Tenda

User Guide

www.tendacn.com

Wireless N300 ADSL2+ High Power Modem Router

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Chapter 1 Get to Know Your Router

1.1 What it does

The Wireless N300 ADSL2+ High Power Modem Router provides you with an easy and secure way to set up a wireless home network with fast access to the Internet over a high-speed digital subscriber line (DSL). Complete with a built-in ADSL modem, it is compatible with all major ADSL Internet service providers. It offers wireless speeds of up to 300Mbps needed for demanding applications, such as large file transfers, streaming HD video, and multiplayer gaming. The unit comes with a wide range of premium features and applications such as IPv6, SNMP, Multicast, IP tunnel, ready share USB, IPTV service and parental controls, etc. Plus, with the router, you can access the Internet via the ATM interface or Ethernet interface.

1.2 Product Features

Wireless N speeds up to 300 Mbps for streaming HD videos and online gaming in addition to basic Internet applications

All-in-one device combines a built-in ADSL2+ modem, wired router, wireless router and switch

Sharable USB lets you access and share files on an attached USB hard drive

Sharable Printer lets you print from your Windows computer to a connected USB printer

Advanced QoS helps prioritize media streaming and gaming applications for best entertainment experience

Parental Control keeps your kids Internet experience safe using flexible and customizable filter settings

One-touch WPS ensures a quick and secure network connection

WEP and WPA/WPA2 are supported for advanced encryptions

Compatibility: Works with all major ADSL Internet service providers (ISPs); backward compatible with 802.11b/g WiFi devices

Interchangeable LAN/WAN ports to schedule the Ethernet port to function either as a LAN or a WAN port

Interchangeable LAN/IPTV to schedule the Ethernet port to function either as a LAN or an IPTV port

Optional Ethernet and ADSL Uplinks: Access the Internet via ADSL2+ Broadband Internet Service or an interchangeable LAN/WAN RJ45 port

Multiple Internet Connection Types: Bridging, PPPoE, IPoE, PPPoA, IPoA, dynamic IP and static IP

IPTV Service lets your surf the Internet while watching online TV

6000V lightning－proof design fits into lightning-intensive environment

Strong driving capability up to 6.5Km transmission distance

High ADSL speed up to 24Mbps downstream 1Mbps upstream

Built-in firewall prevents hacker attacks

Channel auto-select for optimum performance

FDM technology enables telephoning, faxing and surfing activities to proceed simultaneously without mutual interference

Other Advanced Features: IPv6, DDNS, virtual server, DMZ, port triggering, IP filter, MAC filter and UPnP, etc.

Tenda Setup Wizard for easy and fast installation and configuration

Tenda Green: Use hardware Power On/Off and software WiFi On/Off buttons to turn on and off power and WiFi to save energy when not in use

1.3 Package Contents

Your box should contain the following items:

- Wireless N300 ADSL2+ High Power Modem Router
- Telephone Line
- Ethernet Cable
- ADSL Splitter
- Install Guide
- Power Adapter
- Resource CD

If any of the parts are incorrect, missing, or damaged, keep the carton, including the original packing materials and contact the dealer for immediate replacement.

Chapter 2 Hardware Install

If you have not set up your new router using the Install Guide that comes in the box, this chapter walks you through the hardware install. To set up your Internet connection, see Chapter 3 Quick Internet Setup.

2.1 LED Indicators, Buttons and Interfaces

Front Panel

LED	Status	Description
PWR	Solid	Power is supplied to the device.
	Off	Power is not supplied to the device.
SYS	Blinking	System is functioning correctly.
	Solid/Off	System is functioning incorrectly.
WLAN	Blinking	Transmitting data via wireless
	Off	Wireless is disabled.
	Solid	Wireless is enabled.
DSL	Slow Blinking	Physical connection failure.
	Fast Blinking	Synchronizing...
	Solid	ADSL connection is established.

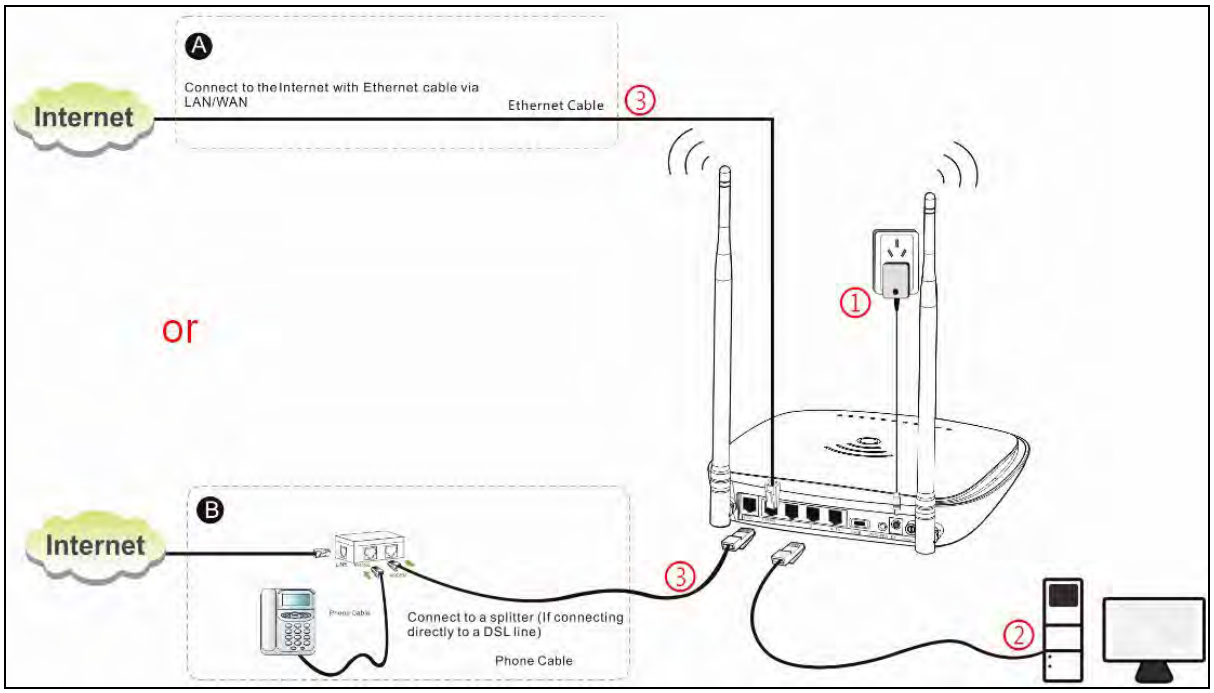
4/iTV 3/2 1/WAN	Off	No connection established
	Blinking	Transmitting data
	Solid	Connection is established.
WPS	Solid	Client connected successfully.
	Blinking	WPS LED starts blinking if you press the WPS button on the device or interface.
	Off	No wireless clients are connected. WPS LED turns off after blinking for 2 minutes.
USB	Solid	Connection is successfully established on the USB port.
	Off	Connection is not established on the USB port.
INTERNET	Solid	Current client is connecting to the Internet; no data is transmitted via the Internet.
	Blinking	Current client is connecting to the Internet; data is transmitted via the Internet.
	Off	Current Internet client is not connecting to the Internet.

Back Panel

Button & Interface	Description
DSL	For connecting the router to the Internet via a phone cable provided by your ISP.
1/WAN	LAN port or WAN port. When you access the Internet via the DSL, this port works as a LAN port which can be used to connect to a PC, switch, or a router; when you access the Internet via an Ethernet cable from your ISP directly, this port works as a WAN port. **Note**: It works as a LAN port by default.
2/3	LAN port, used to cable the device to the local network devices such as computers.
4/iTV	LAN port or IPTV port. When IPTV feature is disabled, it works as a LAN port which can be used to connect to a PC, switch or a router; when IPTV feature is enabled, it works as an IPTV port, and it can only be connected to a set-top box. **Note**: IPTV feature is disabled by default.
USB	Used to connect a USB device, such as a 3G USB modem, USB print server or storage service.
RST/WPS	Press it for 1-3 seconds to enable WPS-PBC feature; Press it for about 10 seconds to restore all configurations to factory defaults.

DC	Used to connect to the power adapter, which is included in the package.
ON/OFF	Power switch to turn the router on or off.

2.2 Install the Device



① Connect the included power adapter to your router and turn on the router.

② Connect your computer to your router.

③ Connect your router to the Internet. Choose **ADSL Mode** or **ETH Mode** according to your actual Internet service type.

ADSL Mode **(Phone cable access)**	With a telephone	Simply connect the DSL line to the DSL port of your router.
	Without a telephone	Use the splitter as a medium: 1) Connect the DSL line from the Internet side to the LINE port of the splitter; 2) Connect the telephone with a phone cable to the PHONE port of the splitter; 3) Connect the MODEM port of the splitter and DSL port of your router via another phone cable.
ETH Mode **(Ethernet cable access)**	Do not go to **Step 3** (connect the Ethernet cable to the LAN/WAN port) until you finish the Primary Setup of Internet connection type on the Web Management Homepage, i.e., finish settings in **Ethernet Mode** in Chapter 3 Quick Internet Setup >3.2 Internet Setup.	

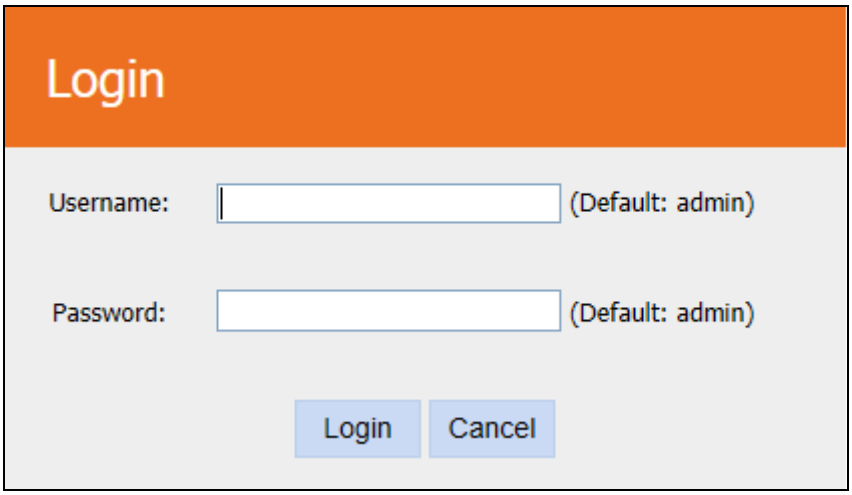
Chapter 3 Quick Internet Setup

This chapter instructs you to quickly set up your Internet connection.

3.1 Log in to Web Manager

1. Set your PC to **Obtain an IP address automatically**. For more information, see Appendix 1 Configure Your PC.

2. Launch a web browser and enter **192.168.1.1** to display the login window.



3. Enter **admin** in both the Login Username and Password fields if you access the router for the first time and then click **Login** to enter the home page.

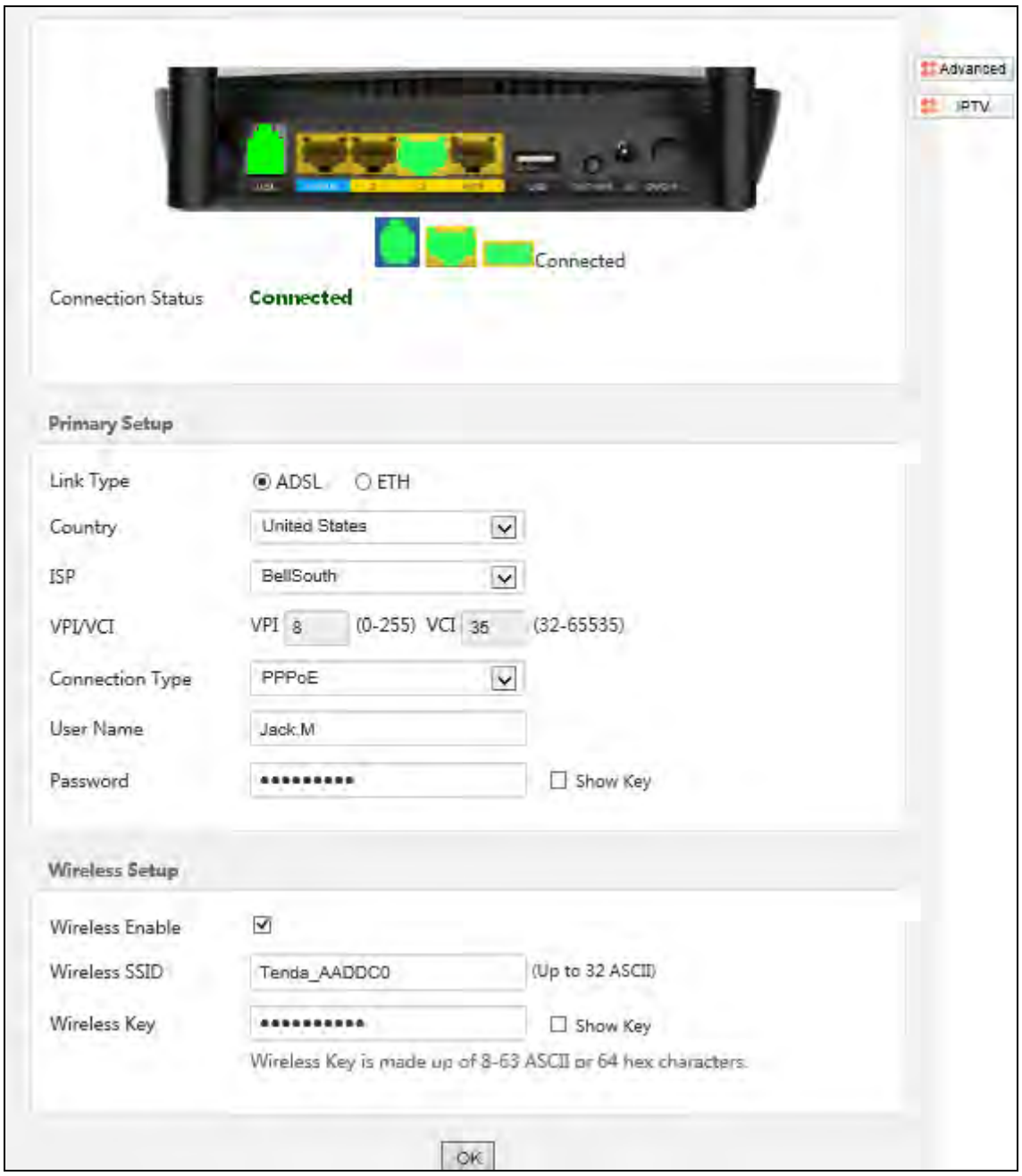
Tip

If you change the login username and password and forget them, press the RST/WPS button on the device for about 10 seconds to reset the router, and then enter the home page with the default username and password “admin”.

3.2 Internet Setup

3.2.1 ADSL Mode

1. **Link Type:** Select **ADSL**.
2. Select your country.
3. Select your ISP.
4. VPI/VCI fields will be populated automatically if you select a correct country and ISP.
5. Select your **Connection Type**, and fill the relevant Internet information.
6. Secure your wireless network. (Strongly Recommended)
7. Click **OK** to apply your configurations.



Depending on the type of connection, you are prompted to enter your ISP settings, as shown in the following table:

Connection Type		Description
PPPoE/PPPoA		Enter the ISP user name and password. If you cannot locate this information, ask your ISP to provide it.
IPoE	Dynamic IP	No entries are needed.
	Static IP	Enter the assigned IP address, subnet mask, and the IP address of your ISP's primary DNS server. This information should have been provided to you by your ISP. If a secondary DNS server address is available, enter it also.
IPoA	Static IP	Enter the assigned IP address, subnet mask, and the IP address of your ISP's primary DNS server. This information should have been provided to you by your ISP. If a secondary DNS server address is available, enter it also.

Bridge	When Bridge mode is enabled, this device works as a modem. If you wish to initiate a dialup directly from your PC for Internet access or enjoy the entire Internet connection by yourself (instead of sharing it with others), you can select **Bridge**.

Note

If your country and/or your ISP are not covered on the home page, select **Other** country and ISP, and set VCI and VPI value manually. If you cannot locate this information, refer to Appendix 4 VPI/VCI List or ask your ISP to provide it. For more information, see To Set up the ATM interface and To Set up WAN Service for ATM Interface.

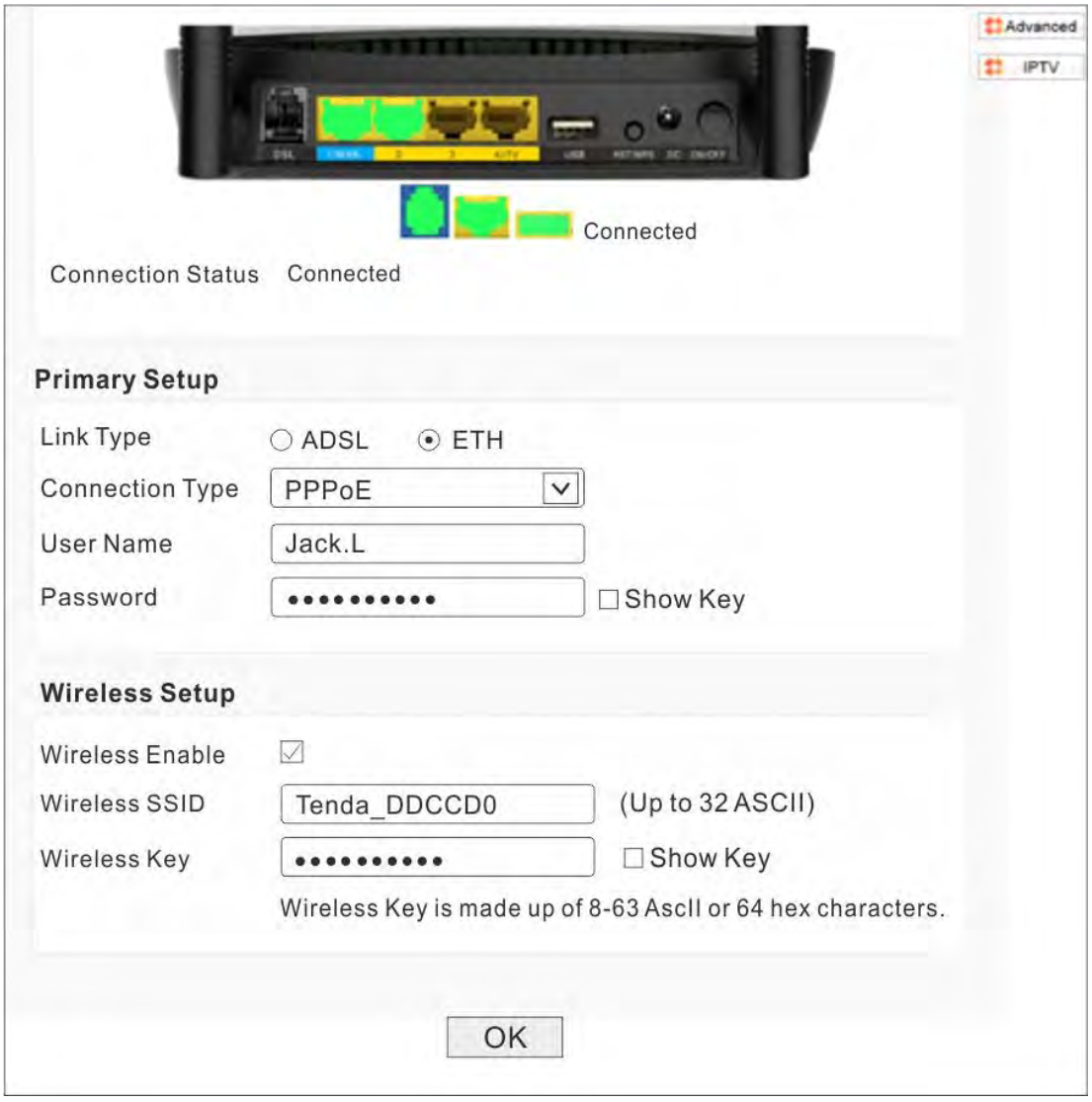
3.2.2 Ethernet Mode

1. **Link Type:** Select **ETH**.
2. Select your **Connection Type** according to your accessing method.
3. Secure your wireless network. (Strongly Recommended)
4. Click **OK** to apply your configurations.

