NETGEAR®

Broadband High-Speed DSL Modem

User Manual

Model DM200

Support

Thank you for purchasing this NETGEAR product. You can visit *www.netgear.com/support* to register your product, get help, access the latest downloads and user manuals, and join our community. We recommend that you use only official NETGEAR support resources.

Conformity

For the current EU Declaration of Conformity, visit *http://kb.netgear.com/app/answers/detail/a_id/11621*.

Compliance

For regulatory compliance information, visit *http://www.netgear.com/about/regulatory*.

See the regulatory compliance document before connecting the power supply.

Trademarks

Contents

Chapter 5 Manage the Modem and Monitor the Traffic

Chapter 6 Manage Port Forwarding

Chapter 7 Troubleshooting

Hardware Overview of the Modem

<div align="right">1</div>

The NETGEAR® Broadband High-Speed DSL Modem Model DM200, in this manual referred to as the modem, supports autodetection for universal DSL support. The modem is compatible with most major broadband DSL Internet service providers and supports VDSL2 and ADSL2+. You can connect the modem directly to a computer, router, or WiFi router.

The chapter contains the following sections:

- *Unpack Your Modem* on page 7
- *Front Panel With LEDs* on page 7
- *Back Panel With Ports, Buttons, and a DC Connector* on page 9
- *Product Label* on page 10

> **Note** The modem does not support a connection to a *cable* Internet service provider. The modem supports only a connection to a DSL (ADSL or VDSL) Internet service provider. However, the modem does not support a bonded VDSL connection.

> **Note** For more information about the topics that are covered in this manual, visit the support website at *support.netgear.com*.

> **Note** Firmware updates with new features and bug fixes are made available from time to time at *downloadcenter.netgear.com*. You can check for and download new firmware manually. If the features or behavior of your product does not match what is described in this guide, you might need to update your firmware.

Unpack Your Modem

Your package contains the modem, DSL microfilter, Ethernet cable, phone cable, and power adapter (localized to the country of sale).

Note Your package might contain more items. The filter or phone cable provided depends on the region. In some regions, a CD is included in the package.

Figure 1. DM200 package content

Front Panel With LEDs

The status LEDs are located on the front panel of the modem.

Figure 2. LEDs of the modem

Hardware Overview of the Modem

Table 1. LED and button descriptions

LED	Description
Power ⏻	• **Solid green**. The modem is ready. • **Solid amber**. The modem is starting. If the Power LED lights solid amber during any other time, a power-on self-test (POST) failure or device malfunction occurred. For more information, see *Power LED Remains Solid Amber* on page 97. • **Blinking amber**. The modem is in the process of upgrading firmware or was reset to factory default settings and is restarting. For more information, see *Use the Reset Button* on page 77. • **Off**. Power is not supplied to the modem. For more information, see *Power LED Is Off* on page 96.
DSL ✕	• **Solid green**. The modem is connected to a DSL service and the DSL connection is ready. • **Amber blinking**. The modem is trying to connect to a DSL service and the DSL connection is not yet established. • **Off**. The modem is not connected to a DSL service or a DSL connection is not established. For more information, see *Troubleshoot the DSL Link* on page 98.
LAN ⛁	The LED color indicates the speed of the Ethernet connection: green for 100 Mbps and amber for 10 Mbps. • **Solid green or solid amber**. A powered-on device is connected to the Ethernet port. When you apply power to the modem, the LAN LED lights solid green for about 12 seconds and then turns off even if a powered-on device is connected to the Ethernet port. When the startup procedure is complete and a powered-on device is connected to the Ethernet port, the LAN LED lights solid green or solid amber. • **Blinking green or blinking amber**. Data is being transmitted over the Ethernet port. • **Off**. No powered-on device is connected to the Ethernet port or the startup procedure is not yet complete.

Back Panel With Ports, Buttons, and a DC Connector

The back panel of the modem provides ports, buttons, and a DC power connector.

Figure 3. Modem back panel

Viewed from top to bottom, the back panel contains the following components:

- **Power On/Off button**. Press the **Power On/Off** button to provide power to the modem.

- **DC power connector**. Connect the power adapter that came in the product package to the DC power connector.

- **Reset button**. For information about using the **Reset** button, see *Return the Modem to Its Factory Default Settings* on page 76.

- **LAN port**. One Fast Ethernet RJ-45 LAN ports to connect the modem to a LAN device such as a computer, router, WiFi router, or Ethernet switch. This port is colored yellow.

- **VDSL port**. One RJ-11 DSL port for connecting the modem to an ADSL or VDSL line. This port is colored gray.
  Because the VDLS port supports both ADSL and VDSL services, the VDSL port is in this manual referred to as the *DSL* port.

Product Label

The product label on the rear panel of the modem lists the serial number and MAC address of the modem.

Note The modem login information is not on the product label but stated below the VDSL port on the back panel.

Serial:

MAC:

TELEPERMIT
Telepermit Holder:
Netgear NZ Ltd
Product:
Netgear DM200 VDSL
Modem

PTC 274 / 16 / 003

c **UL** US LISTED
I.T.E. E212778
CAN ICES-3 (B)/NMB-3(B)
US: 5NHDL01B12300324
FC ● Reset
272-12598-03
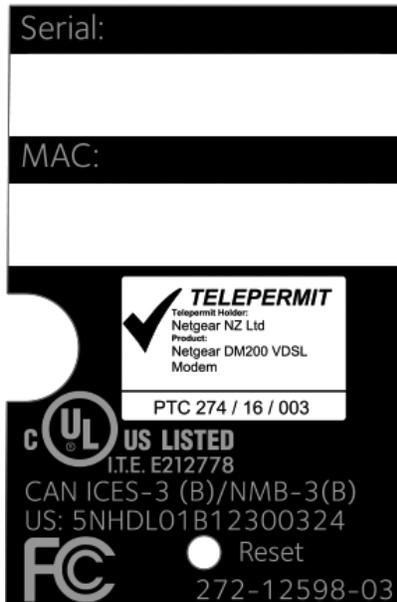
Figure 4. Modem product label

Install and Access the Modem 2

This chapter describes how you can install and access the modem and its network.
The chapter contains the following sections:

Connect to the Modem With an Ethernet Cable

During and after installation, you can connect your computer to the modem using an Ethernet cable and join the modem's local area network (LAN).

If you set up your computer to use a static IP address, change the settings of your computer so that it uses Dynamic Host Configuration Protocol (DHCP).

▶**To connect your computer to the modem with an Ethernet cable:**

1. Make sure that the modem is receiving power (its Power LED is lit).

2. Connect an Ethernet cable to an Ethernet port on your computer.

3. Connect the other end of the Ethernet cable to the LAN port on the modem.

    Your computer connects to the modem's LAN. A message might display on your computer screen to notify you that an Ethernet cable is connected.

Types of Logins

Separate types of logins serve different purposes. This section describes the differences so that you know which login to use when.

Types of logins:

*   **ISP login**. The login that your Internet service provider (ISP) gave you logs you in to your Internet service. Your ISP gave you this login information in a letter or some other way. If you cannot find this login information, contact your ISP.

*   **Modem login**. This logs you in to the modem's web pages from a web browser as admin.

DSL Service

Make sure that your ADSL or VDSL service is active before you install the modem. When your Internet service starts, your Internet service provider (ISP) typically gives you all the information that you need to connect to the Internet. You need the following information to install your modem and connect to the Internet:

*   **DSL user name and password**. This information is included in the welcome letter that your DSL ISP sent you when you signed up for your service. Record your DSL Internet service account user name and password.

*   **Your telephone number or DSL account number**. If you do not use voice service, you can use your DSL account number in place of a phone number.

*   **Fixed or static IP address settings**. These settings are rare and required only for a special deployment by the ISP. Most ISPs assign IP address settings dynamically.

If you do not know or cannot locate your DSL user name and password, call your DSL Internet service provider (ISP). Be specific when speaking with your DSL Internet service provider. For example, you could say, "I need my DSL service user name and password. Can you help me?"

Note If your provider says that they do not support NETGEAR services, tell them that you need only your DSL user name and password. You do not need support.

Automatic Internet Setup

You can use the NETGEAR installation assistant to set up the modem automatically, or you can use the modem's web pages to set up the modem manually.

The NETGEAR installation assistant runs on any device with a web browser and launches the first time that you set up the Internet connection for your modem. For more information, see *Set Up the Modem for DSL Service and Access the Modem* on page 13.

Note After initial installation and setup, the NETGEAR Setup Wizard is always accessible to assist you with setting up an installation with DSL service. For more information, see *Use the Internet Setup Wizard After Initial Setup* on page 25.

Set Up the Modem for DSL Service and Access the Modem

The NETGEAR installation assistant can detect the type of ISP connection and presents pages on which you can you enter the required information. The following procedure describes common steps that you must follow for most ISPs, but also includes some uncommon steps that you might need to follow only for some ISPs. Other uncommon steps such as configuring IPTV options and configuring DHCP Option 61 that are required only for some ISPs are not included in the following procedure.

The following figure shows the cabling of your modem for DSL service:
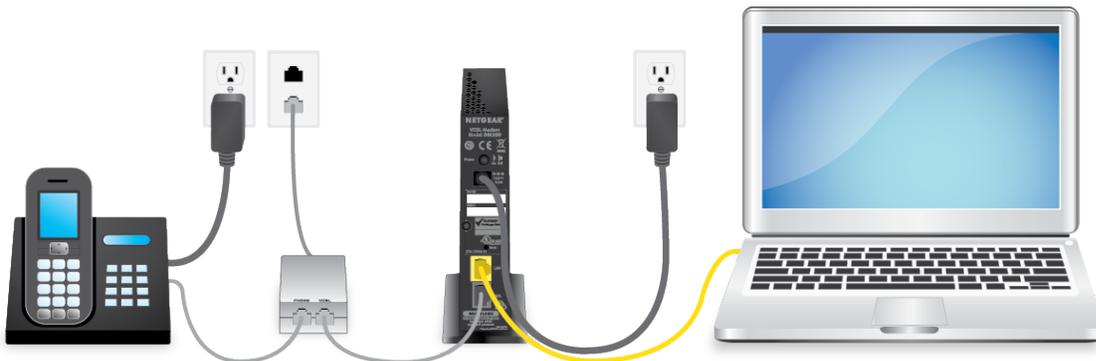
Figure 5. Modem cabling for DSL service and a computer

Note If you connect the modem to a router or WiFi router instead of directly to a computer, you can change the device mode of the modem. For more information, see *Disable the Modem's Routing Features and Use the Modem as a DSL Modem Only* on page 69.

►**To connect your modem to a DSL service:**

1. Install an ADSL or DSL microfilter between the phone line and the phone.
   The product package contains either an ADSL or DSL microfilter.

2. Use a phone cable to connect the microfilter to the gray DSL port on the modem.
   The product package contains a phone cable.

3. Connect the power adapter to the modem and plug it into an electrical outlet.
   Wait for the Power LED ⏻ to light solid green, which takes about one minute.

4. If the Power LED does not light, press the **Power On/Off** button.

5. Check the DSL LED ⟋⟍.
   If the modem is connected to a DSL service, the DSL LED lights green.

6. Use an Ethernet cable to connect your computer to the yellow Ethernet LAN port on the modem.
   The product package contains a yellow Ethernet cable.

   Your computer connects to the modem's LAN.

   Note If the computer is set to a static (fixed) IP address (this setting is uncommon), either change the computer to obtain an IP address automatically from the modem through DHCP, or change the IP address of the computer to a static IP address in the 192.168.5.2–192.168.5.254 range.

   ---

7. Launch a web browser.

The modem checks the Internet connection.

Checking the Internet connection; please wait ...
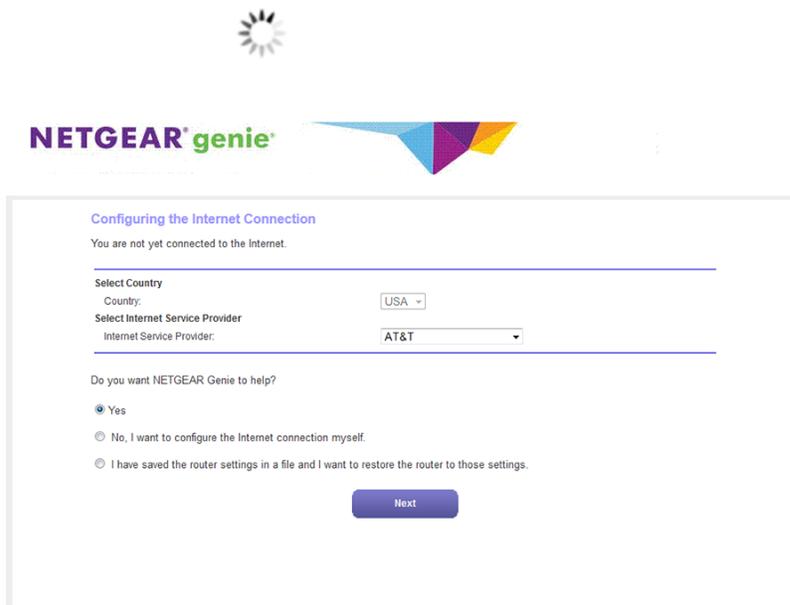
NETGEAR genie

Configuring the Internet Connection
You are not yet connected to the Internet.

Select Country
Country: USA ▾
Select Internet Service Provider
Internet Service Provider: AT&T   ▾

Do you want NETGEAR Genie to help?

● Yes

○ No, I want to configure the Internet connection myself.

○ I have saved the router settings in a file and I want to restore the router to those settings.

Next

If the Configuring the Internet Connection page displays, skip to *Step 10*. If the page does not display, see *Step 8*.

8. If the Configuring the Internet Connection page does not display, do the following:

    a. In the address field of the web browser, enter **www.routerlogin.net**.

    b. When prompted, enter **admin** for the user name and **password** for the password.

    If the Configuring the Internet Connection page displays, skip to *Step 10*. If the page still does not display, see *Step 9*.

9. If the browser cannot display the web page, do the following:

    a. Make sure that the computer is connected to the Ethernet LAN port of the modem.

    b. Make sure that the Power LED ⏻ of the modem is lit solid green.

    c. Make sure that your browser does not cache the previous page by closing and reopening the browser.

    d. Clear the browser cache.

    e. If the computer is set to a static (fixed) IP address (this setting is uncommon), either change the computer to obtain an IP address automatically from the modem through DHCP, or change the IP address of the computer to a static IP address in the 192.168.5.2–192.168.5.254 range.

10. From the **Country** menu, select the country in which you use the modem.

11. From the **Internet Service Provider** menu, select the Internet service provider (ISP) that you are using.

Install and Access the Modem

If your ISP is not in the menu, select **Other**.

12. Select the **Yes** radio button.

13. Click the **Next** button.

Detecting the Internet Connection

This process can take a minute or two; please wait...

14. During the detection and setup process, you must change the password for the modem and enable password recovery by selecting two questions and providing answers.

Admin Account Settings

The admin password is used to log in to your router's web interface.
Secure your network by changing the admin password.

User Name	admin
New Password	••••••
Confirm New Password	••••••

Security Question #1*: Please select a question.
Answer*:
Security Question #2*: Please select a question.
Answer*:
*=required information

Next >

If the Admin Accounting Settings page does not yet display, other pages might display and you might need to provide more information, in which case you must continue with *Step 16*. The pages that display depend on your type of ISP connection and configuration.

To change the password and enable password recovery, do the following:

a. In the **New Password** field, enter a new password.

The ideal password contains no dictionary words from any language and contains uppercase and lowercase letters, numbers, and symbols. It can be up to 30 characters.

b. In the **Confirm New Password** field, repeat the password.

We recommend that you write down your new password or save it in some other way so you don't forget it.

c. From the **Security Question #1** menu, select a question.

d. In the first **Answer** field, enter an answer that makes sense to you.

e. From the **Security Question #2** menu, select a question that is different from the first one that you selected.

f. In the second **Answer** field, enter an answer that makes sense to you.

g. Click the **Next** button.

When the modem is connected to the Internet, the Congratulations! page displays, and you successfully completed the setup process.

Congratulations!

You are successfully connected to the Internet.

Router Admin Settings:

Admin User Name: admin

New Admin Password: pass1234

[Print this]   [Next]

15. Click the **Next** button.

    You are prompted to download and install the free NETGEAR Desktop genie app.

    This step concludes a successful setup process. If you are connected to the Internet, you can ignore *Step 16* through *Step 19*.

16. (Only if page in the following figure displays) Specify a full scan to let the NETGEAR installation assistant find the PVC protocol.

    The page that might display asks you if you need the Setup Wizard (which is the same as the NETGEAR installation assistant) to do a full scan to find the PVC protocol. If this page does not display, continue with *Step 17*.

