



# **WS329 300Mbps Wireless Router**

## **User Guide**

HUAWEI TECHNOLOGIES CO., LTD.



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# 1 Product Overview

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## Supported Features

The WS329 300Mbps Wireless Router (WS329 for short) is a high-speed wireless router designed for home and small office use. This chapter describes the features supported by the WS329.

- Ethernet provides rugged stability, and with the WPS button, zero configuration is required for connections to multiple devices.
- Network range allows any device in a home to be connected with a transmission rate of up to 300Mbps.
- A powerful firewall is provided with a flexible network configuration and quality of service (QoS) strategy, enabling different home devices to enjoy high-speed and high-quality broadband services.

## High-Speed Ethernet Connectivity

The WS329 provides WAN ports for Ethernet-enabled devices to access the Internet at high speeds.

## Routing

The WS329 supports routing. It can obtain an IP address through PPP dial-up or Dynamic Host Configuration Protocol (DHCP), which provides simultaneous access for multiple devices.

## WLAN

The WS329 supports multiple WLAN protocols, including 802.11b/g/n (2.4 GHz). Adopting 802.11n multiple-input multiple-output antennas (MIMO) technology, the WS329 delivers a wireless transmission rate of up to 300Mbps with its dual antennas. In addition, the WS329 supports multiple wireless encryption modes to provide a secure, reliable, and high-speed WLAN.

## Bandwidth Control

The WS329 supports bandwidth control and allocates bandwidth to different computers within your home based on Internet access requirements. Your family can then access the Internet, play online games, and watch videos without interfering with each other.

## WDS Wireless Bridging and Repeating

The wireless distribution system (WDS) function in wireless bridging or wireless repeating mode enables you to set up wireless connections between wireless routers to implement large-scale WLAN coverage.

## Firewall

The powerful built-in firewall effectively protects against viruses and malicious attacks.

## Parental Controls

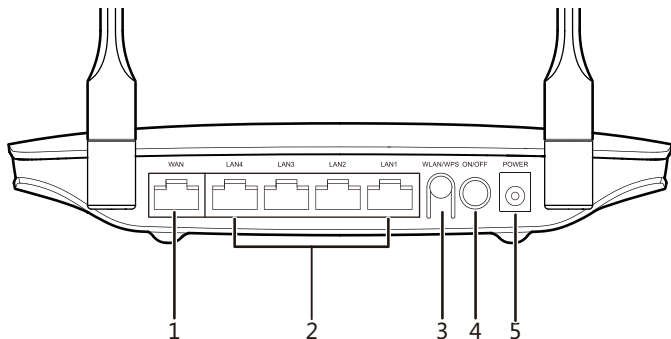
Parents can control their children's computer usage by placing time limits on usage duration or forbidding access to certain websites.




## Easy Configuration and Management

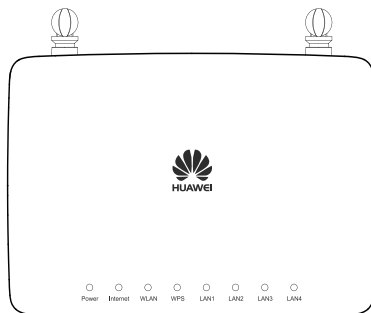
The WS329 provides password-protected web-based management pages to protect your personal data.


## Ports and Buttons



No.	Item	Description
1	WAN	Connects to an Ethernet device that provides Internet access, such as a modem or switch.
2	LAN1–LAN4	Connects to Ethernet devices, such as computers, set-top boxes (STBs), and Ethernet switches.
3	WLAN/WPS	<ul style="list-style-type: none"><li>&gt; WPS button: Press the WPS button (less than 3 seconds) to start Wi-Fi protected setup (WPS) negotiation while the WS329 is powered on.</li><li>&gt; WLAN button: Press the WLAN button (more than 3 seconds) to enable or disable WLAN while the WS329 is powered on.</li><li>&gt; Reset button: Press Reset button (more than 20 seconds) to restore to its default settings while the WS329 is powered on.</li></ul> <div> A reset will result in all custom data and settings being lost. Use with caution.</div>
4	ON/OFF	Powers the WS329 on or off.
5	POWER	Connects to a power adapter.

## Indicators



Indicator	Status	Description
Power	Steady on	The WS329 is powered on.
	Off	The WS329 is powered off.
Internet	Steady on	The WS329 is connected to the Internet in router mode, but no data is being transmitted.
	Blinking	The WS329 is connected to the Internet in router mode, and data is being transmitted.
	Off	The WS329 WAN port is not connected to any device.
WLAN		WS329 has WLAN enabled.
	Steady on	 The WS329 has WLAN enabled by default, so the WLAN LED is steady on while the WS329 is powered on.
	Off	WLAN is disabled.
WPS	Steady on	The WS329 is connected to a wireless client, such as a computer with a wireless network adapter, over the WLAN using the Wi-Fi Protected Setup (WPS) function.
	Blinking	The WS329 is attempting to connect to a wireless client over the WLAN using the WPS function.
	Off	WPS is disabled.

Indicator	Status	Description
LAN1–LAN4	Steady on	The LAN port is connected to an Ethernet device (such as a computer) with a network cable, but no data is being transmitted.
	Blinking	The LAN port is connected to an Ethernet device (such as a computer) with a network cable, and data is being transmitted.
	Off	The LAN port is not connected to any Ethernet device.

## 2 Hardware Installation

### Selecting an Installation Location

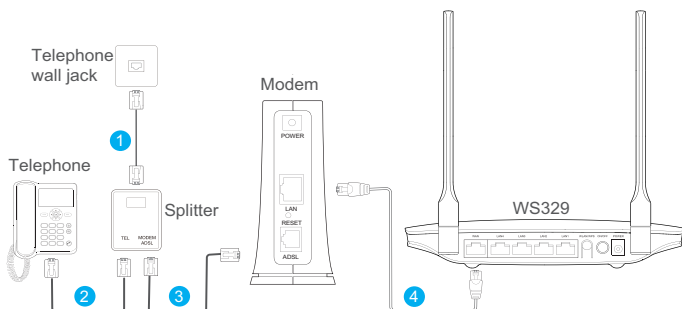
Place the WS329 on a well-ventilated even surface without exposure to direct sunlight. For the best possible performance, take note of the following:

- > Make sure there are no obstacles, such as concrete or wooden walls, between the computer and WS329.
- > Ensure that the computer and WS329 are far from electric appliances that generate strong magnetic or electric fields, such as microwave ovens.

### Connecting the Cables

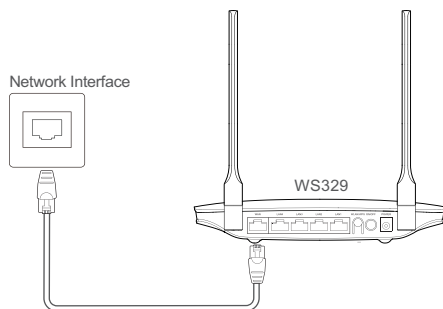
#### Connecting the WS329 on a DSL Broadband Network

If you have subscribed to digital subscriber line (DSL) broadband, you can connect the WS329 to a telephone port for Internet access, so that multiple computers could access the Internet.



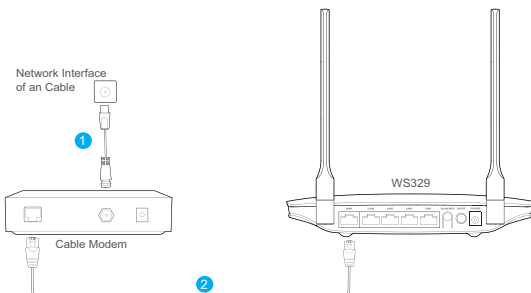
#### Connecting the WS329 on an Ethernet Broadband Network

If you have subscribed to the Ethernet Broadband, you can connect the WS329 to an Ethernet port, so that multiple computers could access the Internet.



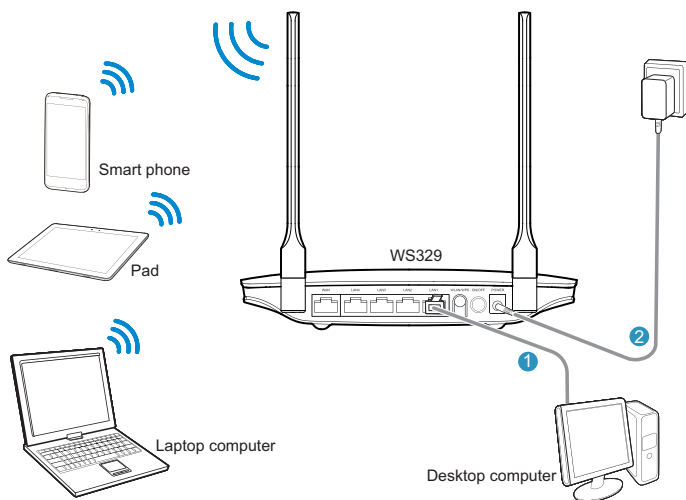
## Installing the WS329 on a Cable Broadband Network

If you have subscribed to the cable broadband network, you can connect the WS329 to an Ethernet port of an Cable Modem, so that multiple computers could access the Internet.