Note

After saving the Ethernet mode settings, you will see the following prompt:

And then you need to connect the Ethernet cable from the Internet side provided by your ISP to the LAN/WAN port, i.e. to finish **Step 3** of Ethernet Mode in Chapter 2 Hardware Install-> 2.2 Install the Device.

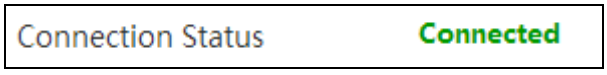


Depending on the type of connection, you are prompted to enter your ISP settings, as shown in the following table:

Connection Type		ISP Information
PPPoE		No entries are needed.
IPoE	Static IP	Enter the assigned IP address, subnet mask, and the IP address of your ISP's primary DNS server provided by your ISP. If a secondary DNS server address is available, enter it also.
	Dynamic IP	Enter the user name and password provided by your ISP.

3.2.3 Test Internet Connectivity

If **Connection Status** shows **Connected** shown as below, you access the Internet now.



Try to launch a web browser and enter www.tendacn.com. If the webpage displays properly, you are connected to the Internet.

Chapter 4 Advanced Settings

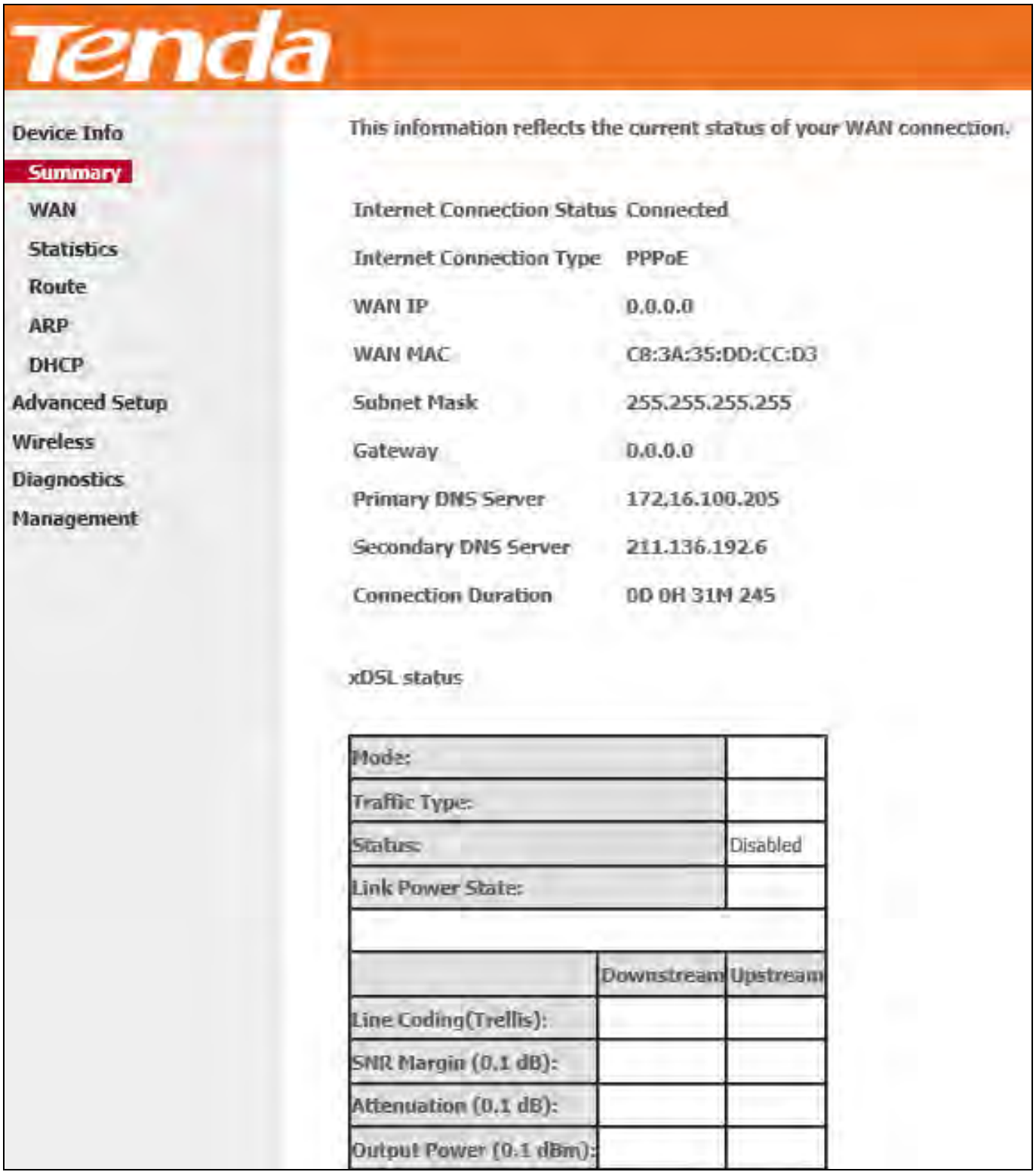
If you prefer configuring your router for unique situations, consult this chapter to know advanced features.

Click **Advanced** on the home page to enter the screen below.

4.1 Device Info

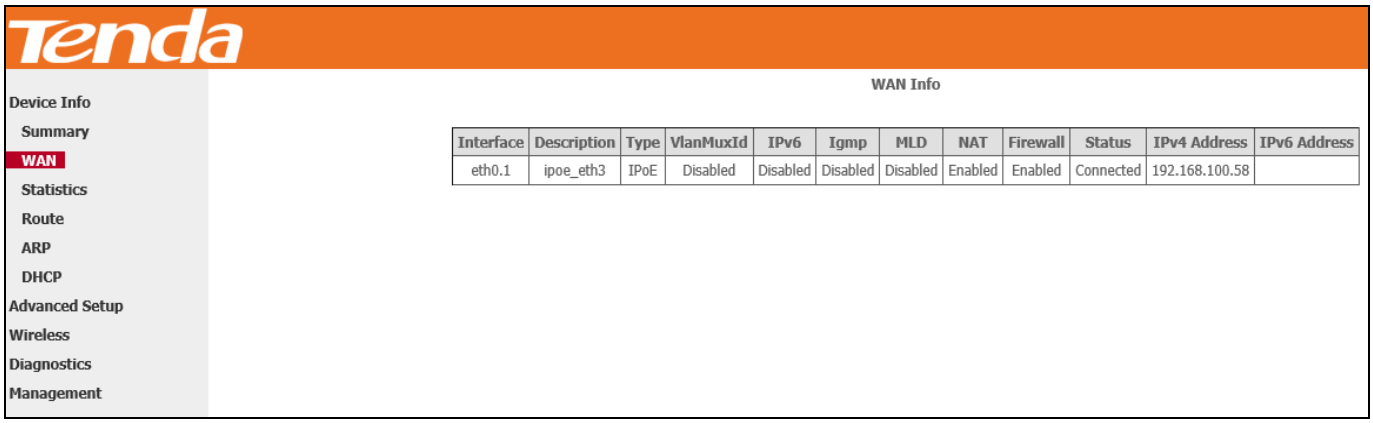
4.1.1 Summary

Here you can view system information and current status of your WAN connection as seen in the screenshot.



4.1.2 WAN

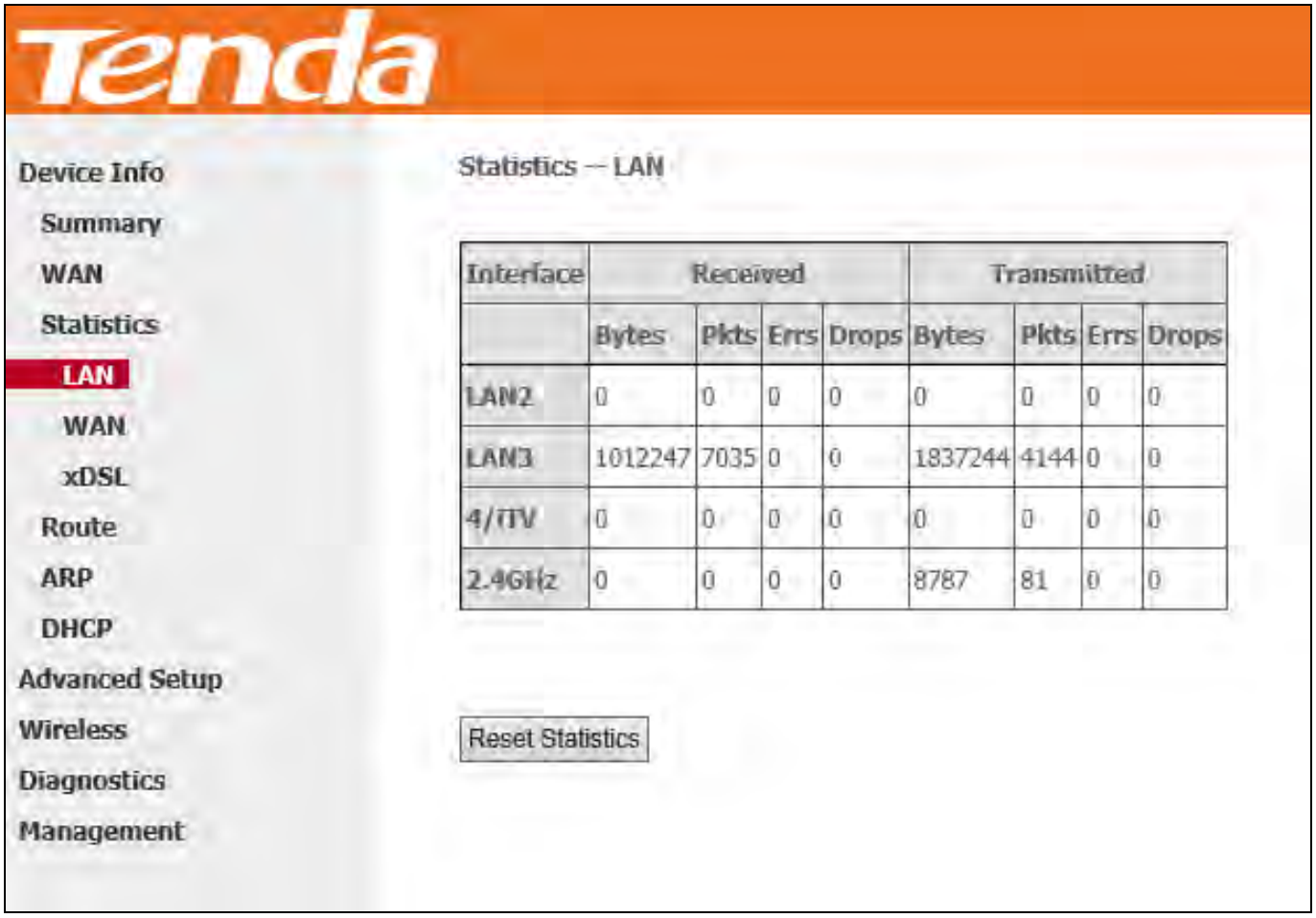
Here you can view the WAN Information including Interface, Description, Type, IGMP, NAT, Firewall, Status, IPv4 Address, etc.



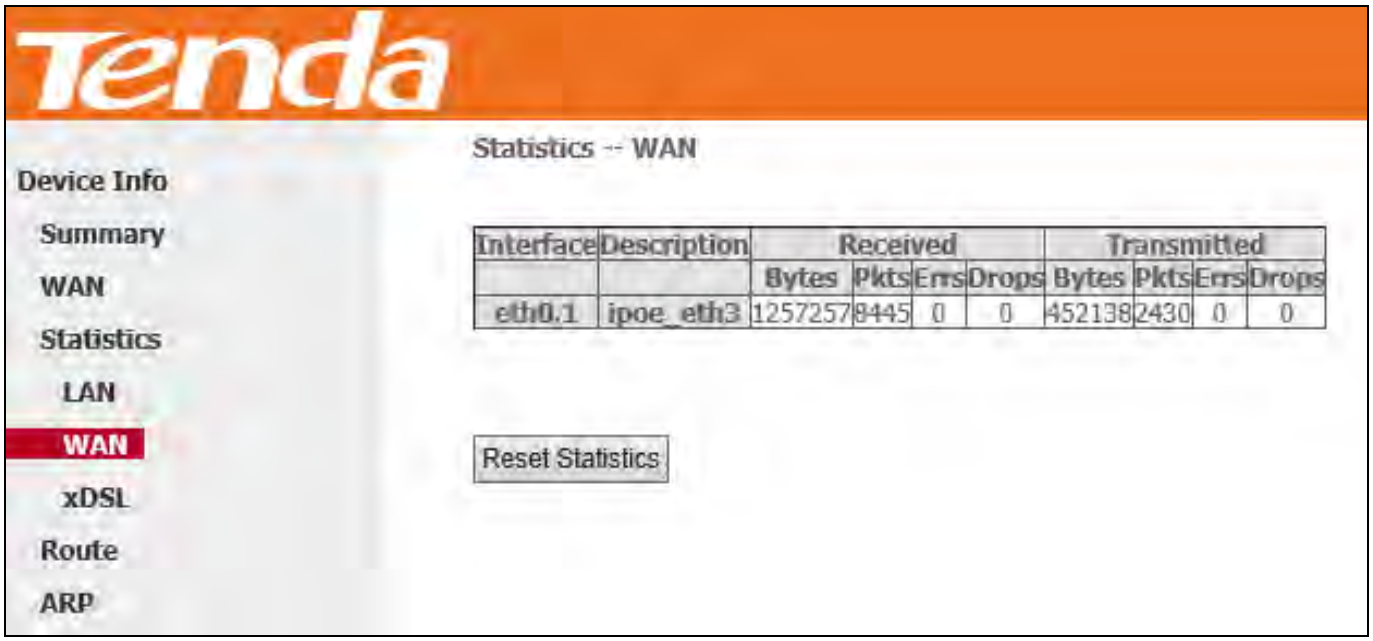
4.1.3 Statistics

Here you can view the packets received and transmitted on LAN and WAN ports.

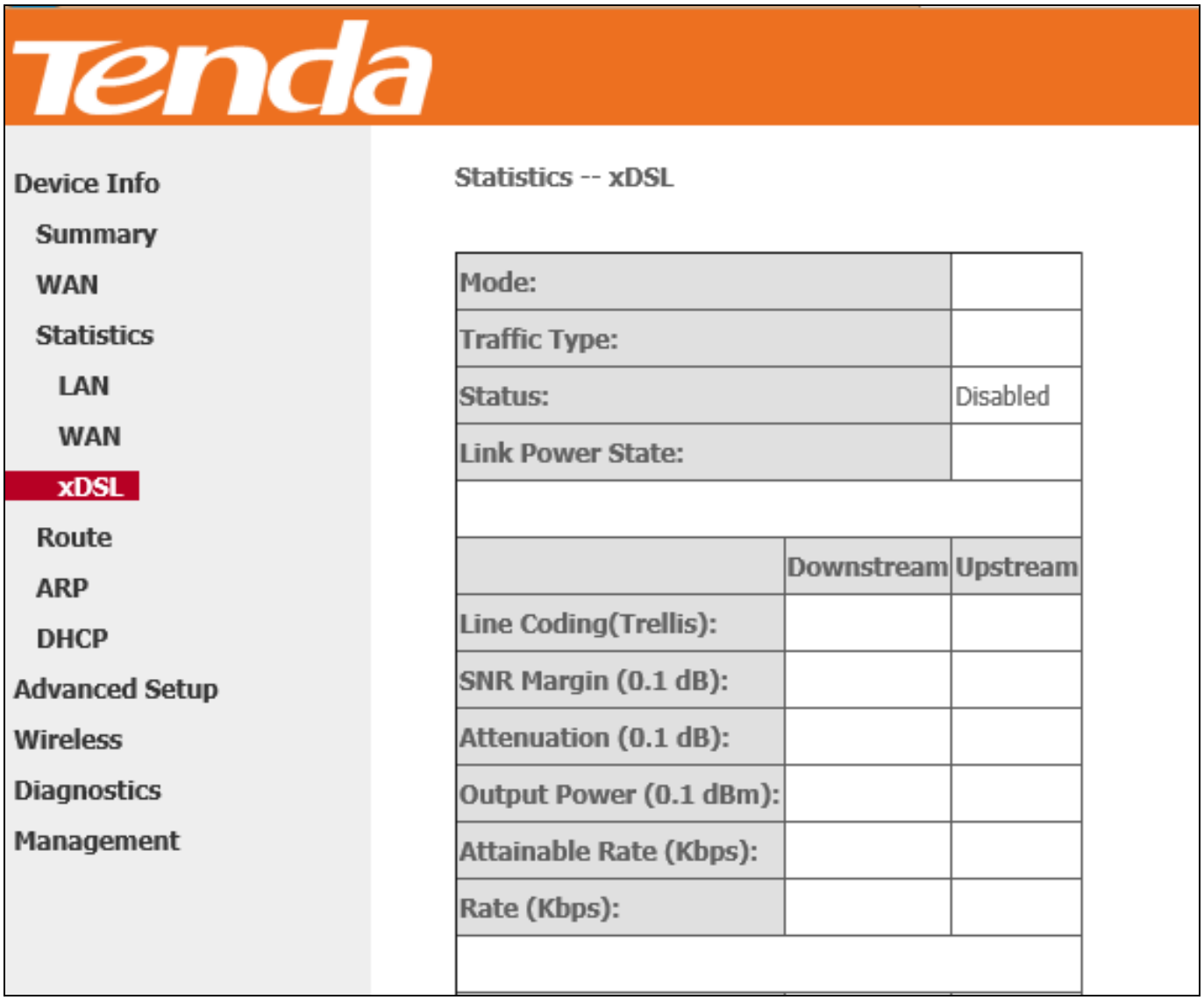
Statistics--LAN: Displays the packets received and transmitted on the LAN ports as seen in the screenshot below.



Statistics--WAN: Displays the packets received and transmitted on the WAN port as seen in the screenshot below.

