USER MANUAL

DSL-2750U

AF_1.04_M01

D-Link®

Broadband

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1 Safety Precautions

Follow the instructions below to prevent damage to the device and the risk of fire or electric shock:

- Use the power adapter supplied with the unit and plug it into a suitably rated power outlet.
- Leave sufficient space around the Power adapter and Modem to allow the free flow of air for heat dissipation. Do not cover the device ventilation slots as this will result in the device overheating.
- Do not install this device close to a heat source or in an area of high temperature. Avoid exposure to direct sunlight.
- Do not install in a damp environment or allow fluid to spill on the Modem or Power Supply.
- Only connect this device as specified in the Manual or installation Wizard. Failure to observe these instructions can lead to the risk of fire or damage to the equipment concerned.
- Install in a well-ventilated dry environment on a stable surface.

2 Introduction

The DSL-2750U is a highly integrated ADSL2/2+ Internet Access Device. It provides ADSL connectivity, optional 3G connectivity via USB port, Ethernet LAN and Wireless LAN services. The wireless LAN complies with the IEEE802.11b/g/n standards and supports 2T2R. It is used to provide high performance internet access for individual and SOHO users.

2.1 Packing List

- 1 x DSL-2750U Router
- 1 x 3-Pin Power Supply / Lightning Protection Unit
- 1 x Splitter
- 1 x Micro Filter
- 1 x Installation CD
- 2 x RJ11 Phone Cables (one is Red, one is Grey)
- 1 x RJ45 Ethernet cable (Yellow)
- Documents

2.2 LEDs and Interfaces

Note:

The figures in this document are for reference only.

Front Panel

Figure 1 Front panel

The LED indicators are as follows from left to right: Power, LAN1/2/3/4, WLAN, USB, DSL, Internet. The WPS indicator is on the side panel.

The following table describes the LEDs of the device.

LED	Color	Status	Description
Power	Green	Off	The power is off.
		On	The power is on and the initialization is normal.
	Red	On	The device is initiating.
		Blinks	The firmware is upgrading.
LAN 1/2/3/4	Green	Off	No LAN link.
		Blinks	Data is being transmitted through the LAN interface.
		On	The connection of LAN interface is normal.
WLAN	Green	Blinks	Data is being transmitted through the WLAN interface.
		On	The connection of WLAN interface is normal.

LED	Color	Status	Description
		Off	The WLAN connection is not established.
USB 	Green	On	The connection of 3G or USB flash disk has been established.
		Blink	Data is being transmitted.
		Off	No signal is detected.
DSL 	Green	Off	Initial self-test failed.
		Blinks	The device is negotiating the best speed on the DSL line.
		On	DSL connection has been established.
Internet 	Green	Off	The device is in Bridge mode, DSL connection is not present, or the power is off.
		On	IP is connected and no traffic is detected.
	Red	On	The device attempted an IP connection, but failed.
WPS (on the side panel) 	Green	Blinks	WPS negotiation is enabled, waiting for wireless clients.
		Off	Device is ready for new WPS to setup.

Rear Panel

Figure 2 Rear panel

The following table describes the interface of the device.

Interface/Button	Description
DSL	RJ-11 interface for ADSL line.
LAN4/3/2/1	Ethernet RJ-45 interfaces that connect to the Ethernet interfaces of computers or other Ethernet devices.
USB	USB port, for connecting a 3G network card or other USB storage devices.
WIRELESS ON/OFF	Button to enable or disable WLAN.
RESET	Reset to the factory defaults. To restore factory defaults, keep the device powered on and push a paper clip into the hole. Press down the button for one second, and then release.
ON/OFF	Power on or off.
POWER	Socket that connects to the power adapter. The power adapter output is: 12 V DC 1A.
WPS (on the side panel)	WPS button to setup connection to wireless client.

2.3 System Requirements

Recommended system requirements are as follows:

- A 10/100BaseT Ethernet card or wireless adapter is installed on your PC
- Operating system: Windows 98SE, Windows 2000, Windows ME, Windows XP, Windows Vista or Windows 7
- Internet Explorer V5.0 or higher, Netscape V4.0 or higher, or Firefox 1.5 or higher

2.4 Features

The device supports the following features:

- User-friendly GUI for web configuration
- Compatible with all standard Internet applications
- Industry standard and interoperable DSL interface
- Simple web-based status page displays a snapshot of system configuration, and links to the configuration pages
- Downloadable flash software updates
- WLAN with high-speed data transfer rates of up to 300 Mbps, compatible with IEEE 802.11b/g/n, 2.4GHz compliant equipment
- IP routing and bridging
- Asynchronous Transfer Mode (ATM) and Digital Subscriber Line (DSL) support
- Point-to-Point Protocol (PPP)
- Network/Port Address Translation (NAT/PAT)
- Quality of Service (QoS)
- Wireless LAN security: WPA, 802.1x, RADIUS client
- Universal Plug-and-Play (UPnP)
- Print server
- Web filtering
- 3G Mobile WAN connection
- USB mass-storage, SAMBA
- System statistics and monitoring

3 Hardware Installation

3.1 Choosing the Best Location for Wireless Operation

Many environmental factors may affect the effective wireless function of the DSL Router. If this is the first time that you are setting up a wireless network device, read the following information:

The access point can be placed on a shelf or desktop, ideally you should be able to see the LED indicators in the front, as you may need to view them for troubleshooting.

Designed to go up to 100 meters indoors and up to 300 meters outdoors, wireless LAN lets you access your network from anywhere you want. However, the number of walls, ceilings, or other objects that the wireless signals must pass through limit signal range. Typical ranges vary depending on types of materials and background RF noise in your home or business.

3.2 Connecting the Router

(1) Connect the **DSL** port of the router and the port marked (Red, DSL) on the splitter with the (Red) telephone cable; connect the phone to the port of the splitter marked (Green, Phone) using the cable provided with the telephone, and connect the short (line) cable of the splitter to the (OUT) socket of the 3-Pin Power Supply/Lightning Protection unit. Connect the telephone wall socket to the (IN) socket on the 3-Pin Power Supply/Lightning protection unit.

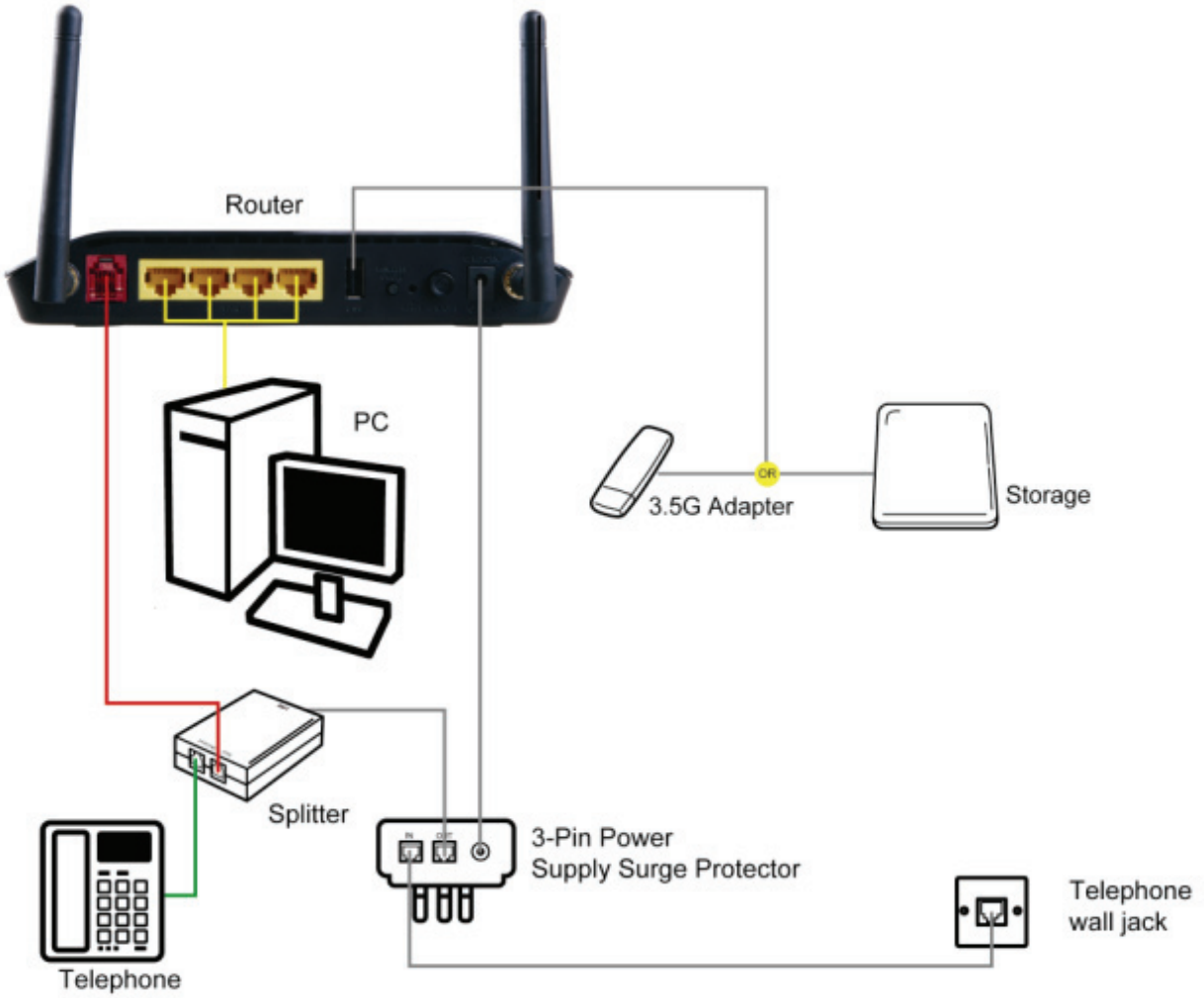
The splitter has three ports:

- **LINE**: Connect to (OUT) port on 3-Pin Power Supply/Lightning Protection Unit
- **DSL**: Connect to the DSL interface of the router using the red cable provided
- **PHONE**: Connect to a telephone set using the cable provided with the telephone

(2) Connect the **LAN** port of the router to the network interface card (NIC) of the PC using the (Yellow) Ethernet cable provided.

(3) Plug the 3-Pin Power Supply/Lightning Protection Unit into the wall outlet and then connect the other end of it to the **Power** port of the router (12V DC IN).

The following figure shows the connection of the Router, PC, and telephones.



4 About the Web Configuration Interface

This chapter describes how to configure the Router by using the Web-based configuration utility.

4.1 Access the Router

Configuring IP Address of the Network Card

Configure TCP/IP properties of your network card to **Obtain an IP address automatically from modem**, or set the IP address of the computer with the same network mask of the modem.

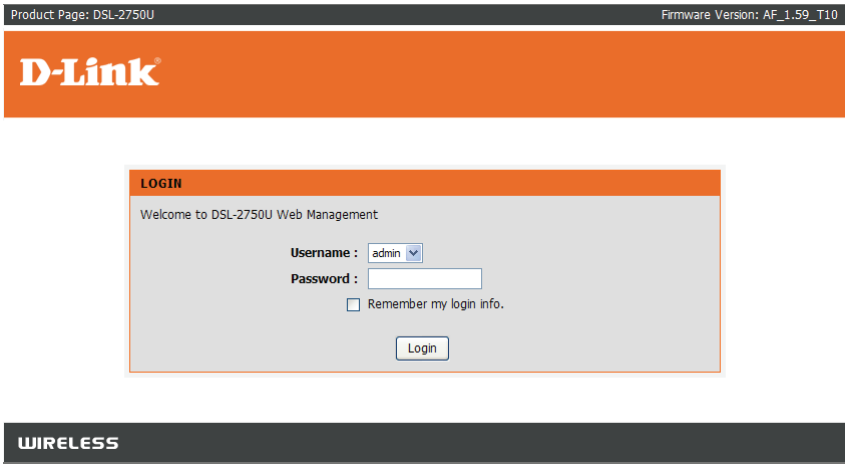
For example, if the IP address of Router is 10.0.0.2/255.255.255.0, you can set the IP address of the computer to **10.0.0.x/255.255.255.0**. The range for x is from 3 to 254.

The following is the detailed description of accessing the device for the first time.

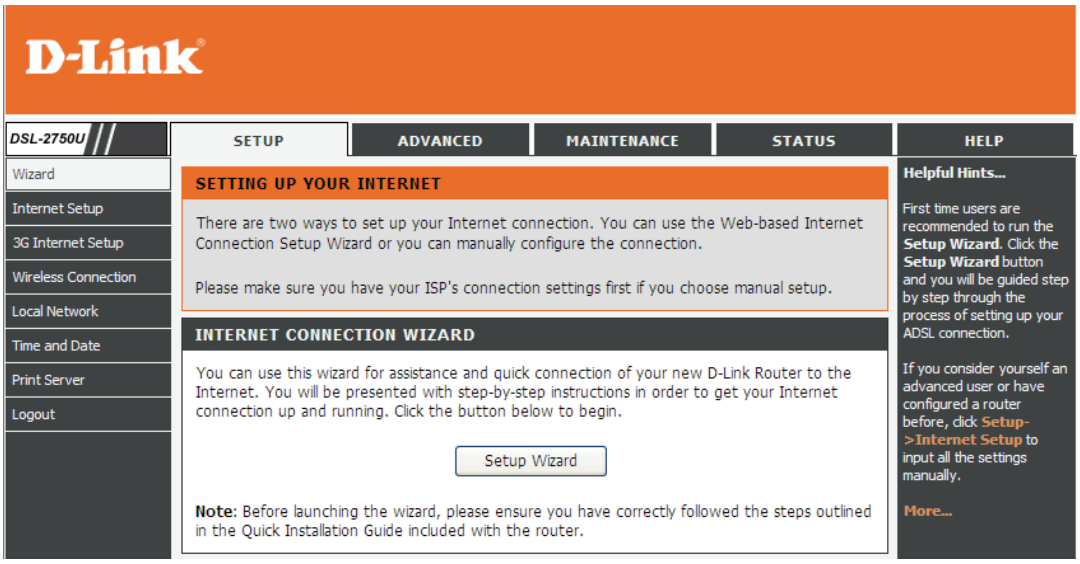
Step 1 Open Internet Explorer (IE) browser and enter **http://10.0.0.2** .

Step 2 The **Login** page shown in the following figure appears. Enter the user name and password.

- The default user name and password are **admin** and **admin** respectively.



If you log in as the Administrator successfully, the page shown in the following figure appears.



If the login information is incorrect, click **Try Again** in the page that pops up to log in again.

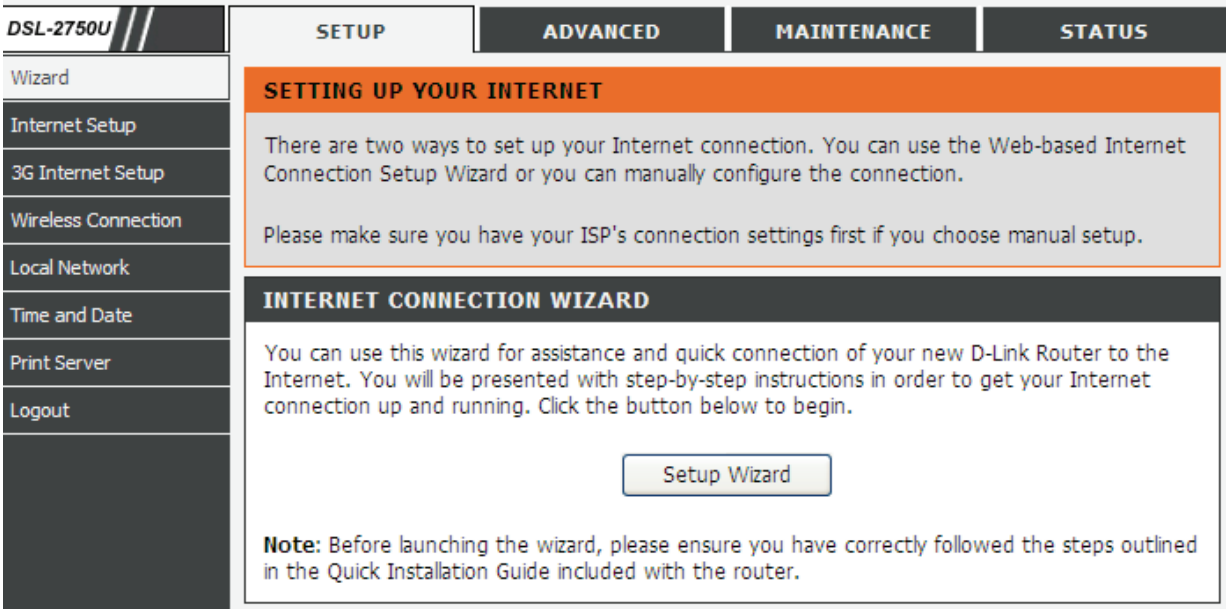
4.2 Setup

4.2.1 Wizard

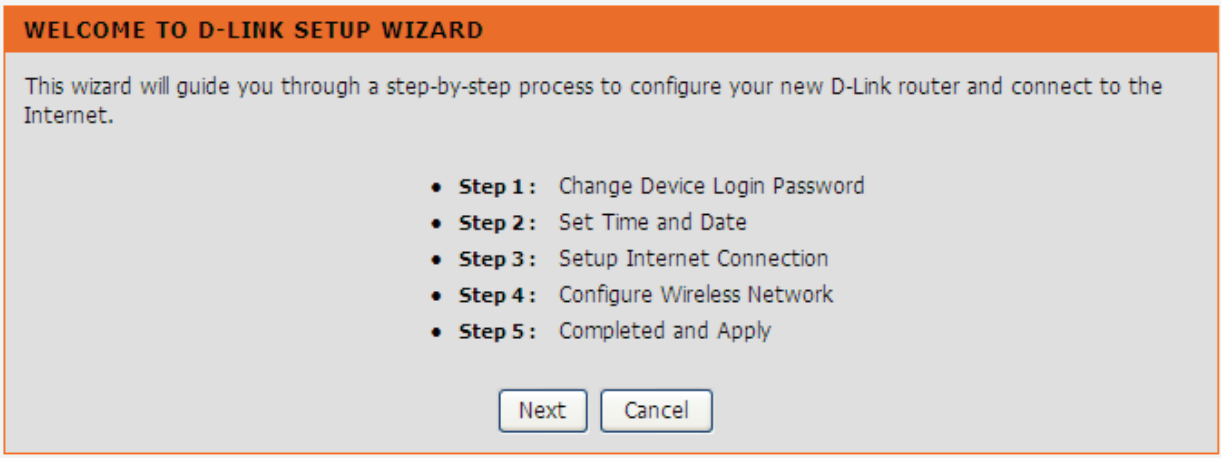
Wizard enables fast and accurate configuration of the Internet connection and other important parameters. The following sections describe these various configuration parameters.

When subscribing to a broadband service, you should be aware of the method by which you are connected to the Internet. Your physical WAN device can be Ethernet, DSL, or both. Technical information about the properties of your Internet connection are provided by your Internet Service Provider (ISP). For example, your ISP should inform you whether you are connected to the Internet using a static or dynamic IP address, or the protocol, such as PPPoA or PPPoE, that you use to communicate over the Internet.

Step 1 Choose **Setup** > **Wizard**. The page shown in the following figure appears.



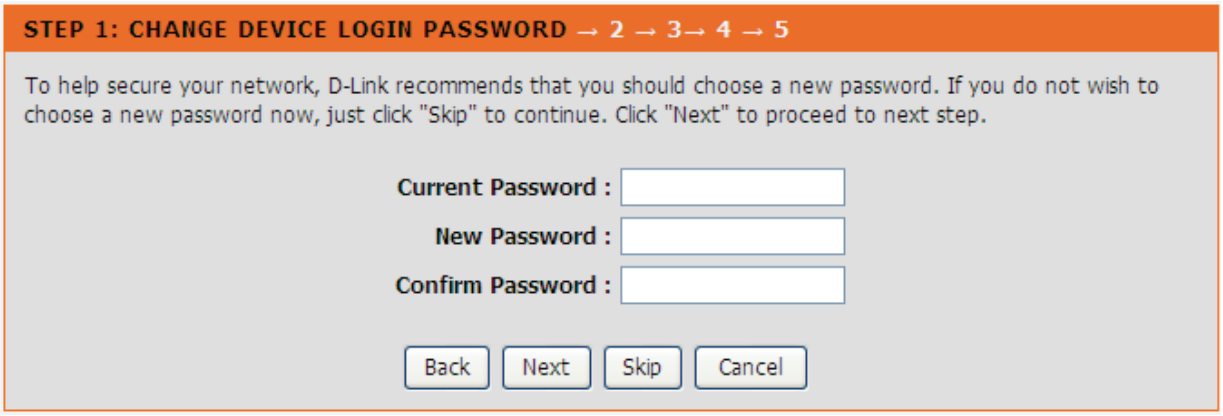
Step 2 Click **Setup Wizard**. The page shown in the following figure appears.



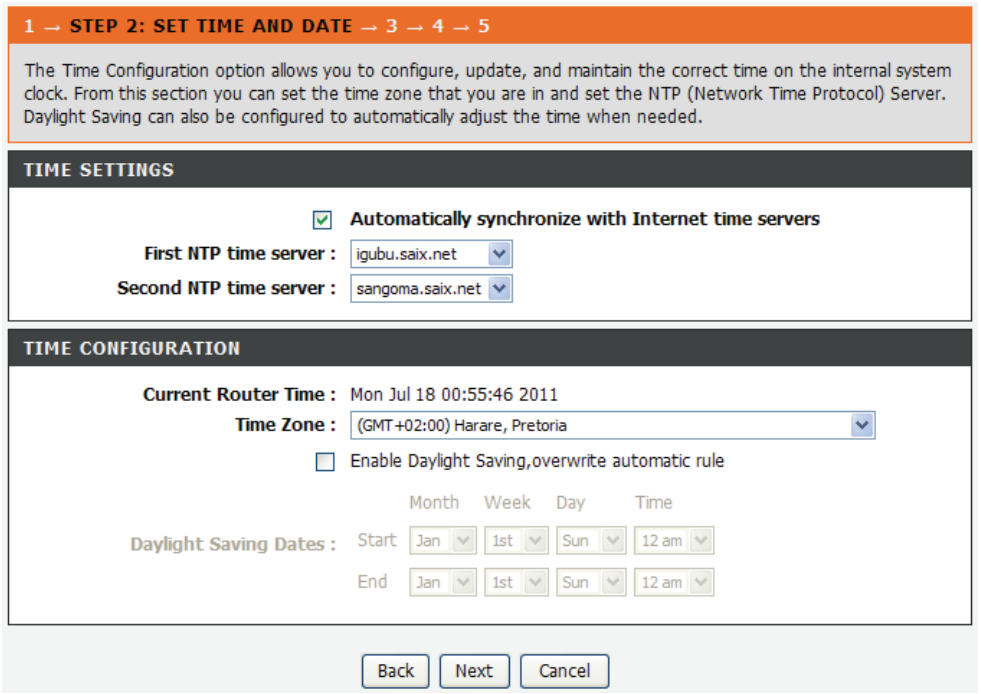
Step 3 There are five steps to configure the device. Click **Next** to continue.

Step 4 Change Device Login Password.

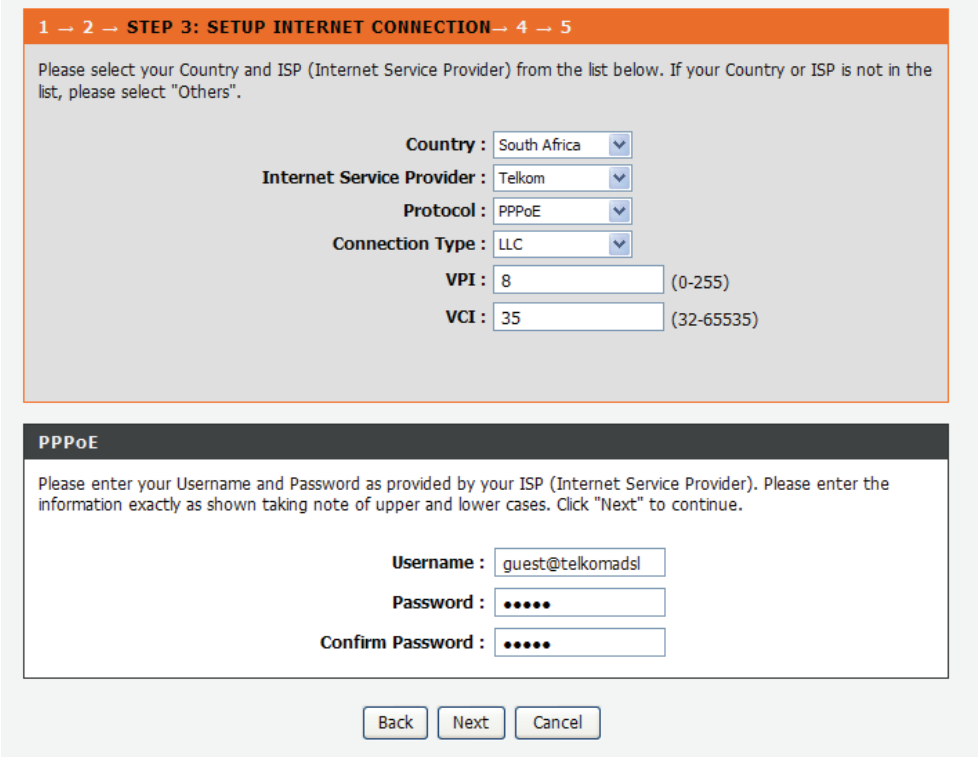
The default password of admin account is "**admin**". In order to secure your network, please modify the password. Note: Confirm Password must be the same as "**New Password**". Of course, you can click **Skip** to ignore the step and keep the default password.



Step 5 Set time and date.



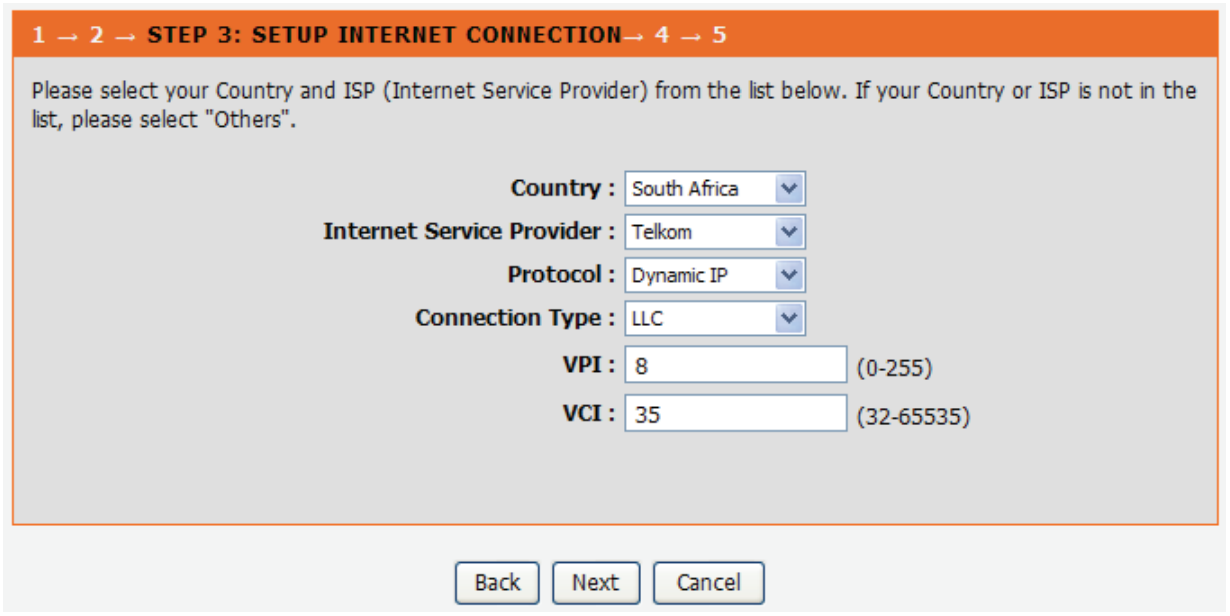
Step 6 Configure the Internet connection.



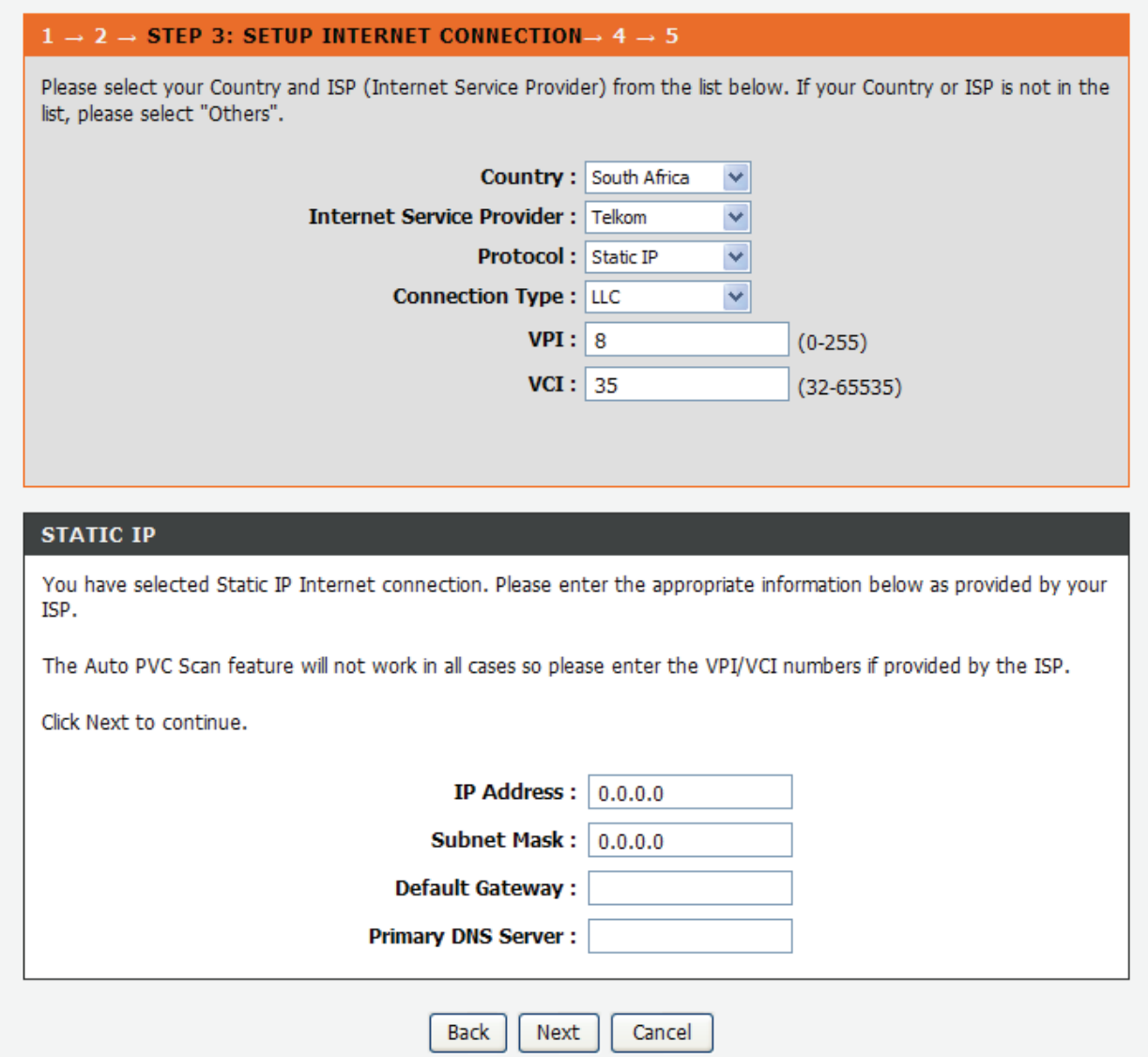
Select the country and ISP. The default settings for the ISP will appear. If you fail to find the country and ISP from the drop-down lists, select **Others,** and set the VPI and VCI. Click **Next**. If the **Protocol** is **PPPoE** or **PPPoA,** the following page appears.

In this page, enter the user name and password provided by your ISP.

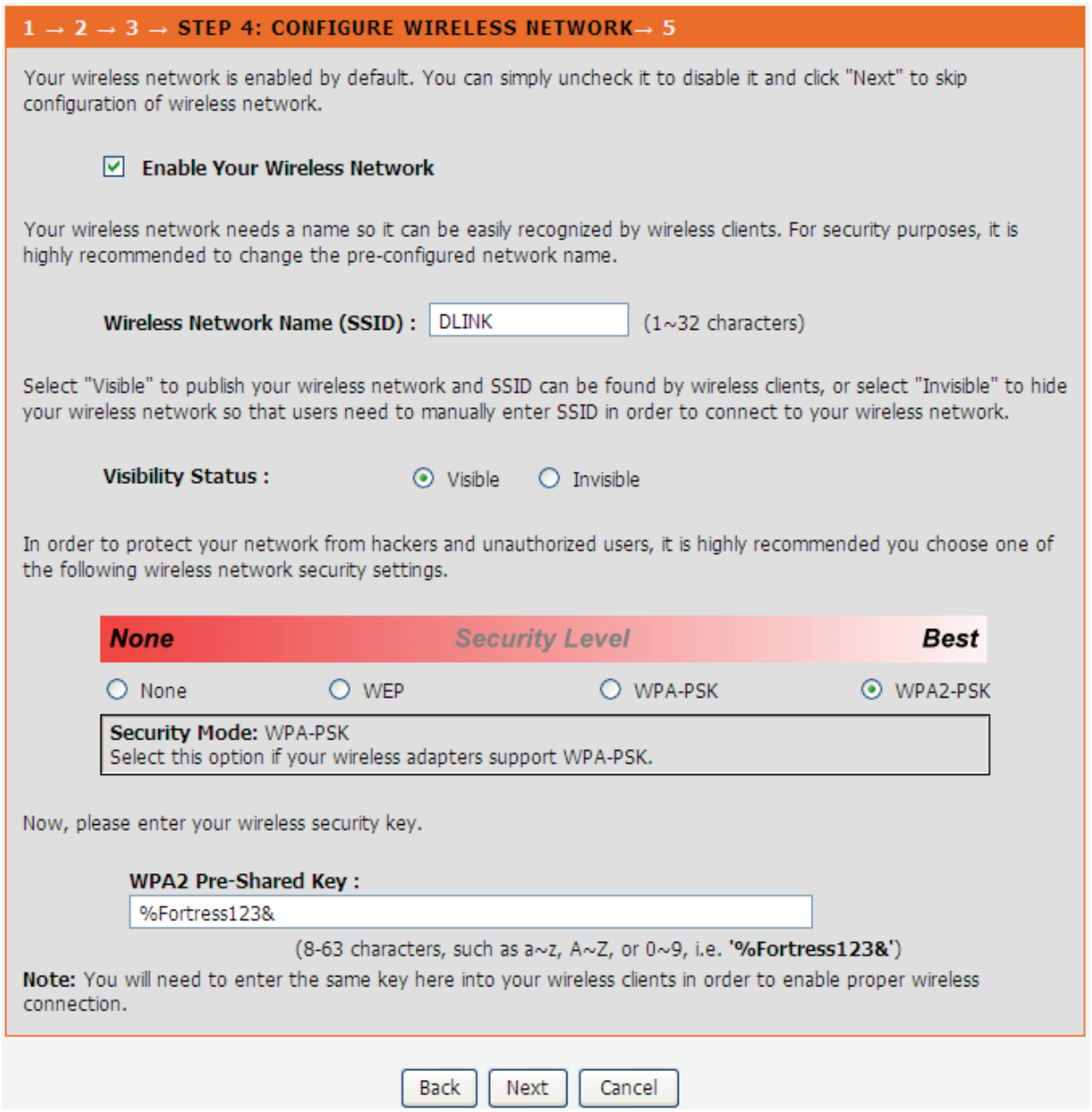
If the Protocol is **Dynamic IP** or **Bridge**, the page shown in the following figure appears.



If the Protocol is **Static IP**, the page shown in the following figure appears.



Enter the **IP Address**, **Subnet Mask**, **Default Gateway**, and **Primary DNS Server**. Click **Next**. The page shown in the following page appears.



Select **Visible** to publish you Wireless network SSID so it can be used by other wireless clients or select **Invisible** to hide your wireless network so that users need to manually enter SSID in order to connect to your wireless network.

Security Level – Select the security level required. The most secure level is the default level already selected.

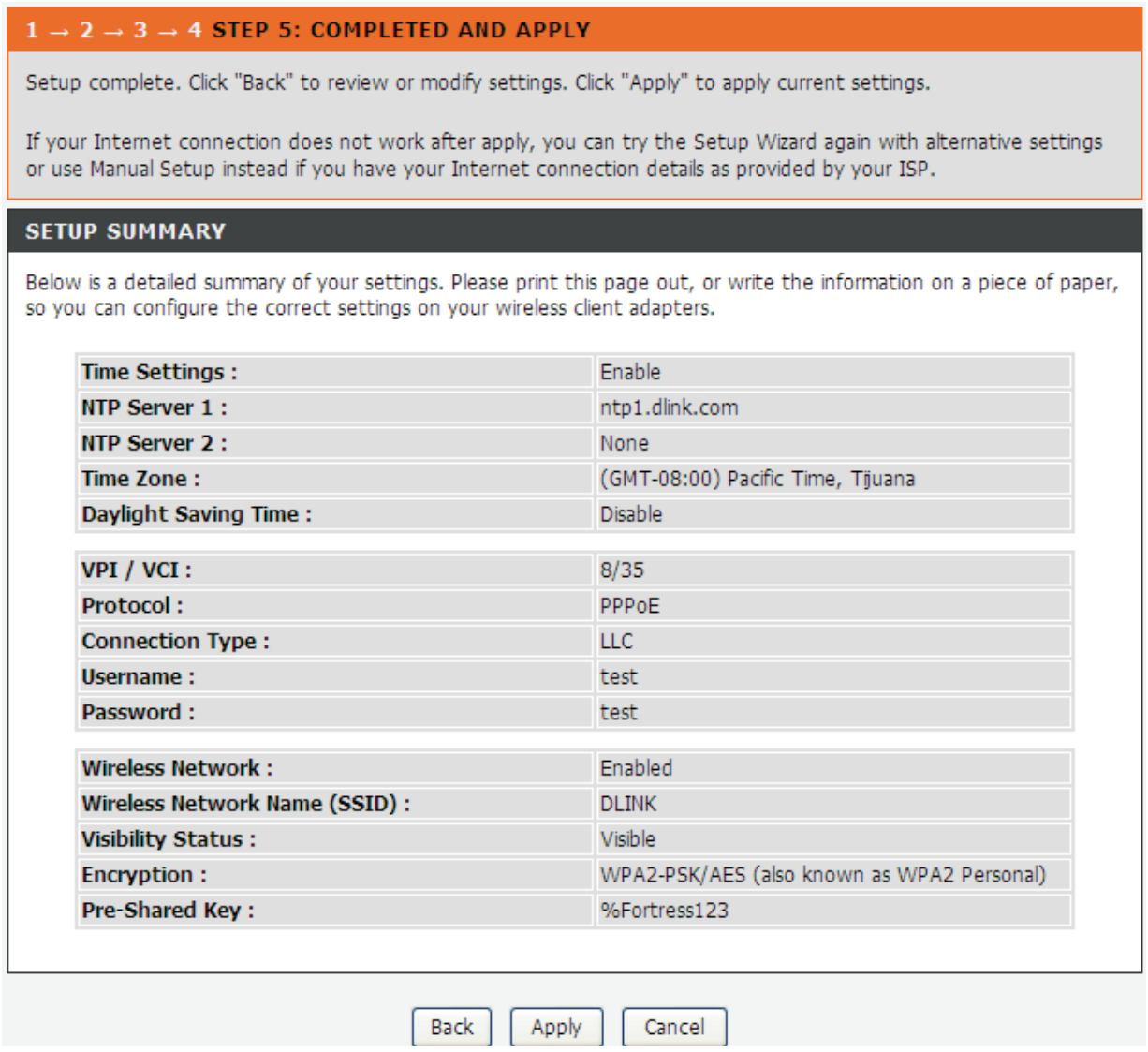
Wireless Security Key - Enter an appropriate wireless security key for the Security Level required. It is recommended that it is different to that of the default but should be easily remembered. Note the required characters for the type of Security Level selected.

Note:

You will need to enter the same key here into your wireless clients in order to enable proper wireless connection.

Step 7 Configure the wireless network. Enter the information and click **Next**.

Step 8 Completed And Apply. Click **Apply** to apply current settings and finish the setup of the DSL-2750U router. Click **Back** to review or modify any settings.

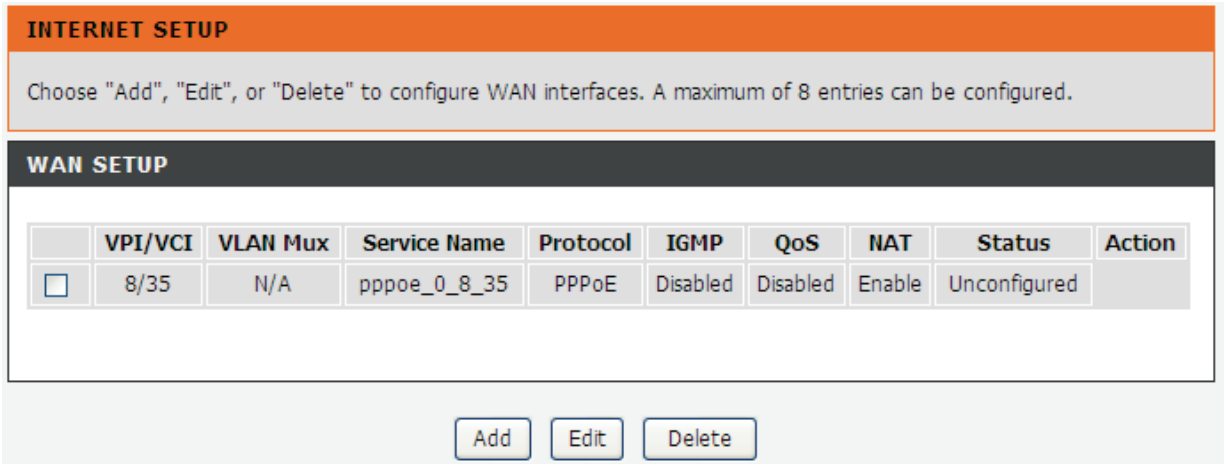


Note:

In each step of the Wizard page, you can click **Back** to review or modify the previous settings. Click **Cancel** to exit the wizard page.

