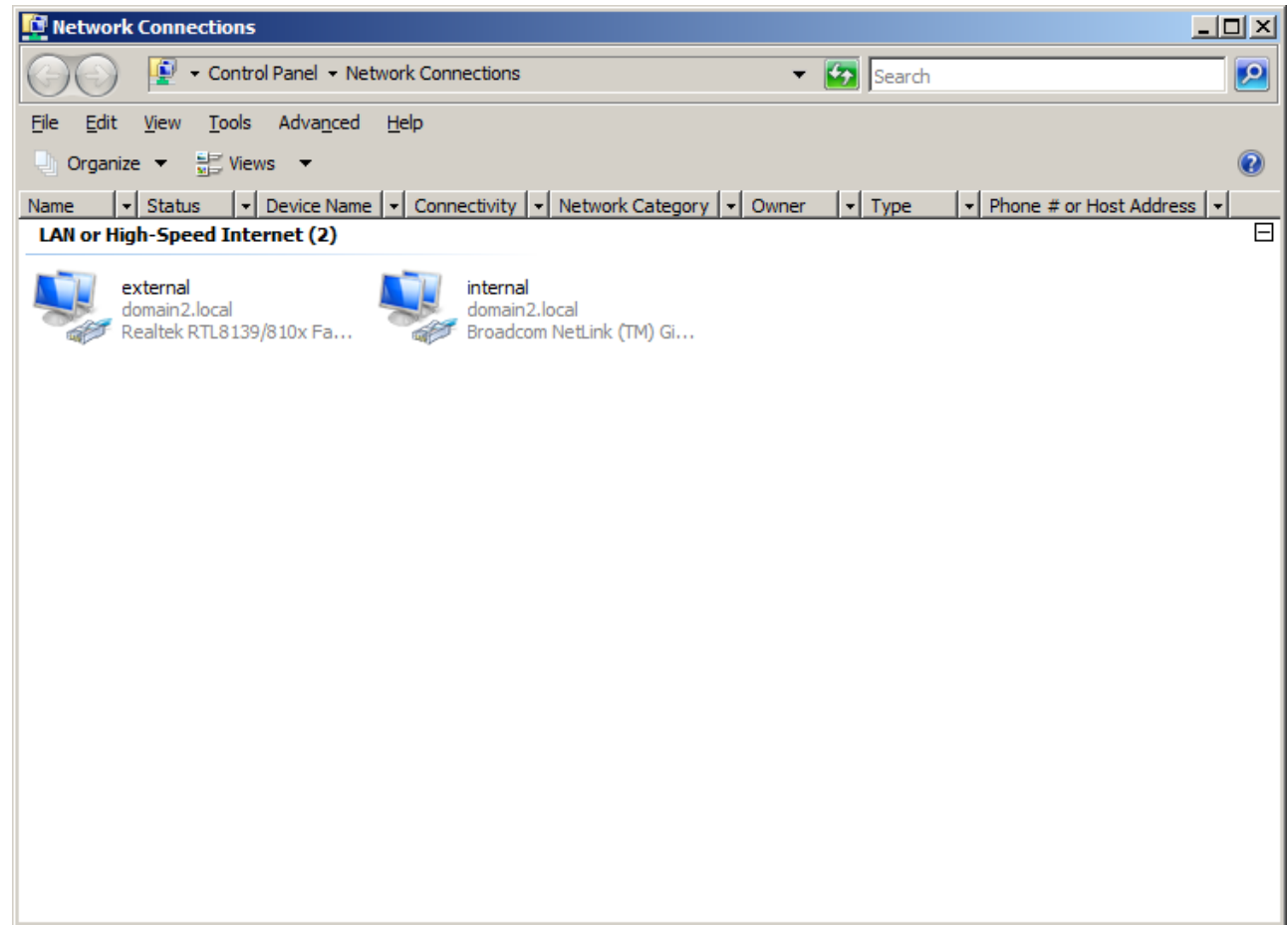


Add DHCP Role to Windows Server 2008

September 8, 2010

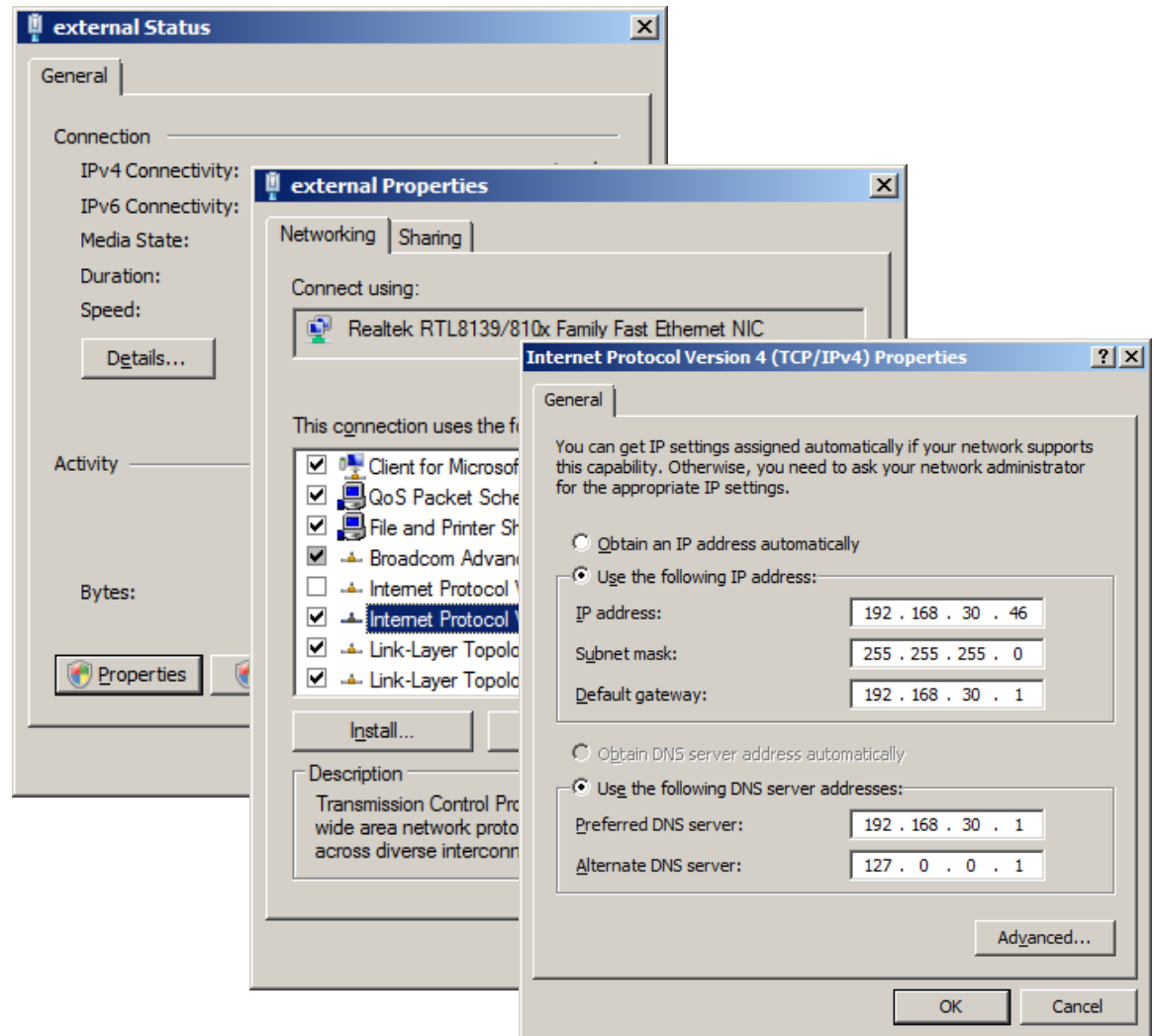
Wide and Local Area Network Connections

Before we setup the Dynamic Host Configuration Service on our server, we need to check that our two Network Interface Cards (NICs) are functioning. We open the Network Connections window and we see the external and internal NICs.



