

# NETGEAR®

## User Manual

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### Orbi Pro

Models

SRR60

SRS60

March 2020  
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**NETGEAR, Inc.**

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202-11824-07	March 2020	<p>We added the following sections:</p> <ul style="list-style-type: none"> <li>• <a href="#">Enable the network access control list and specify the access rule</a> on page 54 and subsections</li> <li>• <a href="#">Manage the IoT WiFi network settings</a> on page 87 and subsections</li> <li>• <a href="#">Set up a guest WiFi network and captive portal</a> on page 90 and <a href="#">Set up a guest WiFi network with open access or password authentication</a> on page 90</li> <li>• <a href="#">Enable or disable Protected Management Frames</a> on page 102</li> <li>• <a href="#">Manage the automatic backup options</a> on page 123</li> </ul> <p>We made major changes to the following sections:</p> <ul style="list-style-type: none"> <li>• <a href="#">Manage MAC access control lists for WiFi networks and the LAN</a> on page 48 and subsections</li> <li>• <a href="#">Change the admin WiFi password or security level</a> on page 81</li> <li>• <a href="#">Change the employee WiFi password or security level</a> on page 85</li> <li>• <a href="#">Manage the download bandwidth per SSID</a> on page 95</li> <li>• <a href="#">View satellites, WiFi devices, and wired devices connected to the Orbi network</a> on page 117</li> <li>• <a href="#">View and manage logs of router activity</a> on page 119</li> <li>• <a href="#">Set up a syslog server</a> on page 120</li> </ul> <p>We made minor changes and adjustments to other sections.</p>
202-11824-06	November 2019	<p>We added the following new sections:</p> <ul style="list-style-type: none"> <li>• <a href="#">Manage MAC access control lists for WiFi networks and the LAN</a> on page 48</li> <li>• <a href="#">Manage the download bandwidth per SSID</a> on page 95</li> <li>• <a href="#">Set up a syslog server</a> on page 120</li> </ul>

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# 1

## Overview

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The Orbi Pro creates dedicated high-speed WiFi connections to your Internet service. The Orbi Pro router connects to your modem or gateway. The Orbi Pro satellite extends the WiFi signal throughout your home.

This chapter contains the following sections:

- [Supported Orbi Pro models](#)
- [Orbi Pro router and satellite hardware overviews](#)
- [LED behavior](#)
- [Wall mount or ceiling mount your Orbi Pro router](#)
- [Orbi Pro router label and Orbi Pro satellite label](#)
- [Connect your Orbi Pro router](#)
- [Place your satellite](#)
- [Sync your Orbi Pro satellite](#)
- [Set up your Orbi network with the NETGEAR Insight app](#)

For more information about the topics covered in this manual, visit the support website at [support.netgear.com](http://support.netgear.com).

**Note:** This manual refers to the Orbi Pro router as the *router* and refers to the Orbi Pro satellite as the *satellite*.

# Supported Orbi Pro models

This user manual describes the following Orbi Pro models:

- Orbi Pro Router (Model SRR60)
- Orbi Pro Satellite (Model SRS60)

This user manual does not describe the following Orbi Pro satellites:

- Orbi Outdoor Satellite (Model RBS50Y)
- Orbi Pro Ceiling Satellite (Model SRC60)

For more information about these Orbi Pro satellites, see their user manuals, which are available at <https://www.netgear.com/support/>.

**Note:** To manage your Orbi Pro router and any Orbi Pro satellites that are connected to your Orbi Pro network, you must manage them from your Orbi Pro router web interface.

## Orbi Pro router and satellite hardware overviews

The following sections display the hardware features available for the Orbi Pro router (model SRR60) and Orbi Pro satellite (model SRS60).

### Orbi Pro router model SRR60 hardware overview

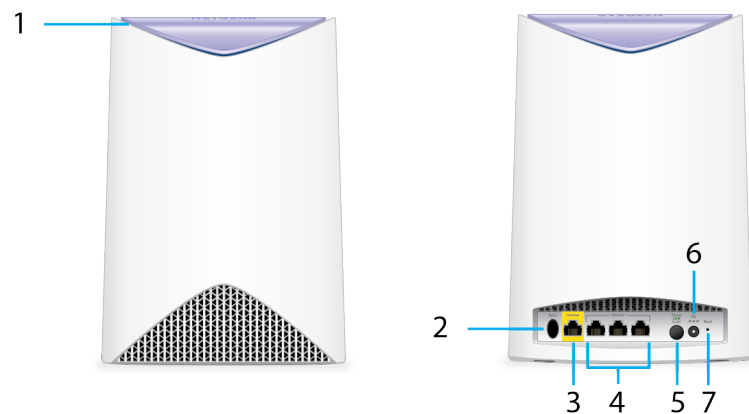


Figure 1. Orbi Pro router model SRR60, front and back views

1. Ring LED (not shown in image)

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2. **Sync** button (also used for WPS connection)

---

3. Internet port

---

4. Ethernet ports

---

5. **Power On/Off** button and Power LED

---

6. DC Power connector

---

7. **Reset** button

---

## Orbi Pro satellite model SRS60 hardware overview

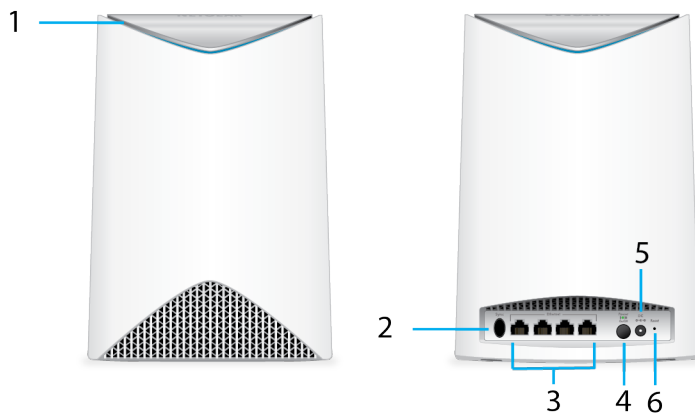


Figure 2. Orbi Pro satellite model SRS60, front and back views

1. Ring LED (not shown in image)

---

2. **Sync** button (also used for WPS connection)

---

3. Ethernet ports

---

4. **Power On/Off** button and Power LED

---

5. DC Power connector

---

6. **Reset** button

---

## LED behavior

When you sync an Orbi Pro satellite to the Orbi Pro router, the LED behavior for a satellite that comes in an Orbi Pro WiFi system is different from the LED behavior for add-on Orbi Pro satellites.

## Orbi Pro WiFi system LEDs

The following table describes the LED behavior for an Orbi Pro router (model SRR60) and Orbi Pro satellite (model SRS60) that are purchased together and come in the same package.

Table 1. Orbi ProWiFi System router and satellite LED descriptions

LED	LED Behavior
Power LED	<p>The Power LED is located above the <b>Power On/Off</b> button on the rear panel.</p> <ul style="list-style-type: none"> <li>• <b>Solid green.</b> Power is on.</li> <li>• <b>Solid amber.</b> The router or satellite is booting.</li> <li>• <b>Blinking amber.</b> The router or satellite is resetting to factory default settings.</li> <li>• <b>Blinking red.</b> The firmware is corrupted.</li> <li>• <b>Off.</b> Power is not supplied.</li> </ul>
Router ring LED	<p>The ring LED is located on the top.</p> <ul style="list-style-type: none"> <li>• <b>Pulsing white.</b> The router is booting or someone pressed the <b>Sync</b> button.</li> <li>• <b>Off.</b> The router finished booting and is working normally.</li> <li>• <b>Solid white.</b> The router is resetting to factory default settings.</li> <li>• <b>Solid magenta.</b> The router cannot connect to the Internet. See <a href="#">You cannot access the Internet</a> on page 151.</li> </ul>
Satellite ring LED	<p>This satellite is included when you buy an Orbi router. The ring LED is located on the top.</p> <ul style="list-style-type: none"> <li>• <b>Pulsing white.</b> The satellite is booting.</li> <li>• <b>Blue for three minutes.</b> The connection between the satellite and the router is good.</li> <li>• <b>Amber for three minutes.</b> The connection between the satellite and the router is fair.</li> <li>• <b>Magenta.</b> The satellite failed to sync to the router. See <a href="#">The router and satellite do not sync</a> on page 149.</li> <li>• <b>Off.</b> The satellite synced to the router and is working normally.</li> </ul>

## Add-on Orbi Pro satellite LEDs

The following table describes the LED behavior for an add-on Orbi Pro satellite (model SRS60) that was purchased separately from the Orbi Pro kit.

Table 2. Orbi Pro add-on satellite (model SRS60) LED description

LED	LED Behavior
Power LED	<p>The Power LED is located above the <b>Power On/Off</b> button on the rear panel.</p> <ul style="list-style-type: none"> <li>• <b>Solid green.</b> Power is on.</li> <li>• <b>Solid amber.</b> The satellite is rebooting.</li> <li>• <b>Blinking amber.</b> The satellite is resetting to factory default settings.</li> <li>• <b>Blinking red.</b> The firmware is corrupted.</li> <li>• <b>Off.</b> Power is not supplied.</li> </ul>
Add-on satellite ring LED	<p>Optional add-on satellites are sold separately and can be added to your Orbi network. The ring LED is located on the top.</p> <ul style="list-style-type: none"> <li>• <b>Pulsing white.</b> The satellite is booting.</li> <li>• <b>Solid white.</b> The satellite is ready to sync to the router (press the <b>Sync</b> button).</li> <li>• <b>Blue for three minutes.</b> The connection between the satellite and the router is good.</li> <li>• <b>Amber for three minutes.</b> The connection between the satellite and the router is fair.</li> <li>• <b>Magenta.</b> The satellite is not connected to the router or is not getting an IP address.</li> <li>• <b>Off.</b> The satellite synced to the router and is working normally.</li> </ul>

## Wall mount or ceiling mount your Orbi Pro router

Your package contains wall-mounting and ceiling-mounting items. Before you can wall mount or ceiling mount your Orbi Pro router (model SRR60) or Orbi Pro satellite (model SRS60), you must attach the mount base and cover to your router or satellite.

### Wall-mount your Orbi Pro

After you attach the mount base and cover to your router or satellite, you can mount your router or satellite to the wall.

**To wall mount your router or satellite:**

1. Place your Orbi router or satellite on the mount base and attach the router or satellite to the base with the provided screws.



2. Attach the mount cover to the mount base.



3. Use the wall anchors with screws to attach the wall bracket to the wall.



4. Slide the mount base onto the wall bracket.



## Ceiling-mount your Orbi Pro

The following instructions require a drop ceiling.

**To ceiling mount your router or satellite:**

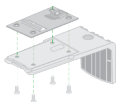
1. Place your Orbi router or satellite on the mount base and attach the router or satellite to the base with the provided screws.



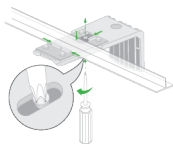
2. Attach the mount cover to the mount base.



3. Attach the T-bracket to the ceiling bracket with the T-bracket screws.



4. Loosen the screw so that the locking plate can slide.
5. Secure the T-bracket to the T-bar and tighten the screw.



6. Slide the mount base into the ceiling bracket.



## Orbi Pro router label and Orbi Pro satellite label

The Orbi Pro router label shows the login information, the WiFi network name and password, the router's MAC address, and the router's serial number. The following is an example of what the router label might look like:

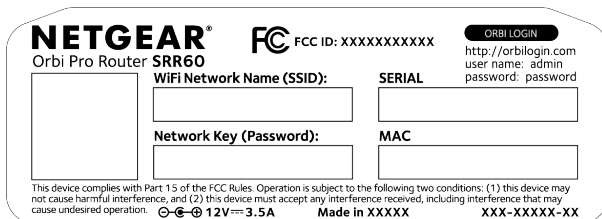


Figure 3. Orbi Pro router label

The Orbi Pro satellite label shows the WiFi network name and password, the satellite's MAC address, and the satellite's serial number. The following is an example of what the satellite label might look like:



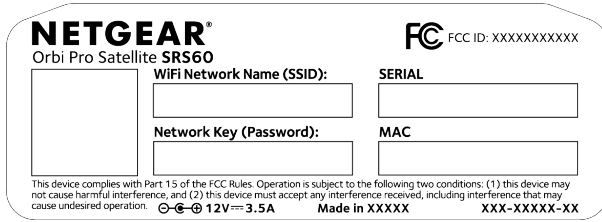


Figure 4. Orbi Pro satellite label

# Connect your Orbi Pro router

If you want to connect your Orbi Pro router to an existing gateway, we recommend that you turn off your existing gateway's WiFi.

### To cable your router:

1. Unplug your modem's power, leaving the modem connected to the wall jack for your Internet service.  
If your modem uses a battery backup, remove the battery, and then put the battery back in.
2. Plug in and turn on your modem.
3. Connect your modem to the Internet port of your router with the Ethernet cable that came with your router.
4. Connect the power adapter to your **router** and plug the power adapter into an outlet.



5. If the Power LED does not light, press the **Power On/Off** button on the rear panel of the router.

## Place your satellite

Your satellites must be within range of your router's WiFi signal in order for it to sync with the router. Use the satellite's ring LED to help you determine where to place your satellite.

## Sync your Orbi Pro satellite

The sync process for your Orbi Pro satellite depends on whether your satellite came with your Orbi Pro WiFi system, or if your satellite is an add-on satellite.

### Sync a satellite from an Orbi Pro WiFi system

The Orbi Pro WiFi System includes an Orbi Pro router and a Orbi Pro satellite. The Orbi pro satellite in the WiFi system is preset to automatically find and sync to the WiFi signal from the Orbi Pro router in the same WiFi system.

#### **To sync your Orbi Pro satellite:**

1. Place your satellite.  
For more information, see [Place your satellite](#) on page 18.
2. Connect the satellite to a power source.
3. If the Power LED on the back of the satellite does not light, press the **Power On/Off** button.

The satellite ring LED pulses white. The satellite automatically finds the Orbi router's WiFi signal and attempts to sync to the Orbi router.

The satellite ring LED lights one of the following colors for about three minutes and then turns off:

- **Blue.** The Orbi router and satellite successfully synced, and the connection between the router and satellite is good.
- **Amber.** The Orbi router and satellite successfully synced, and the connection between the router and satellite is fair. Consider moving the Orbi satellite closer to the Orbi router.
- **Magenta.** The Orbi router and satellite failed to sync.

4. If the satellite ring LED is magenta, move the satellite closer to the router and then sync the satellite to the router:
  - a. Press the **Sync** button on the back of the router.
  - b. Within two minutes, press the **Sync** button on the back of the satellite.

The satellite attempts to sync to the Orbi router. The satellite ring LED lights blue, amber, or magenta as described in Step 3 of this procedure and then turns off.

## Sync an add-on Orbi Pro satellite

If you already set up an Orbi Pro router and satellite are adding an optional add-on Orbi Pro satellite (sold separately), follow these steps.

### **To sync your add-on Orbi Pro satellite:**

1. Place your satellite.

For more information, see [Place your satellite](#) on page 18.
2. Connect the satellite to a power source.
3. If the Power LED on the back of the satellite does not light, press the **Power On/Off** button.
4. Wait about two minutes for the satellite ring LED to light solid white.
5. Press the **Sync** button on the back of the satellite and within two minutes, press the **Sync** button on the back of your Orbi router.

The satellite ring LED pulses white, then lights one of the following colors for about three minutes, and then turns off:

  - **Blue.** The Orbi router and satellite successfully synced, and the connection between the router and satellite is good.
  - **Amber.** The Orbi router and satellite successfully synced, and the connection between the router and satellite is fair. Consider moving the Orbi satellite closer to the Orbi router.
  - **Magenta.** The Orbi router and satellite failed to sync. Move the satellite closer to the router and try again.

## Add satellites to your network using the router web interface

You can use the router web interface to add a satellite to your Orbi network.

### To add a satellite to your Orbi network using the router web interface:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **Add Orbi Satellite**.  
The Place Your Satellite page displays.
5. Follow the instructions about where to place your satellite in your house.
6. Connect the satellite to a power source.
7. If the Power LED on the back of the satellite does not light, press the **Power On/Off** button.
8. Click the **NEXT** button.
9. Wait about two minutes for the satellite's ring LED to light solid white.
10. Press the **Sync** button on the satellite.  
The satellite's ring LED pulses white.
11. Click the **SYNC** button in the router web interface.  
The router attempts to sync with the satellite.  
The satellite's ring LED lights one of the following colors for about three minutes and then turns off:
  - **Blue**. The Orbi router and satellite successfully synced, and the connection between the router and satellite is good.
  - **Amber**. The Orbi router and satellite successfully synced, and the connection between the router and satellite is fair. Consider moving the Orbi satellite closer to the Orbi router.
  - **Magenta**. The Orbi router and satellite failed to sync. Move the satellite closer to the router and try again.

# Set up your Orbi network with the NETGEAR Insight app

You can use the NETGEAR Insight app to set up your Orbi network.

To find the app, search for NETGEAR Insight in the Apple App Store or Google Play Store. Then launch the NETGEAR Insight app on your mobile device and follow the prompts. For more information about the NETGEAR Insight app, visit <https://www.netgear.com/insight/>.



# 2

## Connect to the Orbi Pro Network and Access the Router

---

To manage your Orbi Pro router and any Orbi Pro satellites that are connected to your Orbi Pro network, you must manage them from your Orbi Pro router web interface.

This chapter contains the following sections:

- [Connect to the network](#)
- [Types of logins](#)
- [Use a web browser to access the router](#)
- [Change the language](#)

# Connect to the network

You can connect to the Orbi 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 is receiving power (its Power LED is lit).
2. Connect an Ethernet cable to an Ethernet port on your computer.
3. Connect the other end of the Ethernet cable to one of the router's 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

If you're installing your Orbi router for the first time, you can connect to the router's WiFi network by scanning the QR code on your router with the camera app on your mobile device. To scan the QR code with your camera app, your mobile device must have iOS version 11 or later or Android version 10 or later.

You can also manually find and select the Orbi router's WiFi network from your WiFi-enabled computer or mobile device.

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

1. Make sure that the router or satellite is receiving power (its Power LED is lit).
2. On your WiFi-enabled computer or mobile device, find and select the WiFi network.  
The WiFi network name is on the router label. The WiFi network name is the same for the router and the satellite in the Orbi WiFi System.

