ZXDSL 931WII

VDSL2 Modem

Maintenance Management Manual

Version: 3.1

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LEGAL INFORMATION

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Contents

About This Manual

Purpose

The ZXDSL 931WII is a VDSL2 access device that supports multiple transmission modes. It provides 4 FE Ethernet interfaces, one USB 2.0 interface, and one IEEE 802.11 b/g/n Wi-Fi interface. The ZXDSL 931WII provides broadband Internet service and enterprise network access service through the high-speed DSL or 3G wireless access mode.

Moreover, the ZXDSL 931WII provides secure wireless encryption modes and firewall to protect network security and supports remote network management through TR-069 and Web GUI.

Intended Audience

This document is intended for:

- Network planning engineer
- Installation debugging engineer
- On-site maintenance engineer
- Network monitoring engineer
- System maintenance engineer
- Data configuration engineer

What Is in This Manual

This manual contains the following chapters:

Chapter	Summary
Chapter 1, Safety Precautions	Provides the safety precautions for this manual.
Chapter 2, Overview	Provides the product packing list, product features, interfaces, indicators, and technical specifications.
Chapter 3, Configuration Preparation	Describes the hardware connection, TCP/IP configuration, and login procedure.
Chapter 4, Status	Describes how to view the device status.
Chapter 5, Network	Describes the network configuration, including broadband configuration, WLAN configuration, address management, routing management, and IPv6 management.
Chapter 6, Security	Describes the configuration of the firewall, IP filter, MAC filter, parent control, and access control.

Chapter	Summary
Chapter 7, Application	Describes the configuration of DDNS, DMZ, UPnP, UPnP port mapping, port forwarding, DNS service, QoS, SNTP, IGMP, MLD, DMS, FTP application, dynamic routing, and port triggering.
Chapter 8, Administration	Describes the configuration of TR-069, user management, system management, log management, mobile network management, diagnosis, and WAN type.

Conventions

ZTE documents employ the following typographical conventions.

Typeface	Meaning
Italics	References to other Manuals and documents.
“Quotes”	Links on screens.
Bold	Menus, menu options, function names, input fields, radio button names, check boxes, drop-down lists, dialog box names, window names.
CAPS	Keys on the keyboard and buttons on screens and company name.
	Note: Provides additional information about a certain topic.
	Checkpoint: Indicates that a particular step needs to be checked before proceeding further.
	Tip: Indicates a suggestion or hint to make things easier or more productive for the reader.

Mouse operation conventions are listed as follows:

Typeface	Meaning
Click	Refers to clicking the primary mouse button (usually the left mouse button) once.
Double-click	Refers to quickly clicking the primary mouse button (usually the left mouse button) twice.
Right-click	Refers to clicking the secondary mouse button (usually the right mouse button) once.

Chapter 1
Safety Precautions

Before using the device, read the following safety precautions. ZTE bears no liability to the consequences incurred by violation of the safety instructions.

- Read the user manuals before using the device.
- Pay attention to all the cautions in the user manuals and on the product.
- To avoid fire or product damage, do not use accessories that are not related to this product.
- Use the power adapter delivered with the device.
- Do not put anything on the device.
- Keep the device dry, clean, and well-ventilated.
- In thunder days, disconnect the device from the power supply to avoid thunder attack.
- Use soft and dry cloth to clean the device. Do not use liquid or spray to clean the device. Before cleaning the device, disconnect the power supply.
- Keep the air vent clean. Anything that dropping down into the device through the air vent may cause short circuit and lead to device damage or fire.
- Keep any liquid away from the device surface.
- Do not open the shell of the device, especially when the device is powered ON.

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Chapter 2
Overview

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2.1 Product Introduction

The ZXDSL 931WII is a VDSL2 service access device. The ZXDSL 931WII provides the broadband Internet service and enterprise network access service through the high-speed DSL or 3G wireless access mode. The ZXDSL 931WII provides four 10/100Base-T Ethernet user interfaces and the wireless access function that complies with the IEEE 802.11b/g/n standard.

2.2 Packing List

After opening the ZXDSL 931WII packing box, make sure that it contains the following components, as listed in Table 2-1.

Table 2-1 Packing List

Item	Name	Quantity
	ZXDSL 931WII unit	1
	AC-DC power adapter	1

Item	Name	Quantity
	Separator	1
	RJ-45 network cable	1
	RJ-11 telephone cable	2

The *ZXDSL 931WII VDSL2 Modem Maintenance Management Manual* is delivered with the product.

If any of the components are incorrect, lost, or damaged, contact the product agency. If you want to change the product, keep the packing box and components.

2.3 Product Features

The ZXDSL 931WII supports the following features:

- Four 10/100 Mbps Ethernet interfaces
- Network configuration through friendly GUI
- IPSec VPN
- DHCP server functions
- Compatible with all the Internet standard applications
- Standard and compatible DSL interface
- Virtual server, IP address filter, and DMZ function
- System configuration in web mode
- Software upgrade through download
- Upstream modes includes ADSL, ADSL2, ADSL2+, and VDSL2, LAN, and 3G WCDMA.
- PPPoE, IPoE, and StaticIP sessions, each mode supporting up to eight sessions
- RIP v1, RIP v2, and NAT protocol
- Wireless LAN IEEE 802.11b, 802.11g, and 802.11n protocols

2.4 Interfaces

Figure 2-1 shows the ZXDSL 931WII interfaces and buttons.

Figure 2-1 Interfaces and Buttons

Table 2-2 lists the description of the ZXDSL 931WII interfaces and buttons.

Table 2-2 Interfaces and Buttons

Interface/Button	Description
PWR	12V DC power connector
On/Off	Power button
Reset	Reset button When the power is on, use a needle to press the button for over 10 seconds to restore the default settings.
WPS	WPS access switch
WLAN	WLAN button, switch on/off WLAN
USB	USB HOST port, connected to the storage device or 3G USB network card
LAN1–LAN4	RJ-45 Ethernet interfaces
DSL	RJ-11 DSL interface

2.5 Indicators

Table 2-3 lists the indicators on the front panel.

Table 2-3 Indicators on the Front Panel

Indicator	Color	Status	Description
Power	Green/Red	OFF	The device is powered OFF.
	Red	ON	The device is powered ON but fails to work properly.
	Green	ON	The device is powered ON and works properly.

Indicator	Color	Status	Description
WPS	Green	OFF	The WPS connection is complete.
		Flashing slowly	The WPS connection is being established.
		ON	The WPS connection is successful.
		Flashing fast	The WPS connection fails.
DSL	Green	OFF	The device is powered OFF or the line has no signal.
		Flashing	The DSL connection tries synchronization and training.
		ON	The DSL connection is in synchronization state.
Internet	Green	OFF	The device is powered OFF or the DSL connection is not synchronized.
		Flashing	There is upstream or downstream data flow passing through the user-end device.
		ON	The WAN connection is established.
USB	Green	OFF	NO USB storage device is connected.
		ON	• A USB storage device is connected to the USB port. • A 3G network card is connected to the USB port.
WLAN	Green	OFF	No SSID is working.
		Flashing	At least one SSID is transmitting data.
		ON	At least one SSID works properly.
LAN 1–LAN 4	Green	OFF	The device is powered OFF. No network cable is connected to the device or no online user-end device is connected to the user-side interface.
		ON	The user-side interface is connected to a user-end device and works properly.
		Flashing	There is data flow passing through the user-side interface.

2.6 Technical Specifications

Table 2-4 lists the ZXDSL 931WII technical specifications.

Table 2-4 Technical Specifications

Item	Specification
Dimension	200 mm × 40 mm × 141 mm (Width × Height × Depth)
Rated current	1.5 A
Rated voltage	DC 12 V
Operation temperature	0℃–40℃
Operation humidity	20%–90%
Storage temperature	20℃–70℃
Storage humidity	5%–95%

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Chapter 3
Configuration Preparation

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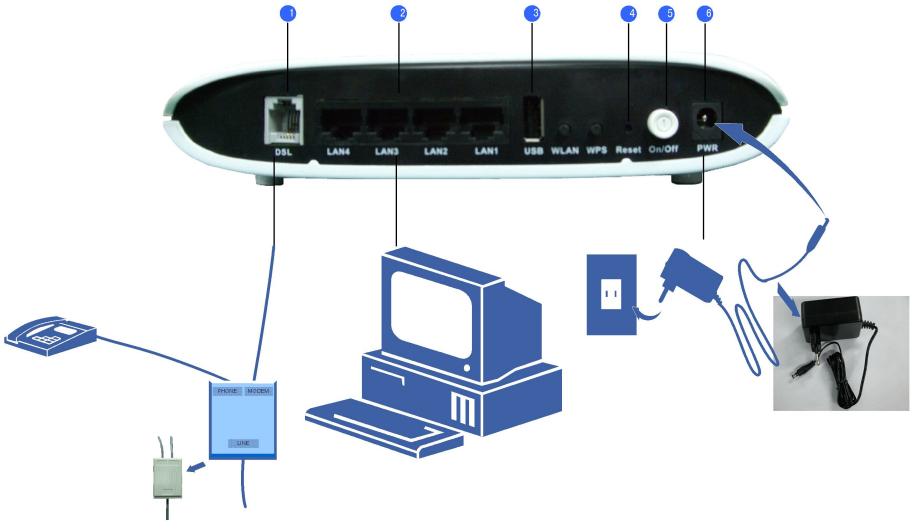
3.1 Hardware Connection

Figure 3-1 shows the entire connection between the ZXDSL 931WII and other devices.

Figure 3-1 Entire Connection

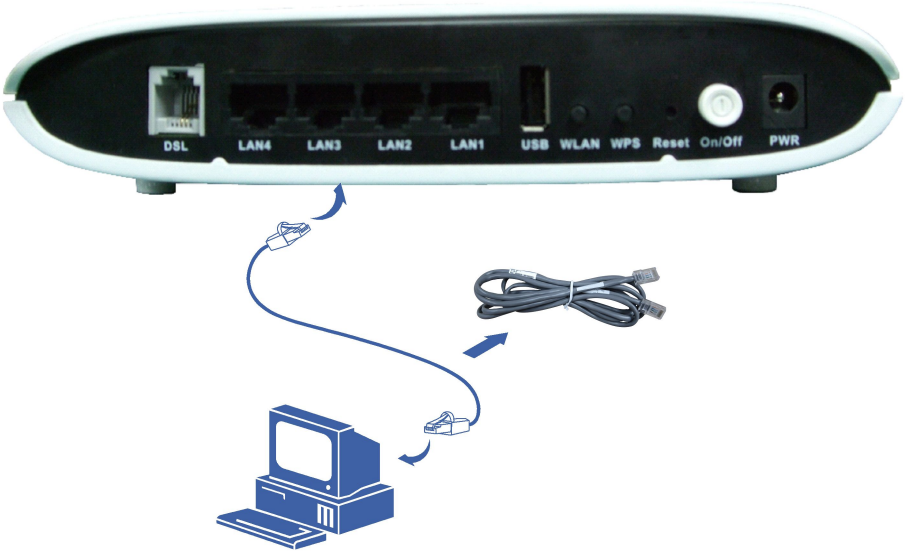


1. DSL interface
2. LAN interface
3. USB interface
4. Reset button
5. Power button
6. Power interface

The connections between the ZXDSL 931WII and other devices are as follows:

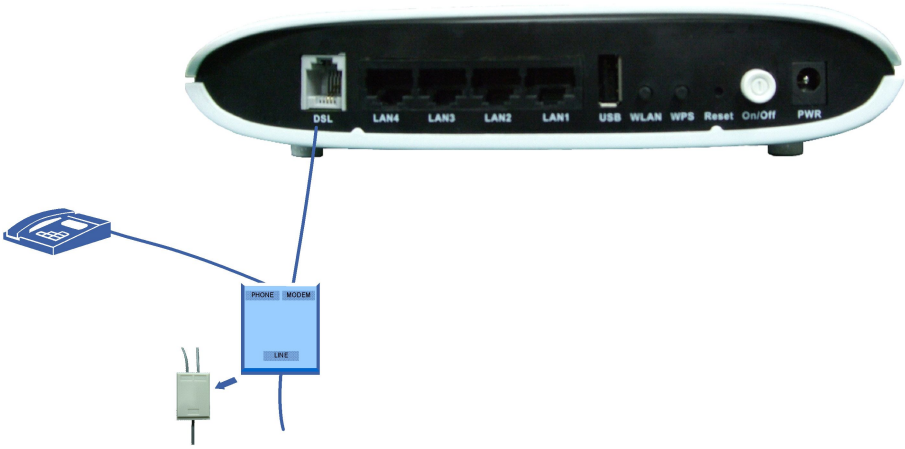
- Figure 3-2 shows the connection between the ZXDSL 931WII and the computer.

Figure 3-2 LAN Interface Connection



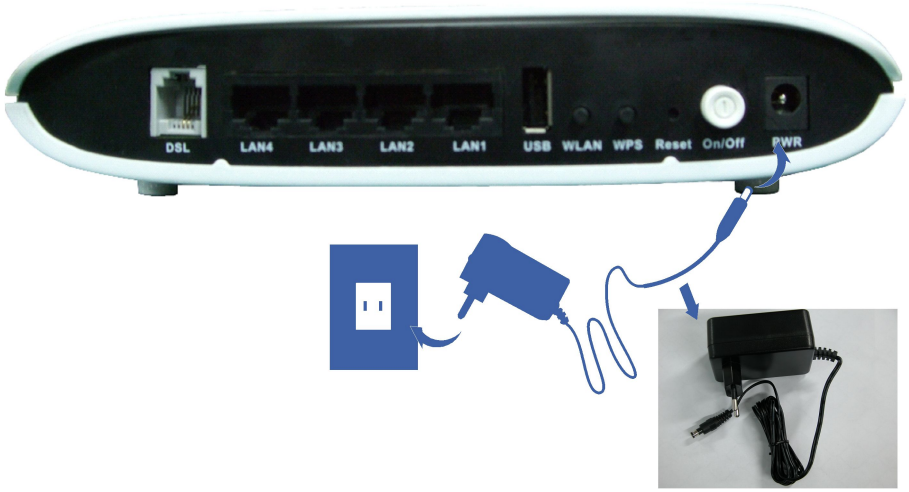
- Figure 3-3 shows the connection between the ZXDSL 931WII and the separator.

Figure 3-3 Separator Connection



- Figure 3-4 shows the connection between the ZXDSL 931WII and the power supply.

Figure 3-4 Power Supply Connection



To supply power for the device, press the power button, as shown in Figure 3-5.

Figure 3-5 Pressing the Power Button

When the ZXDSL 931WII DSL indicator is ON, you can access the Internet.

3.2 Configuring TCP/IP

Short Description

Perform this procedure to configure TCP/IP.

Context

To ensure that the device accesses the Internet successfully, configure the computer address in the same network segment as the ZXDSL 931WII address.

The default network settings for the ZXDSL 931WII are as follows:

- IP address: 192.168.1.1
- Subnet mask: 255.255.255.0
- Default gateway: 192.168.1.1

To configure TCP/IP, perform the following steps:

Steps

1. Configure TCP/IP.
   a. In **Local Area Connection Properties**, select **Internet Protocol (TCP/IP)**.
   b. Click **Properties** to open the **Internet Protocol (TCP/IP) Properties** dialog box.
   c. In the **Internet Protocol (TCP/IP) Properties** dialog box, select **Use the following IP address**. Set **IP address**, **Subnet mask** and **Default gateway**. Set the computer IP address to be in the same network segment as the device address, for example, 192.168.1.7. The subnet mask is 255.255.255.0 and the default gateway is 192.168.1.1.
   d. Click **OK**.

   NOTE **Note:**

   The settings change with different network requirements. However, perform the steps above at the first time.

2. Check the TCP/IP settings.

   You can use the **Ping** command to check the connection between the computer and device.

   If the computer fails to ping the device, check the following items:

   - The Ethernet cable between the device and the computer is correctly connected.
   - The driver program of the network adapter on the computer is correctly installed.
   - The LAN indicator on the device and the network card indicator on the computer are ON.
   - The TCP/IP settings on the computer are correct.

– End of Steps –

Result

TCP/IP is configured successfully.

3.3 Logging In to the Device

Short Description

Perform this procedure to log in to the device.

Prerequisites

Before this operation, make sure that the device is properly connected and the computer is correctly configured.

Context

The ZXDSL 931WII provides the web-based configuration mode. You can configure and manage the device through the web browser. Different users have different configuration rights, as listed in Table 3-1.

Table 3-1 User Rights

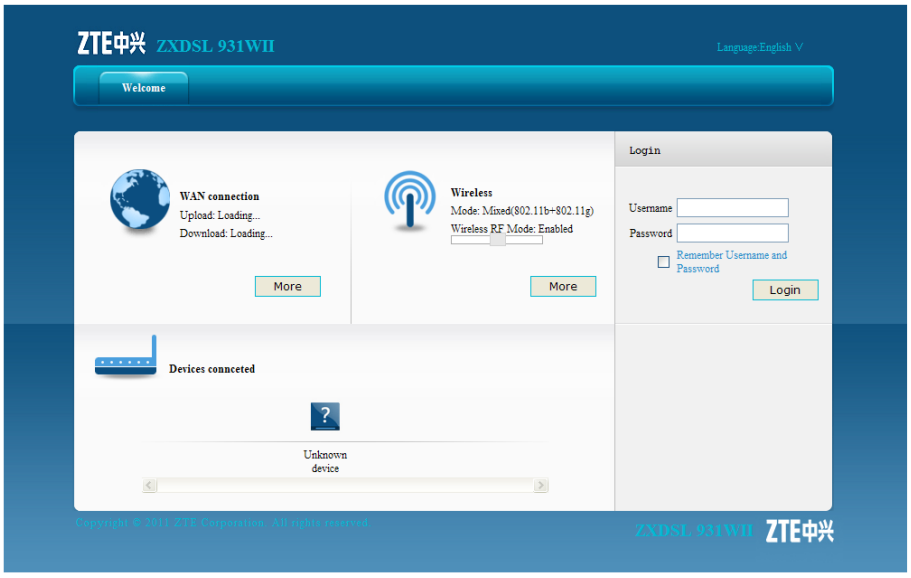
Role	User Name and Password	Right
Administrator	User name: admin Password: admin	All the configuration rights
Common user	User name: user Password: user	The common users only have some view rights.

To log in to the device, perform the following steps:

Steps

1. Open the Internet Explorer.
2. Type `http://192.168.1.1` on the address bar and press **Enter**. The **Welcome** page appears. The **welcome** page displays the information of the WAN connection, wireless connection, and the devices that the ZXDSL 931WII device are connected, as shown in Figure 3-6

Figure 3-6 Login Page



3. In the **Username** and **Password** text boxes, type the user name and password (by default, both are `admin`). Click **Login**, and the home page is displayed by default, as shown in Figure 3-7. You can click the menu bar to open the desired configuration and management page.

Figure 3-7 Home Page

1. Menu bar
2. Configuration and management area
3. Help area

NOTE **Note:**

The Web configuration pages may vary with the software versions. The configuration pages for the administrator and user accounts are different. The administrator account is used as an example in this manual.

– End of Steps –

Result

You have logged in to the device successfully.

Chapter 4
Status

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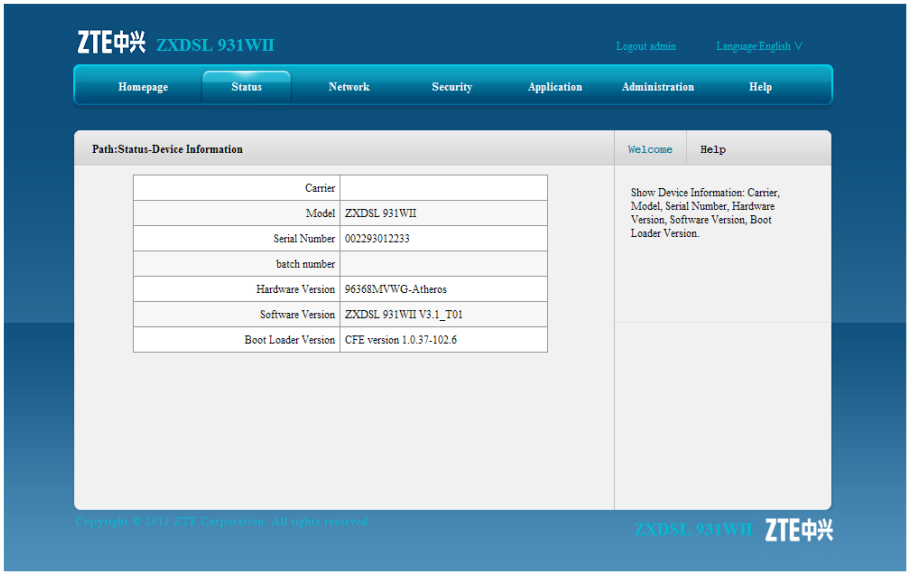
4.1 Device Information

On the menu bar, click **Status > Device Information**. The device information is displayed, as shown in Figure 4-1.

Figure 4-1 Device Information



4.2 Network Interface

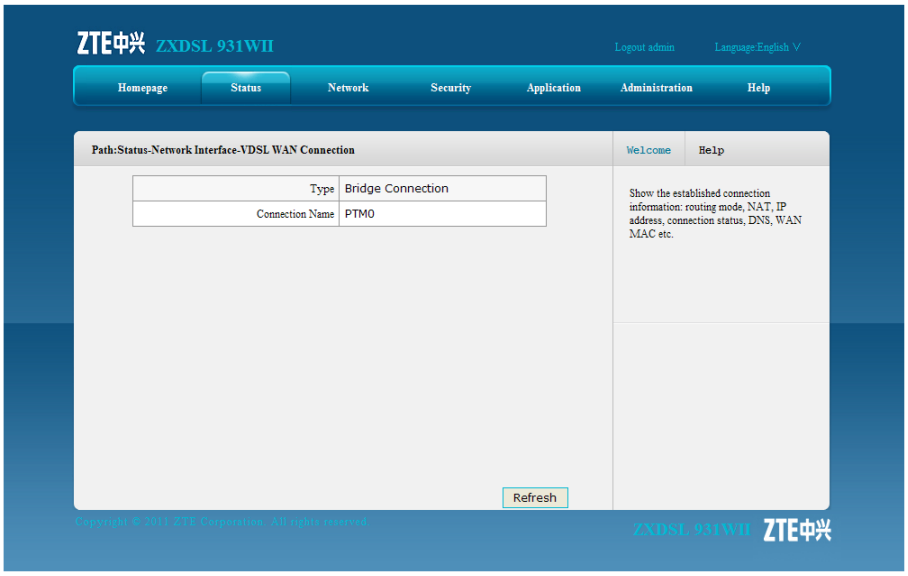
This section includes the following:

- VDSL WAN connection
- 3G status
- ADSL WAN connection
- Mobile network
- DSL link information

4.2.1 VDSL Connection

On the menu bar, click **Status > Network Interface > VDSL WAN Connection**. The VDSL WAN connection page is displayed, as shown in Figure 4-2.

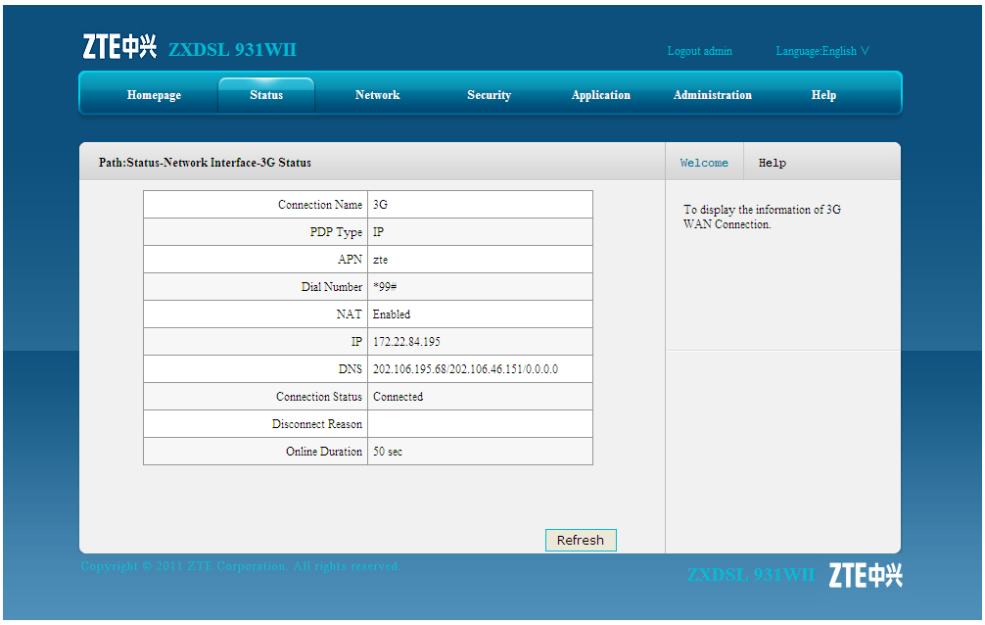
Figure 4-2 VDSL WAN Connection



4.2.2 3G Status

On the menu bar, click **Status > Network Interface > 3G Status**. The 3G status page is displayed, as shown in Figure 4-3.

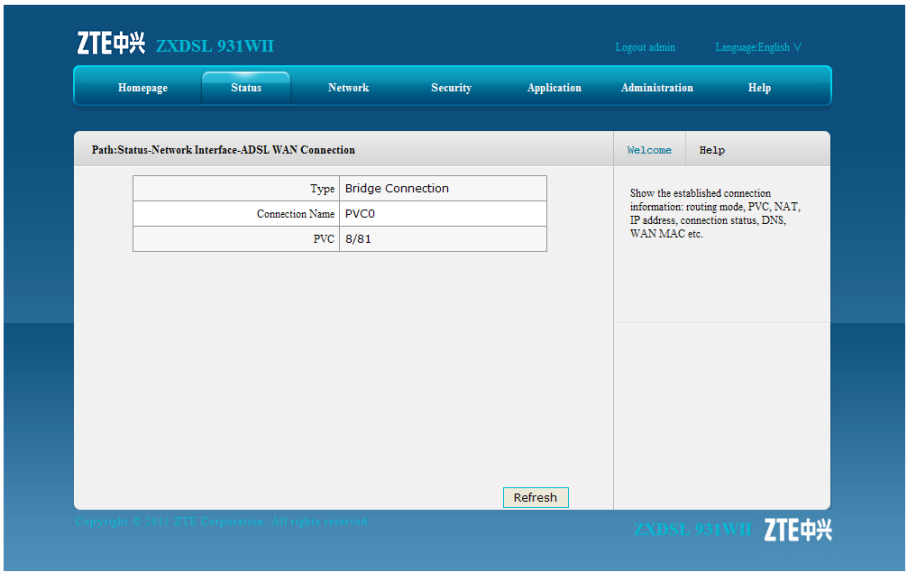
Figure 4-3 3G Status



4.2.3 ADSL WAN Connection

On the menu tree, click **Status > Network Interface > ADSL WAN Connection**. The ADSL WAN connection page is displayed, as shown in Figure 4-4.

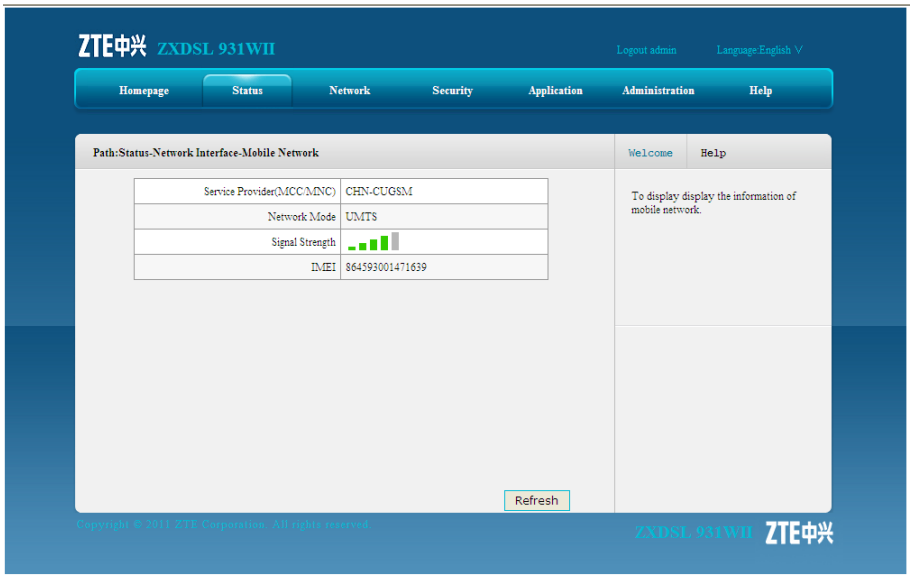
Figure 4-4 ADSL WAN Connection



4.2.4 Mobile Network

On the menu tree, click **Status > Network Interface > Mobile Network**. The mobile network page is displayed, as shown in Figure 4-5.

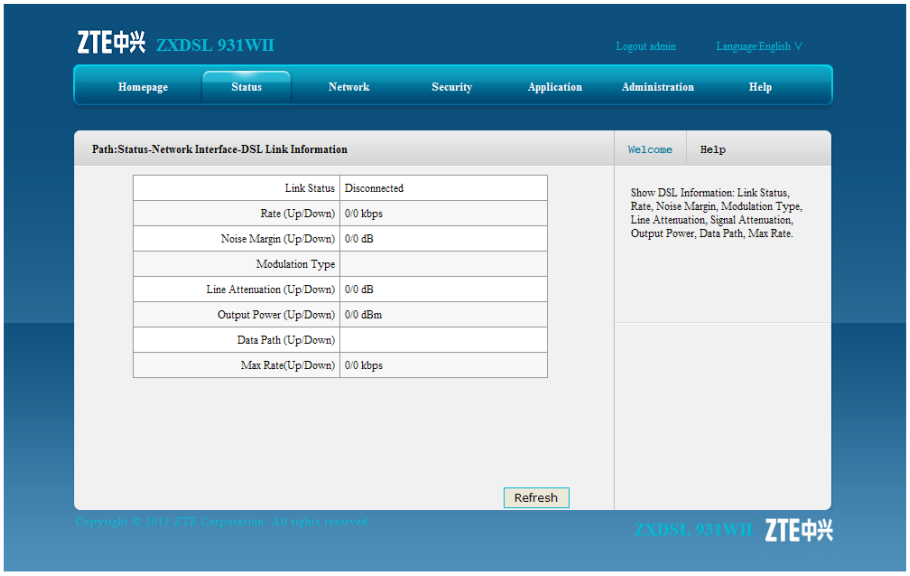
Figure 4-5 Mobile Network



4.2.5 DSL Link Information

On the menu tree, click **Status > Network Interface > DSL Link Information**. The DSL link information page is displayed, as shown in Figure 4-6.

