NETGEAR ®

N600 Wireless Dual Band Router WNDR3400v3

User Manual

This manual is for certification purposes only. The art, screen captures, and device might vary from the actual device.

Technical Support

Thank you for choosing NETGEAR. To register your product, get the latest product updates, or get support online, visit us at http://support.netgear.com.

Phone (US & Canada only): 1-888-NETGEAR

Phone (Other Countries): See Support information card.

Trademarks

Statement of Conditions

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Hardware Setup

Getting to know your router

The N600 Wireless Dual Band Router WNDR3400v3 provides you with an easy and secure way to set up a wireless home network with fast access to the Internet over a high-speed digital subscriber line (DSL). It has is compatible with all major DSL Internet service providers, lets you block unsafe Internet content and applications, and protects the devices (PCs, gaming consoles, and so on) that you connect to your home network.

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

If you have not already set up your new router using the installation guide that comes in the box, this chapter walks you through the hardware setup. *Chapter 3, Genie Basic Settings*, explains how to set up your Internet connection.

This chapter contains the following sections:

- *Unpack Your Router*
- *Position Your Router*
- *Hardware Features*
- *Cable Your Router*
- *Verify the Cabling*

Unpack Your Router

Open the box and remove the router, cables, and installation guide.

Router stand
(two pieces)

N600 wireless router
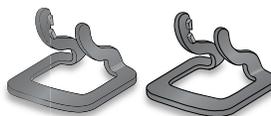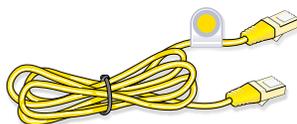
Ethernet cable

Power adapter

Your box should contain the following items:

- N600 Wireless Dual Band Router WNDR3400v3
- Router stand (two pieces)
- AC power adapter (plug varies by region)
- Category 5 (Cat 5) Ethernet cable
- Installation guide with cabling and router setup instructions

If any parts are incorrect, missing, or damaged, contact your NETGEAR dealer. Keep the carton and original packing materials, in case you need to return the product for repair.

Position Your Router

The router lets you access your network from virtually anywhere within the operating range of your wireless network. However, the operating distance or range of your wireless connection can vary significantly depending on the physical placement of your router. For example, the thickness and number of walls the wireless signal passes through can limit the range. For best results, place your router:

- Near the center of the area where your computers and other devices operate, and preferably within line of sight to your wireless devices.
- So it is accessible to an AC power outlet and near Ethernet cables for wired computers.
- In an elevated location such as a high shelf, keeping the number of walls and ceilings between the router and your other devices to a minimum.
- Away from electrical devices that are potential sources of interference, such as ceiling fans, home security systems, microwaves, PCs, or the base of a cordless phone or 2.4 GHz cordless phone.

- Away from any large metal surfaces, such as a solid metal door or aluminum studs. Large expanses of other materials such as glass, insulated walls, fish tanks, mirrors, brick, and concrete can also affect your wireless signal.

When you use multiple access points, it is better if adjacent access points use different radio frequency channels to reduce interference. The recommended channel spacing between adjacent access points is 5 channels (for example, use Channels 1 and 6, or 6 and 11).

Prepare the Router

To ensure proper heat dissipation and for router stability, it is important that you connect the stand and place your router in an upright position.

➢ **To prepare your router for installation:**

1. Carefully peel off the protective film covering the top and sides of your router.
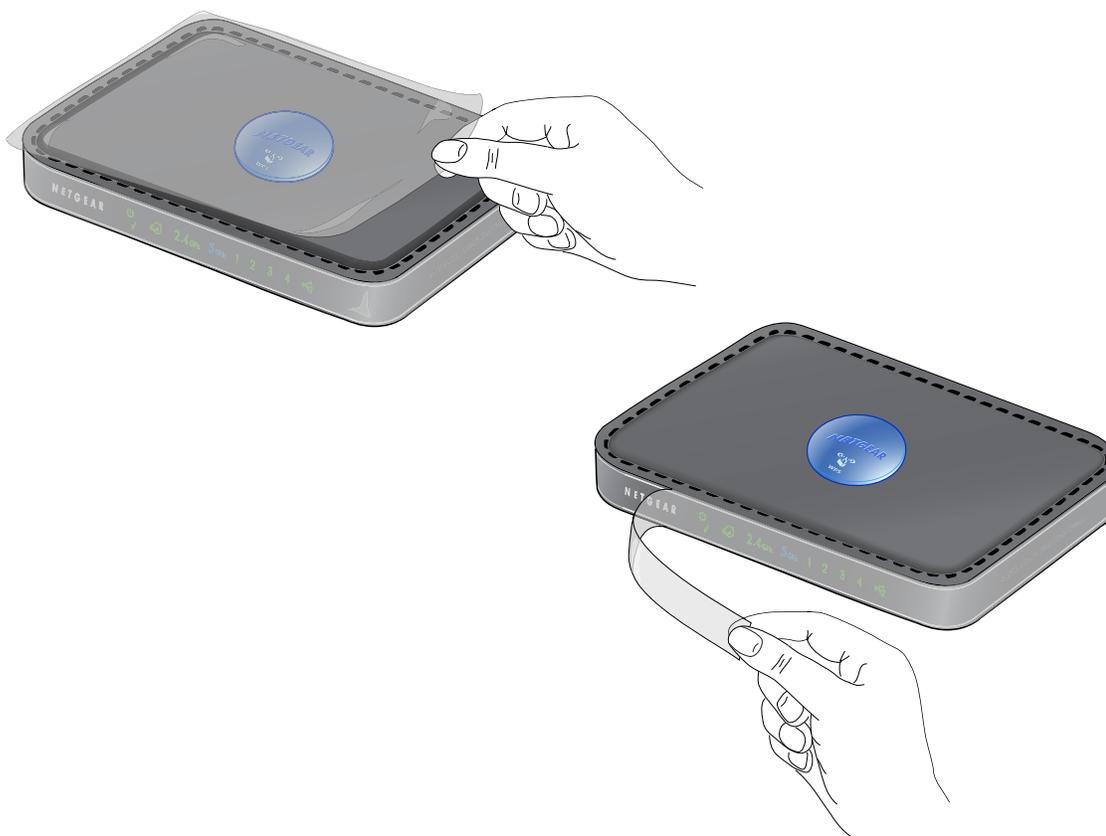
2. Set up your N600 Wireless Dual Band Router by inserting the tabs of the stand (supplied with your router) into the slots on the bottom of your router as shown.
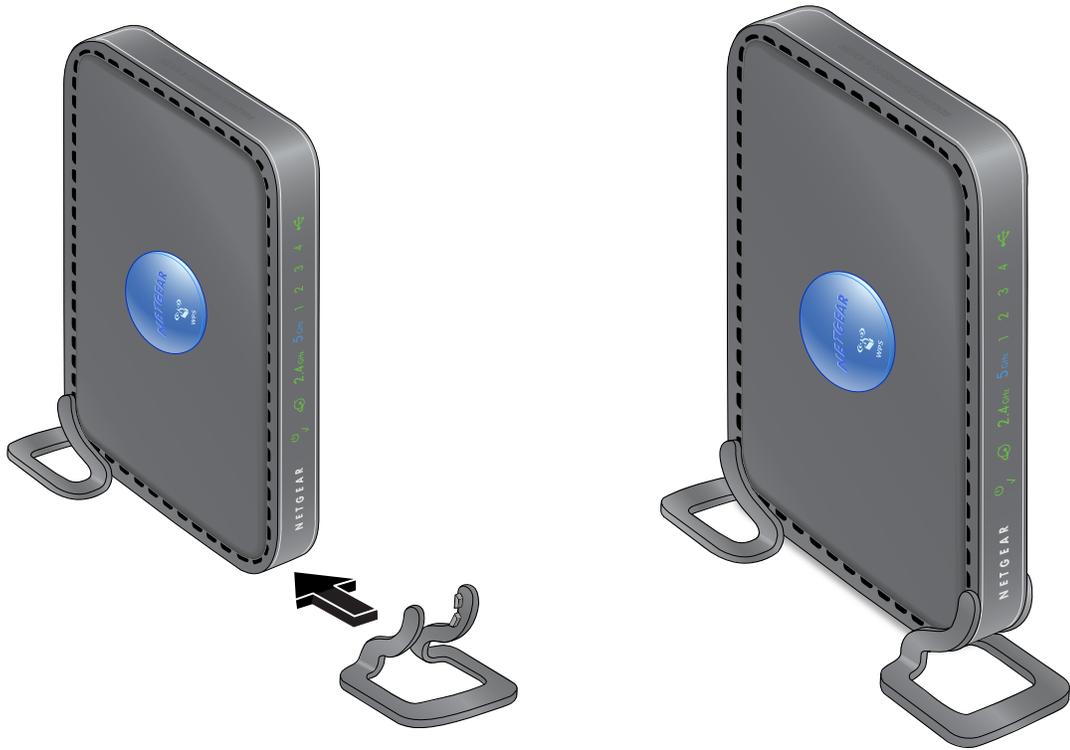
3. Place your router in a suitable area for installation (near an AC power outlet and accessible to the Ethernet cables for your wired computers).

Hardware Features

Before you cable your router, take a moment to become familiar with the label and the front and back panels. Pay particular attention to the LEDs on the front panel.

Front Panel

The router front panel has the status LEDs and icons shown in the following figure.

WPS button

USB LED

LAN Ports 1-4 LEDs

5 GHz LED

2.4 GHz LED

Internet LED

Power/Test LED
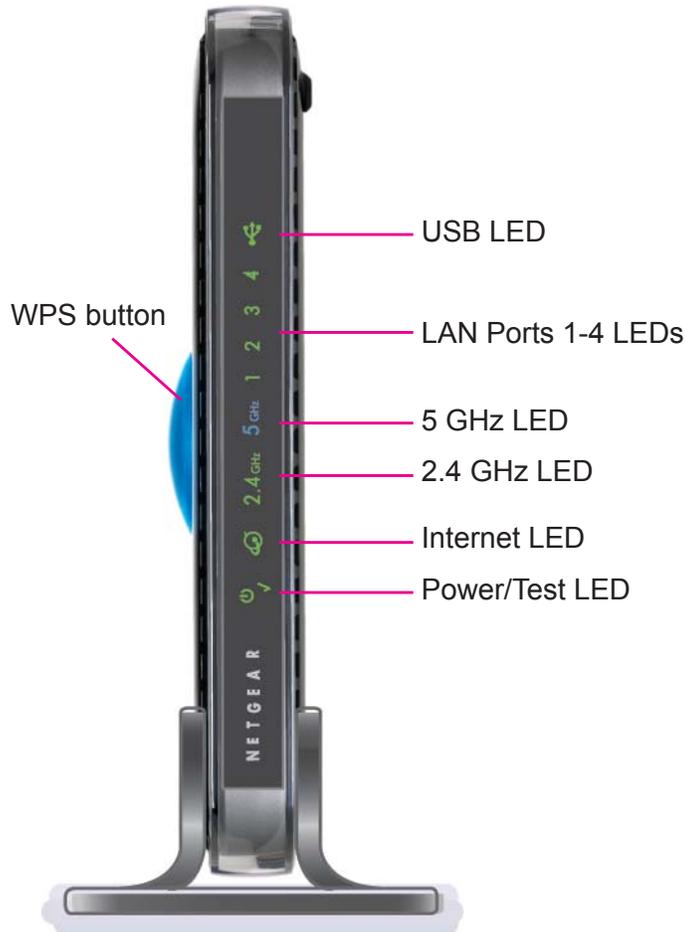
Table 1. Front panel LED descriptions

LED	Description
USB	• **Solid green**. The local Ethernet ports have detected wired links with PCs. • **Blinking green**. Data is being transmitted or received. • **Off**. No link is detected on these ports.

Table 1. Front panel LED descriptions (continued)

LED	Description
LAN ports 1–4 1	• **Solid green**. The LAN port has detected a 1,000 Mpbs link with an attached device. • **Blinking green**. Data is being sent at 1,000 Mbps. • **Solid amber**. The LAN port has detected a 10 Mbps link with an attached device. • **Blinking amber**. Data is being sent at 100 Mbps or 10 Mbps. • **Off**. No link is detected on this port.
5 GHz 5 GHz	• **Solid blue**. The wireless radio is operating. • **Blinking blue**. Data is being sent or received over the wireless network. • **Off**. The wireless radio is off.
2.4 GHz 2.4 GHz	• **Solid blue**. The wireless radio is operating. • **Blinking blue**. Data is being sent or received over the wireless network. • **Off**. The wireless radio is off.
Internet	• **Solid amber**. The IP address has not been acquired. • **Solid green**. An IP address has been received; ready to transmit data. • **Blinking green**. Data is being sent to or received from the Internet. • **Off**. No Ethernet cable is connected between the router and the modem.
Power/Test	• **Solid amber**. The unit is starting up after being powered on. • **Solid green**. The power is on and the router is ready. • **Blinking amber**. A firmware update is in progress. • **Blinking green**. The firmware is corrupt. • **Off**. Power is not supplied to the router.
WPS	• **Solid green**. Indicates that wireless security is enabled. • **Blinking green**. The router is using WPS to add a wireless device to the network. • **Off**. No WPS connection exists.

