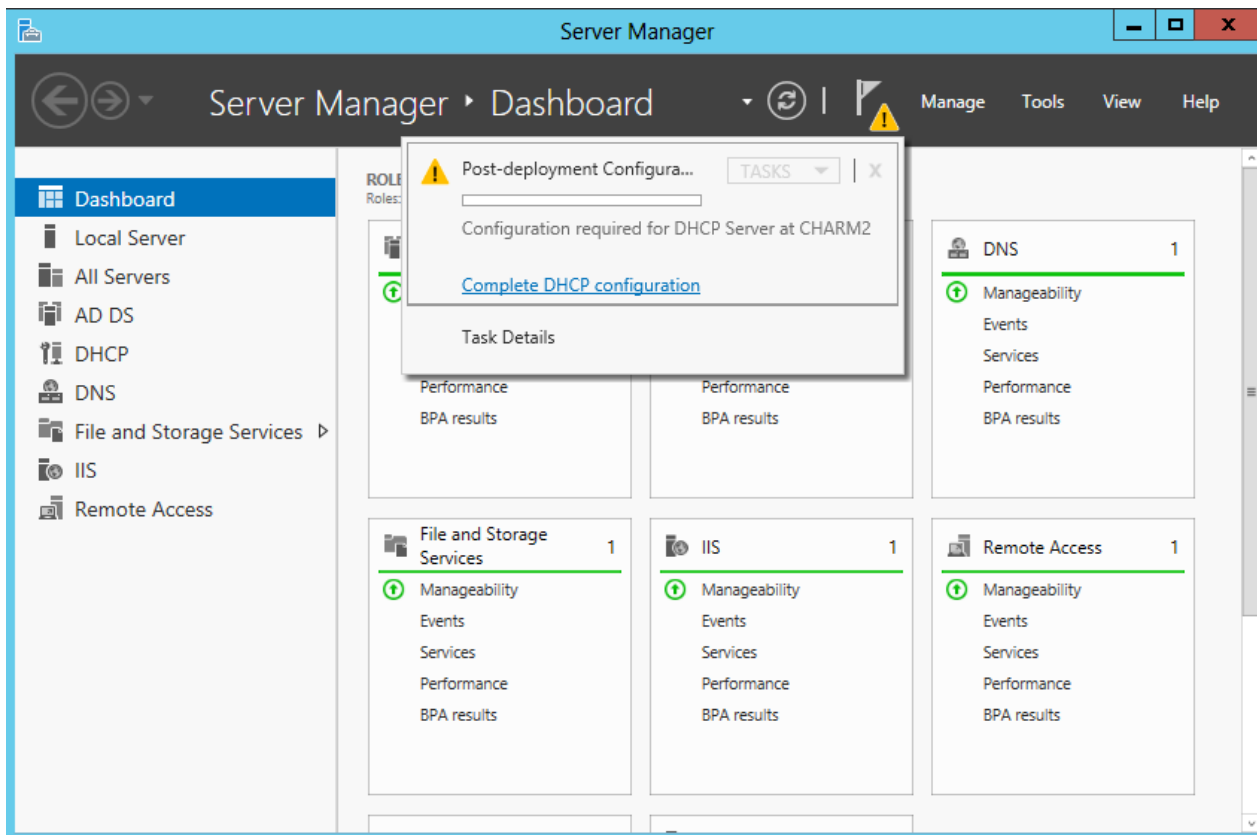


# Configure a Scope on a Windows 2012 DHCP Server

July 29, 2013

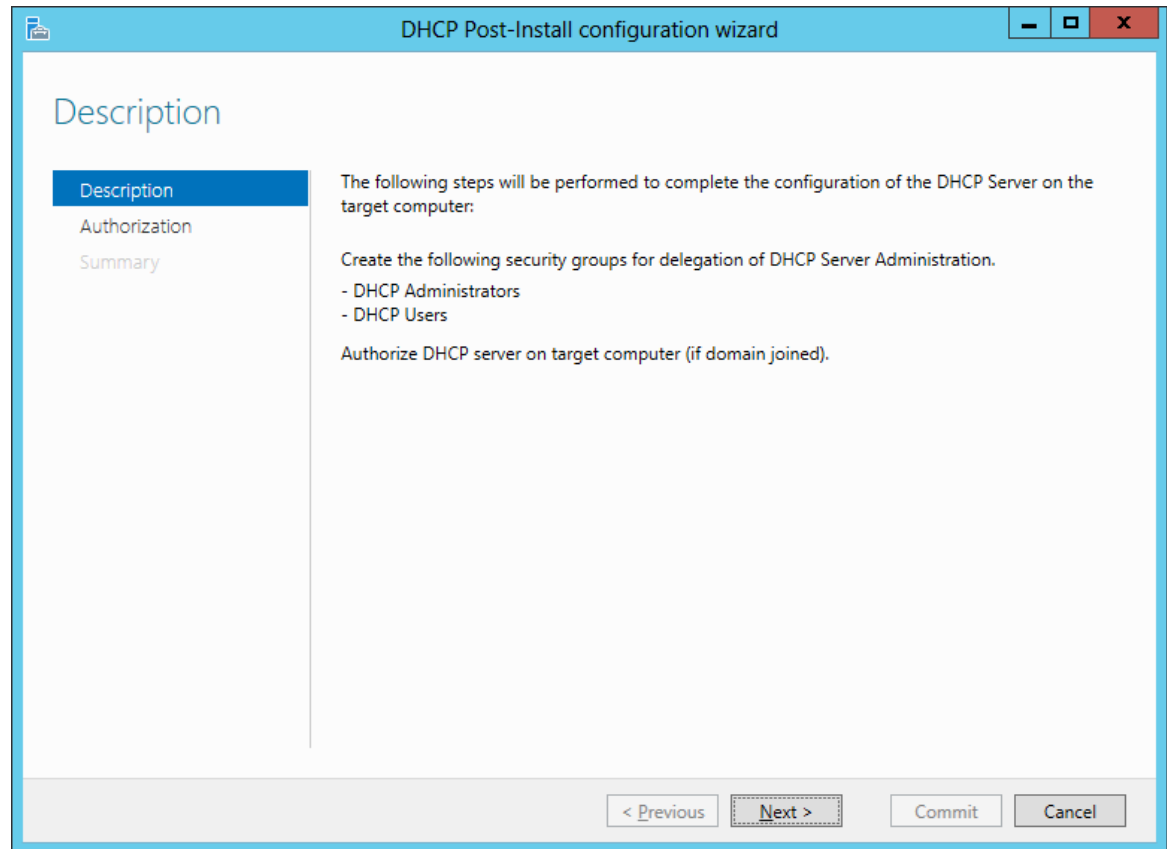
# Server Manager

After installing the DHCP server role, we will see a post configuration warning on the Server Manager dashboard. Click on the yellow icon and select the “complete DHCP configuration” hyperlink”.