**Note:** If you bought the router and the satellite separately, their default WiFi network names are different.

3. Join the WiFi network and enter the WiFi password.  
The password is on the router label.  
Your WiFi-enabled computer or mobile device connects to the WiFi network.

## WiFi connection using WPS

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 is receiving power (its Power LED is lit).
2. Check the WPS instructions for your computer or WiFi device.
3. Press the **Sync** button on the router.
4. Within two minutes, on your WiFi-enabled computer or mobile device, press its **WPS** button or follow its instructions for WPS connections.

Your computer or mobile device connects to the WiFi network.

## Types of logins

Separate types of logins serve 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 your Internet service provider (ISP) gave you 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 key or password.** Your router and satellite are preset with the same WiFi network name (SSID) and password for WiFi access. This information is on the router label and the satellite label.
- **Router login.** This logs you in to the router interface from a web browser as admin.

## 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, the NETGEAR installation assistant automatically checks to see if your router can connect to your Internet service.



## Use the automatic Internet setup option

You can set up your router automatically, or you can use a web browser to access the router and 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 use 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.

Installation and basic setup takes about 15 minutes to complete.

### To automatically set up your router:

1. Power on your router.
2. Make sure that your WiFi-enabled computer or mobile device is connected to the router with an Ethernet cable (wired) or wirelessly with the preset security settings listed on the label.

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

3. Launch a web browser.

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

- The first time that you set up the Internet connection for your router, the browser goes to **orbilogin.com**, and the Orbi login page displays.
- If you already set up the Internet connection, enter **orbilogin.com** in the address field for your browser to start the installation process.

4. Follow the onscreen instructions.

The router connects to the Internet.

5. If the browser does not display the web page, do the following:
  - Make sure that the computer is connected to one of the four LAN Ethernet ports or over WiFi to the router.
  - Make sure that the router is receiving power, and that its Power LED is lit.
  - Close and reopen the browser or clear the browser cache.
  - Browse to **orbilogin.com**.
  - 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.
6. If the router does not connect to the Internet, do the following:
  - a. Review your settings.
  - b. Make sure that you selected the correct options and typed everything correctly.
  - c. Contact your ISP to verify that you are using the correct configuration information.
  - d. Read [Troubleshooting](#) on page 148.  
If problems persist, register your NETGEAR product and contact NETGEAR technical support.

## Log in to the Orbi router web interface

When you log in to the Orbi, the browser displays the router web interface. You can use the router web interface to change the router or satellite settings.

### **To log in to your Orbi:**

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.

# Change the language

By default, the language is set as Auto.

## To change the language:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. In the upper right corner, select a language from the menu.
5. When prompted, click the **OK** button to confirm this change.  
The page refreshes with the language that you selected.

# 3

## Specify Your Internet Settings

---

Usually, the quickest way to set up the router to use your Internet connection is to allow Orbi 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](#)
- [Manage an IPv6 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.

## To use the Setup Wizard:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Setup Wizard**.  
The Setup Wizard page displays.
5. Select the **Yes** radio button.  
If you select **No**, you are taken to the Internet Setup page (see [Manually set up the Internet connection](#) on page 29).
6. Click the **Next** button.  
The Setup Wizard searches your Internet connection for servers and protocols to determine your ISP configuration and checks your operation mode.

# 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 mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.

3. Enter the admin user name and password.

The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.

The BASIC Home page displays.

4. Select **Internet**.

The Internet Setup page.

5. Leave the Does your Internet connection require a login **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 page, the default settings usually work, but you can change them.

8. Select an Internet IP Address radio button:

- **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. Select a Domain Name Server (DNS) Address radio button:

- **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. Select a Router MAC Address radio button:

- **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.

## 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 mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **Internet**.  
The Internet Setup page displays.
5. Select the Does your Internet connection require a login **Yes** radio button.  
The page adjusts.
6. From the **Internet Service Provider** menu, select the encapsulation method:  
The selections are **PPPoE**, **PPTP**, 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. From the **Connection Mode** menu, select **Always On**, **Dial on Demand**, or **Manually Connect**.
11. To change the number of minutes until the Internet login time 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. Select an Internet IP Address radio button:

- **Get Dynamically from ISP.** Your ISP uses DHCP to assign your IP address. Your ISP automatically assigns these addresses.
- **Use Static IP Address.** Enter the IP address, IP subnet mask, and gateway IP address that your ISP assigned. The gateway is the ISP router to which your router connects.

13. Select a Domain Name Server (DNS) radio button:

- **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. Select a Router MAC Address radio button:

- **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.



# Manage an IPv6 Internet connection

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

## Requirements for entering IPv6 addresses

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

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

## Specify IPv6 Internet connections

You can set up an IPv6 Internet connection if the router does not detect it automatically.

### To set up an IPv6 Internet connection:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > IPv6**.  
The IPv6 page displays.
5. From the **Internet Connection Type** menu, select the IPv6 connection type:
  - If you are not sure, select **Auto Detect** so that the router detects the IPv6 type that is in use.
  - If your Internet connection does not use PPPoE, DHCP, or fixed, but is IPv6, select **Auto Config**.  
Your Internet service provider (ISP) can provide this information. For more information about IPv6 Internet connection, see the following sections:

- [Use auto detection for an IPv6 Internet connection](#) on page 34
  - [Use auto configuration for an IPv6 Internet connection](#) on page 35
  - [Set up an IPv6 6rd tunnel Internet connection](#) on page 36
  - [Set up an IPv6 6to4 tunnel Internet connection](#) on page 38
  - [Set up an IPv6 pass-through Internet connection](#) on page 40
  - [Set up an IPv6 fixed Internet connection](#) on page 40
  - [Set up an IPv6 DHCP Internet connection](#) on page 41
  - [Set up an IPv6 PPPoE Internet connection](#) on page 43
6. Click the **Apply** button.  
Your settings are saved.

## Use auto detection for an IPv6 Internet connection

### To set up an IPv6 Internet connection through auto detection:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > IPv6**.  
The IPv6 page displays.
5. From the **Internet Connection Type** menu, select **Auto Detect**.  
The page adjusts.  
The router automatically detects the information in the following fields:
  - **Connection Type**. This field indicates the connection type that is detected.
  - **Router's IPv6 Address on WAN**. This field shows the IPv6 address that is acquired for the router's WAN (or Internet) interface. The number after the slash (/) is the

length of the prefix, which is also indicated by the underline (   ) under the IPv6 address. If no address is acquired, the field displays Not Available.

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

6. Select an IP Address Assignment radio button:

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

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

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

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

8. Click the **Apply** button.

Your settings are saved.

## Use auto configuration for an IPv6 Internet connection

### To set up an IPv6 Internet connection through auto configuration:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.

2. Enter **orbilogin.com**.

A login window opens.

3. Enter the admin user name and password.

The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.

The BASIC Home page displays.

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

The IPv6 page displays.

5. From the **Internet Connection Type** menu, select **Auto Config**.

The page adjusts.

The router automatically detects the information in the following fields:

- **Router's IPv6 Address on WAN.** This field shows the IPv6 address that is acquired for the router's WAN (or Internet) interface. The number after the slash (/) is the length of the prefix, which is also indicated by the underline ( ) under the IPv6 address. If no address is acquired, the field displays Not Available.
  - **Router's IPv6 Address on LAN.** This field shows the IPv6 address that is acquired for the router's LAN interface. The number after the slash (/) is the length of the prefix, which is also indicated by the underline ( ) under the IPv6 address. If no address is acquired, the field displays Not Available.
6. (Optional) In the **DHCP User Class (If Required)** field, enter a host name.  
Most people can leave this field blank, but if your ISP gave you a specific host name, enter it here.
  7. (Optional) In the **DHCP Domain Name (If Required)** field, enter a domain name.  
You can type the domain name of your IPv6 ISP. Do not enter the domain name for the IPv4 ISP here. For example, if your ISP's mail server is mail.xxx.yyy.zzz, type xxx.yyy.zzz as the domain name. If your ISP provided a domain name, type it in this field. For example, Earthlink Cable might require a host name of home, and Comcast sometimes supplies a domain name.
  8. Select an IP Address Assignment radio button:
    - **Use DHCP Server.** This method passes more information to LAN devices, but some IPv6 systems might not support the DHCPv6 client function.
    - **Auto Config.** This is the default setting.
  9. (Optional) Select the **Use This Interface ID** check box and specify the interface ID that you want to be used for the IPv6 address of the router's LAN interface.  
If you do not specify an ID here, the router generates one automatically from its MAC address.
  10. Click the **Apply** button.  
Your settings are saved.

## Set up an IPv6 6rd tunnel Internet connection

The 6rd protocol makes it possible to deploy IPv6 to sites using a service provider's IPv4 network. 6rd uses the service provider's own IPv6 address prefix. This limits the operational domain of 6rd to the service provider's network and is under direct control of the service provider. The IPv6 service provided is equivalent to native IPv6. The 6rd mechanism relies on an algorithmic mapping between the IPv6 and IPv4 addresses that

are assigned for use within the service provider's network. This mapping allows for automatic determination of IPv4 tunnel endpoints from IPv6 prefixes, allowing stateless operation of 6rd.

With a 6rd Tunnel configuration, the router follows the RFC5969 standard, supporting two ways to establish a 6rd tunnel IPv6 WAN connection:

- **Auto Detect Mode.** In IPv6 Auto Detect mode, when the router receives option 212 from the DHCPv4 option, auto detect selects the IPv6 as 6rd Tunnel setting. The router uses the 6rd option information to establish the 6rd connection.
- **Manual Mode.** Select 6rd. If the router receives option 212, the fields are automatically completed. Otherwise, you must enter the 6rd settings.

### To set up an IPv6 6rd Tunnel Internet connection:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > IPv6**.  
The IPv6 page displays.
5. In the **Internet Connection Type** menu, select **6rd**.  
The page adjusts.

The router automatically detects the information in the following sections:

- **6rd (IPv6 Rapid Development) Configuration.** The router detects the service provider's IPv4 network and attempts to establish an IPv6 6rd Tunnel connection. If the IPv4 network returns 6rd parameters to the router, the page adjusts to display the correct settings in this section.
- **Router's IPv6 Address on LAN.** This field shows the IPv6 address that is acquired for the router's LAN interface. The number after the slash (/) is the length of the prefix, which is also indicated by the underline ( ) under the IPv6 address. If no address is acquired, the field displays Not Available.

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

This setting specifies how the router assigns IPv6 addresses to the devices on your home network.
8. (Optional) Select the **Use This Interface ID** check box and specify the interface ID that you want to be used for the IPv6 address of the router's LAN interface.

If you do not specify an ID here, the router generates one automatically from its MAC address.
9. Click the **Apply** button.

Your settings are saved.

## Set up an IPv6 6to4 tunnel Internet connection

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

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

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.

A login window opens.
3. Enter the admin user name and password.

The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.

The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > IPv6**.

The IPv6 page displays.

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

The page adjusts.

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

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

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

7. Select an IPv6 Domain Name Server (DNS Address) radio button:

- **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.

8. Select an IP Address Assignment radio button:

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

This setting specifies how the router assigns IPv6 addresses to the devices on your home network.

9. (Optional) Select the **Use This Interface ID** check box and specify the interface ID that you want to be used for the IPv6 address of the router's LAN interface.  
If you do not specify an ID here, the router generates one automatically from its MAC address.

10. Click the **Apply** button.

Your settings are saved.

## Set up an IPv6 pass-through Internet connection

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

### To set up a pass-through IPv6 Internet connection:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > IPv6**.  
The IPv6 page displays.
5. From the **Internet Connection Type** menu, select **Pass Through**.  
The page adjusts, but no additional fields display.
6. Click the **Apply** button.  
Your settings are saved.

## Set up an IPv6 fixed Internet connection

### To set up a fixed IPv6 Internet connection:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > IPv6**.  
The IPv6 page displays.



5. From the **Internet Connection Type** menu, select **Fixed**.  
The page adjusts.
6. Configure the fixed IPv6 addresses for the WAN connection:
  - **IPv6 Address/Prefix Length.** The IPv6 address and prefix length of the router WAN interface.
  - **Default IPv6 Gateway.** The IPv6 address of the default IPv6 gateway for the router's WAN interface.
  - **Primary DNS Server.** The primary DNS server that resolves IPv6 domain name records for the router.
  - **Secondary DNS Server.** The secondary DNS server that resolves IPv6 domain name records for the router.

**Note:** If you do not specify the DNS servers, the router uses the DNS servers that are configured for the IPv4 Internet connection on the Internet Setup page. (See [Manually set up the Internet connection](#) on page 29.)

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

This setting specifies how the router assigns IPv6 addresses to the devices on your home network.

8. In the **IPv6 Address/Prefix Length** fields, specify the static IPv6 address and prefix length of the router's LAN interface.  
If you do not specify an ID here, the router generates one automatically from its MAC address.
9. Click the **Apply** button.  
Your settings are saved.

## Set up an IPv6 DHCP Internet connection

### To set up an IPv6 Internet connection with a DHCP server:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.

A login window opens.

3. Enter the admin user name and password.

The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.

The BASIC Home page displays.

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

The IPv6 page displays.

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

The page adjusts.

The router automatically detects the information in the following fields:

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

6. Select an IPv6 Domain Name Server (DNS) Address radio button:

- **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.

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

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

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

You can type the domain name of your IPv6 ISP. Do not enter the domain name for the IPv4 ISP here. For example, if your ISP's mail server is mail.xxx.yyy.zzz, type xxx.yyy.zzz as the domain name. If your ISP provided a domain name, type it in this field. For example, Earthlink Cable might require a host name of home, and Comcast sometimes supplies a domain name.

9. Select an IP Address Assignment radio button:

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

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

10. (Optional) Select the **Use This Interface ID** check box and specify the interface ID that you want to be used for the IPv6 address of the router's LAN interface.

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

11. Click the **Apply** button.

Your settings are saved.

## Set up an IPv6 PPPoE Internet connection

### To set up a PPPoE IPv6 Internet connection:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.

2. Enter **orbilogin.com**.

A login window opens.

3. Enter the admin user name and password.

The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.

The BASIC Home page displays.

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

The IPv6 page displays.

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

The page adjusts.

The router automatically detects the information in the following fields:

- **Router's IPv6 Address on WAN.** This field shows the IPv6 address that is acquired for the router's WAN (or Internet) interface. The number after the slash (/) is the

length of the prefix, which is also indicated by the underline (   ) under the IPv6 address. If no address is acquired, the field displays Not Available.

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

6. In the **Login** field, enter the login information for the ISP connection.

This is usually the name that you use in your email address. For example, if your main mail account is JerAB@ISP.com, you would type JerAB in this field. Some ISPs (like Mindspring, Earthlink, and T-DSL) require that you use your full email address when you log in. If your ISP requires your full email address, type it in this field.

7. In the **Password** field, enter the password for the ISP connection.

8. In the **Service Name** field, enter a service name.

If your ISP did not provide a service name, leave this field blank.

**Note:** The default setting of the **Connection Mode** field is Always On to provide a steady IPv6 connection. The router never terminates the connection. If the connection is terminated, for example, when the modem is turned off, the router attempts to reestablish the connection immediately after the PPPoE connection becomes available again.

9. Select an IPv6 Domain Name Server (DNS) Address radio button:

- **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. (Optional) Select the **Use This Interface ID** check box and specify the interface ID that you want to be used for the IPv6 address of the router's LAN interface.

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

11. Click the **Apply** button.

Your settings are saved.

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

**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 mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Setup > WAN Setup**.  
The WAN Setup page displays.

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

Your settings are 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 ping. (Larger packets are fragmented.)
1468	Used in some DHCP environments.
1436	Used in PPTP environments or with VPN.
576	Typical value to connect to dial-up ISPs.

# 4

## Control Access to the Internet

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The router comes with a built-in firewall that helps protect your home network from unwanted intrusions from the Internet.

This chapter includes the following sections:

- [Manage MAC access control lists for WiFi networks and the LAN](#)
- [Manage the Orbi network access control list](#)
- [Use keywords to block Internet sites](#)
- [Delete keywords that are used to block Internet sites](#)
- [Avoid blocking on a trusted computer](#)
- [Block services from the Internet](#)
- [Schedule when to block Internet sites and services](#)
- [Set up security event email notifications](#)

# Manage MAC access control lists for WiFi networks and the LAN

A MAC access control list (ACL) for a WiFi network (that is, an SSID) or the wired network (that is, the LAN) allows or denies a device access to the network based only on the MAC address of the device. If you block a device for one WiFi network or for the wired network, the device is blocked only for that WiFi network or for the wired network. You can set up an independent MAC ACL for each WiFi network and for the wired network. (The router supports a total of five MAC ACLs.) With a MAC ACL, you can allow or deny access to a device on a specific WiFi network or the wired network.

**Note:** A MAC ACL differs from the network access control list (see [Manage the Orbi network access control list](#) on page 53). The network access control list is not specific to a particular WiFi network or to the wired network but is based on both WiFi and wired devices that the router detects on the entire Orbi network. To allow or deny access to a device on a specific WiFi network or the wired network, use a MAC ACL. MAC ACLs and the network access control list are mutually exclusive. Use either MAC ACLs or the network access control list.

If you set up a MAC ACL with a policy that allows access to a specific network, devices on the MAC ACL are an exception to the default policy:

- A device for which you place the MAC address on the MAC ACL is *denied* access to that network.
- All other devices are allowed access to that network.

If you set up a MAC ACL with a policy that denies access to a specific network, devices on the MAC ACL are an exception to the default policy:

- A device for which you place the MAC address on the MAC ACL is *allowed* access to that work.
- All other devices are denied access to that network.

A blocked device can still get an IP address from the router but cannot communicate with other devices on the network or connect to the Internet.

**Note:** Each network device owns a MAC address, which is a unique 12-character physical address, containing the hexadecimal characters 0-9, a-f, or A-F (uppercase or lowercase) only, and separated by colons (for example, 00:09:AB:CD:EF:01). Typically, the MAC address is on the label of a device. If you cannot see the label, you can display the MAC address using the network configuration utilities of a computer. You might also find the MAC addresses on [Attached Devices](#) page of the router (see [View satellites, WiFi devices, and wired devices connected to the Orbi network](#) on page 117).

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## Enable a MAC ACL for a specific network

When you enable a MAC ACL for a specific network, you must specify the default policy for that network. The default policy determines whether devices that you add to the MAC ACL are allowed or denied access to that specific network.

You can set up an independent MAC ACL for each of the four WiFi networks and for the wired network. That is, the router supports a total of five MAC ACLs.