    Setup Wizard

    Do you need Setup Wizard to do full scan to find the PVC/Protocol?
    ⦿ Yes. (This will take approximotely 1 to 6 minutes)
    ◯ No. I want to configure the router myself.

    [Next]

    Do the following:

    a. Select the **Yes** radio button.

    b. Click the **Next** button.

    The NETGEAR installation assistant performs a full scan, which might take up to six minutes.

    Wizard is performing full scan of PVC/Protocol

    This takes approximately 1 to 6 minutes.

17. (Only if page in the following figure displays) Specify how to manage problems with the detection of the Internet connection.

The page that might display states that a problem occurred while the wizard was detecting the Internet connection. If this page does not display, continue with *Step 18*.

Problem Detecting the Internet Connection

This is most likely due to one of the following reasons:
1. The modem was not power cycled during the cabling step.
   To solve this problem, power cycle the modem (turn it off and on). After the power cycle, wait 2 minutes for the modem to completely start up.
2. The yellow Ethernet cable is not fully inserted, or is inserted in the wrong place.
   To solve this problem, make sure that the yellow Ethernet cable is securely plugged in to the broadband modem port and the router Internet port.

Select one of the options below and click **Next** to proceed:
- ○ I just power cycled the modem and waited for 2 minutes.
- ○ I corrected a problem with the Ethernet cable.
- ○ None of the above.

Next

Take one of the following actions:

- If you did not yet power cycle the modem, do so now:

    a. Unplug your modem's power, leaving the modem connected to the wall jack for your Internet service.

    b. Wait 10 seconds.

    c. Plug in your modem's power and turn on your modem.

    d. Wait two minutes.

    e. Select the **I just power cycled the modem and waited for 2 minutes** radio button.

    f. Click the **Next** button.

- If you do not need to power cycle the modem, do the following:

    a. Select the **None of the above** radio button.

    b. Click the **Next** button.

Note The Ethernet cable information that is shown in the previous figure does not apply to the modem.

---

18. (Only if page in the following figure displays) Specify how to manage problems with the detection of the IP address for the Internet connection.

The page that might display states that a problem occurred while the wizard was detecting the Internet connection IP address. If this page does not display, continue with *Step 19*.

Problem Detecting the Internet Connection - IP Address

Did your Internet Service Provider (ISP) assign to you a fixed (static) IP address? This is a **very rare** special deployment.

Select an option and click **Next** to proceed.

○ Yes. My ISP assigned a fixed (static) IP address to me.

○ No, I did not get a fixed (static) IP address from my ISP.

○ I don't know.

Next

Take one of the following actions:

• If your ISP assigned you a fixed (static) IP address, do the following:

  a. Select the **Yes** radio button.

  b. Click the **Next** button.

Fixed Internet IP Settings

Enter the fixed IP settings assigned by your Internet Service Provider and click **Next** to proceed.

My IP Address
Subnet Mask
Default Gateway
Preferred DNS Server
Alternate DNS Server

Next

  c. Enter the address information that your ISP gave you for your fixed IP address configuration.

  d. Click the **Next** button.

• If your ISP did not assign you a fixed IP address or you do not know if your ISP assigned you a fixed IP address, do the following:

  a. Select either the **No** or the **I don't know** radio button.

  b. Click the **Next** button.

Problem Detecting the Internet Connection - MAC Address

If you previously connected to your Internet service with a computer or another router, NETGEAR Genie can use the same MAC address that worked before.

A MAC address is a unique number. You can find the MAC address of the computer or router on its product label.

Enter the MAC address here.

(format AABBCCDDEEFF)

Next

    c. Enter the MAC address of the computer or router with which you previously were able to connect to the Internet. You might find the MAC address on the product label of your device. Enter the MAC address in the AABBCCDDEEFF format, not in the AA:BB:CC:DD:EE:FF format.

    d. Click the **Next** button.

19. If the Congratulations! page still does not display and the modem still does not connect to the Internet, do the following:

    a. Review all your settings and make sure that you selected the correct options and entered everything correctly.

    b. Run the NETGEAR installation assistant one more time.

    c. Contact your ISP to verify that you are using the correct configuration information.

    d. Read *Troubleshoot the Internet Connection* on page 97.

    e. If problems persist, register your NETGEAR product and contact NETGEAR technical support.

Log In to the Modem After Setup to View or Change Settings

After you set up the modem for DSL service, you can view or change the settings for the modem.

▶ **To log in to the modem:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

Note You can also type **http://www.routerlogin.com** or **http://192.168.5.1**. The procedures in this manual use **http://www.routerlogin.net**.

The nature of the login window that opens depends on your web browser.
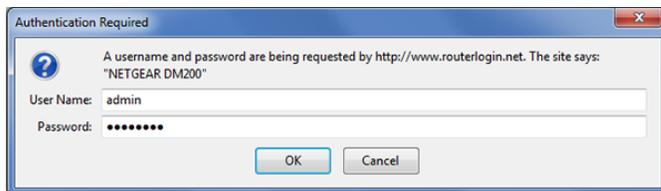
3. Enter the modem user name and password.

The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

4. Click the **OK** button.

The BASIC Home page displays a dashboard that lets you see the status of your Internet connection and network at a glance. You can click any of the sections of the dashboard to view more detailed information. The left column displays the menus, and at the top is an **ADVANCED** tab that you can use to access more menus and pages.

Change the Language

By default, the language is set as Auto. You can change the language.

▶ **To change the language:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

    A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. In the upper right corner, select a language from the menu.

5. When prompted, click the **OK** button to confirm this change.

    The page refreshes with the language that you selected.

Let the Modem Automatically Update Its Firmware

When you set up your modem and are connected to the Internet, the modem automatically checks for you to see if newer firmware is available. If it is, a message is displayed at the top of the page. For information about manually updating firmware, see *Update the Firmware of the Modem* on page 71.

▶**To let the modem automatically update its firmware:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Wait for the modem to determine if newer firmware is available.

   This process might take a few minutes. If the modem detects new firmware, the modem displays a message at the top of the page.

5. Click the message.

6. To update the modem with the latest firmware, click the **Yes** button.

   After the update, the modem restarts.

> **WARNING:**
> **To avoid the risk of corrupting the firmware, do not interrupt the update. For example, do not close the browser, click a link, or load a new page. Do not turn off the modem. Wait until the modem finishes restarting and the Power LED turns solid green.**

Access the Modem With the NETGEAR genie App

The genie app ☘ is the easy dashboard for managing, monitoring, and repairing your home network from a smartphone, tablet, or WiFi-enabled computer. However, because the modem does not support WiFi, you can connect to the modem only over its LAN port. You can install the genie app on your computer, connect the computer to the modem with an Ethernet cable, and access the modem with the genie app.

The genie app lets you verify the Internet status of the modem, view the attached device (that is, the computer that is connected to modem), and change the password of the modem.

▶**To use the genie app to access the modem:**

1. Visit the NETGEAR genie web page at *netgear.com/genie*.

2. Click the appropriate **Download** button.

3. Follow the onscreen instructions to install the app on your computer.

4. Connect the computer to the modem with an Ethernet cable.

5. Launch the genie app.

   The genie app dashboard displays.

The following figure shows an example of a genie app dashboard for a Windows computer. The modem does not support WiFi or any WiFi features, the Parental Controls feature, and the ReadySHARE feature.
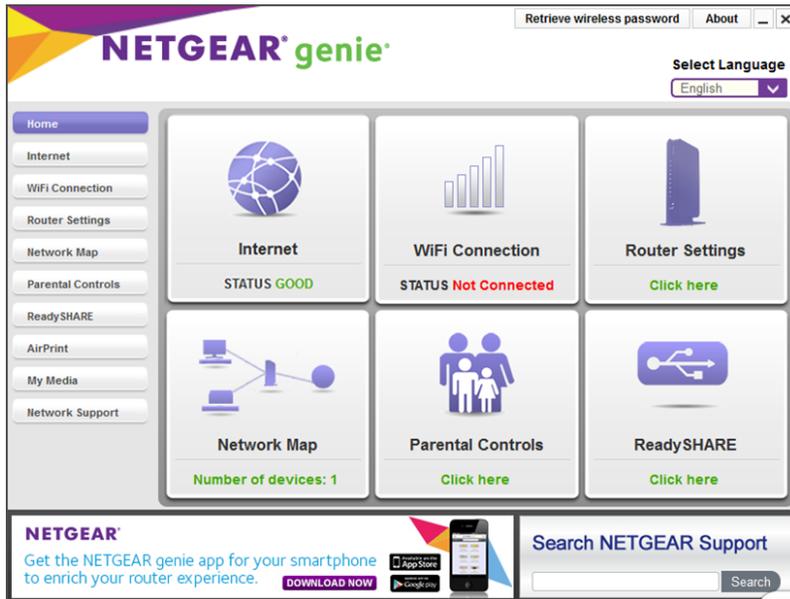
Manage the Internet Settings Manually   3

This chapter describes how you can manage the Internet settings of the modem manually.

Usually, the quickest way to set up the modem is to allow the NETGEAR installation assistant to detect the Internet connection when you first access the modem with a web browser. This option is described in *Install and Access the Modem* on page 11. You can also customize or specify your Internet settings manually.

The chapter contains the following sections:

- *Use the Internet Setup Wizard After Initial Setup* on page 25
- *Manually Set Up an ADSL Internet Connection* on page 29
- *Manually Set Up a VDSL Internet Connection* on page 38
- *Specify an IPv6 Internet Connection* on page 47
- *Manage the MTU Size* on page 52

Use the Internet Setup Wizard After Initial Setup

You can use the Setup Wizard to detect your Internet settings and automatically set up your modem.

Note The Setup Wizard is the same as the NETGEAR installation assistant, which launches the first time you connect to your modem.

The Setup Wizard can detect the type of ISP connection and presents pages on which you can you enter the required information. The following procedure describes common steps that you must follow for most ISPs, but also includes some uncommon steps that you might need to follow only for some ISPs. Other uncommon steps such as configuring IPTV options and configuring DHCP Option 61 that are required only for some ISPs are not included in the following procedure.

▶ **To use the Setup Wizard:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Setup Wizard**.

5. From the **Country** menu, select the country in which you use the modem.

6. From the **Internet Service Provider** menu, select the Internet service provider (ISP) that you are using.

   If your ISP is not in the menu, select **Other**.

7. Select the **Yes** radio button.

   If you select the **No** radio button, you are taken to the Internet Setup page after you click the **Next** button. For more information, see one of the following sections:

   • *Manually Set Up an ADSL Internet Connection* on page 29
   • *Manually Set Up a VDSL Internet Connection* on page 38

Manage the Internet Settings Manually

8. Click the **Next** button.

   The Setup Wizard searches your Internet connection for servers and protocols to determine your ISP configuration.

   Detecting the Internet Connection

   This process can take a minute or two; please wait...

   When the modem is connected to the Internet, the Congratulations! page displays, and you successfully completed the setup process.

   Congratulations!

   You are successfully connected to the Internet.

Print this		Next

   If the Congratulations! page does not display, other pages might display and you might need to provide more information, in which case you must continue with *Step 9*. The pages that display depend on your type of ISP connection and configuration.

9. (Only if the page in the following figure displays) Specify a full scan to let the Setup Wizard find the PVC protocol.

   The page that might display asks you if you need the Setup Wizard to do a full scan to find the PVC protocol. If this page does not display, continue with *Step 10*.

   Setup Wizard

   Do you need Setup Wizard to do full scan to find the PVC/Protocol?
   ⦿ Yes. (This will take approximately 1 to 6 minutes)
   ◯ No. I want to configure the router myself.

Next

   Do the following:

   a. Select the **Yes** radio button.

   b. Click the **Next** button.

The Setup Wizard performs a full scan, which might take up to six minutes.

Wizard is performing full scan of PVC/Protocol

This takes approximately 1 to 6 minutes.

10. (Only if the page in the following figure displays) Specify how to manage problems with the detection of the Internet connection.

The page that might display states that a problem occurred while the wizard was detecting the Internet connection. If this page does not display, continue with *Step 11*.

Problem Detecting the Internet Connection

This is most likely due to one of the following reasons:
1. The modem was not power cycled during the cabling step.
   To solve this problem, power cycle the modem (turn it off and on). After the power cycle, wait 2 minutes for the modem to completely start up.
2. The yellow Ethernet cable is not fully inserted, or is inserted in the wrong place.
   To solve this problem, make sure that the yellow Ethernet cable is securely plugged in to the broadband modem port and the router Internet port.

Select one of the options below and click **Next** to proceed:
- ○ I just power cycled the modem and waited for 2 minutes.
- ○ I corrected a problem with the Ethernet cable.
- ○ None of the above.

Next

Take one of the following actions:

- If you need to power cycle the modem, do so now:

    a. Unplug your modem's power, leaving the modem connected to the wall jack for your Internet service.

    b. Wait 10 seconds.

    c. Plug in your modem's power and turn on your modem.

    d. Wait two minutes.

    e. Select the **I just power cycled the modem and waited for 2 minutes** radio button.

    f. Click the **Next** button.

- If you do not need to power cycle the modem, do the following:

    a. Select the **None of the above** radio button.

    b. Click the **Next** button.

Note The Ethernet cable information that is shown in the previous figure does not apply to the modem.

---

11. (Only if the page in the following figure displays) Specify how to manage problems with the detection of the IP address for the Internet connection.

The page that might display states that a problem occurred while the wizard was detecting the Internet connection IP address. If this page does not display, continue with *Step 12*.

Problem Detecting the Internet Connection - IP Address

Did your Internet Service Provider (ISP) assign to you a fixed (static) IP address? This is a **very rare** special deployment.

Select an option and click **Next** to proceed.

○ Yes. My ISP assigned a fixed (static) IP address to me.

○ No, I did not get a fixed (static) IP address from my ISP.

○ I don't know.

Next

Take one of the following actions:

- If your ISP assigned you a fixed (static) IP address, do the following:

  a. Select the **Yes** radio button.

  b. Click the **Next** button.

Fixed Internet IP Settings

Enter the fixed IP settings assigned by your Internet Service Provider and click **Next** to proceed.

My IP Address	
Subnet Mask	
Default Gateway	
Preferred DNS Server	
Alternate DNS Server	

Next

  c. Enter the address information that your ISP gave you for your fixed IP address configuration.

  d. Click the **Next** button.

- If your ISP did not assign you a fixed IP address or you do not know if your ISP assigned you a fixed IP address, do the following:

Manage the Internet Settings Manually

    a. Select either the **No** or the **I don't know** radio button.

    b. Click the **Next** button.

Problem Detecting the Internet Connection - MAC Address

If you previously connected to your Internet service with a computer or another router, NETGEAR Genie can use the same MAC address that worked before.

A MAC address is a unique number. You can find the MAC address of the computer or router on its product label.

Enter the MAC address here.

[   ] (format AABBCCDDEEFF)

Next

    c. Enter the MAC address of the computer or router with which you previously were able to connect to the Internet.
You might find the MAC address on the product label of your device. Enter the MAC address in the AABBCCDDEEFF format, not in the AA:BB:CC:DD:EE:FF format.

    d. Click the **Next** button.

12. If the Congratulations! page still does not display and the modem still does not connect to the Internet, do the following:

    a. Review all your settings and make sure that you selected the correct options and entered everything correctly.

    b. Run the Setup Wizard one more time.

    c. Contact your ISP to verify that you are using the correct configuration information.

    d. Read *Troubleshoot the Internet Connection* on page 97.

    e. If problems persist, register your NETGEAR product and contact NETGEAR technical support.

Manually Set Up an ADSL Internet Connection

You can view or change the modem's ADSL Internet connection settings manually. The following sections describe the options that are available to you to manually set up the ADSL Internet connection:

- *Specify an ADSL Connection Without a Login* on page 30

- *Specify an ADSL Connection With a Login and PPPoA or PPPoE Service* on page 34

Note Some ISPs require that you register on their website before you can obtain Internet service. Follow the directions that your ISP gave you.

Specify an ADSL Connection Without a Login

If you want to manually configure the ADSL connection settings, use the information that your Internet service provider (ISP) gave you to connect to your Internet service. If you cannot find this information, contact your ISP. Entering incorrect information might prevent the modem from connecting to the Internet.

> **Note** If your ISP supports two virtual interfaces (one Internet virtual interface and one IPTV virtual interface), either you can connect a computer or router to the modem or you can connect an IPTV device to the modem. Because the modem provides a single LAN port, you can connect only one type of device and you cannot use both virtual interfaces simultaneously.

► **To view or specify the settings for an ADSL Internet connection that does not require a login:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

    A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **Internet**.

    The Internet Setup page displays.

5. From the **Select Country** menu, select the country in which you use the modem.

    The **Select Country** menu is not available in all countries and might be masked out.

