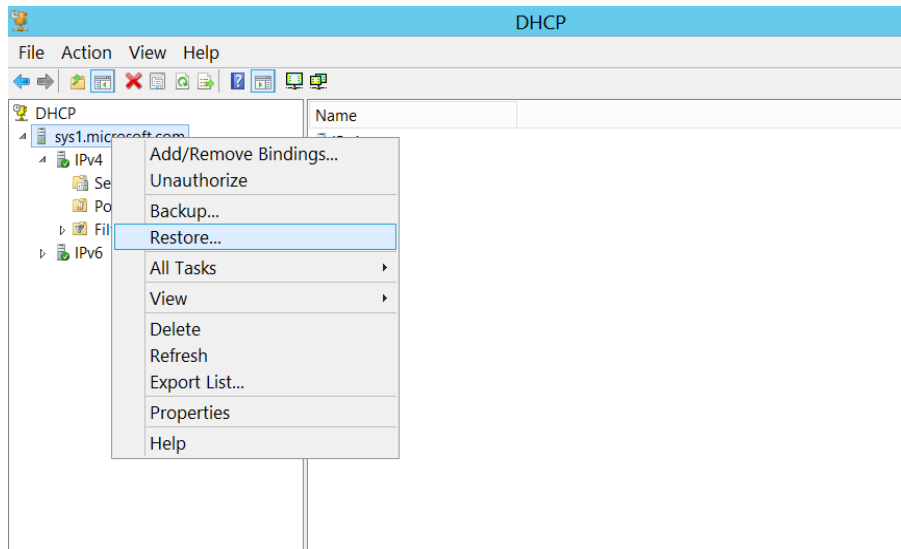1. Go to DHCP console →right click the server name →select **Backup**

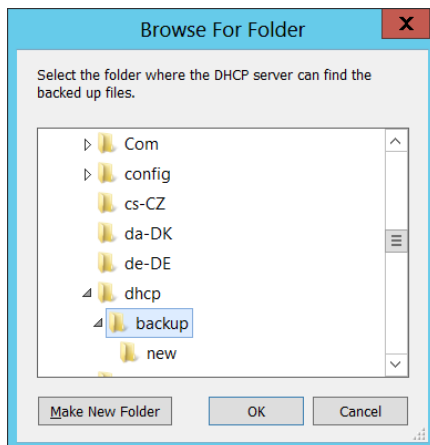2. Select the Location to save the **backup file →OK**
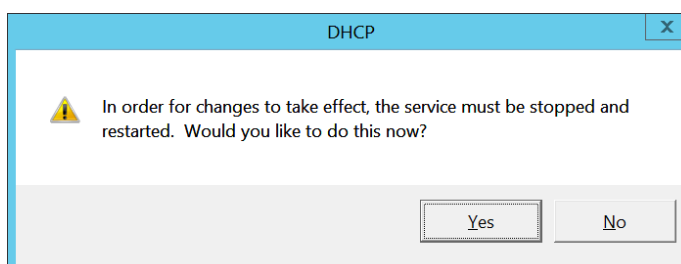

3. **Delete** the Existing scope

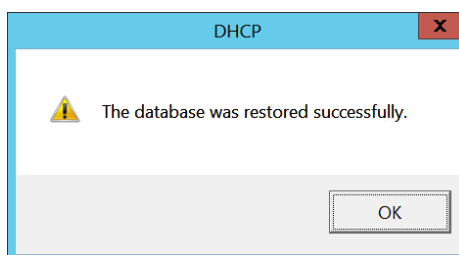4. In DHCP Console →right click the server name →select **Restore.**