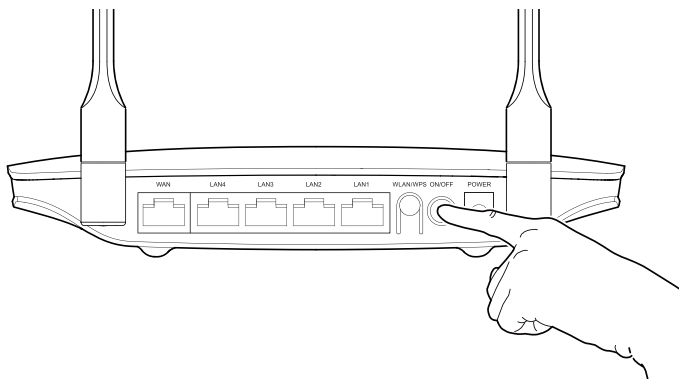
## Connecting a Computer or Other Devices

When the WS329 had been accessed to the network normal, you can add the Laptop computer, desktop computer, set-top box, pad, smart phone and other devices to the network.



## Powering On

To power on the WS329, press its power button.



After the WS329 is powered on, the WS329 indicator turns on. The following table lists how the indicators behave when the WS329 is operating correctly. If the indicators do not behave as expected, ensure that everything is plugged in correctly.

Indicator	Expected State
Internet	Steady on
LAN	Steady on
Power	Steady on
WLAN	Steady on
WPS	Steady off


## 3 Setting Network Parameters

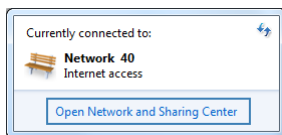
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### Setting the Computer IP Address

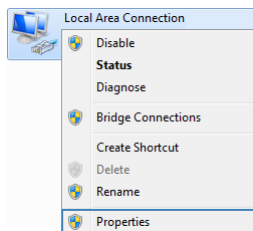
Before logging in to the WS329 web management page, set the IP address of the computer that will be used for the login.

#### On Windows 7

1. Click  in the lower right corner of your desktop. Choose **Open Network and Sharing Center**.

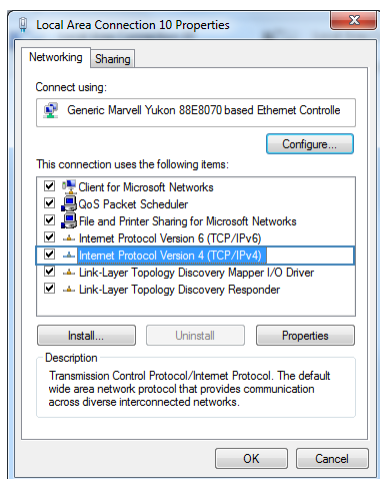


2. Choose **Change adapter settings**. Right-click **Local Area Connection** and choose **Properties**.

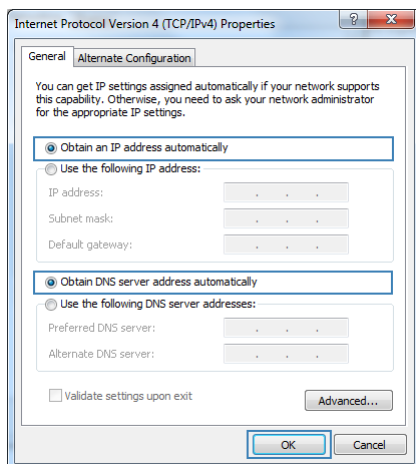





3. Double-click **Internet Protocol Version 4 (TCP/IPv4)**.



4. Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**. Click **OK**.

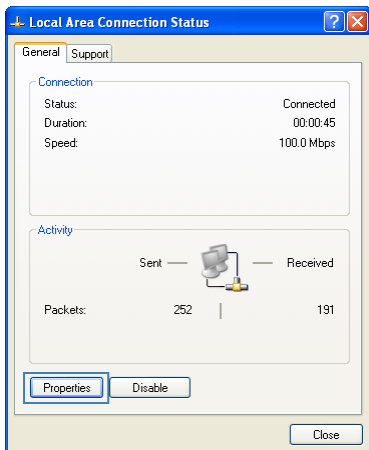


## On Windows XP

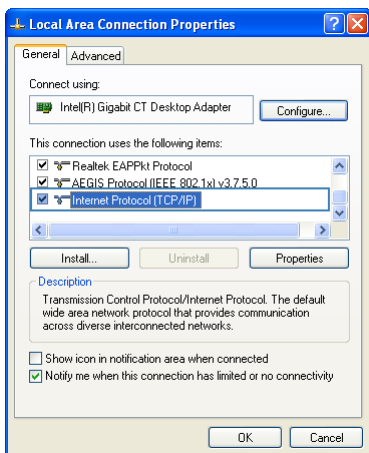
1. Click  in the lower right corner of your desktop.



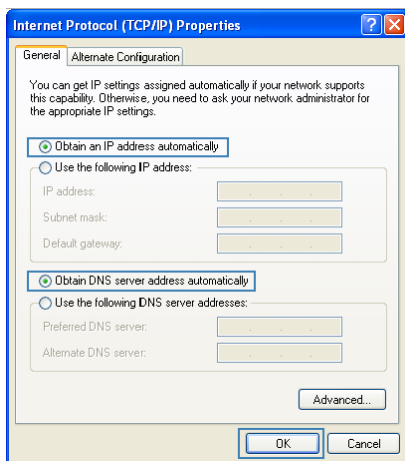
2. In the displayed dialog box, click **Properties**.



3. Double-click **Internet Protocol (TCP/IP)**.



4. Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**. Click **OK**.



## Logging In to the Web Management Page

The WS329 provides an intuitive web management page where you can view or set the WS329 parameters.



Before you log in to the WS329 web management page, ensure that the computer used for the login is connected to the WS329 and has been configured to automatically obtain an IP address or assigned with a static IP address.

1. Open a browser. In the address box, enter **192.168.3.1**. Press **Enter**.
2. Enter the login user name (**admin** by default) and password (**admin** by default). Click **Log in**.

Login

Username	
Password	

[How to get your username and password?](#)

[Forgot password?](#)

Log in



To protect against unauthorized access, change the user name and password after the first login.

## Configuring the Internet Connection

When you install the WS329 for the first time, you need to configure the WS329.

### Using the Web-Based Configuration Utility page

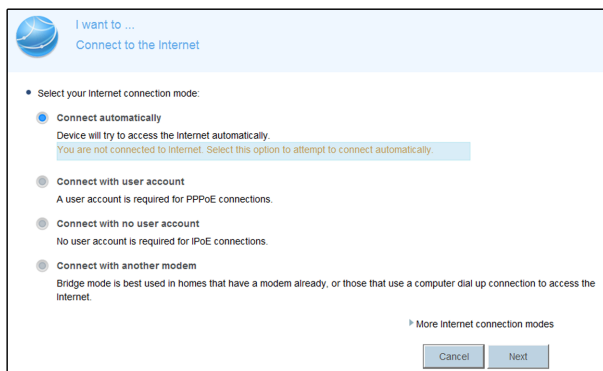
The WS329 supports quick configuration page. You can quickly configure the network connection parameters through the quick configuration page.

When you configure the WS329 for the first time, you can see the setup wizard page after logging in to the utility. To configure the WS329 through the setup wizard.

Do as follows:

1. Log in to the web management page.

2. Choose **Home** tab, click **Connect to the Internet**. Select your Internet connection mode.



Refer to the following table to configure the network connection.

Scenario	Connection Type
When you are unsure of the network connection you subscribed to, you can select this mode that the device will detect the network connection automatically.	Connect automatically
The account name and password are provided by your Internet Service Provider (ISP).	Connect with user account
No parameter is provided by your ISP. The IP address is automatically assigned by the ISP.	Connect with no user account
The user name and password are provided by Internet Service Provider (ISP). Set up a dial-up connection on one computer only.	Connect with another modem

3. Set WLAN parameters.

- > If you selected **Connect with user account**, enter the parameters provided by your Internet Service Provider (ISP) and click **Next**.
- > If you selected **Connect with no user account** or **Connect with another modem**, click **Next**.



If you selected **Connect with user account** or **Connect with no user account**, the computer automatically connects to the Internet as long as the router is working properly.