### To enable a MAC ACL for a specific network:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Security > MAC ACL**.  
The MAC ACL page displays.
5. Go to the section for the network for which you want to set up a MAC ACL.  
The first section is for the admin WiFi network, the second for the employee WiFi network, the third for the IoT WiFi network, the fourth for the guest WiFi network, and the fifth for the wired network.
6. For the specific network, click the Enable MAC Access Control **Disabled** button.  
The button changes to the green Enabled button.

**Note:** If you enabled the network access control list (see [Enable the network access control list and specify the access rule](#) on page 54), you cannot enable any MAC ACLs. The network access control list and MAC ACLs are mutually exclusive. Use either the network access control list or MAC ACLs.

7. From the **Default Policy** menu, select one of the following options:
  - **Allow**. The policy is to allow all devices access except for the devices that you add to the MAC ACL. Devices on the MAC ACL are denied access to the specific network.
  - **Deny**. The policy is to deny all devices access except for the devices that you add to the MAC ACL. Devices on the MAC ACL are allowed access to the specific network.

You can now add and manage devices on the MAC ACL. For more information, see the following sections:

- [Add automatically detected devices to a MAC ACL](#) on page 50
- [Manually add, remove, or change the information for a device on a MAC ACL](#) on page 51

## Add automatically detected devices to a MAC ACL

After you set up a MAC ACL for a network and specify the default policy for the MAC ACL, the router automatically detects devices that are connected or were connected to the network for which you set up the MAC ACL.

You can select one or multiple devices from the detected list and add them to the MAC ACL.

### To add automatically detected devices to a MAC ACL:

1. Launch a web browser from a computer or mobile device that is connected to the access point/router network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Security > MAC ACL**.  
The MAC ACL page displays.
5. Go to the section for the network for which you want to manage the MAC ACL.  
The first section is for the admin WiFi network, the second for the employee WiFi network, the third for the IoT WiFi network, the fourth for the guest WiFi network, and the fifth for the wired network.
6. Click the **ADD DEVICE** button.  
The Manual Access Management pop-up window opens.
7. Select the check boxes for the devices that you want to add to the MAC ACL.
8. Click the **ADD** button.

The devices are added to the MAC ACL on the MAC ACL page. Devices on the MAC ACL are an exception to the default policy:

- If the default policy of the MAC ACL is to allow access, the added devices are denied access.
- If the default policy of the MAC ACL is to deny access, the added devices are allowed access.

## Manually add, remove, or change the information for a device on a MAC ACL

After you set up a MAC ACL for a network and specify the default policy for the MAC ACL, you can manually add a device, remove a device, or change the name (but not the MAC address) for a device on the MAC ACL.

By manually adding a device, you can proactively control access for a device that is not or not yet detected, or that was not detected by the router.

To manually add, remove, or change the name for a device on a MAC ACL:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi Pro network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Security > MAC ACL**.  
The MAC ACL page displays.
5. Go to the section for the network for which you want to manage the MAC ACL.  
The first section is for the admin WiFi network, the second for the employee WiFi network, the third for the IoT WiFi network, the fourth for the guest WiFi network, and the fifth for the wired network.
6. To manually add a device to the MAC ACL, do the following:
  - a. Click the **ADD** button.  
The Manual Access Management pop-up window opens.
  - b. Enter the MAC address and device name for the device that you want to add.

- c. In the Manual Access Management pop-up window, click the **ADD** button.  
The device is added to the MAC ACL on the MAC ACL page. Devices on the MAC ACL are an exception to the default policy:
  - If the default policy of the MAC ACL is to allow access, the added device is denied access.
  - If the default policy of the MAC ACL is to deny access, the added device is allowed access.
7. To remove a device from the MAC ACL, do the following:
  - a. Select the check box for the device.
  - b. Click the **REMOVE DEVICE** button.  
The device is removed from the MAC ACL.
8. To change the name for a device on the MAC ACL, do the following:
  - a. Next to the device in the table., click the **EDIT** button.  
The Manual Access Management pop-up window opens.
  - b. Change the device name.
  - c. In the Manual Access Management pop-up window, click the **EDIT** button.  
The device name is changed in the MAC ACL on the MAC ACL page.

## Disable a MAC ACL for a specific network

You can disable a MAC ACL that you already set up. The devices are not removed from the MAC ACL, but all devices on the MAC ACL can connect to the network for which you setup the MAC ACL, even if the default policy of the MAC ACL is to deny access to the devices.

To disable a MAC ACL for a specific network:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.

4. Select **ADVANCED > Security > MAC ACL**.

The MAC ACL page displays.

5. Go to the section for the network for which you want to disable the MAC ACL.

The first section is for the admin WiFi network, the second for the employee WiFi network, the third for the IoT WiFi network, the fourth for the guest WiFi network, and the fifth for the wired network.

6. For the specific network, click the Enable MAC Access Control **Enabled** button.

The button changes to the gray Disabled button. The MAC ACL is disabled.

## Manage the Orbi network access control list

You can use the network access control list (ACL) to block or allow access to the entire Orbi network. An ACL functions with the MAC addresses of WiFi and wired devices that the router detects on the Orbi network and that you can either allow access to your network or deny access to your network. That is, the router can detect the MAC addresses of devices that are or were connected to the Orbi network and list the MAC addresses of these devices.

**Note:** The network access control list differs from a MAC ACL (see [Manage MAC access control lists for WiFi networks and the LAN](#) on page 48). A MAC ACL is specific to a particular WiFi network or to the wired network but is not based on devices that the router detects on the entire Orbi network. With a MAC ACL, you can allow or deny access to a device on a specific WiFi network or the wired network. The network access control list and MAC ACLs are mutually exclusive. Use either the network access control list or MAC ACLs.

If you set up a network ACL with an access rule that allows access to the Orbi network, devices on the network ACL are an exception to the access rule:

- A device for which you place the MAC address on the network ACL is *denied* access to the Orbi network.
- All other devices are allowed access to the Orbi network.

If you set up a network ACL with an access rule that denies access to the Orbi network, devices on the network ACL are an exception to the access rule:

- A device for which you place the MAC address on the network ACL is *allowed* access to the Orbi network.
- All other devices are denied access to the Orbi network.

**Note:** Each network device owns a MAC address, which is a unique 12-character physical address, containing the hexadecimal characters 0–9, a–f, or A–F (uppercase or lowercase) only, and separated by colons (for example, 00:09:AB:CD:EF:01). Typically, the MAC address is on the label of a device. If you cannot see the label, you can display the MAC address using the network configuration utilities of a computer. You might also find the MAC addresses on Attached Devices page of the router (see [View satellites, WiFi devices, and wired devices connected to the Orbi network](#) on page 117).

## Enable the network access control list and specify the access rule

When you enable network access control, you must select whether new devices are allowed to access the Orbi network or are blocked from accessing the network. By default, connected devices are allowed access to the Orbi network, but you can also block these devices from accessing the Orbi network.

### To enable and manage the network access control list for the entire Orbi network:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Security > Access Control**.  
The Access Control page displays.
5. Select the **Turn on Access Control** check box.  
You must select this check box before you can specify an access rule and use the **ALLOW** and **BLOCK** buttons. When the **Turn on Access Control** check box is cleared, all devices are allowed to connect, even if a device is in the list of blocked devices.  
  
**Note:** If you enabled one or more MAC ACLs (see [Enable a MAC ACL for a specific network](#) on page 49), you cannot use the **ALLOW** and **BLOCK** buttons. MAC ACLs and the network access control list are mutually exclusive. Use either MAC ACLs or the network access control list.
6. Click the **Apply** button.  
Your settings are saved.

7. Select an access rule for new devices:

- **Allow all new devices to connect.** With this setting, if you add a new device, it can access the Orbi network. You do not need to enter its MAC address on this page. We recommend that you leave this radio button selected.
- **Block all new devices from connecting.** With this setting, if you add a new device, before it can access the Orbi network, you must enter its MAC address for an Ethernet connection and its MAC address for a WiFi connection in the allowed list. For more information, see .

The access rule does not affect previously blocked or allowed devices. It applies only to devices joining the Orbi network in the future after you apply these settings.

8. To manage access for devices that are connected or were connected to the Orbi network, do the following:

- If you blocked all new devices from connecting, to allow the device that you are currently using to continue to access the Orbi network, select the check box next to your computer or device in the table, and click the **ALLOW** button.
- To either continue to allow or to block other computers and devices that are connected or were connected, select the check box next to the device in the table, and click either the **ALLOW** button or the **BLOCK** button.

9. Click the **Apply** button.

Your settings are saved.

## Manage the allowed devices on the network access control list

If you set up an access list that blocks all new devices from accessing the Orbi network, you must specify which devices are allowed to access the Orbi network.

You can add a device, remove a device, or edit the information for a device.

### To manage devices that are allowed to access to Orbi network:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.

The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.

The BASIC Home page displays.

4. Select **ADVANCED > Security > Access Control**.  
The Access Control page displays.
5. Click the **View list of allowed devices not currently connected to the network** link.  
A table displays the detected device name, MAC address, and connection type of the devices that are not connected but allowed to access the Orbi network.
6. To add a device to the allowed list, do the following:
  - a. Click the **ADD** button.  
The Add Allowed Device page displays.
  - b. Enter the MAC address and device name for the device that you want to allow.
  - c. On the Add Allowed Device page, click the **Apply** button.  
The device is added to the allowed list on the Access Control page.
7. To remove a device from the allowed list, do the following:
  - a. Select the check box for the device.
  - b. Click the **REMOVE FROM THE LIST** button.  
The device is removed from the allowed list.
8. To change the information for a device on the allowed list, do the following:
  - a. Select the check box for the device.
  - b. Click the **EDIT** button.  
The Edit Allowed Device page displays.
  - c. Change the access rule, MAC address, or device name.
  - d. On the Edit Allowed Device page, click the **Apply** button.  
The device is changed on the allowed list on the Access Control page.
9. Click the **Apply** button.  
Your settings are saved.



## Manage the blocked devices on the network access control list

If you set up an access list that allows all new devices to access the Orbi network but you want to block some devices from accessing the Orbi network, you must specify the devices that you want to block.

You can add a device, remove a device, or change the information for a device.

### To manage devices that are blocked from accessing the Orbi network:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Security > Access Control**.  
The Access Control page displays.
5. Click the **View list of blocked devices not currently connected to the network** link.  
The Access Control page displays.  
A table displays the detected device name, MAC address, and connection type of the devices that are not connected and are blocked from accessing the Orbi network.
6. To add a device to the blocked list, do the following:
  - a. Click the **ADD** button.  
The Add Blocked Device page displays.
  - b. Enter the MAC address and device name for the device that you want to block.
  - c. On the Add Blocked Device page, click the **Apply** button.  
The device is added to the blocked list on the Access Control page.
7. To remove a device from the blocked list, do the following:
  - a. Select the check box for the device.
  - b. Click the **REMOVE FROM THE LIST** button.  
The device is removed from the blocked list.

8. To change the information for a device on the blocked list, do the following:
  - a. Select the check box for the device.
  - b. Click the **EDIT** button.  
The Edit Blocked Device page displays.
  - c. Change the access rule, MAC address, or device name.
  - d. On the Edit Blocked Device page, click the **Apply** button.  
The device is changed on the blocked list on the Access Control page.
9. Click the **Apply** button.  
Your settings are saved.

## Use keywords to block Internet sites

You can use keywords to block certain Internet sites from your network. You can use blocking all the time or based on a schedule.

### To block Internet sites:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Security > Block Sites**.  
The Block Sites page displays.
5. Select a keyword blocking option:
  - **Per Schedule**. Turn on keyword blocking according to a schedule that you set. (See Schedule When to Block Internet Sites and Services on page 56.)
  - **Always**. Turn on keyword blocking all the time, independent of the Schedule page.

6. In the **Type keyword or domain name here** field, enter a keyword or domain that you want to block.

For example:

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

7. Click the **Add Keyword** button.

The keyword is added to the keyword list. The keyword list supports up to 32 entries.

8. Click the **Apply** button.

Keyword blocking takes effect.

## Delete keywords that are used to block Internet sites

### To delete keywords that are used to block Internet sites:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Security > Block Sites**.  
The Block Sites page displays.
5. Do one of the following:
  - To delete a single word, select it and click the **Delete Keyword** button.  
The keyword is removed from the list.
  - To delete all keywords on the list, click the **Clear List** button.

All keywords are removed from the list.

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

## Avoid blocking on a trusted computer

You can exempt one trusted computer from blocking. The computer that you exempt must be assigned a fixed IP address. You can use the reserved IP address feature to specify the IP address. See [Manage reserved LAN IP addresses](#) on page 75.

### To specify a trusted computer:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Security > Block Sites**.  
The Block Sites page displays.
5. Scroll down and select the **Allow trusted IP address to visit blocked sites** check box.
6. In the **Trusted IP Address** field, enter the IP address of the trusted computer.
7. Click the **Apply** button.  
Your settings are saved.

## Block services from the Internet

You can block Internet services on your network based on the type of service. You can block the services all the time or based on a schedule.

### To block services:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.

A login window opens.

3. Enter the admin user name and password.

The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.

The BASIC Home page displays.

4. Select **ADVANCED > Security > Block Services**.

The Block Services page displays.

5. Specify when to block the services:

- To block the services all the time, select the **Always** radio button.
- To block the services based on a schedule, select the **Per Schedule** radio button.

For information about how to specify the schedule, see [Schedule when to block Internet sites and services](#) on page 62.

6. Click the **Add** button.

The Block Services Setup page displays.

7. To add a service that is in the **Service Type** list, select the application or service.

The settings for this service automatically display in the fields.

8. To add a service or application that is not the list, select **User Defined**.

- a. If you know that the application uses either TCP or UDP, select the appropriate protocol.

Otherwise, select **TCP/UDP (both)**.

- b. Enter the starting port and ending port numbers.

- If the service uses a single port number, enter that number in both fields.
- To find out which port numbers the service or application uses, you can contact the publisher of the application, ask user groups or newsgroups, or search on the Internet.

9. To specify how to filter the services, select one of the following radio buttons:

- **Only This IP Address**. Block services for a single computer.
- **IP Address Range**. Block services for a range of computers with consecutive IP addresses on your network.
- **All IP Addresses**. Block services for all computers on your network.

10. Click the **Add** button.  
Your settings are saved.

## Schedule when to block Internet sites and services

When you schedule blocking, the same schedule is used to block sites and to block services. For information about how to specify what you want the router to block, see [Use keywords to block Internet sites](#) on page 58 and [Avoid blocking on a trusted computer](#) on page 60.

### To schedule blocking:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Security > Schedule**.
5. Specify when to block keywords and services:
  - **Days to Block**. Select the check box for each day that you want to block the keywords or select the Every Day check box, which automatically selects the check boxes for all days.
  - **Time of Day to Block**. Select a start and end time in 24-hour format, or select All Day for 24-hour blocking.
6. Select your time zone from the list.
7. If you live in a region that observes daylight saving time, select the **Automatically adjust for daylight savings time** check box.
8. Click the **Apply** button.  
Your settings are saved.

# Set up security event email notifications

The router can email you its logs of router activity. The log records router activity and security events such as attempts to access blocked sites or services.

## To set up email notifications:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Security > E-mail**.  
The E-mail page displays.
5. Select the **Turn Email Notification On** check box.
6. In the **Primary E-mail Address** field, enter the email address to which logs and alerts are sent.  
This email address is also used for the From address. If this field is blank, log and alert messages are not sent.
7. In the **Your Outgoing Mail Server** field, enter the name of your ISP outgoing (SMTP) mail server (such as mail.myISP.com).  
You might be able to find this information in the configuration window of your email program. If you leave this field blank, log and alert messages are not sent.
8. In the **Outgoing Mail Server Port Number** field, enter your mail server's port number.  
You might be able to find this information in the configuration window of your email program.
9. If your outgoing email server requires authentication, select the **My Mail Server requires authentication** check box and do the following:
  - In the **User Name** field, type the user name for the outgoing email server.
  - In the **Password** field, type the password for the outgoing email server.
10. To send alerts immediately, select the **Send Alerts Immediately** check box.

Email alerts are sent immediately when someone attempts to visit a blocked site.

11. To send logs based on a schedule, specify these settings:

- From **Send logs according to this schedule** menu, select the schedule type.
- From the **Day** menu, select the day.
- From the **Time** menu, select the time, and select the **am** or **pm** radio button.

12. Click the **Apply** button.

Your settings are saved.

Logs are sent automatically. If the log fills before the specified time, it is sent. After the log is sent, it is cleared from the router memory. If the router cannot email the log and the log buffer fills, the router overwrites the log.



# 5

## Specify Network Settings

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This chapter includes the following sections:

- [View or change WAN settings](#)
- [Manage Dynamic DNS](#)
- [Set up a default DMZ server](#)
- [Change the router's device name](#)
- [Change the LAN TCP/IP settings](#)
- [Use the router as a DHCP server](#)
- [Disable the DHCP server feature in the router](#)
- [Manage reserved LAN IP addresses](#)
- [Manage custom static routes](#)
- [Change the admin WiFi network settings](#)
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- [Manage the IoT WiFi network settings](#)
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- [Enable or disable MU-MIMO](#)
- [Enable or disable Protected Management Frames](#)
- [Check your Internet bandwidth](#)
- [Set up a bridge for a port group or VLAN tag group](#)
- [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 the WAN settings:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Setup > WAN Setup**  
The WAN Setup page displays.
5. View or change the following settings:
  - **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 69.
  - **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.
  - **Disable IGMP Proxying.** IGMP proxying allows a computer on the local area network (LAN) to receive the multicast traffic it is interested in from the Internet. If you do not need this feature, select this check box to disable it.
  - **MTU Size (in bytes).** The normal MTU (maximum transmit unit) value for most Ethernet networks is 1500 bytes, or 1492 bytes for PPPoE connections. Change the MTU only if you are sure that it is necessary for your ISP connection. See [Change the MTU size](#) on page 45.
  - **NAT Filtering.** Network Address Translation (NAT) determines how the router processes inbound traffic. Secured NAT protects computers on the LAN from attacks from the Internet, but might prevent some Internet games, point-to-point

applications, or multimedia applications from working. Open NAT provides a much less secured firewall, but allows almost all Internet applications to work.

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

## Manage Dynamic DNS

Internet service providers (ISPs) assign numbers called IP addresses to identify each Internet account. Most ISPs use dynamically assigned IP addresses. This means that the IP address can change at any time. You can use the IP address to access your network remotely, but most people don't know what their IP addresses are or when this number changes.