4.2.2 Internet Setup

Choose **Setup** > **Internet Setup**. The page shown in the following figure appears. In this page, you can configure the WAN interface of the device.



To add another WAN connection click **Add** in **"INTERNET SETUP"**, or tick the box next to 8/35 and click **Edit.** The page shown in the following figure appears.

INTERNET SETUP

This screen allows you to configure an ATM PVC identifier (VPI and VCI) and select a service category.

ATM PVC CONFIGURATION

VPI: 8 (0-255)

VCI: 35 (32-65535)

Service Category: UBR Without PCR

Peak Cell Rate: (cells/s)

Sustainable Cell Rate: (cells/s)

Maximum Burst Size: (cells)

IP QOS SCHEDULER ALGORITHM

Strict Priority

Precedence of queue: 8 (lowest)

Weighted Fair Queuing

Weight Value of queue: (1-63)

MPAAL Group Precedence: 8

CONNECTION TYPE

Protocol: Bridging

Encapsulation Mode: LLC/SNAP-BRIDGING

Enable Multiple Vlan Over One Connection:

802.1P Priority [0-7]: -1

802.1Q VLAN ID [0-4094]: -1

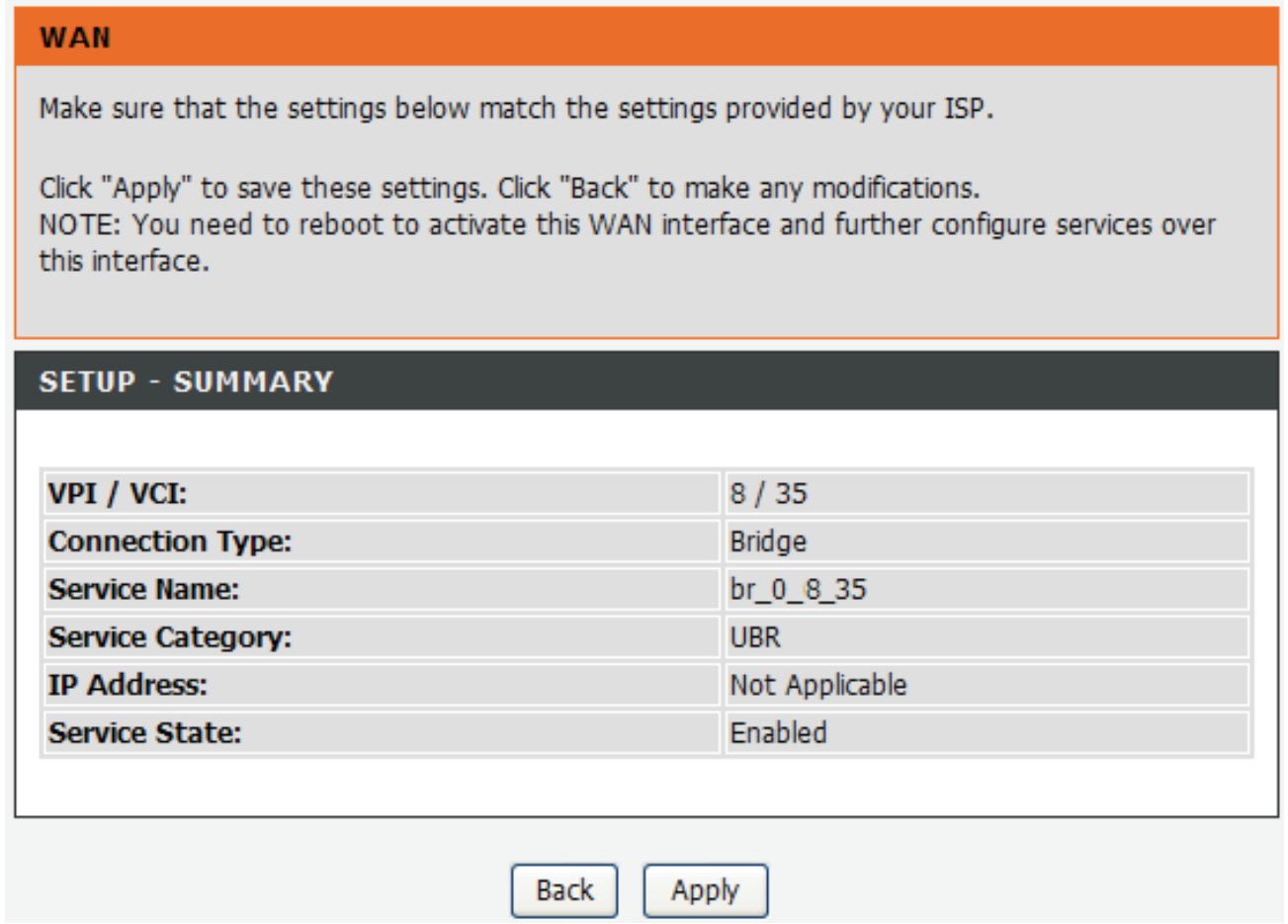
BRIDGE SETTINGS

Service Name: br_0_8_35

Next Cancel

- PVC Settings: VPI is the virtual path between two points in an ATM network and its valid value is from 0 to 255. Default value is 8.
- VCI is the virtual channel between two points in an ATM network, ranging from 32 to 65535 (0 to 31 is reserved for local management of ATM traffic). Default is 35.
- Service Category: Select one of the following values from the drop-down list - UBR Without PCR, UBR With PCR, CBR, Non Realtime VBR or Realtime VBR.
- Protocol: Select one of the following values from the drop-down list – Bridging, PPP over ATM (PPPoA), PPP over Ethernet (PPPoE), MAC Encapsulation Routing (MER), IP over ATM (IPoA).
- Qos scheduler: You can select between either **Strict Priority** or **Weighted Fair Queuing**. QoS Scheduler provides for two options of bandwidth management that can monitor the importance of data packets and depending upon the priority of the packet, give it higher or lower priority or bandwidth level.
  Strict Priority Queuing (SPQ) - queues are assigned a priority order and served strictly according to that order. A low-priority queue may be starved if there are always packets in higher-priority queues.
  Weighted fair queuing (WFQ) - queues are each assigned a weight, and they share the bandwidth of the port according to that weight.
  Based on network calculus the DSL-2750U can build analytical models for traffic flows under SPQ and WFQ scheduling.
- Encapsulation Mode: Select the method of encapsulation provided by your ISP.Select an option from the drop-down list – LLC/SNAP-Bridging, VC/MUX.

Click **Next**, the page shown in the following figure appears.



If you select the **PPP over Ethernet (PPPoE)** or **PPP over ATM (PPPoA)** as the connection protocol, the following page appears.

Protocol: PPP over Ethernet (PPPoE)

Encapsulation Mode: LLC/SNAP-BRIDGING

Enable Multiple Vlan Over One Connection:

802.1P Priority [0-7]: -1

802.1Q VLAN ID [0-4094]: -1

PPP USERNAME AND PASSWORD

PPP Username:

PPP Password:

Confirm PPP Password:

Authentication Method: AUTO

Dial On Demand (With Idle Timeout Timer):

Inactivity Timeout: (minutes [1-4320])

Dial On Manual:

MTU Size: 1492 (1370-1492)

PPP IP Extension:

IPV4 Setting

Use Static IP Addres.

IP Address: 0.0.0.0

NETWORK ADDRESS TRANSLATION SETTINGS

Enable NAT:

Enable Firewall:

Enable IGMP Multicast:

Service Name: pppoe_0_8_35

Next Cancel

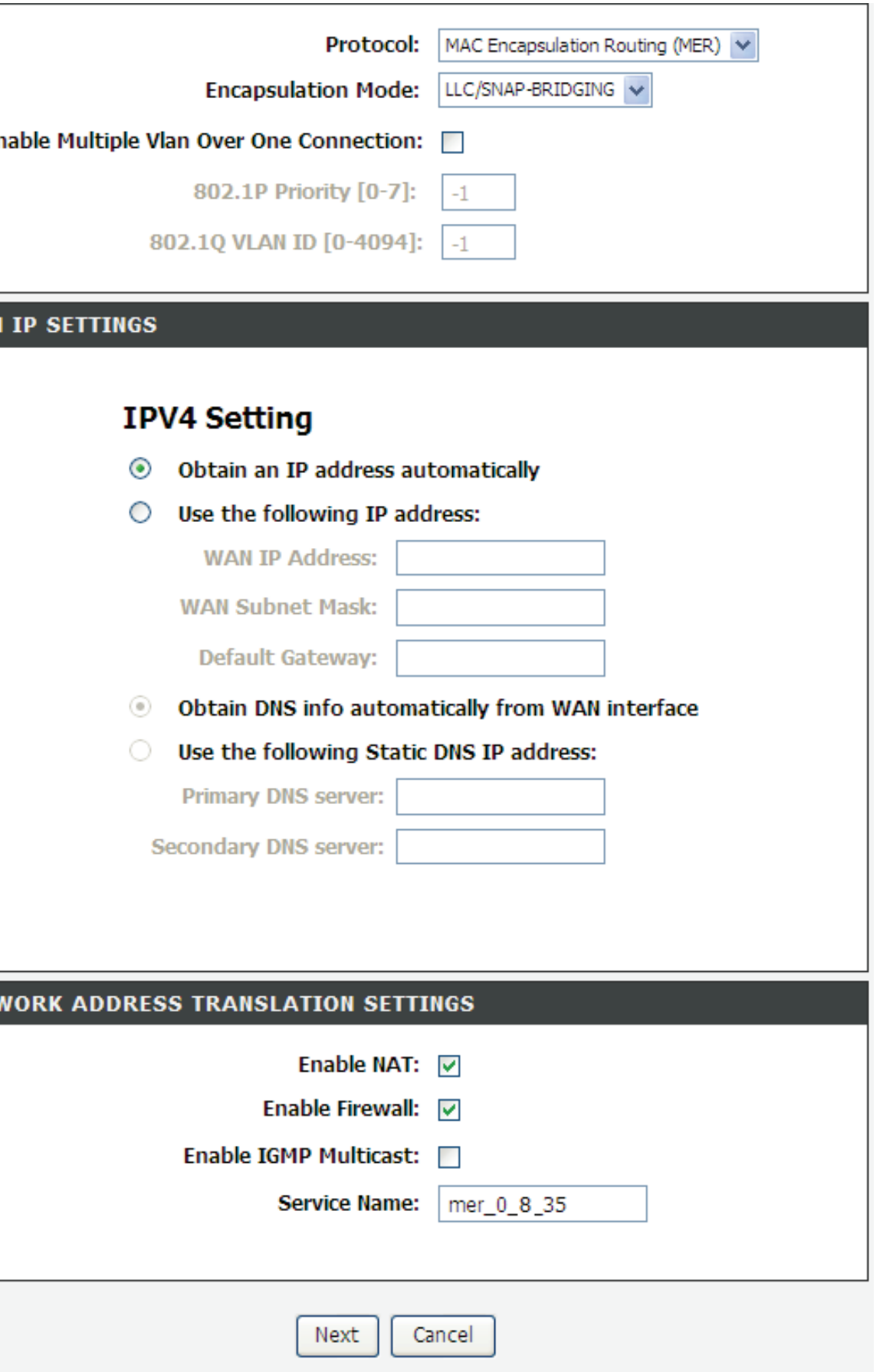
- **PPP Username:** The correct user name that your ISP provides you.
- **PPP Password:** The correct password that your ISP provides you.
- **Authentication Method:** The value can be AUTO, PAP, CHAP, or MSCHAP. Usually, AUTO will be selected.
- **Dial on demand (with idle timeout timer):** If this function is enabled, you need to enter the idle timeout time. Within the preset time, if the modem does not detect data flow , the modem automatically stops the PPPoE connection. Once it detects data flow (like access to a webpage), the modem restarts the PPPoE dialup.

  If this function is disabled, the modem performs PPPoE dial-up all the time. The PPPoE connnection does not stop, unless the modem is powered off or the DSLAM or uplink equipment is faulty.
- **MTU Size:** Maximum Transmission Unit.This function sometimes must be modified to access the network successfully.
- **PPP IP extension:** If this function is enabled, the WAN IP address obtained by the modem through the built-in dial-up can be directly assigned to the PC being attached to the modem (at this time, the modem connects to only one PC). From the aspect of the PC user, the PC dials up to obtain an IP address. But actually, the dial-up is done by the modem.

  If this function is disabled, the modem itself obtains the WAN IP address.
- **Use Static IP Address:** If this function is disabled, the modem obtains an IP address assigned by uplink equipment such as BAS, through PPPoE dial-up.

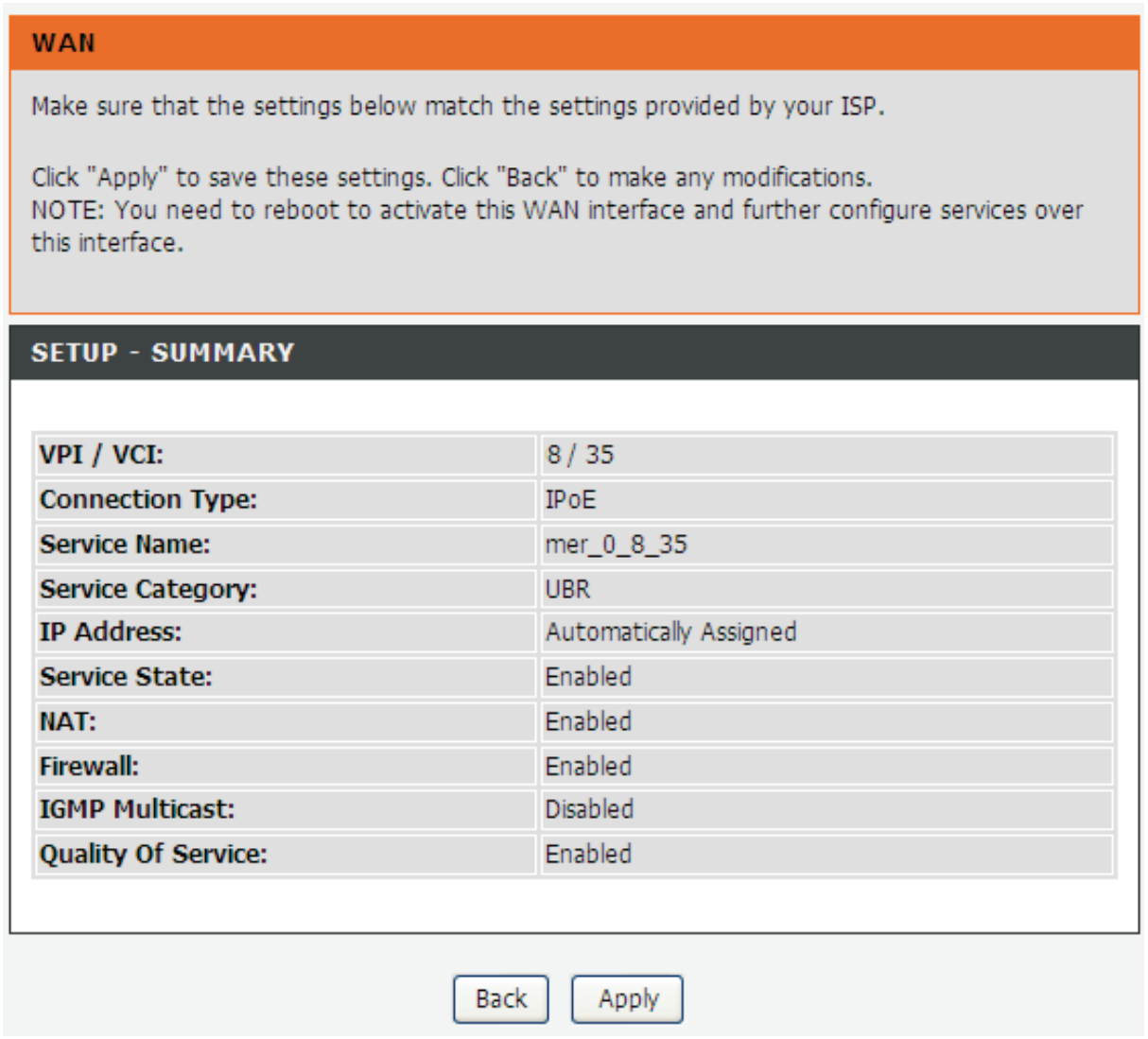
  If this function is enabled, the modem uses this IP address as the WAN IP address.
- **Enable NAT:** Select it to enable the NAT functions of the modem. If you do not want to enable NAT and wish the modem user to access the Internet normally, you must add a route on the uplink equipment. Otherwise, the access to the Internet fails. Normally, NAT is enabled.
- **Enable Firewall:** Enable or disable IP filtering.
- **Enable IGMP Multicast**: IGMP proxy. For example, if you would like PPPoE mode to support IPTV, enable this function.

If you select the **MAC Encapsulation Routing (MER)** as the connection protocol, the following page appears.


Protocol:
MAC Encapsulation Routing (MER)
Encapsulation Mode:
LLC/SNAP-BRIDGING
Enable Multiple Vlan Over One Connection:
802.1P Priority [0-7]:
-1
802.1Q VLAN ID [0-4094]:
-1
WAN IP SETTINGS
IPV4 Setting
Obtain an IP address automatically
Use the following IP address:
WAN IP Address:
WAN Subnet Mask:
Default Gateway:
Obtain DNS info automatically from WAN interface
Use the following Static DNS IP address:
Primary DNS server:
Secondary DNS server:
NETWORK ADDRESS TRANSLATION SETTINGS
Enable NAT:
Enable Firewall:
Enable IGMP Multicast:
Service Name:
mer_0_8_35
Next
Cancel

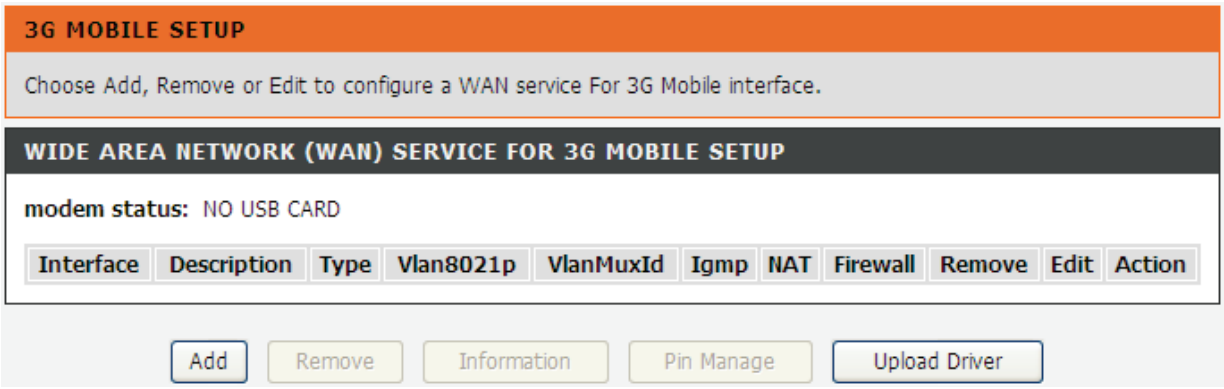
- **Obtain an IP address automatically:** The modem obtains a WAN IP address automatically and at this time it enables DHCP client functions. The WAN IP address is obtained from the uplink equipment like BAS and the uplink equipment is required to enable the DHCP server functions.
- **Use the following IP address:** If you want to manually enter the WAN IP address, select this check box and enter the information in the field.
- **WAN IP Address:** Enter the IP address of the WAN interface provided by your ISP.
- **WAN Subnet Mask:** Enter the subnet mask concerned to the IP address of the WAN interface provided by your ISP.
- **Default Gateway**: Enter the default gateway.
- **Obtain DNS info automatically from WAN interface:** You can get DNS server information from the selected WAN interface
- **Use the following Static DNS IP address:** If you want to manually enter the IP address of the DNS server, select this check box and enter the information in the fields.
- **Primary DNS server:** Enter the IP address of the primary DNS server.
- **Secondary DNS server:** Enter the IP address of the secondary DNS server provided by your ISP.

After setting appropriate fields, click **Next.**



4.2.3 3G Internet Setup

Choose **Advanced Setup > 3G Internet Setup** , and the following page appears.

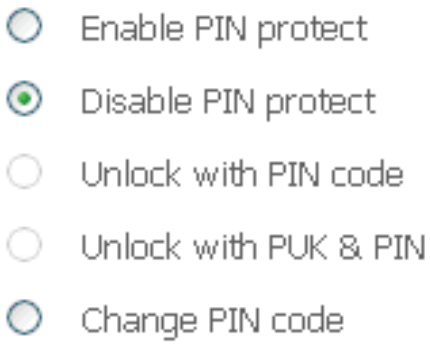


This page is used to configure the 3G connection. If you want to access the Internet through a 3G connection, a 3G network card is required. Connect the 3G network card to the USB interface of the Router.

If the 3G network card is installed, you may click the button on the **Action** column to establish or disconnect the 3G connection.

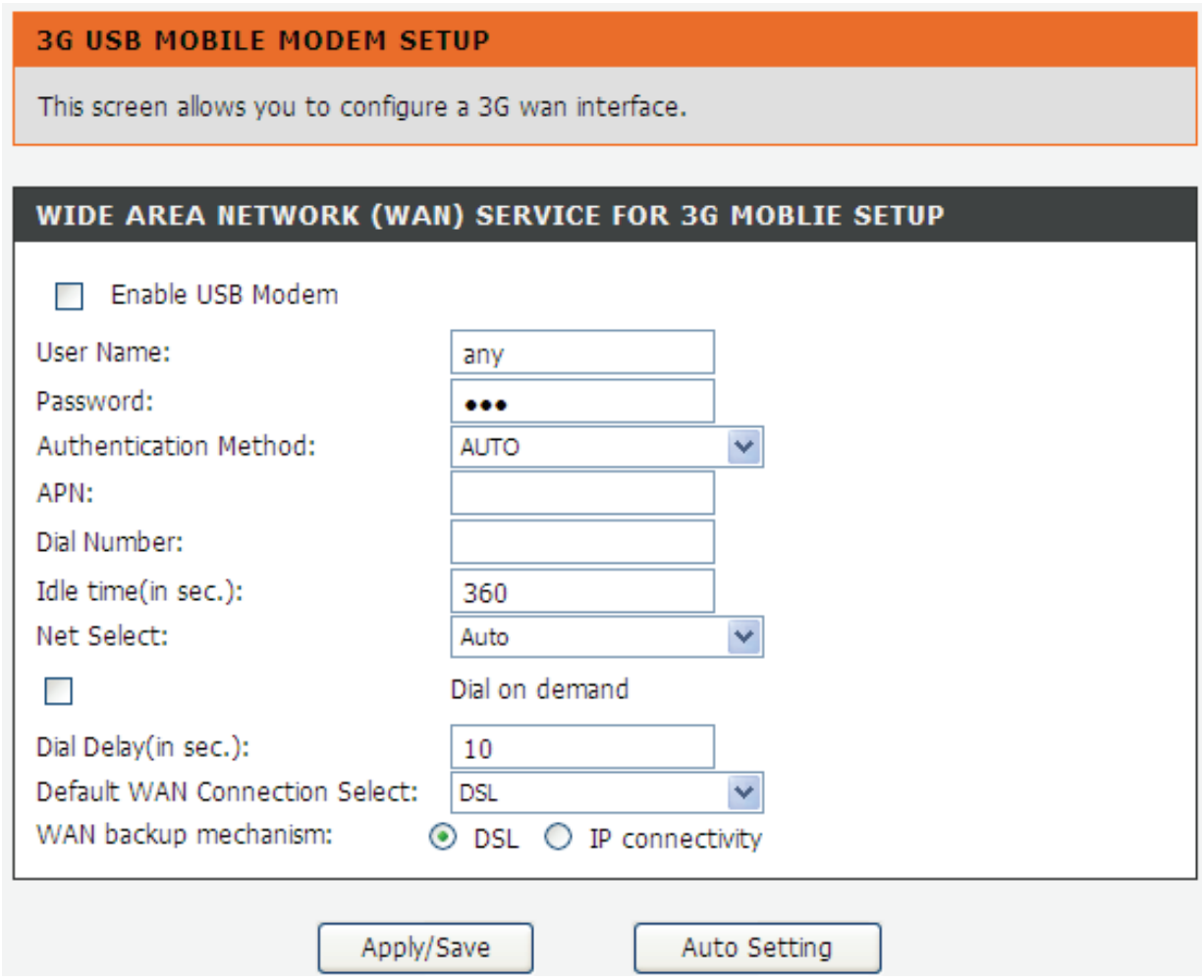
- **Information**: Click this button to display the information of the 3G network card.
- **Upload Driver**: For an un-supported USB dongle, click this button to upload the new driver for USB support. The driver will be a text file which should be obtained from your 3G dongle provider.
- **Pin Manage**: Click this button to manage the PIN.

The following modes of PIN management are shown.



- **Enable PIN protect**: If you Enable it, you need to enter the PIN code when rebooting or inserting the USB device.
- **Unlock with PIN code**: If you Enable it, you need to enter the PIN code when using a 3G device.
- **Unlock with PUK & PIN**: If you Enable it, you need to enter the PUK code when failing to enter the correct PIN code 3 times.
- **Change PIN code**: Choose this to change the PIN code.

Click **Add** in the **3G Mobile Setup** to display the following page.



Default settings for Username, Password, Authentication method, APN, and Dial Number are to be set.

In this page, you are allowed to configure the settings of the 3G USB modem.

- **Enable USB Modem:** If you want to access the Internet through the 3G network card, you must enable the USB modem.
- **User Name:** Username provided by your 3G ISP.
- **Password:** Password provided by your 3G ISP.
- **Authentication Method:** Select a proper authentication method from the drop- down list. You can select Auto, PAP, CHAP, or MSCHAP.
- **APN:** APN (Access Point Name) is used to identify the service type. Enter the APN provided by your 3G ISP.
- **Dial Number:** Enter the dial number provided by your 3G ISP.
- **Idle time (in sec.):** If there is no traffic for the preset time, the 3G will disconnect automatically.
- **Net Select:** Select the 3G network that is available.You may select EVDO, WCDMA, CDMA2000, TD-SCDMA, GSM, or Auto.

- **Dial on demand**: Within the preset time, if the modem does not detect data flow , the modem automatically stops the 3G connection. Once it detects data flow (e.g. access to a webpage), the modem restarts the 3G dialup.
- **Dial Delay (in sec.)**: The 3G delays dial after the DSL is disconnected.
- **Default WAN Connection Select**: You can select DSL or 3G from the drop-down list.
- **WAN backup mechanism**: The 3G connection is used as backup for the DSL connection.
  - **DSL**: If the DSL is disconnected, the 3G starts to dial.
  - **IP connectivity**: If the system fails to ping the specified IP address, the 3G starts to dial.

After adding the settings, click the **Apply/Save** button to save the settings.
You may also click the **auto setting** button to automatically configure the 3G connection.
After clicking the **Apply/Save** button, the settings will take effect.

Note:

When there is no DSL WAN connection, insert the 3G network card, and the system will perform a dial-up automatically. If the DSL WAN connection and the 3G connection coexist, the DSL WAN connection takes priority over the 3G connection. When the DSL WAN connection starts to perform a dial-up, the 3G connection will be disconnected. If the DSL WAN connection has been established, you may manually perform a 3G dial-up, and then the DSL WAN connection will be disconnected.

4.2.4 Wireless Connection

This section includes the wireless connection setup wizard and WPS setup wizard. There are two ways to setup your wireless connection. You can use the **Wireless Connection Setup Wizard** or you can manually configure the connection.
Choose **Setup** > **Wireless Connection**. The **Wireless Connection** page shown in the following figure appears.

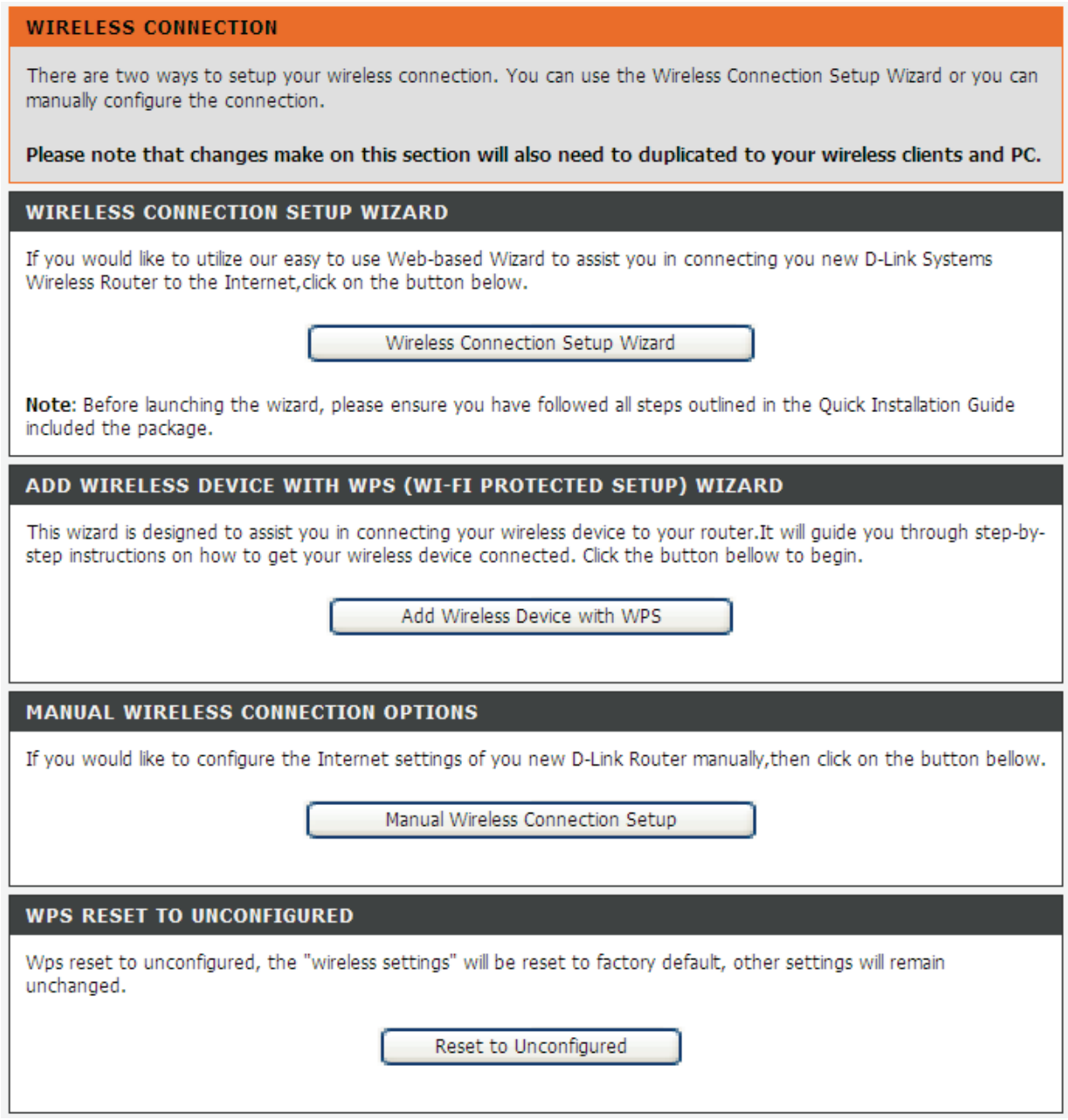
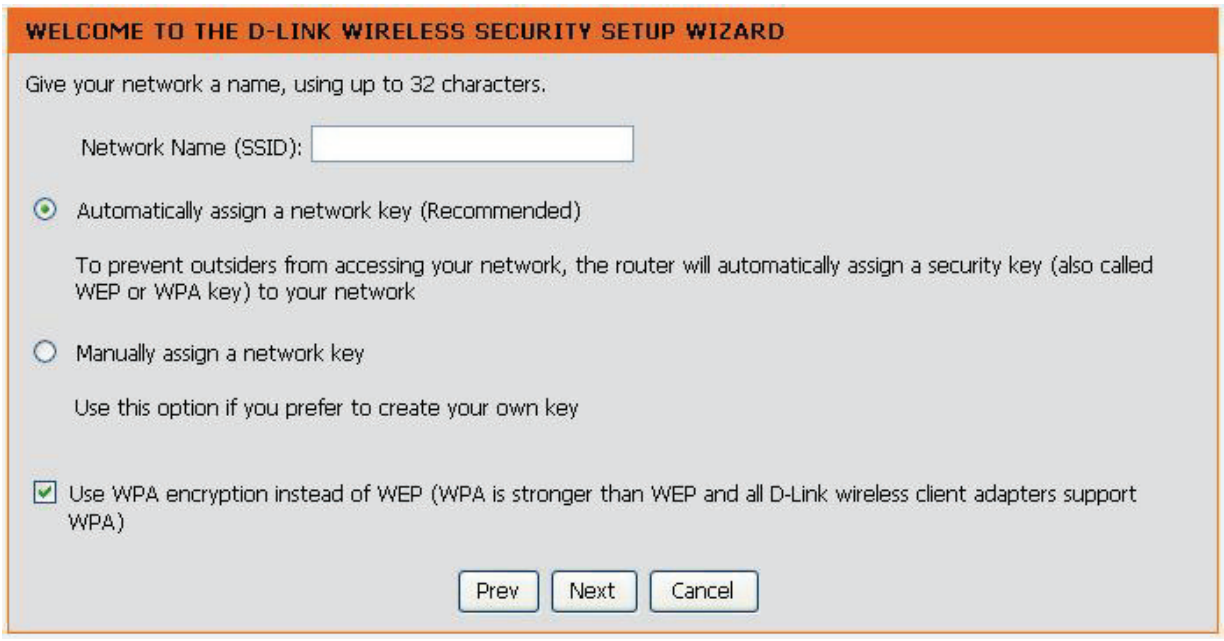


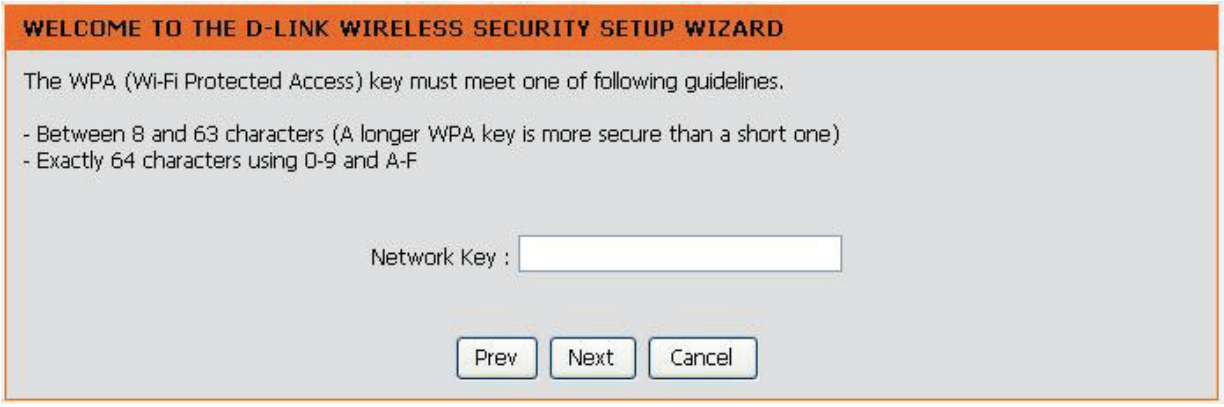
Figure 3

4.2.4.1 Wireless Wizard

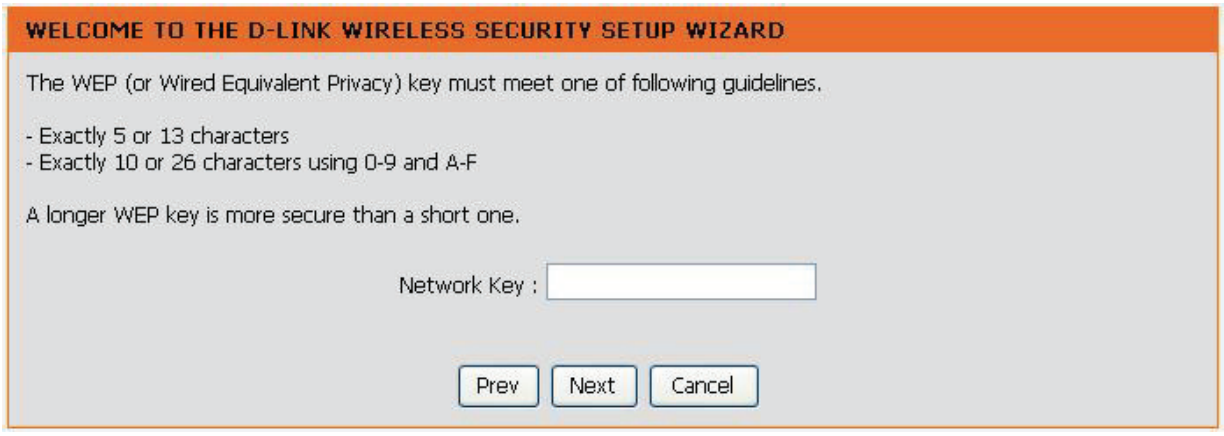
In the **Wireless Connection** page, Click "**Wireless Connection Setup Wizard**", the page shown in the following figure appears.



If you select "**Use WPA encryption instead of WEP**" and "**Manually assign a network key**", then click "**Next**", the page shown in the following figure appears.



If you only select "**Manually assign a network key**", then click "**Next**", the page shown in the following figure appears.



After you enter the network key, the page shown in the following figure appears, you can confirm the wireless settings in this page.

Click **Save** to save the settings.

4.2.4.2 Add Wireless Device

In **the Wireless Connection** page, Click **Add Wireless Device with WPS**, the page shown in the following figure appears.

Figure 4

Select **Auto**, then click **Next**, the page shown in the following figure appears.

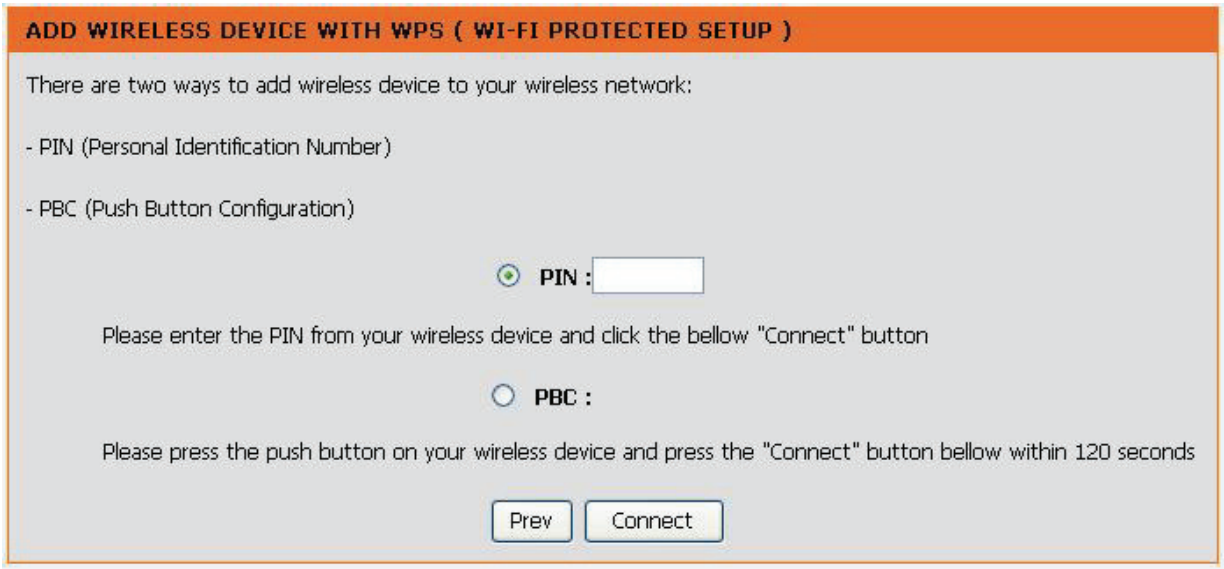


Figure 5

When **PIN** is used, users are allowed to enter no more than eight digits in the field.

Select **Manual**, click **Next**, the page shown in the following figure appears.

It displays the current wireless settings and you can manually enter the settings in the wireless device that's to be added to the wireless network.

4.2.4.3 Manual Wireless Setup

If you want to configure the Internet settings of you new D-Link Router manually, click **Manual Wireless Connection Setup**. It will redirect to 4.3.1 Wireless Settings.

4.2.4.4 Wireless WPS

In **the Wireless Connection** page, Click **Reset to Un-configured,** the page shown in the following figure appears.

Once the "**Reset to Un-configured**" button is clicked, the "wireless settings" will be reset to factory default, other settings will remain unchanged.

