



N300 Wireless Router

User Manual

Models:

JWNR2010v5

WNR2020

WNR614

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350 East Plumeria Drive
San Jose, CA 95134
USA



Support

Thank you for selecting NETGEAR products.

After installing your device, locate the serial number on the label of your product and use it to register your product at <https://my.netgear.com>. You must register your product before you can use NETGEAR telephone support. NETGEAR recommends registering your product through the NETGEAR website. For product updates and web support, visit <http://support.netgear.com>.

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

Phone (Other Countries): Check the list of phone numbers at <http://support.netgear.com/general/contact/default.aspx>.

Compliance

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

See the regulatory compliance document before connecting the power supply.

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1. Hardware Setup

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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.

This chapter contains the following sections:

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

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

Firmware updates with new features and bug fixes are made available from time to time at downloadcenter.netgear.com. Some products can regularly check the site and download new firmware, or 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.

Hardware Features

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

Front Panel LEDs

The router front panel has the following status LEDs.

Table 1. Front panel LED descriptions

LED	Description
Power 	Solid green. The power is on, and the router is ready. Blinking green. A firmware update is in progress. Off. Power is not supplied to the router.
Internet 	Solid green. An IP address was received; the router is ready to transmit data. Off. No Ethernet cable is connected between the router and the modem.
WiFi 	Solid green. The wireless radio is operating. Off. The wireless radio is off.
Ethernet ports 1–4 	Solid green. The Ethernet port has detected a 100 Mbps link with an attached device. Off. The Ethernet port has not detected a link with an attached device.

Back Panel

The back panel has the following ports, button, and connector.

Table 2. Back panel port, button, and connector descriptions

Port or Connector	Description
Ethernet ports	Four local area networks (LAN) Ethernet ports for connecting the router to your local computers.
Internet port	Ethernet port for connecting the router to a cable broadband modem or DSL broadband modem. The Internet port is also referred to as the WAN port.
AC power connector	AC power connector to connect the power adapter to the router.
WPS/Reset button	This button is a WPS and Reset button: - WPS button to connect computer or WiFi devices to the router's network. For more information, see WiFi Connection on page 12. - Reset button to return the router to its factory settings. For more information, see Factory Settings on page 76.

Position Your Router

The router lets you access your network 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.

Additionally, other wireless access points in and around your home might affect your router's signal. Wireless access points are routers, repeaters, WiFi range extenders, or any other device that emits a wireless signal for network access.

➤ **To position your router:**

1. Place your router near the center of the area where your computers and other devices operate, and within line of sight to your wireless devices.
2. Make sure that the router is within reach of an AC power outlet and near Ethernet cables for wired computers.
3. Place the router in an elevated location, minimizing the number walls and ceilings between the router and your other devices.
4. Place the router away from electrical devices such as these:
 - Ceiling fans
 - Home security systems
 - Microwaves
 - Computers
 - Base of a cordless phone
 - 2.4 GHz cordless phone
5. Place the router away from large metal surfaces, large glass surfaces, and insulated walls such as these:
 - Solid metal doors
 - Aluminum studs
 - Fish tanks
 - Mirrors
 - Brick
 - Concrete

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

1. Carefully peel off the protective film covering your router.
2. Place your router in a suitable area for installation (near an AC power outlet and accessible to the Ethernet cables for your wired computers).

Cable Your Router

The installation guide that came in the box has more details about installation. The following illustration shows typical cable connections for a router.

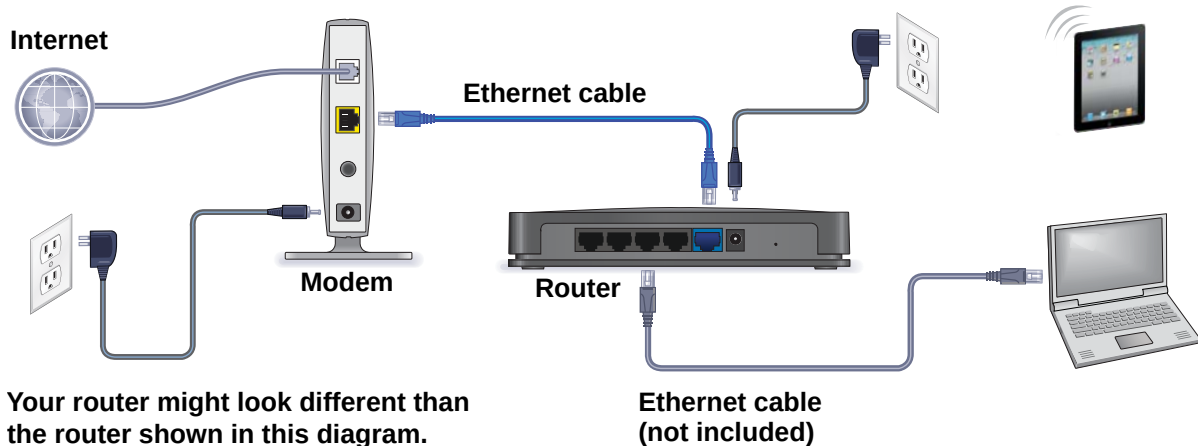


Figure 1. Router cable connections

➤ To cable your router:

1. Prepare your modem.

Unplug your modem's power. If it has a battery backup, remove the battery.

2. Connect the modem.

Plug in your modem. Put the battery back in. Then cable the modem to the router's Internet port

3. Connect the power adapter cord that came in the package to the power input on the rear panel of the router and plug it in to an electrical outlet.

The Power LED  lights.

4. Connect a computer or wireless device.

You have two options:

- **Connect with WiFi.** To connect with WiFi, use the WiFi network name and password on the product label.
- **Connect with an Ethernet cable.** Use an Ethernet cable to connect a computer to one of the Ethernet LAN ports on the rear panel of the router.

Verify the Cabling

Verify that your router is cabled correctly and the cables are attached securely by checking the router LEDs:

- The Power LED  is lit solid green when the router is turned on.
- The WiFi LED  is lit solid green.
- The Internet LED  is lit solid green.
- The Ethernet LEDs (1 through 4)     are lit solid green or solid amber for any computers cabled to the router by an Ethernet cable.

For information about troubleshooting with the LEDs, see [Troubleshoot with the LEDs](#) on page 67.

2. Connect to the Network and Access the Router

This chapter contains the following sections:

- *Connect to the Network*
- *Types of Logins*
- *Use a Web Browser to Access the Router*

Connect to the Network

You can connect to the router's network through a wired or WiFi connection. If you set up your computer to use a static IP address, change the settings so that it uses Dynamic Host Configuration Protocol (DHCP).

Wired Connection

You can connect your computer to the router using an Ethernet cable and join the router's local area network (LAN).

➤ **To connect your computer to the router with an Ethernet cable:**

1. Make sure that the router has 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 one of the numbered Ethernet ports.

Your computer connects to the local area network (LAN). A message might display on your computer screen to notify you that an Ethernet cable is connected.

WiFi Connection

You can connect to the router's WiFi network with Wi-Fi Protected Setup (WPS) or you can find and select the WiFi network.

➤ **To use WPS to connect to the WiFi network:**

1. Make sure that the router has power (its Power LED is lit).
2. Check the WPS instructions for your computer or wireless device.
3. Press the **WPS/Reset** button on the rear panel of the router.
4. Within two minutes, on your computer or WiFi device, press its **WPS** button or follow its instructions for WPS connections.

Your computer or wireless device connects to the WiFi network.

➤ **To find and select the WiFi network:**

1. Make sure that the router has power (its Power LED is lit).
2. On your computer or wireless device, find and select the WiFi network.

The WiFi network name is on the product label.

3. Join the WiFi network and enter the WiFi password.

The password is on the product label.

Your wireless device connects to the WiFi network.

Types of Logins

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

Types of logins:

- **Internet service login.** The login that logs you in to your Internet service. Your service provider gave you this login information in a letter or some other way. If you cannot find this login information, contact your service provider.
- **WiFi network login.** Your router is preset with a unique wireless network name (SSID) and password for wireless access. This information is on the product label.
- **Router login.** This logs you in to the router interface as admin from a web browser.

Use a Web Browser to Access the Router

When you connect to the network (either with WiFi or with an Ethernet cable), you can use a web browser to access the router to view or change its settings. The first time you access the router, NETGEAR genie automatically checks to see if your router can connect to your Internet service.

NETGEAR genie Automatic Internet Setup

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. Before you start the setup process, get your ISP information and make sure that the computers and devices in the network have the settings described here.

When your Internet service starts, your Internet service provider (ISP) typically gives you all the information needed to connect to the Internet. For DSL service, you might need the following information to set up your router:

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

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 login program on your computer to access the Internet. When you start an Internet application, your router automatically logs you in.

NETGEAR genie runs on any device with a web browser. Installation and basic setup takes about 15 minutes to complete.

➤ **To use NETGEAR genie to set up your router:**

1. Make sure that your computer or wireless device is connected to the router with an Ethernet cable (wired) or wirelessly with the preset security settings listed on the product label.

Note: If you want to change the router's WiFi setting, use a wired connection to avoid being disconnected when the new WiFi settings take effect.

2. Launch a web browser.

The screen that displays depends on whether you have accessed the router before:

- The first time you set up the Internet connection for your router, the browser 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.

3. Follow the onscreen instructions.

NETGEAR genie guides you through connecting the router to the Internet.