To make it easier to connect, you can get a free account with a Dynamic DNS service that lets you use a domain name to access your home network. To use this account, you must set up the router to use Dynamic DNS. Then the router notifies the Dynamic DNS service provider whenever its IP address changes. When you access your Dynamic DNS account, the service finds the current IP address of your home network and automatically connects you.

If your ISP assigns a private WAN IP address (such as 192.168.x.x or 10.x.x.x), the Dynamic DNS service does not work because private addresses are not routed on the Internet.

### Set up a new Dynamic DNS account

#### **To set up Dynamic DNS and register for a free NETGEAR account:**

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Dynamic DNS**.  
The Dynamic DNS page displays.
5. Select the **Use a Dynamic DNS Service** check box.

6. In the **Service Provider** list, select **NETGEAR**.
7. Select the **No** radio button.
8. In the **Host Name** field, type the name that you want to use for your URL.  
The host name is sometimes called the domain name. Your free URL includes the host name that you specify, and ends with mynetgear.com. For example, specify *MyName.mynetgear.com*.
9. In the **Email** field, type the email address that you want to use for your account.
10. In the **Password (6-32 characters)** field, type the password for your account.
11. Click the **Register** button.
12. Follow the onscreen instructions to register for your NETGEAR Dynamic DNS service.
13. To check that Dynamic DNS is enabled in the router, click the **Show Status** button.  
A message displays the Dynamic DNS status.

## Specify a DNS account that you already created

If you already own a Dynamic DNS account with NETGEAR, no-IP, or Dyn, you can set up the router to use your account.

### To set up Dynamic DNS if you already created an account:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Dynamic DNS**.  
The Dynamic DNS page displays.
5. Select the **Use a Dynamic DNS Service** check box.
6. In the **Service Provider** list, select your provider.
7. Select the **Yes** radio button.  
The page adjusts and displays to show the **Status**, **Cancel**, and **Apply** buttons.

8. In the **Host Name** field, type the host name (sometimes called the domain name) for your account.
9. For a no-IP Dyn account, in the **User Name** field, enter the user name for your account.
10. For a NETGEAR account at no-IP, in the **Email** field, type the email address for your account.
11. In the **Password (6-32 characters)** field, type the password for your DDNS account.
12. Click the **Apply** button.  
Your settings are saved.
13. To verify that your Dynamic DNS service is enabled in the router, click the **Show Status** button.  
A message displays the Dynamic DNS status.

## Change the Dynamic DNS settings

### To change your settings:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Dynamic DNS**.  
The Dynamic DNS page displays.
5. Change your DDNS account settings as necessary.
6. Click the **Apply** button.  
Your settings 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.

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 usually detects and discards incoming traffic from the Internet that is not a response to one of your local computers or a service that you configured in the Port Forwarding/Port Triggering page. Instead of discarding this traffic, you can specify that the router forwards 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 mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Setup > WAN Setup**.  
The WAN Setup page displays.
5. Select the Default DMZ Server check box.
6. Type the IP address.
7. Click the **Apply** button.  
Your settings are saved.

## Change the router's device name

The router's device name is its model number. This device name displays in a file manager when you browse your network.

### To change the router's device name:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Setup > Device Name**.  
The Device Name page displays.
5. In the **Device Name** field, type a new name.
6. Click the **Apply** button.  
Your settings are 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 use competing subnets with the same IP scheme.

### To change the LAN TCP/IP settings:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.

The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.

The BASIC Home page displays.

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

The LAN Setup page displays.

5. In the **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. Select the RIP direction:

- **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. Select the RIP version:

- **Disabled**. This is the default setting.
- **RIP-1**. This format is universally supported. It is adequate for most networks, unless you are using an unusual network setup.
- **RIP-2**. This format carries more information. Both RIP-2B and RIP-2M send the routing data in RIP-2 format. RIP-2B uses subnet broadcasting. RIP-2M uses multicasting.

8. Click the **Apply** button.

Your settings 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.



# Use the router as a DHCP server

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.

## **To use the router as a DHCP server and specify the pool of IP addresses that the router assigns:**

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Setup > LAN Setup**.  
The LAN Setup page displays.
5. If you previously disabled the DHCP server feature, select the **Use Router as DHCP Server** check box.
6. Specify the range of IP addresses that the router assigns:
  - a. In the **Starting IP Address** field, enter the lowest number in the range.  
This IP address must be in the same subnet as the router. The default starting IP address is 192.168.1.2.
  - b. In the **Ending IP Address** field, enter the number at the end of the range of IP addresses.  
This IP address must be in the same subnet as the router. The default ending IP address is 192.168.1.254.
7. Click the **Apply** button.  
Your settings are saved.

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

- An IP address from the range that you defined
- Subnet mask
- Gateway IP address (the router's LAN IP address)
- DNS server IP address (the router's LAN IP address)

## 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 mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Setup > LAN Setup**.  
The LAN Setup page displays.
5. Clear the **Use Router as DHCP Server** check box.
6. Click the **Apply** button.
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.

# Manage reserved LAN IP addresses

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

## Reserve an IP address

### To reserve an IP address:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Setup > LAN Setup**.  
The LAN Setup page displays.
5. In the **Address Reservation** section of the page, click the **Add** button.
6. In the **IP Address** field, type the IP address to assign to the computer or server.  
The page adjusts.
7. Choose an IP address from the router's LAN subnet, such as 192.168.1.x.
8. 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 page and paste it here.

9. 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.

## Edit a reserved IP address

### To edit a reserved address entry:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Setup > LAN Setup**.  
The LAN Setup page displays.
5. Select the radio button next to the reserved address.
6. Click the **Edit** button.  
The Address Reservation page displays.
7. Change the settings.
8. Click the **Apply** button.  
Your settings are saved.

## Delete a reserved IP address entry

### To delete a reserved address entry:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Setup > LAN Setup**.  
The LAN Setup page displays.

5. Select the radio button next to the reserved address.
6. Click the **Delete** button.  
The address is removed.

## Manage custom static routes

Typically, you do not need to add static routes unless you use multiple routers or multiple IP subnets on your network.

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

- Your main Internet access is through a cable modem to an ISP.
- Your home network includes an ISDN router 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 set up 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 try 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 firewall is likely to deny the request.

In this case you must define a static route, telling your router to access 134.177.0.0 through the ISDN router at 192.168.1.100. Here is an example:

- 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 will 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.
- The **Private** check box is selected only as a precautionary security measure in case RIP is activated.

## Set up a static route

### To set up a static route:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.

A login window opens.

3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Static Routes**.  
The Static Routes page displays.
5. Click the **Add** button.  
The page adjusts.
6. In the **Route Name** field, type a name for this static route (for identification purposes only.)
7. To limit access to the LAN only, select the **Private** check box.  
If Private is selected, the static route is not reported in RIP.
8. Select the **Active** check box to make this route take effect.
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.  
This address must be on the same LAN segment as the 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 is a direct connection, set it to 1.
13. Click the **Apply** button.  
The static route is added.

## Edit a static route

### To edit a static route:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.

3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Static Routes**.  
The Static Routes page displays.
5. In the table, select the radio button for the route.
6. Click the **Edit** button.  
The Static Routes page adjusts.
7. Edit the route information.
8. Click the **Apply** button.  
Your settings are saved.

## Delete a static route

### To delete a static route:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Static Routes**.  
The Static Routes page displays.
5. In the table, select the radio button for the route.
6. Click the **Delete** button.  
The route is removed from the table.

# Change the admin WiFi network settings

You can set up four WiFi networks for your Orbi Pro network: one for administrative access, one for employee access, one for Internet of things (IoT) devices, and one for guest access.

Your Orbi Pro router and satellite come preset with the same admin WiFi network name (SSID) and WiFi network key (password). You can find the admin SSID and password on the router label and on the satellite label. The preset WiFi settings on the labels are for your admin WiFi network. When you log in to the router and change the WiFi settings, the router automatically sends the new settings to the satellite.

**Note:** The router web interface calls the admin WiFi network the Wireless 1 network.

## Change the admin WiFi network name and channel

If you change your WiFi settings, make a note of the new settings and store it in a safe place where you can easily find it.

If your computer or mobile device is using a WiFi connection when you change the network name (SSID) or other WiFi 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.

**Note:** The router web interface calls the admin WiFi network the Wireless 1 network.

### To change the admin WiFi settings:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **Wireless**.  
The Wireless Settings page displays the admin WiFi settings.
5. To change the admin 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 router label. If you change the name, make sure to write down the new name and keep it in a safe place.

6. To change the 2.4 GHz or 5 GHz WiFi channel, select a number from the **Channel** menus.

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 channel works best for you.

When you use multiple routers, satellites, or extenders in your network (access points), you experience less interference if adjacent access points use different. The recommended channel spacing NETGEAR recommends a minimum of four channels between adjacent access points (for example, use channels 1 and 5, or 6 and 10).

7. Click the **Apply** button.

Your settings are saved. The router sends the new settings to the satellite.

If you are using a WiFi connection and you changed the SSID, you are disconnected from the network.

8. Make sure that you can connect to the WiFi network with its new settings.

If you cannot connect using WiFi, check the following:

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

## Change the admin WiFi password or security level

We recommend that you do not disable security for your WiFi network.

**Note:** The router web interface calls the admin WiFi network the Wireless 1 network.

### To change the admin WiFi password or WPA settings:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.

A login window opens.

3. Enter the admin user name and password.

The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.

The BASIC Home page displays.

4. Select **Wireless**.

The Wireless Settings page displays the admin WiFi settings.

5. Under Security Options, select a WPA option:

- **WPA2-PSK [AES]**. The WPA2 option uses the newest standard for the strongest security, but some older computers and WiFi devices cannot use WPA2. When you select this option, the **Password (Network Key)** field displays. Do the following:
  - a. In the **Password (Network Key)** field, enter the network key (password) that you want to use.  
It is a text string from 8 to 63 characters.
  - b. Write down the new password and keep it in a secure place for future reference.
- **WPA-PSK [TKIP] + WPA2-PSK [AES]**. If your network includes old computers and WiFi devices, select this radio button. When you select this option, the **Password (Network Key)** field displays. Do the following:
  - a. In the **Password (Network Key)** field, enter the network key (password) that you want to use.  
It is a text string from 8 to 63 characters.
  - b. Write down the new password and keep it in a secure place for future reference.
- **WPA2 Enterprise**. If your network is connected to a RADIUS server that can provide authentication, select this radio button. WPA2 Enterprise can provide the highest level of security. Before a WiFi client can connect to the Wireless 1 network, the WiFi client must be configured on the RADIUS server and authenticated against the RADIUS server. The router functions as the authenticator between the WiFi client and the RADIUS server, which provides the actual authentication.

When you select this option, additional fields display so that you can specify the RADIUS server. Do the following:

- a. In the **IP address** field, enter the IP address of the RADIUS server to which the router must connect.
- b. In the **Port** field, enter the port number that the router must use to communicate with the RADIUS server.  
By default, the port number is 1812.
- c. In the **Shared Secret** field, enter the password that the router must use to communicate with the RADIUS server.  
This password must be configured on the RADIUS server. This password is used to authenticate the router (not a WiFi client) against the RADIUS server.

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

## Manage the employee WiFi network settings

You can set up four WiFi networks for your Orbi Pro network: one for administrative access, one for employee access, one for Internet of things (IoT) devices, and one for guest access.

When employee devices connect to the employee WiFi network, they cannot see other devices that are connected to the network and cannot access the local area network (LAN).

**Note:** The router web interface calls the employee WiFi network the Wireless 2 network.

### Enable the employee WiFi network and change the settings

Before you can set up the employee WiFi network, you must enable it. You must be connected to the admin network to enable the employee WiFi network and change the settings.

When employee devices connect to the employee WiFi network, they cannot see other devices that are connected to the network and cannot access the local area network (LAN).

**Note:** The router web interface calls the employee WiFi network the Wireless 2 network.

**To enable the employee WiFi network and change the WiFi settings:**

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **Wireless > Wireless 2**.  
The WiFi settings for the Wireless 2 network display on the page.
5. To enable the Wireless 2 network, select the **Enable Wireless 2 network** check box.  
By default, the Wireless 2 network is disabled.
6. To broadcast the Wireless 2 network SSID, select the **Enable SSID Broadcast** check box.  
By default, the broadcast is enabled.
7. To allow your employees to see each other on the Wireless 2 network, and to allow them to access resources on the local network, select the **Allow employees to see each other and access my local network** check box.  
By default, employees are not allowed to see each other and cannot access local resources on the Wireless 2 network.
8. To change the Wireless 2 network name (SSID), type a new name in the **Wireless 2 Network 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 router's label. If you change the name, make sure to write down the new name and keep it in a safe place.
9. To separate the single SSID for the Wireless 2 network in an SSID for the 2.4 GHz band and another SSID for the 5 GHz band, select the **Enable SSID separation for 2.4G/5GHz** check box.  
For each band, a Wireless 2 Network Name (SSID) field displays. The SSID for the 5 GHz band is prepended with **\_5G**, but you can also type another name.  
By default, the Wireless 2 network provides a single SSID for both bands.
10. Click the **Apply** button.  
Your settings are saved. The router sends the new settings to the satellite.

11. Make sure that a user can connect to the WiFi network with its new settings.

If you cannot connect using WiFi, check the following:

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

## Change the employee WiFi password or security level

You must be connected to the admin network to change the employee password and security level.

**Note:** The router web interface calls the employee WiFi network the Wireless 2 network.

### To change the employee WiFi network password or WPA settings:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **Wireless > Wireless 2**.  
The WiFi settings for the wireless 2 network display on the page.
5. Under Security Options, select a WPA option:
  - **WPA2-PSK [AES]**. The WPA2 option uses the newest standard for the strongest security, but some older computers and WiFi devices cannot use WPA2.

When you select this option, the **Password (Network Key)** field displays. Do the following:

- a. In the **Password (Network Key)** field, enter the network key (password) that you want to use.  
It is a text string from 8 to 63 characters.
- b. Write down the new password and keep it in a secure place for future reference.

- **WPA-PSK [TKIP] + WPA2-PSK [AES]**. If your network includes old computers and WiFi devices, select this radio button.

When you select this option, the **Password (Network Key)** field displays. Do the following:

- a. In the **Password (Network Key)** field, enter the network key (password) that you want to use.  
It is a text string from 8 to 63 characters.
- b. Write down the new password and keep it in a secure place for future reference.

- **WPA2 Enterprise**. If your network is connected to a RADIUS server that can provide authentication, select this radio button. WPA2 Enterprise can provide the highest level of security. Before a WiFi client can connect to the Wireless 2 network, the WiFi client must be configured on the RADIUS server and authenticated against the RADIUS server. The router functions as the authenticator between the WiFi client and the RADIUS server, which provides the actual authentication.

When you select this option, additional fields display so that you can specify the RADIUS server. Do the following:

- a. In the **IP address** field, enter the IP address of the RADIUS server to which the router must connect.
- b. In the **Port** field, enter the port number that the router must use to communicate with the RADIUS server.  
By default, the port number is 1812.
- c. In the **Shared Secret** field, enter the password that the router must use to communicate with the RADIUS server.  
This password must be configured on the RADIUS server. This password is used to authenticate the router (not a WiFi client) against the RADIUS server.

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

# Manage the IoT WiFi network settings

You can set up four WiFi networks for your Orbi Pro network: one for administrative access, one for employee access, one for Internet of things (IoT) devices, and one for guest access.

When IoT devices connect to the IoT WiFi network, they cannot see other devices that are connected to the network and cannot access the local area network (LAN).

**Note:** The router web interface calls the IoT WiFi network the Wireless 3 network.

## Enable the IoT WiFi network and change the settings

Before you can set up the IoT WiFi network, you must enable it. You must be connected to the admin network to enable the IoT WiFi network and change the settings.

When IoT devices connect to the IoT WiFi network, they cannot see other devices that are connected to the network and cannot access the local area network (LAN).

**Note:** The router web interface calls the IoT WiFi network the Wireless 3 network.

### To enable the IoT WiFi network and change the WiFi settings:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **Wireless > Wireless 3**.  
The WiFi settings for the Wireless 3 network display on the page.
5. To enable the Wireless 3 network, select the **Enable Wireless 3 network** check box.  
By default, the Wireless 3 network is disabled.
6. To broadcast the Wireless 3 network SSID, select the **Enable SSID Broadcast** check box.  
By default, the broadcast is enabled.

7. To allow the IoT devices to see each other on the Wireless 3 network, and to allow them to access resources on the local network, select the **Allow IoT devices to see each other and access my local network** check box.

By default, IoT devices are not allowed to see each other and access local resources on the Wireless 3 network.

8. To change the Wireless 3 network name (SSID), type a new name in the **Wireless 3 Network Name (SSID)** field.

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

9. To separate the single SSID for the Wireless 3 network in an SSID for the 2.4 GHz band and another SSID for the 5 GHz band, select the **Enable SSID separation for 2.4G/5GHz** check box.

For each band, a Wireless 3 Network Name (SSID) field displays. The SSID for the 5 GHz band is prepended with \_5G (NETGEAR\_IOT\_5G), but you can also type another name.

By default, the Wireless 3 network provides a single SSID for both bands.

10. Click the **Apply** button.

Your settings are saved. The router sends the new settings to the satellite.

11. Make sure that an IoT device can connect to the WiFi network with its new settings.

If you cannot connect using WiFi, check the following:

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

## Change the IoT WiFi password or security level

You must be connected to the admin network to change the IoT password and security level.

**Note:** The router web interface calls the IoT WiFi network the Wireless 3 network.



**To change the IoT WiFi network password or WPA settings:**

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **Wireless > Wireless 3**.  
The WiFi settings for the wireless 3 network display on the page.
5. Under Security Options, select a WPA option:
  - **WPA2-PSK [AES]**. The WPA2 option uses the newest standard for the strongest security, but some older computers and WiFi devices cannot use WPA2. When you select this option, the **Password (Network Key)** field displays. Do the following:
    - a. In the **Password (Network Key)** field, enter the network key (password) that you want to use.  
It is a text string from 8 to 63 characters.
    - b. Write down the new password and keep it in a secure place for future reference.
  - **WPA-PSK [TKIP] + WPA2-PSK [AES]**. If your network includes old computers and WiFi devices, select this radio button. When you select this option, the **Password (Network Key)** field displays. Do the following:
    - a. In the **Password (Network Key)** field, enter the network key (password) that you want to use.  
It is a text string from 8 to 63 characters.
    - b. Write down the new password and keep it in a secure place for future reference.
  - **WPA2 Enterprise**. If your network is connected to a RADIUS server that can provide authentication, select this radio button. WPA2 Enterprise can provide the highest level of security. Before a WiFi client can connect to the Wireless 3 network, the WiFi client must be configured on the RADIUS server and authenticated against the RADIUS server. The router functions as the authenticator

between the WiFi client and the RADIUS server, which provides the actual authentication.