Back Panel

The back panel has the connections shown in the following figure.

USB port

Restore Factory Settings button. Press and hold this button for about 5 seconds to reset the router to its factory default settings.

WiFi On/Off button

Four local area network (LAN) 10/100/1000 Mbps Ethernet ports for connecting the router to your local computers.

Internet/Wide Area Network (WAN) Ethernet port for connecting the router to a cable or DSL modem.

AC power adapter outlet for connecting the power adapter.

Power On/Off button.

See *Factory Settings* on page 109 for information about restoring factory settings.

Label

The label on the bottom of the router shows the WPS PIN, login information, MAC address, and serial number.

Preset SSID **Preset WiFi Password** **Default access information**

MAC addresses **Serial number**
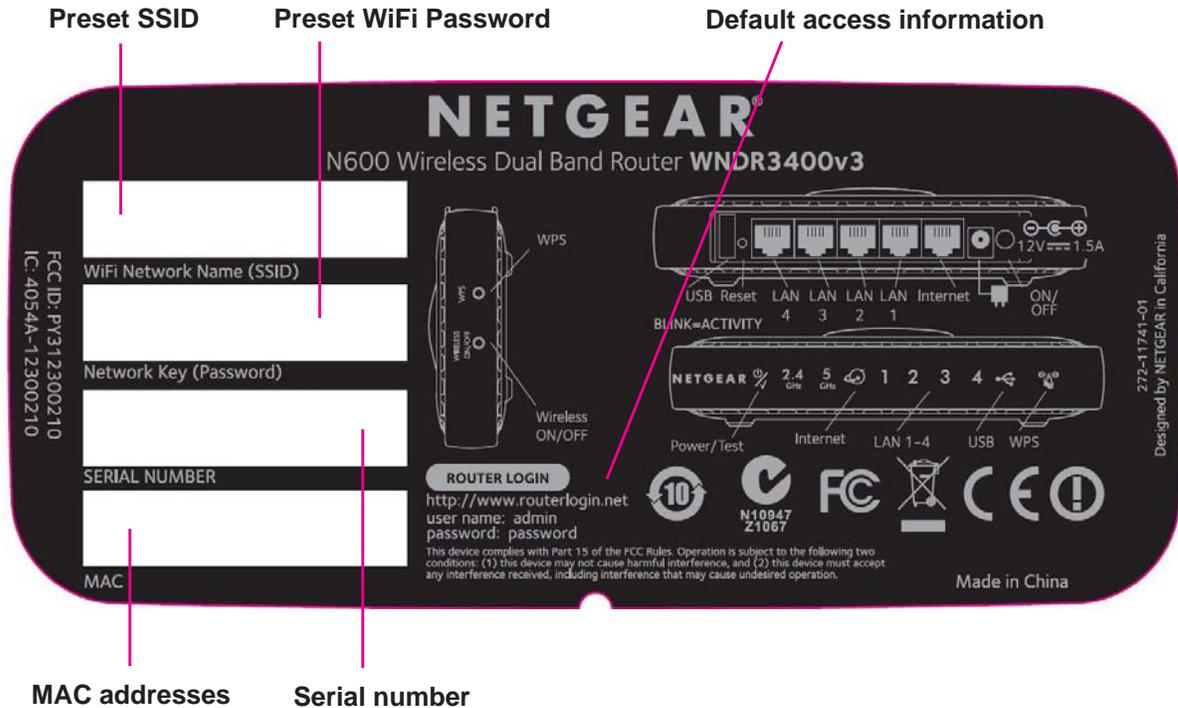
Cable Your Router

The installation guide that came in the box has a cabling diagram on the first page.

Verify the Cabling

Verify that your router is cabled correctly by checking the router LEDs. Turn on the router by pressing the **On/Off** button on the back.

- The Power/Test LED is green when the router is turned on.
- The LAN ports are green for each PC cabled to the router by an Ethernet cable.
- The Wireless LEDs are on.
- The Internet LED is on. If it is not, make sure that the Ethernet cable is securely attached to the router Internet port and the modem, and that the modem is powered on.

Verify that the LAN LEDs (1 through 4) are lit for any computers cabled to the router by an Ethernet cable.

Getting Started with NETGEAR Genie 2

Connecting to the router

This chapter explains how to use NETGEAR Genie to set up your router after you complete cabling as described in the installation guide and in the previous chapter in this book.

This chapter contains the following sections:

- *Router Setup Preparation*
- *Types of Logins and Access*
- *NETGEAR Genie Setup*
- *Use NETGEAR Genie after Installation*
- *Upgrade Router Firmware*
- *Router Dashboard (Basic Home Screen)*
- *Add Wireless Devices or Computers to Your Network*

Router Setup Preparation

You can set up your router with the NETGEAR Genie automatically, or you can use the Genie menus and screens to set up your router manually. However, before you start the setup process, you need to have your ISP information on hand and make sure the laptops, PCs, and other devices in the network have the settings described here.

Use Standard TCP/IP Properties for DHCP

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

Gather ISP Information

If you have DSL broadband service, you might need the following information to set up your router and to check that your Internet configuration is correct. Your Internet service provider (ISP) should have provided you with all of the information needed to connect to the Internet. If you cannot locate this information, ask your ISP to provide it. When your Internet connection is working, you no longer need to launch the ISP's login program on your computer to access the Internet. When you start an Internet application, your router automatically logs you in.

* The ISP configuration information for your DSL account
* ISP login name and password
* Fixed or static IP address settings (special deployment by ISP; this is rare)

Wireless Devices and Security Settings

Make sure that the wireless device or computer that you are using supports WPA or WPA2 wireless security, which is the wireless security supported by the router. See *Basic Wireless Settings* on page 27 for information about the router's preconfigured security settings.

Types of Logins and Access

There are two separate types of logins that have different purposes. It is important that you understand the difference so that you know which login to use when.

* **Router login** logs you in to the router interface from NETGEAR Genie. See *Use NETGEAR Genie after Installation* on page 19 for details about this login.
* **ISP login** logs you in to your Internet service. Your service provider has provided you with this login information in a letter or some other way. If you cannot find this login information, contact your service provider.

- **Wireless network key or password**. Your router is preset with a unique wireless network name (SSID) and password for wireless access. This information is on the label located on the bottom of your router.

NETGEAR Genie Setup

NETGEAR Genie runs on any device with a web browser. It is the easiest way to set up the router because it automates many of the steps and verifies that those steps have been successfully completed. It takes about 15 minutes to complete.

To use NETGEAR Genie to set up your router:

1. Turn the router on by pressing the **On/Off** button, if not done yet.
2. Make sure that your device is connected with an Ethernet cable to your router.
3. Launch your Internet browser.
   - If this is the first time you are setting up the Internet connection for your router, the browser automatically goes to http://www.routerlogin.net, and the NETGEAR Genie screen displays.
   - If you already used the NETGEAR Genie, type **http://www.routerlogin.net** in the address field for your browser to display the NETGEAR Genie screen. See *Use NETGEAR Genie after Installation* on page 19.
4. Follow the onscreen instructions to complete NETGEAR Genie setup. NETGEAR Genie guides you through connecting the router to the Internet.

If the browser cannot display the web page:

- Make sure that the computer is connected to one of the four LAN Ethernet ports, or wirelessly to the router.
- Make sure that the router is fully up and running. Its Wireless LEDs should turn on.
- Close and reopen the browser to make sure the browser does not cache the previous page.
- Browse to **http://routerlogin.net**.
- If the computer is set to a static or fixed IP address (this is uncommon), change it to obtain an IP address automatically from the router.

If the router does not connect to the Internet:

1. Review your settings to be sure that you have selected the correct options and typed everything correctly.
2. Contact your ISP to verify that you have the correct configuration information.
3. Read *Chapter 9, Troubleshooting*. If problems persist, register your NETGEAR product and contact NETGEAR technical support.

Use NETGEAR Genie after Installation

When you first set up your router, NETGEAR Genie automatically starts when you launch an Internet browser on a computer that is connected to the router. You can use NETGEAR Genie again if you want to view or change settings for the router.

1. Launch your browser from a computer or wireless device that is connected to the router.

2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

The login window displays:

3. Enter **admin** for the router user name and **password** for the router password, both in lowercase letters.

Note: The router user name and password are different from the user name and password for logging in to your Internet connection. See Types of Logins and Access on page 17 for more information.

Upgrade Router Firmware

When you set up your router and are connected to the Internet, the router automatically checks for you to see if newer firmware is available. If it is, a message is displayed on the top of the screen. See *Upgrade the Router Firmware* on page 65 for more information about upgrading firmware.

Click the message when it shows up, and click **Yes** to upgrade the router with the latest firmware. After the upgrade, the router restarts.

CAUTION:

Do not try to go online, turn off the router, shut down the computer, or do anything else to the router until the router finishes restarting and the Power LED has stopped blinking for several seconds.

Router Dashboard (Basic Home Screen)

The router Basic Home screen has a dashboard that lets you see the status of your Internet connection and network at a glance. You can click any of the six sections of the dashboard to view more detailed information. The left column has the menus, and at the top there is an Advanced tab that is used to access additional menus and screens.
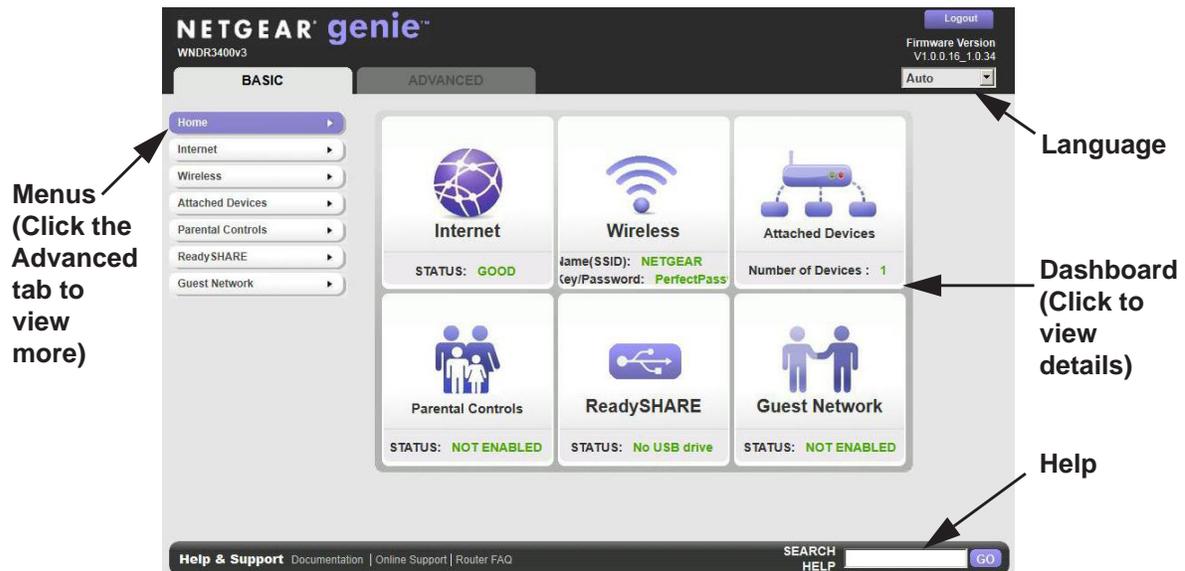
Figure 1. Router Basic Home screen with dashboard, language, and online help

- **Home**. This dashboard screen displays when you log in to the router.
- **Internet**. Set, update, and check the ISP settings of your router.
- **Wireless**. View or change the wireless settings for your router.
- **Attached Devices**. View the devices connected to your network.
- **Parental Controls**. Download and set up parental controls to prevent objectionable content from reaching your computers.
- **ReadySHARE**. If you connected a USB storage device to the router, then it is displayed here.
- **Guest Network**. Set up a guest network to allow visitors to use your router's Internet connection.
- **Advanced tab**. Set the router up for unique situations such as when remote access by IP or by domain name from the Internet is needed. See *Chapter 8, Advanced Settings*. Using this tab requires a solid understanding of networking concepts.
- **Help & Support**. Go to the NETGEAR support site to get information, help, and product documentation. These links work once you have an Internet connection.