4. Choose **Home** tab, click **Set Up WLAN**, set WLAN parameters, click **Save**.



To obtain the default SSID and key, check the label on the rear panel. To better secure your WLAN, promptly change the SSID and key.

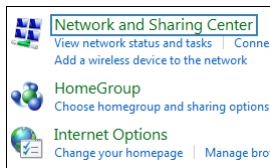
## Setting Dial-Up Connection Parameters

When the WS329 works in Bridge mode you need to perform this operation. Otherwise you do not need to perform this operation.

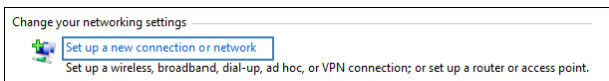
Before setting dial-up connection parameters, verify that the WS329 is correctly connected to your computer and you have the dial-up connection account name and password provided by your Internet service provider (ISP). This section demonstrates how to set up a Point-to-Point Protocol over Ethernet (PPPoE) connection on Windows.

### On Windows 7

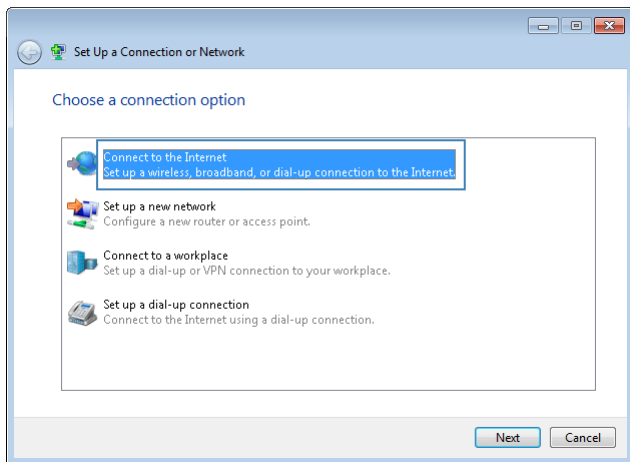
1. Choose **Start > Control Panel > Network and Internet > Network and Sharing Center**.



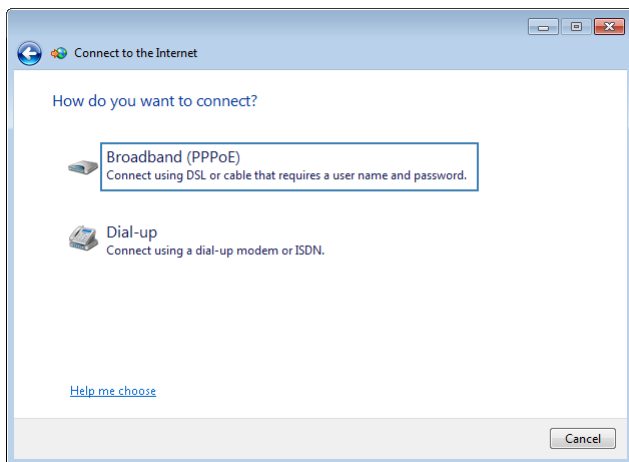
2. Under **Change your networking settings**, click **Set up a new connection or network**.



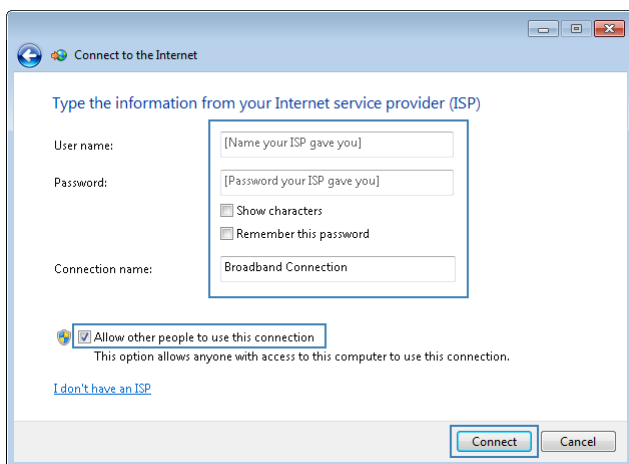
3. In the **Set Up a Connection or Network** window, select **Connect to the Internet** and click **Next**.



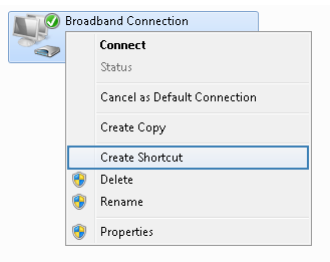
4. Click **Broadband (PPPoE)**.



5. In **User name** and **Password**, enter the dial-up connection account name and password provided by your ISP. In **Connection name**, name the dial-up connection. Select or deselect **Allow other people to use this connection**. Then click **Connect**.

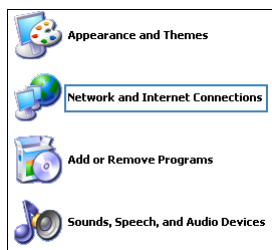


6. Return to the **Network and Sharing Center** page. Click **Change adapter settings**. Right-click the icon for the dial-up connection you just set up and choose **Create Shortcut** from the shortcut menu. In the displayed dialog box, click **Yes**.

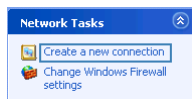


## On Windows XP

1. Choose **Start > Control Panel > Network and Internet Connections > Network Connections**.



2. Under **Network Tasks**, click **Create a new Connection**.

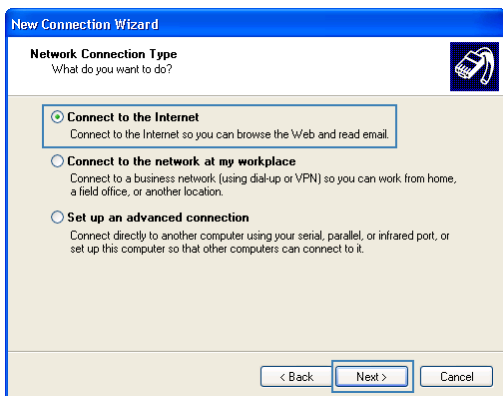




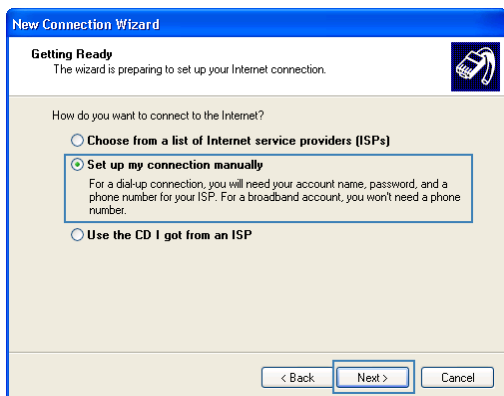
3. In the **New Connection Wizard** dialog box, click **Next**.



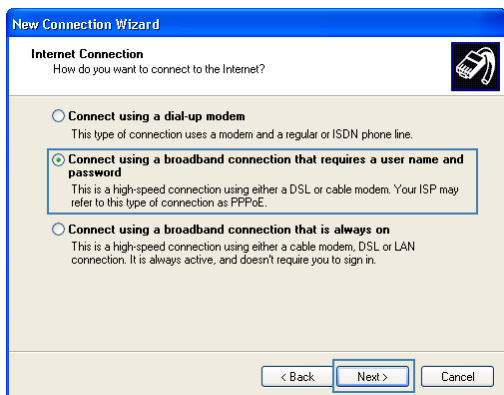
4. Select **Connect to the Internet** and click **Next**.



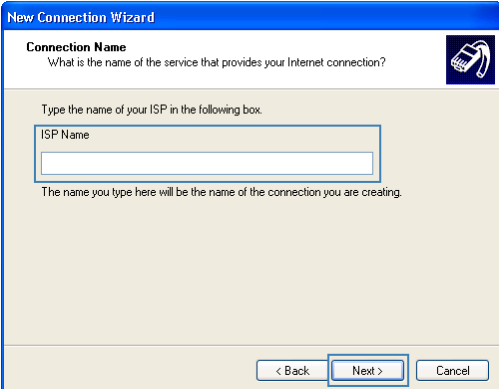
5. Select **Set up my connection manually** and click **Next**.