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

6. Click **Yes.**

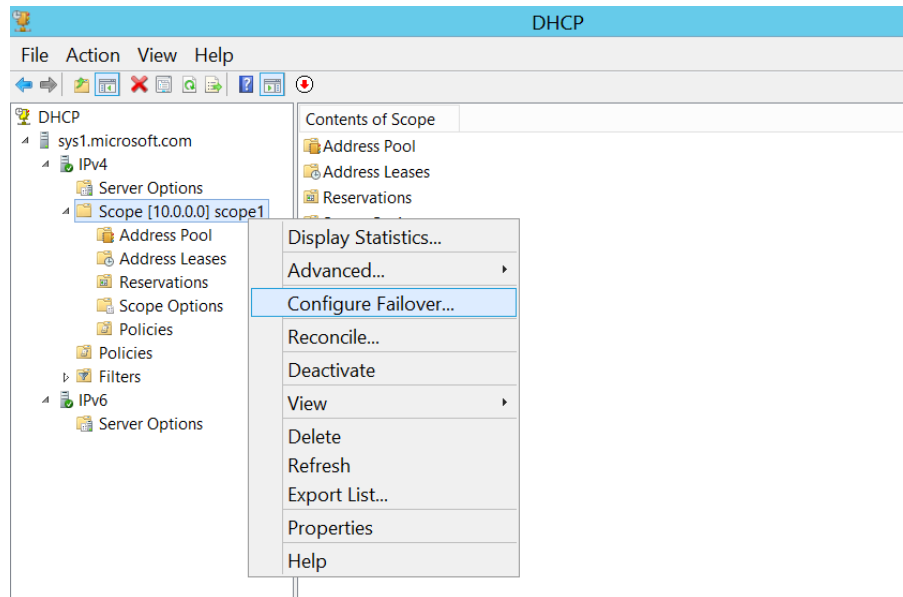7. Click **OK** and for the Scope restored in DHCP Console.

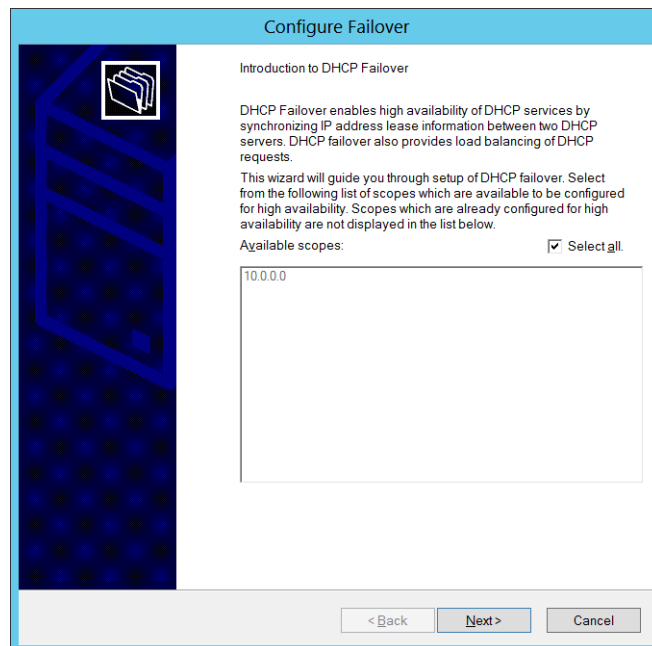## Lab – 5:Configuring DHCP Server Failover

SYS2 - CONFIGURATION

1. Install DHCP Server Role on SYS2 and Do not Authorize the Server.
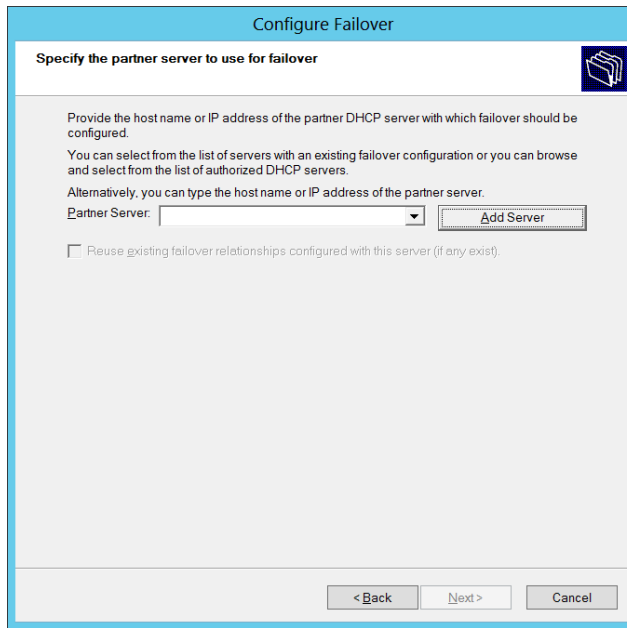
SYS1 - CONFIGURATION

2. Go to DHCP console →In left pane, expand Server name →Expand IPv4 →right

    click Scope→ select **Configure Failover**

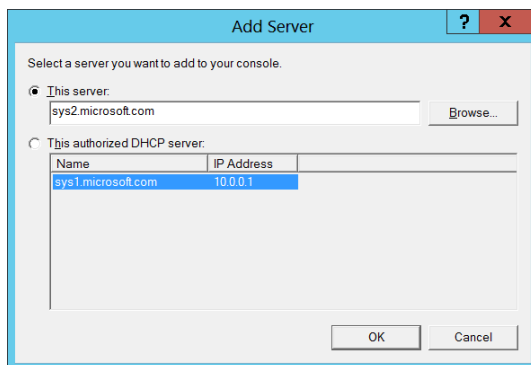3. In Introduction to DHCP Failover wizard, click **Next**.