Add Wireless Devices or Computers to Your Network

Choose either the manual or the WPS method to add wireless devices and other equipment to your wireless network. See *Guest Networks* on page 31 for instructions on how to set up a guest network.

Manual Method

➢ **To connect manually:**

1. Open the software that manages your wireless connections on the wireless device (laptop computer, gaming device, iPhone) that you want to connect to your router. This software scans for all wireless networks in your area.

2. Look for your network and select it. If you did not change the name of your network during the setup process, look for the default WiFi network name (SSID) and select it. The default SSID is located on the product label on the bottom of the router.

3. Enter the router password and click **Connect**. The default router passphrase is located on the product label on the bottom of the router.

4. Repeat steps 1–3 to add other wireless devices.

Wi-Fi Protected Setup (WPS) Method

Wi-Fi Protected Setup (WPS) is a standard for easily adding computers and other devices to a home network while maintaining security. To use WPS, make sure that all wireless devices to be connected to the network are Wi-Fi certified and support WPS. During the connection process, the client gets the security settings from the router so that every device in the network has the same security settings.

➢ **To use WPS to join the wireless network:**

If your wireless device supports WPS (Push 'N' Connect), follow these steps:

1. Press the **WPS** button on the router top panel .

2. Within 2 minutes, press the **WPS** button on your wireless device, or follow the WPS instructions that came with the device. The device is now connected to your router.

3. Repeat steps 1–2 to add other WPS wireless devices.

Genie Basic Settings

3

Your Internet connection and network

This chapter explains the features available from the Genie Basic Home screen, shown in the following figure:

This chapter contains the following sections:

- *Internet Setup*
- *Attached Devices*
- *Parental Controls*
- *ReadySHARE USB Storage*
- *Basic Wireless Settings*
- *Guest Networks*

Internet Setup

The Internet Setup screen is where you view or change ISP information.

1. From the Home screen, select **Internet**. The following screen displays:

The fields that display in the Internet Setup screen depend on whether or not your Internet connection requires a login.

- **Yes**. Select the encapsulation method and enter the login name. If you want to change the login time-out, enter a new value in minutes.

- **No**. Enter the account and domain names, only if needed.

2. Enter the settings for the IP address and DNS server. The default settings usually work fine. If you have problems with your connection, check the ISP settings.

3. Click **Apply** to save your settings.

4. Click **Test** to test your Internet connection. If the NETGEAR website does not display within 1 minute, see *Chapter 9, Troubleshooting*.

Internet Setup Screen Fields

The following descriptions explain all of the possible fields in the Internet Setup screen. Note that which fields display in this screen depends on whether or not an ISP login is required.

Does Your ISP Require a Login? Answer either yes or no.

These fields display when no login is required:

- **Account Name (If required)**. Enter the account name provided by your ISP. This might also be called the host name.

- **Domain Name (If required)**. Enter the domain name provided by your ISP.

These fields display when your ISP requires a login:

- **Internet Service Provider Encapsulation**. ISP types. The choices are PPPoE, PPTP, or L2TP.
- **Login**. The login name provided by your ISP. This is often an email address.
- **Password**. The password that you use to log in to your ISP.
- **Idle Timeout (In minutes)**. If you want to change the login timeout, enter a new value in minutes. This determines how long the router keeps the Internet connection active after there is no Internet activity from the LAN. Entering a value of 0 (zero) means never log out.

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 the gateway IP address that your ISP assigned. The gateway is the ISP's router to which your router will connect.

Domain Name Server (DNS) Address. The DNS server is used to look up site addresses based on their 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 router during login, select this option, and enter the IP address of your ISP's primary DNS server. If a secondary DNS server address is available, enter it also.

Router MAC Address. The Ethernet MAC address used by the router 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 will then accept traffic only from the MAC address of that computer. This feature allows your router to use your computer's MAC address (this is also called cloning).

- **Use Default Address**. Use the default MAC address.
- **Use Computer MAC Address**. The router will capture and use the MAC address of the computer that you are now using. You have to use the one computer that is allowed by the ISP.
- **Use This MAC Address**. Enter the MAC address that you want to use.

Attached Devices

You can view all computers or devices that are currently connected to your network here. From the Basic Home screen, select **Attached Devices** to display the following screen:

Wired devices are connected to the router with Ethernet cables. Wireless devices have joined the wireless network.

- **#** (number). The order in which the device joined the network.
- **IP Address**. The IP address that the router assigned to this device when it joined the network. Note that this number can change if a device is disconnected and rejoins the network.
- **MAC Address**. The unique MAC address for each device does not change. The MAC address is typically shown on the product label.
- **Device Name**. If the device name is known, it is shown here.

You can click **Refresh** to update this screen.

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Parental Controls

The first time you select Parental Controls from the Basic Home screen, you are automatically directed to the Internet, where you can learn more about Live Parental Controls or download the application. The following screen displays:
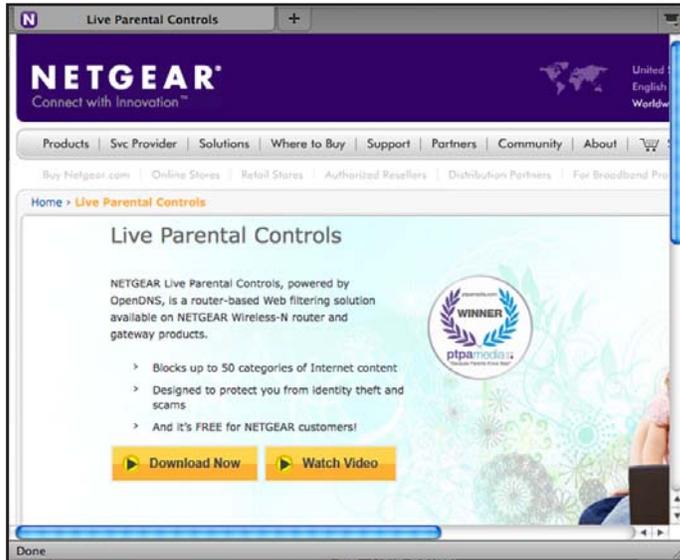
ReadySHARE USB Storage

You can view information about a USB storage device that is connected to the router's USB port here. From the Basic Home screen, select **ReadySHARE** to display the USB Storage (Basic Settings) screen:

Genie Basic Settings

26
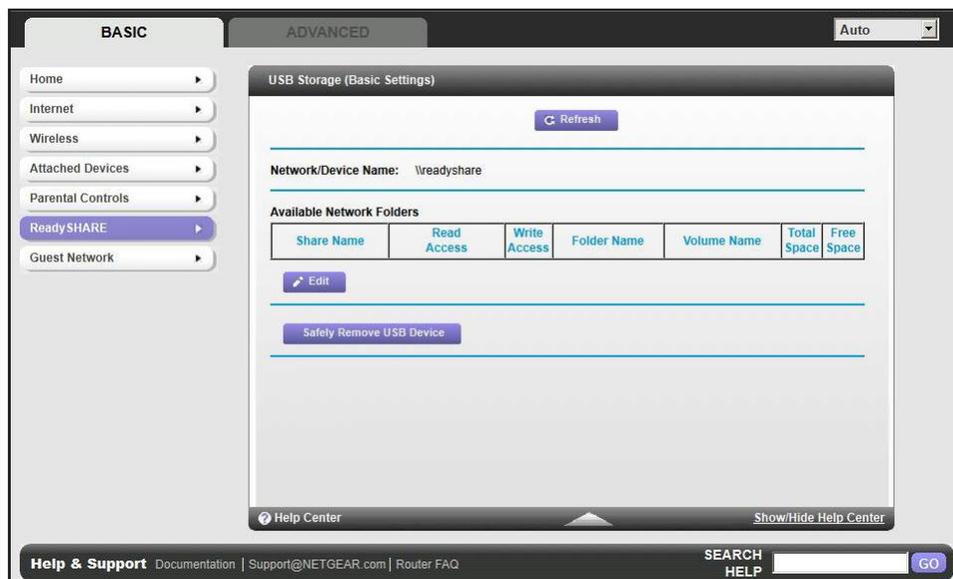
This screen displays the following:

- **Network/Device Name**. The default is \\readyshare. This is the name used to access the USB device connected to the router.

- **Available Network Folders**. The folders on the USB device.

  Share Name. If only one device is connected, the default share name is USB_Storage. You can click the name shown, or you can type it in the address field of your web browser. If Not Shared is shown, the default share has been deleted and no other share for the root folder exists. Click the link to change this setting.

  Read/Write Access. Shows the permissions and access controls on the network folder: All – no password (the default) allows all users to access the network folder. The user name (account name) for All – no password is guest. The password for admin is the same one that you use to log in to the router. By default, it is **password**.

  Folder Name. Full path used by the network folder.

  Volume Name. Volume name from the storage device (either USB drive or HDD).

  Total/Free Space. Shows the current utilization of the storage device.

- **Edit**. Click the **Edit** button to edit the Available Network Folders settings.

- **Safely Remove a USB Device**. Click to safely remove the USB device attached to your router.

You can click **Refresh** to update this screen.

For more information about USB storage, see *Chapter 5, USB Storage*.

Basic Wireless Settings

The Wireless Setup screen lets you view or configure the wireless network setup.

The N600 Wireless Dual Band Router comes with preset security. This means that the WiFi network name (SSID), network key (password), and security option (encryption protocol) are preset in the factory. You can find the preset SSID and password on the bottom of the unit.

> **Note:** The preset SSID and password are uniquely generated for every device to protect and maximize your wireless security.

NETGEAR recommends that you do not change your preset security settings. If you do decide to change your preset security settings, make a note of the new settings and store it in a safe place where you can easily find it.

If you use a wireless computer to change the wireless network name (SSID) or other wireless security settings, you are disconnected when you click Apply. To avoid this problem, use a computer with a wired connection to access the router.

➢ **To view or change basic wireless settings:**

1. On the Basic Home screen, select **Wireless** to display the Wireless Setup screen.

Scroll to view more settings

Scroll to view more settings
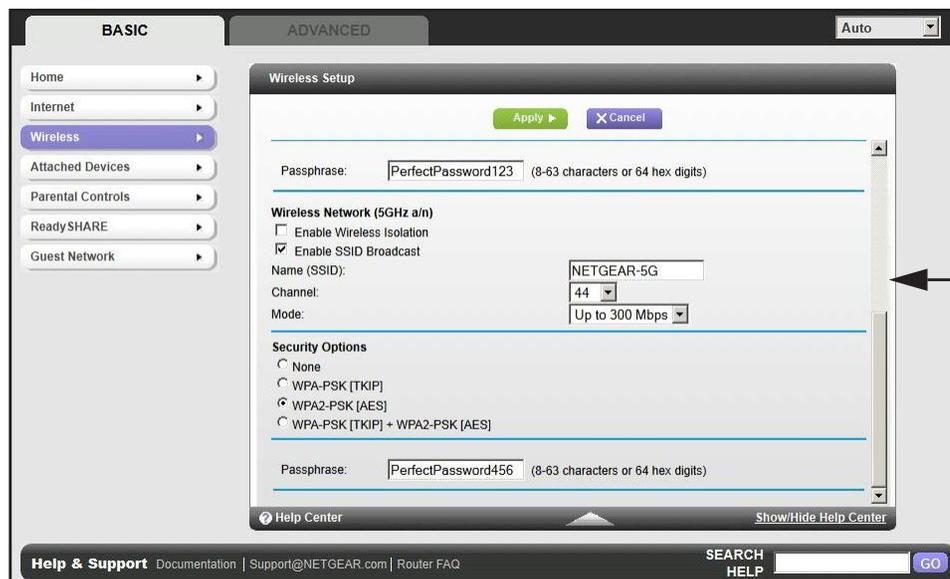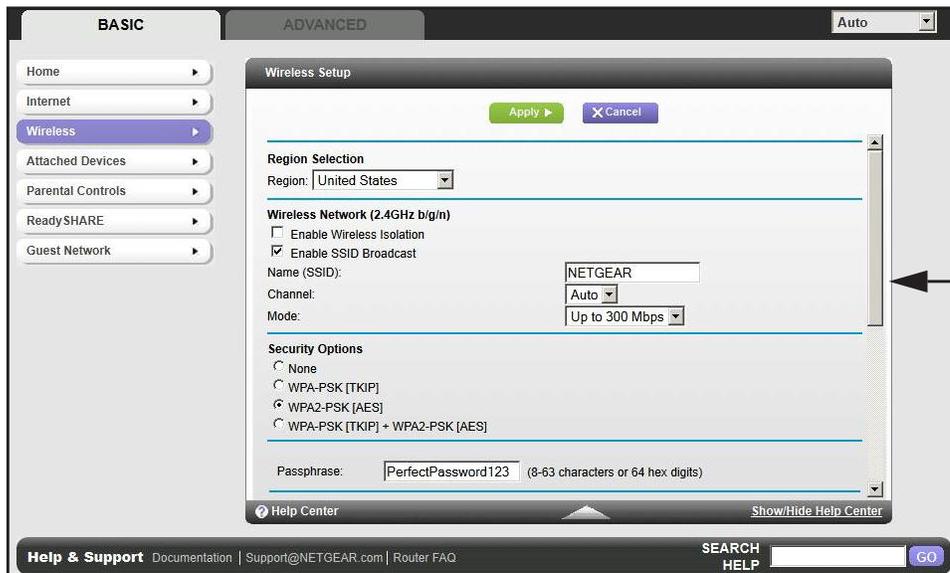
The screen sections, settings, and procedures are explained in the following sections.