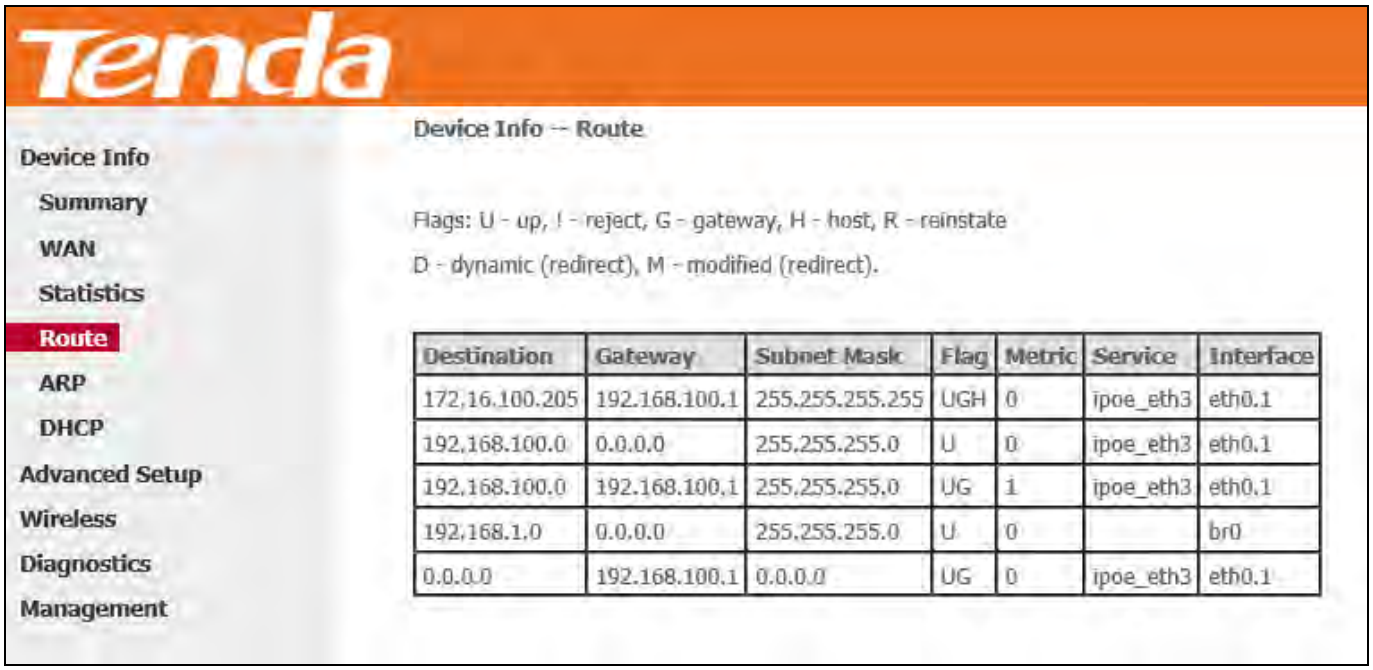


Statistics-xDSL: Display the packets received and transmitted on the DSL port.



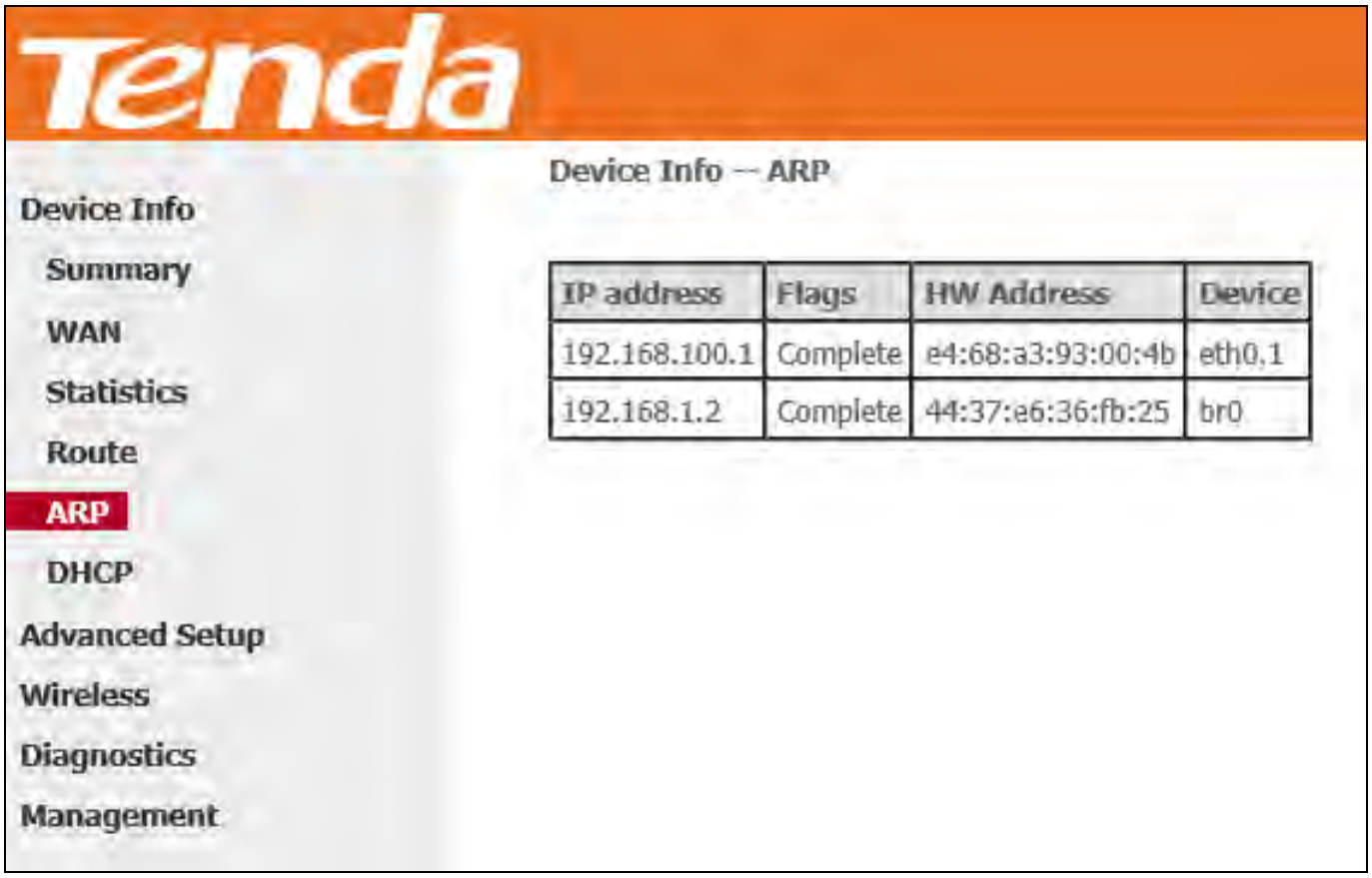
4.1.4 Route

Here you can view the route table as seen in the screenshot:



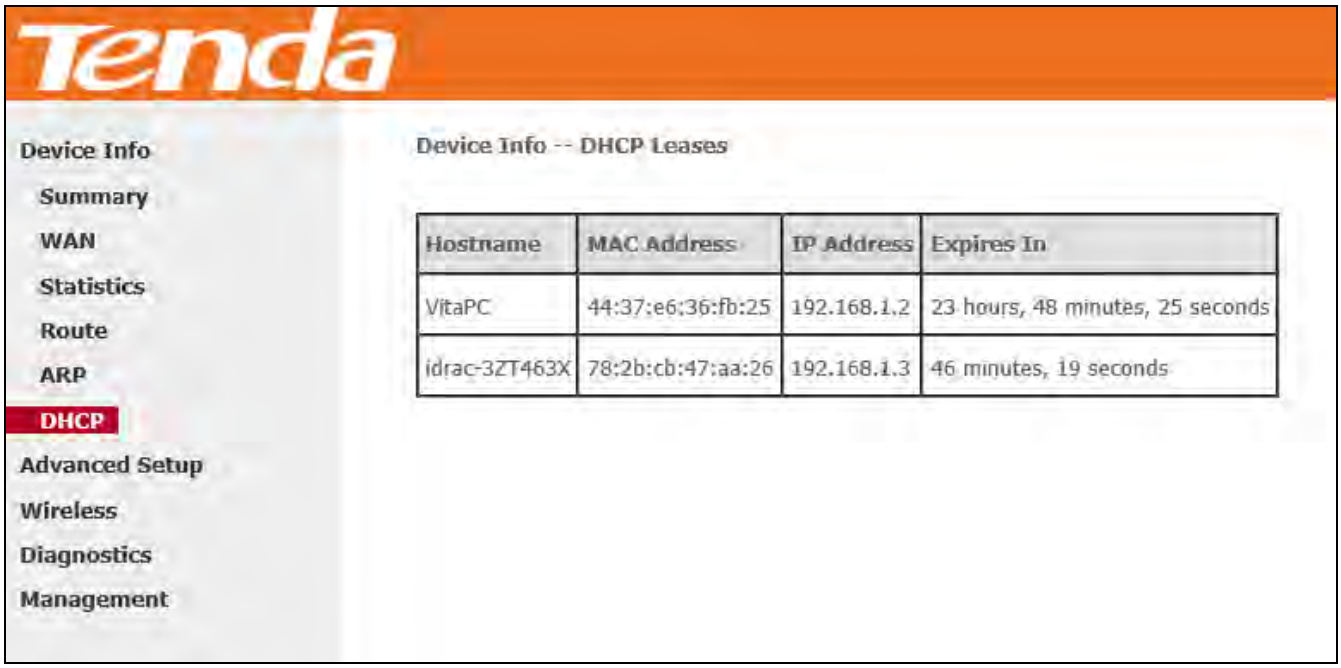
4.1.5 ARP

Here you can view the IP and MAC addresses of the PCs that attach to the device either via a wired or wireless connection as seen in the screenshot:



4.1.6 DHCP

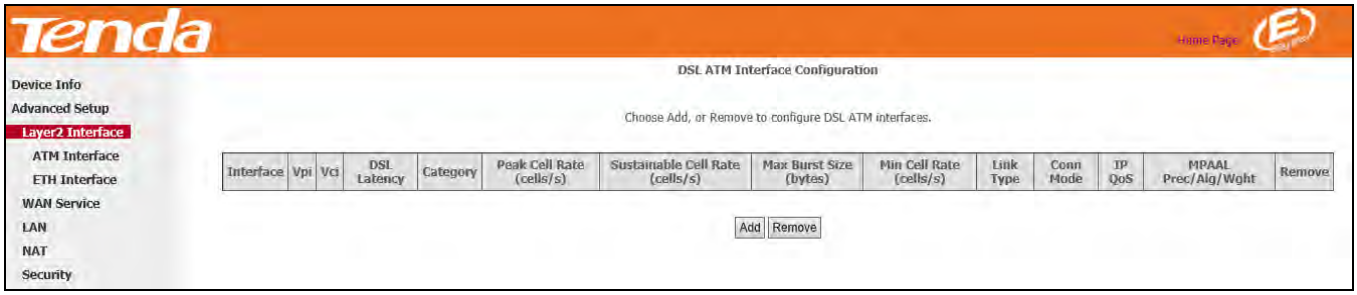
Here you can view the DHCP leases, including IP and MAC addresses of the PCs, hostnames and remaining lease time as seen in the screenshot:



4.2 Advanced Setup

4.2.1 Layer2 Interface

Click **Advanced Setup > Layer2 Interface** to enter the Layer2 Interface screen.



This router provides two Layer2 Interfaces:

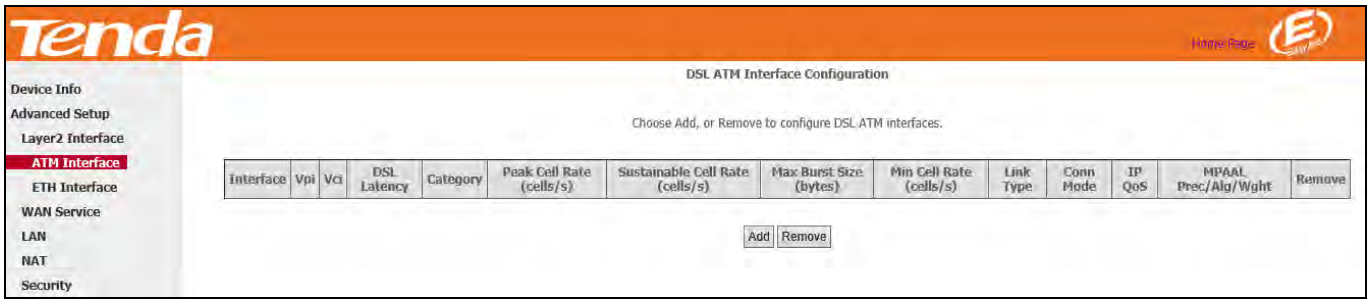
- **ATM Interface** for ADSL broadband Internet service. (By default, system applies the ATM Interface [ADSL uplink].)

- **ETH Interface** for connecting to the Internet via an Ethernet cable.

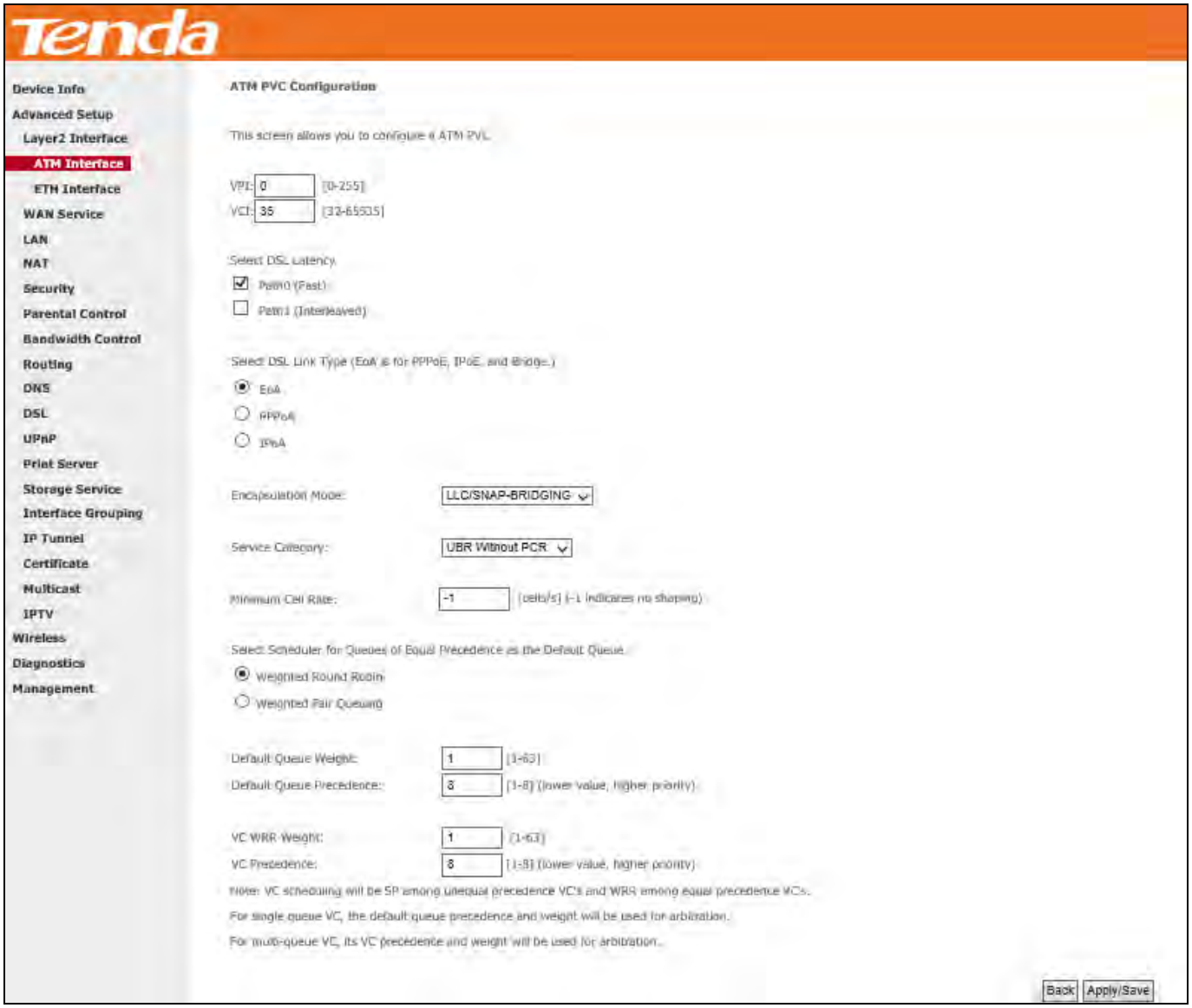
- If you directly connect to the ADSL line via a phone cable, first refer to To Set up the ATM interface and then skip to To Set up WAN Service for ATM Interface.
- If you connect to the Internet via a fiber/cable modem using an Ethernet cable, first refer to To Set up the ETH interface and then skip to To Set up WAN Service for ETH Interface.

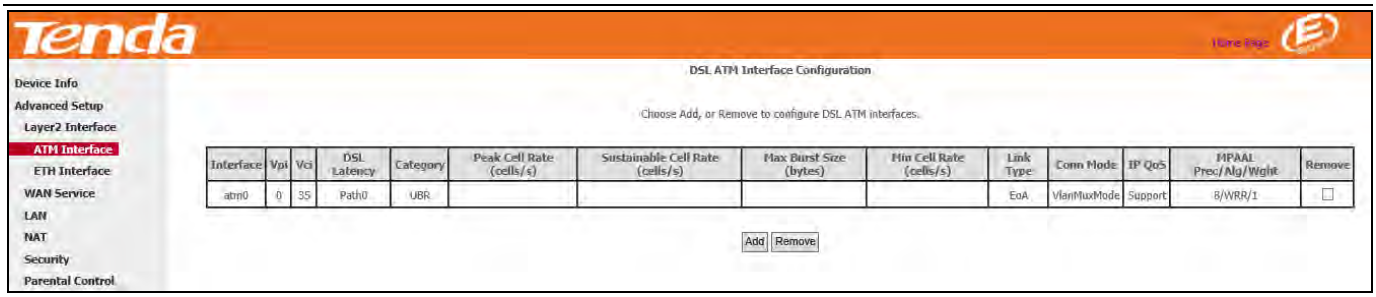
To set up the ATM interface

Step 1: Select **ATM Interface** and click **Add** to configure it.



Step 2: Enter the **VPI** and **VCI** values. Select a **DSL Link Type** (Internet connection type): EoA, PPPoA or IPoA. Leave other options unchanged from factory defaults. Click **Apply/Save**.





Go to To Set up WAN Service for ATM Interface to configure the WAN service for Internet access.

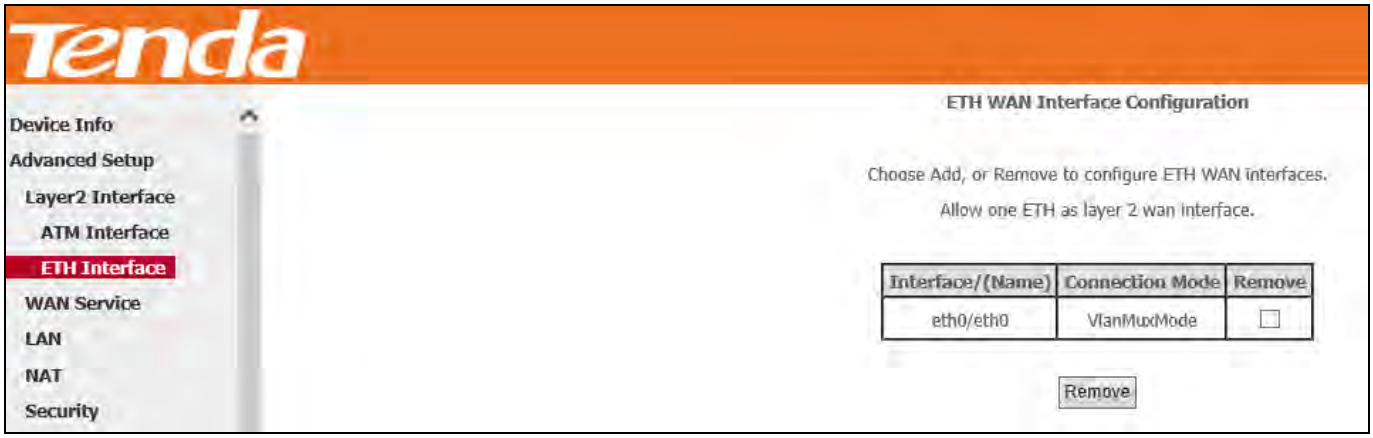
Tip

If you are unsure about the VPI/VCI parameters, see Appendix 4 VPI/VCI List, or ask your ISP to provide it.

To set up the ETH interface

Step 1: Select **ETH Interface** and click **Add**.

Step 2: Select **eth0/eth0** in the box to function as a WAN port. Only one LAN port can be configured as the WAN port at a time. Click **Apply/Save** to take the settings into effect.



Go to To Set up WAN Service for ETH Interface to configure the WAN service for Internet access.