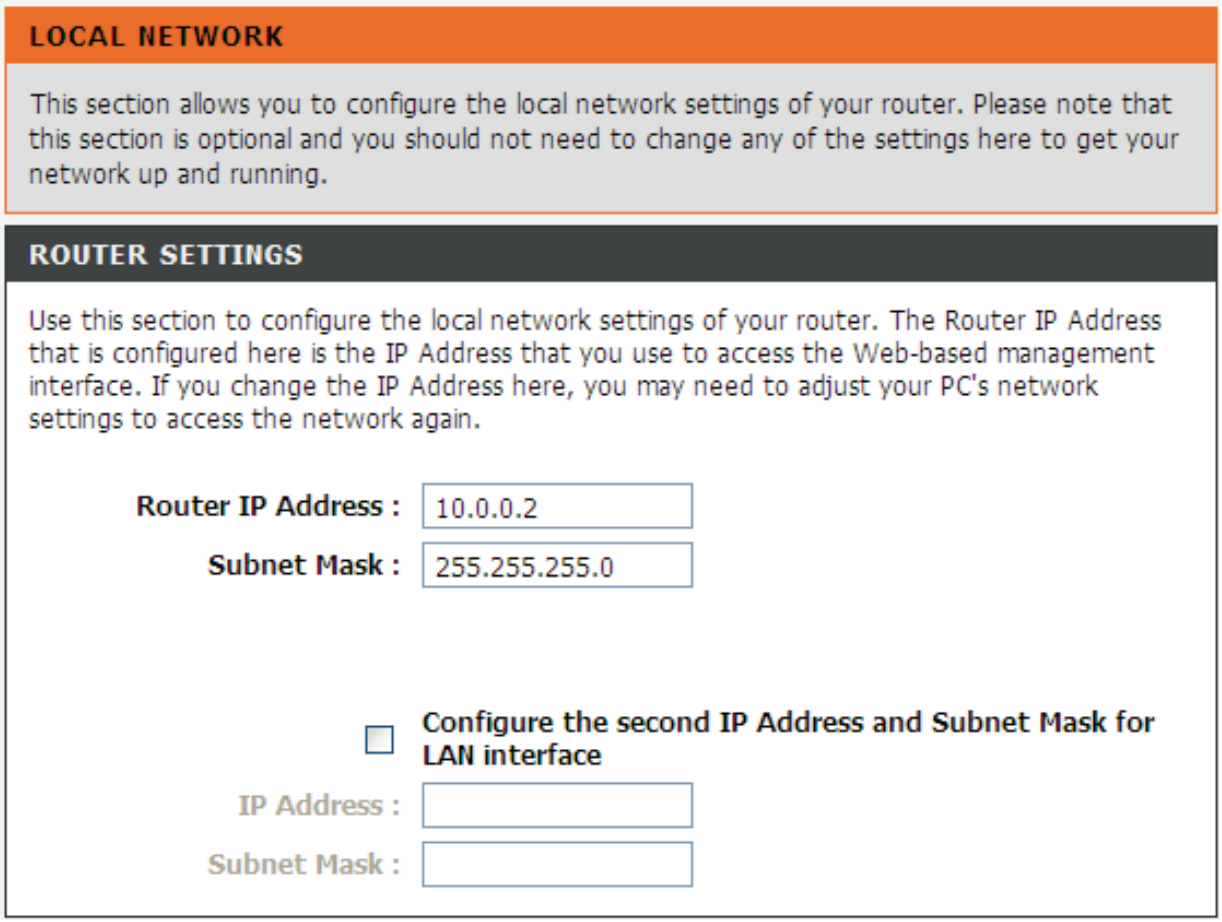
4.2.5 Local Network

You can configure the LAN IP address according to the actual application. The preset IP address is 10.0.0.2. You can use the default settings and DHCP service to manage the IP settings for the private network. The IP address of the device is the base address used for DHCP. To use the device for DHCP on your LAN, the IP address pool used for DHCP must be compatible with the IP address of the device.

The IP address available in the DHCP IP address pool changes automatically if you change the IP address of the device.

You can also enable the secondary LAN IP address. The two LAN IP addresses must be in different networks.

Choose **Setup** > **Local Network**. The **Local Network** page shown in the following figure appears.



By default, **Enable DHCP Server** is selected for the Ethernet LAN interface of the device. DHCP service supplies IP settings to workstations configured to automatically obtain IP settings that are connected to the device through the Ethernet port. When the device is used for DHCP, it becomes the default gateway for DHCP clients connected to it. If you change the IP address of the device, you must also change the range of IP addresses in the pool used for DHCP on the LAN. The IP address pool can contain up to 253 IP addresses.

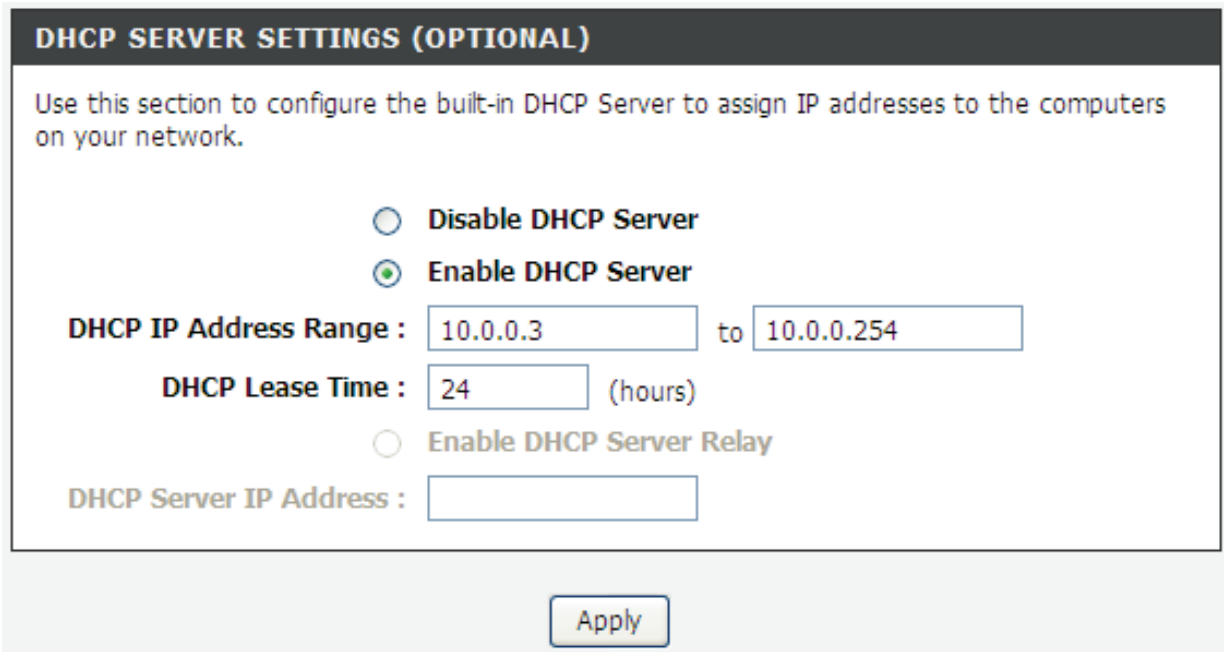
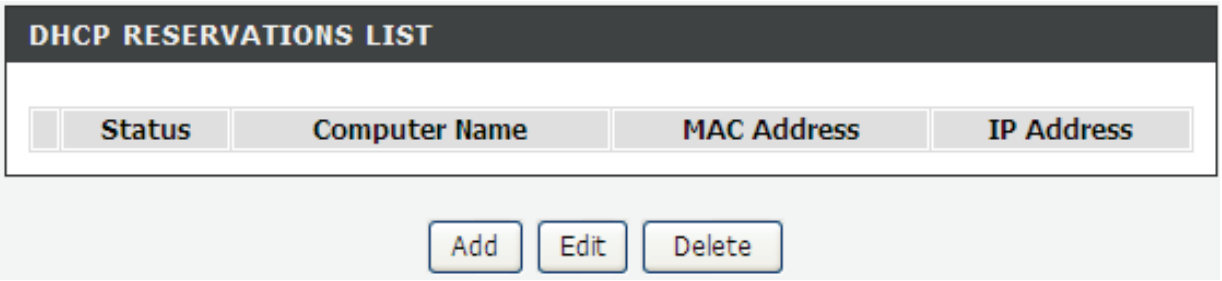


Figure 6

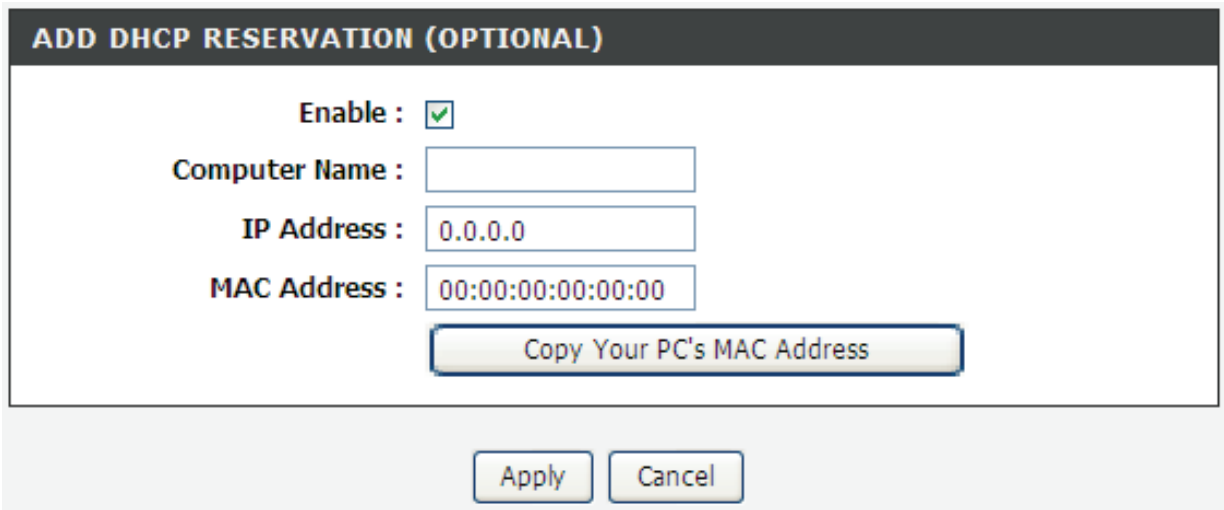
The DHCP IP Address Range will change automatically if the router IP has been changed.

Click **Apply** to save the settings.

In the **Local Network** page, you can assign IP addresses on the LAN to specific individual computers based on their MAC addresses by using the DHCP Reservations List.



Click **Add** to add static DHCP (optional). The page shown in the following figure appears.



Select **Enable** to reserve the IP address for the designated PC with the configured MAC address.

The **Computer Name** helps you to recognize the PC with the MAC address, for example, Father's Laptop.

Click **Apply** to save the settings.

After the DHCP reservation is saved, the DHCP reservations list displays the configuration.

If the DHCP reservations list table is not empty, you can select one or more items and click **Edit** or **Delete**.

4.2.6 Time and Date

Choose **Setup** > **Time and Date**. The page shown in the following figure appears.

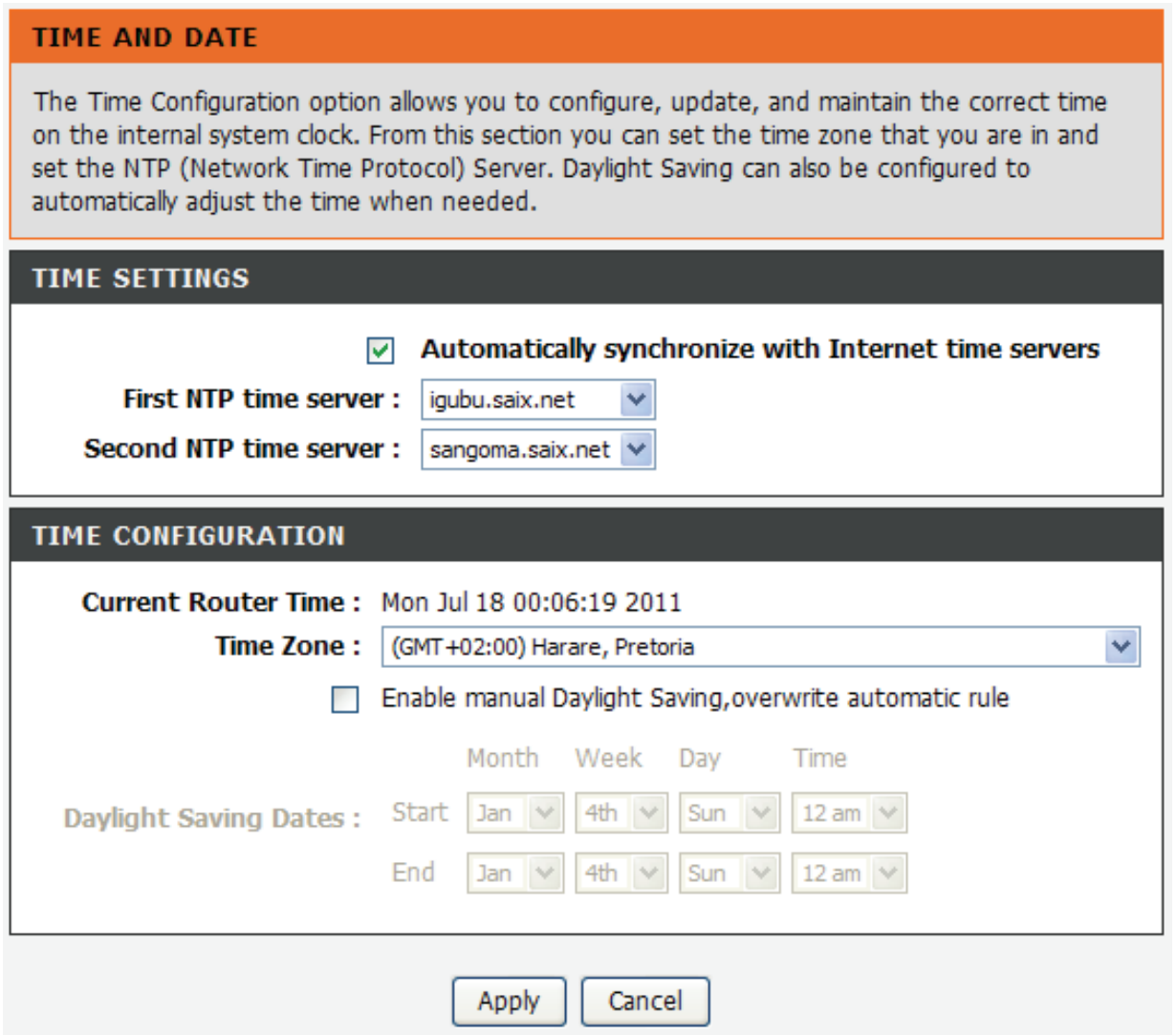


Figure 7 Default to SA time zone

In the **Time and Date** page, you can configure, update, and maintain the correct time on the internal system clock. You can set the time zone that you are in and the network time protocol (NTP) server. You can also configure daylight saving to automatically adjust the time when needed.

Select **Automatically synchronize with Internet time servers**.

Select the specific time server and the time zone from the corresponding drop-down lists.

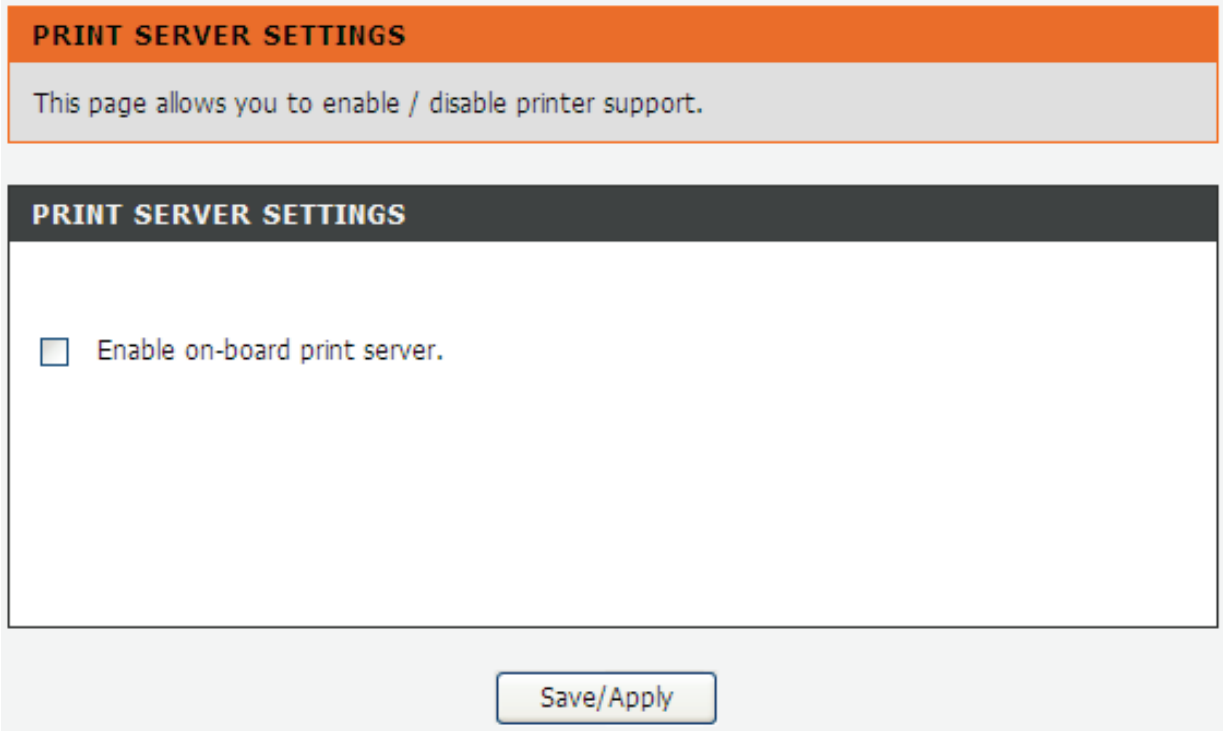
Select **Enable manual Daylight Savings, overwrite automatic rule** if necessary.

Set the daylight saving dates as you want.

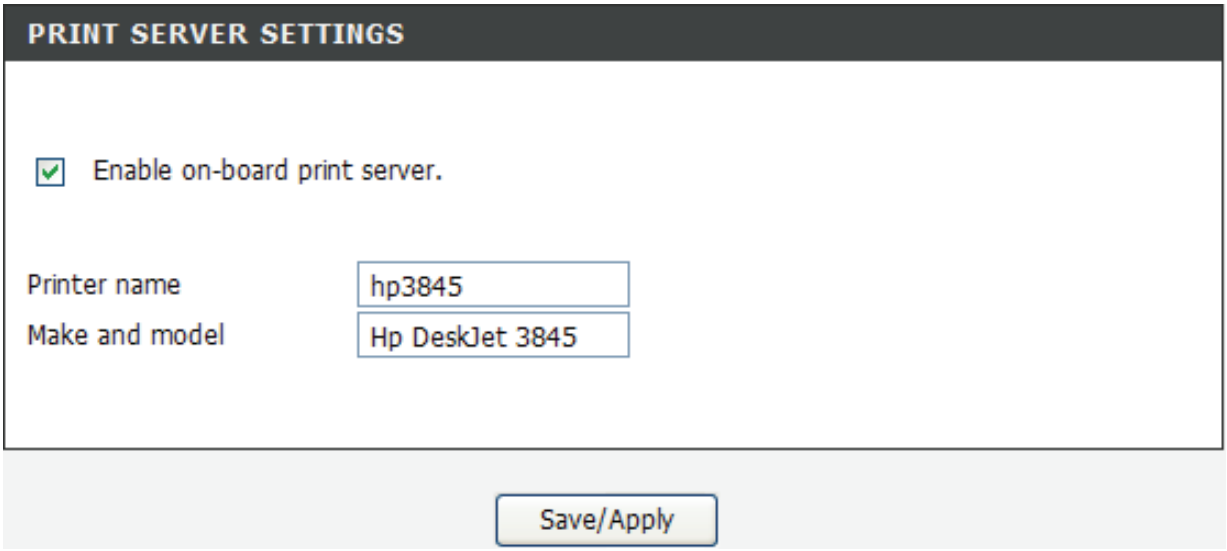
Click **Apply** to save the settings.

4.2.7 Print Server

Choose **Setup** > **Print Server**. The page shown in the following figure appears.



Select **Enable on-board print server**, the page shown in the following figure appears.

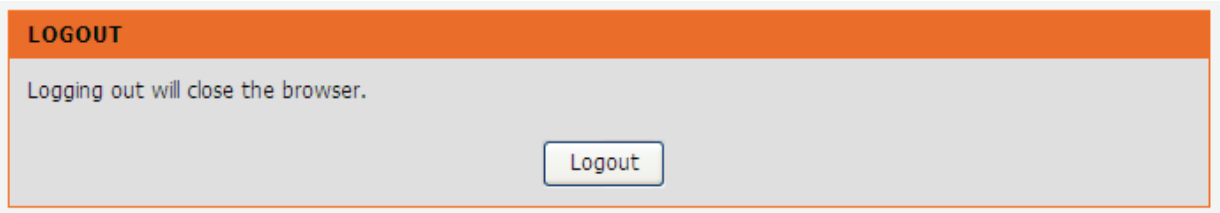


- **Printer name**: can be any text string up to 80 characters.
- **Make and model**: can be any text string up to 80 characters.

Click **Save/Apply** to save the settings.

4.2.8 Logout

Choose **Setup** > **Logout**. The page shown in the following figure appears. In this page, you can log out of the configuration page.



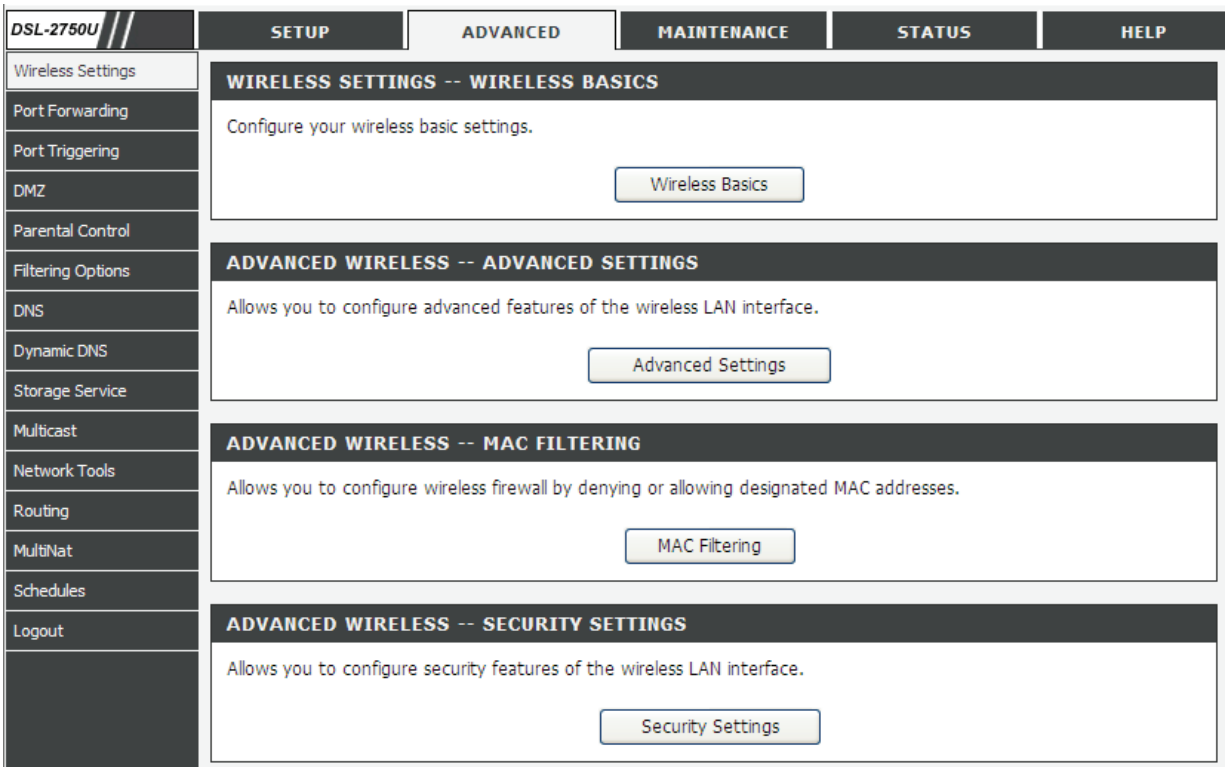
4.3 Advanced

This section includes advanced features used for network management, security and administrative tools to manage the device. You can view status and other information that are used to examine performance and troubleshoot.

4.3.1 Wireless Settings

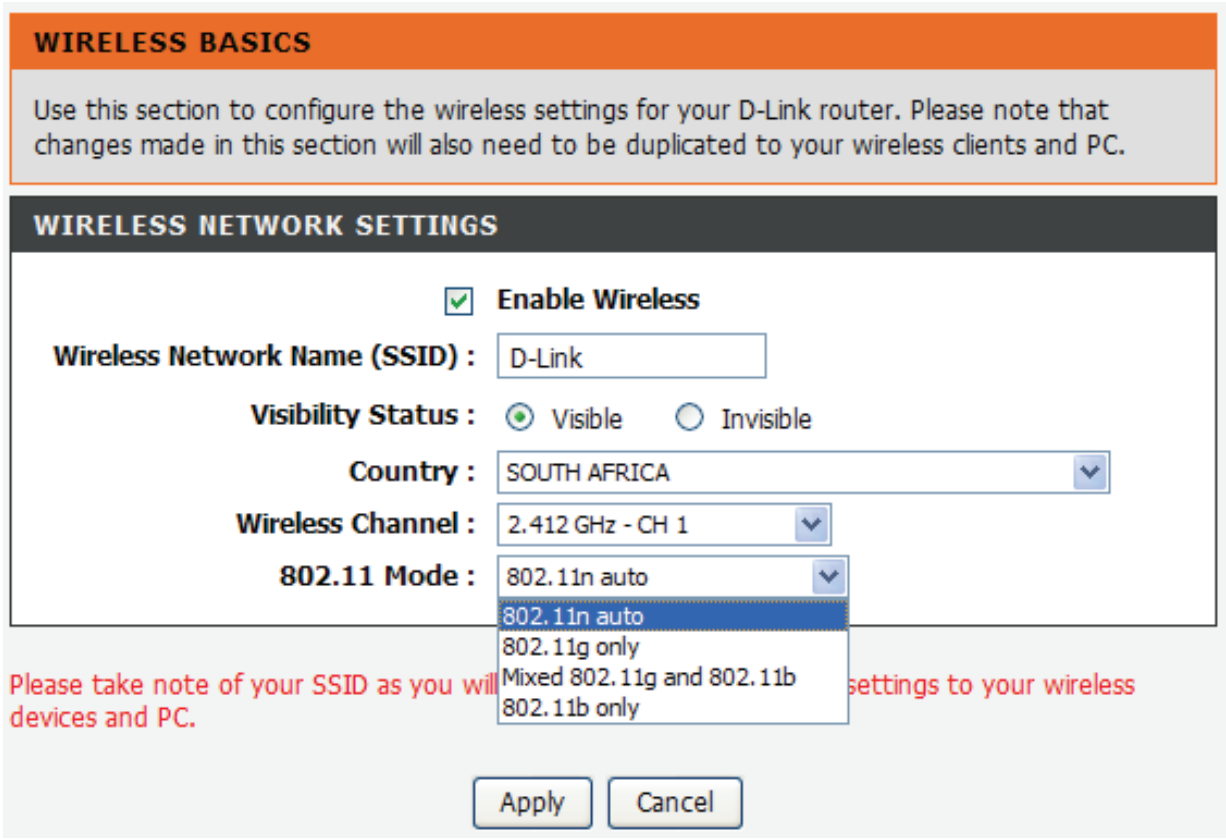
This function is used to modify the standard 802.11 wireless radio settings. It is recommend not to change the default settings, because incorrect settings may impair the performance of your wireless radio. The default settings provide the best wireless radio performance in most environments.

Choose **ADVANCED** > **Wireless Settings**. The page shown in the following figure appears.



4.3.1.1 Wireless Basics

In the **Wireless Settings** page, click **Wireless Basic,** the page shown in the following figure appears. In this page, you can configure the parameters of wireless LAN clients that may connect to the device.



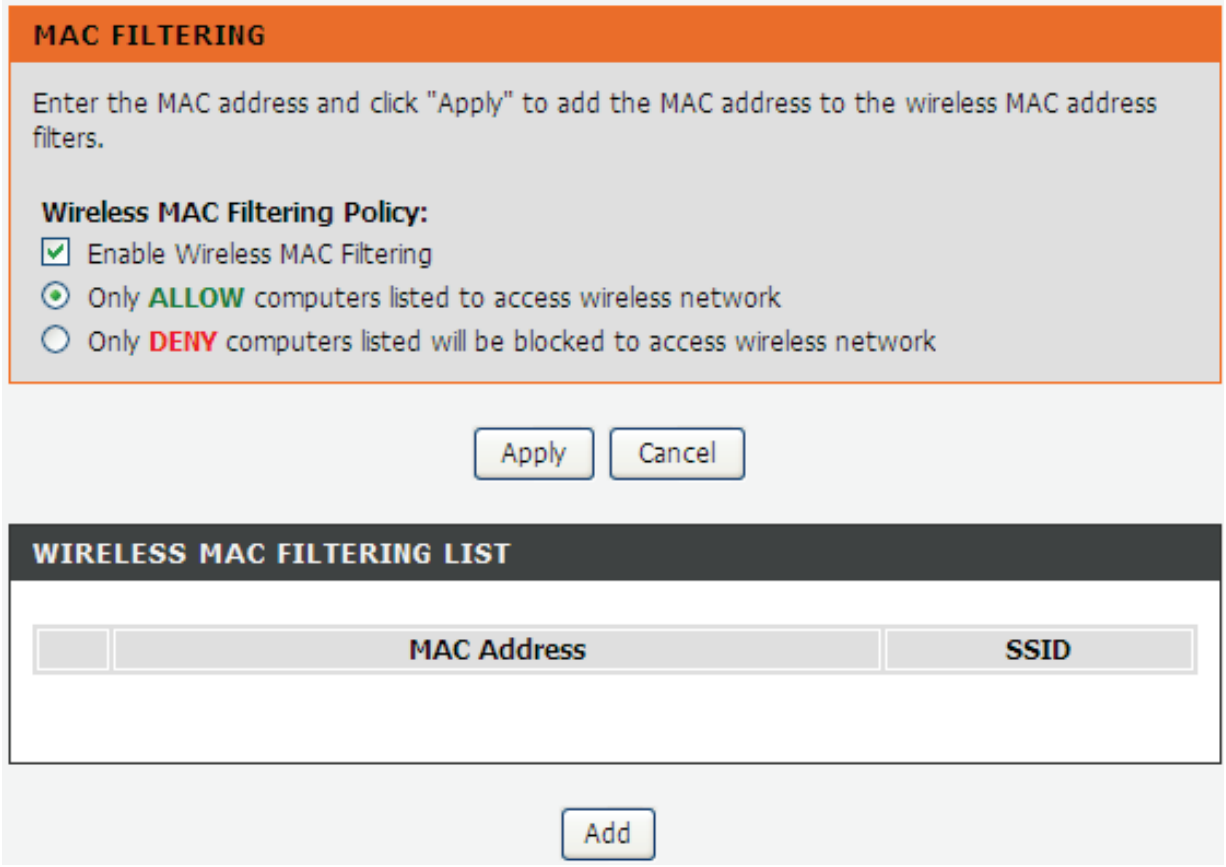
- **Enable Wireless**: Select this to turn Wi-Fi on and off.
- **Wireless Network Name (SSID)**: The Wireless Network Name is a unique name that identifies a network. All devices on a network must share the same wireless network name in order to communicate on the network. If you decide to change the wireless network name from the default setting, enter your new wireless network name in this field.
- **Visibility Status**: You can select **Visible** or **Invisible**.
- **Country**: Select the country from the drop-down list.
- **Wireless Channel**: Select the wireless channel from the drop-down menu. It is different for different countries.
- **802.11 Mode**: Select the appropriate 802.11 mode based on the wireless clients in your network. The drop-down menu options are 802.11n auto, 802.11g only, Mixed 802.11g and 802.11b, or 802.11b only.

Click **Apply** to save the settings.

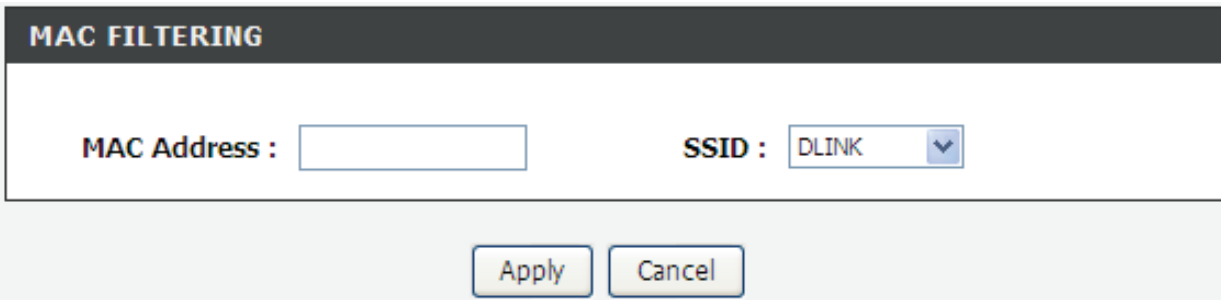
4.3.1.2 MAC Filtering

In the **Wireless Settings** page, click **MAC Filtering**, the page shown in the following figure appears.

In this page, you can allow or deny users access to the wireless router based on their MAC address.

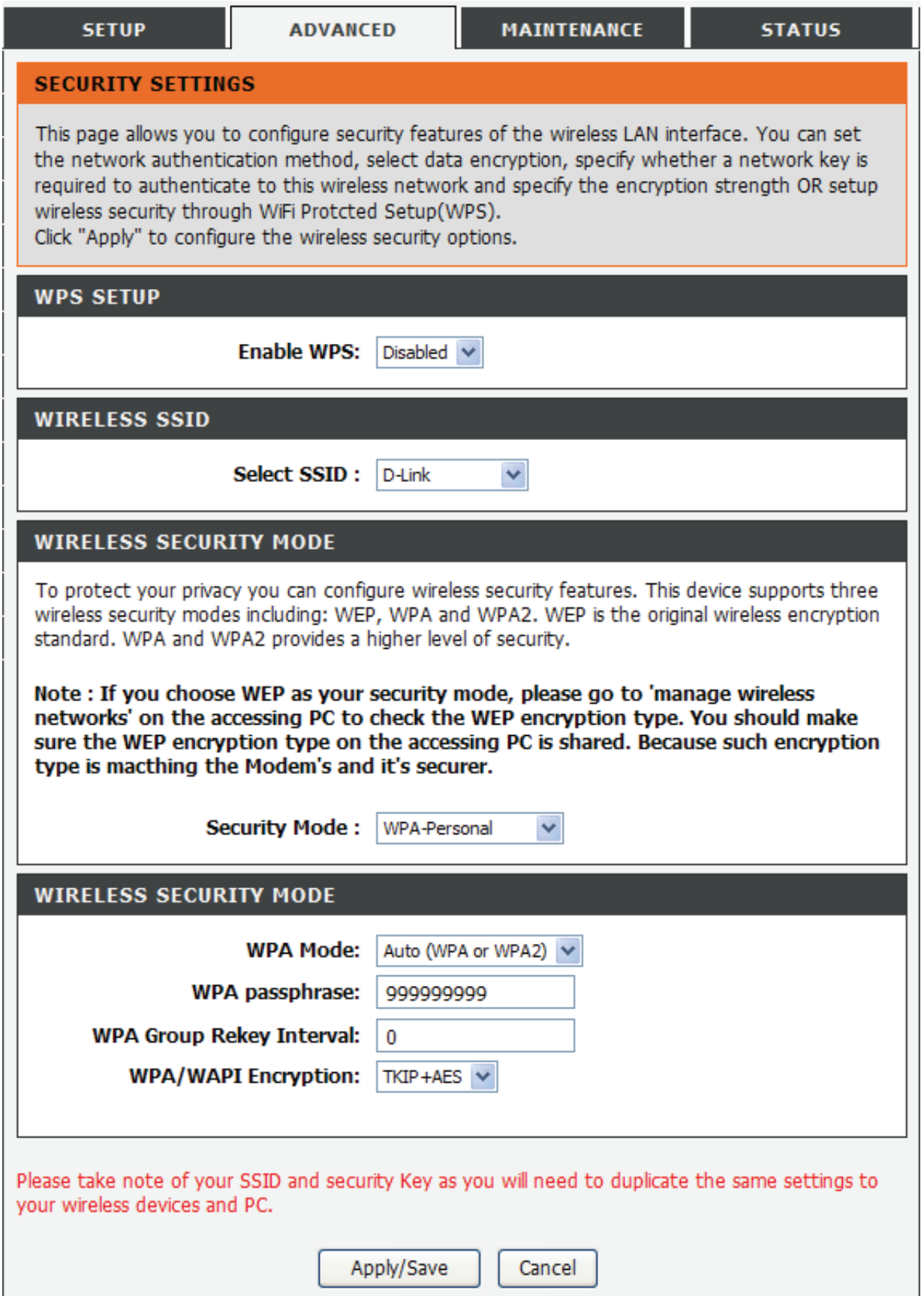


Click **Add**, the page shown in the following figure appears.



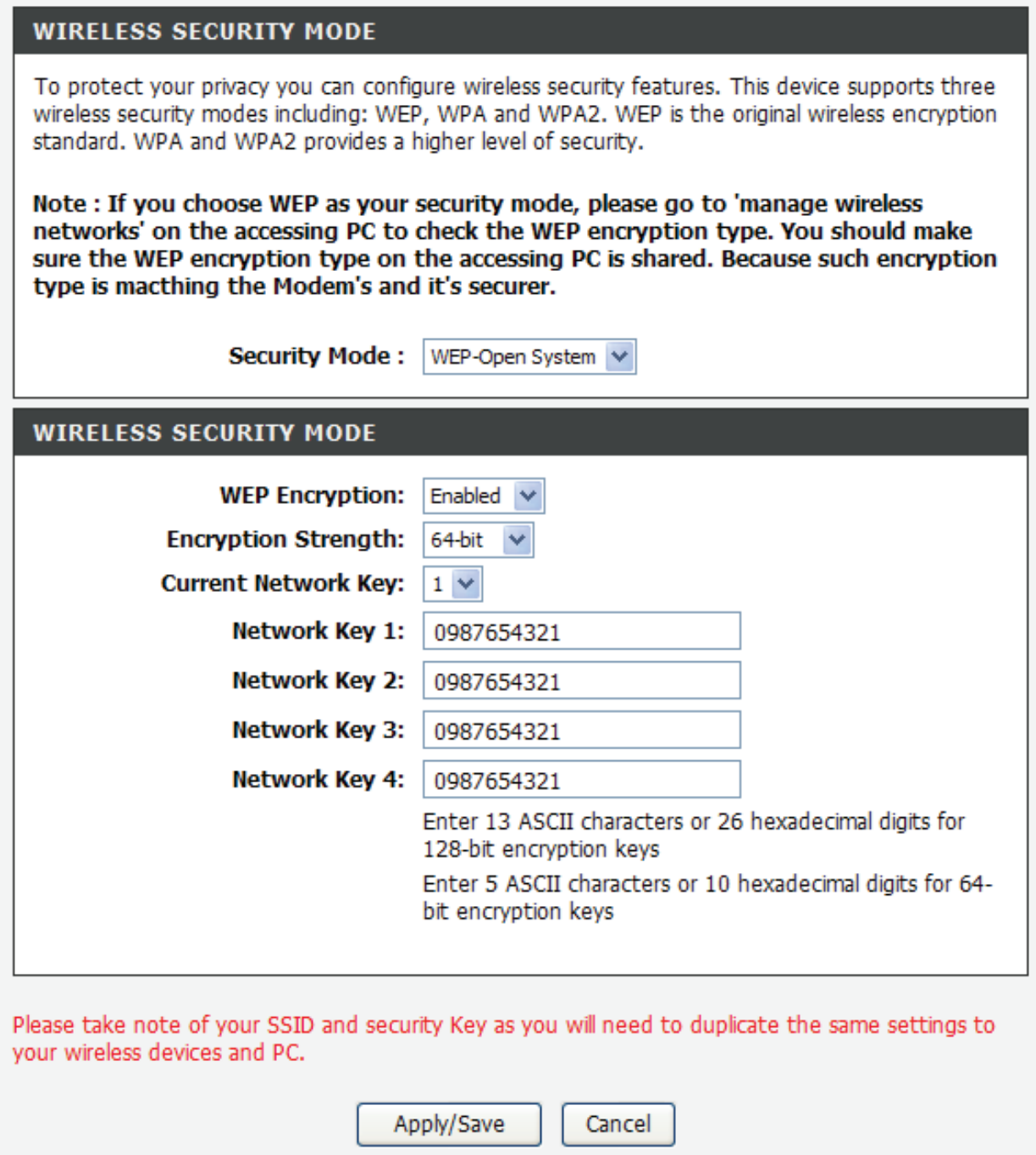
4.3.1.3 Security Settings

In the **Wireless Settings** page, click **Security Settings.** The page shown in the following figure appears.



Select the SSID that you want to configure from the drop-down list.

Select the encryption type from the **Security Mode** drop-down list. You can select WEP-Open System, WEP-Shared Key, WPA-Personal and WPA-Enterprise.
If you select **WEP-Open System**, the page shown in the following figure appears.

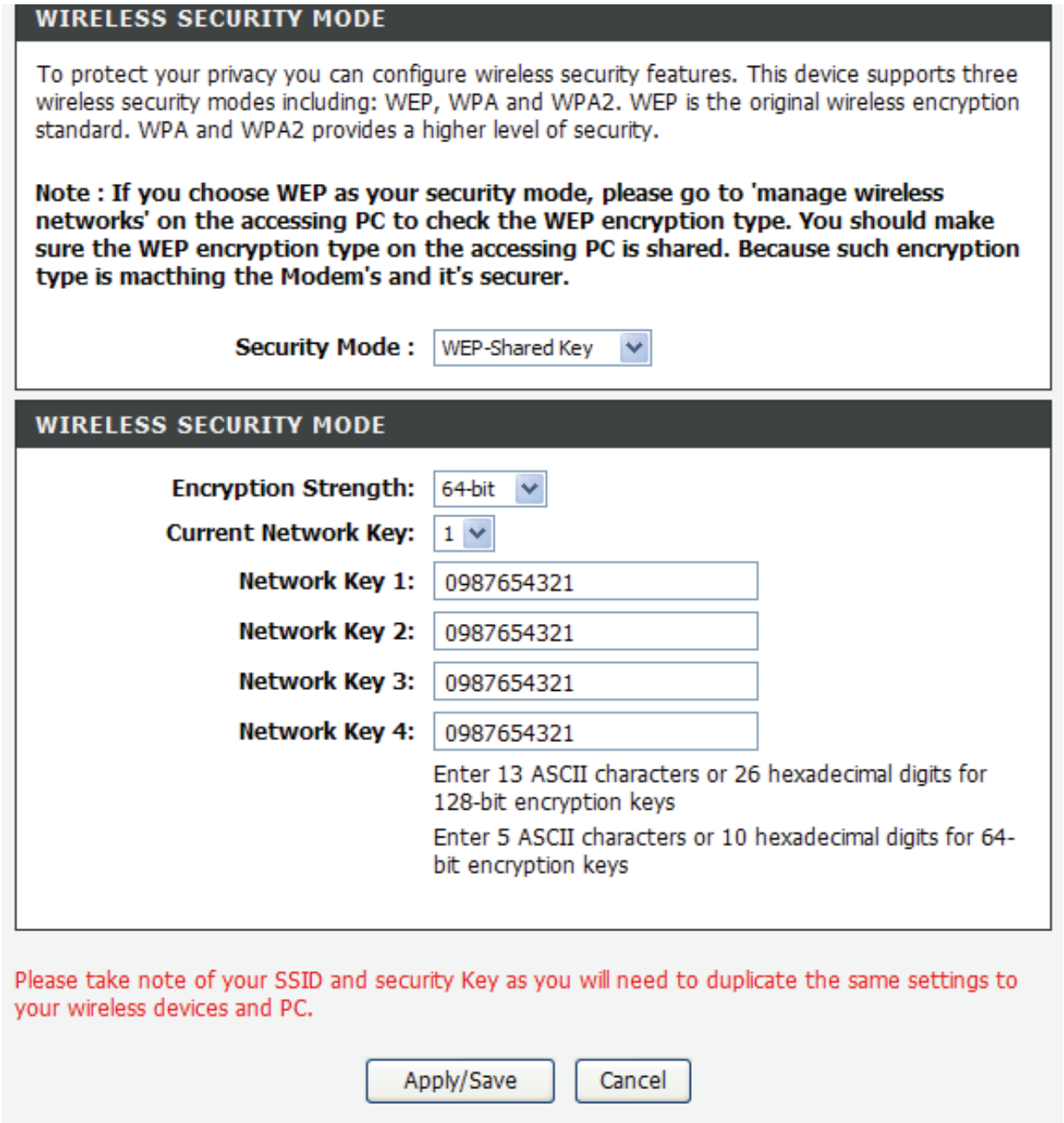


WEP (Wireless Encryption Protocol) encryption can be enabled for security and privacy. WEP encrypts the data portion of each frame transmitted from the wireless adapter using one of the predefined keys.
The router offers 64 or 128 bit encryption with four keys available.
Select **Encryption Strength** from the drop-down menu. (128 bit is stronger than 64 bit)

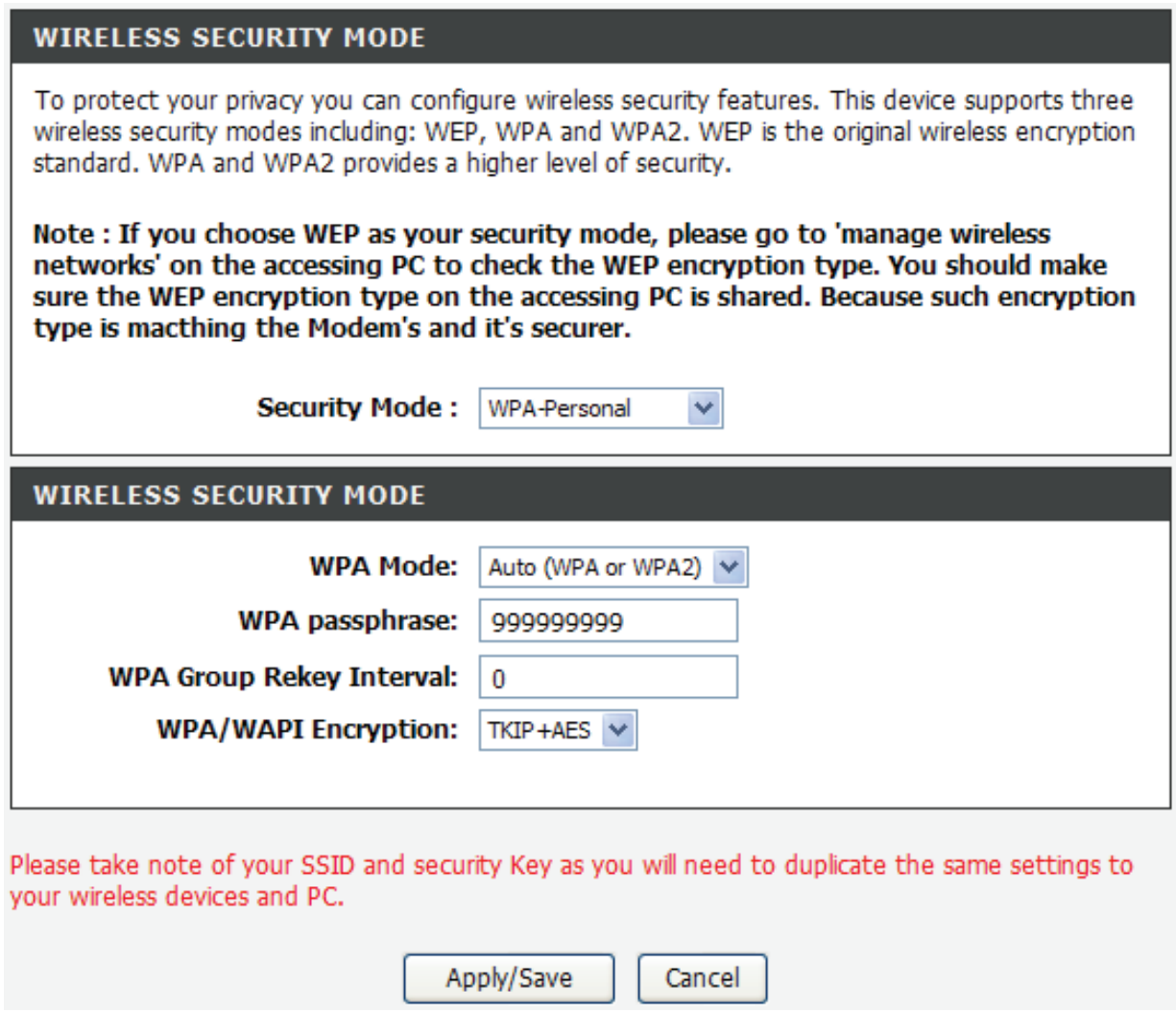
Enter the key into the Network Key field 1~4. (Key length is outlined at the bottom of the window.)

Click **Apply/Save** to save the settings.

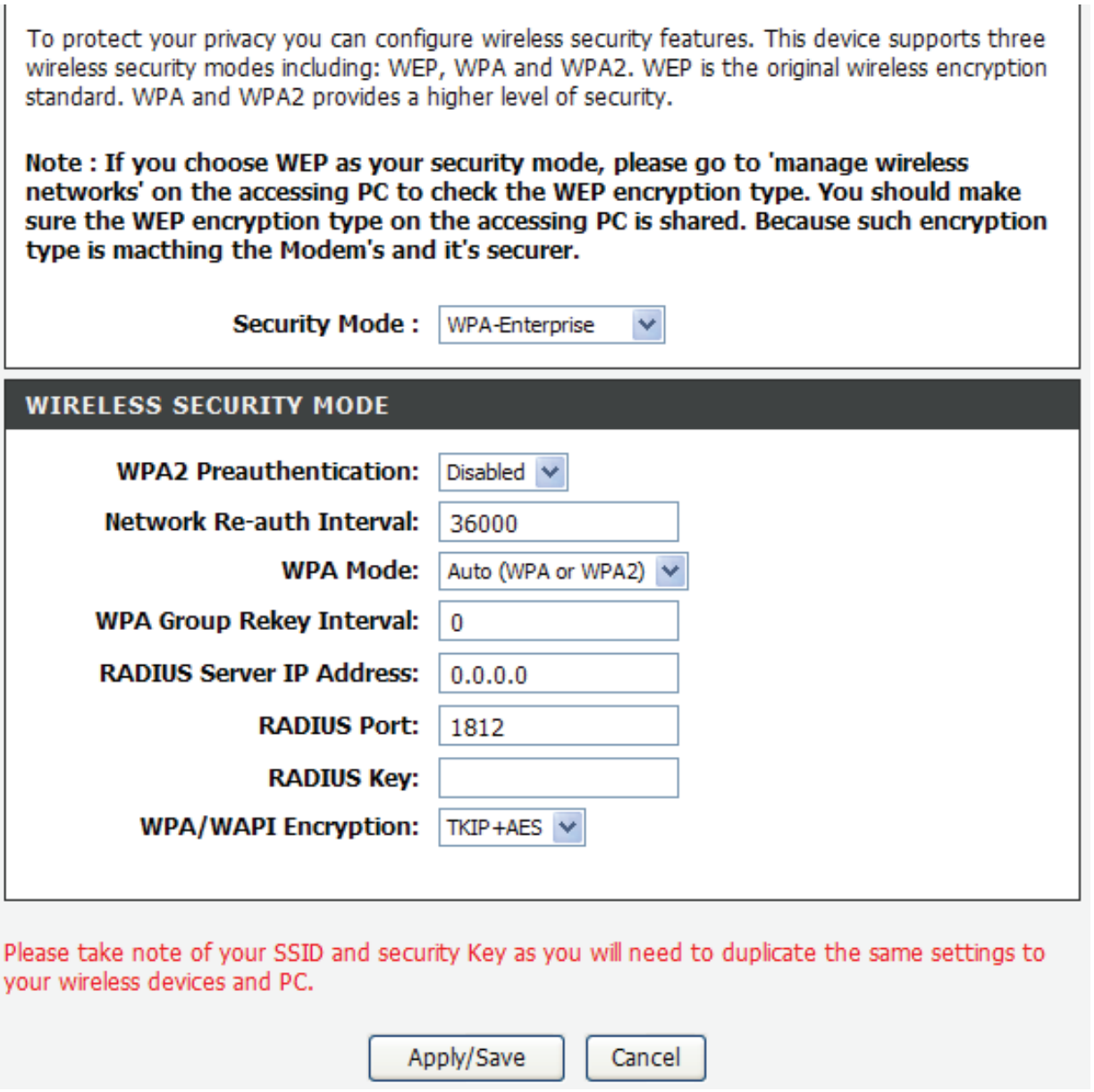
If you select **WEP-Shared Key**, the page shown in the following figure appears.



If you select **WPA-Personal**, the page shown in the following figure appears.



If you select **WPA- Enterprise**, the page shown in the following figure appears.



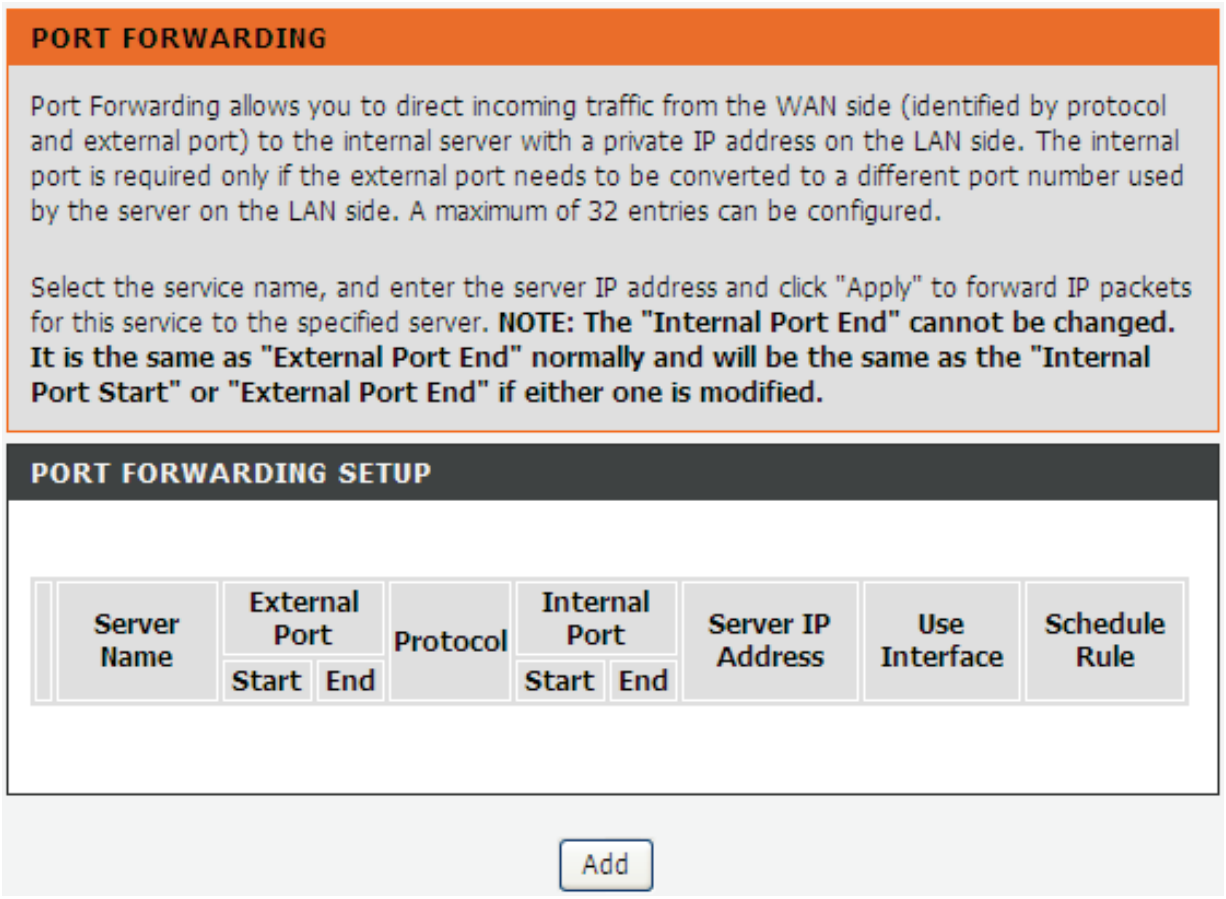
You can only use WPA-enterprise if you have set up RADIUS server. This is the WPA/WPA2 authentication with RADIUS server instead of pre-shared key.

4.3.2 Port Forwarding

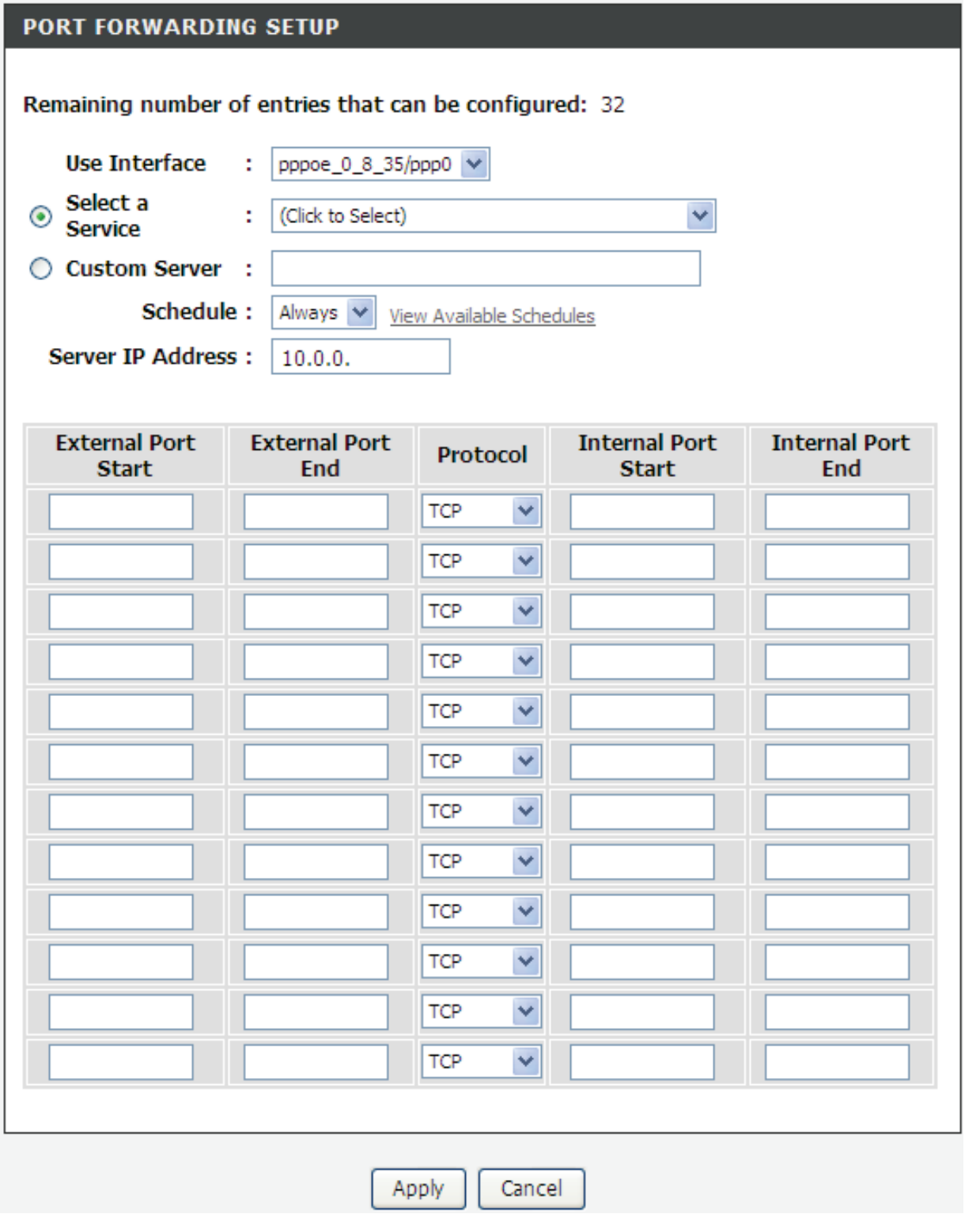
This function is used to open ports on your device and redirect data through those ports to a single PC on your network (WAN-to-LAN traffic). It allows remote users to access services on your LAN, such as FTP for file transfers or SMTP and POP3 for e-mail. The device accepts remote requests for these services at your global IP address. It uses the specified TCP or UDP protocol and port number, and redirects these requests to the server on your LAN with the LAN IP address you specify.

Note that the specified private IP address must be within the available range of the subnet where the device is in.

Choose **ADVANCED** > **Port Forwarding**. The page shown in the following figure appears.



Click **Add** to add a virtual server.

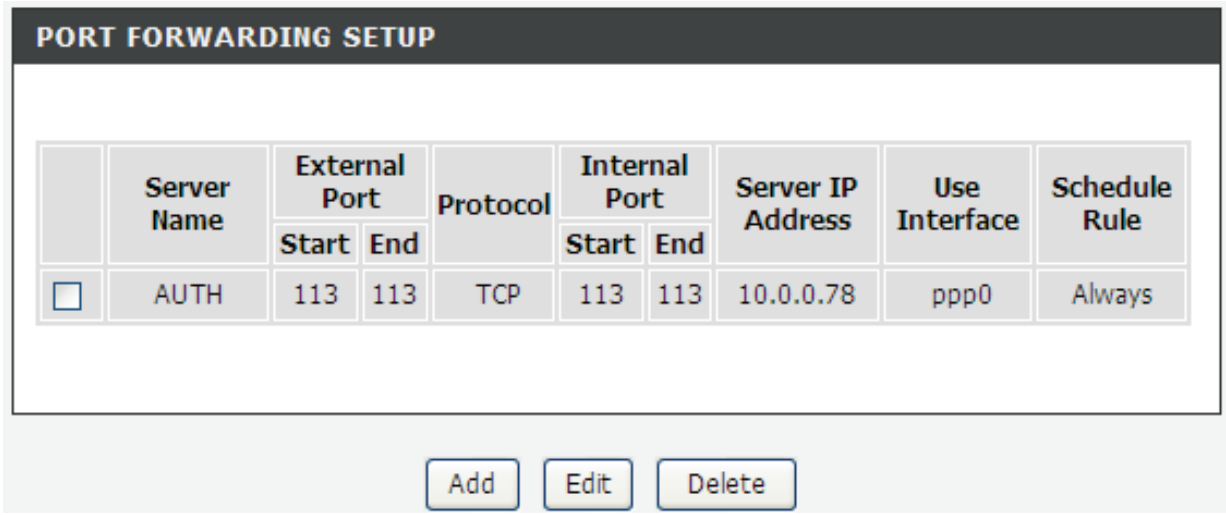


Select a service for a preset application, or enter a name in the **Custom Server** field.

Enter an IP address in the **Server IP Address** field, to appoint the corresponding PC to receive forwarded packets.

The Ports show the ports that you want to open on the device. The **TCP/UDP** means the protocol type used for the opened ports.

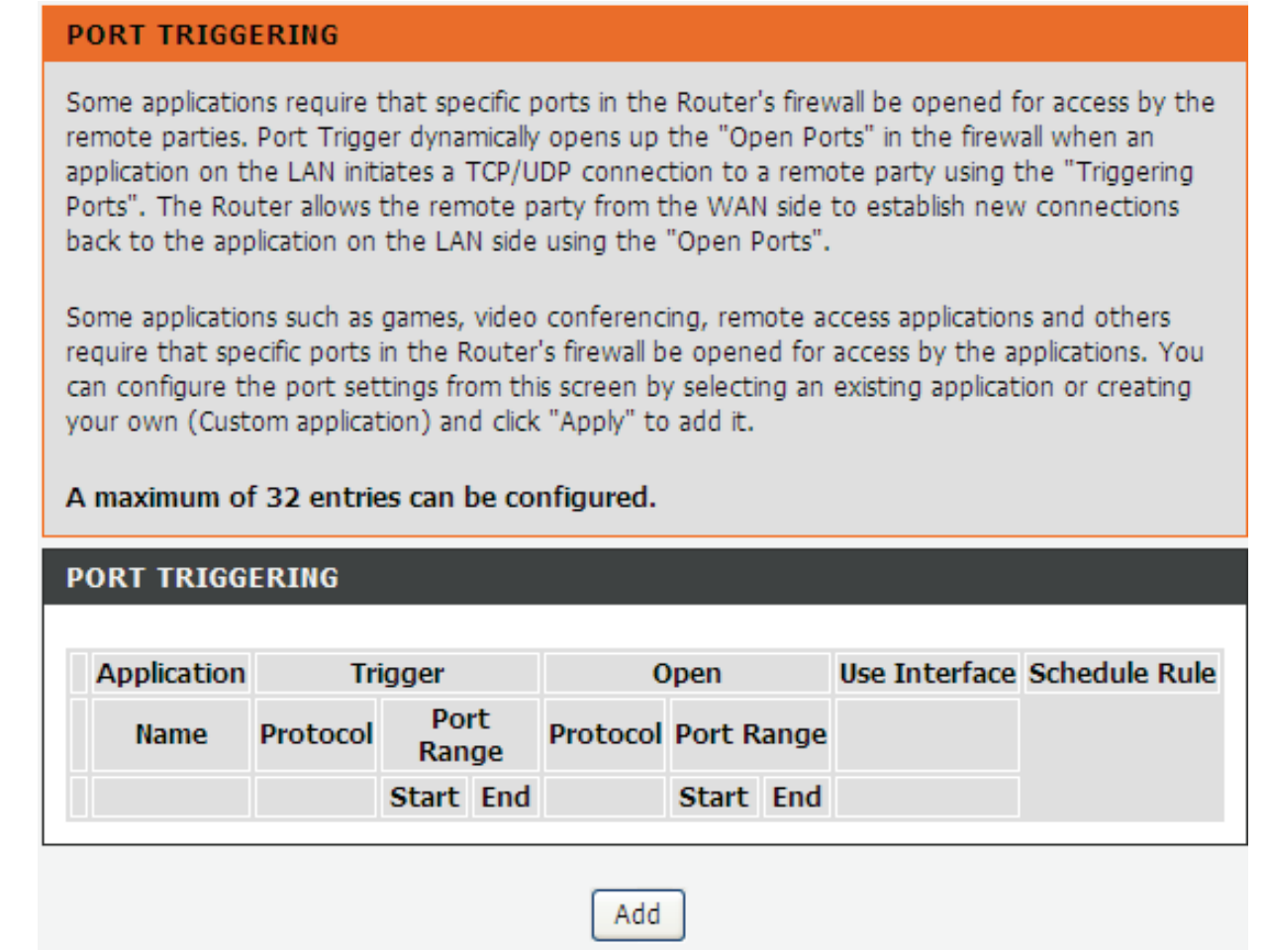
Click **Apply** to save the settings. The page shown in the following figure appears. A virtual server is added.



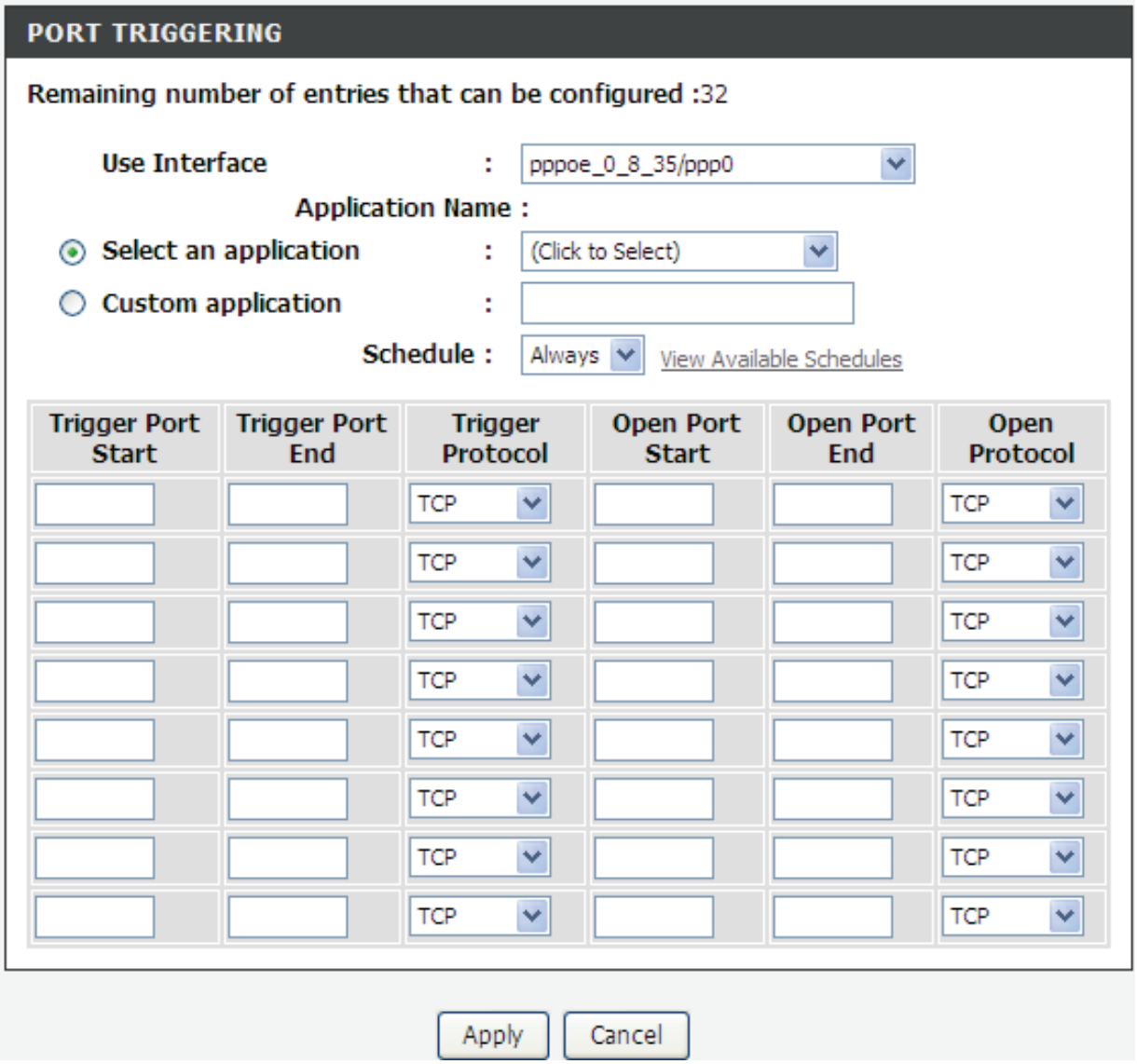
4.3.3 Port Triggering

Some applications require that specific ports in the firewall of the device are open for remote parties to gain access. Application rules dynamically open the firewall ports when an application on the LAN initiates a TCP/UDP connection to a remote party using the trigger ports. The device allows the remote party from the WAN side to establish new connections back to the application on the LAN side using the firewall ports. A maximum of 32 entries can be configured.

Choose **ADVANCED** > **Port Triggering**. The page shown in the following figure appears.



Click **Add** to add a new Port Trigger.



Click the **Select an application** drop-down menu to choose the application you want to setup for port triggering. When you have chosen an application the default Trigger settings will populate the table below.

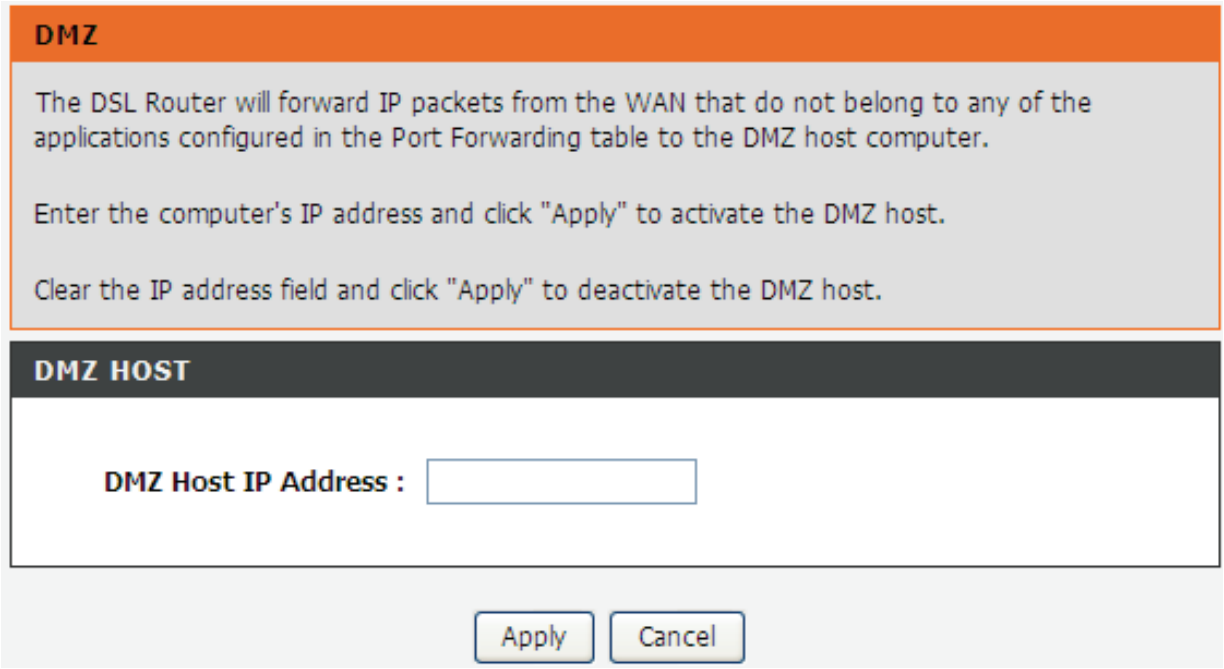
If the application you want to setup isn't listed, click the **Custom application** radio button and type in a name for the trigger in the Custom application field. Configure the **Trigger Port Start**, **Trigger Port End**, **Trigger Protocol**, **Open Port Start**, **Open Port End** and **Open Protocol** settings for the port trigger you want to configure.

When you have finished click the **Apply** button.

4.3.4 DMZ

Since some applications are not compatible with NAT, the device supports the use of a DMZ IP address for a single host on the LAN. This IP address is not protected by NAT and it is visible to agents on the Internet with the correct type of software.

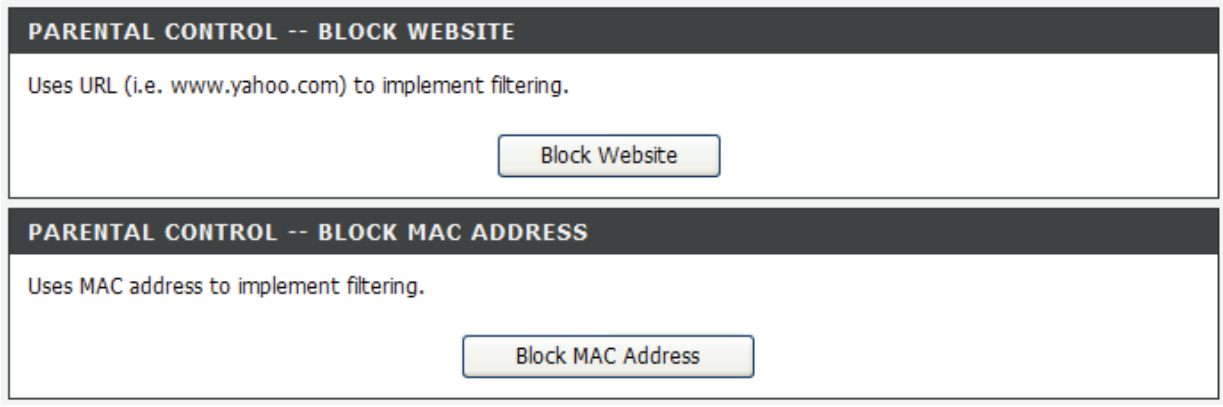
Note that any client PC in the DMZ is exposed to various types of security risks. If you use the DMZ, take measures (such as client-based virus protection) to protect the remaining client PCs on your LAN from possible contamination through DMZ. Choose **ADVANCED** > **DMZ**. The page shown in the following figure appears.



Click **Apply** to save the settings.

4.3.5 Parental Control

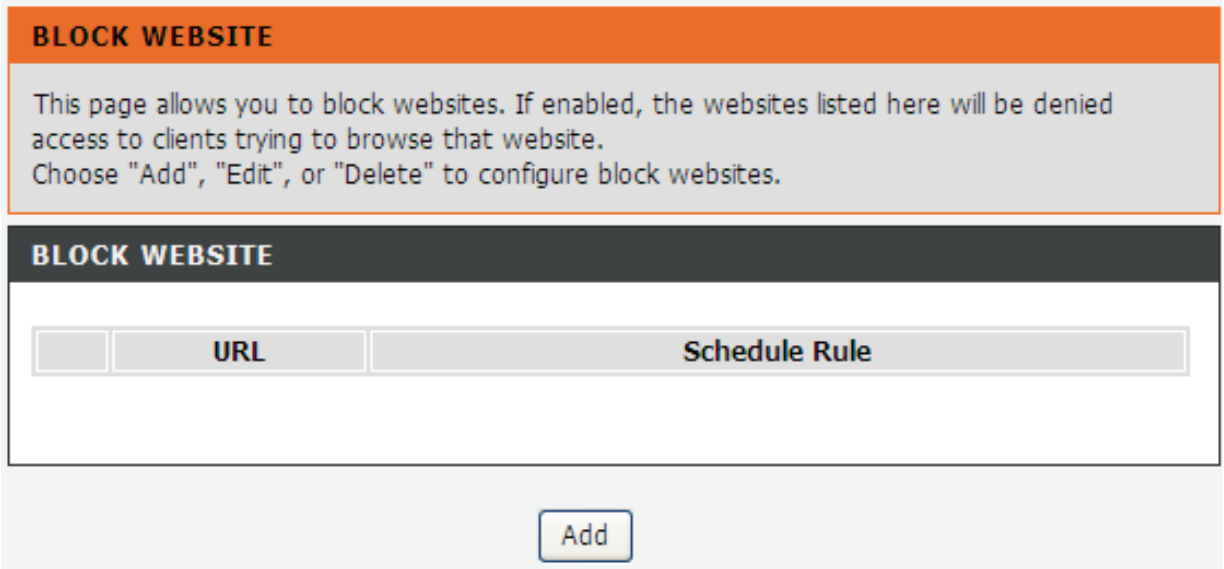
Choose **ADVANCED** > **Parental Control**. The **Parent Control** page shown in the following figure appears.



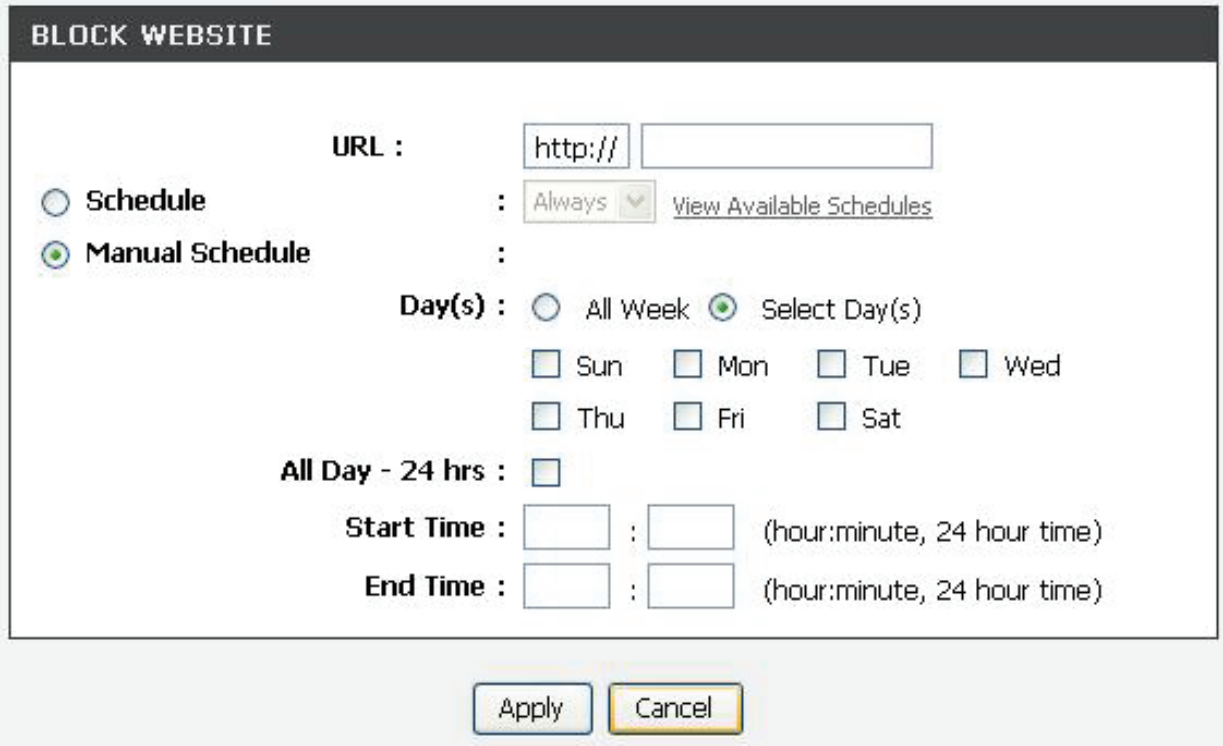
This page provides two useful tools for restricting Internet access. **Block Websites** allows you to quickly create a list of all websites that you wish to stop users from accessing. **Block MAC Address** allows you to control when clients or PCs connected to the device are allowed to access the Internet.

4.3.5.1 Block Website

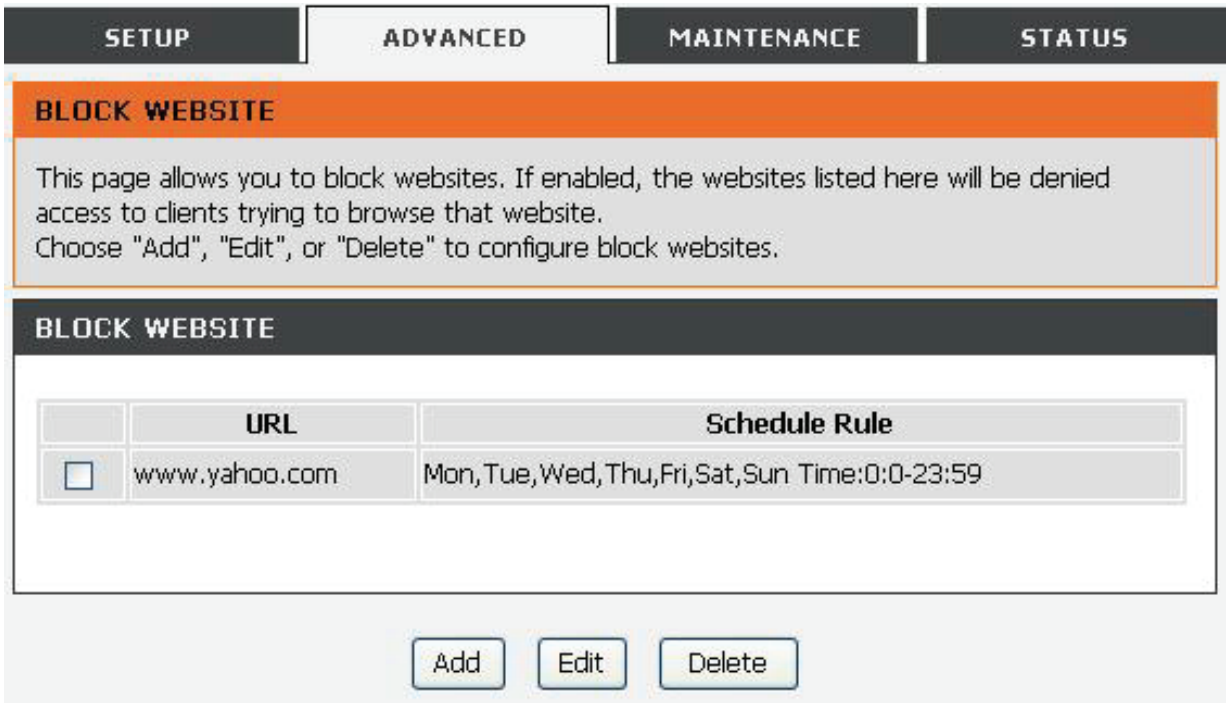
In the **Parent Control** page, click **Block Website**. The page shown in the following figure appears.



Click **Add**. The page shown in the following page appears.

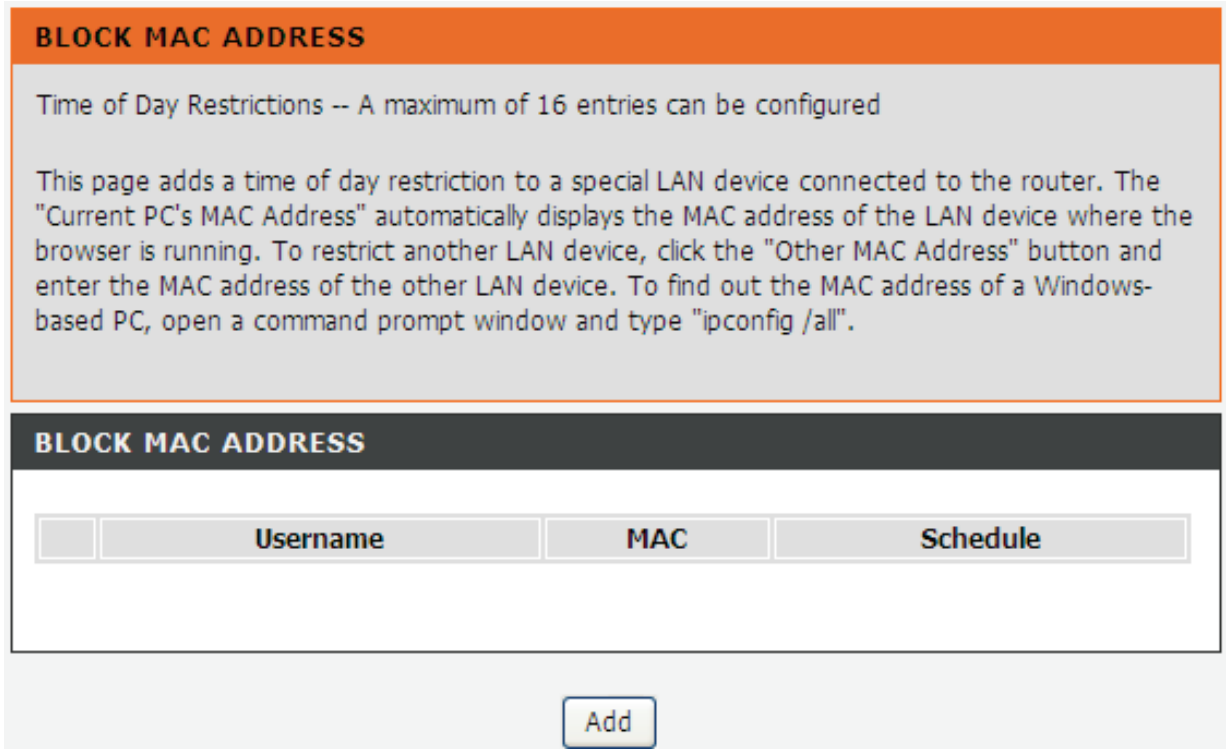


Enter the website in the **URL** field. Select the **Schedule** from the drop-down list, or select **Manual Schedule** and select the corresponding time and days.
Click **Apply** to add the website to the **BLOCK WEBSITE** table. The page shown in the following figure appears.

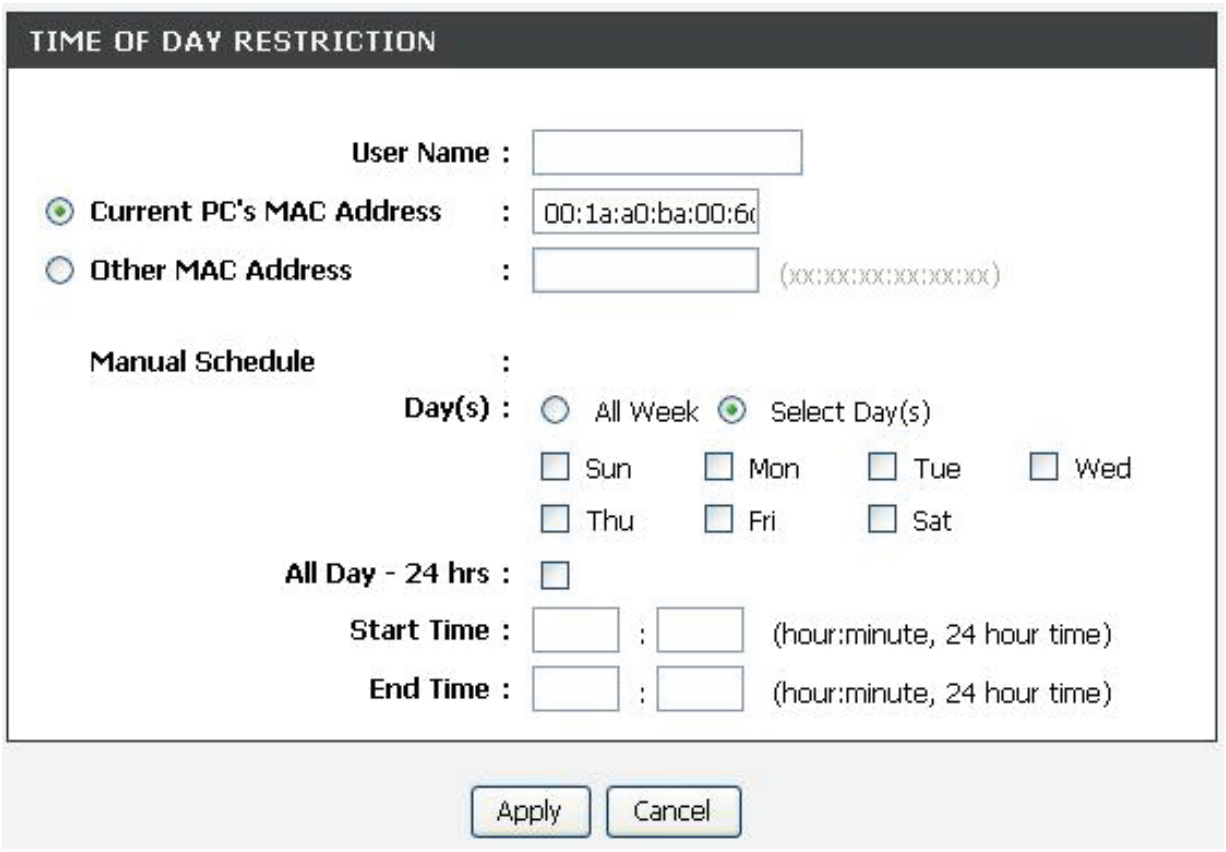


4.3.5.2 Block MAC Address

In the **Parent Control** page, click **Block MAC Address**. The page shown in the following figure appears.

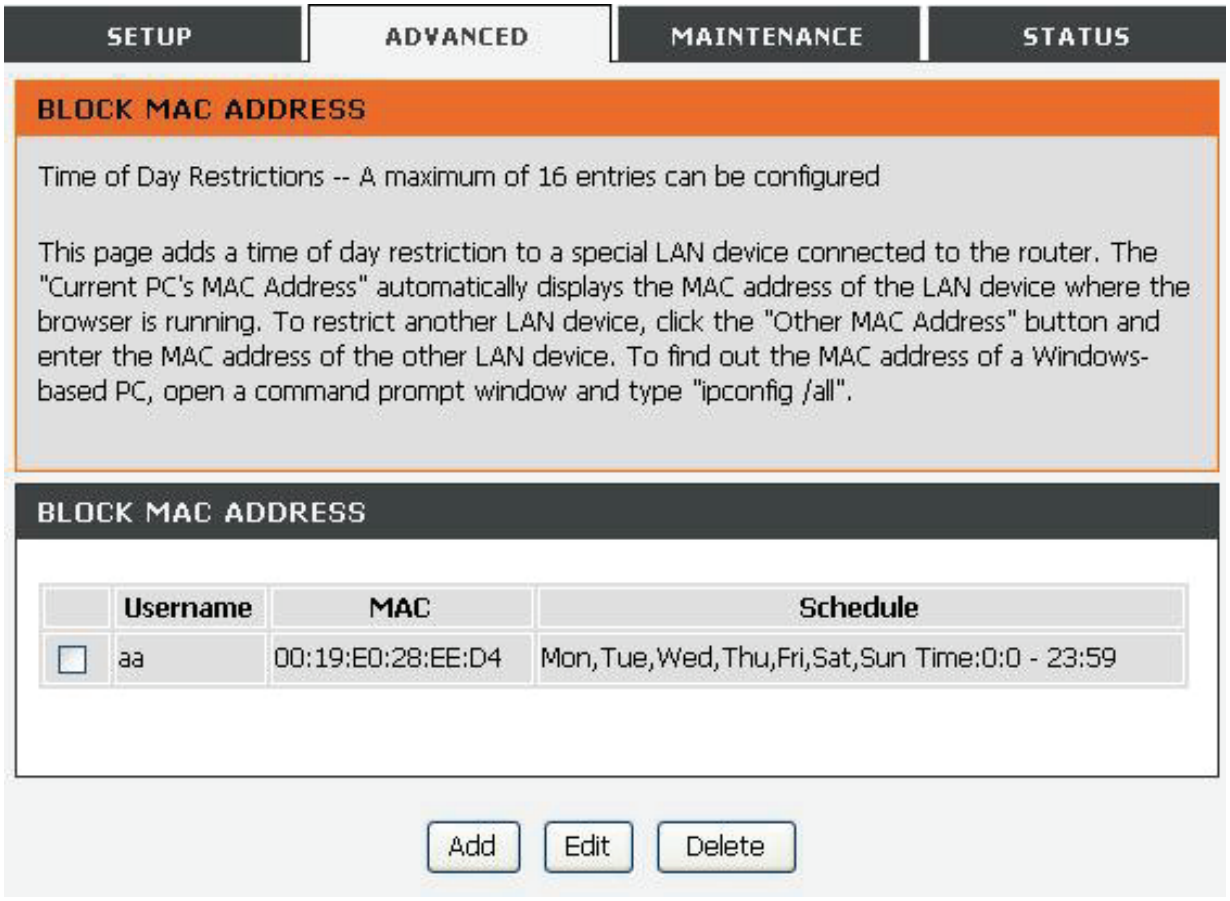


Click **Add**. The page shown in the following figure appears.



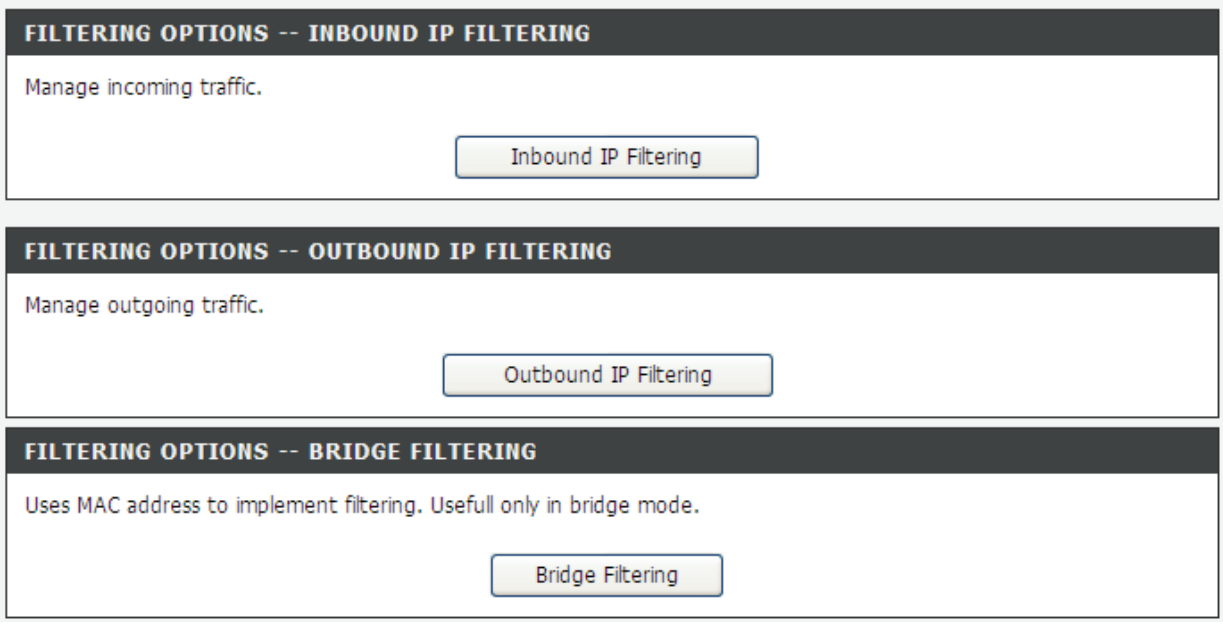
Enter the user name and MAC address and select the corresponding time and days.

Click **Apply** to add the MAC address to the **BLOCK MAC ADDRESS** table. The page shown in the following figure appears.



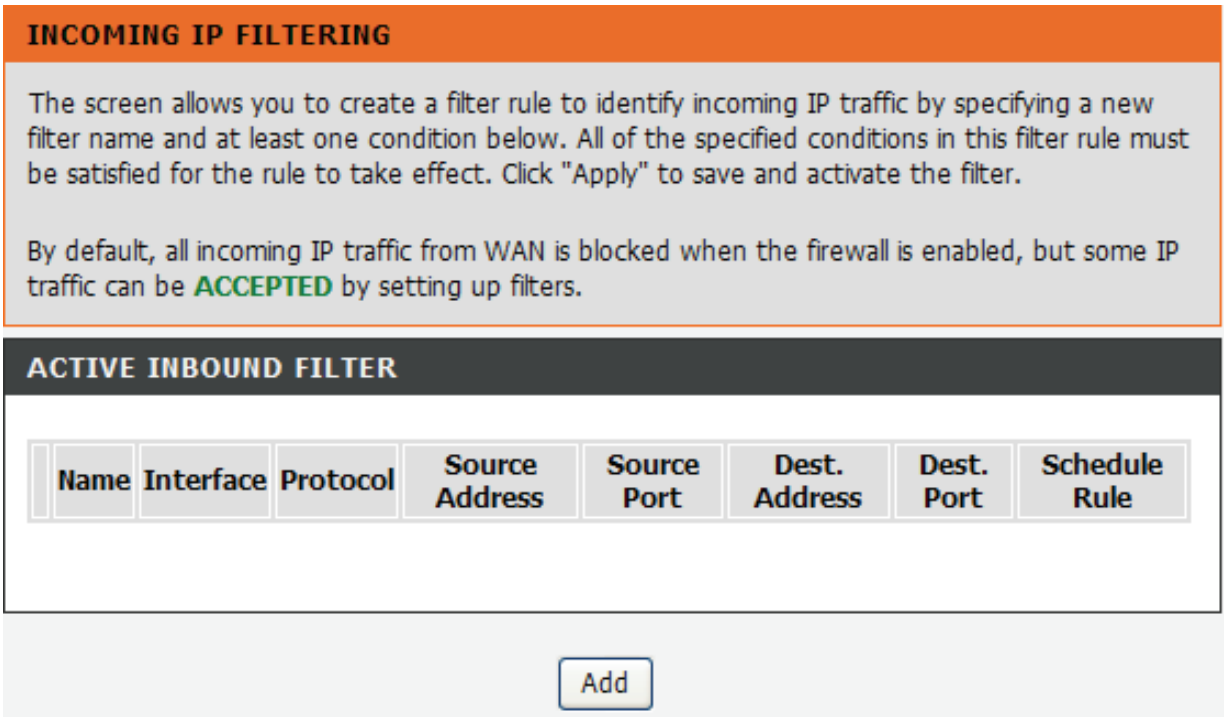
4.3.6 Filtering Options

Choose **ADVANCED** > **Filtering Options**. The **Filtering Options** page shown in the following figure appears.

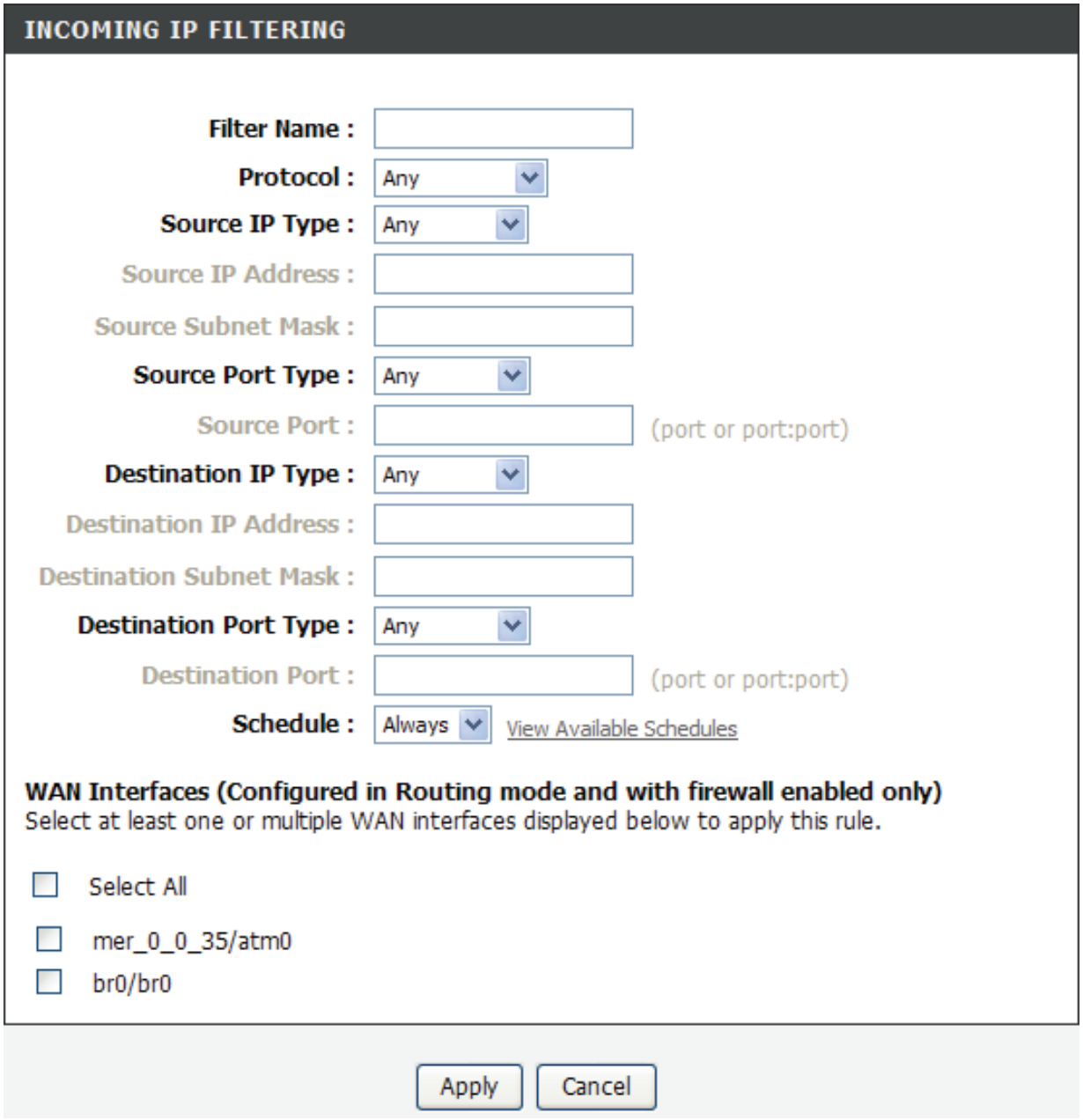


4.3.6.1 Inbound IP Filtering

In the **Filtering Options** page, click **Inbound IP Filtering**. The page shown in the following figure appears.



Click **Add** to add an inbound IP filter. The page shown in the following figure appears.



Enter the **Filter Name** and specify at least one of the following criteria: protocol, source/destination IP address, subnet mask, and source/destination port.

Click **Apply** to save the settings.

Note:

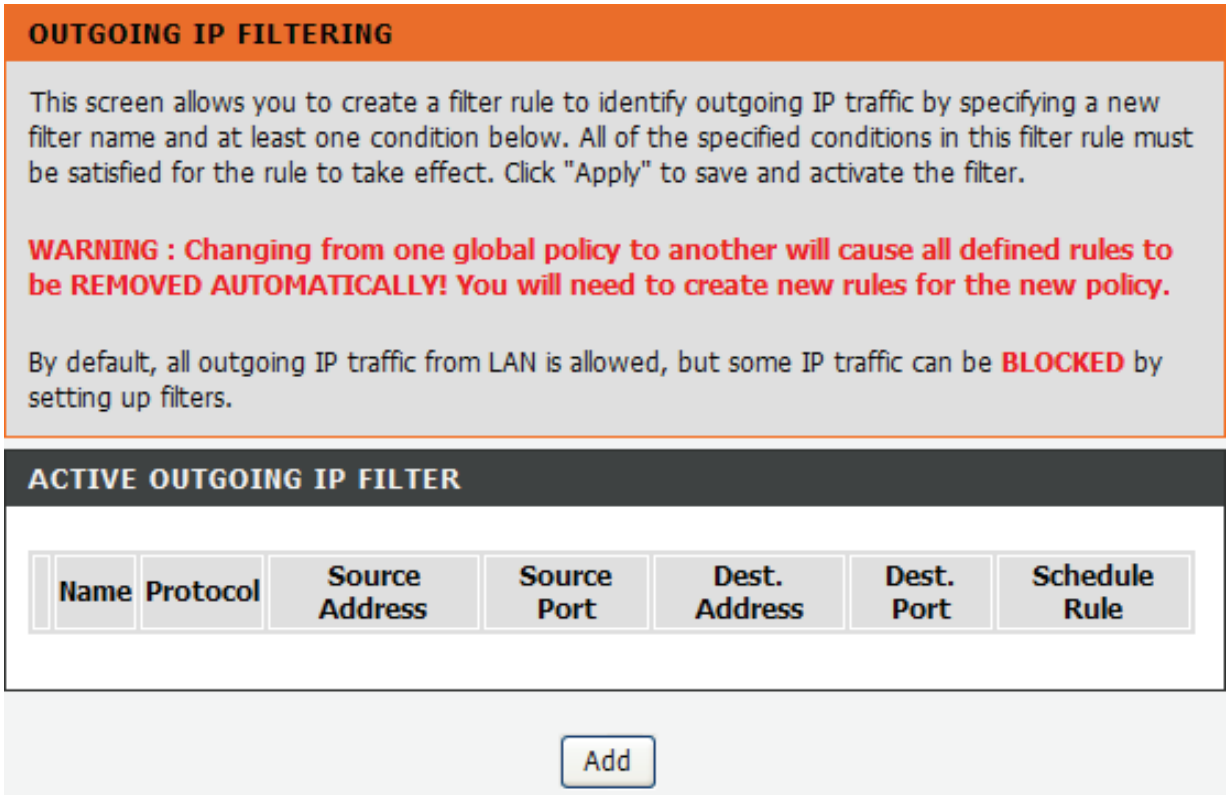
The settings are only applied when the firewall is enabled.

The **ACTIVE INBOUND FILTER** shows detailed information about each created inbound IP filter.

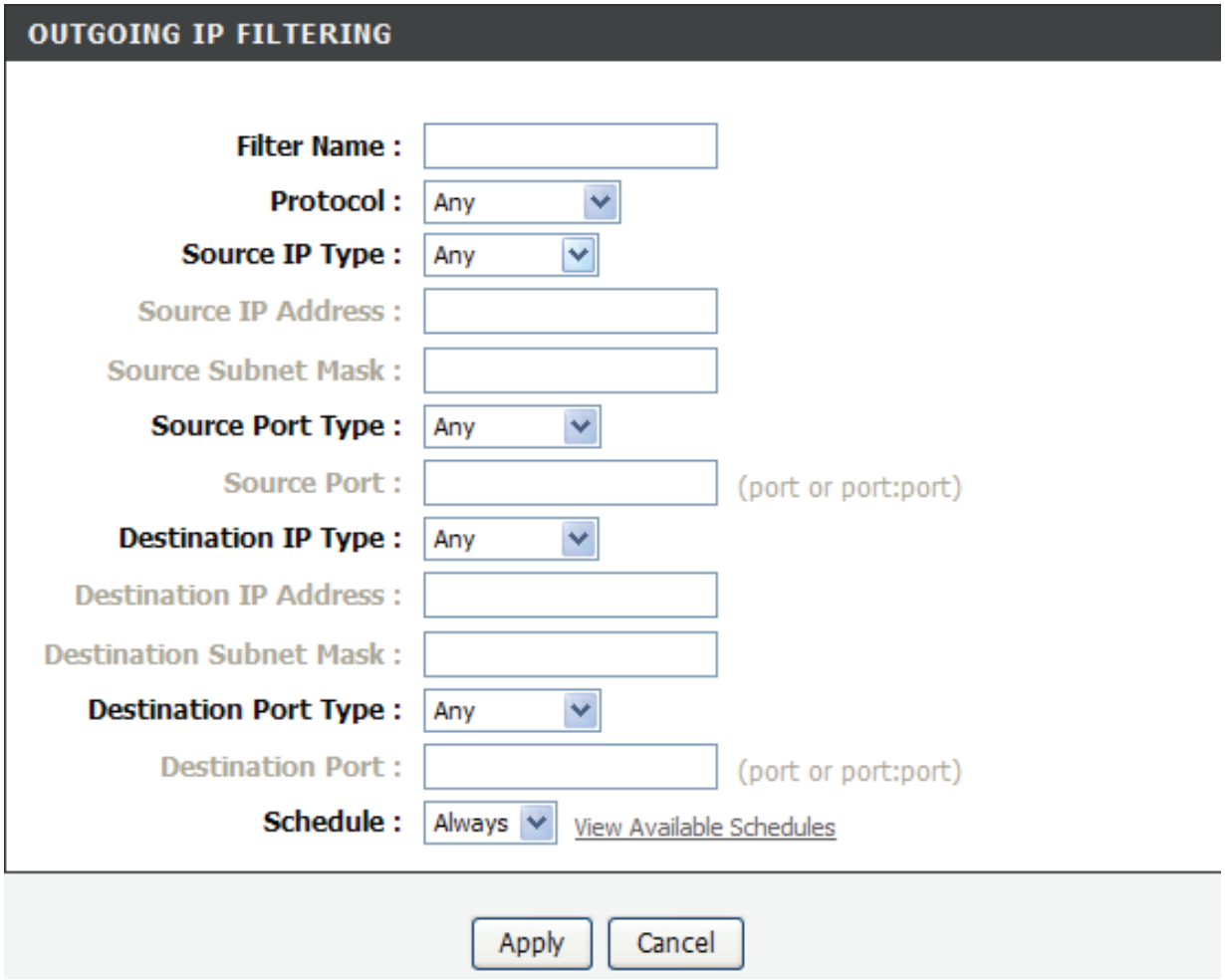
4.3.6.2 Outbound IP Filtering

By default, all outgoing IP traffic from the LAN is allowed. The outbound filter allows you to create a filter rule to block outgoing IP traffic by specifying a filter name and at least one condition.

In the **Filtering Options** page, click **Outbound IP Filtering**. The page shown in the following figure appears.



Click **Add** to add an outbound IP filter. The page shown in the following figure appears.

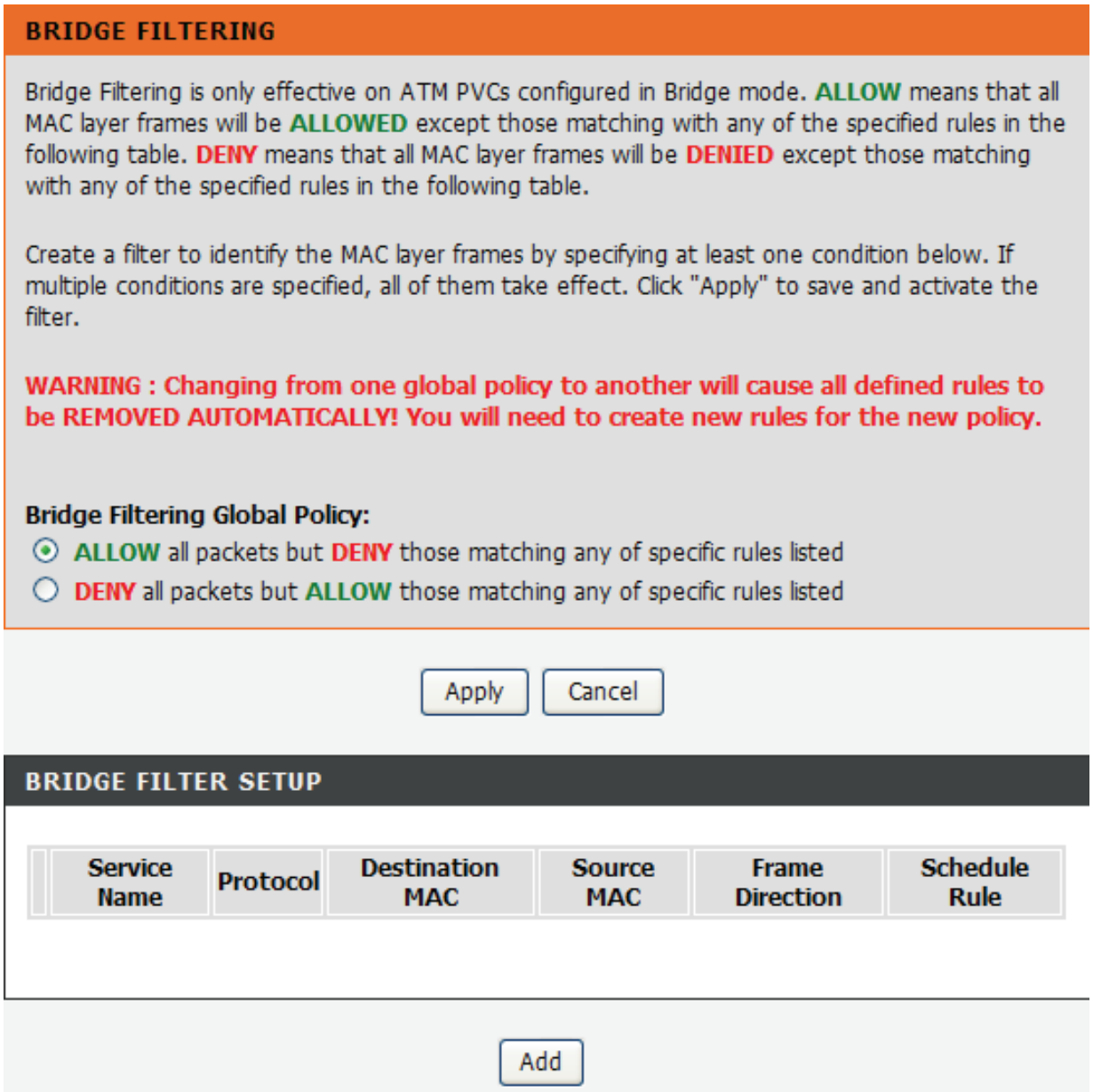


Enter the **Filter Name** and specify at least one of the following criteria: protocol, source/destination IP address, subnet mask, and source/destination port. Click **Apply** to save the settings.

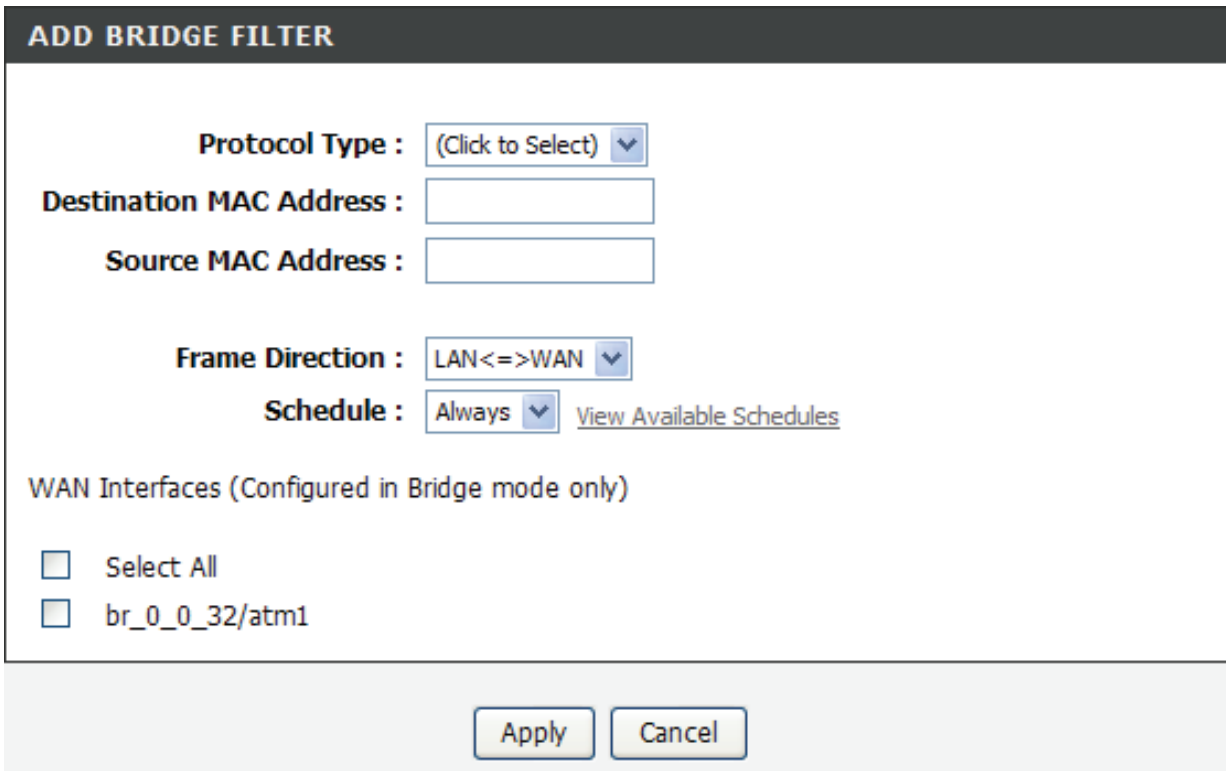
The **ACTIVE OUTGOING IP FILTER** shows detailed information about each created outbound IP filter.

4.3.6.3 Bridge Filtering

In the **Filtering Options** page, click **Bridge Filtering**. The page shown in the following figure appears. This page is used to configure bridge parameters. In this page, you can change the settings or view some information of the bridge and its attached ports.



Click **Add** to add a bridge filter. The page shown in the following figure appears.



Click **Apply** to save the settings.

4.3.7 DNS

Domain Name System (DNS) is an Internet service that translates domain names into IP addresses. Because domain names are alphabetic, they are easier to remember. The Internet, however, is actually based on IP addresses. Each time you use a domain name, a DNS service must translate the name into the corresponding IP address. For example, the domain name www.example.com might be translated to 198.105.232.4.

The DNS system is, in fact, its own network. If one DNS server does not know how to translate a particular domain name, it asks another one, and so on, until the correct IP address is returned.

Choose **ADVANCED** > **DNS**. The page shown in the following figure appears.

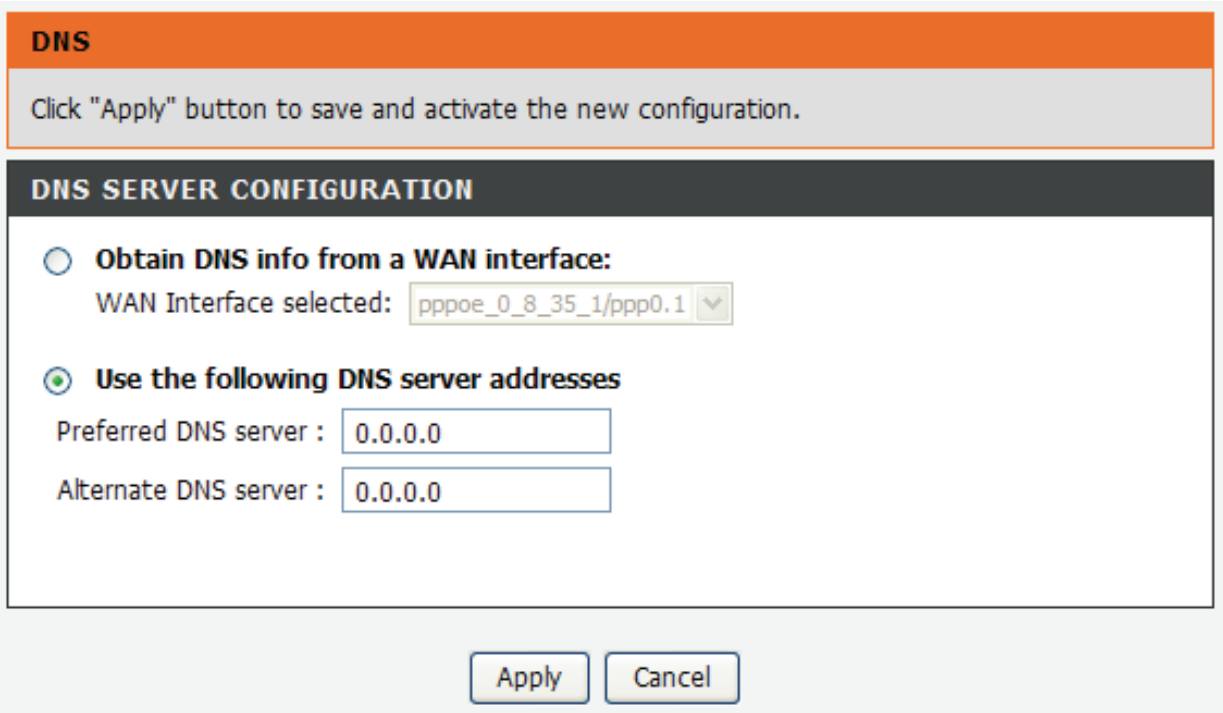


Figure 8

DNS SERVER CONFIGURATION

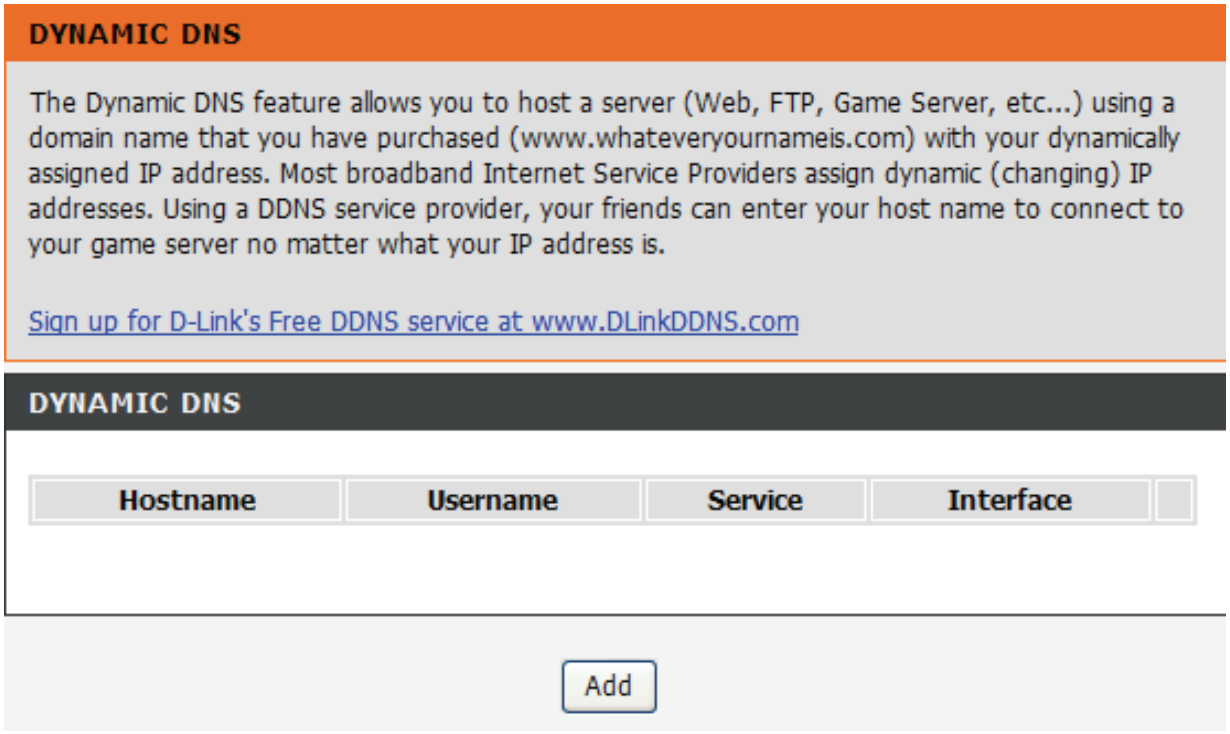
If you are using the device for DHCP service on the LAN or if you are using DNS servers on the ISP network, select **Obtain DNS Info from a WAN interface**.
If you have DNS IP addresses provided by your ISP, enter these IP addresses in the available entry fields for the preferred DNS server and the alternate DNS server.
Click **Apply** to save the settings.

4.3.8 Dynamic DNS

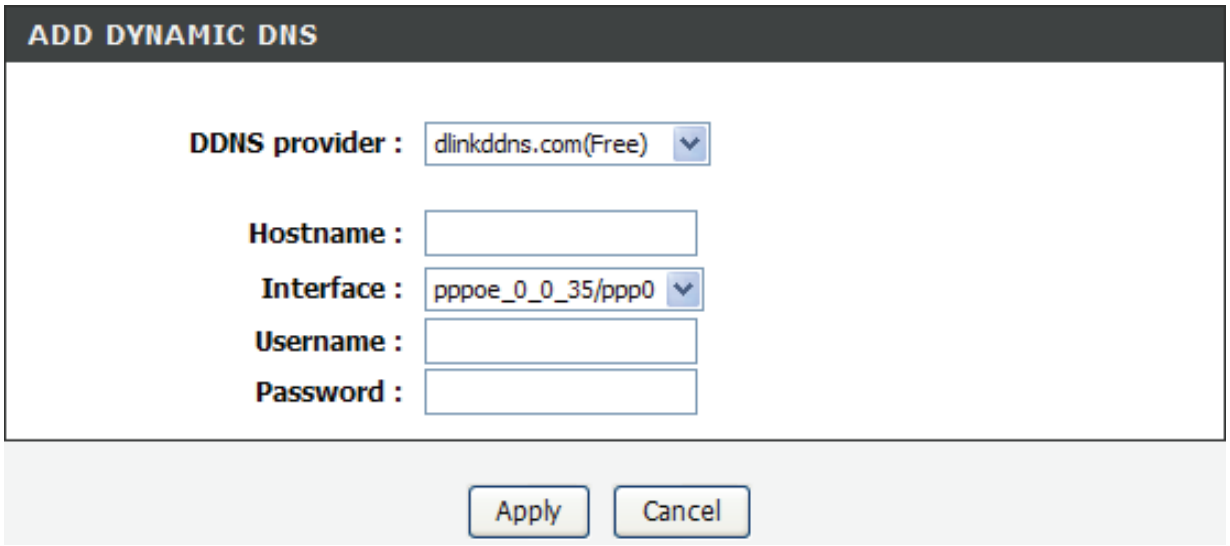
The device supports Dynamic Domain Name Service (DDNS). The dynamic DNS service allows a dynamic public IP address to be associated with a static host name in any of the many domains, and allows access to a specified host from various locations on the Internet. Click a hyperlinked URL in the form of hostname.dyndns.org and allow remote access to a host. Many ISPs assign public IP addresses using DHCP, so locating a specific host on the LAN using the standard DNS is difficult. For example, if you are running a public web server or VPN server on your LAN, DDNS ensures that the host can be located from the Internet even if the public IP address changes. DDNS requires that an account be

set up with one of the supported DDNS service providers (DyndDNS.org or dlinkddns.com).

Choose **ADVANCED** > **Dynamic DNS**. The page shown in the following page appears.



Click **Add** to add dynamic DNS. The page shown in the following figure appears.



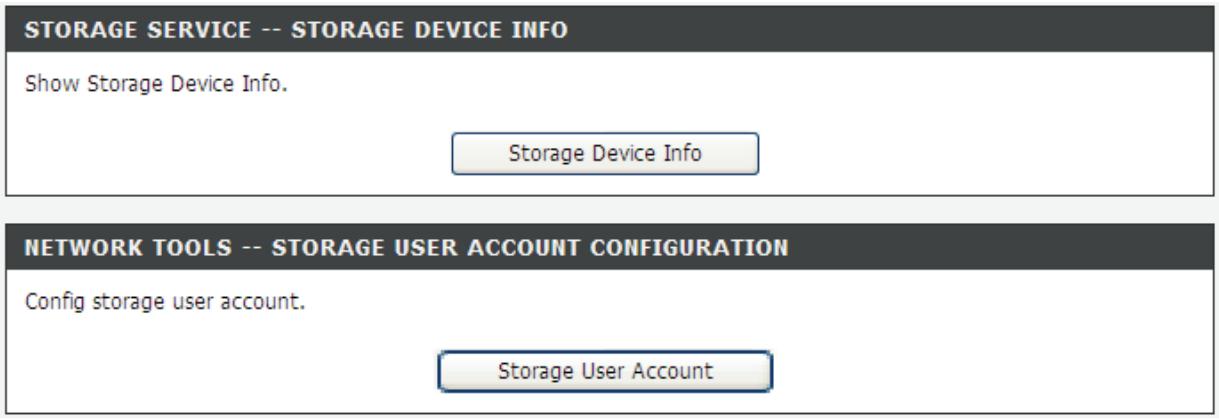
- **DDNS provider**: Select one of the DDNS registration organizations from the down-list drop.

- **Host Name**: Enter the host name that you registered with your DDNS service provider.
- **Interface**: Select the interface you want to use.
- **Username**: Enter the username for your DDNS account.
- **Password**: Enter the password for your DDNS account.

Click **Apply** to save the settings.

4.3.9 Storage Service

Choose **ADVANCED** > **Storage Service**. The **Storage Service** page shown in the following figure appears.



4.3.9.1 Storage Device Info

In the **Storage Service** page, click **Storage Device Info**. The page shown in the following figure appears.

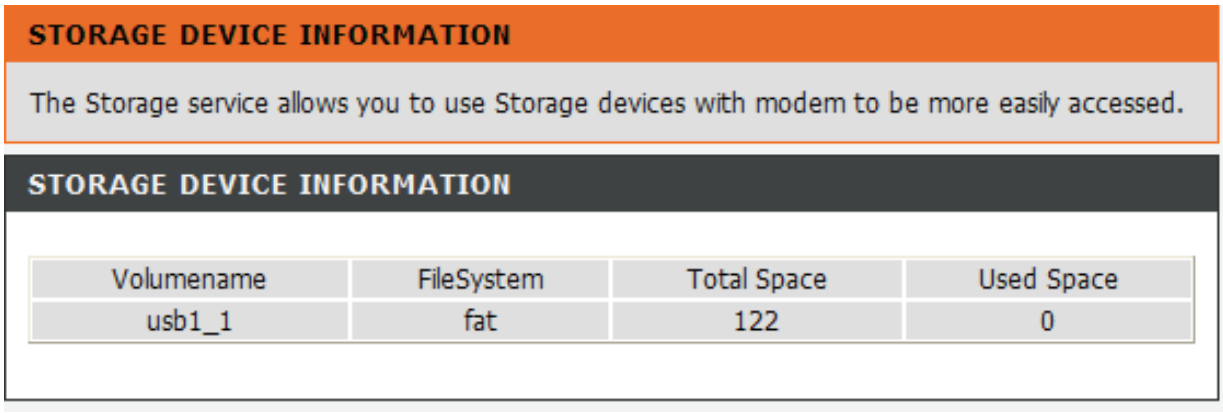
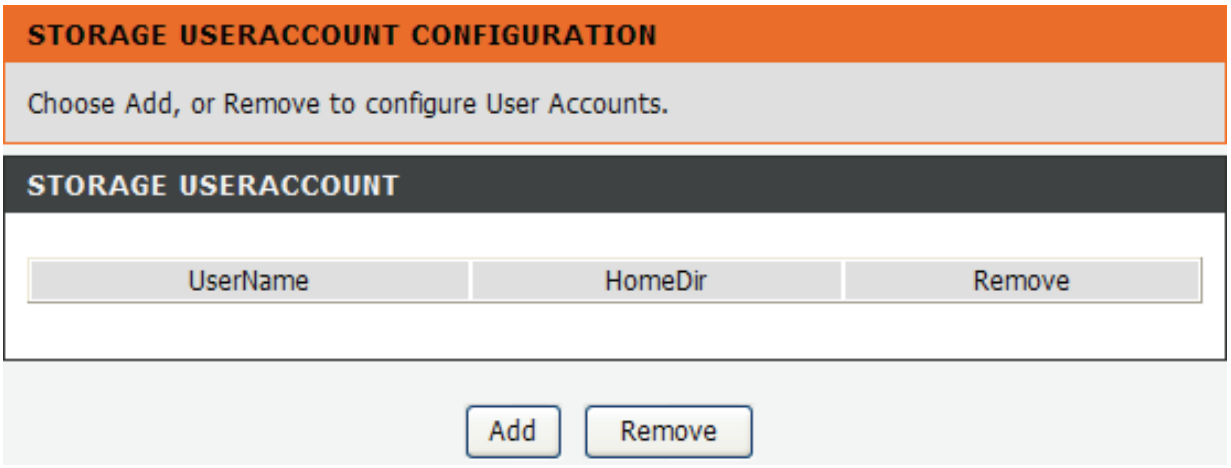


Figure 9

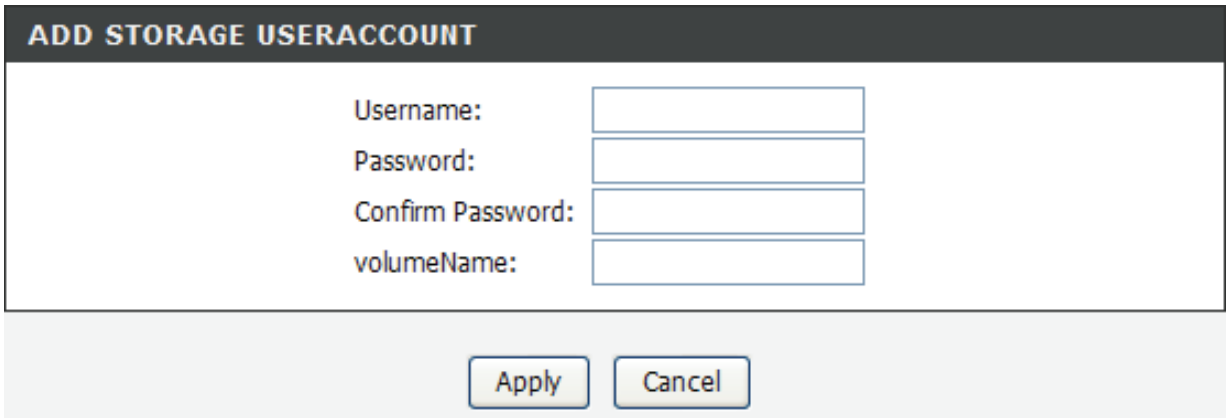
When you insert a USB storage device, this page will show the information of the USB storage device, such as file system, total space, and used space.

4.3.9.2 User Accounts

In the **Storage Service** page, click **Storage User Account**. The page shown in the following figure appears.



Click **Add** to add a user. The page shown in the following figure appears.



- **Username**: Set a valid username that will access the CPE's samba server

- **Password**: Specify the user's password
- **Confirm Password**: Re-enter the user's password
- **volumeName**: The name of the directory you want to share

4.3.10 Multicast

Choose **ADVANCED** > **Multicast**. The page shown in the following figure appears.

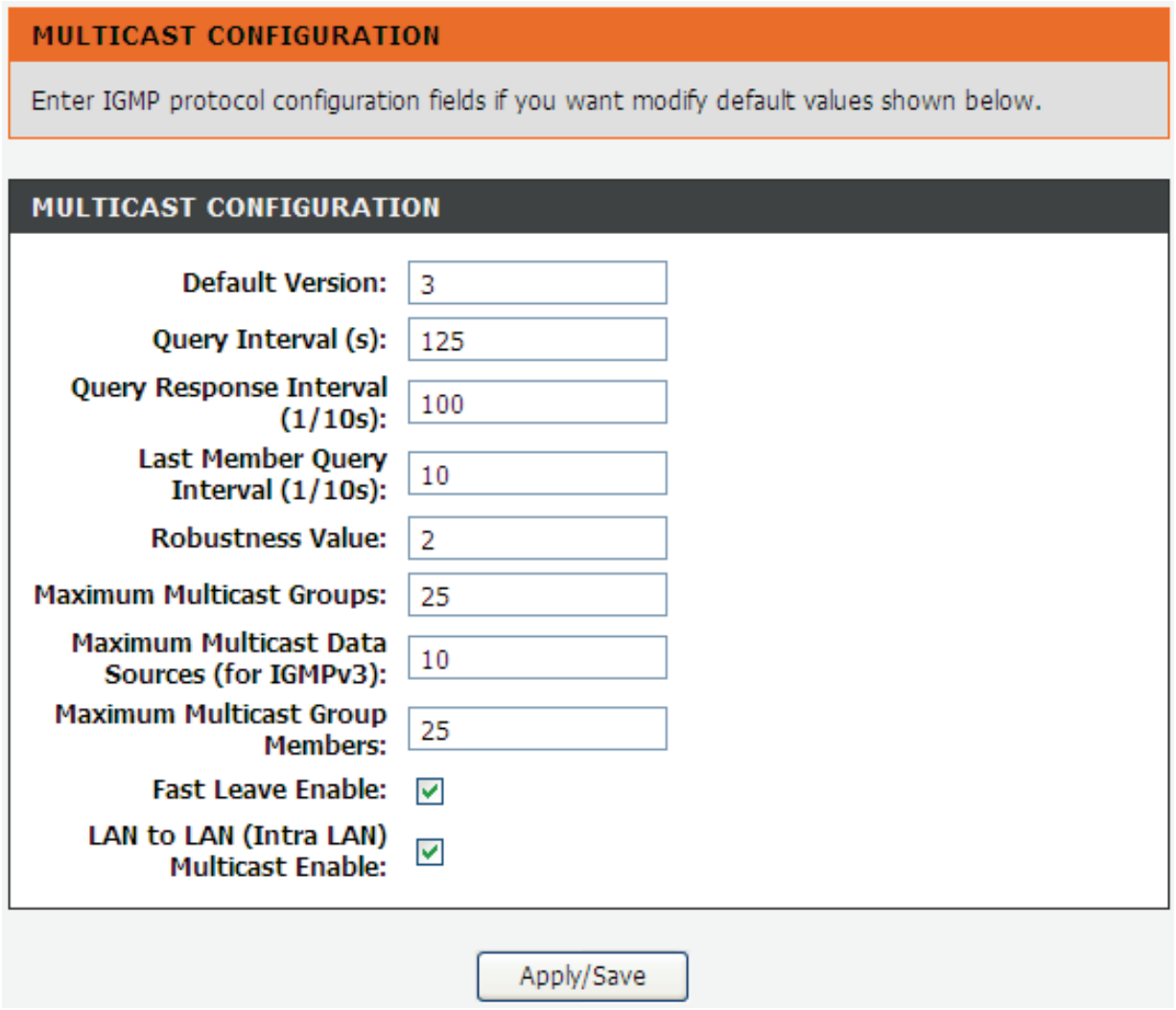


Figure 10

- **Default Version**: IGMP version
- **Query Interval(s)**:The query interval is the amount of time in seconds between IGMP General Query messages sent by the router (if the router is querying on this subnet)
- **Query Response Interval (1/10s)**: The query response interval is the maximum amount of time in seconds that the IGMP router waits to receive a response to a General Query message. The query response interval is the Maximum Response Time field in the IGMP v2 Host Membership Query

message header. The default query response interval is 10 seconds and must be less than the query interval

- **Last Member Query Interval (1/10s)**: The last member query interval is the amount of time in seconds that the IGMP router waits to receive a response to a Group-Specific Query message. The last member query interval is also the amount of time in seconds between successive Group-Specific Query messages.
- **Robustness Value:** The robustness variable is a way of indicating how susceptible the subnet is to lost packets. IGMP can recover from robustness variable minus 1 lost IGMP packets.
- **Maximum Multicast Groups:** Max multicast groups
- **Maximum Multicast Data Sources (for IGMPv3):** max group data sources that want to receive.
- **Maximum Multicast Group Members**: Max member in one group
- **Fast Leave Enable:** Enable or disable fast leave feature.
- **LAN to LAN (Intra LAN) Multicast Enable:** Enable or disable LAN to LAN multicast.

4.3.11 Network Tools

Choose **ADVANCED** > **Network Tools**. The page shown in the following figure appears.

NETWORK TOOLS -- PORT MAPPING

Port Mapping supports multiple port to PVC and bridging groups. Each group will perform as an independent network.

Port Mapping

NETWORK TOOLS -- IGMP

Transmission of identical content, such as multimedia, from a source to a number of recipients.

IGMP

NETWORK TOOLS -- QUALITY OF SERVICE

Allows you to enable or disable QoS function.

Quality of Service

NETWORK TOOLS -- QUEUE CONFIG

Allows you to add Classification Queue precedence for QoS.

Queue Config

NETWORK TOOLS -- QOS CLASSIFICATION

Allows you to edit configure different priority to different interfaces.

QoS Classification

NETWORK TOOLS -- UPNP

Allows you to enable or disable UPnP.

UPnP

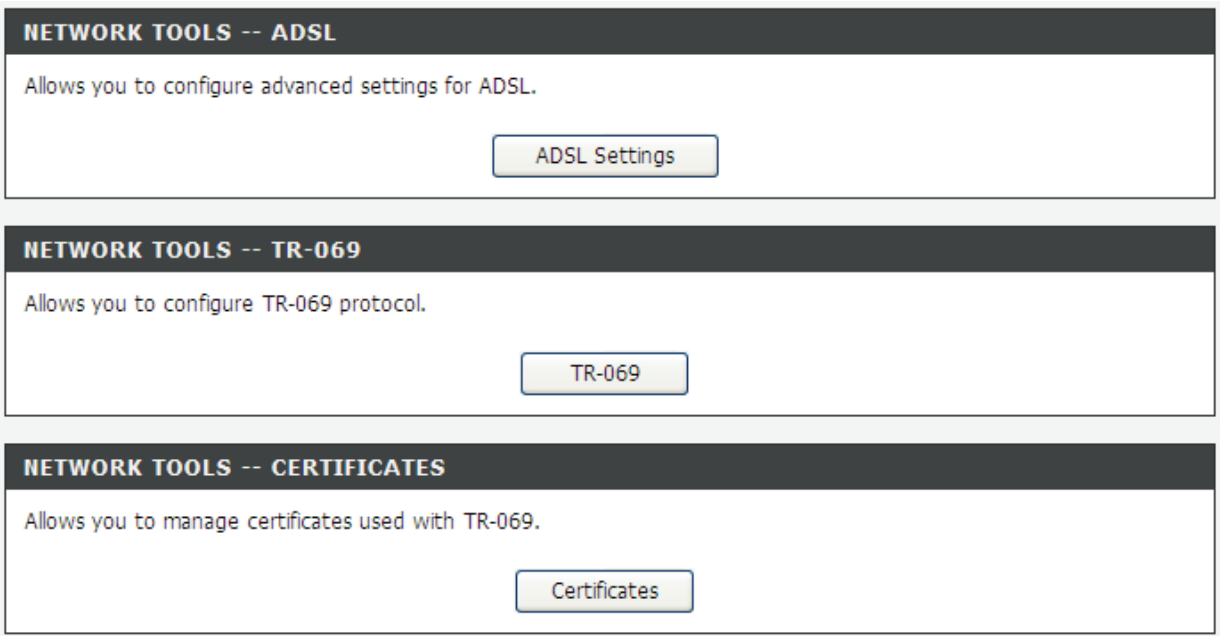
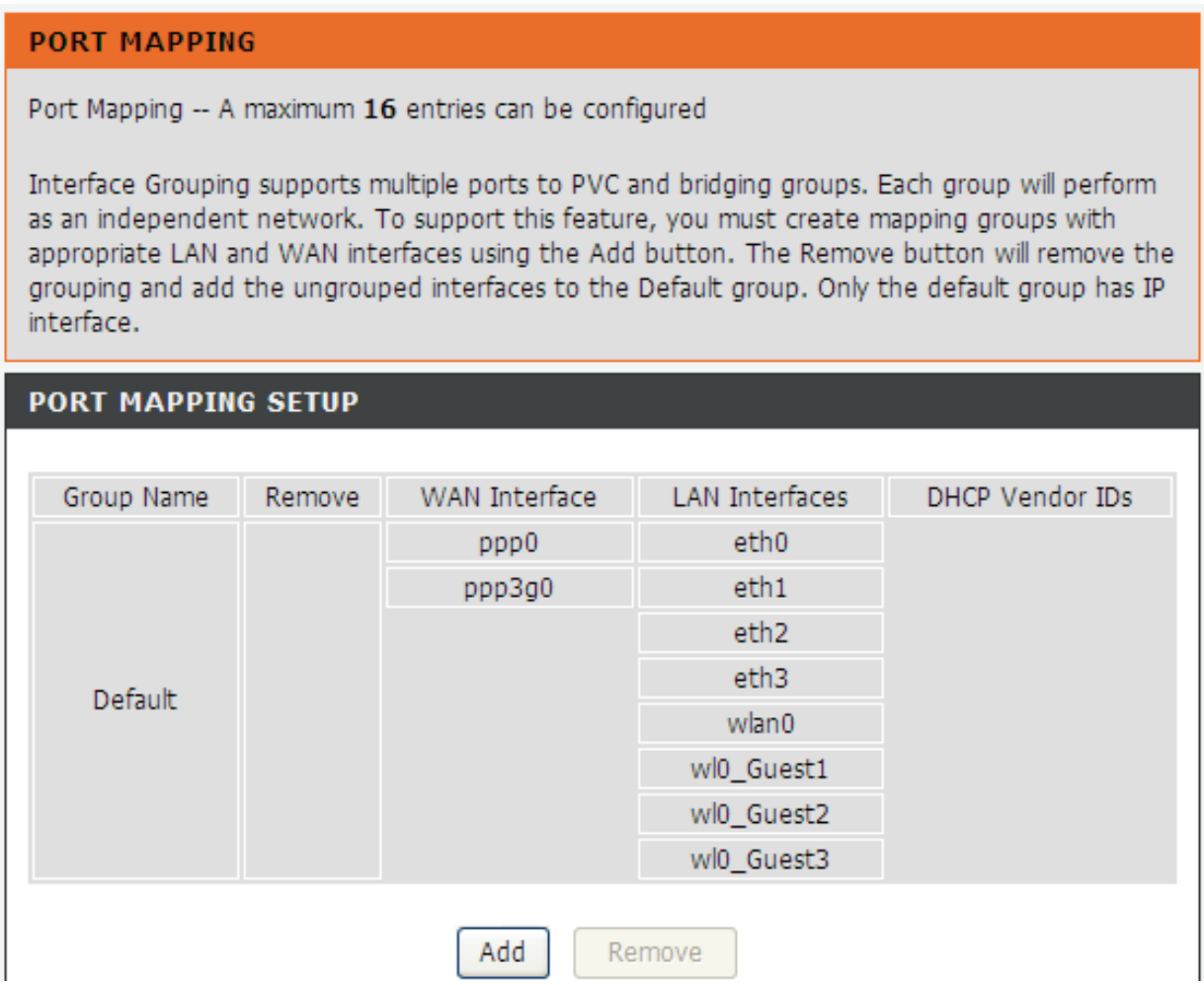


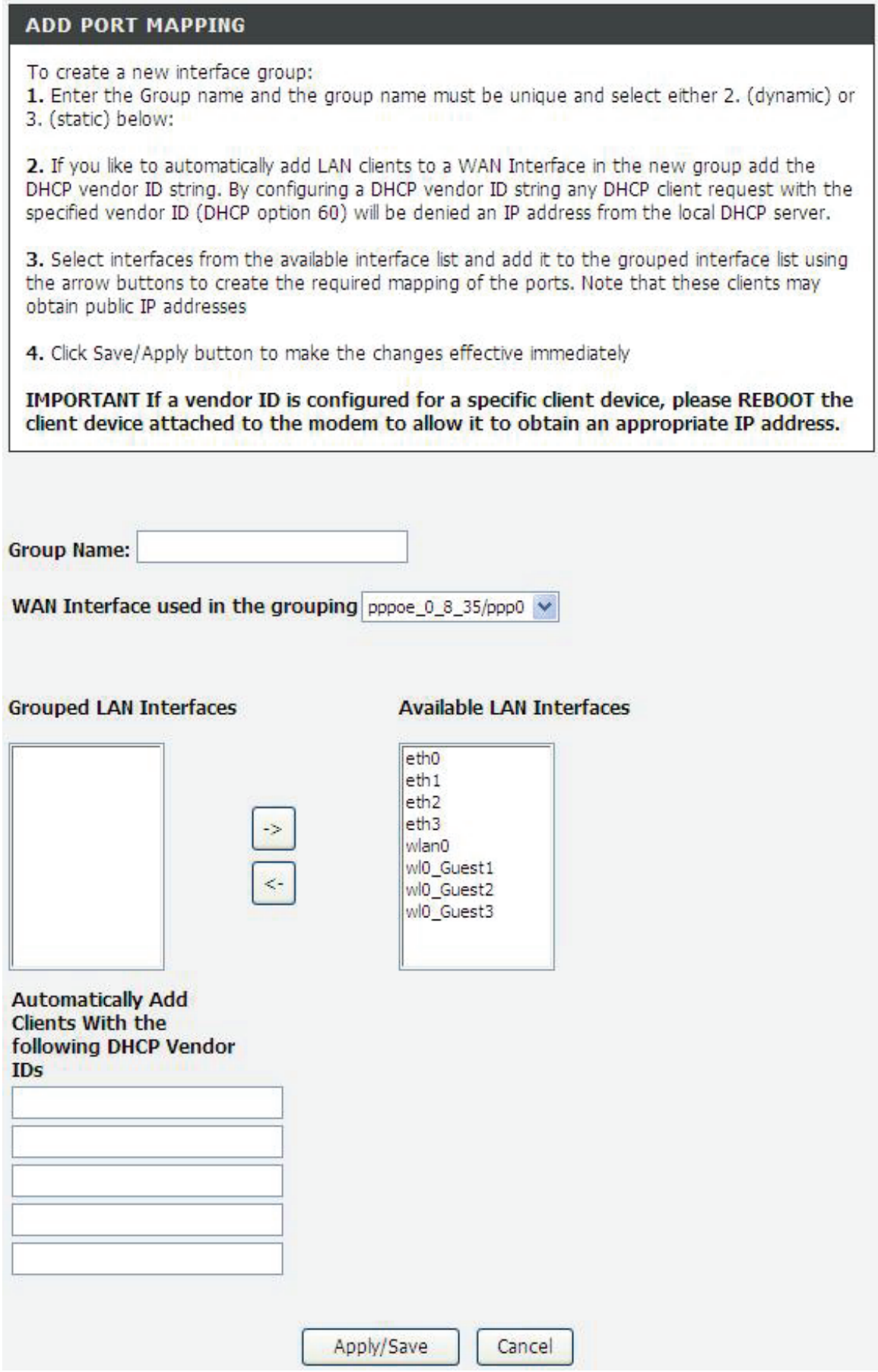
Figure 11

4.3.11.1 Port Mapping

Choose **ADVANCED** > **Network Tools** and click **Port Mapping**. The page shown in the following figure appears. In this page, you can bind the WAN interface and the LAN interface to the same group.



Click **Add** to add port mapping. The page shown in the following figure appears.



The procedure for creating a mapping group is as follows:

Step 1 Enter the group name.

Step 2 Select the WAN interface for your new group.

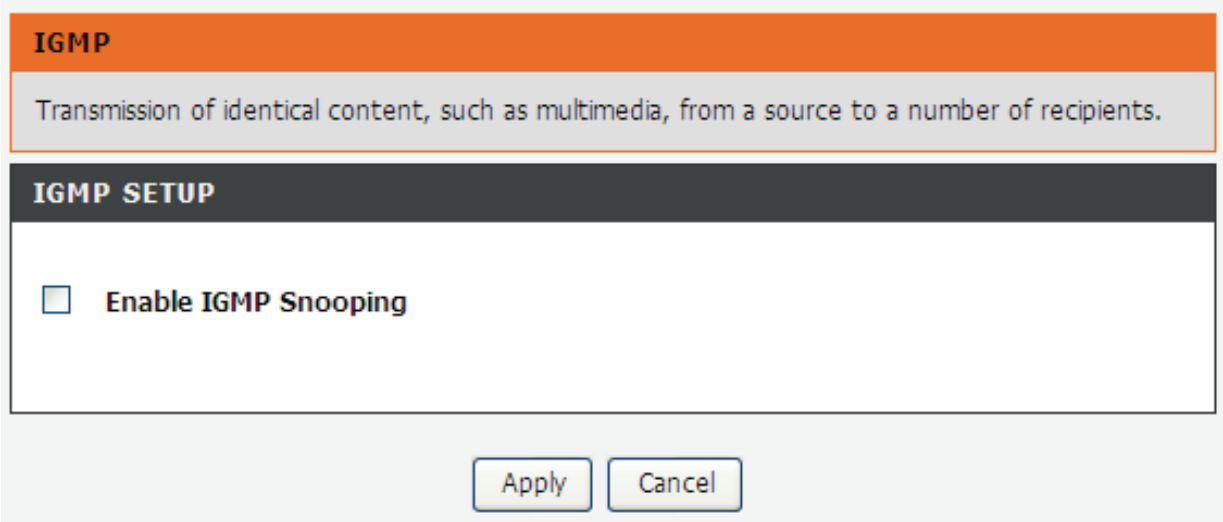
Step 3 Select the LAN interfaces from the **Available Interface** list and click the **<-** arrow button to add them to the grouped interface list, in order to create the required mapping of the ports. The group name must be unique.

Step 4 Enter the optional information of DHCP vendor IDs.

Step 5 Click **Apply** to save the settings.

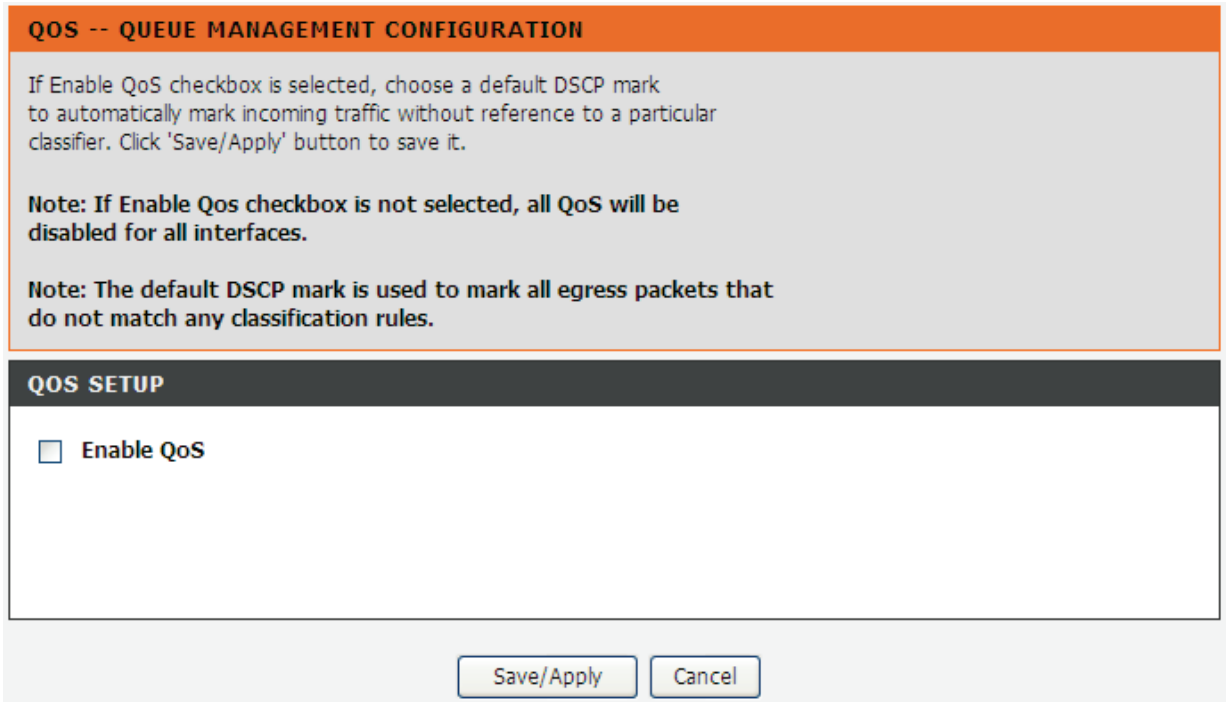
4.3.11.2 IGMP

Choose **ADVANCED** > **Network Tools** and click **IGMP**. The page shown in the following figure appears. When enable IGMP Snooping, the multicast data transmits through the specific LAN port which has received the request report.



4.3.11.3 Quality of Service

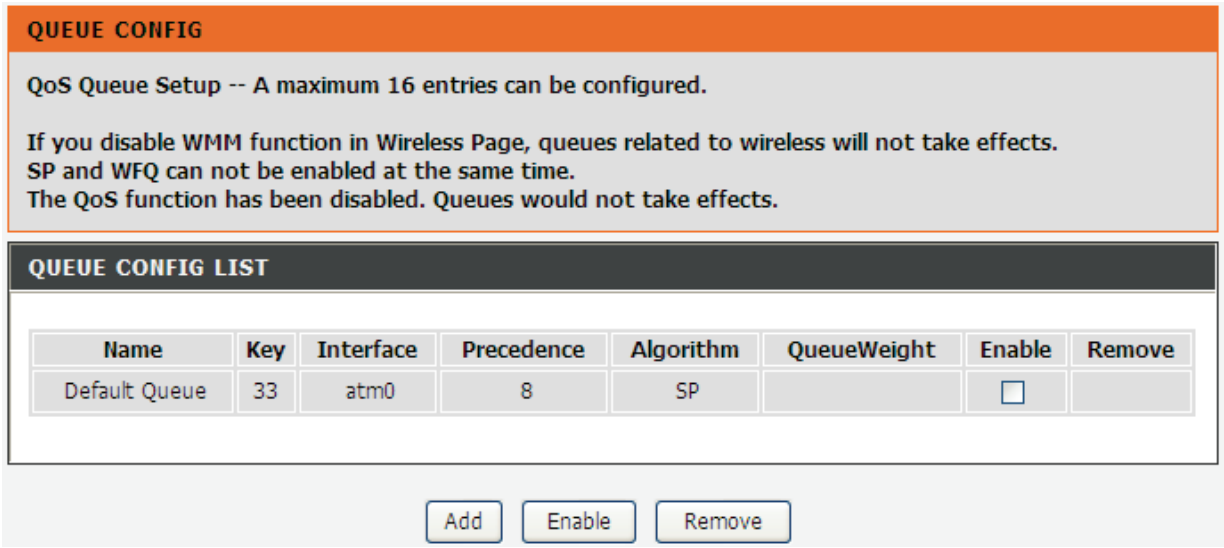
Choose **ADVANCED** > **Network Tools** and click **Quality of Service.** The page shown in the following figure appears.



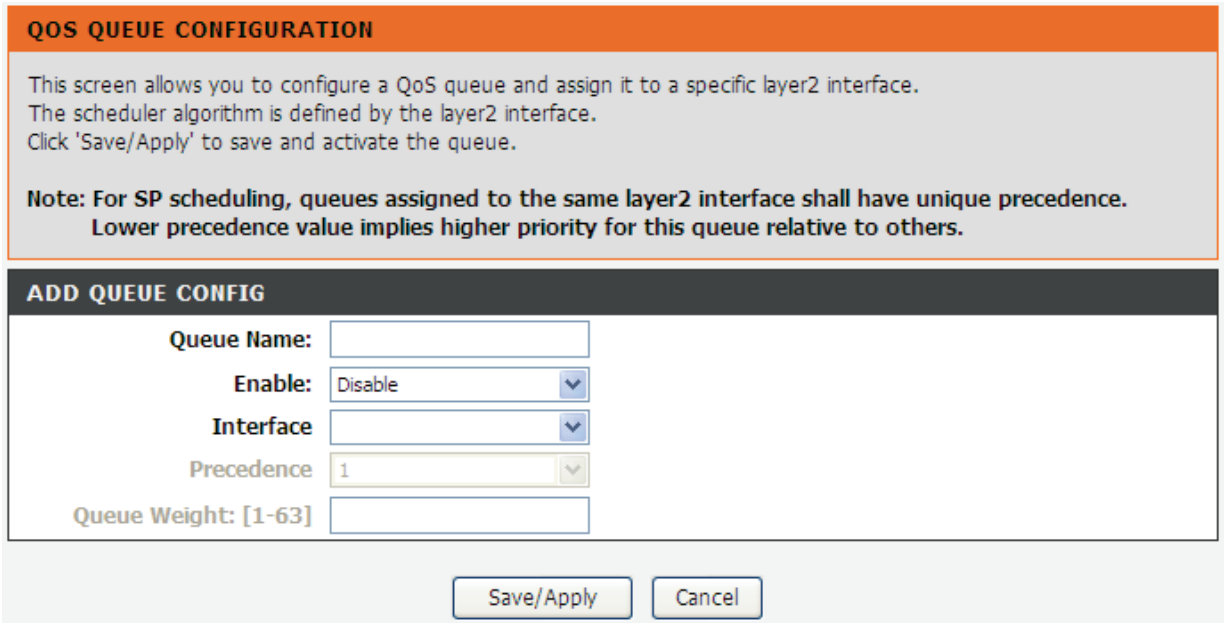
In this page, you can enable/disable the QoS. Click **Save/Apply** to take the setting effect.

4.3.11.4 Queue Config

Choose **ADVANCED** > **Network Tools** and click **Queue Config**. The page shown in the following figure appears.



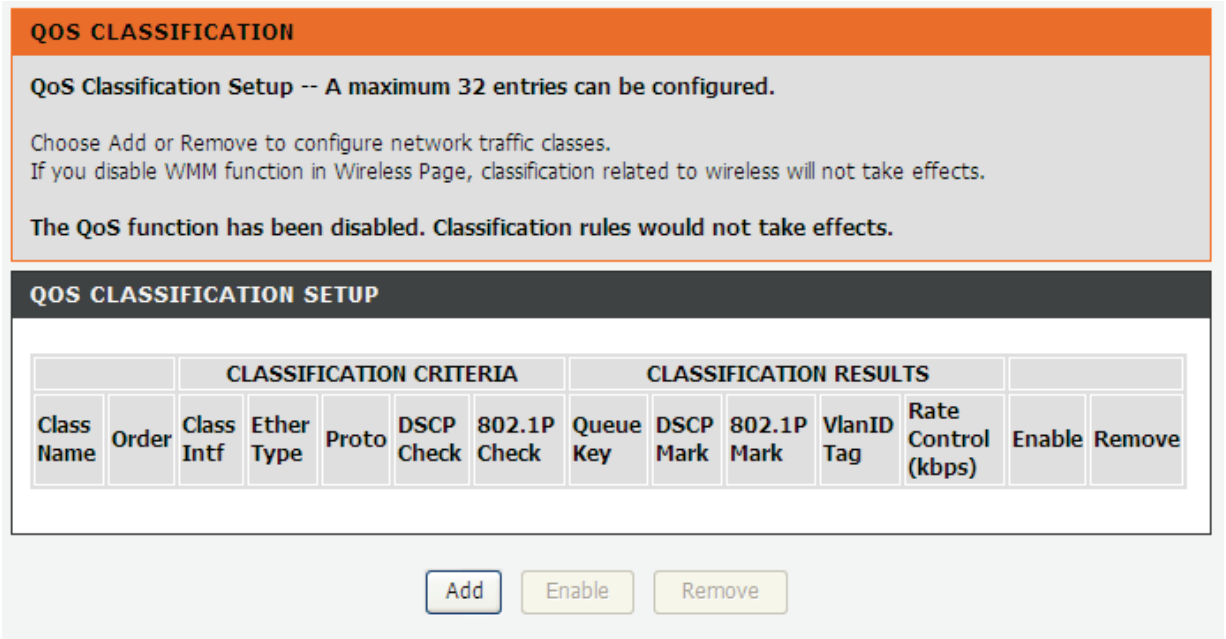
Click **Add**. The page shown in the following figure appears.



Click **Save/Apply** to save the settings.

4.3.11.5 QoS Classification

Choose **ADVANCED** > **Network Tools,** and click **QoS Classification**, the page shown in the following figure appears. This page allows you to config various classification.



Click **Add**. The page shown in the following figure appears.

QUALITY OF SERVICE

Add Network Traffic Class Rule

The screen creates a traffic class rule to classify the upstream traffic, assign queue which defines the precedence and the interface and optionally overwrite the IP header DSCP byte. A rule consists of a class name and at least one condition below. All of the specified conditions in this classification rule must be satisfied for the rule to take effect. Click 'Save/Apply' to save and activate the rule.

NETWORK TRAFFIC CLASS RULE

Traffic Class Name:	
Rule Order:	Last
Rule Status:	Disable

SPECIFY CLASSIFICATION CRITERIA

A blank criterion indicates it is not used for classification.

Class Interface:	LAN
Ether Type:	
Fixed Ether Type:	IP (0x800)
Source MAC Address:	
Source MAC Mask:	
Destination MAC Address:	
Destination MAC Mask:	
Source IP Address[/Mask]:	
Destination IP Address[/Mask]:	
Differentiated Service Code Point (DSCP) Check:	
Protocol:	
IpV6 Protocol:	
UDP/TCP Source Port (port or port:port):	
UDP/TCP Destination Port (port or port:port):	
802.1p Priority Check:	

SPECIFY CLASSIFICATION RESULTS

Must select a classification queue. A blank mark or tag value means no change.

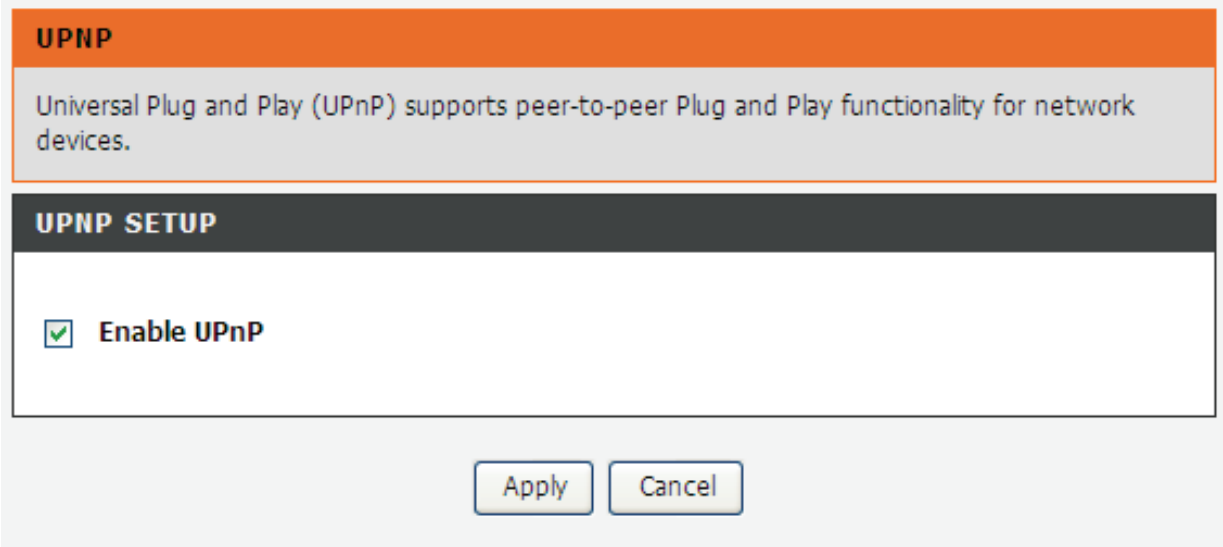
Assign Classification Queue:	
Mark Differentiated Service Code Point (DSCP):	
Mark 802.1p priority:	
Tag VLAN ID [0-4094]:	
Set Rate Control(kbps):	

Apply/Save Cancel

Figure 12

4.3.11.6 UPnP

Choose **ADVANCED** > **Network Tools** and click **UPnP**. The page shown in the following figure appears.



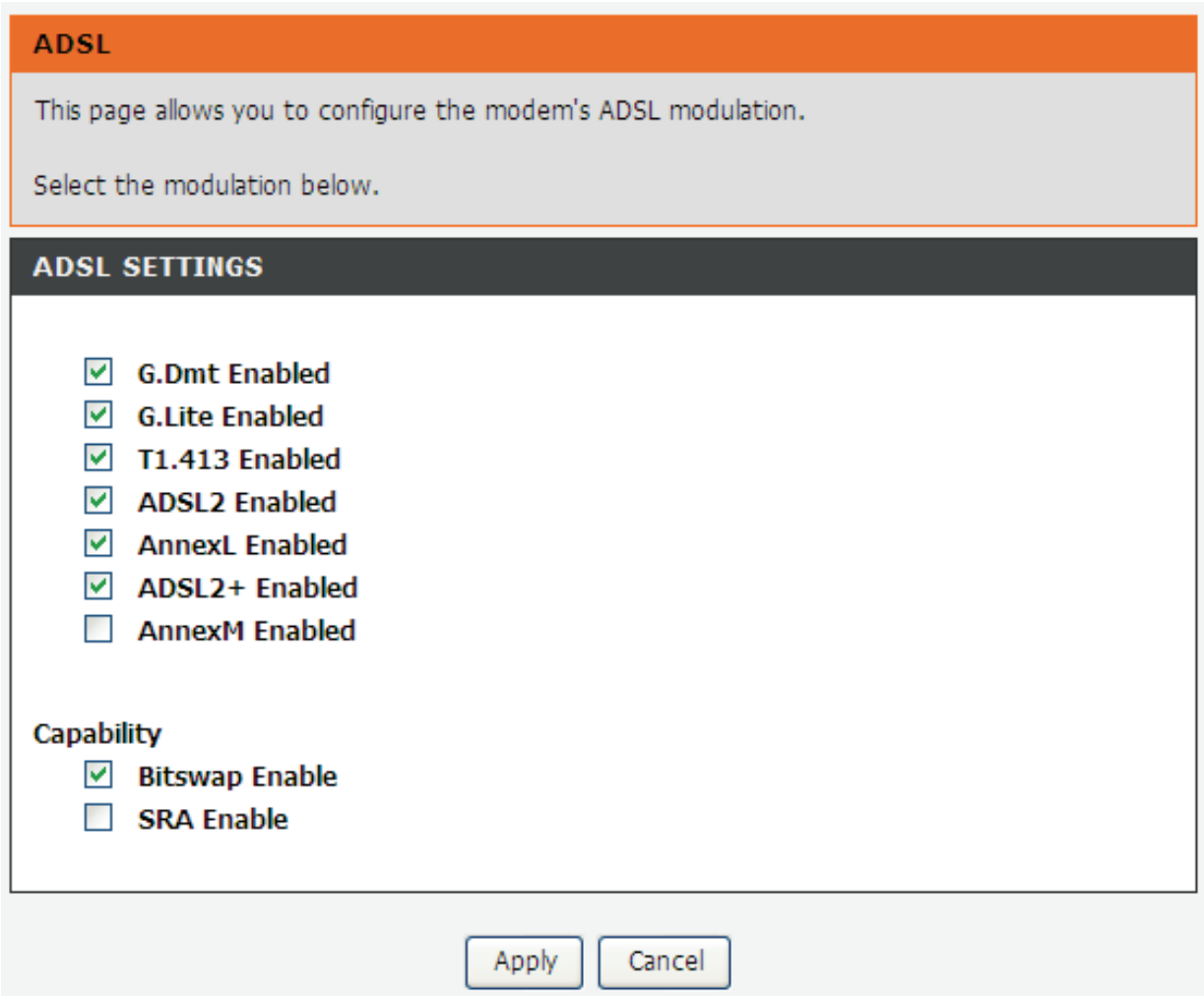
In this page, you can configure Universal Plug and Play (UPnP). The system acts as a daemon after you enable UPnP.

UPnP is used for popular audio visual software. It allows automatic discovery of your device in the network. If you are concerned about UPnP security, you can disable it. Block ICMP ping should be enabled so that the device does not respond to malicious Internet requests.

Click **Apply** to save the settings.

4.3.11.7 ADSL

Choose **ADVANCED** > **Network Tools** and click **ADSL Settings**. The page shown in the following figure appears.

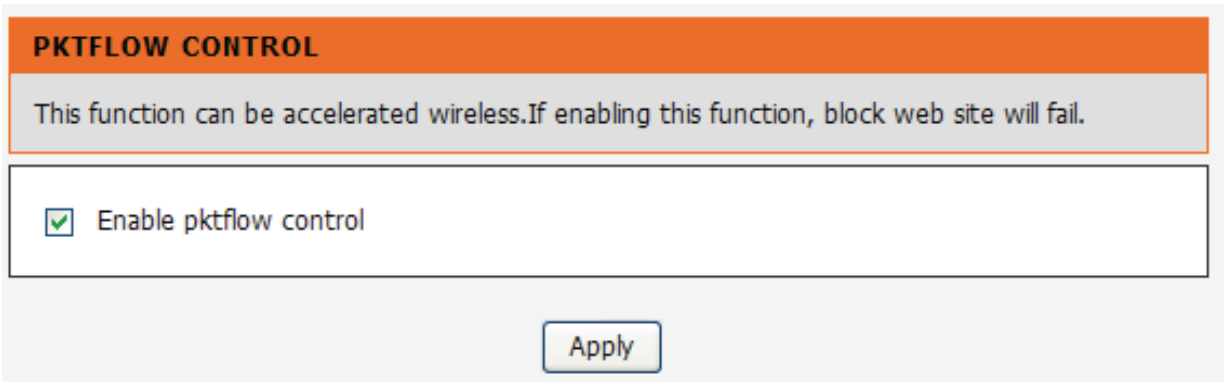


In this page, you can select the DSL modulation. Normally, you can keep the factory default setting. The device negotiates the modulation mode with the DSLAM.

Click **Apply** to save the settings.

4.3.11.8 PktFlow

Choose **ADVANCED** > **Network Tools** and click **PktFlow**. The page shown in the following figure appears.



4.3.11.9 TR-069

Choose **ADVANCED** > **Network Tools** and click **TR-069**. The page shown in the following figure appears. In this page, you can configure the TR-069 CPE.

Warning! Changing these settings will prevent Telkom from offering you remote support. It is recommended that these settings are not changed.

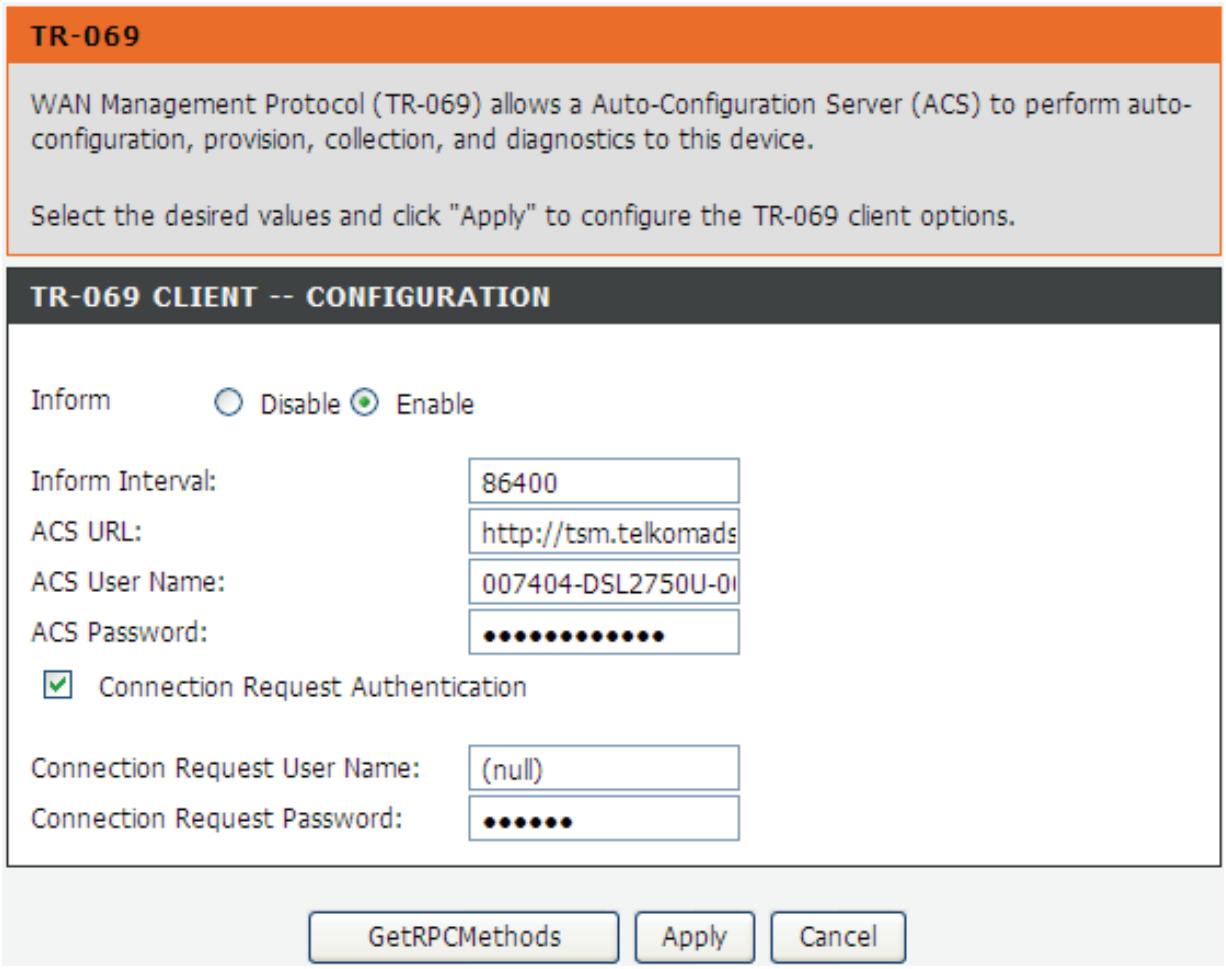


Figure 13

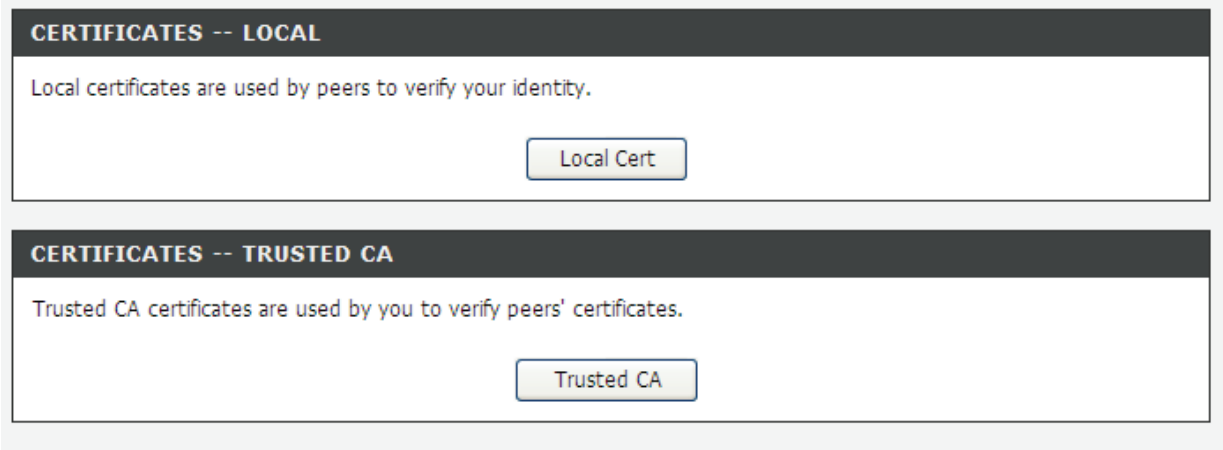
WAN Management Protocol (TR-069) allows an Auto-Configuration Server (ACS) to perform auto-configuration, provision, collection, and diagnostics to this device.

In this page, you may configure the parameters such as the ACS URL, ACS password, and connection request user name.

After finishing setting, click **Apply** to save and apply the settings.

4.3.11.10 Certificates

Choose **ADVANCED** > **Network Tools** and click **Certificates**. The **Certificates** page shown in the following figure appears. In this page, you can configure local certificate and trusted certificate.



4.3.12 Routing

Choose **ADVANCED** > **Routing**. The page shown in the following figure appears.

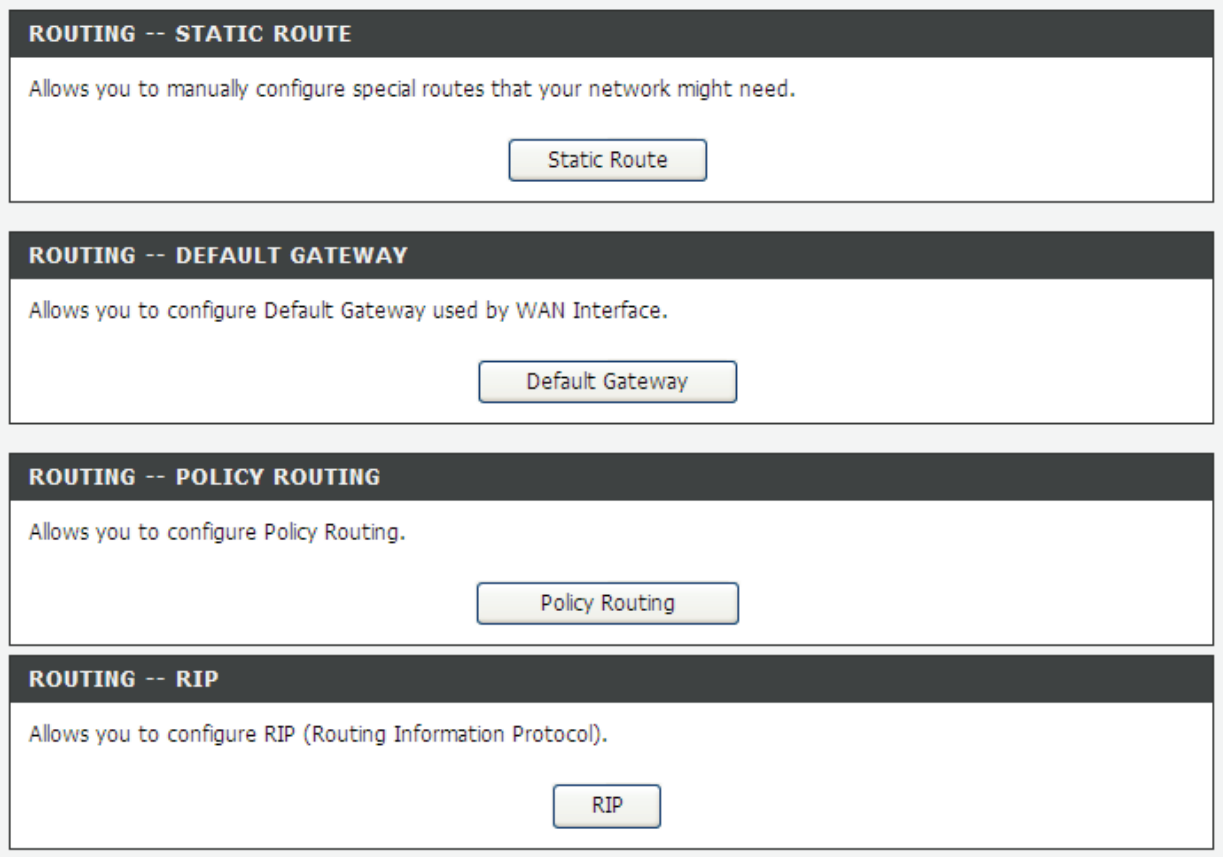
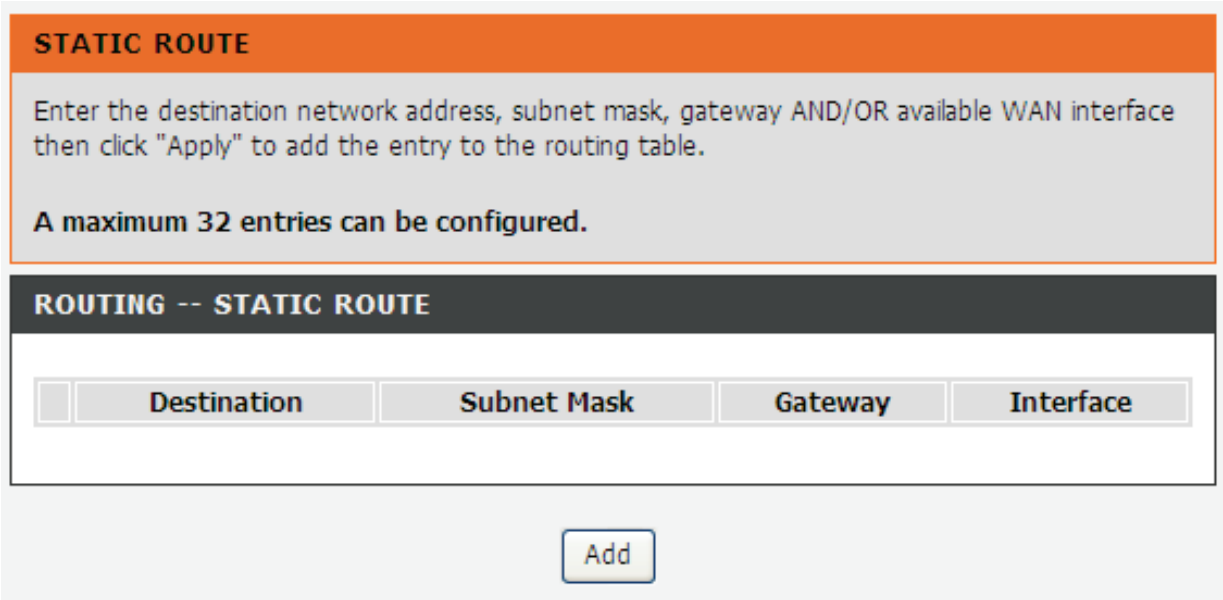


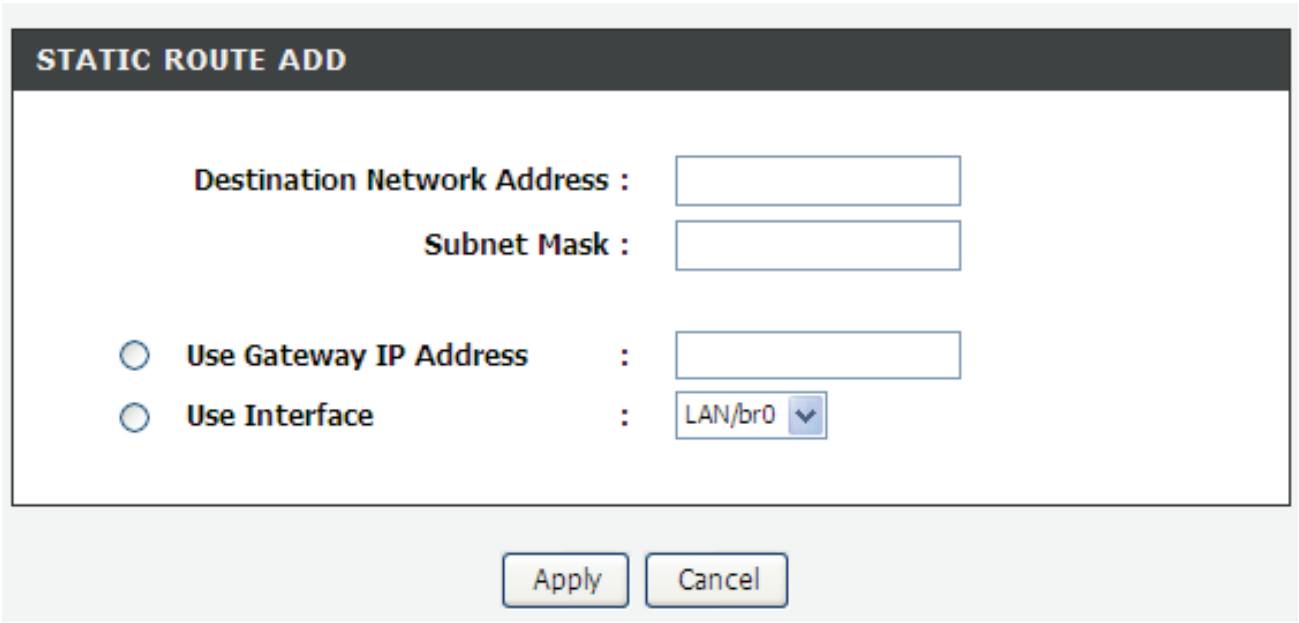
Figure 14

4.3.12.1 Static Route

Choose **ADVANCED** > **Routing** and click **Static Route**. The page shown in the following figure appears. This page is used to configure the routing information. In this page, you can add or delete IP routes.



Click **Add** to add a static route. The page shown in the following figure appears.



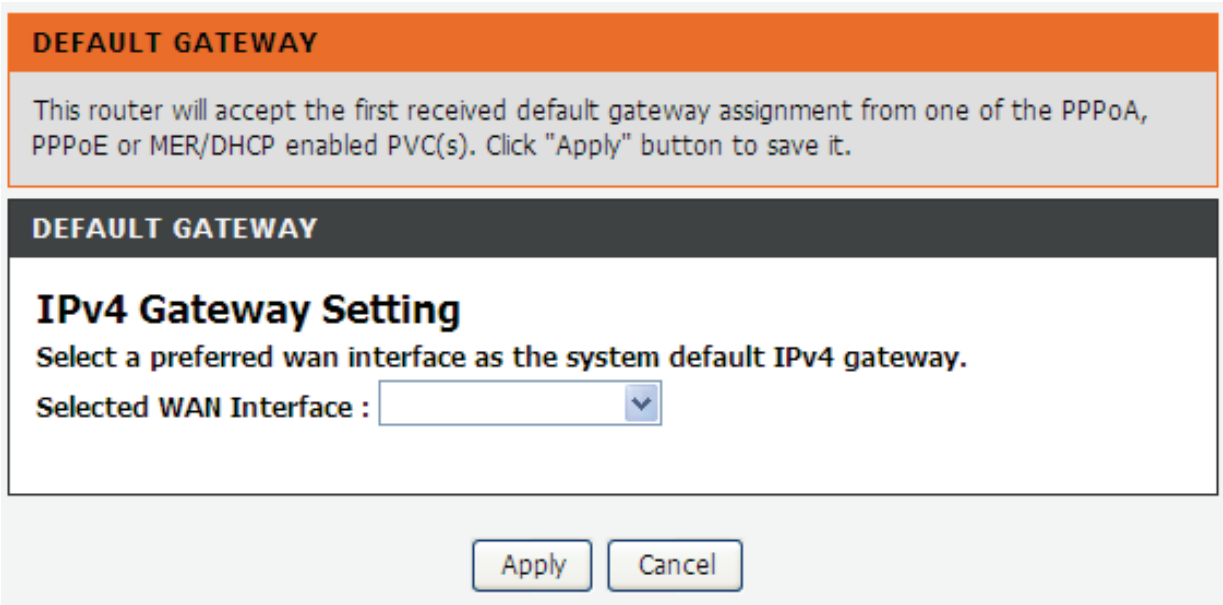
- **Destination Network Address**: The destination IP address of the router.
- **Subnet Mask**: The subnet mask of the destination IP address.
- **Use Gateway IP Address**: The gateway IP address of the router.
- **Use Interface**: The interface name of the router output port.

You can click **Use Gateway IP Address** or **Use Interface**.

Click **Apply** to save the settings.

4.3.12.2 Default Gateway

Choose **ADVANCED** > **Routing** and click **Default Gateway**. The page shown in the following figure appears.

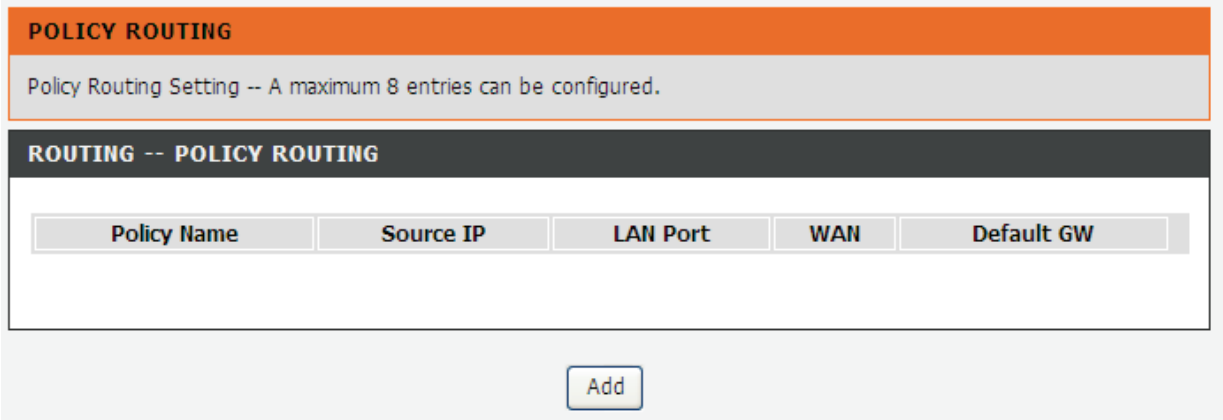


Select the WAN interface as your default gateway. Click **Apply** to save the settings.

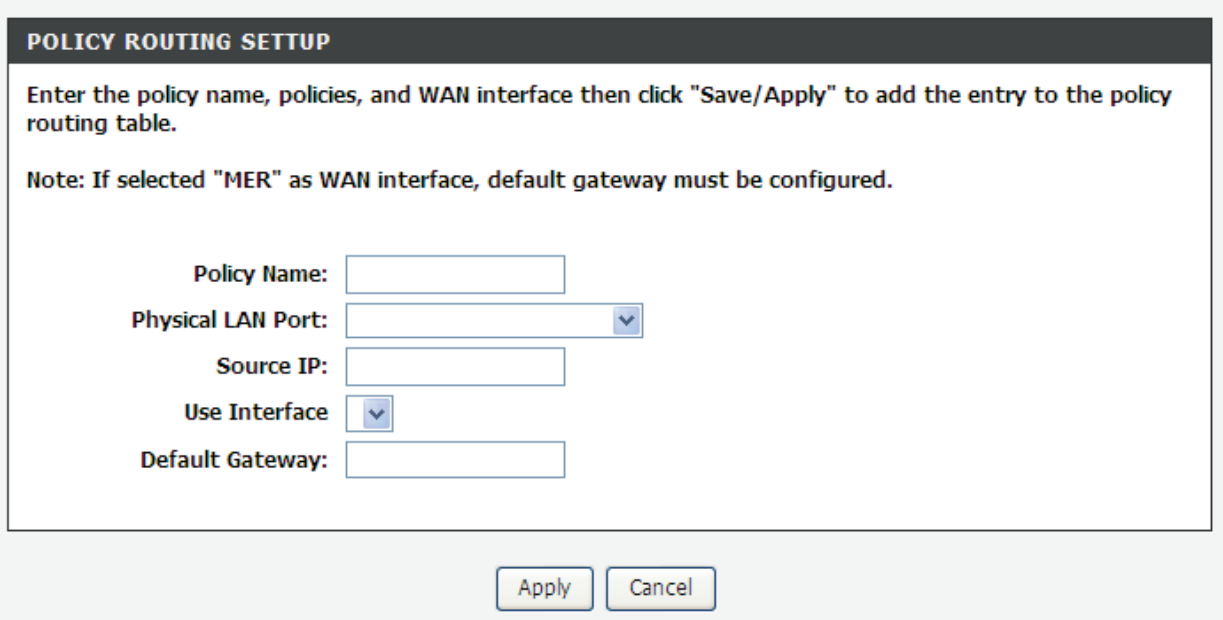
4.3.12.3 Policy Routing

Choose **ADVANCED** > **Routing** and click **policy Routing**. The page shown in the following figure appears.

The policy route binds one WAN connection and one LAN interface.



Click **Add**, the page shown in the following figure appears.



4.3.12.4 RIP

Choose **ADVANCED** > **Routing** and click **RIP**. The page shown in the following figure appears. This page is used to select the interfaces on your device that use RIP and the version of the protocol used.

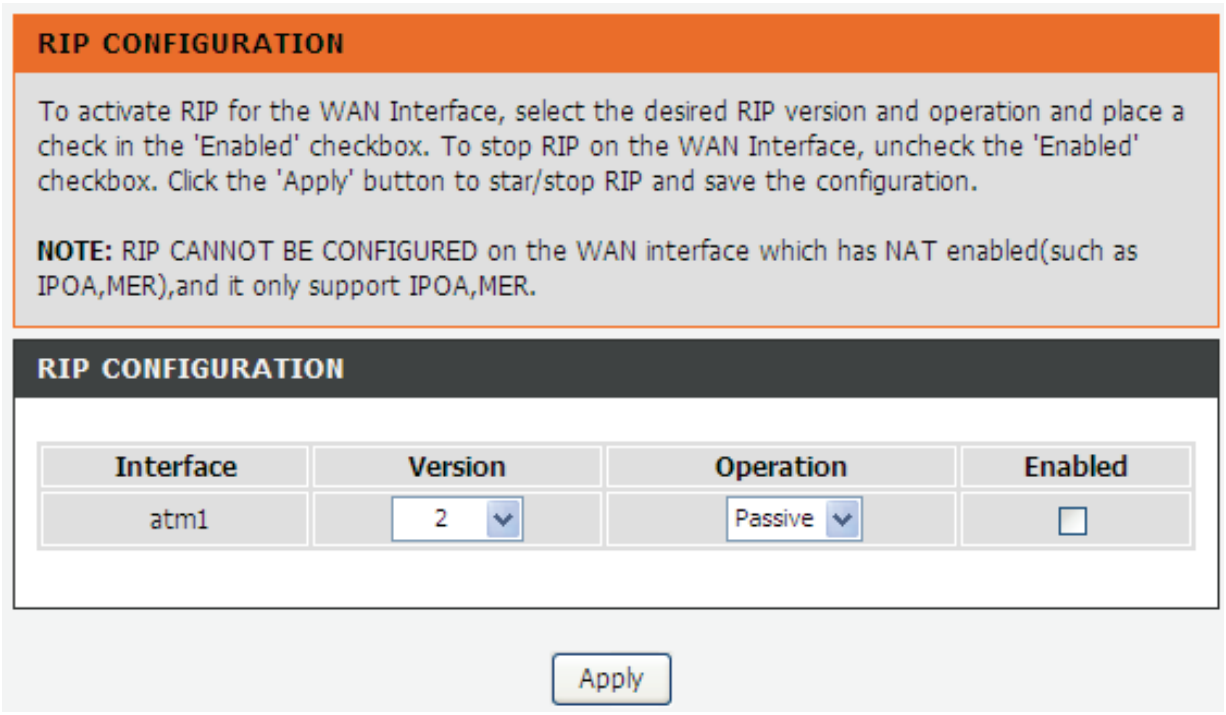
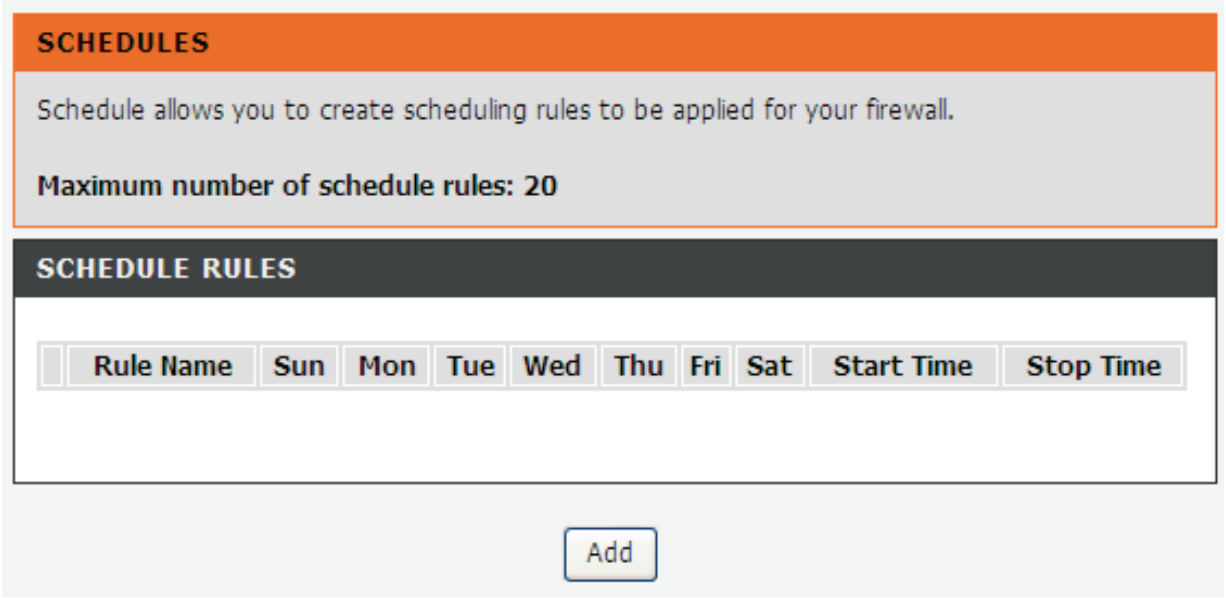


Figure 15

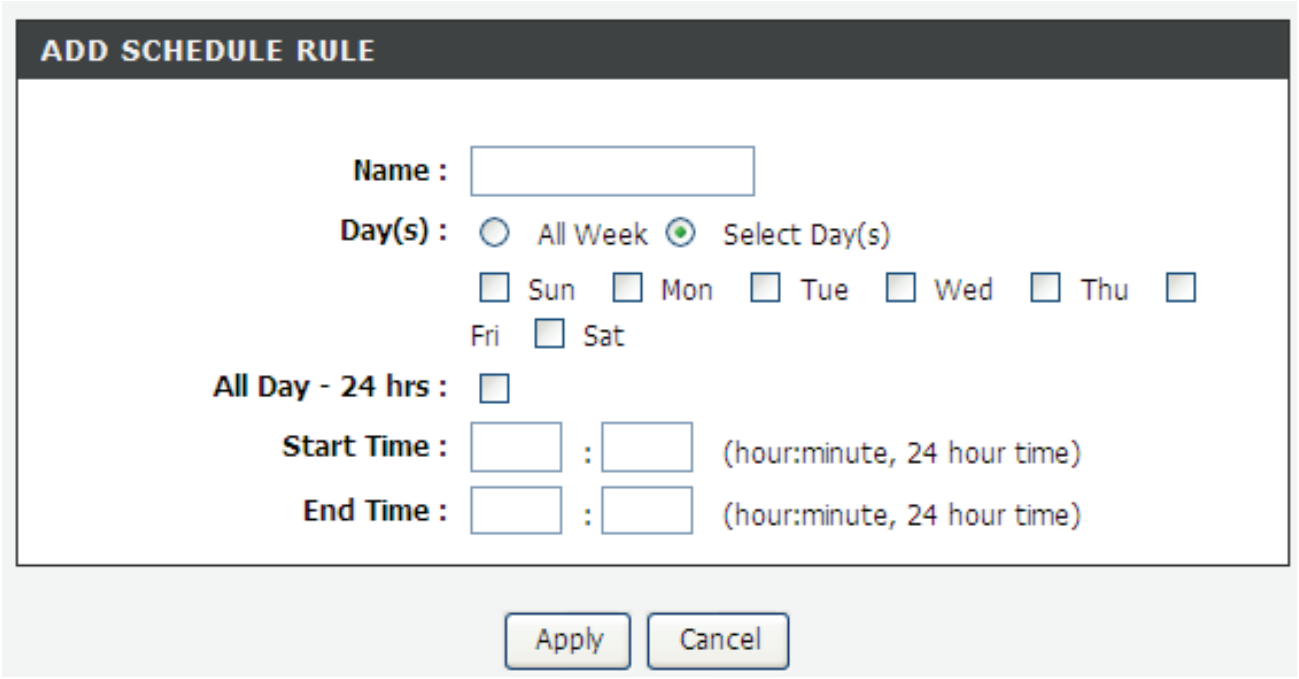
If you are using this device as a RIP-enabled device to communicate with others using the routing information protocol, enable RIP and click **Apply** to save the settings.

4.3.13 Schedules

Choose **ADVANCED** > **Schedules**. The page shown in the following figure appears.



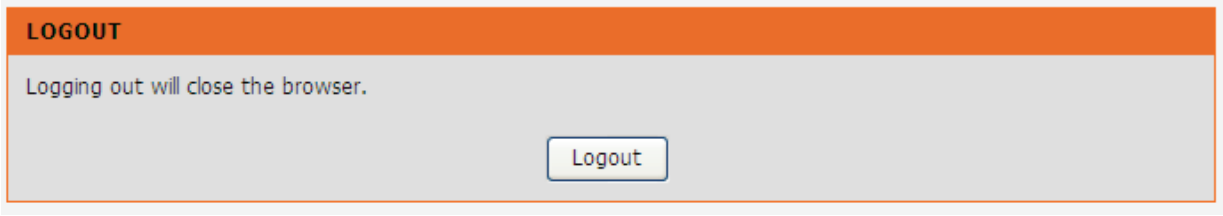
Click **Add** to add schedule rule. The page shown in the following figure appears.



Click **Apply** to save the settings.

4.3.14 Logout

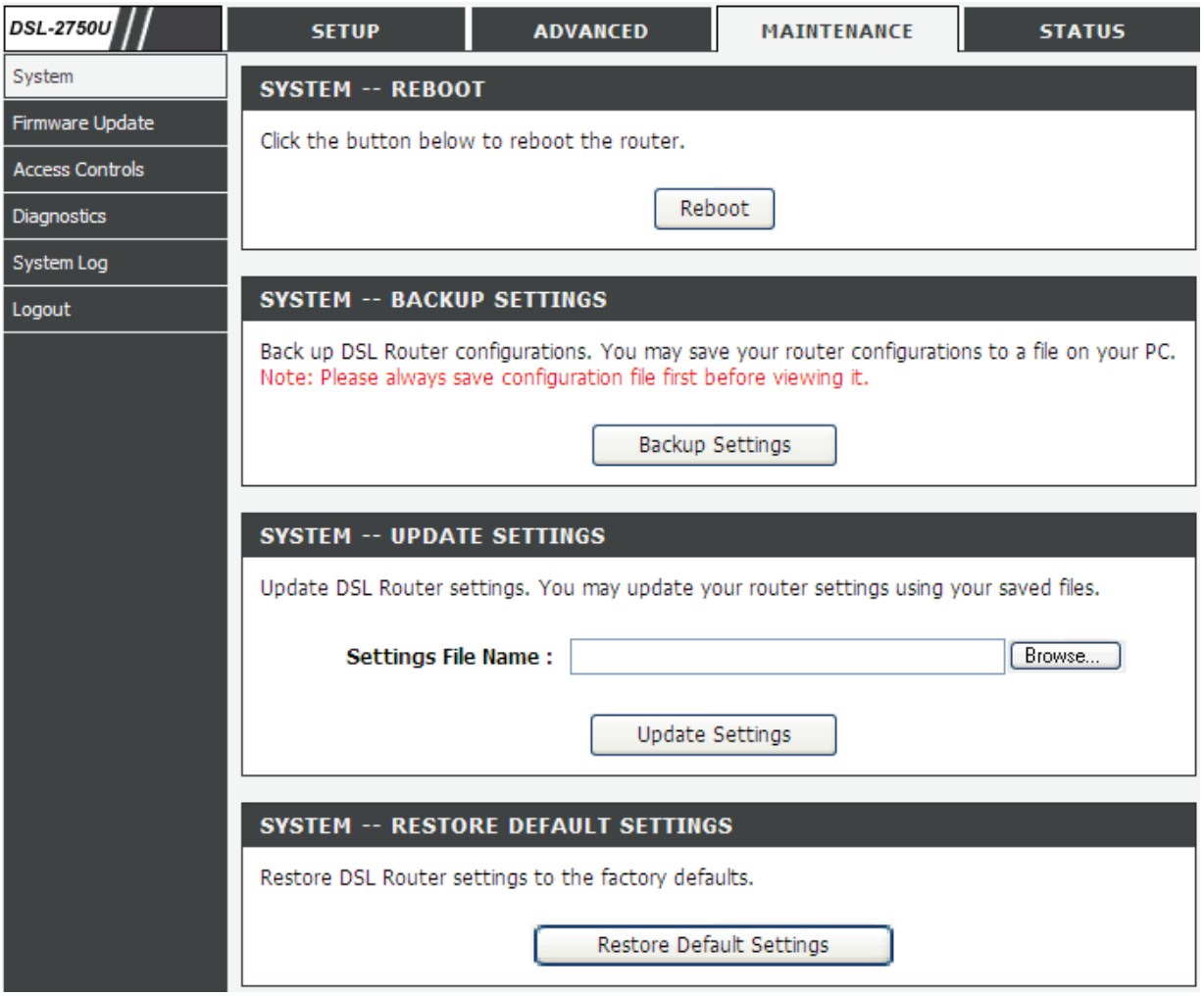
Choose **ADVANCED** > **Logout**. The page shown in the following figure appears. In this page, you can log out of the configuration page.