2. Make any changes that are needed, and click **Apply** to save your settings.

3. Set up and test your wireless devices and computers to make sure that they can connect wirelessly. If they do not, check the following:

    • Is your wireless device or computer connected to your network or another wireless network in your area? Some wireless devices automatically connect to the first open network (without wireless security) that they discover.

- Does your wireless device or computer show up on the Attached Devices screen? If it does, then it is connected to the network.
- If you are not sure what the network name (SSID) or password is, look on the label on the bottom of your router.

Wireless Setup Screen Fields

Region. The location where the router is used. Select from the countries in the list. Note that in the United States, the region is fixed to United States and is not changeable.

Wireless Network

Note: These settings apply separately to the 2.4 GHz b/g/n and 5 GHz a/n bands.

Enable SSID Broadcast. This setting allows the router to broadcast its SSID so wireless stations can see this wireless name (SSID) in their scanned network lists. This check box is selected by default. To turn off the SSID broadcast, clear the **Allow Broadcast of Name (SSID)** check box, and click **Apply**.

Enable Wireless Isolation. If this check box is selected, then wireless clients (computers or wireless devices) that join the network can use the Internet, but cannot access each other or access Ethernet devices on the network.

Name (SSID). The SSID is also known as the wireless network name. Enter a 32-character (maximum) name in this field. This field is case-sensitive. The default SSID is randomly generated, and *NETGEAR strongly recommends that you do not change this.*

Channel. This setting is the wireless channel used by the gateway. Enter a value from 1 through 13. (For products in the North America market, only Channels 1 through 11 can be operated.) Do not change the channel unless you experience interference (shown by lost connections or slow data transfers). If this happens, experiment with different channels to see which is the best.

Mode. Up to 130 Mbps is the default and allows 802.11n and 802.11g wireless devices to join the network. g & b supports up to 54 Mbps. The 300 Mbps setting allows 802.11n devices to connect at this speed.

Security Options Settings

Note: These settings apply separately to the 2.4 GHz b/g/n and 5 GHz a/n bands.

The Security Options section of the Wireless Setup screen lets you change the security option and passphrase. Please note that **NETGEAR recommends that you not change the security option or passphrase**, but if you want to change these settings, this section explains how. **Do not disable security**.

Change WPA Security Option and Passphrase

> **Note:** These settings apply separately to the 2.4 GHz b/g/n and 5 GHz a/n bands.

1. Under Security Options, select the WPA option you want.
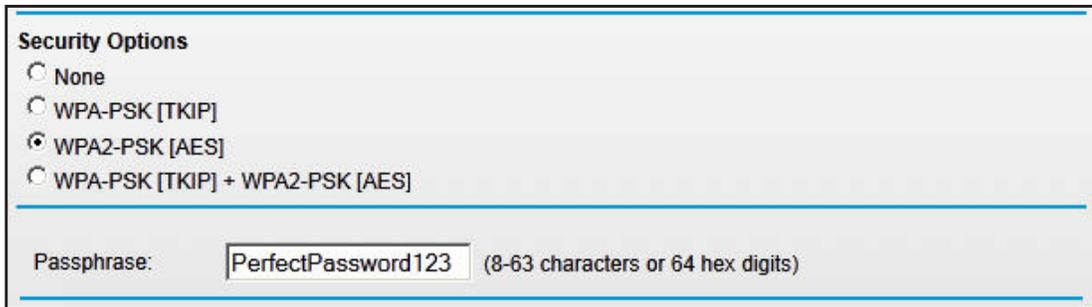
2. In the Passphrase field that displays when you select a WPA security option, enter the network key (passphrase) that you want to use. It is a text string from 8 to 63 characters.

Guest Networks

Adding a guest network allows visitors at your home to use the Internet without providing them with your wireless security key. You can add a guest network to each wireless network: 2.4 GHz b/g/n and 5.0 GHz a/n.

> **To set up a guest network:**

1. Select **Basic > Guest Network** to display the following screen:
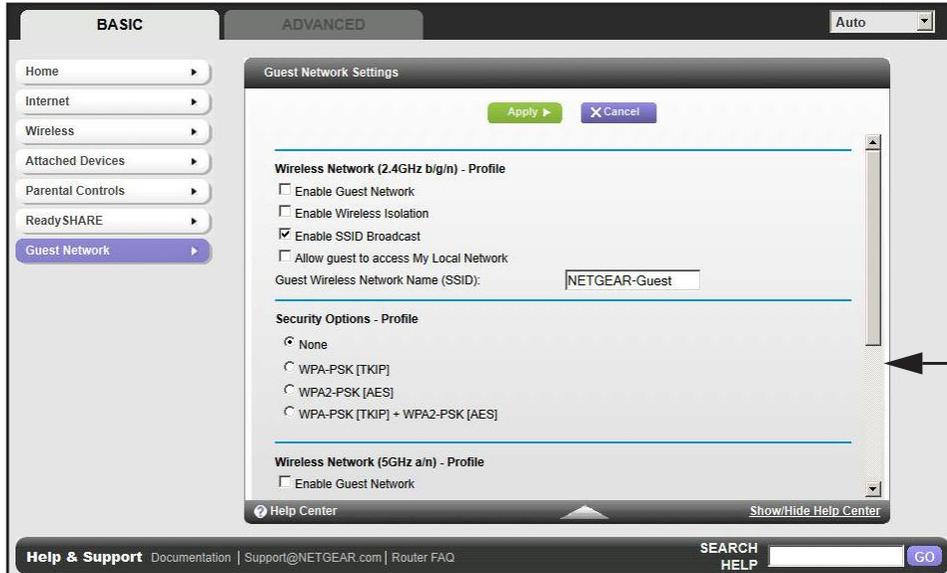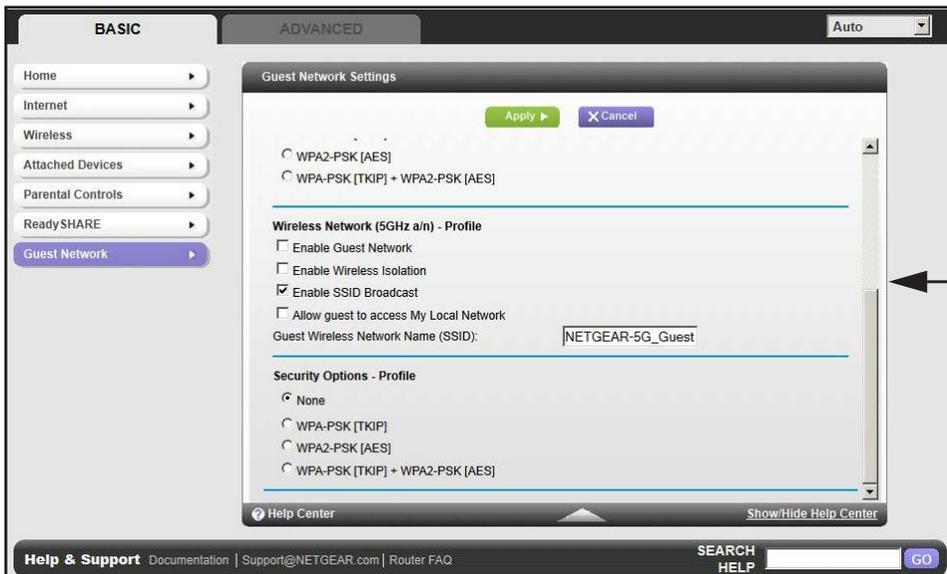
2. Select any of the following wireless settings:

> **Note:** These settings apply separately to the 2.4 GHz b/g/n and 5 GHz a/n bands.

Enable Guest Network. When this check box is selected, the guest network is enabled, and guests can connect to your network using the SSID of this profile.

Enable SSID Broadcast. If this check box is selected, the wireless access point broadcasts its name (SSID) to all wireless stations. Stations with no SSID can adopt the correct SSID for connections to this access point.

Allow guest to access My Local Network. If this check box is selected, any user who connects to this SSID has access to your local network, not just Internet access.

Enable Wireless Isolation. If this check box is selected, then wireless clients (computers or wireless devices) that join the network can use the Internet, but cannot access each other or access Ethernet devices on the network.

3. Give the guest network a name.

   The guest network name is case-sensitive and can be up to 32 characters. You then manually configure the wireless devices in your network to use the guest network name in addition to the main nonguest SSID.

4. Select a security option from the list. The security options are described in *Guest Network Wireless Security Options* on page 32.

5. Click **Apply** to save your selections.

Guest Network Wireless Security Options

A security option is the type of security protocol applied to your wireless network. The security protocol in force encrypts data transmissions and ensures that only trusted devices receive authorization to connect to your network.

This section presents an overview of the security options and provides guidance on when to use which option. Note that it is also possible to set up a guest network without wireless security. NETGEAR does *not* recommend this.

Wi-Fi Protected Access (WPA) encryption is built into all hardware that has the Wi-Fi-certified seal. This seal means the product is authorized by the Wi-Fi Alliance (*http://www.wi-fi.org/*) because it complies with the worldwide single standard for high-speed wireless local area networking.

WPA-PSK uses a passphrase to perform authentication and generate the initial data encryption keys. Then it dynamically varies the encryption key. WPA-PSK uses Temporal Key Integrity Protocol (TKIP) data encryption, implements most of the IEEE 802.11i standard, and is designed to work with all wireless network interface cards, but not all wireless access points. It is superseded by WPA2-PSK.

WPA2-PSK is stronger than WPA. It is advertised to be theoretically indecipherable due to the greater degree of randomness in encryption keys that it generates. WPA2-PSK gets higher speed because it is usually implemented through hardware, while WPA-PSK is usually implemented through software. WPA2-PSK uses a passphrase to authenticate and generate the initial data encryption keys. Then it dynamically varies the encryption key.

WPS-PSK + WPA2-PSK Mixed Mode can provide broader support for all wireless clients. WPA2-PSK clients get higher speed and security, and WPA-PSK clients get decent speed and security. The product documentation for your wireless adapter and WPA client software should have instructions about configuring their WPA settings.

Genie Advanced Home

4

Specifying custom settings

This chapter explains the features available from the Genie Advanced Home screen, shown in the following figure:

This screen is also displayed through the Administration menu.
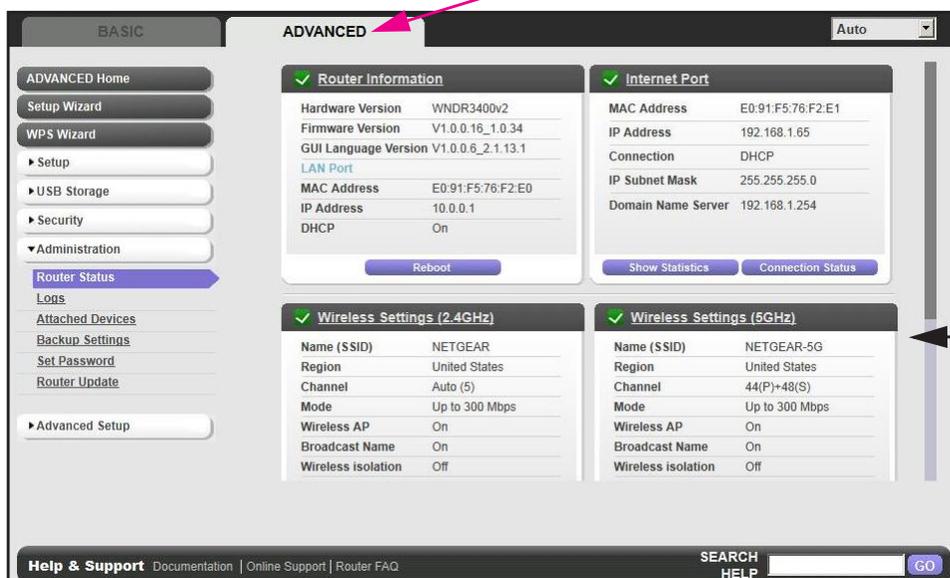
This chapter contains the following sections:

- *Setup Wizard*
- *WPS Wizard*
- *Setup Menu*
- *WAN Setup*
- *LAN Setup*
- *Quality of Service (QoS) Setup*

Some selections on the Advanced Home screen are described in separate chapters:

- **USB Storage**. See *Chapter 5, USB Storage*.
- **Security**. See *Chapter 6, Security*.
- **Administration**. See *Chapter 7, Administration*.
- **Advanced Setup**. See *Chapter 8, Advanced Settings*.

