ASCENT Communication Technology

AP201H GPON ONT

User Manual

Revision B

ACT 201H GPON ONT User Manual

ACT Document Number: ACT 201H GPON ONT

User Manual Revision B

This document is produced to assist professional and properly trained personnel with installation and maintenance issues for the product. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.

For more information, contact ACT: support@ascentcomtec.com

Revision History

Revision	Date	Reason for Change
A	1/2/2024	Draft
B	1/8/2024	Initial release

Contents

Chapter 1 Product Introduction

1.1 Product Description

ACT AP201H terminal is a combination of XPON optical network unit. It adopts high-performance ONU chip and low-power optical receiving technology, which can meet the needs of home optical fiber lo the home.

Figure 1: AP201H GPON ONT

1.2 Special Features

- Support port - based rate limitation and bandwidth control
- In compliant with IEEE802.3ah & ITU-T G.984 adaptive interface
- Up to 20KM transmission distance
- Support data encryption, group broadcasting, port Vian separation, etc.
- Support Dynamic Bandwidth Allocation (DBA)
- Support ONU auto - discovery/Link detection/remote upgrade of software
- Support port mode of VLAN configuration
- Support power - off alarm function, easy for link problem detection
- Support broadcasting storm resistance function
- Support port loop detection
- Support ACL to configure data packet filter flexibly
- Support PPPoE/DHCP Server/IPTV/NAT
- Specialized design for system breakdown prevention to maintain stable system
- Support software online upgrading
- Support mac/port/url filte

1.3 Technical Parameters

Item	Description
Operating Temperature	0°C to 50°C
Storage Temperature	-40°C to 80°C
Operating Humidity	10 % to 85 %
Storage Humidity	10 % to 90 % (non-condensing)
Input Voltage	12V/0.5A
Power	<6W

Table 1: Technical Parameters

1.4 The use of Instructions

1.4.1 Product Feature and Model list

XPON Model	Feature
AP201	1GE+PON

Table 2: Product Features

1.4.2 Product Feature and Model list

This device should be connected by an external power adapter. First of all, connect the DC12V output cable of the adapter to the DC12V port of the device, and then plug n AC 220V power supply. When the panel PWR lights, the device is powered on

1.5 Panel Description

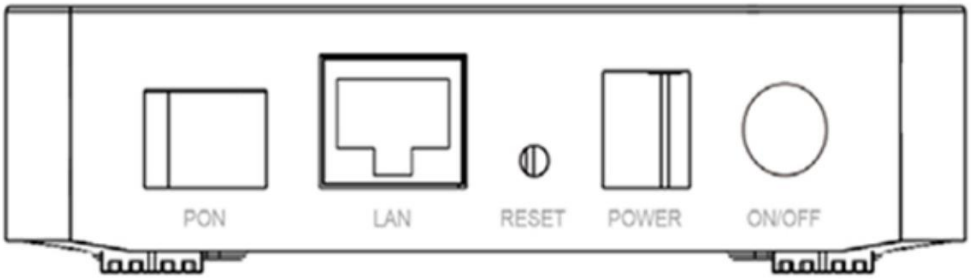


Figure 2: Panel Description

Interface / Button	Interface / button descriptions
PWR	DC 12V power input interface
PON	EPON/GPON/CATV fiber interface, SC/APC
GE	GE: 10/100/1000MBASE-TX

Table 3: Panel Description

1.6 Indicator Description

LED	Color	Status	Description
POWER	Green	On	The ONU is powered on properly.
		Off	The ONU is not powered on.
PON	Green	On	The ONU is connected to the OLT and is registered successfully
		Blink	The ONU is connected to the OLT but is not registered
		Off	The ONU is not connected to the OLT
LOS	Red	On	The ONU detects continuously transmitting optical signal.
		Blink	The ONU receives low optical

			power.
		Off	The ONU receives optical power normally.
GE	Green	On	The network interface is connected.
		Blink	The network port has data transmission
		Off	The network interface is not connected.

Table 4: Indicator Description

1.7 PON Interface

Parameter		Specification
Up Optical	Wavelength	1310nm
	Transmitting Range	0.5dBm to 5dBm
Down Optical	Wavelength	1490nm
	Receiving Range	-8dBm to -28dBm

Table 5: PON Interface

Precautions:

1. The device is an indoor one, should not be used in places susceptible to rain.
2. OPT input interface type is SC/APC.

Chapter 2 Quick Installation

2.1 Standard Packing Contents

When you receive our products, please check carefully to make sure that our products whether have some defects or not. If something wrong with shippings, please contact carrier; other damage or lack of some parts, please contact with dealer.

Contents	Description
ONU	1 pcs
Power Adapter	1 pcs
User Manual	1 pcs (Optional)
Cable	1 pcs

Table 9: Packing Contents

2.2 Quick Installation

Figure 3: Actual package content

- Connecting the optical fiber cable to the unit.
- Remove the protective cap of the optical fiber.
- Clean the end of the optical fiber with an optical fiber end cleaner.
- Remove the protective cap of the ONU optical interface (PON
- Connect the fiber to the PON port on the unit.

Note: When measuring the optical power before connecting to the ONU, it is recommended to use a PON Inline Power Meter. The receiver optical power should be between -7dbm and -28 dbm by using 1490nm.

While connecting, please note:

- Keep the optical connector and the optical fiber clean.
- Make sure there are no tight bends in the fiber and that the bending diameter is greater than 6cm. Otherwise, the optical signal loss may be increased, to the extent that signal may

be unavailable.

- Cover all optic ports and connectors with protective cap to guard against dust and moisture when the fiber is not used.
- Apply power to the unit. If the product has the power button, please push the power button before used.
- After the ONU is power ON, Indicators should light up as for normal operation. Check whether the PON interface status LED (PON) is on continuously. If it is, the connection is normal; otherwise there is either problem of the physical connection or the optical level at either end. This may be caused by either too much or too little attenuation over the optical fiber. Please refer to the Panel Lights Description for normal LED activity.
- Check all signal levels and services on all the ONU communication ports.

2.3 Unit Installation Adjustment

Installing the ONU on a horizontal surface (Bench top)

Put the ONU on a clean, flat, sturdy bench top. You must keep the clearance for all sides of the unit to more than 10cm for heat dissipation.

Chapter 3 Configuration

After finishing the basic connection configuration, you can use its basic function. In order to satisfy service requirements, this charter provides the user parameter modification and individuation configuration description.

3.1 Login

The device is configured by the web interface. The following steps will enable you to login:

1. Conform "**2.2 Quick Installation**" to install;

2. The device management default IP address is **192.168.1.1**;

3. Open your web browser, type the device IP in address bar;

4. Entry of the user name and password will be prompted. Enter the default login user name and password.

By default, there are two user levels for management. Administration level user name is "superadmin", password is "superadmin". Normal user level user name is "admin", password is "ascent".
The Administration account is able to access and modify all settings of ONU. It also can modify user account's username and password.
The normal account can only be used to view configurations, status and configure few parameters.

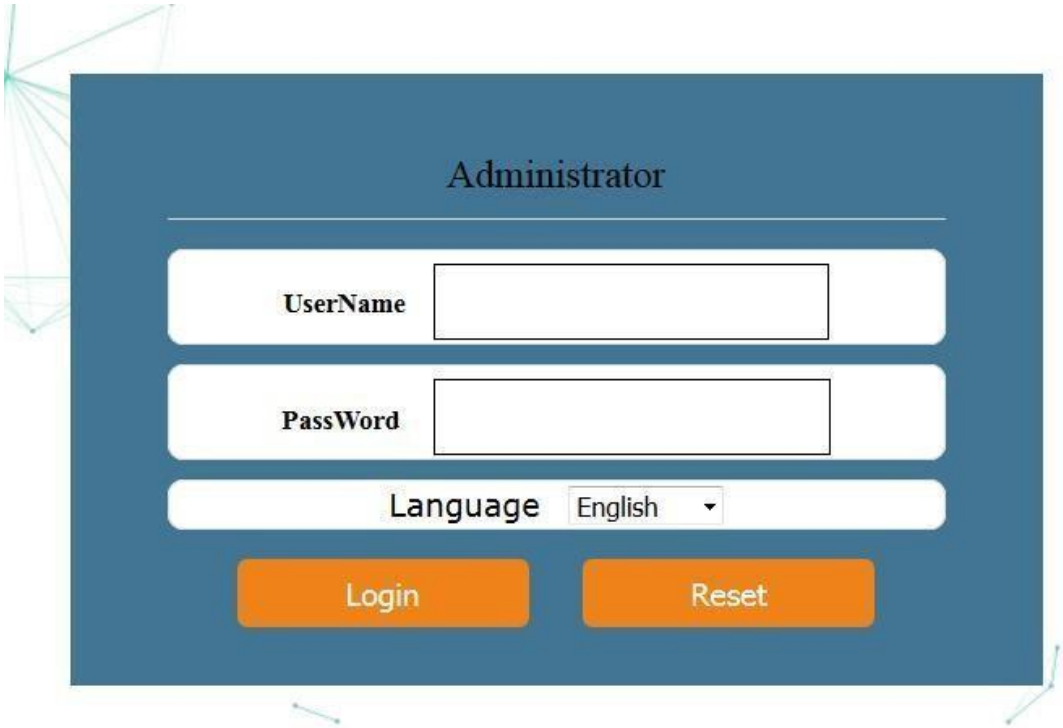


Figure 4: Login Interface

3.2 Status

This part shows the main information of device and the active status about major services.

3.2.1 Device Information

This page shows the basic information about device, such as Device Name, PON MAC information, Serial Number, Hardware Version information.

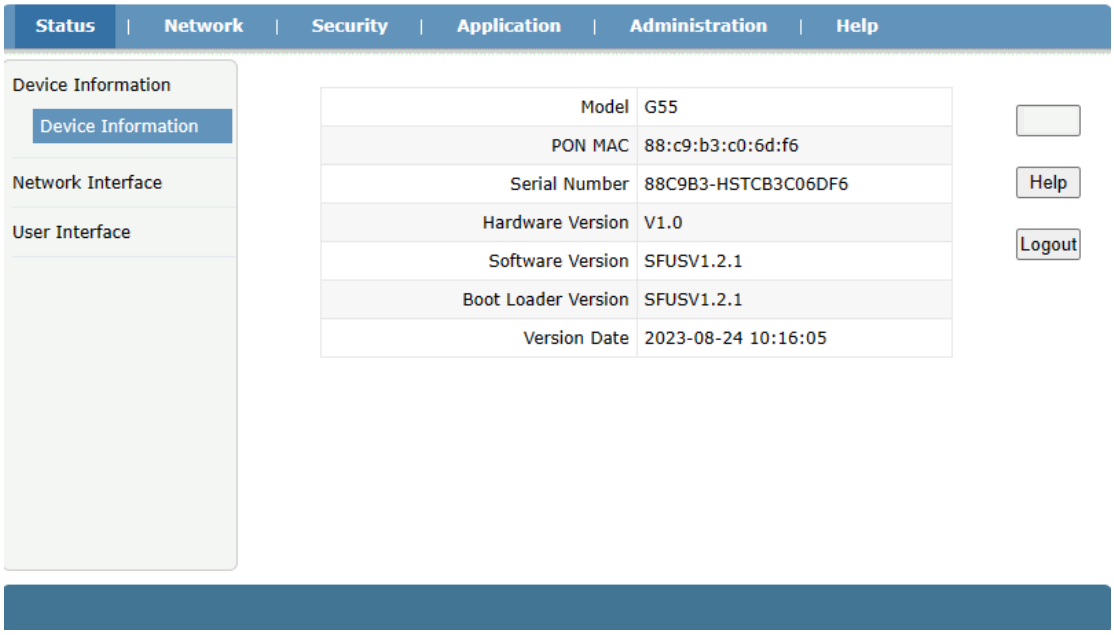


Figure 5: Device Information

3.2.2 Network Interface

3.2.2.1 WAN Connection Information

This page shows WAN connection information you have configured.