When you select this option, additional fields display so that you can specify the RADIUS server. Do the following:

- a. In the **IP address** field, enter the IP address of the RADIUS server to which the router must connect.
- b. In the **Port** field, enter the port number that the router must use to communicate with the RADIUS server.  
By default, the port number is 1812.
- c. In the **Shared Secret** field, enter the password that the router must use to communicate with the RADIUS server.  
This password must be configured on the RADIUS server. This password is used to authenticate the router (not a WiFi client) against the RADIUS server.

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

## Set up a guest WiFi network and captive portal

You can set up a guest WiFi network (guest portal), which allows visitors to access the Internet using a dedicated SSID. You can also set up a captive portal for the guest portal. With a captive portal, when visitors connect to the guest portal and open a browser to access the Internet, they are redirected to a splash page where they must agree to the Terms of Conditions before they can access Internet.

By default, visitors do not need to enter a password to connect to the guest portal and data is not encrypted. Open access without security might be a good option for a coffee shop. For situations in which authentication is required, you can use Facebook Wi-Fi or set a password.

When using this network, visitors cannot see other devices that are connected to the guest portal (or any other WiFi network on the router) and they cannot access the local area network (LAN).

## Set up a guest WiFi network with open access or password authentication

A guest WiFi network is also referred to as a guest portal.

### To set up a guest network:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
  2. Enter **orbilogin.com**.  
A login window opens.
  3. Enter the Orbi admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
  4. Select **Guest Portal**.  
The Guest Portal Settings page displays.
  5. To enable the guest portal, select the **Enable Guest Portal Network** check box.  
By default, the guest portal is disabled.
  6. Leave the **Enable SSID Broadcast** check box selected.  
Allowing the router to broadcast its WiFi network name (SSID) makes it easier to find your network and connect to it. If you clear this check box, that creates a hidden network.
  7. To change the network name, type a new name in the **Guest Portal Network Name (SSID)** field.  
The name can be up to 32 characters long and it is case-sensitive. If you change the name, make sure to write down the new name and keep it in a safe place.
  8. In the Authentication Mode section, leave the **Local** radio button selected.
  9. In the Authentication Options section, either specify an open network or set an authentication password by doing one of the following:
    - **None**. To specify an open network without authentication, select the **None** radio button.
    - **Password Authentication**. To set an authentication password, select the **Password Authentication** radio button and specify a password in the field. The password must be a minimum of 8 characters and can be a maximum of 64 characters.
- Note:** In order for visitors to access the Internet, they must enter this password in the guest portal.

10. To set an expiration time for how long visitors can access the Internet, select a time from the **Expiration** menu. After visitors are authenticated, they can access the Internet for that period of time.  
If you select Never from the menu, visitor access time is not restricted to any period.
11. Click the **Apply** button.  
Your settings are saved. The router sends the new settings to the satellite.

## Set up a guest network with a captive portal

A captive portal is an entry to a guest network that requires guests to view a splash page and agree to terms and conditions before using the network. When using captive portal guest networks visitors cannot see other devices that are connected and they cannot access the local area network (LAN).

### To set up a guest network with a captive portal:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **Guest Portal**.  
The Guest Portal Settings page displays.
5. Select the **Enable Guest Portal** check box.
6. Leave the **Enable SSID Broadcast** check box selected.  
Allowing the router to broadcast its WiFi network name (SSID) makes it easier to find your network and connect to it. If you clear this check box, that creates a hidden network.
7. To change the network name, type a new name in the **Guest Portal Network Name (SSID)** field.  
The name can be up to 32 characters long and it is case-sensitive. If you change the name, make sure to write down the new name and keep it in a safe place.
8. In the **Authentication Mode** section, select the **Local** radio button.  
The page adjusts.

9. To set a guest portal password, select the **Password Authentication** radio button and enter the password in the field.

The password must be a minimum of 8 characters and can be a maximum of 64 characters.

**Note:** In order for visitors to access the Internet, they must enter this password in the guest portal and click the **AGREE** button to accept terms and conditions.

10. To set an expiration time for how long users can access the Internet, select a time from the **Expiration** menu.

After visitors are authenticated, they can access the Internet for that period of time. After the period expires, visitors are redirected to the Terms and Conditions page.

11. To include a custom Terms and Conditions page, click the **Browse** button in the Terms and Conditions section.

12. Locate and select the terms and conditions file on your computer.

The file must be a .txt file, encoded in UTF8 format, and can be up to 1 MB.

13. To include a custom logo file, click the **Browse** button in the Logo section.

14. Locate and select the logo file on your computer.

The file must be a .jpg, .jpeg, .gif, or .png file. The file size must be up to 10 MB and the dimensions must be 200 x 200 pixels.

15. To preview the guest portal, click the **Preview** button.

To preview the Terms and Conditions page, either the terms and conditions and logo files must both be set to Default or you must upload new files for both. You cannot preview the Terms and Conditions page if one file is set to Default.

16. To set up a redirect URL, select the **URL** radio button and enter the URL for the page to which you want to redirect users to in the field.

After visitors agree to the terms and conditions, they are redirected to this page.

17. Click the **APPLY** button.

Your settings are saved.

## Set up Facebook Wi-Fi

You can set up Facebook Wi-Fi on your Orbi WiFi network to offer your customers free WiFi access if they check in to your existing Facebook business page.

**ATTENTION:** If a user attempts to access a website over HTTP (by default, over port 80), the user is directed to the Facebook Login page. If a user attempts to access a secure website over HTTPS (by default, over port 443), a Security Warning window opens in their web browser. The user must click the **Allow** button on the Security Warning window to see the Facebook Login page.

### To set up Facebook Wi-Fi:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the Orbi admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **Guest Portal**.  
The Guest Portal Settings page displays.
5. Select the **Enable Guest Portal** check box.
6. Select the **Enable SSID Broadcast** check box.  
By default, this check box is selected. Allowing the router to broadcast its WiFi network name (SSID) makes it easier to find your network and connect to it. If you clear this check box, that creates a hidden network.
7. To change the network name, type a new name in the **Guest Portal Network Name (SSID)** field.  
The name can be up to 32 characters long and it is case-sensitive. If you change the name, make sure to write down the new name and keep it in a safe place.
8. In the **Authentication Mode** section, select the **Facebook Wi-Fi** radio button.  
The page adjusts and displays the **Add Page** button.
9. Click the **Add Page** button.  
The Facebook Login page displays.
10. Log in to your Facebook business account.  
The Facebook Wi-Fi Configuration page displays.

11. On the Facebook Wi-Fi Configuration page, do the following:
  - a. From the **Select a Page** menu, select a Facebook business page.
  - b. Select the bypass mode option:
    - **Skip check-in link.** To allow customers to skip check-in, select the **Skip check-in link** radio button.  
If you enable this option, users can either check in to the selected Facebook business page or skip the check-in.
    - **Require Wi-Fi code.** To require users to enter a WiFi code before they can gain WiFi access, select the **Require Wi-Fi code** radio button and type a WiFi code in the field that displays.  
If you enable this option, users can either check in to the selected Facebook business page or skip the check-in by using the WiFi code.
  - c. From the **Session Length** menu, select the period after which users are automatically logged out.
  - d. To add terms of service to the Facebook check-in page, select the **Terms of Service** check box and type or copy the terms of service.
  - e. Click the **Save Settings** button.  
The Facebook Wi-Fi settings are saved.  
  
The name of the selected Facebook business page displays in the Facebook Page field in the router web interface along with the **Change Page** button, which lets you replace the selected Facebook business page with another one.
  - f. Return to the Guest Portal Settings page in the router web interface.
12. On the Guest Portal Settings page, click the **APPLY** button.  
Your settings are saved.

## Manage the download bandwidth per SSID

You can set up four WiFi networks for your Orbi Pro network: one for administrative access, one for employee access, one for Internet of things (IoT) devices, and one for guest access. You can manage the download bandwidth per WiFi network (SSID) by assigning a percentage of the total bandwidth (100 percent) to each SSID. The available download bandwidth on an SSID determines the network priority for devices connected to the SSID.

If the download bandwidth usage on an SSID exceeds the assigned bandwidth for the SSID, the router limits the bandwidth on the SSID, which might affect the download speed for devices connected to the SSID.

In setting the download bandwidth ratio for an SSID, consider the number and type of devices that connect to the SSID and the typical download bandwidth usage for those devices. For example, more devices might connect to the IoT WiFi network than to the employee network, but the typical bandwidth usage for IoT devices might be lower than for employee devices.

**Note:** The router does not control the uplink bandwidth, that is, the bandwidth from devices to the router.

### To set the download bandwidth ratios for the SSIDs:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **Wireless**.  
The Wireless Settings page displays the admin WiFi settings.

**Note:** Even though this is the page for the admin WiFi settings, the bandwidth ratios that you specify on this page apply to the admin WiFi network, employee WiFi network, IoT WiFi network, and guest WiFi network. (All bandwidth ratios together must add up to 100 percent.) Similarly, if you specify bandwidth ratios on the employee WiFi settings page, IoT WiFi settings page, or the guest WiFi network page, they also apply to all other WiFi networks.

5. Select the **Enable Bandwidth per SSID** check box.  
In the Bandwidth per SSID graphic, the colored icons are enabled.
6. Specify the bandwidth ratios by moving the icons on the bandwidth line.  
The icons represent the following WiFi networks:
  - **Blue.** Admin WiFi network (Wireless 1).
  - **Green.** Employee WiFi network (Wireless 2).
  - **Purple.** IoT WiFi network (Wireless 3).
  - **Gray.** Guest WiFi network.



As you move an icon, the bandwidth ratio for the WiFi network changes and the percentage displays in the icon.

All bandwidth ratios together add up to 100 percent of the available download bandwidth. If you change one ratio, the ratio for another WiFi network might also change.

7. Click the **Apply** button.

Your settings are saved. The router sends the new settings to the satellite.

## View or change advanced WiFi settings

### To view or change advanced WiFi settings:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.

The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.

The BASIC Home page displays.

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

The Advanced Wireless Settings page displays.

**Note:** The backhaul password is a security key that is used in WiFi communication between the router and the satellite. For information about generating a new backhaul password, see [Generate a new backhaul password](#) on page 99.

5. In the **Region** list, select your region.

In some locations, you cannot change this setting.

6. 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 WiFi device.

7. Click the **Apply** button.

Your settings are saved.

# Use the router as a WiFi access point

You can set up the router to run as an access point (AP) on the same local network as another router or gateway.

For example, you can use the Orbi router as a WiFi access point that connects to a gateway or modem router that you already use for your Internet service. In this situation, you do not need to change the settings for the gateway or modem router.

## To set up the Orbi router as an AP after you set up your Internet connection:

1. Use an Ethernet cable to connect the Internet port of this router to a LAN port on your existing router or gateway.
2. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
3. Enter **orbilogin.com**.  
A login window opens.
4. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
5. Select **ADVANCED > Advanced Setup > Router/AP Mode**.  
The Router/AP Mode page displays.
6. Select the **AP Mode** radio button.  
The page adjusts.
7. Select the IP address setting:
  - **Get dynamically from existing router.** The other router on the network assigns an IP address to this router while this router is in AP mode.
  - **Enable fixed IP settings on this device (not recommended).** Use this setting if you want to manually assign a specific IP address to this router while it is in AP mode. Using this option effectively requires advanced network experience.

**Note:** To avoid interference with other routers or gateways in your network, we recommend that you use different WiFi settings on each router. You can also turn off the WiFi radio on the other router or gateway and use the Orbi only for WiFi client access.

8. Click the **Apply** button.  
The IP address of the router changes, and you are disconnected.
9. To reconnect, close and restart your browser and enter **orbilogin.com**.

## Set up router mode

If you set up your router as an access point, you can change it back to a router.

### To set up the Orbi router as a router:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Router/AP Mode**.  
The Router/AP Mode page displays.
5. Select the **Router Mode** radio button.  
The page adjusts.
6. Click the **Apply** button.  
Your settings are saved.

## Generate a new backhaul password

The backhaul password is a security key that is used in WiFi communication between the router and the satellite. You can generate a new backhaul password. After you generate a new backhaul password, you must use the **Sync** button to build a new backhaul connection so that the router and satellite can communicate with each other using WiFi.

### To generate a new backhaul password:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Wireless Settings**.  
The Advanced Wireless Settings page displays.
5. In the **Backhaul Password** section, click the **GENERATE** button.  
The router generates a new backhaul password.

## Enable or disable implicit beamforming

Implicit beamforming means that the router can use information from client devices that support beamforming to improve the WiFi signal.

### To enable or disable implicit beamforming:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Wireless Settings**.  
The Advanced Wireless Settings page displays.
5. To enable Implicit beamforming, select the **Enable Implicit BEAMFORMING** check box.
6. To disable Implicit beamforming, clear the **Enable Implicit BEAMFORMING** check box.

7. Click the **Apply** button.

Your settings are saved.

If you connected over WiFi to the network, you are disconnected from the network and must reconnect.

## Enable or disable MU-MIMO

Multuser multiple input, multiple output (MU-MIMO) improves performance when multiple MU-MIMO-capable WiFi clients transfer data at the same time. WiFi clients must support MU-MIMO, and they must be connected to a 5 GHz WiFi band.

### To enable or disable MU-MIMO:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Wireless Settings**.  
The Advanced Wireless Settings page displays.
5. To enable or disable daisy-chain topology, do one of the following:
  - To enable MU-MIMO, select the **Enable MU-MIMO** check box.
  - To disable MU-MIMO, clear the **Enable MU-MIMO** check box.
6. Click the **Apply** button.  
Your settings are saved.  
If you connected over WiFi to the network, you are disconnected from the network and must reconnect.

# Enable or disable Protected Management Frames

Protected Management Frames (PMF), according to the 802.11w standard, is a security feature that protects unicast and multicast management frames from being intercepted and changed for malicious purposes.

The PMF feature is disabled by default, but you can enable it as a requirement for management frames. However, some legacy devices might not be capable of supporting PMF and might not be able to connect. As a solution, you can enable PMF as optional, which lets the router activate PMF based on whether devices can support PMF.

Make sure that you understand the technology before enabling this feature.

**Note:** If you enable PMF, some incompatible client devices might disconnect. If you use the combined WPA-PSK [TKIP] + WPA2-PSK [AES] security option and configure PMF as a requirement, PMF might not take effect.

## To enable or disable PMF:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Wireless Settings**.  
The Advanced Wireless Settings page displays.
5. At the bottom of the page, make one of the following selections from the **Protected Management Frames (802.11w)** menu:
  - **Disable**. PMF is disabled. This is the default settings.
  - **Optional**. PMF is optional for all WiFi networks.
  - **Required**. PMF is required.Your selection applies to all WiFi networks on the router and satellites.
6. Click the **Apply** button.

Your settings are saved.

## Check your Internet bandwidth

You can use Ookla Speedtest to detect your Internet bandwidth.

### To check your Internet bandwidth using Speedtest:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **Speedtest**.  
The Speedtest page displays.
5. Click the **Take a Speedtest** button.  
Your Internet's download and upload speeds display.

## Set up a bridge for a port group or VLAN tag group

Some devices, such as an IPTV, cannot function behind the router's Network Address Translation (NAT) service or firewall. Based on what your Internet service provider (ISP) requires, for the device to connect to the ISP's network directly, you can enable the bridge between the device and the router's Internet port or add new VLAN tag groups to the bridge.

**Note:** If your ISP provides directions on how to set up a bridge for IPTV and Internet service, follow those directions.

**Note:** This feature is only supported if the router is in router mode.

## Set up a bridge for a port group

If the devices that are connected to the router's Ethernet port are an IPTV device, your ISP might require you to set up a bridge for a port group for the router's Internet interface.

A bridge with a port group prevents packets that are sent between the IPTV device and the router's Internet port from being processed through the router's network address translation (NAT) service.

### To configure a port group and enable the bridge:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > VLAN/Bridge Settings**.  
The VLAN/IPTV Setup page displays.
5. Select the **Enable VLAN/Bridge Setup** check box.  
The page expands.
6. Select the **By bridge group** radio button.
7. In the **Wired Ports** section, select the Ethernet port on the router that your device is connected to.
8. To enable the VLAN ID, select the **Enable VLAN ID** check box and enter a value from 1 to 4094.
9. Click the **Apply** button.  
Your settings are saved.

## Set up a bridge for a VLAN tag group

If the devices that are connected to the router's Ethernet LAN ports include an IPTV device, your ISP might require you to set up a bridge for a VLAN tag group for the router's Internet interface.

If you are subscribed to IPTV service, the router might require VLAN tags to distinguish between the Internet traffic and the IPTV traffic. A bridge with a VLAN tag group prevents



packets that are sent between the IPTV device and the router's Internet port from being processed through the router's Network Address Translation (NAT) service.

You can add VLAN tag groups to a bridge and assign VLAN IDs and priority values to each VLAN tag group.

**To add a VLAN tag group and enable the bridge:**

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the Orbi admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > VLAN/Bridge Settings**.  
The VLAN/Bridge Settings page displays.
5. Select the **Enable VLAN/Bridge Group** check box.  
The page expands.
6. Select the **By VLAN tag group** radio button.  
The section expands.
7. Click the **Add** button.  
The Add VLAN Rule page displays.
8. Specify the settings as described in the following table.

Field	Description
Name	Enter a name for the VLAN tag group. The name can be up to 10 characters.
VLAN ID	Enter a value from 1 to 4094.

(Continued)

Field	Description
Priority	Enter a value from 0 to 7.
<p>Select the check box for a wired Ethernet port.</p> <p>If your device is connected to an Ethernet port on the router, select the Ethernet port check box that corresponds to the Ethernet port on the router to which the device is connected.</p> <p>You must select at least one Ethernet port. You can select more than one port.</p>	

9. Click the **Add** button.  
The VLAN tag group is added.
10. Click the **Apply** button.  
Your settings are saved.

## 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, enable UPnP.

### To enable Universal Plug and Play:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > UPnP**.  
The UPnP page displays.