Setup Wizard

The NETGEAR Genie installation process is launched the first time you set up the router. After setting up the router the first time, if you want to perform this task again, you can run Setup Wizard from the Advanced tab of the Genie.

1. Select **Setup Wizard** to display the following screen:

2. Select either **Yes** or **No, I want to configure the router myself**. If you select No, you are taken to the Internet Setup screen (see *Internet Setup* on page 23).

3. If you selected Yes, click **Next**. The following screen displays:

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

WPS Wizard

The WPS Wizard helps you add a WPS-capable client device (a wireless device or computer) to your network. On the client device you need to either press its WPS button or locate its WPS PIN.

To use the WPS Wizard:

1. Select **Advanced > WPS Wizard**.
2. Click **Next**. The following screen lets you select the method for adding the WPS client (a wireless device or computer).
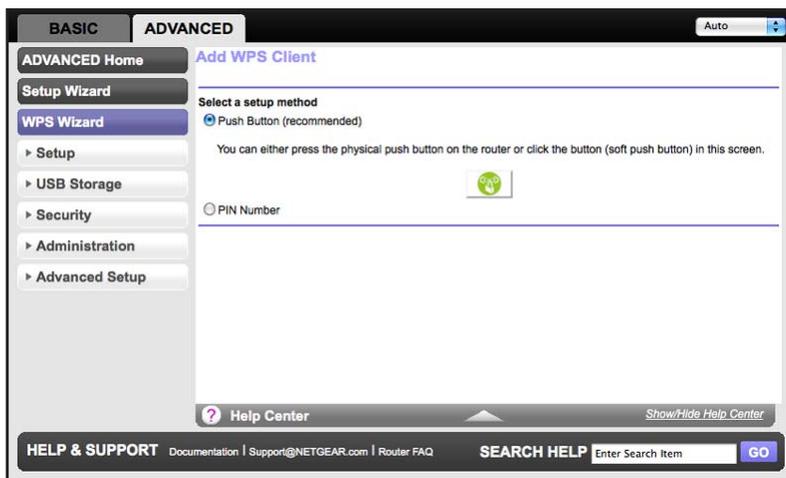
You can use either the push button or PIN method.

3. Select either **Push Button** or **PIN Number**.

   - To use the push button method, either click the **WPS** button on this screen, or press the **WPS** button located on the top of the router. Within two minutes, go to the wireless client and press its **WPS** button to join the network without entering a password.

   - To use the PIN method, select the **PIN Number** radio button, enter the client security PIN, and click **Next**.
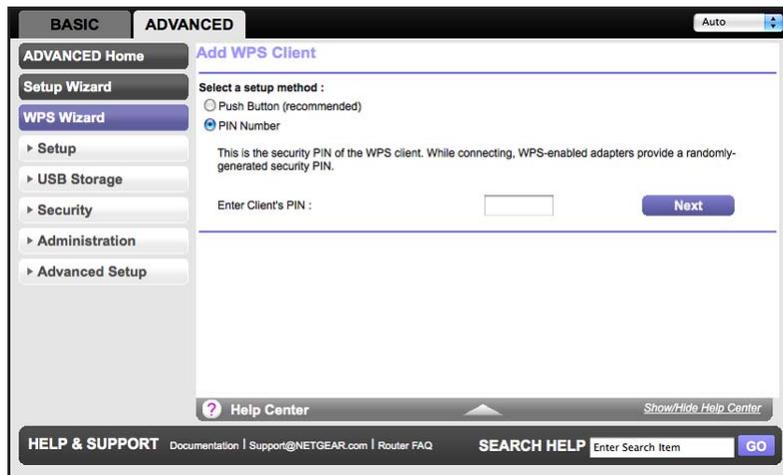
Within two minutes, go to the client device and use its WPS software to join the network without entering a password.

The router attempts to add the WPS-capable device. The WPS LED [icon] on the top of the router blinks green. When the router establishes a WPS connection, the LED is solid green, and the router WPS screen displays a confirmation message.

4. Repeat Step 2 and Step 3 to add another WPS client to your network.

Setup Menu

Select **Advanced > Setup** to display the Setup menu. The following selections are available:

- **Internet Setup**. This is a shortcut to the same Internet Setup screen that you can access from the dashboard on the Basic Home screen. See *Internet Setup* on page 23.

- **Wireless Setup**. This is a shortcut to the same Wireless Setup screen that you can access from the dashboard on the Basic Home screen. See *Basic Wireless Settings* on page 27.

- **Guest Network**. This is a shortcut to the same Guest Network screen that you can access from the dashboard on the Basic Home screen. See *Guest Networks* on page 31.

- **WAN Setup**. Internet (WAN) setup. See *WAN Setup* on page 38.

- **LAN Setup**. Local area network (LAN) setup. See *LAN Setup* on page 41.

- **QoS Setup**. Quality of Service (QoS) setup. See *Quality of Service (QoS) Setup* on page 44.

WAN Setup

The WAN Setup screen lets you configure a DMZ (demilitarized zone) server, change the Maximum Transmit Unit (MTU) size, and enable the router to respond to a ping on the WAN (Internet) port. Select **Advanced > Setup > WAN Setup** to view the following screen:
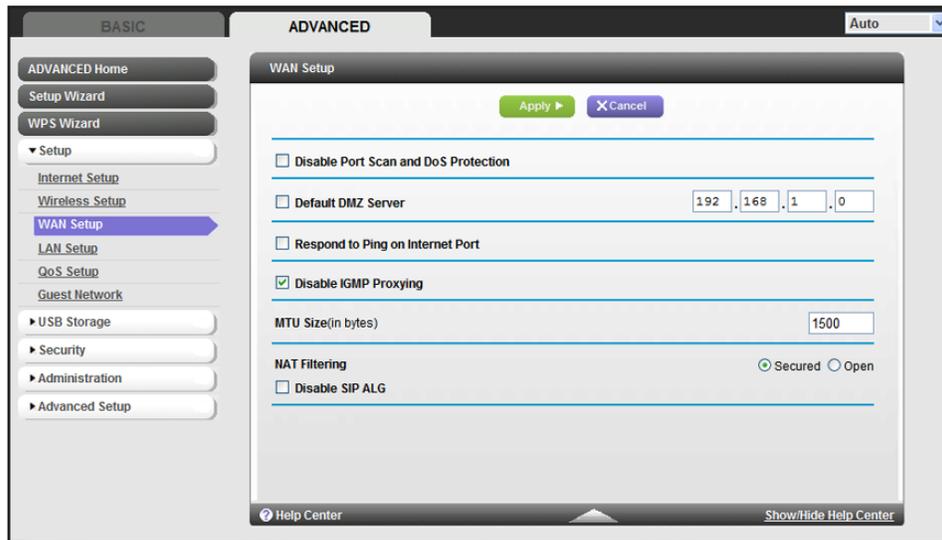
- **Disable Port Scan and DoS Protection**. DoS protection protects your LAN against denial of service attacks such as Syn flood, Smurf Attack, Ping of Death, Teardrop Attack, UDP Flood, ARP Attack, Spoofing ICMP, Null Scan, and many others. This should be disabled only in special circumstances.

- **Default DMZ Server**. This feature is sometimes helpful when you are playing online games and/or videoconferencing. Be careful when using this feature because it makes the firewall security less effective. See the following section, *Default DMZ Server*, for more details.

- **Respond to Ping on Internet Port**. If you want the router to respond to a ping from the Internet, select this check box. Use this only as a diagnostic tool because it allows your router to be discovered. Do not select this check box unless you have a specific reason.

- **Disable 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. You can select this check box to disable the feature if you do not need it.

- **MTU Size (in bytes)**. The normal MTU (Maximum Transmit Unit) value for most Ethernet networks is 1500 bytes, or 1492 bytes for PPPoE connections. For some ISPs you might need to reduce the MTU. This is rarely required, and should not be done unless you are sure it is necessary for your ISP connection. See *Change the MTU Size* on page 39.

- **NAT Filtering**. Network Address Translation (NAT) determines how the router processes inbound traffic. Secured NAT 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. Open NAT provides a much less secured firewall, but allows almost all Internet applications to function.

Default DMZ Server

The default DMZ server feature is helpful when you are using some online games and videoconferencing applications that are incompatible with Network Address Translation (NAT). The router is programmed to recognize some of these applications and to work correctly with them, but there are other applications that might not function well. In some cases, one local computer can run the application correctly if that computer's IP address is entered as the default DMZ server.

> ⚠️ **WARNING!**
>
> **DMZ servers pose a security risk. A computer designated as the default DMZ server loses much of the protection of the firewall and is exposed to exploits from the Internet. If compromised, the DMZ server computer can be used to attack other computers on your network.**

Incoming traffic from the Internet is usually discarded by the router unless the traffic is a response to one of your local computers or a service that you have configured in the Port Forwarding/Port Triggering screen. Instead of discarding this traffic, you can have it forwarded to one computer on your network. This computer is called the default DMZ server.

➢ **To set up a default DMZ server:**

1. On the WAN Setup screen, select the **Default DMZ Server** check box.
2. Type the IP address.
3. Click **Apply**.

Change the MTU Size

The Maximum Transmission Unit (MTU) is the largest data packet a network device transmits. When one network device communicates across the Internet with another, the data packets travel through many devices along the way. If any device in the data path has a lower MTU setting than the other devices, the data packets have to be split or "fragmented" to accommodate the device with the smallest MTU.

The best MTU setting for NETGEAR equipment is often just the default value, and changing the value might fix one problem but cause another. Leave MTU unchanged unless one of these situations occurs:

• You have 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 will not open, or displays only part of a web page
  - Yahoo email
  - MSN portal
  - America Online's DSL service

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

Note: An incorrect MTU setting can cause Internet communication problems such as the inability to access certain web sites, frames within web sites, secure login pages, or FTP or POP servers.

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 and the default value. This is the typical setting for non-PPPoE, non-VPN connections, and is the default value for NETGEAR routers, adapters, and switches.
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 have large email attachments, for example.
1436	Used in PPTP environments or with VPN.
1400	Maximum size for AOL DSL.
576	Typical value to connect to dial-up ISPs.

➢ **To change the MTU size:**

1. Select **Advanced > Setup > WAN Setup**.
2. In the MTU Size field, enter a new size between 64 and 1500.
3. Click **Apply** to save the settings.

LAN Setup

The LAN Setup screen allows configuration of LAN IP services such as Dynamic Host Configuration Protocol (DHCP) and Routing Information Protocol (RIP).

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

- LAN IP address: **192.168.1.1**
- Subnet mask: **255.255.255.0**

These addresses are part of the designated private address range for use in private networks and should be suitable for most applications. If your network has a requirement to use a different IP addressing scheme, you can make those changes in the LAN Setup screen.

➢ **To change the LAN settings:**

Note: If you change the LAN IP address of the router while connected through the browser, you will be disconnected. You will have to open a new connection to the new IP address and log in again.

---

1. Select **Advanced > Setup > LAN Setup** to display the following screen:

2. Enter the settings that you want to customize. These settings are described in the following section, *LAN Setup Screen Settings*.

3. Click **Apply** to save your changes.

LAN Setup Screen Settings

LAN TCP/IP Setup

- **IP Address**. The LAN IP address of the router.

- **IP Subnet Mask**. The LAN subnet mask of the router. Combined with the IP address, the IP subnet mask allows a device to know which other addresses are local to it, and which have to be reached through a gateway or router.

- **RIP Direction**. Router Information Protocol (RIP) allows a router to exchange routing information with other routers. This setting controls how the router sends and receives RIP packets. Both is the default setting. With the Both or Out Only setting, the router broadcasts its routing table periodically. With the Both or In Only setting, the router incorporates the RIP information that it receives.

- **RIP Version**. This controls the format and the broadcasting method of the RIP packets that the router sends. It recognizes both formats when receiving. By default, the RIP function is disabled.

  RIP-1 is universally supported. It is adequate for most networks, unless you have an unusual network setup.

  RIP-2 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.

Use Router as a DHCP Server

This check box is usually selected so that the router functions as a Dynamic Host Configuration Protocol (DHCP) server.

- **Starting IP Address**. Specify the start of the range for the pool of IP addresses in the same subnet as the router.