6. Select **Connect using a broadband connection that requires a user name and password** and click **Next**.

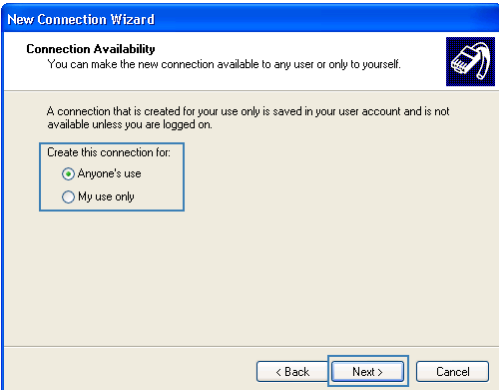


7. In **ISP Name**, name the dial-up connection. Click **Next**.



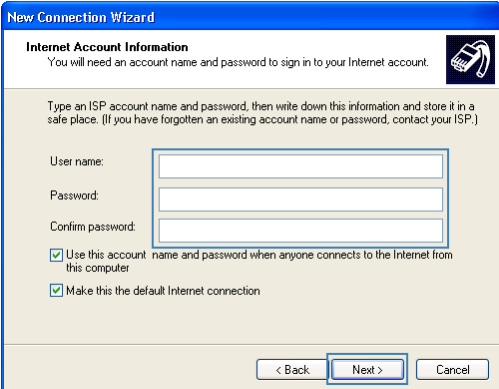
The screenshot shows the 'New Connection Wizard' window with the 'Connection Name' tab selected. The title bar reads 'New Connection Wizard'. Below the title bar, the tab is labeled 'Connection Name'. The main text asks, 'What is the name of the service that provides your Internet connection?'. Below this, it says 'Type the name of your ISP in the following box.' followed by a text input field labeled 'ISP Name'. A note below the field states, 'The name you type here will be the name of the connection you are creating.' At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

8. Select **Anyone's use** or **My use only** and click **Next**.



The screenshot shows the 'New Connection Wizard' window with the 'Connection Availability' tab selected. The title bar reads 'New Connection Wizard'. Below the title bar, the tab is labeled 'Connection Availability'. The main text asks, 'You can make the new connection available to any user or only to yourself.' Below this, it says, 'A connection that is created for your use only is saved in your user account and is not available unless you are logged on.' Below this text is a group box labeled 'Create this connection for:' containing two radio button options: 'Anyone's use' (which is selected) and 'My use only'. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

9. Enter the dial-up connection account name and password provided by your ISP and click **Next**.



The screenshot shows the 'New Connection Wizard' window with the 'Internet Account Information' tab selected. The window has a blue title bar and a light beige background. On the right, there is a small icon of a telephone handset. The text reads: 'Internet Account Information' and 'You will need an account name and password to sign in to your Internet account.' Below this, it says: 'Type an ISP account name and password, then write down this information and store it in a safe place. (If you have forgotten an existing account name or password, contact your ISP.)' There are three input fields: 'User name:', 'Password:', and 'Confirm password:'. Below the fields are two checked checkboxes: 'Use this account name and password when anyone connects to the Internet from this computer' and 'Make this the default Internet connection'. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

10. Select **Add a shortcut to this connection to my desktop** and click **Finish**.



The screenshot shows the 'New Connection Wizard' window with the 'Completing the New Connection Wizard' tab selected. The window has a blue title bar and a light beige background. On the left, there is a large blue globe icon. The text reads: 'Completing the New Connection Wizard' and 'You have successfully completed the steps needed to create the following connection:'. Below this, it says: 'Broadband' and lists three bullet points: 'Make this the default connection', 'Share with all users of this computer', and 'Use the same user name & password for everyone'. It then says: 'The connection will be saved in the Network Connections folder.' There is a checked checkbox: 'Add a shortcut to this connection to my desktop'. At the bottom, there are three buttons: '< Back', 'Finish', and 'Cancel'. The 'Finish' button is highlighted with a blue border.

After you successfully set up a PPPoE connection, a dial-up connection icon is displayed on your computer desktop.

To connect to the Internet, double-click the dial-up connection icon. In the displayed dialog box, click **Connect**.

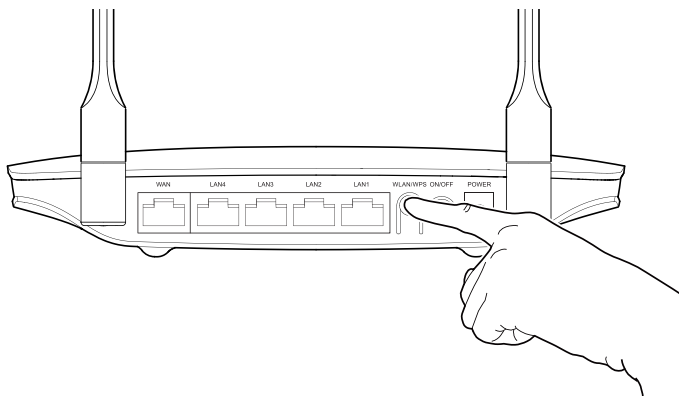
## 4 Wireless Connection Setup

### Setting Up a Wireless Connection Using the WPS Button

Push the WPS button once to quickly set up a wireless connection between the WS329 and any WPS-capable device.

Before you set up a wireless connection using the WPS button, verify the following:

- > The wireless network security mode of the WS329 is WPA2-PSK or WPA-PSK/WPA2-PSK.
  - > The wireless device (laptop, tablet, or mobile phone) to connect to the WS329 is WPS-capable.
1. Press the WPS button on the wireless device to start WPS negotiation. For details, see the user guide for the wireless device.
  2. Within 2 minutes, press and hold the WPS button on the WS329 for 1 second or more. The WPS indicator blinks.



When the WPS indicator on the WS329 is steady on, a connection between the WS329 and wireless device is set up. The WPS indicator is on for 300 seconds.

### Manually Setting Up a Wireless Connection

The wireless configuration software provided by Windows is used as an example to describe how to set up a wireless connection.



You can also use the tool built into the network adapter to set up a wireless connection. For details, see the network adapter's user guide.

Before setting up a wireless connection, record the WLAN name and password of the WS329. The default WLAN name and password are printed on the WS329 cover label.

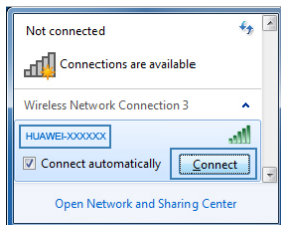
Before setting up a wireless connection, record the WLAN name and password of the WS329.

## On Windows 7

1. Click  in the lower right corner of your desktop.



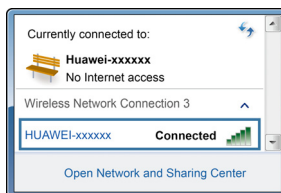
2. From the wireless network list, select the WLAN provided by the WS329. Click **Connect**.



3. In the displayed dialog box, enter the WLAN password and click **OK**.



4. In the wireless network list, check the WLAN connection status. If the status is **Connected**, the computer is wirelessly connected to the WS329.

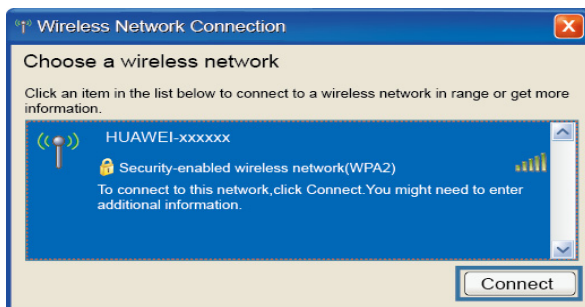


## On Windows XP

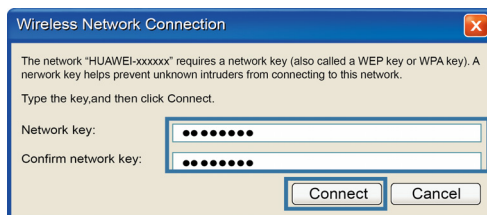
1. Click  in the lower right corner of your desktop.



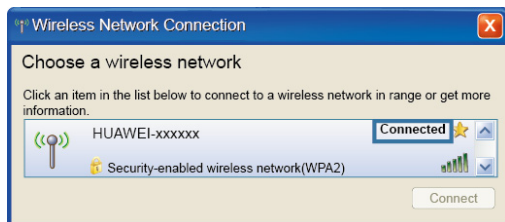
2. From the wireless network list, select the WLAN provided by the WS329. Click **Connect**.



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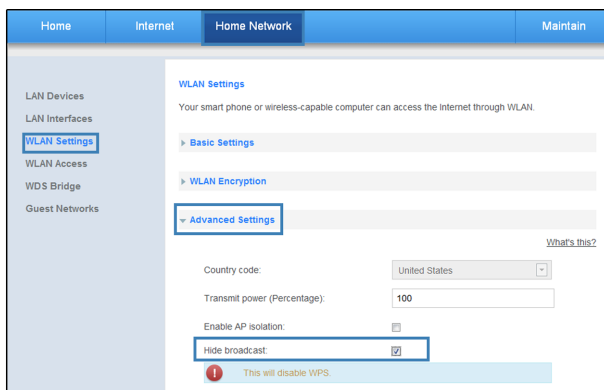
## 5 Network Security

### Improving WLAN Security

#### Hiding the WLAN Name

After you hide the WLAN name, anyone who wishes to connect to the WLAN must enter the correct WLAN name. This measure helps improve WLAN security.