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

- 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 has full power, and that its Power LED is lit white.
- Close and reopen the browser or clear the browser cache.
- Browse to **<http://www.routerlogin.net>**.
- If the computer is set to a static or fixed IP address (this setting is uncommon), change it to obtain an IP address automatically from the router.

5. If the router does not connect to the Internet, do the following:

- a. Review your settings. Make sure that you selected the correct options and typed everything correctly.
- b. Contact your ISP to verify that you have the correct configuration information.
- c. Read [Chapter 6, Troubleshooting](#). If problems persist, register your NETGEAR product and contact NETGEAR technical support.

Log In to the Router

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

➤ **To log in to the router:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **<http://www.routerlogin.net>** or **<http://www.routerlogin.com>**.

A login screen displays.

3. Enter the router 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 screen displays.

3. Specify Your Internet Settings

Usually, the quickest way to set up the router to use your Internet connection is to allow the genie to detect the Internet connection when you first access the router with a web browser. You can also customize or specify your Internet settings.

This chapter contains the following sections:

- *Use the Internet Setup Wizard*
- *Manually Set Up the Internet Connection*
- *Change the MTU Size*

Use the Internet Setup Wizard

You can use the Setup Wizard to detect your Internet settings and automatically set up your router. The Setup Wizard is not the same as the genie screens that display the first time you connect to your router to set it up.

➤ **To use the Setup Wizard:**

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

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

A login screen displays.

3. Enter the router 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 screen displays.

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

5. Select the **Yes** radio button.

If you select No, you are taken to the Internet Setup screen (see [Manually Set Up the Internet Connection](#)).

6. Click the **Next** button.

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

Congratulations!	
You are successfully connected to the Internet.	
This router is preset with the following unique wireless network name (SSID) and <u>network key (password)</u>	
2.4GHzWireless Network Name (SSID)	NETGEAR94
Wireless <u>Network Key (Password)</u>	quickcream528
Print this	Take me to the Internet

Manually Set Up the Internet Connection

You can view or change the router's Internet connection settings.

Specify an Internet Connection Without a Login

➤ **To specify the Internet connection settings:**

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

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

A login screen displays.

3. Enter the router 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 screen displays.

4. Select **Internet**.

← You might need to scroll to view all the settings.

5. For the **Does your Internet connection require a login** setting, leave the **No** radio button selected.
6. If your Internet connection requires an account name or host name, type it in the **Account Name (If Required)** field.
7. If your Internet connection requires a domain name, type it in the **Domain Name (If Required)** field.

For the other sections in this screen, the default settings usually work, but you can change them.

8. For the **Internet IP Address** setting, select one of the following radio buttons:
 - **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 router to which your router connects.
9. For the **Domain Name Server (DNS) Address** setting, select one of the following radio buttons:
 - **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 requires specific servers, select this option. Enter the IP address of your ISP's primary DNS server. If a secondary DNS server address is available, enter it also.
10. For the **Router MAC Address** setting, select one of the following radio buttons:
 - **Use Default Address.** Use the default MAC address.
 - **Use Computer MAC Address.** The router captures and uses the MAC address of the computer that you are now using. You must use the one computer that the ISP allows.
 - **Use This MAC Address.** Enter the MAC address that you want to use.
11. Click the **Apply** button.
Your settings are saved.
12. Click the **Test** button to test your Internet connection.
If the NETGEAR website does not display within one minute, see [Chapter 6, Troubleshooting](#).

Specify an Internet Connection That Uses a Login

- **To view or change the basic Internet setup:**
1. Launch a web browser from a computer or wireless device that is connected to the network.
 2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.
A login screen displays.
 3. Enter the router 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 screen displays.

4. Select Internet.

Internet Setup

Apply Cancel Test

Does your Internet connection require a login?

☒ Yes
☐ No

Internet Service Provider PPPoE ▾

Login

Password

Service Name (If Required)

Connection Mode Dial on Demand ▾

Idle Timeout (In Minutes)

Internet IP Address

☒ Get Dynamically from ISP
☐ Use Static IP Address

Domain Name Server (DNS) Address

☒ Get Automatically from ISP
☐ Use These DNS Servers

Primary DNS

Secondary DNS

Router MAC Address

☒ Use Default Address
☐ Use Computer MAC Address
☐ Use This MAC Address

[? Help Center](#) [Show/Hide Help Center](#)

← You might need to scroll to view all the settings.

5. In the **Does your Internet connection require a login** section of the screen, select the **Yes** radio button.

The screen adjusts.

6. In the **Internet Service Provider** list, select the encapsulation method **PPPoE**, **PPPoA**, or **L2TP**.
7. In the **Login** field, enter the login name your ISP gave you. This login name is often an email address.
8. In the **Password** field, type the password that you use to log in to your Internet service.
9. If your ISP requires a service name, type it in the **Service Name (if Required)** field.
10. In the **Connection Mode** drop-down list, select **Always On**, **Dial on Demand**, or **Manually Connect**.
11. To change the number of minutes until the Internet login times, out, in the **Idle Timeout (In minutes)** field, type the number of minutes.

This is how long the router keeps the Internet connection active when no one on the network is using the Internet connection. A value of 0 (zero) means never log out.

12. In the **Internet IP Address** section, select one of the following radio buttons:
- **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 router to which your router connects.

13. In the Domain Name Server (DNS) Address section, select one of the following radio buttons:
 - **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 requires specific servers, select this option. Enter the IP address of your ISP's primary DNS server. If a secondary DNS server address is available, enter it also.
14. In the Router MAC Address section of the screen, select one of the following radio buttons:
 - **Use Default Address.** Use the default MAC address.
 - **Use Computer MAC Address.** The router captures and uses the MAC address of the computer that you are now using. You must use the one computer that the ISP allows.
 - **Use This MAC Address.** Enter the MAC address that you want to use.
15. Click the **Apply** button.
Your settings are saved.
16. Click the **Test** button to test your Internet connection.
If the NETGEAR website does not display within one minute, see [Chapter 6, Troubleshooting](#).

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 a device in the data path has a lower 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
 - 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. For example, you might not be able to access certain websites, frames within websites, secure login pages, or FTP or POP servers.

➤ **To change the MTU size:**

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

2. Type <http://www.routerlogin.net> or <http://www.routerlogin.com>.

A login screen displays.

3. Enter the router 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 screen displays.

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

5. In the **MTU Size** field, enter a value from 64 to 1500.

6. Click the **Apply** button.

Your change is saved.

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 3. 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 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.

4. Networking

This chapter includes the following sections:

- *View or Change WAN Settings*
- *Set Up a Default DMZ Server*
- *Change the Router's Device Name*
- *Change the LAN TCP/IP Settings*
- *Specify the IP Addresses that the Router Assigns*
- *Disable the DHCP Server Feature in the Router*
- *Reserve LAN IP Addresses*
- *Use the WPS Wizard for WiFi Connections*
- *Specify Basic WiFi Settings*
- *Change the WiFi Security Option*
- *Set Up a Guest Network*
- *Control the Wireless Radio*
- *Set Up a Wireless Schedule*
- *Set up a Wireless Access List*
- *Specify WPS Settings*
- *Wireless Distribution System*
- *Static Routes*
- *View Devices Currently on the Network*
- *Improve Network Connections with Universal Plug and Play*

View or Change WAN Settings

You can view or configure wide area network (WAN) settings for the Internet port. You can set up a DMZ (demilitarized zone) server, change the maximum transmit unit (MTU) size, and enable the router to respond to a ping to its WAN (Internet) port.

➤ **To view or change the WAN settings:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

A login screen displays.

3. Enter the router 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 screen displays.

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

The following settings display:

- **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, and many others. Select this check box only in special circumstances.
- **Default DMZ Server.** This feature is sometimes helpful when you are playing online games or videoconferencing, but it makes the firewall security less effective. See [Set Up a Default DMZ Server](#) on page 26.
- **Respond to Ping on Internet Port.** This feature allows your router to be discovered. Use this feature only as a diagnostic tool or if you have a specific reason.
- **MTU Size (in bytes).** The normal MTU (maximum transmit unit) value for most Ethernet networks is 1500 bytes, or 1492 bytes for PPPoE connections. Change the

MTU only if you are sure that it is necessary for your ISP connection. See [Change the MTU Size](#) on page 21.

- **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. By default, the **Secured** radio button is selected.
 - Open NAT provides a much less secured firewall, but allows almost all Internet applications to function.
 - **Disable SIP ALG.** Some Voice over IP (VoIP) applications do not function well with the Session Initiation Protocol (SIP) Application Layer Gateway (ALG). Selecting the check box to turn off the SIP ALG might enable connected VoIP devices to create and accept a VoIP call through the router. By default, this check box is cleared.
 - **Disable IGMP Proxying.** IGMP proxying allows computers on the LAN to receive the multicast traffic they are subscribed to from the Internet. By default, this check box is selected, and the IGMP proxy is disabled, preventing multicast traffic from the Internet to the LAN. Clear the **Disable IGMP Proxying** check box to allow multicast traffic from the Internet to the LAN.
 - **VPN Passthrough.** The router supports VPN passthrough for IPSec, PPTP, and L2TP.
 - **IPSec Passthrough.** To enable or disable IPSec passthrough, select the **Enable** or **Disabled** radio button.
 - **PPTP Passthrough.** To enable or disable PPTP passthrough, select the **Enable** or **Disabled** radio button.
 - **L2TP Passthrough.** To enable or disable L2TP passthrough, select the **Enable** or **Disabled** radio button.
5. Change the settings as needed.
 6. Click the **Apply** button.