4.2.2 WAN Service

This router provides two WAN services:

- WAN Service for ATM Interface (ADSL uplink)

- WAN Service for ETH Interface (Ethernet uplink)

To Set up WAN Service for ATM Interface

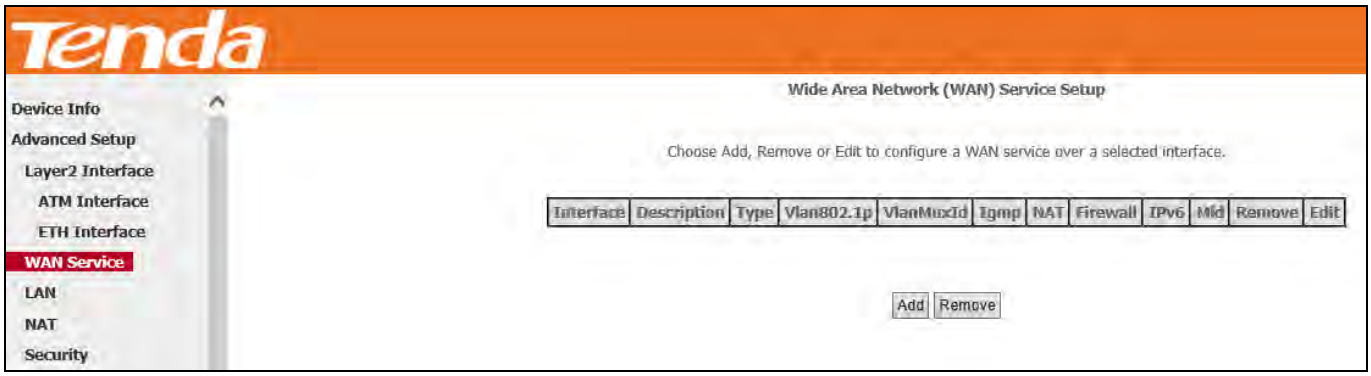
EoA (PPPoE, IPoE and Bridge)

If you configured the **ATM Interface** (ADSL uplink) and select **EoA** as the DSL link type, follow below steps to configure the WAN service:

PPPoE

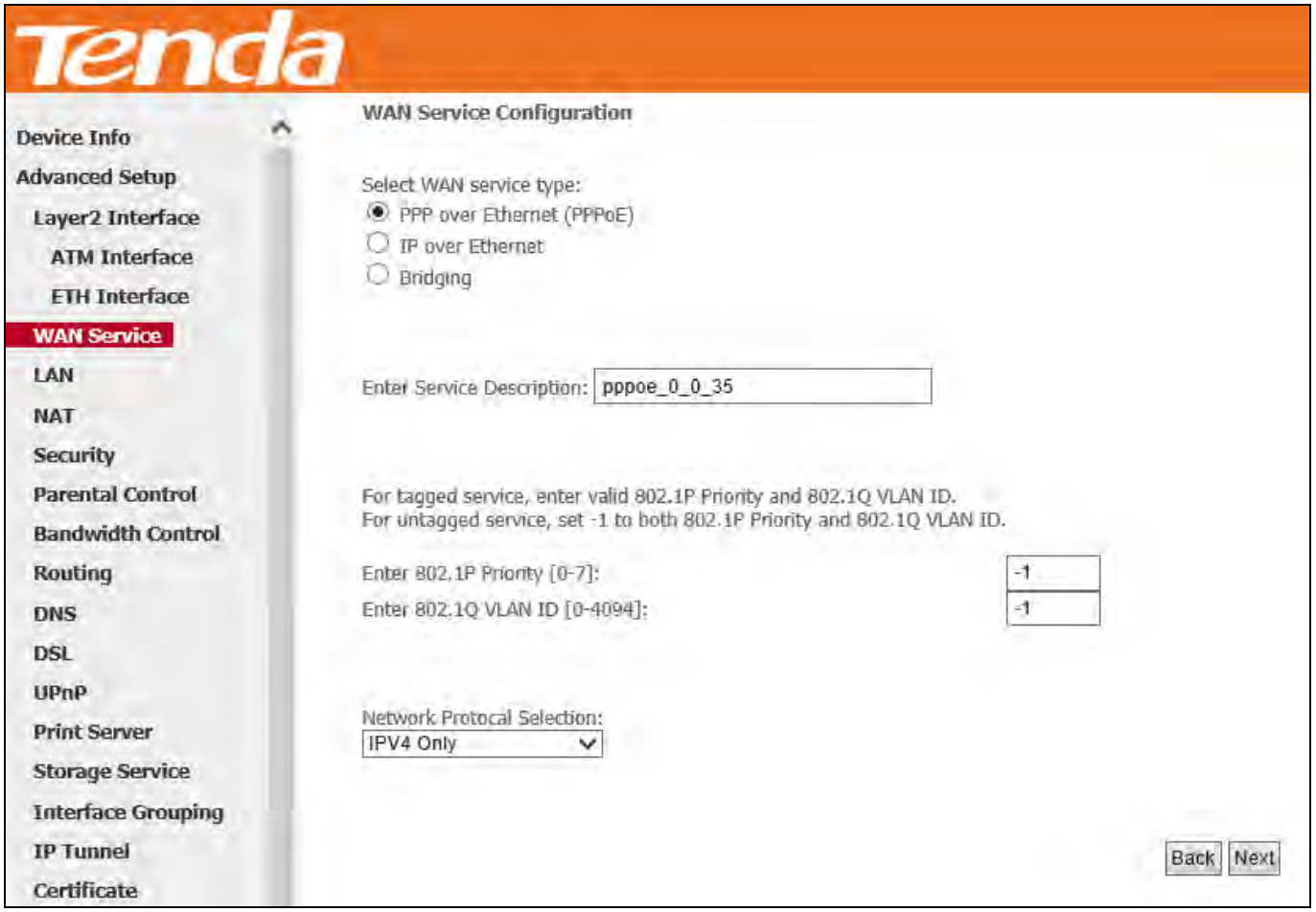
IPv4 Only

Step 1: Click **Advanced Setup** > **WAN Service** and then click the **Add** button.

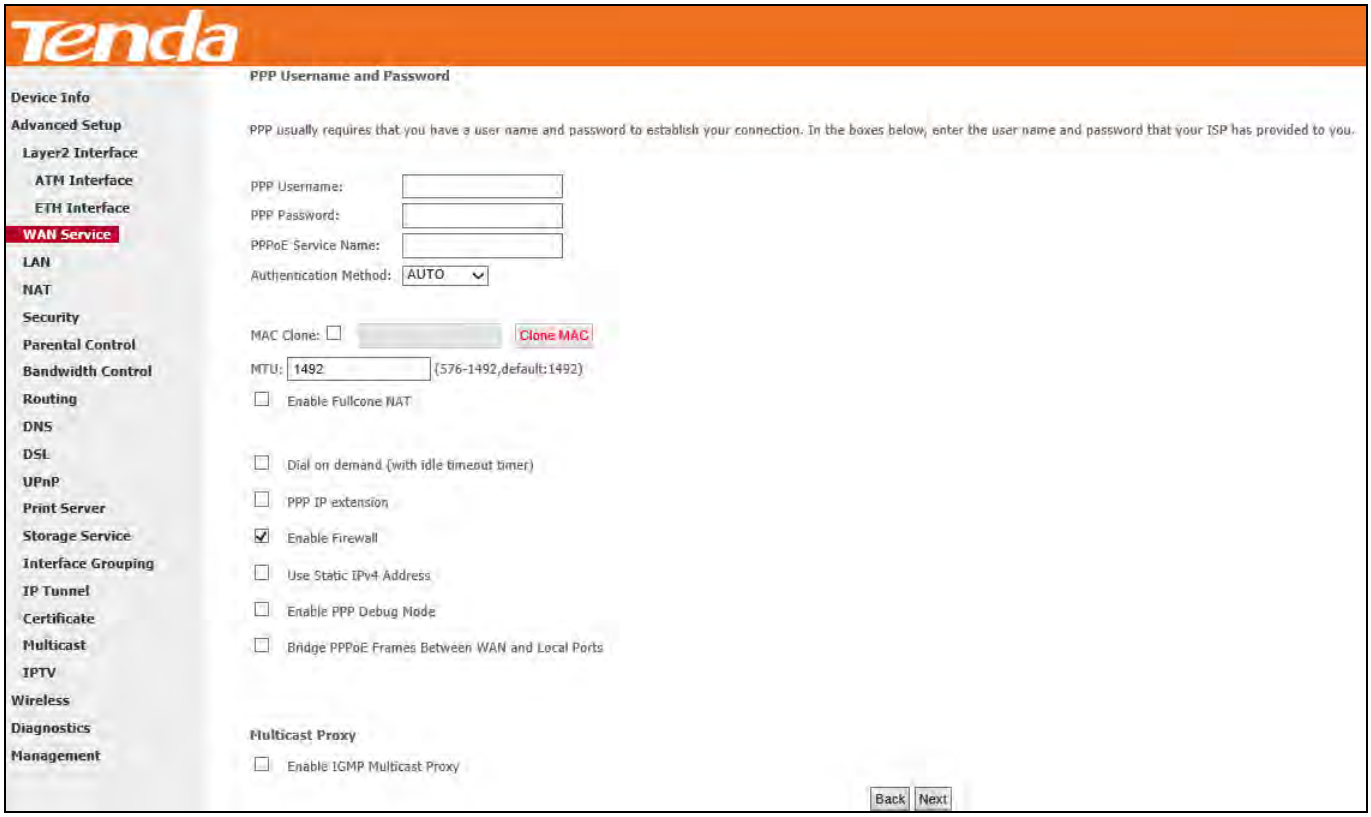


Step 2: Select the ATM interface you added just now from the pull-down menu in the figure below. Click **Next**.

Step 3: Select **PPP over Ethernet (PPPoE)**. Edit the **Enter Service Description** field which is optional. Suggest you keep the default. Select a network protocol: **IPv4 Only**. Click **Next.**



Step 4: Finish PPP Username and Password and other settings on the figure below. Click **Next**.



PPP Username/Password: For logging in to your ISP. If you cannot locate this information, ask your ISP to provide it.

PPPoE Service Name: Provided by your ISP. Only enter it if instructed by your ISP.

Authentication Method: Used by ISP to authenticate the client that attempts to connect. If you are not sure, consult your ISP or select **AUTO**.

MAC Clone: When you cannot access the Internet after finishing other settings here except this option, consider whether it's the matter of the MAC address of your computer. Clicking **Clone MAC** button copies the MAC address of your computer to the router.

MTU: Keep the default value unless you are sure it is necessary for your ISP connection.

Dial on demand: Connect to ISP only when there is traffic transmission. This saves your broadband Internet service bill.

PPP IP extension: If enabled, all the IP addresses in outgoing packets including management packets on the WAN port will be changed to the device's WAN IP address. Only change the default settings if necessary.

Enable PPP Debug Mode: Only enable this feature if supported by your ISP.

Bridge PPPoE Frames Between WAN and Local Ports: If enabled, PPPoE dialup frame from LAN side will directly egress the WAN port without modification.

Multicast Proxy: If enabled, the router will use multicast proxy.

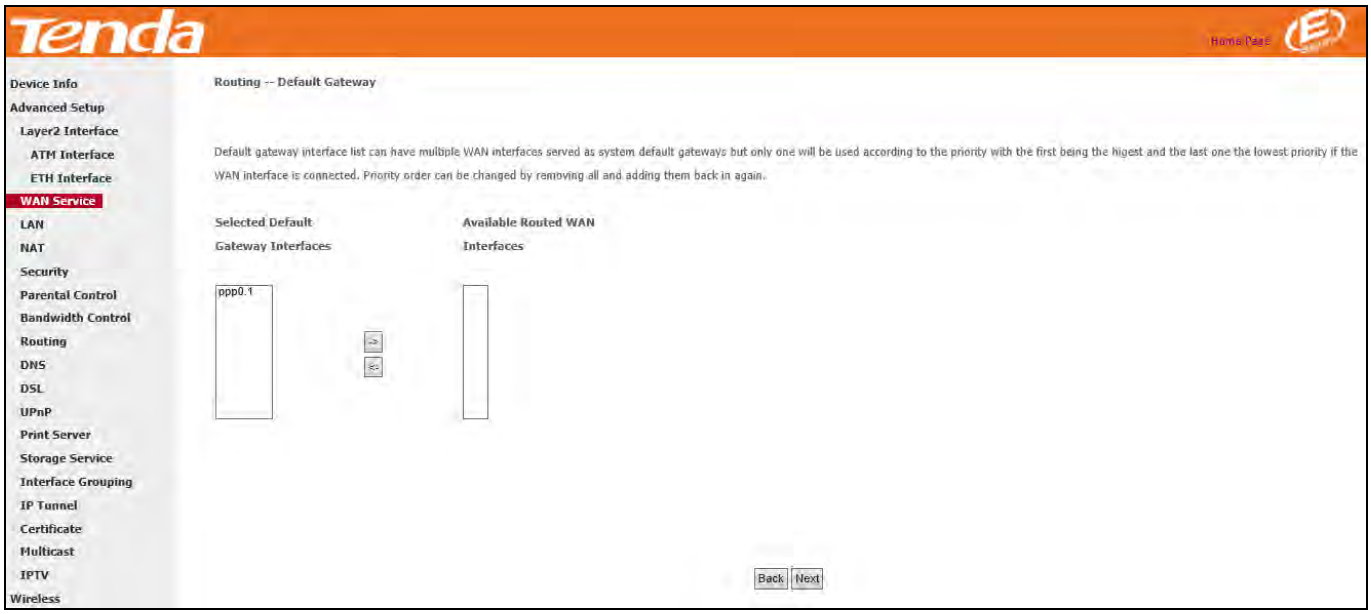
Knowledge Expansion

1. **MAC Clone:** Many broadband ISPs restrict access by allowing traffic only from the MAC address of your broadband modem, but some ISPs additionally register the MAC address of your computer when your account is first opened. If so,

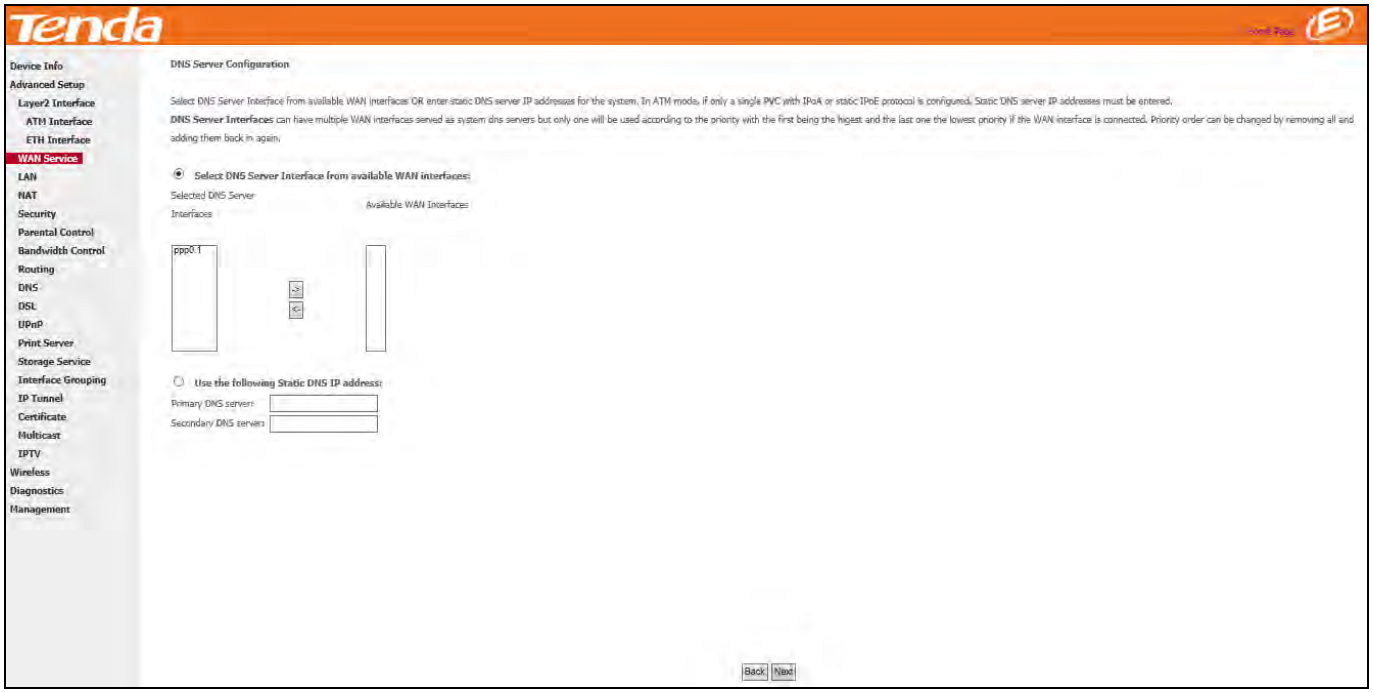
only by cloning the MAC address of your computer can you access the Internet through the router.

2. **MTU**: Short for ***Maximum Transmission Unit***, the largest physical packet size, measured in bytes, which a network can transmit. Any messages larger than the MTU are divided into smaller packets before being sent. The default MTU is 1492 bytes. For some ISPs, you might need to change the MTU. This is rarely required, and should not be done unless you are sure it is necessary for your ISP connection.

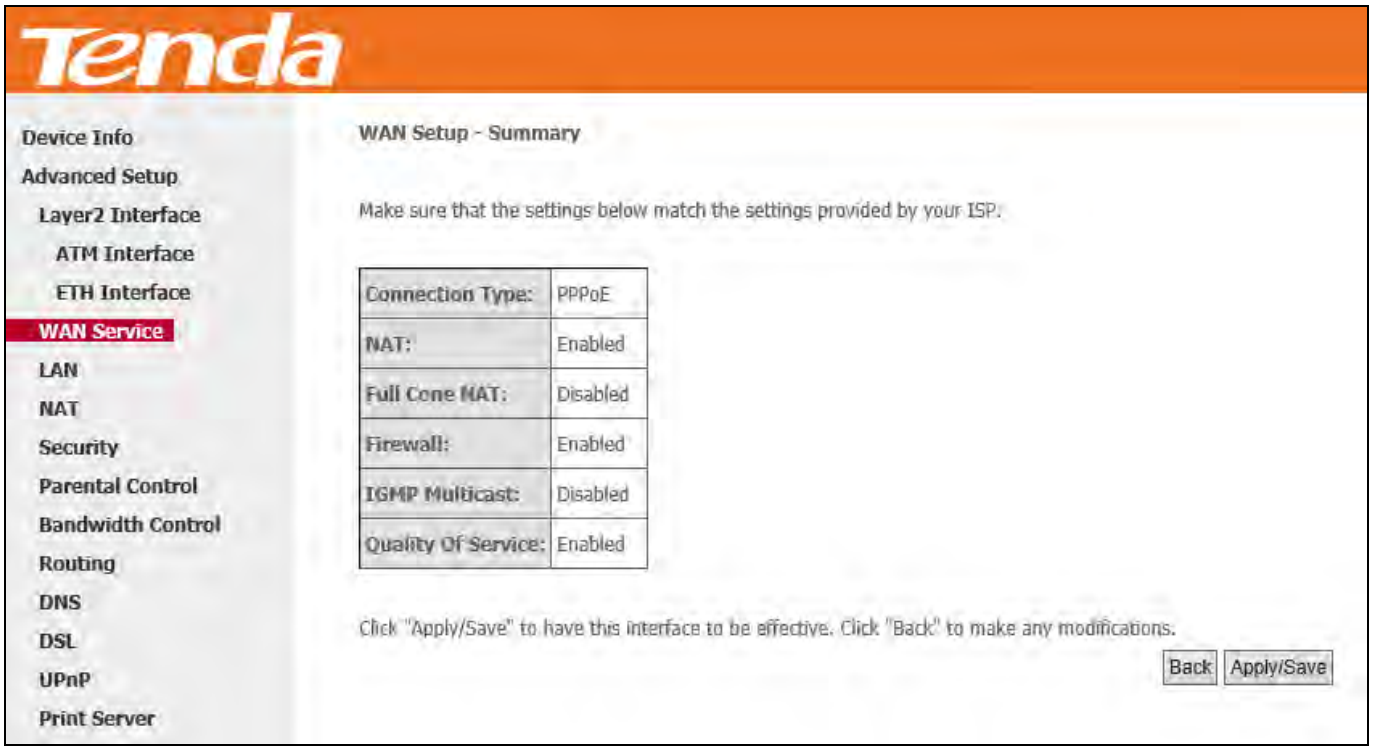
Step 5: To configure the Default Gateway interface, select the interface that you want to configure with the WAN gateway address in **Available Routed WAN Interfaces** box and move it into **Selected Default Gateway Interfaces** box. The default setting is recommended. Then click **Next**.