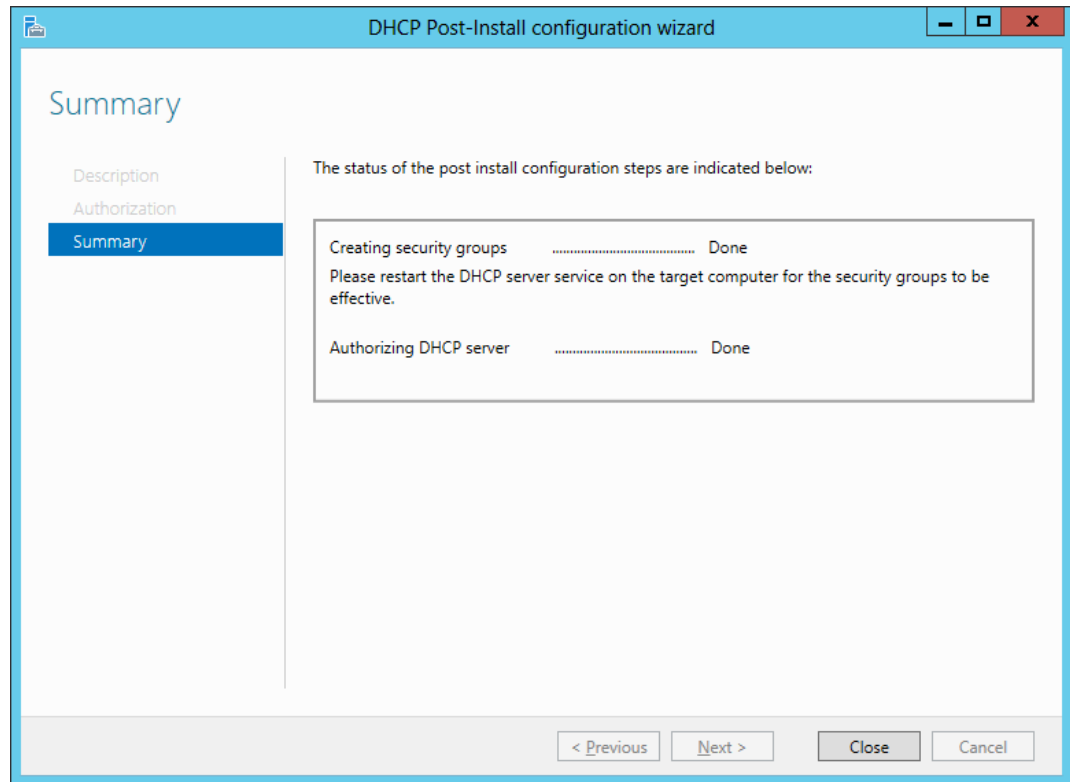
# Description

We will authorize the DHCP server so press the Next button to continue.



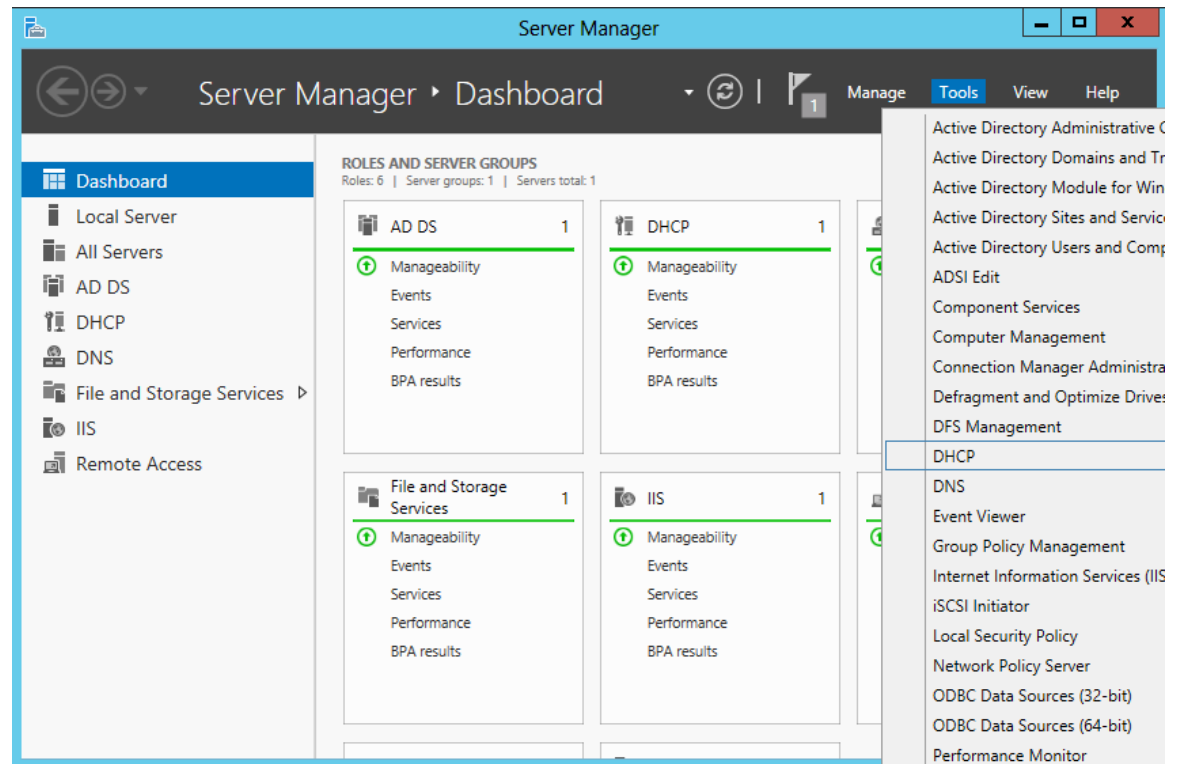
# Confirm your Credentials

In the next window, we check our credentials and press the Confirm button. On the summary window, we will see the authorizing of the DHCP server is complete.