1. Log in to the web management page.
2. Choose **Home Network** tab.
3. In the navigation tree, choose **WLAN Settings**.
4. Select **Advanced Settings** configuration page.
5. Set **Hide Broadcast** to **Enable**.



6. Click **Save**.

#### Changing Your WLAN Name and Password

WLAN access requires the WLAN name and password. To improve your WLAN security, regularly change your WLAN name and password.

1. Log in to the web management page.
2. Choose **Home Network** tab.
3. In the navigation tree, choose **WLAN Settings**.
4. Select **WLAN Encryption** configuration page.
5. In **SSID**, enter a new WLAN name.
6. In **WPA pre-shared key**, enter a new WLAN password.



7. Click **Save**.

The screenshot shows the 'Home Network' tab selected in the top navigation bar. On the left sidebar, 'WLAN Settings' is highlighted. The main content area is titled 'WLAN Settings' and includes a sub-section 'WLAN Encryption'. Under 'WLAN Encryption', the '2.4 GHz Frequency Band' is selected. The 'SSID' field is empty. The 'Enable SSID' checkbox is checked. Under 'Encryption Settings', the 'Security mode' is set to 'WPA-PSK+WPA2-PSK' and the 'WPA encryption mode' is set to 'AES'. The 'WPA pre-shared key' field contains a series of asterisks. A 'Save' button is located at the bottom right of the form.



After the SSID and key had been changed, your computer should use the new ones to establish a wireless connection to the WS329.

## Using High Security Encryption Modes

Adopting high security encryption modes protects against unauthorized access as well as data interception on networks.

To improve WLAN security without sacrificing working efficiency, use **WPA-PSK/WPA2-PSK** and **AES**. This step also prevents WLAN unavailability caused by network adapters' incompatibility with the selected security mode.

1. Log in to the web management page.
2. Choose **Home Network** tab.
3. In the navigation tree, choose **WLAN Settings**.
4. Select **WLAN Encryption** > **Encryption Settings** configuration page.
5. Select **Security mode** for you wanted.
6. Select **WPA encryption mode** for you wanted.
7. In **WPA pre-shared key**, enter the WLAN password you specified.
8. Click **Save**.

Home Internet **Home Network** Maintain

LAN Devices  
LAN Interfaces  
**WLAN Settings**  
WLAN Access  
WDS Bridge  
Guest Networks

**WLAN Settings**

Your smart phone or wireless-capable computer can access the Internet through WLAN.

Basic Settings

WLAN Encryption

2.4 GHz Frequency Band

SSID:

Enable SSID: ☒

Encryption Settings

Security mode: WPA-PSK+WPA2-PSK

WPA encryption mode: AES

WPA pre-shared key: \*\*\*\*\*

Save

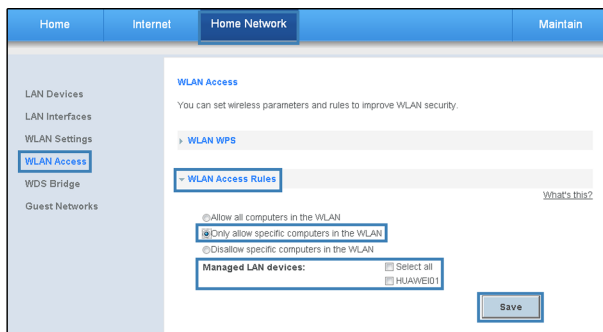


After the password used for accessing a WLAN is changed, you need to enter the new password when connecting a PC to the WLAN.

## Allowing Only Specified Computers to Access Your WLAN

To prevent unauthorized access to your WLAN, you can specify which devices are allowed to access your WLAN.

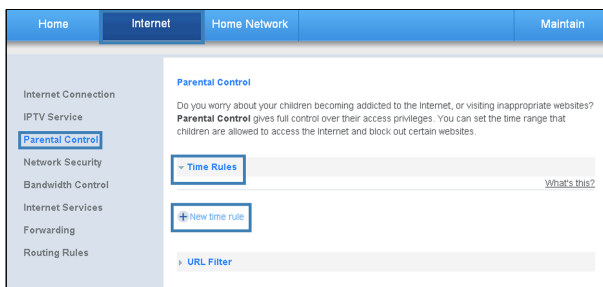
1. Connect a computer and the WS329 via wireless.
2. Log in to the web management page.
3. Choose **Home Network** tab.
4. In the navigation tree, choose **WLAN Access**.
5. Select **WLAN Access Rules** configuration page.
6. Set **Only allow specific computers in the WLAN** to **Enable**.
7. In **Managed LAN devices**, select the computer name for you wanted.
8. Click **Save**.



## Controlling Computer Internet Access

You can prohibit certain PCs from accessing the Internet or allow only certain PCs to access the Internet. In addition, you can set the period during which the PCs are not allowed to access the Internet.

1. Log in to the web management page.
2. Choose **Internet** tab.
3. In the navigation tree, choose **Parental Control**.
4. Select **Time Rules** configuration page.
5. Click **New time rule**.



6. In **Rule name**, enter a filtering rule name you specified.
7. In **Times allowed**, enter a time zone you specified.
8. In **Apply to**, select the computer name for you wanted.
9. Click **Save**.

**Time Rules** [What's this?](#)

☒ [Edit](#) [Delete](#)

Rule name:

Times allowed: ☒ Everyday From  to

☐ Every week

Apply to: ☐ Select all ☒ HUAWEI01

[+ New time rule](#)

## Filtering Out Inappropriate Websites

Use URL filtering to prevent certain websites from being accessed.

1. Log in to the web management page.
2. Choose **Internet** tab.
3. In the navigation tree, choose **Parental Control**.
4. Select **URL Filter** configuration page.
5. Click **New URL filter**.

Home Internet Home Network Maintain

Internet Connection  
IPTV Service  
**Parental Control**  
Network Security  
Bandwidth Control  
Internet Services  
Forwarding  
Routing Rules

**Parental Control**

Do you worry about your children becoming addicted to the Internet, or visiting inappropriate websites? **Parental Control** gives full control over their access privileges. You can set the time range that children are allowed to access the Internet and block out certain websites.

[Time Rules](#)

**URL Filter** [What's this?](#)

[+ New URL filter](#)

6. In **URL**, enter the Web site address you specify.
7. Set **Manage devices manually** to **Enable**.
8. In **Apply to**, select the computer name for you wanted.
9. Click **Save**.

URL Filter [What's this?](#)

☒ Edit ☒ Delete

URL:

Manage devices manually: ☐

Apply to ☐ Select all ☐ HUAWEI01

[+ New URL filter](#)

## Controlling Computer Bandwidth

By configuring bandwidth control policies, you can control the bandwidth of computers connected to the WS329 in the following ways:

- > Determine the minimum bandwidth allocated to specific computers to help ensure the Internet access speed for those computers.
  - > Determine the maximum bandwidth certain computers can occupy so that bandwidth remains available to other computers.
1. Log in to the web management page.
  2. Choose **Internet** tab.
  3. In the navigation tree, choose **Bandwidth Control**.
  4. Select **Bandwidth Control** configuration page.
  5. Set **Enable bandwidth control** to **Enable**.
  6. In **Egress bandwidth** and **Ingress bandwidth**, enter the rate value you specified.
  7. Click **Save**.

Home Internet Home Network Maintain

Internet Connection  
IPTV Service  
Parental Control  
Network Security  
**Bandwidth Control**  
Internet Services  
Forwarding  
Routing Rules

**Bandwidth Control** [What's this?](#)

**Bandwidth Control** helps you properly allocate bandwidth based on different Internet access requirements of users so that different Internet activities, such as browsing web pages, playing games, and watching movies do not affect each other.

Enable bandwidth control: ☒

Egress bandwidth:  kbps

Ingress bandwidth:  kbps

Enable WMM: ☐

You can configure different bandwidth control policies for different computers.

The configuration procedure is as follows:

1. Click **New**.
2. In **Rate mode**, select the rate mode you specified.
3. In **Download min**, **Download max**, **Upload min** and **Upload max**, enter the rate value you specified.
4. In **Traffic management type**, select the traffic management type you specified.
  - > When the **Traffic management type** is **IP QoS Classification**, enter the IP address of the computers you want to control in **IP address**.
  - > When the **Traffic management type** is **MAC QoS Classification**, select the MAC address of the computer you want to control in **MAC address**.
  - > When the **Traffic management type** is **LAN QoS Classification**, select the interface of the computer you want to control in **LAN interface**.
  - > When the **Traffic management type** is **Application QoS classification**, enter the Application name you specified in **Application**.
5. Click **Save**.