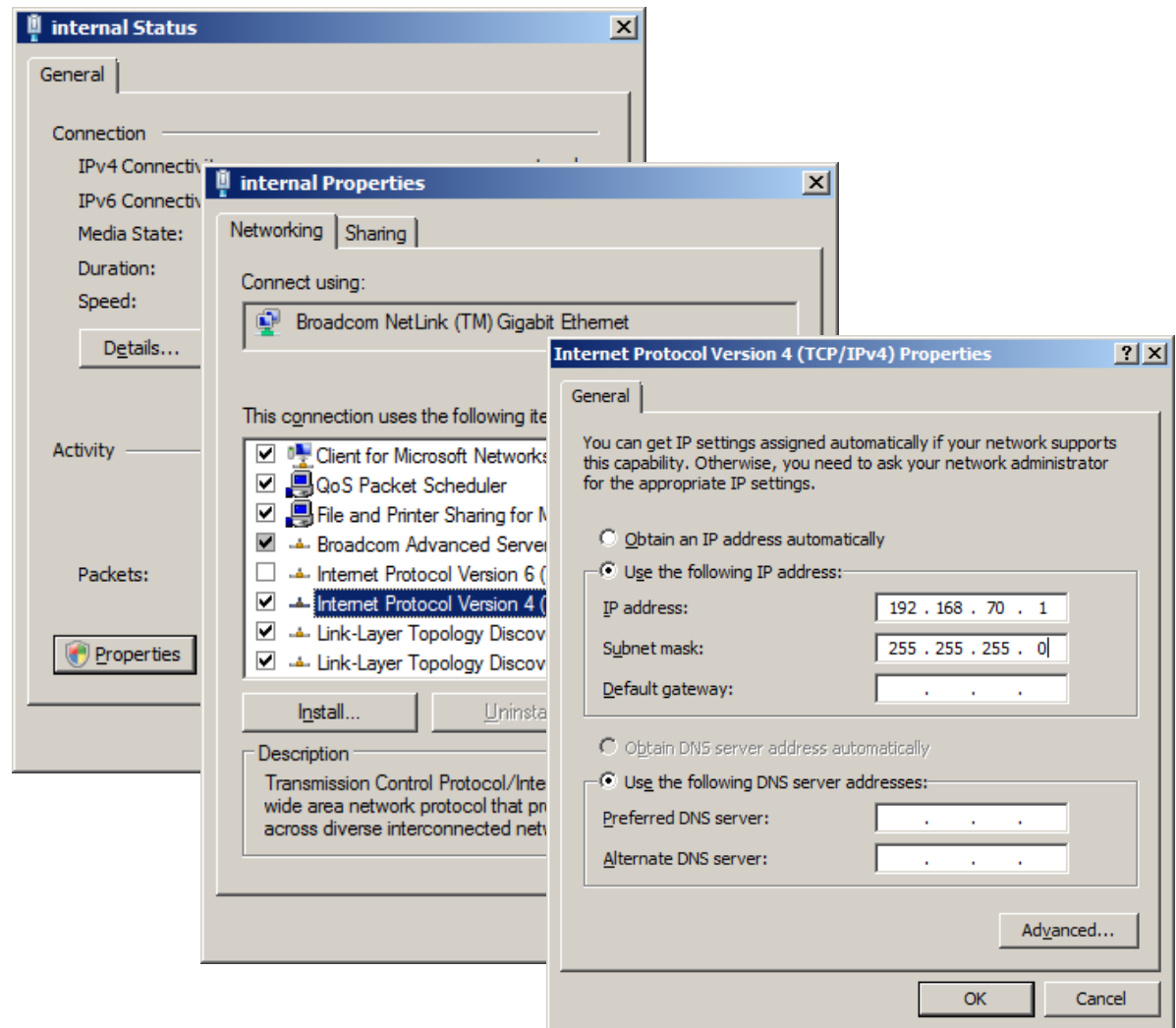
External Network Interface Card Setup

We open the external NIC status window and we choose the Properties button. The external NIC properties window opens and we uncheck the IPv6 checkbox since we are only using IPv4 settings. We double click on the IPv4 TCP/IP protocol and that properties window appears. We have an address on the 192.168.30 network and we are pointing at the 192.168.30.1 Domain Controller and DNS server. All settings are correct and we press OK to close the windows.



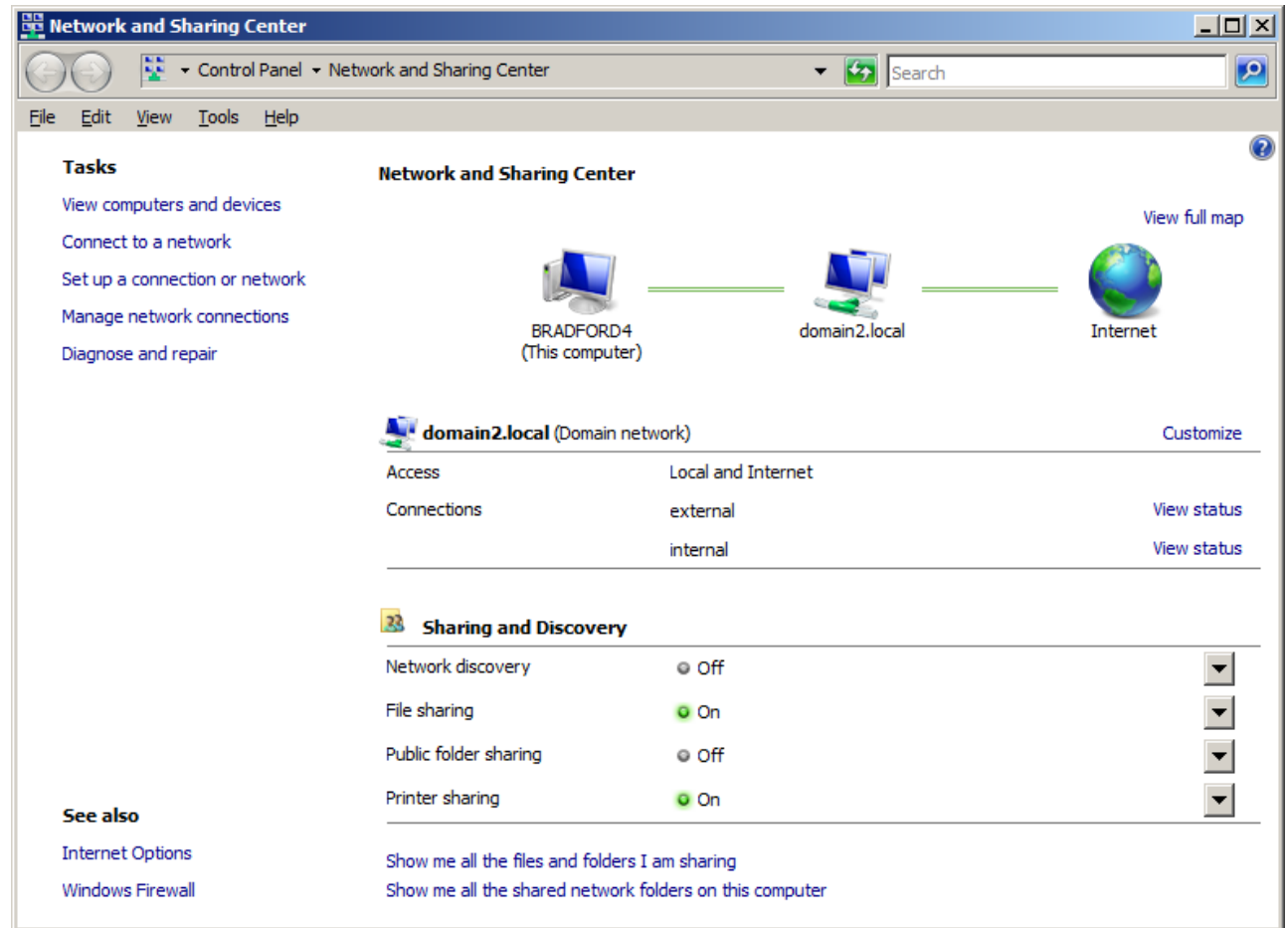
Internal Network Interface Card Setup

We then open the internal NIC status window and again we choose the Properties button. The internal NIC properties window opens and we uncheck the IPv6 checkbox since we are only using IPv4 settings. We double click on the IPv4 TCP/IP protocol and that properties window appears. Our address on the internal NIC is the first IP on the 192.168.70 network. All settings are correct and we press OK to close the windows.