4.   Click **Add Server** to add the Failover Server.

5.   In Add Server, Browse and Select the server (**sys2.microsoft.com**), click **OK**.

6.   Select the Mode, **Enable Message Authentication** and enter Shared Secret, **Next**.

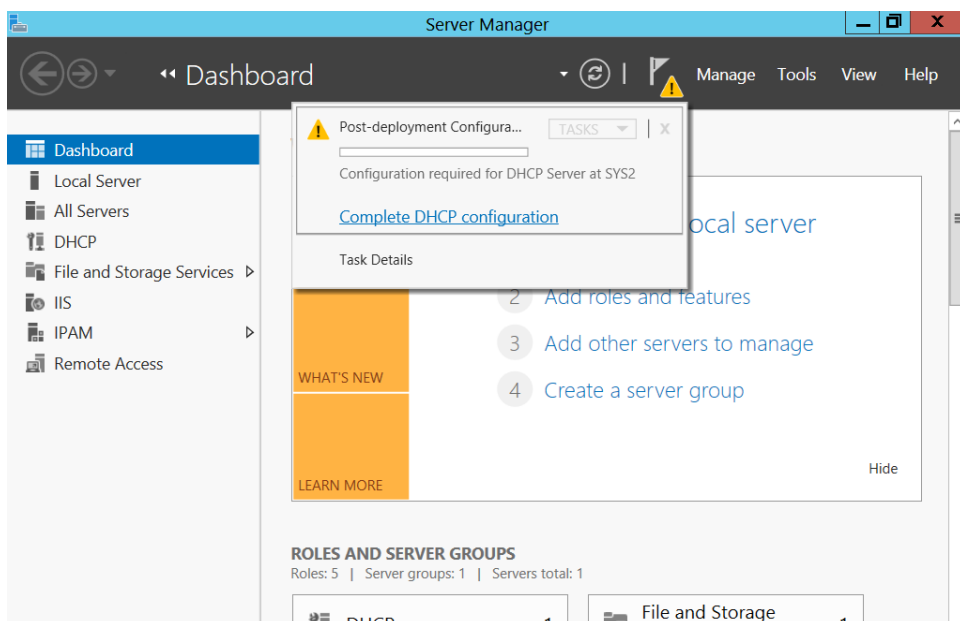7.   To Complete the Failover, click **Finish**.
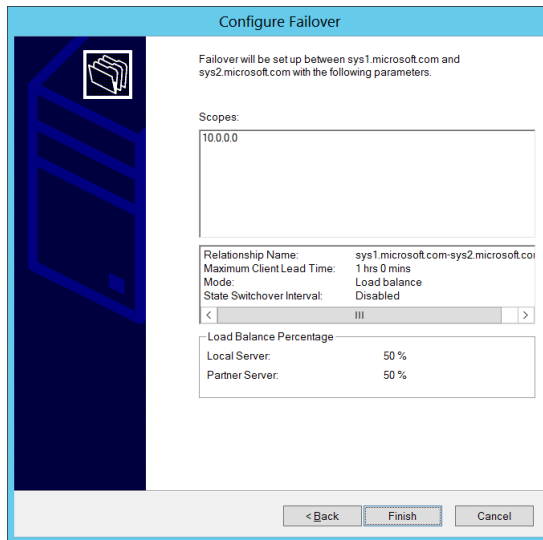
8.   Verify the Summary to be **Successful**.
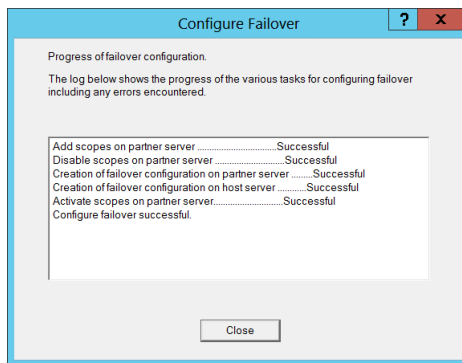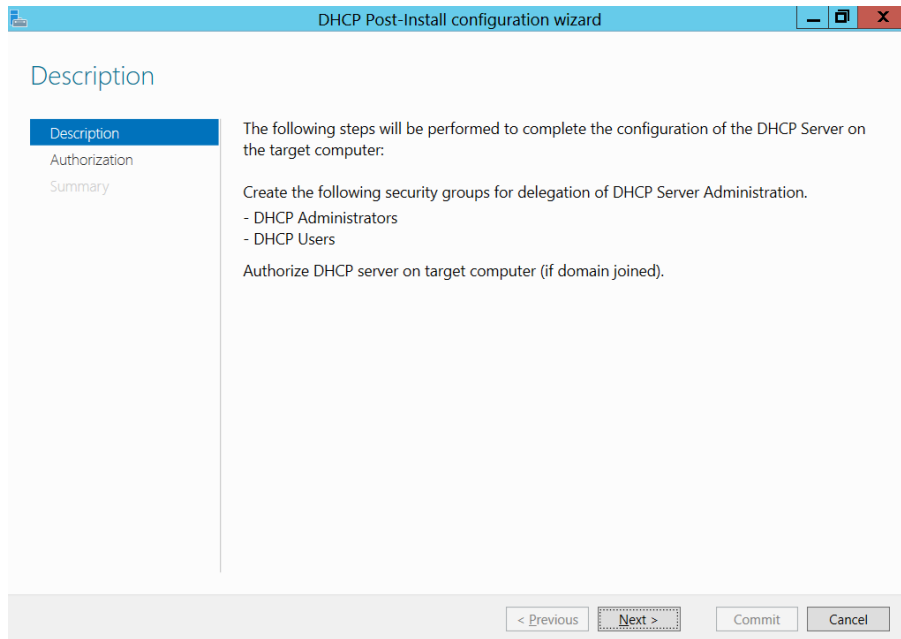