6. From the **Select Internet Service Provider** menu, select the Internet service provider (ISP) that you are using.

    If your ISP is not in the menu, select **Other**.

7. From the **Transfer Mode** menu, select **ADSL(ATM)**.

8. From the **DSL Mode** menu, select the ADSL mode that your ISP provided you:

    * **Auto**. The modem detects the DSL mode automatically. (This is the default setting.)
    * **ADSL**. Legacy version of ADSL.
    * **ADSL2**. Legacy version of ADSL2.
    * **ADSL2+**. ADSL2+ provides the fastest downstream rates and can interoperate with ADSL2 and ADSL.

9. From the menu above the **Enable This Interface** check box, select the virtual interface that you are configuring.

    * **Internet**. If you connect the modem to a computer or router, select the **Internet** virtual interface. In most situations you can ignore the IPTV virtual interface.

- **IPTV**. For some ISPs, you can configure the IPTV virtual interface. However, if you configure the modem with an IPTV virtual interface, you can connect only an IPTV device to the modem and you cannot connect a computer or router to the modem.

10. Make sure that the **Enable This Interface** check box is selected for the interface that you are configuring.

   Clear the **Enable This Interface** check box only if you want to configure the virtual interface but not enable it.

11. Scroll down to the Does your Internet connection require a login? section and select the **No** radio button.

   The following figure shows the settings that display when you configure an ADSL connection without a login.

12. Enter the ADSL settings as described in the following table.

Manage the Internet Settings Manually

Field	Description
Multiplexing Method	Select **LLC-BASED** or **VC-BASED**, as indicated by your ISP. The multiplexing method can be either virtual circuit (VC) based or logical link control (LLC) based.
VPI	Enter a number between **0** and **255** for the virtual circuit number for the virtual path identifier (VPI), as indicated by your ISP. If your ISP did not provide you with a VPI setting, leave the default setting, which depends on the selected ISP. The VPI might be required not only for a VC-based connection but also for an LLC-based connection.
VCI	Enter a number between **32** and **65535** for the virtual circuit number for the virtual channel identifier (VCI), as indicated by your ISP. If your ISP did not provide you with a VCI setting, leave the default setting, which depends on the selected ISP. The VCI might be required not only for a VC-based connection but also for an LLC-based connection.
Use VLANID	Select the **Use VLANID** check box and enter the VLAN ID, as indicated by your ISP. A VLAN ID might be required if you subscribe to both Internet service and a service such as IPTV. If your ISP did not provide you with a VLAN ID, leave the **Use VLANID** check box cleared, which is the default setting.
Priority (0 ~ 7)	If your ISP provided you with a VLAN ID and a priority value, enter the priority value, which is a number from 0 to 7. You can enter a priority value only in combination with a VLAN ID. If your ISP did not provide you with a priority value, leave the default setting, which depends on the selected ISP.
Bridge Mode (IPTV virtual interface only and for some ISPs only)	If your ISP does not support bridge mode for an IPTV virtual interface, the check box does not display onscreen. If you are specifying the settings for the IPTV virtual interface and your ISP informed you that you must use bridge mode, select the **Bridge Mode** check box. Some devices, such as an IPTV, cannot function behind the modem's Network Address Translation (NAT) service or firewall. Based on what your ISP requires (some ISPs support an IPTV virtual interface but do not require bridge mode), you can enable the bridge between the device and the modem's IPTV virtual interface so that the device can connect directly to the ISP's network.
Account Name	Enter the account name, as indicated by your ISP. This name might also be called the host name. If your ISP did not provide you with an account name or host name, leave the default setting or leave this field blank.
Domain Name	Enter the domain name, as indicated by your ISP. If your ISP did not provide you with a domain name, leave this field blank.
Internet IP Address	
Get Dynamically from ISP	Your ISP uses DHCP to assign your IP address. Your ISP automatically assigns these addresses.

(Continued)

Field	Description
Use Static IP Address	Enter the IP address, IP subnet mask, and gateway IP address that your ISP assigned you for static IP address service. The gateway is the ISP router to which your modem connects.
Use IP over ATM (IPoA)	Enter the IP address, IP subnet mask, and gateway IP address that your ISP assigned you for IPoA service. The gateway is the ISP router to which your modem connects.
Domain Name Server (DNS) Address	
The DNS server is used to look up site addresses based on their domain names.	
Get Automatically from ISP	Your ISP uses DHCP to assign your DNS servers. Your ISP automatically assigns this address.
Use These DNS Servers	If you know that your ISP does not automatically transmit DNS addresses to the modem during login, select this option and enter the IP address of your ISP primary DNS server. If secondary and tertiary DNS server addresses are available, enter them also.
Router MAC Address	
The Ethernet MAC address that the modem uses on the Internet port. Some ISPs register the MAC address of the network interface card in your computer when your account is first opened. They accept traffic only from the MAC address of that computer. This feature allows your modem to use your computer's MAC address (also called cloning).	
Use Default Address	Use the default MAC address.
Use Computer MAC Address	The modem captures and uses the MAC address of the computer that you are now using. You must use the one computer that is registered by the ISP.
Use This MAC Address	Enter the MAC address that you want to use. By default, the field displays the MAC address of the Internet port.
DHCP Options	
Vendor Class Identifier String (option 60)	Enter the vendor class identifier (VCI) string, as indicated by your ISP. This field is required for some ISPs only. If your ISP did not provide you with a VCI string, leave this field blank.
Client Identifier String (option 61)	Enter the client identifier (client ID) string, as indicated by your ISP. This field is required for some ISPs only. If your ISP did not provide you with a client ID string, leave this field blank.

13. Click the **Apply** button.

    Your settings are saved.

14. Click the **Test** button to test your Internet connection.

    If the NETGEAR website does not display within one minute, see *Troubleshoot the Internet Connection* on page 97.

Specify an ADSL Connection With a Login and PPPoA or PPPoE Service

If you want to manually configure the ADSL connection settings, use the information that your ISP gave you to log in and connect to your Internet service. If you cannot find this information, contact your ISP. Entering incorrect information might prevent the modem from connecting to the Internet.

> **Note** If your ISP supports two virtual interfaces (one Internet virtual interface and one IPTV virtual interface), either you can connect a computer or router to the modem or you can connect an IPTV device to the modem. Because the modem provides a single LAN port, you can connect only one type of device and you cannot use both virtual interfaces simultaneously.

▶**To view or specify the settings for an ADSL Internet connection that requires a login and uses a PPPoE or PPPoA service:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **Internet**.

   The Internet Setup page displays.

5. From the **Select Country** menu, select the country in which you use the modem.

   The **Select Country** menu is not available in all countries and might be masked out.

6. From the **Select Internet Service Provider** menu, select the Internet service provider (ISP) that you are using.

   If your ISP is not in the menu, select **Other**.

7. From the **Transfer Mode** menu, select **ADSL(ATM)**.

8. From the **DSL Mode** menu, select the ADSL mode that your ISP provided you:

   - **Auto**. The modem detects the DSL mode automatically. (This is the default setting.)
   - **ADSL**. Legacy version of ADSL.
   - **ADSL2**. Legacy version of ADSL2.
   - **ADSL2+**. ADSL2+ provides the fastest downstream rates and can interoperate with ADSL2 and ADSL.

9. From the menu above the **Enable This Interface** check box, select the virtual interface that you are configuring.

   - **Internet**. If you connect the modem to a computer or router, select the **Internet** virtual interface. In most situations you can ignore the IPTV virtual interface.

- **IPTV**. For some ISPs, you can configure the IPTV virtual interface. However, if you configure the modem with an IPTV virtual interface, you can connect only an IPTV device to the modem and you cannot connect a computer or router to the modem.

10. Make sure that the **Enable This Interface** check box is selected for the interface that you are configuring.

   Clear the **Enable This Interface** check box only if you want to configure the virtual interface but not enable it.

11. Scroll down to the Does your Internet connection require a login? section and select the **Yes** radio button.

   The following figure shows the settings that display when you configure an ADSL connection with a login and PPPoE service.

12. Enter the ADSL settings as described in the following table.

Field	Description
Multiplexing Method	Select **LLC-BASED** or **VC-BASED**, as indicated by your ISP. The multiplexing method can either be virtual circuit (VC) based or logical link control (LLC) based.
VPI	Enter a number between **0** and **255** for the virtual circuit number for the virtual path identifier (VPI), as indicated by your ISP. If your ISP did not provide you with a VPI setting, leave the default setting, which depends on the selected ISP. The VPI might be required not only for a VC-based connection but also for an LLC-based connection.
VCI	Enter a number between **32** and **65535** for the virtual circuit number for the virtual channel identifier (VCI), as indicated by your ISP. If your ISP did not provide you with a VCI setting, leave the default setting, which depends on the selected ISP. The VCI might be required not only for a VC-based connection but also for an LLC-based connection.
Use VLANID	Select the **Use VLANID** check box and enter the VLAN ID, as indicated by your ISP. A VLAN ID might be required if you subscribe to both Internet service and a service such as IPTV. If your ISP did not provide you with a VLAN ID, leave the **Use VLANID** check box cleared, which is the default setting.
Priority (0 ~ 7)	If your ISP provided you with a VLAN ID and a priority value, enter the priority value, which is a number from 0 to 7. You can enter a priority value only in combination with a VLAN ID. If your ISP did not provide you with a priority value, leave the default setting, which depends on the selected ISP.
Bridge Mode (IPTV virtual interface only and for some ISPs only)	If your ISP does not support bridge mode for an IPTV virtual interface, the check box does not display onscreen. If you are specifying the settings for the IPTV virtual interface and your ISP informed you that you must use bridge mode, select the **Bridge Mode** check box. Some devices, such as an IPTV, cannot function behind the modem's Network Address Translation (NAT) service or firewall. Based on what your ISP requires (some ISPs support an IPTV virtual interface but do not require bridge mode), you can enable the bridge between the device and the modem's IPTV virtual interface so that the device can connect directly to the ISP's network.
Internet Service Provider	Select the encapsulation, as indicated by your ISP: • **PPPoA**. Your Internet connection uses PPP over ATM. • **PPPoE**. Your Internet connection uses PPP over Ethernet.
Login	Enter the login name that you use to log in to your Internet service, as indicated by your ISP. This login name is often an email address.
Password	Enter the password that you use to log in to your Internet service, as indicated by your ISP.

(Continued)

Field	Description
Service Name (If Required) (PPPoE only)	Enter the service name that you use to log in to your Internet service, as indicated by your ISP. Often, a service name is not required.
Connection Mode	Select how the Internet connection functions: • **Always On**. Once the Internet connection is established, it remains active. This is the default setting. • **Dial on Demand**. When someone attempts to connect to the Internet, the Internet connection is established. When the idle time-out period expires, the Internet connection is terminated. • **Manually Connect**. You must connect to the Internet manually (see *View, Establish, or Terminate the PPPoE or PPPoA Internet Connection* on page 84).
Idle Timeout (In Minutes)	If you select **Dial on Demand** from the **Connection Mode** menu, enter the idle time-out period in minutes. The idle time-out specifies how long the modem keeps the Internet connection active when no one on the network is using the Internet connection. The default is 5 minutes. To disable the idle time-out, enter **0**. (When you disable the idle time-out, the connection is not terminated automatically.)
Internet IP Address	
Get Dynamically from ISP	Your ISP uses DHCP to assign your IP address. Your ISP automatically assigns these addresses.
Use Static IP Address	Enter the IP address, IP subnet mask, and gateway IP address that your ISP assigned you for static IP address service. The gateway is the ISP router to which your modem connects.
Domain Name Server (DNS) Address The DNS server is used to look up site addresses based on their domain names.	
Get Automatically from ISP	Your ISP uses DHCP to assign your DNS servers. Your ISP automatically assigns this address.
Use These DNS Servers	If you know that your ISP does not automatically transmit DNS addresses to the modem during login, select this option and enter the IP address of your ISP primary DNS server. If a secondary DNS server address is available, enter it also.
NAT (Network Address Translation) NAT allows computers on your home network to share the modem Internet connection. NAT is enabled by default because it is required in most situations.	
Enable	NAT is enabled. This is the default setting. Leave this setting if no reason to disable NAT exists.
Disable	NAT is disabled.

Manage the Internet Settings Manually

(Continued)

Field	Description
Router MAC Address The Ethernet MAC address that the modem uses on the Internet port. Some ISPs register the MAC address of the network interface card in your computer when your account is first opened. They accept traffic only from the MAC address of that computer. This feature allows your modem to use your computer's MAC address (also called cloning).	
Use Default Address	Use the default MAC address.
Use Computer MAC Address	The modem captures and uses the MAC address of the computer that you are now using. You must use the one computer that is registered by the ISP.
Use This MAC Address	Enter the MAC address that you want to use. By default, the field displays the MAC address of the Internet port.

13. Click the **Apply** button.

    Your settings are saved.

14. Click the **Test** button to test your Internet connection.

    If the NETGEAR website does not display within one minute, see *Troubleshoot the Internet Connection* on page 97.

Manually Set Up a VDSL Internet Connection

You can view or change the modem's VDSL Internet connection settings manually. The following sections describe the options that are available to you to manually set up the VDSL Internet connection:

> **Note** Some ISPs require that you register on their website before you can obtain Internet service. Follow the directions that your ISP gave you.

Specify a VDSL Connection Without a Login

If you want to manually configure the VDSL connection settings, use the information that your ISP gave you to connect to your Internet service. If you cannot find this information, contact your ISP. Entering incorrect information might prevent the modem from connecting to the Internet.

> **Note** If your ISP supports two virtual interfaces (one Internet virtual interface and one IPTV virtual interface), either you can connect a computer or router to the modem or you can connect an IPTV device to the modem. Because the modem provides a single LAN port, you can connect only one type of device and you cannot use both virtual interfaces simultaneously.

▶ **To view or specify the settings for a VDSL Internet connection that does not require a login:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

    A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **Internet**.

    The Internet Setup page displays.

5. From the **Select Country** menu, select the country in which you use the modem.

    The **Select Country** menu is not available in all countries and might be masked out.

6. From the **Select Internet Service Provider** menu, select the Internet service provider (ISP) that you are using.

    If your ISP is not in the menu, select **Other**.

7. From the **Transfer Mode** menu, select **VDSL(PTM)**.

    When you select **VDSL(PTM)** from the **Transfer Mode** menu, the only option in the **DSL Mode** menu is **VDSL2**.

8. From the menu above the **Enable This Interface** check box, select the virtual interface that you are configuring.

    - **Internet**. If you connect the modem to a computer or router, select the **Internet** virtual interface. In most situations you can ignore the IPTV virtual interface.
    - **IPTV**. For some ISPs, you can configure the IPTV virtual interface. However, if you configure the modem with an IPTV virtual interface, you can connect only an IPTV device to the modem and you cannot connect a computer or router to the modem.

9. Make sure that the **Enable This Interface** check box is selected for the interface that you are configuring.

    Clear the **Enable This Interface** check box only if you want to configure the virtual interface but not enable it.

10. Scroll down to the Does your Internet connection require a login? section and select the **No** radio button.

The following figure shows the settings that display when you configure a VDSL connection without a login.

11. Enter the VDSL settings as described in the following table.

Field	Description
Multiplexing Method VPI VCI	These settings are disabled because they do not apply to a VDSL connection.
Use VLANID	Select the **Use VLANID** check box and enter the VLAN ID, as indicated by your ISP. A VLAN ID might be required if you subscribe to both Internet service and a service such as IPTV. If your ISP did not provide you with a VLAN ID, leave the **Use VLANID** check box cleared, which is the default setting.
Priority (0 ~ 7)	If your ISP provided you with a VLAN ID and a priority value, enter the priority value, which is a number from 0 to 7. You can enter a priority value only in combination with a VLAN ID. If your ISP did not provide you with a priority value, leave the default setting, which depends on the selected ISP.
Bridge Mode (IPTV virtual interface only and for some ISPs only)	If your ISP does not support bridge mode for an IPTV virtual interface, the check box does not display onscreen. If you are specifying the settings for the IPTV virtual interface and your ISP informed you that you must use bridge mode, select the **Bridge Mode** check box. Some devices, such as an IPTV, cannot function behind the modem's Network Address Translation (NAT) service or firewall. Based on what your ISP requires (some ISPs support an IPTV virtual interface but do not require bridge mode), you can enable the bridge between the device and the modem's IPTV virtual interface so that the device can connect directly to the ISP's network.
Account Name	Enter the account name, as indicated by your ISP. This name might also be called the host name. If your ISP did not provide you with an account name or host name, leave the default setting or leave this field blank.
Domain Name	Enter the domain name, as indicated by your ISP. If your ISP did not provide you with a domain name, leave this field blank.
Internet IP Address	
Get Dynamically from ISP	Your ISP uses DHCP to assign your IP address. Your ISP automatically assigns these addresses.
Use Static IP Address	Enter the IP address, IP subnet mask, and gateway IP address that your ISP assigned you for static IP address service. The gateway is the ISP router to which your modem connects.
Use IP over ATM (IPoA)	Enter the IP address, IP subnet mask, and gateway IP address that your ISP assigned you for IPoA service. The gateway is the ISP router to which your modem connects.
Domain Name Server (DNS) Address The DNS server is used to look up site addresses based on their domain names.	
Get Automatically from ISP	Your ISP uses DHCP to assign your DNS servers. Your ISP automatically assigns this address.