Figure 4-6 DSL Link Information



4.3 User Interface

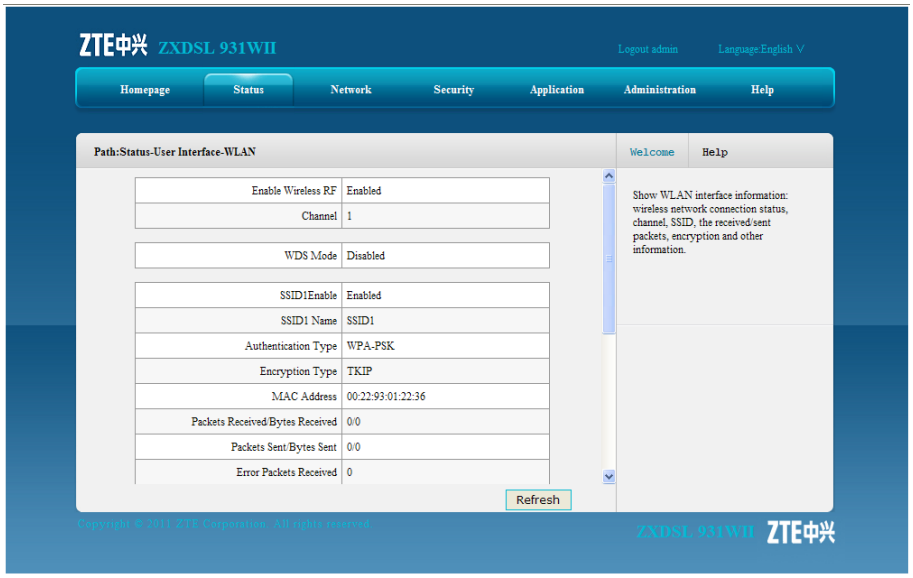
This section includes the following:

- WLAN
- Ethernet
- USB

4.3.1 WLAN

On the menu tree, click **Status > User Interface > WLAN**. The WLAN information page is displayed, as shown in Figure 4-7.

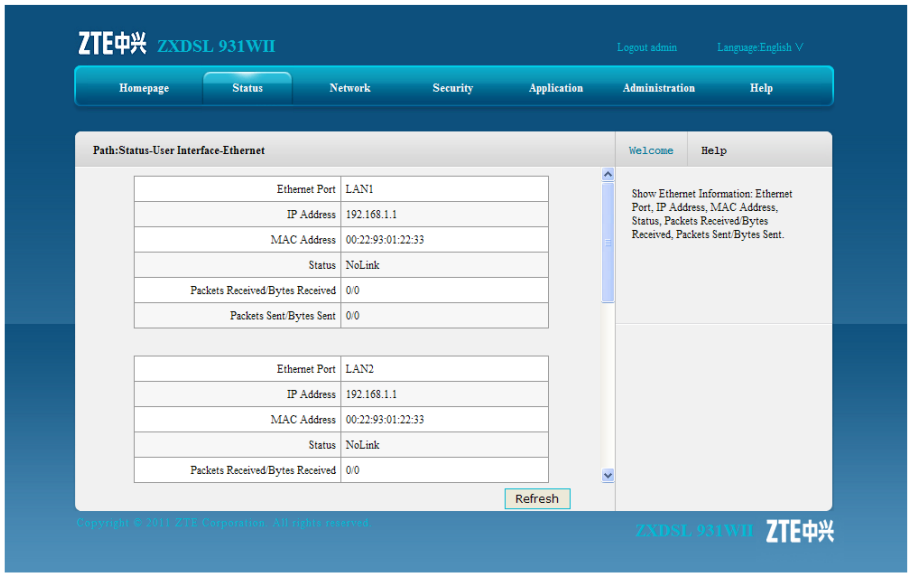
Figure 4-7 WLAN



4.3.2 Ethernet

On the menu bar, click **Status > User Interface > Ethernet**. The Ethernet page is displayed, as shown in Figure 4-8.

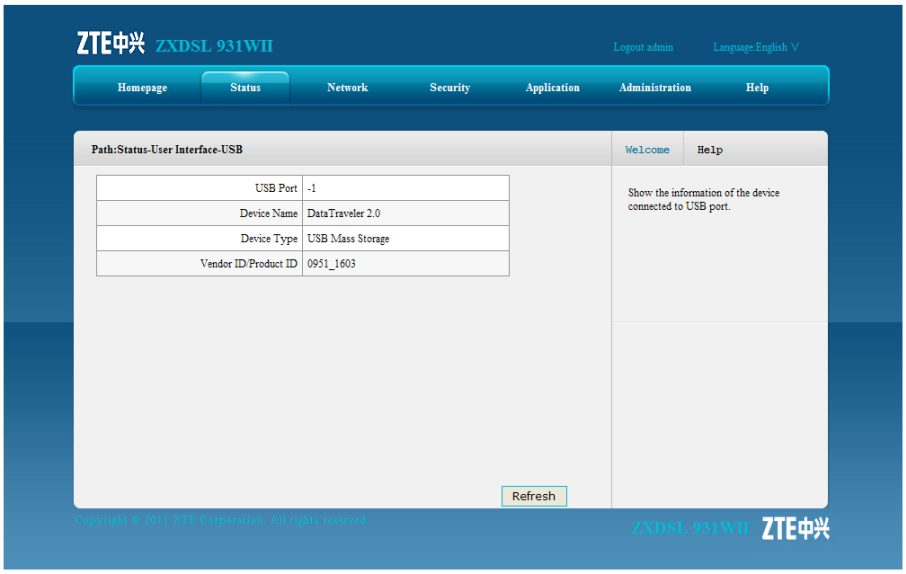
Figure 4-8 Ethernet



4.3.3 USB

On the menu bar, click **Status > User Interface > USB**. The USB page is displayed, as shown in Figure 4-9.

Figure 4-9 USB



Chapter 5
Network

Table of Contents

5.1 WAN

This section includes the following:

- VDSL WAN connection
- 3G WAN connection
- ADSL connection settings
- Port binding
- DSL modulation

5.1.1 VDSL Connection Settings

Short Description

Perform this procedure to configure the VDSL connection.

Context

The ZXDSL 931WII supports the following VDSL connection types:

- PPPoE
- Static
- IPoE
- Bridge

The ZXDSL 931WII supports eight WAN connections, including 3G WAN connection and ADSL WAN connection.

Steps

1. On the menu bar, click **Network > WAN > VDSL WAN Connection** to open the VDSL WAN connection page, as shown in Figure 5-1.

Figure 5-1 VDSL WAN Connection

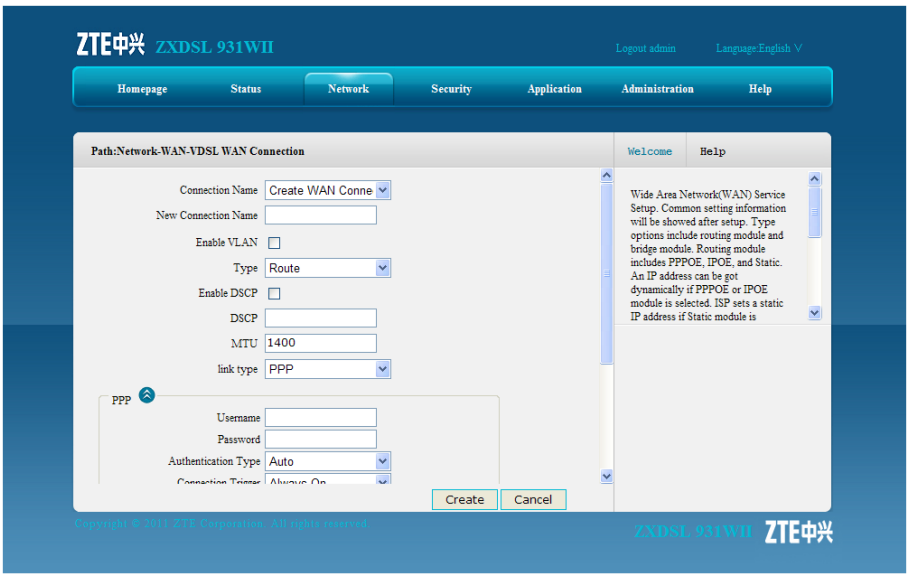


Table 5-1 describes the parameters of VDSL WAN connection.

Table 5-1 VDSL WAN Connection Parameter

Parameter	Description
Connection name	The default is **Create WAN Connection**. Before creating a new connection, make sure the **Create WAN Connection** option is selected.
New Connection Name	Specify the name of the new WAN connection.
Enable VLAN	Enable the VLAN.
VLAN ID	Specify the VLAN ID.
802.1p	After the **VLAN** option is selected, you can specify the 802.1p value to modify the service priority. The service priority range: 0–7
Type	Connection type ● Route ● Bridge Connection
Enable DSCP	This function is used together with the QoS function. Enable it as required.
DSCP	The value range is 0–63.
MTU	Specify the maximum transfer unit.
Link type	There are two link types: ● PPP ● IP
Username	PPPoE user name provided by the ISP

Parameter	Description
Password	PPPoE password provided by the ISP
Authentication Type	The authentication type includes **Auto**, PAP, and CHAP. By default, it is **Auto**.
Connection Trigger	There are three connection trigger modes: ● Always On: When the device is started or gets offline, the system triggers PPPoE dialing automatically. ● On Demand: The system triggers PPPoE dialing on demand. ● Manual: The system triggers PPPoE dialing manually.
IP Version	The IP version includes: ● IPv4 ● IPv6 ● IPv4/v6
IP Type	The IP type includes: ● Static ● DHCP
PPP TransType	The transmission type of the point to point protocol
Enable NAT	When multiple computers in a LAN share one IP address to visit the Internet, NAT is used to transfer the private network address to the public network address of the WAN port.
IP Address	The IP address provided by the ISP
Subnet Mask	The subnet mask provided by the ISP
Gateway	The gateway address provided by the ISP
DNS Server IP Address	The DNS address provided by the ISP

2. Specify the WAN connection parameters as required.
   - To setup a bridge connection, perform the following steps.
     i. Select **Bridge Connection** from the **Type** drop-down list
     ii. Specify other parameters as required, and then click **Create**.
   - To setup a PPPoE connection, perform the following steps.
     i. Select **Route** from the **Type** drop-down list.
     ii. Select **PPP** from the **Link type** drop-down list.
     iii. Specify the user name and password in the **PPP** area
     iv. Specify other parameters as required, and then click **Create**.
   - To setup a static connection, perform the following steps.
     i. Select **Route** from the **Type** drop-down list.
     ii. Select **IP** from the **Link type** drop-down list.

iii. Select **Static** from the **IP Type** drop-down list.

iv. Specify the IP address, subnet mask, gateway, and DNS server in the **IPv4** area

v. Specify other parameters as required, and then click **Create**.

- To setup an IPoE connection, perform the following steps.

i. Select **Route** from the **Type** drop-down list.

ii. Select **IP** from the **Link type** drop-down list.

iii. Select **DHCP** from the **IP Type** drop-down list.

iv. Specify other parameters as required, and then click **Create**.

– End of Steps –

Result

The newly-created WAN connection is displayed in the **Connection Name** drop-down list.

5.1.2 3G WAN Connection

Short Description

Perform this procedure to configure the 3G WAN connection

Context

The ZXDSL 931WII device supports 3G WAN connection by using the 3G USB network card.

Steps

1. On the menu bar, click **Network > WAN > 3G WAN Connection** to open the 3G WAN connection page, as shown in Figure 5-2.

Figure 5-2 3G WAN Connection

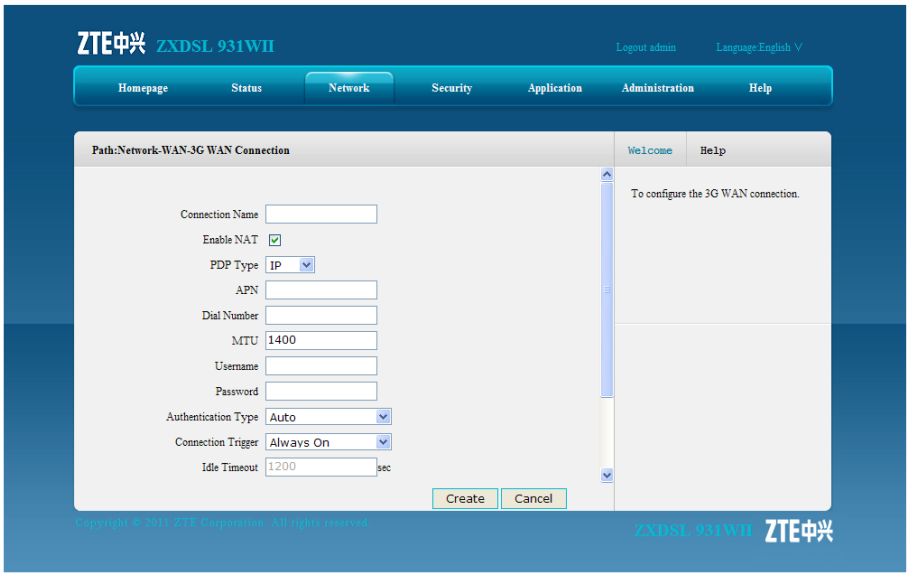


Table 5-2 describes the parameters of the 3G WAN connection.

Table 5-2 3G WAN Connection Parameter

Parameter	Description
Connection Name	3G WAN connection name
Enable NAT	When multiple computers in a LAN share one IP address to visit the Internet, NAT is used to transfer the private network address to the public network address of the WAN port.
PDP Type	There are two options: **IP** and **PPP**.
APN	Access point name, provided by the ISP
Dial Number	Dial number, provided by the ISP
MTU	Specify the maximum transfer unit.
Username	User name provided by the ISP
Password	Password provided by the ISP
Authentication Type	There are three options: **Auto**, PAP and CHAP. By default, it is **Auto**. The authentication type should be the same as the authentication type for the upper-layer device.

Parameter	Description
Connection Trigger	There are three connection trigger modes: ● Always On: The device will automatically dial up after the device is powered ON or the WAN connection is disconnected. ● On Demand: The device will dial up if there are data transmission requests and the WAN connection will be automatically disconnected after the WAN connection is idle for some time. ● Manual: The user manually dials up
Idle Timeout	Idle time before the dial-up auto disconnection, available only in On Demand mode
WAN Receive	Launch the 3G connection if there is inbound traffic on the WAN side.
LAN Transmit	Launch the 3G connection if there is outbound traffic on the LAN side.
Host Trigger	The host triggers the 3G connection.

2. Specify the 3G connection name, and configure the other parameters according to the request.
3. After the configuration, click **Create**.

– End of Steps –

Result

3G WAN connection is created.

5.1.3 ADSL Connection Settings

Short Description

Perform this procedure to configure the ADSL connection.

Context

The ZXDSL 931WII supports the following ADSL connection types:

- PPPoE
- PPPoA
- Static
- IPoE
- Bridge

The ZXDSL 931WII supports eight WAN connections, including 3G WAN connection and VDSL WAN connection.

Steps

1. On the menu bar, click **Network > WAN > ADSL WAN Connection** to open the ADSL WAN connection page, as shown in Figure 5-3.

Figure 5-3 ADSL WAN Connection

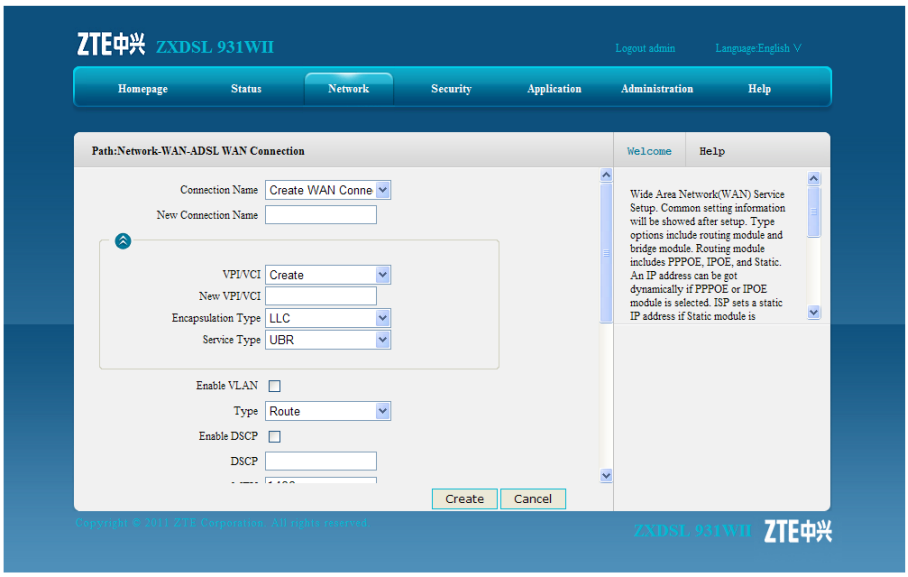


Table 5-3 describes the parameters of ADSL WAN connection page.

Table 5-3 ADSL WAN Connection Parameter

Parameter	Description
Connection name	The default is **Create WAN Connection**. Before creating new connection, make sure the **Create WAN Connection** option is selected.
New Connection Name	Specify the name of the new WAN connection.
VPI/VCI	Channel number of the ATM cell Each ADSL port has eight PVC, which can be configured with different VPIs and VCIs. This should be consistent with the port configuration on the NE.
New VPI/VCI	Create a VPI/VCI.
Encapsulation Type	Encapsulation type of the IP packets By default, it is LLC.
Service Type	Define the bit rate.
Enable VLAN	Enable the VLAN.
VLAN ID	Specify the VLAN ID.
802.1p	After the **VLAN** option is selected, you can specify the 802.1p value to modify the service priority. The service priority range: 0–7

Parameter	Description
Type	Connection type ● Route ● Bridge Connection
Enable DSCP	This function is used together with the QoS function. Enable it as required.
DSCP	The value range is 0–63.
MTU	Specify the maximum transfer unit.
Link type	There are two link types: ● PPP ● IP
Username	PPPoE user name provided by the ISP
Password	PPPoE password provided by the ISP
Authentication Type	The authentication type includes Auto, PAP, and CHAP. By default, it is **Auto**.
Connection Trigger	There are three connection trigger modes: ● Always On: When the device is started or gets offline, the system triggers PPPoE dialing automatically. ● On Demand: The system triggers PPPoE dialing on demand. ● Manual: The system triggers PPPoE dialing manually.
IP Version	The IP version includes: ● IPv4 ● IPv6 ● IPv4/v6
IP Type	The IP type includes: ● Static ● DHCP
PPP TransType	The PPP transmission type includes ● PPPoE ● PPPoA
Enable NAT	When multiple computers in a LAN share one IP address to visit the Internet, NAT is used to transfer the private network address to the public network address of the WAN port.
IP Address	The IP address provided by the ISP
Subnet Mask	The subnet mask provided by the ISP
Gateway	The gateway address provided by the ISP
DNS Server IP Address	The DNS address provided by the ISP

2. Specify the WAN connection parameters as required. After the configuration, click **Create**.

– End of Steps –

Result

The newly-created WAN connection is displayed in the **Connection Name** drop-down list.

5.1.4 Port Binding

Short Description

Perform this procedure to configure port binding.

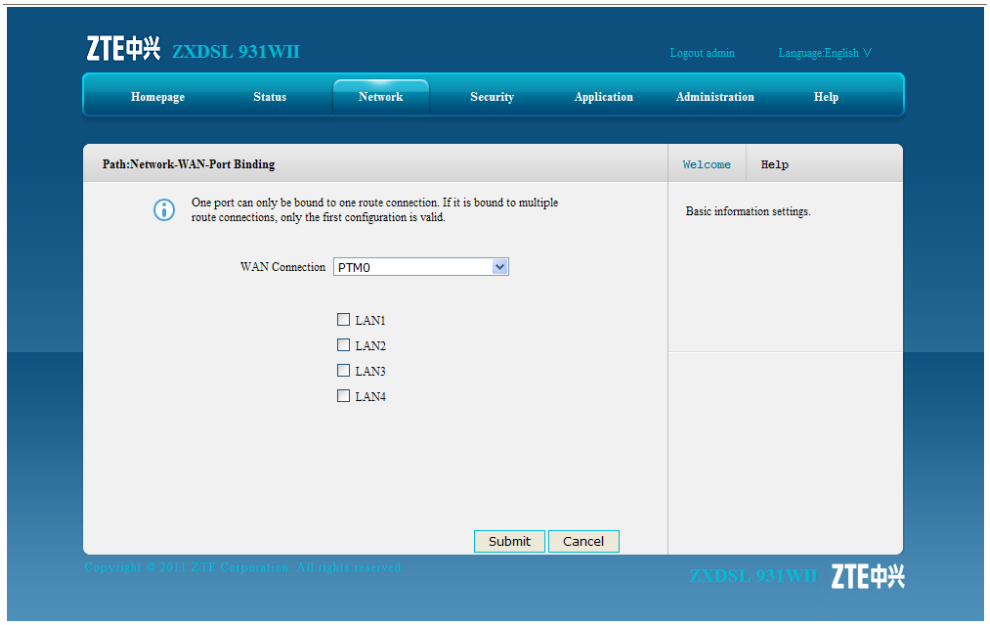
Context

Port binding is to bind the LAN-side port with the WAN connection.

Steps

1. On the menu bar, click **Network > WAN > Port Binding** to open the port binding page, as shown in Figure 5-4.

Figure 5-4 Port Binding



2. Select a WAN connection type from the **WAN Connection** drop-down list, and select the LAN port that you need to bind.
3. Click **Submit**.

– End of Steps –

Result

Port binding is configured.

5.1.5 DSL Modulation

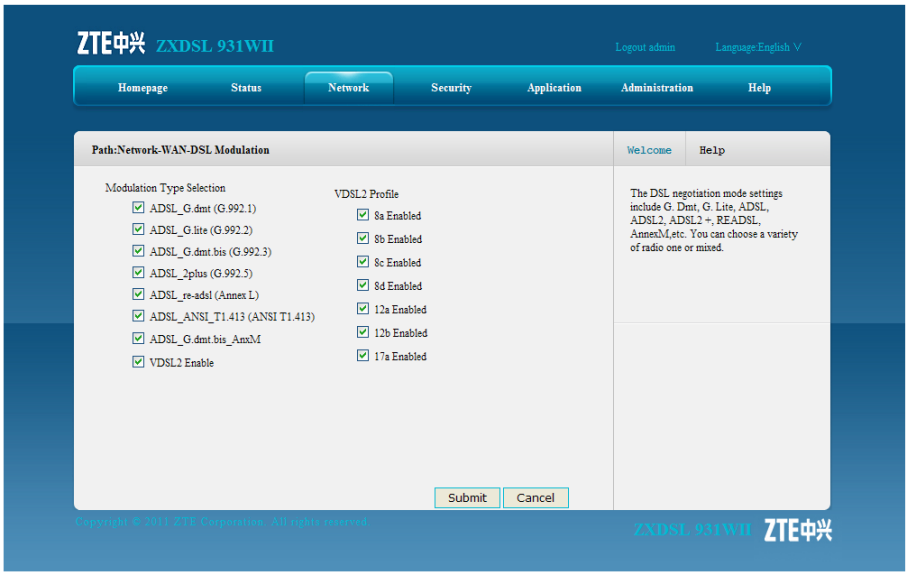
Short Description

Perform this procedure to configure DSL modulation type.

Steps

1. On the menu bar, click **Network > WAN > DSL Modulation** to open the DSL modulation page, as shown in Figure 5-5.

Figure 5-5 DSL Modulation



2. Select the DSL modulation type and click **Submit**.

– End of Steps –

Result

DSL modulation configuration is complete

5.2 WLAN

This section includes the following:

- Basic IEEE 802.11n configuration
- SSID settings
- Security
- Access control list
- Associated devices

5.2.1 Basic IEEE 802.11n Configuration

Short Description

Perform this procedure to configure the basic IEEE 802.11n parameters.

Context

The WLAN basic configuration includes the following modes:

- IEEE 802.11b Only
- IEEE 802.11g Only
- IEEE 802.11n Only
- Mixed(802.11b+802.11g)
- Mixed(802.11b+802.11g+802.11n)

Steps

1. On the menu bar, click **Network > WLAN > Basic(11n)** to open the basic(11n) page, as shown in Figure 5-6.

Figure 5-6 Basic(11n)

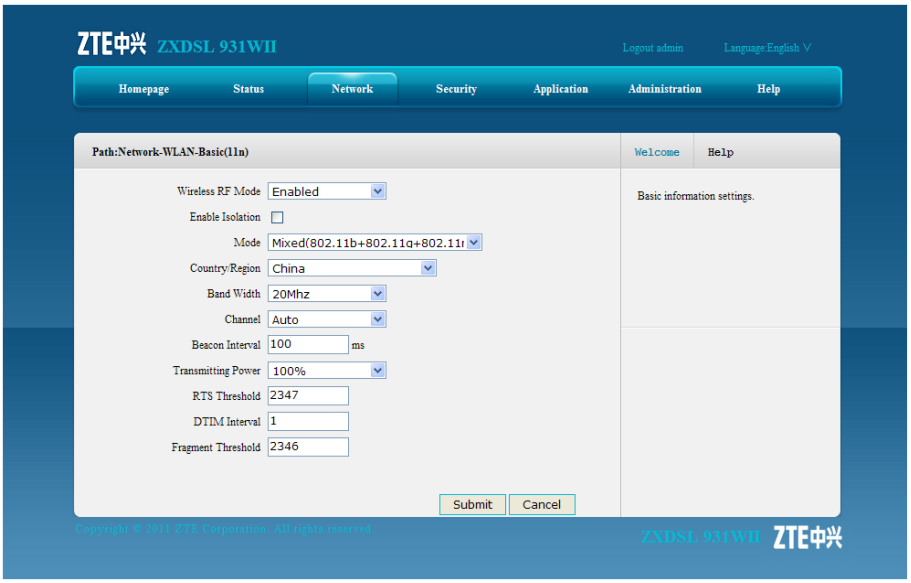


Table 5-4 describes the parameters of IEEE 802.11n configuration.

Table 5-4 IEEE 802.11n Configuration Parameter

Parameter	Description
Wireless RF Mode	Select Enable to enable the wireless RF function.
Enable isolation	Select this option and the wireless clients will not be able to visit each other.
Mode	Select the wireless RF transmission mode.

Parameter	Description
Country/Region	Select the country or region.
Band Width	You can select 20Mhz or 40Mhz.
Channel	The default is **Auto**.
Beacon Interval	Time interval for the wireless device to broadcast the SSID information. Keep the default value.
Transmitting Power	Select the transmitting power as required.
RTS Threshold	Specify the request to send threshold for a packet. When a packet exceeds this value, the device sends the RTS value to the destination point for negotiation. The default is 2347.
DTIM Interval	The value ranges from 1 to 255 ms. The default value is 1.
Fragment Threshold	When a packet exceeds the fragment threshold, it is divided into multiple packets. Excessive packet fragments may affect the network performance, so the fragment threshold should not be set too big. It is recommended to set the threshold to an even value. An odd value is reduced by one to be an even value. The default is 2346.

2. Select **Enabled** from the **Wireless RF Mode** drop-down list to enable the wireless transmission function, and then select the transmission mode. For example, select **IEEE 802.11n Only** from the **Mode** drop-down list, and specify the other parameters according the request.
3. After the configuration, click **Submit**.

Result

The IEEE 802.11n parameters are configured.

5.2.2 SSID Settings

Short Description

Perform this procedure to configure the SSID settings.

Context

The ZXDSL 931WII can be specified with four SSIDs and each SSID supports up to 32 subscribers.

Steps

1. On the menu barFigure 5-7, click **Network > WLAN > SSID Settings** to open the SSID settings page, as shown in .

Figure 5-7 SSID Settings

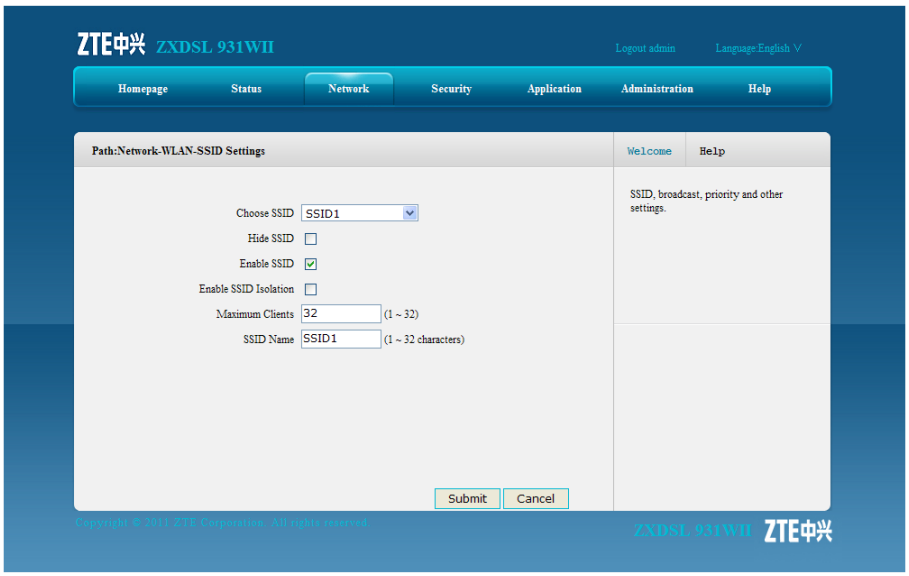


Table 5-5 describes the SSID parameters.

Table 5-5 SSID Parameters

Parameter	Description
Choose SSID	Select the SSID to be configured.
Hide SSID	Hide the SSID information to prevent illegal users.
Enable SSID	Enable the SSID broadcast.
Enable SSID Isolation	Enable SSID isolation. The wireless clients with different SSIDs cannot visit each other.
Maximum Clients	The value ranges from 1 to 32.
SSID Name	Specify the SSID name.

2. Select an SSID from the **Choose SSID** drop-down list, and specify the settings according to the request.
3. Click **Submit**.

– End of Steps –

Result

The SSID settings are configured.

5.2.3 Security

Short Description

Perform this procedure to configure the WLAN security.

Context

The ZXDSL 931WII provides the following access authentication modes:

- Open System

  Authentication is not needed. Any client with a wireless network card can connect to the wireless access point.

- Shared Key

  This mode provides WEP encryption.

- WPA-PSK

  WPA-PSK is a version of WPA. It uses the pre-shared key. WPA-PSK is similar with WEP but it is securer. The data is encrypted before transmission.

- WPA2-PSK

  It is the second version of WPA-PSK.

- WPA/WPA2-PSK

  It is a hybrid authentication mode.

Steps

1. On the menu bar, click **Network > WLAN > Security** to open the security page.
2. Select one option from the **Authentication Type** drop-down list, for example, **Shared Key**, as shown in Figure 5-8.

Figure 5-8 Security

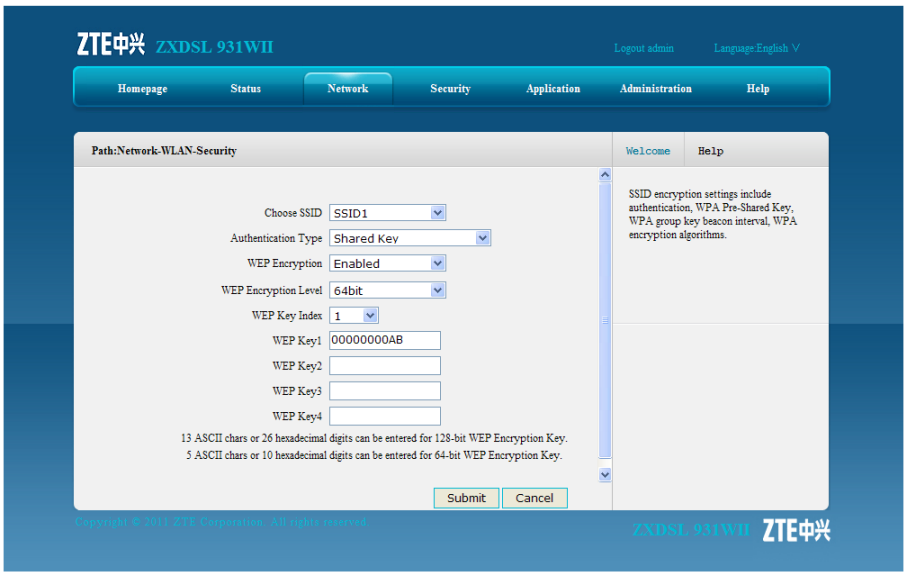


Table 5-6 lists the parameters for the **Shared Key** authentication mode.

Table 5-6 Parameters for the Shared Key Authentication Mode

Parameter	Description
Choose SSID	Select the SSID for the security authentication.
Authentication Type	Select the authentication type.
WEP Encryption	It is enabled by default.
WEP Encryption Level	The value can be **64bit** or **128bit**.
WEP Key Index	The WEP authentication provides four keys.
WEP key	Use 5 ASCII characters or 10 hexadecimal digits to specify the WEP value for the 64 bit WEP encryption. Use 13 ASCII characters or 26 hexadecimal digits to specify the WEP value for the 128 bit WEP encryption.

Table 5-7 lists the parameters for the WPA-PSK or WPA2-PSK authentication mode.

Table 5-7 Parameters for the WPA-PSK or WPA2-PSK Authentication Mode

Parameter	Description
WPA Passphrase	Range: 8–63 characters
WPA Group Key Update Interval	Default: 600 seconds
WPA Encryption Algorithm	There are three options: ● TKIP:Temporal Key Integrity Protocol ● AES: Advanced Encryption Standard ● TKIP+AES: Adaptive encryption algorithm

3. Specify the parameters according to the request, and then click **Submit**.

– End of Steps –

Result

The wireless security authentication configuration is completed.

5.2.4 Access Control List

Short Description

Perform this procedure to configure the ACL.

Context

By default, the ACL function for the ZXDSL 931WII is enabled.

Steps

1. On the menu bar, click **Network > WLAN > Access Control List** to open the access control list page, as shown in Figure 5-9.

Figure 5-9 Access Control List

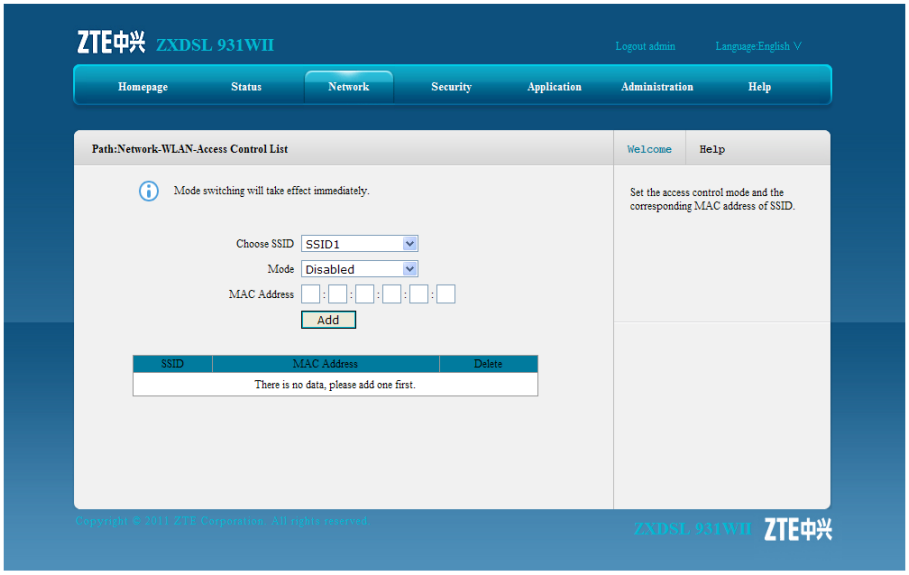


Table 5-8 lists the ACL parameters.

Table 5-8 ACL Parameter

Parameter	Description
Choose SSID	Choose the SSID to configure the ACL.

Parameter	Description
Mode	There are three options: ● Disabled: Disable the ACL function. ● Block: The wireless device whose MAC address is specified is not allowed to access the ZXDSL 931WII device. ● Permit: The wireless device whose MAC address is specified is allowed to access the ZXDSL 931WII device.
MAC Address	The MAC address of the wireless device

2. Select an SSID from the **Choose SSID** drop-down list, and then specify the other parameters according to the request.
3. Click **Add** to add the MAC address to the access control list.

– End of Steps –

Result

The ACL is configured.

The MAC address of the wireless device is added to the access control list.

5.2.5 Associated Devices

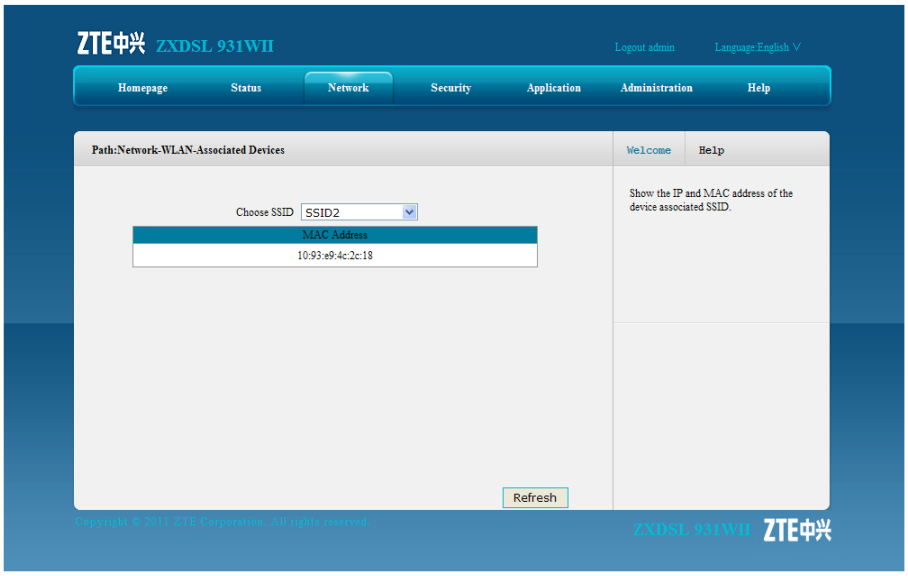
Short Description

Perform this procedure to display the wireless devices that are connected to the ZXDSL 931WII device.

Steps

1. On the menu bar, click **Network > WLAN > Associated Devices**.
2. Select an SSID (for example, **SSID2**) from the **Choose SSID** drop-down list. The system displays the MAC addresses of all the wireless devices that are using the specified SSID to connect the ZXDSL 931WII device, as shown in Figure 5-10.

Figure 5-10 Associated Device



– End of Steps –

Result

It is successful to display the MAC addresses of the associated wireless devices.

5.3 LAN

This section includes the following:

- DHCP server
- IPv6 DHCP server
- DHCP binding
- DHCP conditional serving pool
- DHCP port service
- Static prefix
- Prefix delegation
- Port service
- RA service

5.3.1 DHCP Server

Short Description

Configure the DHCP server to dynamically allocate IP addresses to the user-side computers or the wireless devices connected to the ZXDSL 931WII device.

Steps

1. On the menu bar, click **Network > LAN > DHCP Server** to open the DHCP server page.
2. Specified the DHCP server parameters as request, as shown in Figure 5-11.

Figure 5-11 DHCP Server

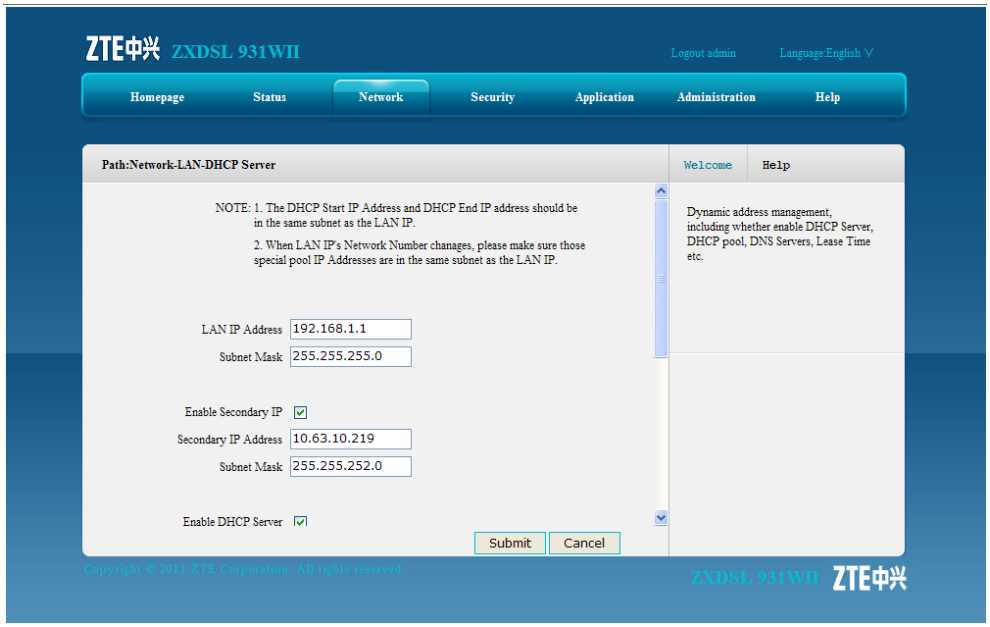


Table 5-9 lists the DHCP server parameters.

Table 5-9 DHCP Server Parameters

Parameter	Description
LAN IP Address	IP address of the ZXDSL 931WII device The device IP address should be in the same network segment as the DHCP address pool.
Subnet Mask	Subnet mask of the device
Enable Secondary IP	The secondary IP address of the ZXDSL 931WII device
Subnet Mask	The subnet mask of the device when the device is assigned with a secondary IP address
Enable DHCP Server	Select the Enable DHCP Server check box to let the device work as a DHCP server and assign IP addresses to the client PCs or wireless devices.
DHCP Start IP Address	The start IP address of the DHCP address pool
DHCP End IP Address	The end IP address of the DHCP address pool
Assign IspDNS	Select this option to let the DNS provided by the ISP to assign IP addresses to the client PCs or wireless devices.
DNS Server IP Address	IP addresses of the DNS server, provided by the ISP

Parameter	Description
Default Gateway	It is usually the IP address of the ZXDSL 931WII device by default
Lease Time	The time that the client PCs use the IP addresses assigned by the DHCP server. After the lease time expires, the private IP address will be available for assigning to other network devices. The default is 86400 seconds.

3. Click **Submit**.

– End of Steps –

Result

The DHCP server is configured.

5.3.2 IPv6 DHCP Server

Short Description

Perform this procedure to configure the IPv6 DHCP server to dynamically allocate IPv6 addresses to the user-side computers or wireless devices that are connected to the ZXDSL 931WII device.

Steps

1. On the menu bar, click **Network > LAN > IPv6 DHCP Server** to open the IPv6 DHCP server page, as shown in Figure 5-12.

Figure 5-12 IPv6 DHCP Server

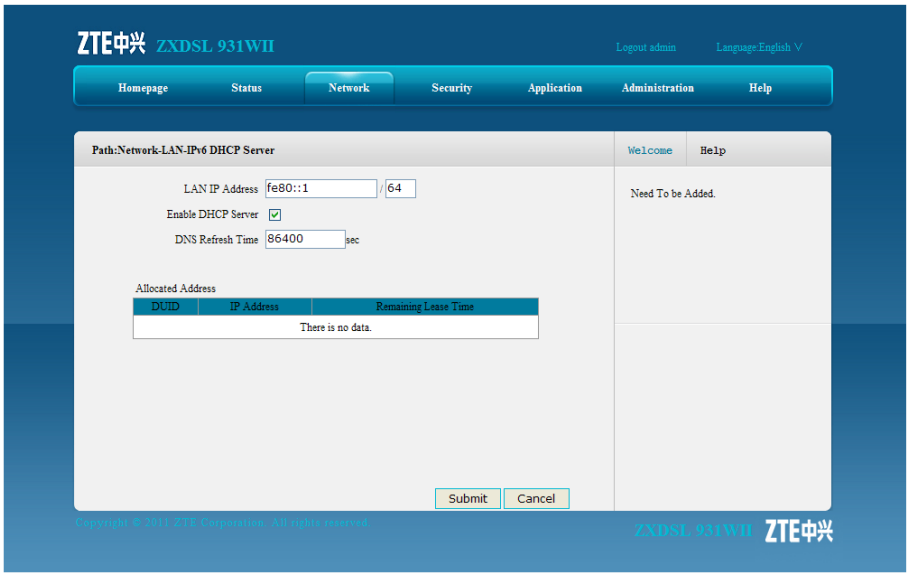


Table 5-10 describes the IPv6 DHCP server parameters.

Table 5-10 IPv6 DHCP Server Parameters

Parameter	Description
LAN IP Address	IPv6 address of the ZXDSL 931WII device Default prefix length: 64 bits
Enable DHCP Server	Enable the DHCP server.
DNS Refresh Time	The time to refresh the IPv6 address on the user side to keep the address valid

2. Specify the DHCP server parameters according to the request.
3. Click **Submit**.

– End of Steps –

Result

The IPv6 DHCP server is configured.

5.3.3 DHCP Binding

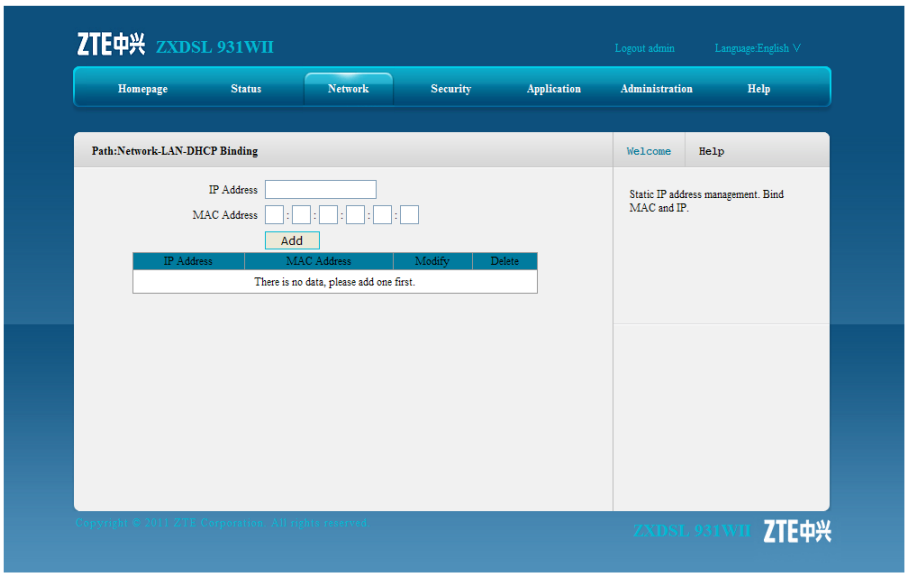
Short Description

Perform this procedure to configure DHCP binding.

Steps

1. On the menu bar, click **Network > LAN > DHCP Binding** to open the DHCP binding page, as shown in Figure 5-13.

Figure 5-13 DHCP Binding



2. Specify the IP address and MAC address.

3. Click **Add** to bind the IP address with the MAC address.

– End of Steps –

Result

The IP address and MAC address are bound.

5.3.4 DHCP Conditional Serving Pool

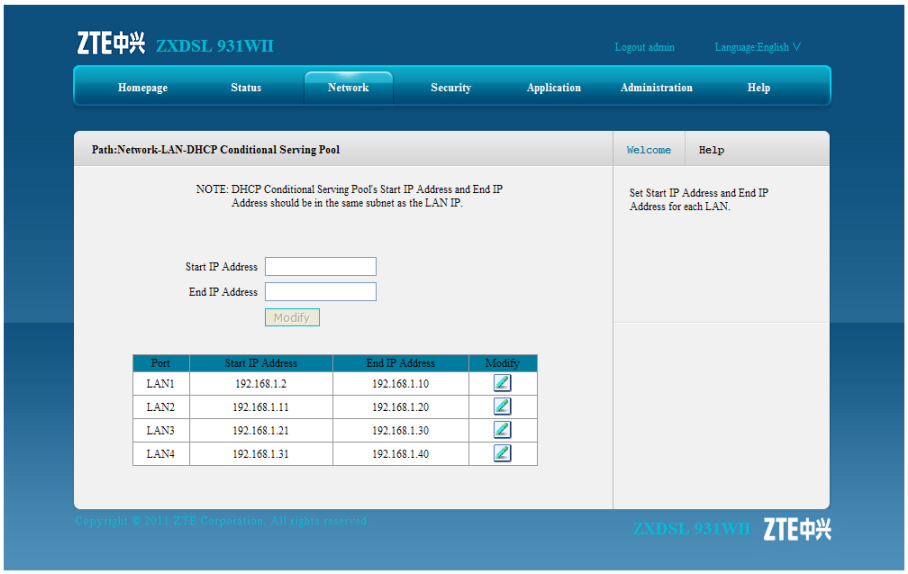
Short Description

Perform this procedure to configure the IP address range for one specified interface.

Steps

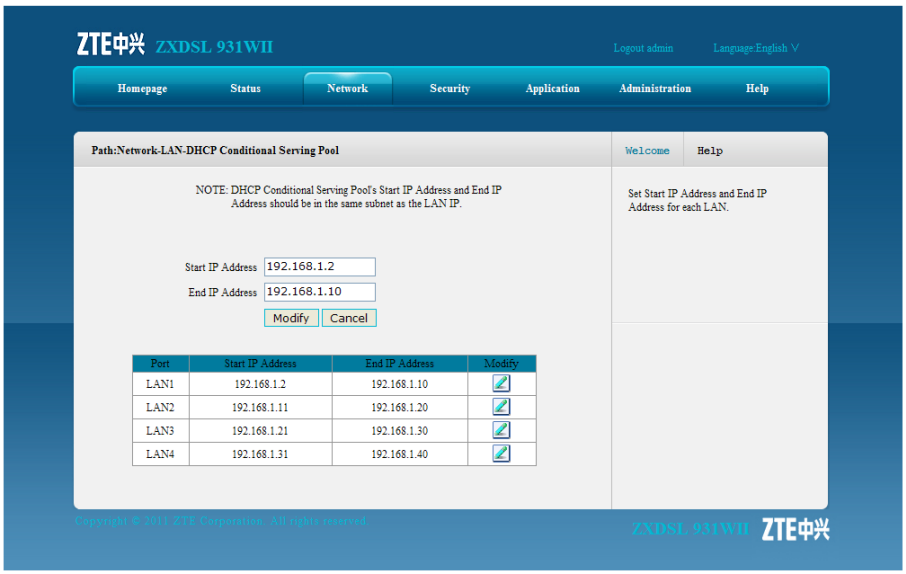
1. On the menu bar, click **Network > LAN > DHCP Conditional Serving Pool** to open the DHCP conditional serving pool page, as shown in Figure 5-14.

Figure 5-14 DHCP Conditional Serving Pool



2. Click  to modify the IP address range for the specified interface, as shown in Figure 5-15.

Figure 5-15 Address Range Configuration



NOTE **Note:**

The IP address range of each interface and the IP address of the ZXDSL 931WII device must be in the same network segment.

3. After the modification, click **Modify** to update the changes

Result

The address range of the specific interface is configured.

5.3.5 DHCP Port Service

Short Description

Perform this procedure to disable the DHCP service for the specified interface when the global DHCP function is enabled.

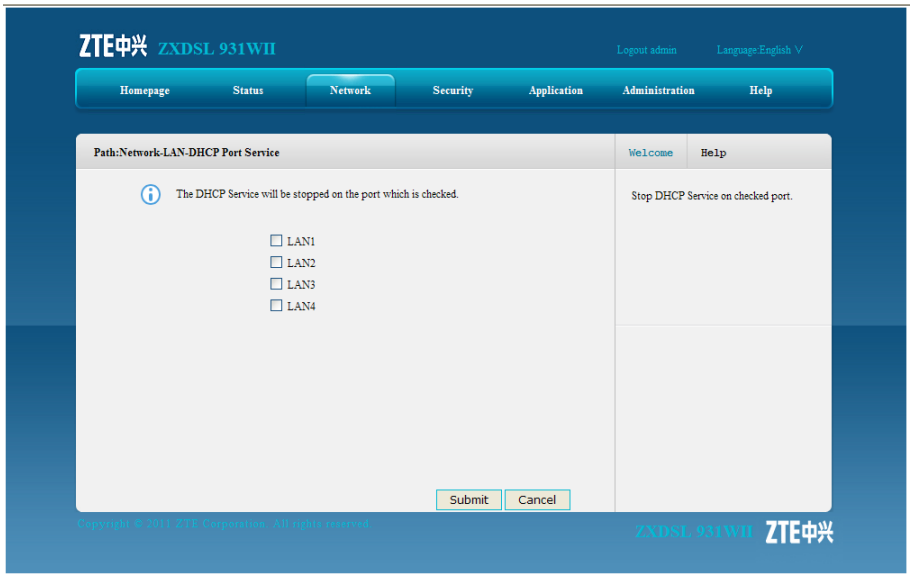
Prerequisites

Before this operation, make sure that the global DHCP service is enabled.

Steps

1. On the menu bar, choose **Network > LAN > DHCP Port Service** to open the DHCP port service page, as shown in Figure 5-16.

Figure 5-16 DHCP Port Service



2. Select the LAN interface on which you want to disable the DHCP function.
3. Click **Submit**

Result

The DHCP function is disabled on the specified interface.

5.3.6 Static Prefix

Short Description

Perform this procedure to configure the IPv6 static prefix.

Steps

1. On the menu bar, click **Network > LAN > Static Prefix** to open the static prefix page, as shown in Figure 5-17.

Figure 5-17 Static Prefix

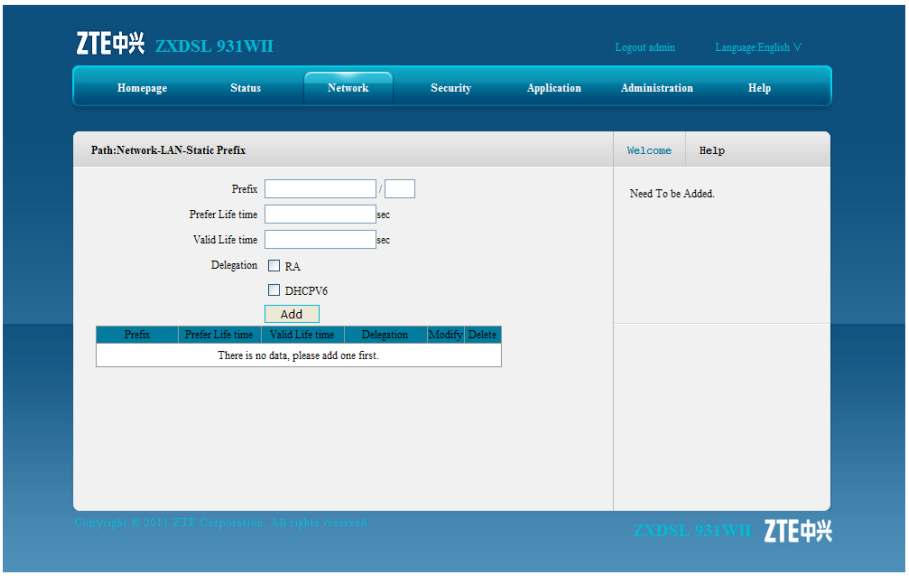


Table 5-11 describers the parameters for IPv6 static prefix.

Table 5-11 Static Prefix Parameters

Parameter	Description
Prefix	IPv6 address prefix
Prefer Life Time	Preferred life time of the prefix The device on the LAN side refreshes the IPv6 address in the preferred life time. Preferred life time is equal to or less than valid life time Unit: second
Valid Life Time	Valid time of the prefix
Delegation	Prefix delegation mode: ● RA ● DHCPV6

2. Configure the parameters as request.
3. Click **Add**.

– End of Steps –

Result

The IPv6 static prefix is configured.

5.3.7 Prefix Delegation

Short Description

Perform this procedure to configure the IPv6 prefix delegation mode for a specified WAN connection.

Steps

1. On the menu bar, click **Network > LAN > Prefix Delegation** to open the prefix delegation page, as shown in Figure 5-18.

Figure 5-18 Prefix Delegation

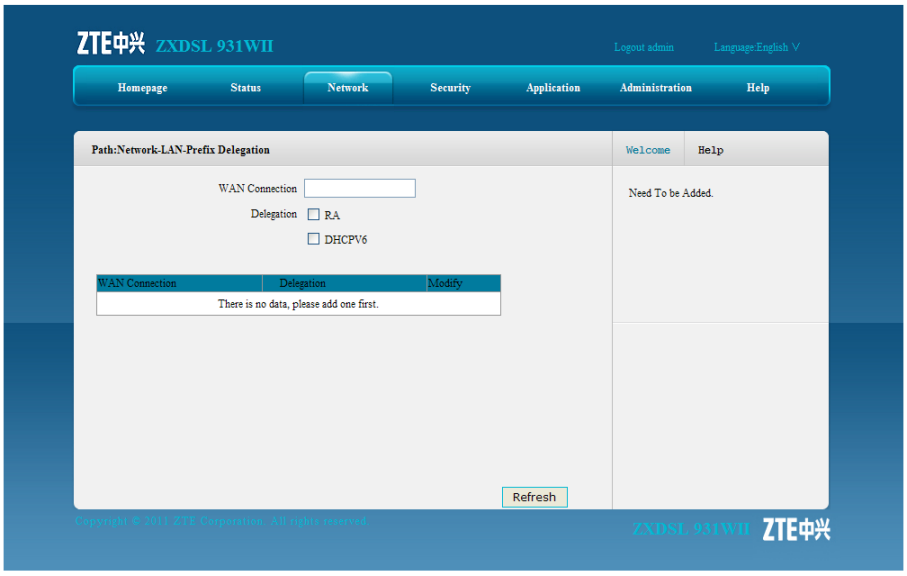


Table 5-12 describers the parameters of prefix delegation.

Table 5-12 Prefix Delegation Parameters

Parameter	Description
WAN Connection	The configured WAN connection
Delegation	Prefix delegation mode: ● RA ● DHCPV6

2. Configure the parameters according to the request.

– End of Steps –

Result

The IPv6 prefix delegation mode for a specified WAN connection is configured.

5.3.8 Port Service

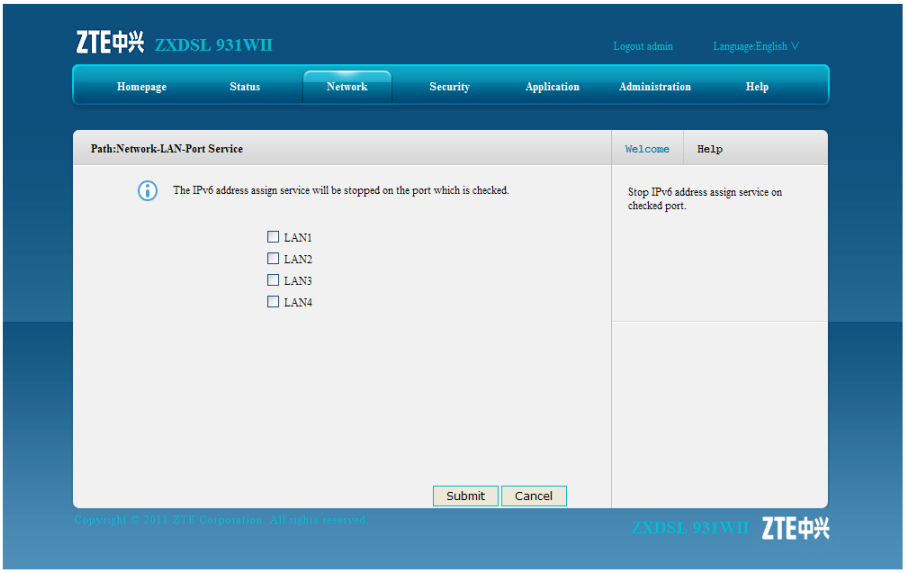
Short Description

Perform this procedure to disable the IPv6 address assignment on the specified interface.

Steps

1. On the menu bar, click **Network > LAN > Port Service** to open the IPv6 port service page, as shown in Figure 5-19.

Figure 5-19 Port Service



2. Select the LAN interface on which you want to disable the IPv6 address assignment function.
3. Click **Submit**

Result

The IPv6 address assignment is disabled on the specified interface.

5.3.9 RA Service

Short Description

Perform this procedure to configure the RA service.

Steps

1. On the menu bar, click **Network > LAN > RA Service** to open the RA service page.
2. Configure the parameters, as shown in Figure 5-20.

Figure 5-20 RA Service

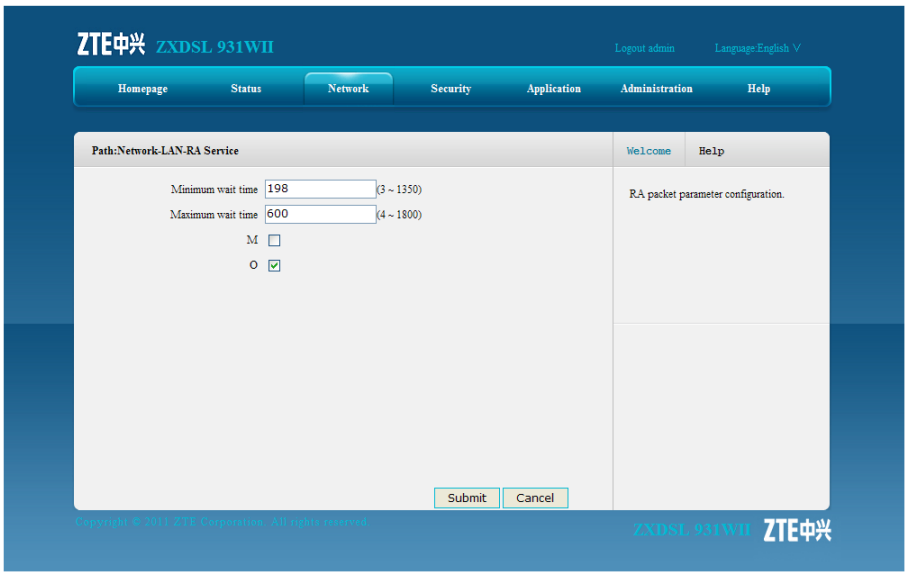


Table 5-13 describes the parameters of the IPv6 RA service.

Table 5-13 RA Service Parameters

Parameter	Description
Minimum wait time	Minimum delegation interval
Maximum wait time	Maximum delegation interval
M	Managed flag Select this check box to enable the devices connected to acquire the IPv6 address through DHCPV6.
O	Other configure flag Select this check box to enable the devices connected to acquire DNS address through DHCPV6.

3. Click **Submit**.

– End of Steps –

Result

The IPv6 RA service is configured.

5.4 Routing

This section includes the following:

- Default gateway
- Static routing
- Policy routing
- Routing table

5.4.1 Default Gateway

Short Description

Perform this procedure to configure the default gateway for the specified WAN connection.

Prerequisites

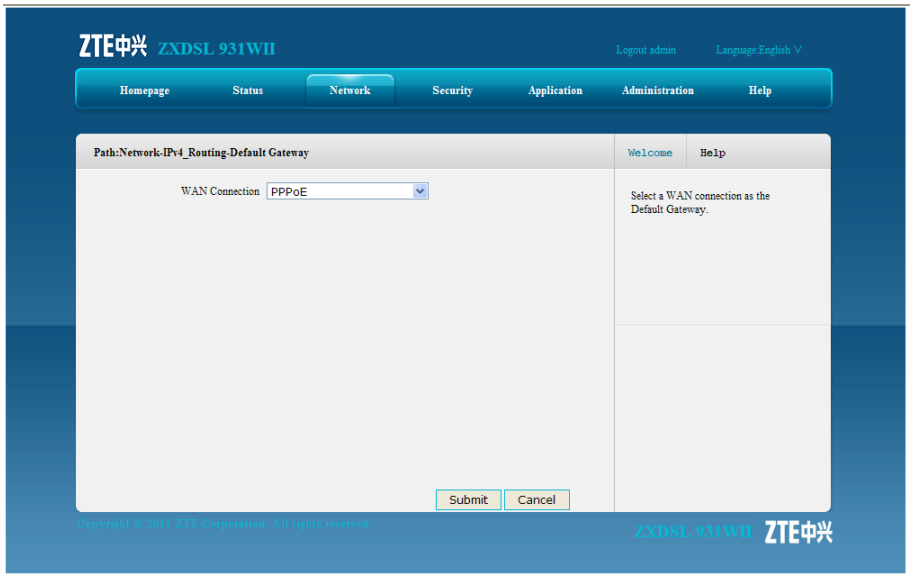
Before the operation, make sure that:

- The ZXDSL 931WII device uses the router WAN connection mode.
- The router WAN connection is created.

Steps

1. On the menu bar, click **Network > Routing > Default Gateway** to open the default gateway page.
2. From the **WAN Connection** drop-down list, select the desired WAN connection, as shown in Figure 5-21.

Figure 5-21 Default Gateway



NOTE **Note:**

Only the WAN connections that the ZXDSL 931WII device works as a router are displayed in the drop-down list.

3. Click **Submit**.

– End of Steps –

Result

The default gateway is configured.

5.4.2 Static Routing

Short Description

Perform this procedure to configure the static routing for the specified WAN connection.

Prerequisites

Before this operation, make sure that the WAN connection is created.

Context

The gateway needs to be configured for the static mode interface or IPoA mode interface during static routing configuration.

The gateway does not need to be configured for the PPPoA mode interface or PPPoE mode interface during static routing configuration.

Steps

1. On the menu bar, click **Network > Routing > Static Routing** to open the static routing page, as shown in Figure 5-22.

Figure 5-22 Static Routing

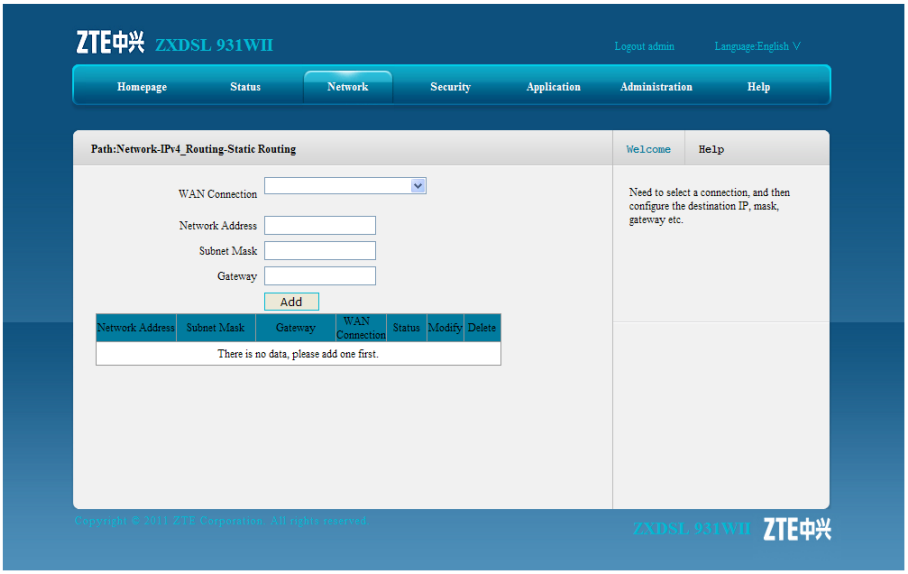


Table 5-14 describes the parameters for the static routing configuration.

Table 5-14 Static Routing Parameter

Parameter	Description
WAN Connection	WAN connection for static routing

Parameter	Description
Network Address	Destination network address
Subnet Mask	Subnet mask
Gateway	Gateway of the network segment which the network interface belongs to

2. Select one WAN connection from the **WAN Connection** drop-down list, and then specify the parameters according to the request.
3. After the configuration, click **Add**.

– End of Steps –

5.4.3 Policy Routing

Short Description

Perform this procedure to configure policy routing.

Prerequisites

Before this operation, make sure that the WAN connection settings are complete.

Context

Policy routing is a routing rule. When it is configured, the packets are forwarded according to the routing policy. The ZXDSL 931WII device supports packet forwarding according to the DSCP, source or destination IP address, protocol, source port number, or source MAC address.

Steps

1. On the menu bar, click **Network > Routing > Policy Routing** to open the policy routing page, as shown in Figure 5-23.

Figure 5-23 Policy Routing

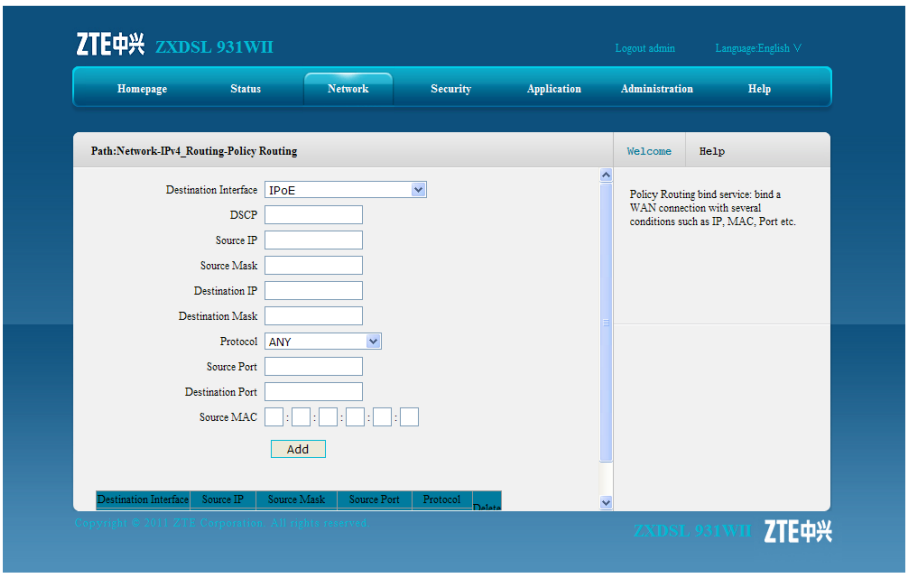


Table 5-15 lists the parameters for policy routing configuration.

Table 5-15 Policy Routing Parameter

Parameter	Description
Destination Interface	Determined by the carrier
DSCP	DSCP vlaue
Source IP	Source IP address
Source Mask	Source mask of the network segment
Destination IP	Destination IP address
Destination Mask	Destination mask of the network segment
Protocol	Selected as required
Source Port	Source port number
Destination Port	Destination port number
Source MAC	Source MAC address

2. Select an interface from the **Destination Interface** drop-down list, and specify the routing policy as required.
3. Click **Add**.

– End of Steps –

Result

Policy routing is configured.

5.4.4 Routing Table

ShortDescription

Perform this procedure to display the routing table.

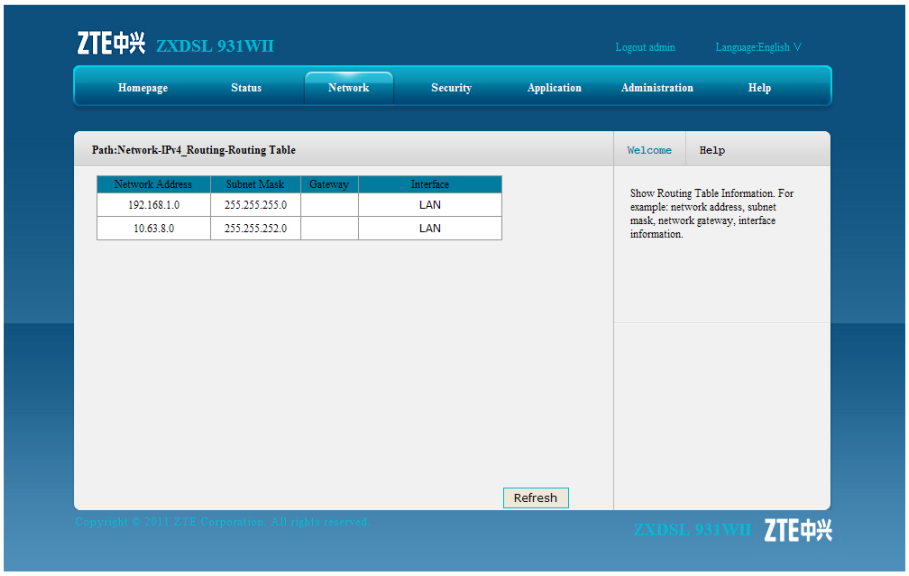
Prerequisites

The routing tables have been created.

Steps

1. On the menu bar, click **Network > Routing > Routing Table** to open the routing table, as shown in Figure 5-24.

Figure 5-24 Routing Table



Result

The routing table information is displayed.

5.5 IPv6 Routing

This section includes the following:

- Default gateway
- Static routing
- Routing table

5.5.1 Default Gateway

Short Description

Perform this procedure to configure the default gateway for the IPv6 WAN connections.

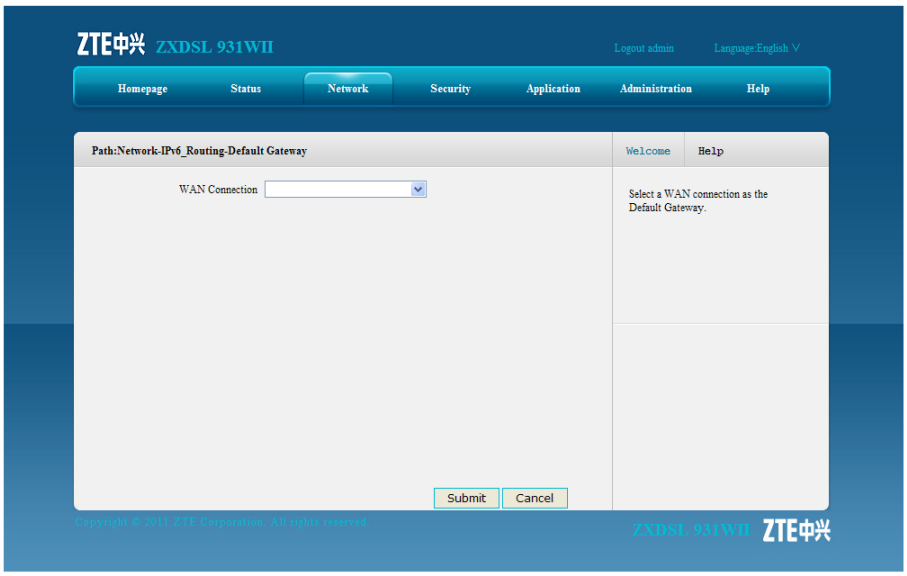
Prerequisites

Before the operation, make sure that the IPv6 WAN connection is configured.

Steps

1. On the menu bar, click **Network > IPv6_Routing > Default Gateway** to open the IPv6 default gateway page, as shown in Figure 5-25.

Figure 5-25 IPv6 Routing Default Gateway



2. From the **WAN Connection** drop-down list, select the WAN connection.
3. Click **Submit**.

– End of Steps –

Result

The default gateway for the IPv6 routing connections is configured.

5.5.2 Static Routing

Short Description

Perform this procedure to configure IPv6 static routing.

Prerequisites

Before the operation, make sure that the IPv6 WAN connection is created.

Steps

1. On the menu bar, click **Network > IPv6_Routing > Static Routing** to open the IPv6 static routing page, as shown in Figure 5-26.

Figure 5-26 IPv6 Static Routing

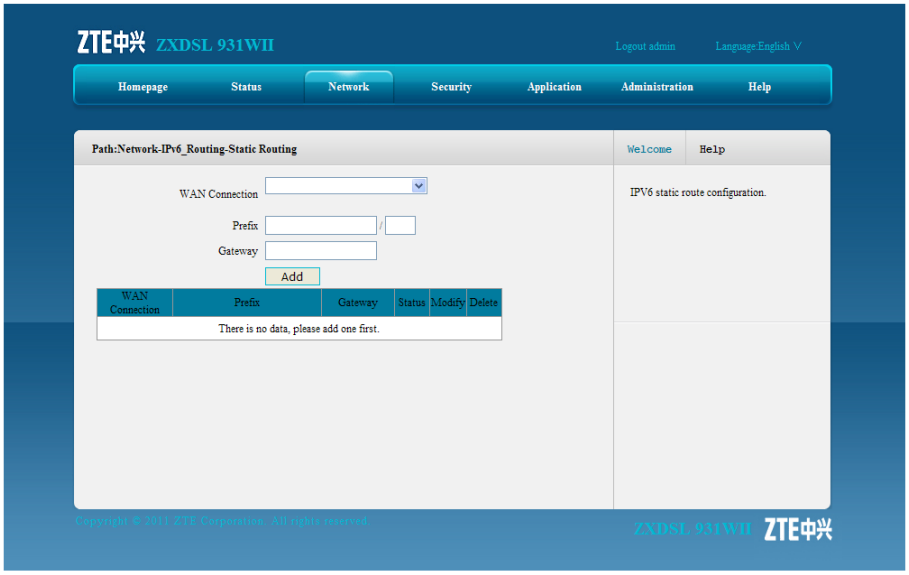


Table 5-16 describes the parameters for the IPv6 static routing configuration.

Table 5-16 IPv6 Static Routing Parameter

Parameter	Description
WAN Connection	WAN connection for IPv6 static routing
Prefix	The prefix is consistent with the network segment of the IPv6 interface.
Gateway	The gateway is the next hop address when this routing interface transfers the packets of different network segment.

2. Configure the parameters according to the request.
3. After the configuration, click **Add**.

– End of Steps –

Result

IPv6 static routing is configured.

5.5.3 Routing Table

Short Description

Perform this procedure to display the IPv6 routing table.

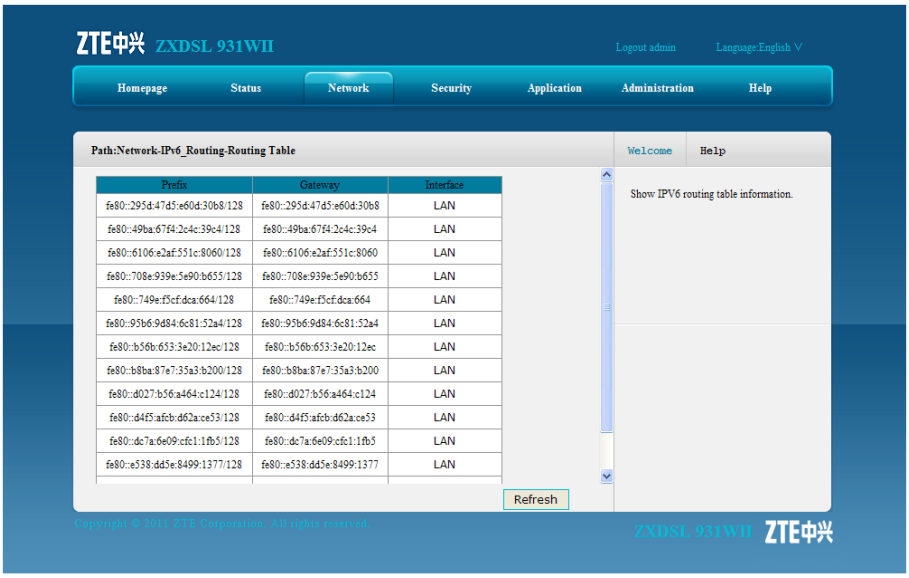
Prerequisites

The IPv6 routing tables have been created.

Steps

1. On the menu bar, click **Network > IPv6_Routing > Routing Table** to open the IPv6 routing table page, as shown in Figure 5-27.

Figure 5-27 IPv6 Routing Table



– End of Steps –

Result

The IPv6 routing table information is displayed.

Chapter 6
Security

Table of Contents

6.1 Firewall

Short Description

Perform this procedure to configure the firewall to prevent malicious attack from the external network and enhance device security.

Steps

1. On the menu bar, click **Security > Firewall** to open the firewall page, as shown in Figure 6-1.

Figure 6-1 Firewall

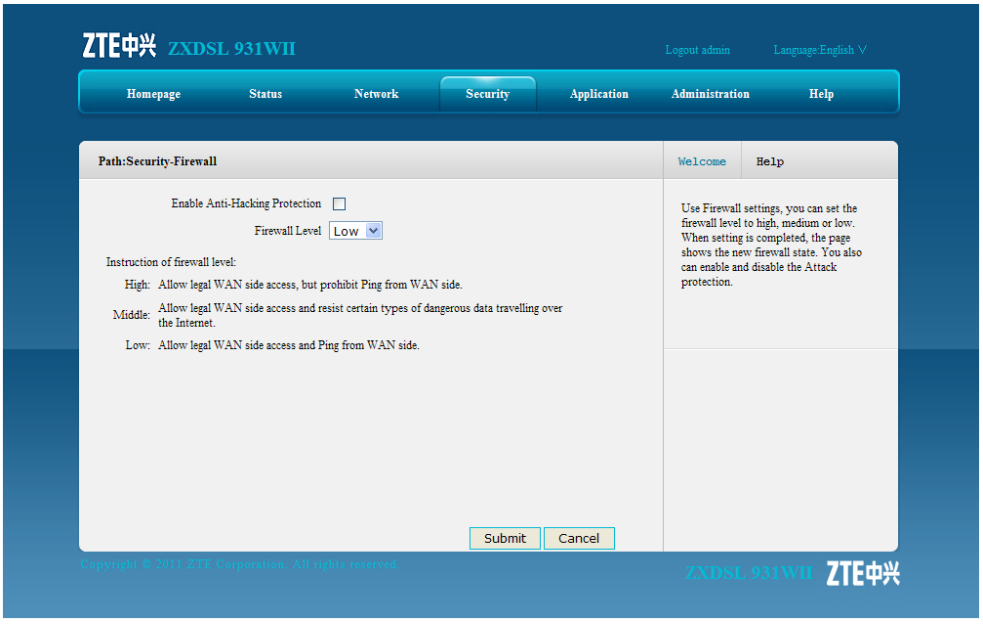


Table 6-1 describes the firewall parameters.

Table 6-1 Firewall Parameters

Parameter	Description
Enable Anti-Hacking Protection	Select the check box to enable the firewall settings and prevent the device from being attacked by the Internet data stream. These attacks include ping flood, ping to death and syn flood.
Firewall Level	● High: Select this option to allow legal WAN-side access but prohibit PING from the WAN-side. ● Middle: Select this option to allow legal WAN side access and stop certain types of dangerous data stream from accessing the device. ● Low: Select this option to allow legal WAN-side access and the PING from the WAN-side.

2. Configure the firewall parameters according to the request.
3. Click **Submit**.

– End of Steps –

Result

The firewall is configured.

6.2 IP Filter

Short Description

Perform this procedure to configure the IP filter to permit or deny specific IP addresses to access the device.

Steps

1. On the menu bar, click **Security > IP Filter** to open the filter page, as show in Figure 6-2. On this page, you can specify the IP address and port ranges that the data transmission will be denied or allowed to pass through.

Figure 6-2 IP Filter

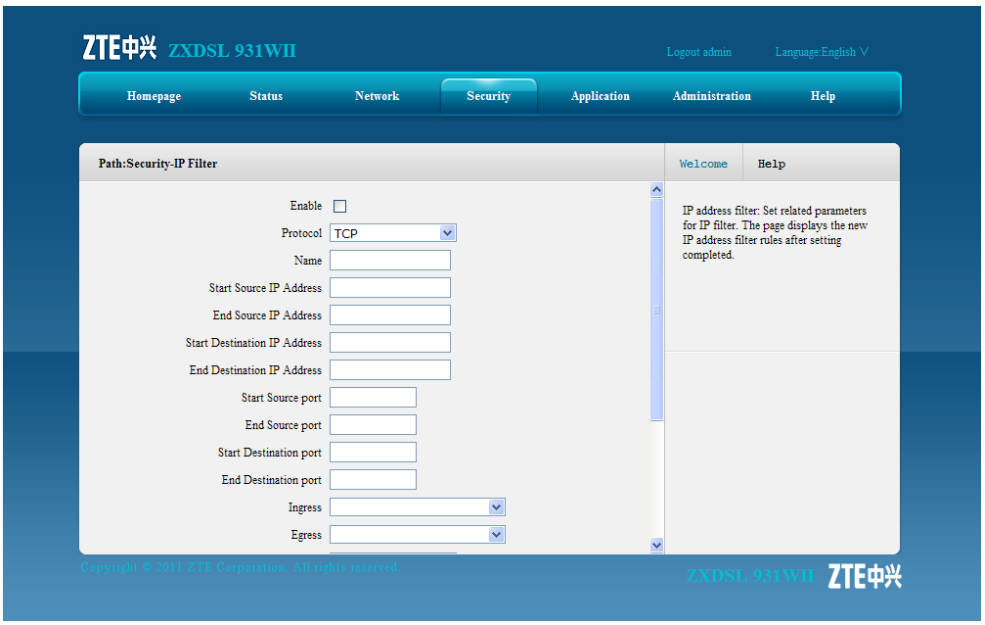


Table 6-2 lists the IP filter parameters.

Table 6-2 IP Filter Parameter

Parameter	Description
Enable	Enable the IP filter function.
Protocol	Select the protocol that needs to filter packets. By default, it is TCP.
Name	The name of the IP filter setting The name must be specified.
Start Source IP Address/End Source IP Address	(Optional) start/end source IP address
Start Destination IP Address/End Destination IP Address	(Optional) start/end destination IP address
Start Source Port/End Source Port	(Optional) start/end source port
Start Destination Port/End Destination Port	(Optional) start/end destination port
Ingress	Specify the data stream direction. The Ingress and Egress cannot be the same. ● If the **Ingress** is **LAN**, the **Egress** should be the WAN connection. The data stream direction is upstream. ● If the **Ingress** is WAN connection, the **Egress** should be the **LAN**. The data stream direction is downstream.

Parameter	Description
Egress	Specify the data stream direction. The Ingress and Egress cannot be the same. ● If the **Egress** is **LAN**, the **Ingress** should be the WAN connection. The data stream direction is downstream. ● If the **Egress** is WAN connection, the **Ingress** should be the **LAN**. The data stream direction is upstream.
Mode	Specify to discard or permit the data packages.

2. Configure the IP filter parameters according to the request.
3. After the configuration, click **Add**.

– End of Steps –

Result

The IP filter is configured.

Packets with specified IP addresses and ports are denied or allowed to pass.

6.3 MAC Filter

Short Description

You can configure MAC filter to permit or deny specific MAC addresses to access the device.

Context

MAC filter aims at the user-side LAN, that is, the upstream data flow.

Steps

1. On the menu bar, click **Security > MAC Filter** to open the MAC filter page, as shown in Figure 6-3. On this page you can specify to discard or permit the data packages by configuring the MAC address, protocol and the connection type.

Figure 6-3 MAC Filter

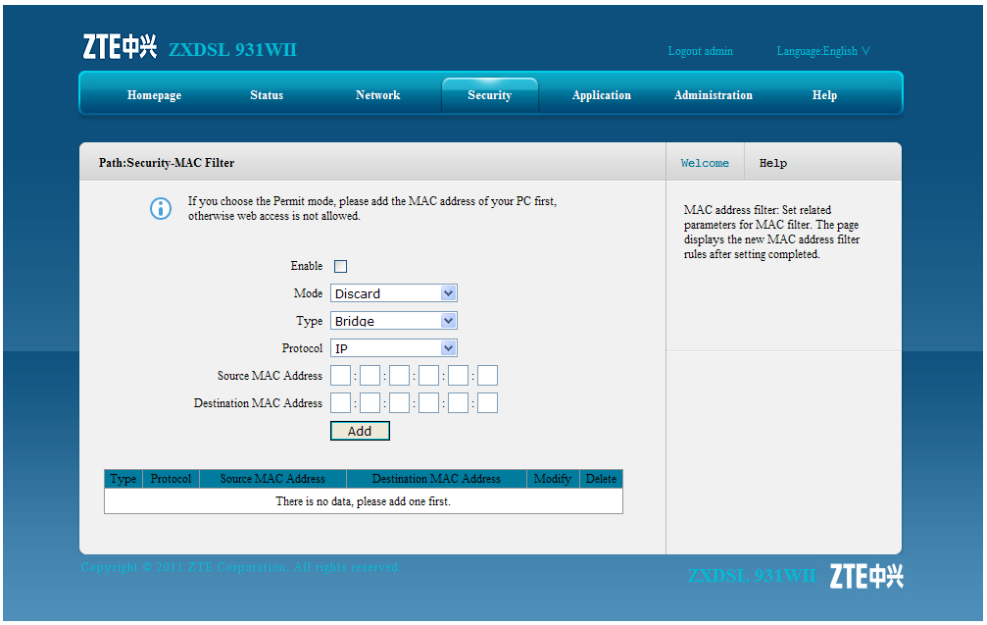


Table 6-3 lists the MAC filter parameters.

Table 6-3 MAC Filter Parameter

Parameter	Description
Enable	Select the check box to enable the MAC filter item.
Mode	Specify to permit or discard the data packages.
Type	The connection type The connection type includes **Bridge**, **Route**, or **Bridge+Route**.
Protocol	Select the protocol that the MAC filter settings will be applied to.
Source MAC Address/Destination MAC Address	The MAC address of the data packets. It cannot be null.

2. Configure the MAC filter parameters according to the request.
3. After the configuration, click **Add**.

– End of Steps –

Result

MAC filter is configured.

The packets with the specified MAC address are denied or allowed to pass through.

6.4 Parent Control

This section includes the following:

- User information
- URL filter
- Port filter

6.4.1 User Information

Short Description

Perform this procedure to configure the user information according to the IP address, MAC address, and time.

Steps

1. On the menu bar, click **Security > Parental Control > User Information** to open the user information page, as shown in Figure 6-4.

Figure 6-4 User Information

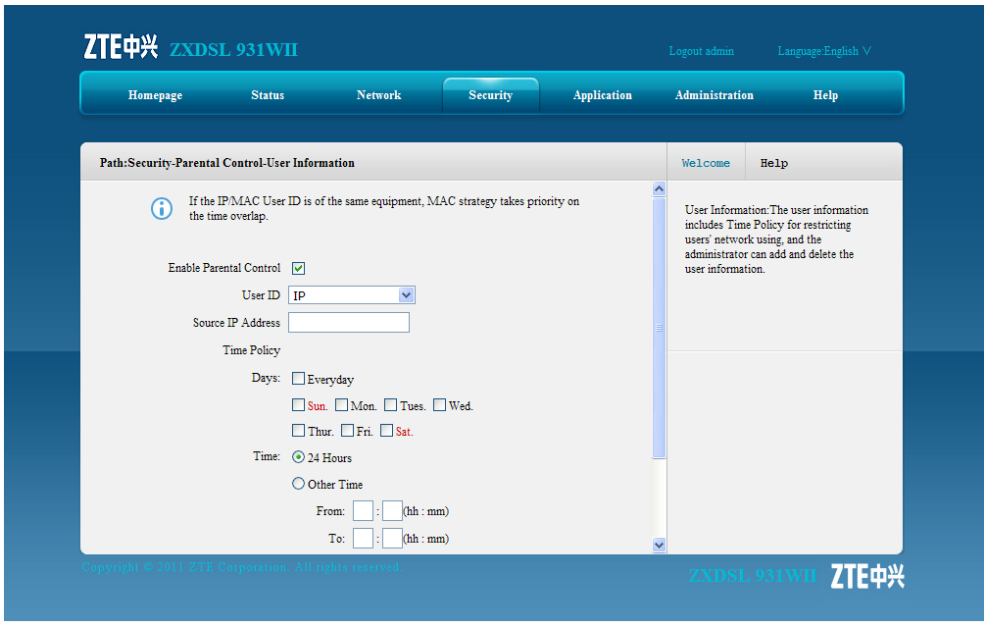


Table 6-4 describes the user information parameters.

Table 6-4 User Information

Parameter	Description
Enable Parental Control	Enable the parent control function.

Parameter	Description
User ID	Configure the user information according to the IP address or MAC address. If the **All user** option is selected, all the users that use the ZXDSL 931WII device are included. If
Source IP address	The source IP address of the user
Source MAC address	The source MAC address of the user
Days	Specify the days when the parent control settings are applied.
Time	Specify the time when the parent control settings are applied.

NOTE **Note:**

If both MAC address and IP address are configured for the parent control setting, the MAC address setting is of higher priority.

2. Configure the user information according to the request.
3. After the configuration, click **Add**.

Results

The user information of the parent control is configured.

6.4.2 URL Filter

Short Description

You can configure URL filter to permit or deny the LAN users to access the specific URL addresses.

Prerequisites

The user information of the parent control is configured.

Steps

1. On the menu bar, click **Security > URL Filter** to open the URL filter page, as shown in Figure 6-5. On this page, you can permit or discard the user to access the specified URL addresses.

Figure 6-5 URL Filter

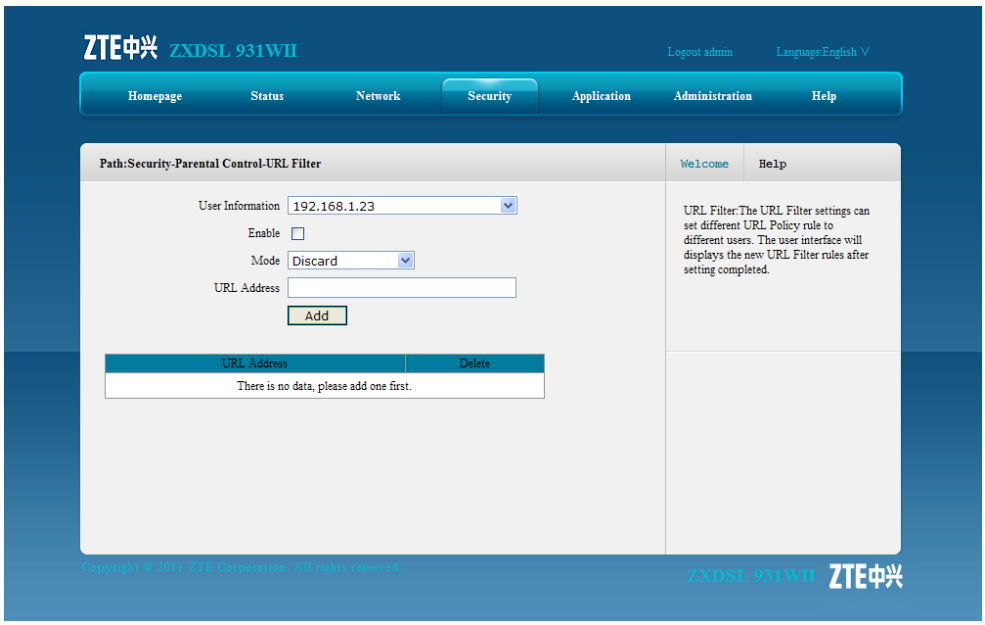


Table 6-5 describes the URL filter parameters.

Table 6-5 URL Filter Parameter

Parameter	Description
User Information	Select the user that the URL filter setting is applied to.
Enable	Enable the URL filter function.
Mode	There are two modes: **Discard** and **Permit**.
URL Address	The URL address that is allowed to be accessed or denied

2. Select the user and specify the URL information according to the request.
3. After the configuration, click **Add**.

– End of Steps –

Result

URL filter is configured.

The selected user is permit or denied to access the specified URL address.

6.4.3 Port Filter

Short Description

Perform this procedure to configure the port filter settings for the specified user.

Prerequisites

The user information is configured.

Steps

1. On the menu bar, click **Security > Parental Control > Port Filter** to open the port filter page, as shown in Figure 6-6. On this page, you can specify port filter settings that the specified user is permit or denied to access the Internet.

Figure 6-6 Port Filter

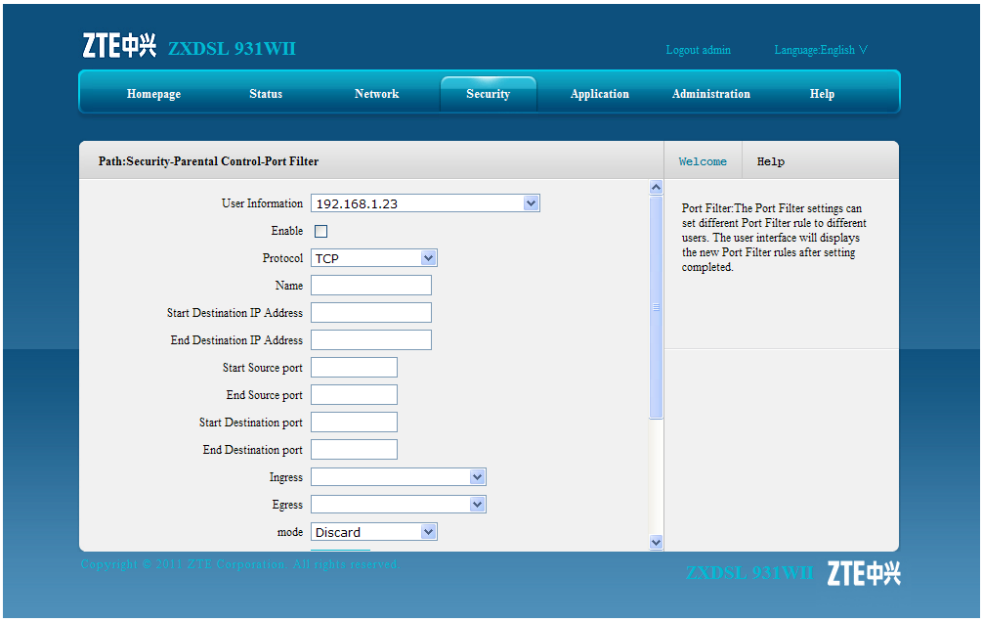


Table 6-6 describes the port filter parameters.

Table 6-6 Port Filter Parameter

Parameter	Description
User Information	Select the user that the port filter setting is applied to.
Enable	Enable the port filter function.
Protocol	Select the protocol that needs to filter packets. By default, it is TCP.
Name	The name of the port filter setting The name must be specified.
Start Destination IP Address/End Destination IP Address	(Optional) start/end destination IP address
Start Source Port/End Source Port	(Optional) start/end source port
Start Destination Port/End Destination Port	(Optional) start/end destination port

Parameter	Description
Ingress	Specify the data stream direction. The Ingress and Egress cannot be the same. ● If the **Ingress** is **LAN**, the **Egress** should be the WAN connection. The data stream direction is upstream. ● If the **Ingress** is WAN connection, the **Egress** should be the **LAN**. The data stream direction is downstream.
Egress	Specify the data stream direction. The Ingress and Egress cannot be the same. ● If the **Egress** is **LAN**, the **Ingress** should be the WAN connection. The data stream direction is downstream. ● If the **Egress** is WAN connection, the **Ingress** should be the **LAN**. The data stream direction is upstream.
Mode	There are two modes: **Discard** and **Permit**.

2. Configure the port filter parameters according to the request.
3. After the configuration, click **Add**.

– End of Steps –

Result

The port filter settings for the specified user is complete.

6.5 Service Control

Short Description

Perform this procedure to permit or discard the specified inbound access services by configuring the source IP address range and service type.

Steps

1. On the menu bar, click **Security > Service Control** to open the service control page, as shown in Figure 6-7. On this page, you can permit or discard the specified inbound access services by configuring the source IP address range and service type.

Figure 6-7 Service Control

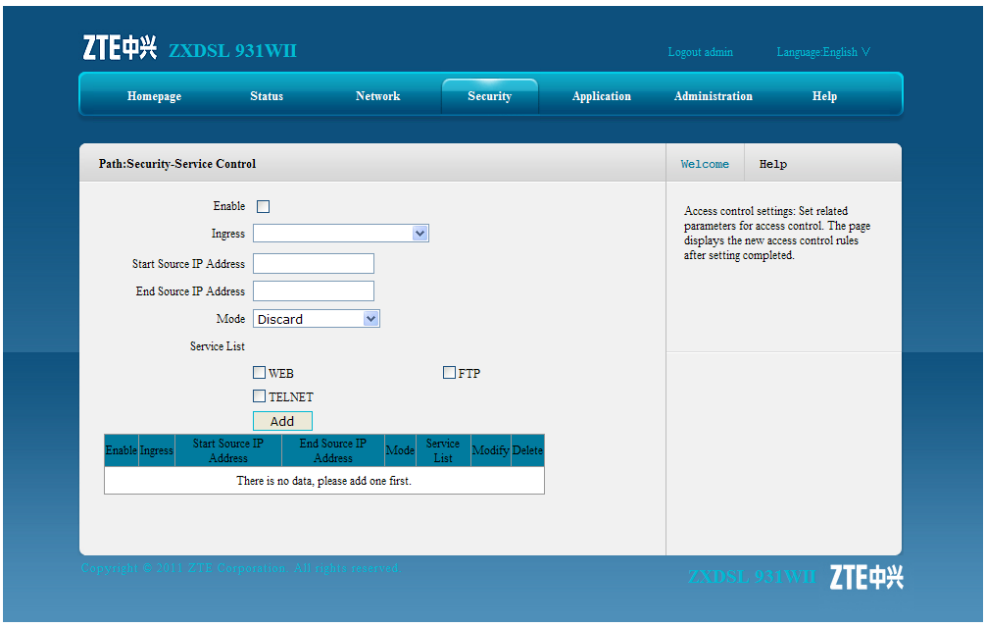


Table 6-7 lists the service control parameters.

Table 6-7 Service Control Parameter

Parameter	Description
Enable	Enable the service control function.
Ingress	Specify the data stream inbound direction. This parameter cannot be null.
Start Source IP Address/End Source IP Address	IP address segment that needs to be filtered. When this parameter is null, it refers to all the IP addresses.
Mode	The mode can be **Discard** or **Permit**.
Service List	Specified the service that is permit or denied to access.

2. Configure the service control parameters according to the request.
3. After the configuration, click **Add**.

– End of Steps –

Result

The service control setting is configured.

The user with specified IP address is permit or denied to access the service that the ZXDSL 931WII device provides.

6.6 ALG

Short Description

Perform this procedure to configure the ALG settings.

Context

The ALG functions allows the system to convert the private addresses to the public addresses in the packets for the security purpose.

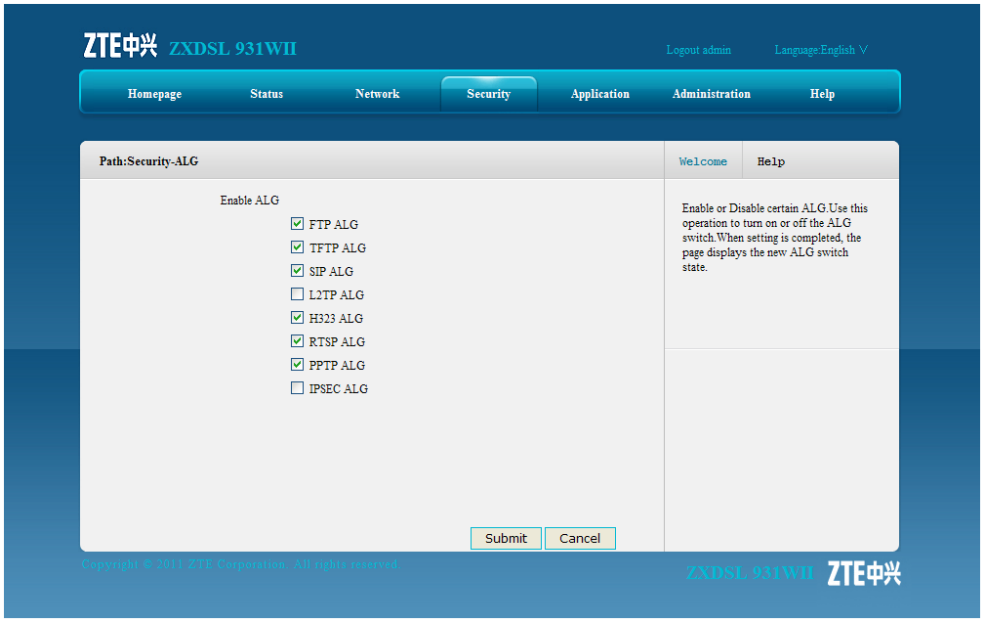
The addresses in the packets are converted based on the following protocols:

- FTP
- TFTP
- SIP
- L2TP
- H323
- RSTP
- PPTP
- IPSEC

Steps

1. On the menu bar, click **Security > ALG** to open the ALG page, as shown in Figure 6-8.

Figure 6-8 ALG



2. Select the ALG services by selecting the corresponding check boxes, and then click **Submit**.

– End of Steps –

Chapter 7
Application

Table of Contents

7.1 DDNS

Short Description

You can configure DDNS to enable the host that has a dynamic IP address to provide the domain name service.

Prerequisites

Before the operation, make sure that:

- The inbound connection is enabled.
- The domain name has been registered.

Context

DNS is the way in which a URL or domain is converted to an IP address. In many home networking environments, the DSL IP address is provided by DHCP and therefore changes from time to time. Dynamic DNS (DDNS) allows you to have a website such as www.my-site.com in which the IP address is dynamically assigned

After DDNS is applied, the device that has the dynamic IP address can also provide the domain name service. For example, when the device obtains an IP address through xDSL

dial-up or DHCP server dynamic allocation, the device provides the domain name service. If the device IP address changes, it does not affect the subscribers' access on the domain name.

Steps

1. On the menu bar, click **Application > DDNS** to open the DDNS page, as shown in Figure 7-1.

Figure 7-1 DDNS

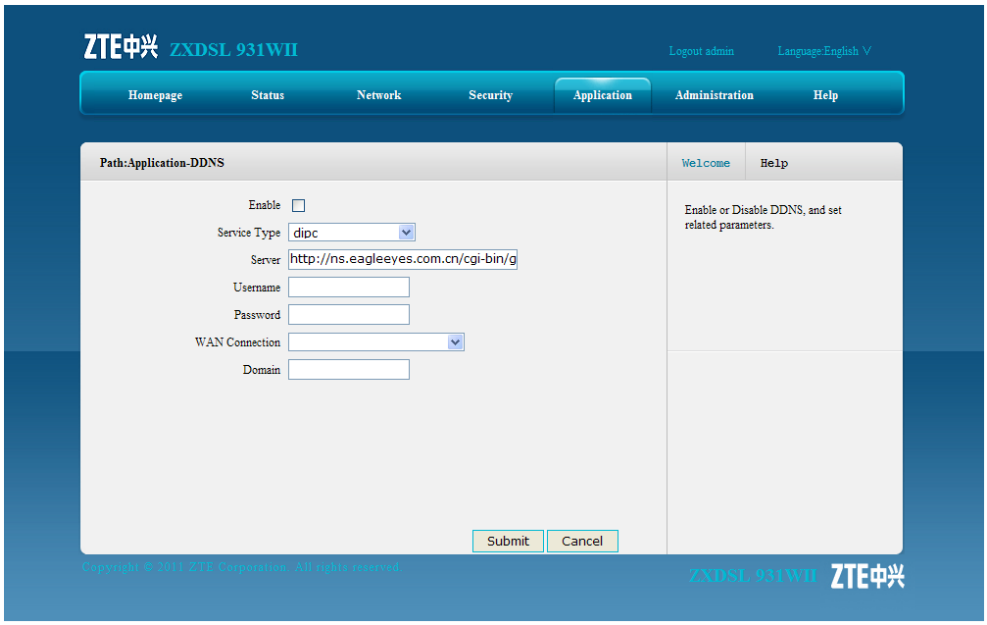


Table 7-1 lists the DDNS parameters.

Table 7-1 DDNS Parameter

Parameter	Description
Enable	Select this option to enable the DDNS function.
Service Type	DDNS service type includes **dipc**, **dyndns**, and **DtDNS**.
Server	Server address. If the GNUDIP HTTP is used, the server address is a URL. By default, it is http://ns.eagleeyes.com.cn/cgi-bin/gdipupdt.cgi.
Username	DDNS server user name.
Password	DDNS server password.
WAN Connection	WAN connection type.
Domain	Domain name corresponding to the user. It takes effect only when the GNUDIP protocol is used.

2. Configure the DDNS parameters according to the request.

3. After the configuration, click **Submit**.

– End of Steps –

Result

DDNS is configured.

7.2 DMZ Host

Short Description

You can configure the DMZ settings to enable the computers at the LAN side to provide services to the outside.

Context

By default, all the ports are enabled.

Steps

1. On the menu bar, click **Application > DMZ Host** to open the DMZ host page, as shown in .

Figure 7-2 DMZ Host

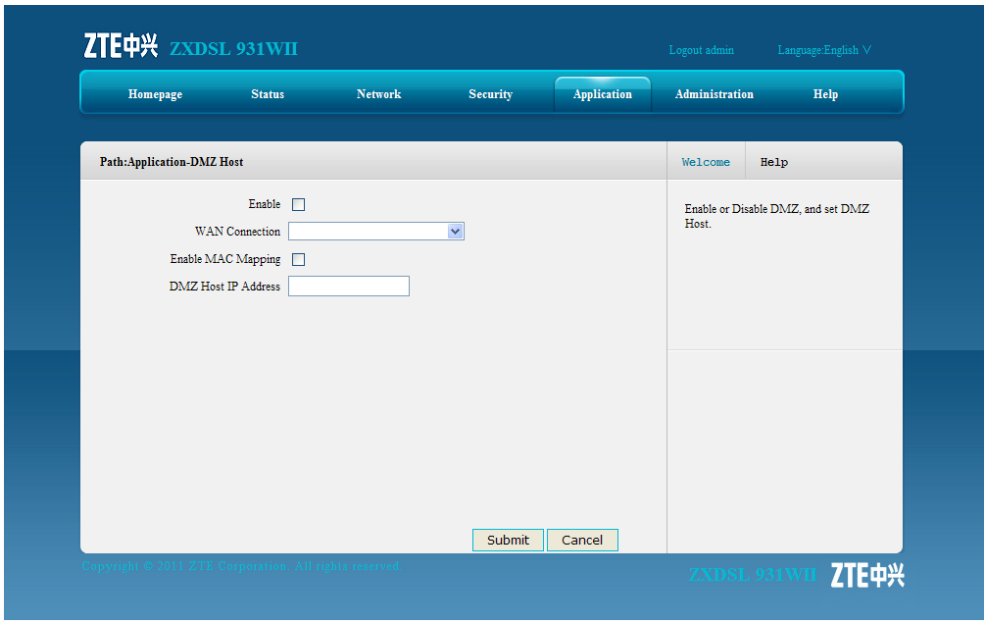


Table 7-2 lists the DMZ host parameters.

Table 7-2 DMZ Host Parameters.

Parameter	Description
Enable	Select this option to enable the DMZ host function.

Parameter	Description
WAN Connection	The WAN connection that the computer at the LAN side uses to provide service to the outside
Enable MAC Mapping	Enable the MAC mapping function.
DMZ Host IP Address	The IP address of the computer that provides services to the outside
DMZ Host MAC Address	The MAC address of the computer that provides services to the outside

2. Configure the DMZ host parameters according to the request.
3. After the configuration, click **Submit**.

– End of Steps –

Result

The DMZ host is configured.

The computer at the LAN side can provides services to the outside.

7.3 UPnP

Short Description

Perform this procedure to configure the UPnP setting.

Context

The UPnP function supports zero configuration, invisible networking, and auto discovery on the device type.

After the function is configured, the device can dynamically enter a network, get its IP address, announce its functions and learn functions of other devices.

Steps

1. On the menu bar, click **Application > UPnP** to open the UPnP page, as shown in Figure 7-3.

Figure 7-3 UPnP

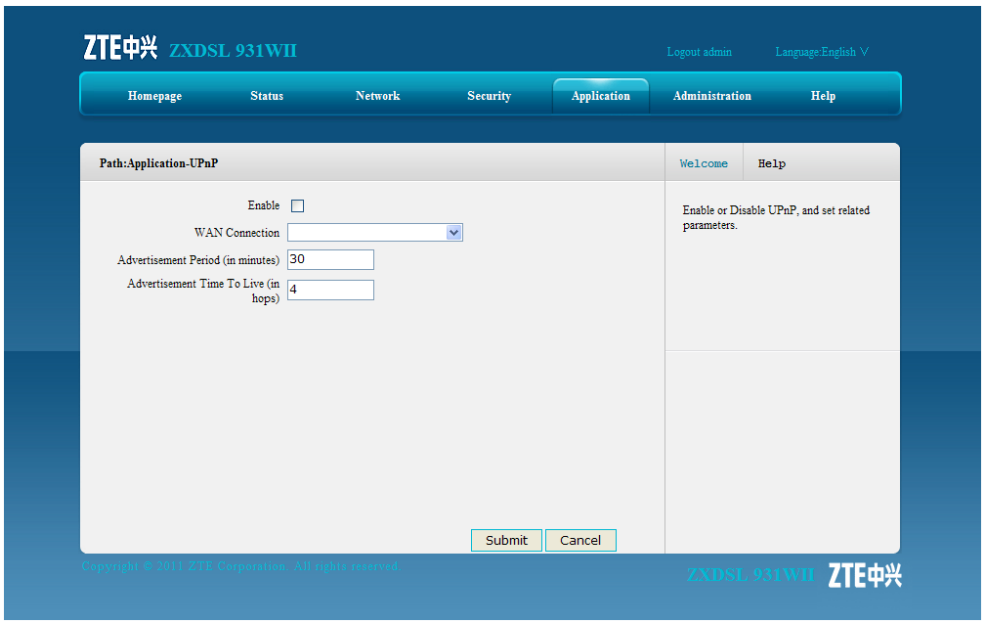


Table 7-3 lists the UPnP parameters.

Table 7-3 UPnP Parameter

Parameter	Description
Enable	Select this option to enable the UPnP function.
WAN Connection	WAN connection.
Advertisement Period (in minutes)	Time period that the UPnP device sends an announcement packet. If the UPnP device does not send any announcement packet during this period, it indicates that the device is invalid. By default, the period is 30 minutes.
Advertisement Time To Live (in hops)	The TTL (Time to live) for the advertisement The advertisement will be abandoned after it has been transferred the specified times by the routers. The default value is 4.

2. Configure the UPnP parameters according to the request.
3. After the configuration, click **Submit**.

– End of Steps –

Result

UPnP is configured.

7.4 UPnP Port Mapping

Short Description

Perform this procedure to display the UPnP port mapping information of the CPE.

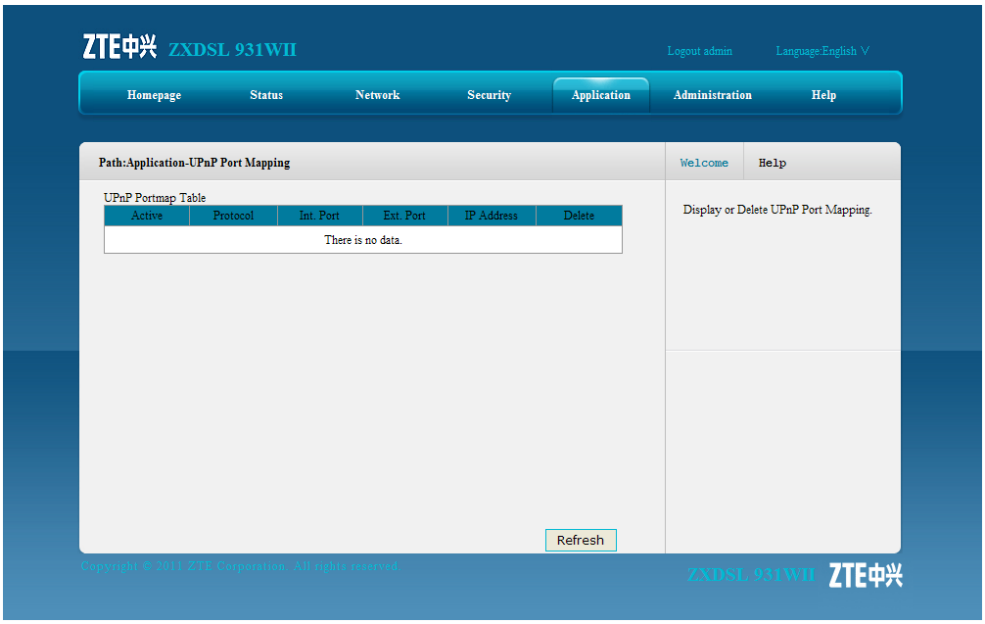
Prerequisites

Before this operation, make sure that the UPnP device is connected.

Steps

1. On the menu bar, click **Application > UPnP Port Mapping** to open the UPnP port mapping page, as shown in Figure 7-4. This page displays the UPnP port mapping relationship.

Figure 7-4 UPnP Port Mapping



– End of Steps –

Result

UPnP port mapping is displayed.

7.5 Port Forwarding

Short Description

You can configure port forwarding so that a computer from the external network can access the LAN-side server through the CPE WAN.

Context

If you have local servers for different services and you want to make them publicly accessible, you need to specify the port forwarding policy. With NAT applied, it translates the internal IP addresses of these servers to a single IP address that is unique on the Internet.

To the Internet users, all virtual servers on your LAN side have the same IP Address. This IP Address is allocated by your ISP. This address should be static, rather than dynamic, to make it easier for Internet users to connect to your servers. However, you can use Dynamic DNS feature to allow users to connect to your virtual servers by using a URL, instead of an IP address.

Steps

1. On the menu bar, click **Application > Port Forwarding** to open the port forwarding page, as shown in .

Figure 7-5 Port Forwarding

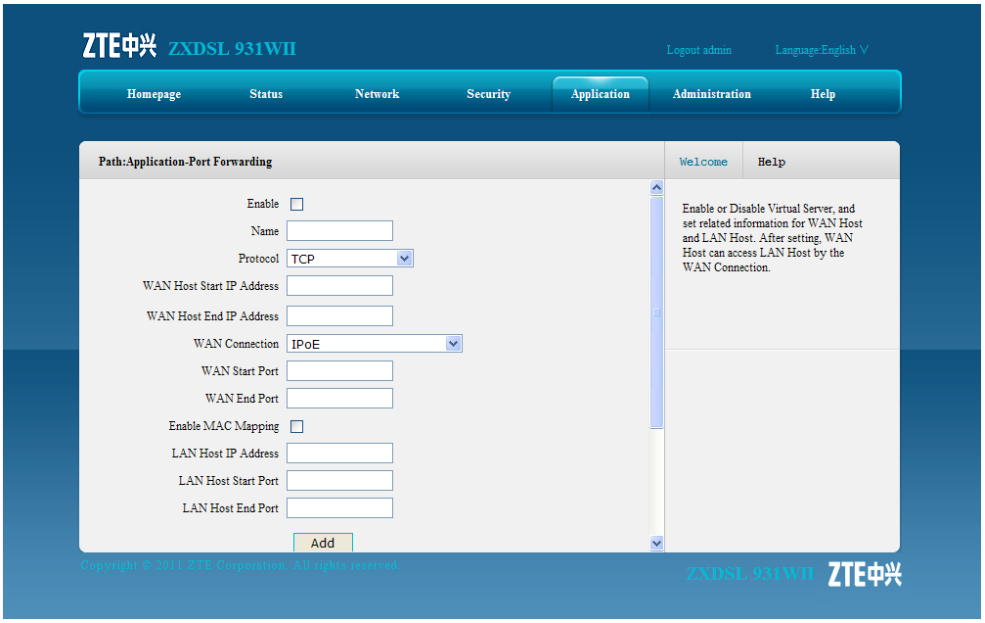


Table 7-4 lists the port forwarding parameters.

Table 7-4 Port Forwarding Parameter

Parameter	Description
Enable	Select this option to enable port forwarding function.
Name	Virtual host name, which cannot be null
Protocol	Protocol name, including **TCP**, **UDP**, as well as TCP AND UDP protocols. The default protocol is **TCP**.
WAN Host Start IP Address/WAN Host End IP Address	IP address segment of the WAN-side computers

Parameter	Description
WAN Connection	WAN connection that is used to access the virtual host
WAN Start Port/WAN End Port	Port number range of the WAN-side computers
Enable MAC Mapping	Select this option to map the MAC addresses of the LAN side computers to a single MAC address.
LAN Host IP Address	IP address of the LAN-side host
LAN Host MAC Address	MAC address of the LAN-side host
LAN Host Start Port/LAN Host End Port	Port number range of the LAN-side hosts

2. Configure the port forwarding parameters according to the request.
3. After the configuration, click **Add**.

– End of Steps –

7.6 DNS Service

This section includes the following:

- Domain Name
- Hosts
- DNS

7.6.1 Domain Name

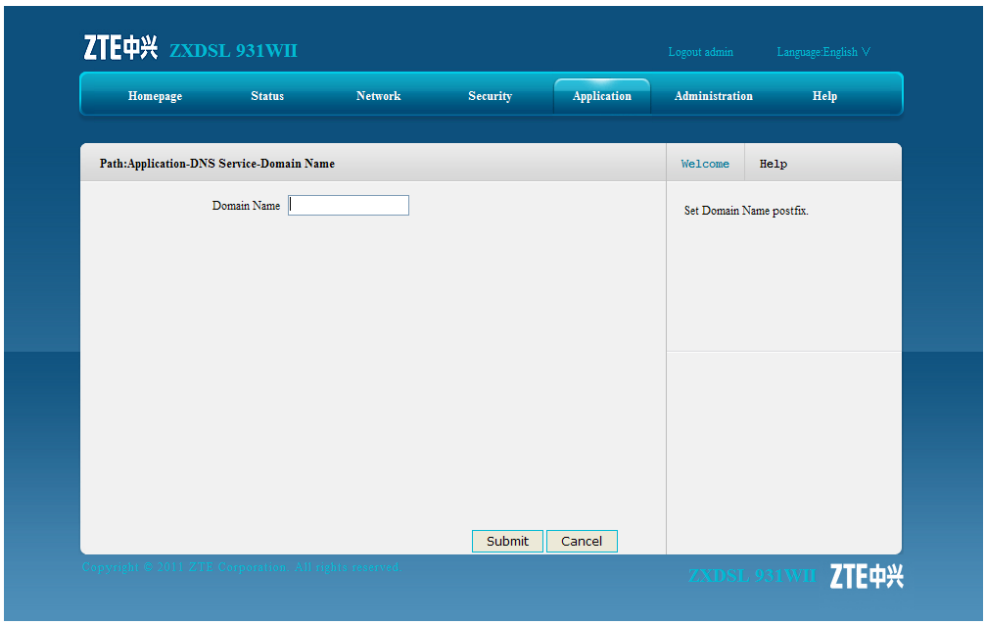
Short Description

Perform this procedure to configure the domain name to add the device to the corresponding network domain.

Steps

1. On the menu bar, click **Application > DNS Service > Domain Name** to open the domain name page, as shown in Figure 7-6.

Figure 7-6 Domain Name



2. Type the domain name in the **Domain Name** text box.
3. Click **Submit**.

– End of Steps –

Result

The domain name is configured.

7.6.2 Hosts

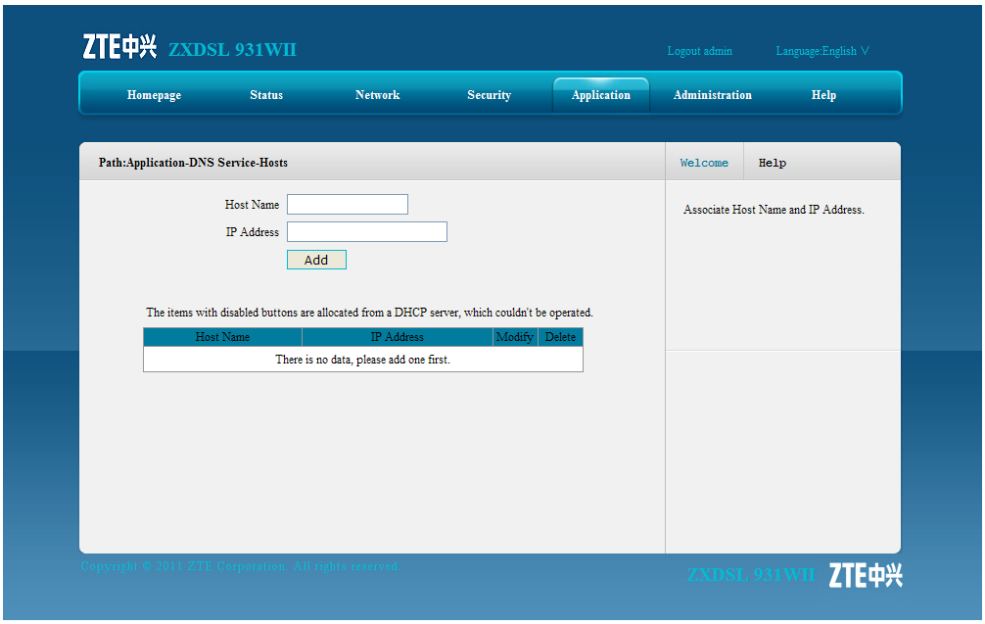
Short Description

Perform this procedure to configure the mapping relationship between the user-side host name and IP address.

Steps

1. On the menu bar, click **Application > DNS Service > Hosts** to open the hosts page, as shown in Figure 7-7.

Figure 7-7 Hosts



2. Type the host name in the **Host Name** text and the IP address in the **IP Address** text box.
3. Click **Add**.

– End of Steps –

7.6.3 DNS

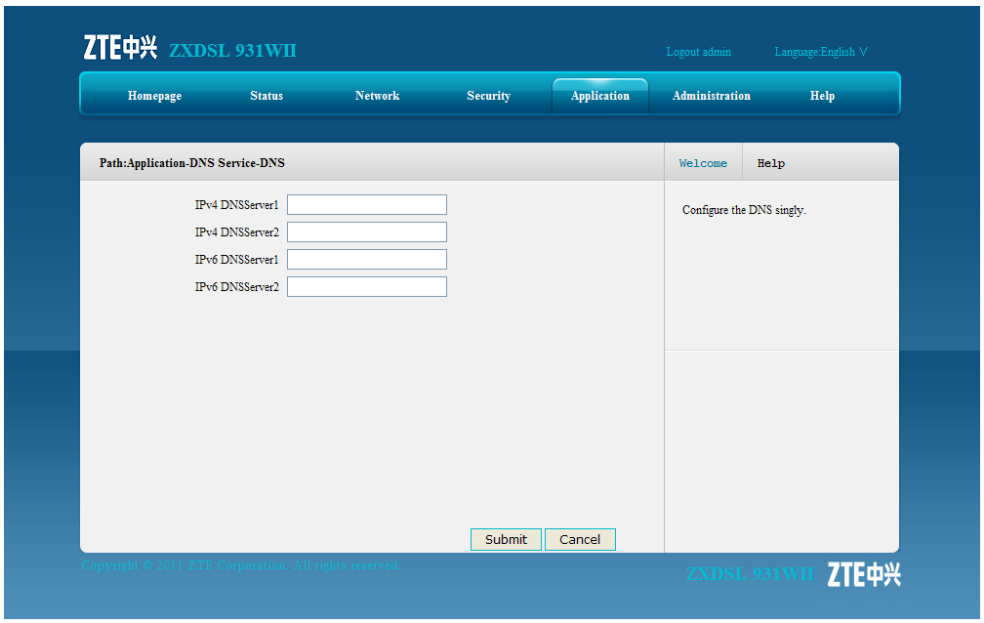
Short Description

Perform this procedure to configure the global DNS parameters.

Steps

1. On the menu bar, click **Application > DNS Service > DNS** to open the DNS page, as shown in Figure 7-8.

Figure 7-8 DNS



2. Type the IP address of the DNS server assigned by the ISP.
3. Click **Submit**.

– End of Steps –

Result

The global DNS parameters are configured.

7.7 QoS

This section includes the following:

- Basic
- Classification

7.7.1 Basic

Short Description

Perform this procedure to enable or disable the QoS function.

Context

SP (Strict Priority) is the simplest queuing mode. It serves the queue with the highest PRI first and will not turn to the queue with lower PRI until the first queue is empty. Advantage of this approach is that services with higher PRI will always be processed ahead of lower-PRI services. Nevertheless, lower-PRI services may be thoroughly blocked.

The WRR (Weighted Round Robin) mode serves all queues and allocates precedence to queues of higher PRI. In most cases, WRR handles high-PRI services ahead of low-PRI services. However, it does not necessarily mean that the services of lower PRI will be thoroughly blocked, especially when number of high-PRI services is big.

Steps

1. On the menu bar, click **Application > QoS > Basic** to open the basic page, as shown in Figure 7-9.

Figure 7-9 Basic

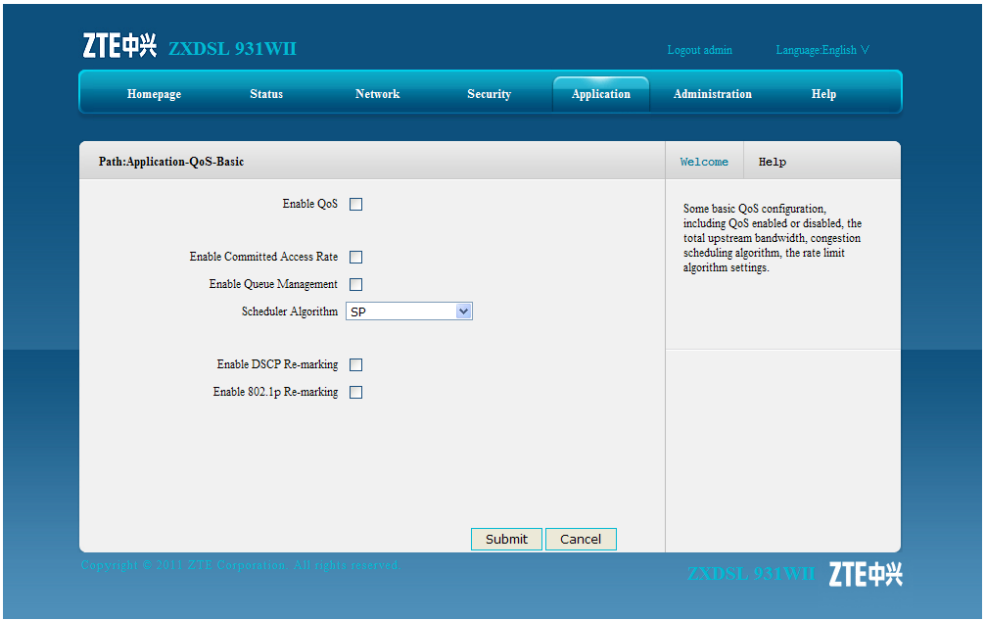


Table 7-5 describes the QoS basic parameters.

Table 7-5 QoS Basic Parameter

Parameter	Description
Enable QoS	Enable the QoS function.
Enable Committed Access Rate	Apply the committed access rate configuration.
Enable Queue Management	Apply the queue management configuration.
Schedule Algorithm	The schedule algorithm includes **SP**, **DWRR**, and **SP_DWRR**.
Enable DSCP Re-marking	Enable the DSCP re-marking function.
Enable 802.1p Re-marking	Enable the 802.1p re-marking function.

2. Select **Enable QoS** to enable the QoS function and then specify other QoS basic parameters.
3. After the configuration, click **Submit**.

– End of Steps –

Result

The basic QoS parameters are configured.

7.7.2 Classification

Short Description

Perform this procedure to configure the QoS classification rules.

Context

QoS is a network security mechanism that handles network transmission delay and congestion.

Steps

1. On the menu bar, click **Application > QoS > Classification** to open the classification page, as shown in Figure 7-10.

Figure 7-10 Classification

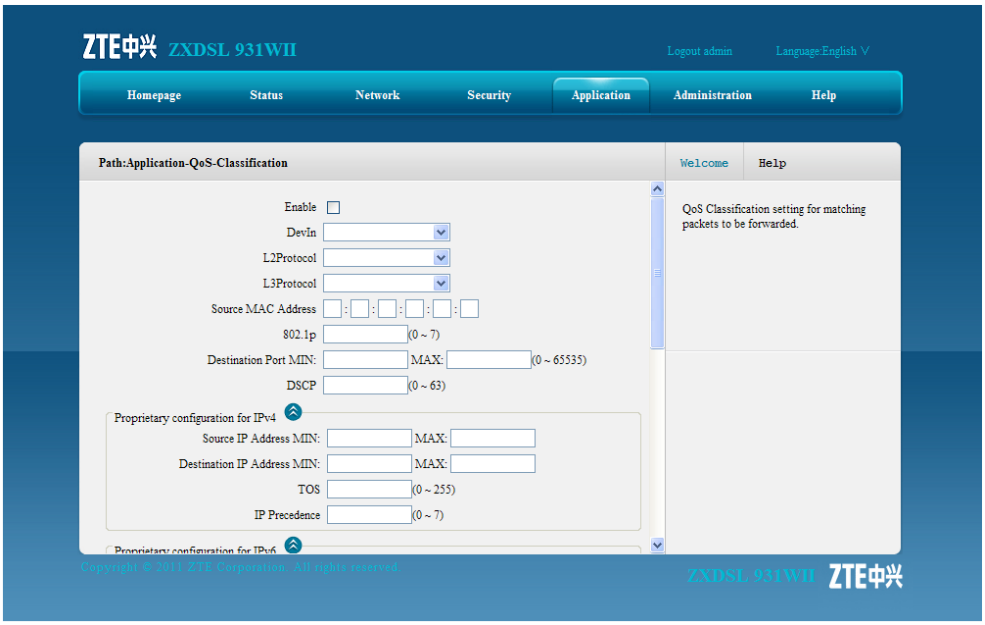


Table 7-6 lists the QoS classification parameters.

Table 7-6 QoS Classification Parameters

Parameter	Description
Enable	Select this option to apply the QoS classification setting.
DevIn	Data flow ingress
L2Protocol	The layer 2 protocol includes IPv4, IPv6, ARP, and PPPoE
L3Protocol	The layer 3 protocol includes TCP, UDP, and ICMP

Parameter	Description
Source MAC Address	Source host MAC address
802.1p	Range: 0–7
Destination Port MIN/MAX	Destination port range
DSCP	Range: 0–63
Source IP Address MIN/MAX	Source IP address range
Destination IP Address MIN/MAX	Destination IP address range
TOS	Type of service Range: 0–7
IP Precedence	Range: 0–7
Source IPv6 Address MIN/MAX	Source IPv6 address range
Destination IPv6 Address MIN/MAX	Destination IPv6 address range
Traffic Class	Range: 0–255
802.1p Re-marking	802.1P identifier value, Range: 0–7
DSCP Re-marking	DSCP identifier Ranging: 0–63
Queue Index	QoS rule number Range: 1–3

2. Configure the QoS classification parameters according to the request.
3. Click **Add**.

– End of Steps –

Result

The QoS classification rules are configured.

7.8 SNTP

Short Description

You can configure SNTP to synchronize the device time with the server time.

Steps

1. On the menu bar, click **Application > SNTP** to open the SNTP page, as shown in .

Figure 7-11 SNTP

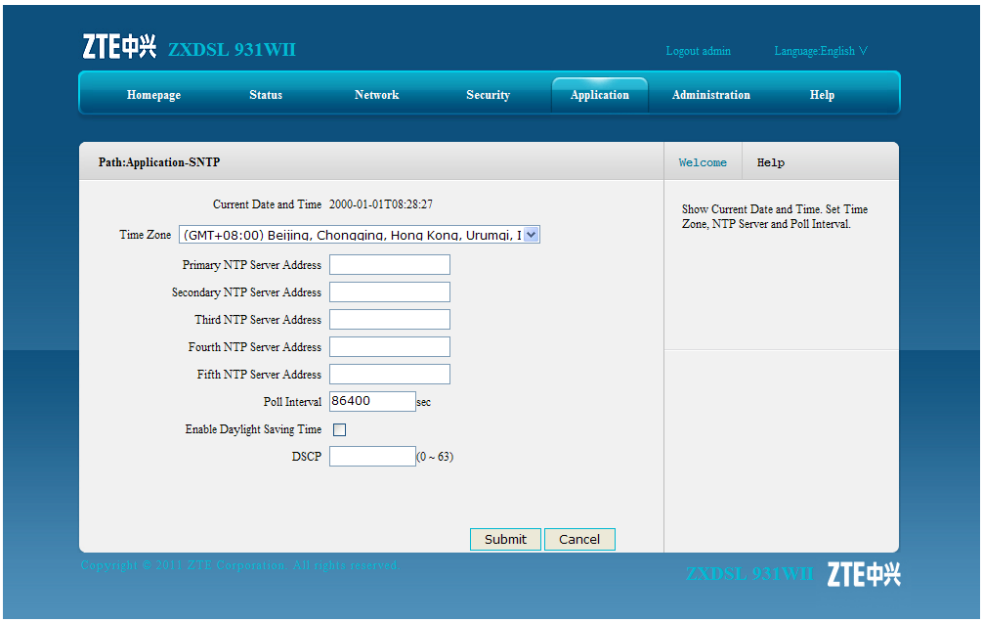


Table 7-7 lists the SNTP parameters.

Table 7-7 SNTP Parameters

Parameter	Description
Time Zone	Time zone
NTP Server Address	IP address of the NTP server
Poll Interval	Poll interval (Unit: second), interval of time synchronization
Enable Daylight Saving Time	Select this option to enable the daylight saving time function.
DSCP	Range: 0–63

2. Configure the SNTP parameters according to the request.
3. After the configuration, click **Submit**.

– End of Steps –

Result

SNTP is configured.

7.9 IGMP

This section includes the following:

- WAN connection
- Basic configuration

7.9.1 WAN Connection

Short Description

Perform this procedure to configure the WAN connection for IGMP packets.

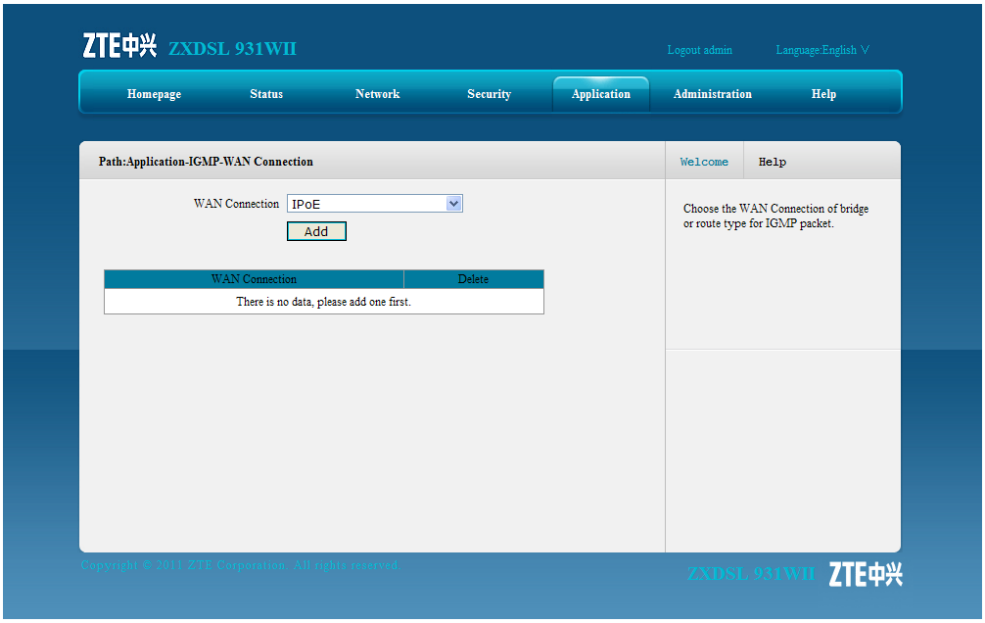
Prerequisites

Before this operation, make sure that the WAN connection configuration is complete.

Steps

1. On the menu bar, click **Application > IGMP > WAN Connection** to open the WAN connection page, as shown in Figure 7-12.

Figure 7-12 WAN Connection



2. Select one WAN connection from the **WAN Connection** drop-down list, and then click **Add**.

– End of Steps –

Result

The WAN connection for IGMP packets is configured.

7.9.2 Basic Configuration

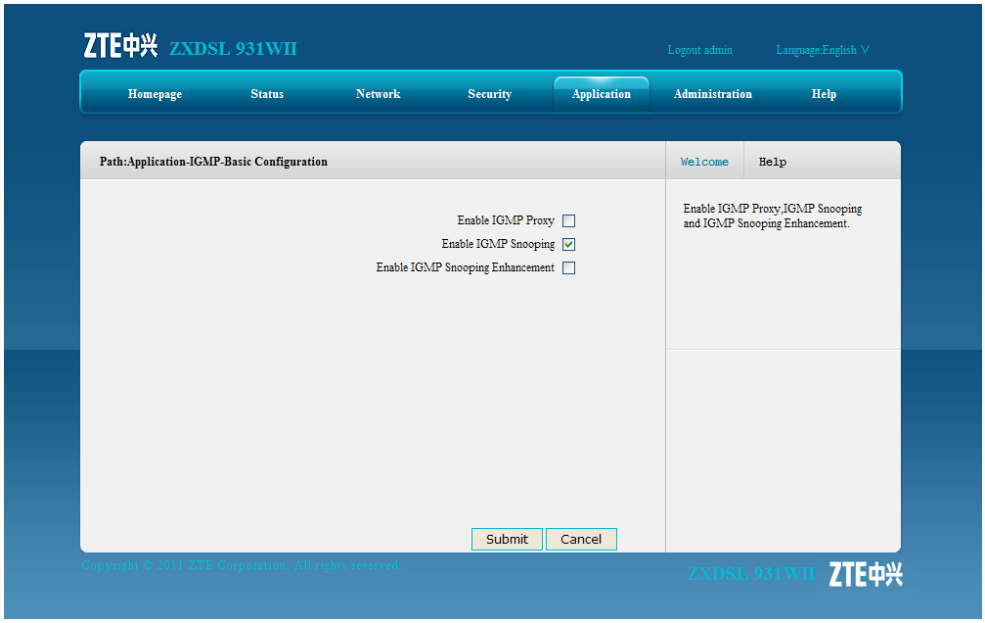
Short Description

Perform this procedure to enable the basic IGMP function.

Steps

1. On the menu bar, click **Application > IGMP > Basic Configuration** to open the basic configuration page, as shown in Figure 7-13.

Figure 7-13 Basic Configuration



2. Place a check mark in the IGMP check box to enable the corresponding IGMP function.
3. After the configuration, click **Submit**.

– End of Steps –

Result

IGMP basic configuration is complete.

7.10 MLD

This section includes the following:

- MLD snooping
- MLD proxy

7.10.1 MLD Snooping

Short Description

Perform this procedure to enable the MLD snooping function.

Prerequisites

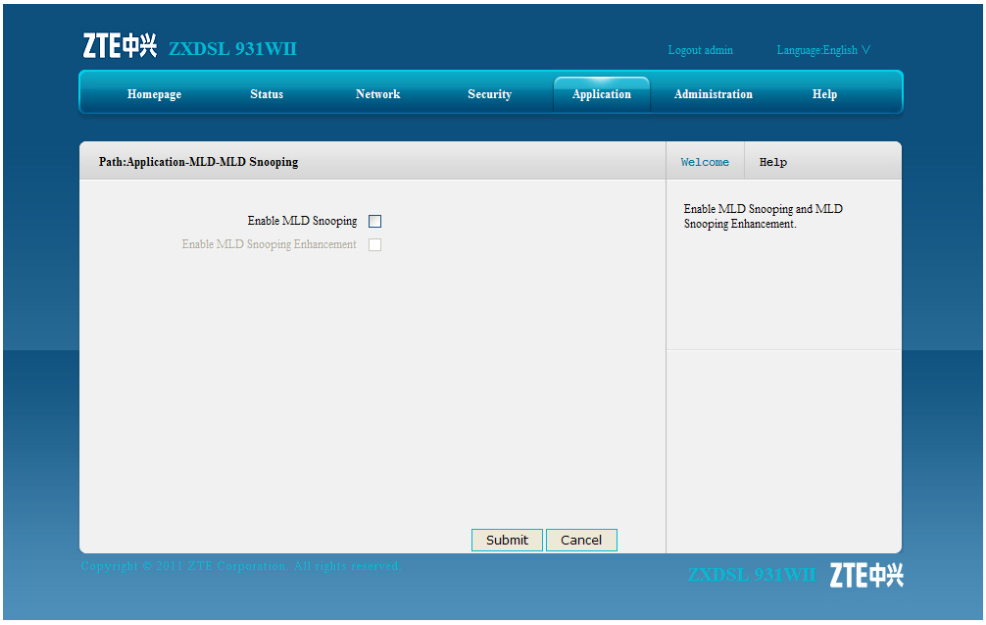
Before the operation, make sure that:

- IPv6 service is available.
- IPv6 WAN connection is created.

Steps

1. On the menu bar, click **Application > MLD > MLD Snooping** to open the MLD snooping page, as shown in Figure 7-14.

Figure 7-14 MLD Snooping



2. Place a check mark in the check box to enable the corresponding MLD snooping function.
3. After the configuration, click **Submit**.

– End of Steps –

Result

The MLD snooping function is enabled.

7.10.2 MLD Proxy

Short Description

Perform this procedure to enable the MLD proxy function.

Prerequisites

Before the operation, make sure that:

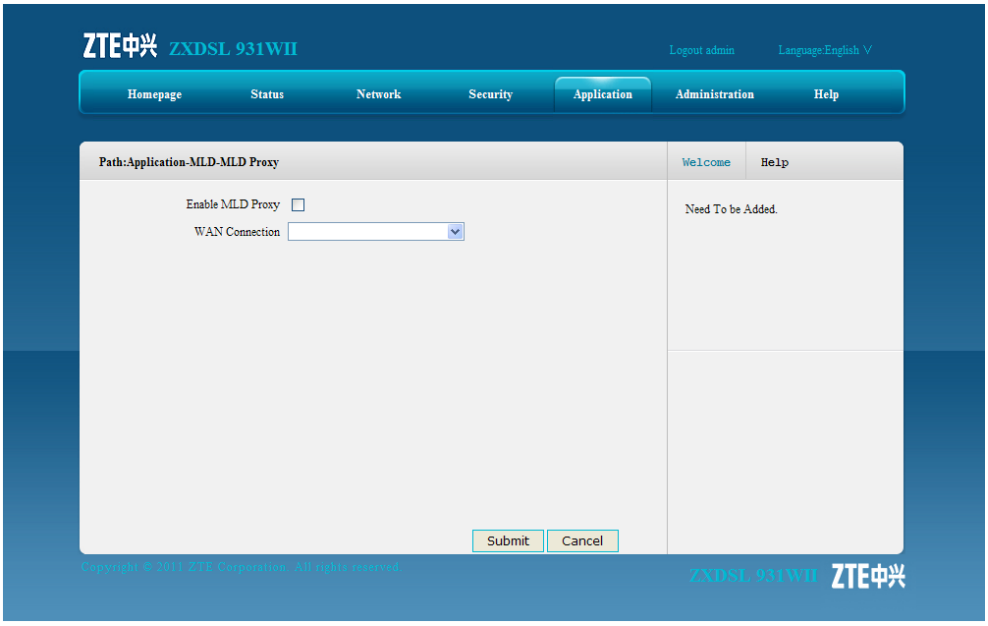
- IPv6 service is available.
- IPv6 WAN connection is created.

Context

Steps

1. On the menu bar, click **Application > MLD > MLD Proxy** to open the MLD proxy page, as shown in Figure 7-15.

Figure 7-15 MLD Proxy



2. Select a WAN connection from the **WAN Connection** drop-down list, and place a check mark in the **Enable MLD Proxy** check box to enable the MLD proxy function.
3. After the configuration, click **Submit**.

– End of Steps –

Result

The MLD proxy function is configured.

7.11 USB Storage

Short Description

Perform this procedure to check the USB storage device information.

Prerequisites

Before the operation, make sure the USB storage device is connected to the ZXDSL 931WII device.

Context

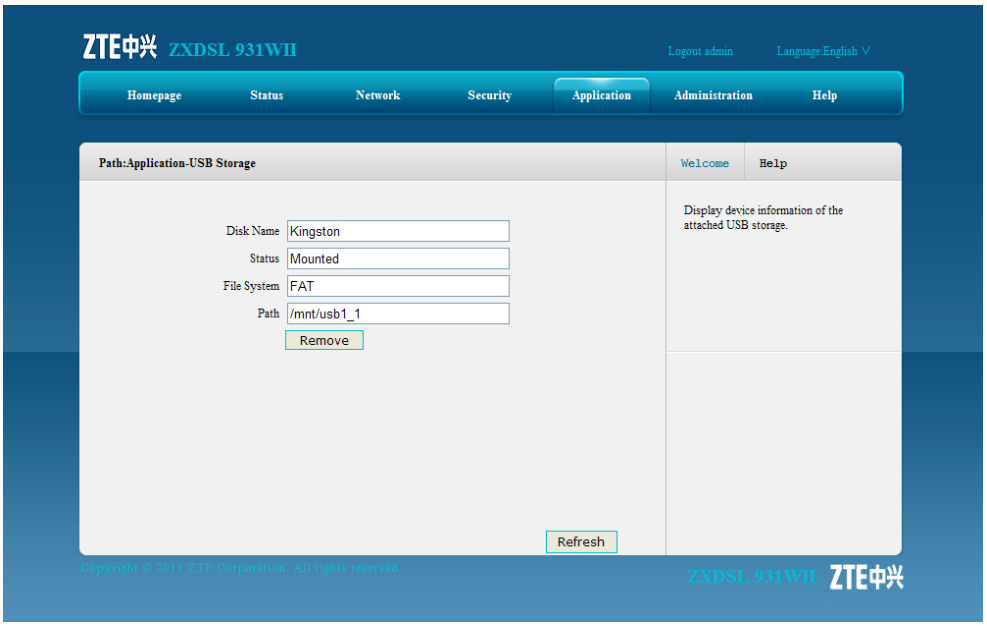
The FTP protocol is used to manage the USB storage device.

The default directory to access the USB storage device is `/mnt`.

Steps

1. On the menu bar, click **Application > USB Storage** to open the USB storage page, which displays the information of the attached USB storage device, as shown in Figure 7-16.

Figure 7-16 USB Storage



– End of Steps –

Result

The information of the attached USB storage device is displayed.

7.12 DMS

Short Description

Perform this procedure to configure the DMS settings.

Prerequisites

Before the operation, make sure that:

- The UPnP function is enabled.
- The USB device is connected to the device.

Context

DMS is a multimedia server defined in DLNA protocol, which uses UPnP protocol to search and categorize the local media files or photos, and provide VOD services for the DMP.

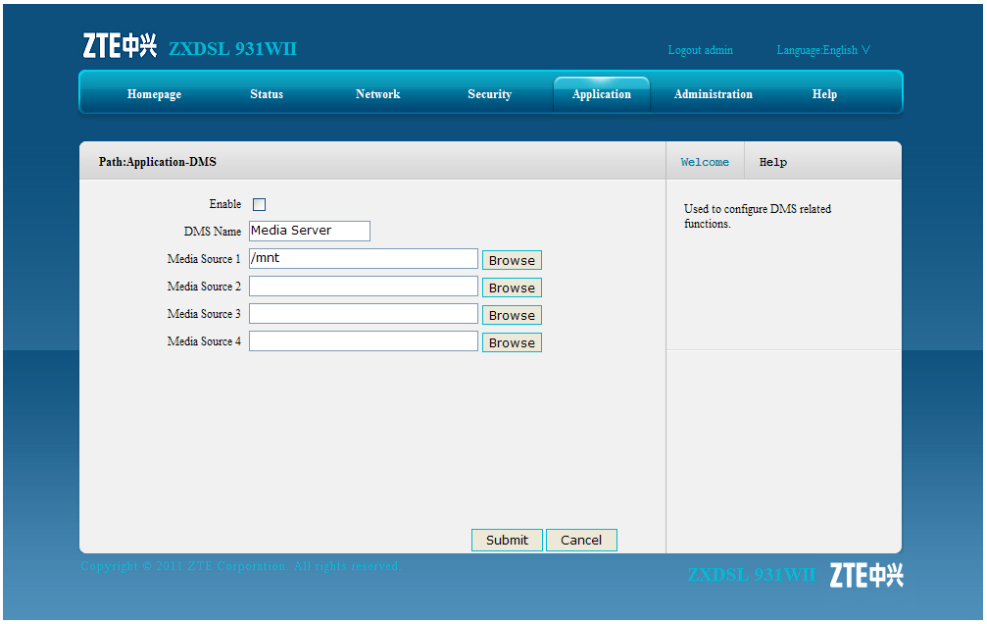
If the DMS function in enabled on the ZXDSL 931WII device, any client that supports UPnP function can use the specified DMP (for example, windows media player) to watch the media files or photos stored in the USB storage device.

The version of the windows media player used for DMS function must be 11 or later, or the OS must be vista or Win 7. To enable the DMP function in OS of earlier version, special tools, such as Intel(R) Tool for UPnP(TM) Technology or Twonky Media Manager must be installed.

Steps

1. On the menu bar, click **Application > DMS** to open the DMS page, as shown in Figure 7-17.

Figure 7-17 DMS



2. Enable the DMS function, and specify the place to store the media files.

NOTE **Note:**

By default, the media source is /mnt, that is the root directory of the USB device. You can change the root directory to other directory of the USB storage device.

3. After the configuration, click **Submit**.

– End of Steps –

Result

The DMS function is configured.

7.13 FTP Application

Short Description

Perform this procedure to configure the FTP application.

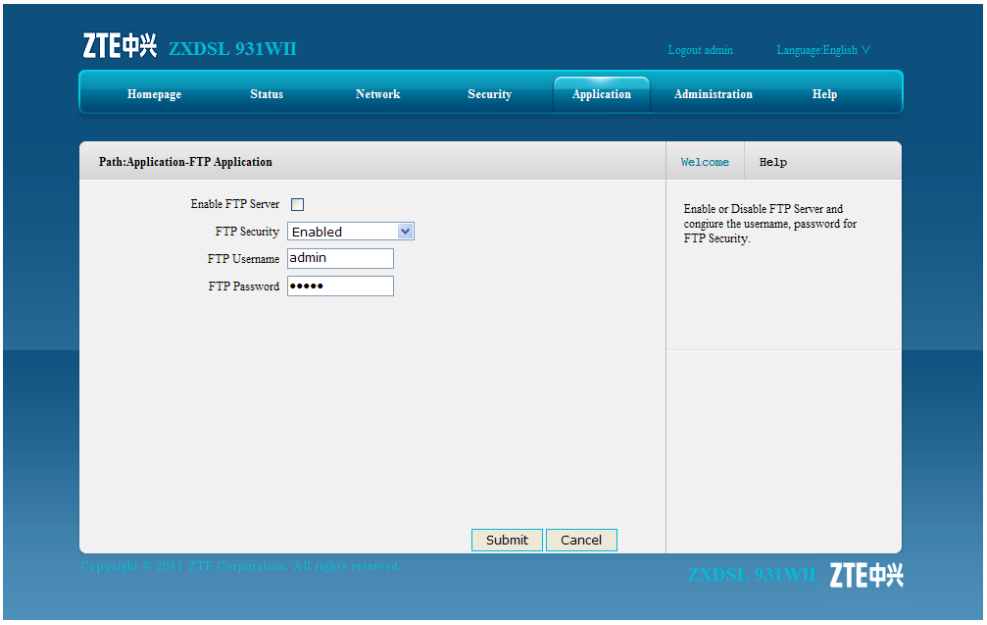
Prerequisites

Before the operation, make sure a USB storage device is connected to the ZXDSL 931WII device.

Steps

1. On the menu bar, click **Application > FTP Application** to open the FTP application page, as shown in Figure 7-18.

Figure 7-18 FTP Application



2. Place a check mark in the **Enable FTP Server** check box, and specify other parameters according to the request.
3. After the configuration, click **Submit**.

– End of Steps –

Result

The FTP function of the ZXDSL 931WII device is enabled, and the ZXDSL 931WII device can work as a FTP server.

7.14 Dynamic Routing

Short Description

You can enable the RIP dynamic routing function so that the system implements layer-3 data forwarding.

Context

RIP is a dynamic routing protocol based on the V-D algorithm. It exchanges the routing information through the UDP data packets. RIP has its own routing algorithm. It is adaptive to the network topology changes, has higher system requirements than static routing, and occupies certain network resources.

Steps

1. On the menu bar, click **Application > Dynamic Routing** to open the dynamic routing page, as shown in Figure 7-19.

Figure 7-19 Dynamic Routing

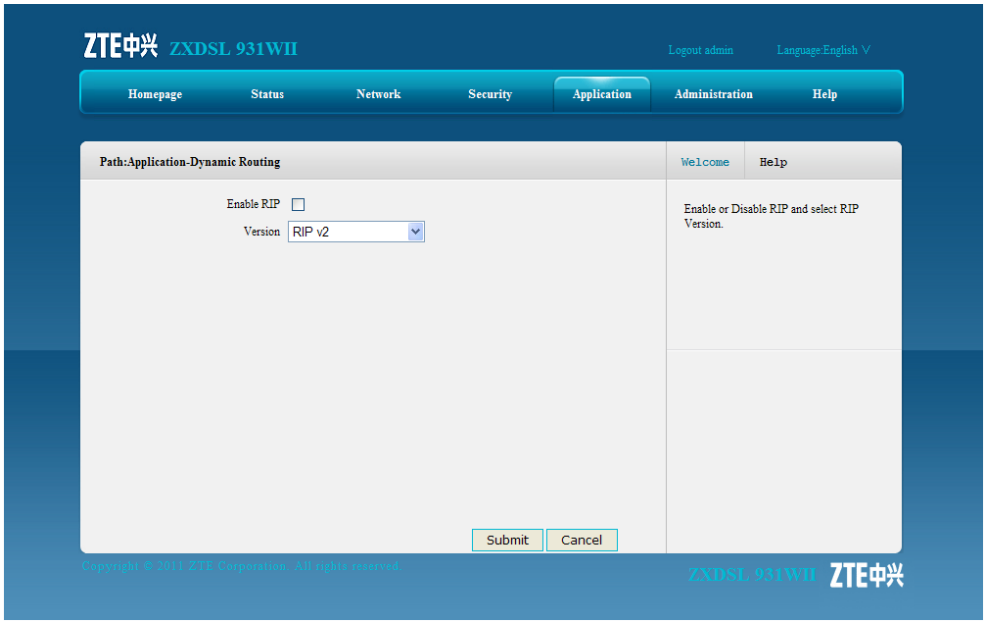


Table 7-8 lists the dynamic routing parameters.

Table 7-8 Dynamic Routing Parameters

Parameter	Description
Enable RIP	Enable the RIP function.
Version	The options include **RIP v1**, **RIP v2**, and **RIP v1 Compatible**.

2. Configure the dynamic routing parameters according to the request.

3. Click **Submit**.

– End of Steps –

Result

Dynamic routing is configured.

7.15 Port Trigger

Short Description

Perform this procedure to configure the port triggering function.

Context

When one port is configured to be the triggering port, if one application uses that triggering port to setup a connection to the outside, the ZXDSL 931WII device will forward the outside connection to the internal forwarding port.

The port triggering is used to protect the ports. The system will not open these ports unless these ports are triggered.

Steps

1. On the menu bar, click **Application > Port Trigger** to open the port trigger page, as shown in Figure 7-20.

Figure 7-20 Port Trigger

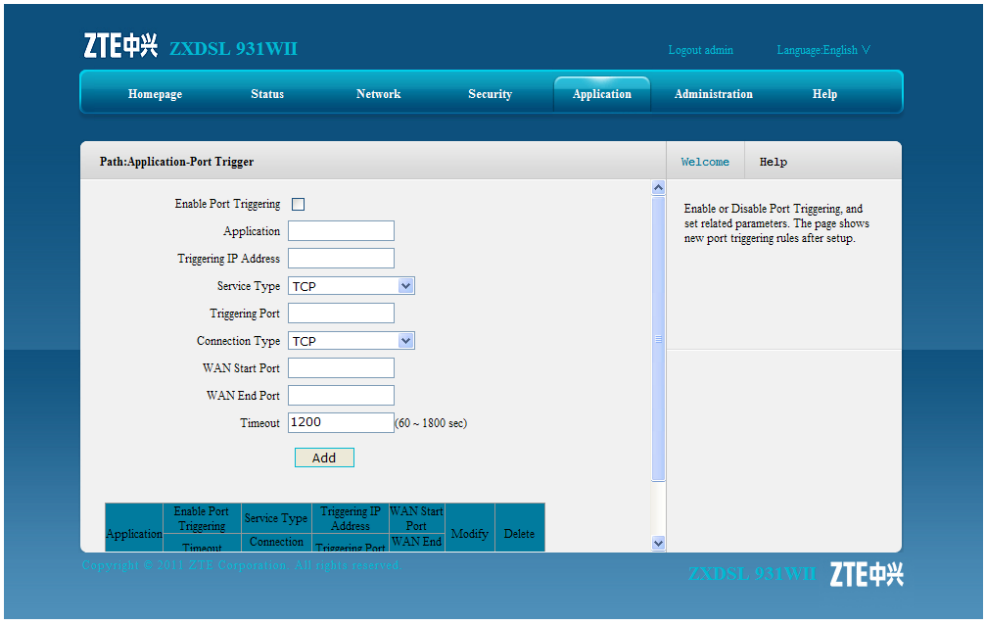


Table 7-9 lists the port trigger parameters.

Table 7-9 Port Trigger Parameters

Parameter	Description
Enable Port Triggering	Enable port triggering function.
Application	Name of the port triggering item
Triggering IP Address	IP address of the computer in the LAN side
Service Type	The service type of the application, including **TCP**, **UDP**, and **TCP AND UDP**. The default service type is **TCP**.
Triggering Port	The port that the application uses
Connection Type	The connection type that is used to connect the outside, including **TCP**, **UDP**, and **TCP AND UDP**. The default service type is **TCP**.
WAN Start Port/WAN End Port	Specify the port range of the device protocol that the triggering port maps, that is, the layer-4 port number of the packets. Once the device accesses the triggering port, the service between the start port and end port will be enabled. The Start Port and End Port must be specified and meet the following conditions. ● The end port number is larger than the start port number. ● The difference between the end port number and the start port number is less than nine
Timeout	The time when no traffic occurs

2. Configure the port trigger parameters according to the request.
3. Click **Add**.

– End of Steps –

Result

Port triggering is configured.

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Chapter 8
Administration

Table of Contents

8.1 TR-069 Management

This section includes the following:

- Configuring TR-069 basic parameters
- Managing TR-069 certificate

8.1.1 Configuring TR-069 basic parameters

Short Description

Perform this procedure to configure the TR-069 basic parameters.

Prerequisites

Before the operation, make sure that:

- The WAN connection is configured.
- The TR-069 certificate is imported.

Context

TR-069, also known as CPE WAN management protocol, is an NMS protocol carried out by the DSL forum. It manages the terminal devices more effectively.

Steps

1. On the menu bar, click **Administration > TR-069 Managent > Basic** to open the basic page, as shown in Figure 8-1.

Figure 8-1 TR-069 Basic Parameter

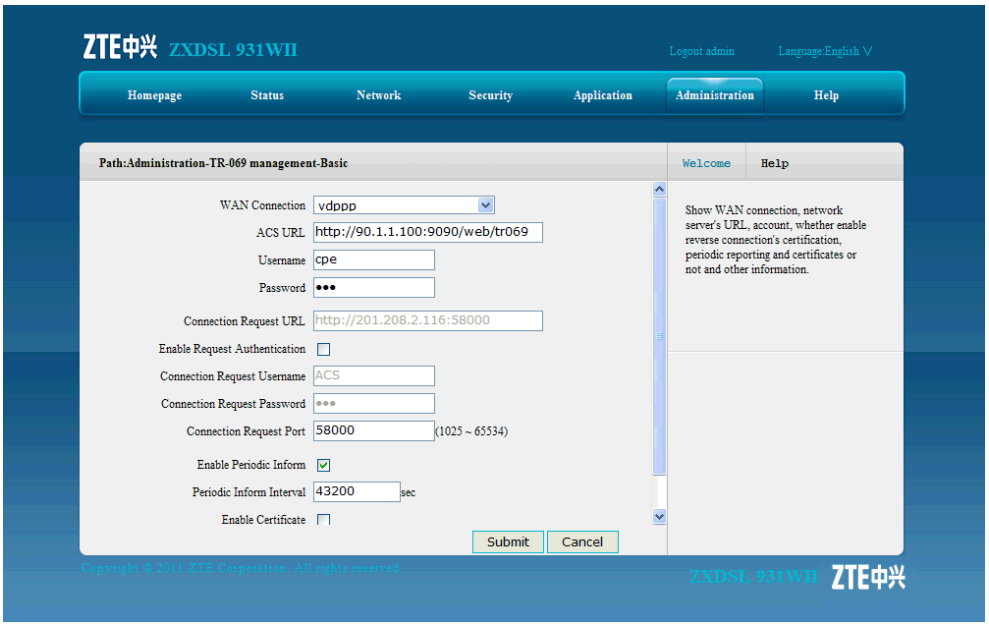


Table 8-1 lists the TR-069 basic parameters.

Table 8-1 TR-069 Basic Parameter

Parameter	Description
WAN Connection	WAN connection for the TR-069 service
ACS URL	The URL of the automatic configuration server that manages the device Default: http://0.0.0.0:9090/web/tr069
Username/Password	User name and password for the ZXDSL 931WII device to log in to the automatic configuration server
Connection Request URL	Connection request URL, which is automatically generated by the system
Enable Request Authentication	If this function is enabled, the TR-069 connection will not be established when the automatic configuration server logs in to the CPE device unless the automatic configuration server provides the correct authentication user name and password.
Connection Request Username/Connection Request Password	User name and password for the TR-068 connection authentication that the automatic configuration server provides when it logs in to the ZXDSL 931WII device
Connection Request Port	Specify the connection request port. Range: 1025–65534
Enable Periodic Inform	Enable the periodic inform function.
Periodic Inform Interval	Periodic inform interval of the device (unit: second)
Enable Certificate	Enable TR-069 certificate

2. Configure the basic TR-069 parameters according to the request.
3. Click **Submit**.

– End of Steps –

Result

The basic TR-069 parameters are configured.

8.1.2 Managing TR-069 certificate

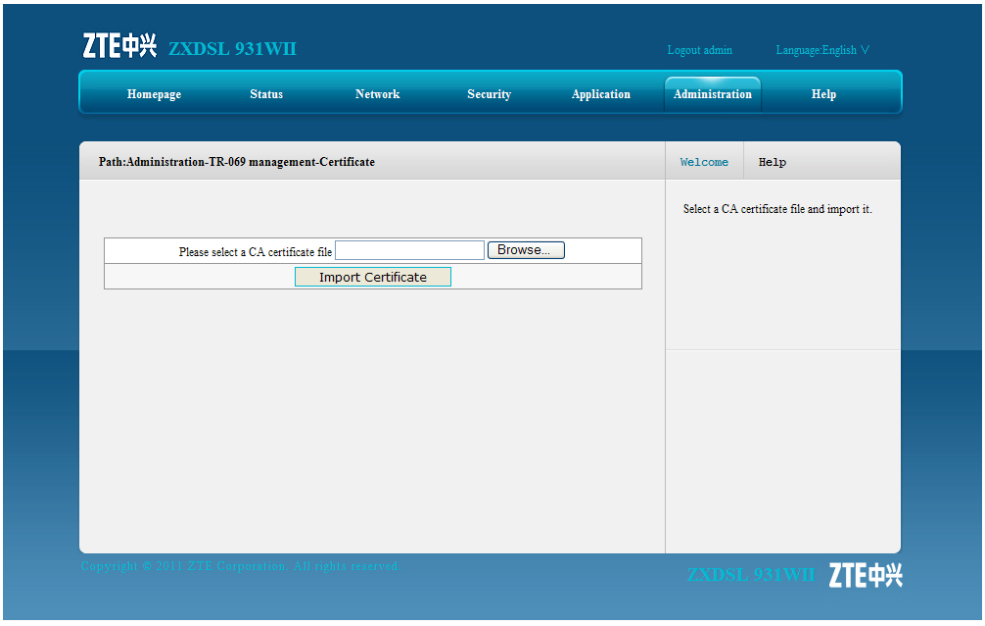
Short Description

Perform this procedure to manage the CA certificate.

Steps

1. On the menu bar, click **Administration > TR-069 Management > Certificate** to open the certificate page, as shown in Figure 8-2.

Figure 8-2 Certificate



2. Click **Browse** to select the CA certificate file.

NOTE **Note:**

The CA certificate is provided by the ISP to the terminal user. It is imported from the local.

3. Click **Import Certificate**.

– End of Steps –

Result

The CA certificate is imported.

8.2 User Management

Short Description

Perform this procedure to manage the user accounts and rights.

Context

Table 8-2 lists the user rights.

Table 8-2 User Rights

Role	User Name and Password	Right
Administrator	User name: admin Password: admin	The administrator has the privileges to configure all the parameters in the Web configuration pages.
User	User name: user Password: user	The common user can only perform the following operation: ● View the device or network information ● Software upgrade ● Modify the user name and password

Steps

1. On the menu bar, click **Administration > User Management** to open the user management page, as shown in Figure 8-3.

Figure 8-3 User Management

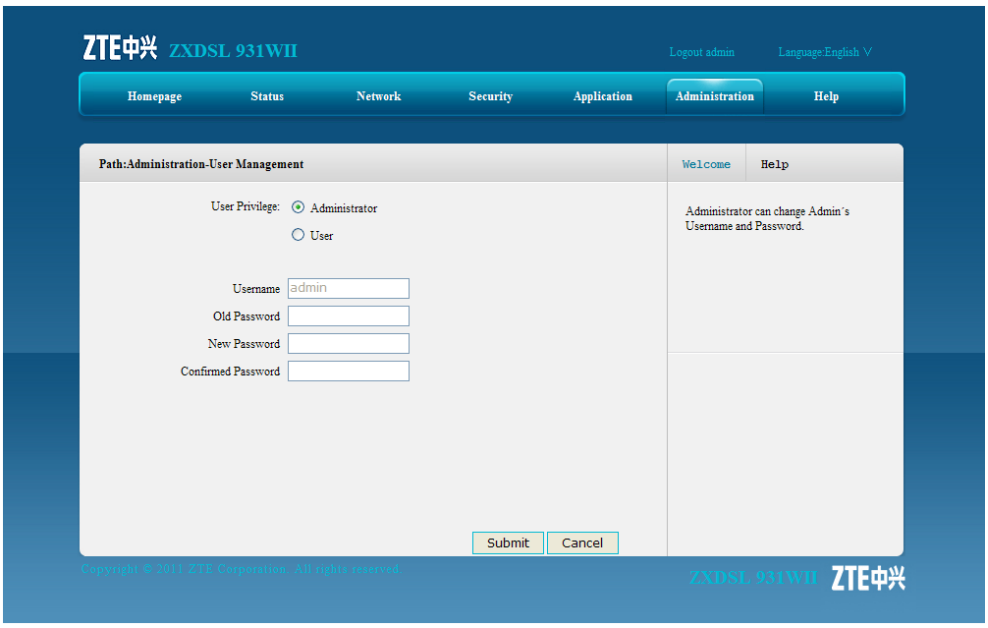


Table 8-3 lists the user management parameters.

Table 8-3 User Management Parameters

Parameter	Description
User Right	You can select **Administrator** or **User** to configure the accounts.
Username	The user name for the administrator or user privilege. The default user name of the administrator privilege is **Admin**, which cannot be modified.
Old Password	The default passwords are as follows: ● Administrator: admin ● User: user
New Password	Specify the new password.
Confirm Password	Confirm the new password.

2. Configure the user management parameters according to the request.
3. Click **Submit**.

– End of Steps –

Result

User accounts and rights are configured.

8.3 System Management

This section includes the following:

- System management
- Software upgrade
- User configuration management
- Default configuration management

8.3.1 System Management

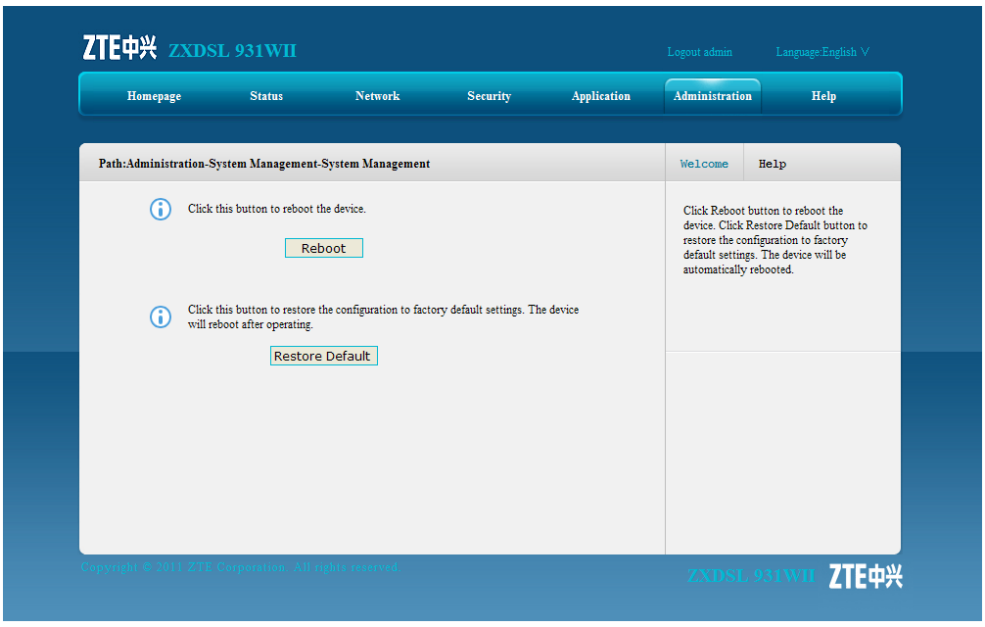
Short Description

Perform this procedure to restart the device or restore the factory default settings.

Steps

1. On the menu bar, click **Administration > System Management > System Management** to open the system mamagement page, as shown in Figure 8-4.

Figure 8-4 System Management



2. On this page, you can perform the following operations:
   - Click **Reboot** to restart the ZXDSL 931WII device.
   - Click **Restore Default** to restore the factory default settings.

– End of Steps –

Result

The System management is complete.

8.3.2 Software Upgrade

Short Description

Perform this procedure to upgrade the software.

Prerequisites

Before this operation, make sure that the upgrade file is ready.

Context

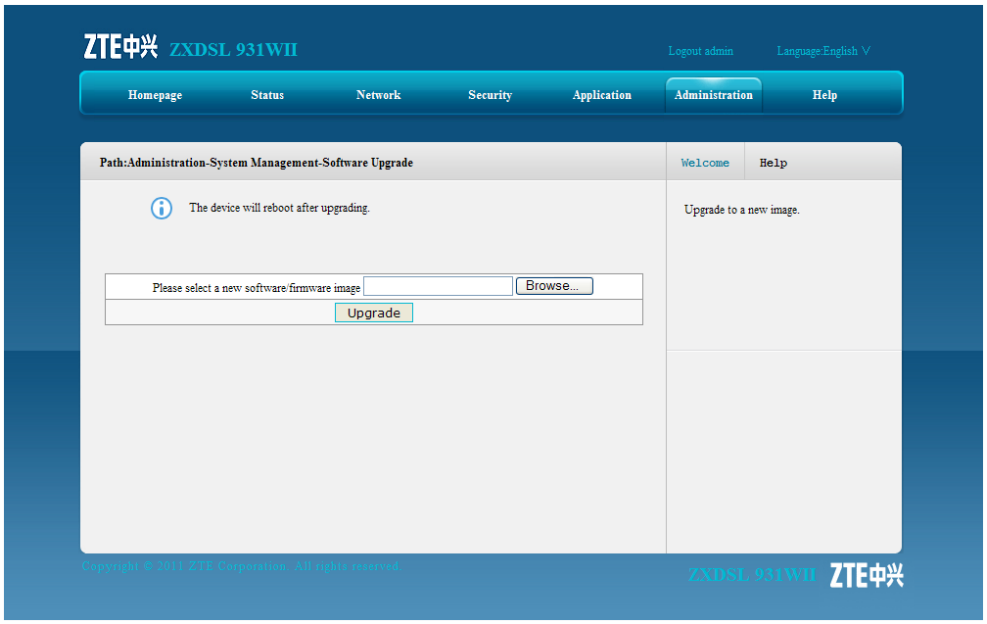
Caution!

Generally, the software is upgraded by the ZTE CORPORATION engineers. If the user wants to upgrade the software, contact the local office of ZTE CORPORATION to obtain the latest software version.

Steps

1. On the menu bar, click **Administration > System Management > Software Upgrade** to open the software upgrade page, as shown in Figure 8-5.

Figure 8-5 Software Upgrade



2. Click **Browse** to select the upgrade version file.
3. Click **Upgrade**.

Caution!

The system prompts the upgrade progress. During the upgrade process, do not cut off the power supply. Otherwise, the device may be damaged.

– End of Steps –

Result

After the software is upgraded, the system is automatically restarted and returns to the login page.

8.3.3 User Configuration Management

Short Description

Perform this procedure to import and export the user configuration file.

Context

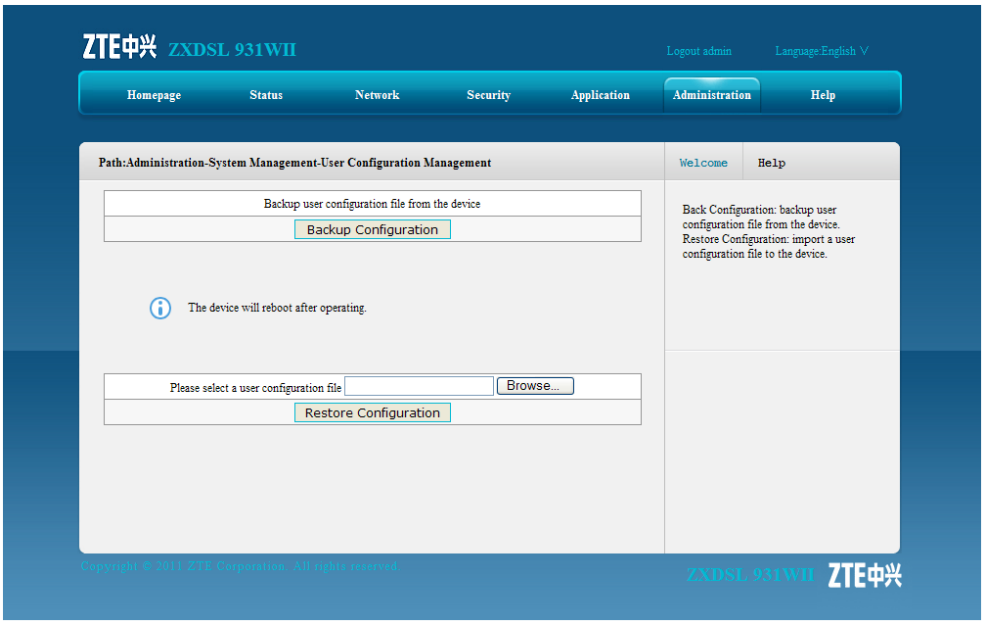
User configuration refers to the customized configuration based on the factory defaults. The user can configure the device settings based on his own requirements. and the configuration can be backed up.

To manage the user configuration file, perform the following steps:

Steps

1. On the menu bar, click **Administration > System Management > User Configuration Management** to open the user configuration management page, as shown in Figure 8-6.

Figure 8-6 User Configuration Management



2. Click **Backup Configuration** to export the user configuration file.
   - Click **Backup Configuration** to export the user configuration file.
   - Click **Browse** to select the user configuration file, and click **Restore Configuration** to restore the device to the user configuration.

NOTE **Note:**

After the user configuration file is imported, the system is restarted.

– End of Steps –

Result

User configuration management is complete.

8.3.4 Default Configuration Management

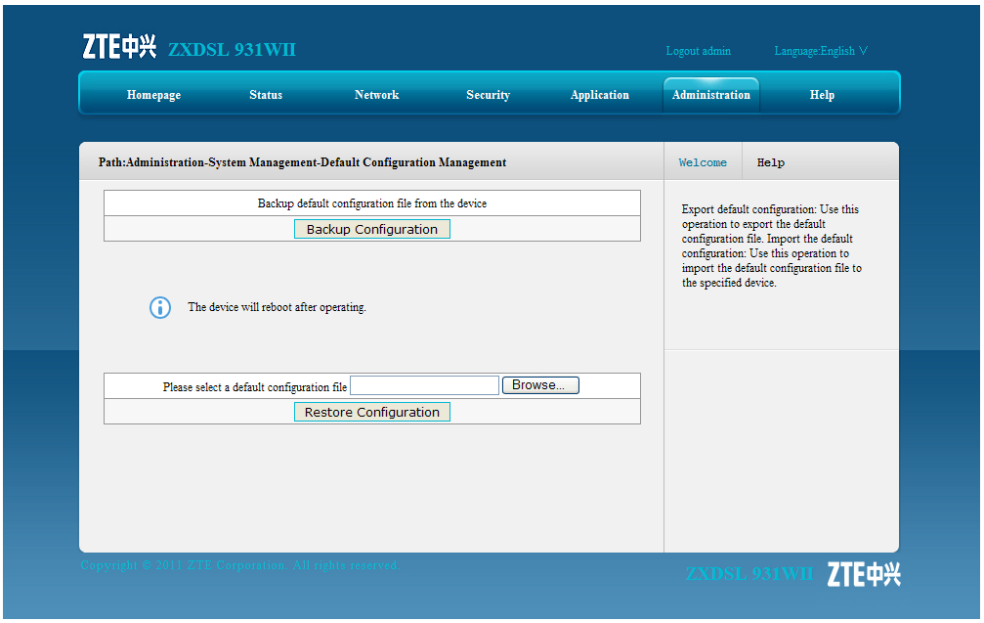
Short Description

Perform this procedure to import and export the default configuration file.

Steps

1. On the menu bar, click **Administration > System Management > Default Configuration Management** to opne the default configuration management page, as shown in Figure 8-7.

Figure 8-7 Default Configuration Management



2. On this page, you can perform the following operations:
   - Click **Backup Configuration** to export the default configuration file.
   - Click **Browse** to select the default configuration file, and then click **Restore Configuration** to restore the ZXDSL 931WII device to the default configuration.

NOTE **Note:**

After the default configuration file is imported, the system is restarted.

– End of Steps –

Result

Default configuration management is complete.

8.4 Log Management

Short Description

Perform this procedure to manage logs.

Steps

1. On the menu bar, click **Administration > Log Management** to open the log management page, as shown in Figure 8-8.

Figure 8-8 Log Management

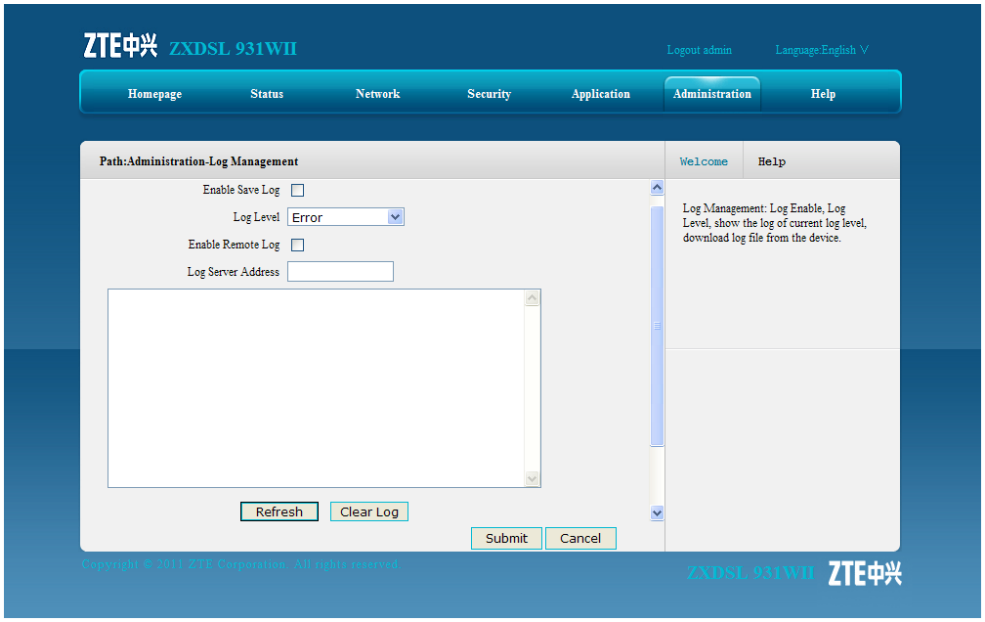


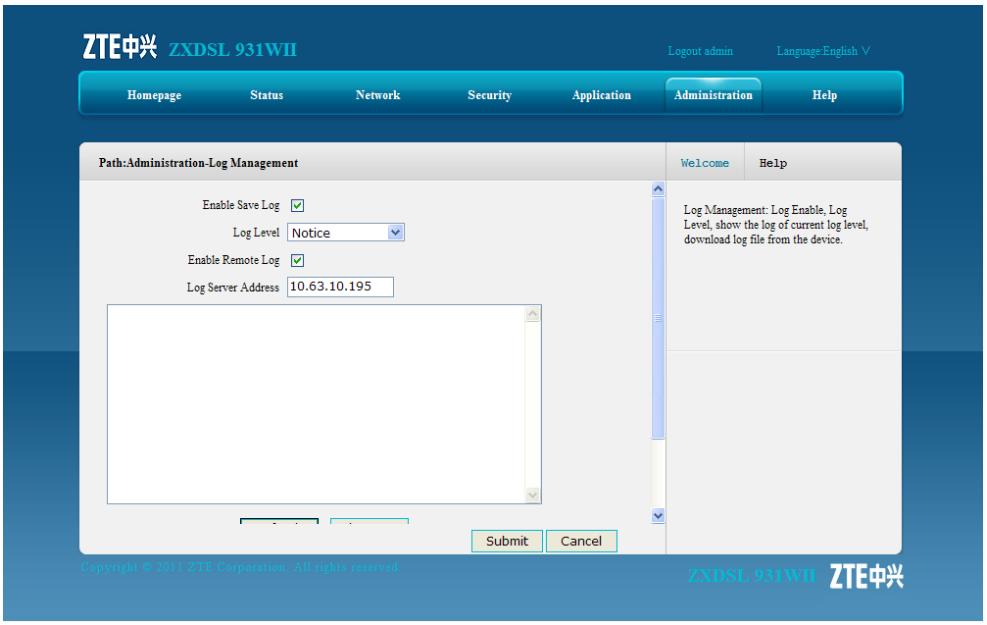
Table 8-4 lists the log management parameters and buttons.

Table 8-4 Log Management Parameters and Buttons

Item	Description
Log Enable	Select this option to save logs.
Log Level	There are eight levels, and they are **Emergency**, **Alert**, **Critical**, **Error**, **Warning**, **Notice**, **Informational**, and **Debug**. The options are listed in a descending order with the **Emergency** the highest level. When the log level is configured, only the logs of the configured log level and higher are saved.
Enable Remote Log	Select this option and the device regularly sends the log to the log server.
Log Server Address	IP address of the log server
Refresh	Display the latest 20 logs in the text box.
Clear Log	Clear the current logs from the text box
Download Log	Download the logs to the local disk.

2. Configure the log management parameters, as shown in Figure 8-9.

Figure 8-9 Log Management Parameter Configuration



3. Click **Submit**.

– End of Steps –

Result

The logs of the specified level are displayed in the text box.

```
Manufacturer:ZTE;
ProductClass:ZXDSL 931WII;
SerialNumber:002293012233;
IP:10.63.10.219;
HWVer:96368MVWG;
SWVer:ZXDSL 931WII V3.1_T01;

P0000-00-00T00:36:04 [Notice] Web set successful:
(objname: OBJ_LOG_ID identity:  iRet: 0)
```

8.5 Mobile Network Management

This section includes the following:

- PIN management
- Network mode

8.5.1 PIN Management

Short Description

Perform this procedure to perform the PIN management.

Prerequisites

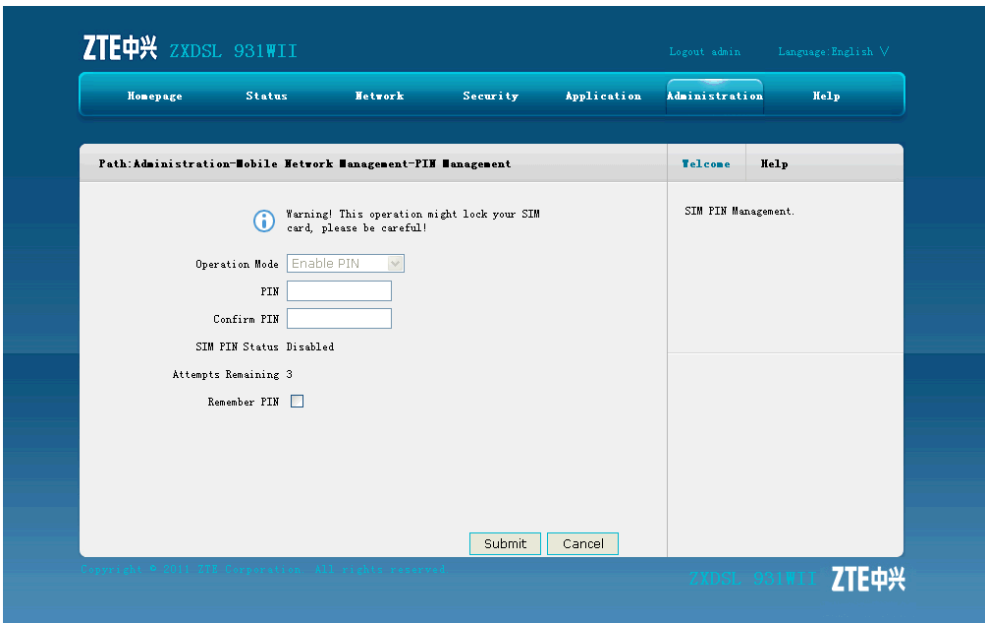
Before this operation, make sure that:

- 3G network card is ready.
- 3G WAN connection is created.

