

# Creating, Changing, and Deleting DHCP Scope

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## Reviews & Approvals

Signed	Action	Reviewer   Approver	Comments	Date
Y	Reviewed	Chelsea Bray	Reviewed	8/31/2022
Y   N	Reviewed   Approved			
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## Formal Review

General Comments

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## Objective(s)

This SOP provides the procedures to add, edit and delete a DHCP scope.

Applies to: Windows Server 2019, Windows Server 2016, Windows Server 2012.

## Document Purpose

This document covers the current process to add, modify, and/or delete a DHCP scope as well as reserve a DHCP address for specific devices. This document is intended for an AD Engineer who has received a request from the Network, Active Directory, or Security teams to add, modify or delete a DHCP scope.

## Prerequisites

- A change request was submitted, and a ServiceNow CTask has been assigned to the engineer performing the change.
- An IP Schema document has been provided through the change request or by email with the scope details. Network static and shared static ranges will be added to the DHCP exclusions list.
- IP Schema Example:

	O1	O2	O3	O4	CIDR							
Assigned /19 range	10	1	0	0	/19							
<Site ID> / <Site Name>												
Vlan Name	O1	O2	O3	O4		CIDR	VLAN	GW	Network Static Range	Shared Static Range	DHCP Range	Subnet Mask
Wired_Office	10	1	0	0	/	22	10	.1	10.1.0.1 – 10.1.0.50	10.1.0.51 – 10.1.0.255	10.1.1.0 – 10.1.3.254	255.255.252.0
Wired_Warehouse	10	1	4	0	/	22	20	.1	10.1.4.1 – 10.1.4.50	10.1.4.51 – 10.1.4.255	10.1.5.0 – 10.1.7.254	255.255.252.0
Wireless_Office	10	1	8	0	/	22	30	.1	10.1.8.1 – 10.1.8.50	n/a	10.1.8.51 – 10.1.11.254	255.255.252.0
Wireless_Warehouse	10	1	12	0	/	22	40	.1	10.1.12.1 – 10.1.12.50	n/a	10.1.12.51 – 10.1.15.254	255.255.252.0
Access_Points	10	1	16	0	/	24	50	.1	10.1.16.1 – 10.1.16.50	n/a	10.1.16.51 – 10.1.16.254	255.255.255.0
Video	10	1	17	0	/	24	60	.1	10.1.17.1 – 10.1.17.50	10.1.17.51 – 10.1.17.254	n/a	255.255.255.0
Voice	10	1	18	0	/	23	70	.1	10.1.18.1 – 10.1.18.50	n/a	10.1.18.51 – 10.1.19.254	255.255.254.0
Physical_Security	10	1	20	0	/	23	80	.1	10.1.20.1 – 10.1.20.50	10.1.20.51 – 10.1.21.254	n/a	255.255.254.0
Scada	10	1	22	0	/	23	90	.1	10.1.22.1 – 10.1.22.50	10.1.22.51 – 10.1.23.254	n/a	255.255.254.0

<u>DHCP Servers - ONE Domain</u>			
10.201.200.215	MS247ONEDHCP01.One.com		
10.201.232.215	MS248ONEDHCP01.One.com		
<u>DNS Servers - NA Domain LDAP</u>			
10.253.70.52	ldapchi.net	Primary	
10.253.134.52	ldapash.net	Secondary	

- The engineer has the appropriate access to utilize the toolbox server(s) and access DHCP to add, edit, or delete DHCP scopes from the servers.
- DHCP Options will be configured for Aruba, following the Standard listed below:

Option Name	Vendor	Value	Policy Name
003 Router	Standard	10.X.X.1	None
006 DNS Servers	Standard	10.220.50.145, 10.201.17.148	None
015 DNS Domain Name	Standard	na.net	None
042 NTP Servers	Standard	135.89.142.66, 135.89.142.100	None
043 Vendor Specific Info	Standard	6e 6f 6e 65 2c 31 30 2e 32 34 30 2e 33 38 2e 32 30 31 2e 73 79 73 63 6f 61 72 75 62 61	None
060 ClassID	Standard	ArubaInstantAP	None

## Assumption(s)

- DHCP Services Role has been deployed and can be used to **add, edit, or delete** one, or more, new DHCP Scopes using the DHCP Management Console.
- The engineer has been assigned a ticket, change request, etc. with specific data/information. The data within the assigned 'ticket' is to be used in place of any data/information within the SOP that is used to describe the step-by-step procedure(s) to complete that assigned task.
- The engineer assigned is using the appropriate IP Schema information to create the scopes.
- DHCP failover peers are already configured.

## Implementation Checklist

- Change Requirements:
  - ☐ A normal change request was submitted in Service Now with the appropriate scope template attached.
    - If the template is not attached, the engineer will reach out to the requester to ask for the DHCP scope documentation that needs to be provided for the change.
    - A time is scheduled for the DHCP scope to be activated by the AD Platform Team.
- Procedure Checklist – Create a new scope
  - ☐ An IP Schema document has been provided and a change request submitted

- ☐ Log into the Toolbox server
- ☐ Access the DHCP server application and add the correct DHCP servers
  - ms247onedhcp01.one..com
  - ms248onedhcp01.one..com
- ☐ Create a new DHCP scope based on the IP Schema document and change request details
  - Ensure proper range of IP addresses have been excluded
  - Add the correct DNS servers
- ☐ Confirm option configurations
  - If this scope is related to Access Points, the appropriate options will need to be configured. These options will be provided in the change request; however, standard settings can be found in the Procedure section of this document.
- ☐ Save changes
- ☐ Replicate changes to the failover peer
- ☐ Reconcile to ensure both peers are updated
- ☐ Ensure the new scope is deactivated until the change allows it to be activated
- Change Window Completion Checklist – Create a New Scope
  - ☐ Activate DHCP scope
  - ☐ Add notes and comments to change on errors or issues that occurred
  - ☐ Notify requestor and validate the change was completed as expected
  - ☐ Close task in change record and update necessary documentation
  - ☐ Knowledge transfer with the team as needed to discuss issues/errors/automation or other discoveries during your procedure that might improve our processes.
- Procedure Checklist – Modify a DHCP Scope
  - ☐ Log into the Toolbox server
  - ☐ Access the DHCP server application and add the correct DHCP servers
    - ms247onedhcp01.one..com
    - ms248onedhcp01.one..com
  - ☐ Find the DHCP scope and right click on <Scope [xx.xx.xx.xx] [Description]>
  - ☐ Select Properties
  - ☐ Update the appropriate configurations based on the change request
    - Scope Name
    - Start & End IP address
    - Lease Duration

- DNS
  - Exclusions
- ☐ Click Okay
- Change Window Completion Checklist – Modify a DHCP Scope
  - ☐ Add notes and comments to change on errors or issues that occurred
  - ☐ Notify requestor and validate the change was completed as expected
  - ☐ Close task in change record and update necessary documentation
  - ☐ Knowledge transfer with the team as needed to discuss issues/errors/automation or other discoveries during your procedure that might improve our processes.
- Procedure Checklist – Add a reservation
  - ☐ Log into the Toolbox server
  - ☐ Access the DHCP server application and add the correct DHCP servers
    - ms247onedhcp01.one..com
    - ms248onedhcp01.one..com
  - ☐ Find the DHCP scope and click expand
  - ☐ Right click on reservations
  - ☐ Enter the following details:
    - Reservation name
    - IP address
    - MAC address
    - Device description (*Optional*)
    - Supported Types: Both
  - ☐ Click Add
- Change Window Completion Checklist – Add a reservation: [Work with Jules + Jaime]
  - ☐ Add notes and comments to change on errors or issues that occurred
  - ☐ Notify requestor and validate the change was completed as expected
  - ☐ Close task in change record and update necessary documentation
  - ☐ Knowledge transfer with the team as needed to discuss issues/errors/automation or other discoveries during your procedure that might improve our processes.

## Special Instruction(s)

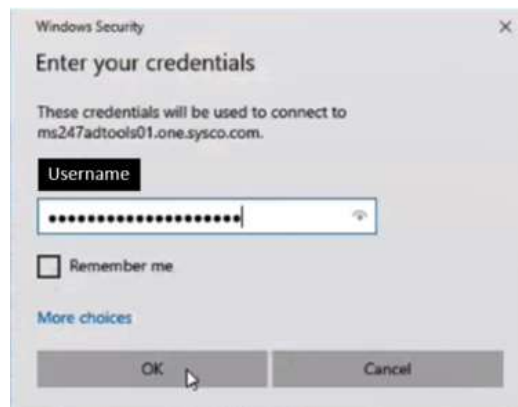
The details listed under the procedure section of this document are used for examples only. Reference the IP Schema document and change request details to execute the change. Do not copy any specific information from this document unless it is explicitly stated in the procedure.