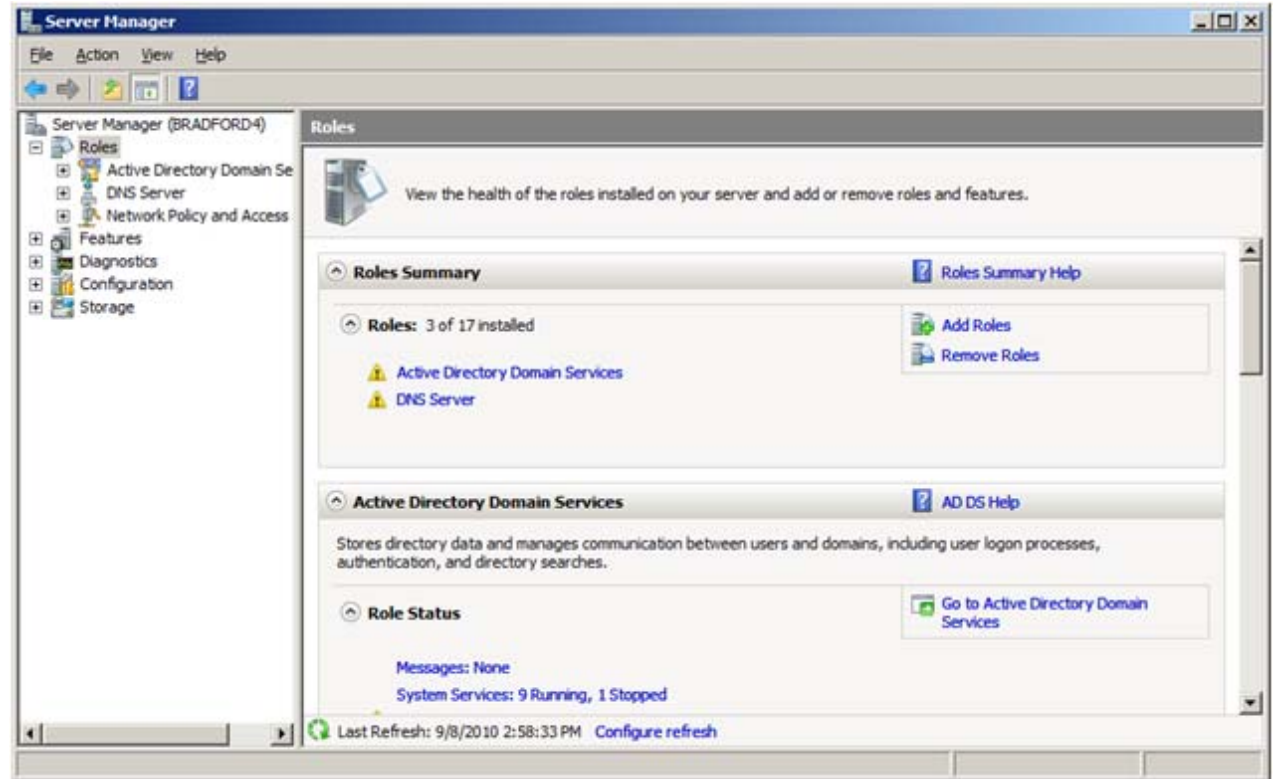
Connecting to the Internet

We check the Network and Sharing Center window and see that our server is connecting to the Internet through the domain2.local Domain Controller.



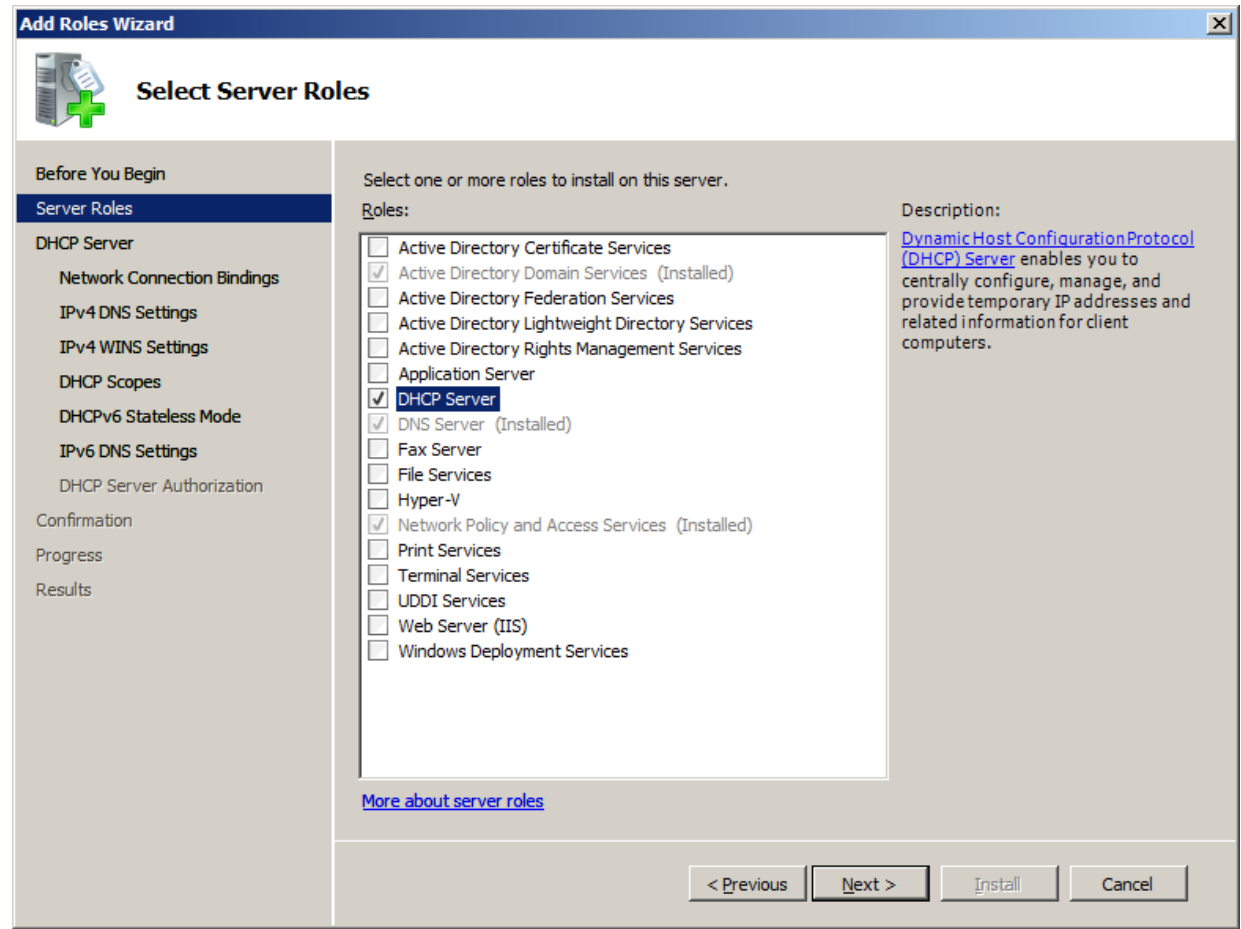
Open Server Manager

We now visit Administrative Tools on the Start menu and we select Server Manager. When that window appears, we choose Roles. We can see that presently the server is set for DNS and Active Directory. To insert another role, we pick the Add Role hyperlink.