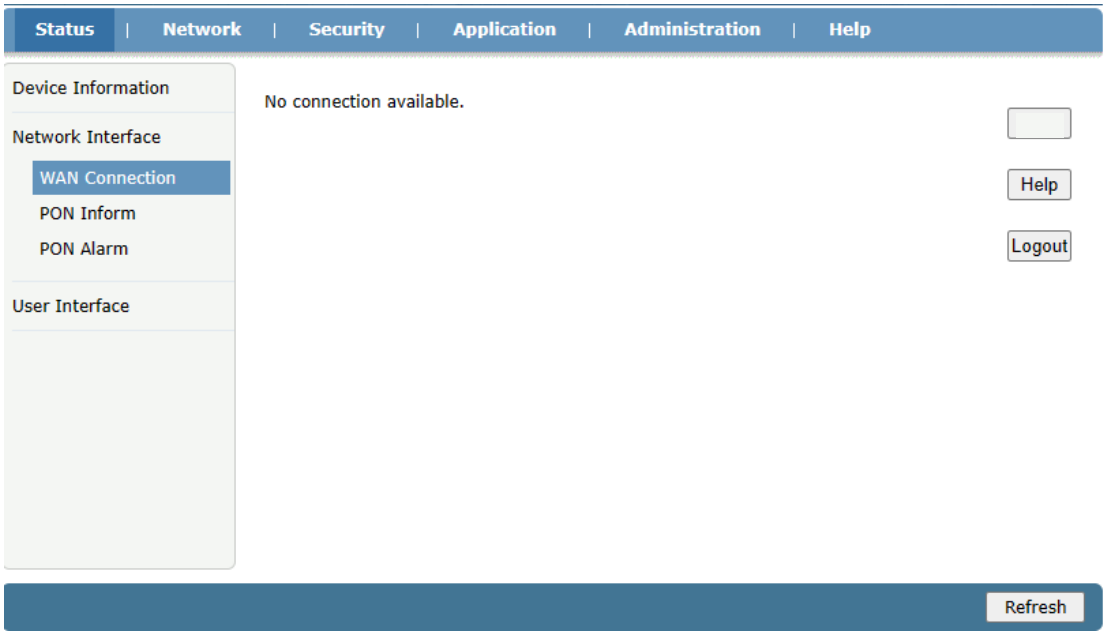


Figure 6: IPV6 WLAN Information

3.2.2.2 PON Information

This page shows the PON information, including PON and GPON status.

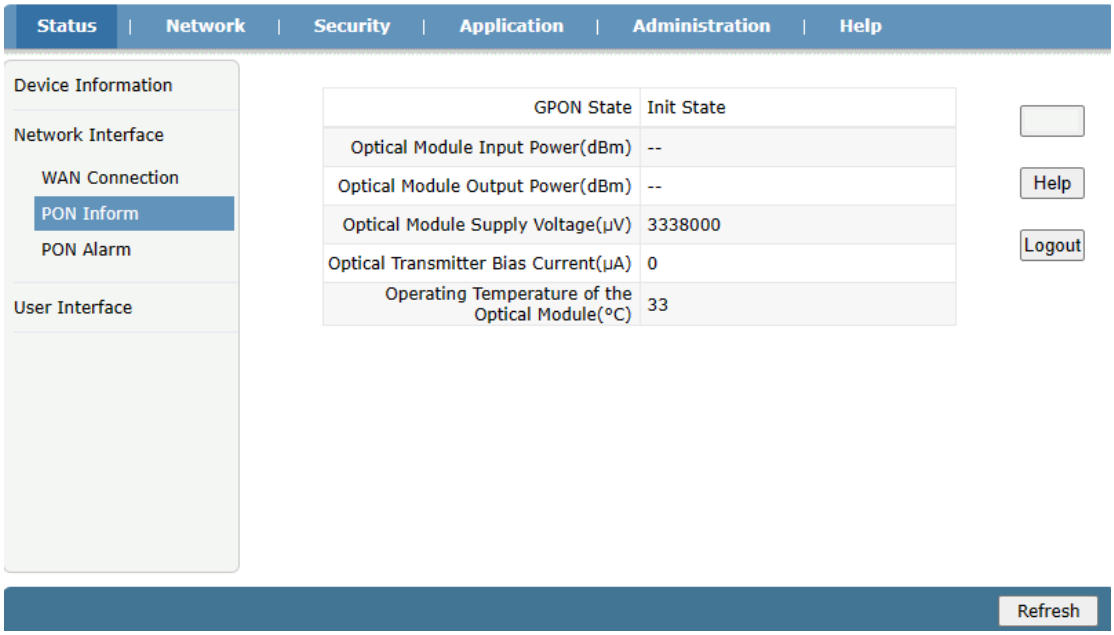


Figure 7: PON Status

3.2.2.3 PON Alarm Information

This page shows the PON Alarm status.

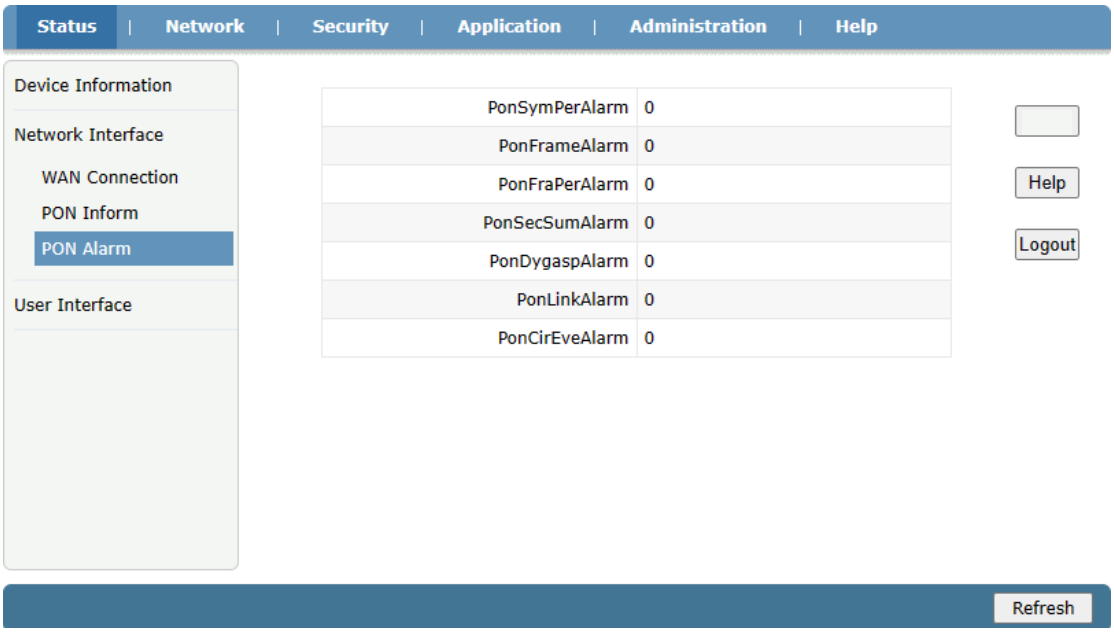


Figure 8: LAN Interface Information

3.2.2.4 User Interface

This page shows the register status of Ethernet Port1 attention, data send and receive information.

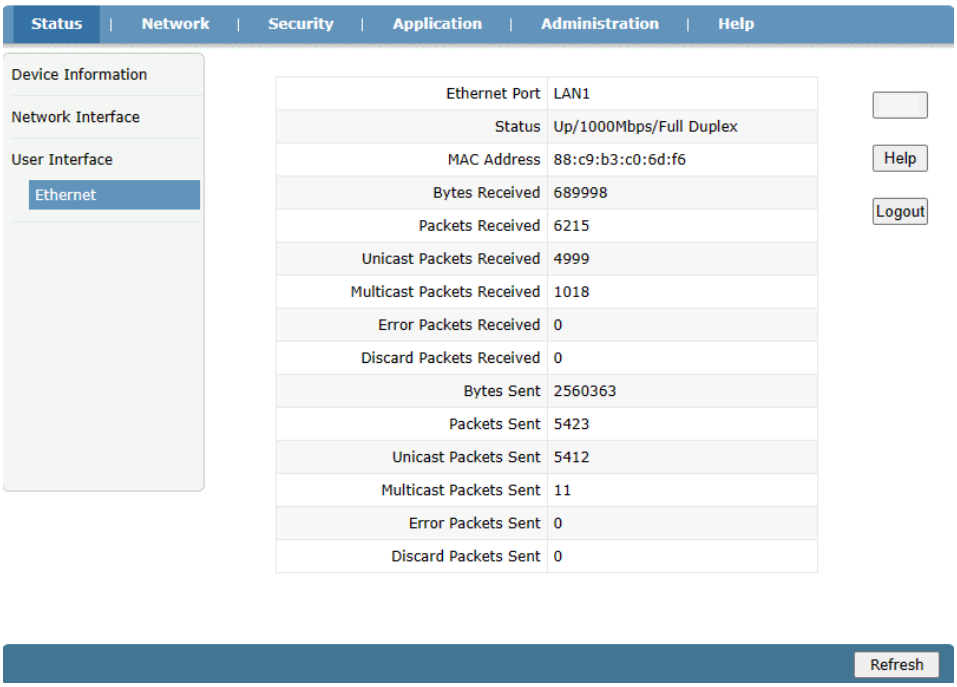


Figure 9: VoIP Information

3.3 Network

3.3.1 WAN Basic Information

3.3.1.1 WAN Connection Information

This page shows the WAN Connection including basic WAN Connection/PPP/IPV4 status.

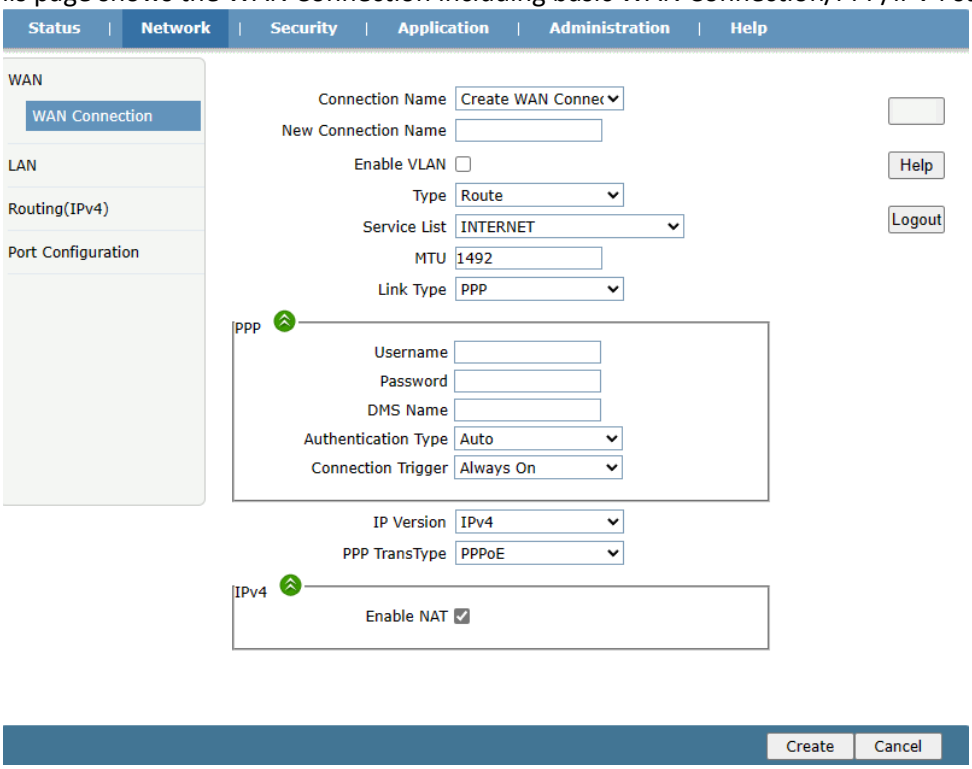


Figure 10: LAN Interface Settings

3.3.2 LAN Basic Information

3.3.2.1 DHCP Server

This page shows the LAN Interface information of DHCP basic server information.

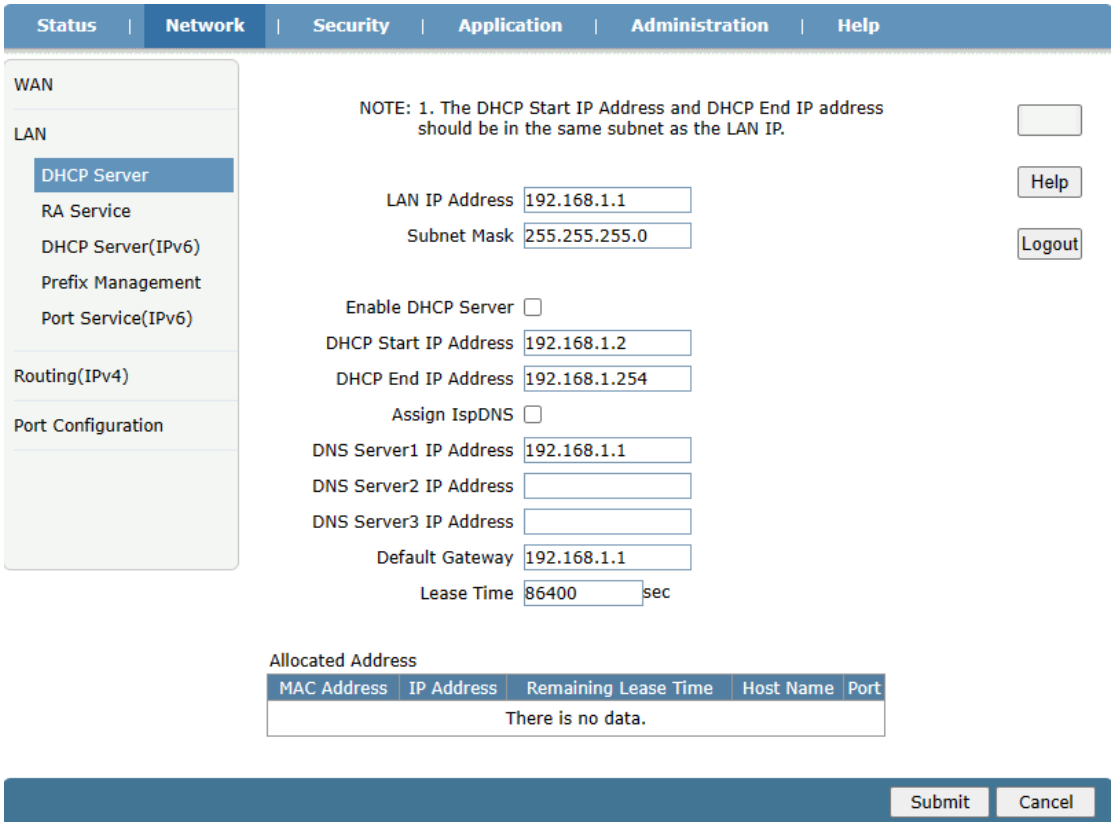


Figure 11: WLAN0 Basic Interface Information

3.3.2.2 RA Service Information

This page shows the WLAN Interface information of Maximum/Minimum wait time information.

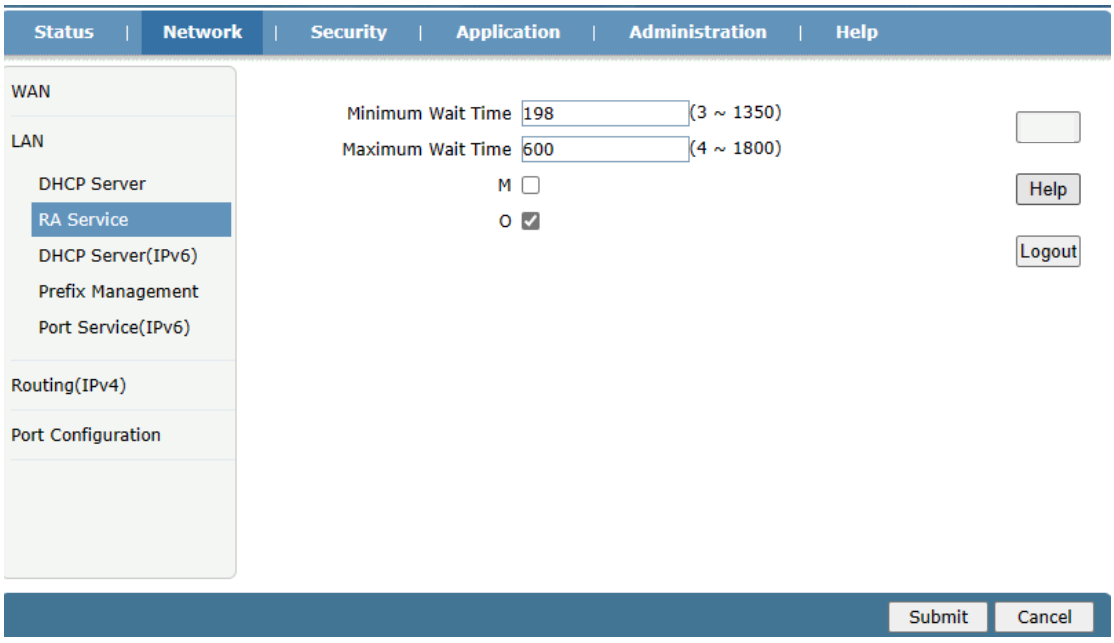


Figure 12: RA Service Information

3.3.2.3 DHCP Server Information

This page shows the WLAN Interface information of Maximum/Minimum wait time information.

This page shows the LAN IP address/DNS Refresh time information.

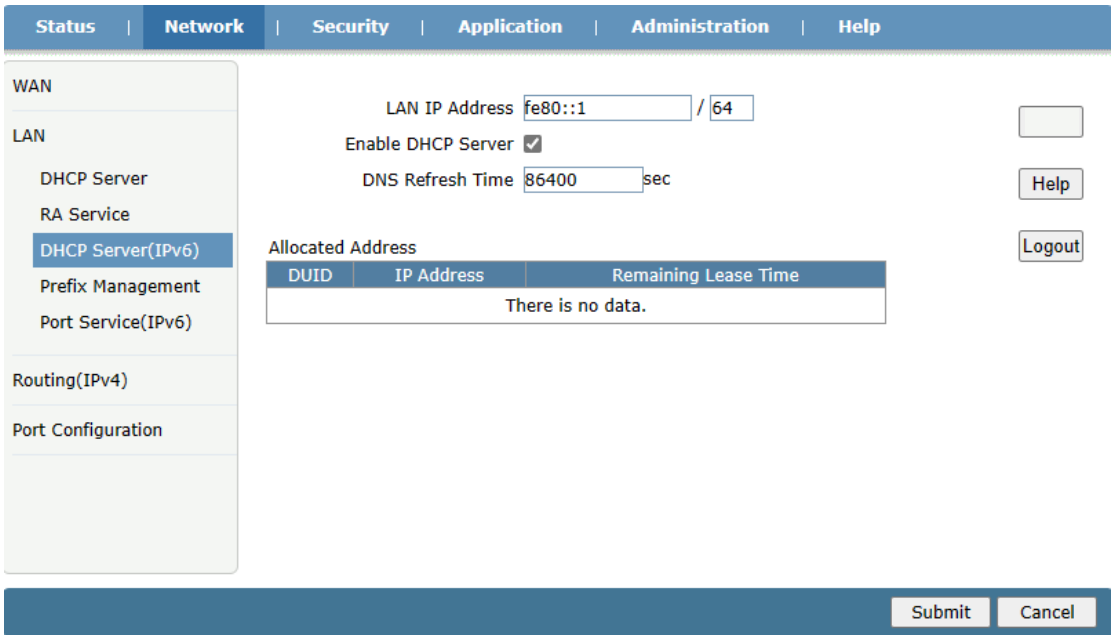


Figure 13: DHCP Server Information

3.3.2.4 Prefix Management

This page shows the WAN Connection information.

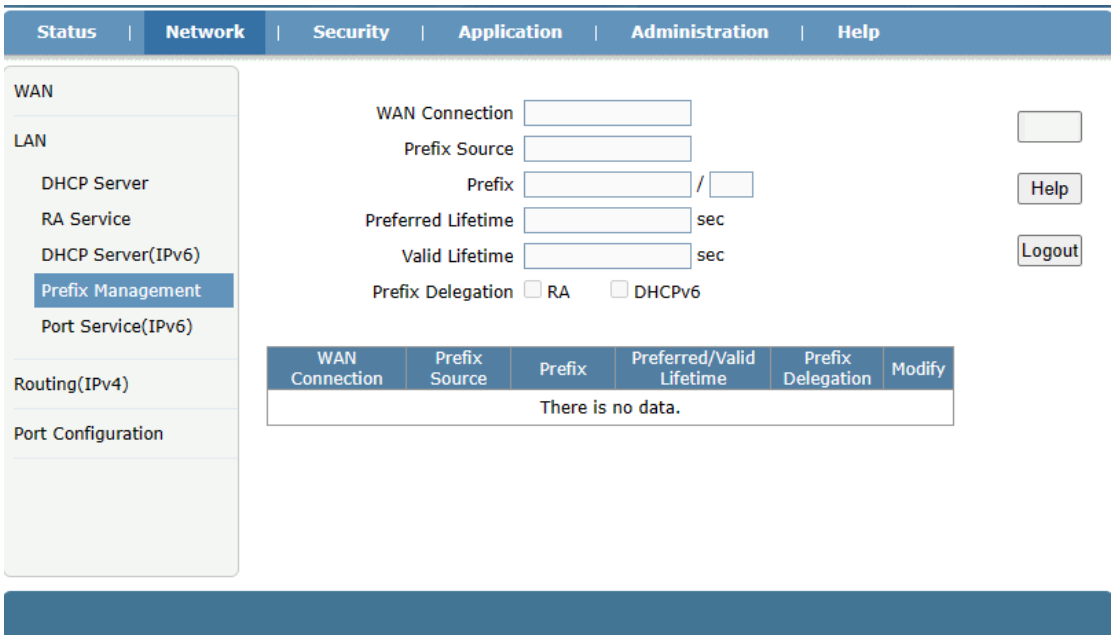


Figure 14: Prefix Management

3.3.2.5 Port Service

This page shows the Port Service information.

Figure 15: Port Service

3.3.2 Routing Information

3.3.2.1 Default Gateway

This page shows the Default Gateway information of WLAN Connection.

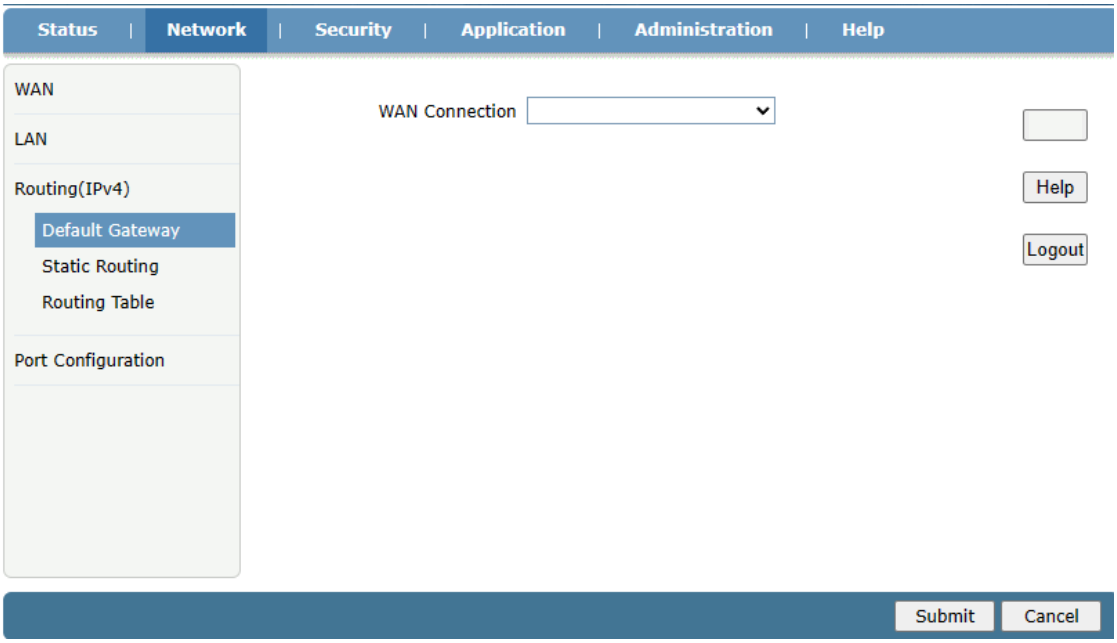


Figure 16: Default Gateway

3.3.2.2 Static Routing

This page shows the WAN Connection information.

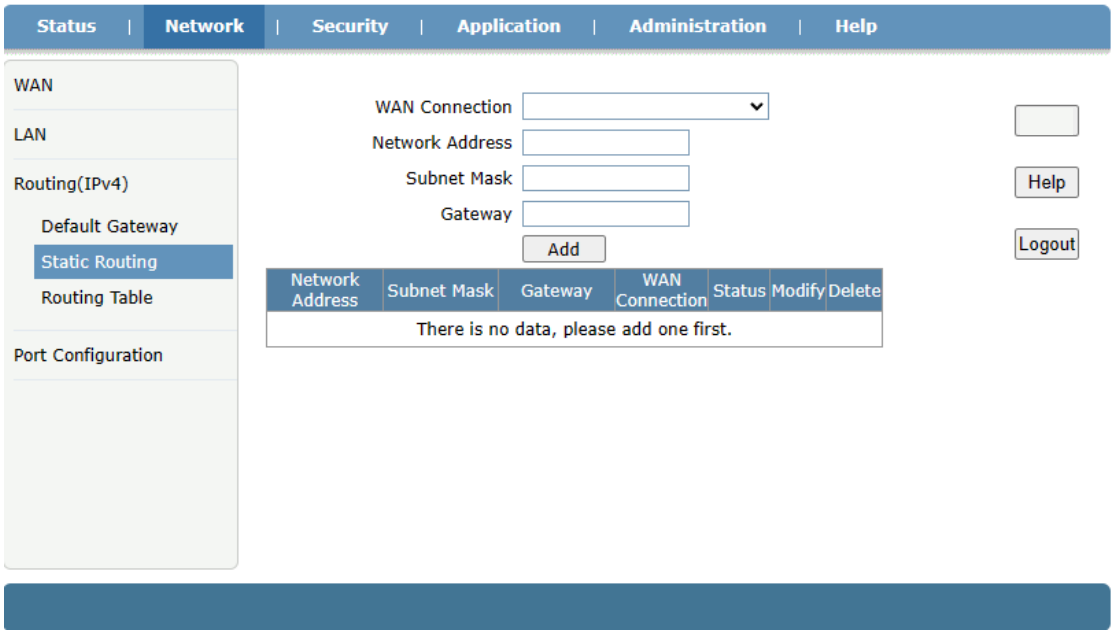


Figure 17: Static Routing

3.3.2.3 Routing Table

This page shows the Routing Table information.

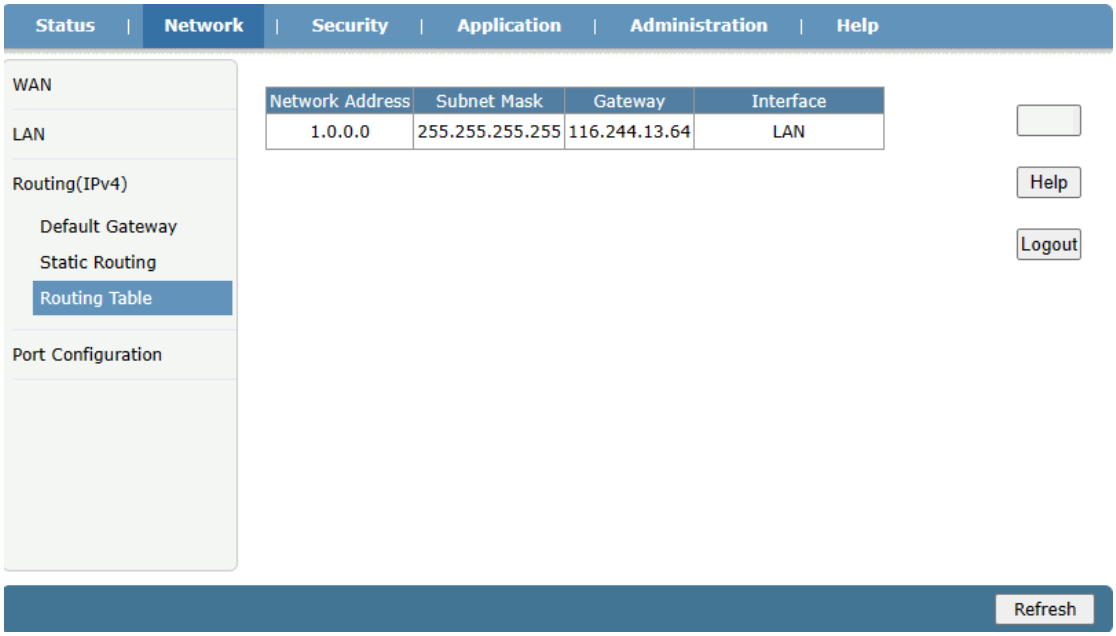


Figure 18: Routing Table

3.3.3 Port Configuration

3.3.3.1 Mode

This page shows the port name and port mode.

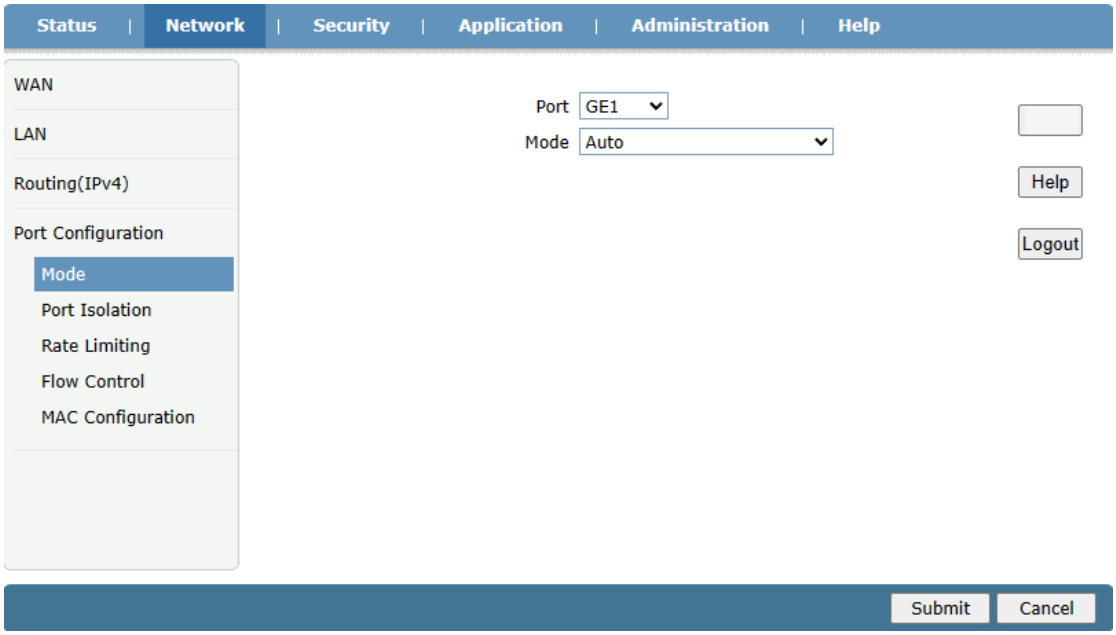


Figure 19: Mode

3.3.3.2 Port Isolation

This page shows the port name and isolation status.

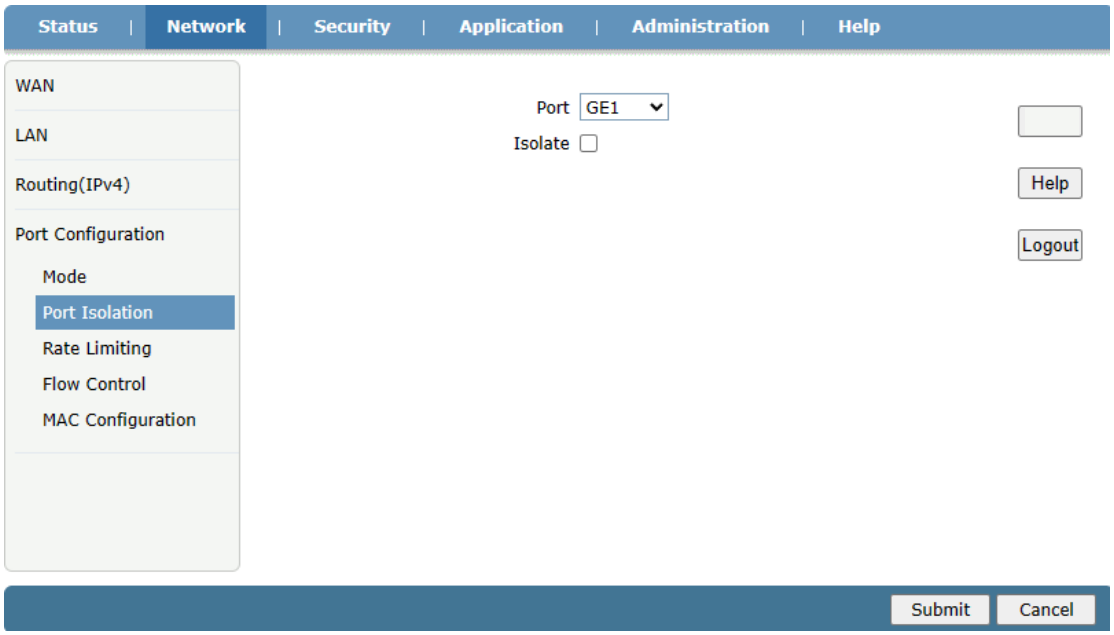


Figure 20: Port Isolation

3.3.3.3 Port Isolation

This page shows the port name and rate limiting range.

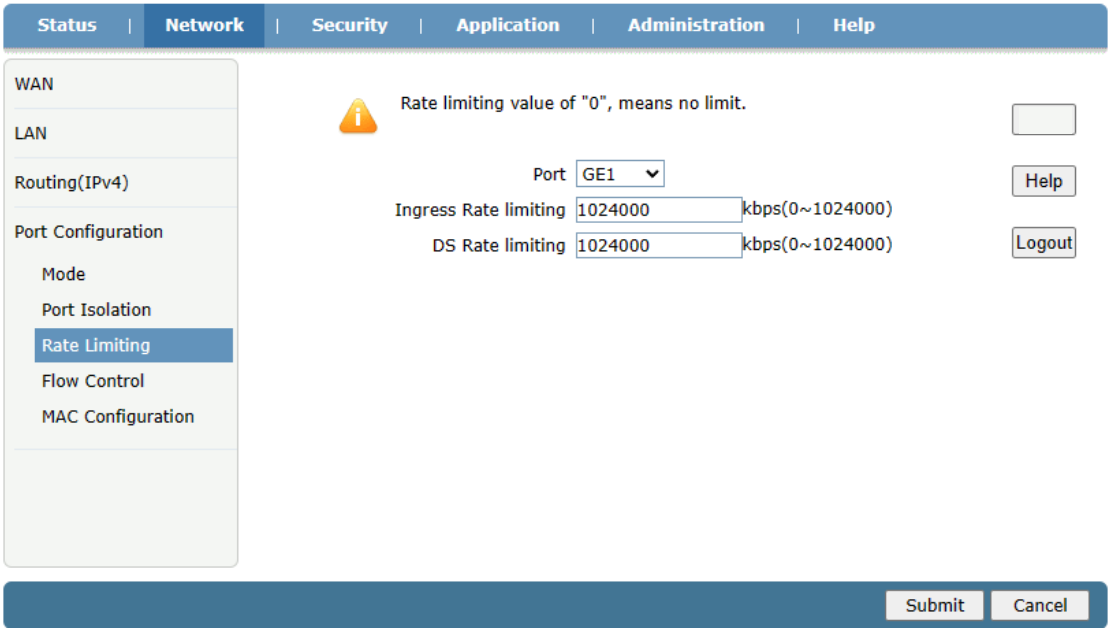


Figure 21: Rate Limiting

3.3.3.4 Flow Control

This page shows the port name and flow control status.

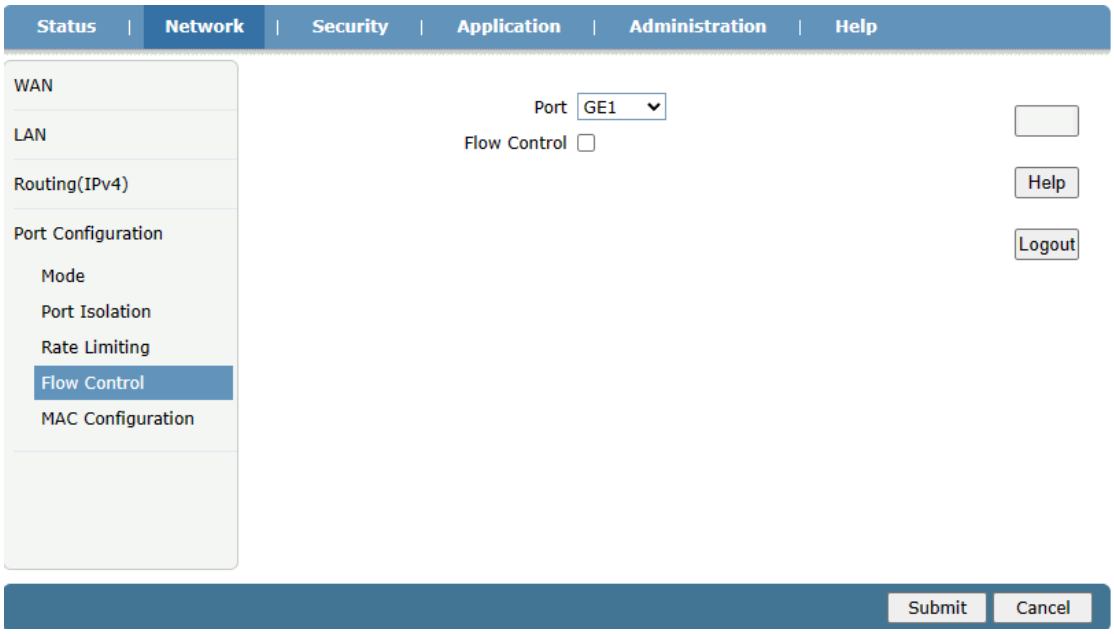


Figure 22: Flow Control

3.3.3.5 MAC Configuration

This page shows the MAC configuration information.

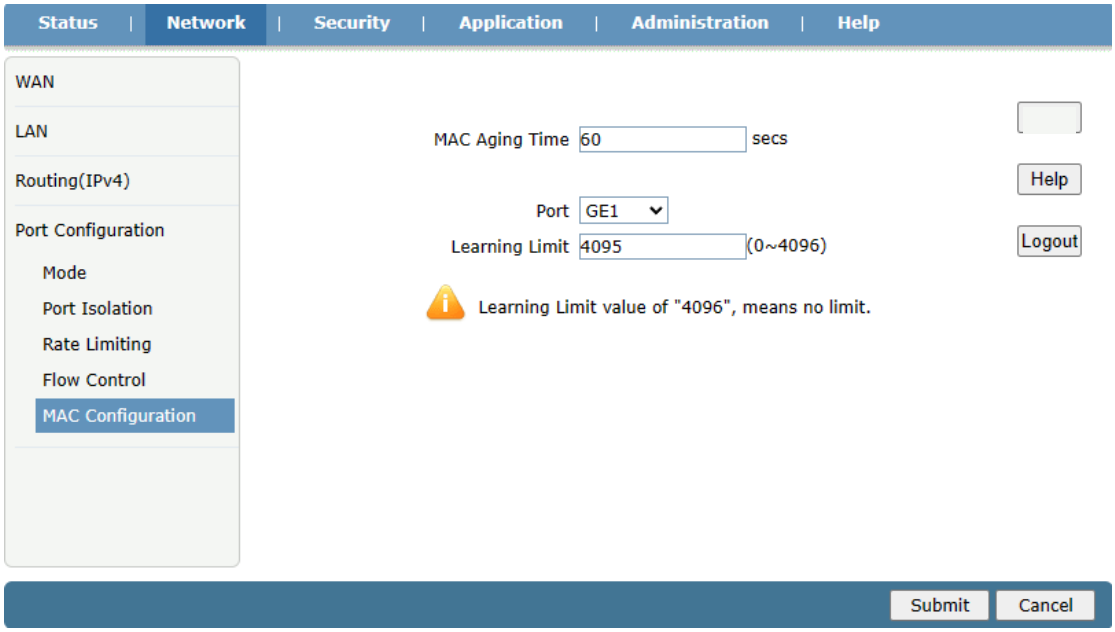


Figure 23: MAC Configuration

3.4 Security

3.4.1 Firewall

This page shows the Firewall configuration information.

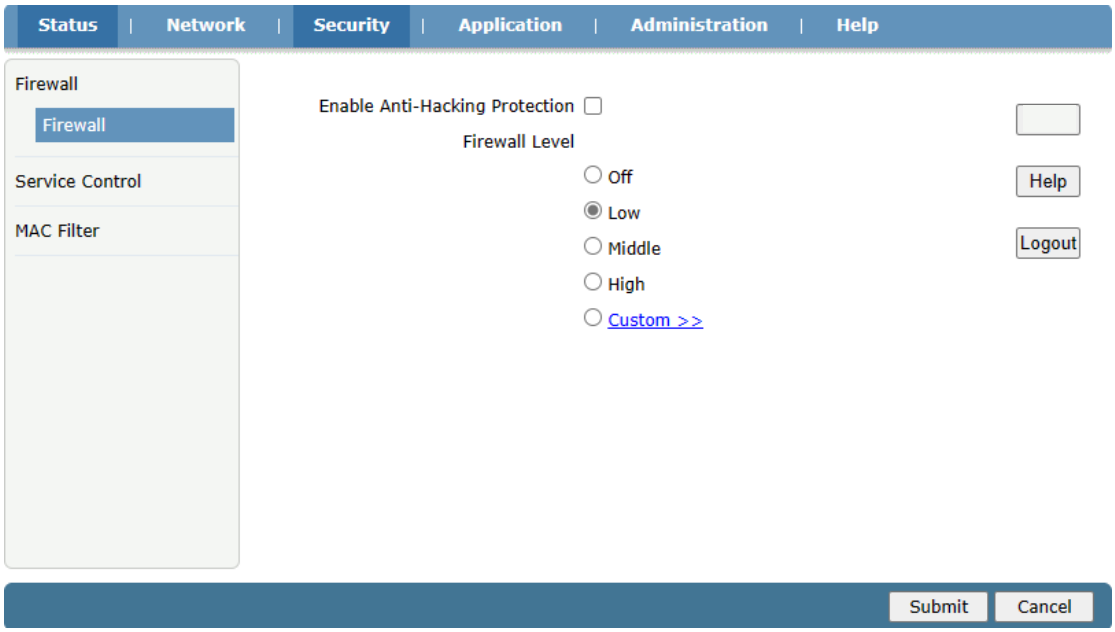


Figure 24: Firewall

3.4.2 Service Control

This page shows the IP and service information.

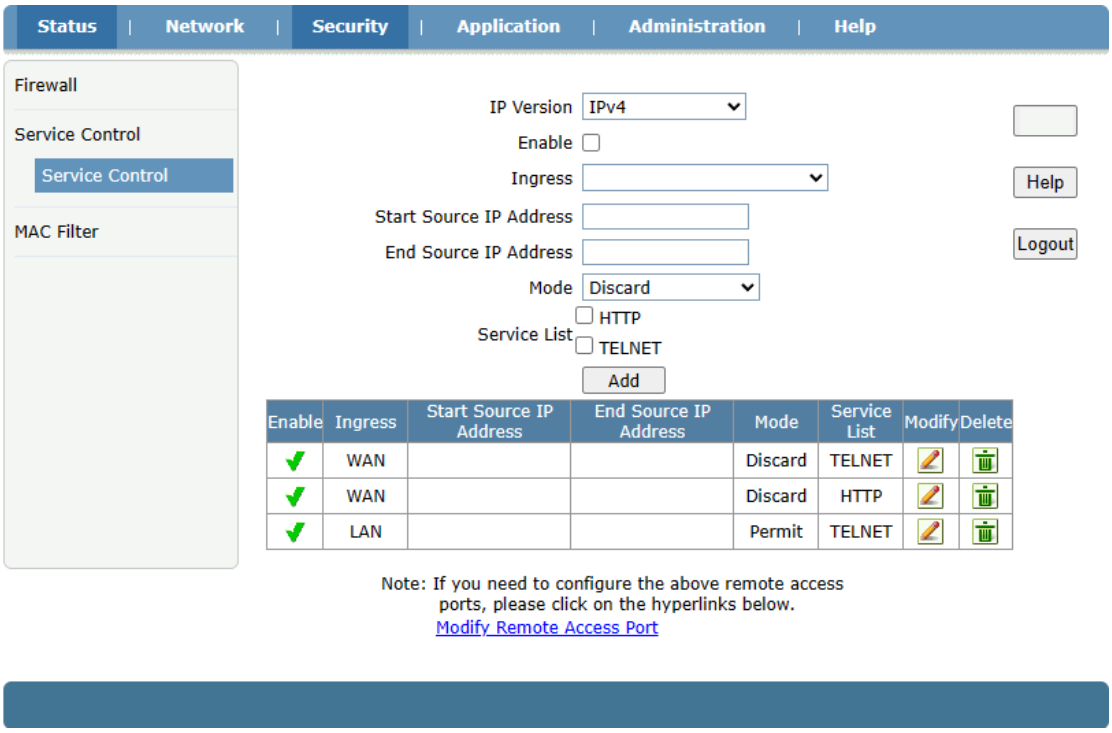


Figure 25: Service Control

3.4.3 Mac Filter

This page shows the Mac configuration information.

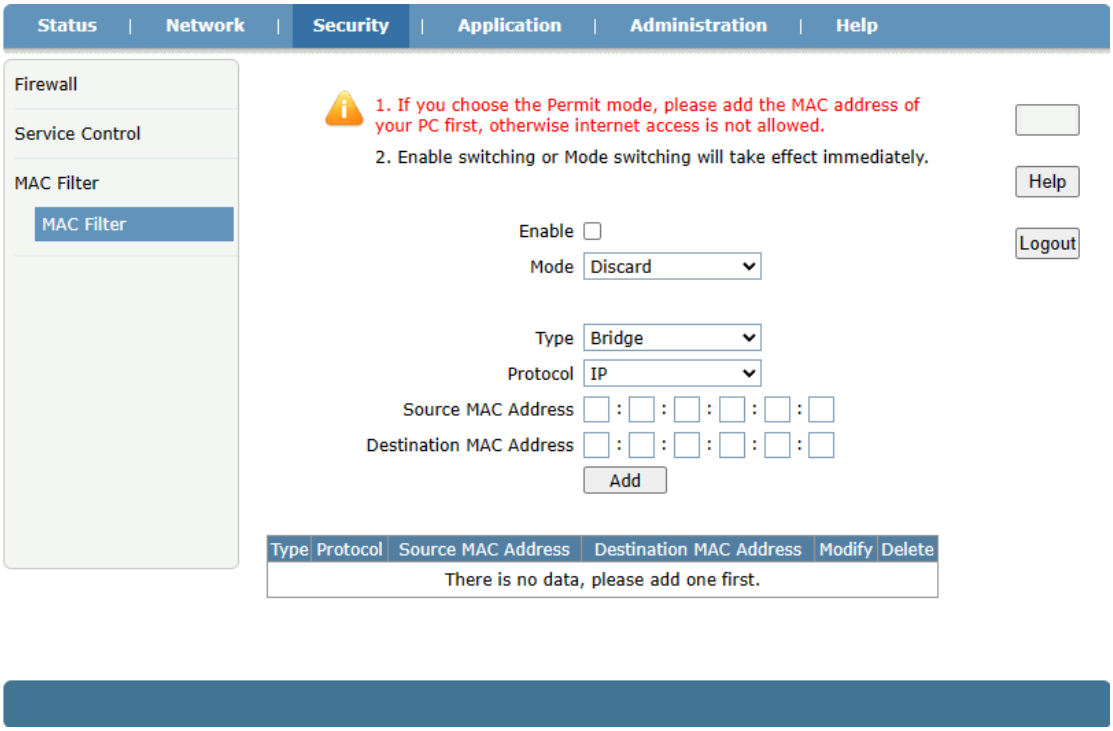


Figure 26: MAC Filter

3.5 Application

3.5.1 MultiCast

3.5.5.1 IGMP Mode

This page shows the IGMP Mode selection.

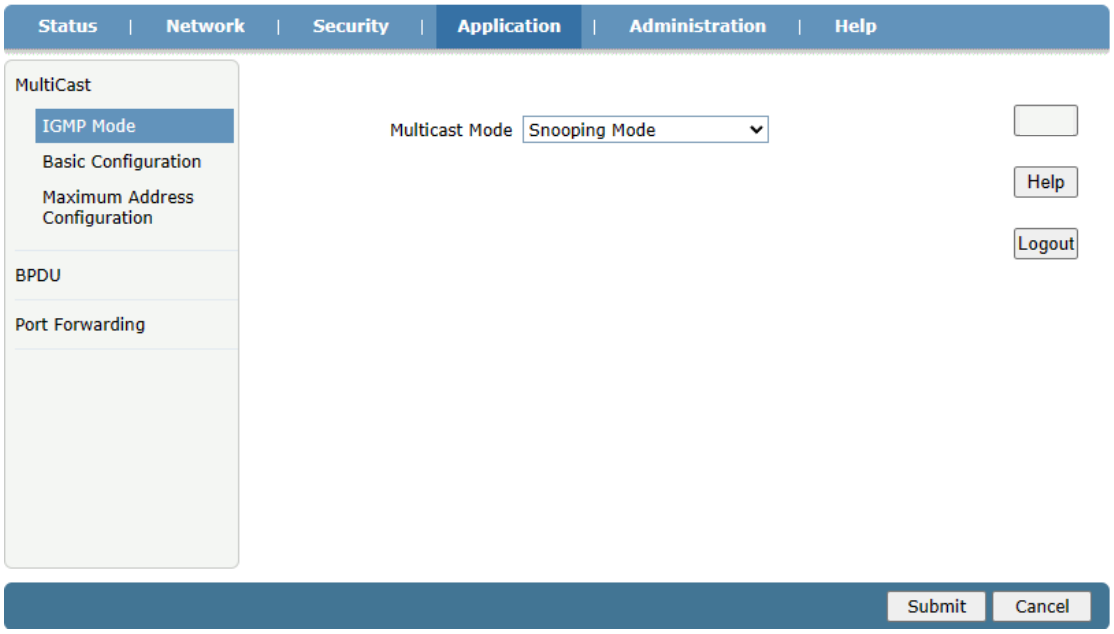


Figure 27: IGMP Mode

3.5.5.2 Basic Configuration

This page shows the Basic Configuration.

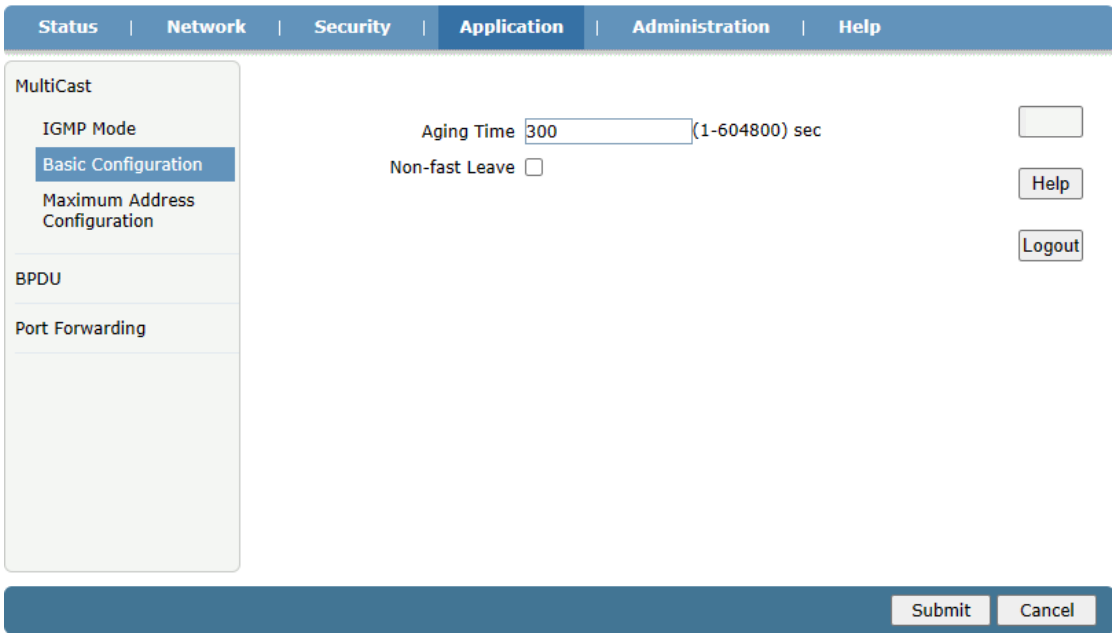


Figure 28: Basic Configuration

3.5.5.3 Maximum Address Configuration

This page shows the maximum number of addresses.

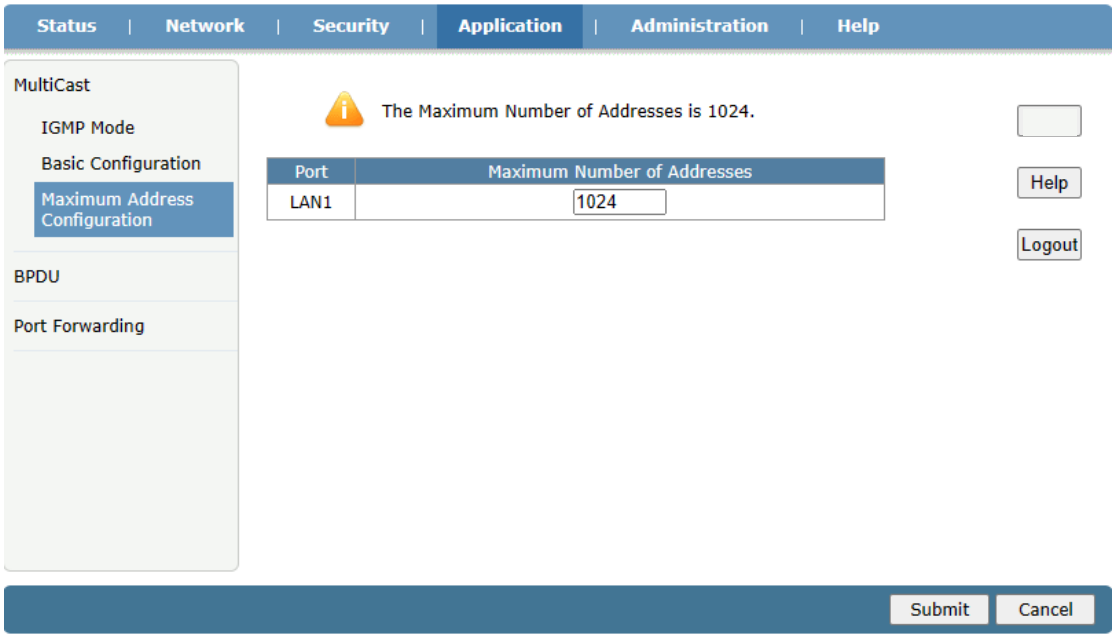


Figure 29: Maximum Address Configuration

3.5.5.4 BPDU

This page shows BPDU forwarding enable status.

Figure 30: BPDU

3.5.5.5 Port Forwarding

This page shows port forwarding configuration information.

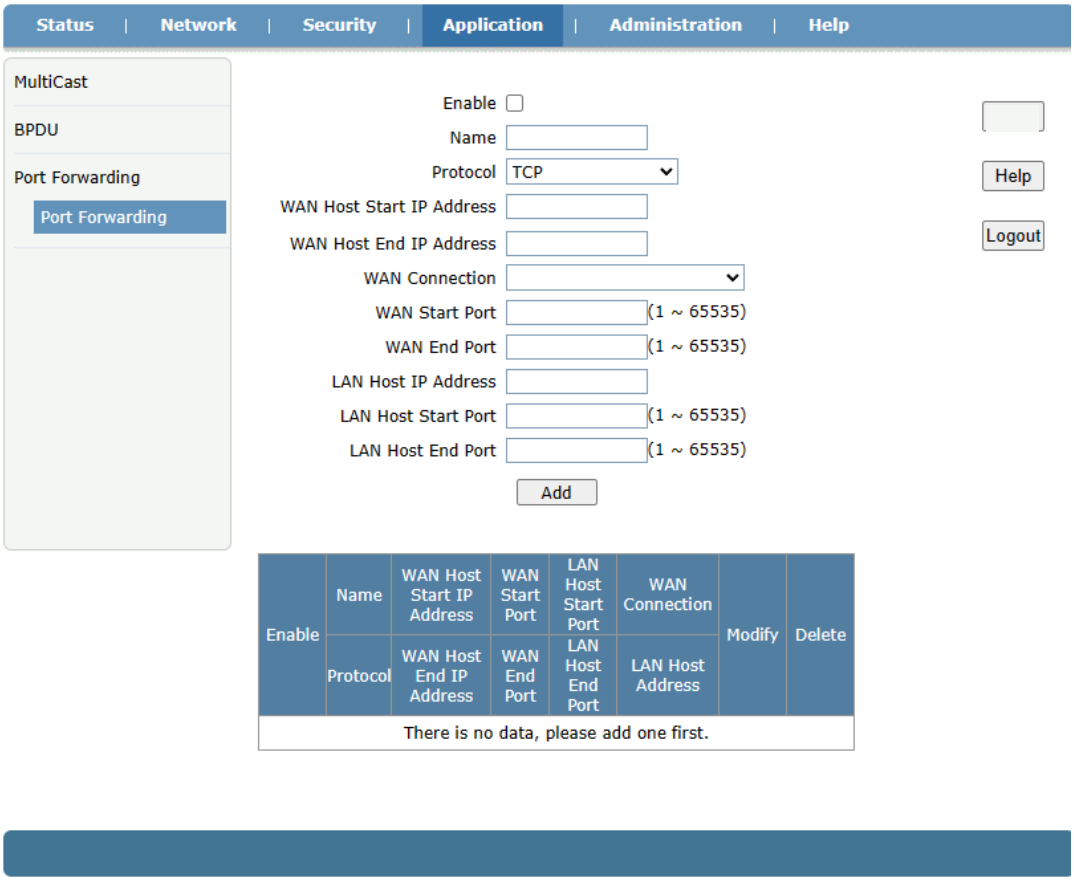


Figure 31: Port Forwarding

3.6 Administration

3.6.1 User Management.

This page shows administration user basic configuration information.

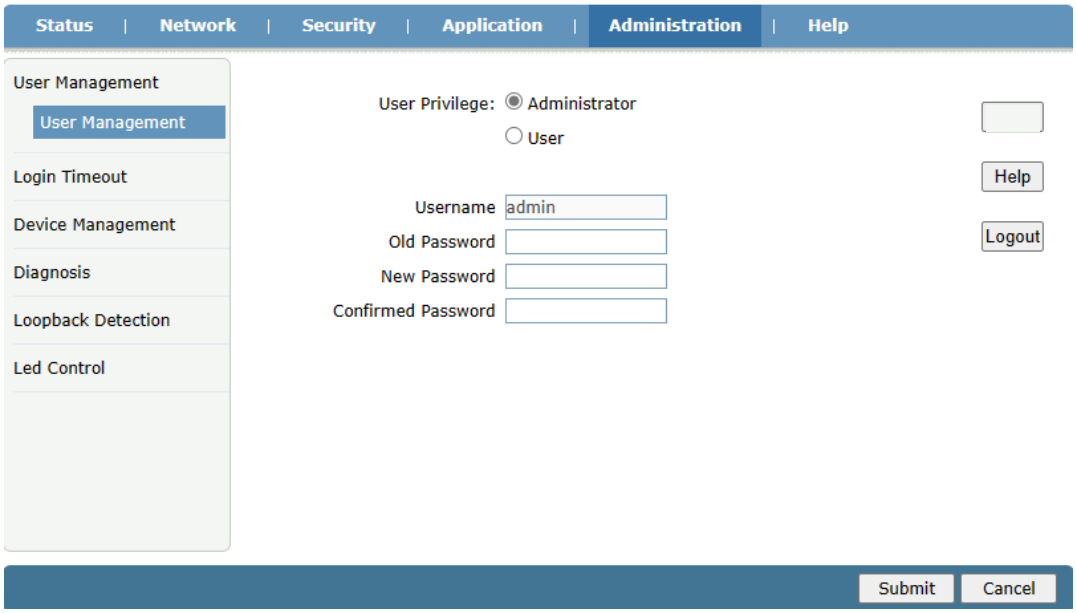


Figure 32: User Management

3.6.2 Login Timeout

This page shows login timeout information.

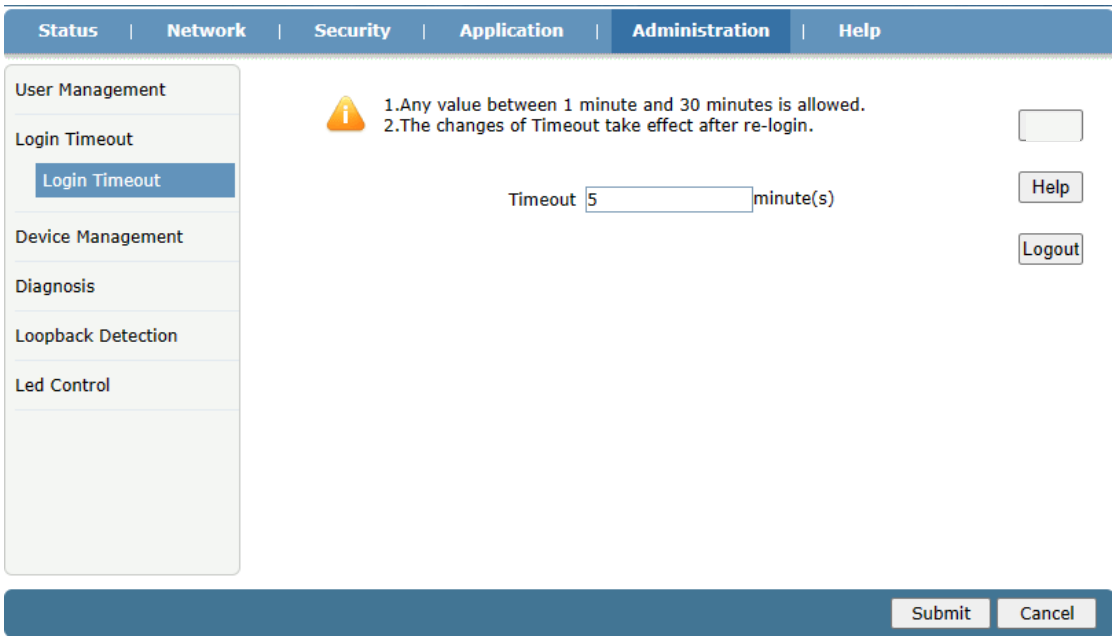


Figure 33: Login Timeout

3.6.3 Device Management

3.6.3.1 System Management

This page shows reboot device and restore factory default settings operations.

Figure 34: System Management

3.6.3.2 System Management

This page shows software upgrade operation.

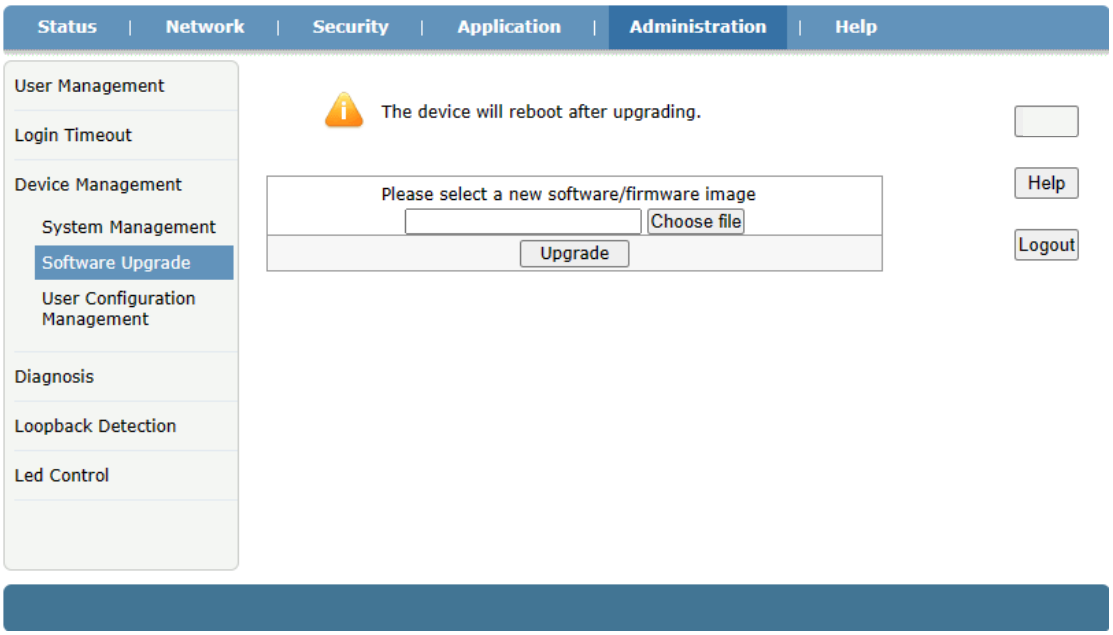


Figure 35: Software Upgrade

3.6.3.3 User Configuration Management

This page shows user backup and restore configuration.

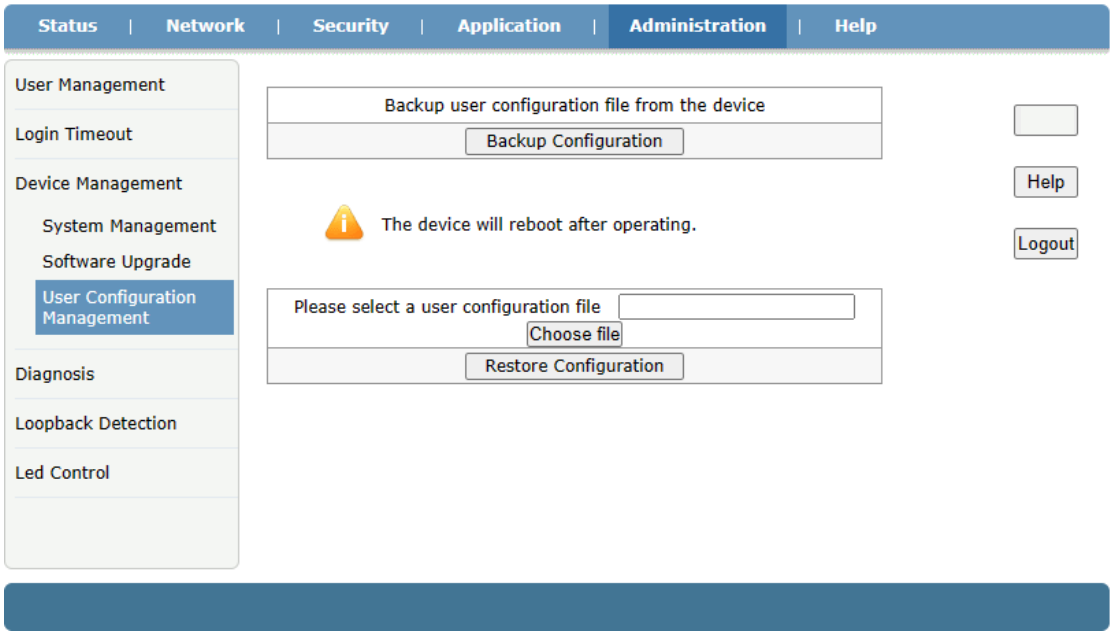


Figure 36: User Configuration Management

3.6.4 Diagnosis

3.6.4.1 Ping Diagnosis

This page shows Ping Diagnosis configuration.

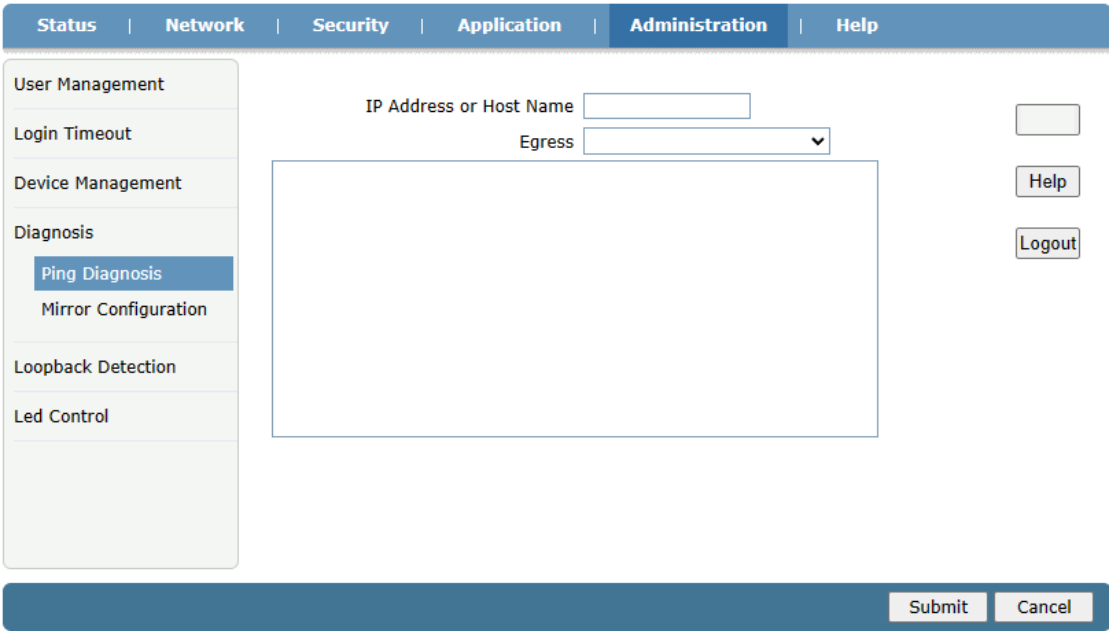


Figure 37: Ping Diagnosis

3.6.4.2 Mirror Configuration

This page shows Mirror Configuration of source and destination.

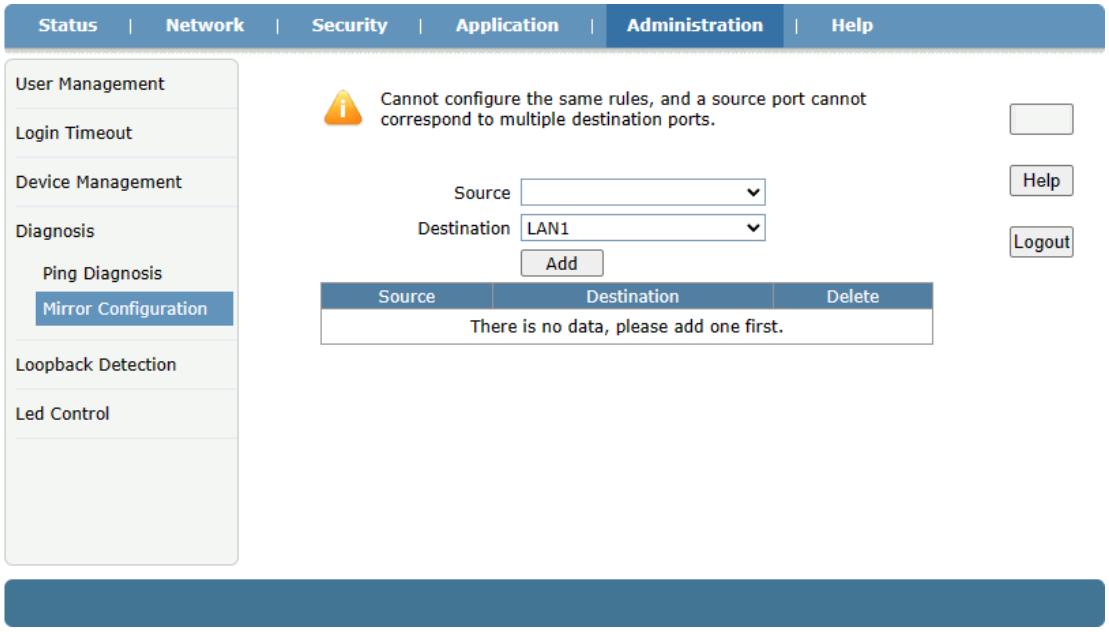


Figure 38: Mirror Configuration

3.6.5 Loopback Detection

3.6.5.1 Basic Configuration

This page shows loopback basic configuration.

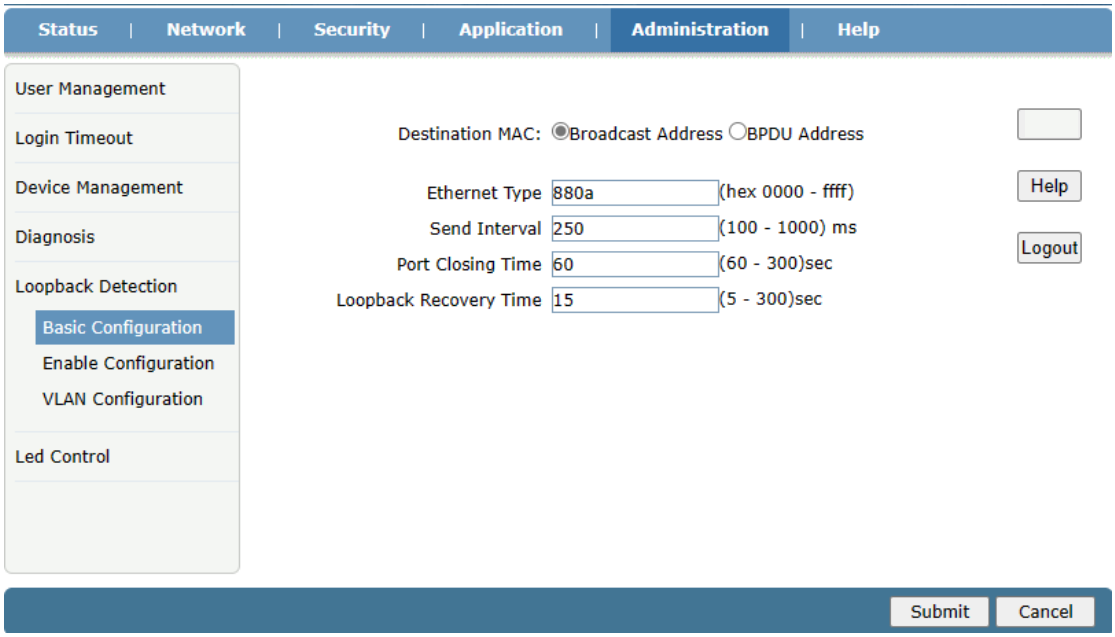


Figure 39: Basic Configuration

3.6.5.2 Enable Configuration

This page shows configuration enable data.

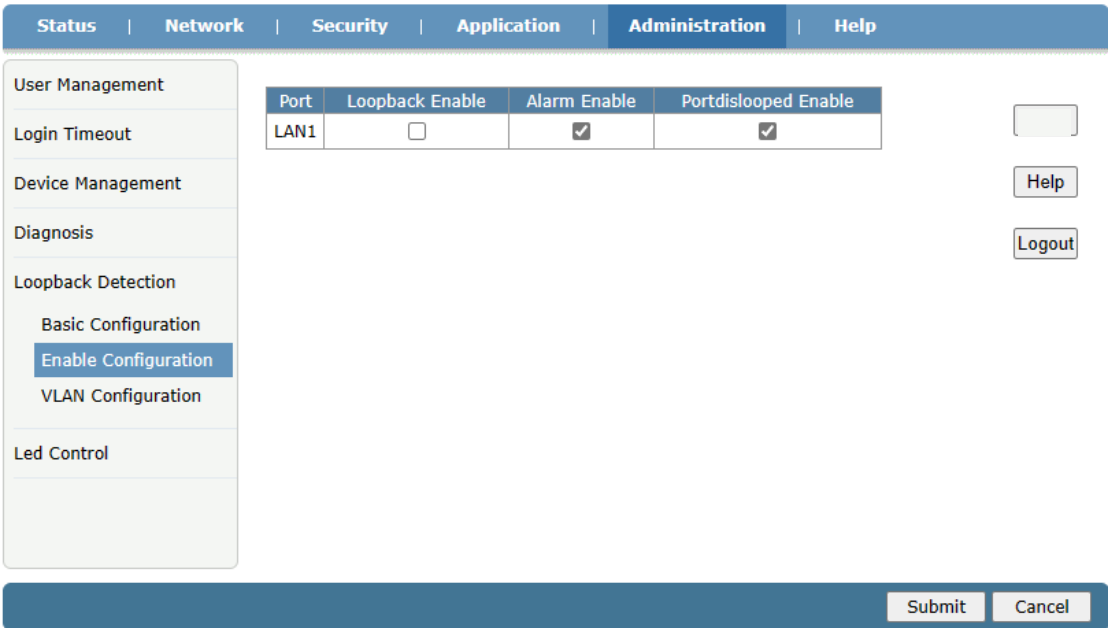


Figure 40: Enable Configuration

3.6.5.3 VLAN Configuration

This page shows vlan configuration data.

