

Lab: Installing and Configuring DHCP

Estimated time needed: 20 minutes

In this lab scenario, you are an IT administrator for a medium-sized company that uses a local area network (LAN). The company has recently expanded and added new computers to the network. Your task is to manage the IP addresses effectively. You have decided to use a Dynamic Host Configuration Protocol (DHCP).

A DHCP server significantly simplifies IP management by dynamically assigning IP addresses to new computers on the network, ensuring no duplicates, and optimizing network usage. This automation will help save time, enhance network reliability and efficiency, and reduce the risk of human error in manual IP configuration.

Objectives

After completing this lab, you will be able to:

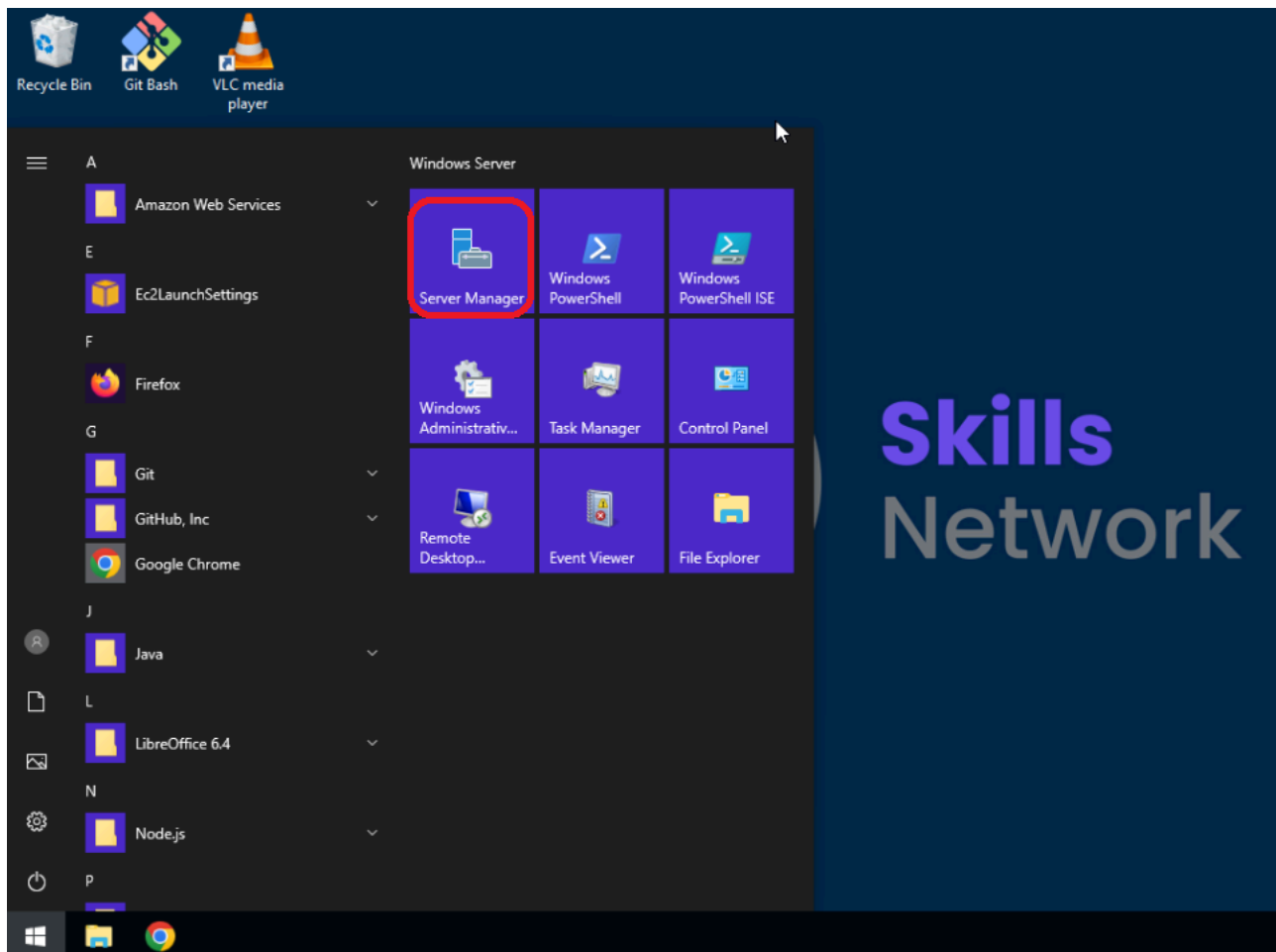
- Install the DHCP server role.
- Add a scope of IPv4 addresses between 192.168.1.2 and 192.168.1.254.
- Create an exclusion to ensure that the static IP addresses of your six printers are not distributed to other devices.

Exercise 1: Installing and Configuring DHCP

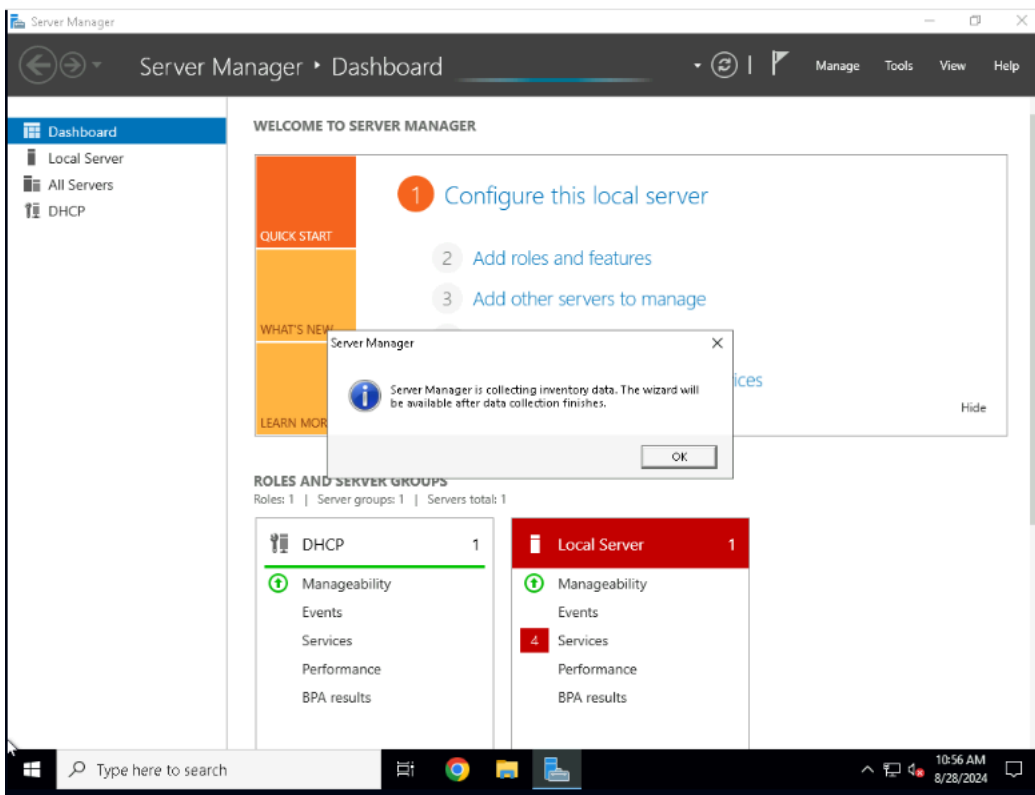
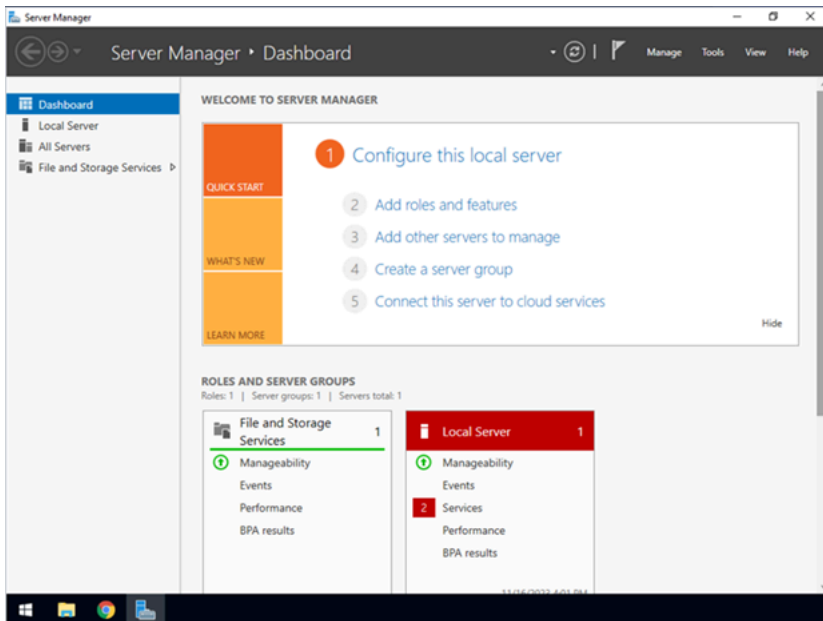
In this exercise, you will install and configure the DHCP server.

Task A: Install DHCP Server Role

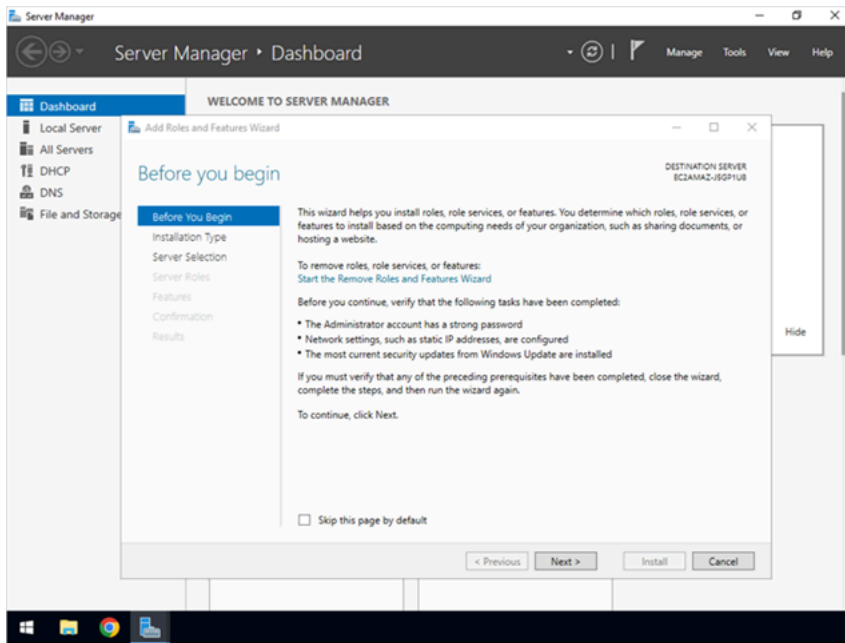
1. Select the **Windows** key. Open **Server Manager** on your Windows Server.