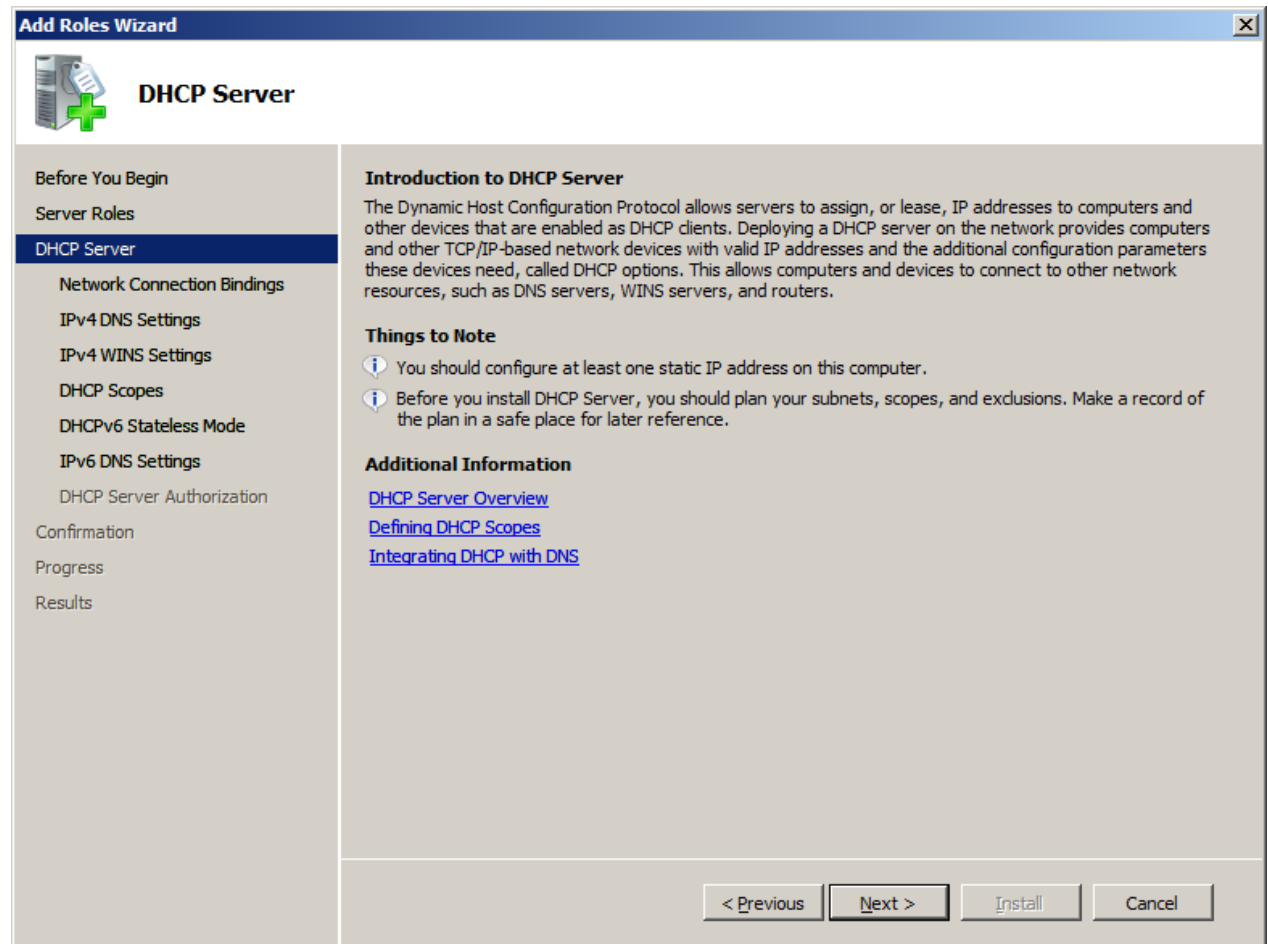
Select DHCP Server Role

We annotate the DHCP Servers checkbox and we pick the Next button to advance.



Introduction to DHCP Server

On this window, we can learn more about the DHCP servers. We choose the Next button to proceed.



Select Network Connection Bindings

We then highlight the IP address of the NIC that will provide the DHCP service. We pick the Next button to advance.

The screenshot shows the 'Add Roles Wizard' window with the 'Select Network Connection Bindings' step selected. The left sidebar lists various configuration steps, with 'Network Connection Bindings' highlighted. The main area contains instructions and a table of network connections.

Add Roles Wizard

Select Network Connection Bindings

Before You Begin
Server Roles
DHCP Server
Network Connection Bindings
IPv4 DNS Settings
IPv4 WINS Settings
DHCP Scopes
DHCPv6 Stateless Mode
IPv6 DNS Settings
DHCP Server Authorization
Confirmation
Progress
Results

One or more network connections having a static IP address were detected. Each network connection can be used to service DHCP clients on a separate subnet.

Select the network connections that this DHCP server will use for servicing clients.

Network Connections:

IP Address	Type
<input checked="" type="checkbox"/> 192.168.70.1	IPv4
<input type="checkbox"/> 192.168.30.46	IPv4