Manage the Internet Settings Manually

(Continued)

Field	Description
Use These DNS Servers	If you know that your ISP does not automatically transmit DNS addresses to the modem during login, select this option and enter the IP address of your ISP primary DNS server. If secondary and tertiary DNS server addresses are available, enter them also.
Router MAC Address	
The Ethernet MAC address that the modem uses on the Internet port. Some ISPs register the MAC address of the network interface card in your computer when your account is first opened. They accept traffic only from the MAC address of that computer.	
This feature allows your modem to use your computer's MAC address (also called cloning).	
Use Default Address	Use the default MAC address.
Use Computer MAC Address	The modem captures and uses the MAC address of the computer that you are now using. You must use the one computer that is registered by the ISP.
Use This MAC Address	Enter the MAC address that you want to use. By default, the field displays the MAC address of the Internet port.
DHCP Options	
Vendor Class Identifier String (option 60)	Enter the vendor class identifier (VCI) string, as indicated by your ISP. This field is required for some ISPs only. If your ISP did not provide you with a VCI string, leave this field blank.
Client Identifier String (option 61)	Enter the client identifier (client ID) string, as indicated by your ISP. This field is required for some ISPs only. If your ISP did not provide you with a client ID string, leave this field blank.

12. Click the **Apply** button.

    Your settings are saved.

13. Click the **Test** button to test your Internet connection.

    If the NETGEAR website does not display within one minute, see *Troubleshoot the Internet Connection* on page 97.

Specify a VDSL Connection With a Login and PPPoE Service

If you want to manually configure the VDSL connection settings, use the information that your ISP gave you to log in and connect to your Internet service. If you cannot find this information, contact your ISP. Entering incorrect information might prevent the modem from connecting to the Internet.

Note If your ISP supports two virtual interfaces (one Internet virtual interface and one IPTV virtual interface), either you can connect a computer or router to the modem or you can connect an IPTV device to the modem. Because the modem provides a single LAN port, you can connect only one type of device and you cannot use both virtual interfaces simultaneously.

►**To view or specify the settings for a VDSL Internet connection that requires a login and uses a PPPoE service:**

1. Launch a web browser from a compute that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **Internet**.

   The Internet Setup page displays.

5. From the **Select Country** menu, select the country in which you use the modem.

   The **Select Country** menu is not available in all countries and might be masked out.

6. From the **Select Internet Service Provider** menu, select the Internet service provider (ISP) that you are using.

   If your ISP is not in the menu, select **Other**.

7. From the **Transfer Mode** menu, select **VDSL(PTM)**.

   When you select **VDSL(PTM)** from the **Transfer Mode** menu, the only option in the **DSL Mode** menu is **VDSL2**.

8. From the menu above the **Enable This Interface** check box, select the virtual interface that you are configuring.

   • **Internet**. If you connect the modem to a computer or router, select the **Internet** virtual interface. In most situations you can ignore the IPTV virtual interface.

   • **IPTV**. For some ISPs, you can configure the IPTV virtual interface. However, if you configure the modem with an IPTV virtual interface, you can connect only an IPTV device to the modem and you cannot connect a computer or router to the modem.

9. Make sure that the **Enable This Interface** check box is selected for the interface that you are configuring.

   Clear the **Enable This Interface** check box only if you want to configure the virtual interface but not enable it.

10. Scroll down to the Does your Internet connection require a login? section and select the **Yes** radio button.

The following figure shows the settings that display when you configure a VDSL connection with a login and PPPoE service.

11. Enter the VDSL settings as described in the following table.

Field	Description
Multiplexing Method	These settings are disabled because they do not apply to a VDSL connection.
VPI	
VCI	
Use VLANID	Select the **Use VLANID** check box and enter the VLAN ID, as indicated by your ISP. A VLAN ID might be required if you subscribe to both Internet service and a service such as IPTV. If your ISP did not provide you with a VLAN ID, leave the **Use VLANID** check box cleared, which is the default setting.

(Continued)

Field	Description
Priority (0 ~ 7)	If your ISP provided you with a VLAN ID and a priority value, enter the priority value, which is a number from 0 to 7. You can enter a priority value only in combination with a VLAN ID. If your ISP did not provide you with a priority value, leave the default setting, which depends on the selected ISP.
Bridge Mode (IPTV virtual interface only and for some ISPs only)	If your ISP does not support bridge mode for an IPTV virtual interface, the check box does not display onscreen. If you are specifying the settings for the IPTV virtual interface and your ISP informed you that you must use bridge mode, select the **Bridge Mode** check box. Some devices, such as an IPTV, cannot function behind the modem's Network Address Translation (NAT) service or firewall. Based on what your ISP requires (some ISPs support an IPTV virtual interface but do not require bridge mode), you can enable the bridge between the device and the modem's IPTV virtual interface so that the device can connect directly to the ISP's network.
Internet Service Provider	By default, the menu selection is PPPoE for a PPP over Ethernet VDSL connection. The VDSL connection does not support PPP over ATM (PPPoA).
Login	Enter the login name that you use to log in to your Internet service, as indicated by your ISP. This login name is often an email address.
Password	Enter the password that you use to log in to your Internet service, as indicated by your ISP.
Service Name (If Required)	Enter the service name that you use to log in to your Internet service, as indicated by your ISP. Often, a service name is not required.
Connection Mode	Select how the Internet connection functions: • **Always On**. Once the Internet connection is established, it remains active. This is the default setting. • **Dial on Demand**. When someone attempts to connect to the Internet, the Internet connection is established. When the idle time-out period expires, the Internet connection is terminated. • **Manually Connect**. You must connect to the Internet manually (see *View, Establish, or Terminate the PPPoE or PPPoA Internet Connection* on page 84).
Idle Timeout (In Minutes)	If you select **Dial on Demand** from the **Connection Mode** menu, enter the idle time-out period in minutes. The idle time-out specifies how long the modem keeps the Internet connection active when no one on the network is using the Internet connection. The default is 5 minutes. To disable the idle time-out, enter **0**. (When you disable the idle time-out, the connection is not terminated automatically).
Internet IP Address	

Manage the Internet Settings Manually

(Continued)

Field	Description
Get Dynamically from ISP	Your ISP uses DHCP to assign your IP address. Your ISP automatically assigns these addresses.
Use Static IP Address	Enter the IP address, IP subnet mask, and gateway IP address that your ISP assigned you for static IP address service. The gateway is the ISP router to which your modem connects.
Domain Name Server (DNS) Address The DNS server is used to look up site addresses based on their domain names.	
Get Automatically from ISP	Your ISP uses DHCP to assign your DNS servers. Your ISP automatically assigns this address.
Use These DNS Servers	If you know that your ISP does not automatically transmit DNS addresses to the modem during login, select this option and enter the IP address of your ISP primary DNS server. If a secondary DNS server address is available, enter it also.
NAT (Network Address Translation) NAT allows computers on your home network to share the modem Internet connection. NAT is enabled by default because it is required in most situations.	
Enable	NAT is enabled. This is the default setting. Leave this setting if no reason to disable NAT exists.
Disable	NAT is disabled.
Router MAC Address The Ethernet MAC address that the modem uses on the Internet port. Some ISPs register the MAC address of the network interface card in your computer when your account is first opened. They accept traffic only from the MAC address of that computer. This feature allows your modem to use your computer's MAC address (also called cloning).	
Use Default Address	Use the default MAC address.
Use Computer MAC Address	The modem captures and uses the MAC address of the computer that you are now using. You must use the one computer that is registered by the ISP.
Use This MAC Address	Enter the MAC address that you want to use. By default, the field displays the MAC address of the Internet port.

12. Click the **Apply** button.

Your settings are saved.

13. Click the **Test** button to test your Internet connection.

If the NETGEAR website does not display within one minute, see *Troubleshoot the Internet Connection* on page 97.

Specify an IPv6 Internet Connection

The modem supports different types of IPv6 Internet connections for which you can specify the settings manually.

IPv6 Internet Connections and IPv6 Addresses

The modem can support an IPv6 Internet connection through the following connection types:

- **6to4 tunnel**. For more information, see *Set Up an IPv6 6to4 Tunnel Internet Connection* on page 47.
- **Pass-through**. For more information, see *Set Up an IPv6 Pass Through Internet Connection* on page 49.
- **Fixed**. For more information, see *Set Up an IPv6 Fixed Internet Connection* on page 49.
- **Auto Config**. For more information, see *Use Auto Config for an IPv6 Internet Connection* on page 51.

Which connection type you must use depends on your IPv6 ISP. Follow the directions that your IPv6 ISP gave you.

- If your ISP did not provide details, use the 6to4 tunnel connection type (see *Set Up an IPv6 6to4 Tunnel Internet Connection* on page 47).
- If your Internet connection does not use pass-through or a fixed IP address but is IPv6, use the Auto Config connection type, which lets the modem autoconfigure its IPv6 connection (see *Use Auto Config for an IPv6 Internet Connection* on page 51).

When you enable IPv6 and select any connection type other than IPv6 pass-through, the modem starts the stateful packet inspection (SPI) firewall function on the DSL interface. The modem creates connection records and checks every inbound IPv6 packet. If the inbound packet is not destined to the modem itself and the modem does not expect to receive such a packet, or the packet is not in the connection record, the modem blocks this packet. This function works in two modes: In secured mode, the modem inspects both TCP and UDP packets. In open mode, the modem inspects UDP packets only.

IPv6 addresses are denoted by eight groups of hexadecimal quartets that are separated by colons. You can reduce any four-digit group of zeros within an IPv6 address to a single zero or omit it. The following errors invalidate an IPv6 address:

- More than eight groups of hexadecimal quartets
- More than four hexadecimal characters in a quartet
- More than two colons in a row

Set Up an IPv6 6to4 Tunnel Internet Connection

The remote relay router is the device to which your modem creates a 6to4 tunnel. Make sure that the IPv4 Internet connection is working before you apply the 6to4 tunnel settings for the IPv6 connection.

▶ **To set up an IPv6 Internet connection by using a 6to4 tunnel:**

1. Launch a web browser from a computer that is connected to the network.
2. Enter **http://www.routerlogin.net**.

A login window opens.

3. Enter the modem user name and password.

The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

The BASIC Home page displays.

4. Select **ADVANCED > Advanced Setup > IPv6**.

The Basic Settings page displays.

5. From the **Internet Connection Type** menu, select **6to4 Tunnel**.

The modem automatically detects the information in the Router's IPv6 Address on LAN field. This field shows the IPv6 address that is acquired for the modem's LAN interface. The number after the slash (/) is the length of the prefix, which is also indicated by the underline (_) under the IPv6 address. If no address is acquired, the field displays Not Available.

6. Select a Remote 6to4 Relay Router radio button:

- **Auto**. Your modem uses any remote relay modem that is available on the Internet. This is the default setting.
- **Static IP Address**. Enter the static IPv4 address of the remote relay modem. Your IPv6 ISP usually provides this address.

7. Select an IP Address Assignment radio button:

- **Use DHCP Server**. This method passes more information to LAN devices but some IPv6 systems might not support the DHCv6 client function.
- **Auto Config**. This is the default setting.

This setting specifies how the modem assigns IPv6 addresses to the devices on your home network (the LAN).

8. (Optional) Select the **Use This Interface ID** check box and specify the interface ID to be used for the IPv6 address of the modem's LAN interface.

If you do not specify an ID here, the modem generates one automatically from its MAC address.

9. Click the **Apply** button.

   Your settings are saved.

Set Up an IPv6 Pass Through Internet Connection

In pass-through mode, the modem functions as a Layer 2 Ethernet switch with two ports (LAN and WAN Ethernet ports) for IPv6 packets. The modem does not process any IPv6 header packets.

▶**To set up a pass-through IPv6 Internet connection:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Advanced Setup > IPv6**.

   The Basic Settings page displays.

5. From the **Internet Connection Type** menu, select **Pass Through**.

   The page adjusts, but no additional fields display.

6. Click the **Apply** button.

   Your settings are saved.

Set Up an IPv6 Fixed Internet Connection

▶**To set up a fixed IPv6 Internet connection:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Advanced Setup > IPv6**.

   The Basic Settings page displays.

5. From the **Internet Connection Type** menu, select **Fixed**.

IPv6

| ✕ Cancel | Apply ▶ |

| Internet Connection Type | Fixed ▾ |

WAN Setup

IPv6 Address/Prefix Length

☐ : ☐ : ☐ : ☐ : ☐ : ☐ : ☐ / ☐

Default IPv6 Gateway

☐ : ☐ : ☐ : ☐ : ☐ : ☐ : ☐

Primary DNS Server

☐ : ☐ : ☐ : ☐ : ☐ : ☐ : ☐

Secondary DNS Server

☐ : ☐ : ☐ : ☐ : ☐ : ☐ : ☐

LAN Setup

IP Address Assignment

○ Use DHCP Server

◉ Auto Config

IPv6 Address/Prefix Length

☐ : ☐ : ☐ : ☐ : ☐ : ☐ : ☐ / ☐

IPv6 Filtering   ◉ Secured ○ Open

6. Configure the fixed IPv6 addresses for the WAN connection:

- **IPv6 Address/Prefix Length**. The IPv6 address and prefix length of the modem's WAN interface.

- **Default IPv6 Gateway**. The IPv6 address of the default IPv6 gateway for the modem's WAN interface.

- **Primary DNS Server**. The primary DNS server that resolves IPv6 domain name records for the modem.

- **Secondary DNS Server**. The secondary DNS server that resolves IPv6 domain name records for the modem.

Note If you do not specify the DNS servers, the modem uses the DNS servers that are configured for the IPv4 Internet connection on the Internet Setup page. (See *Manually Set Up an ADSL Internet Connection* on page 29 or *Manually Set Up a VDSL Internet Connection* on page 38.)

---

7. Select an IP Address Assignment radio button:
- **Use DHCP Server**. This method passes more information to LAN devices but some IPv6 systems might not support the DHCv6 client function.
- **Auto Config**. This is the default setting.

This setting specifies how the modem assigns IPv6 addresses to the devices on your home network (the LAN).

8. In the **IPv6 Address/Prefix Length** fields, specify the static IPv6 address and prefix length of the modem's LAN interface.

If you do not specify an ID here, the modem generates one automatically from its MAC address.

9. Click the **Apply** button.
    Your settings are saved.

Use Auto Config for an IPv6 Internet Connection

►**To set up an IPv6 Internet connection through autoconfiguration:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.
    A login window opens.

3. Enter the modem user name and password.
    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.
    The BASIC Home page displays.

4. Select **ADVANCED > Advanced Setup > IPv6**.
    The Basic Settings page displays.

5. From the **Internet Connection Type** menu, select **Auto Config**.
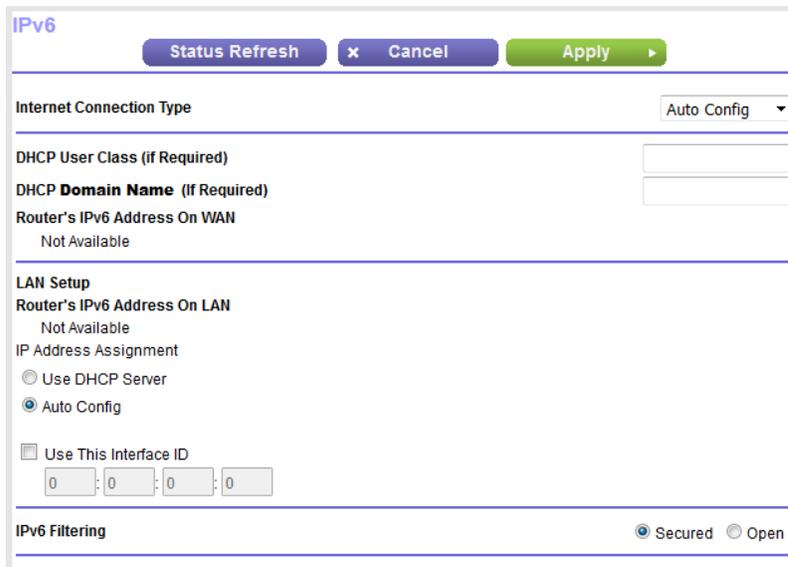
The modem automatically detects the information in the following fields:

*   **Router's IPv6 Address on WAN**. This field shows the IPv6 address that is acquired for the modem's WAN (or Internet) interface. The number after the slash (/) is the length of the prefix, which is also

indicated by the underline (_) under the IPv6 address. If no address is acquired, the field displays Not Available.