Traffic classifier name:

Rate mode:

Download min:

Download max:

Upload min:

Upload max:

DSCP mark:  [-1 - 63]

Traffic management type:

IP address:  .  .  .

~

.  .  .

[What's this?](#)

## Configure the Firewall to Prevent Attacks on the Internet

### The Description of Firewall Level

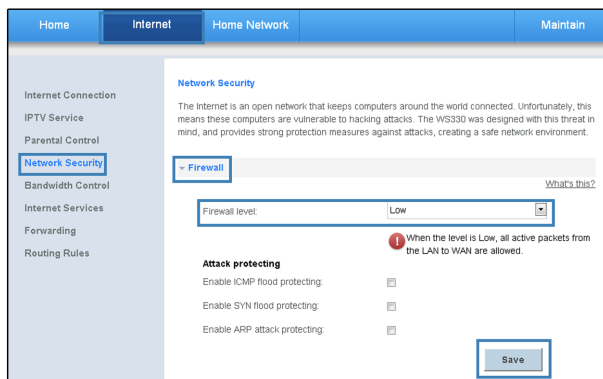
The preset protective levels of the firewall are as follows:

Level	Description
High	When you set the firewall level of the router to <b>High</b> , only the FTP / DNS / HTTP packet is allowed to pass through.
Low	When you set the firewall level of the router to <b>Low</b> , the packets from the LAN to the WAN are allowed to pass through.
Disable	When you set the firewall level of the router to <b>Disable</b> , all data packets are allowed to pass through.

## Configuring the Firewall

The WS329 provides a firewall to help secure its WLAN and any devices connected to it. Set the firewall level based on site requirements to quickly configure the firewall.

1. Log in to the web management page.
2. Choose **Internet** tab.
3. In the navigation tree, choose **Network Security**.
4. Select **Firewall** configuration page.
5. In **Firewall level**, select the firewall level you specified.
6. Click **Save**.



## 6 Enabling and Disabling the WLAN on the WS329

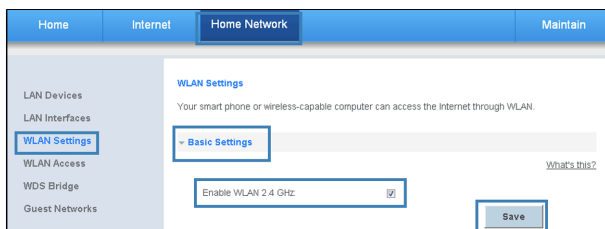
The following two methods are available to enable and disable the WLAN on the WS329.

### Using the WLAN Button

Press the WLAN button in the WS329 to enable or disable the WLAN. To ascertain whether the WLAN is enabled, view the WLAN indicator.

### Using the Web Management Page

1. Log in to the web management page.
2. Choose **Home Network** tab.
3. In the navigation tree, choose **WLAN Settings**.
4. Select **Basic Settings** configuration page.
5. Set **Enable WLAN 2.4 GHz** to **Enable**.
6. Click **Save**.





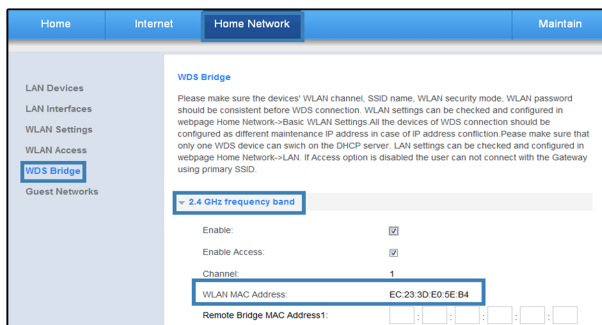
## 7 Expanding WLAN Coverage

To expand WLAN coverage, use the wireless distribution system (WDS) to set up a wireless connection between two WS329 devices.

For example, if your house is too large to be fully covered by the WLAN provided by one WS329 device, add another WS329 device and set up a wireless connection between these two devices using the WDS. The WLAN coverage is then expanded.

While setting up the wireless connection between the two WS329 devices, configure the devices to use the same radio channel, WLAN name, encryption method, and encryption key.

1. Find and record the wireless MAC addresses of the two WS329.
  - a. Log in to the web management page.
  - b. Choose **Home Network** tab.
  - c. In the navigation tree, choose **WDS Bridge**.
  - d. Select **2.4GHz frequency band** configuration page.
  - e. Under **WLAN MAC Address**, find a character string that is similar to **EC:23:3D:E0:5E:B4**. This value is the wireless MAC address of the WS329.



2. Set the WLAN parameters of the two WS329.
  - a. Log in to the web management page.
  - b. Choose **Home Network** tab.
  - c. In the navigation tree, choose **WLAN Settings**.
  - d. Select **WLAN Encryption** configuration page. Set the same value for the **SSID**, **WPA encryption** and **WPA pre-shared key** about the two WS329.

Home Internet **Home Network** Maintain

LAN Devices  
LAN Interfaces  
**WLAN Settings**  
WLAN Access  
WDS Bridge  
Guest Networks

**WLAN Settings**

Your smart phone or wireless-capable computer can access the Internet through WLAN.

Basic Settings

WLAN Encryption

What's this?

**2.4 GHz Frequency Band**

SSID:

Enable SSID: ☒

**Encryption Settings**

Security mode: WPA-PSK+WPA2-PSK

WPA encryption mode: AES

WPA pre-shared key:

Save

e. Select **Advanced Settings** configuration page. Set the same **Channel**.

Home Internet **Home Network** Maintain

LAN Devices  
LAN Interfaces  
**WLAN Settings**  
WLAN Access  
WDS Bridge  
Guest Networks

**WLAN Settings**

Your smart phone or wireless-capable computer can access the Internet through WLAN.

Basic Settings

WLAN Encryption

**Advanced Settings**

What's this?

Country code: United States

Transmit power (Percentage): 100

Enable AP isolation: ☐

Hide broadcast: ☐

**2.4 GHz frequency band**

Transmission mode: 802.11b/g/n

Channel: 1

Save



Please select the same non-adaptive channel for **Channel**.

3. Configure the WDS function of the two WS329.
  - a. Log in to the web management page.
  - b. Choose **Home Network** tab.
  - c. In the navigation tree, choose **WDS Bridge**.
  - d. Select **2.4G frequency band** configuration page.
  - e. Set **Enable** to Enable.
  - f. In **Remote bridge MAC address 1**, enter the wireless MAC address of other WS329.
  - g. Click **Save**.

Home Internet **Home Network** Maintain

LAN Devices  
LAN Interfaces  
WLAN Settings  
WLAN Access  
**WDS Bridge**  
Guest Networks

**WDS Bridge**

Please make sure the devices' WLAN channel, SSID name, WLAN security mode, WLAN password should be consistent before WDS connection. WLAN settings can be checked and configured in webpage Home Network->Basic WLAN Settings. All the devices of WDS connection should be configured as different maintenance IP address in case of IP address conflict. Please make sure that only one WDS device can switch on the DHCP server. LAN settings can be checked and configured in webpage Home Network->LAN. If Access option is disabled the user can not connect with the Gateway using primary SSID.

**2.4 GHz frequency band**

Enable: ☒  
Enable Access: ☒

Channel: 1

WLAN MAC Address: EC:23:3D:E0:5E:B4

Remote Bridge MAC Address1: [ ] : [ ] : [ ] : [ ] : [ ] : [ ]  
Remote Bridge MAC Address2: [ ] : [ ] : [ ] : [ ] : [ ] : [ ]  
Remote Bridge MAC Address3: [ ] : [ ] : [ ] : [ ] : [ ] : [ ]  
Remote Bridge MAC Address4: [ ] : [ ] : [ ] : [ ] : [ ] : [ ]

Scan Save



You can also click **Scan**, then the wireless MAC address in the list of scanned wireless LAN, and then add it.

## 8 Maintenance Guide

### Changing the IP Address Used to Log In to the Web Management Page

The IP address used to log in to the WS329 web management page is the WS329 IP address. For security or other purposes (for instance, if the default WS329 IP address conflicts with that of another device on the same network), you can change the WS329 IP address.

1. Log in to the web management page.
2. Choose **Home Network** tab.
3. In the navigation tree, choose **LAN Interface**.
4. Select **LAN Interface Settings** configuration page.
5. In **IP address**, enter a new IP address (Such as: 192.168.6.1).
6. Click **Save**.