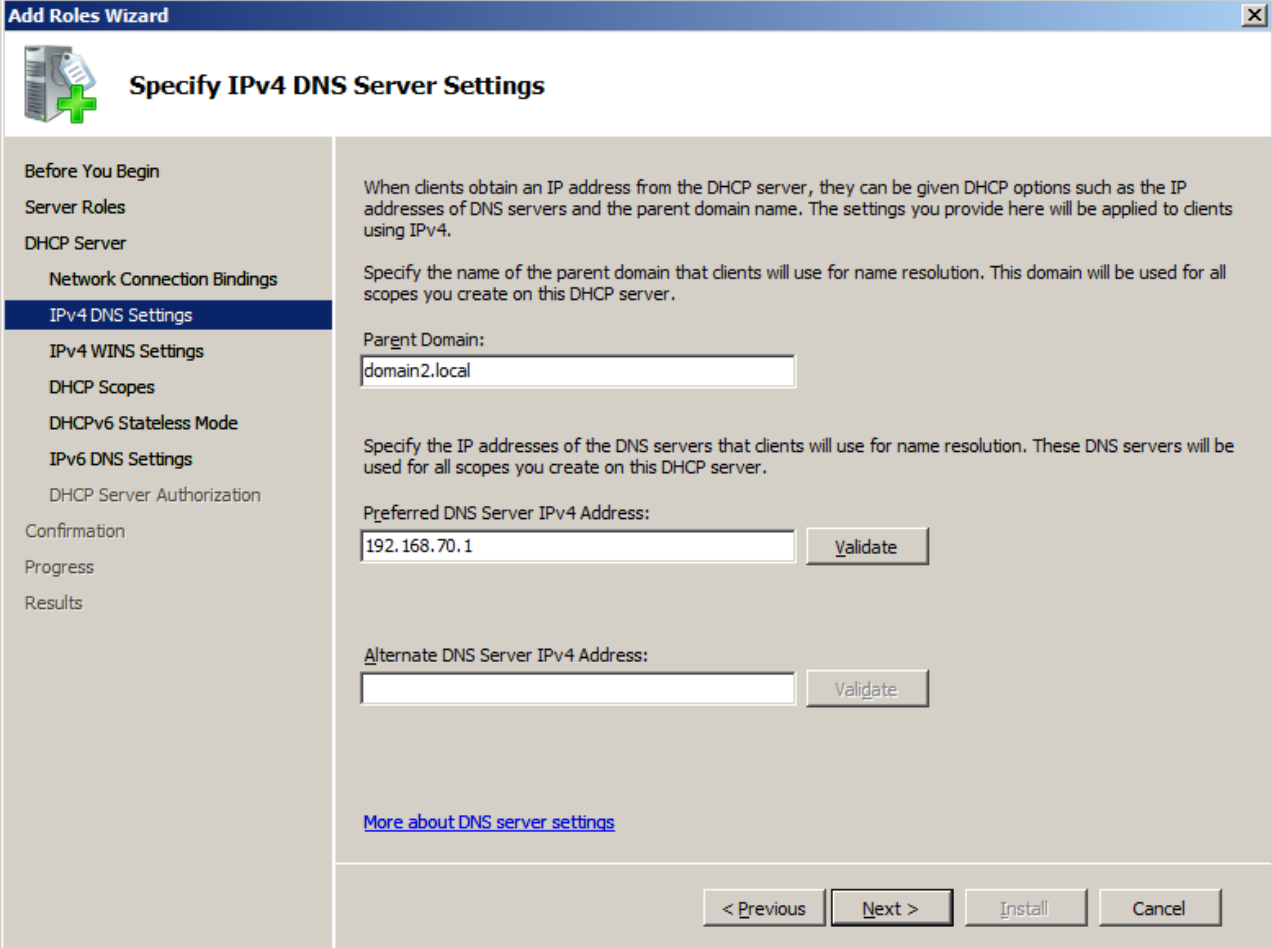
Details

Name: internal
Network Adapter: Broadcom NetLink (TM) Gigabit Ethernet
Physical Address: B8-AC-6F-42-B9-99

< Previous Next > Install Cancel

Specify IPv4 DNS Server Settings

Now, we specify the parent domain. Our parent domain is domain2.local. This computer is a DNS server, so the NIC at 192.168.70.1 can be the DNS server address.



The screenshot shows the 'Add Roles Wizard' window with the title 'Specify IPv4 DNS Server Settings'. The left sidebar contains a list of steps: 'Before You Begin', 'Server Roles', 'DHCP Server', 'Network Connection Bindings', 'IPv4 DNS Settings' (highlighted), 'IPv4 WINS Settings', 'DHCP Scopes', 'DHCPv6 Stateless Mode', 'IPv6 DNS Settings', 'DHCP Server Authorization', 'Confirmation', 'Progress', and 'Results'. The main area contains the following text and form fields:

When clients obtain an IP address from the DHCP server, they can be given DHCP options such as the IP addresses of DNS servers and the parent domain name. The settings you provide here will be applied to clients using IPv4.

Specify the name of the parent domain that clients will use for name resolution. This domain will be used for all scopes you create on this DHCP server.

Parent Domain:

Specify the IP addresses of the DNS servers that clients will use for name resolution. These DNS servers will be used for all scopes you create on this DHCP server.

Preferred DNS Server IPv4 Address:

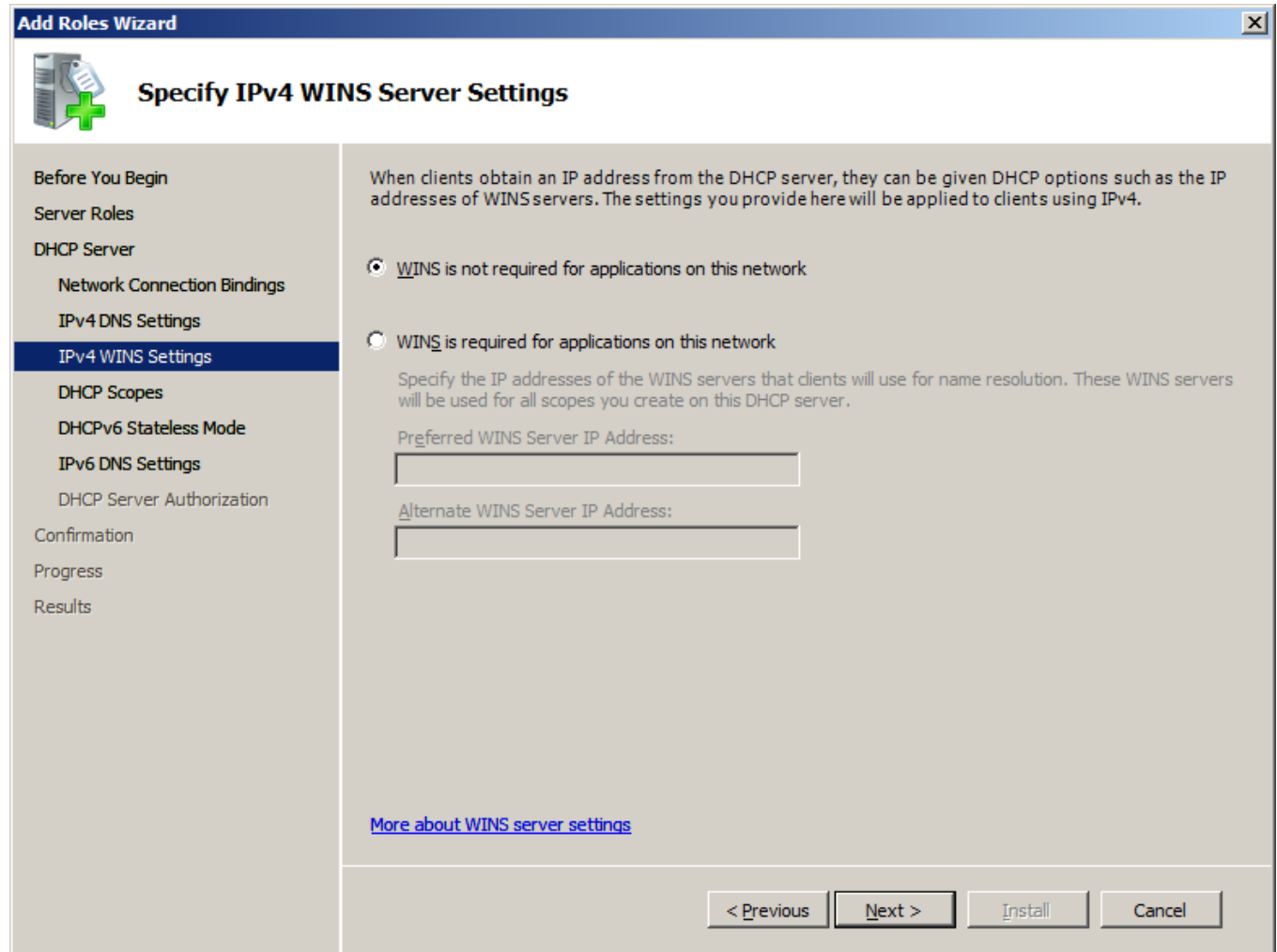
Alternate DNS Server IPv4 Address:

[More about DNS server settings](#)

At the bottom, there are four buttons: '< Previous', 'Next >', 'Install', and 'Cancel'.

Specify IPv4 WINS Server Settings

We keep the WINS is not required for applications on this network option and we press the Next button to go on.



The screenshot shows the 'Add Roles Wizard' window with the title 'Specify IPv4 WINS Server Settings'. The left sidebar contains a list of steps: 'Before You Begin', 'Server Roles', 'DHCP Server', 'Network Connection Bindings', 'IPv4 DNS Settings', 'IPv4 WINS Settings' (highlighted), 'DHCP Scopes', 'DHCPv6 Stateless Mode', 'IPv6 DNS Settings', 'DHCP Server Authorization', 'Confirmation', 'Progress', and 'Results'. The main area contains the following text: 'When clients obtain an IP address from the DHCP server, they can be given DHCP options such as the IP addresses of WINS servers. The settings you provide here will be applied to clients using IPv4.' Below this are two radio button options: 'WINS is not required for applications on this network' (selected) and 'WINS is required for applications on this network'. A descriptive paragraph follows: 'Specify the IP addresses of the WINS servers that clients will use for name resolution. These WINS servers will be used for all scopes you create on this DHCP server.' There are two text input fields: 'Preferred WINS Server IP Address:' and 'Alternate WINS Server IP Address:'. At the bottom right, there are four buttons: '< Previous', 'Next >', 'Install', and 'Cancel'. A link 'More about WINS server settings' is located at the bottom left of the main area.