- **Router's IPv6 Address on LAN**. This field shows the IPv6 address that is acquired for the modem's LAN interface. The number after the slash (/) is the length of the prefix, which is also indicated by the underline (_) under the IPv6 address. If no address is acquired, the field displays Not Available.

6. (Optional) In the **DHCP User Class (If Required)** field, enter a host name.

   Most people can leave this field blank, but if your ISP gave you a specific host name, enter it here.

7. (Optional) In the **DHCP Domain Name (If Required)** field, enter a domain name.

   You can type the domain name of your IPv6 ISP. Do not enter the domain name for the IPv4 ISP here. For example, if your ISP's mail server is mail.xxx.yyy.zzz, type xxx.yyy.zzz as the domain name. If your ISP provided a domain name, type it in this field.

8. Select an IP Address Assignment radio button:

   - **Use DHCP Server**. This method passes more information to LAN devices but some IPv6 systems might not support the DHCv6 client function.
   - **Auto Config**. This is the default setting.

   This setting specifies how the modem assigns IPv6 addresses to the devices on your home network (the LAN).

9. (Optional) Select the **Use This Interface ID** check box and specify the interface ID to be used for the IPv6 address of the modem's LAN interface.

   If you do not specify an ID here, the modem generates one automatically from its MAC address.

10. Click the **Apply** button.

    Your settings are saved.

Manage the MTU Size

The maximum transmission unit (MTU) is the largest data packet a network device transmits.

MTU Concepts

When one network device communicates across the Internet with another, the data packets travel through many devices along the way. If a device in the data path uses a lower maximum transmission unit (MTU) setting than the other devices, the data packets must be split or "fragmented" to accommodate the device with the smallest MTU.

The best MTU setting for NETGEAR equipment is often the default value. In some situations, changing the value fixes one problem but causes another.

Leave the MTU unchanged unless one of these situations occurs:

- You experience problems connecting to your ISP or other Internet service, and the technical support of either the ISP or NETGEAR recommends changing the MTU setting. These web-based applications might require an MTU change:

  - A secure website that does not open or displays only part of a web page
  - Yahoo email

- You use VPN and experience severe performance problems.
- You used a program to optimize MTU for performance reasons and now you are experiencing connectivity or performance problems.

If you suspect an MTU problem, a common solution is to change the MTU to 1400. If you are willing to experiment, you can gradually reduce the MTU from the maximum value of 1500 until the problem goes away. The following table describes common MTU sizes and applications.

Table 2. Common MTU sizes

MTU	Application
1500	The largest Ethernet packet size. This setting is typical for connections that do not use PPPoE or VPN and is the default value for the modem.
1492	Used in PPPoE environments.
1472	Maximum size to use for pinging. (Larger packets are fragmented.)
1468	Used in some DHCP environments.
1460	Usable by AOL if you do not send or receive large email attachments, for example.
1458	Used in PPPoA environments.
1436	Used in PPTP environments or with VPN.

Change the MTU Size

⚠️ **WARNING:**

An incorrect MTU setting can cause Internet communication problems. For example, you might not be able to access certain websites, frames within websites, secure login pages, or FTP or POP servers. Change the MTU only if you are sure that it is necessary for your ISP connection.

▶ **To change the MTU size:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.
   A login window opens.

3. Enter the modem user name and password.
   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.
   The BASIC Home page displays.

4. Select **ADVANCED > Setup > WAN Setup**.
   The WAN Setup page displays.

5. In the **MTU Size** field, enter a value from 616 to 1500.
   The normal MTU (maximum transmit unit) value for most Ethernet networks is 1500 bytes or 1492 bytes for PPPoE connections.

6. Click the **Apply** button.
   Your settings are saved.

Manage the WAN and LAN Network Settings

4

This chapter describes how you can manage the WAN and LAN network settings of the modem. The chapter includes the following sections:

Manage the WAN Security Settings

The WAN security settings include port scan protection and denial of service (DoS) protection, which can protect your LAN against attacks such as Syn flood, Smurf Attack, Ping of Death, and many others. By default, DoS protection is enabled and a port scan is rejected.

You can also enable the modem to respond to a ping to its WAN (Internet) port. This feature allows your modem to be discovered. Enable this feature only as a diagnostic tool or if a specific reason exists.

▶**To change the default WAN security settings:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Setup > WAN Setup**.

   The WAN Setup page displays.

5. To enable a port scan and disable DoS protection, clear the **Disable Port Scan and DoS Protection** check box.

6. To enable the modem to respond to a ping, select the **Respond to Ping on Internet Port** check box.

7. Click the **Apply** button.

   Your settings are saved.

Manage NAT Filtering

Network Address Translation (NAT) determines how the modem processes inbound traffic. Secured NAT protects computers on the LAN from attacks from the Internet but might prevent some Internet games, point-to-point applications, or multimedia applications from working. Open NAT provides a much less secured firewall but allows almost all Internet applications to work. Secured NAT is the default setting.

▶**To change the default NAT filtering settings:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Setup > WAN Setup**.

The WAN Setup page displays.

5. Select a NAT Filtering radio button:

   • **Secured**. Provides a secured firewall to protect the computers on the LAN from attacks from the Internet but might prevent some Internet games, point-to-point applications, or multimedia applications from functioning. By default, the **Secured** radio button is selected.

   • **Open**. Provides a much less secured firewall but allows almost all Internet applications to function.

6. Click the **Apply** button.
   Your settings are saved.

Manage the SIP Application-Level Gateway

The application-level gateway (ALG) for the Session Initiation Protocol (SIP) is enabled by default for enhanced address and port translation. However, some types of VoIP and video traffic might not work well when the SIP ALG is enabled. For this reason, the modem provides the option to disable the SIP ALG.

►**To change the default SIP ALG setting:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.
   A login window opens.

3. Enter the modem user name and password.
   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.
   The BASIC Home page displays.

4. Select **ADVANCED > Setup > WAN Setup**.
   The WAN Setup page displays.

5. To disable the SIP ALG, select the **Disable SIP ALG** check box.
   The SIP ALG is enabled by default.

6. Click the **Apply** button.
   Your settings are saved.

Manage IGMP Proxying

IGMP proxying allows a computer on the local area network (LAN) to receive the multicast traffic it is interested in from the Internet. If you do not need this feature, leave it disabled, which is the default setting.

►**To enable IGMP proxying:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**
   A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **ADVANCED > Setup > WAN Setup**.

    The WAN Setup page displays.

5. Clear the **Disable IGMP Proxying** check box.

    By default, the **Disable IGMP Proxying** check box is selected and IGMP proxying is disabled.

6. Click the **Apply** button.

    Your settings are saved.

Manage the Modem's LAN IP Address Settings

The modem is preconfigured to use private IP addresses on the LAN side and to act as a DHCP server. The modem's default LAN IP configuration is as follows:

•   **LAN IP address**. 192.168.5.1 (This is the same as www.routerlogin.net and www.routerlogin.com.)

•   **Subnet mask**. 255.255.255.0

These addresses are part of the designated private address range for use in private networks and are suitable for most applications. The IP address and subnet mask identify which addresses are local to a specific device and which must be reached through a gateway or modem.

You might want to change these settings if attach a switch to the modem to expand the local network and you need a specific IP subnet on the network, or if competing subnets use the same IP scheme.

▶**To change the LAN IP address settings:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

    A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **ADVANCED > Setup > LAN Setup**.

5. In the **IP Address** field, enter the LAN IP address for the modem.

6. In the **IP Subnet Mask**, enter the LAN subnet mask for the modem.

7. Click the **Apply** button.

   Your settings are saved.

   If you changed the LAN IP address of the modem, you are disconnected when the changes take effect.

   To reconnect, close your browser, relaunch it, and log in to the modem at its new LAN IP address.

Manage the Router Information Protocol Settings

Router Information Protocol (RIP) lets the modem exchange routing information with other routers. By default, RIP is enabled in both directions (in and out) without a particular RIP version.

▶**To manage the RIP settings:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Setup > LAN Setup**.

   The LAN Setup page displays.

5. From the **RIP Direction** menu, select the RIP direction:

    •   **Both**. The modem broadcasts its routing table periodically and incorporates information that it receives. This is the default setting.

    •   **Out Only**. The modem broadcasts its routing table periodically but does not incorporate the RIP information that it receives.

    •   **In Only**. The modem incorporates the RIP information that it receives but does not broadcast its routing table.

6. From the **RIP Version** menu, select the RIP version:

    •   **Disabled**. The RIP version is disabled. This is the default setting.

    •   **RIP-1**. This format is universally supported. It is adequate for most networks, unless you are using an unusual network setup.

    •   **RIP-2**. This format carries more information. Both RIP-2B and RIP-2M send the routing data in RIP-2 format. RIP-2B uses subnet broadcasting. RIP-2M uses multicasting.

7. Click the **Apply** button.

    Your settings are saved.

Manage Reserved LAN IP Addresses

When you specify a reserved IP address for a computer on the LAN, that computer always receives the same IP address each time it accesses the modem's DHCP server.

Reserve a LAN IP Address

You can assign a reserved IP address to a computer or server that requires permanent IP settings.

► **To reserve an IP address:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

    A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **ADVANCED > Setup > LAN Setup**.

    The LAN Setup page displays.

5. In the Address Reservation section, click the **Add** button.

    The Address Reservation page displays.

6. Either select a device from the Address Reservation Table by selecting the corresponding radio button or specify the reserved IP address information:

    •   In the **IP Address** field, enter the IP address to assign to the computer or device.

Choose an IP address from the modem's LAN subnet, such as 192.168.5.x.
In the **MAC Address** field, enter the MAC address of the computer or device.

- In the **Device Name** field, enter the name of the computer or device.

7. Click the **Add** button.

The reserved address is entered into the table on the LAN Setup page.

The reserved address is not assigned until the next time the computer or device contacts the modem's DHCP server. Reboot the computer or device, or access its IP configuration and force a DHCP release and renew.

Change a Reserved IP Address

You can change a reserved IP address entry.

▶**To change a reserved IP address entry:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.
   A login window opens.

3. Enter the modem user name and password.
   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.
   The BASIC Home page displays.

4. Select **ADVANCED > Setup > LAN Setup**.
   The LAN Setup page displays.

5. In the Address Reservation section, select the radio button for the reserved address.

6. Click the **Edit** button.
   The Address Reservation page displays.

7. Change the settings.

8. Click the **Apply** button.
   Your settings are saved.

Remove a Reserved IP Address Entry

You can remove a reserved IP address entry.

▶**To remove a reserved IP address entry:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.
   A login window opens.

3. Enter the modem user name and password.

The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

The BASIC Home page displays.

4. Select **ADVANCED > Setup > LAN Setup**.

   The LAN Setup page displays.

5. In the Address Reservation section, select the radio button for the reserved address.

6. Click the **Delete** button.

   The address entry is removed.

Manage the DHCP Server Address Pool

By default, the modem acts as a Dynamic Host Configuration Protocol (DHCP) server. The modem assigns IP, DNS server, and default gateway addresses to all computers that are connected to its LAN. The assigned default gateway address is the LAN address of the modem.

These addresses must be part of the same IP address subnet as the modem's LAN IP address. The default DHCP address pool is 192.168.5.2–192.168.5.254.

The modem delivers the following parameters to any LAN device that requests DHCP:

- An IP address from the range that you define

- Subnet mask

- Gateway IP address (the modem's LAN IP address)

- DNS server IP address (the modem's LAN IP address)

▶**To specify the pool of IP addresses that the modem assigns:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Setup > LAN Setup**.

5. Make sure that the **Use Router as DHCP Server** check box is selected.

   This check box is selected by default.

6. Specify the range of IP addresses that the modem assigns:

   - In the **Starting IP Address** field, enter the lowest number in the range.
     This IP address must be in the same subnet as the modem. By default, the starting IP address is 192.168.5.2.

   - In the **Ending IP Address** field, enter the number at the end of the range of IP addresses.
     This IP address must be in the same subnet as the modem. By default, the ending IP address is 192.168.5.254.

7. Click the **Apply** button.

   Your settings are saved.

Disable the Built-In DHCP Server

By default, the modem functions as a DHCP server. The modem assigns IP, DNS server, and default gateway addresses to all devices connected to the LAN. The assigned default gateway address is the LAN address of the modem.

You can use another device on your network as the DHCP server or specify the network settings of all your computers.

> **Note** If you disable the DHCP server and no other DHCP server is available on your network, you must set your computer IP addresses manually so that they can access the modem.

►**To disable the built-in DHCP server:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Setup > LAN Setup**.

   The LAN Setup page displays.

5. Clear the **Use Router as DHCP Server** check box.

6. Click the **Apply** button.

   Your settings are saved.

Change the Modem's Device Name

The modem's device name is DM200.

This device name displays in a file manager when you browse your network.

►**To change the modem's device name:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Setup > LAN Setup**.

   The LAN Setup page displays.

5. In the **Device Name** field, enter a new name.

6. Click the **Apply** button.

   Your settings are saved.

Set Up and Manage Custom Static Routes

Static routes provide detailed routing information to your modem. Typically, you do not need to add static routes. You must configure static routes only for unusual cases such as when you use multiple routers or multiple IP subnets on your network.

As an example of when a static route is needed, consider the following case:

- Your primary Internet access is through an ADSL modem to an ISP.

- You use an ISDN router on your home network for connecting to the company where you are employed. This router's address on your LAN is 192.168.5.100.

- Your company's network address is 134.177.0.0.

When you first configured your modem, two implicit static routes were created. A default route was created with your ISP as the gateway and a second static route was created to your local network for all 192.168.5.x addresses. With this configuration, if you attempt to access a device on the 134.177.0.0 network, your modem forwards your request to the ISP. The ISP forwards your request to the company where you are employed, and the request is likely to be denied by the company's firewall.

In this case, you must define a static route, instructing your modem that 134.177.0.0 is accessed through the ISDN modem at 192.168.5.100. Here is an example:

- Through the destination IP address and IP subnet mask, specify that this static route applies to all 134.177.x.x addresses.

- Through the gateway IP address, specify that all traffic for these addresses is forwarded to the ISDN modem at 192.168.5.100.

- A metric value of 1 works fine because the ISDN modem is on the LAN.

Set Up a Static Route

You can add a static route to a destination IP address and specify the subnet mask, gateway IP address, and metric.

▶**To set up a static route:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Advanced Setup > Static Routes**.

   The Static Routes page displays.

5. Click the **Add** button.

6. To make the route private, select the **Private** check box.

   A private static route is not reported in RIP.

7. To prevent the route from becoming active after you click the **Apply** button, clear the **Active** check box.

   In some situations, you might want to set up a static route but keep it disabled until a later time. By default, the **Active** check box is selected and a route becomes active after you click the **Apply** button.

8. Enter the settings as described in the following table.

Field	Description
Destination IP Address	Enter the IP address for the final destination of the route.
IP Subnet Mask	Enter the IP subnet mask for the final destination of the route. If the destination is a single host, enter **255.255.255.255**.
Gateway IP Address	Enter the IP address of the gateway. The IP address of the gateway must be on the same LAN segment as the modem.
Metric	Enter a number from 1 through 15. This value represents the number of routers between your network and the destination. Usually, a setting of 2 or 3 works, but if this is a direct connection, set it to **1**.

9. Click the **Apply** button.

   Your settings are saved. The static route is added to the table on the Static Routes page.

Change a Static Route

You can change an existing static route.

▶**To change a static route:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **ADVANCED > Advanced Setup > Static Routes**.

    The Static Routes page displays.

5. In the Static Routes table, select the radio button for the route.

6. Click the **Edit** button.

    The page adjusts.

7. Change the settings for the route.

    For more information about the settings, see *Set Up a Static Route* on page 65.

8. Click the **Apply** button.

    The route is updated in the table on the Static Routes page.

Remove a Static Route

You can remove an existing static route that you no longer need.

▶**To remove a static route:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

    A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **ADVANCED > Advanced Setup > Static Routes**.

    The Static Routes page displays.

5. In the Static Routes table, select the radio button for the route.

6. Click the **Delete** button.

    The route is removed from the table on the Static Routes page.

Manage the Modem and Monitor the Traffic   5

This chapter describes how you can manage the settings for administering and maintaining your modem and monitor the network.