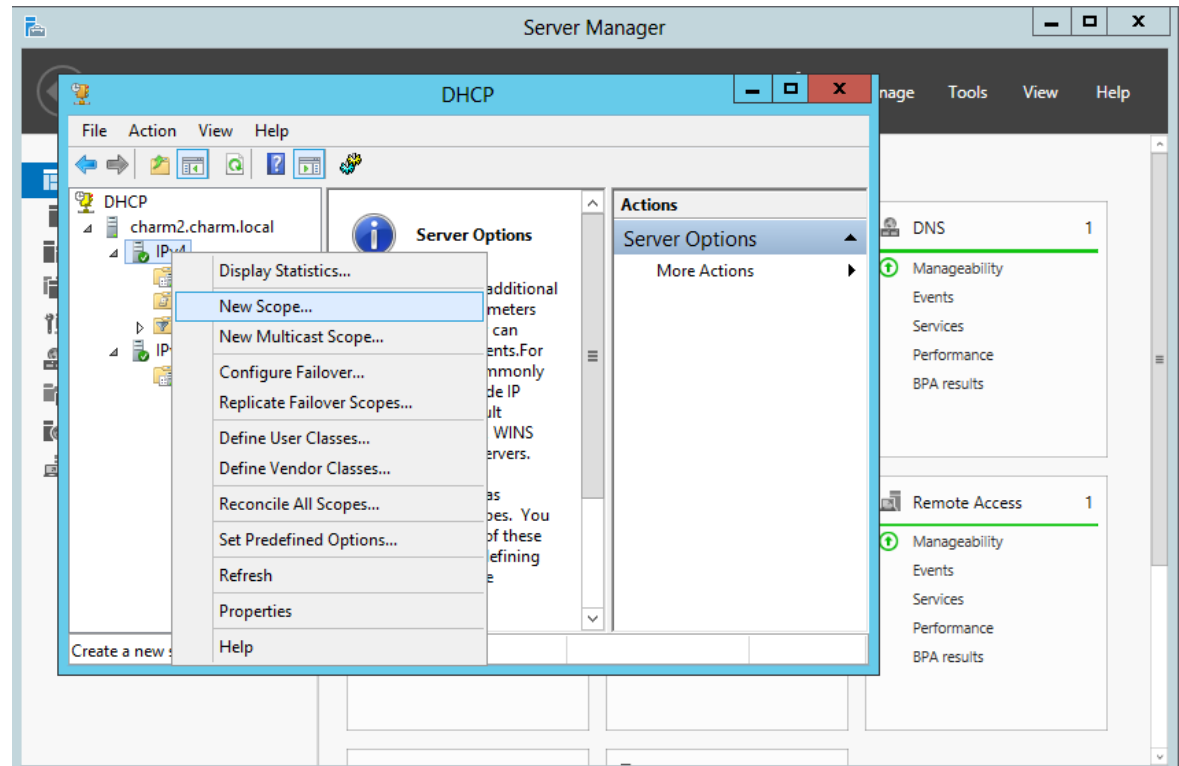
# DHCP on the Dashboard

To open the DHCP console, we will go to the Server Manager and select Tools and then DHCP.



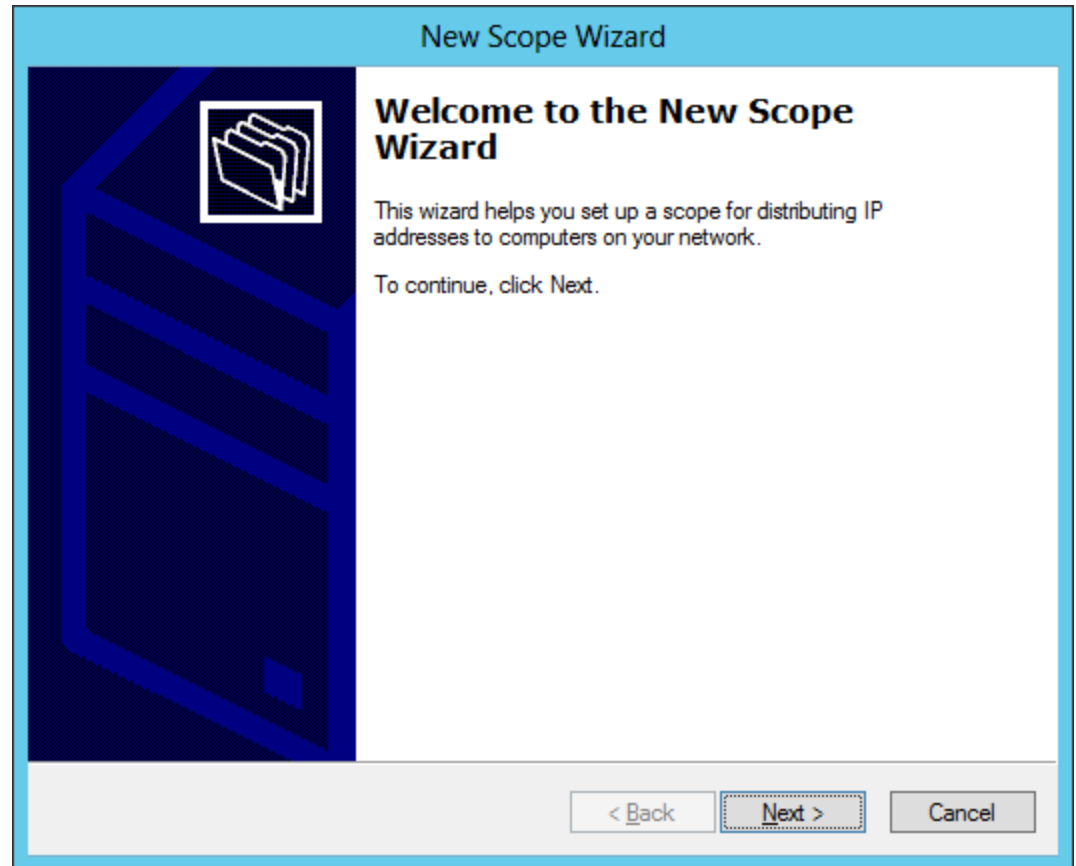
# Add a New Scope

To add a scope to the DHCP server, we expand the server folder and right click on IPv4. Then we select New Scope from the menu.