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

By default, this check box is selected. UPnP for automatic device configuration can be enabled or disabled. 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 receive 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 opened. The UPnP Portmap Table also displays what type of port is open and whether that port is still active for each IP address.

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

# 6

## Manage Your Network

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

The chapter includes the following sections:

- [Update the router and satellite firmware](#)
- [Change the admin password](#)
- [Enable admin password reset](#)
- [Reset the admin password](#)
- [View router status and usage information](#)
- [Display Internet port statistics](#)
- [Check the Internet connection status](#)
- [View satellites, WiFi devices, and wired devices connected to the Orbi network](#)
- [View satellite status](#)
- [View and manage logs of router activity](#)
- [Set up a syslog server](#)
- [Monitor Internet traffic](#)
- [Manage the router configuration file](#)
- [Set up remote management](#)
- [Use remote access](#)

# Update the router and satellite firmware

You can use the router web interface to check if new firmware is available and update your router and satellite, or you can manually update the firmware for your router and satellite.

## Enable the automatic firmware update feature

You can let the router automatically update its firmware and the firmware for any Orbi satellites on the network.

### To enable the automatic firmware update feature:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Administration > Firmware Update**.  
The Firmware Update page displays.
5. In the **Orbi Router Auto Firmware Update** section, select the **Enable** radio button.
6. Click the **Apply** button.  
Your settings are saved.

## Check for firmware updates

### To check for new firmware and update your router and satellite:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
  2. Enter **orbilogin.com**.  
A login window opens.
  3. Enter the router admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.
-

The BASIC Home page displays.

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

The Firmware Update page displays.

5. Click the **Check** button.

The router checks to see if new firmware is available for the router and satellite.

6. If new firmware is available, click the **Update All** button.

The router locates and downloads the firmware for the router and satellite and begins the update.

**Note:** 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 or satellite.

When the upload is complete, your router and satellite restart. The update process typically takes about one minute. Read the new firmware release notes to find out if you must reconfigure the router after updating.

## Manually update firmware

If a satellite is connected to your router, you can log in to the router to manually upload the firmware on your satellite.

**WARNING:** We recommend that you always update the firmware on your satellite first, and then update your router. Also, do not update the firmware on your router and satellite at the same time, and do not update more than one Orbi device (router or satellite) at a time. If you need to update more than one Orbi device, wait for the first Orbi device to finish updating before updating your next Orbi device.

### **To manually update the firmware on your Orbi router and satellite, follow these high level steps:**

1. Visit [netgear.com/support](http://netgear.com/support) and download the firmware for both your Orbi router and satellite.
2. Update the firmware on your Orbi satellite.  
For more information, see [Manually update satellite firmware](#) on page 111.
3. Update the firmware on your Orbi router.  
For more information, see [Manually update router firmware](#) on page 111.

**Manually update satellite firmware** We recommend that you update your satellite's firmware *before* you update the router's firmware.

**To manually update your satellite's firmware:**

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Administration > Firmware Update > Manual Update**.  
The Firmware Update page displays.
5. Select the check box next to your satellite's model name.  
If you have more than one satellite, only update one satellite at a time. You must wait for the first satellite to finish updating before updating the next satellite.
6. Click the **Update** button.  
The Orbi satellite Firmware Update window opens.
7. If the browser ask you for the admin password, enter the same password that you entered for the router.
8. Click the **BROWSE** button.
9. Locate and select the satellite firmware file that you downloaded.  
The firmware file name ends in `.img` or `.chk`.
10. Click the **UPLOAD** button.  
It takes a few minutes to complete the process.
11. After Orbi satellite finishes updating, select **Status** and double-check the firmware version on the Status page.  
The firmware on your Orbi satellite is updated.

**Manually update router firmware** We recommend that you update your router's firmware *after* you update the satellite's firmware.

**WARNING:** Make sure that your satellite completes its firmware update before you update your router's firmware.

### To manually update your router's firmware:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Administration > Firmware Update > Manual Update**.  
The Firmware Update page displays.
5. Click the **Browse** button.
6. Locate and select the router firmware file you downloaded.  
The firmware file name ends in `.img`.
7. Click the **Upload** button.  
The firmware is updated.

## 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 to access the Orbi WiFi network.

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

### To set the password for the user name admin:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.



The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.

The BASIC Home page displays.

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

The Set Password page displays.

5. Type the old password, and type the new password twice.
6. To be able to reset the password, select the **Enable Password Reset** check box. We recommend that you enable password reset.
7. Click the **Apply** button.  
Your settings are saved.

## Enable admin password reset

The router admin password is used to log in to your router web interface. We recommend that you enable the password reset feature so that you can reset the password if it is forgotten. This reset process is supported in Internet Explorer, Firefox, and Chrome browsers but not in the Safari browser.

### To enable password reset:

1. Launch a web browser from a computer or WiFi device that is connected to the network.
2. Enter **http://www.routerlogin.net**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Administration > Set Password**.  
The Set Password page displays.
5. Select the **Enable Password Reset** check box.
6. Select two security questions and provide answers to them.
7. Click the **Apply** button.  
Your settings are saved.

# Reset the admin password

If you set up the password reset feature, you can reset your router admin password if you forgot it.

## To reset your admin password:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Click the **Cancel** button.  
If password reset is enabled, you are prompted to enter the router's serial number. You can find the router's serial number on the router label.
4. Enter the router's serial number in the field.
5. Click the **Continue** button.  
You are requested to enter a new admin password and to set new security questions.
6. Enter your new admin password, set new security questions, and click the **Next** button.  
Your settings are saved.
7. Click the **Login** button.  
A login window opens.
8. With your new admin password, log in to the router.

# View router status and usage information

## To view router status and usage information:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.

The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.

The BASIC Home page displays.

4. Click the **ADVANCED** tab.

The ADVANCED Home page displays the router status.

## Display Internet port statistics

### To display Internet port statistics:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.

2. Enter **orbilogin.com**.

A login window opens.

3. Enter the admin user name and password.

The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.

The BASIC Home page displays.

4. Click the **ADVANCED** tab.

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

The Show Statistics window opens and displays following information:

- **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 page displays the following information:
  - **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.
  - **Tx B/s.** The current transmission (outbound) bandwidth used on the WAN and LAN ports.
  - **Rx B/s.** The current reception (inbound) bandwidth used on the WAN and LAN ports.

- **Up Time.** The time elapsed since this port acquired the link.
  - **Poll Interval.** The interval at which the statistics are updated in this page.
6. To change the polling frequency, enter a time in seconds in the **Poll Interval** field and click the **Set Interval** button.
  7. To stop the polling entirely, click the **Stop** button.

## Check the Internet connection status

### To check the Internet connection status:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Click the **ADVANCED** tab.
5. In the Internet Port pane, click the **Connection Status** button.  
The Connection Status window opens and displays the following information
  - **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 provides the TCP/IP configuration for all the computers that are connected to the router.
  - **DNS Server.** The IP address of the Domain Name Service server that provides translation 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.
6. To return the status of all items to 0, click the **Release** button.

7. To refresh the page, click the **Renew** button.
8. To exit the page, click the **Close Window** button.

## View satellites, WiFi devices, and wired devices connected to the Orbi network

You can view all satellites, WiFi devices, and wired devices that are connected to your Orbi network.

### To view devices connected to your network:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.

4. Select **Attached Devices**.  
The Attached Devices page displays.

The Wired Devices table displays the following information:

- **Device Name.** The device model, name, type, and IP address.
- **IP Address.** The device IP address. The device's IP address can change because the router assigns an IP address to each device when it joins the network.
- **MAC Address.** The device MAC address. The unique MAC address for each device does not change.
- **Connection Type.** The device is connected to the Orbi network through a wired Ethernet connection.
- **Connected Orbi.** The Orbi router or satellite that the device is connected to. The Orbi router's or satellite's MAC address also displays.

The Wireless Devices table displays the following information:

- **Device Name.** The device model, name, type, and IP address.
- **IP Address.** The device IP address. The device's IP address can change because the router assigns an IP address to each device when it joins the network.

- **MAC Address.** The device MAC address. The unique MAC address for each device does not change.
- **Channel.** The channel on which the device is connected to the WiFi network.
- **SSID.** The radio band of the WiFi network to which the device is connected.
- **Connected Orbi.** The Orbi router or satellite that the device is connected to. The Orbi router's or satellite's MAC address also displays.
- **TX/RX Rate (Mbps).** The average rate in Mbps at which the device transmits (TX) and receives (RX) traffic.
- **Association Time.** The period in hours, minutes, and seconds that the device is connected to the WiFi network.
- **Link Status.** The quality and strength in dBm of the WiFi connection of the device.

5. To update the page with the most recent information, click the **Refresh** button.

## View satellite status

To view your satellite's status, it must be connected to your Orbi network.

### To view your satellite's status:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **Attached Devices**.  
The Attached Devices page displays.
5. In the Connected Satellites section, find your satellite's IP address.
6. Enter your satellite's IP address in your web browser's address bar.  
A login window opens.
7. Enter the same admin user name and password that you entered for the router.  
The satellite's status displays.

# View and manage logs of router activity

The log is a detailed record of the websites users accessed or attempted to access and many other router actions. You can specify which actions are logged. Up to 256 entries can be stored in the log.

## To view and manage logs:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Administration > Logs**.  
The Logs page displays the following information:
  - **Date and time**. The date and time the log entry was recorded.
  - **Source IP**. The IP address of the initiating device for this log entry.
  - **Target address**. The name or IP address of the website or news group visited or to which access was attempted.
  - **Action**. The action that occurred, such as whether Internet access was blocked or allowed.
5. To manage the actions that the router logs, check or clear the check boxes for the following actions:
  - **Attempted access to allowed sites**. Selected by default.
  - **Attempted access to blocked sites and services**. Selected by default.
  - **Connections to the Web-based interface of this Router**. Selected by default.
  - **Router operation (startup, get time etc)**. Selected by default.
  - **Known DoS attacks and Port Scans**. Selected by default.
  - **Port Forwarding / Port Triggering**. Selected by default.
  - **Wireless access**. Selected by default.

- **VPN Service.** Selected by default.
  - **Insight.** Cleared by default.
6. To refresh the log page, click the **Refresh** button.
  7. To clear the log entries, click the **Clear Log** button.
  8. To email the log immediately, click the **Send Log** button.

## Set up a syslog server

If a syslog server is present on your network, you can configure the router to send its system logs to the syslog server.

### To enable the syslog function and specify the syslog server:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **Advanced > Administration > Logs**.  
The Logs page displays.
5. At the bottom of the page, in the Syslog Server section, select the **Enable Syslog** radio button.  
The Syslog fields become available.
6. Specify the IP address and port number for the syslog server:
  - **Syslog Server IP Address.** Enter the IP address of the syslog server on your network.
  - **Syslog Port.** Enter the port number through which the router can reach the syslog server. By default, the port number is 514.
7. Click the **Apply** button.  
Your settings are saved. The router sends its logs to the syslog server.



# Monitor Internet traffic

Traffic metering allows you to monitor the volume of Internet traffic that passes through the router Internet port. You can set limits for traffic volume.

## To monitor Internet traffic:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Traffic Meter**.  
The Traffic Meter page displays.
5. Select the **Enable Traffic Meter** check box.
6. To control the volume of Internet traffic, use either the traffic volume control feature or the connection time control feature:
  - Select the **Traffic volume control by** radio button and then select one of the following options:
    - **No Limit**. No restriction is applied when the traffic limit is reached.
    - **Download only**. The restriction is applied to incoming traffic only.
    - **Both Directions**. The restriction is applied to both incoming and outgoing traffic.
  - Select the **Connection time control** radio button and enter the allowed hours in the **Monthly limit** field.
7. If your ISP charges for extra data volume when you make a new connection, enter the extra data volume in MB in the **Round up data volume for each connection by** field.
8. In the Traffic Counter section, set the traffic counter to begin at a specific time and date.  
To start the traffic counter immediately, click the **Restart Counter Now** button.

9. If you want the router to issue a warning message before the monthly limit of Mbytes or hours is reached, in the Traffic Control section, enter a numeric value.  
By default, the value is 0 and no warning message is issued.
10. To stop the Internet connection when the limit is attained, select the **Disconnect and disable the Internet connection** check box.
11. Click the **Apply** button.  
The Internet Traffic Statistics section helps you to monitor the data traffic.
12. To update the Internet Traffic Statistics section, click the **Refresh** button.
13. To display more information about the data traffic on your router and to change the poll interval, click the **Internet Traffic Status** button.

## Manage the router 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 mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Administration > Backup Settings**.  
The Backup Settings page displays.
5. Click the **BACK UP** button.
6. Specify a location on your network.  
A copy of the current settings is saved in the location you specified.

## Manage the automatic backup options

You can let the router automatically back up configuration settings before a firmware upgrade.

You can also schedule an automatic backup at a regular interval.

### To manage the automatic backup options:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Administration > Backup Settings**.  
The Backup Settings page displays.
5. To let the router automatically back up configuration settings before a firmware upgrade, select the **Backup before upgrade** check box.
6. To schedule automatic backups, next to Back up periodically, enter the a number from 1 to 365 in the **Day(s)** field.  
If you enter 1, the backup occurs daily, if you enter 2, the backup occurs every other day, and so on. By default, the entry is 0 and no automatic backup occurs.
7. Click the **Apply** button.  
Your settings are saved.

## Erase the current configuration settings

You can erase the current configuration and restore the factory default settings. You might want to do this if you move the router to a different network.

### To erase the configuration settings:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.

3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Administration > Backup Settings**.  
The Backup Settings page displays.
5. Click the **ERASE** button.  
The factory default settings are restored. The user name is admin, the password is password, and the LAN IP address is 192.168.1.1. DHCP is enabled.

## Restore configuration settings

### To restore configuration settings that you backed up:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Administration > Backup Settings**.  
The Backup Settings page displays.
5. Click the **Browse** button to find and select the **.cfg** file.
6. Click the **RESTORE** button.  
The file is uploaded to the router and the router reboots.

**WARNING:** Do not interrupt the reboot process.

# Set up remote management

You can access your router over the Internet to view or change its settings. You must know the router's WAN IP address to use this feature. For information about Dynamic DNS, see [Manage Dynamic DNS](#) on page 67.

**Note:** Be sure to change the password for the user name admin to a secure password. The ideal password contains no dictionary words from any language and contains uppercase and lowercase letters, numbers, and symbols. It can be up to 30 characters. See [Change the admin password](#) on page 112.

## To set up remote management:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Remote Management**.  
The Remote Management page displays.
5. Select the **Turn Remote Management On** check box.
6. In the Allow Remote Access By section, specify the external IP addresses to be allowed to access the router's remote management.

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

Select one of the following:

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

7. Specify the port number for accessing the router.  
Normal web browser access uses the standard HTTP service port 80. For greater security, enter a custom port number for the remote router access. Choose a number from 1024 to 65535, but do not use the number of any common service port. The default is 8080, which is a common alternate for HTTP.
8. Click the **Apply** button.  
Your settings are saved.

## Use remote access

### **To use remote access:**

1. Launch a web browser on a computer that is not on your home network.
2. Type your router's WAN IP address into your browser's address or location field followed by a colon (:) and the custom port number.  
For example, if your external address is 134.177.0.123 and you use port number 8080, enter **http://134.177.0.123:8080** in your browser.

# 7

## Customize Internet Traffic Rules for Ports

---

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

This chapter includes the following sections:

- [Manage port forwarding to a local server](#)
- [Manage port triggering](#)

# Manage port forwarding to a local server

If your home network includes a server, you can allow certain types of incoming traffic to reach the server. For example, you might want to make a local web server, FTP server, or game server visible and available to the Internet.

The router can forward incoming traffic with specific protocols to computers on your local network. You can specify the servers for applications and you can also specify a default DMZ server to which the router forwards all other incoming protocols.

## Set up port forwarding to a local server

### To forward specific incoming protocols:

1. Decide which type of service, application, or game you want to provide.
2. Find the local IP address of the computer on your network that will provide the service.  
The server computer must always use the same IP address. To specify this setting, use the reserved IP address feature. See [Manage reserved LAN IP addresses](#) on page 75.
3. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
4. Enter **orbilogin.com**.  
A login window opens.
5. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
6. Select **ADVANCED > Advanced Setup > Port Forwarding/Port Triggering**.  
The Port Forwarding/Port Triggering page displays.
7. Leave the **Port Forwarding** radio button selected as the service type.
8. In the **Service Name** menu, select the service name.  
If the service that you want to add is not in the list, create a custom service. See [Add a custom port forwarding service](#) on page 129.
9. In the **Server IP Address** field, enter the IP address of the computer that will provide the service.
10. Click the **Add** button.



The service displays in the list.

## Add a custom port forwarding service

### To add a custom service:

1. Find out which port number or range of numbers the application uses.  
You can usually find this information by contacting the publisher of the application or user groups or news groups.
2. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
3. Enter **orbilogin.com**.  
A login window opens.
4. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
5. Select **ADVANCED > Advanced Setup > Port Forwarding/Port Triggering**.  
The Port Forwarding/Port Triggering page displays.
6. Leave the **Port Forwarding** radio button selected as the service type.
7. Click the **Add Custom Service** button.  
The Ports - Custom Services page displays.
8. In the **Service Name** field, enter a descriptive name.
9. In the **Protocol** menu, select the protocol.  
If you are unsure, select **TCP/UDP**.
10. In the **External Port range** field, enter the port numbers.
11. Specify the internal ports by one of these methods:
  - Leave the **Use the same port range for Internal port** check box selected.
  - Type the port numbers in the **Internal port range** field.
12. Type the IP address in the **Internal IP address** fields or select the radio button for an attached device listed in the table.
13. Click the **Apply** button.  
The service is now in the list on the Port Forwarding/Port Triggering page.

## Edit a port forwarding service

### To edit a port forwarding entry:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Port Forwarding/Port Triggering**.  
The Port Forwarding/Port Triggering page displays.
5. Leave the **Port Forwarding** radio button selected as the service type.
6. In the table, select the radio button next to the service name.
7. Click the **Edit Service** button.  
The Ports - Custom Services page displays.
8. Specify changes to any of the following settings:
  - **Service Name**. Type the service name.
  - **Protocol**. If you are unsure, select TCP/UDP.
  - **External port range**.
  - For the internal ports, leave the **Use the same port range for Internal port** check box selected or enter the ports in the **Internal port range** field.
  - **Internal IP address**. Type the IP address in the **Internal IP address** fields, or select the radio button for an attached device listed in the table.
9. Click the **Apply** button.  
Your settings are saved.