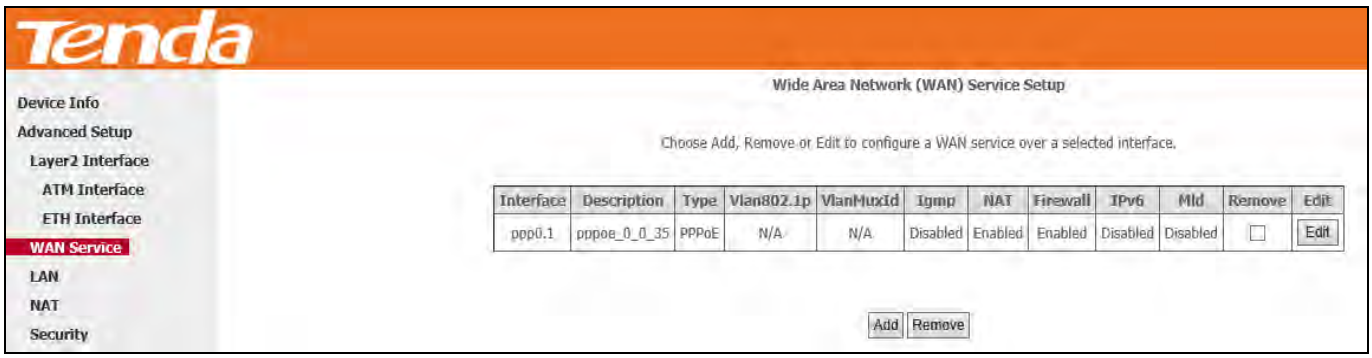
Step 6: To configure the WAN DNS address, click the **Select DNS Server Interface from available WAN interfaces** option, or select the **Use the following Static DNS IP address** option and enter the static DNS server IP addresses provided by your ISP. At last, click **Next**.



Step 7: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.

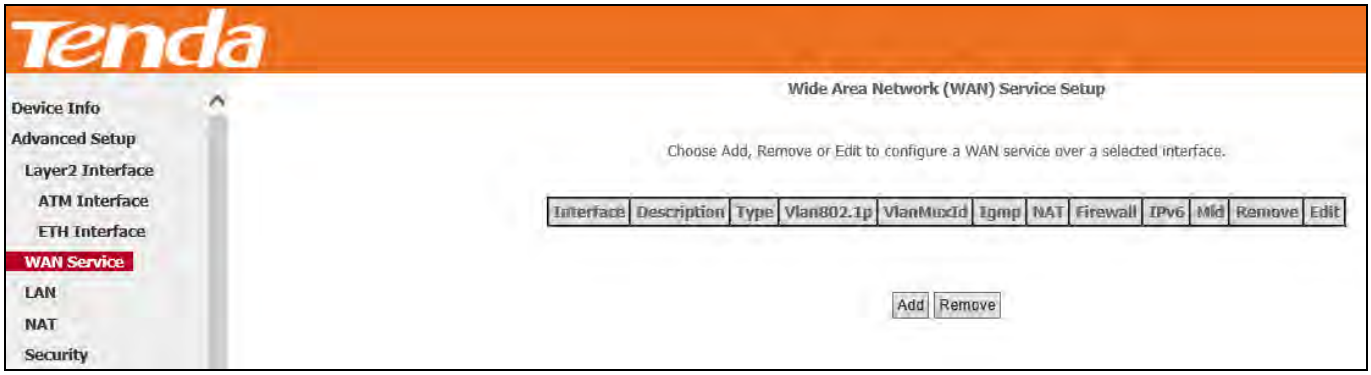


When the PPPoE connection is successful, you can access the Internet.



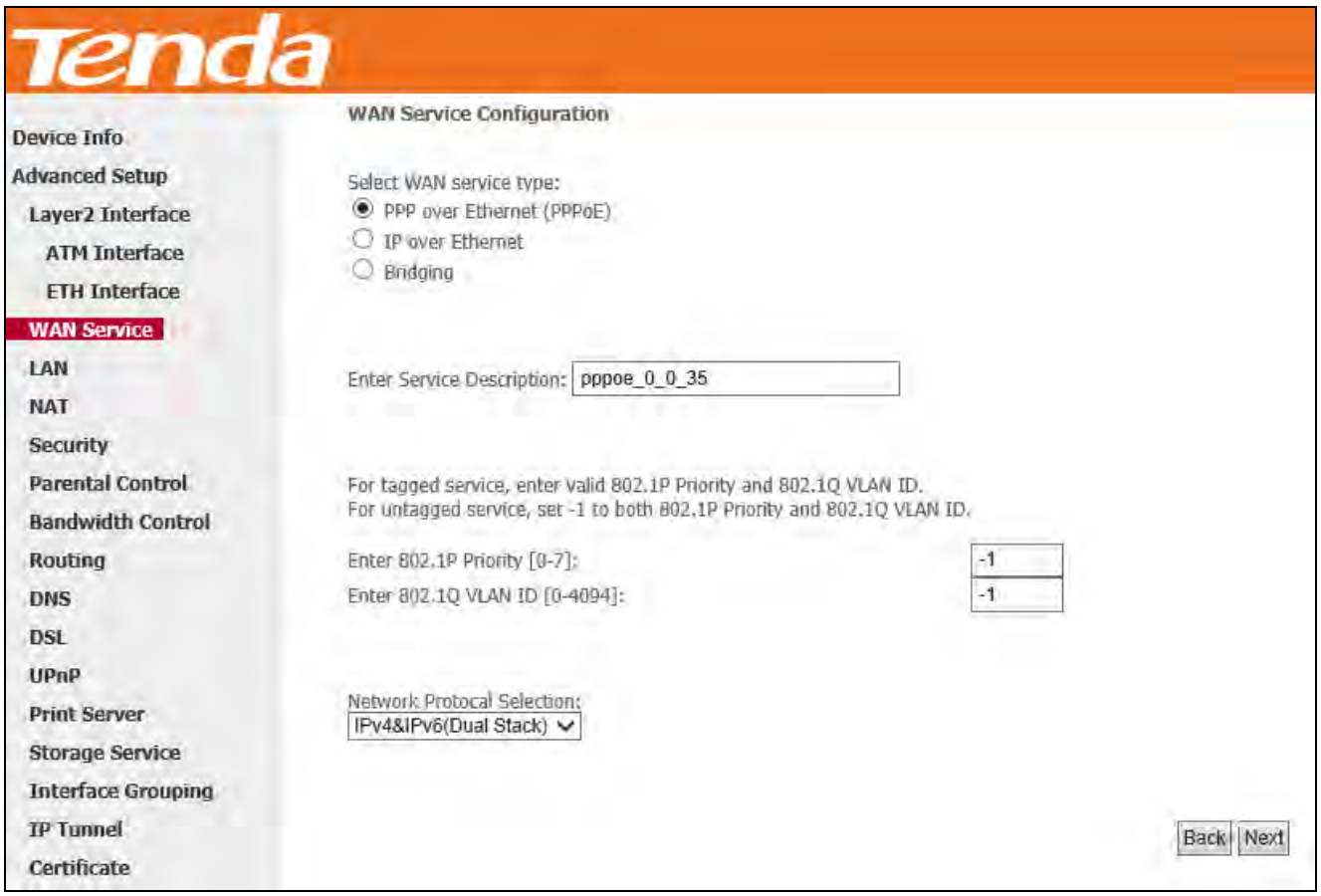
IPv4 & IPv6 (Dual Stack)

Step 1: Click **Advanced Setup** > **WAN Service** and then click the **Add** button.

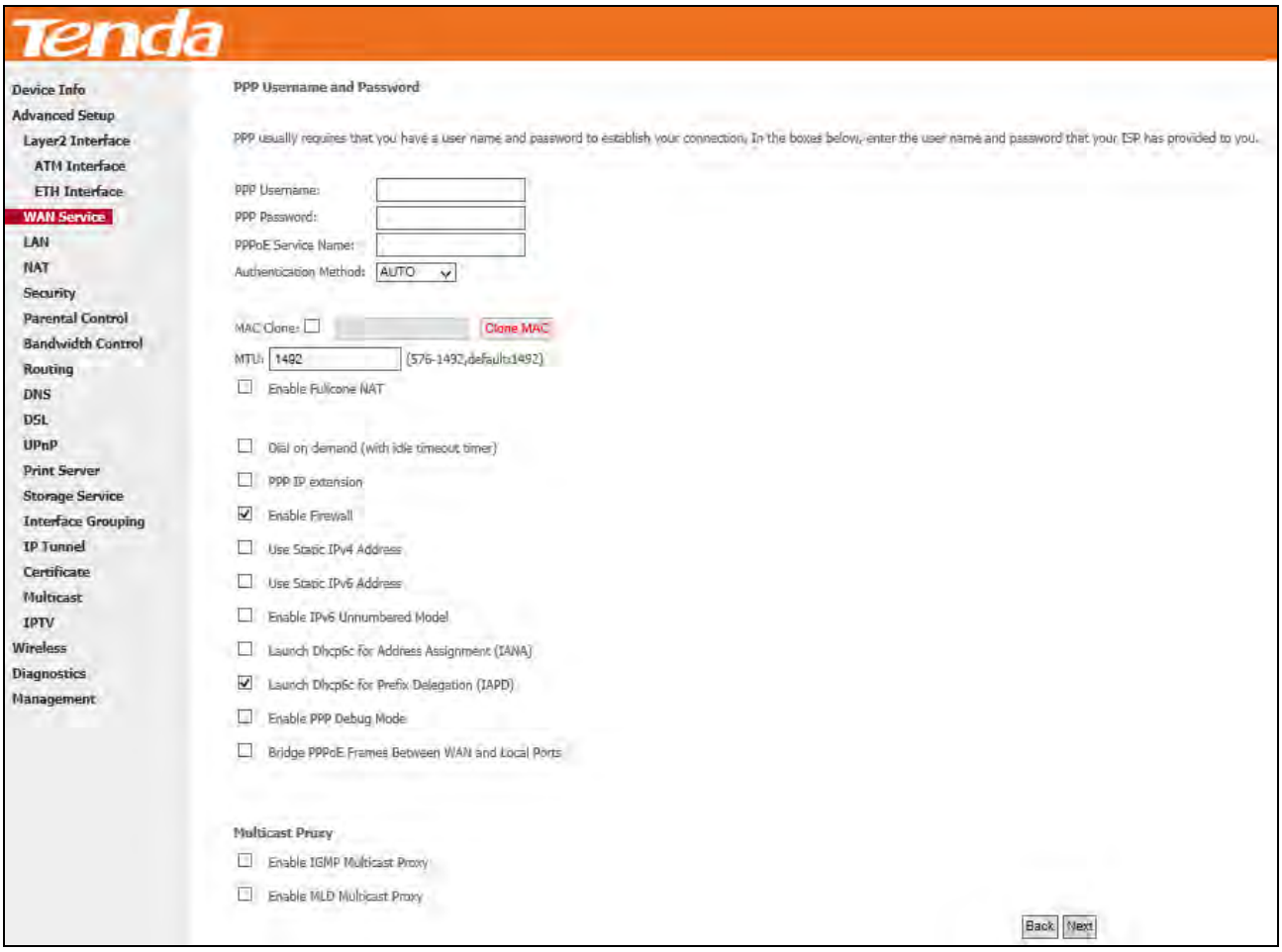


Step 2: Select the ATM interface you added just now from the pull-down menu in the figure below. Click **Next**.

Step 3: Select **PPP over Ethernet (PPPoE)**. Edit the **Enter Service Description** field which is optional. Suggest you keep the default. Select a network protocol: **IPv4&IPv6 (Dual Stack)**. Click **Next**.

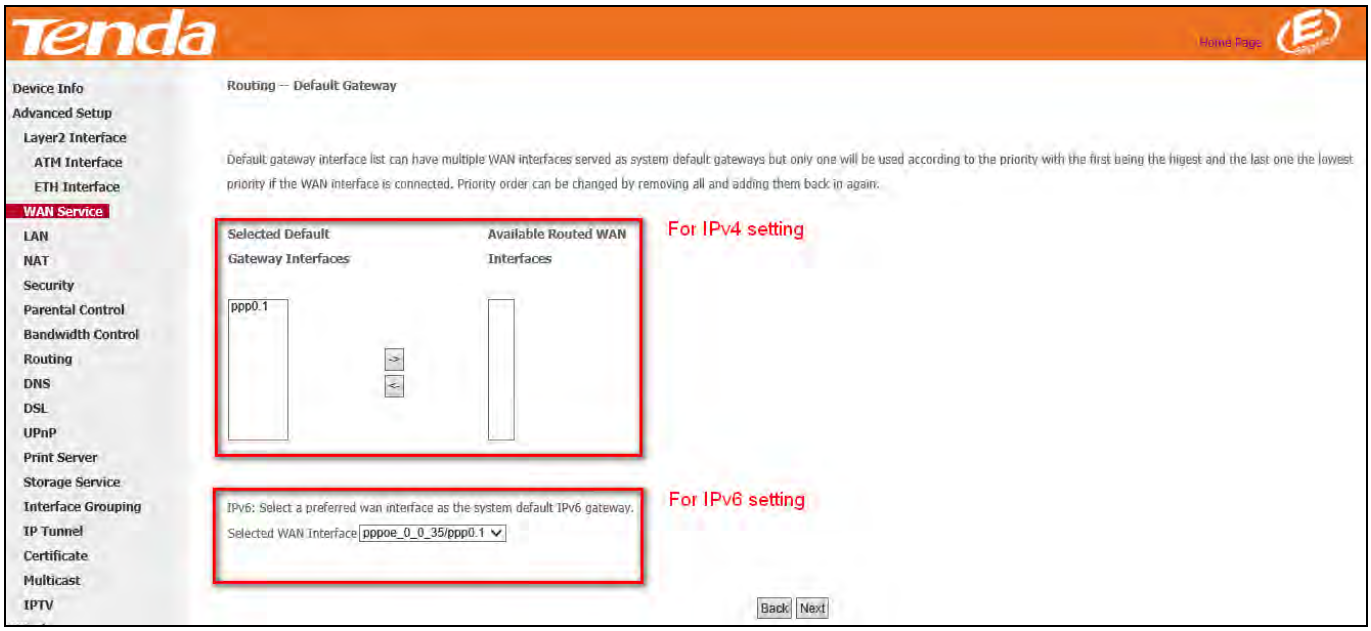


Step 4: Configure PPP Username and Password and other settings on the figure below. Each field with its indication is mentioned above in **IPv4 Only (PPPoE)** section. Check **Launch Dhcp6c for Prefix Delegation (IAPD)**. Click **Next.**

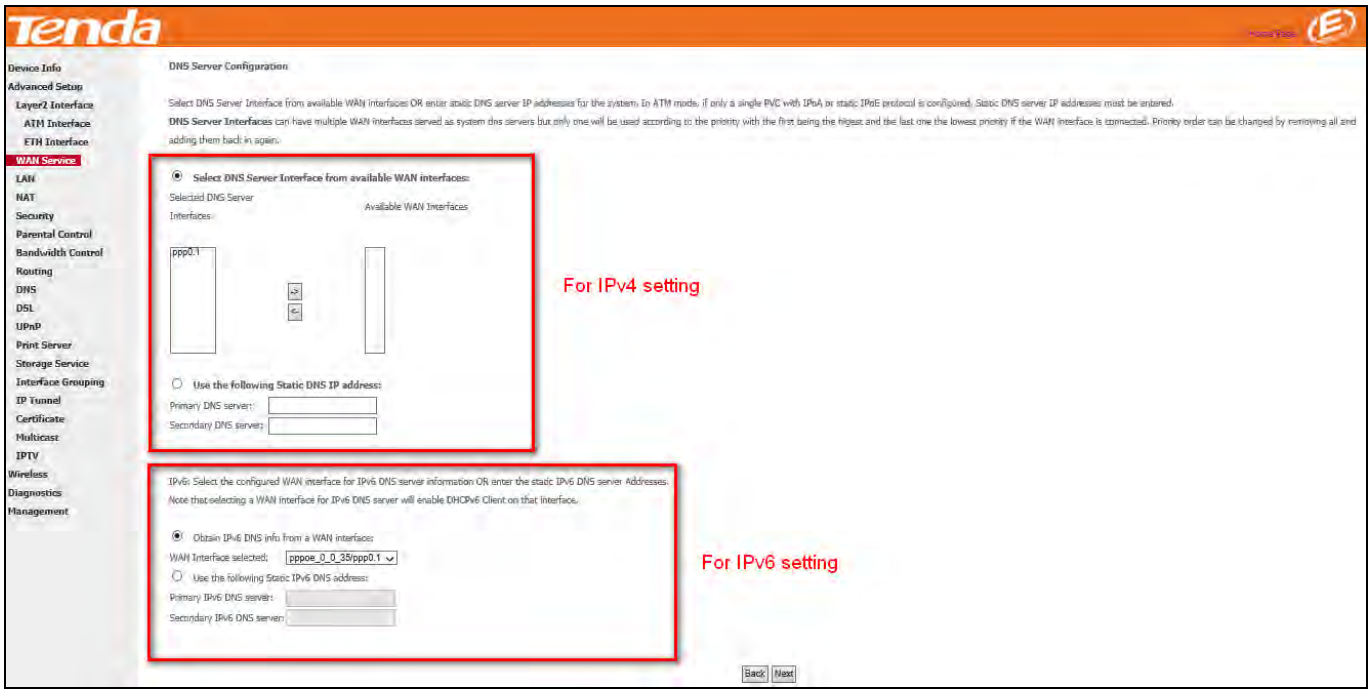


If your ISP is using static DHCPv6, check **Launch Dhcp6c for Address Assignment (IANA)** also, or configure a static IP address by checking **Use Static IPv6 Address** and enter the static IPv6 address.

