

# Adding RRAS to Windows Standard 2012 Server

July 5, 2013

# Setting Up RRAS

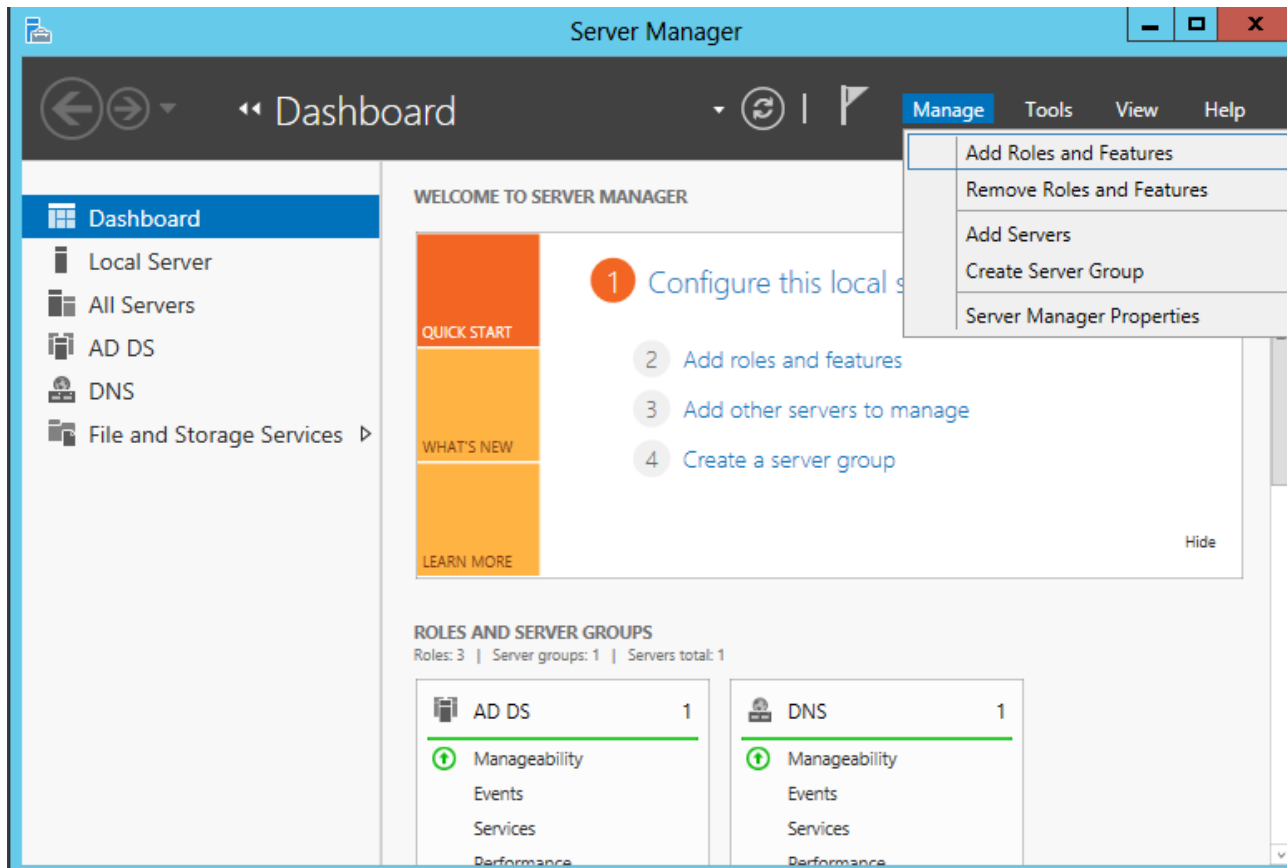
After setting up Active Directory, our client computers do not have access to the Internet. We need to add the Routing and Remote Access Server role to our machine, so the client computers can access the Wide Area Network beyond our server.

We want two Network Interface Cards on our server, one that connects to the outside world and one that connects to the client machines. Many times we name the cards, exterior and interior.



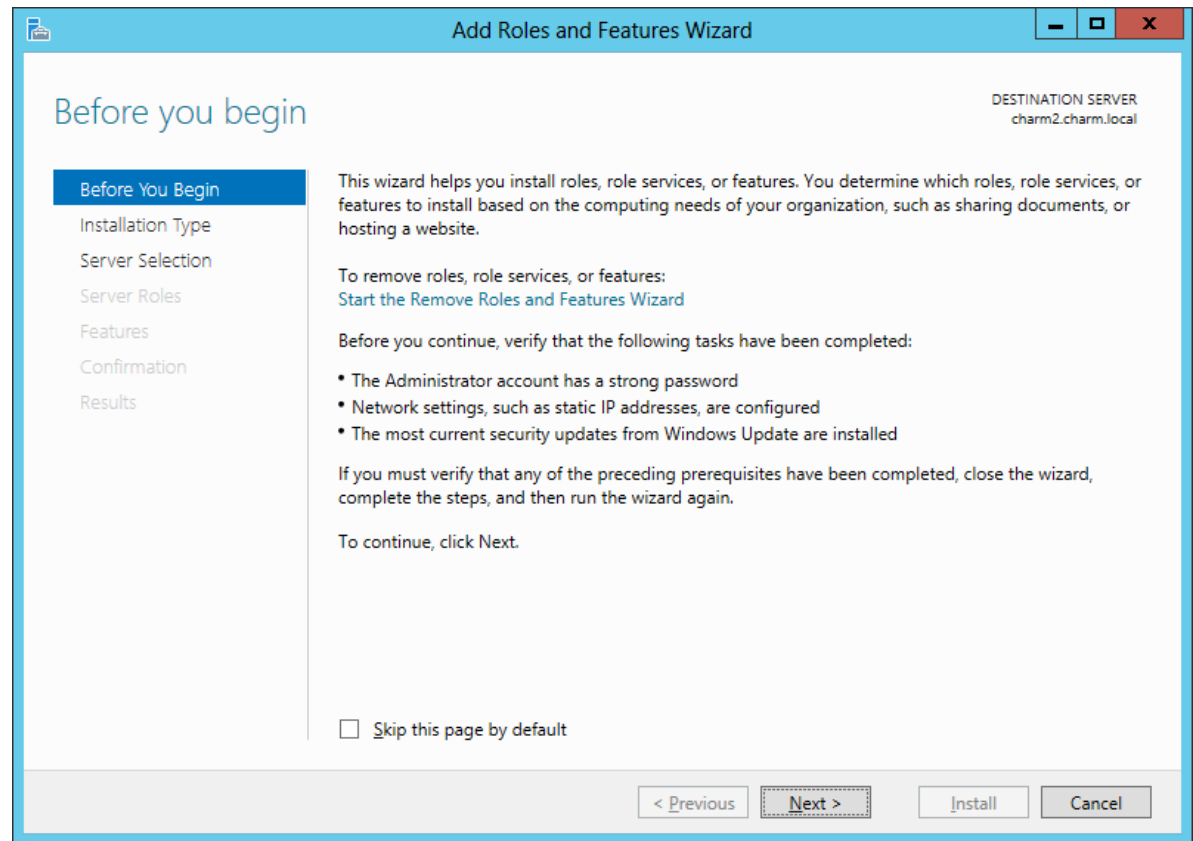
# Setup Security Policies

To add a new role such as Routing and Remote Access Services on the Windows 2012 Standard Server, we select the Server Manager button from the Task Bar and select Manage from the Dashboard. From the list we choose Add Roles and Features.



# Before You Begin

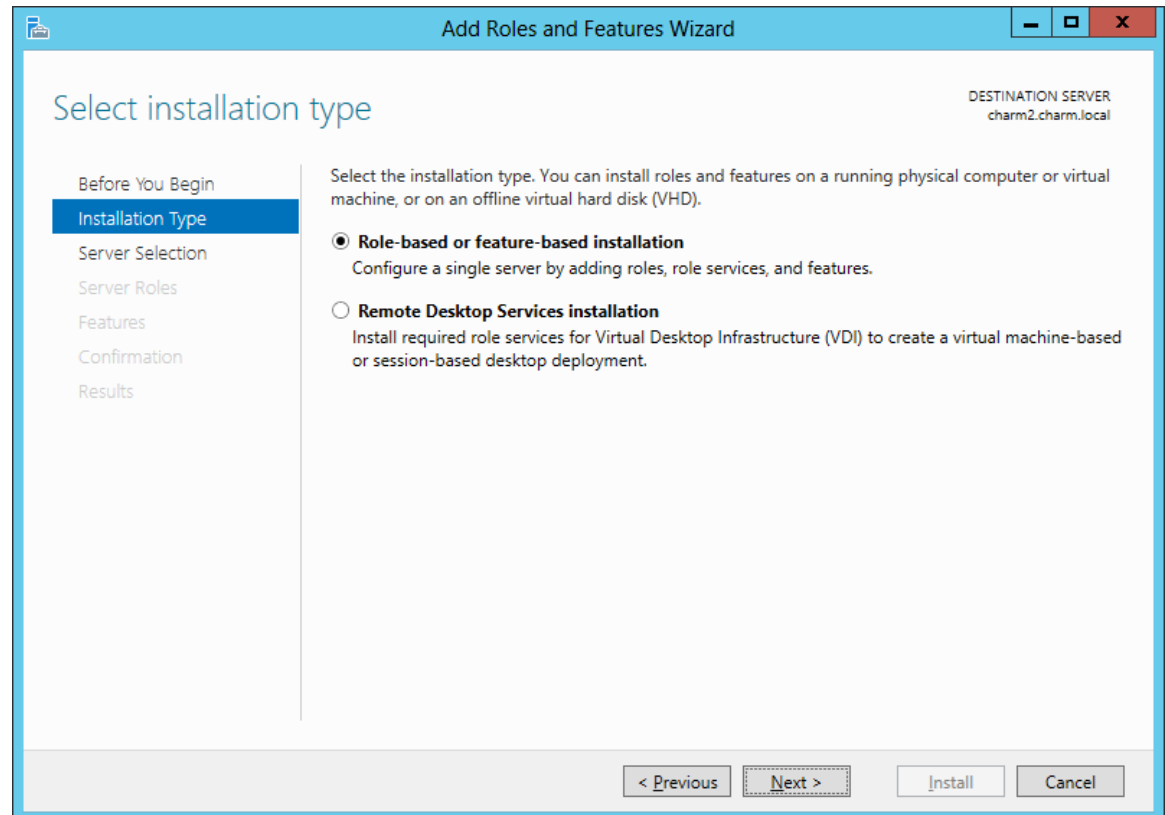
Before we add a role to the Windows 2012 Standard Server, we will want to have a smart password on our administrator account, to configure our network connections with a static IP address and we want to have the most current Service Packs and Windows Updates loaded. If this is done, then we can go ahead and press the Next command button.