SYS2 - CONFIGURATION

1.   Go to Server Manager Dashboard, select notification flag, **Complete DHCP Configuration**.

2.   In DHCP Post-Install configuration wizard, click **Next**.

3.   Click **Commit**, to Authorize the DHCP server **sys2.microsoft.com**

4.   Verify the summary and click **Close**.
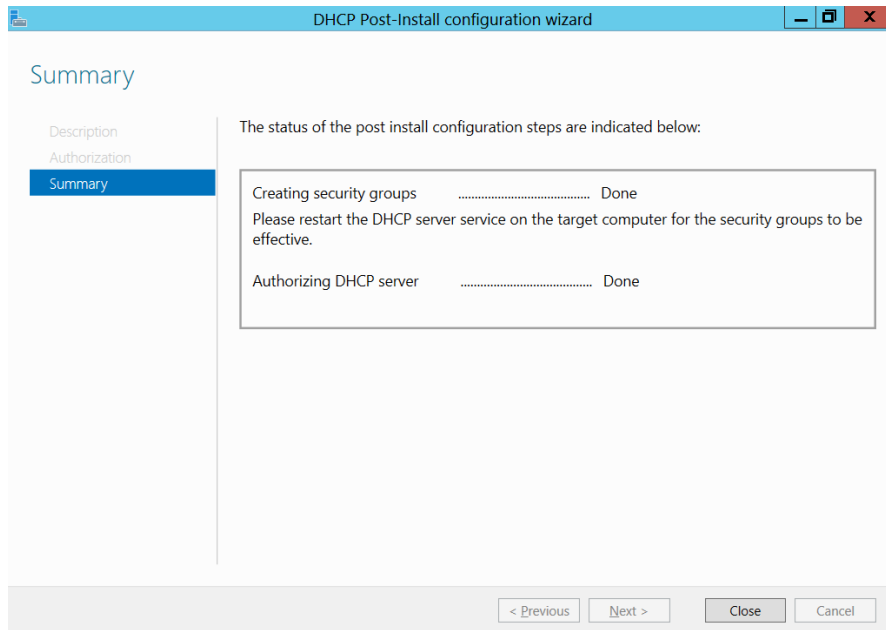
Verification:

1.   Go to DHCP console and verify the scope replicated from sys1