The screenshot shows the WS329 web management interface. At the top, there are four tabs: Home, Internet, Home Network (selected), and Maintain. On the left, a navigation tree lists: LAN Devices, LAN Interfaces (selected), WLAN Settings, WLAN Access, WDS Bridge, and Guest Networks. The main content area is titled 'LAN Interfaces' and contains a description: 'Your computer connects to a LAN interface to access the Internet. You can adjust the interface parameters according to LAN IP address allocation.' Below this are two expandable sections: 'LAN Interface Status' and 'LAN Interface Settings' (selected). The 'LAN Interface Settings' section contains three input fields: 'IP address' (192.168.6.1), 'Server subnet mask' (255.255.255.0), and 'Device name' (mediarouter). A 'What's this?' link is next to the IP address field. Below the fields is a link: 'Access the router from: mediarouter.home'. At the bottom right is a 'Save' button.



"192.168.2.1" can not be used to configure the IP address.

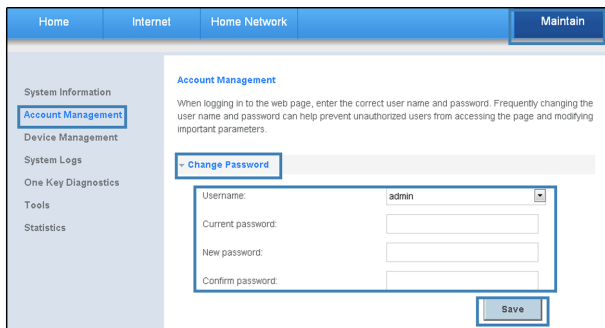
After changing the WS329's IP address, you need to reconnect your PC for new IP address. Use the new IP address to log in to the web management page. Use the new IP address to log in to the web management page.

### Changing the Web Management Page User Name and Password

The correct user name and password are required to log in to the web management page. Regular changes to the web management page user name and password can effectively prevent unauthorized users from logging in and modifying important parameters.

1. Log in to the web management page.
2. Choose **Maintain** tab.

3. In the navigation tree, choose **Account Management**.
4. Select **Change Password** configuration page.
5. In **Username**, Select the user account you want to modify.
6. In **Current password**, enter the currently used password.
7. In **New password**, enter a new password, in **Confirm password**, enter the new password again.
8. Click **Save**.



After the user name and password are changed, the login page is displayed. Enter your new user name and password to log in.



If you forget the password, you can restore the default settings by pressing and holding the **WLAN/WPS** button on the rear panel of the WS329 for over 20 seconds. The user name and password used for logging in to the web management page are then restored to their default values. After the WS329 is restored to its default settings, all user customized data will be lost. Perform this operation with caution.

## Configuration Backup

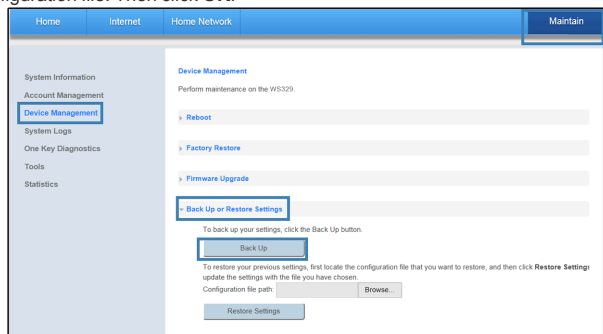
WS329's backup configuration function is applicable to the following scenario: When updating the configuration parameters fails or when you want to quickly restore the router to the familiar configuration state. It is recommended that you regularly back up WS329's configuration file to help you quickly restore the desired configuration parameters.



Before modifying WS329's configuration parameters for another time, backup its configuration file.

1. Log in to the web management page.
2. Choose **Maintain** tab.
3. In the navigation tree, choose **Device Management**.

4. Select **Device Management** > **Back Up or Restore Settings** configuration page.
5. Click **Back Up**, in the displayed dialog box, set the name and storage location of the configuration file. Then click **OK**.



Please save the WS329's configuration file and remember its storage location for necessary.

For example, if you need to use the WS329 in different network environments always, you can configure the relevant parameters in these network environments and back up them carefully.

If you want to change the network environment later, you can import the configuration file directly to restore the default configuration without any configuration again.

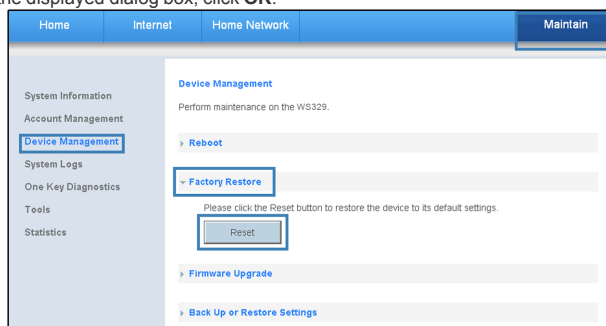
## Restoring Default Settings

### Using the Configuration Tool

If the WS329 parameter settings were configured incorrectly, log in to the web management page to reload the default configuration file and restore the WS329 to its default settings. Perform this operation with caution. After the WS329 is restored to its default settings, all custom data and settings will be lost, and the password will be restored to admin.

1. Log in to the web management page.
2. Choose **Maintain** tab.
3. In the navigation tree, choose **Device Management**.
4. Select **Factory Restore** configuration page.
5. Click **Reset**.

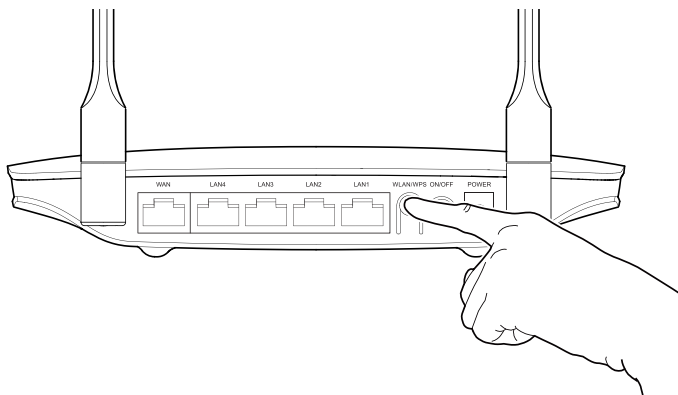
6. In the displayed dialog box, click **OK**.



## Using the Reset Button

If you forget the login password to the web management page or could not access the web management page, use the reset button on the WS329 rear panel to restore the WS329 to its default settings. Perform this operation with caution. After the WS329 is restored to its default settings, all custom data and settings will be lost, and the password will be restored to admin.

1. Press the WS329 power button to power the WS329 on.
  2. Press and hold WLAN/WPS button (more than 20 seconds).
- The WS329 will restart, which will cause temporary network interruptions.



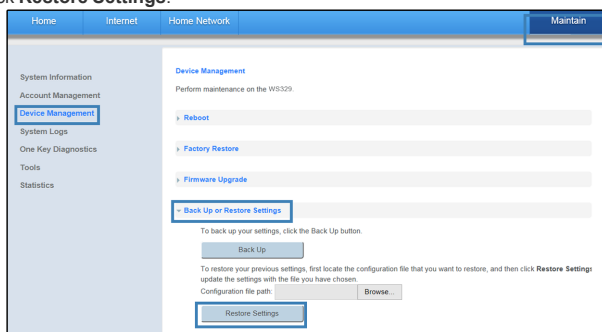
After the WS329 is restored to its default settings, change the computer IP address so that it is in the same network segment as the 192.168.3.1 default IP address.

## Restoring Configuration by Importing Backup File

If your operations fail after multiple configurations or you want to quickly restore the WS329 to the familiar configuration state, you can upload the backup configuration file to restore the configuration.

Please regularly back up WS329's configuration file to your computer. For example, back up WS329's configuration file before updating its configuration parameters or before restoring it to the factory default settings.

1. Log in to the web management page.
2. Choose **Maintain** tab.
3. In the navigation tree, choose **Device Management**.
4. Select **Device Management > Back Up or Restore Settings** configuration page.
5. Click **Browse...**. In the displayed dialog box, select the backup configuration file.
6. Click **Restore Settings**.



During importing the configuration file, do not power off the WS329; otherwise, the restoring of the WS329 to the normal state may fail.

7. Then the WS329 automatically restarts to make the new configuration file useful.

## Upgrading Firmware

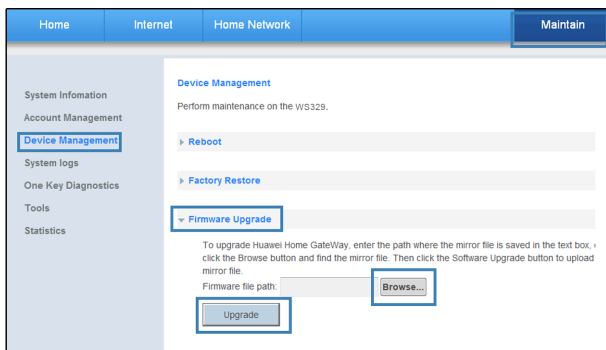
The WS329 supports upgrade firmware through the web management page. Before upgrading the firmware, please download the latest firmware of the WS329 at the Huawei's official website.