# Installation Type

Then we opt for the installation type which is either Role based or Remote Desktop Services Installation. For a stand alone server, we will choose the Role based option.

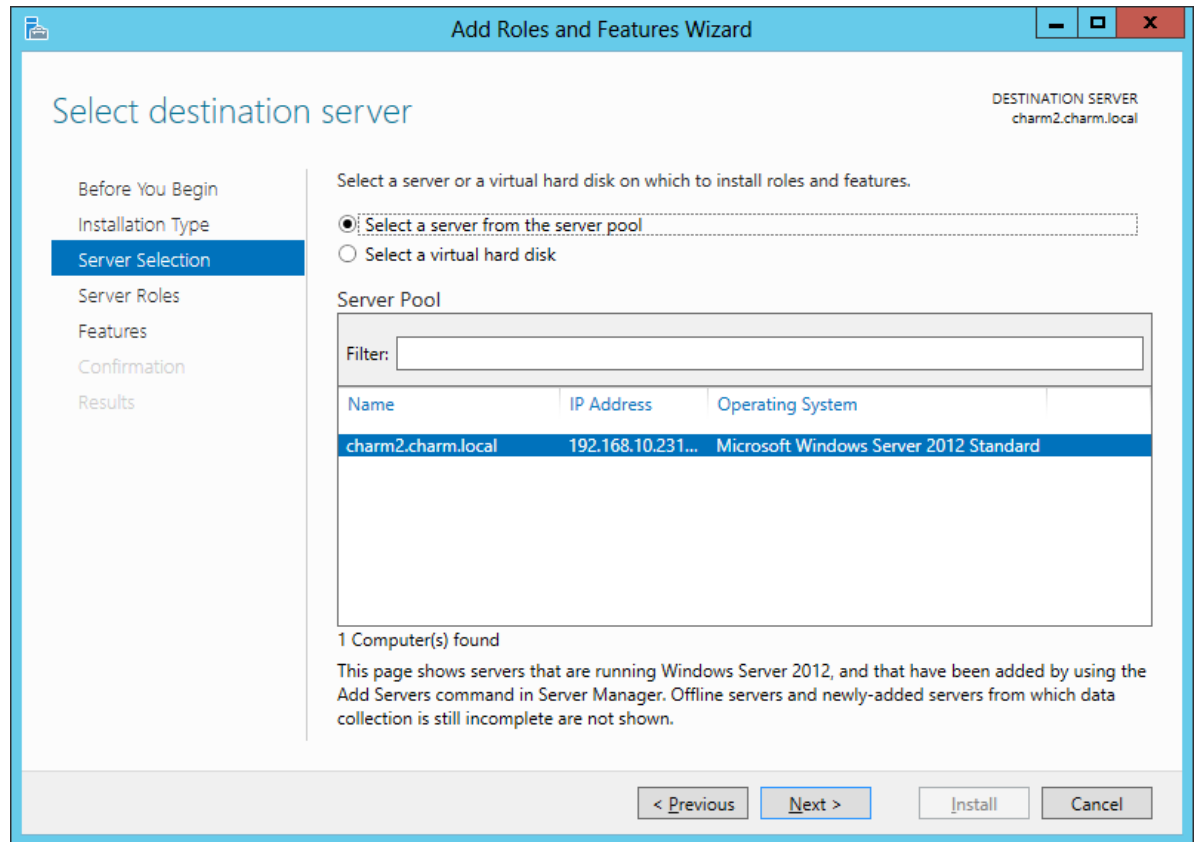
Press the Next button to continue.



# Select Destination Server

Now we will select a server from the server pool. This can be a physical or virtual server. We opt to choose a server from the server pool and we highlight our server name from the list.

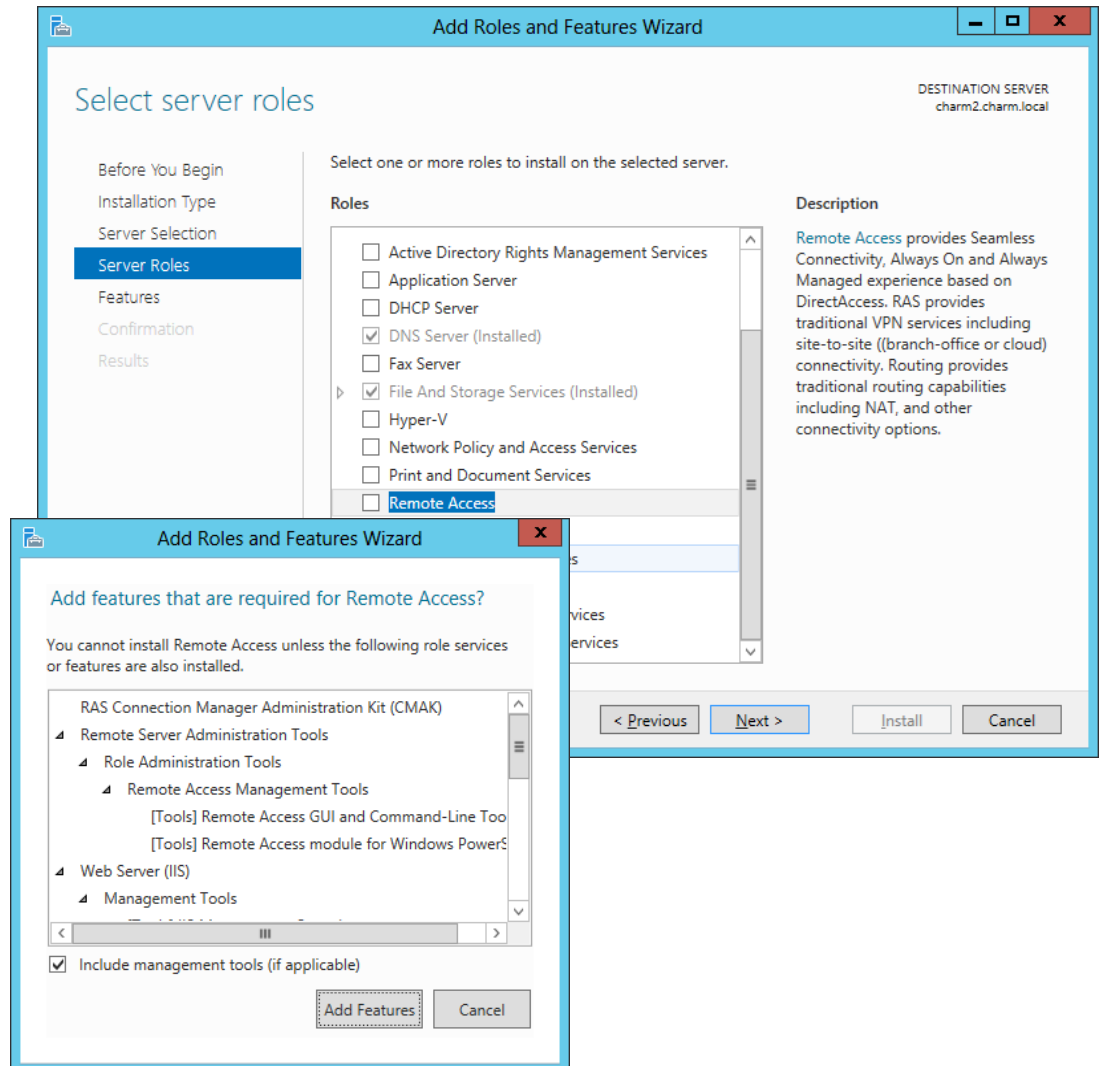
Press the Next button to advance.



# Select Server Role

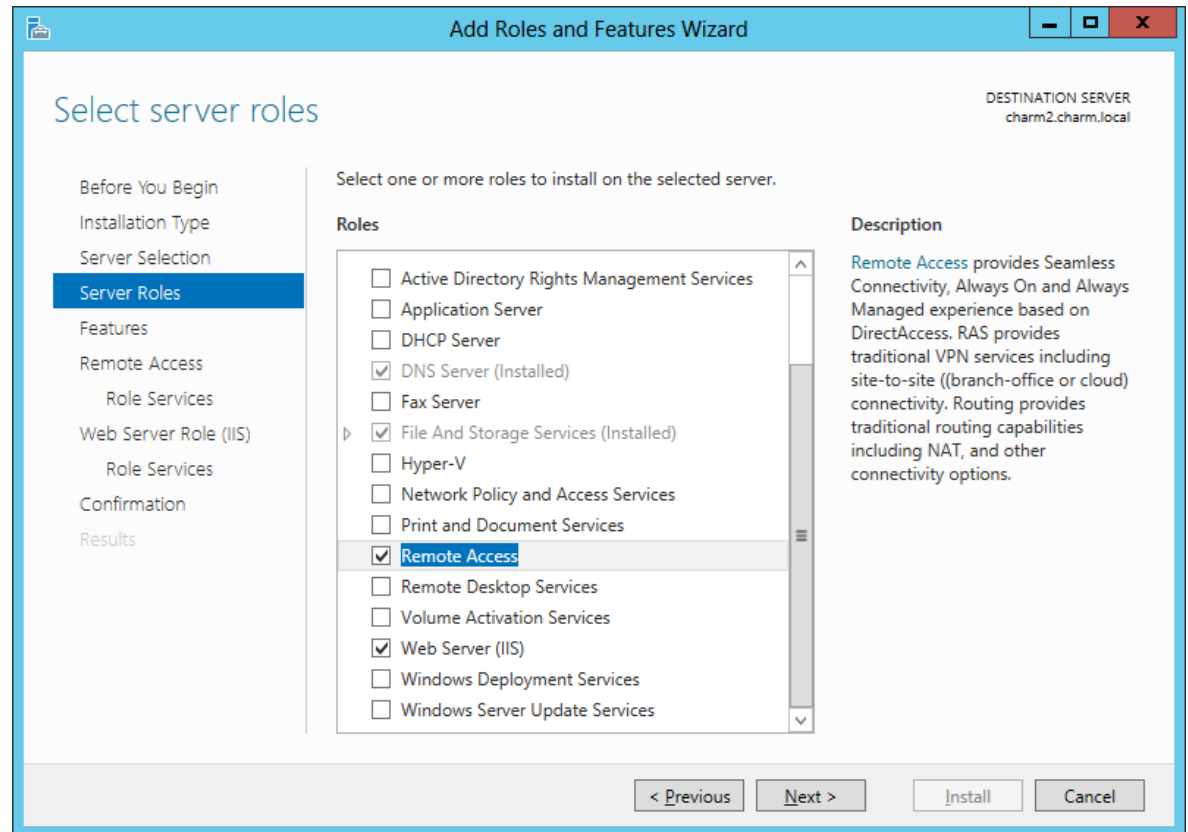
The Add Roles and Features Wizard window shows the multitude of functions a 2012 server can provide. We annotate the Routing and Remote Access Services checkbox and press the Next button.