Add DHCP Scope

Our Scope name is Bradford4 Scope, the starting IP address is 192.168.70.2 and it will end at 192.168.70.254. The subnet mask is 255.255.255.0. We will annotate the active this scope checkbox.

The screenshot displays the 'Add Roles Wizard' window, specifically the 'Add or Edit DHCP Scopes' step. The main window shows a list of scopes with columns for 'Name' and 'IP Address Range'. A modal dialog titled 'Add Scope' is open in the foreground, providing a detailed configuration form for a new scope. The form includes fields for 'Scope Name', 'Starting IP Address', 'Ending IP Address', 'Subnet Mask', 'Default Gateway (optional)', and 'Subnet Type'. The 'Activate this scope' checkbox is checked. The 'Add Scope' dialog also includes 'OK' and 'Cancel' buttons at the bottom.

Name	IP Address Range
------	------------------

Add Scope

A scope is a range of possible IP addresses for a network. The DHCP server cannot distribute IP addresses to clients until a scope is created.

Scope Name: Bradford4 Scope

Starting IP Address: 192.168.70.2

Ending IP Address: 192.168.70.254

Subnet Mask: 255.255.255.0

Default Gateway (optional):

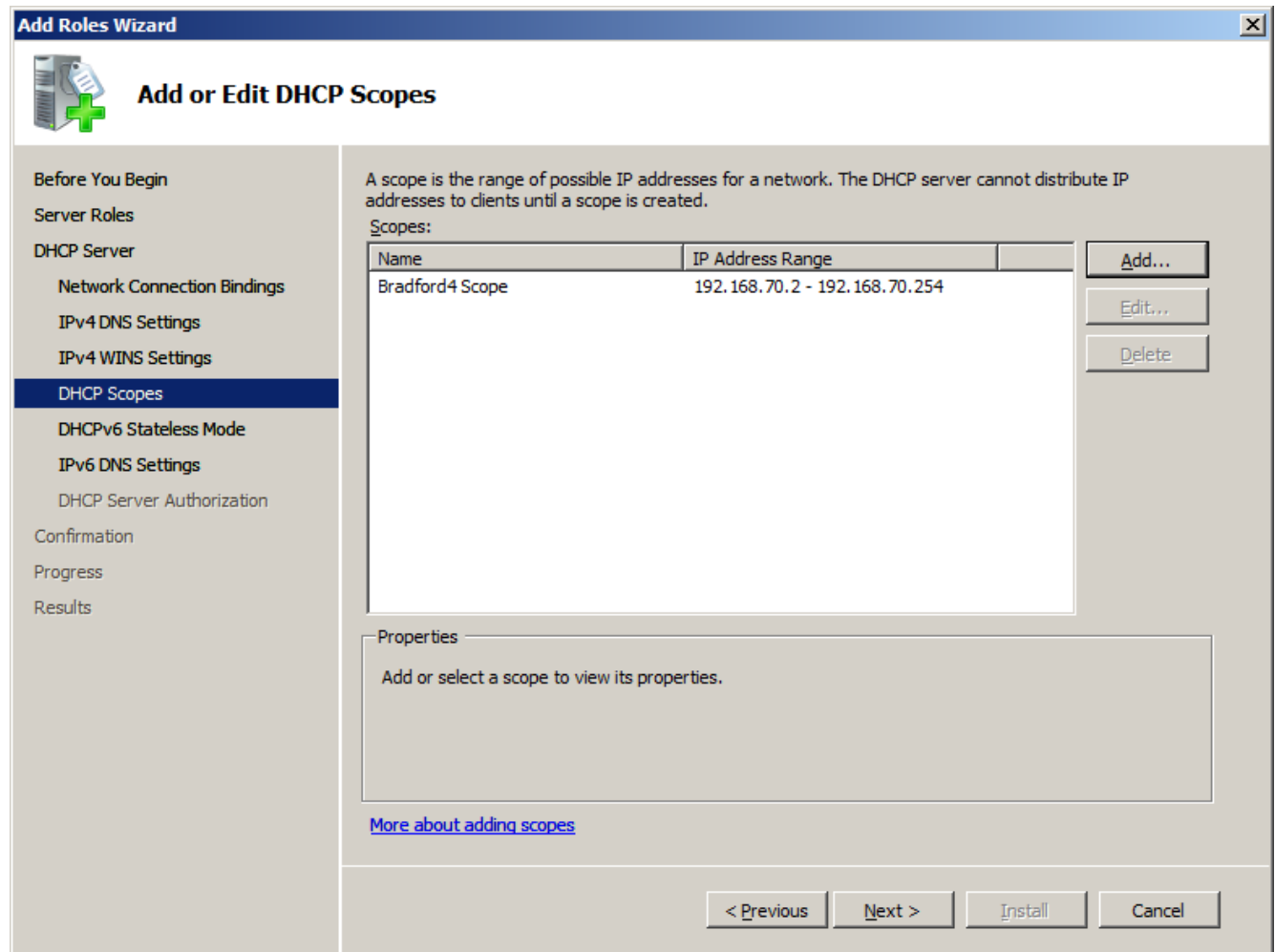
Subnet Type: Wired (lease duration will be 6 days)

Activate this scope

OK Cancel

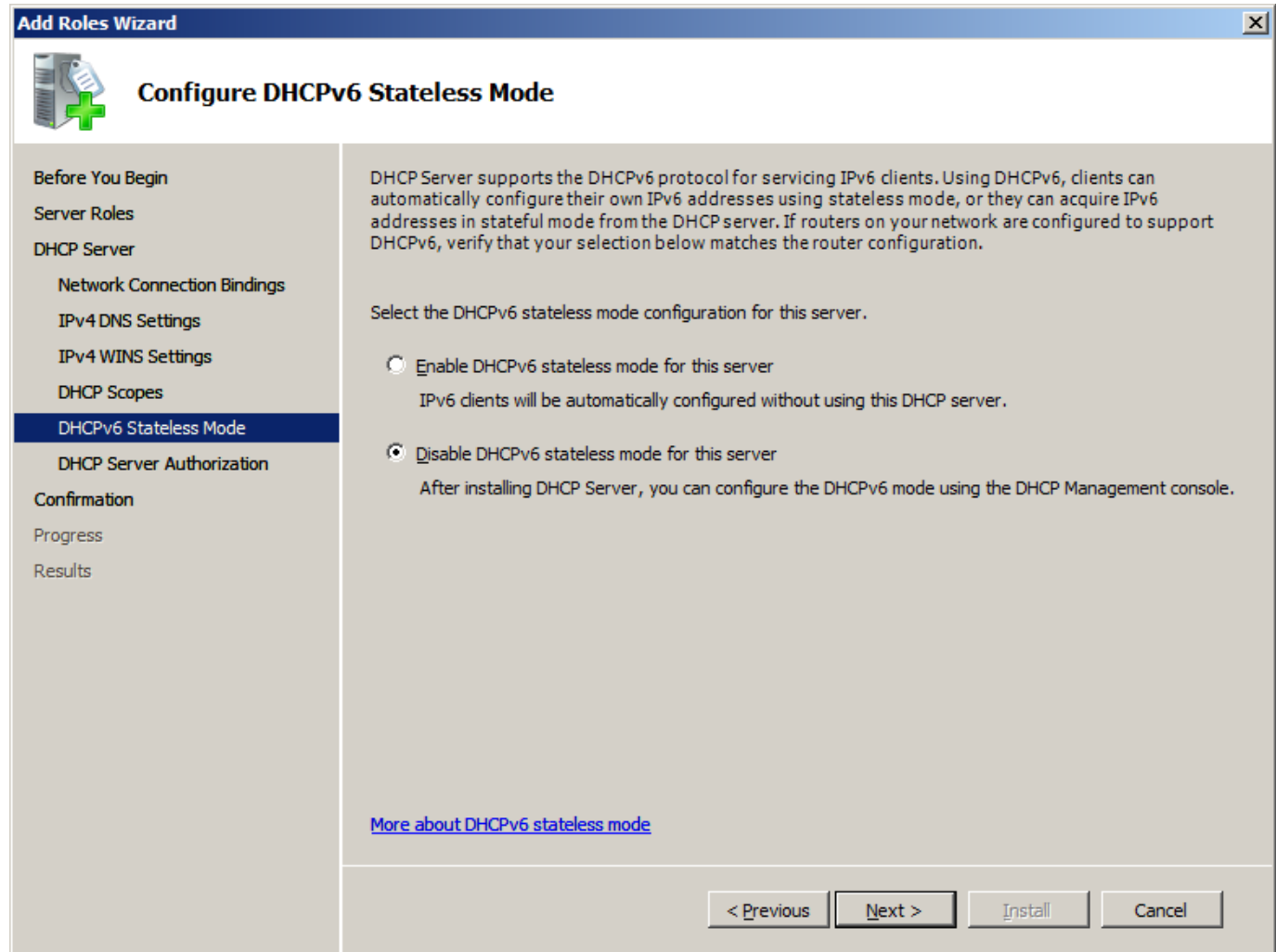
Finished DHCP Scope

When we press the OK button the scope is shown in the list box. We only need one scope, so we double click on the Next button to continue.



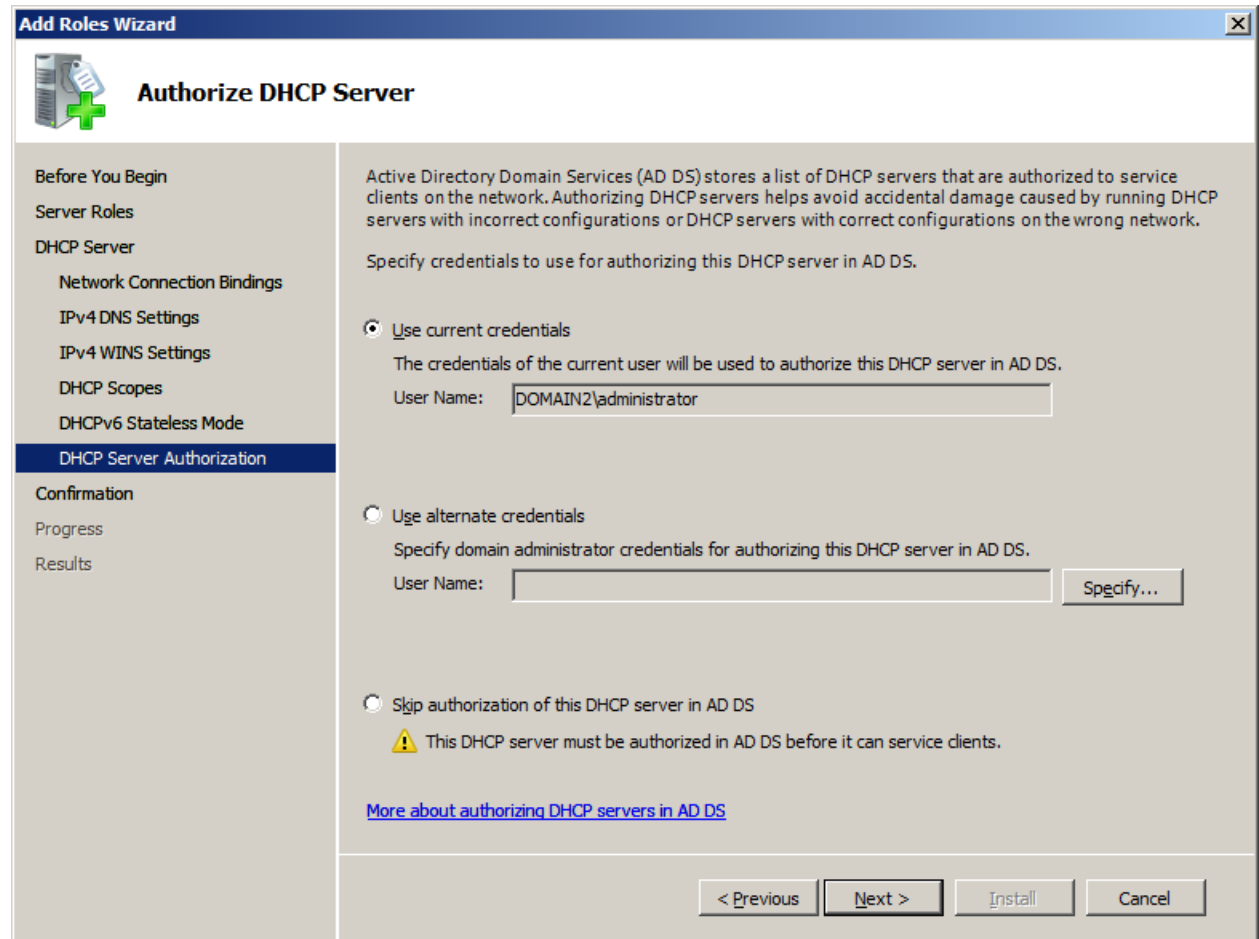
Configure DHCPv6 Stateless Mode

For our server, we are not using the IPv6 TCP/IP protocol, so we disable the feature by opting for the second radial button. We choose the Next button to advance.



Authorize DHCP Server

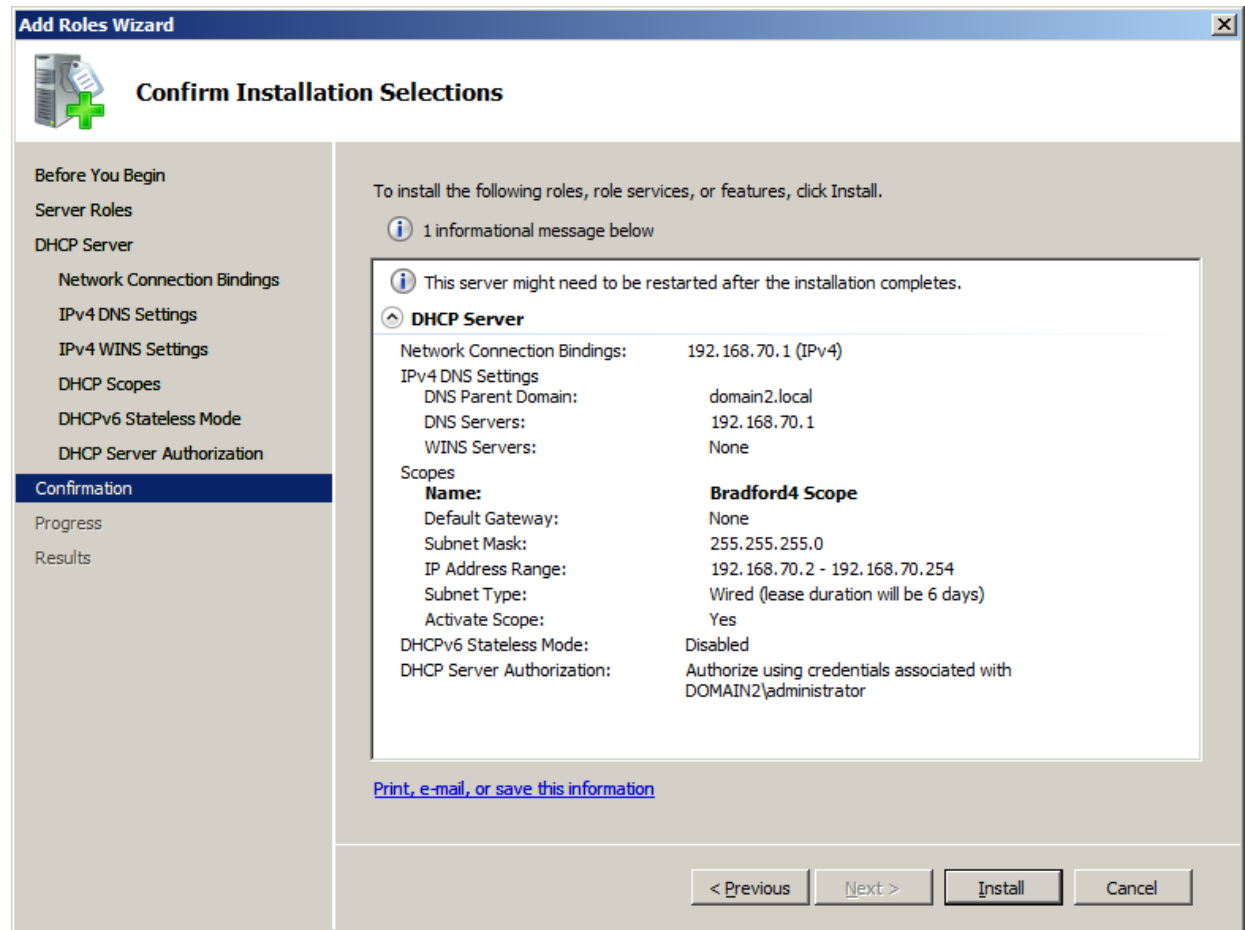
The DHCP server authorization is made with our current network administrator's credentials. We select the Next button to carry on.



The screenshot shows the 'Add Roles Wizard' window with the title 'Authorize DHCP Server'. The left sidebar contains a tree view with the following items: 'Before You Begin', 'Server Roles', 'DHCP Server', 'Network Connection Bindings', 'IPv4 DNS Settings', 'IPv4 WINS Settings', 'DHCP Scopes', 'DHCPv6 Stateless Mode', 'DHCP Server Authorization' (highlighted), 'Confirmation', 'Progress', and 'Results'. The main content area has a header with a server icon and a green plus sign, followed by the title 'Authorize DHCP Server'. Below this, there is explanatory text: 'Active Directory Domain Services (AD DS) stores a list of DHCP servers that are authorized to service clients on the network. Authorizing DHCP servers helps avoid accidental damage caused by running DHCP servers with incorrect configurations or DHCP servers with correct configurations on the wrong network.' This is followed by the instruction: 'Specify credentials to use for authorizing this DHCP server in AD DS.' There are three radio button options: 'Use current credentials' (selected), 'Use alternate credentials', and 'Skip authorization of this DHCP server in AD DS'. The 'Use current credentials' option has a text box containing 'DOMAIN2\administrator'. The 'Use alternate credentials' option has a text box and a 'Specify...' button. Below the radio buttons is a warning icon and text: 'This DHCP server must be authorized in AD DS before it can service clients.' At the bottom, there is a link: 'More about authorizing DHCP servers in AD DS'. At the very bottom of the window are four buttons: '< Previous', 'Next >', 'Install', and 'Cancel'.

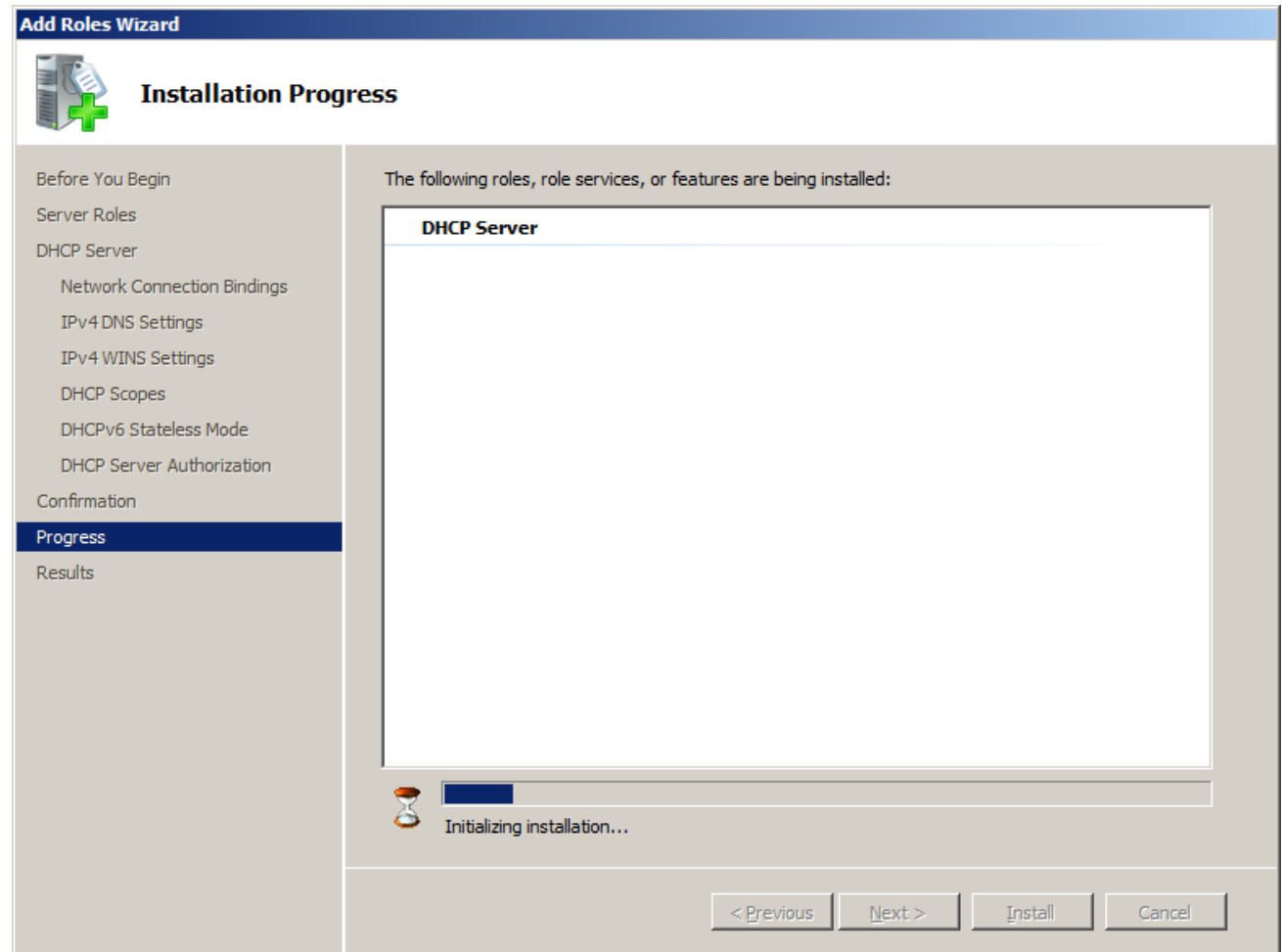
Confirm Installation Selections

Before the installation begins, we can see a summary of our choices and if we need to change anything, we can return to the specific dialogue box using the Previous button. If we agree with all of the settings, we should choose the Install button.



Install DHCP Server

For several minutes, the DHCP server will be installed and authorized. When the process is complete, we close the Add Roles Wizard and the Server Manager windows.



DHCP Service Running

We now visit Administrative Tools on the Start menu and we select DHCP. When that window appears, we can see our DHCP is running and ready to assign IP addresses to our client computers.