# Processes & Procedures

## 1. Add a new DHCP Scope using the DHCP Console

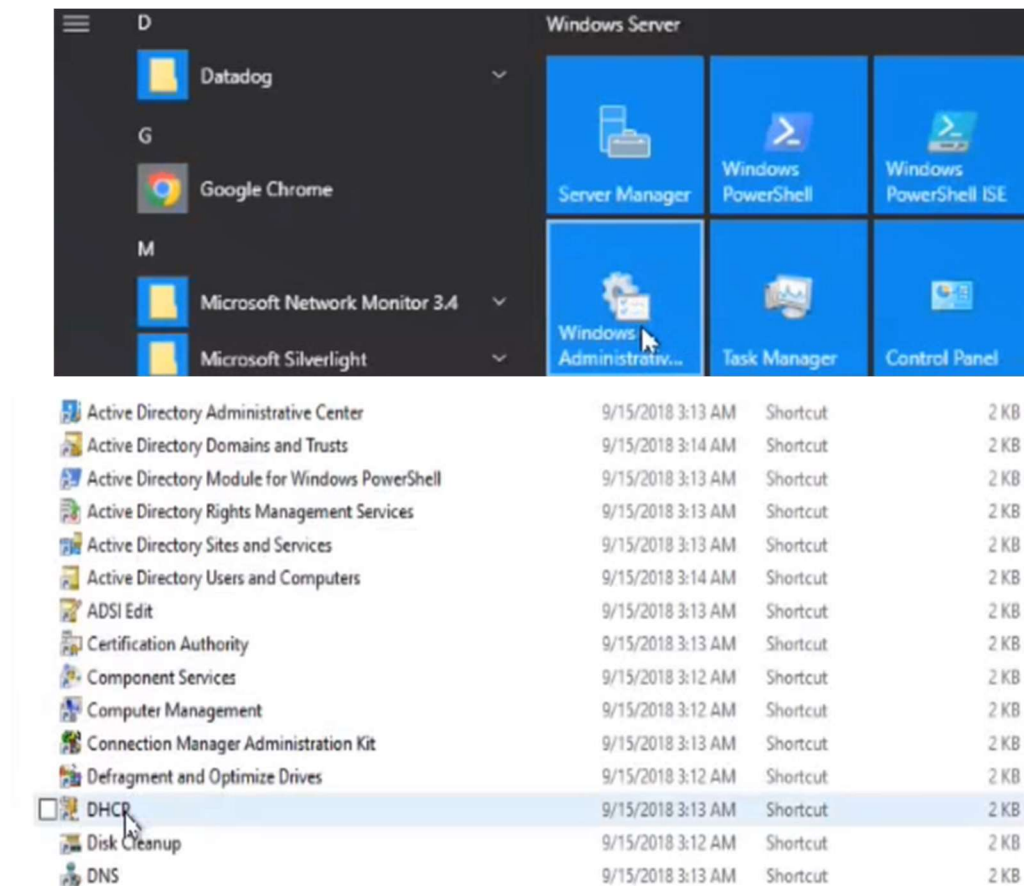
1. Log into the **Toolbox Server** associated with the **One Domain**.

**Note:** **Ms247adtools01.one..com** is being used as an example for the purposes of documenting this procedure. The engineer assigned the task is responsible for ensuring that the appropriate server is being used to make the change.

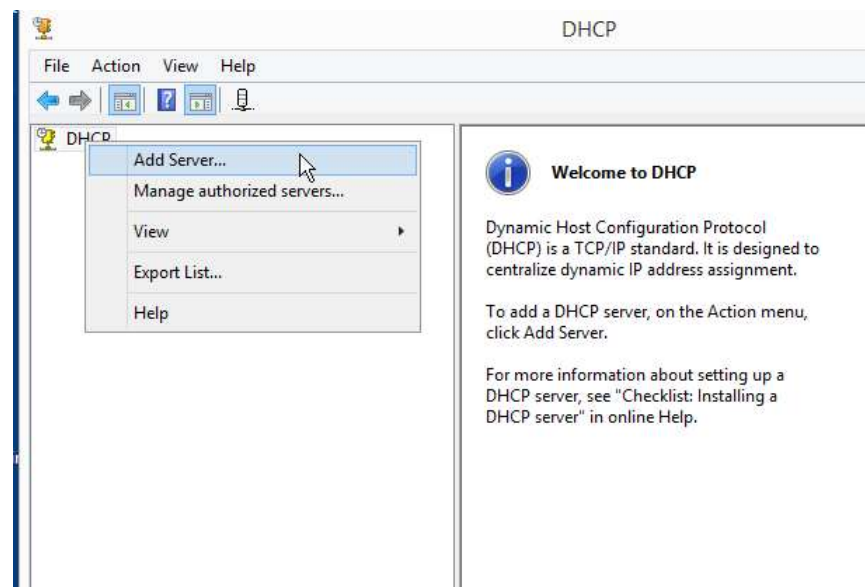




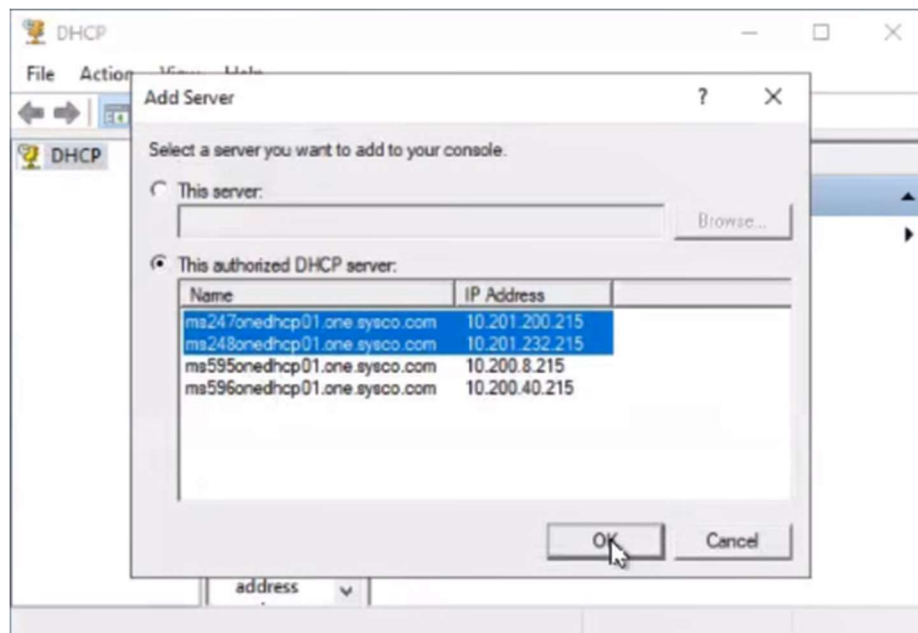
2. Go to Start->Windows Server Administrative Tools and open the DHCP Management Console.