A smaller dialogue box will appear and we then press the Add Features button on that pop up window.



# Confirm Installation Selections

The Routing and Remote Access Services role is now checked on the roles list and we push the Next button to continue.

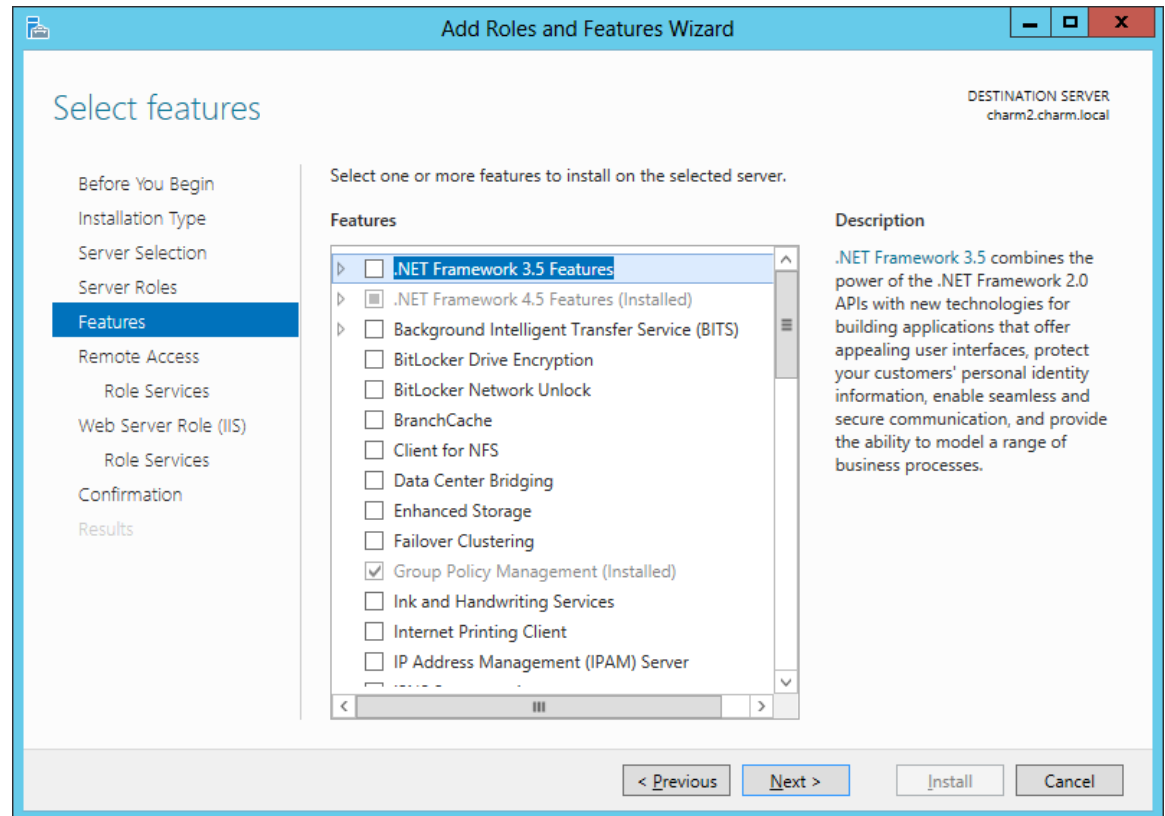




# Features Window

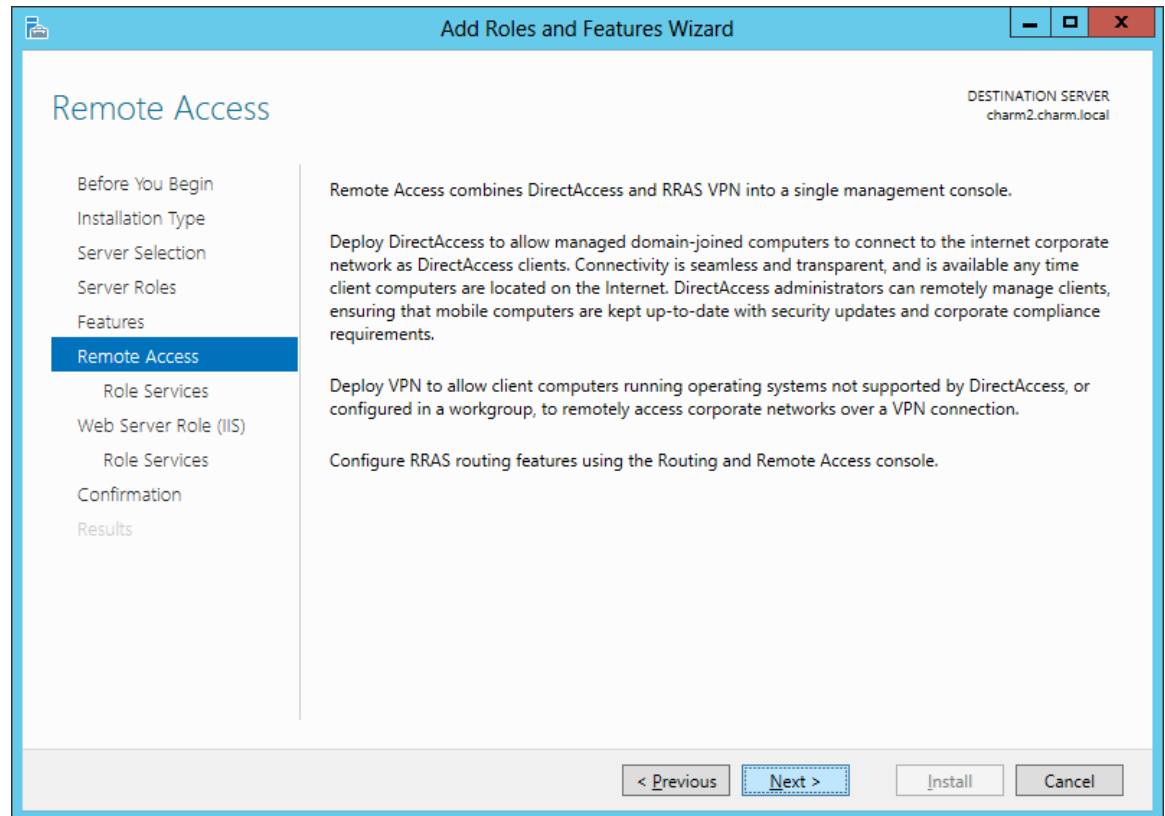
Next, the Features window comes up and we will not add any features at this time.

Press the Next button to go on.



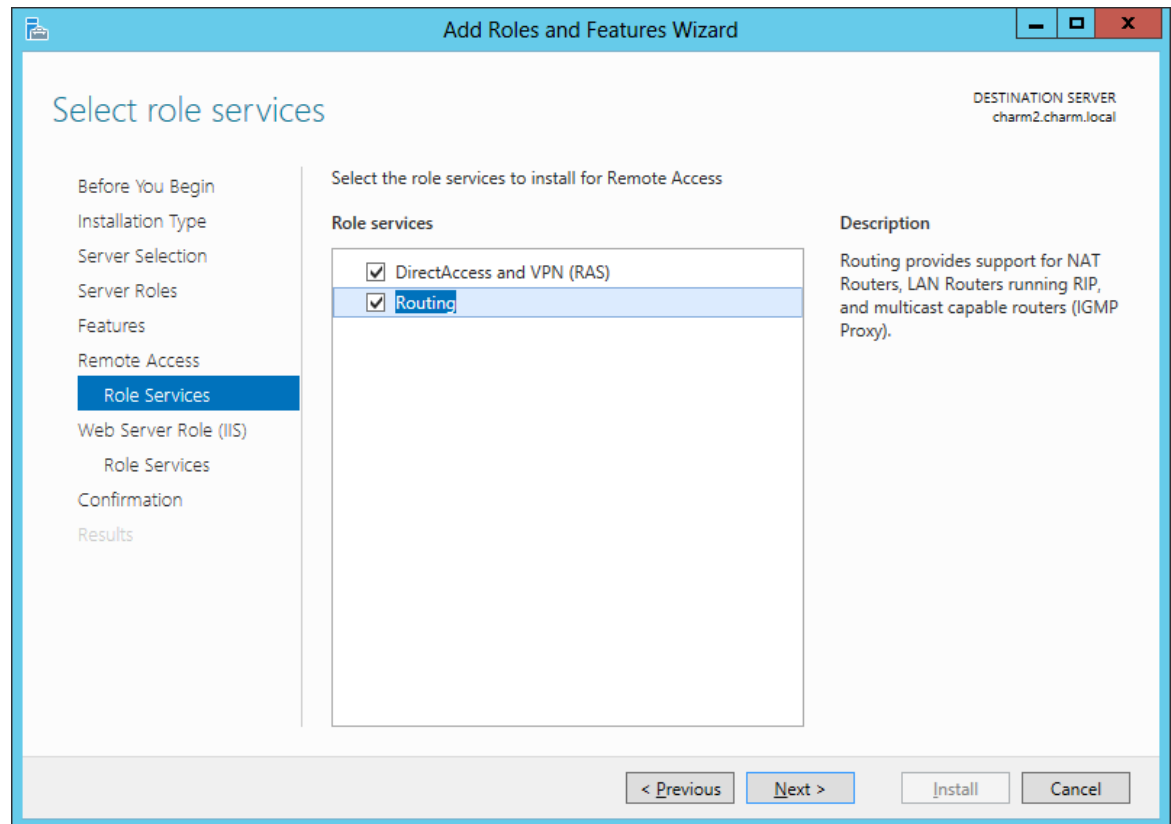
# Remote Access

Read the choices for the three remote access options, but for now we will opt for VPN only.