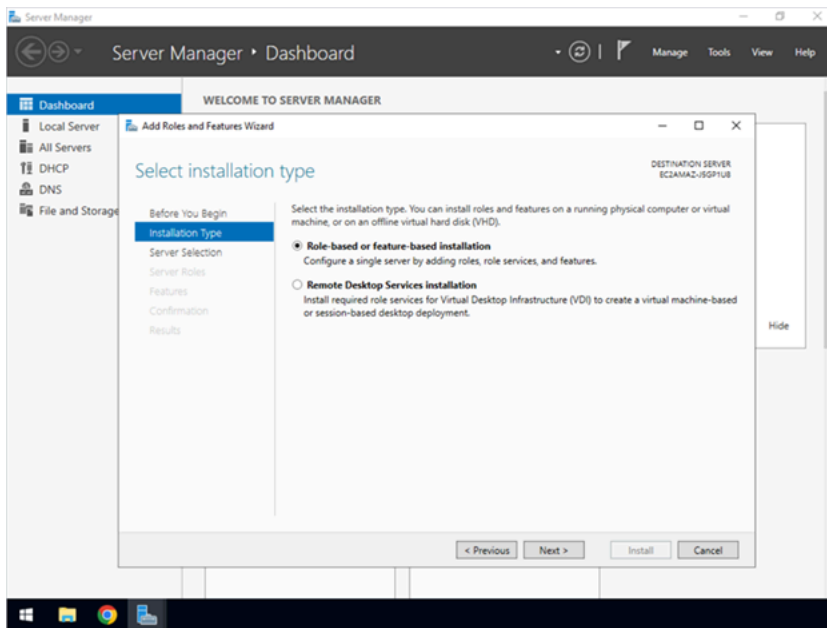
2. Select Add roles and features. Please try again if you get any pop up wizard stating as “The wizard will be available after data collection.”



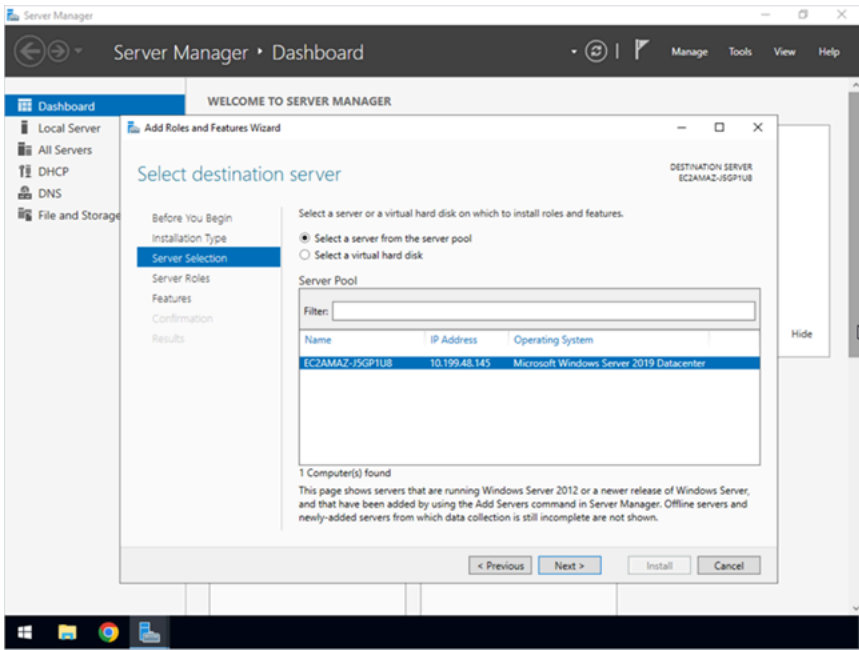
3. In the wizard that appears, click **Next**.



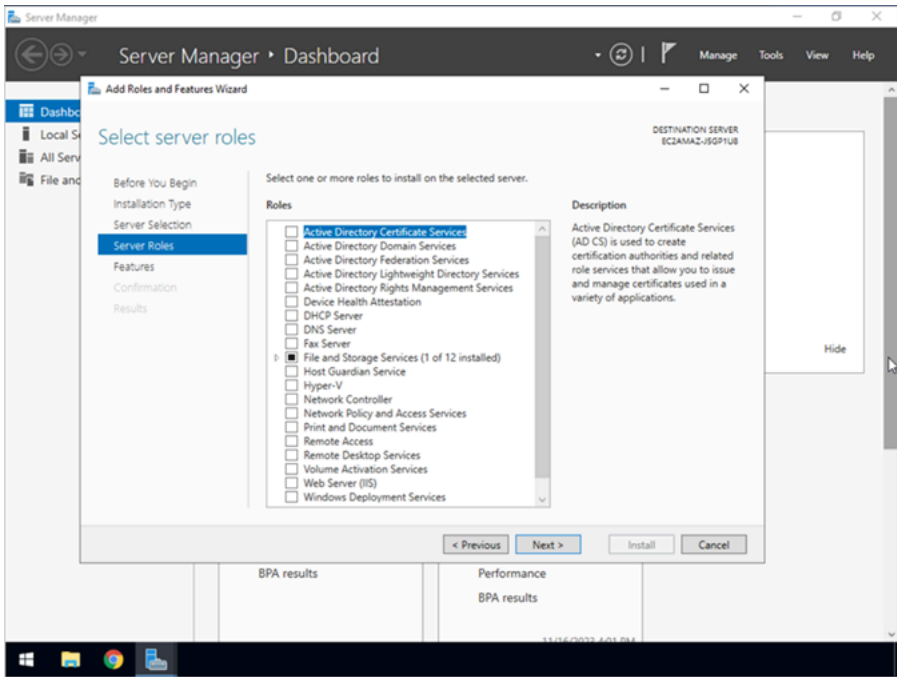
4. We will be configuring a single server by adding roles, role services, and features, so select **Role-based or feature-based installation** and click **Next**.



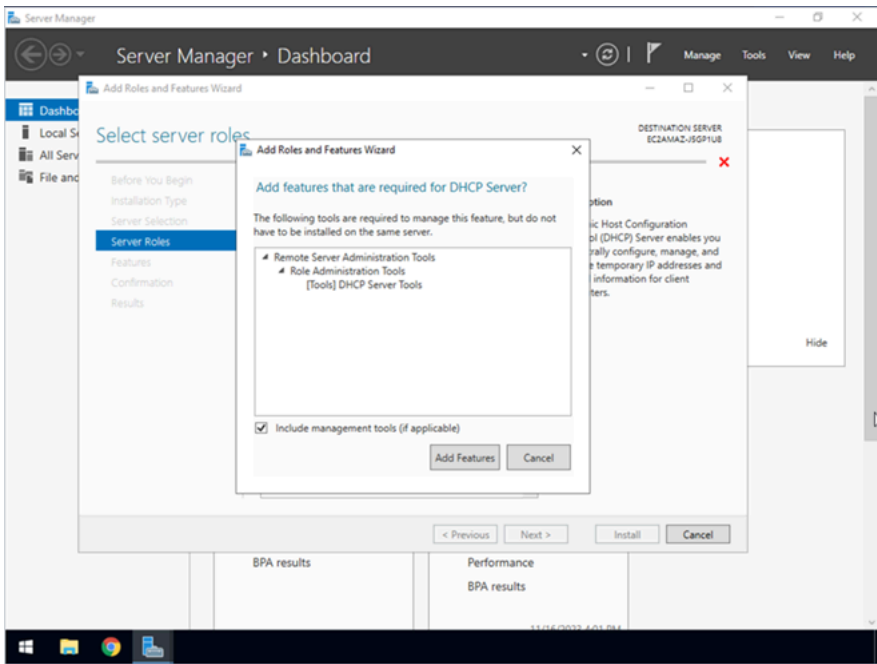
5. Select a server or a virtual hard disk where you want to install the roles and features. In this instance, there is only one option. Ensure that the server is selected and click **Next**.



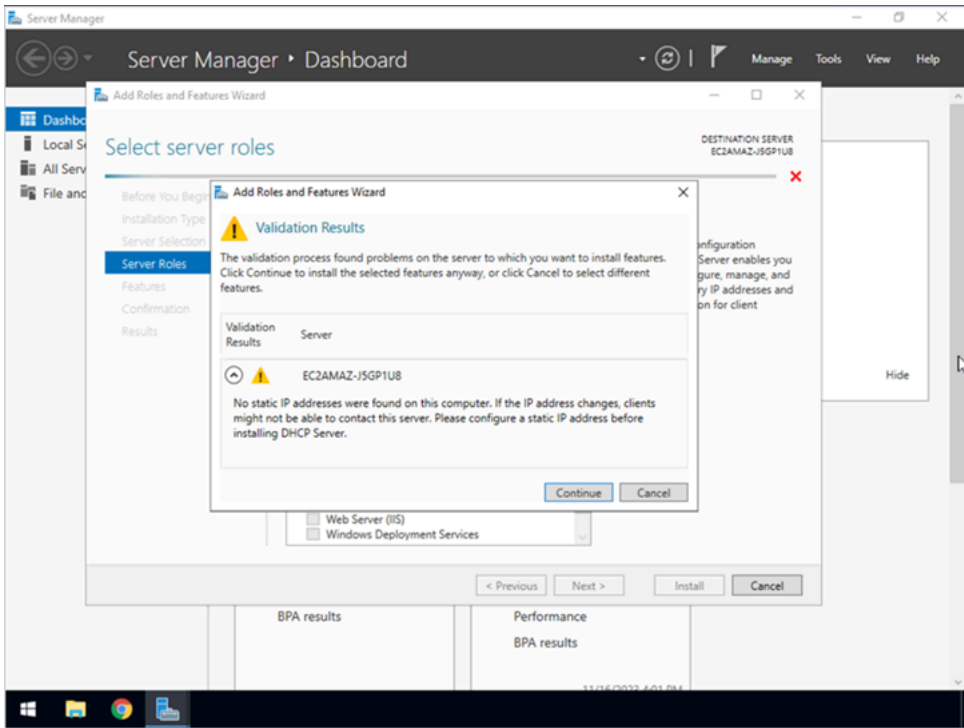
6. Check the box next to DHCP Server.



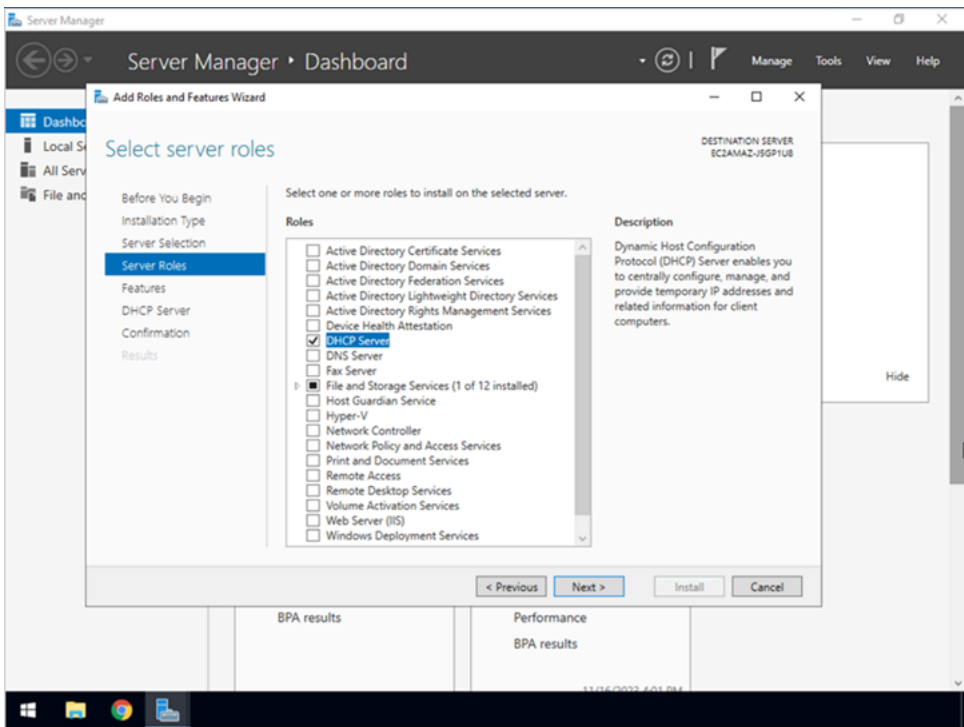
7. In the pop up wizard, Click Add Features.



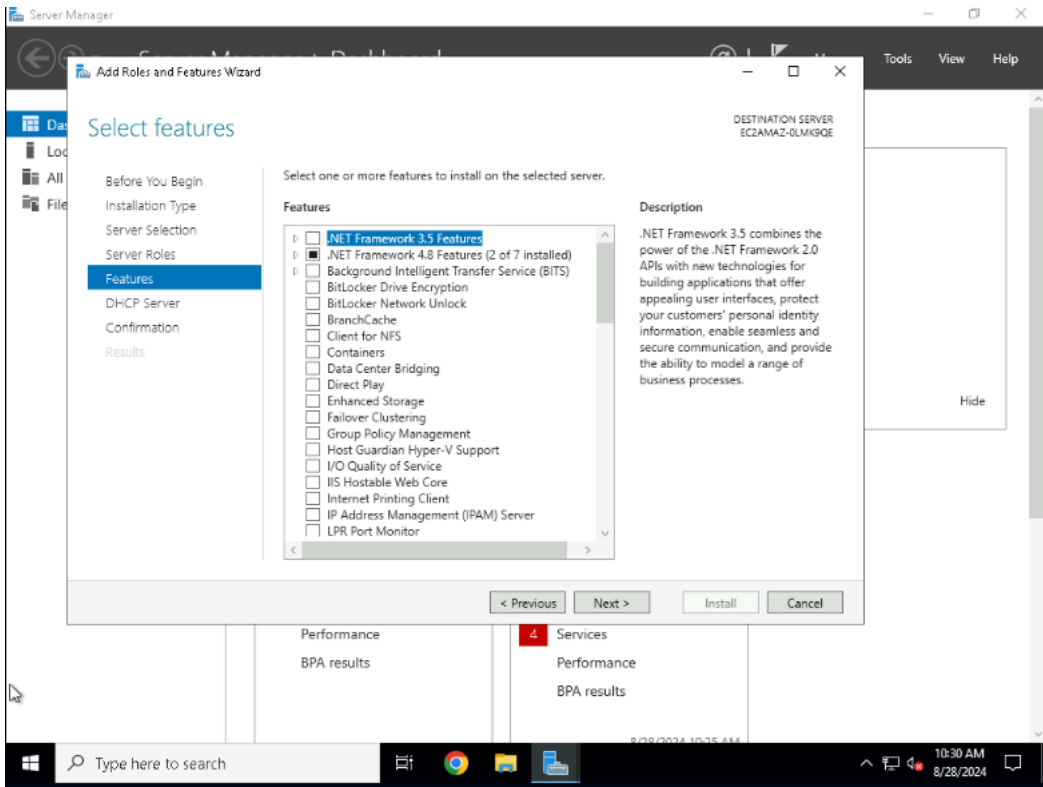
8. You may receive a **Validation Results** error because you are working in an educational environment. If you were working on a server with a dedicated, static IP address, this error would not appear. Select **Continue**.



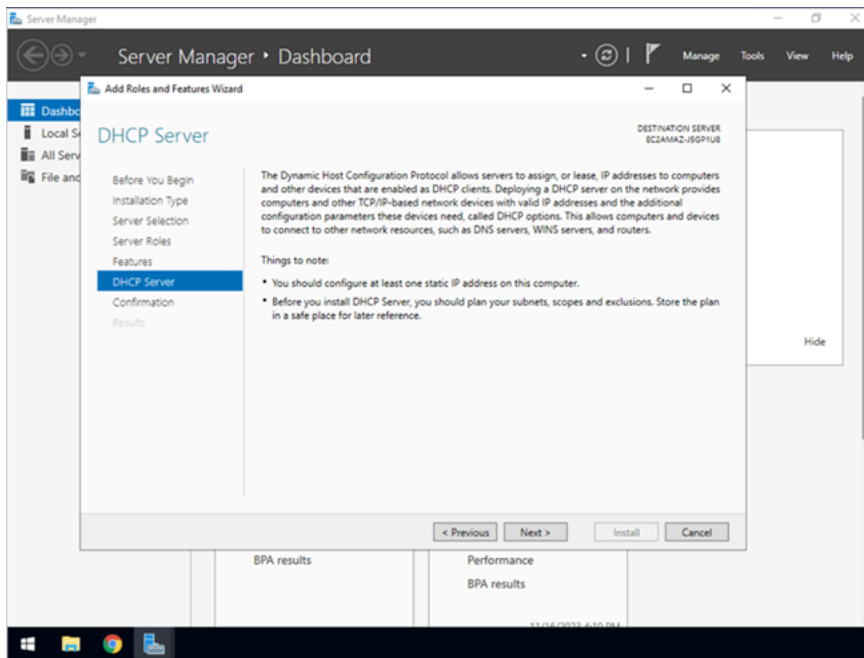
9. Select **Next**.



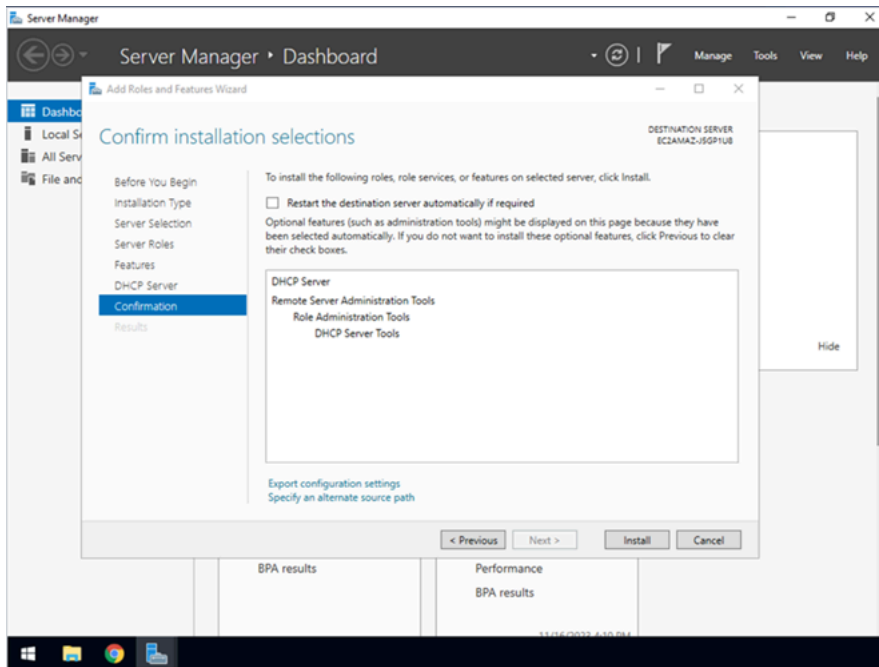
10. Next you will be asked to verify additional features that should be installed on the DHCP server. We will keep the default .NET Framework 4.8 Features because this provides important security features. Click **Next**.



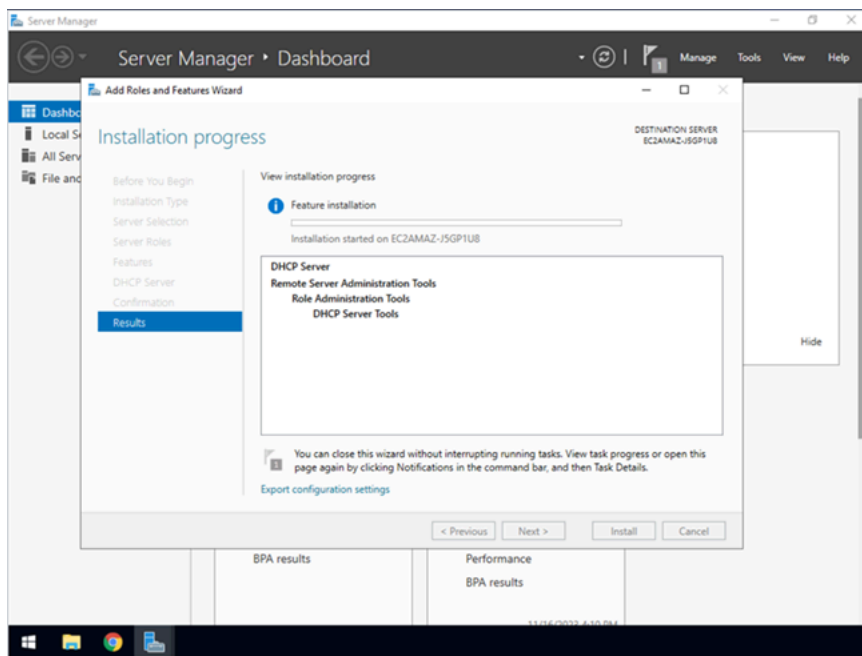
11. Select **Next**.



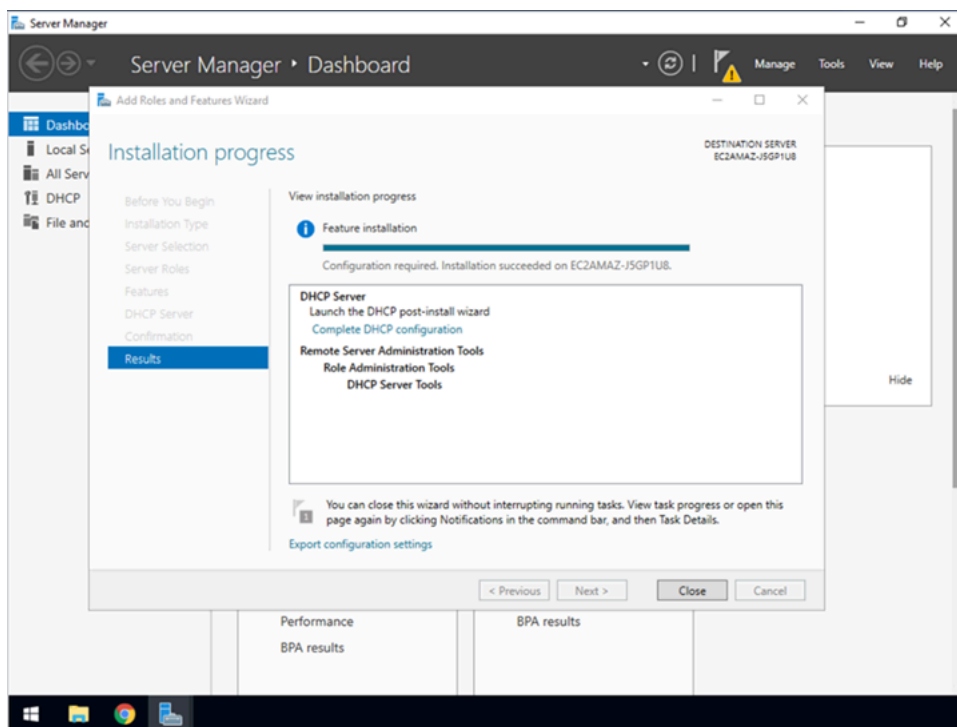
12. Confirm your installation selections and click **Install**.



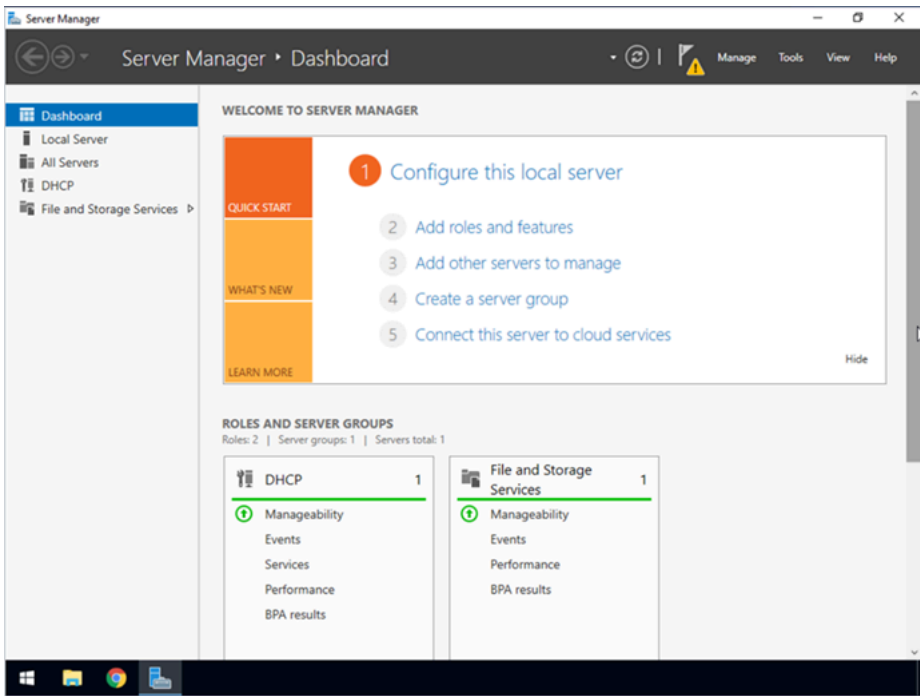
13. It could take a few minutes for the installation to complete.



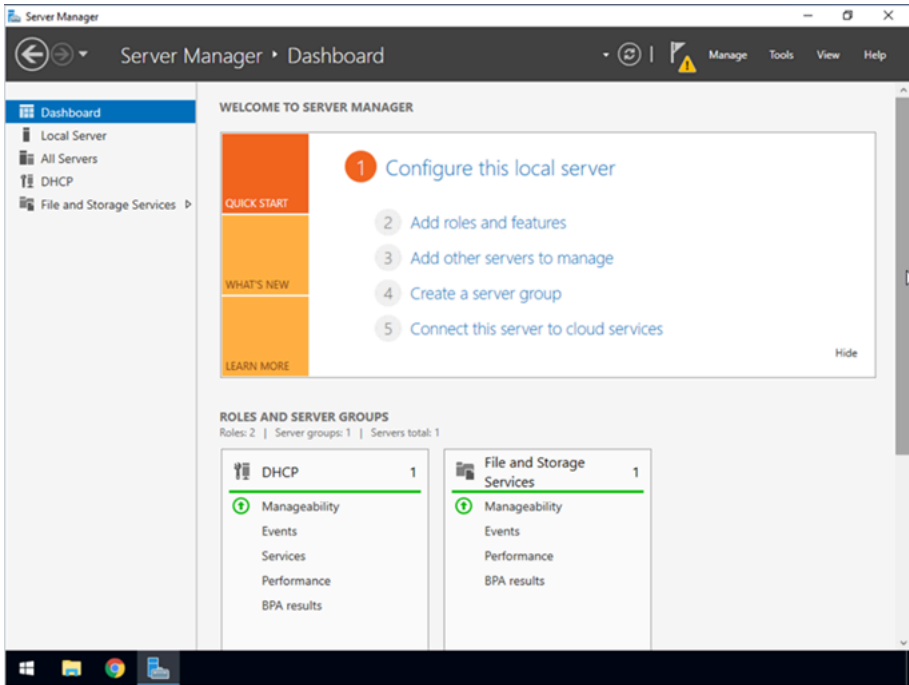
14. Upon completion, the status message will change to **Installation succeeded**. Click **Close**.



15. Now you can see the DHCP server listed under **Roles** and **Server Groups** in the **Server Manager Dashboard**.



16. Click **DHCP** in your Server Manager.



17. In the alert, click on **More**. In the pop up wizard you will see a status alert next to the DHCP server under Action section indicating that additional configuration is required. Click **Complete DHCP configuration**.

Server Manager

←

→

▼

Server Manager ▶ DHCP

Dashboard

Local Server

All Servers

DHCP

File and Storage Services ▶

SERVERS

All servers | 1 total

⚠ Configuration required for DHCP

Filter

Server Name

IPv4 Address

EC2AMAZ-OLMK9QE

172.31.52.1

<

EVENTS

All events | 0 total

Filter

Server Name

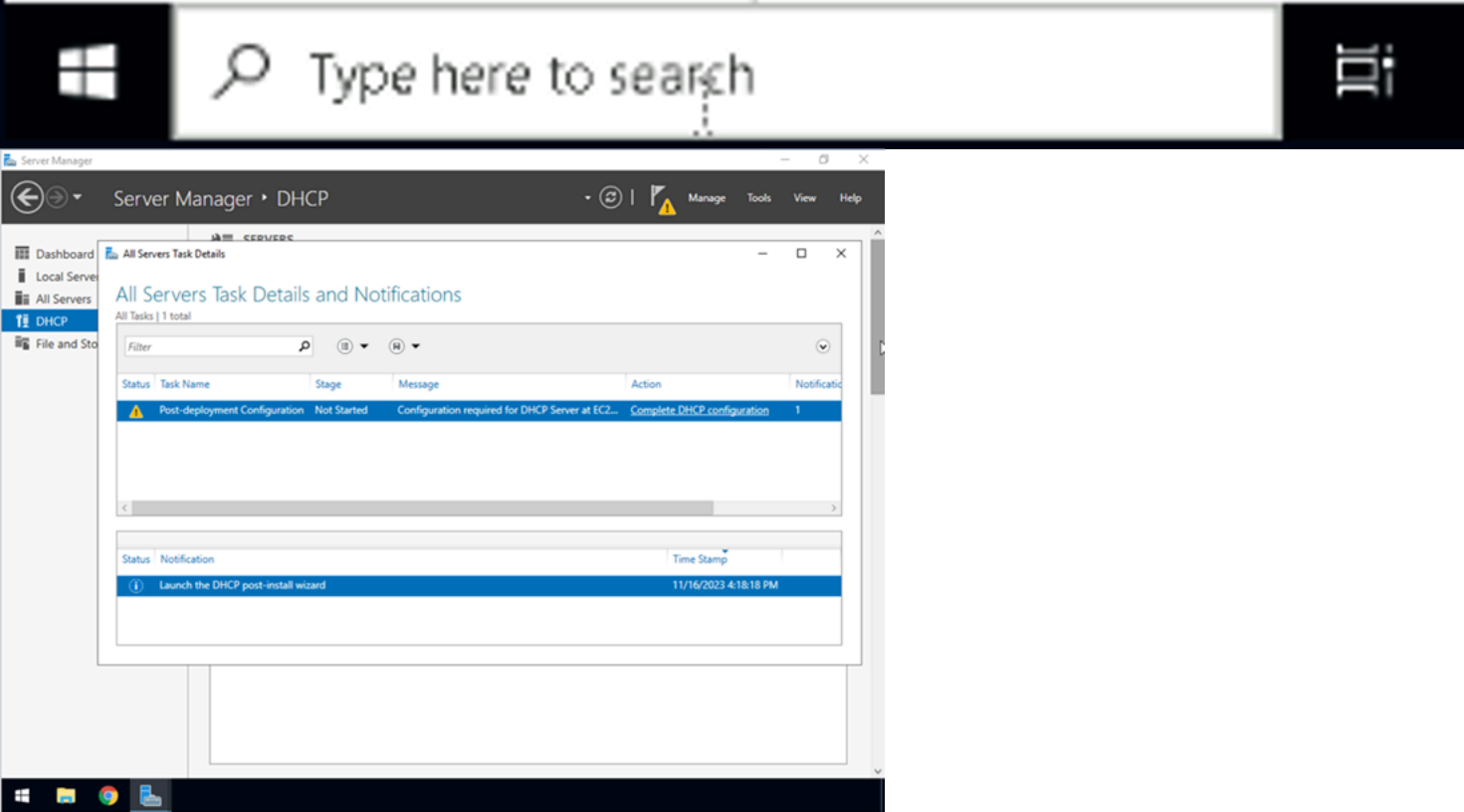
ID

Severity

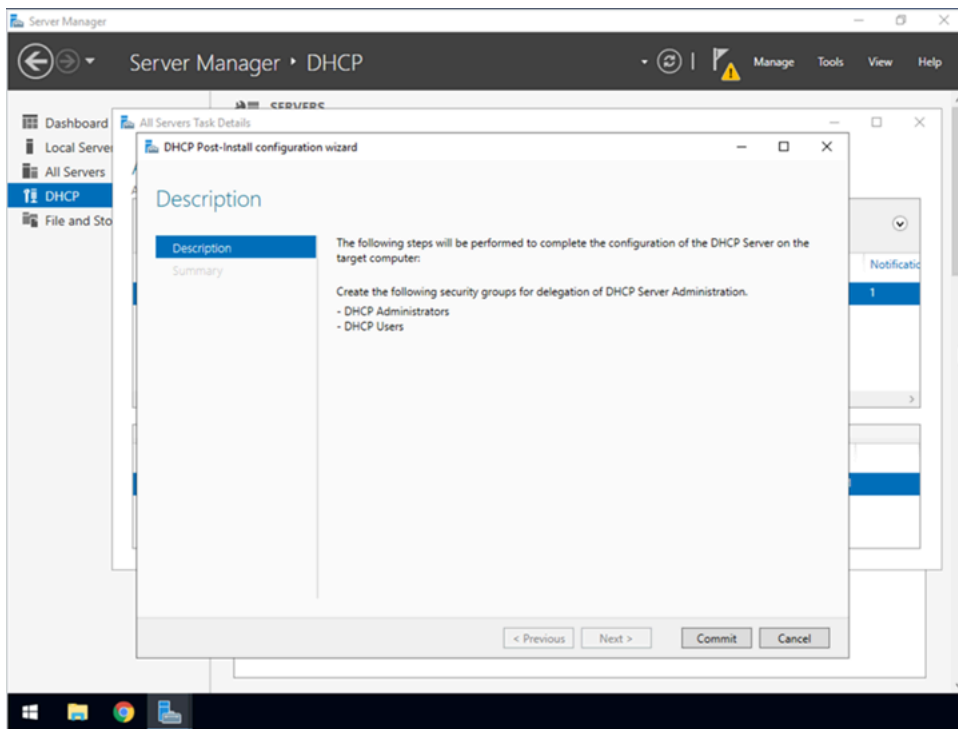
Source

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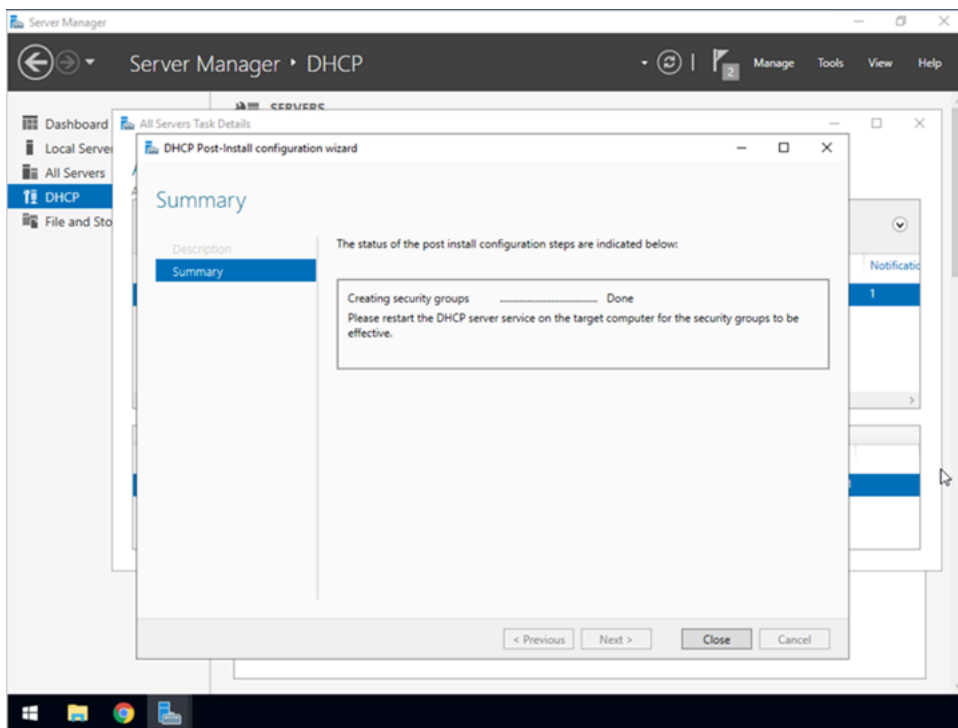
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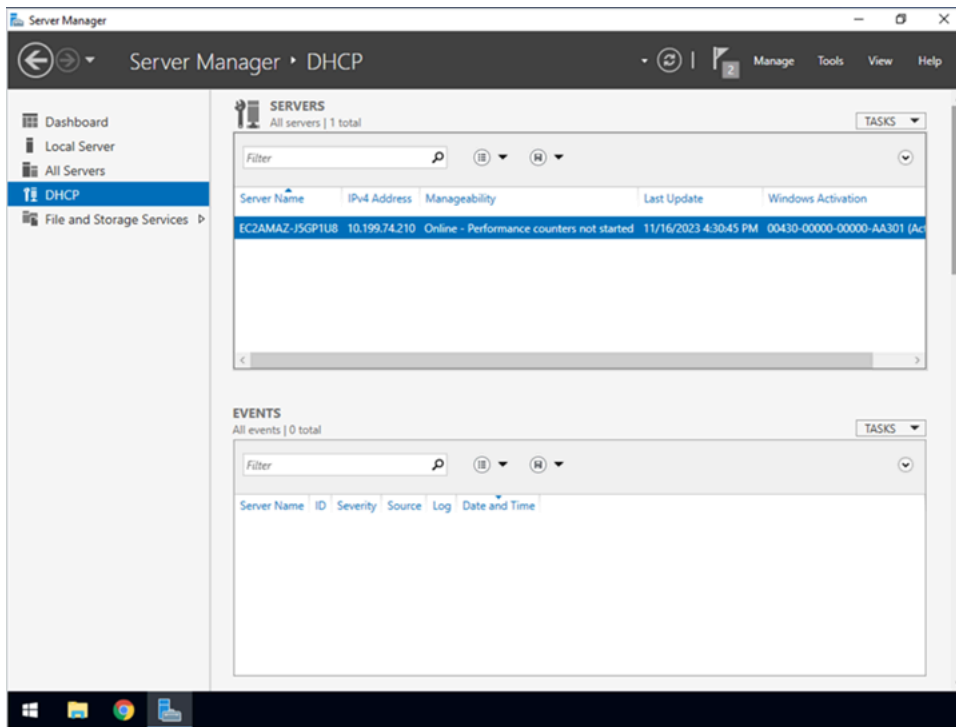
18. The configuration wizard shows that you need to create two security groups that are needed for administering a DHCP server. Select **Commit** to create the **DHCP Administrators** and **DHCP Users** groups.



19. When the post install configuration steps are completed, you can click **Close** and Click on **X** to close the pop up wizard.

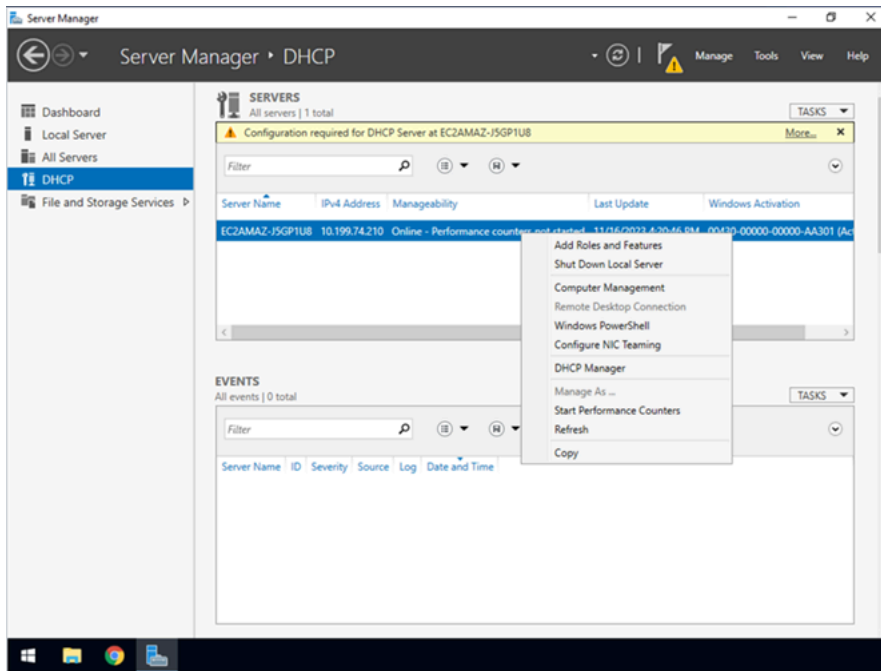


20. Here you will see that the alert has been removed.

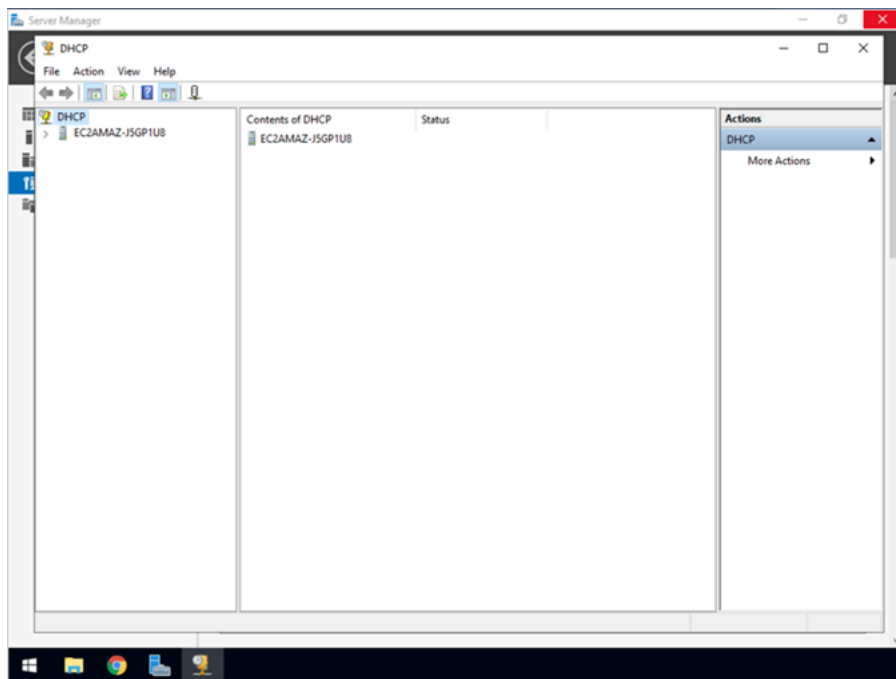


Task B: Create a Scope

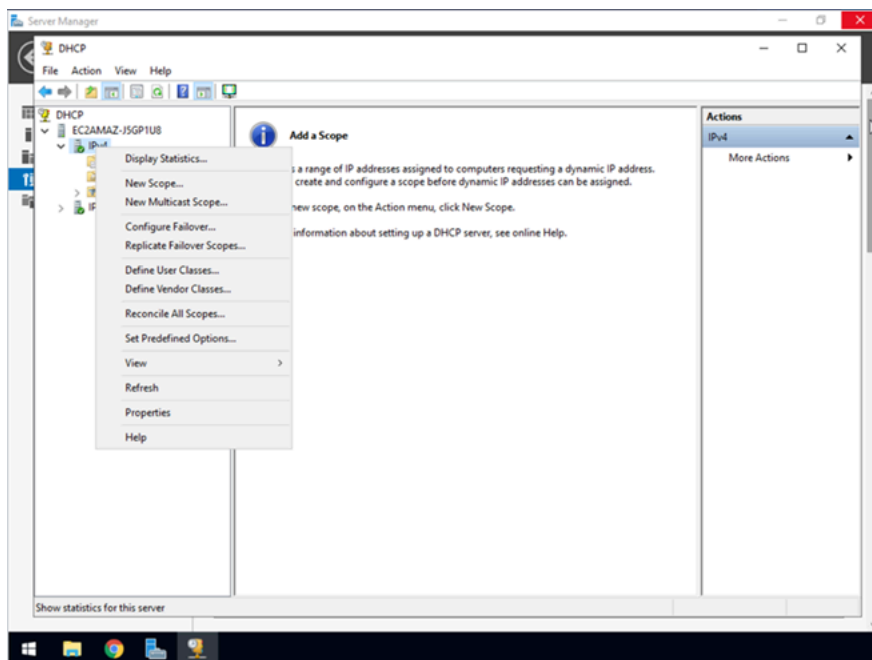
1. Right-click the DHCP server. Select **DHCP Manager**.



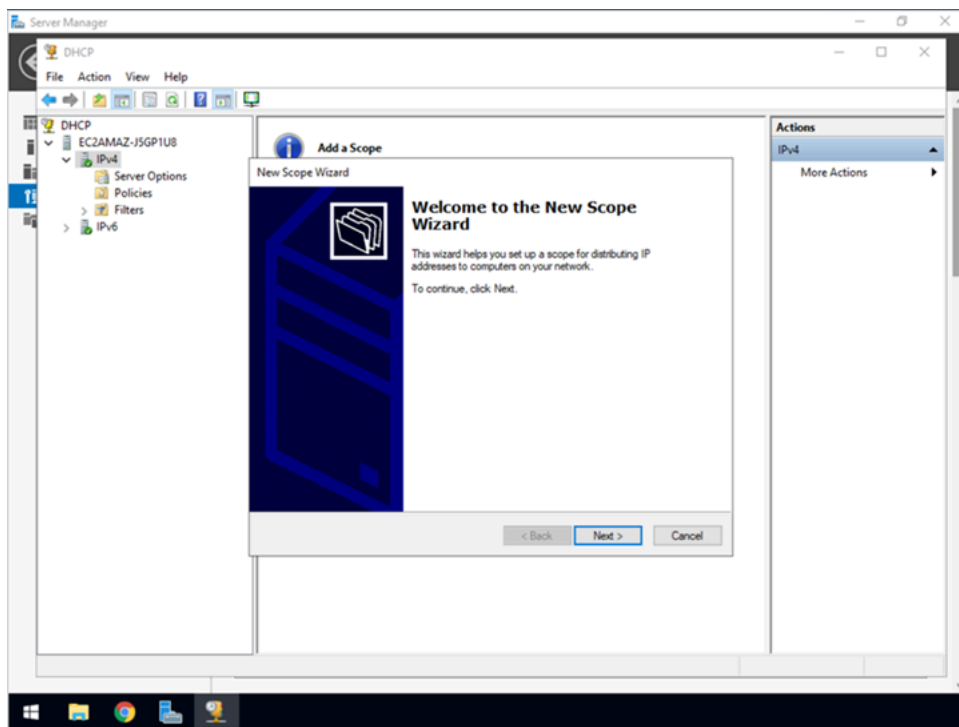
2. Click the server name.



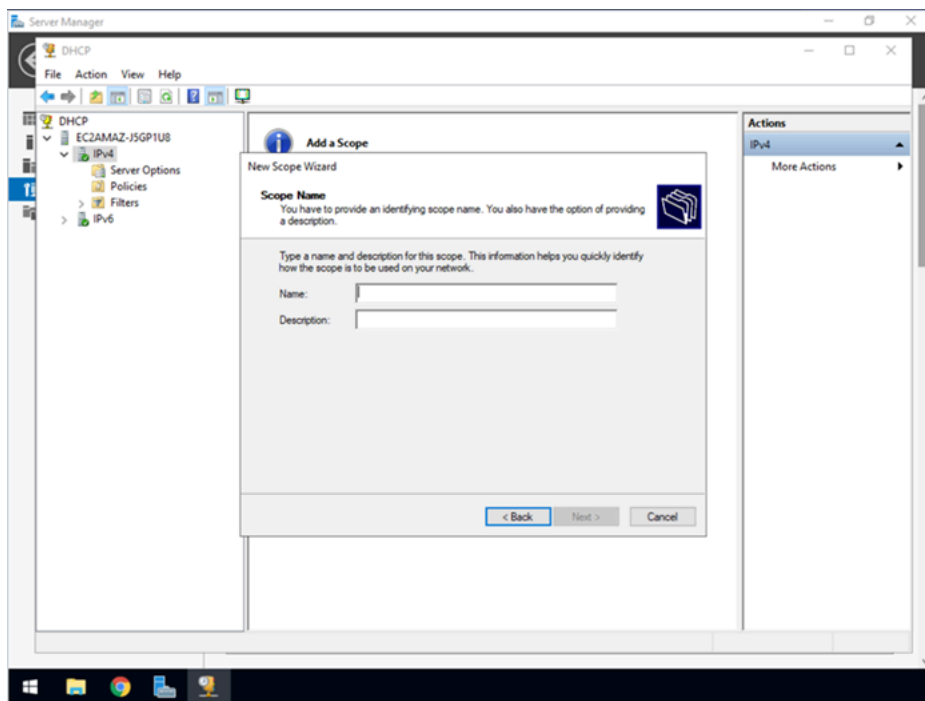
3. Right-click **IPv4** and select **New Scope**.



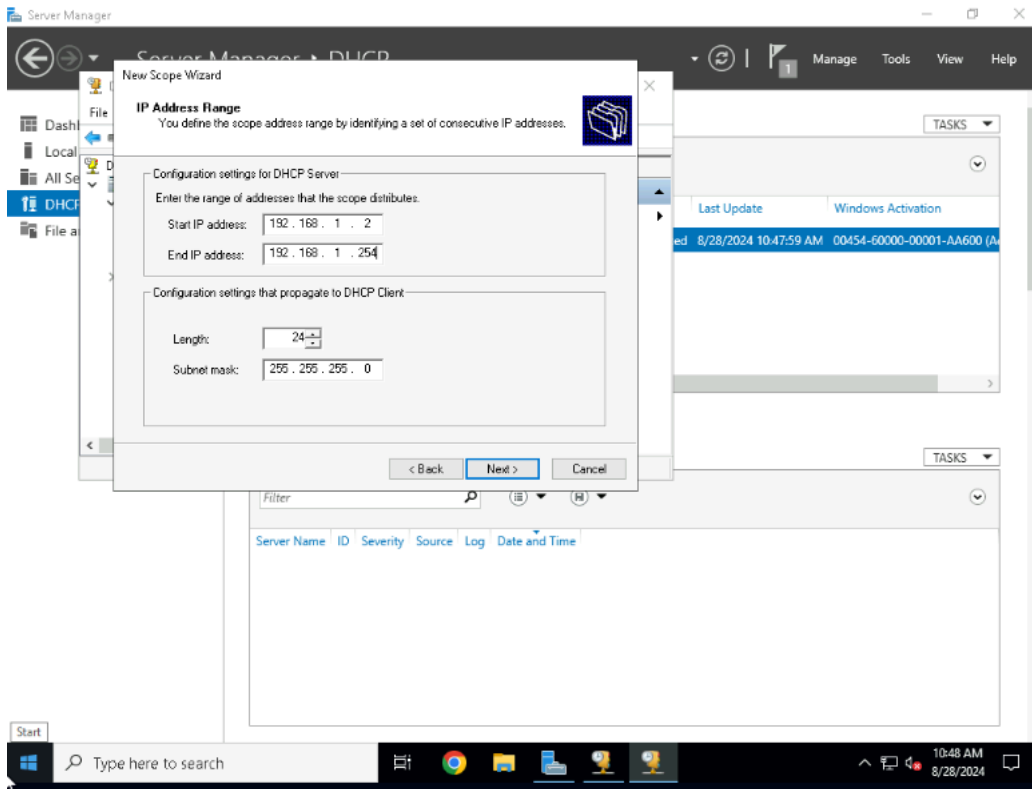
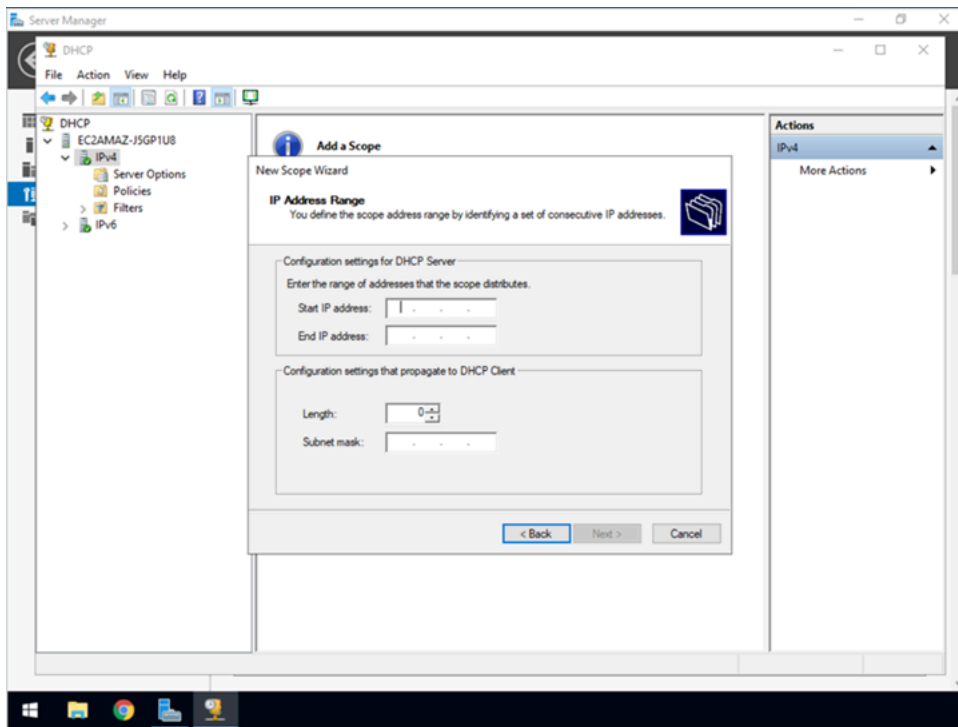
4. Click **Next** on the New Scope Wizard.



5. In the **New Scope Wizard**, provide a name for the scope, and specify the range of IP addresses you want the DHCP server to assign to clients. Type the name as **CompanyLAN** and click **Next**.



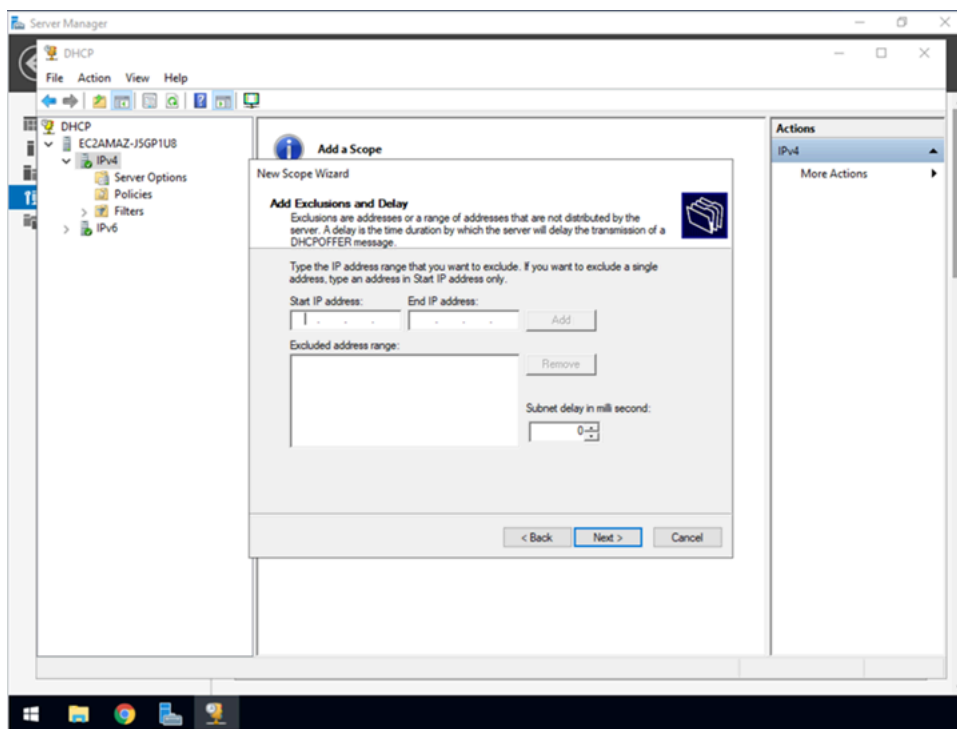
6. Set the range of IP addresses to be distributed by the DHCP server from 192.168.1.2 to 192.168.1.254, ensuring these addresses are within the same subnet as your network. Click **Next**.



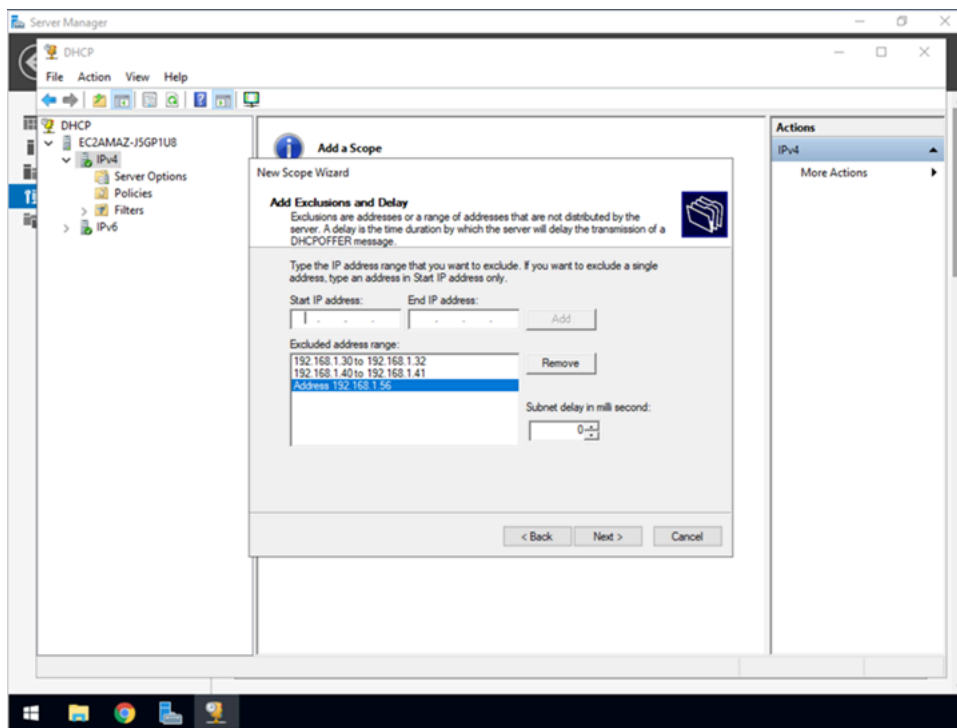
Because six of your printers have static IP addresses, you want to be sure to add these IP addresses as exclusions - preventing the DHCP server from assigning these addresses to other devices. The IP addresses are 192.168.1.30, 192.168.1.31, 192.168.1.32, 192.168.1.40, 192.168.1.41, and 192.168.1.56.

7. To exclude the IP addresses of the 3 printers, type in the static IP addresses of the printers.

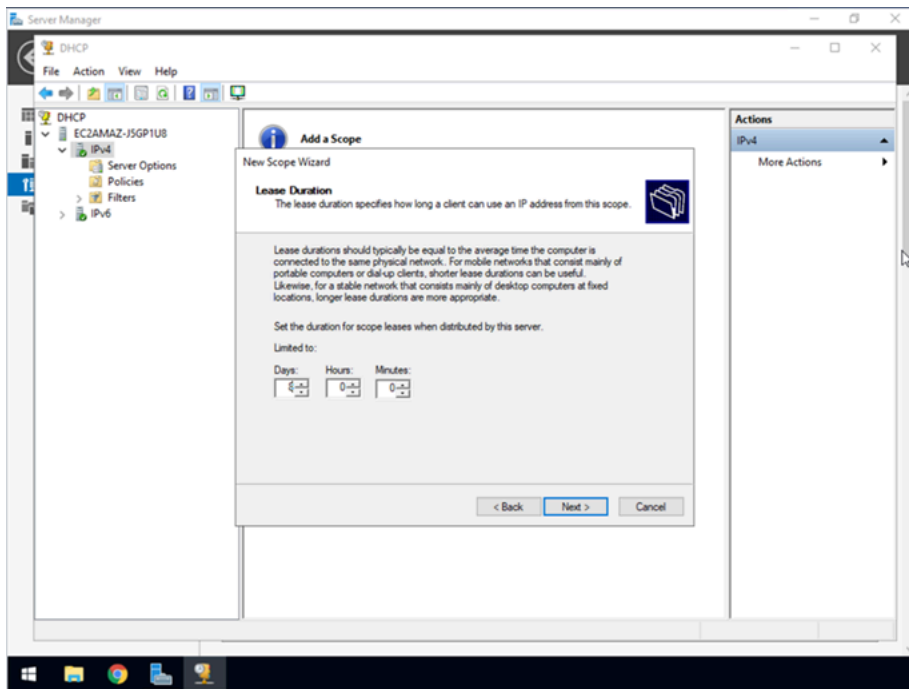
- Type **192.168.1.30** in the Start IP address box.
- Type **192.168.1.32** in the End IP address box.
- Select **Add** to include them in the **Excluded address range**.
- Type **192.168.1.40** in the Start IP address box.
- Type **192.168.1.41** in the End IP address box.
- Select **Add** to include them in the **Excluded address range**.
- Type **192.168.1.56** in the Start IP address box.
- Select **Add** to include this in the **Excluded address range**.



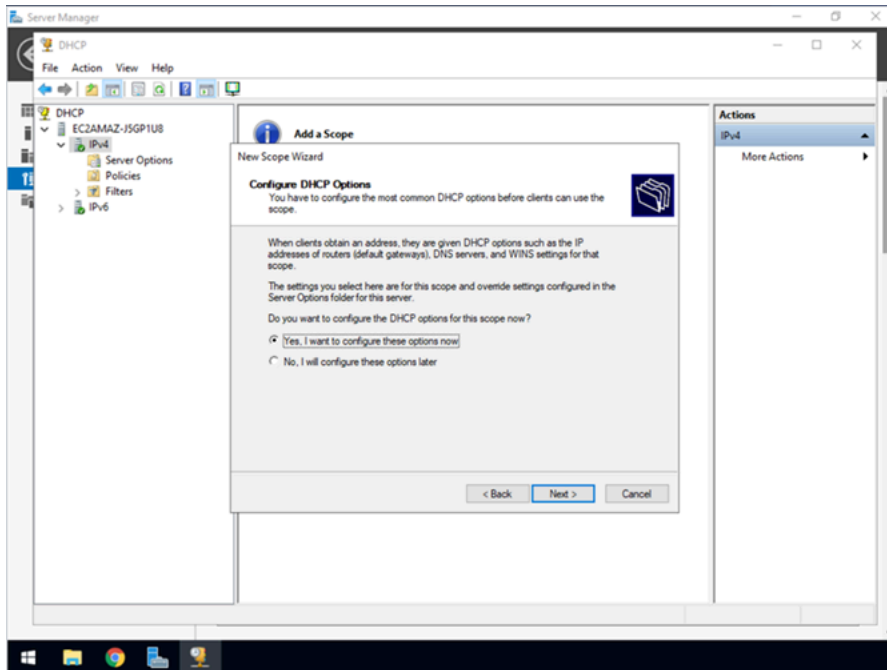
8. Click **Next**, to apply the exclusions – preventing the DHCP server from assigning these addresses to other devices.



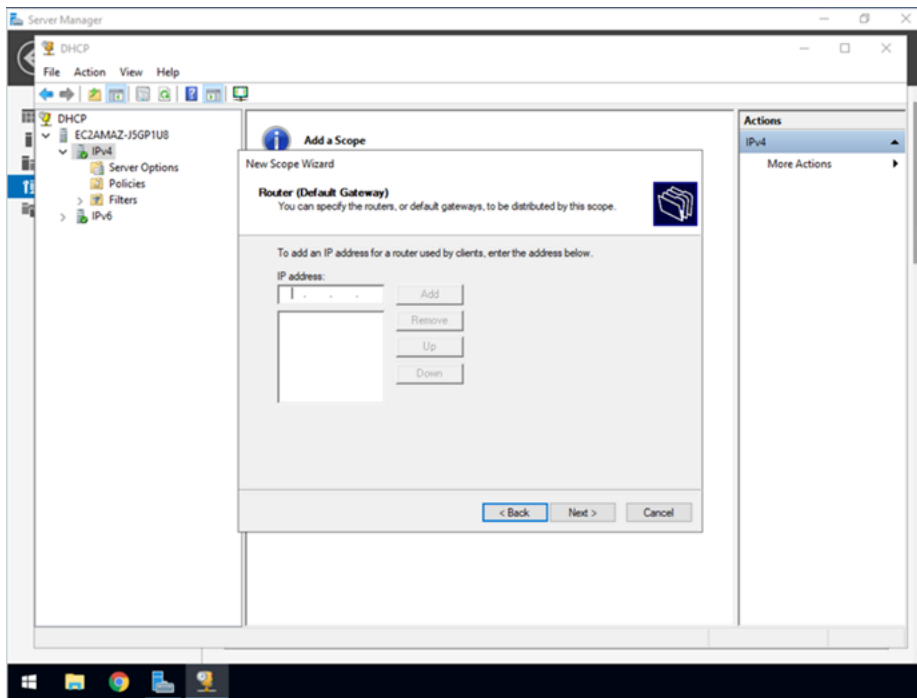
9. You will be asked to indicate how many days, hours, and minutes should pass before an IP address lease from this scope expires. We want a lease to expire every 24 hours. Set the limit to 1 days, 0 hours, and 0 minutes. Click **Next** to continue.