3. Right-click **DHCP** on the **Welcome to DHCP** page and choose **Add Server**.

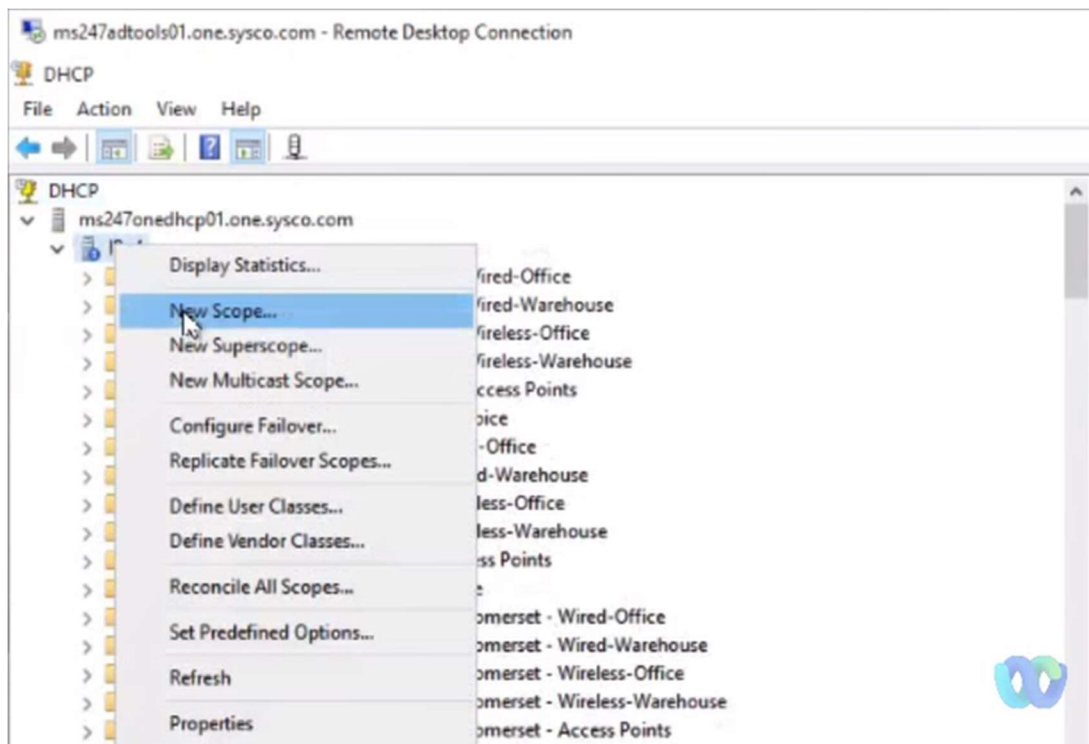


4. On the next screen enter or select your Authorized **DHCP Servers** and click **OK**.

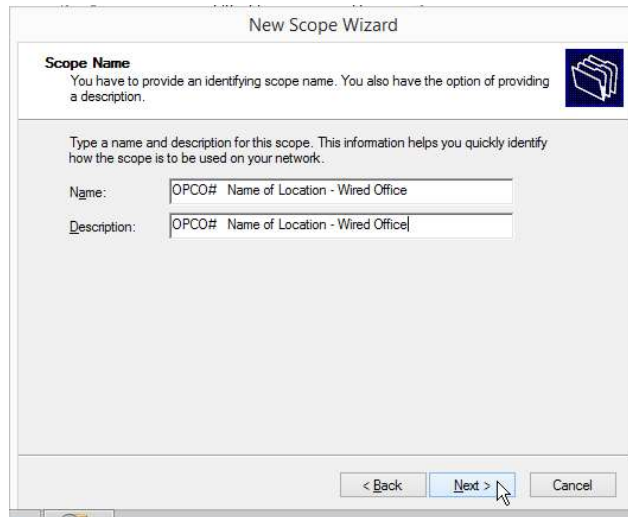


**Note:** The two servers used to create DHCP scopes in the **One..com** domain are *ms247onedhcp01.one..com* and *ms248onedhcp01.one..com*, as shown above. The first server will automatically replicate settings to the second server.

- Expand the DHCP server, verify that the Scope(s) specified in the ServiceNow CTask are not yet present in list, then right-click on **IPv4** and choose **New Scope** to start the **New Scope Wizard**.

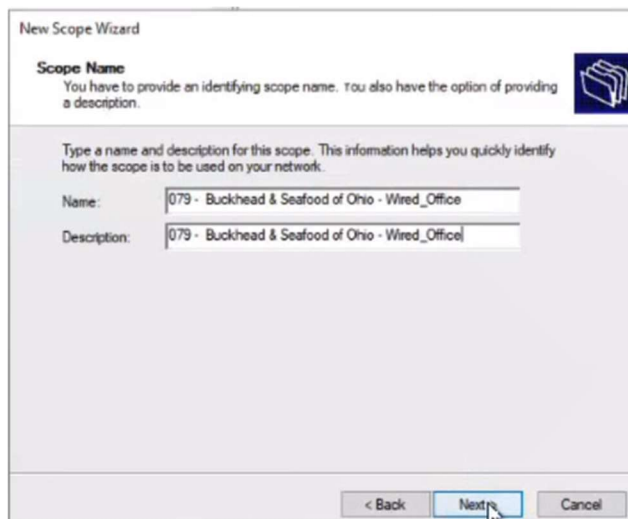


6. Click **Next** on the Introduction screen.
7. On the **Scope Name** page, specify the Scope Name and Description. List the Opco#, followed by name of location and the location as specified in the requisition (Wireless Office, Warehouse, etc.), duplicate in the description, then click **Next**.



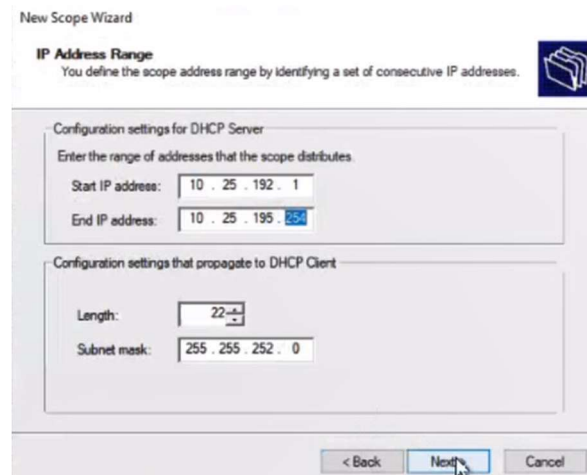
The image shows a screenshot of the 'New Scope Wizard' window, specifically the 'Scope Name' page. The window has a title bar that says 'New Scope Wizard'. Below the title bar, there is a section titled 'Scope Name' with a sub-header 'You have to provide an identifying scope name. You also have the option of providing a description.' To the right of this text is a blue folder icon. Below this, there is a larger text area that says 'Type a name and description for this scope. This information helps you quickly identify how the scope is to be used on your network.' There are two input fields: 'Name:' and 'Description:'. Both fields contain the text 'OPCO# Name of Location - Wired Office'. At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'. A mouse cursor is pointing at the 'Next >' button.

Example:



The image shows a screenshot of the 'New Scope Wizard' window, specifically the 'Scope Name' page, with an example of the input. The window has a title bar that says 'New Scope Wizard'. Below the title bar, there is a section titled 'Scope Name' with a sub-header 'You have to provide an identifying scope name. You also have the option of providing a description.' To the right of this text is a blue folder icon. Below this, there is a larger text area that says 'Type a name and description for this scope. This information helps you quickly identify how the scope is to be used on your network.' There are two input fields: 'Name:' and 'Description:'. Both fields contain the text '079 - Buckhead & Seafood of Ohio - Wired\_Office'. At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'. A mouse cursor is pointing at the 'Next >' button.

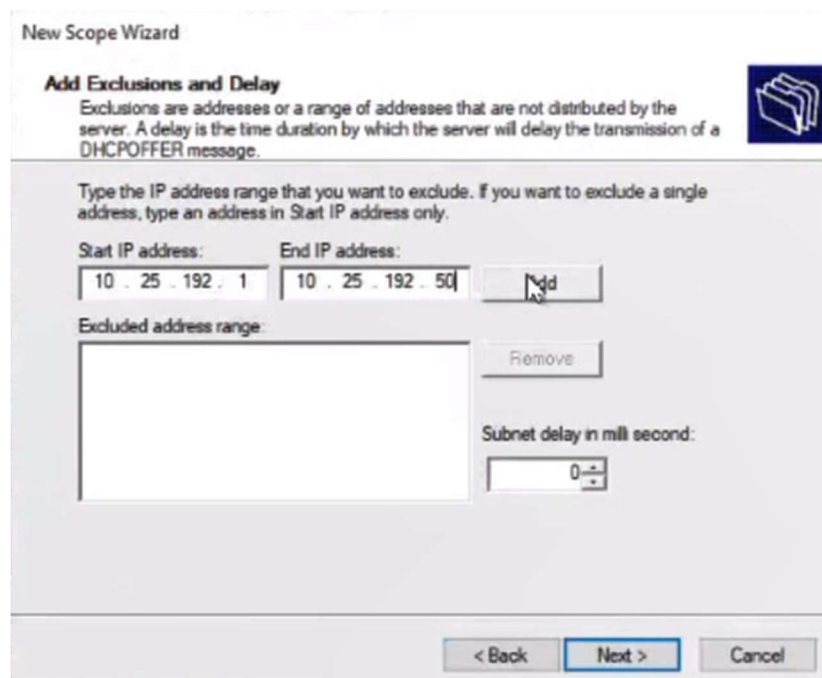
8. On the **IP Address Range** page, type in the IP addresses and Subnet Mask which will be assigned to all clients as given in your requisition, then **Next**.