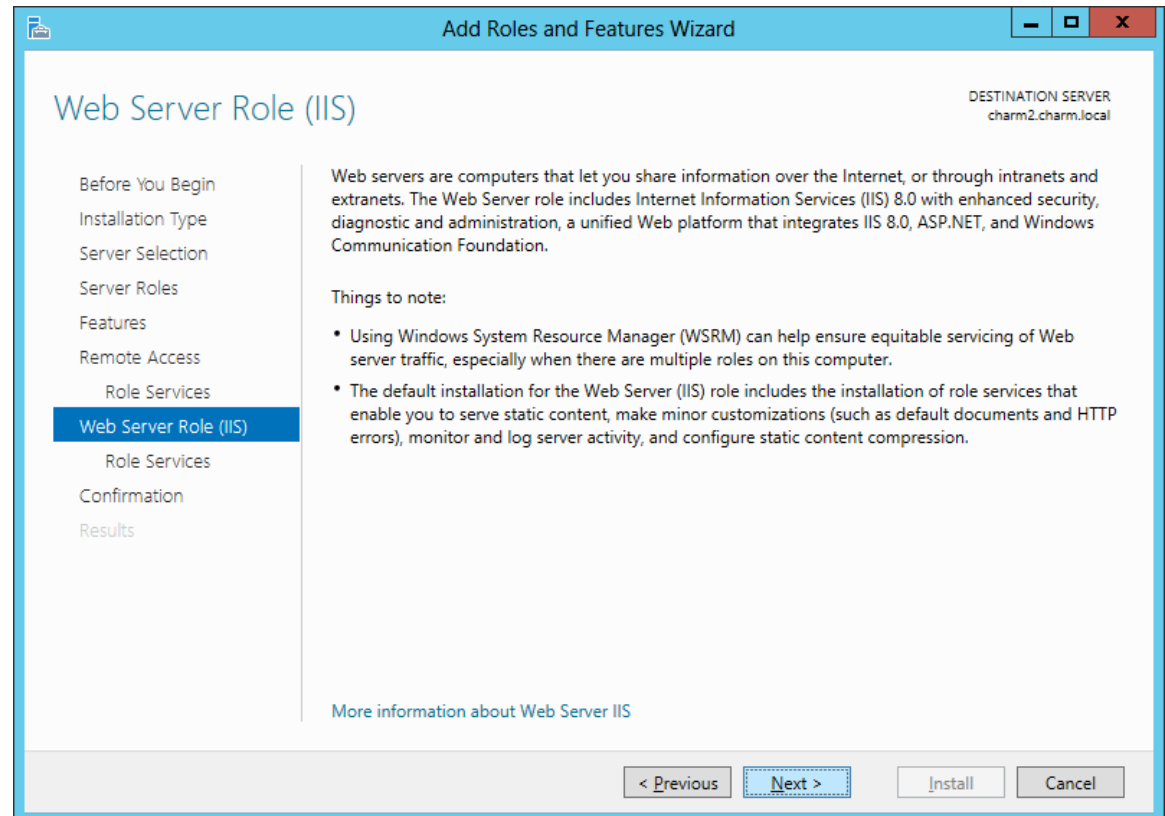
# Select Role Services

We check Routing and Remote Access Services as shown in the window. The first checkbox is for external access and the second (importantly) allows for a path from the client to the Internet.



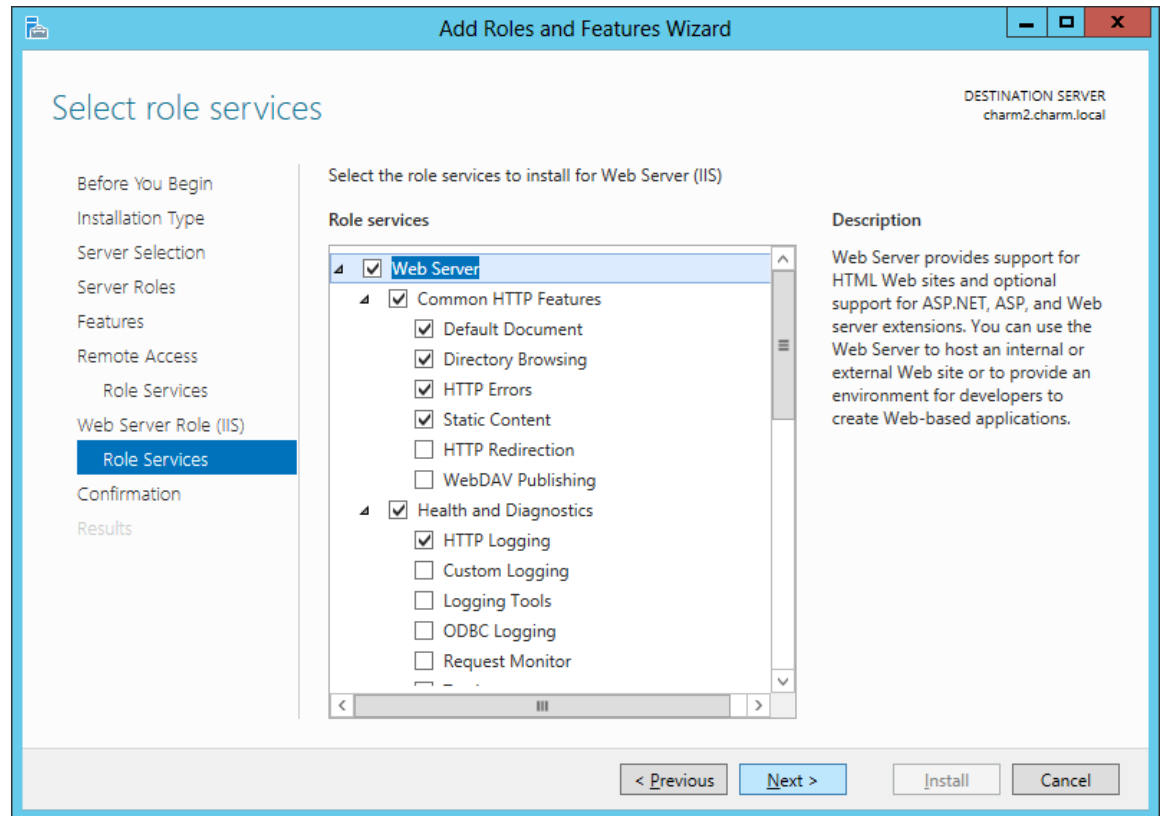
# Web Server Role

Some Web Server (IIS) roles need loaded to support RRAS.



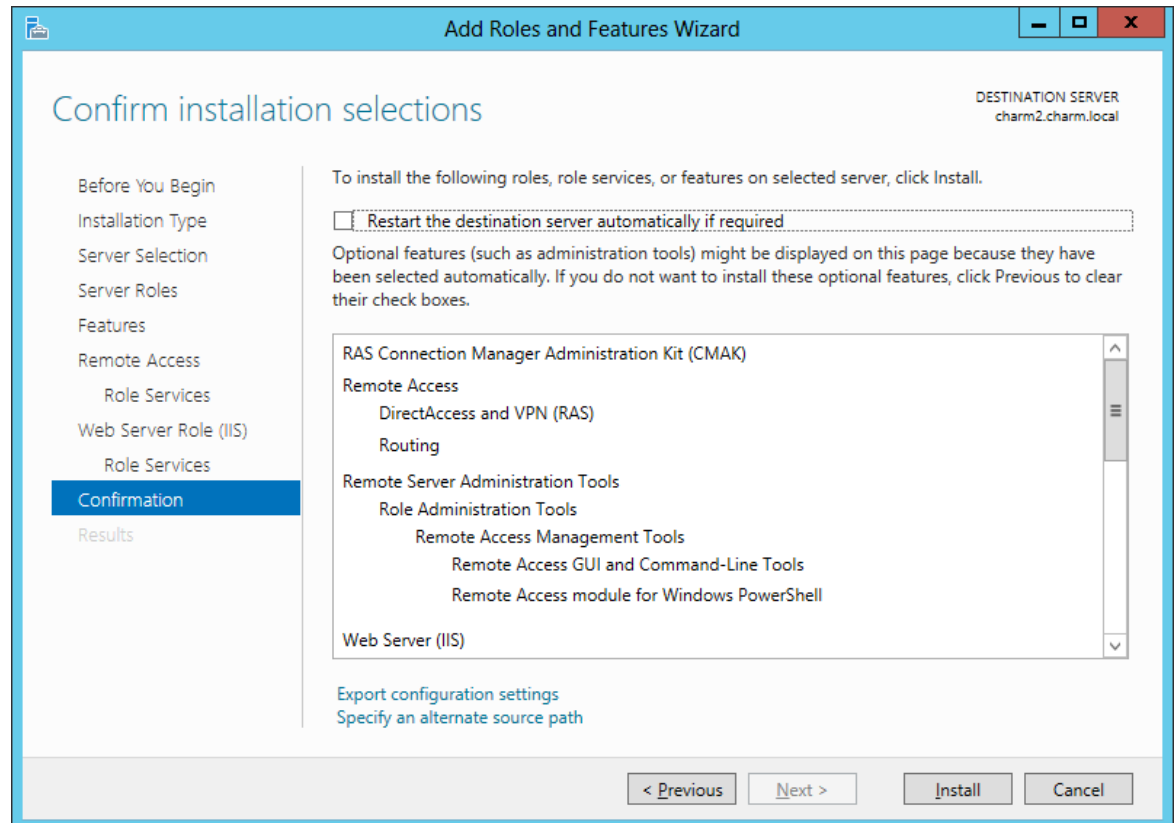
# Select Role Services

We will keep the basic web role services and we will press the Next button to continue.



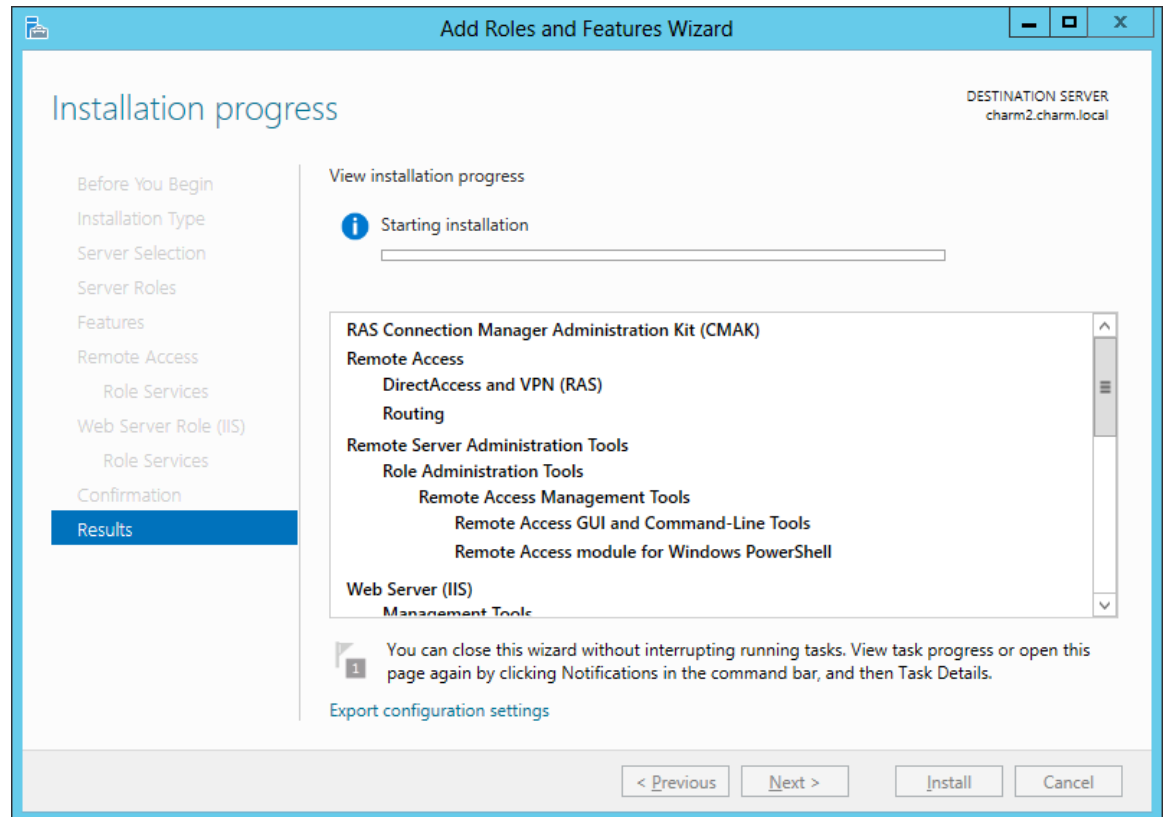
# Confirm Installation Selections

We confirm our selection and we double click on the Install button.



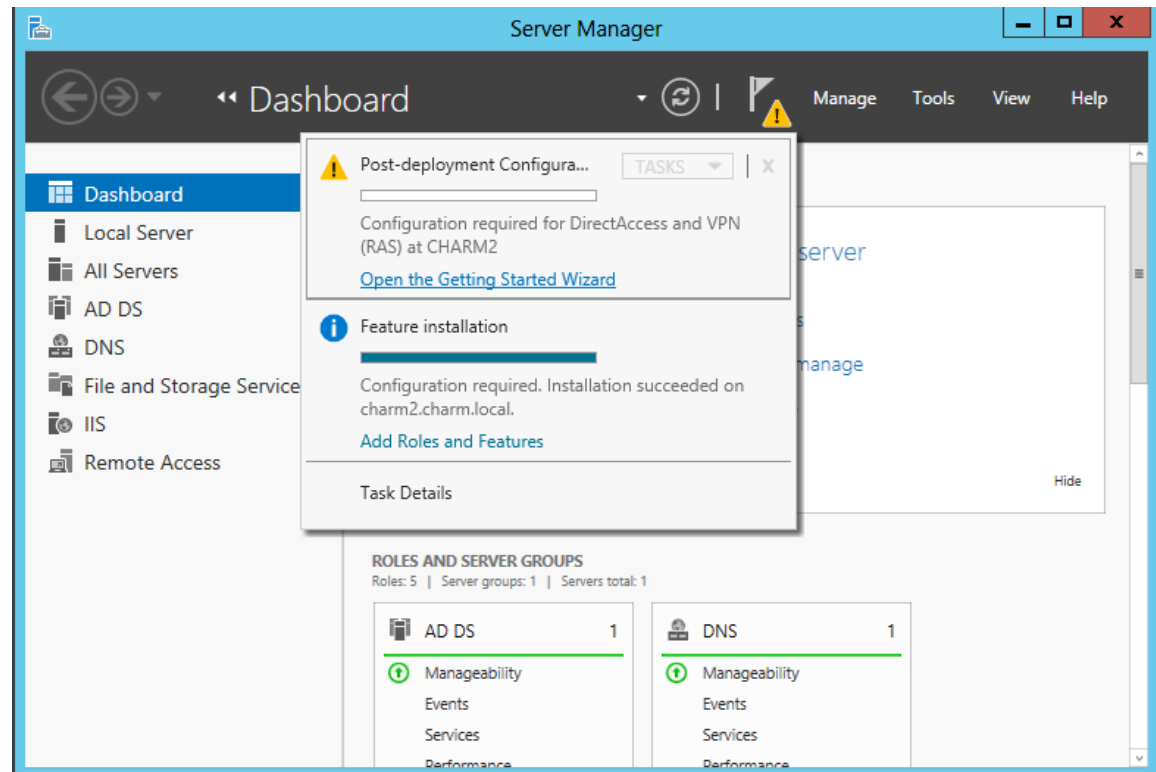
# Install RRAS

It may take several minutes to load the RRAS software.



# View Server Manager

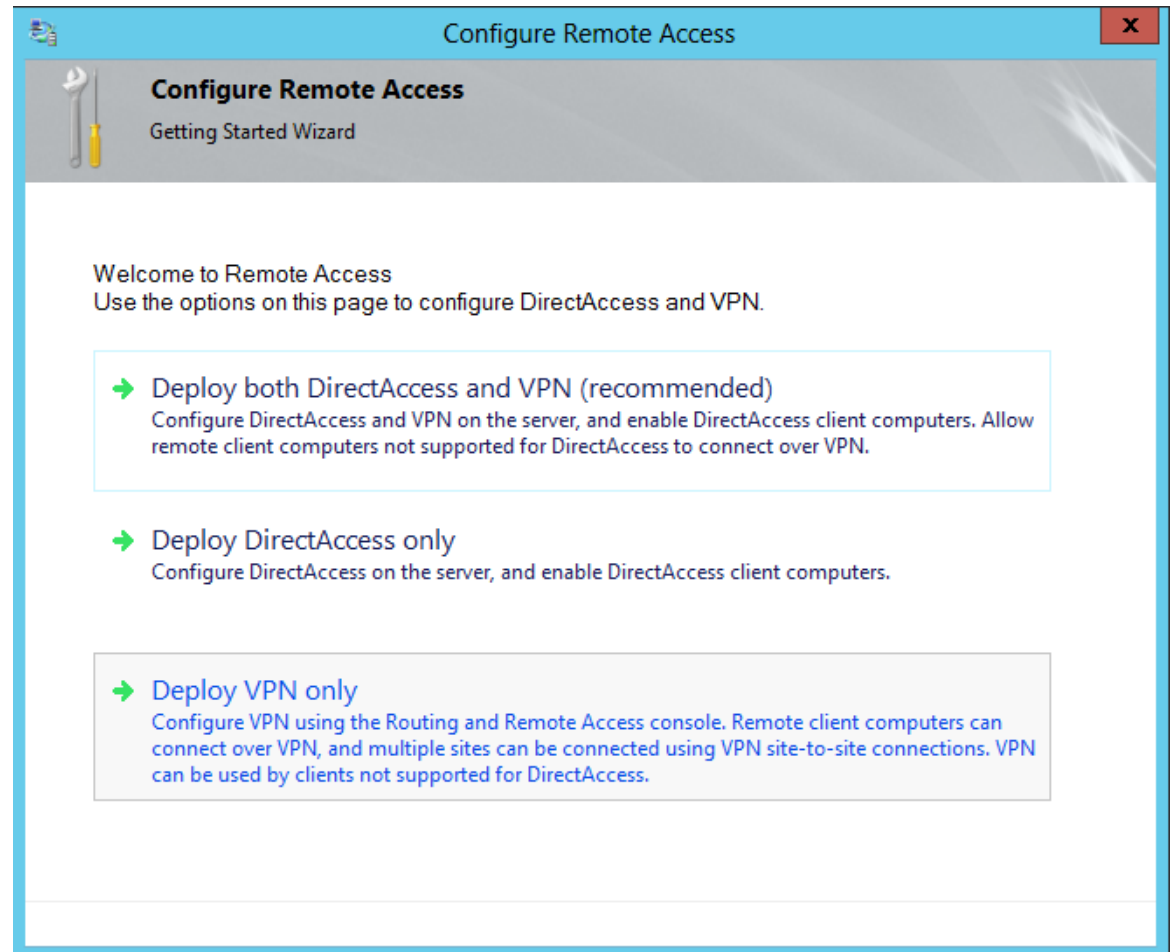
Routing and Remote Access Services is installed but is not running. Click on the yellow warning icon at the top of the Server Manager Dashboard and click on the “Open the Getting Started Wizard” hyperlink.





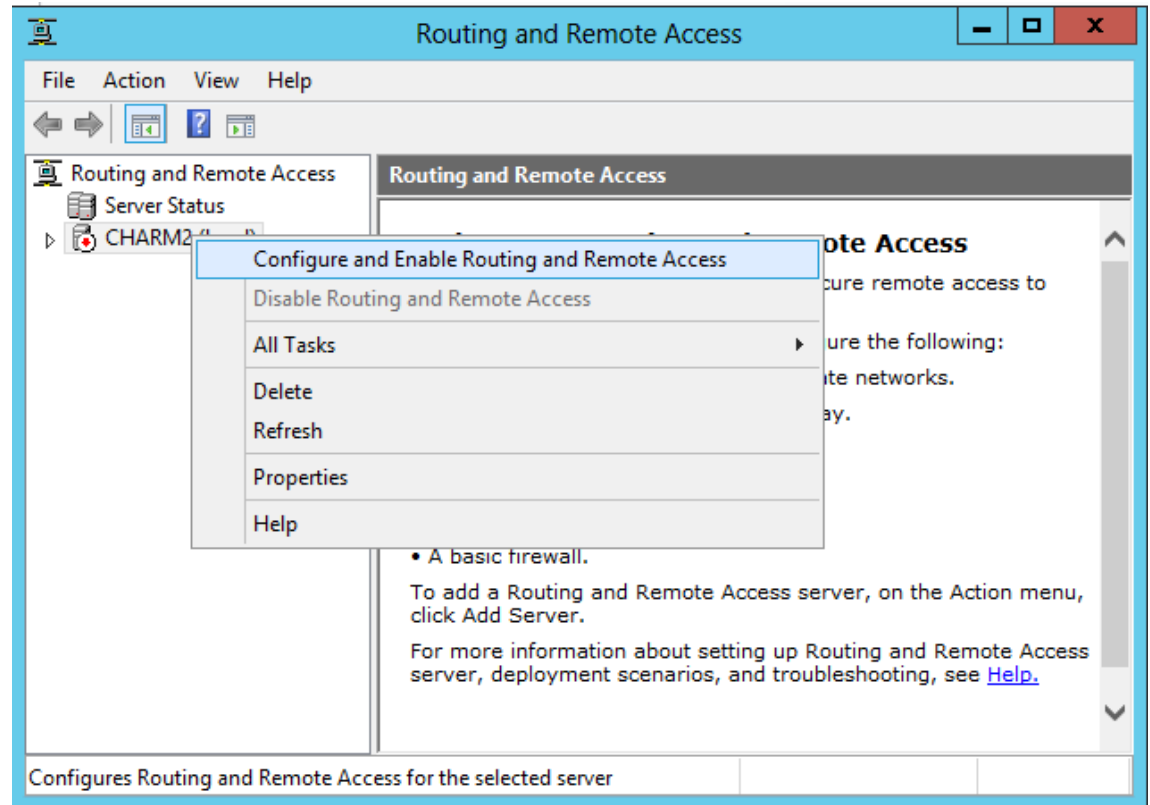
# Configure Remote Access

We will select Deploy VPN only option. We will deploy direct access at a later lesson.



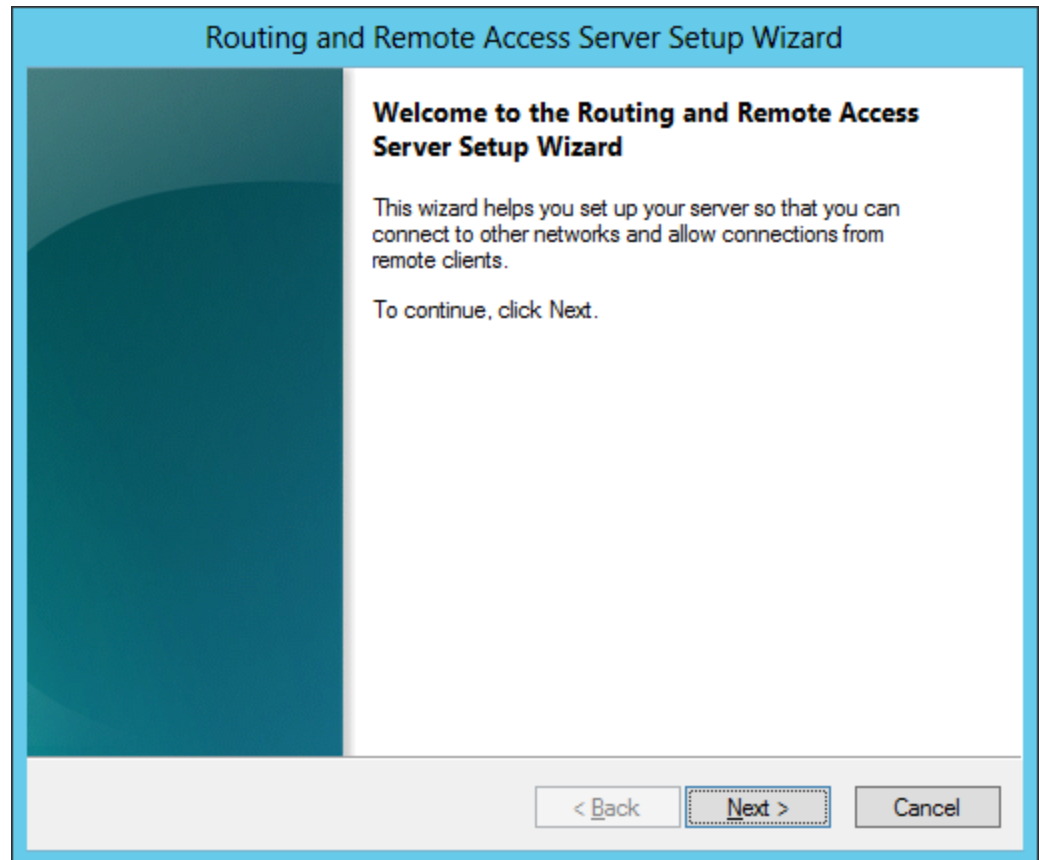
# Routing and Remote Access

We open Routing and Remote Access window. Highlight the server name. Then on the popup menu, we select Configure and Enable Routing and Remote Access.



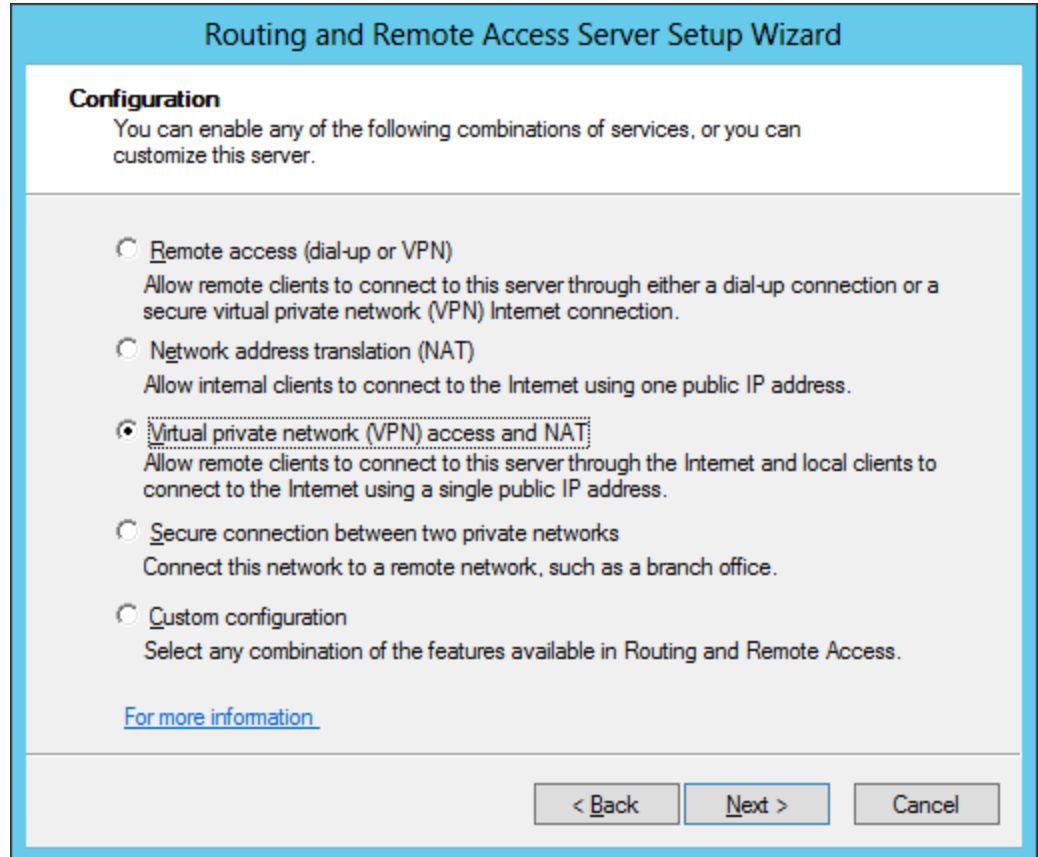
# Routing and Remote Access Server Setup Wizard

The Routing and Remote Access Server Setup Wizard will appear and we press the Next button to continue.