The chapter includes the following sections:

Disable the Modem's Routing Features and Use the Modem as a DSL Modem Only

By default, the modem functions as both a modem and a router with a limited number of routing features. You can change the operation mode to a mode in which the modem functions as a DSL modem only (also referred to as bridge mode) with its routing features such as DHCP and firewall features such as NAT disabled.

A typical use of such a mode is when the modem is used only for DSL connectivity behind a WiFi router that provides routing, firewall, WiFi, and other features and to which you can connect multiple devices.
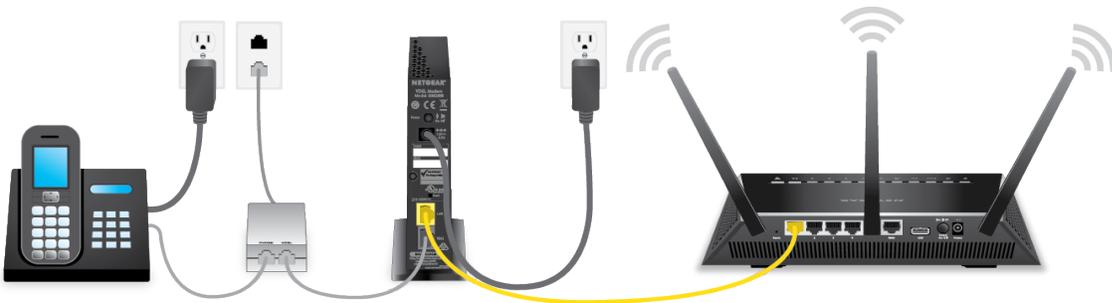
Figure 6. Modem cabling for DSL service and a WiFi router

IMPORTANT:
After you disable the modem's routing features and the modem functions as a DSL modem only, you can access the modem only through a fixed IP address, which is 192.168.5.1. Therefore, make sure that IP address 192.168.5.1 is not assigned to another device on your network.

▶**To disable the modem's routing features and configure the modem as a DSL modem only:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Advanced Setup > Device Mode**.

   The Device Mode page displays.

5. From the **Device Mode** menu, select **Modem (Modem only)**.

   By default, the selection is Router (Modem + Router).

6. Click the **Apply** button.

   Your settings are saved. The modem restarts.

   You can now access the modem only through a fixed IP address, which is 192.168.5.1.

You can now disconnect the computer from the modem and use the Ethernet cable to connect the yellow LAN port on the modem to the WAN port on a router.

Connect computers or WiFi devices to the router. On the computer or WiFi device that is connected to the router, log in to the router and set it up. For information about how to set up the router, see the documentation that came with the router.

Reenable the Modem's Routing Features

If you disabled the modem's routing features and used the modem as a DSL modem only, you can reenable modem's routing features.

▶**To reenable the modem's routing features:**

1. With your computer still attached to the router (and *not* to the modem), manually change your computer's fixed IP address.

   Use the following settings:

   - **IP address**. 192.168.5.x (note that the last digit can be 2 to 250)

   - **Subnet mask**. 255.255.255.0

   If your computer detects an IP conflict, change the last digit of the IP address. For more information about how to change your computer's fixed IP address, see the documentation that came with your computer.

2. Disconnect the router from the modem.

3. Connect a computer to the yellow LAN port on the modem using an Ethernet cable.

4. Launch a web browser and enter **http://192.168.5.1** in the address field of the browser.

   A login window opens.

5. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

6. Select **ADVANCED > Advanced Setup > Device Mode**.

   The Device Mode page displays.

7. From the **Device Mode** menu, select **Router (Modem + Router)**.

8. Click the **Apply** button.

   Your settings are saved. The modem restarts.

   The modem's routing features are reenabled and you can now again use the default **http://www.routerlogin.net** to access the modem.

For information about setting up the modem for DSL service, see *Set Up the Modem for DSL Service and Access the Modem* on page 13.

Update the Firmware of the Modem

The modem firmware is stored in flash memory.

You can check to see if new firmware is available and update the modem to the new firmware. You can also visit the NETGEAR support website, download the firmware manually, and update the modem to the new firmware.

Check for New Firmware and Update the Modem

For you to check for new firmware, the modem must be connected to the Internet.

▶**To check for new firmware and update your modem:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Administration > Firmware Upgrade**.

   The Firmware Upgrade page displays.

5. Click the **Check** button.

   The modem detects new firmware if any is available and displays a message asking if you want to download and install it.

6. To download and install the new firmware, click the **Yes** button.

   The modem locates the firmware, downloads it, and begins the update.

   ⚠️ **WARNING:**
   To avoid the risk of corrupting the firmware, do not interrupt the update. For example, do not close the browser, click a link, or load a new page. Do not turn off the modem. Wait until the modem finishes restarting and the Power LED turns solid green.

   A progress bar shows the progress of the firmware upload process. The firmware upload process takes several minutes. When the upload is complete, your modem restarts.

7. Verify that the modem runs the new firmware version:

   a. Launch a web browser from a computer that is connected to the network.

   b. Enter **http://www.routerlogin.net**.
      A login window opens.

   c. Enter the modem user name and password.

The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

The BASIC Home page displays. The firmware version is stated in the top right, under the **Logout** button.

8. Read the new firmware release notes to determine whether you must reconfigure the modem after updating.

Manually Upload New Firmware and Update the Modem

Downloading firmware and updating the modem are two separate tasks that are combined in the following procedure.

▶**To download new firmware manually and update your modem:**

1. Visit *downloadcenter.netgear.com*, locate the support page for your product, and download the new firmware.

2. Read the new firmware release notes to determine whether you must reconfigure the modem after updating.

3. Launch a web browser from a computer that is connected to the network.

4. Enter **http://www.routerlogin.net**.

   A login window opens.

5. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

6. Select **ADVANCED > Administration > Firmware Upgrade**.

   The Firmware Upgrade page displays.

7. Locate and select the firmware file on your computer:

   a. Click the **Browse** button.

   b. Navigate to the firmware file.

      The file ends in `.img`. An example of a firmware file name is `DM200-V1.0.0.34.img`.

   c. Select the firmware file.

8. Click the **Upload** button.

> ⚠️ **WARNING:**
> **To avoid the risk of corrupting the firmware, do not interrupt the upload. For example, do not close the browser, click a link, or load a new page. Do not turn off the modem. Wait until the modem finishes restarting and the Power LED turns solid green.**

A progress bar shows the progress of the firmware upload process. The firmware upload process takes several minutes. When the upload is complete, your modem restarts.

9. Verify that the modem runs the new firmware version:

   a. Launch a web browser from a computer that is connected to the network.

   b. Enter **http://www.routerlogin.net**.
      A login window opens.

   c. Enter the modem user name and password.

      The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.
      The BASIC Home page displays. The version firmware is stated in the top right, under the **Logout** button.

Manage the Configuration File of the Modem

The configuration settings of the modem are stored within the modem in a configuration file. You can back up (save) this file to your computer or restore it.

Back Up the Settings

You can save a copy of the current configuration settings.

▶ **To back up the modem's configuration settings:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.
   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Administration > Backup Settings**.
   The Backup Settings page displays.

5. Click the **Back Up** button.

6. Choose a location to store the file on your computer.
   The name of the backup file is `NETGEAR_DM200.cfg`.

7. Follow the directions of your browser to save the file.

Restore the Settings

If you backed up the configuration file, you can restore the configuration from this file.

▶ **To restore configuration settings that you backed up:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Administration > Backup Settings**.

   The Backup Settings page displays.

5. Click the **Browse** button and navigate to and select the saved configuration file.

   The name of the backup file from which you can restore the configuration is `NETGEAR_DM200.cfg`

6. Click the **Restore** button.

   The configuration is uploaded to the modem. When the restoration is complete, the modem reboots. This process takes about two minutes.

> ⚠ **WARNING:**
>
> **To avoid the risk of corrupting the firmware, do not interrupt the restoration. For example, do not close the browser, click a link, or load a new page. Do not turn off the modem. Wait until the modem finishes restarting and the Power LED turns solid green.**

Change the admin Password

If you used the NETGEAR installation assistant to set up the modem, you had to change the default password that you use to log in to the modem to a more secure password. This is the password that you use to log in to the modem with the user name admin. If you did not use the NETGEAR installation assistant, we recommend that you do change the default password. If you already changed the password, you change it again.

The ideal password contains no dictionary words from any language and contains uppercase and lowercase letters, numbers, and symbols. It can be up to 30 characters.

▶ **To change the password for the user name admin:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **ADVANCED > Administration > Set Password**.

5. Enter the old password.

6. Enter the new password twice.

7. Click the **Apply** button.

    Your settings are saved.

Set Up Password Recovery

If you used the NETGEAR installation assistant to set up the modem, you had to enable password recovery. If you did not use the NETGEAR installation assistant or password recovery is not enabled for another reason, we recommend that you do enable password recovery. Then you can recover the password if it is forgotten. This recovery process is supported in Internet Explorer, Firefox, and Chrome browsers, but not in the Safari browser.

▶**To set up password recovery:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

    A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **ADVANCED > Administration > Set Password**.

    The Set Password page displays.

5. Select the **Enable Password Recovery** check box.

6. Select two security questions and provide answers to them.

7. Click the **Apply** button.

    Your settings are saved.

Recover the admin Password

If you used the NETGEAR installation assistant to set up the modem, you had to enable password recovery. (For information about setting up password recovery, see *Set Up Password Recovery* on page 75.)

The following procedure works only if you did set up password recovery. The recovery process is supported in Internet Explorer, Firefox, and Chrome browsers, but not in the Safari browser.

▶**To recover your password:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **www.routerlogin.net**.

    A login window opens.

3. Click the **Cancel** button.

    If password recovery is enabled, you are prompted to enter the serial number of the modem. The serial number is on the product label of the modem.

4. Enter the serial number of the modem.

5. Click the **Continue** button.

    A page displays requesting the answers to your security questions.

6. Enter the saved answers to your security questions.

7. Click the **Continue** button.

    A page displays your recovered password.

8. Click the **Login again** button.

    A login window opens.

9. With your recovered password, log in to the modem.

Return the Modem to Its Factory Default Settings

Under some circumstances (for example, if you lost track of the changes that you made to the modem settings or you move the modem to a different network), you might want to erase the configuration and reset the modem to factory default settings.

If you do not know the current IP address of the modem, first try to use an IP scanner application to detect the IP address before you reset the modem to factory default settings.

To reset the modem to factory default settings, you can use either the **Reset** button on the back of the modem or the Erase function. However, if you cannot find the IP address or lost the password to access the modem, you must use the **Reset** button.

After you reset the modem to factory default settings, the user name is admin, the password is password, the LAN IP address is 192.168.5.1 (which is the same as www.routerlogin.net), the DHCP server is enabled, and the device mode is Router (Modem + Router). For a list of factory default settings, see *Factory Settings* on page 105.

Use the Reset Button

⚠️ **CAUTION:**

This process erases all settings that you configured in the modem.

▶**To reset the modem to factory default settings:**

1. On the back of the modem, locate the recessed **Reset** button above the yellow LAN port.

2. Using a straightened paper clip, press and hold the **Reset** button for at least five seconds.

3. Release the **Reset** button.

    The Power LED starts blinking amber and the configuration is reset to factory default settings. When the reset is complete, the modem reboots. This process takes about two minutes.

⚠️ **WARNING:**

To avoid the risk of corrupting the firmware, do not interrupt the reset. For example, if you are connected to the modem's web page, do not close the browser, click a link, or load a new page. Do not turn off the modem. Wait until the modem finishes restarting and the Power LED turns solid green.

Erase the Settings

CAUTION:

This process erases all settings that you configured in the modem.

▶ **To erase the settings:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

    A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **ADVANCED > Administration > Backup Settings**.

    The Backup Settings page displays.

5. Click the **Erase** button.

    The configuration is reset to factory default settings. When the reset is complete, the modem reboots. This process takes about two minutes.

WARNING:

To avoid the risk of corrupting the firmware, do not interrupt the reset. For example, do not close the browser, click a link, or load a new page. Do not turn off the modem. Wait until the modem finishes restarting and the Power LED turns solid green.

View the Status and Statistics of the Modem

You can view information about the modem and its ports and the status of the Internet connection. In addition, you can view traffic statistics for the various ports.

View Information About the Modem and the Internet Port Settings

You can view modem information and the Internet port status.

▶ **To view information about the modem and the Internet port settings:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

A login window opens.

3. Enter the modem user name and password.

The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

The BASIC Home page displays.

4. Select **ADVANCED > ADVANCED Home**.

Router Information		Internet Port	
Hardware Version	DM200	MAC Address	DC:EF:09:EF:71:B9
Firmware Version	V1.0.0.34	IP Address	192.168.100.146
GUI Language Version	V1.0.0.257	Connection	DHCP
Operation Mode	Router	IP Subnet Mask	255.255.255.0
LAN Port		Domain Name Server	192.168.100.1
MAC Address	DC:EF:09:EF:71:B8		
IP Address	192.168.5.1		
DHCP Server	On		
Reboot		Show Statistics Connection Status	
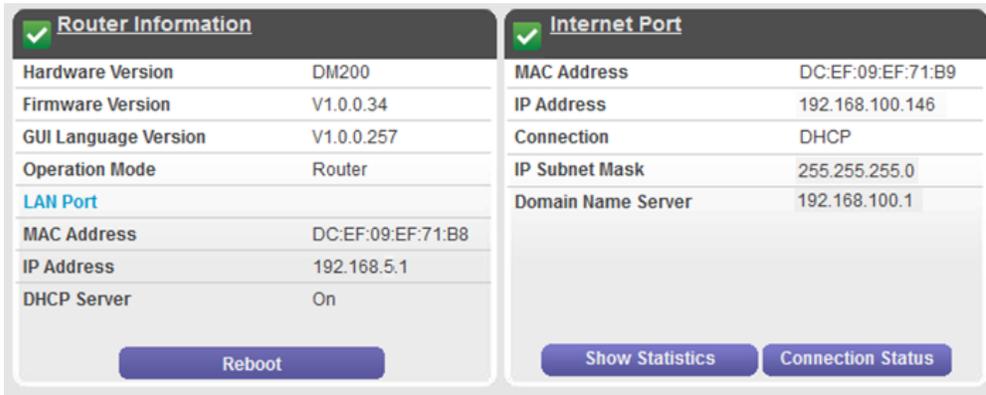
The information onscreen uses the following color coding:

- A green flag ✓ indicates that Internet connection is fine and no problems exist.

- A red X ✖ indicates that configuration problems exist for Internet connection or the connection is down.

- An amber exclamation mark ⚠ indicates that the Internet port is configured but cannot get an Internet connection (for example, because the cable is disconnected) or that another situation that requires your attention occurred.

The following table describes the fields of the two panes on the ADVANCED Home page.

Field	Description
Router Information	
Hardware Version	The modem model.
Firmware Version	The version of the modem firmware. If you upgrade the firmware on the modem, the version changes.
GUI Language Version	The version of the modem language for its web pages. If you upgrade the firmware on modem, the language version might change too.

(Continued)

Field	Description
Operation Mode	Displays the operation mode (also called the device mode) of the modem: • **Router**. The selection from the **Device Mode** menu on the Device Mode page is Router (Modem + Router). This is the default mode. • **Modem**. The selection from the **Device Mode** menu on the Device Mode page is Modem (Modem only). For information about changing the mode, see *Disable the Modem's Routing Features and Use the Modem as a DSL Modem Only* on page 69 or *Reenable the Modem's Routing Features* on page 70.
LAN Port The settings of the LAN port. For information about how to configure the LAN settings, see *Manage the Modem's LAN IP Address Settings* on page 58 and *Disable the Built-In DHCP Server* on page 63.	
MAC Address	The Media Access Control (MAC) address. This address is the unique physical address that is assigned to the Ethernet LAN port.
IP Address	The IP address that the Ethernet LAN port uses. The default IP address is 192.168.5.1.
DHCP Server	Displays whether the DHCP server of the modem is enabled for devices that are attached to the LAN.
Internet Port The settings of Internet port. For information about how to configure the Internet settings, see one of the following sections: • *Set Up the Modem for DSL Service and Access the Modem* on page 13 • *Manually Set Up an ADSL Internet Connection* on page 29 • *Manually Set Up a VDSL Internet Connection* on page 38	
MAC Address	The Media Access Control (MAC) address. This address is the unique physical address that is assigned to the Internet port.
IP Address	The IP addresses that the Internet interface uses. If the field does not display an address or displays 0.0.0.0 as the address, the modem did not obtain a connection for the interface.
Connection	The type of connection that the Internet interface uses. A connection can be a PPPoE, PPPoA, or DHCP connection or a fixed IP address connection.

(Continued)

Field	Description
IP Subnet Mask	The IP subnet mask that the Internet port uses.
Domain Name Server	The IP address of the Domain Name System (DNS) server that the Internet uses.

View the Port Traffic Statistics

You can view the traffic statistics for the ports of the modem.

▶**To view the traffic statistics for the ports of the modem:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > ADVANCED Home**.

   The ADVANCED Home page displays.

5. In the Internet Port pane, click the **Show Statistics** button.

   A pop-up window opens.

   The following table describes the fields and columns of the pop-up window.

Field or Column	Description
System Up Time	The time elapsed since the modem was last restarted.
Port	The statistics for the WAN (DSL) port and LAN (Ethernet) port. For each port, the page displays the information that is described in this table.
Status	The link status of the port.
TxPkts	The number of packets that were transmitted on this port since reset or manual clear.
RxPkts	The number of packets that were received on this port since reset or manual clear.
Collisions	The number of packets that collided on this port since reset or manual clear.
Tx B/s	The number of bytes per second that were transmitted on this port since reset or manual clear.
Rx B/s	The number of bytes per second that were received on this port since reset or manual clear.

Manage the Modem and Monitor the Traffic

(Continued)

Field or Column	Description
Up Time	The time elapsed since this port acquired the link.
DSL Link The pop-up window displays the downstream and upstream DSL link information that is described in this table.	
Connection Speed	The downstream and upstream connection speed rates in Mbps.
Line Attenuation	The downstream and upstream line attenuation (LATN) in dB. The LATN expresses the signal quality.
Noise Margin	The downstream and upstream signal-to-noise ratio margin (SNRM) in dB. The SNRM expresses the signal quality in relation to interference.
Poll Interval	The interval at which the statistics are updated on this page.

Change the Traffic Statistics Polling Frequency

You can change the polling frequency or stop traffic polling.

▶ **To change the traffic statistics polling frequency or stop polling:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > ADVANCED Home**.

   The ADVANCED Home page displays.

5. In the Internet Port pane, click the **Show Statistics** button.

   A pop-up window displays.

6. Change the polling frequency or stop polling:

   • To change the polling frequency, do the following:

      a. In the **Poll Interval** field, enter a time in seconds.

      b. Click the **Set Interval** button.

   • To stop polling, click the **Stop** button.

View, Renew, or Release the TCP/IP Internet Connection

You can view information about a TCP/IP Internet connection of the modem and renew or release such a connection. This information displays only if the modem connects to the ISP network over a TCP/IP connection. Such a connection usually functions over an Ethernet WAN connection.

▶ **To view the status of the TCP/IP Internet connection or renew or release the TCP/IP Internet connection:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > ADVANCED Home**.

   The ADVANCED Home page displays.

5. In the Internet Port pane, click the **Connection Status** button.

   The Connection Status pop-up window opens. The fields that display depend on the type of Internet connection.

   The following table describes the fields for a TCP/IP connection with DHCP.

Field	Description
IP Address	The IP address that is assigned by the ISP to the modem.
Subnet Mask	The subnet mask that is assigned by the ISP to the modem.
Default Gateway	The IP address of the default gateway of the ISP that the modem communicates with.
DHCP Server	The IP address of the DHCP server of the ISP that issues the IP address to the modem.
DNS Server	The IP address of the Domain Name System (DNS) server of the ISP that provides translation of network names to IP addresses.
Lease Obtained	The time at which the modem obtained the DHCP lease. (The type of DHCP connection determines whether this field displays onscreen.)
Lease Expires	The time at which the DHCP lease expires. (The type of DHCP connection determines whether this field displays onscreen.)

6. To renew the Internet connection when the connection is active, click the **Renew** button.

7. To terminate the Internet connection when the connection is active, click the **Release** button.

8. Click the **Close Window** button.

   The pop-up window closes.

View, Establish, or Terminate the PPPoE or PPPoA Internet Connection

You can view information about a PPPoE or PPPoA Internet connection of the modem and establish or terminate such a connection. This information displays only if the modem connects to the ISP network over a PPPoE or PPPoA connection. A PPPoE connection can function over an ADSL or VDSL connection. A PPPoA connection can function only over a VDSL connection.

▶ **To view the status of the PPPoE or PPPoA Internet connection or establish or terminate the PPPoE or PPPoA Internet connection:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > ADVANCED Home**.

   The ADVANCED Home page displays.

5. In the Internet Port pane, click the **Connection Status** button.

   The Connection Status pop-up window opens. The fields that display depend on the type of Internet connection.

   The following table describes the fields for a PPPoE connection.

Field	Description
Connection Time	The time elapsed since the connection was established.
Connection Status	The status can be Connected or Disconnected.
Negotiation	The negotiation can be a series of dashes, which indicates that the connection is not established, or successful (Success).
Authentication	The authentication can be a series of dashes, which indicates that the connection is not established, or successful (Success).
IP Address	The IP address that is assigned by the ISP to the modem.
Subnet Mask	The subnet mask that is assigned by the ISP to the modem.

6. To establish the Internet connection when the connection is down, click the **Connect** button.

7. To terminate the Internet connection when the connection is active, click the **Disconnect** button.

8. Click the **Close Window** button.

   The pop-up window closes.

View Devices Currently on the Network

You can view the active wired device that is attached to the modem. If you attach a switch to the modem, you can view the active devices that are connected to the switch.

▶**To display the wired device or devices that are attached to the modem:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

    A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **Attached Devices**.

    The Attached Devices page displays the IP address, MAC address, and device name of the attached device or devices.

Set the Time Zone

You can set the time zone and enable or disable the daylight saving time adjustment.

▶**To set the time zone:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

    A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **ADVANCED > Security > Schedule**.

    The Schedule page displays.

5. From the **Time Zone** menu, select your time zone.

6. If you live in an area that observes daylight saving time, select the **Automatically adjust for daylight savings time** check box.

7. Click the **Apply** button.

    Your settings are saved.

    If the modem synchronized its internal clock with a time server on the Internet and you selected the correct time zone, the **Current Time** field displays the correct date and time.

Manage the Activity Log

The log is a detailed record of the websites that users on your network accessed or attempted to access and many other modem actions. Up to 256 entries are stored in the log. You can manage which activities are logged.

View or Clear the Logs

In addition to viewing the logs, you can clear them.

▶ **To view or clear the logs:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Administration > Logs**.
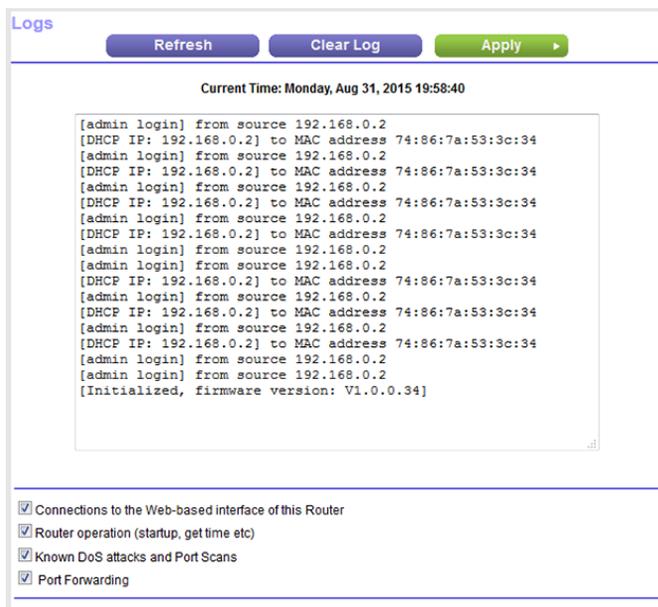
   The Logs page shows the following information:

   • **Action**. The action that occurred, such as whether Internet access was blocked or allowed.

   • **Source**. The name, IP address, or MAC address of the target device, application, or website for this log entry.

- **Target**. The name, IP address, or MAC address of the target device, application, or website for this log entry.

- **Date and Time**. The date and time at which the action occurred.

5. To refresh the log entries onscreen, click the **Refresh** button.

6. To clear the log entries, click the **Clear Log** button.

Specify Which Activities Are Logged

You can specify which activities are logged. These activities display in the log.

▶ **To manage which activities are logged:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Administration > Logs**.

   The Logs page displays.

5. Select the check boxes that correspond to the activities that you want to be logged.

   By default, all check boxes are selected.

6. Clear the check boxes that correspond to the activities that you do not want to be logged.

7. Click the **Apply** button.

   Your settings are saved.

Manage the Modem Remotely

The remote management feature lets you access your modem securely over the Internet to view or change its settings. You must know the modem's WAN IP address to use this feature.

Note Be sure to change the password for the user name admin to a secure password. The ideal password contains no dictionary words from any language and contains uppercase and lowercase letters, numbers, and symbols. It can be up to 30 characters. See *Change the admin Password* on page 74.

▶ **To set up remote management:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

A login window opens.

3. Enter the modem user name and password.

The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

The BASIC Home page displays.

4. Select **ADVANCED > Advanced Setup > Remote Management**.

5. Select the **Turn Remote Management On** check box.

6. In the Allow Remote Access By section, specify the external IP addresses to be allowed to access the modem's remote management.

Note For enhanced security, restrict access to as few external IP addresses as practical.

Select one of the following radio buttons and configure the options accordingly:

- To allow access from a single IP address on the Internet, select the **Only This Computer** radio button. Enter the IP address to be allowed access.
- To allow access from a range of IP addresses on the Internet, select the **IP Address Range** radio button. Enter a beginning and ending IP address to define the allowed range.
- To allow access from any IP address on the Internet, select the **Everyone** radio button. This radio button is selected by default.

7. Specify the port number for accessing the modem's web pages.

The default is 8443, which is a common alternate for HTTPS. For greater security, enter a custom port number for accessing the modem's web pages remotely. Choose a number from 1024 to 65535, but do not use the number of any common service port.

8. Click the **Apply** button.

Your settings are saved.

Manage Port Forwarding 6

You can use port forwarding to set up rules for Internet traffic for services and applications. You need networking knowledge to set up these features.

If you connect the modem to a switch to expand the local network and include a server in your local network, you can allow certain types of incoming traffic to reach the server. For example, you might want to make a local web server, FTP server, or game server visible and available to the Internet. You can specify the server for an application. The modem can then forward incoming traffic with specific protocols to a server or computer on your local network.

This chapter includes the following sections:

Forward Incoming Traffic for a Default Service or Application

You can forward traffic for a default service or application to a computer on your network.

▶ **To forward incoming traffic for a default service or application:**

1. Decide which type of service, application, or game you want to provide.

2. Find the local IP address of the computer on your network that will provide the service.

   The server computer must always receive the same IP address. To specify this setting, use the reserved IP address feature. See *Manage Reserved LAN IP Addresses* on page 60.

3. Launch a web browser from a computer that is connected to the network.

4. Enter **http://www.routerlogin.net**.

   A login window opens.

5. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

6. Select **ADVANCED > Advanced Setup > Port Forwarding**.

7. From the **Service Name** menu, select the service or application.

   If the service or application that you want to add is not in the list, create a port forwarding rule with a custom service or application (see *Add a Port Forwarding Rule With a Custom Service or Application* on page 91).

8. In the **Server IP Address** field, enter the IP address of the computer that must provide the service or that runs the application.

9. Click the **Add** button.

   Your settings are saved and the rule is added to the table.

Add a Port Forwarding Rule With a Custom Service or Application

The modem lists default services and applications that you can use in port forwarding rules. If the service or application is not predefined, you can add a port forwarding rule with a custom service or application.

▶**To add a port forwarding rule with a custom service or application:**

1. Find out which port number or range of numbers the service or application uses.

   You can usually find this information by contacting the publisher of the service or application or through user groups or news groups.

2. Launch a web browser from a computer that is connected to the network.

3. Enter **http://www.routerlogin.net**.

   A login window opens.

4. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

5. Select **ADVANCED > Advanced Setup > Port Forwarding**.

   The Port Forwarding page displays.

6. Click the **Add Custom Service** button.

7. Specify a new port forwarding rule with a custom service or application as described in the following table.

Field	Description
Service Name	Enter the name of the custom service or application.
Protocol	Select the protocol (**TCP** or **UDP**) that is associated with the service or application. If you are unsure, select **TCP/UDP**.

(Continued)

Field	Description
External port range	Enter one or more port numbers, one or more ranges of port numbers, or a combination of both. Separate ports and port ranges with commas, for example, 30, 50 - 60, 65500 - 65510.
Internal port range	Specify the internal ports by one of these methods: • Leave the **Use the same port range for Internal port** check box selected. • In the **Internal port range** field, enter one or more port number, one or more ranges of port numbers, or a combination of both. Separate ports and port ranges with commas, for example, 30, 50 - 60, 65500 - 65510.
Internal IP Address	Either enter a LAN IP address in the **Internal IP address** field or select the radio button for an attached device that is listed in the table.

8. Click the **Apply** button.

   Your settings are saved. The rule is added to the table on the Port Forwarding page.

9. To arrange the table entries by internal IP address, click the **Arrange by internal IP** button.

   The lowest internal IP address displays at the top and the highest at the bottom.

Change a Port Forwarding Rule

You can change an existing port forwarding rule.

▶**To change a port forwarding rule:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > Advanced Setup > Port Forwarding**.
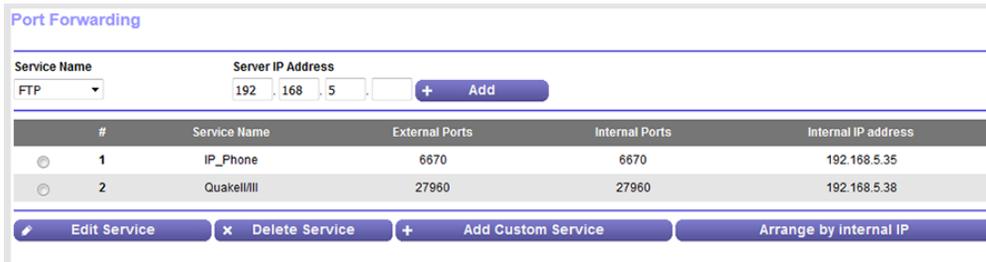
The previous figure shows two custom port forwarding rules.

5. In the table, select the radio button for the service or application name.

6. Click the **Edit Service** button.

    The Ports - Custom Services page displays.

7. Change the settings.

    For information about the settings, see *Add a Port Forwarding Rule With a Custom Service or Application* on page 91.

8. Click the **Apply** button.

    Your settings are saved. The changed rule displays in the table on the Port Forwarding page.

Remove a Port Forwarding Rule

You can remove a port forwarding rule that you no longer need.

►**To remove a port forwarding rule:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

    A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **ADVANCED > Advanced Setup > Port Forwarding**.

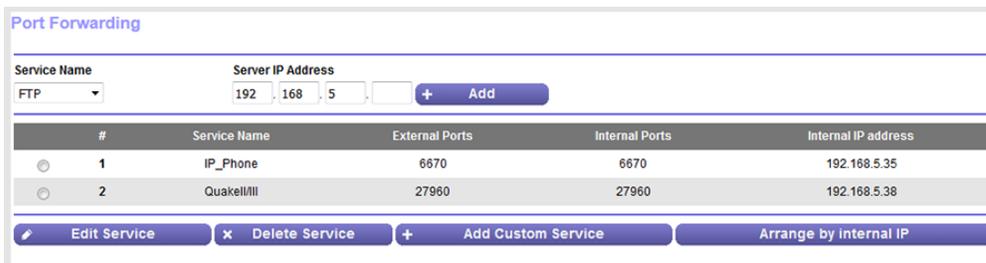The previous figure shows two custom port forwarding rules.

5. In the table, select the radio button for the service or application name.

6. Click the **Delete Service** button.

    The rule is removed from the table.

Application Example: Make a Local Web Server Public

If you host a web server on your local network, you can use port forwarding to allow web requests from anyone on the Internet to reach your web server.

▶ **To make a local web server public:**

1. Assign your web server either a fixed IP address or a dynamic IP address using DHCP address reservation.

    In this example, your modem always gives your web server an IP address of 192.168.5.33.

2. On the Port Forwarding page, configure the modem to forward the HTTP service to the local address of your web server at **192.168.5.33**.

    HTTP (port 80) is the standard protocol for web servers.

How the Modem Implements the Port Forwarding Rule

The following sequence shows the effects of a port forwarding rule:

1. When you enter the URL www.example.com in your browser, the browser sends a web page request message with the following destination information:

    *   **Destination address**. The IP address of www.example.com, which is the address of your modem.

    *   **Destination port number**. 80, which is the standard port number for a web server process.

2. The modem receives the message and finds your port forwarding rule for incoming port 80 traffic.

3. The modem changes the destination IP address in the message to 192.168.5.123 and sends the message to that computer.

4. Your modem performs Network Address Translation (NAT) on the source IP address and sends the reply through the Internet to the computer that sent the web page request.