**Note:** The screen above shows an IPv4 class C subnet scope with 252 available addresses.

9. Per the IP Schema, set IP addresses in the scope to be excluded from DHCP clients on the **Add Exclusions and Delay** page.

**Note:** Network static and shared static ranges in the IP Schema should be added to the DHCP exclusions list. For instance, you may set an exclusion range beginning at xxx.xxx.xxx.1 continuing through xxx.xxx.xxx.50, click **Add**.



Click **Next** when done with this page.

10. On the **Lease Duration** screen, enter the length of time a **client** should be assigned an IP address. When done, click **Next**.

**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: 0 Hours: 8 Minutes: 0

< Back Next > Cancel

**Note:** Standards for Lease durations are listed below:

Device Types	Lease Days	Lease Hours	Lease Minutes
Wireless Warehouse	8	0	0
Access Points (APs)	8	0	0
All devices - Excluding APs & Wireless Warehouse	0	8	0

11. The **Configure DHCP Options** screen will appear. Select *Yes, I want to configure these options now*, and then click **Next**.

**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

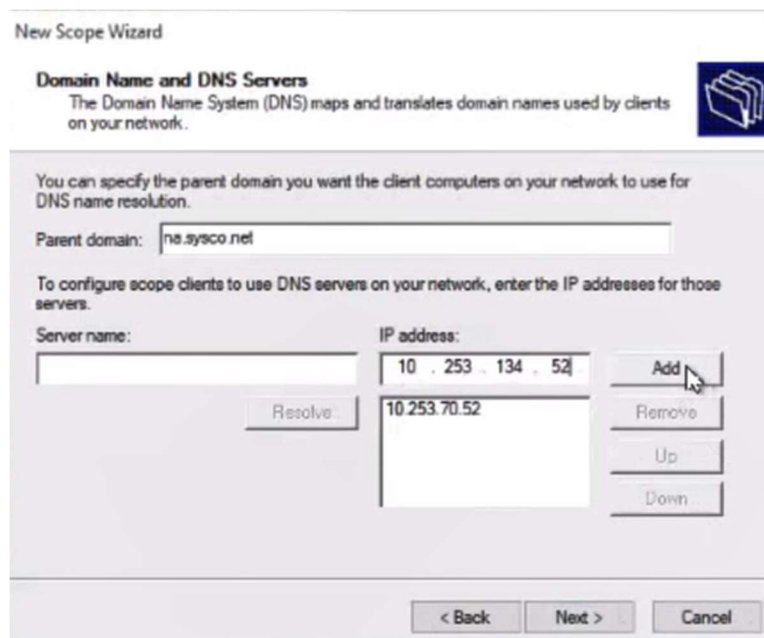
< Back Next > Cancel

12. On the **Router (Default Gateway)** screen, enter the IP address of the gateway that the subnet will use as specified in your requisition. Click **Add** and then **Next**, when done.

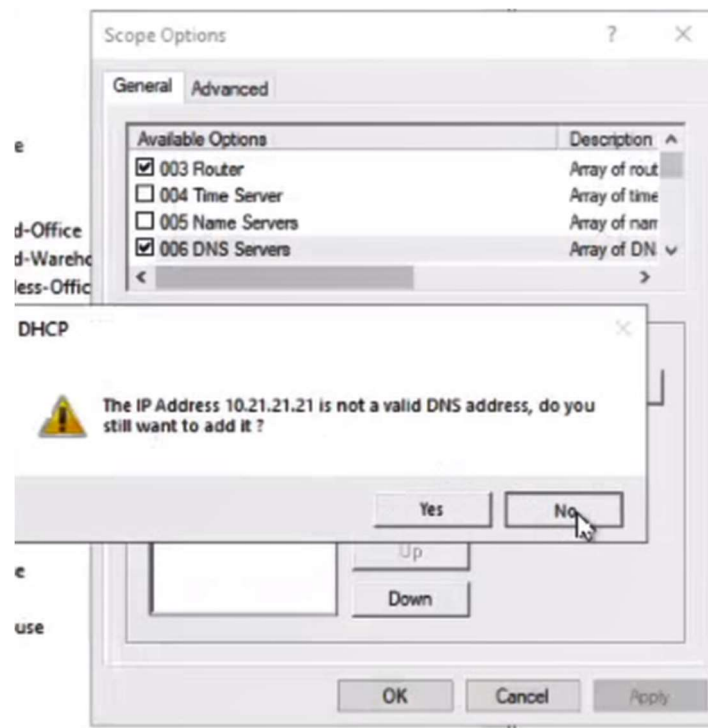


13. On the **Domain Name and DNS Servers** screen, enter **na..net** as the **Parent Domain** followed by the IP addresses of all DNS servers the client should use, then click **Next**.

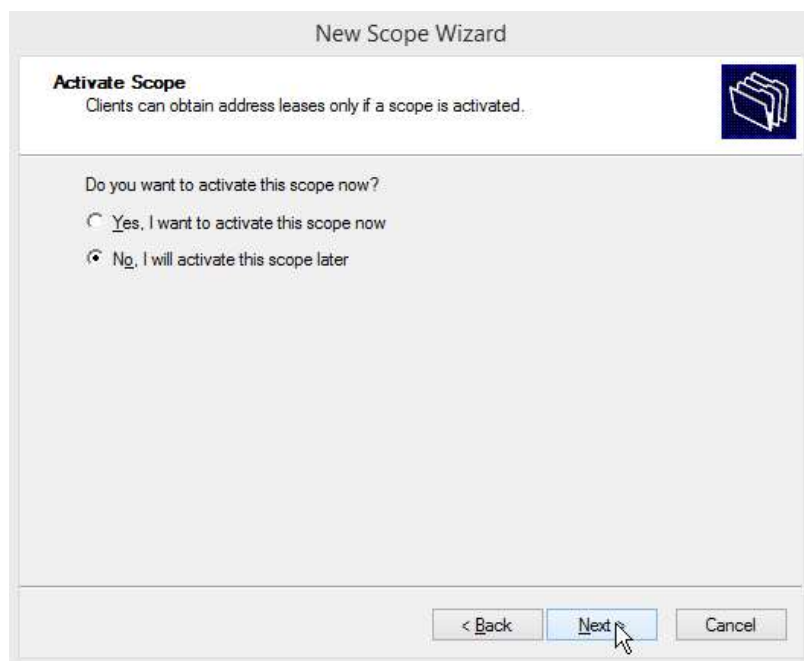
**Notation 1:** The default DNS server addresses are **10.253.70.52** and **10.253.134.52**. Any additional IP addresses should be removed.



**Notation 2:** If you encounter an error message when validating the new DNS server, click **No** when asked whether you want to add the server anyway. Then review your change request ticket to confirm the correct IP address for the DNS server you are directed to add.



14. On the **WINS Servers** screen, click **Next**. **do not** use WINS servers.
15. On the **Activate Scope** page, select *No, I will activate this scope later*. Click **Next** and then **Finish** to complete scope activation.

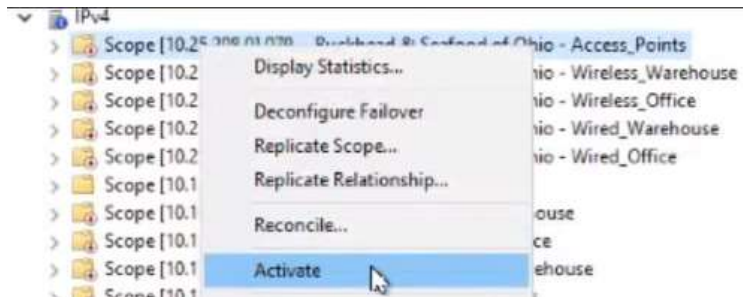




**NOTE:** When a scope is created it will not be activated immediately. When a scope is not active, there will be a small red symbol next to it as shown here:



16. When the scope(s) is scheduled to be activated, open the DHCP server by repeating the steps above. Then **right click** on the scope(s) needed to be activated and select **Activate**.



17. The selected Scope(s) are now activated, as shown below:

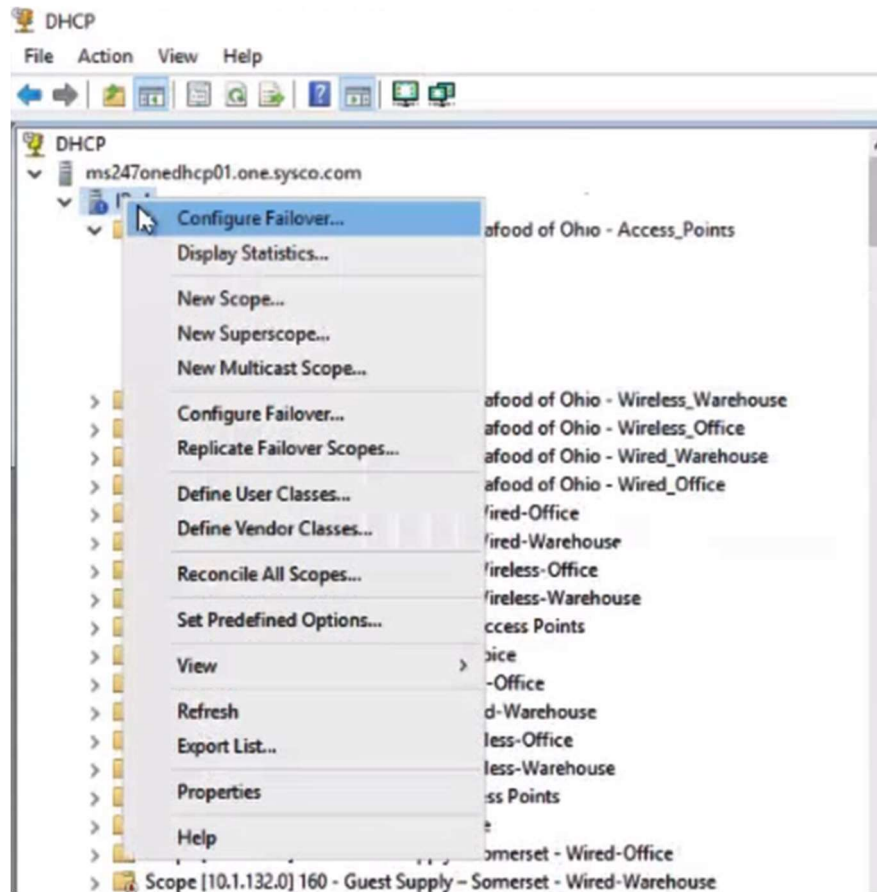


18. The new scope is **created** and activated.



## 2. Configure Failover for New Scopes

1. From within the **DHCP console**, expand the primary DHCP server, expand **IPv4** on the left side, right-click **IPv4** and click **Configure Failover** from the context menu.

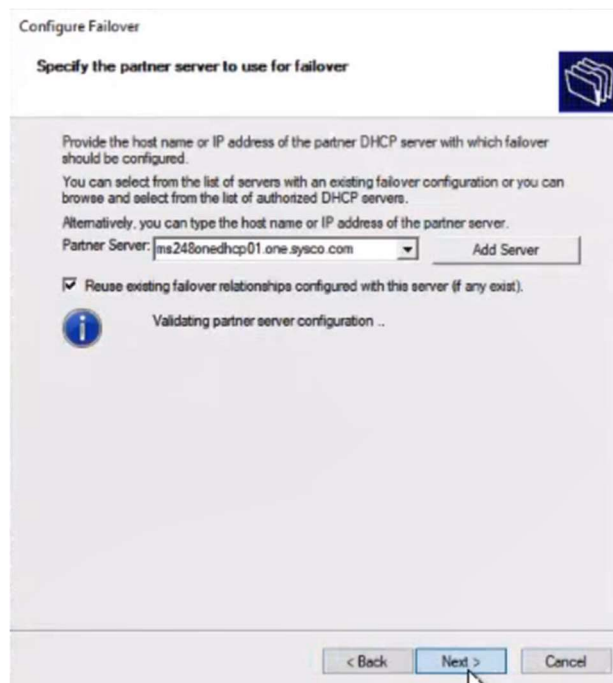


2. When the **Configure Failover** dialog box appears, select from the available scopes that you wish to add. If you want to include all of them, check the **Select all** box as shown below. Then click **Next**.



3. Click **Add Server** to add the **DHCP partner server**. Alternatively, you can enter its IP address or fully qualified domain name into the text field.

**Note:** You can create multiple partner relationships with other DHCP servers by clicking the dropdown arrow.



- Click **Next** and then **Finish** on the following screen and your Scope will be replicated on the Partner Server(s).

Configure Failover

Failover will be set up between ms247onedhcp01.one.sysco.com and ms248onedhcp01.one.sysco.com with the following parameters.

Scopes:

10.25.208.079

Relationship Name: ms247onedhcp01.one.sysco.com  
Maximum Client Lead Time: 1 hrs 0 mins  
Mode: Load balance  
State Switchover Interval: Disabled

Load Balance Percentage

Local Server: 50 %  
Partner Server: 50 %

< Back Finish Cancel

Configure Failover

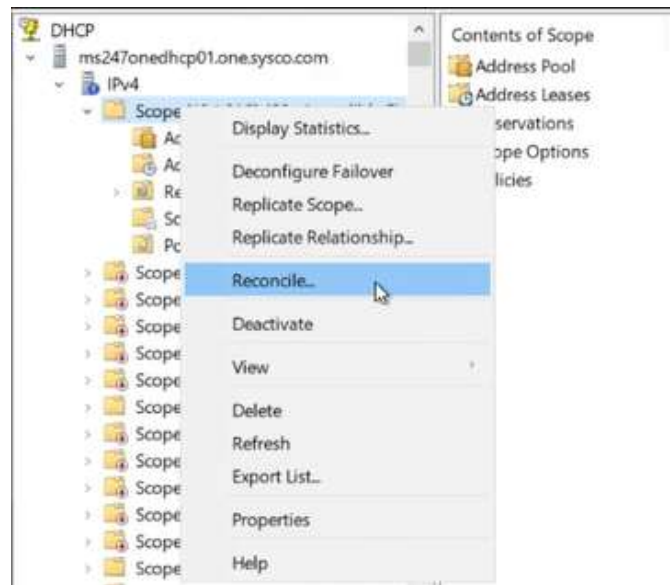
Progress of failover configuration

The log below shows the progress of the various tasks for configuring failover including any errors encountered.

Add scopes on partner server .....Successful  
Disable scopes on partner server .....Successful  
Creation of failover configuration on host server .....Successful  
Creation of failover configuration on partner server .....Successful  
Activate scopes on partner server.....Successful  
Configure failover successful.

Close

5. Right click on IPv4 or the newly added scope and click **Reconcile...**



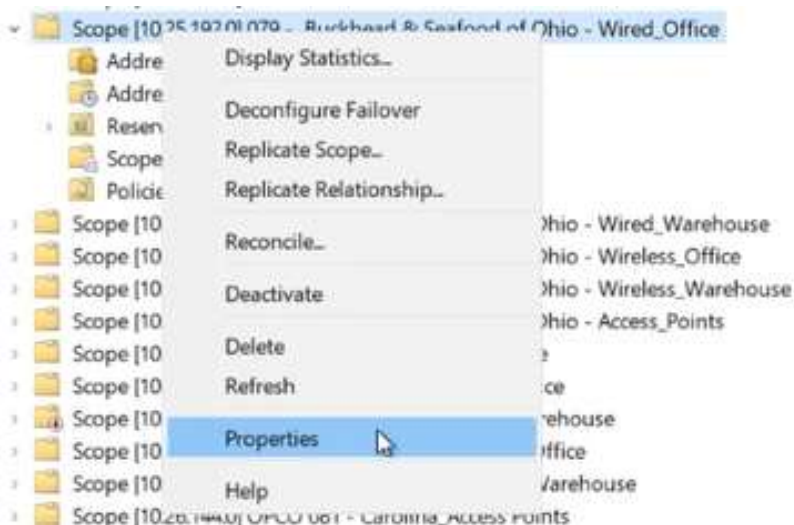
6. Failover for the new scopes is complete.

### 3. Modify DHCP Scope Address Pool and/or Lease Duration

1. Go to Start->Windows Server Administrative Tools and open the DHCP Management Console.
2. Expand the domain that contains the scope you wish to edit, then expand the **IPv4** scope list. Find the scope that requires modification.



3. Right click on the DHCP Scope you wish to edit and choose **Properties**.



4. On the Scope **Properties** page, update the configurations as needed. Then click **OK** to close the window.

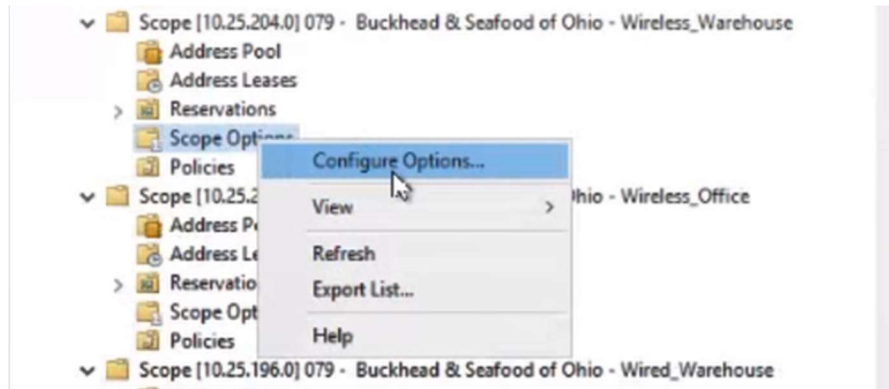
The screenshot shows the 'Scope Properties' dialog box for the scope '079 - Buckhead & Seafood of Ohio - Wired\_Office'. The 'General' tab is selected. The 'Scope name' is '079 - Buckhead & Seafood of Ohio - Wired\_Office'. The 'Start IP address' is '10 . 25 . 192 . 1' and the 'End IP address' is '10 . 25 . 195 . 254'. The 'Subnet mask' is '255 . 255 . 252 . 0' with a 'Length' of '22'. Under 'Lease duration for DHCP clients', the 'Limited to' radio button is selected, with 'Days' set to '0', 'Hours' set to '8', and 'Minutes' set to '0'. The 'Unlimited' radio button is also present. The 'Description' is '079 - Buckhead & Seafood of Ohio - Wired\_Office'. At the bottom, there are 'OK', 'Cancel', and 'Apply' buttons. A mouse cursor is pointing at the 'OK' button.

**NOTE:** For details on how to configure the settings under DNS, Failover, Advanced, or update lease durations, refer to the steps under **Add a new DHCP Scope using the DHCP Console**.

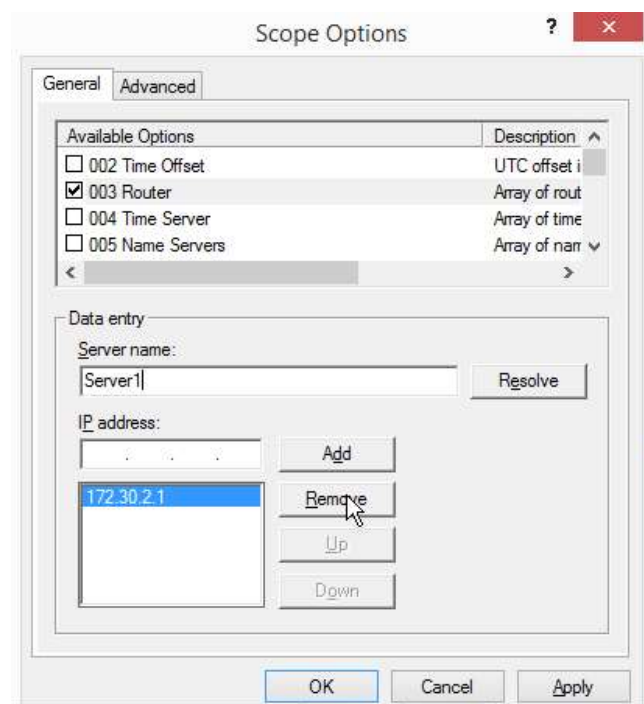
## 4. Modify DHCP Scope Options (Router, DNS Servers, Domain Name)

### 4.1.1 Change Network Router

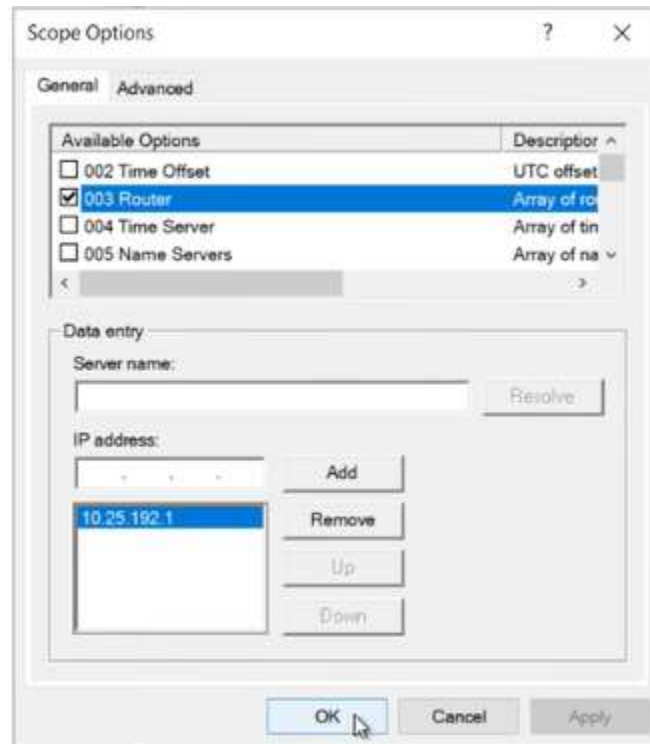
1. Go to Start->Windows Server Administrative Tools and open the DHCP Management Console.
2. Expand the domain that contains the scope you wish to edit, then expand the IPv4 scope list.
3. **Right-click Scope Options** and **choose Configure Options from the popup context menu**, then double-click on **003 Router** in the **Option Name** pane.



4. On the **General** tab of the Scope Options page click **Remove** to delete the current Router's Server Name and IP address.

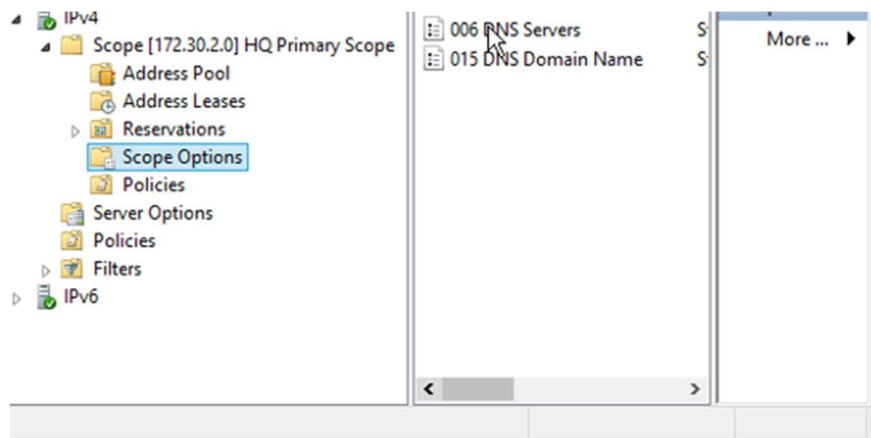


5. On the **General** tab of the **Scope Options** page enter the new server name (if specified) and IP address. Then click **Add** followed by **OK**.



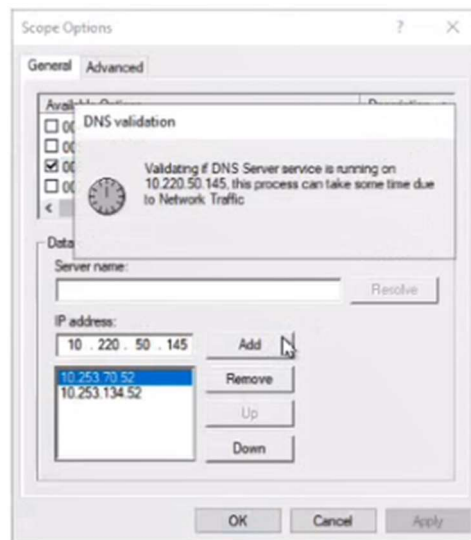
#### 4.1.2 Change DNS Server

1. In the **DHCP Management Console** expand IPv4, select the **Scope Options** for your Scope and in the **Option Name** panel double-click **006 DNS Servers**.