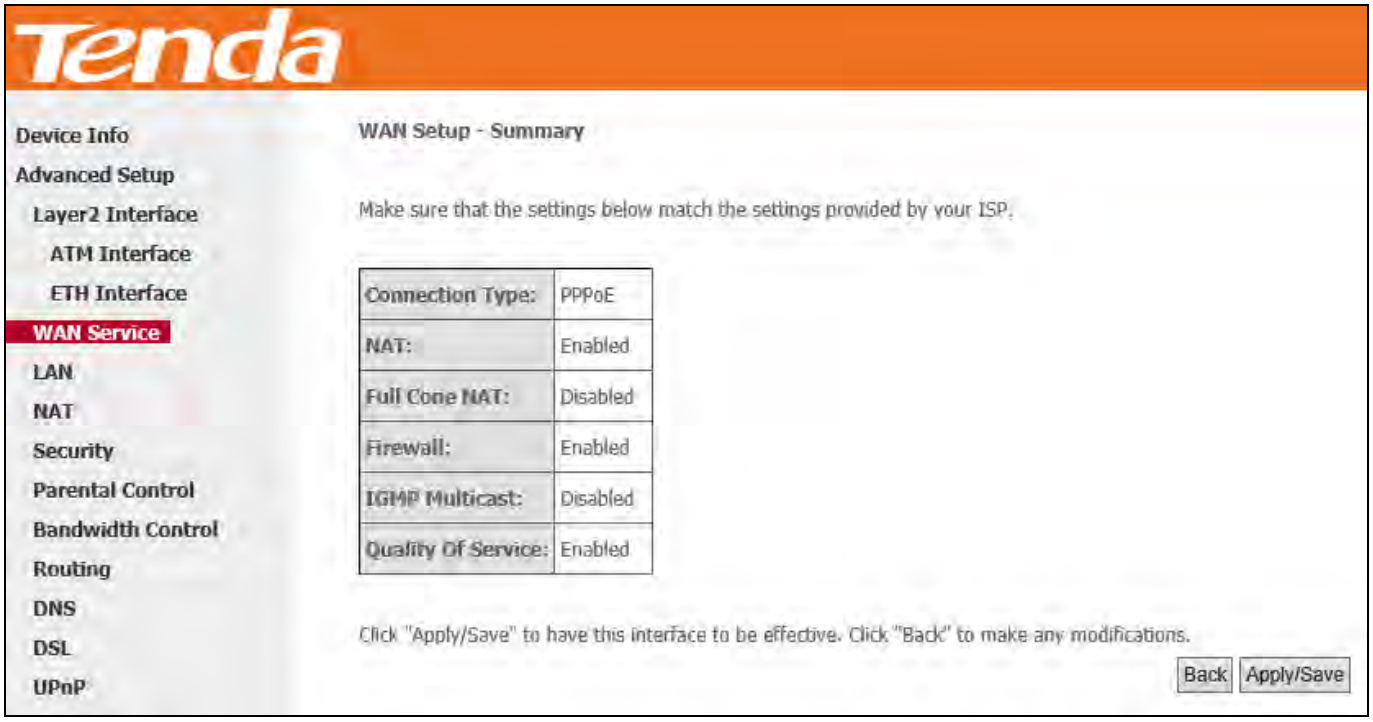
Step 5: To configure the Default Gateway interface when using IPv6, select the interface that you want to configure with the WAN gateway address in **Selected WAN Interface** box. Then click **Next**.



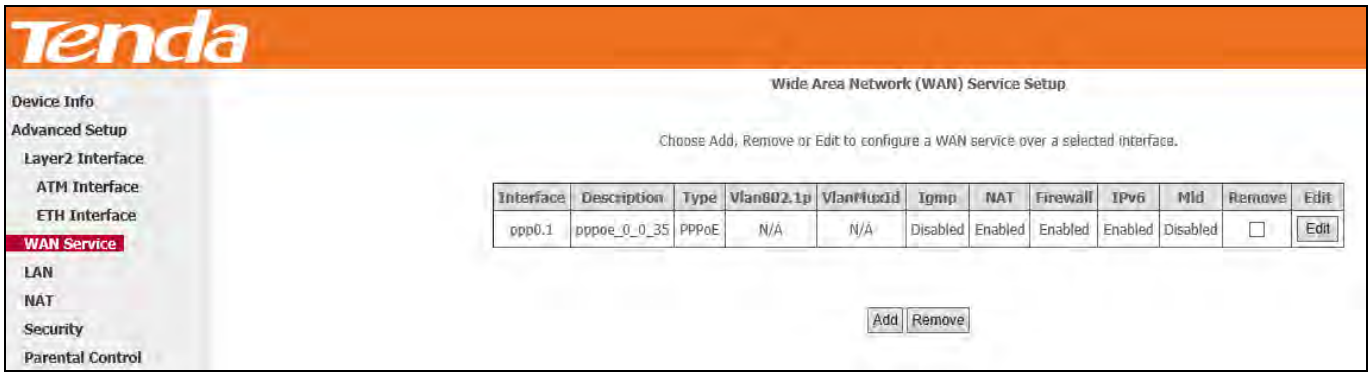
Step 6: To configure the WAN DNS address, check the **Obtain IPv6 DNS info from a WAN interface** option, or select the **Use the following Static IPv6 DNS address** option to enter the static DNS server IPv6 addresses provided by your ISP. At last, click **Next**.



Step 7: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.

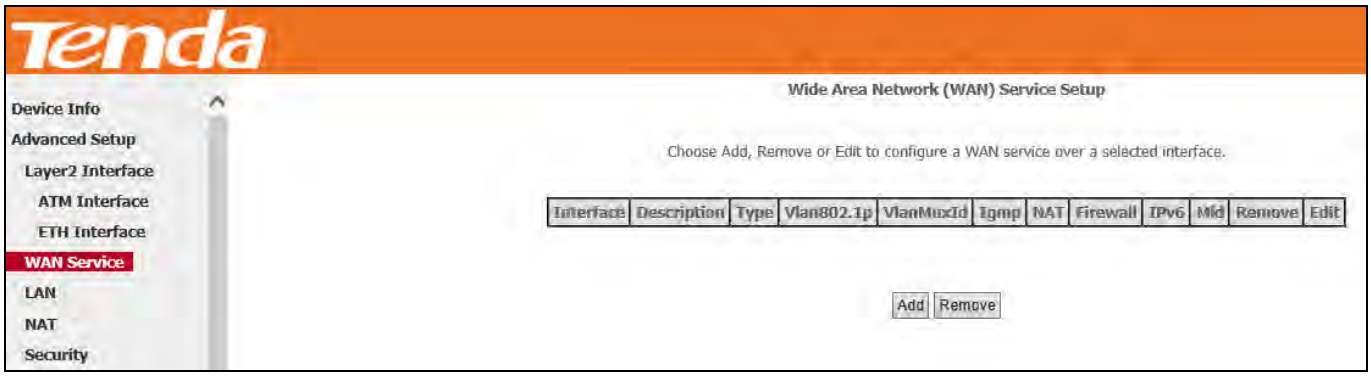


When the PPPoE connection is successful, you can access the Internet.



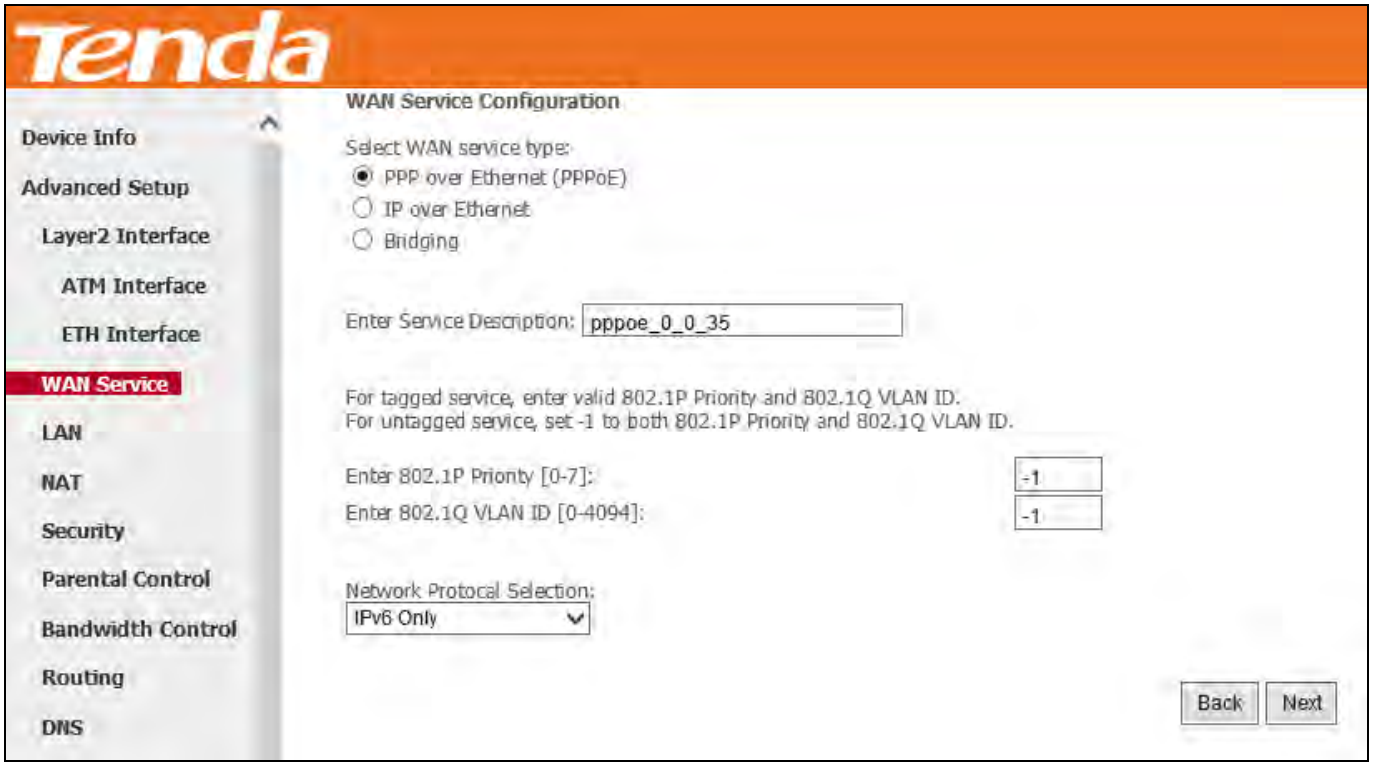
IPv6 Only

Step 1: Click **Advanced Setup** > **WAN Service** and then click the **Add** button.



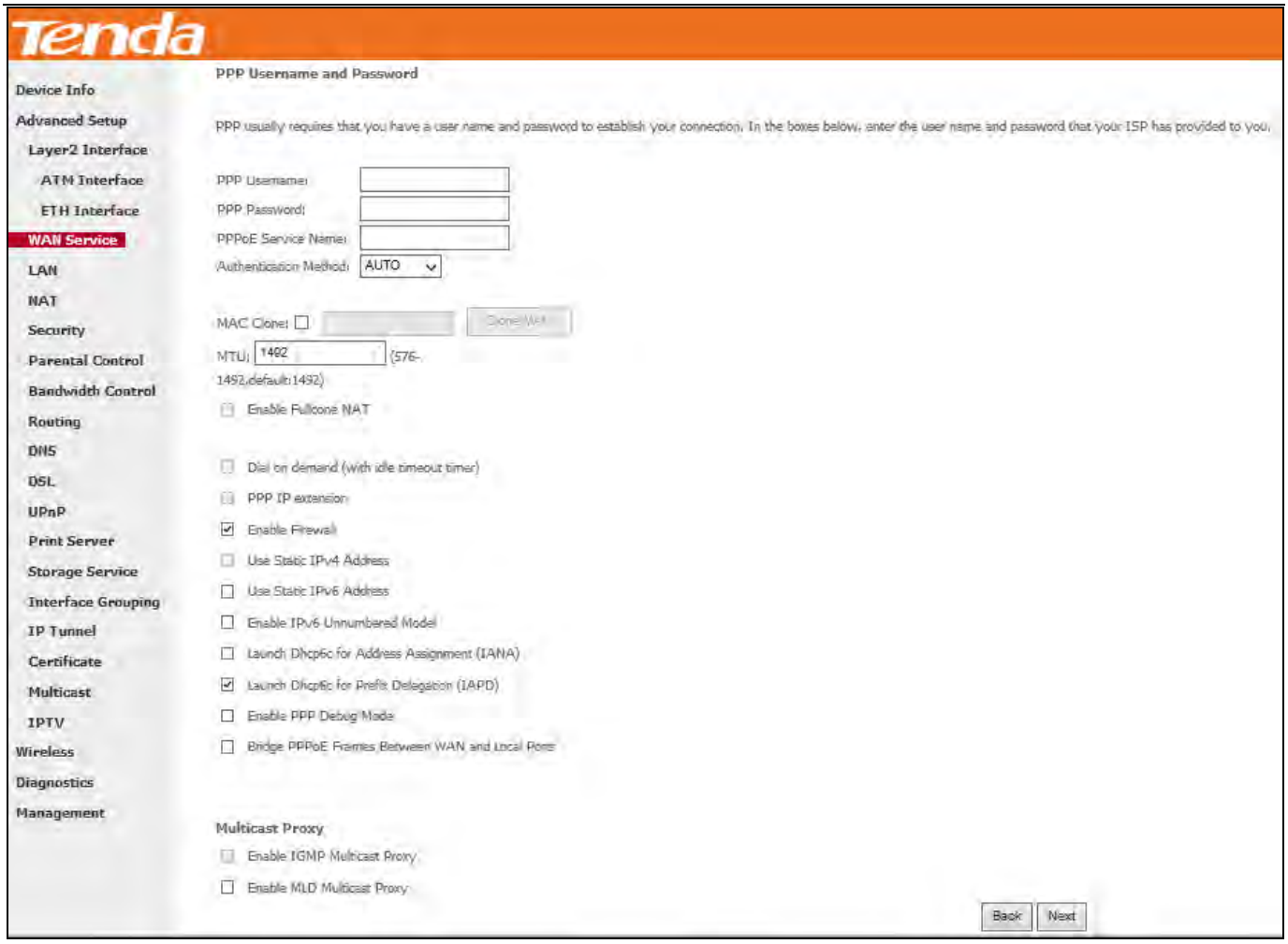
Step 2: Select the ATM interface you added just now from the pull-down menu in the figure below. Click **Next**.

Step 3: Select **PPP over Ethernet (PPPoE)**. Edit the **Enter Service Description** field which is optional. Suggest you keep the default. Select a network protocol you need: **IPv6 Only**. Click **Next.**

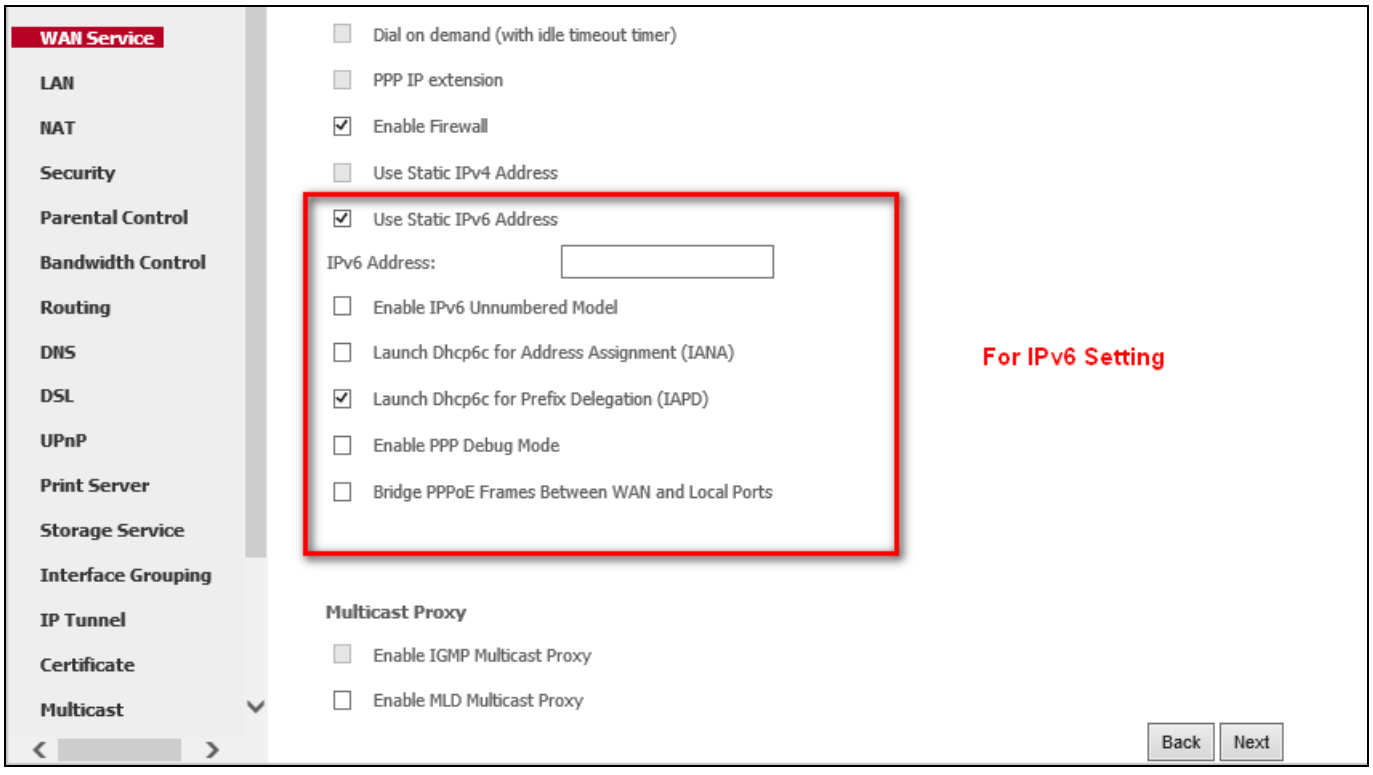


Step 4: Configure PPP Username and Password and other settings on the figure below. Each field with its indication is mentioned above in **IPv4 Only (PPPoE)** section.

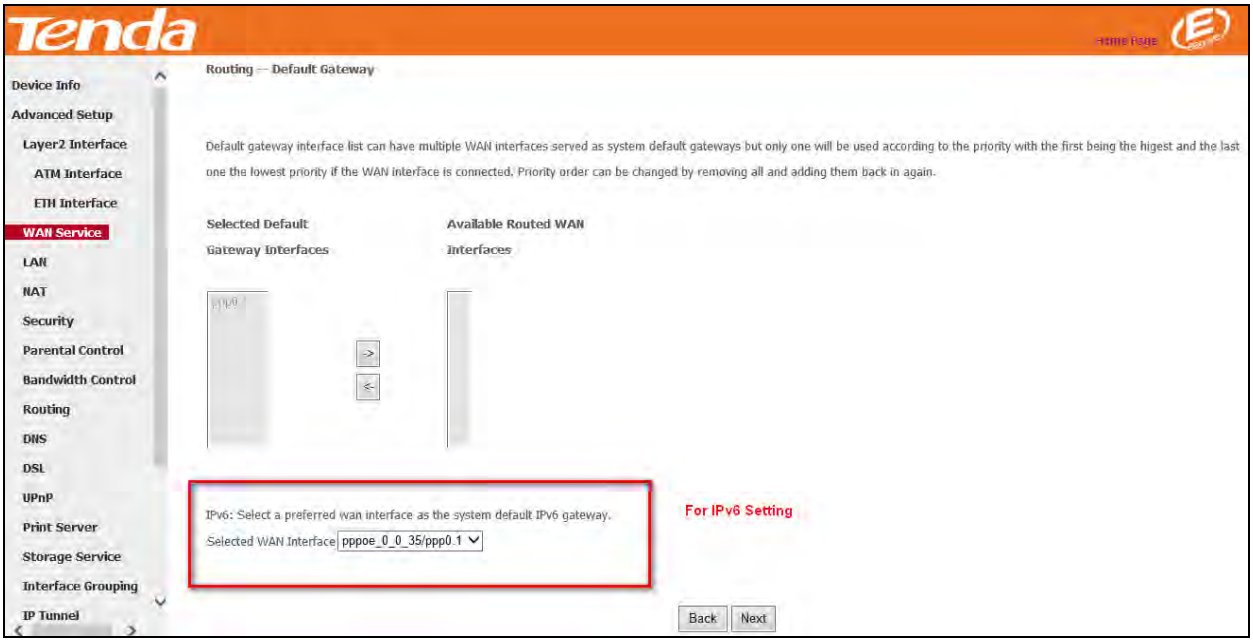
If ISP provides you no static IPv6 address, you just keep the default settings for it's by default the DHCP mode. Check **Launch Dhcp6c for Prefix Delegation (IAPD)**. If your ISP is using stateful DHCPv6, check **Launch Dhcp6c for Address Assignment (IANA)** also. Click **Next**.