Troubleshooting 7

This chapter provides information to help you diagnose and solve problems you might experience with your modem. If you do not find the solution here, check the NETGEAR support site at *support.netgear.com* for product and contact information.

The chapter contains the following sections:

- *Quick Tips for Troubleshooting* on page 96
- *Troubleshoot With the LEDs* on page 96
- *You Cannot Log In to the Modem* on page 97
- *Troubleshoot the Internet Connection* on page 97
- *Changes Are Not Saved* on page 101
- *Troubleshoot Your Network Using the Ping Utility* on page 101

Quick Tips for Troubleshooting

If your network is unresponsive or does not function normally, try restarting your network:

1. Turn off and unplug the modem.

2. Plug in the modem, turn it on, and wait two minutes.
   If network problems still occur, make sure that your ISP does not require you to use the MAC address of the computer that was used to initially register the ISP account. If your ISP does require that you do this, you must change the modem MAC address that the modem uses. For more information, see one of the following sections:

   -
   -

If you cannot connect over an Ethernet cable to the modem, try the following:

- Make sure that the Ethernet cable is securely plugged in.

- Make sure that your computer or device does not use a static IP address but is configured to receive an IP address automatically with DHCP. (For most devices, DHCP is the default setting.)

Troubleshoot With the LEDs

When you turn on the power, the LEDs light as described here:

1. The LAN LED 🖧 lights solid green for about 12 seconds and then turns off.

2. When the LAN LED turns off, the Power LED ⏻ lights solid amber for about 40 seconds and then turns solid green, indicating that the startup procedure is complete and the modem is ready.

3. When the Power LED lights solid green, verify that the DSL LED ∞ is either solid green or is blinking amber and then lights solid green.

You can use the LEDs for troubleshooting. For more information, see the following sections:

-
-
-

Power LED Is Off

If the Power LED ⏻ and other LEDs are off when your modem is turned on, do the following:

- Make sure that the **Power On/Off** button on the back is in the on position, that is, it is pushed in.

- Make sure that the power cord is correctly connected to your modem and that the power supply adapter is correctly connected to a functioning power outlet.

- Make sure that you are using the 12V, 0.5A power adapter that NETGEAR supplied for this product.

If the error persists, a hardware problem might exist. For recovery instructions or help with a hardware problem, contact technical support at *netgear.com/support*.

Power LED Remains Solid Amber

During the startup process, the Power LED ⏻ lights solid amber for about 40 seconds and then turns solid green, indicating that the startup procedure is complete and the modem is ready.

If the Power LED remains solid amber and does not turn solid green, a failure occurred or the modem is malfunctioning.

If the Power LED does not turn solid green, do the following:

1. Turn the power off and back on and wait several minutes to see if the modem recovers.

2. If the modem does not recover, press and hold the **Reset** button to return the modem to its factory settings.

If the error persists, a hardware problem might exist. For recovery instructions or help with a hardware problem, contact technical support at *netgear.com/support*.

You Cannot Log In to the Modem

If you are unable to log in to the modem from a computer and use the modem web pages, check the following:

- Check the Ethernet connection between the computer and the modem.

- Make sure that the IP address of your computer is on the same subnet as the modem. If you are using the recommended addressing scheme, your computer's address is in the range of 192.168.5.2 to 192.168.5.254.

- Make sure that your computer can reach the modem's DHCP server. Recent versions of Windows and Mac OS generate and assign an IP address if the computer cannot reach a DHCP server. These autogenerated addresses are in the range of 169.254.x.x. If your IP address is in this range, check the connection from the computer to the modem and reboot your computer.

- If your modem's IP address was changed and you do not know the current IP address, clear the modem's configuration to factory defaults. This sets the modem's IP address to 192.168.5.1. For more information, see *Return the Modem to Its Factory Default Settings* on page 76 and *Factory Settings* on page 105.

- Make sure that Java, JavaScript, or ActiveX is enabled in your browser. If you are using Internet Explorer, click the **Refresh** button to be sure that the Java applet is loaded.

- Try quitting the browser and launching it again.

- Make sure that you are using the correct login information. The user name is **admin**, and the default password is **password**. Make sure that Caps Lock is off when you enter this information.

Troubleshoot the Internet Connection

If your modem cannot access the Internet, check the DSL connection, then the WAN TCP/IP connection.

Troubleshoot the DSL Link

If your modem is unable to access the Internet, first determine whether the DSL link with the service provider is working. The DSL LED indicates the state of this connection.

DSL LED Is Solid Green

If the DSL LED ∞ lights solid green, the DSL connection is good. You can be confident that the service provider connected your line correctly and that your wiring is correct.

DSL LED Is Blinking Amber

If the DSL LED ∞ is blinking amber, your modem is attempting to make a DSL connection with the service provider. If the modem establishes a DSL connection, the DSL LED turns solid green. This connection process generally lasts several minutes.

If the DSL LED does not turn solid green, disconnect all telephones on the line. If this solves the problem, reconnect the telephones one at a time, being sure to use a microfilter on each telephone. If the microfilters are connected correctly, you can connect all your telephones.

If disconnecting telephones does not result in a solid green DSL LED, a problem with your wiring might exist. If the telephone company tested the DSL signal at your network interface device (NID), then wiring in your house might be of poor quality.

DSL LED Is Off

If the DSL LED ∞ is off, disconnect all telephones on the line. If this solves the problem, reconnect the telephones one at a time, being sure to use a microfilter on each telephone. If the microfilters are connected correctly, you can connect all your telephones.

If disconnecting telephones does not result in a blinking amber or solid green DSL LED, check the following:

- Check to see that the telephone company made the connection to your line and tested it.

- Verify that you are connected to the correct telephone line. If more than one phone line is installed, be sure that you are connected to the line with the DSL service. It might be necessary to use a swapper if your DSL signal is on pins 1 and 4 or the RJ-11 jack. The modem uses pins 2 and 3.

Obtain an Internet IP Address

If the modem cannot access the Internet, see if the modem can obtain an Internet IP address from the ISP. Unless the modem is assigned a static IP address, the modem requests an IP address from the ISP. You can determine whether the request was successful using the modem's web pages.

▶**To check the Internet IP address:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

The BASIC Home page displays.

4. Select **ADVANCED > ADVANCED Home**.

   The ADVANCED Home page displays.

5. In the Internet Port pane, check to see that the IP Address field shows a valid IP address.

   If the field shows 0.0.0.0, your modem did not obtain an IP address from your ISP.

If your modem cannot obtain an IP address from the ISP, the problem might be one of the following:

- Your Internet service provider (ISP) might require a login program. Ask your ISP whether they require PPP over Ethernet (PPPoE) or some other type of login.

- If you selected a login program, the service name, user name, or password could be incorrectly set. Before you make any changes, verify that the modem can get a PPPoE or PPPoA connection (see *Verify the PPPoE or PPPoA Connection* on page 99).

- Your ISP might check for your computer's host name. Assign the computer host name of your ISP account as the account name. For more information, see one of the following sections:

  - *Manually Set Up an ADSL Internet Connection* on page 29

  - *Manually Set Up a VDSL Internet Connection* on page 38

- If your ISP allows only one Ethernet MAC address to connect to Internet and checks for your computer's MAC address, inform your ISP that you bought a new network device and ask them to use the modem's MAC address.

- Configure your modem to clone your computer's MAC address. For more information, see one of the following sections:

  - *Manually Set Up an ADSL Internet Connection* on page 29

  - *Manually Set Up a VDSL Internet Connection* on page 38

Verify the PPPoE or PPPoA Connection

If you use a PPPoE or PPPoA connection to your ISP, make sure that the connection works.

▶**To verify that your PPPoE or PPPoA connection is working:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

   A login window opens.

3. Enter the modem user name and password.

   The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

   The BASIC Home page displays.

4. Select **ADVANCED > ADVANCED Home**.

The ADVANCED Home page displays.

5. In the Internet Port pane, check to see that the IP Address field shows a valid IP address and that the Connection field shows PPPoE or PPPoA.

6. In the Internet Port pane, click the **Connection Status** button.

    The Connection Status page displays.

7. Check the following:

    •   The Connection Status field shows Connected.
    •   The Connection Time field does *not* show 00:00:00.

If the PPPoE or PPPoA connection is not working, make sure that your service name, user name, and password are set correctly. Or your ISP might not be able to provide an Internet connection. For more information, see one of the following sections:

•   *Specify an ADSL Connection With a Login and PPPoA or PPPoE Service* on page 34

•   *Specify a VDSL Connection With a Login and PPPoE Service* on page 42

If your settings are correct, try to reestablish the PPPoE or PPPoA connection (see *Reestablish the PPPoE or PPPoA Connection* on page 100).

Reestablish the PPPoE or PPPoA Connection

If your PPPoE or PPPoA configuration information is correct (see *Verify the PPPoE or PPPoA Connection* on page 99), your PPPoE or PPPoA connection is working.

▶**To reconnect if your PPPoE or PPPoA connection does not function:**

1. Launch a web browser from a computer that is connected to the network.

2. Enter **http://www.routerlogin.net**.

    A login window opens.

3. Enter the modem user name and password.

    The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

    The BASIC Home page displays.

4. Select **ADVANCED > ADVANCED Home**.

    The ADVANCED Home page displays.

5. In the Internet Port pane, click the **Connection Status** button.

    The Connection Status page displays.

6. Click the **Connect** button.

    The modem attempts to reconnect.

If you cannot connect after several minutes, you might be using an incorrect service name, user name, or password. Or your ISP might not be able to provide an Internet connection. For more information, see one of the following sections:

> **Note** Unless you connect manually, the modem does not authenticate using PPPoE or PPPoA until data is transmitted to the network.

Troubleshoot Internet Browsing

If your modem can obtain an IP address but your computer is unable to load any web pages from the Internet, it might be for one of the following reasons:

- Your computer might not recognize any DNS server addresses.
  A DNS server is a host on the Internet that translates Internet names (such as www addresses) to numeric IP addresses. Typically your ISP provides the addresses of one or two DNS servers for your use. If you entered a DNS address when you set up the modem, reboot your computer and verify the DNS address. Alternatively, you can configure your computer manually with DNS addresses, as explained in your operating system documentation.

- The modem might not be configured as the TCP/IP router on your computer.
  For information about TCP/IP problems, see *Troubleshoot Your Network Using the Ping Utility* on page 101.
  If your computer obtains its information from the modem by DHCP, reboot the computer and verify the modem address.

Changes Are Not Saved

If the modem does not save the changes that you make on a modem web page, do the following:

- When entering configuration settings, always click the **Apply** button before moving to another page or tab or your changes are lost.

- Click the **Refresh** or **Reload** button in the web browser. It is possible that the changes occurred but that the old settings remain in the web browser's cache.

Troubleshoot Your Network Using the Ping Utility

Most network devices and routers contain a ping utility that sends an echo request packet to the designated device. The device then responds with an echo reply. You can easily troubleshoot a network using the ping utility in your computer or workstation.

Test the LAN Path to Your Modem

You can ping the modem from your computer to verify that the LAN path to your modem is set up correctly.

▶ **To ping the modem from a Windows computer:**

1.   From the Windows taskbar, click the **Start** button and select **Run**.

2.   In the field provided, enter **ping** followed by the IP address of the modem, as in this example:
     ping 192.168.5.1

3.   Click the **OK** button.
     A message such as the following one displays:

     `Pinging <IP address> with 32 bytes of data`

     If the path is working, you see this message:

     `Reply from < IP address >: bytes=32 time=NN ms TTL=xxx`

     If the path is not working, you see this message:

     `Request timed out`

If the path is not functioning correctly, one of the following problems might be occurring:

• Wrong physical connections
   Make sure that the LAN LED is lit.
   If your modem and computer are connected through a separate router or Ethernet switch, make sure
   that the link LEDs are lit for the router or switch ports that are connected to your computer and modem.

• Wrong network configuration
   Verify that the Ethernet card driver software and TCP/IP software are both installed and configured on
   your computer.
   Verify that the IP address for your modem and your computer are correct and that the addresses are
   on the same subnet.

Test the Path From Your Computer to a Remote Device

After you verify that the LAN path works correctly, test the path from your computer to a remote device.

▶ **To test the path from your computer to a remote device:**

1.   From the Windows toolbar, click the **Start** button and select **Run**.

2.   In the field provided, enter **ping -n 10** *IP address*.
     IP address is the IP address of a remote device such as your ISP's DNS server.

If the path is functioning correctly, replies as described in *Test the LAN Path to Your Modem* on page 101
display. If you do not receive replies, do the following:

• Check to see that the IP address of your modem is listed as the default router in your computer. If the
   IP configuration of your computer is assigned by DHCP, this information is not visible in your computer's
   Network Control Panel. Verify that the IP address of the modem is listed as the default router.

• Check to see that the network address of your computer (the portion of the IP address specified by the
   netmask) is different from the network address of the remote device.

- If your ISP assigned a host name to your computer, enter that host name as the account name. For more information, see one of the following sections:

    - *Specify an ADSL Connection Without a Login* on page 30

    - *Specify a VDSL Connection Without a Login* on page 38

- Your ISP might be rejecting the Ethernet MAC addresses of all but one of your computers. Many broadband ISPs restrict access by allowing traffic only from the MAC address of your modem, but some additionally restrict access to the MAC address of a single computer connected to that modem. In this case, configure your modem to clone or spoof the MAC address from the authorized computer. For more information, see one of the following sections:

    - *Manually Set Up an ADSL Internet Connection* on page 29

    - *Manually Set Up a VDSL Internet Connection* on page 38

Supplemental Information

A

This appendix covers the following topics:

- *Factory Settings* on page 105
- *Technical Specifications* on page 106

Factory Settings

You can reset the modem to the factory default settings, which are shown in the following table.

For more information about resetting the modem to its factory settings, see *Return the Modem to Its Factory Default Settings* on page 76.

Table 3. DM200 modem factory default settings

Feature	Default Setting
Router login	
User login URL	www.routerlogin.net (or www.routerlogin.com or 192.168.5.1)
User name (case-sensitive)	admin
Login password (case-sensitive)	password
Device mode	Router (Modem + Router) For more information, see *Disable the Modem's Routing Features and Use the Modem as a DSL Modem Only* on page 69.
Internet connection	
WAN MAC address	Use default hardware address
WAN MTU size	Determined by the protocol that is used for the Internet connection For more information, see *Manage the MTU Size* on page 52.
Port speed	Autosensing
Local network (LAN)	
LAN IP address	192.168.5.1
Subnet mask	255.255.255.0
DHCP server	Enabled
DHCP range	192.168.5.2 to 192.168.5.254
DHCP starting IP address	192.168.5.2
DHCP ending IP address	192.168.5.254

Table 3. DM200 modem factory default settings (Continued)

Feature	Default Setting
Time zone	• North America: Pacific Standard Time • Europe: GMT • Other continents: Varies by region
Time adjusted for daylight saving time	Disabled

Technical Specifications

Table 4. DM200 modem specifications

Feature	Description
Data and routing protocols	TCP/IP, RIP-1, RIP-2, DHCP, PPPoE, PPPoA
Power adapter	• North America: 120V, 60 Hz, input • UK, Australia: 240V, 50 Hz, input • Europe: 230V, 50 Hz, input • All regions: 12V, 0.5A output
Dimensions	5.21 x 4.28 x 1.88 in. (132.46 x 108.7 x 48 mm)
Weight	0.36 lb (163 g)
Operating temperature	0° to 40°C (32º to 104ºF)
Operating humidity	90% maximum relative humidity, noncondensing
Electromagnetic emissions	• EN 55022:2010/AC:2011, Class B • CISPR 22:2008, Class B • AS/NZS CISPR 22:2009/Amdt 1:2010, Class B
LAN	One RJ-45 ports supporting 10BASE-T and 100BASE-TX

Table 4. DM200 modem specifications (Continued)

Feature	Description
DSL	One RJ-11 asynchronous DSL (ADSL/VDSL) port
xDSL data rate	- VDSL2, VDSL, ADSL2+, ADSL2, and ADSL multimode - Up to 100 Mbps, both upstream and downstream - Supports Annex A - Supports all VDSL2 profiles: 8a, 8b, 8c, 8d, 12a, 12b, and 17a - VDSL2 interface compliance with ITU-T993.2 - G.992.1 (G.dmt), Annex A compliant - G.992.2 (G.lite), Annex A compliant - ANSI T1.413 compliant - G.992.3 (ADSL2) compliant, Annex A - G.992.5 (ADSL2+) compliant, supporting Annex A - G.993.2 compliant, Annex A - G.993.5 (Vectoring) - ATM and PTM (dual-priority)