Steps

1. On the menu bar, click **Administration > Mobile Network Management > PIN Management** to open the PIN management page, as shown in Figure 8-10.

Figure 8-10 PIN Management



2. Configure the PIN management parameters, and then click **Submit**.

– End of Steps –

Result

The PIN management is complete.

8.5.2 Network Mode

Short Description

Perform this procedure to select the 3G network mode.

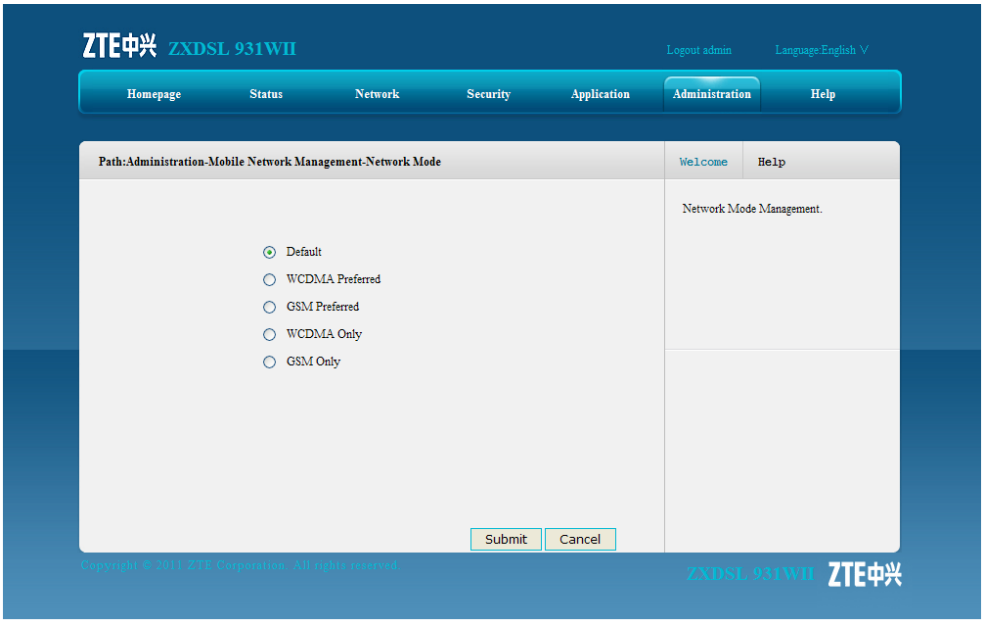
Context

The ZXDSL 931WII device supports the WCDMA and GSM network modes.

Steps

1. On the menu bar, click **Administration > Mobile Network Management > Network Mode** to open the network mode page, as shown in Figure 8-11.

Figure 8-11 Network Mode



2. Select one network mode, and click **Submit**.

Note:

The ZXDSL 931WII device only supports WCDMA 3G card for the moment. If the network mode is changed, it is necessary to unplug the card and plug it again to make the change come into effect.

– End of Steps –

Result

The network mode is selected.

8.6 Diagnosis

This section includes the following:

- Ping Diagnosis

- Trace Route Diagnosis
- AT Diagnosis
- Mirror Configuration
- Ethernet Diagnosis
- PPPoE Diagnosis
- DNS Diagnosis
- IP Diagnosis

8.6.1 Ping Diagnosis

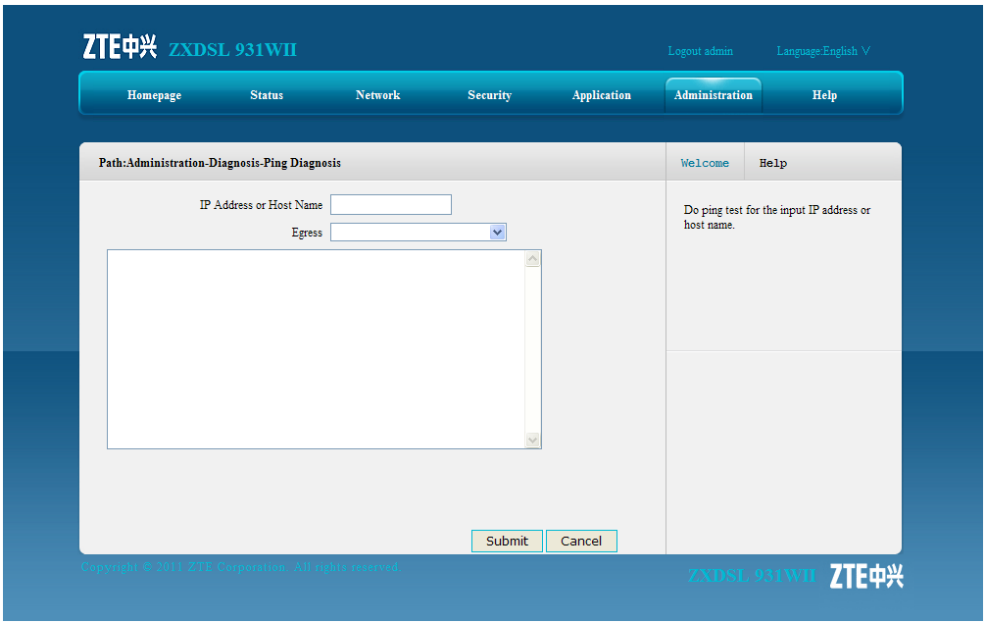
Short Description

Perform this procedure to diagnose the network connectivity.

Steps

1. On the menu bar, click **Administration > Diagnosis > Ping Diagnosis** to open the ping diagnosis page, as shown in Figure 8-12. On this page, you can select a WAN connection and test the connectivity with the specified address.

Figure 8-12 Ping Diagnosis



2. Type the host IP address or host name in the **IP Address or Host Name** text box, select the WAN connection from the **Egress** drop-down list.
3. Click **Submit** to diagnose the connection, and the system will display the following diagnosis results.

```
PING 10.63.10.219 (10.63.10.219): 64 data bytes
Reply from 10.63.10.219: bytes=64 ttl=64 time=0.5ms seq=0
Reply from 10.63.10.219: bytes=64 ttl=64 time=1.2ms seq=1
Reply from 10.63.10.219: bytes=64 ttl=64 time=0.3ms seq=2
```

```
--- 10.63.10.219 ping statistics ---
3 packets transmitted, 3 packets received, 0% packet loss
round-trip min/avg/max = 0.3/0.6/1.2 ms
```

– End of Steps –

Result

The network connectivity between the ZXDSL 931WII device and specified IP address is diagnosed.

8.6.2 Trace Route Diagnosis

Short Description

Perform this procedure to display the information of the routes between the ZXDSL 931WII device and the specified address.

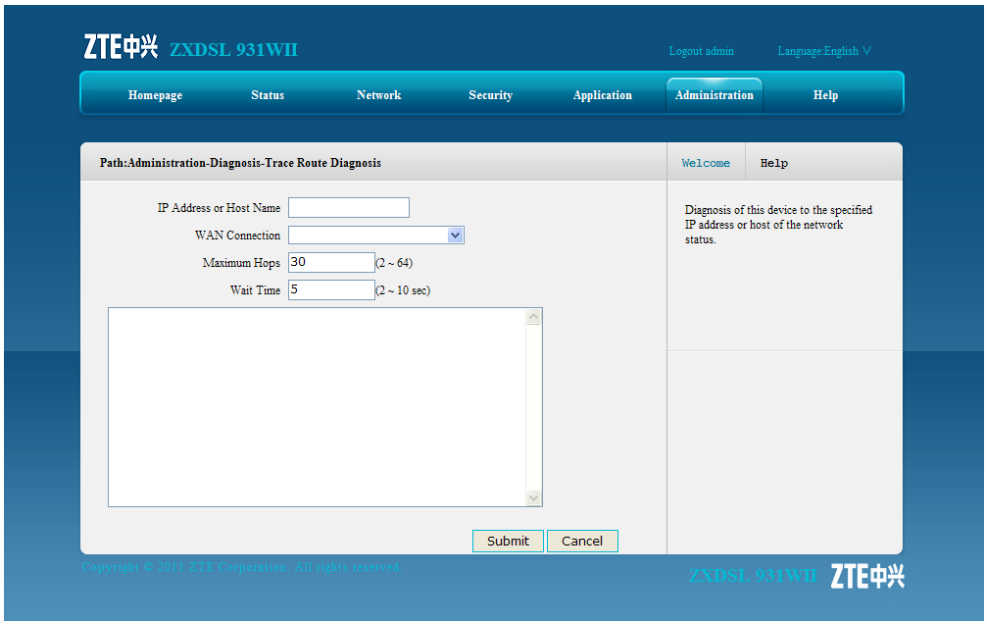
Prerequisites

Before the operation, make sure that the WAN connection is created.

Steps

1. On the menu bar, click **Administrator > Diagnosis > Trace Route Diagnosis** to open the trace route diagnosis page, as shown in Figure 8-13.

Figure 8-13 Trace Route Diagnosis



2. Type the IP address or host name in the **IP Address or Host Name** text box, select one WAN connection, and specify the maximum hops and wait time.
3. After the configuration, click **Submit**.

– End of Steps –

Result

The information of the routers between the specified IP address and the ZXDSL 931WII device is displayed.

8.6.3 AT Diagnosis

Short Description

Perform this procedure to diagnose the SIM card.

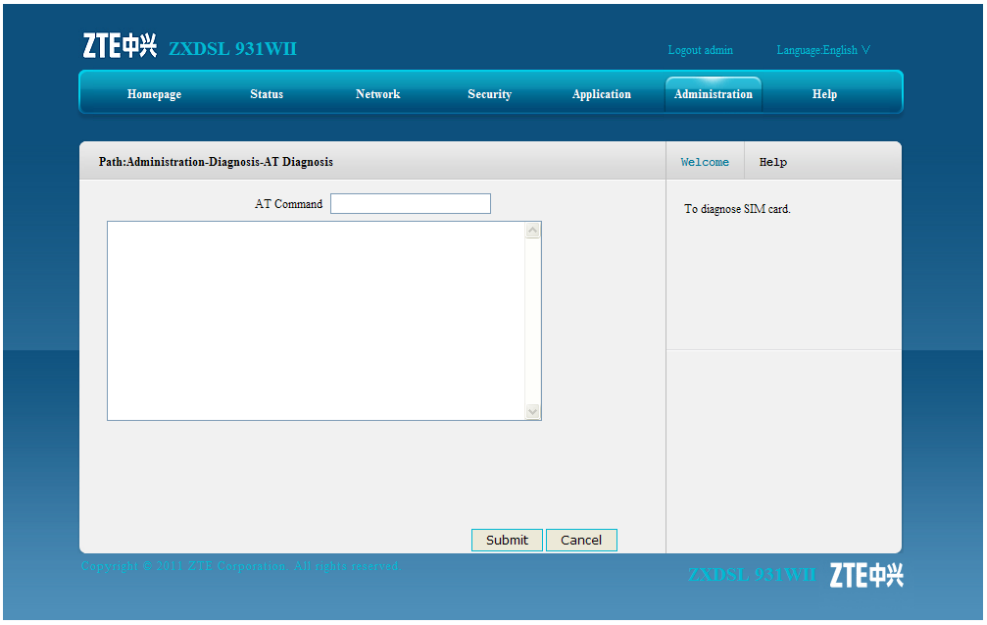
Prerequisites

Before the operation, make sure that the 3G USB wireless card is inserted to the ZXDSL 931WIIdevice.

Steps

1. On the menu bar, click **Administration > Diagnosis > AT Diagnosis** to open the AT Diagnosis page, as shown in Figure 8-14.

Figure 8-14 AT Diagnosis



2. Type `AT` in the **At Command** text box, and then click **Submit**.

3. The system starts to test whether the 3G USB card works normally. If the message OK appears, it indicates the 3G card works normally.

– End of Steps –

8.6.4 Mirror Configuration

Short Description

Perform this procedure to perform the mirror configuration.

Context

If the mirror configuration is performed, the packets at the WAN side will be copied to the specified LAN interface, and it can be used for the network analysis and troubleshooting.

Steps

1. On the menu bar, click **Administration > Diagnosis > Mirror Configuration** to open the mirror configuration page, as shown in Figure 8-15.

Figure 8-15 Mirror Configuration

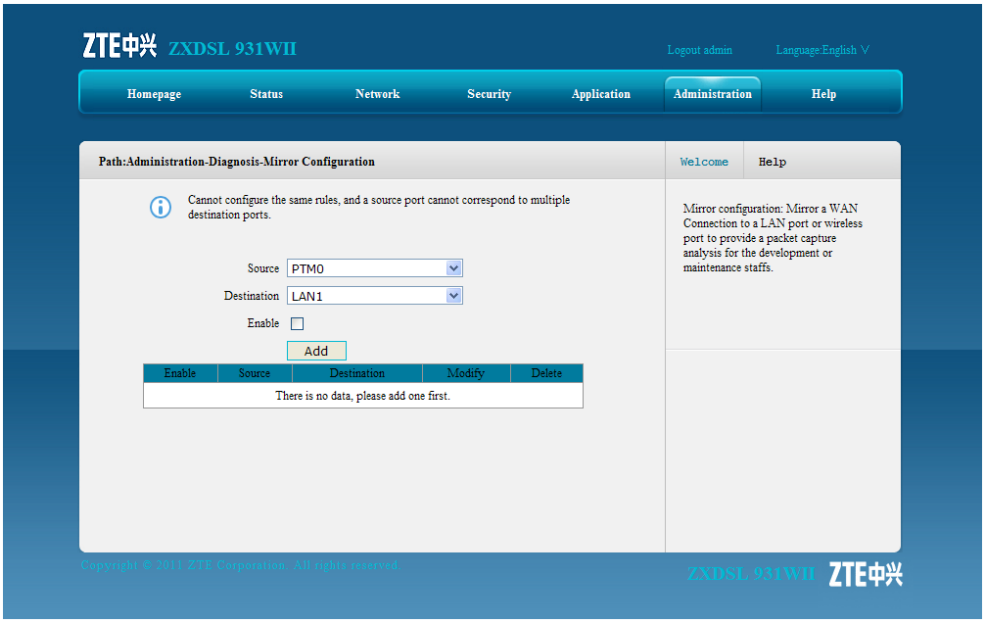


Table 8-5 lists the mirror configuration parameters.

Table 8-5 Mirror Configuration Parameters

Parameter	Description
Source	Network-side WAN interface
Destination	User-side LAN interface
Enable	Select this option to enable port mirror.

2. Configure the mirror parameters according to the request.
3. After the configuration, click **Add**.

– End of Steps –

Result

The port mirror function is configured.

8.6.5 Ethernet Diagnosis

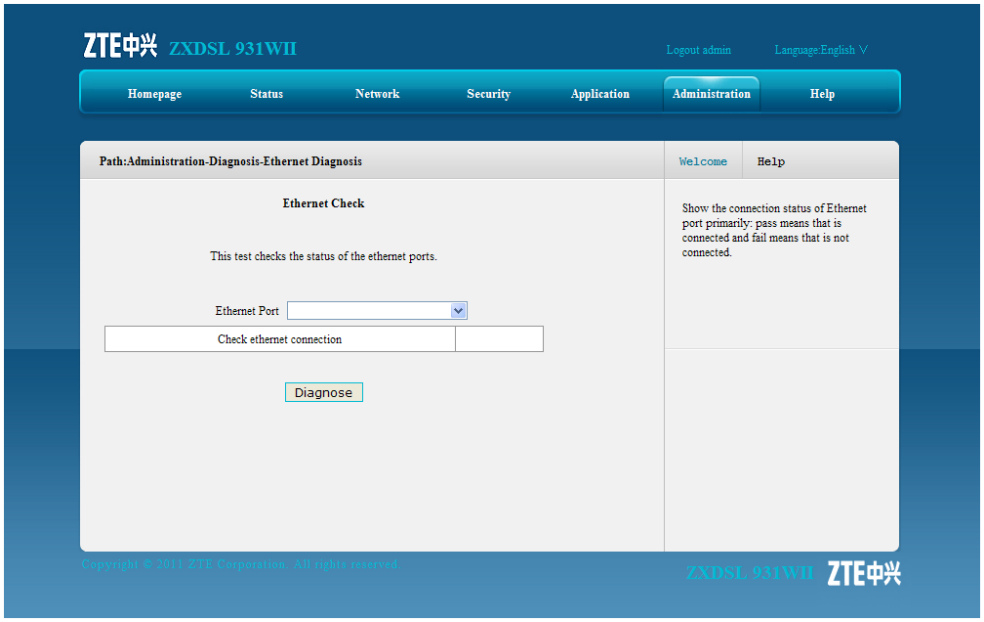
Short Description

Perform this procedure to diagnose the status of the Ethernet port.

Steps

1. On the menu bar, click **Administration > Diagnosis > Ethernet Diagnosis** to open the Ethernet diagnosis page, as shown in Figure 8-16.

Figure 8-16 Ethernet Diagnosis



2. Select one Ethernet port and click **Diagnose** to check the Ethernet connectivity.

– End of Steps –

Result

The status of the specified Ethernet port is checked.

8.6.6 PPPoE Diagnosis

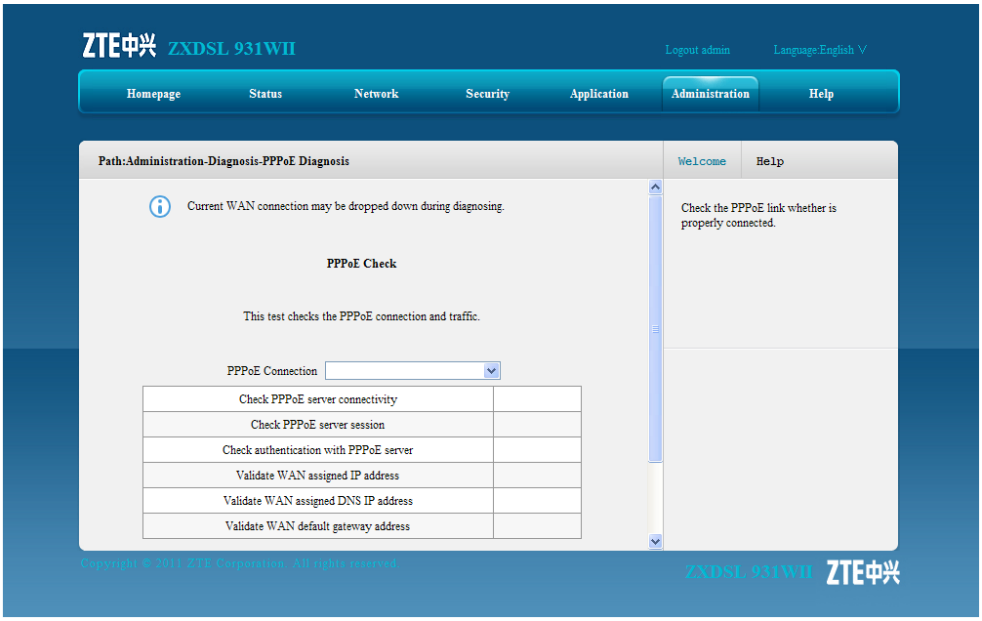
Short Description

Perform this procedure to diagnose the PPPoE link.

Steps

1. On the menu bar, click **Administration > Diagnosis > PPPoE Diagnosis** to open the PPPoE diagnosis page, as shown in Figure 8-17.

Figure 8-17 PPPoE Diagnosis



2. Select one PPPoE connection and click **Diagnose** to check the PPPoE link.

– End of Steps –

Result

The status of the specified PPPoE link is checked.

8.6.7 DNS Diagnosis

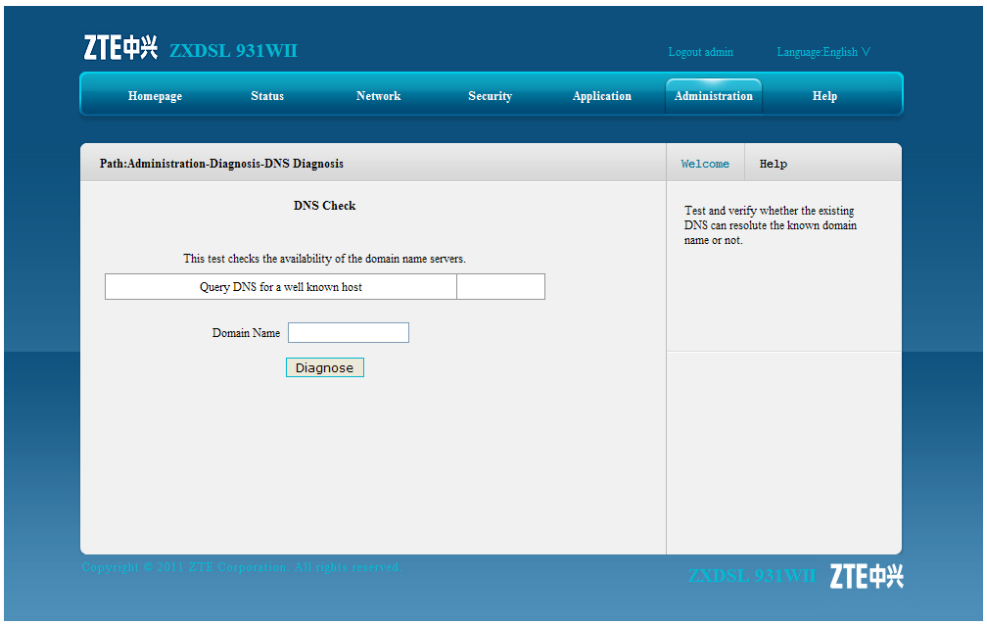
Short Description

Perform this procedure to verify whether the existing DNS can translate the specified domain name.

Steps

1. On the menu bar, click **Administration > Diagnosis > DNS Diagnosis** to open the DNS diagnosis page, as shown in Figure 8-18.

Figure 8-18 DNS Diagnosis



2. Type the domain name in the **Domain Name** text box and click **Diagnose** to perform the diagnosis.

– End of Steps –

Result

The translation of the domain name by the DNS is verified.

8.6.8 IP Diagnosis

Short Description

Perform this procedure to display the status of the IP connectivity.

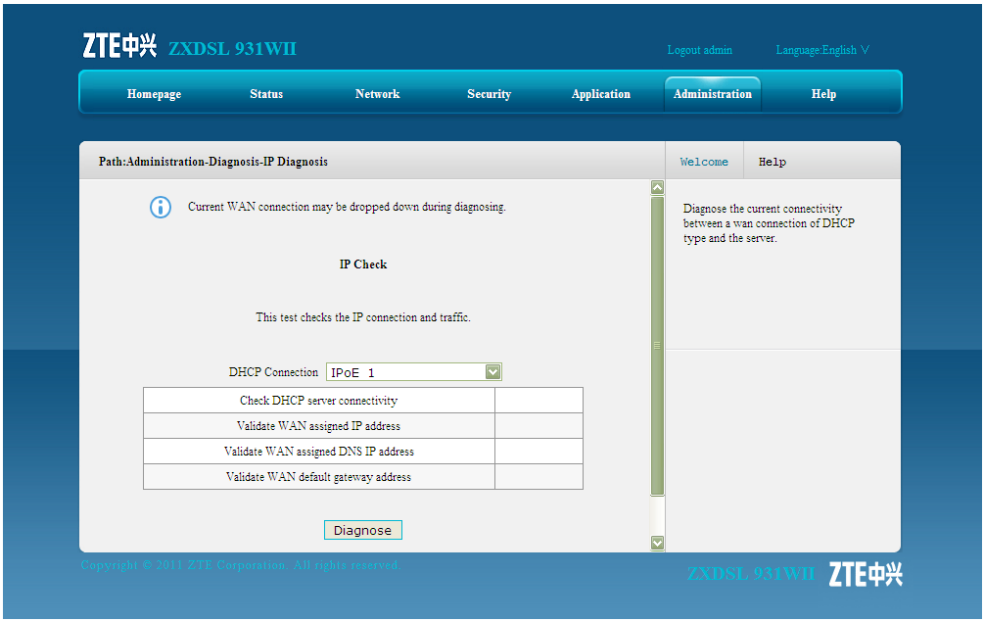
Prerequisites

Context

Steps

1. On the menu bar, click **Administrator > Diagnosis > IP Diagnosis** to open the IP diagnosis page, as shown in Figure 8-19.

Figure 8-19 IP Diagnosis



2. Select one WAN connection from the **DHCP Connection** drop-down list, and then click **Diagnose** to diagnose and display the status of the IP connectivity.

– End of Steps –

Result

The status of the IP connectivity is displayed.

8.7 WAN Type

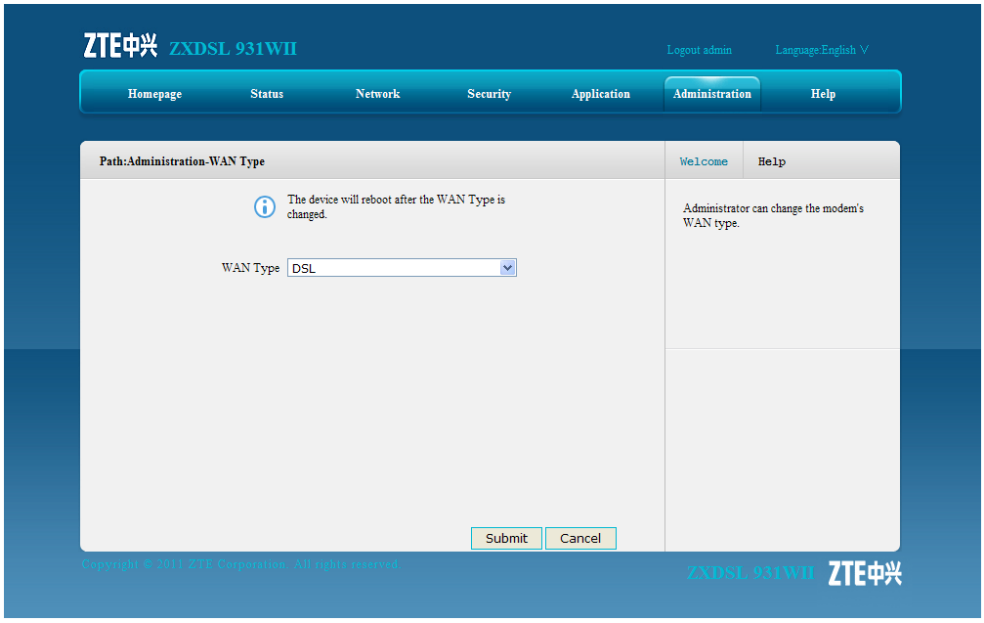
Short Description

Perform this procedure to specify the WAN type to be used.

Steps

1. On the menu bar, click **Administration > WAN Type** to open the WAN type page, as shown in Figure 8-20.

Figure 8-20 WAN Type



2. Select one WAN type from the **WAN Type** drop-down list.

If **DSL(Master)&3GDongle(Backup)** or **ETH(Master)&3GDongle(Backup)** is selected, it is necessary to specify the conditions when to use 3G network.

Table 8-6 lists the related parameters.

Table 8-6 WAN Type Parameter

Parameter	Description
Enable 3G Dongle on DSL line failure	● If the 3G link is created, after the DSL line link is created successfully, the 3G link will be disconnected in 30 seconds. In the same way, after the Ethernet link is created successfully, the 3G link will be disconnected in 30 seconds. ● If the DSL line link or the Ethernet link is created, and 3G link is ready (WAN connection is configured, but dial-up fails), after the DSL line link or the Ethernet link is disconnected, the 3G card will try to dial up in 30 seconds, and the success of the dial-up depends on the 3G network.
Enable 3G Dongle on PPP connection Failure	● If the 3G link is created, after the DSL PPP dial–up succeeds (the link has been created), 3G link will be disconnected in 30 seconds. In the same way, after the Ethernet PPP dial–up succeeds (the link has been created), the 3G link will be disconnected in 30 seconds. ● If the DSL dial–up or Ethernet dial–up succeeds, and 3G link is ready (WAN connection is configured, but dial-up fails), after the DSL or Ethenet PPP dial–up fails, the 3G card will try to dial up

Parameter	Description
	in 30 seconds, and the success of the dial-up depends on the 3G network.

3. After the configuration, click **Submit**.

NOTE **Note:**

If the WAN type is changed, the ZXDSL 931WII device will automatically recover to the corresponding WAN type factory configuration.

– End of Steps –

Result

WAN type configuration is complete.

Figures

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Tables

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Glossary

AC
- Access Control

ACL
- Access Control List

ADSL
- Asymmetric Digital Subscriber Line

ARP
- Address Resolution Protocol

ATM
- Asynchronous Transfer Mode

CHAP
- Challenge Handshake Authentication Protocol

CPE
- Customer Premises Equipment

DC
- Direct Current

DDNS
- Dynamic Domain Name Server

DHCP
- Dynamic Host Configuration Protocol

DMP
- Dedicated signaling MP

DMS
- Digital Media Server

DMZ
- Demilitarized Zone

DNS
- Domain Name Server

DNS
- Domain Name System

DSCP
- Differentiated Services Code Point

DSL
- Digital Subscriber Line

FTP
- File Transfer Protocol

GUI
- Graphical User Interface

HTTP
- Hypertext Transfer Protocol

ICMP
- Internet Control Message Protocol

IEEE
- Institute of Electrical and Electronics Engineers

IGMP
- Internet Group Management Protocol

IP
- Internet Protocol

IPSec
- IP Security Protocol

IPoA
- IP over ATM

IPoE
- Internet Protocol over Ethernet

ISP
- Internet Service Provider

LAN
- Local Area Network

MAC
- Medium Access Control

MLD
- Multicast Listener Discovery

MTU
- Maximum Transfer Unit

NAT
- Network Address Translation

NE
- Network Element

NMS
- Network Management System

OS
- Operating System

PAP
- Password Authentication Protocol

PPPoA
- Point to Point Protocol over ATM

PPPoE
- Point to Point Protocol over Ethernet

PSK
- PreShared Key

PVC
- Permanent Virtual Channel

QoS
- Quality of Service

RIP
- Routing Information Protocol

TCP
- Transfer Control Protocol

UDP
- User Datagram Protocol

URL
- UniformResource Locator

USB
- Universal Serial Bus

VCI
- Virtual Channel Identifier

VDSL
- Very High Speed Digital Subscriber Line

VOD
- Video On Demand

VPI
- Virtual Path Identifier

VPN
- Virtual Private Network

WAN
- Wide Access Network

WAN
- Wide Area Network

WCDMA
- Wideband Code Division Multiple Access

WEP

- Wired Equivalent Privacy

WLAN

- Wireless Local Area Network

WPA

- Wi-Fi Protected Access

WPS

- Wi-Fi Protected Setup