## Delete a port forwarding entry

### To delete a port forwarding entry:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Port Forwarding/Port Triggering**.  
The Port Forwarding/Port Triggering page displays.
5. Select the **Port Forwarding** radio button as the service type.
6. In the table, select the radio button next to the service name.
7. Click the **Delete Service** button.

## Application example: Make a local web server public

If you host a web server on your local network, you can use port forwarding to allow web requests from anyone on the Internet to reach your web server.

### To make a local web server public:

1. Assign your web server either a fixed IP address or a dynamic IP address using DHCP address reservation.  
In this example, your router always gives your web server an IP address of 192.168.1.33.
2. In the **Port Forwarding/Port Triggering** page, configure the router to forward the HTTP service to the local address of your web server at 192.168.1.33.  
HTTP (port 80) is the standard protocol for web servers.
3. (Optional) Register a host name with a Dynamic DNS service, and specify that name on the Dynamic DNS page of the router.  
Dynamic DNS makes it much easier to access a server from the Internet because you can type the name in the Internet browser. Otherwise, you must know the IP address that the ISP assigned, which typically changes.

## How the router implements the port forwarding rule

The following sequence shows the effects of a port forwarding rule:

1. When you type the URL `www.example.com` in your browser, the browser sends a web page request message with the following destination information:
  - **Destination address.** The IP address of `www.example.com`, which is the address of your router.
  - **Destination port number.** 80, which is the standard port number for a web server process.
2. Your router receives the message and finds your port forwarding rule for incoming port 80 traffic.
3. The router changes the destination in the message to IP address 192.168.1.123 and sends the message to that computer.
4. Your web server at IP address 192.168.1.123 receives the request and sends a reply message to your router.
5. Your router performs Network Address Translation (NAT) on the source IP address, and sends the reply through the Internet to the computer or WiFi device that sent the web page request.

## Manage port triggering

Port triggering is a dynamic extension of port forwarding that is useful in these cases:

- An application must use port forwarding to more than one local computer (but not simultaneously).
- An application must open incoming ports that are different from the outgoing port.

With port triggering, the router monitors traffic to the Internet from an outbound “trigger” port that you specify. For outbound traffic from that port, the router saves the IP address of the computer that sent the traffic. The router temporarily opens the incoming port or ports that you specify in your rule and forwards that incoming traffic to that destination.

Port forwarding creates a static mapping of a port number or range of ports to a single local computer. Port triggering can dynamically open ports to any computer when needed and close the ports when they are no longer needed.

## Add a port triggering service

### To add a port triggering service:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Port Forwarding/Port Triggering**.  
The Port Forwarding/Port Triggering page displays.
5. Select the **Port Triggering** radio button.  
The page adjusts.
6. Click the **Add Service** button.  
The Port Triggering - Services page displays.
7. In the **Service Name** field, type a descriptive service name.
8. In the **Service User** menu, select **Any**, or select **Single address** and enter the IP address of one computer:
  - **Any** (the default) allows any computer on the Internet to use this service.
  - **Single address** restricts the service to a particular computer.
9. Select the service type, either TCP or UDP or TCP/UDP (both).  
If you are not sure, select **TCP/UDP**.
10. In the **Triggering Port** field, enter the number of the outbound traffic port that will open the inbound ports.
11. Enter the inbound connection port information in the **Connection Type**, **Starting Port**, and **Ending Port** fields.
12. Click the **Apply** button.  
The service is now in the Portmap Table. You must enable port triggering before the router used port triggering for the service that you added. See [Enable port triggering](#) on page 134.

## Enable port triggering

### To enable port triggering:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > Port Forwarding/Port Triggering**.  
The Port Forwarding/Port Triggering page displays.
5. Select the **Port Triggering** radio button.  
The page adjusts.
6. Clear the **Disable Port Triggering** check box.  
If this check box is selected, the router does not use port triggering even if you specified port triggering settings.
7. In the **Port Triggering Timeout** field, enter a value up to 9999 minutes.  
This value controls how long the inbound ports stay open when the router detects no activity. This value is required because the router cannot detect when the application terminates.

## Application example: Port triggering for Internet Relay Chat

Some application servers, such as FTP and IRC servers, send replies to multiple port numbers. Using port triggering, you can tell the router to open more incoming ports when a particular outgoing port starts a session.

An example is Internet Relay Chat (IRC). Your computer connects to an IRC server at destination port 6667. The IRC server not only responds to your originating source port, but also sends an "identify" message to your computer on port 113. Using port triggering, you can tell the router, "When you initiate a session with destination port 6667, you must

also allow incoming traffic on port 113 to reach the originating computer.” The following sequence shows the effects of the port triggering rule you define:

1. You open an IRC client program to start a chat session on your computer.
2. Your IRC client composes a request message to an IRC server using a destination port number of 6667, the standard port number for an IRC server process. Your computer then sends this request message to your router.
3. Your router creates an entry in its internal session table describing this communication session between your computer and the IRC server. Your router stores the original information, performs Network Address Translation (NAT) on the source address and port, and sends this request message through the Internet to the IRC server.
4. Noting your port triggering rule and observing the destination port number of 6667, your router creates another session entry to send any incoming port 113 traffic to your computer.
5. The IRC server sends a return message to your router using the NAT-assigned source port (for example, port 33333) as the destination port. The IRC server also sends an “identify” message to your router with destination port 113.
6. When your router receives the incoming message to destination port 33333, it checks its session table to see if a session is active for port number 33333. Finding an active session, the router restores the original address information replaced by NAT and sends this reply message to your computer.
7. When your router receives the incoming message to destination port 113, it checks its session table and finds an active session for port 113 associated with your computer. The router replaces the message’s destination IP address with your computer’s IP address and forwards the message to your computer.
8. When you finish your chat session, your router eventually senses a period of inactivity in the communications. The router then removes the session information from its session table, and incoming traffic is no longer accepted on port numbers 33333 or 113.

# 8

## Use VPN to Access Your Network

---

You can use OpenVPN software to remotely access your router using virtual private networking (VPN). This chapter explains how to set up and use VPN access.

This chapter includes the following sections:

- [Set up a VPN connection](#)
- [Specify VPN service in the router](#)
- [Install OpenVPN software](#)
- [Use a VPN tunnel on your Windows-based computer](#)
- [Use VPN to access your Internet service at home](#)



# Set up a VPN connection

A virtual private network (VPN) lets you use the Internet to securely access your network when you aren't home.

This type of VPN access is called a client-to-gateway tunnel. The computer is the client, and the router is the gateway. To use the VPN feature, you must log in to the router and enable VPN, and you must install and run VPN client software on the computer.

VPN uses DDNS or a static IP address to connect with your router.

To use a DDNS service, register for an account with a host name (sometimes called a domain name). You use the host name to access your network. The router supports these accounts: NETGEAR, No-IP, and Dyn.

If your Internet service provider (ISP) assigned a static WAN IP address (such as 50.196.x.x or 10.x.x.x) that never changes to your Internet account, the VPN can use that IP address to connect to your home network.

## Specify VPN service in the router

You must specify the VPN service settings in the router before you can use a VPN connection.

### To specify the VPN service:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > VPN Service**.  
The VPN Service page displays.
5. Select the **Enable VPN Service** check box.  
By default, the VPN uses the UDP service type and uses port 12974. If you want to customize the service type and port, we recommend that you change these settings before you install the OpenVPN software.

6. To change the service type, scroll down and select the **TCP** radio button.
7. To change the port, scroll down to the **Service Port** field, and type the port number that you want to use.
8. Click the **Apply** button.  
Your settings are saved. VPN is enabled in the router, but you must install and set up OpenVPN software on your computer before you can use a VPN connection.

## Install OpenVPN software

You must install this software on each Windows-based computer, Mac computer, iOS device, or Android device that you plan to use for VPN connections to your router.

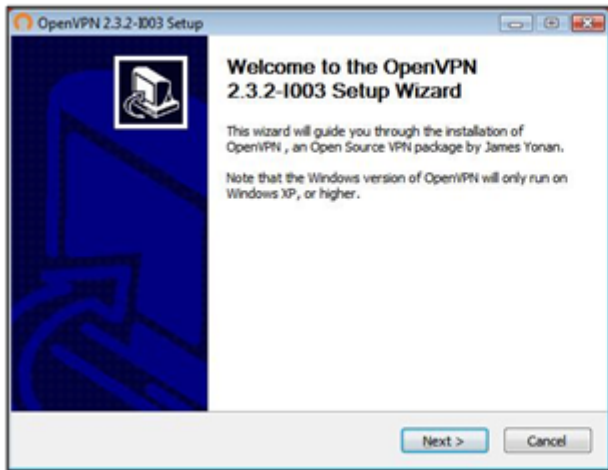
### Install OpenVPN software on your Windows-based computer

You must install this software on each Windows-based computer that you plan to use for VPN connections to your router.

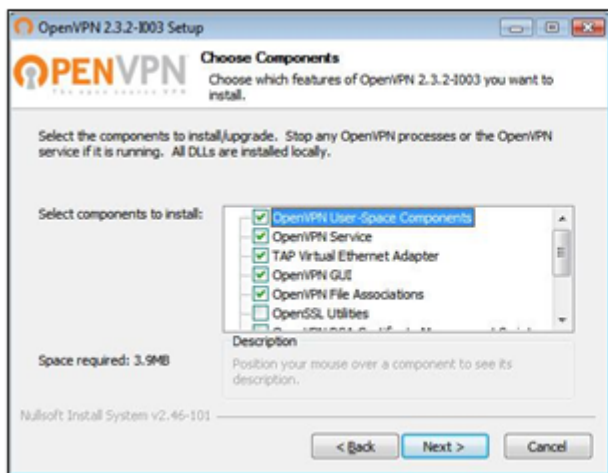
#### **To install VPN client software on your Windows-based computer:**

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > VPN Service**.  
The VPN Service page displays.
5. Make sure that the **Enable VPN Service** check box is selected.
6. Specify any VPN service settings on the page.  
For more information, see [Specify VPN service in the router](#) on page 137.
7. Click the **For Windows** button to download the OpenVPN configuration files.
8. Visit **[openvpn.net/index.php/download/community-downloads.html](https://openvpn.net/index.php/download/community-downloads.html)** to download the OpenVPN client utility.

- In the Windows Installer section of the page, double-click the **openVPN-install-xxx.exe** link.
- Download and install the Open VPN software on your computer, click the **openVPN-install-xxx.exe** file.



- Click the **Next** button.
- When prompted, read the License Agreement and click the **I Agree** button.

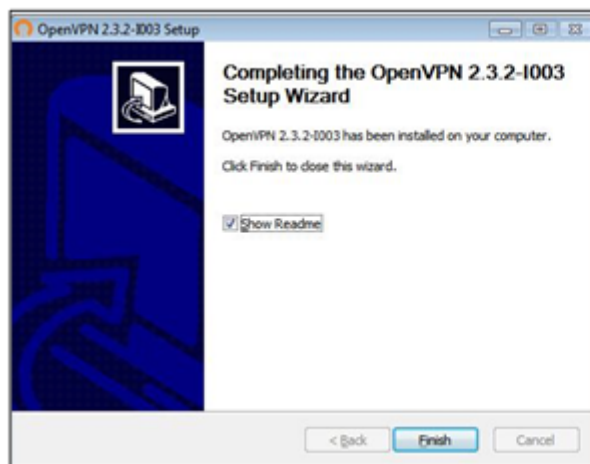


- Leave the check boxes selected, and click the **Next** button.
- To specify the destination folder, click the **Browse** button and select a destination folder.



15. Click the **Install** button.

The window displays the progress of the installation and then displays the final installation page.



16. Click the **Finish** button.

17. Unzip the configuration files that you downloaded and copy them to the folder where the VPN client is installed on your device.

For a client device with Windows 64-bit system, the VPN client is installed at C:\Programfiles\OpenVPN\config\ by default.

18. For a client device with Windows, modify the VPN interface name to **NETGEAR-VPN**:

- a. On your computer, go to the Networks page. If you are using Windows 10, select **Control Panel > Network and Sharing Center > Change adapter settings**.
- b. In the local area connection list, find the local area connection with the device name **TAP-Windows Adapter**.
- c. Select the local area connection and change its name (not its device name) to **NETGEAR-VPN**.

If you do not change the VPN interface name, the VPN tunnel connection will fail.

For more information about using OpenVPN on your Windows-based computer, visit

<https://openvpn.net/index.php/open-source/documentation/howto.html#quick>.

## Install OpenVPN software on your Mac computer

You must install this software on each Mac computer that you plan to use for VPN connections to your router.

### To install VPN client software on your Mac computer:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > VPN Service**.  
The VPN Service page displays.
5. Make sure that the **Enable VPN Service** check box is selected.
6. Specify any VPN service settings on the page.  
For more information, see [Specify VPN service in the router](#) on page 137.
7. Click the **FOR MAC OS** button to download the OpenVPN configuration files.
8. Visit <https://tunnelblick.net/index.html> to download the OpenVPN client utility for Mac OS X.
9. Download and install the file.
10. Unzip the configuration files that you downloaded and copy them to the folder where the VPN client is installed on your device.  
The client utility must be installed by a user with administrative privileges.  
For more information about using OpenVPN on your Mac computer, visit <https://openvpn.net/vpn-server-resources/installation-guide-for-openvpn-connect-client-on-macos/>.

## Install OpenVPN software on an iOS device

You must install this software on each iOS device that you plan to use for VPN connections to your router.

### To install VPN client software on an iOS device:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > VPN Service**.  
The VPN Service page displays.
5. Make sure that the **Enable VPN Service** check box is selected.
6. Specify any VPN service settings on the page.  
For more information, see [Specify VPN service in the router](#) on page 137.
7. Click the **FOR SMART PHONE** button to download the OpenVPN configuration files.
8. On your iOS device, download and install the OpenVPN Connect app from the Apple app store.
9. On your computer, unzip the configuration files that you downloaded and send the files to your iOS device.  
Note that when you open the .ovpn file, a list of apps displays. Select the OpenVPN Connect app to open the .ovpn file.  
For more information about using OpenVPN on your iOS device, visit [http://www.vpngate.net/en/howto\\_openvpn.aspx#ios](http://www.vpngate.net/en/howto_openvpn.aspx#ios).

## Install OpenVPN software on an Android device

You must install this software on each Android device that you plan to use for VPN connections to your router.

### To install VPN client software on an Android device:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > VPN Service**.  
The VPN Service page displays.
5. Make sure that the **Enable VPN Service** check box is selected.
6. Specify any VPN service settings on the page.  
For more information, see [Specify VPN service in the router](#) on page 137.
7. Click the **FOR SMART PHONE** button to download the OpenVPN configuration files.
8. On your Android device, download and install the OpenVPN Connect app from the Google Play Store.
9. On your computer, unzip the configuration files that you downloaded and send the files to your Android device.
10. Open the files on your Android device.
11. Open the .ovpn file using the OpenVPN Connect app.  
For more information about using OpenVPN on your Android device, visit [http://www.vpngate.net/en/howto\\_openvpn.aspx#android](http://www.vpngate.net/en/howto_openvpn.aspx#android).

## Use a VPN tunnel on your Windows-based computer

After you set up the router to use VPN and install the OpenVPN application on your computer, you can open a VPN tunnel from your computer to your router over the Internet.

For the VPN tunnel to work, the local LAN IP address of the remote router must use a different LAN IP scheme from that of the local LAN where your VPN client computer is

connected. If both networks use the same LAN IP scheme, when the VPN tunnel is established, you cannot access your home router or your home network with the OpenVPN software.

The default LAN IP address scheme for the router is 192.x.x.x. The most common IP schemes are 192.x.x.x, 172.x.x.x, and 10.x.x.x. If you experience a conflict, change the IP scheme either for your home network or for the network with the client VPN computer. For information about changing these settings, see [Change the LAN TCP/IP settings](#) on page 71.

### To open a VPN tunnel:

1. Launch the OpenVPN application with administrator privileges.

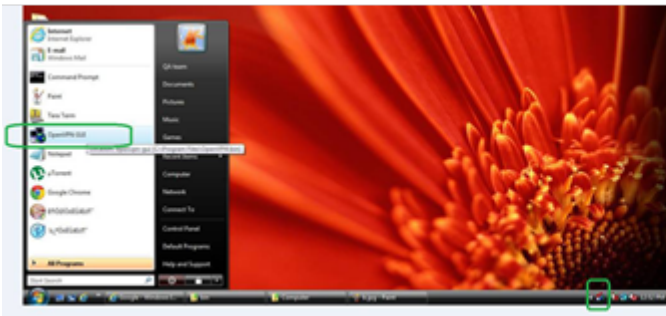
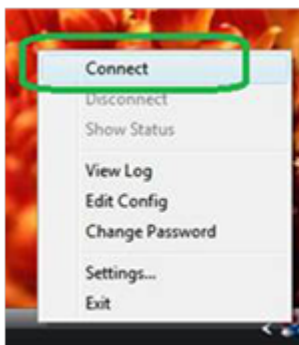


Figure 5. The OpenVPN icon displays in the Windows taskbar.

TIP: You can create a shortcut to the VPN program, then use the shortcut to access the settings and select the **run as administrator** check box. Then every time you use this shortcut, OpenVPN automatically runs with administrator privileges.

2. Right-click the **OpenVPN** icon.



3. Select **Connect**.

The VPN connection is established. You can launch a web browser and log in to your router.



# Use VPN to access your Internet service at home

When you're away from home and you access the Internet, you usually use a local Internet service provider. For example, at a coffee shop you might be given a code that lets you use the coffee shop's Internet service account to surf the web.

Orbi Pro lets you use a VPN connection to access your own Internet service when you're away from home. You might want to do this if you travel to a geographic location that doesn't support all the Internet services that you use at home. For example, your Netflix account might work at home but not in a different country.

## Set up VPN client Internet access in the router

By default, the router is set up to allow VPN connections only to your home network, but you can change the settings to allow Internet access. Accessing the Internet remotely through a VPN might be slower than accessing the Internet directly.

### **To allow VPN clients to use your home Internet service:**

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > VPN Service**.  
The VPN Service page displays.
5. Select the **Enable VPN Service** radio button.
6. Scroll down to the Clients will use this VPN connection to access section, and select the **All sites on the Internet & Home Network** radio button.  
When you access the Internet with the VPN connection, instead of using a local Internet service, you use the Internet service from your home network.
7. Click the **Apply** button.  
Your settings are saved.