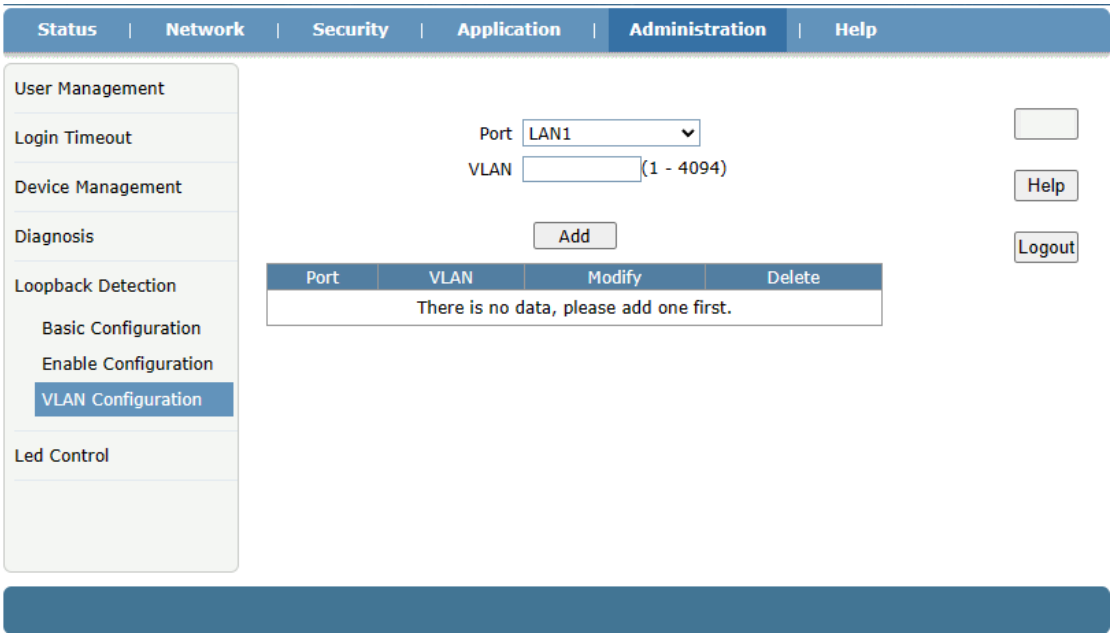


Figure 41: VLAN Configuration

3.6.6 Led Control

This page shows led control operation.

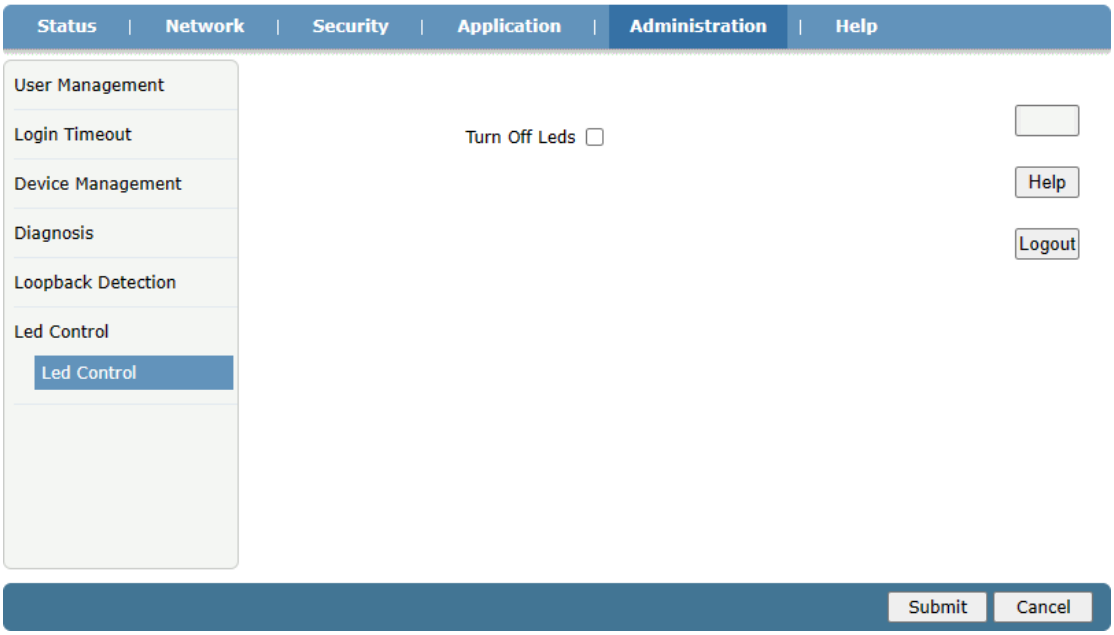
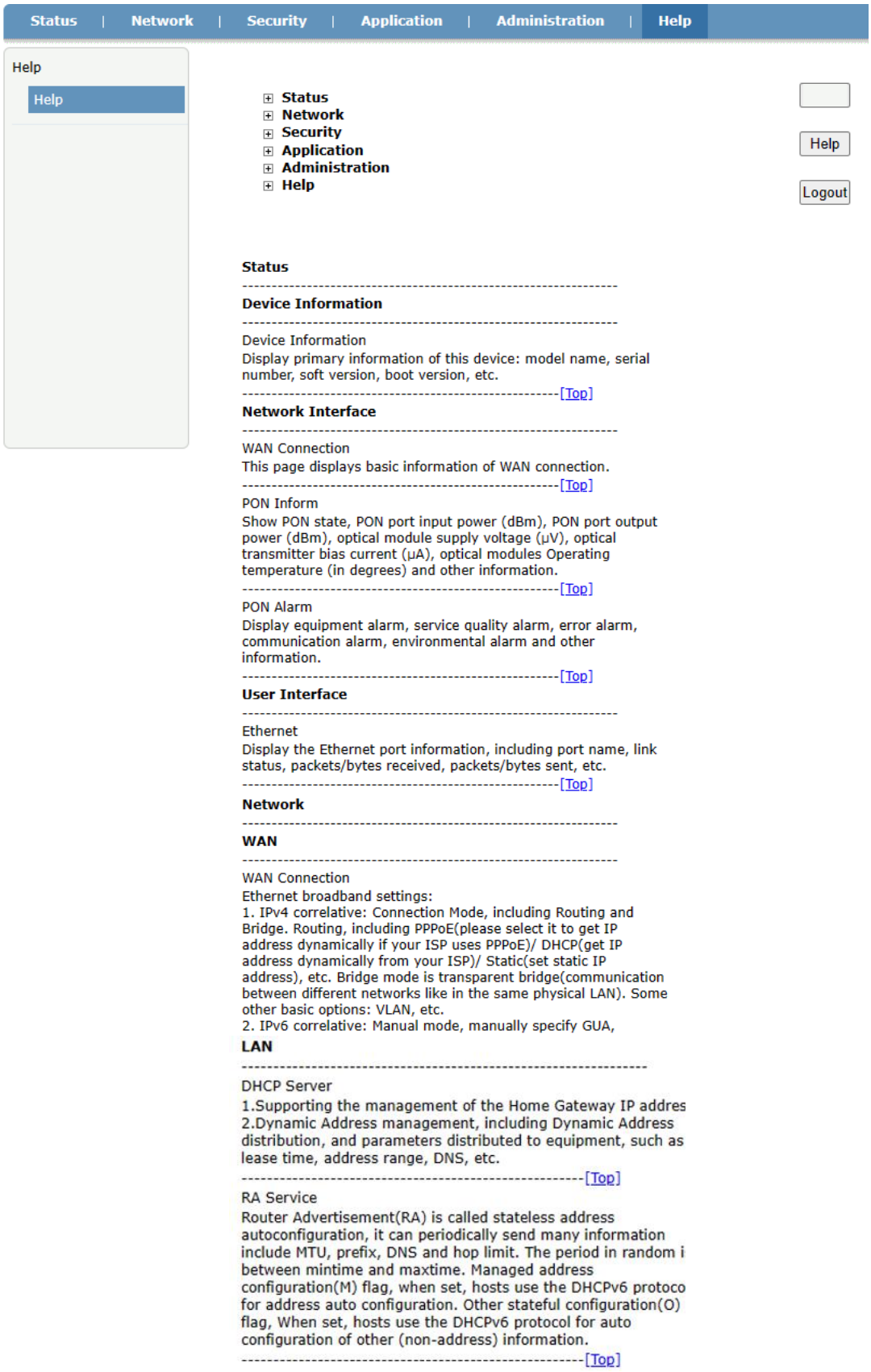


Figure 42: Led Control

3.7 HELP

This page shows Help page.



DHCP Server(IPv6)

1.Supporting the management of the Home Gateway IPv6 address and its prefix length.
2.IPv6 Dynamic Address management: IP Address: configure the IPv6 address and prefix length of the gateway. Enable DHCP Service: enable/disable DHCPv6 service function. DNS Refresh Time: configure the DNS refresh time distributed to client. Distributed Address List: DUID: DUID of client, identifies one client uniquely. IP Address, IPv6 address distributed to client. Residual Rent Time: the residual rent time of IPv6 address distributed to client.

----------[Top]

Prefix Management

This page is used to display and modify the prefix information. The prefix can be obtained automatically, or configued manually. And the information is not allowed to be modified when prefix source is None.

----------[Top]

Port Service(IPv6)

DHCPv6 or RA service will be enabled on the port when DHCPv6 or RA is checked.

----------[Top]

Routing(IPv4)

Default Gateway

Default Route Interface Configuration: specify a WAN connection as the default one for routing.

----------[Top]

Static Routing

Static Routing Configuration:select a WAN connection as the Route Interface, then configure destination IP, Mask, Gateway.

Routing Table

Route Information View, such as Network Address, Subnet Mask, Gateway, Interface Information.

----------[Top]

Port Configuration

Mode

Set the mode of the port.

----------[Top]

Port Isolation

Set port isolation.

----------[Top]

Rate Limiting

Set the speed limit for the port.

----------[Top]

Flow Control

Set the port flow control.

----------[Top]

MAC Configuration

Set the aging time of port MAC address and the number of learning addresses.

----------[Top]

MAC Filter

MAC Filter

MAC Address Filter: The MAC Address Filter settings can set the relevance parameters of the MAC filter function. The user interface will display the set MAC Filter rules after setting completed.

----------[Top]

Application

MultiCast

IGMP Mode
Enable IGMP Proxy, IGMP Snooping, IGMP Custom and configure some other parameters.
----------[Top]
Basic Configuration
Set the Aging Time and Leave Mode for MultiCast Module.
----------[Top]
Maximum Address Configuration
The Maximum Number of Addresses can be set to different port,and the user interface will display the new Configuration.
----------[Top]

BPDU

BPDU
Configuring to control BPDU data frames. if BPDU Forwarding is enabled, BPDU data frames will be replied, otherwise those will be processed in device.
----------[Top]

Port Forwarding

Port Forwarding
Users can use the application name to set a virtual server. if you enable virtual server configuration, you can use Wide Area Network to access the virtual host.
----------[Top]

Administration

User Management

User Management
Maintaining the WEB users accounts information of the device.
----------[Top]

Login Timeout

Login Timeout
Login timeout configuration.
----------[Top]

Device Management

System Management
Reboot or restore default if needed.
----------[Top]
Software Upgrade
Upgrade software version by the operation.
----------[Top]
User Configuration Management
Export User Configuration: export user configuration file from device.
Import User Configuration: import specified user configuration file to device.
----------[Top]

Diagnosis

Ping Diagnosis
This pages is used for diagnosing the network connectivity from this device to the specified IP address or host name.
----------[Top]
Mirror Configuration
Mirror configure, which is used to send mirror data of WAN connection to LAN, then developers or maintenance personnel can analyze caught packets.
----------[Top]
Loopback Detection

Basic Configuration
This page is used to configure the loopback global configuration. Port Closing Time is the port shut down time when loopback detected;Loopback Recovery Time is used to determine if loopback disappears.If the period of this time has not received detection packets, namely, that the loop disappears.
----------[Top]
Enable Configuration
his page is used to configure the loopback enable configuration. Loopback Enable is used to control whether to detecting loopback;Alarm Enable is used to control whether to report alarm when detected loopback;Portdislooped Enable is used to control whether to shut down the port when detected loopback.
----------[Top]
VLAN Configuration
This page is used to configure the VLAN for detection packets, distinguish between the ports.
----------[Top]
Led Control

Led Control
can control the leds on the ONU.
----------[Top]
Help

Help

Help
Help to learn the function and how to use this device.
----------[Top]

Figure 43: Help

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