4.4 Maintenance

4.4.1 System

Choose **MAINTENANCE** > **System**. The **System** page shown in the following figure appears.



In this page, you can reboot the device, back up the current settings to a file, restore the settings from the file saved previously, and restore the factory default settings.

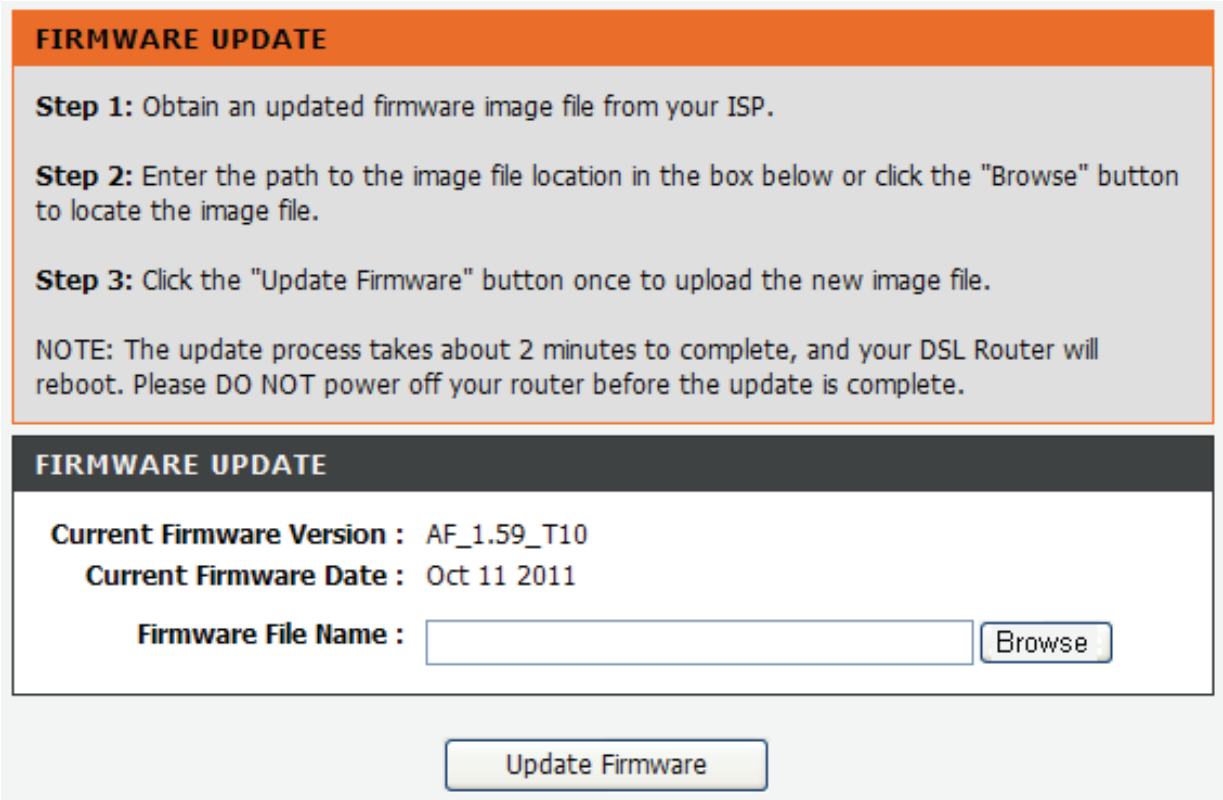
The buttons in this page are described as follows:

- **Reboot**: Reboot the device.
- **Backup Settings**: Save the settings to the local hard drive. Select a location on your computer to back up the file. You can name the configuration file.
- **Update settings**: Click **Browse** to select the configuration file of device and click **Update Settings** to begin restoring the device configuration.
- **Restore Default Settings**: Reset the device to default settings.

***Notice**: Do not turn off your device or press the **Reset** button while an operation in this page is in progress.*

4.4.2 Firmware Update

Choose **MAINTENANCE** > **Firmware Update**. The page shown in the following figure appears. In this page, you can upgrade the firmware of the device.



The procedure for updating the firmware is as follows:

Step 1 Click **Browse…** to search the file.

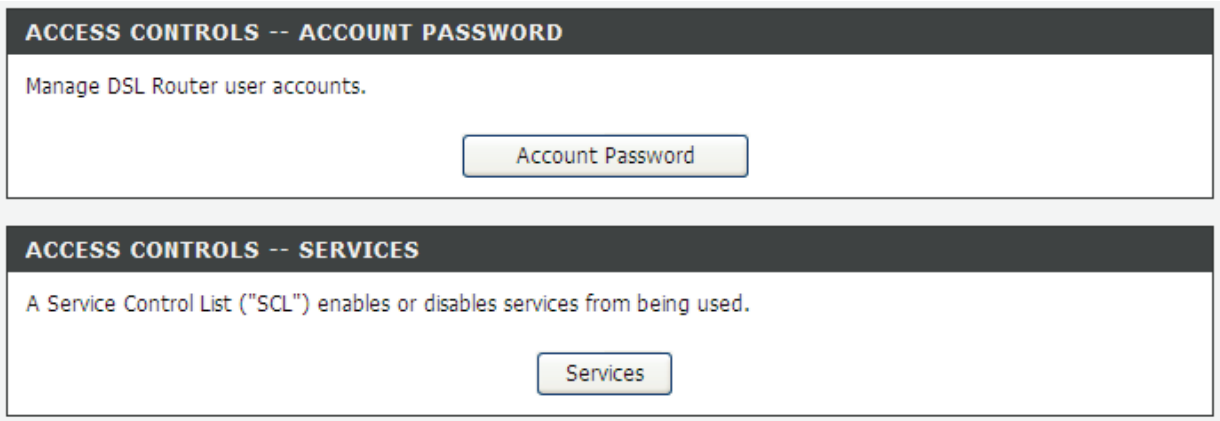
Step 2 Click **Update Firmware** to update the configuration file.

The device loads the file and reboots automatically.

***Notice**: Do not turn off your device or press the reset button while this procedure is in progress.*

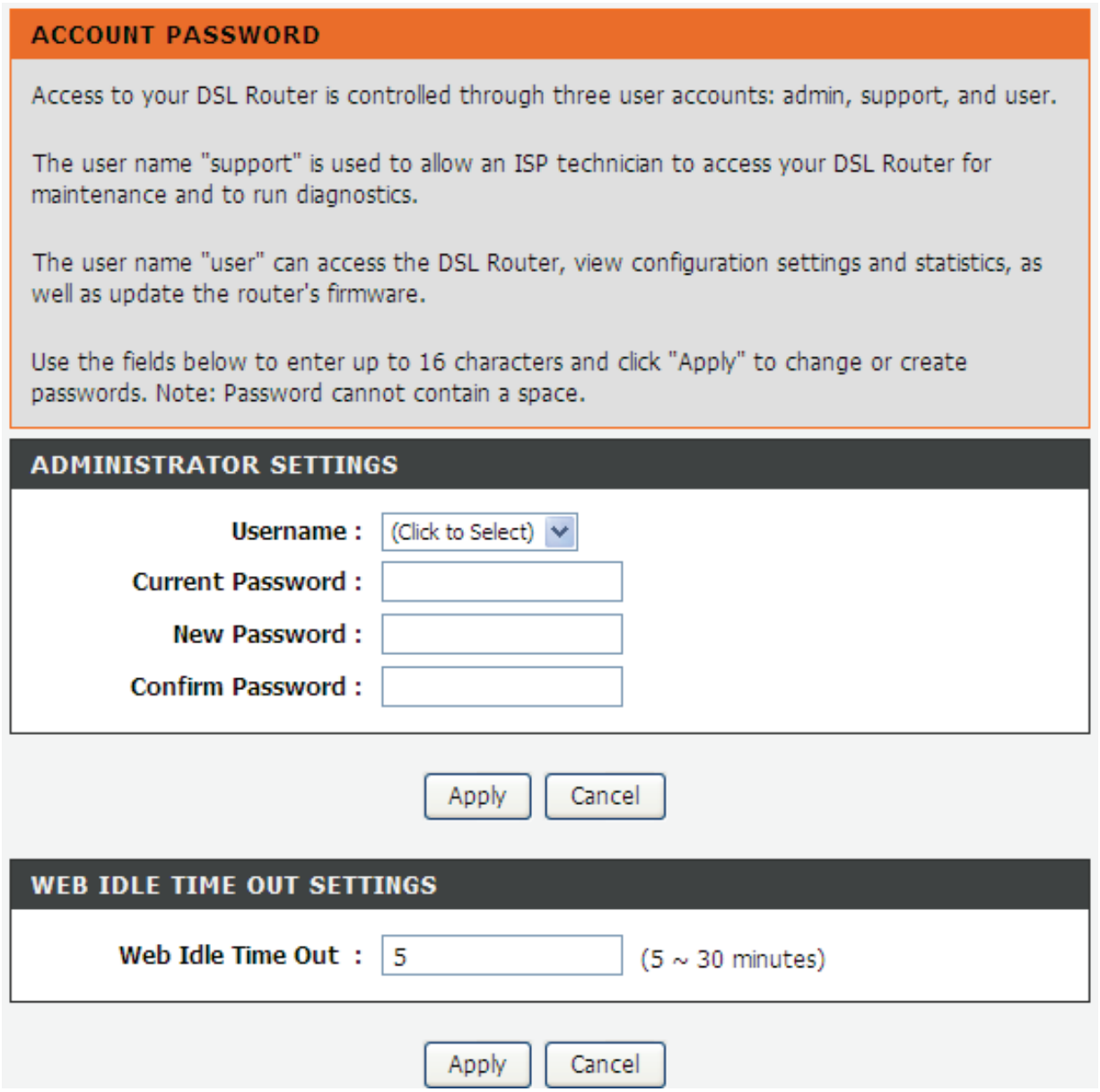
4.4.3 Access Controls

Choose **MAINTENANCE** > **Access Controls**. The **Access Controls** page shown in the following figure appears. This page contains **Account Password** and **Services**.



4.4.3.1 Account Password

In the **Access Controls** page, click **Account Password**. The page shown in the following figure appears. In this page, you can change the password of the user and set time for automatic logout.



You should change the default password to secure your network. Ensure that you remember the new password or write it down and keep it in a safe and separate location for future reference. If you forget the password, you need to reset the device to the factory default settings and all configuration settings of the device are lost.

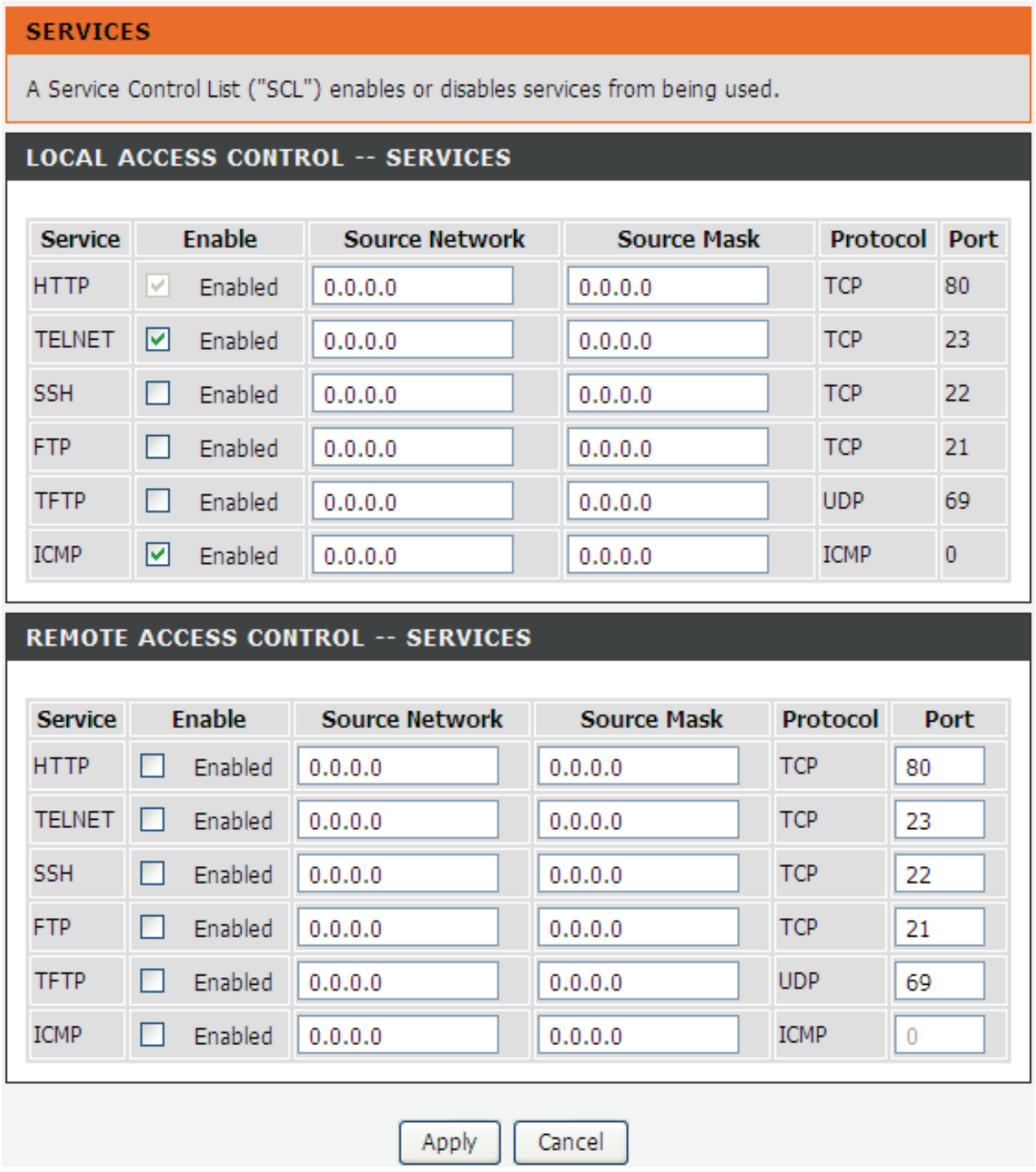
Select the **Username** from the drop-down list. You can select **admin**, **support**, or **user**.

Enter the current and new passwords and confirm the new password, to change the password.

Click **Apply** to apply the settings.

4.4.3.2 Services

In the **Access Controls** page, click **Services**. The page shown in the following figure appears.



In this page, you can enable or disable the services that are used by the remote host. For example, if the telnet service is enabled and the port is 23, the remote host can access the device by telnet through port 23. Normally, you don't need to change the settings.

Select the management services that you want to enable or disable on the LAN or WAN interface.

Click **Apply** to apply the settings.

Note:

If you disable HTTP service, you cannot access the configuration page of the device any more.

4.4.4 Diagnostics

Choose **MAINTENANCE** > **Diagnostic**. The page shown in the following figure appears. In this page, you can test the device.

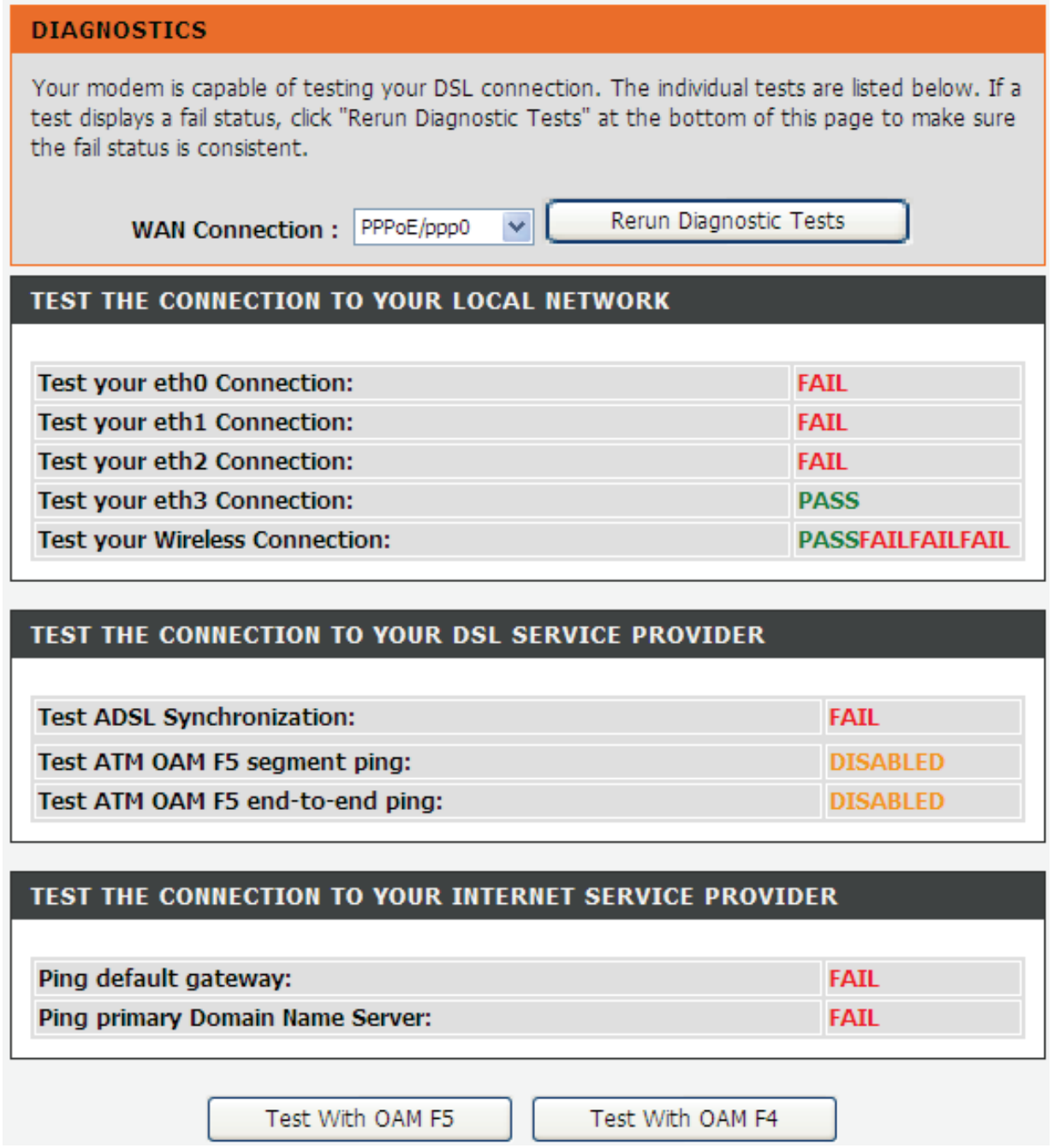
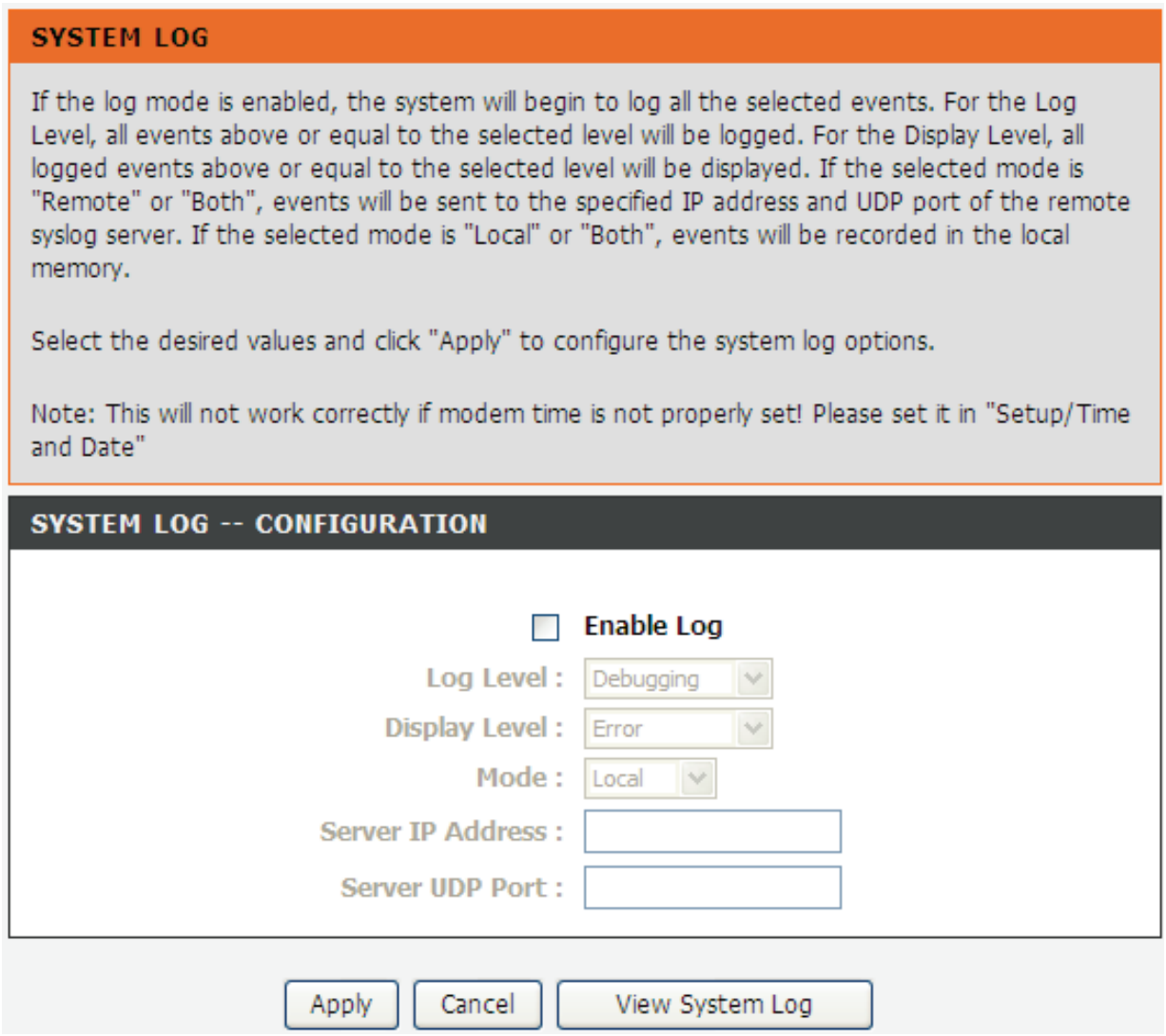


Figure 16

This page is used to test the connection to your local network, the connection to your DSL service provider, and the connection to your Internet Service Provider. Click **Rerun Diagnostics Test** to run diagnostics.

4.4.5 System Log

Choose **MAINTENANCE** > **System Log**. The **System Log** page shown in the following figure appears.



This page displays event log data in a chronological manner. You can read the event log from the local host or send it to a system log server. Available event severity levels are as follows: **Emergency**, **Alert**, **Critical**, **Error**, **Warning**, **Notice**, **Informational** and **Debugging**. In this page, you can enable or disable the system log function.

The procedure for logging the events is as follows:

Step 1 Select **Enable Log** check box.

Step 2 Select the display mode from the **Mode** drop-down list.

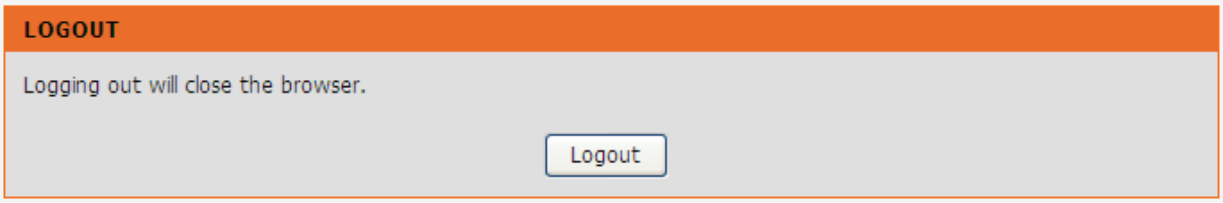
Step 3 Enter the **Server IP Address** and **Server UDP Port** if the **Mode** is set to **Both** or **Remote**.

Step 4 Click **Apply** to apply the settings.

Step 5 Click **View System Log** to view detailed information from the system log.

4.4.6 Logout

Choose **MAINTENANCE** > **Logout**. The page shown in the following figure appears. In this page, you can log out of the configuration page.

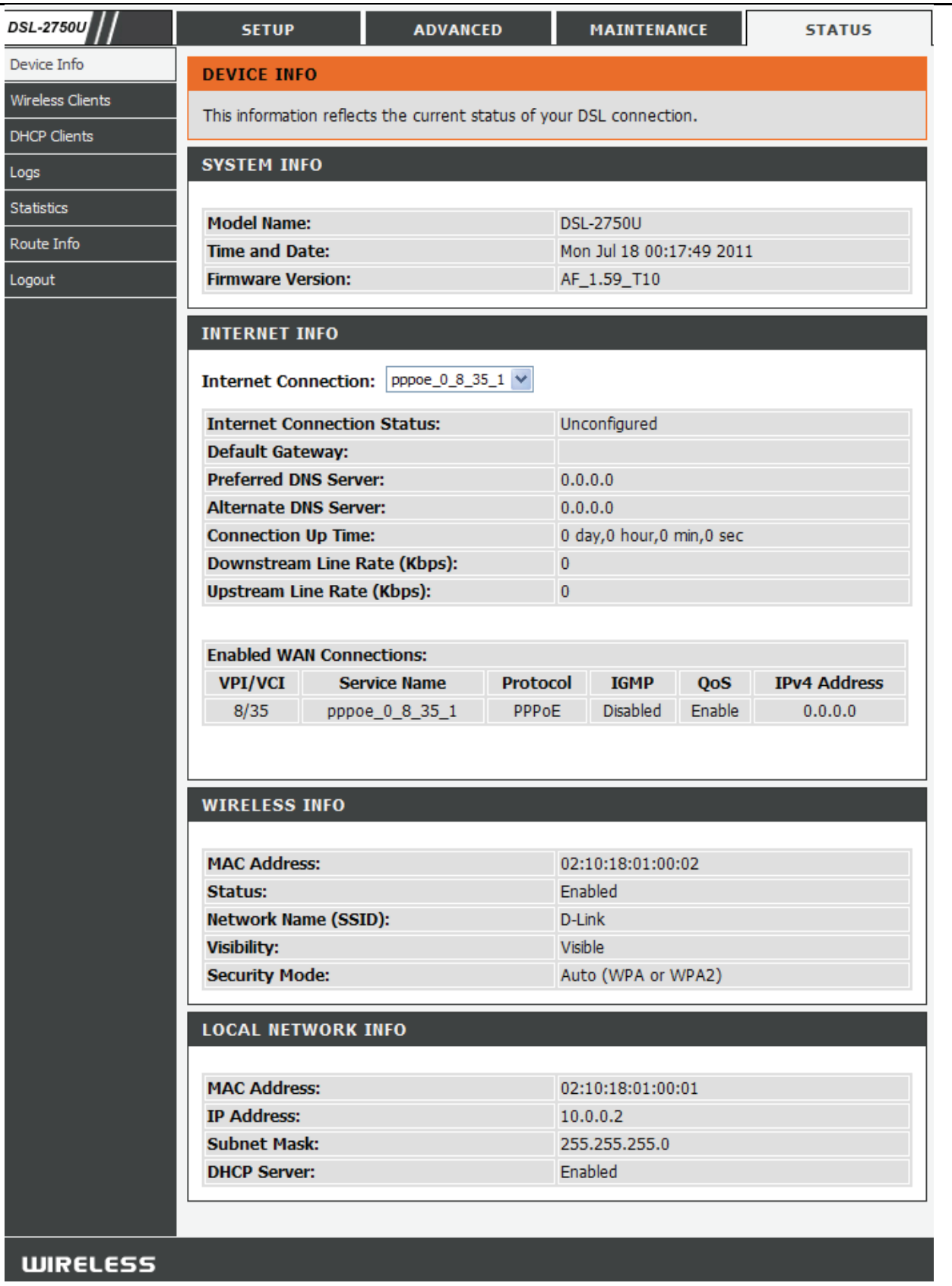


4.5 Status

You can view the system information and monitor performance.

4.5.1 Device Info

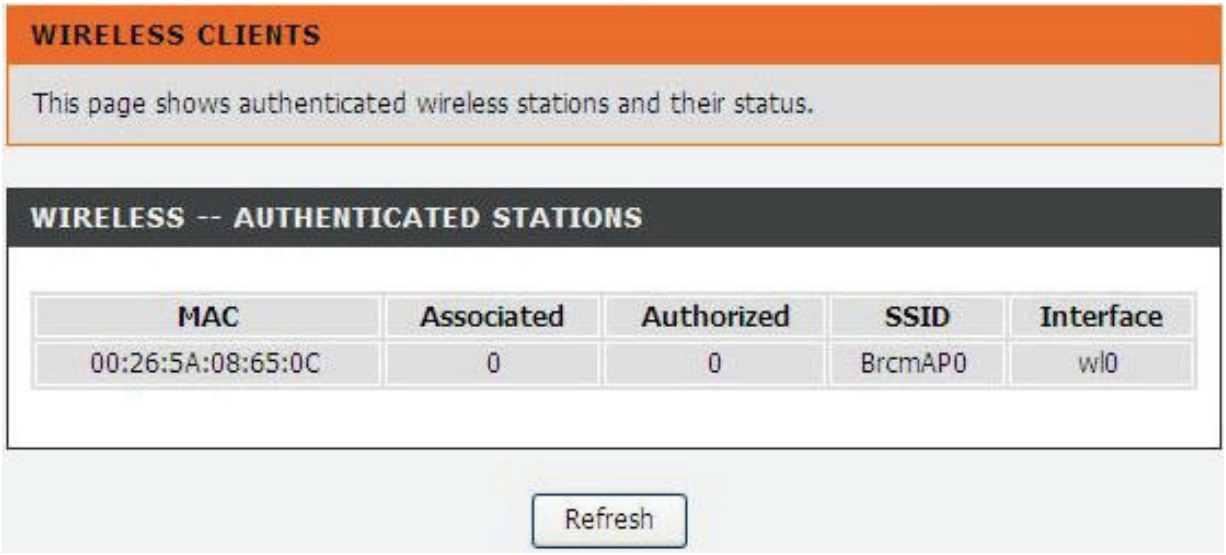
Choose **STATUS** > **Device Info**. The page shown in the following figure appears.



The page displays the summary of the device status, including the system information, Internet information, wireless information and local network information.

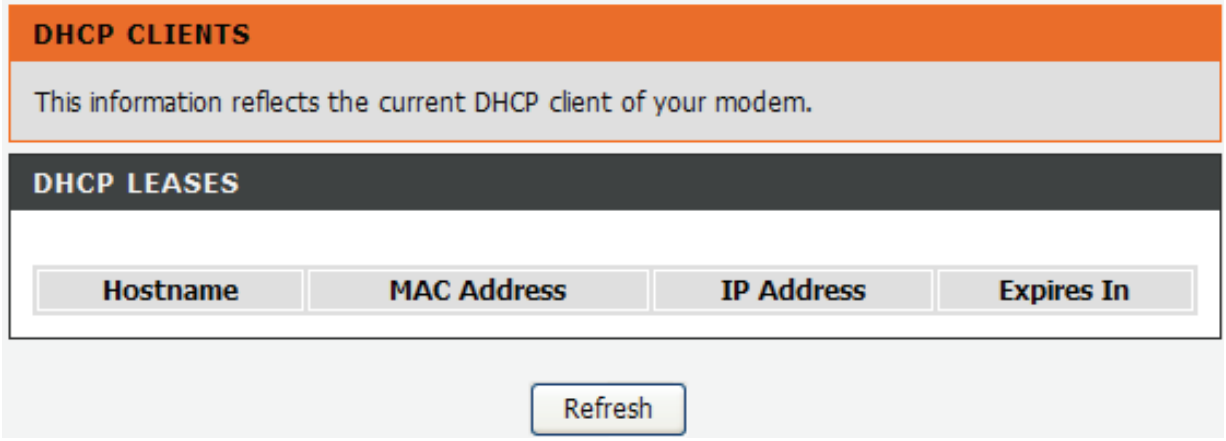
4.5.2 Wireless Clients

Choose **STATUS** > **Wireless Clients**. The page shown in the following figure appears. The page displays authenticated wireless stations and their statuses.



4.5.3 DHCP Clients

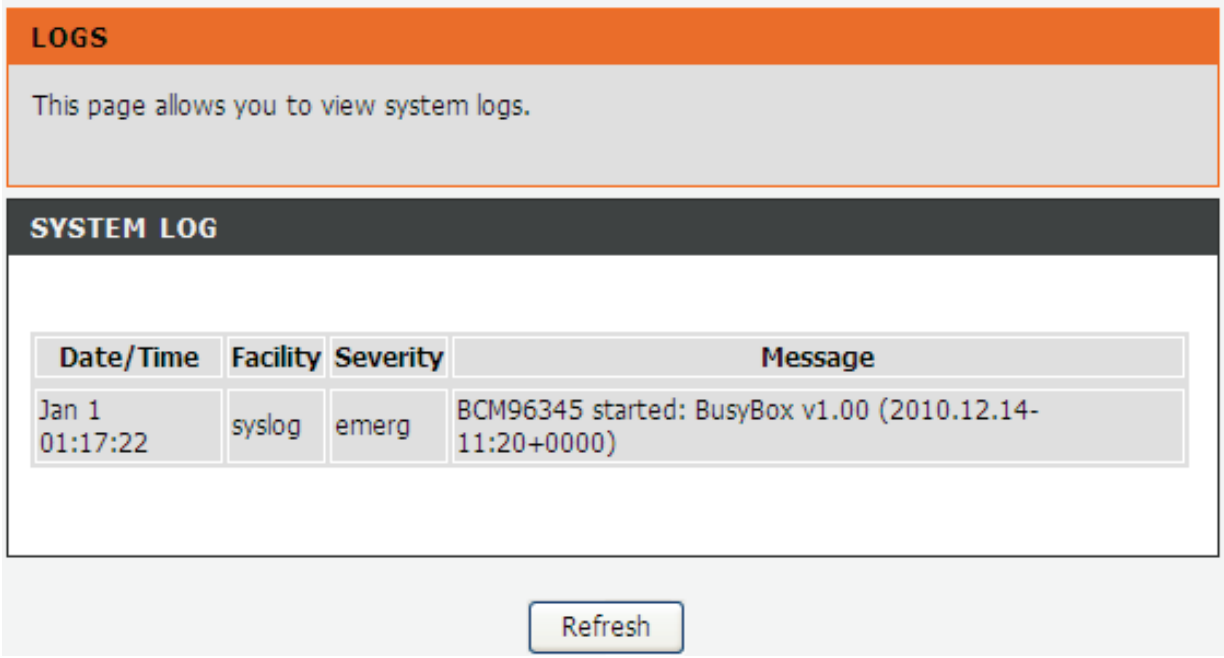
Choose **STATUS** > **DHCP Clients**. The page shown in the following page appears.



This page displays all client devices that obtain IP addresses from the device. You can view the host name, IP address, MAC address and time expired(s).

4.5.4 Logs

Choose **STATUS** > **Logs**. The page shown in the following figure appears.



This page lists the system log. Click **Refresh** to refresh the system log shown in the table.

4.5.5 Statistics

Choose **STATUS** > **Statistics**. The page shown in the following figure appears.

STATISTICS

This information reflects the current status of your DSL connection.

LOCAL NETWORK & WIRELESS

Interface	Received				Transmitted			
	Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
eth0	0	0	0	0	0	0	0	0
eth1	0	0	0	0	0	0	0	0
eth2	0	0	0	0	0	0	0	0
eth3	855469	9293	0	0	11675293	12201	0	0
wl0	0	0	0	0	0	0	1	0

INTERNET

Service	VPI/VCI	Protocol	Received				Transmitted			
			Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
pppoe_0_8_35	8/35	PPPoE	0	0	0	0	0	0	0	0
mobile										

ADSL

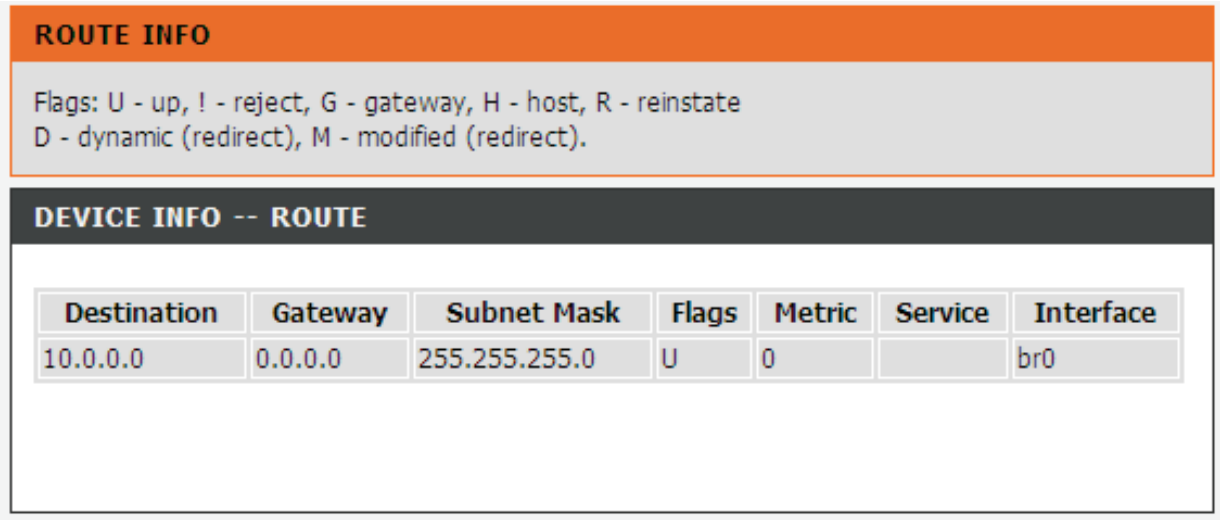
Mode:		
Type:		
Status:		Down
	Downstream	Upstream
Line Coding(Trellis):		
SNR Margin (dB):		
Attenuation (dB):		
Output Power (dBm):		
Attainable Rate (Kbps):		
Rate (Kbps):		
D (interleaver depth):		
Delay (msec):		
HEC Errors:		
OCD Errors:		
LCD Errors:		
Total ES:		

ADSL BER Test | Reset Statistics

This page displays the statistics of the network and data transfer. This information helps technicians to identify if the device is functioning properly. The information does not affect the function of the device.

4.5.6 Route info

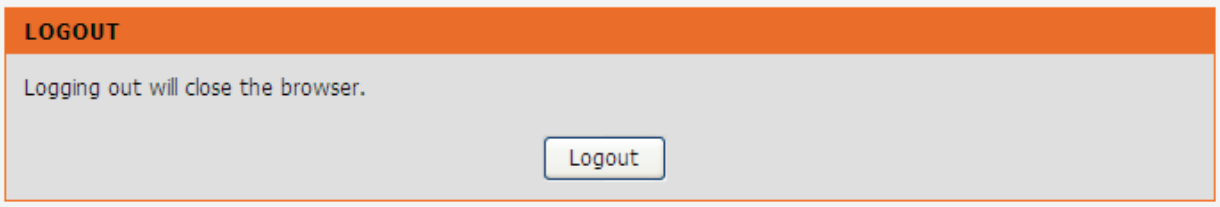
Choose **STATUS** > **Route Info**. The page shown in the following figure appears.



The table shows a list of destination routes commonly accessed by the network.

4.5.7 Logout

Choose **STATUS** > **Logout**. The page shown in the following figure appears. In this page, you can log out of the configuration page.



5 FAQs

Question	Answer
Why are all the indicators off?	● Check the connection between the power adapter and the power socket. ● Check whether the power switch is turned on.
Why is the LAN indicator not on?	Check the following: ● The connection between the device and the PC, the hub, or the switch. ● The running status of the computer, hub, or switch. ● The cables that connects the device and other devices: – If the device connects to a computer, use the cross over cable. – If the device connects to a hub or a switch, use the straight-through cable.
Why is the DSL indicator not on?	Check the connection between the **DSL** interface of the device and the socket.
Why does the Internet access fail when the DSL indicator is on?	Ensure that the following information is entered correctly: ● User name and password
Why does the web configuration page of the device fail to be accessed?	Choose **start** > **Run** from the desktop. Enter **Ping 10.0.0.2** (the default IP address of the device) in the DOS window. If the web configuration page still cannot be accessed, check the following configuration: ● The type of the network cable ● The connection between the device and the computer ● The TCP/IP properties of the network card of the computer
How to restore the default configuration	Keep the device powered on and press the **RESET** button for 1 second. Then, the device automatically

Question	Answer
after incorrect configuration?	reboots and is restored to the factory default configuration. The default configuration of the device is as follows: ● IP address: 10.0.0.2 ● Subnet mask: 255.255.255.0. ● User name and password: admin/admin

6 Support

ADSL Support:

Telephone: 10210

Operatong Hours: Mon – Fri / 06h00 – 21h00,

Weekends/ 06h00 – 20h00

Router Support:

Telephone: 0860 343578 (0860 2 HELP U)

Operating Hours: Mon – Fri / 08h00 – 16h30

The Router and Power Supply/Lightning Protection Units are not themselves guaranteed against lightning or power surges.