8. Click the **FOR WINDOWS** or **FOR MACOSX** button and download the configuration files for your VPN clients.
9. Unzip the configuration files and copy them to the folder where the VPN client is installed on your device.

For a client device with Windows 64-bit system, the VPN client is installed at C:\Programfiles\OpenVPN\config\ by default.

## Block VPN client Internet access in the router

By default, the router is set up to allow VPN connections only to your home network, not to the Internet service for your home network. If you changed this setting to allow Internet access, you can change it back.

### To allow VPN clients to access only your home network:

1. Launch a web browser from a computer or mobile device that is connected to your Orbi network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the admin user name and password.  
The user name is **admin**. The password is the one that you specified the first time that you logged in. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Select **ADVANCED > Advanced Setup > VPN Service**.  
The VPN Service page displays.
5. Select the **Enable VPN Service** radio button.
6. Scroll down to the Clients will use this VPN connection to access section, and select the **Home Network only** radio button.  
This is the default setting. The VPN connection is only to your home network, not to the Internet service for your home network.
7. Click the **Apply** button.  
Your settings are saved.
8. Click the **FOR WINDOWS** or **FOR MACOSX** button and download the configuration files for your VPN clients.
9. Unzip the configuration files and copy them to the folder where the VPN client is installed on your device.

For a client device with Windows 64-bit system, the VPN client is installed at C:\Programfiles\OpenVPN\config\ by default.

## Use a VPN tunnel to access your Internet service at home

### **To access your Internet service:**

1. Set up the router to allow VPN access to your Internet service.  
See [Specify VPN service in the router](#) on page 137.
2. On your computer, launch the OpenVPN application.  
The OpenVPN icon displays in the Windows taskbar.
3. Right-click the icon and select **Connect**.
4. When the VPN connection is established, launch your Internet browser.

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## Troubleshooting

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This chapter provides information to help you diagnose and solve problems you might experience with your Orbi router or satellite. If you do not find the solution here, check the NETGEAR support site at [support.netgear.com](http://support.netgear.com) for product and contact information.

This chapter includes the following sections:

- [Quick tips](#)
- [The router and satellite do not sync](#)
- [You cannot log in to the router](#)
- [You cannot access the Internet](#)
- [Troubleshoot Internet browsing](#)
- [Troubleshoot PPPoE](#)
- [Troubleshoot WiFi connectivity](#)
- [Troubleshoot your network using the ping utility](#)

## Quick tips

This section describes tips for troubleshooting some common problems.

### Sequence to restart your network

When you restart your network, follow this sequence:

1. Turn off *and* unplug the modem.
2. Turn off the router.
3. Plug in the modem and turn it on. Wait two minutes.
4. Turn on the router and wait two minutes.

### WiFi settings

Make sure that the WiFi settings in the WiFi-enabled computer or mobile device and the router match.

The WiFi network name (SSID) and WiFi security settings must match exactly.

If you set up an access list, you must add each WiFi-enabled computer or mobile device's MAC address to the router's access list.

### Network settings

Make sure that the network settings of the computer are correct. Wired and wirelessly connected computers must use network (IP) addresses on the same network as the router. The simplest way to do this is to configure each computer to obtain an IP address automatically using DHCP.

Some cable modem service providers require you to use the MAC address of the computer initially registered on the account. You can view the MAC address on the Attached Devices page.

## The router and satellite do not sync

If you are experiencing difficulty syncing the router and the satellite, we recommend that you move the satellite into the same room as the router during the sync. Then move the satellite to a different location.

**To sync the router and the satellite:**

1. Place the satellite in the same room as the Orbi router.  
Use this satellite location only during the sync process.
2. Connect the satellite to a power source.
3. If the Power LED on the back of the satellite does not light, press the **Power On/Off** button.
4. Wait for the satellite's ring LED to light solid white or magenta.
5. Press the **Sync** button on the router and then within two minutes, press the **Sync** button on the satellite.
6. Wait for the satellite to sync with the router.  
The satellite's ring LED pulses white while it attempts to sync with the router. After the LED bar pulses white, it lights one of the following colors for about three minutes and then turns off:
  - **Blue.** The Orbi router and satellite successfully synced, and the connection between the router and satellite is good.
  - **Amber.** The Orbi router and satellite successfully synced, but the connection between the router and satellite is only fair. Consider moving the Orbi satellite closer to the Orbi router.
  - **Magenta.** The Orbi router and satellite did not sync.
7. Do one of the following:
  - **The sync failed.** If the sync failed, try to sync again by repeating [Step 5](#) and [Step 6](#). If the sync keeps failing, try a different location or position.
  - **The sync is successful.** If the sync is successful, move the satellite to the location where you want to install it and continue with [Step 8](#).
8. At the new location, connect the satellite to a power source.
9. At the new location, resync the satellite with the router by repeating [Step 5](#) and [Step 6](#).  
If the satellite's ring LED lights blue or amber, the satellite synced successfully. If the satellite's ring LED lights blue, the connection is good. If the satellite's ring LED bar lights amber, consider moving the satellite closer to the router so that you can get a good connection instead of a fair connection.

10. If the satellite's ring LED lights magenta, the satellite did not resync with the router. If they successfully synced when they were placed in the same room, do one of the following:
- Move the satellite closer to the router and try again. The router must be within the satellite's WiFi cover area for a good or fair connection to the satellite.
  - Place another satellite between the router and the satellite that you are trying to sync. Then try to sync between the two satellites. With daisy chain networking, your satellites can connect to each other or to the router, depending on which connection is best.

## You cannot log in to the router

Make sure that your computer or mobile device is connected to the Orbi WiFi network. If you do not want to use a WiFi connection, you can connect your computer to the Orbi router with an Ethernet cable.

If you changed the admin password and you forgot what it is, see [Reset the admin password](#) on page 114.

## You cannot access the Internet

Check your network and Internet connections:

1. Make sure that your WiFi-enabled computer or mobile device is connected to the Orbi network.
2. If you are connected to Orbi but you cannot access the Internet, check to see if your Internet connection is working.
3. Launch a web browser from a computer or WiFi device that is connected to the network.
4. Enter **orbilogin.com**.  
A login window opens.
5. Enter the router admin user name and password.  
The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.  
The BASIC Home page displays.
6. Click the **ADVANCED** tab.  
The ADVANCED Home page displays.

7. Check that an IP address is shown for the Internet port.

If 0.0.0.0 is shown, your router did not obtain an IP address from your Internet service provider (ISP).

If your router cannot obtain an IP address from the ISP, you can force your cable or DSL modem to recognize your new router by restarting your network. For more information, see [Sequence to restart your network](#) on page 149.

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 whether they require 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 on the Internet Setup page.
- If your ISP allows only one Ethernet MAC address to connect to Internet and checks for your computer's MAC address, do one of the following:
  - Inform your ISP that you 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 one of the following reasons:

- The traffic meter is enabled, and the limit was reached.  
By configuring the traffic meter not to block Internet access when the traffic limit is reached, you can resume Internet access. If your ISP sets a usage limit, they might charge you for the overage.
- 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, restart your computer. Alternatively, you can configure your computer manually with a DNS address, as explained in the documentation for your computer.
- The router might not be configured as the default gateway on your computer.



Reboot the computer and verify that the router address (www.routerlogin.net) is listed by your computer as the default 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. You might need to go to Internet Explorer and select **Tools > Internet Options**, click the **Connections** tab, and select **Never dial a connection**. Other browsers provide similar options.

## Troubleshoot PPPoE

If you are using PPPoE, try troubleshooting your Internet connection.

### To troubleshoot a PPPoE connection:

1. Launch a web browser from a computer or WiFi device that is connected to the network.
2. Enter **orbilogin.com**.  
A login window opens.
3. Enter the router admin user name and password.  
The user name is **admin**. The default password is **password**. The user name and password are case-sensitive.  
The BASIC Home page displays.
4. Click the **ADVANCED** tab.  
The ADVANCED Home page displays.
5. In the Internet Port pane, click the **Connection Status** button.  
The Connection Status window opens.
6. Check the Connection Status window to see if your PPPoE connection is active and working.  
If the router is not connected, click the **Connect** button.  
The router continues to attempt to connect indefinitely.
7. If you cannot connect after several minutes, the router might be set up with an incorrect service name, user name, or password, or your ISP might be experiencing a provisioning problem.  
Unless you connect manually, the router does not authenticate using PPPoE until data is transmitted to the network.

# Troubleshoot WiFi connectivity

If you are experiencing trouble connecting to the Orbi WiFi network, try to isolate the problem:

- Does the WiFi-enabled computer or mobile device that you are using find your WiFi network?  
If you disabled the router's SSID broadcast, then your WiFi network is hidden and does not display in the list of networks that your computer or WiFi device finds. (By default, SSID broadcast is enabled.)
- Does your WiFi-capable device support the security that you are using for your WiFi network (WPA or WPA2)?
- To view the WiFi settings for the router, use an Ethernet cable to connect a computer to a LAN port on the router. Then log in to the router, and select **BASIC > Wireless**.

**Note:** Be sure to click the **Apply** button if you change settings.

- If you are trying to connect to the 5 GHz 1 or 5 GHz 2 band, does your WiFi-enabled computer or mobile device support this standard?
- Did your computer or WiFi device automatically connect to a different WiFi network in your area, such as a WiFi hotspot?

# Troubleshoot your network using the ping utility

Most network devices and routers contain a ping utility that sends an echo request packet to the designated device. The device then responds with an echo reply. You can easily troubleshoot a network using the ping utility in your computer or workstation.

## Test the LAN path to your 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 Windows computer:

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 be experiencing one of the following problems:

- Wrong physical connections  
For a wired connection, make sure that the numbered LAN 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.

### **To test the path from your computer to a remote device:**

1. From the Windows toolbar, click the **Start** button and select **Run**.
2. In the Windows Run window, 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, messages display that are similar to those shown in [Test the LAN path to your router on page 154](#).

If you do not receive replies, check the following:

- Check to see that the IP address of your router is listed as the default gateway for your computer. If DHCP assigns the IP configuration of your computers, this information is not visible in your computer 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 to see that your cable or DSL modem is connected and functioning.
- If your ISP assigned a host name to your computer, enter that host name as the account name on the Internet Setup page.
- 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. Some ISPs additionally restrict access to the MAC address of a single computer connected to that modem. If your ISP does this, configure your router to "clone" or "spoof" the MAC address from the authorized computer.

# A

## Supplemental Information

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This appendix covers the following topics:

- [Factory settings](#)
- [Technical specifications](#)

# Factory settings

The following factory settings information are for the Orbi Pro router (model SRR60) and the Orbi Pro satellite (model SRS60).

You can return the Orbi Pro router or satellite to its factory settings. Use the end of a paper clip or a similar object to press and hold the **Reset** button on the back of the router or satellite for at least seven seconds. The router or satellite resets, and returns to the factory settings.

## Factory settings for Orbi Pro router model SRR60

The following table shows the factory default settings for the Orbi Pro router.

Table 4. Factory default settings for the router

Feature	Default Setting
<b>Router login</b>	
User login URL	orbilogin.com
User name (case-sensitive)	admin
Login password (case-sensitive)	password
<b>Internet connection</b>	
WAN MAC address	Use default hardware address
WAN MTU size	1500
Port speed	AutoSensing
<b>Local network (LAN)</b>	
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
DHCP starting IP address	192.168.1.2
DHCP ending IP address	192.168.1.254
DMZ	Disabled

Table 4. Factory default settings for the router (Continued)

Feature	Default Setting
Time zone	GMT for WW, except NA and GR GMT+1 for GR GMT-8 for NA
Time zone adjusted for daylight saving time	Disabled
SNMP	Disabled
<b>Firewall</b>	
Inbound (communications coming in from the Internet)	Disabled (except traffic on port 80, the HTTP port)
Outbound (communications going out to the Internet)	Enabled (all)
Source MAC filtering	Disabled
<b>WiFi</b>	
WiFi communication	Enabled
SSID name	See router label
Security	WPA2-PSK (AES)
Broadcast SSID	Enabled
Transmission speed	Auto <sup>1</sup>
Country/region	United States in the US Otherwise, varies by region
RF channel 2.4 GHz fronthaul	Auto
RF channel 2.4 GHz backhaul	Auto
RF channel 5 GHz fronthaul	Channel 48 for NA, AU, and CA Channel 36 for EU
RF channel 5 GHz backhaul	Channel 48 for NA, AU, and CA Channel 36 for EU

<sup>1</sup> *Maximum wireless signal rate derived from IEEE Standard 802.11 specifications. Actual throughput can vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate.*

## Factory settings for Orbi Pro satellite model SRS60

The following table shows the factory default settings for the Orbi Pro satellite.

Table 5. Factory default settings for the satellite

Feature	Default Setting
<b>Router login</b>	
User login URL	orbilogin.com
User name (case-sensitive)	admin
Login password (case-sensitive)	password
<b>Internet connection</b>	
WAN MAC address	Use default hardware address
WAN MTU size	1500
Port speed	AutoSensing
<b>Local network (LAN)</b>	
LAN IP	192.168.1.250
Subnet mask	255.255.255.0
DHCP server	Enabled
DHCP range	192.168.1.2 to 192.168.1.254
DHCP starting IP address	192.168.1.2
DHCP ending IP address	192.168.1.254
DMZ	Disabled
Time zone	GMT for WW except NA and GR GMT+1 for GR GMT-8 for NA
Time zone adjusted for daylight saving time	Disabled
SNMP	Disabled
<b>Firewall</b>	
Inbound (communications coming in from the Internet)	Disabled (except traffic on port 80, the HTTP port)
Outbound (communications going out to the Internet)	Enabled (all)
Source MAC filtering	Disabled



Table 5. Factory default settings for the satellite (Continued)

Feature	Default Setting
<b>WiFi</b>	
WiFi communication	Enabled
SSID name	See satellite label
Security	WPA2-PSK (AES)
Broadcast SSID	Enabled
Transmission speed	Auto <sup>2</sup>
Country/region	United States in the US Otherwise, varies by region
RF channel 2.4 GHz fronthaul	Auto
RF channel 2.4 GHz backhaul	Auto
RF channel 5 GHz fronthaul	Channel 48 for NA, AU, and CA Channel 36 for EU
RF channel 5 GHz backhaul	Channel 48 for NA, AU, and CA Channel 36 for EU

<sup>2</sup>Maximum wireless signal rate derived from IEEE Standard 802.11 specifications. Actual throughput can vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate.

# Technical specifications

The following are the technical specifications for Orbi Pro router (model SRR60) and Orbi Pro satellite (SRS60).

## Technical specifications for Orbi Pro router model SRR60

The following table shows the technical specifications for the router.

Table 6. Orbi Pro 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): 12V, 3.5A DC output
Dimensions	6.8 x 3.3 x 9.7in (174 x 85 x 247 mm)
Weight	2.06 lb (0.93 kg)
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 or 1000BASE-T, RJ-45
WAN	10BASE-T or 100BASE-TX or 1000BASE-T, RJ-45
WiFi	Maximum wireless signal rate complies with the IEEE 802.11 standard. <sup>3</sup>
Radio data rates	2.4 GHz: Max. 400 Mbps 5 GHz Front haul: Max. 866 Mbps 5 GHz Back haul: Max. 1733 Mbps
Data encoding standards	IEEE 802.11b/g/n 2.4 GHz-256 QAM support IEEE 802.11a/n/ac 5 GHz-256 QAM support
Maximum number of computers per wireless network	Limited by the amount of WiFi network traffic generated by each node (typically 50-70 nodes) 2.4 GHz: 127 5 GHz (front haul): 127

## Orbi Pro Router SRR60 and Orbi Pro Satellite SRS60

Table 6. Orbi Pro router specifications (Continued)

Feature	Description
Operating frequency range 2.4 GHz (US)	2.412-2.462
Operating frequency range 2.4 GHz (Europe ETSI)	2.412-2.472 GHz
Operating frequency range 5 GHz (US)	5.18 GHz-5.24 GHz 5.745 GHz-5.825 GHz
Operating frequency range 5 GHz (EU)	5.18 GHz-5.24 GHz 5.26 GHz-5.32 GHz 5.5 GHz-5.7 GHz
802.11 security	WPA2-PSK [AES] WPA-PSK [TKIP] + WPA2-PSK [AES] WPA2-Enterprise

<sup>3</sup>Maximum wireless signal rate derived from IEEE Standard 802.11 specifications. Actual throughput can vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate.

## Technical specifications for Orbi Pro satellite model SRS60

The following table shows the technical specifications for the satellite.

Table 7. Orbi Pro satellite 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): 12V, 3.5A DC output
Dimensions	6.8 x 3.3 x 9.7in (174 x 85 x 247 mm)
Weight	2.06 lb (0.93 kg)
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 or 1000BASE-T, RJ-45

## Orbi Pro Router SRR60 and Orbi Pro Satellite SRS60

Table 7. Orbi Pro satellite specifications (Continued)

Feature	Description
WAN	10BASE-T or 100BASE-TX or 1000BASE-T, RJ-45
WiFi	Maximum wireless signal rate complies with the IEEE 802.11 standard. <sup>4</sup>
Radio data rates	2.4 GHz: Max. 400 Mbps 5 GHz Front haul: Max. 866 Mbps 5 GHz Back haul: Max. 1733 Mbps
Data encoding standards	IEEE 802.11b/g/n 2.4 GHz-256 QAM support IEEE 802.11a/n/ac 5 GHz-256 QAM support
Maximum number of computers per wireless network	Limited by the amount of WiFi network traffic generated by each node (typically 50-70 nodes). 2.4 GHz: 127 5 GHz (front haul): 127
Operating frequency range 2.4 GHz (US)	2.412-2.462 GHz
Operating frequency range 2.4 GHz (Europe ETSI)	2.412-2.472 GHz
Operating frequency range 5 GHz (US)	5.18 GHz-5.24 GHz 5.745 GHz-5.825 GHz
Operating frequency range 5 GHz (EU)	5.18 GHz-5.24 GHz 5.26 GHz-5.32 GHz 5.5 GHz-5.7 GHz
802.11 security	WPA2-PSK [AES] WPA-PSK [TKIP] + WPA2-PSK [AES] WPA2-Enterprise

<sup>4</sup>Maximum wireless signal rate derived from IEEE Standard 802.11 specifications. Actual throughput can vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate.