

Create a New DHCP Scope

[To create a new DHCP Scope](#)

1. Click **Start**, click **Administrative Tools**, and then click **DHCP**. The DHCP MMC opens.
2. In **DHCP**, double-click the server name. For example, if the DHCP server name is DHCP-01.example.com, double-click **DHCP-01.example.com**.
3. Right-click **IPv4**, and then click **New Scope**. The New Scope Wizard opens.
4. In **Welcome to the New Scope Wizard**, click **Next**.
5. In **Scope Name**, in **Name**, type a name for the scope. For example, type **Subnet-02**.
6. In **Description**, type a description for the new scope, and then click **Next**.
7. In **IP Address Range**, do the following:
 1. In **Start IP address**, type the IP address that is the first IP address in the range. For example, type **10.10.10.1**.
 2. In **End IP address**, type the IP address that is the last IP address in the range. For example, type **10.10.10.254**. Values for **Length** and **Subnet mask** are entered automatically, based on the IP address you entered for **Start IP address**.
 3. If necessary, modify the values in **Length** or **Subnet mask**, as appropriate for your addressing scheme.
 4. Click **Next**.
8. In **Add Exclusions**, do the following:
 1. In **Start IP address**, type the IP address that is the first IP address in the exclusion range. For example, type **10.10.10.1**.
 2. In **End IP address**, type the IP address that is the last IP address in the exclusion range, For example, type **10.10.10.15**.
9. Click **Add**, and then click **Next**.
10. In **Lease Duration**, modify the default values for **Days**, **Hours**, and **Minutes**, as appropriate for your network, and then click **Next**.
11. In **Configure DHCP Options**, select **Yes, I want to configure these options now**, and then click **Next**.

12. In **Router (Default Gateway)**, do one of the following:
 - If you do not have routers on your network, click **Next**.
 - In **IP address**, type the IP address of your router or default gateway. For example, type **10.10.10.10**. Click **Add**, and then click **Next**.
13. In **Domain Name and DNS Servers**, do the following:
 0. In **Parent domain**, type the name of the DNS domain that clients use for name resolution. For example, type **example.com**.
 1. In **Server name**, type the name of the DNS computer that clients use for name resolution. For example, type **AD-DNS-01**.
 2. Click **Resolve**. The IP address of the DNS server is added in **IP address**. Click **Add**, wait for DNS server IP address validation to complete, and then click **Next**.
14. In **WINS Servers**, do one of the following:
 - If you do not have WINS servers on your network, click **Next**.
 - If you have one or more WINS servers deployed on your network, for each WINS server: In **Server name**, type the name of the WINS server. For example, type **WINS-01**. Click **Resolve**. The IP address of the WINS server is added in **IP address**. Click **Add**, and then click **Next**.
15. In **Activate Scope**, do one of the following:
 - To automatically activate the scope immediately after the steps in the New Scope Wizard are complete, select **Yes, I want to activate this scope now**.
 - To manually activate the scope later by using the DHCP MMC, select **No I will activate this scope later**.
16. Click **Next**, and then click **Finish**.
17. Configuring DHCP options
18. The New Scope Wizard enables you to configure a few of the most commonly used DHCP
19. options as you create a new scope, but you can always configure the many other options at a later time.

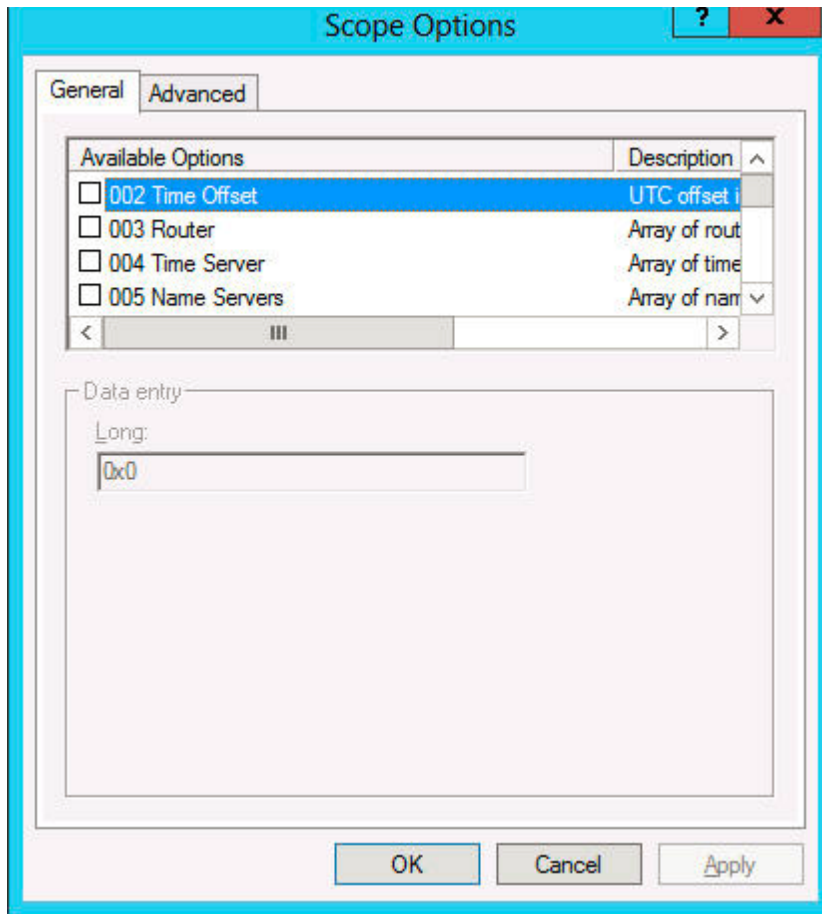
The Windows DHCP server supports two kinds of options:

- ■ **Scope Options** Options supplied only to DHCP clients receiving addresses from a particular scope

- **Server Options** Options supplied to all DHCP clients receiving addresses from the server

The Router option is a typical example of a scope option because a DHCP client's default gateway address must be on the same subnet as its IP address. The DNS Servers option is typically a server option, because DNS servers do not have to be on the same subnet, and networks often use the same DNS servers for all their clients.

All the options supported by the Windows DHCP server can be either scope or server options, and the process of configuring them is basically the same. To configure a scope option, right-click the Scope Options node and, from the shortcut menu, select Configure Options. This opens the Scope Options dialog box, which provides appropriate controls for each of the available options.



Right-clicking the Server Options node enables you to open the Server Options dialog box, which behaves the same way as the Scope Options dialog box.

Creating a reservation

Although DHCP is an excellent TCP/IP configuration solution for most of the computers on a network, there are a few for which it is not. DHCP servers themselves, for example, need static IP addresses.

Because the DHCP dynamic allocation method allows for the possibility that a computer's IP address could change, it is not appropriate for these particular roles. However, it is possible to assign addresses to these computers by using DHCP, using manual, instead of dynamic, allocation.

In a Windows DHCP server, a manually allocated address is called a *reservation*. You create a reservation by expanding the scope node, right-clicking the Reservations node, and, from the shortcut menu, selecting New Reservation. The New Reservation dialog box opens, as shown in Figure 4-11.

New Reservation

Provide information for a reserved client.

Reservation name:

IP address:

MAC address:

Description:

Supported types

Both

DHCP

BOOTP

In this dialog box, you specify the IP address you want to assign and associate it with the client computer's MAC address, which is hard-coded into its network interface adapter. It is also possible to manually configure the computer's TCP/IP client, but creating a DHCP reservation ensures that all your IP addresses are managed by your DHCP servers. In a large enterprise, where various administrators might be dealing with DHCP and TCP/IP configuration issues, the IP address that one technician manually assigns to a computer might be included in a DHCP scope by another technician, resulting in potential addressing conflicts. Reservations create a permanent record of the IP address assignment on the DHCP server.