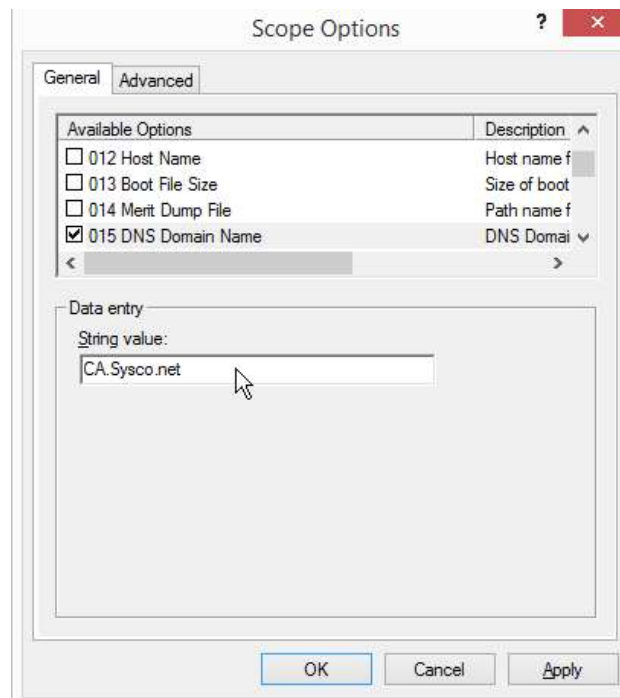
2. If you wish to delete an existing DNS Server, click **Remove**. To add a DNS Server enter the Server Name and IP address, then click **Add**, followed by **Resolve**. Click **Apply** followed by **OK** to close the window.



**Note:** See **Procedure 1, Step 13, Notations 1 and 2** if an error occurs when validating the DNS Server.

#### 4.1.3 Change Domain Name for DHCP Scope

1. In the **DHCP Management Console** expand **IPv4**, select the **Scope Options** for your Scope and in the **Option Name** panel double-click **015 DNS Domain Name**.
2. On the **General** Tab of the **Scope Options**, with **015 DNS Domain Name** selected, enter the new DNS Domain Name under "String Value." Then click **Apply** followed by **OK** to close the window.

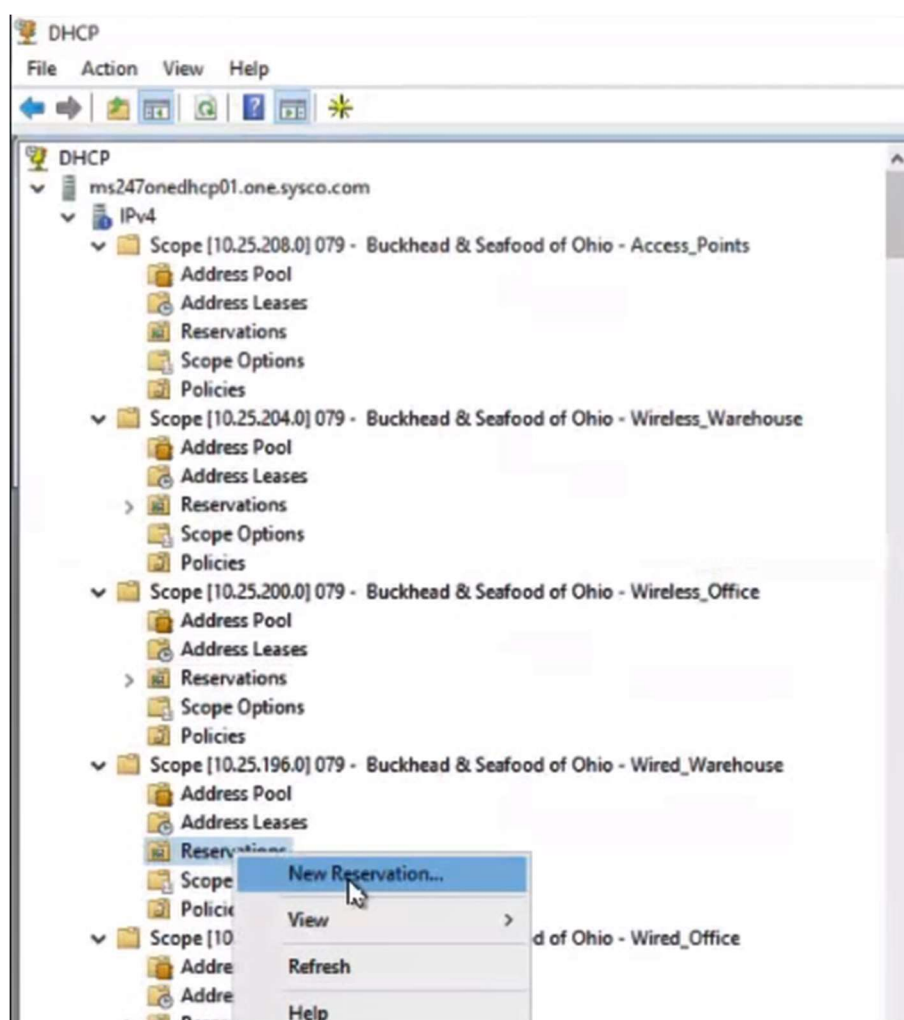


**Note:** Standards for DHCP Scope Options are listed below.

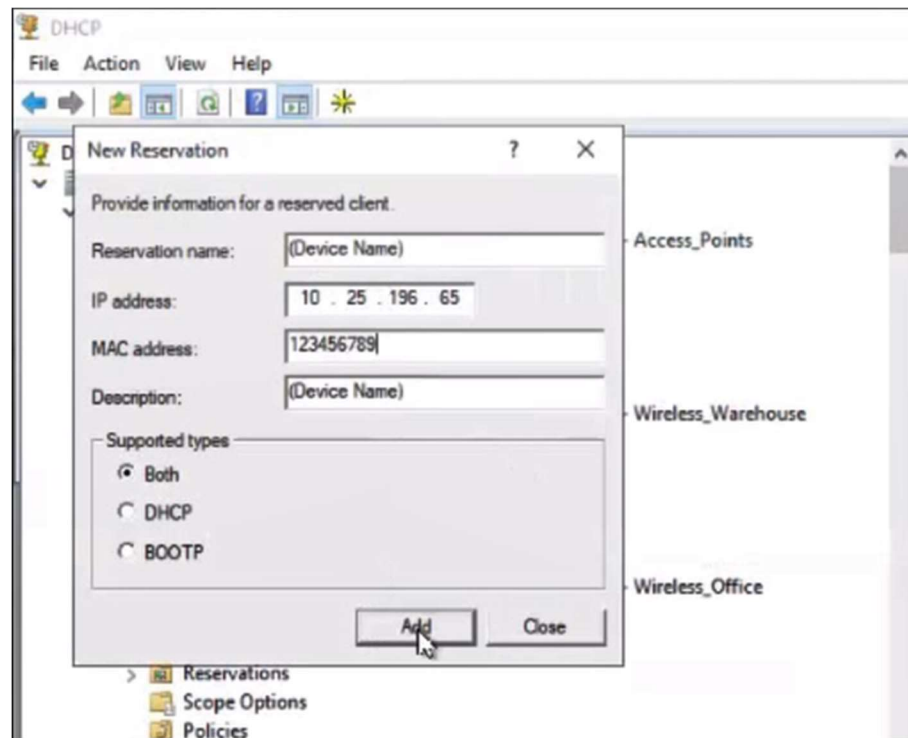
Option Name	Vendor	Value	Policy Name
003 Router	Standard	10.X.X.1	None
006 DNS Servers	Standard	10.220.50.145, 10.201.17.148	None
015 DNS Domain Name	Standard	na..net	None
042 NTP Servers	Standard	135.89.142.66, 135.89.142.100	None
043 Vendor Specific Info	Standard	6e 6f 6e 65 2c 31 30 2e 32 34 30 2e 33 38 2e 32 30 31 2e 73 79 73 63 6f 61 72 75 62 61	None
060 ClassID	Standard	ArubaInstantAP	None

## 5. Add a DHCP Reservation

1. In the **DHCP Management** Console expand your server, expand **ipv4**, expand your scope, then right-click on **Reservations** and choose **New Reservation**.