# Configuration

This window gives us five unique roles for the RRAS setup. The first is a dial-up or VPN connection to the server. The next is Network Address Translation which opens the Internet to internal clients. The next is VPN and NAT, which is our choice. The fourth option is making a connection to a branch office and the last is custom configuration. After selecting our option, we choose the Next button to carry on.



The screenshot shows the 'Routing and Remote Access Server Setup Wizard' window. The title bar is blue and contains the text 'Routing and Remote Access Server Setup Wizard'. Below the title bar, the word 'Configuration' is displayed in bold. Underneath, a paragraph reads: 'You can enable any of the following combinations of services, or you can customize this server.' There are five radio button options listed: 1. 'Remote access (dial-up or VPN)' with the description 'Allow remote clients to connect to this server through either a dial-up connection or a secure virtual private network (VPN) Internet connection.' 2. 'Network address translation (NAT)' with the description 'Allow internal clients to connect to the Internet using one public IP address.' 3. 'Virtual private network (VPN) access and NAT' (which is selected with a black dot) with the description 'Allow remote clients to connect to this server through the Internet and local clients to connect to the Internet using a single public IP address.' 4. 'Secure connection between two private networks' with the description 'Connect this network to a remote network, such as a branch office.' 5. 'Custom configuration' with the description 'Select any combination of the features available in Routing and Remote Access.' Below the options is a blue underlined link that says 'For more information'. At the bottom right of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'.

**Routing and Remote Access Server Setup Wizard**

**Configuration**  
You can enable any of the following combinations of services, or you can customize this server.

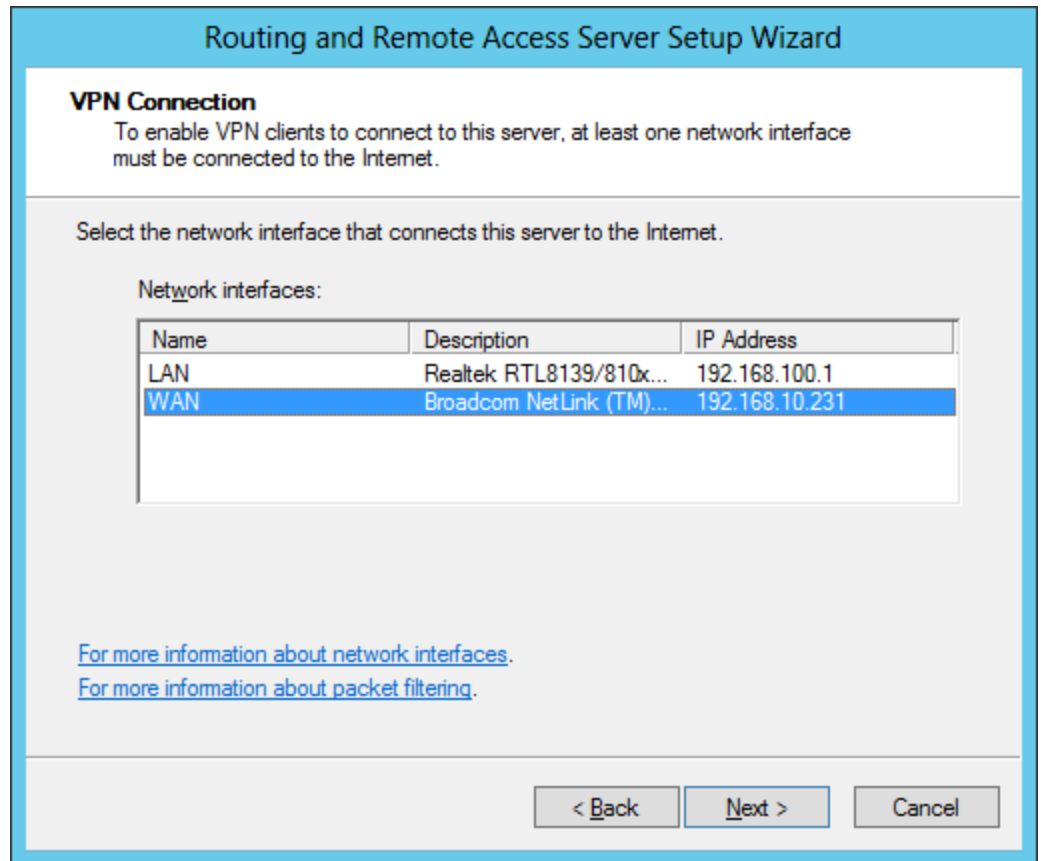
- Remote access (dial-up or VPN)  
Allow remote clients to connect to this server through either a dial-up connection or a secure virtual private network (VPN) Internet connection.
- Network address translation (NAT)  
Allow internal clients to connect to the Internet using one public IP address.
- Virtual private network (VPN) access and NAT  
Allow remote clients to connect to this server through the Internet and local clients to connect to the Internet using a single public IP address.
- Secure connection between two private networks  
Connect this network to a remote network, such as a branch office.
- Custom configuration  
Select any combination of the features available in Routing and Remote Access.

[For more information.](#)

< Back   Next >   Cancel

# VPN Connection

We show what Local Area Connection connects to the Internet and to the internal network. We highlight the external card (WAN) that attaches to the Internet.



**Routing and Remote Access Server Setup Wizard**

**VPN Connection**  
To enable VPN clients to connect to this server, at least one network interface must be connected to the Internet.

Select the network interface that connects this server to the Internet.

Network interfaces:

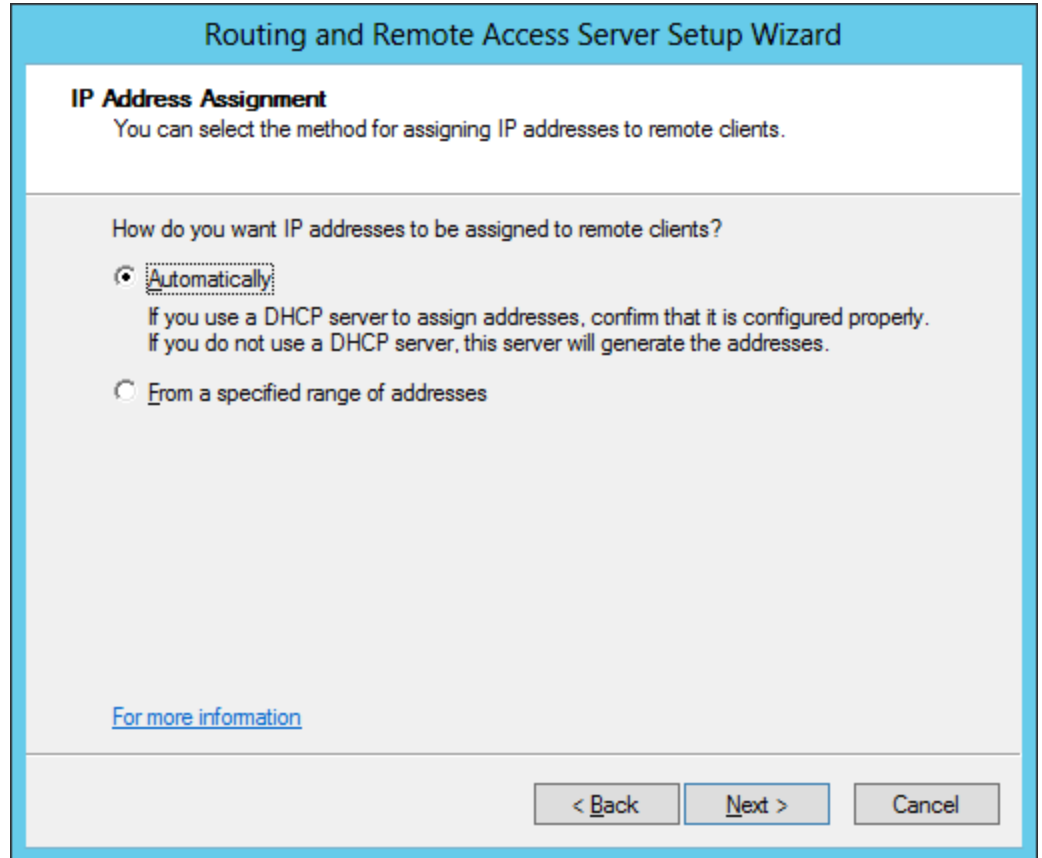
Name	Description	IP Address
LAN	Realtek RTL8139/810x...	192.168.100.1
WAN	Broadcom NetLink (TM)...	192.168.10.231

[For more information about network interfaces.](#)  
[For more information about packet filtering.](#)

< Back   Next >   Cancel

# IP Address Assignment

Our internal NIC is on the 192.168.100 network, so the address assignment range will be in this LAN automatically.



The screenshot shows a window titled "Routing and Remote Access Server Setup Wizard" with a light blue header. The main content area is white and contains the following text:

**IP Address Assignment**  
You can select the method for assigning IP addresses to remote clients.

How do you want IP addresses to be assigned to remote clients?

**Automatically**  
If you use a DHCP server to assign addresses, confirm that it is configured properly.  
If you do not use a DHCP server, this server will generate the addresses.