If ISP provides you with the static IPv6 address, configure a static IP address by checking **Use Static IPv6 Address** and enter the static IPv6 address.

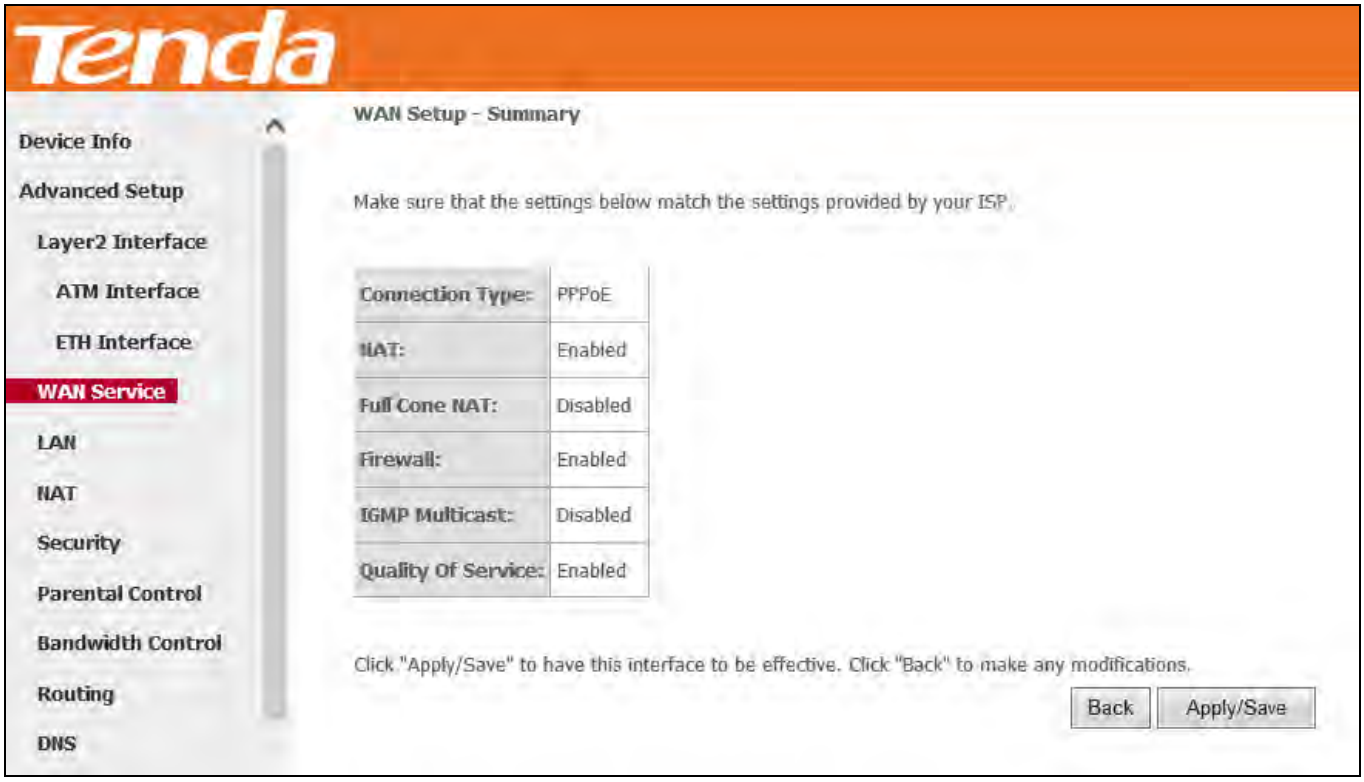


Step 5: To configure the Default Gateway interface when using IPv6, select the interface that you want to configure with the WAN gateway address in **Selected WAN Interface** box. Then click **Next**.

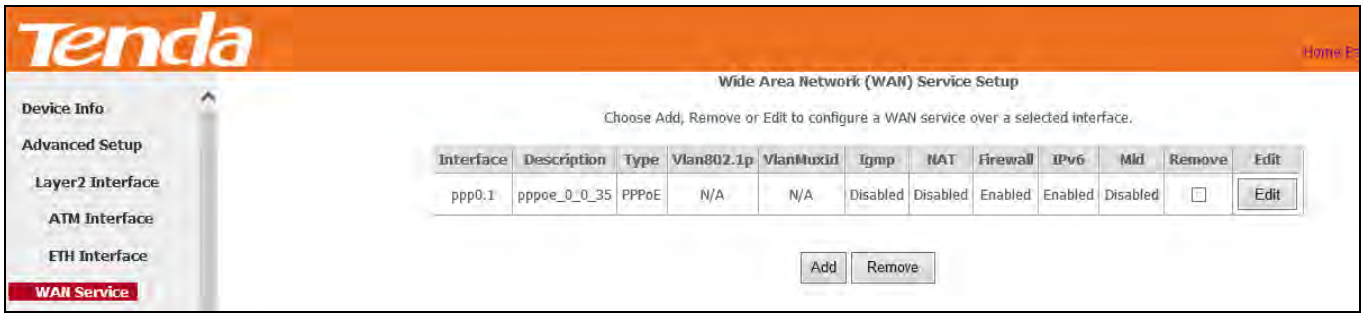


Step 6: To configure the WAN DNS address, check the **Obtain IPv6 DNS info from a WAN interface** option, or select the **Use the following Static IPv6 DNS address** option to enter the static DNS server IPv6 addresses provided by your ISP. At last, click **Next**.

Step 7: Here you can view your configurations. Click **Apply/Save** to take this interface into effect.



When the PPPoE connection is successful, you can access the Internet.

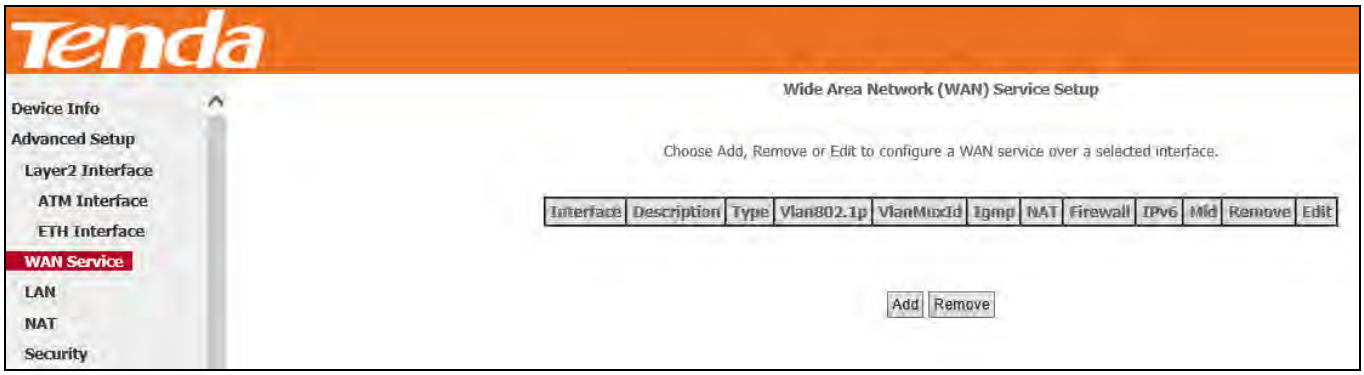


IPoE

IPv4 Only

If your ISP uses DHCP to assign your IP address or if your ISP assigns you a static (fixed) IP address, IP subnet mask and the gateway IP address, you need to select the IP over Ethernet (IPoE).

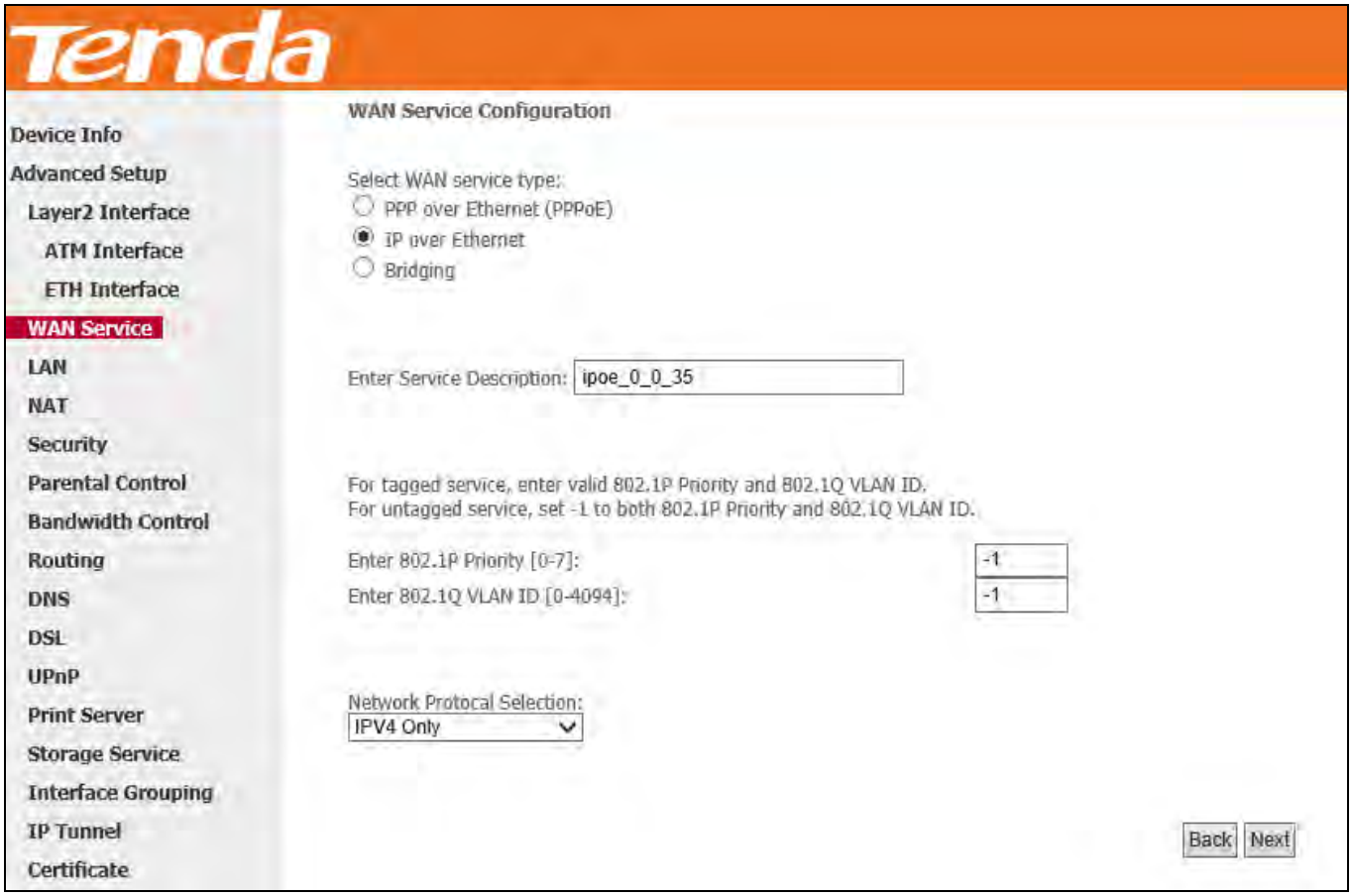
Step 1: Click **Advanced Setup > WAN Service** and then click the **Add** button.



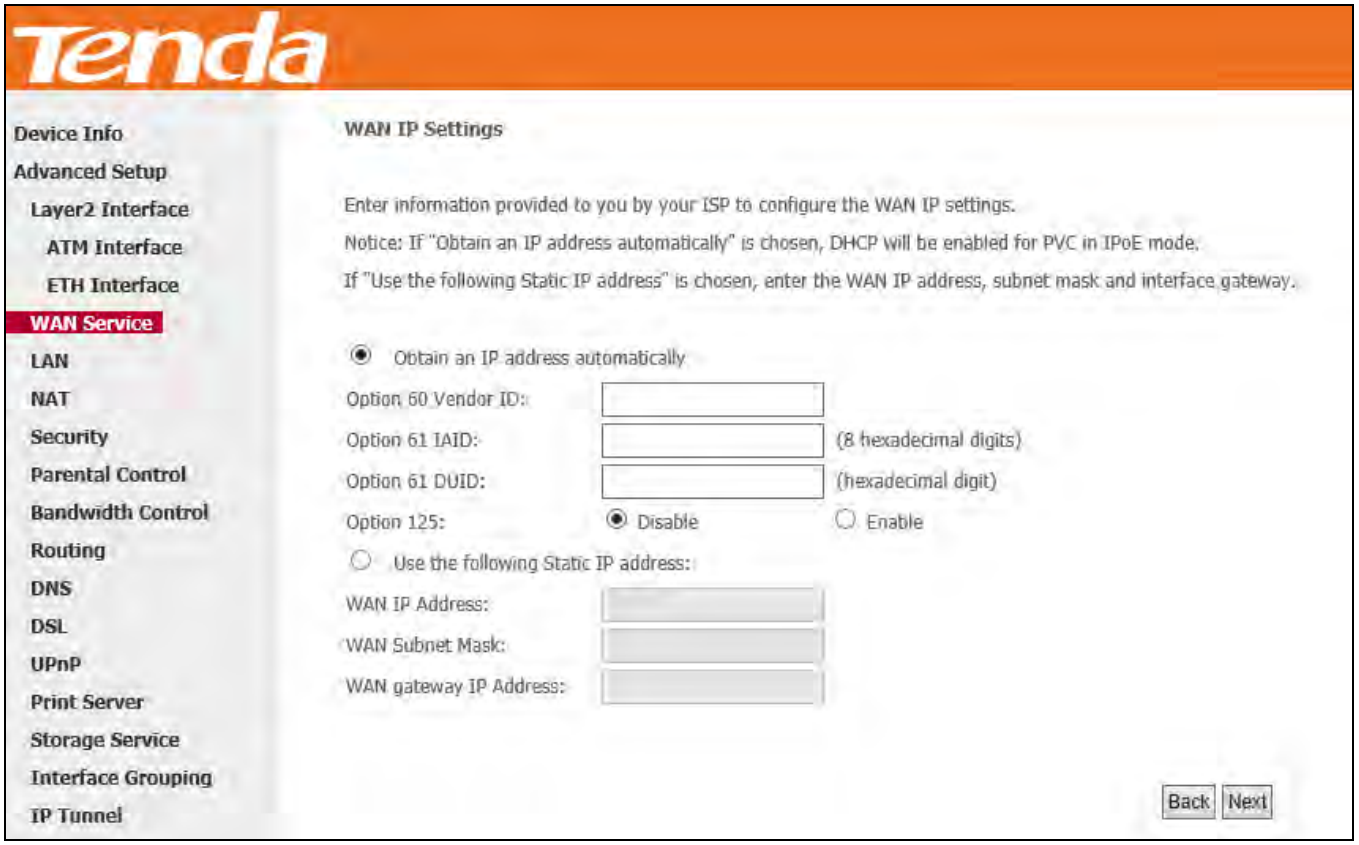
Step 2: Select the ATM interface you added just now from the pull-down menu in the figure below. Click **Next**.

Step 3: Select **IP over Ethernet**. Edit the **Enter Service Description** which is optional. Suggest you keep the default.

Select a network protocol: **IPv4 Only**. Click **Next**.



Step 4: Finish **WAN IP Settings** on the figure below. Click **Next**.



Obtain an IP address automatically: This allows the router to automatically acquire IP information from your ISP or your existing networking equipment.

Use the following Static IP address: This allows you to specify the Static IP information provided by your ISP or that corresponds with your existing networking equipment.

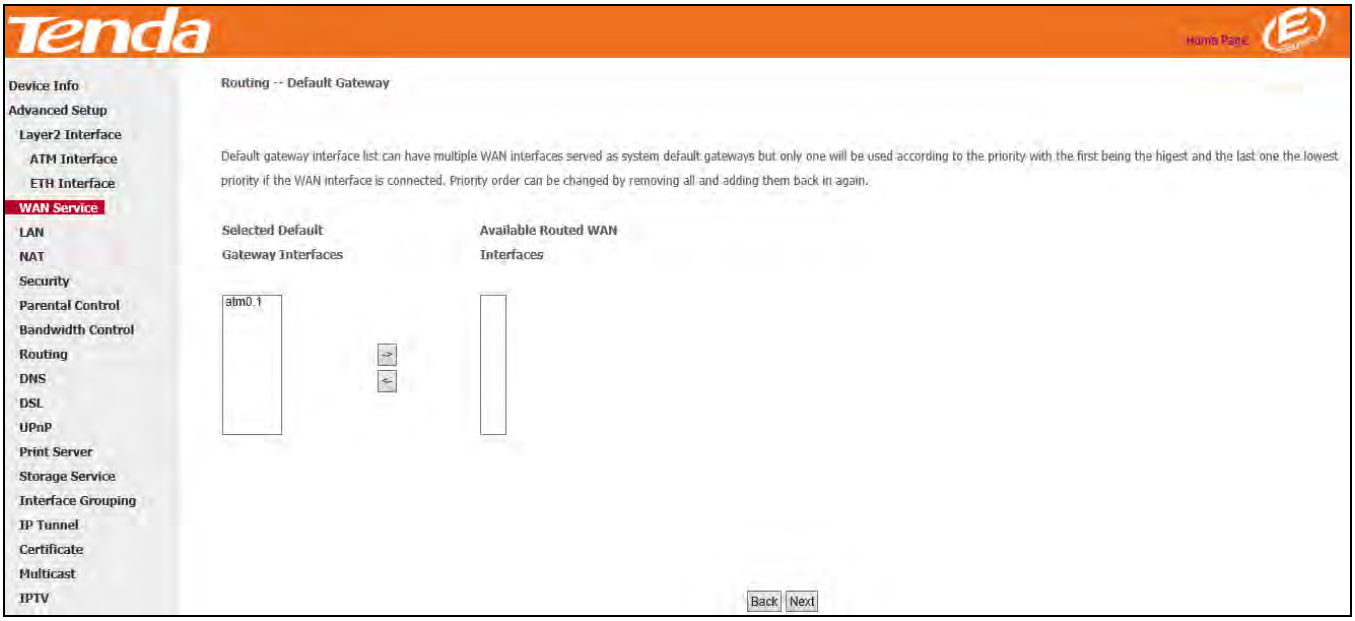
WAN IP Address: The Internet IP address provided by your ISP for accessing the Internet.

WAN Subnet Mask: The subnet mask address provided by your ISP for accessing the Internet.