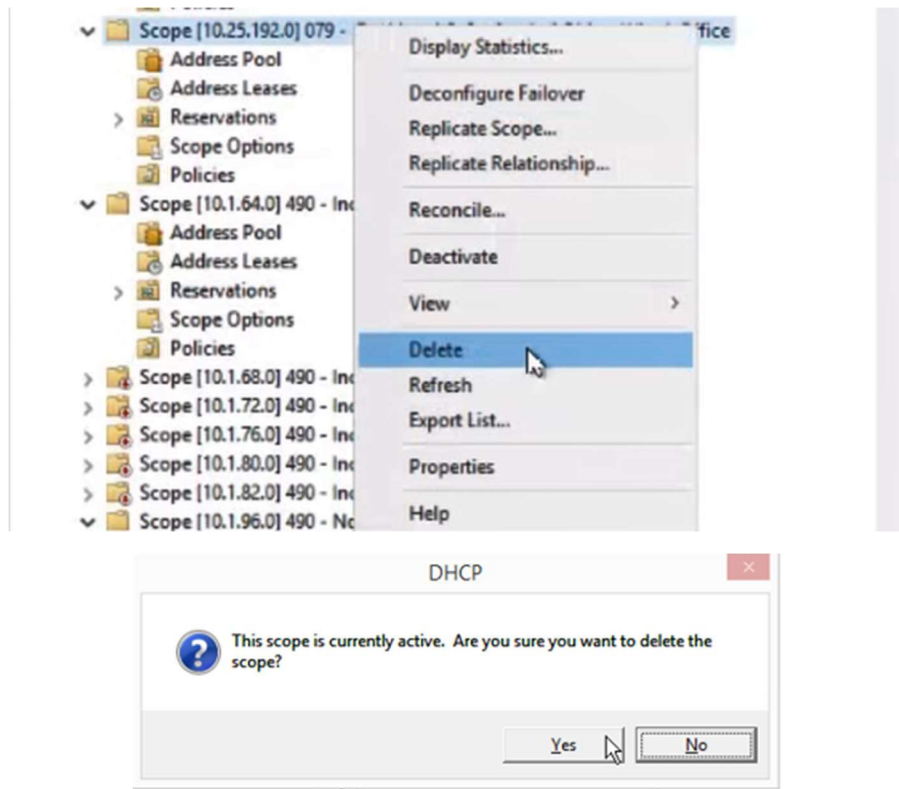
2. On the **New Reservation** screen enter a name for the computer or device you wish to set up (in the case of a printer, use its model information), its **IP address**, **MAC address** provided to you, and a description of the device. Set **Supported Types** to **Both** and click **Add**.



3. Click **Close** on the next screen to close the Reservation Wizard. Modification of a DHCP scope is now complete.

## 6. Delete DHCP Scope

1. Go to **Start->Windows Server Administrative Tools** and open the **DHCP Management Console**.
2. Expand your DHCP server, then right-click on **IPv4** and select the Scope you wish to delete.
3. Right-click on the Scope and choose **Delete** to remove it. Answer **Yes** to the question asking if you're sure you want to delete the scope.



**Note:** If the scope is currently active, notify users logged in with a DHCP address that they may need to log out and log in again to re-establish network connectivity on a new or different scope.

4. Close the **DHCP Management Console**. DHCP scope deletion is complete.

## Watch Items | Lessons Learned

- If an error occurs while adding the DNS servers, ensure that the IP addresses provided are accurate. This error occurs when the DHCP server makes a call out to the DNS server and does not receive the correct response.
- Do not activate a scope until the change request specifies the scope should be activated or during an approved change window. This is to ensure various teams (Network, Security, AD, etc) have set up what's needed before the DHCP servers begins providing IP Addresses.

## xMatters Details

xMatters	Parent Incident	Issue	Resolution
XM0014122	INC000002420704	RF devices are not receiving IP address.	Replicate the DHCP servers to ensure lease times match.
XM0022592	INC000002573115	WorkConnect SSID is mapped to VLAN30 on 10.4.230.x network and it is not working.	DHCP scope needed to be enabled.
N/A	INC000002322141	Request to add new DNS servers to a DHCP scope.	New DNS Servers were added.
XM0035443 XM0035444 XM0035446 XM0035447 XM0035449	INC000002737689	008-Northern New England is without internet, all desk locations and all warehouse RF is down.	The issue was caused due to DHCP Servers not issuing the correct IPs. AD (Active Directory) Team restarted the DHCP Services which fixed this issue. Services have been restored and associates can resume normal business operations.
XM0034550	INC000002726964	Recent site visit revealed none of the AP's are working at site 311.	AD team activated the DHCP scope and caller confirmed access.
N/A	INC000002813272	Charlotte Opco 048 experiencing a problem setting up a new time clock using 10.5.246.51.	Informed user that the IP asking to reserve does not have DHCP scope for OPCO 048.
N/A	INC000002633390	Laptop devices are not able to connect to WorkConnect (in office).	DHCP Scope was updated.
4534719000	INC000003071940	IP-4-DUPADDR: Duplicate address 10.5.246.1 on Vlan90, sourced by 0027.901d.96a7.	Updated DHCP exclusions.
N/A	INC000002960146	We are unable to RDP to MS047IMAGE2.	The Server in question is and old Windows 2008 Server which is incorrectly configured causing the issue. Configure the server with a static IP address and set DNS settings to "Obtain DNS Server Address Automatically".

## Definitions, Abbreviations, Acronyms

Term	Definition	Abbrev. / Acronym
<b>IP Address</b>	A unique string of numbers or alphabet characters that identifies each computer using the Internet Protocol to communicate over a network	IP
<b>Dynamic Host Configuration Protocol</b>	A client/server protocol that automatically provides an Internet Protocol (IP) host with its IP address and other related configuration information such as the subnet mask and default gateway.	DHCP
<b>DHCP Scope</b>	An administrative grouping of IP addresses for a network subnet	DHCP Scope
<b>DNS Server</b>	DNS servers translate domain names into IP addresses, making it possible for DNS clients to reach the origin server.	DNS
<b>Domain Name</b>	A sequence of usually alphanumeric characters (such as .net) that specifies a group of online resources (as of a particular organization) and that forms part of the corresponding Internet addresses	Domain Name
<b>Gateway</b>	A network gateway connects local computers or devices to other networks. When a local device wants to send information to a device at an IP address on another network, it first sends its packets to the gateway, which then forwards the data on to its destination outside of the local network.	Gateway
<b>IPv4</b>	Internet Protocol version 4 (IPv4) is the fourth version of the Internet Protocol (IP). It is one of the core protocols of standards-based internetworking	IPv4
<b>Reservation</b>	A reservation ensures that a DHCP client (such as a printer) is always assigned the same IP address	Reservation
<b>Router</b>	A router is a networking device that forwards data packets between computer networks. Routers perform the traffic directing functions on the Internet.	Router
<b>Subnet Mask</b>	A subnet mask is a 32-bit number created by setting host bits to all 0s and setting network bits to all 1s. In this way, the subnet mask separates the IP	Subnet Mask

	address into the network and host addresses.	
<b>Microsoft DHCP Server - Overview</b>	A Microsoft DHCP server is a machine on a network that hands out IP addresses to clients. It ensures all clients receive IP addresses so they can communicate on the network. It does this through DHCP scopes.	DHCP Server
<b>DHCP Scope</b>	<p>A DHCP scope is an administrative grouping of IP addresses for a network subnet. With scopes you can configure common network settings for all clients receiving addresses, such as DNS servers and network gateways.</p> <p>Scopes can filter hosts by name, MAC address, and operating system to either allow them or disallow them from receiving an IP address. Scope policies can be configured to assign different options to hosts based on their name, MAC address, or operating system. For example, we can create a policy that configures the NIS server for a Linux host in addition to options set at the scope level.</p> <p>A DHCP scope represents contains various components such as:</p> <ul style="list-style-type: none"> <li>• Assignable IP addresses for a particular group of devices (address pools)</li> <li>• A client's DNS server and default gateway</li> <li>• IPs to only assign to certain devices (DHCP reservations)</li> <li>• Address pools (groups of assignable IP addresses)</li> </ul> <p>The DHCP scope is a core element on a network and that allows you to configure network settings common to all of the clients on that network.</p>	Scope

## Technical Design Link(s)

Document Title	URL

## Access Provisioning Policy Link(s)

Policy Document Title	URL

## Request for Access Link(s)

Procedure Document Title	URL

**Appendix A –**

**Appendix B –**