To avoid any damage to the WS329, do not power off the WS329 when it is being upgraded.

1. Log in to the web management page.
2. Choose **Maintain** tab.
3. In the navigation tree, choose **Device Management**.
4. Select **Firmware Upgrade** configuration page.
5. Click **Browse...**, and select the latest firmware you download at the Huawei's official website.
6. Click **Upgrade**.





## 9 Reference Operations

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### Enabling Wireless Configuration on Windows

#### On Windows XP

1. Right-click **My Computer** and choose **Manage** from the shortcut menu.
2. In the left pane of the **Computer Management** window, choose **Computer Management (Local) > Services and Applications > Services**.
3. In the right pane of the **Computer Management** window, right-click **Wireless Zero Configuration** and choose **Properties** from the shortcut menu.
4. In the displayed dialog box, check that **Service status** is **Started**.
5. Click **OK** to close the dialog box. Then close the **Computer Management** window.

#### On Windows 7 or Windows Vista

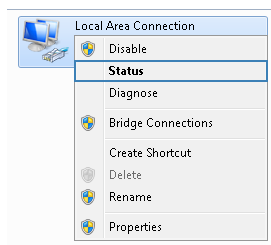
1. Right-click **Computer** and choose **Manage** from the shortcut menu.
2. In the left pane of the **Computer Management** window, choose **Computer Management (Local) > Services and Applications > Services**.
3. In the right pane of the **Computer Management** window, right-click **WLAN AutoConfig** and choose **Properties** from the shortcut menu.
4. In the displayed dialog box, check that **Service status** is **Started**.
5. Click **OK** to close the dialog box. Then close the **Computer Management** window.

### Checking the Computer MAC Address

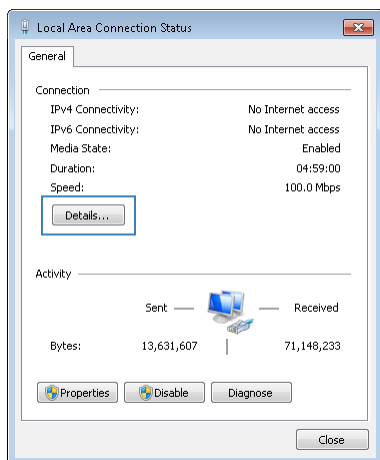
The MAC address, also known as the physical address, is a unique identifier assigned to a network adapter. A MAC address contains six groups of two hexadecimal digits, such as **2C-41-38-8D-75-8D**. This section demonstrates how to check your computer's MAC address.

## On Windows 7

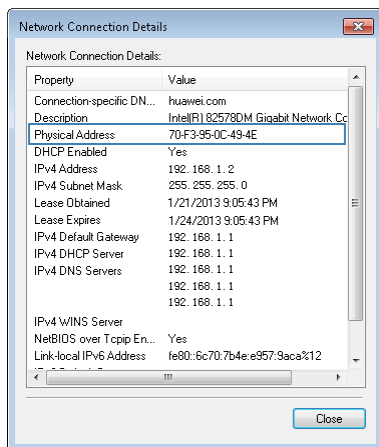
1. Choose **Start > Control Panel > Network and Internet > Network and Sharing Center > Change adapter settings**. Right-click **Local Area Connection** and choose **Status** from the shortcut menu.



2. Click **Details**.

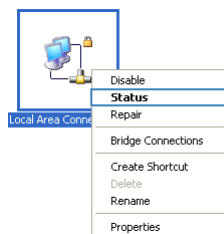


3. In **Network Connection Details**, find the line similar to **Physical Address 70-F3-95-0C-49-4E**. The **70-F3-95-0C-49-4E** string is your computer's MAC address.

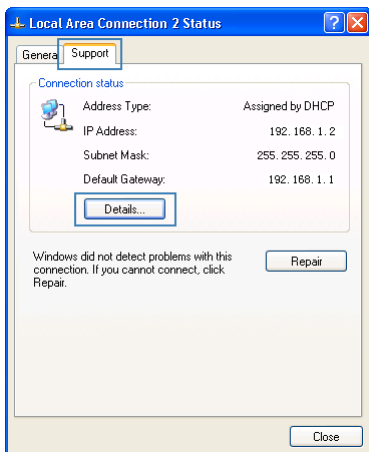


## On Windows XP

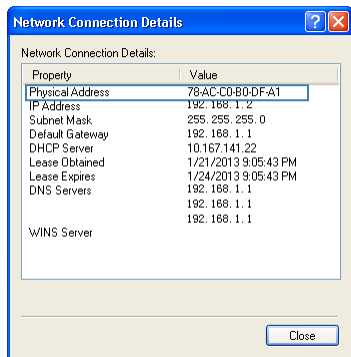
1. Choose **Start > Control Panel > Network and Internet Connections > Network Connections**. Right-click **Local Area Connection** and choose **Status** from the shortcut menu.



2. Click the **Support** tab. Under **Connection status**, click **Details**.



3. In **Network Connection Details**, find the line similar to **Physical Address 78-AC-C0-B0-DF-A1**. The **78-AC-C0-B0-DF-A1** string is your computer's MAC address.



### What Can I Do If I Cannot Open the Web Management Page?

1. Open Internet Explorer. Choose **Tools > Internet Options > Connections > LAN settings**, and ensure that all check boxes are deselected.
2. Check that the computer IP address is 192.168.3.\*. (\* is any integer from 2 to 254.)
3. Check that the cables are securely connected to the WS329 and that the LAN port's indicator is on.
4. Ensure that the user name and password are correct.

If the problem persists, restore the WS329 to its default settings.

### What Can I Do If the WS329 Cannot Access the Internet through a Wireless Network Adapter Sometimes or If the WLAN Connection Is Unsteady?

This is probably because the WS329 has its cables connected loosely, is placed too close to electronic appliances with intensive interference, or is too far from the computer. Verify that:

1. The power and telephone cables are correctly connected to the WS329.
2. Your computer and the WS329 are far from electric appliances that generate strong magnetic or electric fields, such as microwave ovens, refrigerators, and cordless telephones.
3. The WS329 is in an open area, and there are no obstacles, such as concrete or wooden walls, between the WS329 and computer.
4. The WS329 is close to the computer.
5. The angle between the WS329 and computer is appropriate.



Do not use the WS329 during thunderstorms, as the signal strength may be unsteady and the WS329 itself may be damaged due to lightning strikes.

### How Can I Restrict My Computer to Specified Websites?

On the web management page, enable URL filtering and set up a URL whitelist. Your computer can then access only the websites specified in the URL whitelist.

### I Often Need to Restart the WS329 to Display Web Pages. What Can I Do?

Verify the following:

1. Cables are securely connected to WS329 ports. Otherwise, network stability may suffer.
2. Your computer and the WS329 are far from electric appliances that generate strong magnetic or electric fields, such as microwave ovens, refrigerators, and cordless telephones.

If the problem persists, contact your Internet Service Provider.

## Can I Change the WLAN Password?

Yes. To improve your WLAN security, regularly change your WLAN password.

# 11 Appendix

## Technical Specifications

Item	Specifications	
Power supply	12 V DC, 0.5 A	
Power consumption	< 6 W	
Ambient operating temperature	0°C to 40°C	
Ambient humidity	5% to 95% RH (non-condensing)	
Dimensions (H x W x D)	32 mm x 180 mm x 126 mm (1.26 in. x 7.09 in. x 4.96 in.), antenna excluded	
Weight	About 200 g	
WLAN standard	802.11b, 802.11g, 802.11n (2.4GHz)	
Wireless transmission rate(2.4G)	802.11b	Up to 11 Mbit/s
	802.11g	Up to 54 Mbit/s
	802.11n (2T2R antenna technology)	Up to 300 Mbit/s

## Default Settings

Parameter	Default Value
LAN port IP address	192.168.3.1
LAN port subnet mask	255.255.255.0
User name to log in to the web configuration page	admin
Password to log in to the web configuration page	admin
WLAN name	Labeled on the product cover
WLAN password	Labeled on the product cover



Parameter	Default Value
Dynamic Host Configuration Protocol (DHCP) server	Enabled
WLAN	Enabled

## 12 For More Help

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Please visit [www.huaweidevice.com/worldwide/support/hotline](http://www.huaweidevice.com/worldwide/support/hotline) for recently updated hotline and email address in your country or region.

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