# The New Scope Wizard

The next step is to create a scope. We pick the Next button to go on.



# Scope Name

We will make a new Scope named Scope1 and the description is “used for imaging computers in the lab” . Then we press Next to carry on.

**New Scope Wizard**

**Scope Name**  
You have to provide an identifying scope name. You also have the option of providing a description.

Type a name and description for this scope. This information helps you quickly identify how the scope is to be used on your network.

Name:

Description:

< Back   Next >   Cancel



# IP Address Range

We will make the IP address range 192.168.100.101 to 192.168.100.2100. The length of the subnet mask is 24 bits and the mask is 255.255.255.0.

We press Next to advance.

**New Scope Wizard**

**IP Address Range**  
You define the scope address range by identifying a set of consecutive IP addresses.

Configuration settings for DHCP Server

Enter the range of addresses that the scope distributes.

Start IP address: 192 . 168 . 100 . 101

End IP address: 192 . 168 . 100 . 200

Configuration settings that propagate to DHCP Client

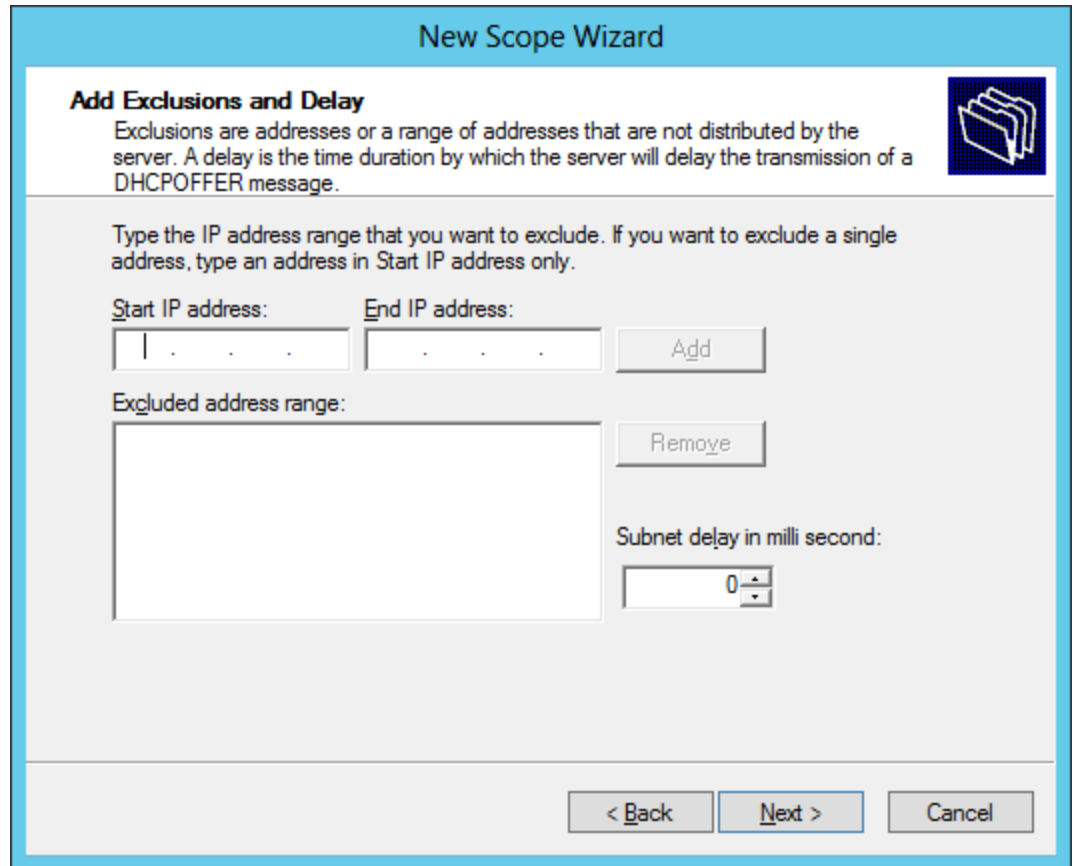
Length: 24

Subnet mask: 255 . 255 . 255 . 0

< Back   Next >   Cancel

# Add Exclusions and Delay

If we are using the full range of IP addresses, we could exclude the server's IP address and any other static IP devices such as printers and routers. In this scope, we already have static devices outside the scope's IP address range, so we will leave the textboxes blank.



The screenshot shows the 'New Scope Wizard' dialog box, specifically the 'Add Exclusions and Delay' step. The title bar reads 'New Scope Wizard'. Below the title bar, the section is titled 'Add Exclusions and Delay' with a folder icon. The text explains: 'Exclusions are addresses or a range of addresses that are not distributed by the server. A delay is the time duration by which the server will delay the transmission of a DHCP OFFER message.'

The instructions state: 'Type the IP address range that you want to exclude. If you want to exclude a single address, type an address in Start IP address only.'

There are two input fields for IP addresses: 'Start IP address:' and 'End IP address:'. Both are currently blank. To the right of the 'End IP address:' field is an 'Add' button.

Below these is a large empty text area labeled 'Excluded address range:'. To its right is a 'Remove' button.

At the bottom right, there is a 'Subnet delay in milli second:' label and a spinner box containing the number '0'.

At the very bottom of the dialog are three buttons: '< Back', 'Next >', and 'Cancel'.

# Lease Duration

The default duration is 8 days, but we could change the time for a computer to be continuously on the network to 20 hours. Right now we will keep the default setting. We then will choose the Next button and continue.



The screenshot shows a Windows-style dialog box titled "New Scope Wizard". The current step is "Lease Duration". The text explains that the lease duration specifies how long a client can use an IP address from this scope. It provides guidance: lease durations should typically be equal to the average time the computer is connected to the same physical network. For mobile networks, shorter lease durations are useful, while for stable networks with desktop computers, longer lease durations are more appropriate. Below this, it asks the user to "Set the duration for scope leases when distributed by this server." and provides three spinners labeled "Days:", "Hours:", and "Minutes:". The "Days:" spinner is set to 8, "Hours:" to 0, and "Minutes:" to 0. At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

**New Scope Wizard**

**Lease Duration**  
The lease duration specifies how long a client can use an IP address from this scope.

Lease durations should typically be equal to the average time the computer is connected to the same physical network. For mobile networks that consist mainly of portable computers or dial-up clients, shorter lease durations can be useful. Likewise, for a stable network that consists mainly of desktop computers at fixed locations, longer lease durations are more appropriate.

Set the duration for scope leases when distributed by this server.

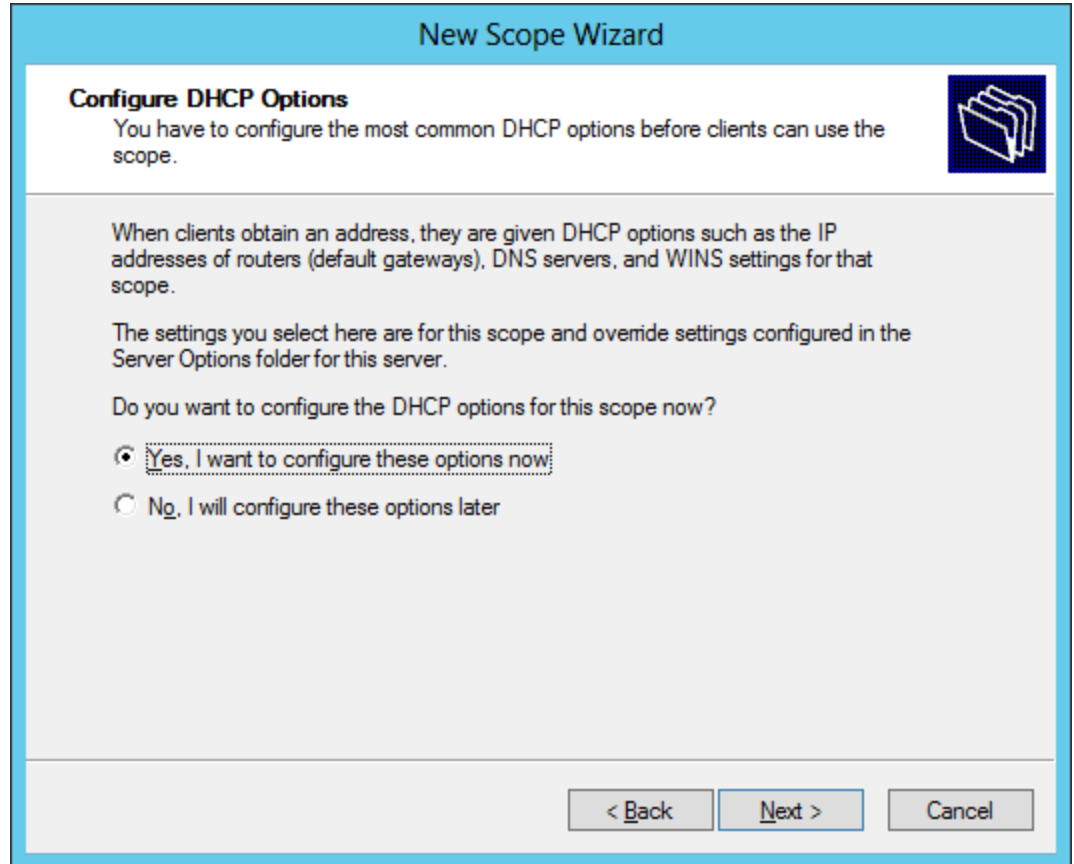
Limited to:

Days: 8 Hours: 0 Minutes: 0

< Back Next > Cancel

# Configure DHCP Options

Yes, we will want to set DHCP options and after that we will opt for the Next button to go onward.



The screenshot shows a Windows dialog box titled "New Scope Wizard" with a blue header bar. The main content area is white and contains the following text:

**Configure DHCP Options**  
You have to configure the most common DHCP options before clients can use the scope.

When clients obtain an address, they are given DHCP options such as the IP addresses of routers (default gateways), DNS servers, and WINS settings for that scope.

The settings you select here are for this scope and override settings configured in the Server Options folder for this server.

Do you want to configure the DHCP options for this scope now?

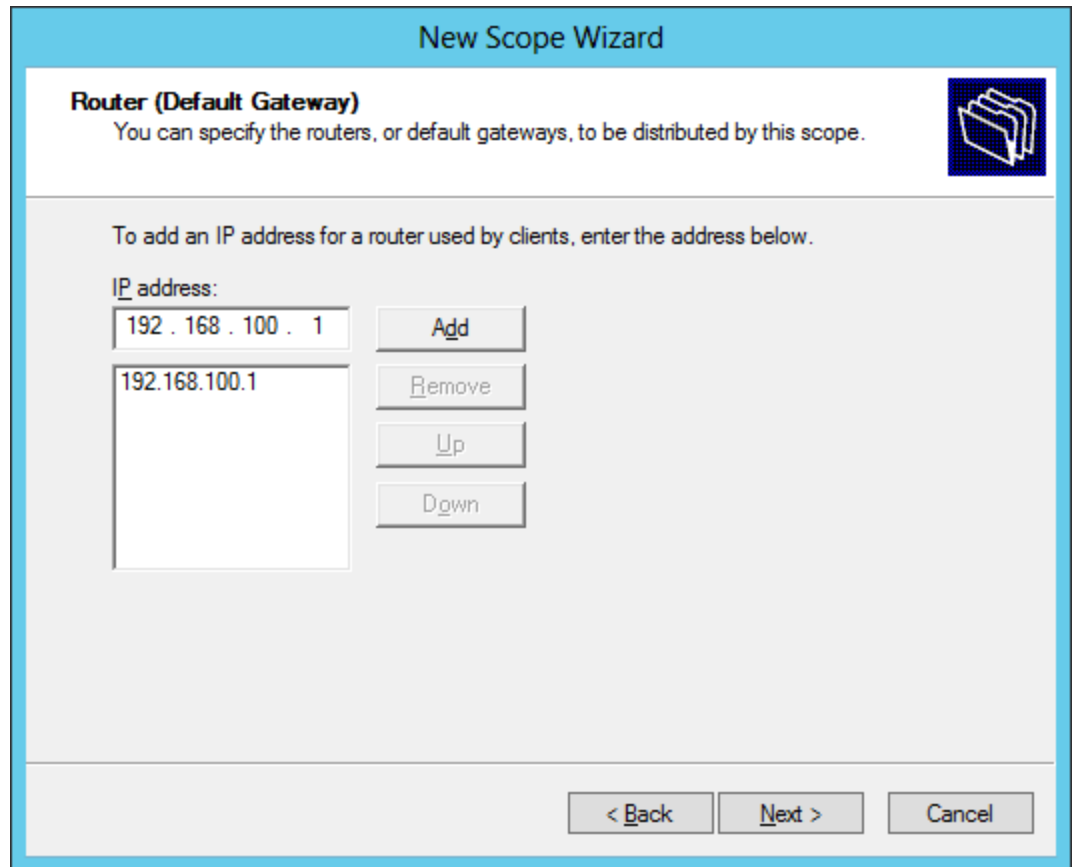
Yes, I want to configure these options now