Your changes are saved.

Set Up a 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 other applications might not function well. In some cases, one local computer can run the application correctly if the IP address for that computer 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.

The router detects and discards incoming traffic from the Internet that is not 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 the router forward the traffic to one computer on your network. This computer is called the default DMZ server.

➤ **To set up a default DMZ server:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.
A login screen displays.
3. Enter the router 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 screen displays.
4. Select **ADVANCED > Setup > WAN Setup**.
5. Select the **Default DMZ Server** check box.
6. Type the IP address.
7. Click the **Apply** button.
Your change is saved.

Change the Router's Device Name

The router's device name displays in file manager when you browse your network.

➤ **To change the router's device name:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.
A login screen displays.
3. Enter the router 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 screen displays.

4. Select **ADVANCED > Setup > LAN Setup**.
5. In the **Device Name** field, type a new name.
6. Click the **Apply** button.

Your change is saved.

Change the LAN TCP/IP Settings

The router is 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 as follows:

- **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 are suitable for most applications. If your network requires a different IP addressing scheme, you can change these settings

You might want to change these settings if you need a specific IP subnet that one or more devices on the network uses, or if you have competing subnets with the same IP scheme.

➤ To change the LAN TCP/IP settings:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.
A login screen displays.
3. Enter the router 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 screen displays.

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

LAN Setup

Apply Cancel

Device Name JWNR2010v5

LAN TCP/IP Setup

IP Address 192 . 168 . 1 . 1

IP Subnet Mask 255 . 255 . 255 . 0

RIP Direction Both

RIP Version Disabled

☒ Use Router as DHCP Server

Starting IP Address 192 . 168 . 1 . 2

Ending IP Address 192 . 168 . 1 . 254

Address Reservation

	#	IP Address	Device Name	MAC Address
+ Add Edit Delete				

5. In the **IP Address** field, type the IP address.

6. In the **IP Subnet Mask**, type the subnet mask of the router.

The IP address and subnet mask identifies which addresses are local to a specific device and which must be reached through a gateway or router.

7. Change the RIP settings.

Router Information Protocol (RIP) allows a router to exchange routing information with other routers.

a. In the **RIP Direction** list, select one of the following:

- **Both**. The router broadcasts its routing table periodically and incorporates information that it receives.
- **Out Only**. The router broadcasts its routing table periodically.
- **In Only**. The router incorporates the RIP information that it receives.

b. In the **RIP Version** list, select one of the following:

- **Disabled**. This is the default setting.
- **RIP-1**. This format is universally supported. It is adequate for most networks, unless you have 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.

8. Click the **Apply** button.

Your changes are saved.

If you changed the LAN IP address of the router, you are disconnected when this change takes effect.

9. To reconnect, close your browser, relaunch it, and log in to the router

Specify the IP Addresses that the Router Assigns

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

These addresses must be part of the same IP address subnet as the router's LAN IP address. Using the default addressing scheme, define a range between 192.168.1.2 and 192.168.1.254, although you can 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 that you have defined
- Subnet mask
- Gateway IP address (the router's LAN IP address)
- DNS server IP address (the router's LAN IP address)

➤ To specify the pool of IP addresses that the router assigns:

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

2. Type <http://www.routerlogin.net> or <http://www.routerlogin.com>.

A login screen displays.

3. Enter the router 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 screen displays.

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

LAN Setup

Apply Cancel

Device Name JWNR2010v5

LAN TCP/IP Setup

IP Address 192 . 168 . 1 . 1

IP Subnet Mask 255 . 255 . 255 . 0

RIP Direction Both

RIP Version Disabled

☒ Use Router as DHCP Server

Starting IP Address 192 . 168 . 1 . 2

Ending IP Address 192 . 168 . 1 . 254

Address Reservation

	#	IP Address	Device Name	MAC Address
+ Add Edit Delete				

5. Make sure that the **Use Router as DHCP Server** check box is selected.
6. Specify the range of IP addresses that the router assigns:

- a. In the **Starting IP Address** field, type the lowest number in the range.

This IP address must be in the same subnet as the router.

- b. In the **Ending IP Address** field, type the number at the end of the range of IP addresses.

This IP address must be in the same subnet as the router.

7. Click the **Apply** button.

Your settings are saved.

Disable the DHCP Server Feature in the Router

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

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

➤ To disable the DHCP server feature in the router:

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

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

A login screen displays.

3. Enter the router 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 screen displays.

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

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

6. Click the **Apply** button.

7. (Optional) If this service is disabled and no other DHCP server is on your network, set your computer IP addresses manually so that they can access the router.

Reserve 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 router's DHCP server. Assign reserved IP addresses to computers or servers that require permanent IP settings.

➤ **To reserve an IP address:**

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

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

A login screen displays.

3. Enter the router 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 screen displays.

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

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

6. 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.

7. 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.

8. Click the **Apply** button.

The reserved address is entered 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 a reserved address entry:**

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

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

A login screen displays.

3. Enter the router 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 screen displays.

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

5. Select the radio button next to the reserved address.

6. Click the **Edit** button.

7. Change the settings.

8. Click the **Apply** button.

Your changes are saved.

➤ **To delete a reserved address entry:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

A login screen displays.

3. Enter the router 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 screen displays.

4. Select **ADVANCED > Setup > LAN Setup**.
5. Select the radio button next to the reserved address.
6. Click the **Delete** button.

The address is removed.

Use the WPS Wizard for WiFi Connections

The WPS Wizard helps you add a wireless computer or device to your WiFi network without typing the WiFi password.

➤ **To use the WPS Wizard:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

A login screen displays.

3. Enter the router 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 screen displays.

4. Select **ADVANCED > WPS Wizard**.
5. Click the **Next** button.
6. Select the radio button for the setup method that you want to use:
 - **Push button.** Click the **WPS** button on this screen.
 - **PIN Number.** The screen adjusts. Enter the client security PIN, and click the **Next** button.

7. Within two minutes, go to the client device and use its WPS software to connect to the WiFi network.

The WPS process automatically sets up your wireless computer with the network password when it connects. The router WPS screen displays a confirmation message.

Specify Basic WiFi Settings

The 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 product label.

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 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 the **Apply** button. To avoid this problem, use a computer with a wired connection to access the router.

➤ To specify basic wireless settings:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **<http://www.routerlogin.net>** or **<http://www.routerlogin.com>**.
A login screen displays.
3. Enter the router 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 screen displays.

4. Select **Wireless**.

The screenshot shows the 'Wireless Network' configuration window. At the top, there are 'Cancel' and 'Apply' buttons. Below them is the 'Select Region' section with a dropdown menu set to 'Asia'. The 'Wireless Network (2.4GHz b/g/n)' section includes a text field for 'Name (SSID)' containing 'NETGEAR94', a dropdown for 'Channel' set to 'Auto', and a dropdown for 'Mode' set to 'Up to 300 Mbps'. There are two checkboxes: 'Enable SSID Broadcast' (checked) and 'Enable Wireless Isolation' (unchecked). The 'Security Options' section has three radio buttons: 'None', 'WPA2-PSK [AES]' (selected), and 'WPA-PSK [TKIP] + WPA2-PSK [AES]'. Below this, the 'Security Options (WPA2-PSK)' section has a text field for 'Passphrase' containing 'quickcream528' and a note '(8-63 characters or 64 hex digits)'.

5. In the **Region** list, select your region. In some locations, you cannot change this setting.

6. To change the network name (SSID), type a new name in the **Name (SSID)** field.

The name can be up to 32 characters long and it is case-sensitive. The default SSID is randomly generated and is on the product label. If you change the name, make sure to write down the new name and keep it in a safe place.

7. To change the wireless channel, select a number in the **Channel** list.

In some regions, not all channels are available. 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.

When you use multiple access points, it is better if adjacent access points use different channels to reduce interference. The recommended channel spacing between adjacent access points is four channels (for example, use Channels 1 and 5, or 6 and 10).

8. To change the mode, select it from the **Mode** list.

9. To control the SSID broadcast, select or clear the **Enable SSID Broadcast** check box.

When this check box is selected, the router broadcasts its network name (SSID) so that it displays when you scan for local WiFi networks on your computer or wireless device.

10. To prevent computers and wireless devices on the network from accessing each other, select the **Enable Wireless Isolation** check box.

11. Click the **Apply** button.

Your settings are saved.

If you connected wirelessly to the network and you changed the SSID, you are disconnected from the network.

12. Make sure that you can connect wirelessly to the network with its new settings.

If you cannot connect wirelessly, check the following:

- Is your computer or wireless device connected to another wireless network in your area? Some wireless devices automatically connect to the first open network without wireless security that they discover.
- Is your computer or wireless device trying to connect to your network with its old settings (before you changed the settings)? If so, update the wireless network selection in your computer or wireless device to match the current settings for your network.

Change the WiFi Security Option

Your router comes with preset WPA2 or WPA security. The password that you enter to connect to your network is unique to your router and is on the product label. **NETGEAR recommends that you use the preset security, but you can change them. NETGEAR recommends that you do not disable security.**

➤ To change the WPA settings:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

A login screen displays.

3. Enter the router 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 screen displays.

4. Select **Wireless**.
5. Under **Security Options**, select a radio button for one of the following WPA options:

- WPA-PSK [TKIP]
- WPA2-PSK [AES]
- WPA-PSK [TKIP] + WPA2-PSK [AES]
- WPA/WPA2 Enterprise

The WPA2 options use the newest standard for the strongest security, but some older computers and wireless devices cannot use WPA2. By default, the **WPA-PSK [TKIP] + WPA2-PSK [AES]** radio button is selected so that new or old computers and wireless devices can connect to the WiFi network by using either WPA2 or WPA security.

The **Passphrase** field displays.

6. In the **Passphrase** field, enter the network key (password) that you want to use.

It is a text string from 8 to 63 characters.

7. Write down the new password and keep it in a secure place for future reference.
8. Click the **Apply** button.

Your changes are saved.

Set Up a Guest Network

A guest network allows visitors at your home to use the Internet without using 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. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

A login screen displays.

3. Enter the router 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 screen displays.

4. Select **Guest Network**.

Guest Network Settings

Cancel Apply

Profile	SSID	Security	Enable	Broadcast SSID
☒ 1	NETGEAR_Guest	None	No	Yes
☐ 2	NETGEAR_Guest1	None	No	Yes
☐ 3	NETGEAR_Guest2	None	No	Yes

Wireless Settings - Profile 1

Name (SSID): NETGEAR_Guest x

Channel: Auto v

Mode: Up to 300 Mbps v

☐ Enable Guest Network

☒ Enable SSID Broadcast

☐ Allow guest to access My Local Network

☐ Enable Wireless Isolation

Security Options - Profile 1

☒ None

☐ WPA2-PSK [AES]

☐ WPA-PSK [TKIP] + WPA2-PSK [AES]

5. Select any of the following wireless settings:
 - **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 see each other and access my local network.** If this check box is selected, anyone who connects to this SSID has access to your local network, not just Internet access.

6. 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 SSID.

7. Select a radio button for a security option.

The WPA2 options use the newest standard for the strongest security, but some older computers and wireless devices cannot use it. NETGEAR recommends that you select the **WPA-PSK [TKIP] + WPA2-PSK [AES]** radio button. This setting protects your WiFi network and lets computers and wireless devices can connect to the WiFi network by using either WPA2 or WPA security.

8. Click the **Apply** button.

Your settings are saved.

Control the Wireless Radio

The router has an internal wireless radio that broadcasts signals in the 2.4 GHz range. By default, it is enabled so that you can connect wirelessly to the router. When the wireless radio is disabled, you can still use an Ethernet cable for a LAN connection to the router.

Enable or Disable the Wireless Radio

➤ **To enable or disable the wireless radio:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **<http://www.routerlogin.net>** or **<http://www.routerlogin.com>**.

A login screen displays.

3. Enter the router 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 screen displays.

4. Select **ADVANCED > Advanced Setup > Wireless Settings**.

5. Select or clear the **Enable Wireless Radio** check box.
Clearing this check box turns off the WiFi feature of the router.
6. Click the **Apply** button.
Your changes are saved.

Set Up a Wireless Schedule

You can use this feature to turn off the wireless signal from your router at times when you do not need a wireless connection. For example, you might turn it off for the weekend if you leave town.

➤ To set up the wireless schedule:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.
A login screen displays.
3. Enter the router 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 screen displays.
4. Select **ADVANCED > Advanced Setup > Wireless Settings**.
The Advanced Wireless Settings screen displays.

- Click the **Add a new period** button.

- Use the lists, radio buttons, and check boxes to set up a period during which you want to turn off the wireless signal.
- Click the **Apply** button.

The Advanced Wireless Settings screen displays.

- Select the **Turn off wireless signal by schedule** check box to activate the schedule.
- Click the **Apply** button.

Your changes are saved.

Set up a Wireless Access List

You can set up a list of computers and wireless devices that are allowed to use WiFi to connect to the router. You must enter the MAC address of each computer or device. When you enable access control, computers and devices that are not in the list cannot connect with WiFi.

➤ To set up a wireless access list and turn on access control:

- Launch a web browser from a computer or wireless device that is connected to the network.
- Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

A login screen displays.

- Enter the router 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 screen displays.

4. Select **ADVANCED > Advanced Setup > Wireless Settings**.

5. Click the **Set Up Access List** button.

6. Click the **Add** button.

The screen adjusts.

7. Complete the **Device Name** and **MAC Address** fields.

8. Click the **Add** button.

The Wireless Card Access List screen displays with the device that you added in the access list.

9. When you have finished adding devices to the access list, select the **Turn Access Control On** check box.

10. Click the **Apply** button.

Your changes are saved.

Specify WPS Settings

Wi-Fi Protected Setup (WPS) lets you join the WiFi network without typing the WiFi password.

➤ **To specify WPS Settings:**

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

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

A login screen displays.

3. Enter the router 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 screen displays.

4. Select **ADVANCED > Advanced Setup > Wireless Settings**.

The **Router's PIN** field displays the PIN that you use on a registrar (for example, from the Network Explorer on a Vista Windows computer) to configure the router's wireless settings through WPS.

5. (Optional) Select or clear the **Disable Router's PIN** check box.

The PIN function might temporarily be disabled when the router detects suspicious attempts to break into the router's wireless settings by using the router's PIN through WPS. You can manually enable the PIN function by clearing the **Disable Router's PIN** check box.

6. (Optional) Select or clear the **Keep Existing Wireless Settings** check box.

By default, the Keep Existing Wireless Settings check box is selected. NETGEAR recommends that you leave this check box selected.

If you clear this check box, the next time a new wireless client uses WPS to connect to the router, the router wireless settings change to an automatically generated random SSID and security key.

7. Click the **Apply** button.

Your changes are saved.

Wireless Distribution System

You can set up the router to be used as a wireless base station or wireless repeater in a wireless distribution system (WDS). A WDS lets you expand a wireless network through multiple access points instead of using a wired backbone to link them. A wireless base station connects to the Internet, can have wired and wireless clients, and sends its wireless signal to an access point that functions as a wireless repeater. A wireless repeater can also have

wired and wireless clients, but connects to the Internet through the wireless base station.

The router can function either as a base station or as a repeater:

- **Wireless base station.** The router acts as the parent access point, bridging traffic to and from the child repeater access point, as well as handling wireless and wired local computers. To configure this mode, you must know the MAC address of the child repeater access point.
- **Wireless repeater.** The router sends all traffic from its local wireless or wired computers to a remote access point. To configure this mode, you must know the MAC address of the remote parent access point.

For you to set up a wireless network in a WDS, the following conditions must be met for both access points:

- Both access points must use the same SSID, wireless channel, and encryption mode.
- Both access points must be on the same LAN IP subnet. That is, all the access point LAN IP addresses are in the same network.
- All LAN devices (wired and wireless computers) must be configured to operate in the same LAN network address range as the access points.
- The channel selection on the access points cannot be **Auto** (see *Basic Wireless Settings* on page 28).
- The security option must be WEP (or no security). The **WEP** option displays only if you select **Up to 54 Mbps** from the **Mode** list on the Wireless Settings screen (see *Basic Wireless Settings* on page 28).

Set Up the Base Station

The wireless repeating function works only in hub and spoke mode. The units cannot be daisy-chained. You must know the wireless MAC addresses of all units. First, set up the base station and then set up the repeater.

➤ To set up the base station:

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

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

A login screen displays.

3. Enter the router 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 screen displays.

4. Select **ADVANCED > Advanced Setup > Wireless Repeating Function**.

The Wireless Repeating Function screen displays. The wireless MAC address of the router displays onscreen.

5. Select the **Enable Wireless Repeating Function** check box.
6. Select the **Wireless Base Station** radio button.

7. To prevent wireless clients from associating with the base station and allow LAN client associations only, select the **Disable Wireless Client Association** check box.

You can leave the check box cleared if you prefer wireless clients to be able to associate with the base stations.

8. In the **Repeater MAC Address 1** through **4** fields, enter the MAC addresses for the access points that should function as repeaters.

If your router is the base station, it can function as the “parent” for up to four other access points.

9. Click the **Apply** button.

Your changes are saved.

Set Up a Repeater

To set up the repeater to avoid conflicts with the wireless connection to the base station, use a wired Ethernet connection.

Note: If you set up your router as a base station with a non-NETGEAR access point as the repeater, you might need to change more configuration settings. In particular, you should disable the DHCP server function on the access point that functions as the repeater.

➤ To configure the router as a repeater:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type <http://www.routerlogin.net> or <http://www.routerlogin.com>.

A login screen displays.

3. Enter the router 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 screen displays.

4. Select **ADVANCED > Advanced Setup > Wireless Repeating Function**.

The Wireless Repeating Function screen displays. The wireless MAC address of the router displays onscreen.

5. Select the **Enable Wireless Repeating Function** check box.
6. Select the **Wireless Repeater** radio button.

7. Complete the **Repeater IP Address** field.

This IP address must be in the same subnet as the base station, but different from the LAN IP address of the base station.

8. To prevent wireless clients from associating with the repeater and allow LAN client associations only, select the **Disable Wireless Client Association** check box.

You can leave the check box cleared if you prefer wireless clients to be able to associate with the repeater.

9. In the **Base Station MAC Address** field, enter the MAC addresses for the access point that will function as the base station.
10. Click the **Apply** button.

Your changes are saved.

11. Verify connectivity across the LANs.

A computer on any wireless or wired LAN segment of the base station or a repeater can connect to the Internet. Any computer that is connected to the base station can share files and printers with any other wireless or wired computer or server that is connected to a repeater.

Static Routes

Static routes provide more routing information to your router. Under usual circumstances, the router has adequate routing information after it has been configured for Internet access, and you do not need to configure more static routes. You must configure static routes only for unusual cases such as 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 a cable modem to an ISP.
- You have an ISDN router on your home network for connecting to the company where you are employed. This router's address on your LAN is 192.168.1.100.
- Your company's network address is 134.177.0.0.

When you first configured your router, 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 192.168.1.x addresses. With this configuration, if you attempt to access a device on the 134.177.0.0 network, your router forwards your request to the ISP. The ISP forwards your request to the company where you are employed, and the company's firewall denies the request.

In this case you must define a static route, telling your router that 134.177.0.0 should be accessed through the ISDN router at 192.168.1.100. This example assumes the following settings:

- The **Destination IP Address** and **IP Subnet Mask** fields specify that this static route applies to all 134.177.x.x addresses.
- The **Gateway IP Address** field specifies that all traffic for these addresses should be forwarded to the ISDN router at 192.168.1.100.
- A metric value of **1** works because the ISDN router is on the LAN.
- **Private** is selected only as a precautionary security measure in case RIP is activated.

➤ To set up a static route:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

A login screen displays.

3. Enter the router 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 screen displays.

4. Select **ADVANCED > Advanced Setup > Static Routes**.
5. Click the **Add** button.

The screen adjusts:



6. In the **Route Name** field, type a name for this static route (for identification purposes only).
7. If you want to limit access to the LAN only, select the **Private** check box.

If you select **Private**, the static route is not reported in RIP.

8. To make this route effective, select the **Active** check box.

By default, the **Active** check box is selected.

9. Type the IP address of the final destination.
10. Type the IP subnet mask for this destination. If the destination is a single host, type **255.255.255.255**.
11. Type the gateway IP address, which must be a router on the same LAN segment as the Wireless Router.
12. Type a number from 1 through 15 as the metric value.

This value represents the number of routers between your network and the destination. Usually, a setting of 2 or 3 works, but if this link is a direct connection, set it to **1**.

13. Click the **Apply** button.

The route is added to the table on the Static Routes screen.

➤ To edit a static route:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

A login screen displays.

3. Enter the router 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 screen displays.

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

The Static Routes screen displays.

5. In the table, select the radio button next to the route that you want to edit.

6. Click the **Edit** button.

The Static Routes screen adjusts.

7. Edit the route information.
8. Click the **Apply** button.

Your changes are saved.

➤ **To delete a static route:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

A login screen displays.

3. Enter the router 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 screen displays.

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

The Static Routes screen displays.

5. In the table, select the radio button next to the route that you want to delete.
6. Click the **Delete** button.

The route is removed from the table.

View Devices Currently on the Network

You can view all computers or devices that are currently connected to your network.

➤ **To view devices on the network:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

A login screen displays.

3. Enter the router 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 screen displays.

4. Select **Attached Devices**.

Attached Devices			
Refresh			
Wired Devices			
#	IP Address	MAC Address	Device Name
1	192.168.1.2	F0:DE:F1:0F:35:FE	MPAWLAN
Wireless Devices (Wireless intruders also show up here)			
#	IP Address	MAC Address	Device Name

The Wired Devices section lists devices that are connected to the router with Ethernet cables. The Wireless Devices section lists devices that are connected to the wireless network.

The following information is displayed:

- **Status.** The status of the device, Allowed or Blocked.
- **Device Name.** If the device name is known, it is shown here.
- **IP Address.** The IP address that the router assigned to this device when it joined the network. 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.

5. To update this screen, click the **Refresh** button.

Improve Network Connections with Universal Plug and Play

Universal Plug and Play (UPnP) helps devices, such as Internet appliances and computers, access the network and connect to other devices as needed. UPnP devices can automatically discover the services from other registered UPnP devices on the network.

If you use applications such as multiplayer gaming, peer-to-peer connections, or real-time communications such as instant messaging or remote assistance (a feature in Windows XP), enable UPnP.

➤ To enable Universal Plug and Play:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://routerlogin.net** or **http://192.168.0.1**.

A login screen displays.

3. Enter the router 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 screen displays.

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

5. Select the **Turn UPnP On** check box.

By default, this check box is selected. If the **Turn UPnP On** check box is cleared, the router does not allow any device to automatically control router resources, such as port forwarding.

6. Type the advertisement period in minutes.

The advertisement period specifies how often the router broadcasts its UPnP information. This value can range from 1 to 1440 minutes. The default period is 30 minutes. Shorter durations ensure that control points have current device status at the expense of more network traffic. Longer durations can compromise the freshness of the device status, but can significantly reduce network traffic.

7. Type the advertisement time to live in hops.

The time to live for the advertisement is measured in hops (steps) for each UPnP packet sent. Hops are the steps a packet takes between routers. The number of hops can range from 1 to 255. The default value for the advertisement time to live is 4 hops, which should be fine for most home networks. If you notice that some devices are not being updated or reached correctly, it might be necessary to increase this value.

8. Click the **Apply** button.

The UPnP Portmap Table displays the IP address of each UPnP device that is accessing the router and which ports (internal and external) that device has opened. The UPnP Portmap Table also displays what type of port is open and whether that port is still active for each IP address.

To refresh the information in the UPnP Portmap table, click the **Refresh** button.

5. Manage Your Network

This chapter describes the router settings for administering and maintaining your router and home network.

This chapter includes the following sections:

- *Update the Router Firmware*
- *Change the admin Password*
- *Recover the admin Password*
- *View Router Status*
- *View the Internet Connection Settings*
- *View Wireless Settings*
- *View Guest Network Settings*
- *Reboot the Router*
- *Manage the Configuration File*

Update the Router Firmware

The router firmware (routing software) is stored in flash memory. You might see a message at the top of the genie screens when new firmware is available. You can respond to that message to update the firmware, or you can check to see if new firmware is available, and to update your product.

➤ **To check for new firmware and update your router:**

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

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

A login screen displays.

3. Enter the router 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 screen displays.

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

5. Click the **Check** button.

The router finds new firmware information if any is available and displays a message asking if you want to download and install it.

6. Click the **Yes** button.

The router locates and downloads the firmware.

7. To upload the firmware that you have downloaded from the NETGEAR support website, do the following:

- a. Click **Browse**, navigate to the firmware file (the file ends in **.img**), and select the firmware file.

- b. Click the **Upload** button.



WARNING:

To avoid the risk of corrupting the firmware, do not interrupt the upgrade. For example, do not close the browser, click a link, or load a new page. Do not turn off the router.

A progress bar shows the progress of the firmware upload process:

When the upload is complete, your router restarts. The upload process can take up to three minutes, and the upgrade process typically takes about one minute. To determine whether you need to reconfigure the router after upgrading, read the new firmware release notes.

Change the admin Password

This feature let you change the default password that is used to log in to the router with the user name admin. This password is not the one that you use for WiFi access. The product label shows your unique wireless network name (SSID) and password for wireless access.

➤ **To set the password for the user name admin:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **<http://www.routerlogin.net>** or **<http://www.routerlogin.com>**.

A login screen displays.

3. Enter the router 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 screen displays.

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

The screenshot shows a web browser window titled "Set Password". At the top right of the window are two buttons: a green "Apply" button and a blue "Cancel" button. Below the buttons are three text input fields. The first is labeled "Old Password", the second is labeled "Set Password", and the third is labeled "Repeat New Password". Below these fields is a checkbox with the label "Enable Password Recovery".

5. Type the old password, and type the new password twice.
6. To be able to recover the password, select the **Enable Password Recovery** check box.
NETGEAR recommends that you enable password recovery.
7. Click the **Apply** button.
Your changes are saved.

Recover the admin Password

NETGEAR recommends that you enable password recovery if you change the password for the router user name admin. 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 or wireless device that is connected to the network.

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

A login screen displays.

3. Enter the router 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 screen displays.

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

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

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

7. Click the **Apply** button.

Your changes are saved.

➤ **To recover your password:**

1. In the address field of your browser, type **www.routerlogin.net**.

A login screen displays.

2. Click **Cancel**.

If password recovery is enabled, you are prompted to answer two security questions.

3. Enter the saved answers to the security questions.

4. Enter the serial number of your router.

The serial number is on the product label.

View Router Status

➤ **To view router status and usage information:**

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

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

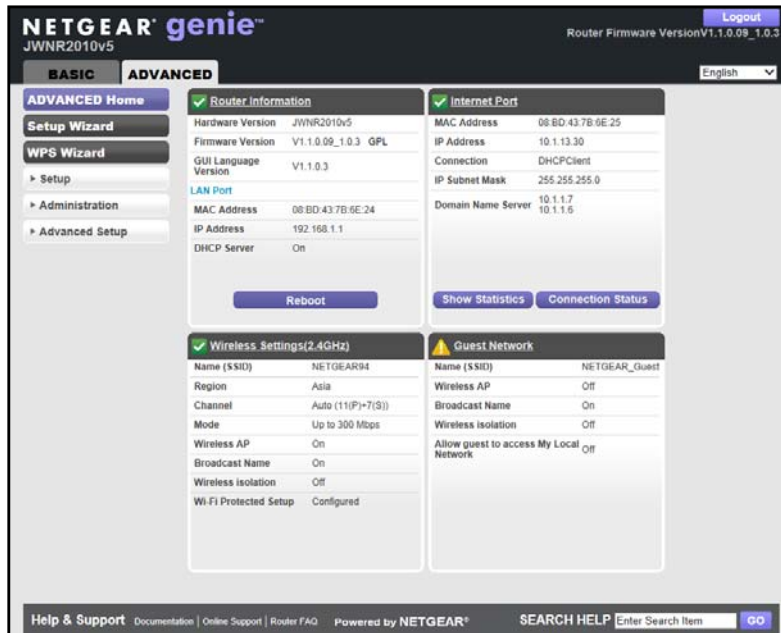
A login screen displays.

3. Enter the router 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 screen displays.

4. Click the **ADVANCED** tab.



The Router Information pane displays the following information:

- **Hardware Version.** The router model.
- **Firmware Version.** The version of the router firmware. It changes if you upgrade the router firmware.
- **GUI Language Version.** The localized language of the router user interface.
- **LAN Port:**
 - **MAC Address.** The Media Access Control address for the Ethernet (LAN) port. This address is the unique physical address that the Ethernet (LAN) port of the router uses.
 - **IP Address.** The IP address that the Ethernet (LAN) port of the router uses. The default is 192.168.1.1.
 - **DHCP Server.** Identifies whether the router's built-in DHCP server is active for the LAN-attached devices.

View the Internet Connection Settings

➤ **To view the Internet connection settings:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.
A login screen displays.
3. Enter the router 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 screen displays.

4. Click the **ADVANCED** tab.

The Internet Port pane displays the following information:

- **MAC Address.** The Media Access Control (MAC) address for the Internet port. This address is the unique physical address that the Internet (WAN) port of the router uses.
- **IP Address.** The IP address that the Internet (WAN) port of the router uses. If no address is shown or the address is 0.0.0.0, the router is not connected to the Internet.
- **Connection.** Shows whether the router is using a fixed or dynamic IP address on the Internet port. If the value is DHCP, the router obtains an IP address dynamically from the ISP or from a DHCP server on your LAN.
- **IP Subnet Mask.** The IP subnet mask that the Internet port of the router uses.
- **Domain Name Server.** The Domain Name Server address that the router uses. A Domain Name Server translates human-language URLs such as www.netgear.com into IP addresses.

Display Internet Port Statistics

➤ To display Internet port statistics:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **<http://www.routerlogin.net>** or **<http://www.routerlogin.com>**.

A login screen displays.

3. Enter the router user name and password.

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

4. The BASIC Home screen displays
5. Click the **ADVANCED** tab.

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

System Up Time 00:07:22					
Port	Status	TxPkts	RxPkts	Collisions	Up Time
WAN	100M/Full	735	2083	0	00:06:48
LAN1	Link down	4707	10409	0	--
LAN2	100M/Full				00:06:51
LAN3	Link down				--
LAN4	Link down				--
WLAN b/g/n	300M	0	0	0	00:06:57

Poll Interval: (secs)

The following information displays:

- **System Up Time.** The time elapsed since the router was last restarted.
 - **Port.** The statistics for the WAN (Internet) and LAN (Ethernet) ports. For each port, the screen displays:
 - **Status.** The link status of the port.
 - **TxPkts.** The number of packets transmitted on this port since reset or manual clear.
 - **RxPkts.** The number of packets received on this port since reset or manual clear.
 - **Collisions.** The number of collisions on this port since reset or manual clear.
 - **Up Time.** The time elapsed since this port acquired the link.
 - **Poll Interval.** The interval at which the statistics are updated in this screen.
7. To change the polling frequency, enter a time in seconds in the Poll Interval field and click the **Set Interval** button.
8. To stop the polling, click the **Stop** button.

View the Internet Connection Status

➤ To check the Internet connection status:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type <http://www.routerlogin.net> or <http://www.routerlogin.com>.

A login screen displays.

3. Enter the router user name and password.

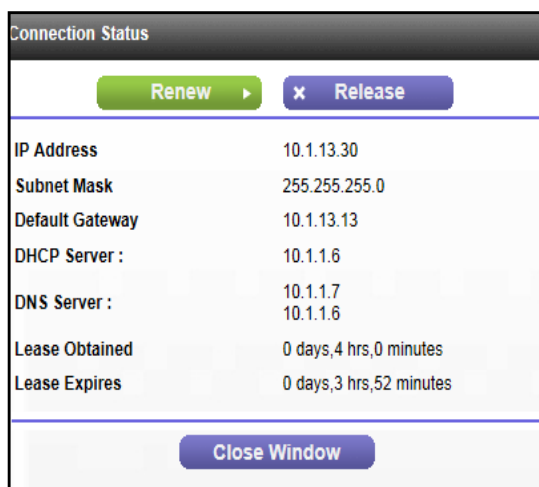
The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.

The BASIC Home screen displays.

4. Click the **ADVANCED** tab.

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

The Connection Status pop-up screen displays. The following figure shows the connection status information for a DHCP connection.



The content of the Connection Status pop-up screen depends on the type of connection. You can start new connections and end existing connections from this screen.

The following list describes the different types of connections and the associated settings that display on the Connection Status pop-up screen:

DHCP Connection

The following information displays for a DHCP connection:

- **IP Address.** The IP address that is assigned to the router.
- **Subnet Mask.** The subnet mask that is assigned to the router.
- **Default Gateway.** The IP address for the default gateway that the router communicates with.
- **DHCP Server.** The IP address for the Dynamic Host Configuration Protocol server that configures the TCP/IP for all the computers that are connected to the router.
- **DNS Server.** The IP address of the Domain Name Service server that translates of network names to IP addresses.
- **Lease Obtained.** The date and time when the lease was obtained.
- **Lease Expires.** The date and time that the lease expires.

➤ To change the router DHCP connection settings:

1. To release the router's IP address and terminate the Internet connection, click the **Release** button.
2. To let the router acquire an IP address from the DHCP server and start the Internet connection, click the **Renew** button.
3. To close the Connection Status screen, click the **Close Window** button.

PPPoE Connection

The **Connect** and **Disconnect** buttons in the Connection Status screen display only when the connection mode is Manually Connect.

The following information displays for a PPPoE connection:

- **Connection Time.** The time that elapsed since the connection was established.
- **Connection Status.** The status of the connection: Connected, Disconnected, Negotiation (---, Success), or Authentication (---, Success). --- indicates failure.
- **IP Address.** The IP address that is assigned to the router.
- **Subnet Mask.** The subnet mask that is assigned to the router.

➤ To change the router PPPoE connection settings:

1. To establish the PPPoE connection manually, click the **Connect** button.
2. To terminate the PPPoE connection manually, click the **Disconnect** button.
3. To close the Connection Status screen, click the **Close Window** button.

PPTP Connection

The content of the Connection Status pop-up screen depends on the type of connection. The **Connect** and **Disconnect** buttons in the Connection Status screen display only when the connection mode is Manually Connect.

The following information displays for a PPTP connection:

- **Connection Status.** The status of the connection: Connected or Disconnected.
- **IP Address.** The IP address that is assigned to the router.
- **Subnet Mask.** The subnet mask that is assigned to the router.

➤ To change the router PPTP connection settings:

1. To establish the PPTP connection manually, click the **Connect** button.
2. To terminate the PPTP connection manually, click the **Disconnect** button.
3. To close the Connection Status screen, click the **Close Window** button.

View Wireless Settings

➤ To view the wireless settings:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type <http://www.routerlogin.net> or <http://www.routerlogin.com>.
A login screen displays.
3. Enter the router 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 screen displays.

4. Click the **ADVANCED** tab.

The Wireless Settings pane displays the following information:

- **Name (SSID)**. The wireless network name (SSID) that the router uses.
- **Region**. The geographic region where the router is used. It might be illegal to use the wireless features of the router in some parts of the world.
- **Channel**. The operating channel of the wireless port. The default channel is Auto. When Auto is selected, the router finds the best operating channel available.
- **Mode**. The wireless communication mode: Up to 54 Mbps, Up to 150 Mbps (the default), or Up to 300 Mbps.
- **Wireless AP**. Indicates whether the radio of the router is enabled. If the radio is not enabled, the WiFi LED on the front panel is off.
- **Broadcast Name**. Indicates whether the router is broadcasting its SSID.
- **Wireless Isolation**. Indicates whether wireless isolation is on or off. When it is off, 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.
- **Wi-Fi Protected Setup**. Indicates whether Wi-Fi Protected Setup is configured for this network.

View Guest Network Settings

➤ To view the guest network settings:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **<http://www.routerlogin.net>** or **<http://www.routerlogin.com>**.

A login screen displays.

3. Enter the router 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 screen displays.

4. Click the **ADVANCED** tab.

The Guest Network pane displays the following information:

- **Name (SSID)**. The wireless network name (SSID) that the router uses. The default name is NETGEAR-Guest.
- **Wireless AP**. Indicates whether the radio of the router is enabled for the guest network.

- **Broadcast Name.** Indicates whether the router is broadcasting its SSID for the guest network.
- **Wireless Isolation.** Indicates whether wireless isolation is on or off for the guest network. When it is off, wireless clients (computers or wireless devices) that join the guest network can use the Internet, but cannot access each other or access Ethernet devices on the network.
- **Allow guest to access My Local Network.** Indicates whether wireless clients on the guest network can access your local network, instead of only the Internet and other wireless clients on the guest network.

Reboot the Router

➤ **To reboot the router:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **<http://www.routerlogin.net>** or **<http://www.routerlogin.com>**.
A login screen displays.
3. Enter the router 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 screen displays.
4. Click the **ADVANCED** tab.
5. In the Router Information pane, click the **Reboot** button.
6. Click **OK** to confirm.
The router reboots.

Manage the Configuration File

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

Back Up Settings

➤ **To back up the router's configuration settings:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **<http://www.routerlogin.net>** or **<http://www.routerlogin.com>**.
A login screen displays.

3. Enter the router 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 screen displays.

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

5. To save a copy of the current settings, click the **Back Up** button.
6. Choose a location to store the .cfg file on a computer on your network.
7. Click the **OK** button.

A copy of the current settings is saved.

Restore Configuration Settings

➤ To restore configuration settings that you backed up:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

A login screen displays.

3. Enter the router 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 screen displays.

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

The Backup Settings screen displays.

5. To find the .cfg file, click the **Browse** button.
6. Select the file and then click the **Restore** button.

The file is uploaded to the router.

The router reboots.

**WARNING:**

Do not interrupt the reboot process.

Erase Configuration Settings

Under some circumstances (for example, if you move the router to a different network), you might want to erase the configuration and restore the factory default settings.

You can either use the Restore Factory Settings button on the back of the router (see *Factory Settings* on page 76), or you can use the **Erase** button on the Backup Settings screen.

➤ **To erase the configuration and restore the factory default settings:**

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

A login screen displays.

3. Enter the router 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 screen displays.

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

The Backup Settings screen displays.

5. Click the **Erase** button.
6. To confirm the action click the **Yes** button.

The router reboots.

**WARNING:**

Do not interrupt the reboot process.

Erasing sets the user name to admin, the password to password, and the LAN IP address to 192.168.1.1, and enables the router's DHCP server.

6. Troubleshooting

6

This chapter provides information to help you diagnose and solve problems you might have with your router. If you do not find the solution here, visit the NETGEAR support site at <http://support.netgear.com> for product and contact information.

This chapter contains the following sections:

- *Forgotten Passwords*
- *WiFi Connections*
- *Changes Not Saved*
- *Troubleshoot with the LEDs*
- *Cannot Log In to the Router*
- *Troubleshoot IP Addresses*
- *The Router Cannot Access the Internet*
- *Troubleshoot Your Network Using the Ping Utility*

Forgotten Passwords

The router user name admin lets you use a web browser to log in to the router to view or change its settings. The router's WiFi network name lets you connect to its WiFi network. Both admin and the WiFi network have passwords by default.

admin Password

The default password for the router user name admin is **password**. If you changed it and enabled password recovery, you can recover the password.

➤ **To recover your password when password recovery is enabled:**

1. In the address field of your browser, type **www.routerlogin.net**.

A login screen displays.

2. Click **Cancel**.

If password recovery is enabled, you are prompted to answer two security questions.

3. Enter the saved answers to the security questions.

4. Enter the serial number of your router.

The serial number is on the product label.

If you changed the password and did not enable password recovery, you can use the Reset button to return the router to its factory settings. This erases all the router's current settings including its Internet connection settings. For more information, see *Factory Settings* on page 76.

WiFi Passwords

The router comes preset with a unique WiFi network name and WiFi password. This information is on the product label. You can also set up a guest network to allow visitors to access your Internet connection.

If you changed the WiFi settings and do not remember what they are, you can use a wired Ethernet connection to log in to the router to view the WiFi settings.

➤ **To use a wired connection to view WiFi settings:**

1. Use an Ethernet cable to connect your computer to an Ethernet LAN port on the router.

An Ethernet LED  lights for the port where you connected the computer.

2. Launch a web browser from the connected computer.

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

A login screen displays.

4. Enter the router 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 screen displays.

5. To view the WiFi settings, select **Wireless**.

The Wireless Network screen displays.

6. To view guest network settings, select **Guest**.

The Guest Network Settings screen displays.

WiFi Connections

If you are having trouble connecting wirelessly to the router, try to isolate the problem.

- The WiFi signal strength is weak.

Check these conditions:

- Is your router too far from your computer, or too close? Move your computer near the router, but at least six feet (two meters) away, and see if the signal strength improves.
- Is your WiFi signal blocked by objects between the router and your computer?

- Your computer or wireless devices does not find your WiFi network.

Check the following:

- Is the WiFi LED  on the router lit?

If this LED is off, someone might have disabled the wireless radio or set up a wireless schedule. For more information about these settings, see [Control the Wireless Radio](#) on page 38.

- Did you disable the router's SSID broadcast?

If you cleared the Enable SSID Broadcast check box in the Wireless Network screen, your wireless network is hidden and does not display in your wireless client's scanning list. To connect to a hidden network, you must type the network name and the WiFi password. For more information about the SSID broadcast, see [Specify Basic WiFi Settings](#) on page 34.

- Does your computer or wireless device support the security that you are using for your WiFi network (WEP, WPA, or WPA2)?

For information about wireless security settings, see [Specify Basic WiFi Settings](#) on page 34.

- Did you set up a wireless access list in the router?

If you set up an access list, you must add the MAC address for each computer and wireless device to the list. For more information about access list settings, see [Set up a Wireless Access List](#) on page 40.

Changes Not Saved

If the router does not save the changes you make through the NETGEAR genie screens, check the following:

- When you log in to the router and change the settings on a screen, always click the **Apply** button before you move to another screen or tab, or your changes are lost.
- Click the **Refresh** or **Reload** button in the web browser. The changes might have occurred, but the old settings might be in the web browser's cache.

Troubleshoot with the LEDs

The LEDs on the front panel of the router indicate its status.

Apply Power to the Router and Check the LEDs

➤ To apply power to the router and check the LEDs:

1. Connect the power adapter cord that came with the router and plug it in to a power outlet.

The Power LED lights and turns amber within a few seconds. This indicates that the self-test is running.

2. After approximately 30 seconds, verify that the LEDs are lit as follows:
 - The Power LED  is lit solid green.
 - The WiFi LED  is lit solid green.
 - The Internet LED  is lit solid green.
 - The Ethernet LEDs (1 through 4)     are lit solid green or solid amber for any computers cabled to the router by an Ethernet cable.
3. If the LEDs do not light as expected, use the LED behavior to troubleshoot the problem.

All LEDs Remain Lit

When the router is turned on, the LEDs light for about 10 seconds and then turn off. If all the LEDs stay lit, a fault exists within the router.

If all LEDs are still lit one minute after power-up, try the following:

- Unplug the router's power adapter cord. Plug it in again and see if the router recovers.
- To return the router to its factory settings, press and hold the **Reset** button.

For more information, see *Factory Settings* on page 76.

If the error persists, you might have a hardware problem. Contact technical support at www.netgear.com/support.

Power LED Is Off or Blinking

If the Power LED  is Off or blinking, try the following:

- Make sure that the power adapter cord is securely connected to your router and securely connected to a functioning power outlet.
- Make sure that you are using the power adapter cord that NETGEAR supplied for this product.
- If the Power LED blinks slowly and continuously, the router firmware is corrupted. This situation can happen if a firmware upgrade is interrupted, or if the router detects a problem with the firmware. If the error persists, you have a hardware problem. For recovery instructions or help with a hardware problem, contact technical support at www.netgear.com/support.

Power LED Stays Amber

When the router is turned on, the Power LED  turns amber for about 20 seconds and then turns green. If the LED does not turn green, the router has a problem.

If the Power LED is still amber one minute after you turn on power to the router, try the following:

- Unplug the router's power adapter cord. Plug it in again and see if the router recovers.
- To return the router to its factory settings, press and hold the **Reset** button.

For more information, see *Factory Settings* on page 76.

If the error persists, you might have a hardware problem. Contact technical support at www.netgear.com/support.

Internet LEDs Is Off

If the Internet LED  does not light, check the following:

- Make sure that the Ethernet cable is securely connected to the router Internet port and the modem.
- Make sure that power is turned on to the connected modem.
- Be sure that you are using the correct cable.

When you connect the router's Internet port to a cable or DSL broadband modem, use the cable that was supplied with the cable or DSL broadband modem. This cable can be a standard straight-through Ethernet cable or an Ethernet crossover cable.

WiFi LED Is Off

If the WiFi LED  stays off, check to see if someone disabled the wireless radio or set up a wireless schedule. For more information about these settings, see *Control the Wireless Radio* on page 38. The WiFi LED is lit when the wireless radio is turned on.

Cannot Log In to the Router

If you cannot log in to the router from a computer or wireless device on your local network, check the following:

1. Make sure that your computer or wireless device is connected to the router's network.
 - For a WiFi connection, select the network and entered its WiFi password.
 - For a wired connection, use an Ethernet cable to connect your computer to an Ethernet LAN port on the router (not the Ethernet Internet port).
2. Launch a web browser and enter **www.routerlogin.net**.
3. If a login prompt does not display, try the following:
 - a. Close the browser and launch it again.
 - b. Make sure that your browser has Java, JavaScript, or ActiveX enabled. If you are using Internet Explorer, click the **Refresh** button to be sure that the Java applet is loaded.
 - c. If you are using a wired connection, check the Ethernet connection between the computer and the router. One of the router Ethernet LEDs  lights to show that your computer is connected.
4. If the login prompt displays, but you cannot log in, try the following:
 - a. 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.
 - b. If you customized the IP address scheme that the router uses, see *Troubleshoot IP Addresses* on page 73.

The Router Cannot Access the Internet

If you can log in to your router, but it cannot access the Internet, see if the router can obtain an IP address from your Internet service provider (ISP). Unless your ISP provides a fixed IP address, your router requests an IP address from the ISP. You can see if the request was successful using the Router Status screen.

If you are attempting to set up your NETGEAR router as a replacement for an ADSL gateway in your network, the router cannot perform many gateway services. For example, the router cannot convert ADSL or cable data into Ethernet networking information. NETGEAR does not support such a configuration.

??? Should they first try the Setup Wizard before they go through all of this?

➤ To check the WAN IP address:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.

A login screen displays.

3. Enter the router 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 screen displays.

4. Click the **ADVANCED** tab.

The Router Status screen displays.

5. In the Internet Port pane, check that an IP address is shown for the Internet port.

If 0.0.0.0 is shown, your router has not obtained an IP address from your ISP.

For more information about the Internet Port pane, see [Internet Port Pane](#) on page 77.

6. If your router cannot obtain an IP address from the ISP, try to force your cable or DSL broadband modem to recognize your new router by restarting your network in this order:
 - a. Unplug *and* turn off the cable or DSL broadband modem.
 - b. Unplug the router.
 - c. Plug in the cable or DSL broadband modem and turn it on.
 - d. Wait two minutes.
 - e. Plug in the router and wait two minutes.

If your router is still unable to 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 if it requires PPP over Ethernet (PPPoE) or some other type of login. If your ISP requires a login, the login name and password might be set incorrectly.
- Your ISP might check for your computer's host name.
Assign the computer host name of your ISP account as the account name in the Internet Setup screen.
- Your ISP allows only one Ethernet MAC address to connect to Internet and might check for your computer's MAC address. In this case, do one of the following:
 - Inform your ISP that you have bought a new network device, and ask them to use the router's MAC address.
 - Configure your router to clone your computer's MAC address.

Troubleshoot Internet Browsing

If your router can obtain an IP address, but your computer is unable to load any web pages from the Internet, it might be for 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 during the router's configuration, reboot your computer, and verify the DNS address. You can configure your computer manually with DNS addresses, as explained in your operating system documentation.

- Your computer might not have the router configured as its TCP/IP gateway.

If your computer obtains its information from the router by DHCP, reboot the computer, and verify the gateway address.

- You might be running login software that is no longer needed.

If your ISP provided a program to log you in to the Internet (such as WinPoET), you no longer need to run that software after installing your router. If you use Internet Explorer as your browser, you might need to select **Tools > Internet Options**, click the **Connections** tab, and select the **Never dial a connection** check box. Other browsers have similar options.

Troubleshoot a PPPoE Internet Connection

➤ To troubleshoot a PPPoE Internet connection:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Type **http://www.routerlogin.net** or **http://www.routerlogin.com**.
A login screen displays.
3. Enter the router 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 screen displays.

4. Click the **ADVANCED** tab.

The Router Status screen displays.

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

For more information, see [Connection Status](#) on page 79. If the fields show valid information, including valid IP addresses, your PPPoE connection is up and working.

If any of the fields show incomplete information, or no valid IP address, you can attempt to reconnect by clicking the **Connect** button. The router continues to attempt to connect indefinitely.

If you cannot connect after several minutes, you might be using an incorrect service name, user name, or password. There might also be a provisioning problem with your ISP.

Note: Unless you connect manually, the router does not authenticate using PPPoE until data is transmitted to the network.

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 troubleshoot a network by using the ping utility on your computer or workstation.

Test the LAN Path to Your Router

You can ping the router from your computer to verify that the LAN path to your router is set up correctly.

➤ **To ping the router from a computer running Windows:**

1. From the Windows toolbar, click the **Start** button and select **Run**.
2. In the field provided, type **ping** followed by the IP address of the router, as in this example:
ping www.routerlogin.net
3. Click the **OK** button.

You should see a message like this one:

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, you might have one of the following problems:

- Wrong physical connections

For a wired connection, make sure that the numbered Ethernet port LED is lit for the port to which you are connected.

Check that the appropriate LEDs are on for your network devices. If your router and computer are connected to a separate Ethernet switch, make sure that the link LEDs are lit for the switch ports that are connected to your computer and router.

- 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 router 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 verifying that the LAN path works correctly, 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, type:

ping -n 10 <IP address>

where <IP address> is the IP address of a remote device such as your ISP DNS server.

If the path is functioning correctly, replies like those examples shown in [Test the LAN Path to Your Router](#) on page 72 are displayed.

If you do not receive replies, try the following:

- Check that your computer has the IP address of your router listed as the default gateway. If a DHCP server assigns the IP configuration of your computer, this information is not visible on your computer's Network Control Panel. Verify that the IP address of the router is listed as the default gateway.
- Check to see that the network address of your computer (the portion of the IP address specified by the subnet mask) is different from the network address of the remote device.
- Check that your cable or DSL broadband modem is connected and functioning.
- If your ISP assigned a host name to your computer, enter that host name as the account name in the Internet Settings screen.
- 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 broadband modem, but some ISPs additionally restrict access to the MAC address of a single computer connected to that modem. If this is the case, configure your router to clone or spoof the MAC address from the authorized computer.

Troubleshoot IP Addresses

By default, the router is set up to automatically assign IP addresses to network clients. The router's IP address is 192.168.1.1 unless you changed it. Wired and wirelessly connected computers must have network IP addresses on the same network as the router. The simplest way to meet this requirement is to configure each computer to obtain an IP address automatically using DHCP.

If you customized the IP address settings of your router and you're having trouble with network connections, check the following:

- Make sure that your computer's IP address is on the same subnet as the router. If you are using the recommended addressing scheme, your computer's address is in the range of 192.168.1.2 to 192.168.1.254.

If your computer's IP address is shown as 169.254.x.x, 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 router, and reboot your computer.

- If your router's IP address was changed and you do not know the current IP address, clear the router's configuration to factory defaults. This sets the router's IP address to 192.168.1.1. This procedure is explained in *Factory Settings* on page 76.

A Supplemental Information

A

This appendix provides factory default settings and technical specifications for the N300 Wireless Router:

- *Factory Settings*
- *Technical Specifications*

Factory Settings

You can return the router to its factory settings. Use the end of a paper clip or some other similar object to press and hold the **WPS/Reset** button on the back panel of the router for at least four seconds. The router resets, and returns to the factory settings that are shown in the following table.

Table 4. Router factory default settings

Feature		Default Behavior
Router login	User login URL	www.routerlogin.com or www.routerlogin.net
	User name (case-sensitive)	admin
	Login password (case-sensitive)	password
Internet connection	WAN MAC address	Use default hardware address
	WAN MTU size	1500
	Port speed	AutoSensing
Local area network (LAN)	LAN IP	192.168.1.1
	Subnet mask	255.255.255.0
	DHCP server	Enabled
	DHCP range	192.168.1.2 to 192.168.1.254
	Time zone	United States is Pacific Time; otherwise, varies by region
	Time zone adjusted for daylight saving time	Disabled
Wireless	Wireless communication	Enabled
	SSID name	Preset. For information, see the product label.
	Network key (password)	
	Broadcast SSID	Enabled
	Transmission speed	Auto Note: Maximum wireless signal rate derived from IEEE Standard 802.11 specifications. Actual throughput varies. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead lower actual data throughput rate.
	Country/region	United States in the US; otherwise, varies by region
	RF channel	Auto
	Operating mode	Up to 300 Mbps

Table 4. Router factory default settings (continued)

Feature		Default Behavior
Wireless (continued)	20/40 MHz coexistence	Enabled
	Data rate	Best
	Output power	Full

Technical Specifications

Table 5. Router specifications

Feature	Description
Data and routing protocols	TCP/IP, RIP-1, RIP-2, DHCP, PPPoE, PPTP, Bigpond, Dynamic DNS, UPnP, and SMB
Power adapter	- North America: 120V, 60 Hz, input - UK, Australia: 240V, 50 Hz, input - Europe: 230V, 50 Hz, input - All regions (output): 12 VDC @ 1A, output
Dimensions	217.74 x 147.73 x 34.92 mm (8.57 x 5.81 x 1.37 in.)
Weight	0.41 kg (0.91 lb)
Operating temperature	0° to 40°C (32° to 104°F)
Operating humidity	90% maximum relative humidity, noncondensing
Electromagnetic emissions	FCC Part 15 Class B VCCI Class B EN 55 022 (CISPR 22), Class B C-Tick N10947
LAN	10BASE-T or 100BASE-Tx, RJ-45
WAN	10BASE-T or 100BASE-Tx, RJ-45
Wireless	Maximum wireless signal rate complies with the IEEE 802.11 standard. See the entry for Transmission speed in Table 4 on page 76.
Radio data rates	Auto Rate Sensing
Data encoding standards	IEEE 802.11n version 2.0 IEEE 802.11n, IEEE 802.11g, IEEE 802.11b 2.4 GHz
Maximum computers per wireless network	Limited by the amount of wireless network traffic generated by each node (typically 50–70 nodes)
Operating frequency range	2.412–2.462 GHz (US) 2.412–2.472 GHz (Japan) 2.412–2.472 GHz (Europe ETSI)
802.11 security	WEP, WPA-PSK, WPA2-PSK, WPA-PSK + WPA2-PSK mixed mode, WPA/WPA2 Enterprise