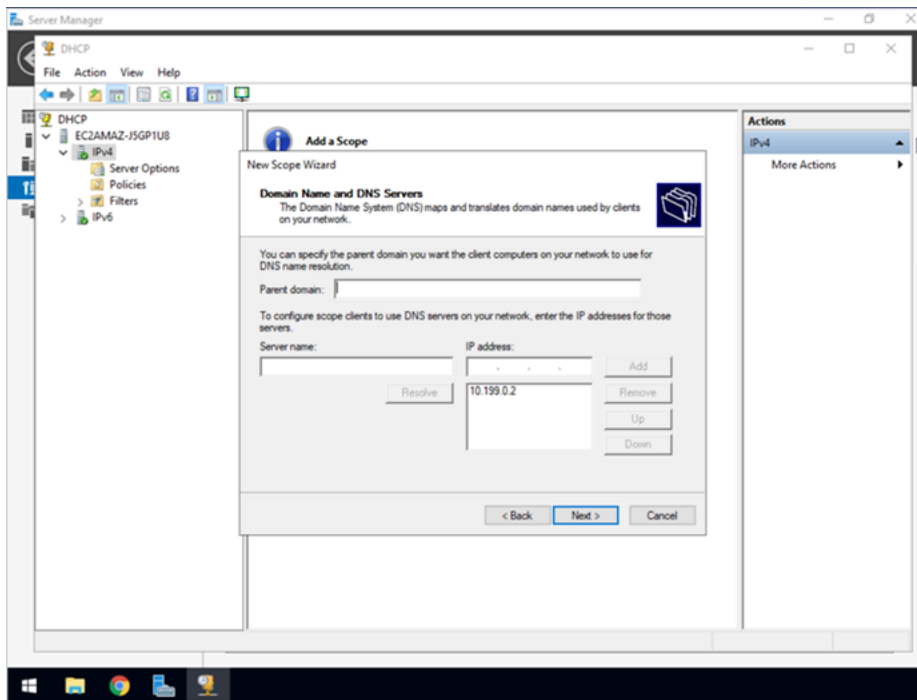
10. Click **Yes, I want to configure these options now** to maintain default settings for the most common DHCP options. Then, click **Next**.



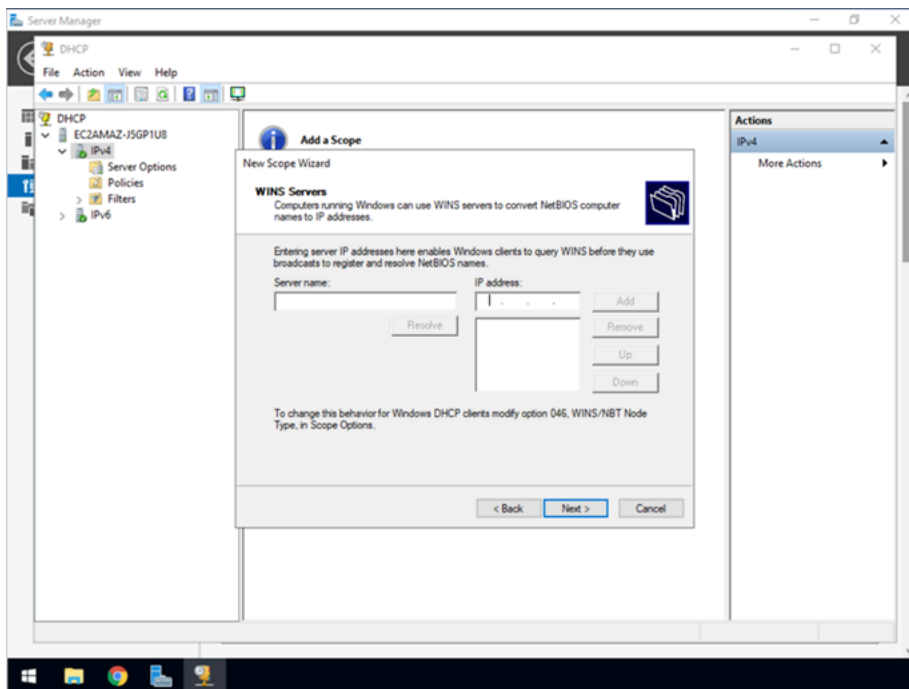
11. We will not be adding a default gateway at this time, so click **Next**.



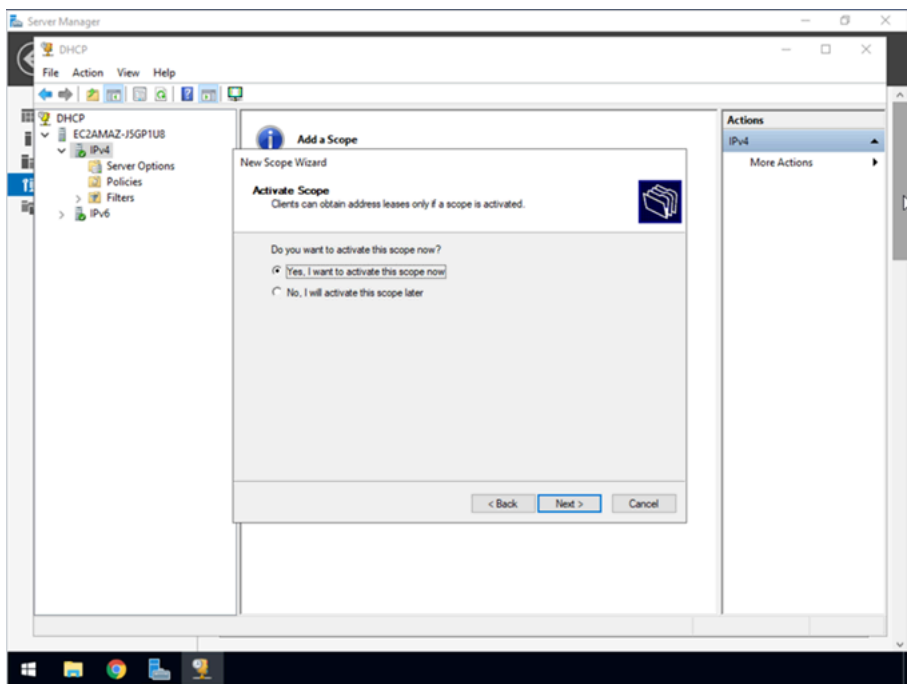
12. We will not be setting the Domain name and DNS servers at this time. Click **Next** to continue.



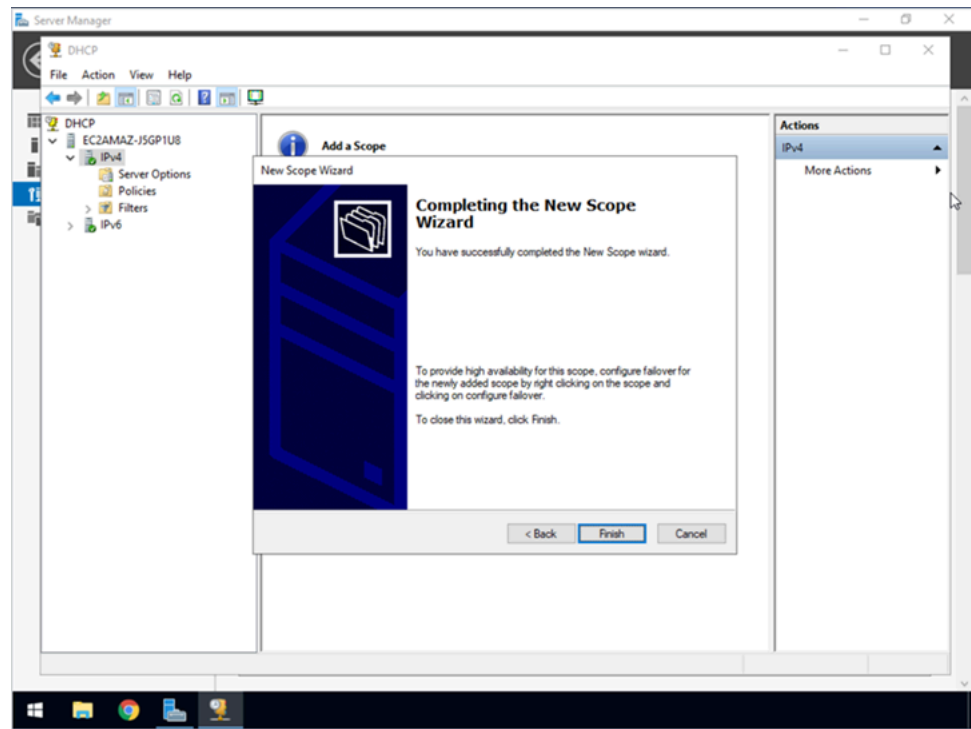
13. We will not be configuring WINS Servers at this time. Click **Next** to continue.



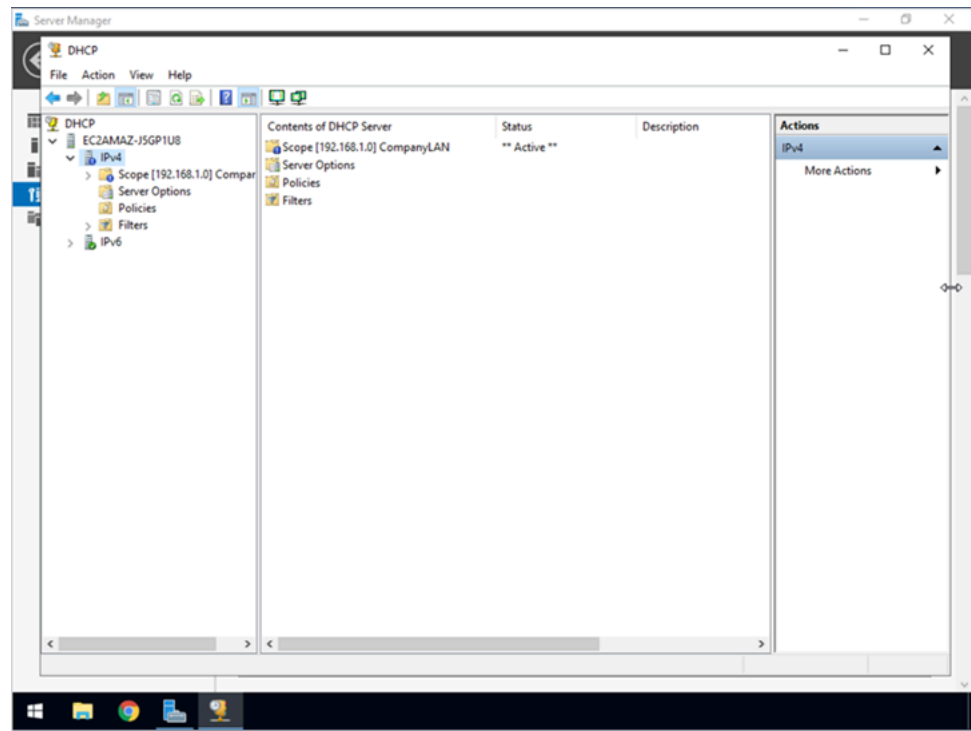
14. Click **Yes, I want to activate this scope now**. Once a scope has been activated, clients are allowed to obtain leases from the DHCP server. Click **Next**.



15. Click **Finish** to close the New Scope Wizard.



16. Now you will see an active scope listed under your DHCP server.



Summary

In this lab you installed and configured DHCP. You configured the DHCP role and then created a scope using the New Scope Wizard.

Congratulations! You have completed this lab and are ready for the next topic.

Authors

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Skills Network