No, I will configure these options later

At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel". A small icon of a folder with a document is visible in the top right corner of the dialog box.

# Router (Default Gateway)

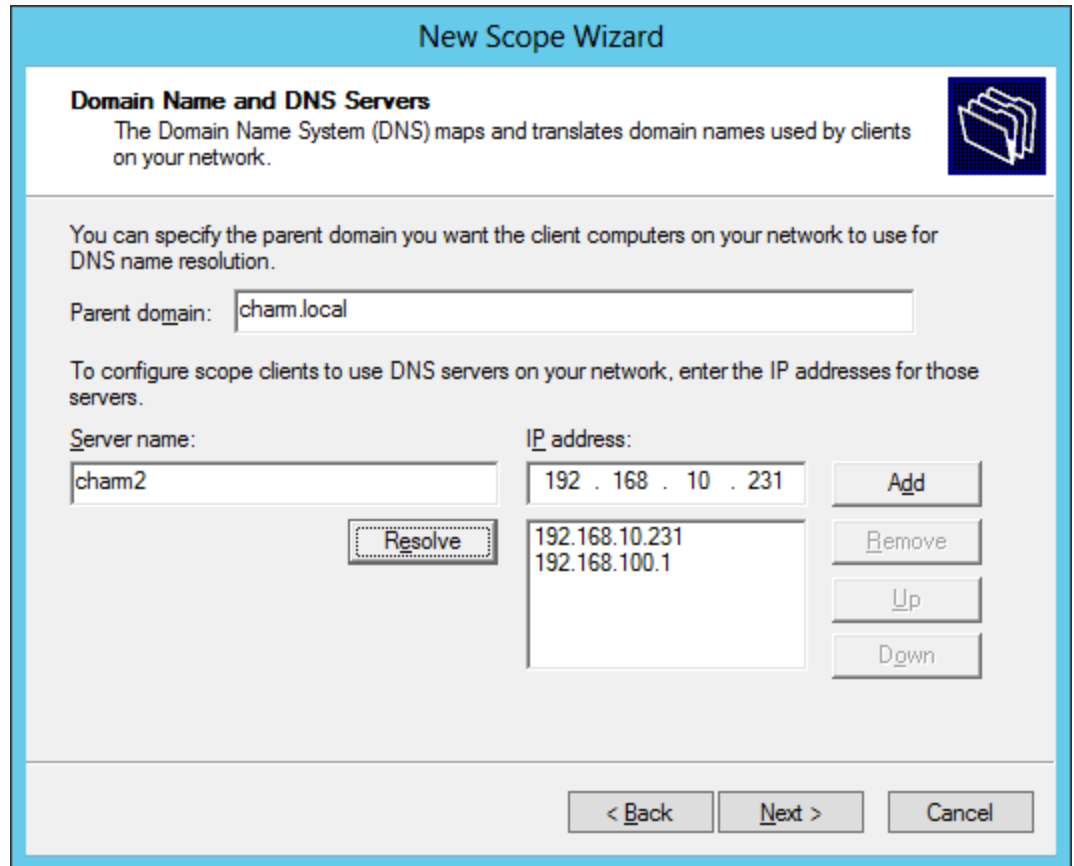
We can identify routers on the LAN by typing in their IP address and then we hit the Add button. We press the Next button to advance to another window.



The screenshot shows a window titled "New Scope Wizard" with a sub-header "Router (Default Gateway)". Below the sub-header is a descriptive text: "You can specify the routers, or default gateways, to be distributed by this scope." To the right of this text is a blue icon of a folder. Below the text is a light gray area with the instruction: "To add an IP address for a router used by clients, enter the address below." Underneath this instruction is a label "IP address:" followed by a text input field containing "192 . 168 . 100 . 1". To the right of this input field is an "Add" button. Below the input field is a list box containing "192.168.100.1". To the right of the list box are four buttons: "Remove", "Up", and "Down". At the bottom of the window are three buttons: "< Back", "Next >", and "Cancel".

# DNS Servers

We can identify the Domain Name and DNS server for the scope. When we type in the server name, we can resolve the IP address by choosing the Resolve button. After placing the parent domain and DNS server in this window, we choose the Next button.



The screenshot shows the 'New Scope Wizard' window, specifically the 'Domain Name and DNS Servers' step. The window has a blue title bar and a light blue header. Below the header, there is a sub-header 'Domain Name and DNS Servers' and a brief description: 'The Domain Name System (DNS) maps and translates domain names used by clients on your network.' To the right of this text is a folder icon. The main content area contains instructions: 'You can specify the parent domain you want the client computers on your network to use for DNS name resolution.' Below this is a text box for 'Parent domain:' containing 'cham.local'. Another instruction reads: 'To configure scope clients to use DNS servers on your network, enter the IP addresses for those servers.' This is followed by two columns: 'Server name:' with a text box containing 'cham2' and a 'Resolve' button; and 'IP address:' with a text box containing '192 . 168 . 10 . 231', an 'Add' button, and a list box containing '192.168.10.231' and '192.168.100.1'. To the right of the list box are 'Remove', 'Up', and 'Down' buttons. At the bottom of the window are three buttons: '< Back', 'Next >', and 'Cancel'.