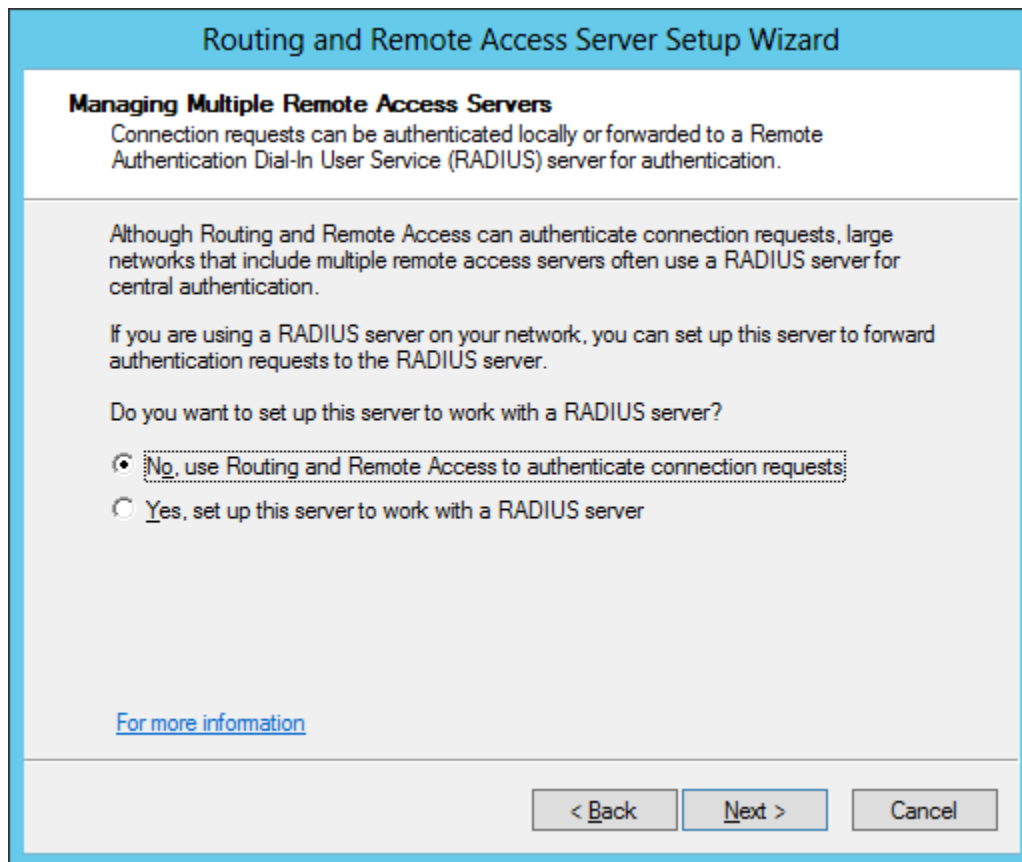
From a specified range of addresses

[For more information](#)

At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

# Managing Multiple Remote Access Servers

We do not want to work with a Radius server, which are found in large networks. We decide on the No option and choose the Next button to go forward.



The image shows a screenshot of the "Routing and Remote Access Server Setup Wizard" dialog box. The title bar is blue and contains the text "Routing and Remote Access Server Setup Wizard". The main content area has a white background and is titled "Managing Multiple Remote Access Servers". Below the title, there is a paragraph of text: "Connection requests can be authenticated locally or forwarded to a Remote Authentication Dial-In User Service (RADIUS) server for authentication." This is followed by a larger paragraph: "Although Routing and Remote Access can authenticate connection requests, large networks that include multiple remote access servers often use a RADIUS server for central authentication. If you are using a RADIUS server on your network, you can set up this server to forward authentication requests to the RADIUS server." Below this text is the question: "Do you want to set up this server to work with a RADIUS server?". There are two radio button options: the first is "No, use Routing and Remote Access to authenticate connection requests" and is selected with a black dot; the second is "Yes, set up this server to work with a RADIUS server" and is not selected. At the bottom left of the dialog box, there is a blue hyperlink that says "For more information". At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

**Routing and Remote Access Server Setup Wizard**

**Managing Multiple Remote Access Servers**  
Connection requests can be authenticated locally or forwarded to a Remote Authentication Dial-In User Service (RADIUS) server for authentication.

Although Routing and Remote Access can authenticate connection requests, large networks that include multiple remote access servers often use a RADIUS server for central authentication.

If you are using a RADIUS server on your network, you can set up this server to forward authentication requests to the RADIUS server.

Do you want to set up this server to work with a RADIUS server?

No, use Routing and Remote Access to authenticate connection requests

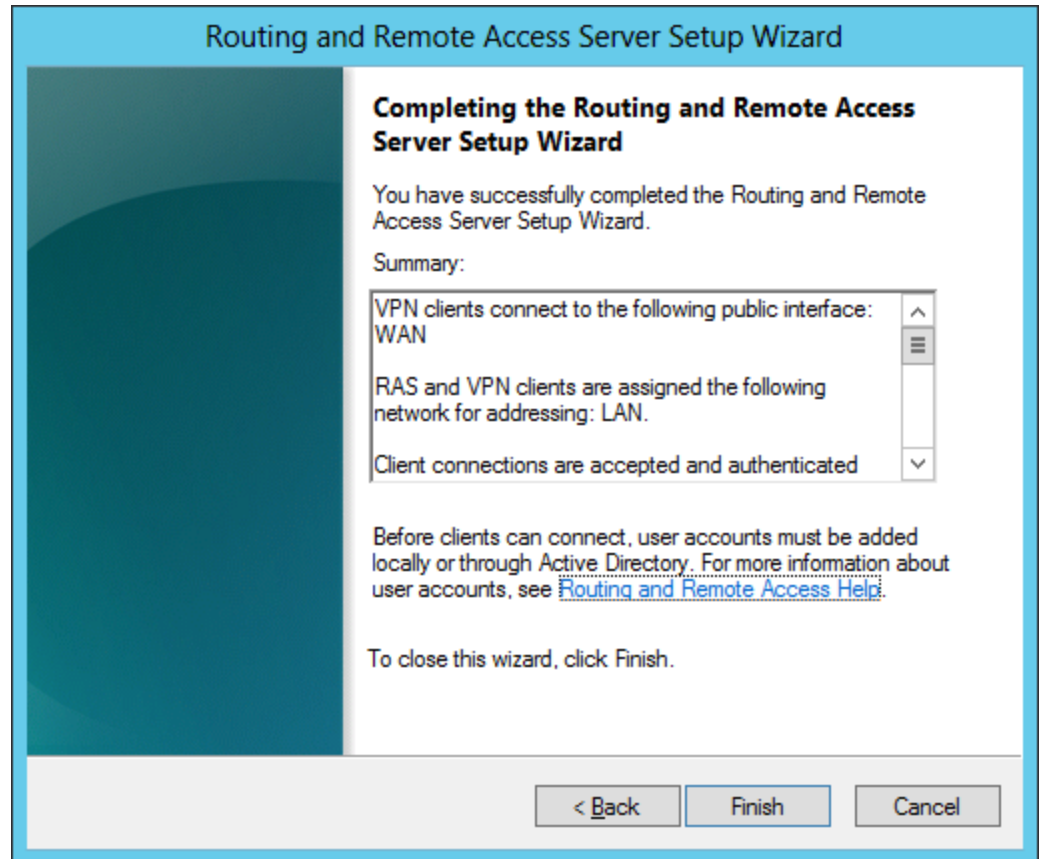
Yes, set up this server to work with a RADIUS server

[For more information](#)

< Back   Next >   Cancel

# Completing RRAS Setup

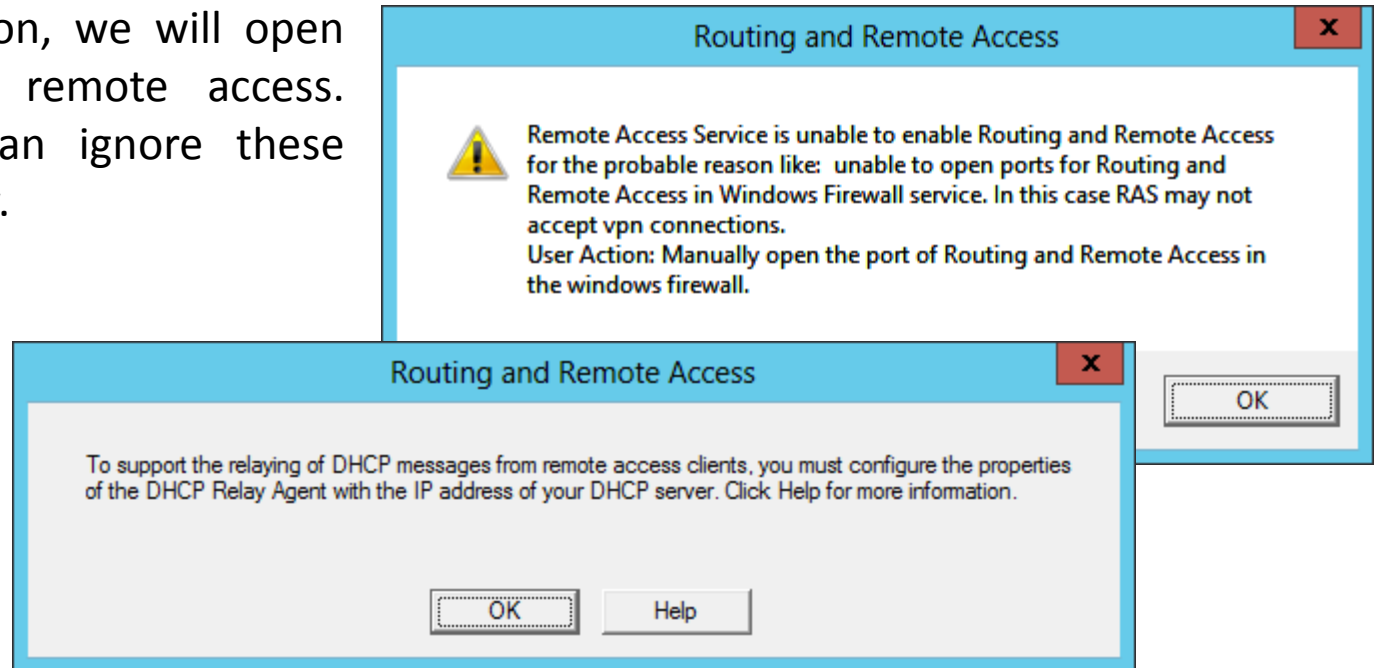
The RRAS setup wizard is now complete. We can press the Finish button or go back to correct a setting.





# VPN Warning

In our VPN lesson, we will open ports to allow remote access. Therefore we can ignore these warnings for now.



# Our Machine is a RRAS Server

Our server is now providing Internet access to the client computers on the 192.168.100 network. We can set up a VPN now if we wish.