- **Ending IP Address**. Specify the end of the range for the pool of IP addresses in the same subnet as the router.

Address Reservation

When you specify a reserved IP address for a computer on the LAN, that computer receives the same IP address each time it accesses the router's DHCP server. Assign reserved IP addresses to servers that require permanent IP settings.

Use the Router as a DHCP Server

By default, the router functions as a DHCP server, allowing it to assign IP, DNS server, and default gateway addresses to all computers connected to the router's LAN. The assigned default gateway address is the LAN address of the router. The router assigns IP addresses to the attached computers from a pool of addresses specified in this screen. Each pool address is tested before it is assigned to avoid duplicate addresses on the LAN. For most applications, the default DHCP and TCP/IP settings of the router are satisfactory.

You can specify the pool of IP addresses to be assigned by setting the starting IP address and ending IP address. These addresses should be part of the same IP address subnet as the router's LAN IP address. Using the default addressing scheme, you should define a range between 192.168.1.2 and 192.168.1.254, although you might want to save part of the range for devices with fixed addresses.

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

- An IP address from the range you have defined
- Subnet mask
- Gateway IP address (the router's LAN IP address)
- Primary DNS server (if you entered a primary DNS address in the Internet Setup screen; otherwise, the router's LAN IP address)
- Secondary DNS server (if you entered a secondary DNS address in the Internet Setup screen)

To use another device on your network as the DHCP server, or to manually configure the network settings of all of your computers, clear the **Use Router as DHCP Server** check box and click **Apply**. Otherwise, leave this check box selected. If this service is not enabled and no other DHCP server is available on your network, you need to set your computers' IP addresses manually or they will not be able to access the router.

Address Reservation

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 router's DHCP server. Reserved IP addresses should be assigned to computers or servers that require permanent IP settings.

➢ **To reserve an IP address:**

1. In the Address Reservation section of the screen, click the **Add** button.
2. In the IP Address field, type the IP address to assign to the computer or server. (Choose an IP address from the router's LAN subnet, such as 192.168.1.x.)
3. Type the MAC address of the computer or server.

   Tip: If the computer is already on your network, you can copy its MAC address from the Attached Devices screen and paste it here.

4. Click **Apply** to enter the reserved address into the table.

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

To edit or delete a reserved address entry, select the radio button next to the reserved address you want to edit or delete. Then click **Edit** or **Delete**.

Quality of Service (QoS) Setup

QoS is an advanced feature that can be used to prioritize some types of traffic ahead of others. The N600 Wireless Dual Band Router can provide QoS prioritization over the wireless link and on the Internet connection. To configure QoS, use the QoS Setup screen.

Select **Advanced > Setup > QoS Setup** to display the following screen:
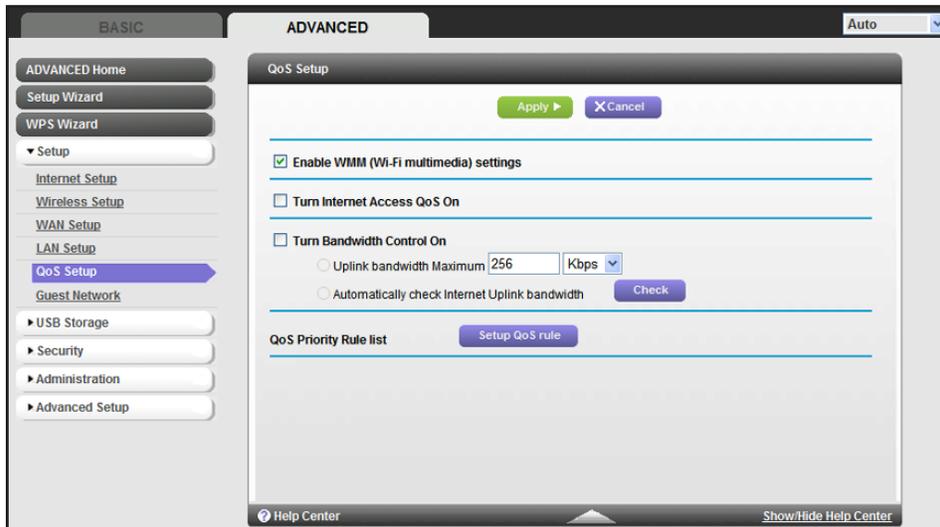
Enable WMM QoS for Wireless Multimedia Applications

The N600 Wireless Dual Band Router supports Wi-Fi Multimedia Quality of Service (WMM QoS) to prioritize wireless voice and video traffic over the wireless link. WMM QoS provides prioritization of wireless data packets from different applications based on four access categories: voice, video, best effort, and background. For an application to receive the benefits of WMM QoS, both it and the client running that application have to have WMM enabled. Legacy applications that do not support WMM and applications that do not require QoS are assigned to the best effort category, which receives a lower priority than voice and video.

WMM QoS is enabled by default. You can disable it in the QoS Setup screen by clearing the **Enable WMM** check box and clicking **Apply**.

Set Up QoS for Internet Access

You can give prioritized Internet access to the following types of traffic:

- Specific applications
- Specific online games
- Individual Ethernet LAN ports of the router
- A specific device by MAC address

To specify prioritization of traffic, you have to create a policy for the type of traffic and add the policy to the QoS Policy table in the QoS Setup screen. For convenience, the QoS Policy table lists many common applications and online games that can benefit from QoS handling.

QoS for Applications and Online Gaming

➢ **To create a QoS policy for applications and online games:**

1. In the QoS Setup screen, select the **Turn Internet Access QoS On** checkbox.

2. Click the **Setup QoS rule** button to see the existing priority rules. On this screen you can edit or delete a rule by selecting its radio button and clicking either the **Edit** or **Delete** button. You can also delete all of the rules by simply clicking the **Delete All** button.
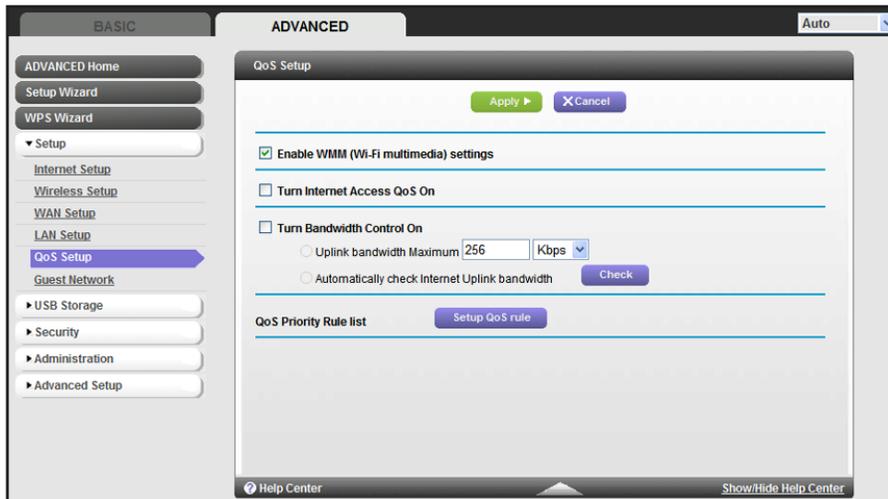
3. To add a priority rule, scroll down to the bottom of the QoS Setup screen and click **Add Priority Rule** to display the following screen:
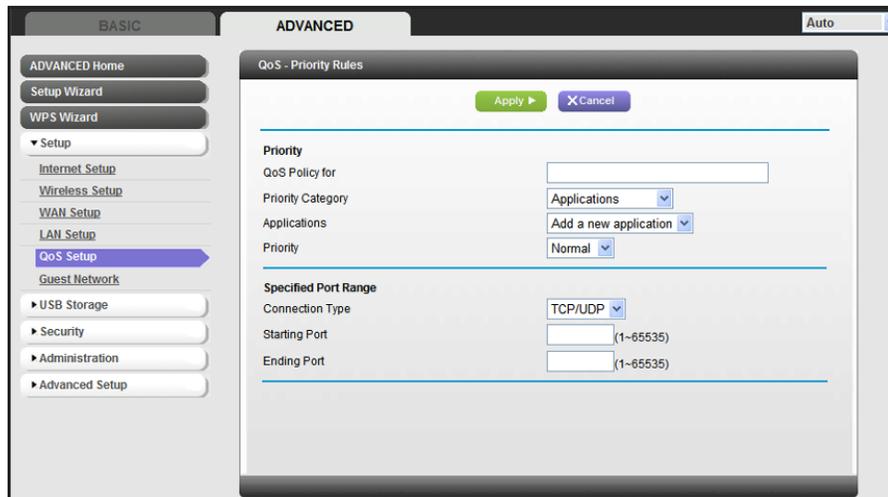
4. In the QoS Policy for field, type the name of the application or game.

5. In the Priority Category list, select either **Applications** or **Online Gaming**. In either case, a list of applications or games displays in the list.

6. You can select an existing item from the list, or you can scroll and select **Add a New Application** or **Add a New Game**, as applicable.

  a. If you add a new entry, the Priority Rules screen expands as shown:

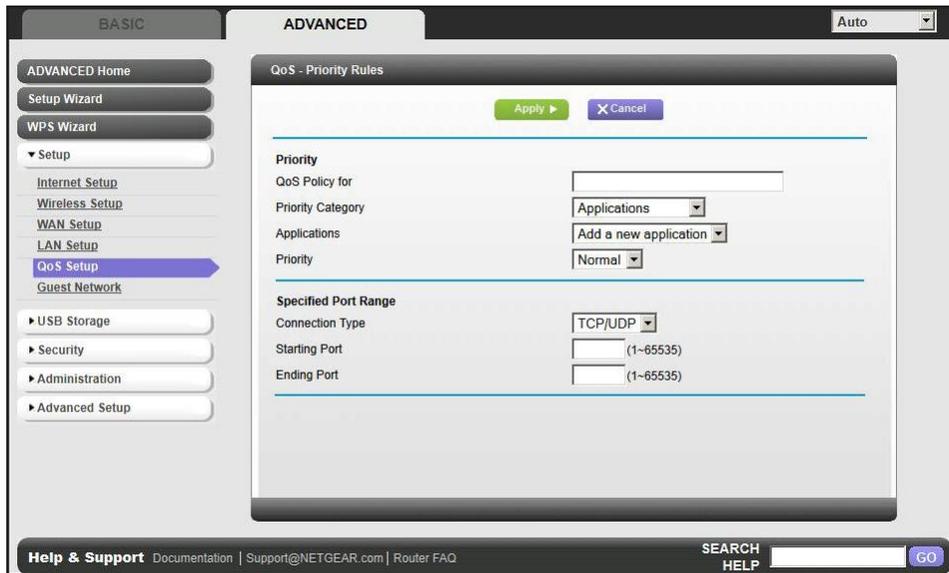 **b.** In the QoS Policy for field, enter a descriptive name for the new application or game.

  c. In the Connection Type list, select either **TCP, UDP,** or both (**TCP/UDP**), and specify the port number or range of port numbers used by the application or game.

7. From the Priority list, select the priority that this traffic should receive relative to other applications and traffic when accessing the Internet. The options are Low, Normal, High, and Highest.

8. Click **Apply** to save this rule to the QoS Policy list and return to the QoS Setup screen.

QoS for a Router LAN Port

➢ **To create a QoS policy for a device connected to one of the router's LAN ports:**

1. Select **Advanced > Setup > QoS Setup** to display the QoS Setup screen. Select the **Turn Internet Access QoS On** check box.

2. Click the **Setup QoS Rule** button.

3. Click the **Add Priority Rule** button.

4. From the Priority Category list, select **Ethernet LAN Port**, as shown in the following figure:
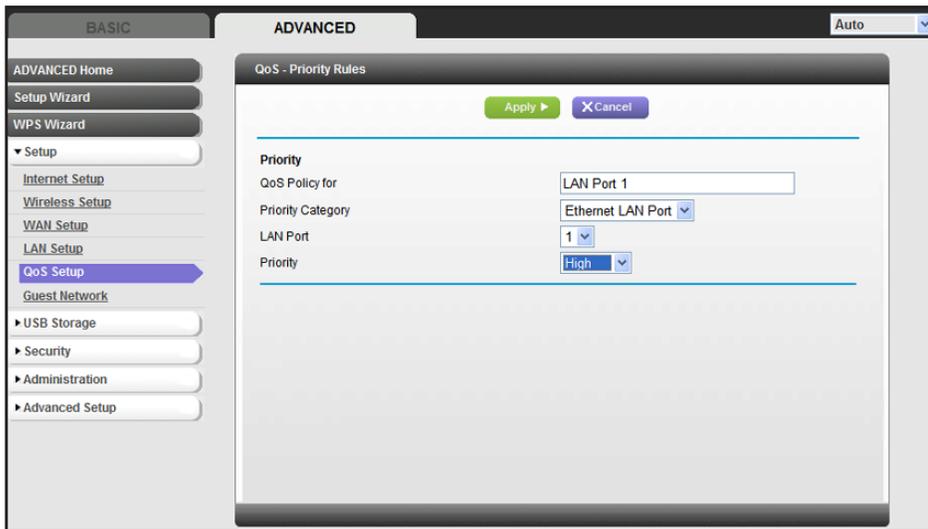
5. From the LAN port list, select the LAN port that will have a QoS policy.