**New Scope Wizard**

**Domain Name and DNS Servers**  
The Domain Name System (DNS) maps and translates domain names used by clients on your network.

You can specify the parent domain you want the client computers on your network to use for DNS name resolution.

Parent domain:

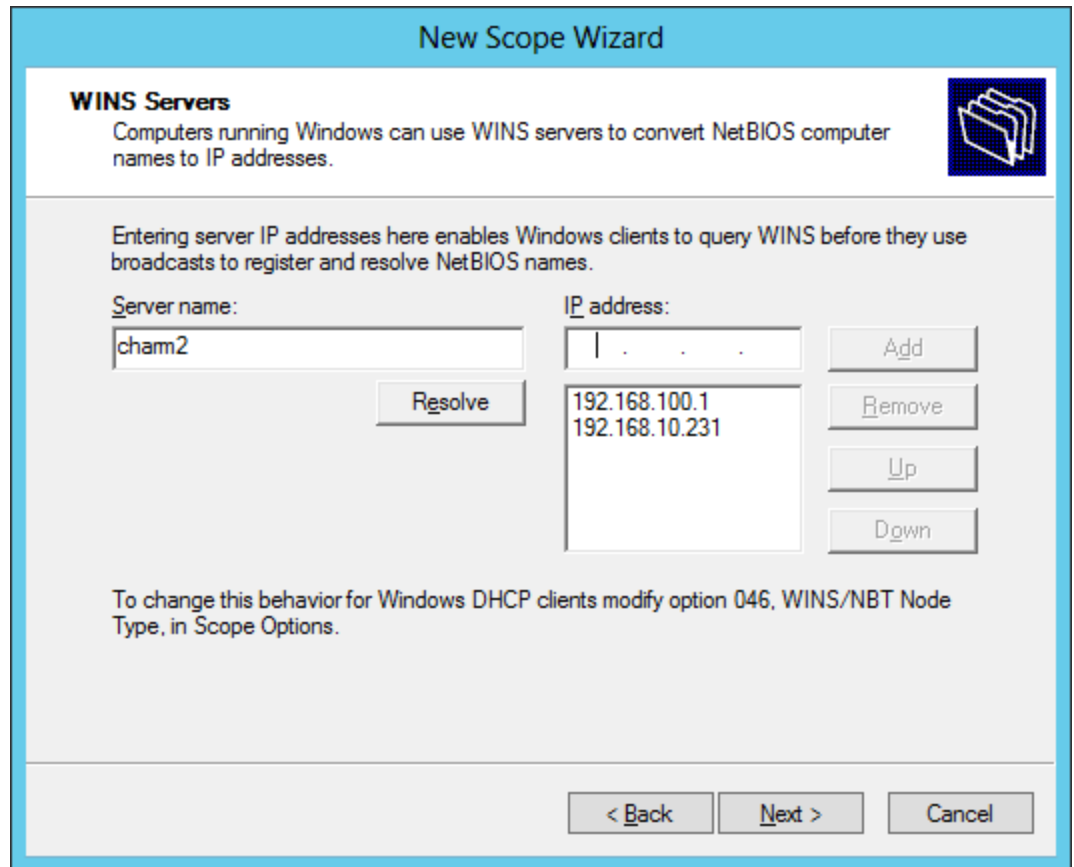
To configure scope clients to use DNS servers on your network, enter the IP addresses for those servers.

Server name:	IP address:	
<input type="text" value="cham2"/>	<input type="text" value="192 . 168 . 10 . 231"/>	<input type="button" value="Add"/>
<input type="button" value="Resolve"/>	<input type="listbox" value="192.168.10.231, 192.168.100.1"/>	<input type="button" value="Remove"/>
		<input type="button" value="Up"/>
		<input type="button" value="Down"/>

< Back    Next >    Cancel

# WINS Server

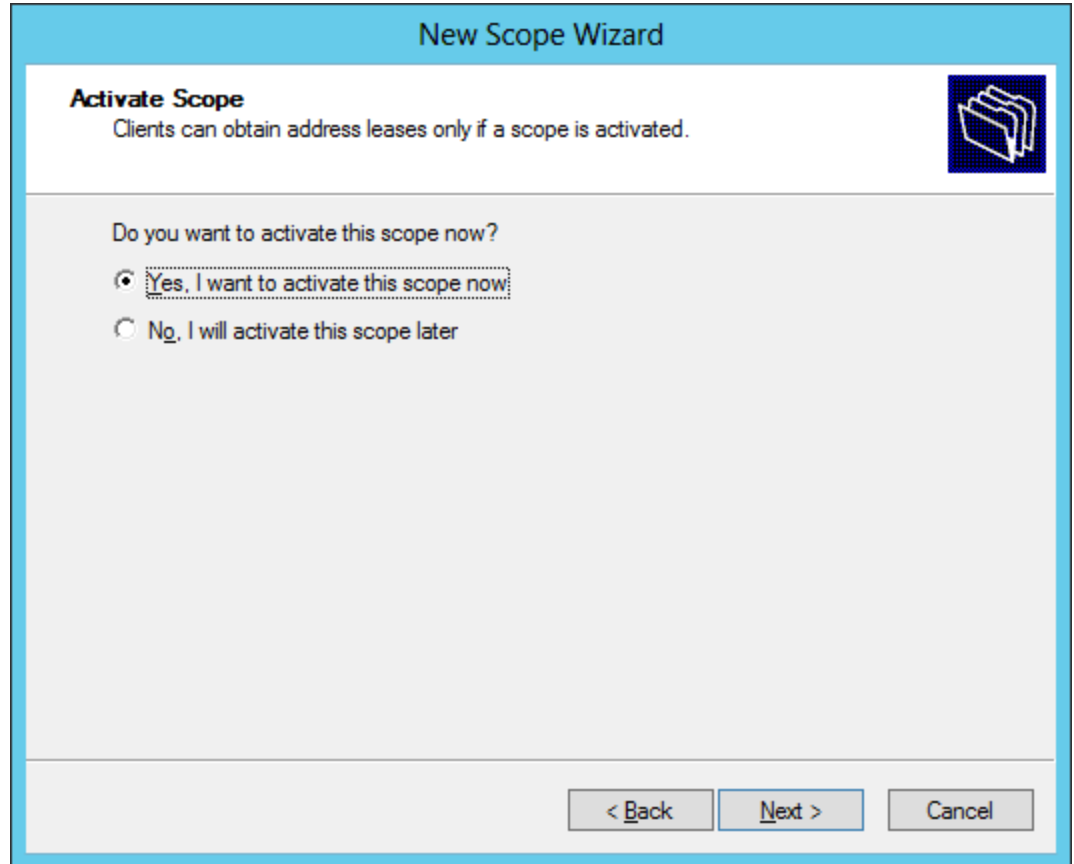
We can also determine the WINS server on the LAN by typing the WINS server NetBIOS name and picking the Resolve button. Then, we can choose the Next button to continue.



The screenshot shows the 'New Scope Wizard' dialog box, specifically the 'WINS Servers' step. The title bar reads 'New Scope Wizard'. Below the title bar, the section is titled 'WINS Servers' with a sub-header 'Computers running Windows can use WINS servers to convert NetBIOS computer names to IP addresses.' and a folder icon. The main area contains the following text: 'Entering server IP addresses here enables Windows clients to query WINS before they use broadcasts to register and resolve NetBIOS names.' Below this text are two input fields: 'Server name:' with the value 'cham2' and 'IP address:' with a dotted pattern. A 'Resolve' button is positioned below the 'Server name' field. To the right of the 'IP address' field is a list box containing the IP addresses '192.168.100.1' and '192.168.10.231'. To the right of the list box are four buttons: 'Add', 'Remove', 'Up', and 'Down'. At the bottom of the dialog, there are three buttons: '< Back', 'Next >', and 'Cancel'. A note at the bottom of the main area reads: 'To change this behavior for Windows DHCP clients modify option 046, WINS/NBT Node Type, in Scope Options.'

# Finish the New Scope Wizard

We can activate the new scope by opting the yes radial button. We press the Next button to go on.

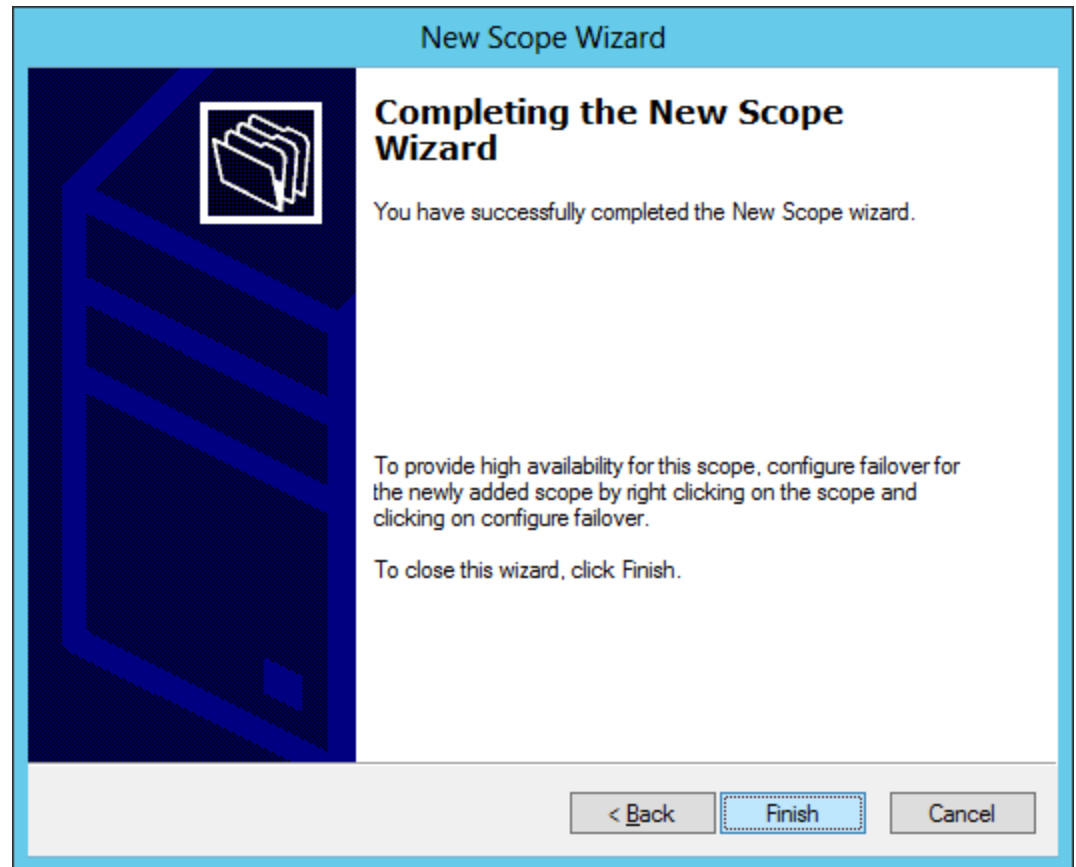


The screenshot shows a dialog box titled "New Scope Wizard" with a blue header bar. Below the header, the text "Activate Scope" is displayed in bold, followed by the instruction "Clients can obtain address leases only if a scope is activated." A small icon of a folder is visible in the top right corner. The main area of the dialog contains the question "Do you want to activate this scope now?" and two radio button options: "Yes, I want to activate this scope now" (which is selected) and "No, I will activate this scope later". At the bottom of the dialog, there are three buttons: "< Back", "Next >", and "Cancel".



# New Scope Wizard is Complete

The wizard is now complete and we pick the Finish button.



# The DHCP Console

We can use the DHCP console to make changes to the address pool, to check the lease, and to make alterations to the scope. We can also add new scopes in this console.