6. From the Priority list, select the priority that this port's traffic should receive relative to other applications and traffic when accessing the Internet. The options are Low, Normal, High, and Highest.

7. Click **Apply** to save this rule to the QoS Policy list and return to the QoS Setup screen.

8. In the QoS Setup screen, click **Apply**.

QoS for a MAC Address

➤ **To create a QoS policy for traffic from a specific MAC address:**

1. Select **Advanced > Setup > QoS Setup**, and click the **Setup QoS Rule** button. The QoS Setup screen displays.

2. Click **Add Priority Rule**.

3. From the Priority Category list, select **MAC Address** to display the following screen:
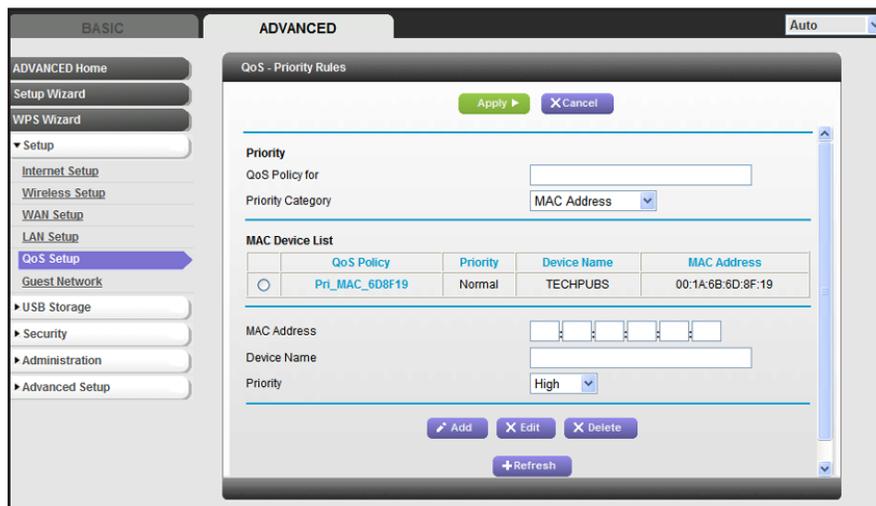
4. If the device to be prioritized appears in the MAC Device List, select its radio button. The information from the MAC Device List populates the policy name, MAC Address, and Device Name fields. If the device does not appear in the MAC Device List, click **Refresh**. If it still does not appear, you have to complete these fields manually.

5. From the Priority list, select the priority that this device's traffic should receive relative to other applications and traffic when accessing the Internet. The options are Low, Normal, High, and Highest. Click **Add** to add this rule to MAC Device List.

6. Click **Apply** to save this rule to the QoS Policy list and return to the QoS Setup screen.

7. In the QoS Setup screen, select the **Turn Internet Access QoS On** check box.

8. Click **Apply**.

Editing or Deleting an Existing QoS Policy

➢ **To edit or delete a QoS policy:**

1. Select **Advanced > QoS Setup** to display the QoS Setup screen.

2. Select the radio button next to the QoS policy to be edited or deleted, and do one of the following:

    • Click **Delete** to remove the QoS policy.

    • Click **Edit** to edit the QoS policy. Follow the instructions in the preceding sections to change the policy settings.

3. Click **Apply** in the QoS Setup screen to save your changes.

USB Storage

Accessing and configuring a USB storage drive

5

This chapter describes how to access and configure a USB storage drive attached to your router. Be aware that the USB port on the router can be used only to connect USB storage devices like flash drives or hard drives. Do not connect computers, USB modems, printers, CD drives, or DVD drives to the router USB port.

This chapter contains the following sections:

- *USB Drive Requirements*
- *ReadySHARE Access*
- *File-Sharing Scenarios*
- *Basic Settings*
- *USB Storage Advanced Settings*
- *Safely Remove a USB Drive*
- *Specify Approved USB Devices*
- *Connect to the USB Drive from a Remote Computer*

USB Drive Requirements

The router works with 1.0 and 1.1 (USB Full Speed) and 2.0 (USB High Speed) standards. The approximate USB bus speeds are shown in the following table. Actual bus speeds can vary, depending on the CPU speed, memory, speed of the network, and other variables.

Table 3. USB Drive Speeds

Bus	Speed/Sec
USB 1.1	12 Mbits
USB 2.0	480 Mbits

The router should work with most USB-compliant external flash and hard drives. For the most up-to-date list of USB drives supported by the router, go to:

http://kbserver.netgear.com/readyshare

The router supports both read and write for FAT16, FAT32, NTFS, and Linux file systems (EXT2 and EXT3).

> **Note:** Some USB external hard drives and flash drives require drivers to be loaded in to the PC before the PC can access the USB device. Such USB devices will not work with the router.

ReadySHARE Access

Once you have set up your router, you can connect any USB storage device and share the contents with other users on your network.

You can access your USB device in any of the following ways:

- On Windows 7, Windows XP, Windows Vista, and Windows 2000 systems, select **Start > Run**, and enter **\\readyshare** in the dialog box. Click **OK**.
- On Windows 7, Windows XP, Windows Vista, and Windows 2000 systems, open Internet Explorer or Safari, and enter **\\readyshare** in the address bar.
- On Mac OS X (version 10.2 or later), enter **smb://readyshare** in the address bar.
- In My Network Places, enter **\\readyshare** in the address bar.

File-Sharing Scenarios

You can share files on the USB drive for a wide variety of business and recreational purposes. The files can be any PC, Mac, or Linux file type including text files, Word, PowerPoint, Excel, MP3, pictures, and multimedia. USB drive applications include:

- Sharing multimedia with friends and family such as MP3 files, pictures, and other multimedia with local and remote users.

- Sharing resources on your network. You might want to store files in a central location so that you do not have to power up a computer to perform local sharing. In addition, you can share files between Macintosh, Linux, and PC computers by using the USB drive as a go-between across the systems.

- Sharing files such as Word documents, PowerPoint presentations, and text files with remote users.

A few common uses are described in the following sections.

Sharing Photos

You can create your own central storage location for photos and multimedia. This eliminates the need to log in to (and pay for) an external photo sharing site.

➢ **To share files with your friends and family:**

1. Insert your USB drive into the USB port on the router either directly or with a USB cable.

   Computers on your local area network (LAN) can automatically access this USB drive using a web browser or Microsoft Networking.

2. If you want to specify read-only access or to allow access from the Internet, see *USB Storage Advanced Settings* on page 54.

Storing Files in a Central Location for Printing

This scenario is for a family that has one high-quality color printer directly attached to a computer, but not shared on the local area network (LAN). This family does not have a print server.

- One family member has photos on a Macintosh computer that she wants to print.

- The photo-capable color printer is directly attached to a PC, but not shared on the network.

- The Mac and PC are not visible to each other on the network.

➢ **To print photos from a Mac on the printer attached to a PC:**

1. On the Mac, access the USB drive by typing **\\readyshare** in the address field of a web browser. Then copy the photos to the USB drive.

2. On the PC, use a web browser or Microsoft Networking to copy the files from the USB drive to the PC. Then print the files.

Sharing Large Files over the Internet

Sending files that are larger than 5 MB can pose a problem for many email systems. The router allows you to share very large files such as PowerPoint presentations or .zip files over the Internet. FTP can be used to easily download shared files from the router.

Sharing files with a remote colleague involves the following considerations:

- There are two user accounts: admin and guest. The password for admin is the same one that you use to access the router. By default, it is **password**. The guest user account has no password.

- On the FTP site, the person receiving the files should use the guest user account and enter any password (FTP requires that you type something in the password field).

- Be sure to select the **FTP (via Internet)** check box in the USB Storage (Advanced Settings) screen. This option supports both downloading and uploading of files.

> **Note:** You can enable the HTTP (via Internet) option on the USB Storage (Advanced Settings) screen to share large files. This option supports downloading files only.
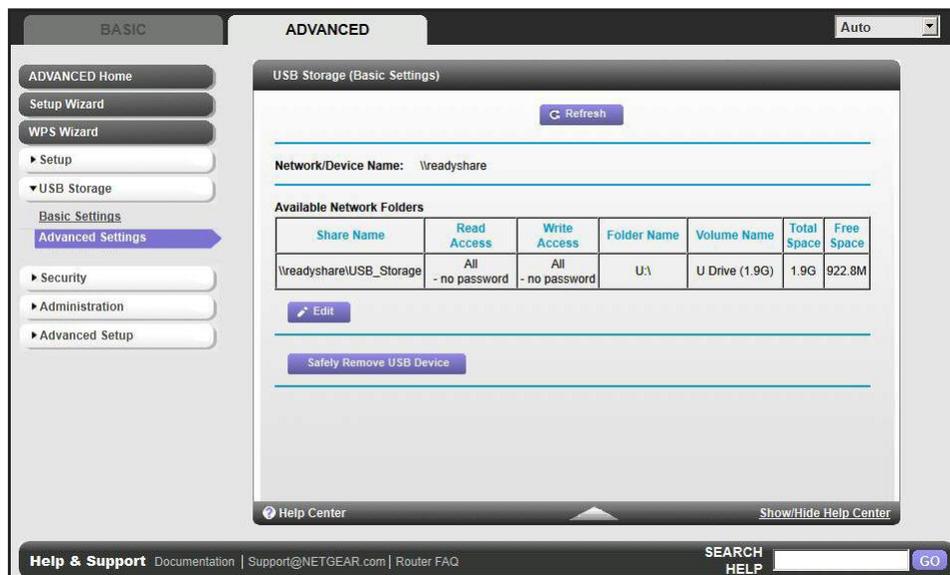
Basic Settings

You can view or edit basic settings for the USB storage device attached to your router.

You can access this feature through **Basic > ReadySHARE**, or through **Advanced > USB Storage > ReadySHARE**.

The USB Storage (Basic Settings) screen displays:

By default, the USB storage device is available to all computers on your local area network (LAN).

➢ **To access your USB device:**

1. Click the network device name or the share name in your computer's network folders list.

2. For SMB://readyshare, click **Connect**.

> **Note:** If you logged in to the router before you connected your USB device, you might not see your USB device in the router screens until you log out and then log back in again.
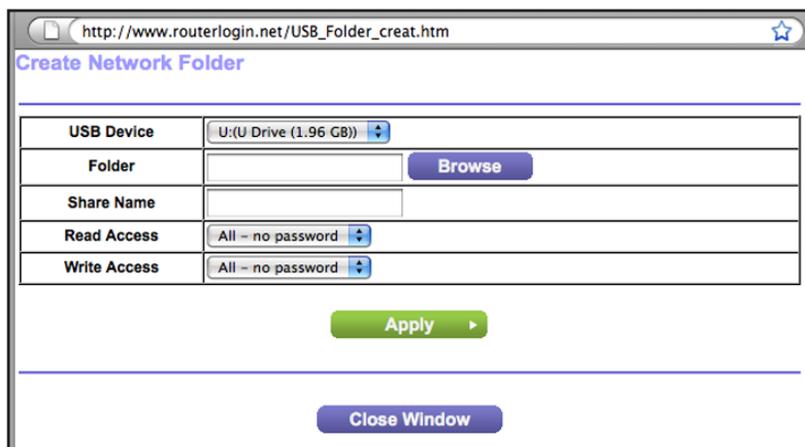

Add or Edit a Network Folder

1. You can access this feature by selecting **Basic > ReadyShare > Edit**, or **Advanced > USB Storage > Advanced Settings**.

2. Specify the changes that you want to make:

- To add a folder, click **Create Network Folder**.

- To edit a folder, select its radio button, and then click **Edit**.

3. You can use this screen to select a folder, to change the share name, or to change the read access or write access from All – no password to **admin**.

The user name (account name) for All – no password is guest. The password for admin is the same one that is used to log in to the router. By default, it is password.

4. Click **Apply** for your changes to take effect.

USB Storage Advanced Settings

You can set up the device name, workgroups, and network folders for your USB device. On the Advanced tab, select **USB Storage > Advanced Settings** to display the following screen:

You can use this screen to specify access to the USB storage device.

- **Network Device Name**. The default is readyshare. This is the name used to access the USB device connected to the router.

- **Workgroup**. If you are using a Windows workgroup rather than a domain, the workgroup name is displayed here. The name works only in an operating system that supports NetBIOS, such as Microsoft Windows.

- **Access Method**. The access methods are described here.

  Network Connection. Enabled by default, this connection allows all users on the LAN to have access to the USB drive.

  HTTP. Enabled by default. You can type **http://readyshare.routerlogin.net/shares** to access the USB drive.

  HTTP (via internet). Disabled by default. If you enable this setting, remote users can type **http://<*public IP address*>/shares** (for example, **http://1.1.10.102/shares**) or a URL domain name to access the USB drive over the Internet. This setting supports file uploading only.

  FTP. Disabled by default.

FTP (via internet). Disabled by default. If you enable this setting, remote users can access the USB drive through FTP over the Internet. This setting supports both downloading and uploading of files.

Available Network Folders

You might need to scroll down to view this section of the screen:
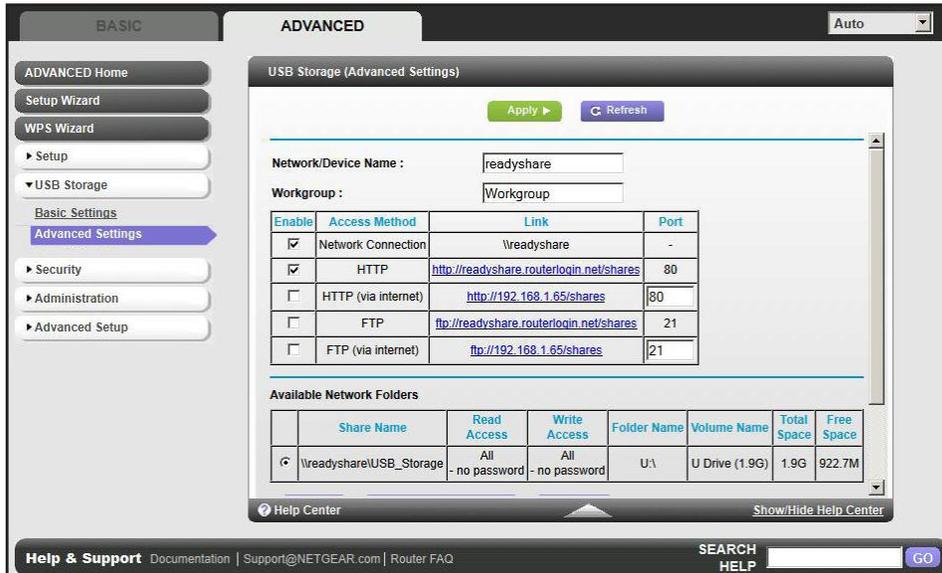
- • **Share Name**. If only 1 device is connected, the default share name is USB_Storage. You can click the name shown, or you can type it in the address field of your web browser. If Not Shared is shown, the default share has been deleted, and no other share for the root folder exists. Click the link to change this setting.

- • **Read/Write Access**. Shows the permissions and access controls on the network folder: All - no password (the default) allows all users to access the network folder. The password for admin is the same one that you use to log in to the router.

- • **Folder Name**. Full path used by the network folder.

- • **Volume Name**. Volume name from the storage device (either USB drive or HDD).

- • **Total/Free Space**. Shows the current utilization of the storage device.

Safely Remove a USB Drive

To safely remove a USB disk drive so that no users can access it, select **USB Storage > Basic Settings**, and click the **Safely Remove USB Device** button. This takes the drive offline.

Specify Approved USB Devices

For more security, you can set up the router to share approved USB devices only. You can access this feature from the Advanced Setup menu on the Advanced tab.

➢ **To set up approved USB devices:**

1. Select **Advanced > Advanced Setup > USB Settings**. The following screen displays:

2. Click the **Approved Devices** button. The USB Drive Approved Devices screen displays:
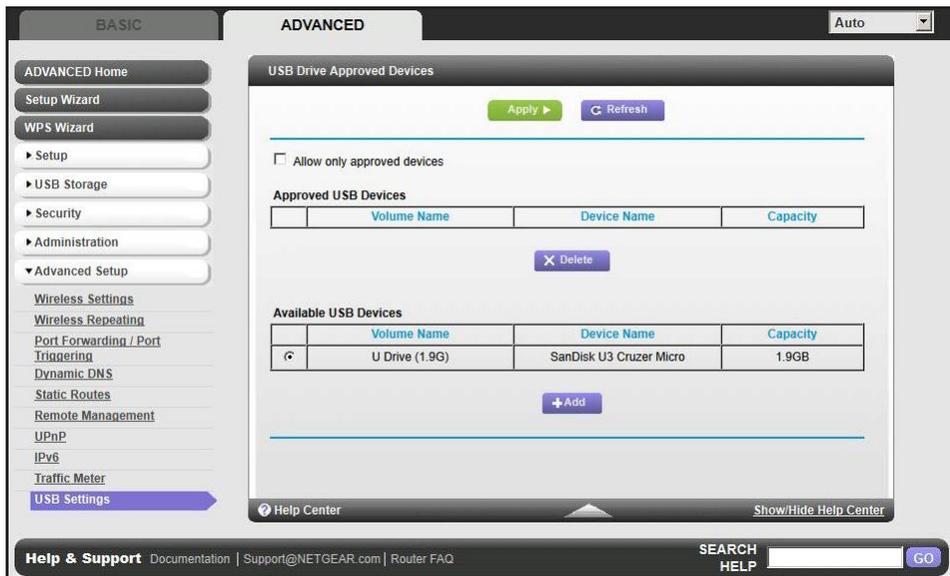
This screen shows the approved USB devices and the available USB devices. You can remove or add approved USB devices.

3. To add an approved USB device, select it from the Available USB Devices list, and then click **Add**.

4. Select the **Allow only approved devices** check box.

5. Click **Apply** so that your change takes effect.

If you want to work with another USB device, you have to first click the **Safely Remove USB Device** button for the currently connected USB device. Connect the other USB device, and repeat this process.

Connect to the USB Drive from a Remote Computer

To connect to the USB drive from remote computers with a web browser, you have to use the router's Internet port IP address. If you are using Dynamic DNS, you can type the DNS name, rather than the IP address. You can view the router's Internet IP address from the dashboard on the Basic Home screen or the Advanced Home screen.

Access the Router's USB Drive Remotely Using FTP

➢ **To connect to the router's USB drive using a web browser:**

1. Connect to the router by typing **ftp://** and the Internet port IP address in the address field of Internet Explorer or Netscape Navigator, for example:

   ftp://10.1.65.4

   If you are using Dynamic DNS, you can type the DNS name, rather than the IP address.

2. Type the account name and password that has access rights to the USB drive. The user name (account name) for All – no password is **guest**.

3. The directories of the USB drive that your account has access to are displayed, for example, share/partition1/directory1. You can now read and copy files from the USB directory.

Security

6

Keeping unwanted content out of your network

This chapter explains how to use the basic firewall features of the router to prevent objectionable content from reaching the PCs and other devices connected to your network.

This chapter includes the following sections:

- *Keyword Blocking of HTTP Traffic*
- *Block Services (Port Filtering)*
- *Schedule Blocking*
- *Security Event Email Notifications*

Keyword Blocking of HTTP Traffic

Use keyword blocking to prevent certain types of HTTP traffic from accessing your network. The blocking can be always or according to a schedule.

1. Select **Advanced > Security > Block Sites** to display the following screen:
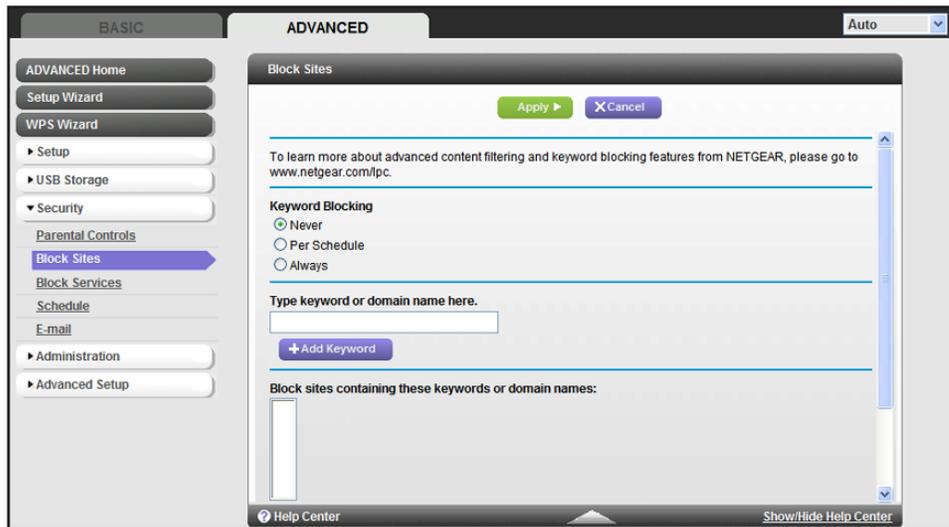
2. Select one of the keyword blocking options:
   - **Per Schedule**. Turn on keyword blocking according to the Schedule screen settings.
   - **Always**. Turn on keyword blocking all the time, independent of the Schedule screen.
3. In the Keyword field, enter a keyword or domain, click **Add Keyword**, and click **Apply**.

   The Keyword list supports up to 32 entries. Here are some sample entries:

   - Specify XXX to block http://www.badstuff.com/xxx.html.
   - Specify .com if you want to allow only sites with domain suffixes such as .edu or .gov.
   - Enter a period (**.**) to block all Internet browsing access.

➢ **To delete a keyword or domain:**

1. Select the keyword you want to delete from the list.
2. Click **Delete Keyword,** and then **Apply** to save your changes.

➢ **To specify a trusted computer:**

You can exempt one trusted computer from blocking and logging. The computer you exempt has to have a fixed IP address.

1. In the Trusted IP Address field, enter the IP address.
2. Click **Apply** to save your changes.

Block Services (Port Filtering)

Services are functions performed by server computers at the request of client computers. For example, web servers serve web pages, time servers serve time and date information, and game hosts serve data about other players' moves. When a computer on the Internet sends a request for service to a server computer, the requested service is identified by a service or port number. This number appears as the destination port number in the transmitted IP packets. For example, a packet that is sent with the destination port number 80 is an HTTP (web server) request.

The service numbers for many common protocols are defined by the Internet Engineering Task Force (IETF at *http://www.ietf.org/*) and published in RFC1700, "Assigned Numbers." Service numbers for other applications are typically chosen from the range 1024 to 65535 by the authors of the application. Although the router already holds a list of many service port numbers, you are not limited to these choices. You can often determine port number information by contacting the publisher of the application, by asking user groups or newsgroups, or by searching.

The Block Services screen lets you add and block specific Internet services by computers on your network. This is called service blocking or port filtering. To add a service for blocking, first determine which port number or range of numbers are used by the application.

➢ **To block services:**

1. Select **Advanced > Security > Block Services** to display the following screen:
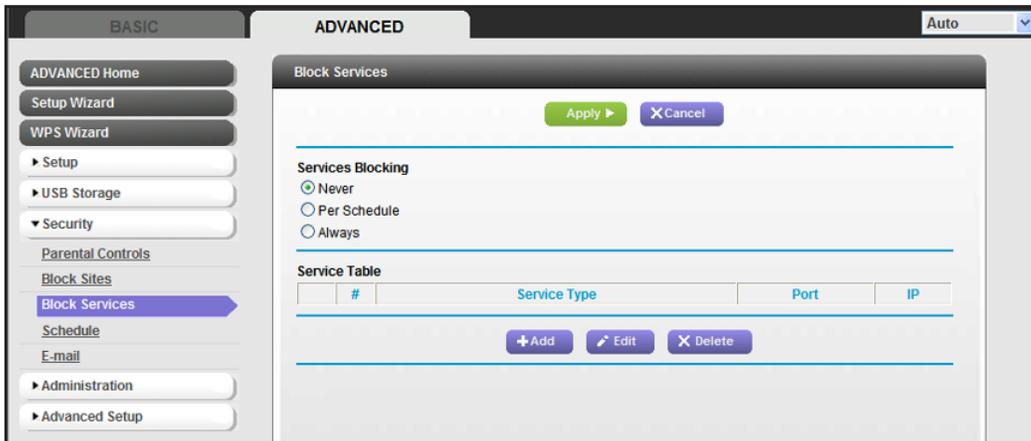
2. Select either **Per Schedule** or **Always** to enable service blocking, and click **Apply**. If you selected Per Schedule, specify a time period in the Schedule screen as described in *Schedule Blocking* on page 61.