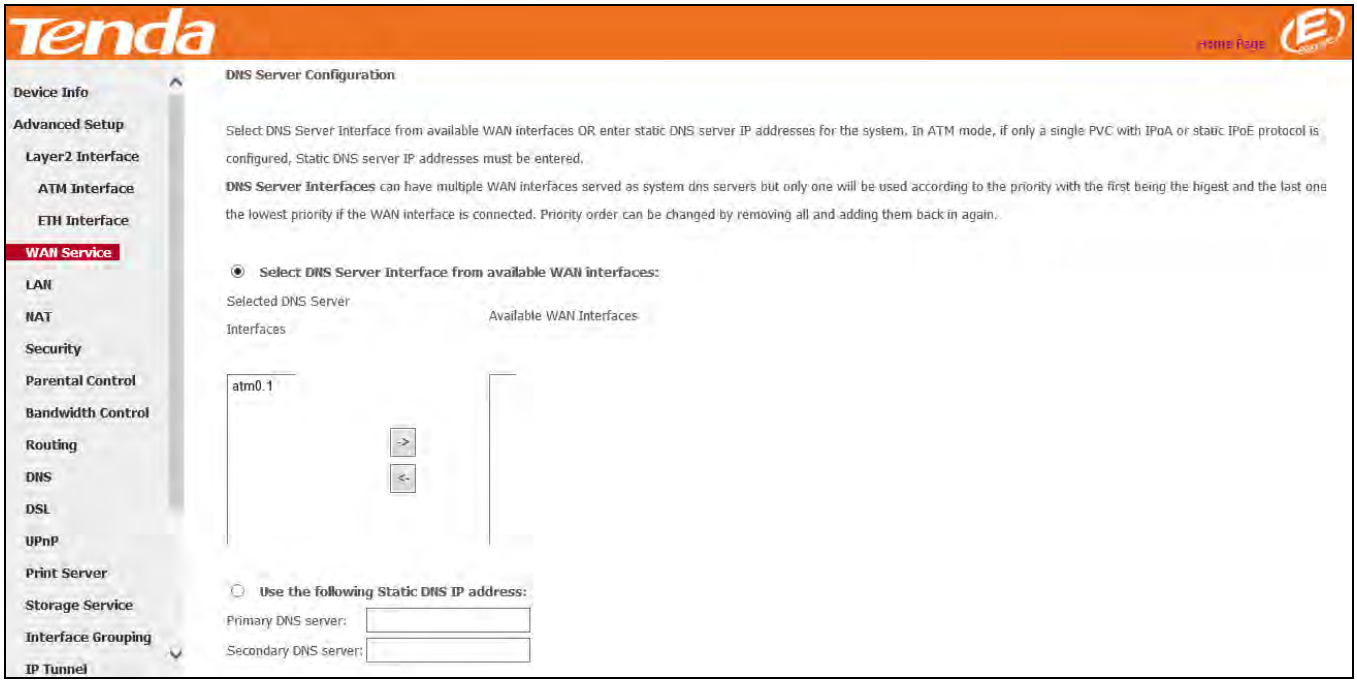
WAN gateway IP Address: The gateway IP address provided by your ISP for accessing the Internet.

Step 5: Finish Network Address Translation Settings. Suggest keep the default settings. Click **Next**.

Step 6: To configure the Default Gateway interface, select the interface that you want to configure with the WAN gateway address in **Available Routed WAN Interfaces** box and move it into **Selected Default Gateway Interfaces** box. The default setting is recommended. Then click **Next**.

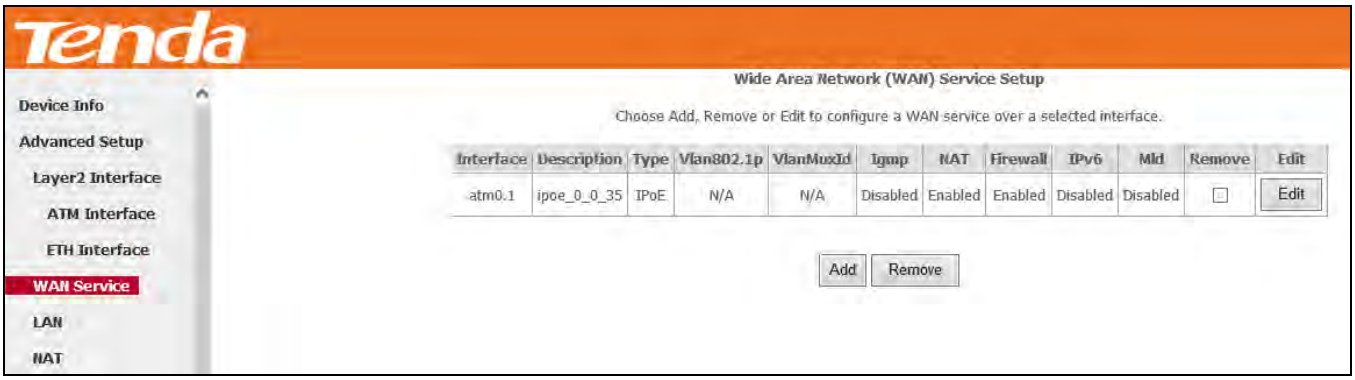


Step 7: To finish DNS Server Configuration, click the **Select DNS Server Interface from available WAN interfaces** option, or select the **Use the following Static DNS IP address** option and enter the static DNS server IP addresses provided by your ISP. At last, click **Next**.



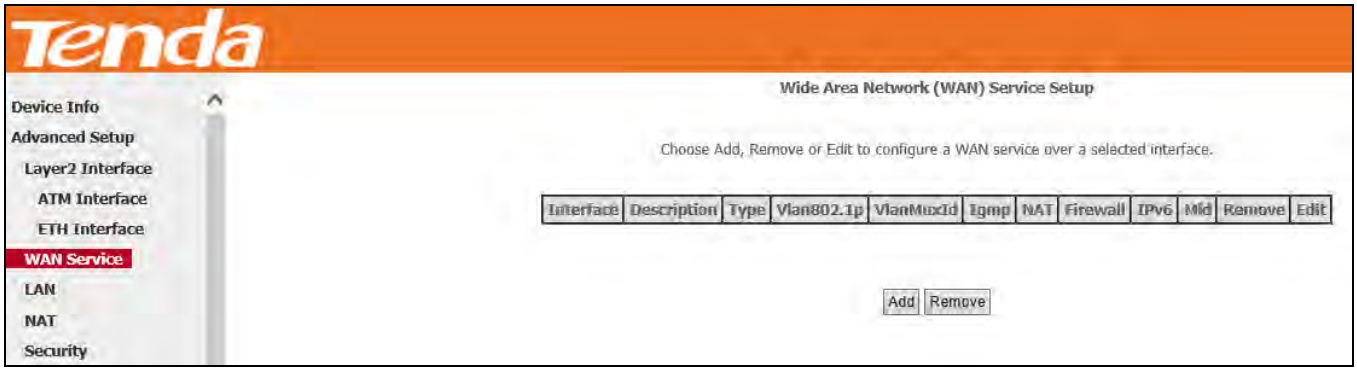
Step 8: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.

When the IPoE connection is successful, you can access the Internet.

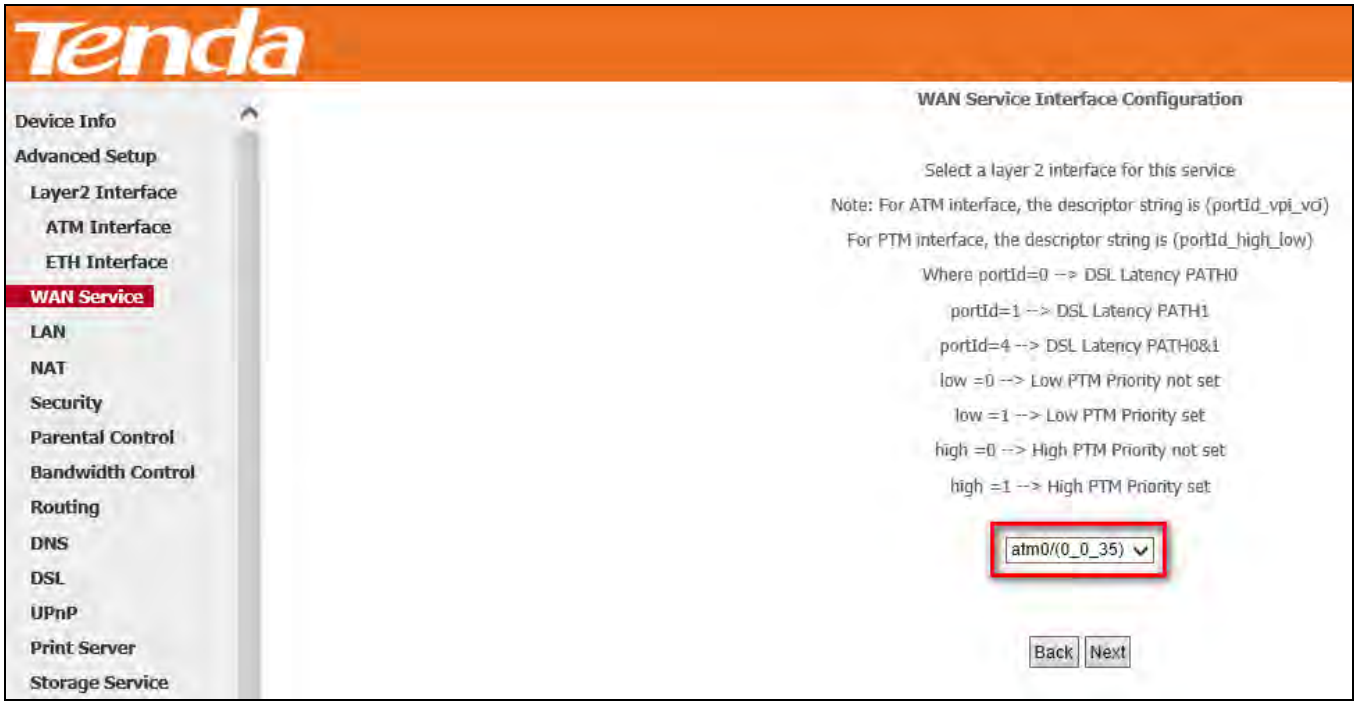


IPv4 & IPv6 (Dual Stack)

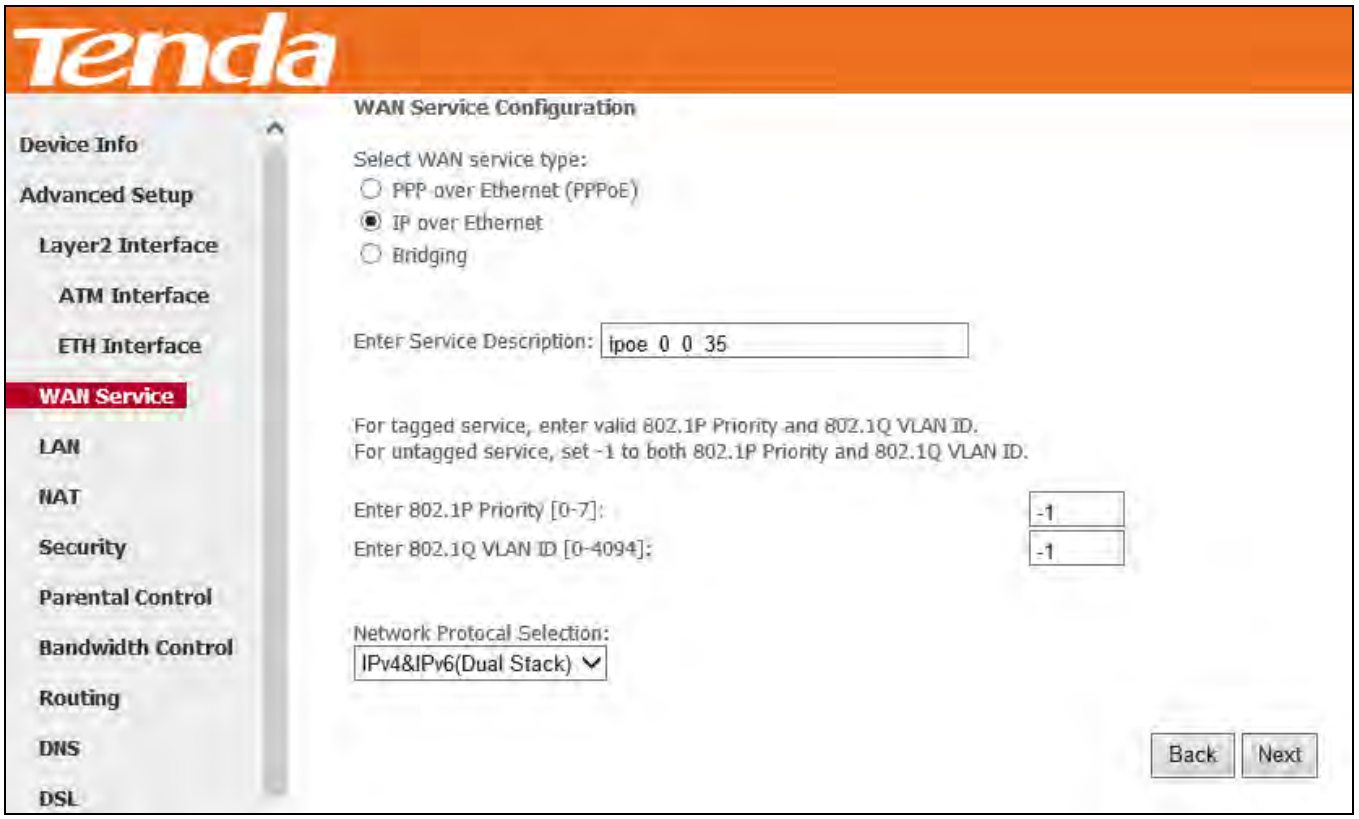
Step 1: Click **Advanced Setup** > **WAN Service** and then click the **Add** button.



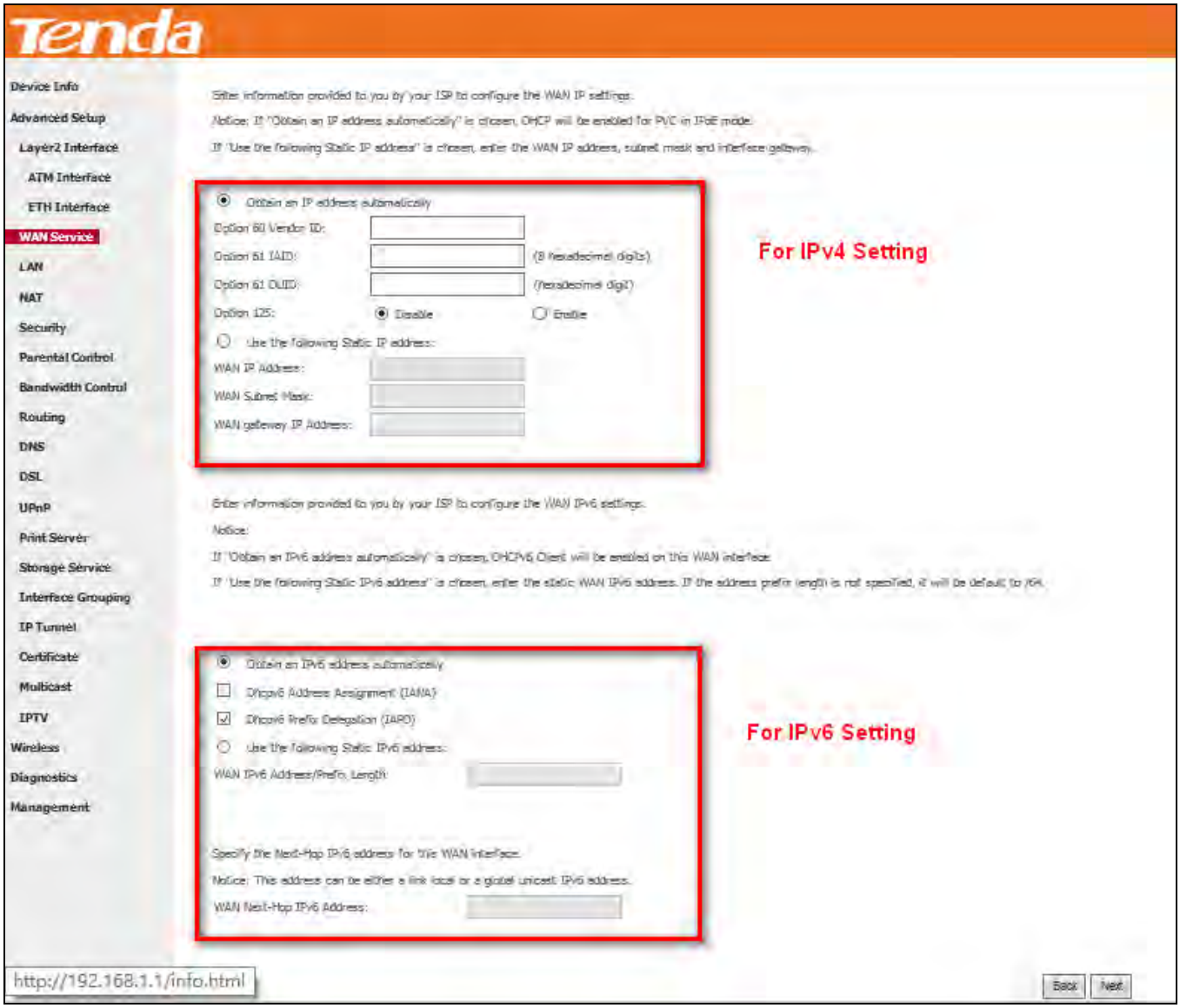
Step 2: Select the ATM interface you added just now from the pull-down menu in the figure below. Click **Next**.



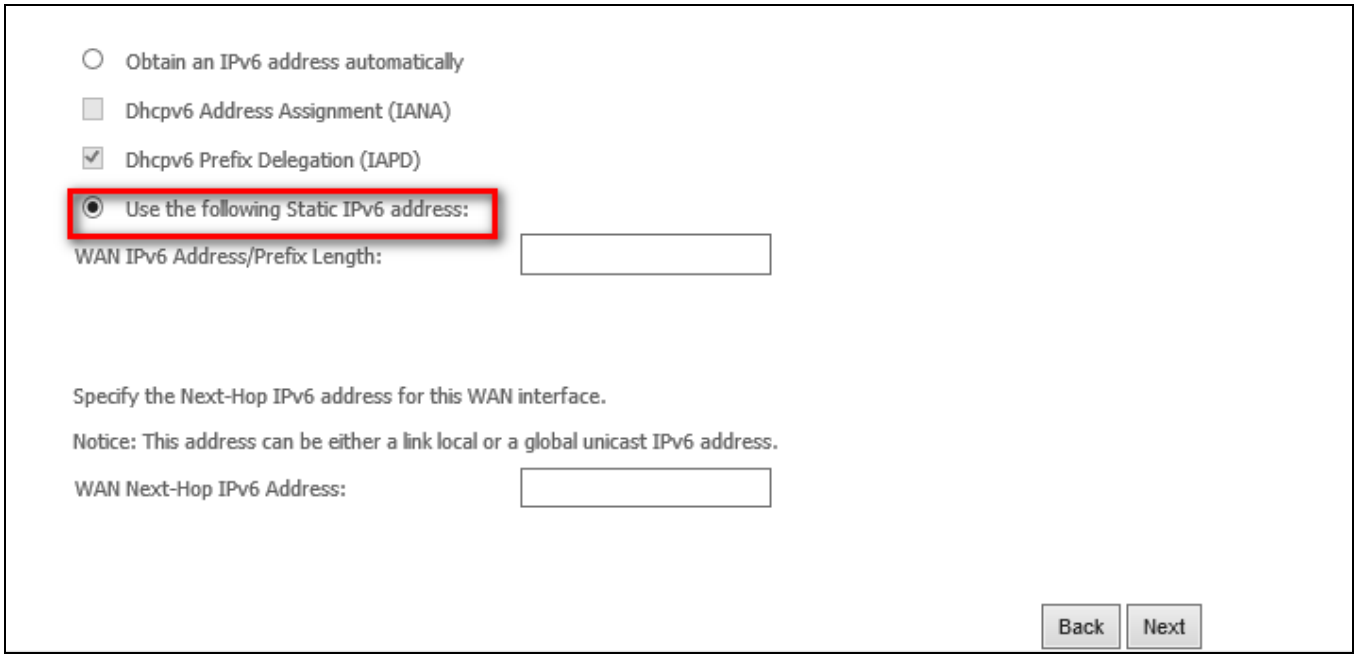
Step 3: Select **IP over Ethernet**. Edit the **Enter Service Description** which is optional. Suggest you keep the default. Select a network protocol: **IPv4&IPv6 (Dual Stack)**. Click **Next**.



Step 4: To finish WAN IP Settings, select **Obtain an IPv6 address automatically**, check **Dhcpv6 Prefix Delegation (IAPD)**. If your ISP is using stateful DHCPv6, check **Dhcpv6 Address Assignment (IANA)** also. Or select **Use the following Static IP address** if your ISP provides you with an IPv6 address. Click **Next**.



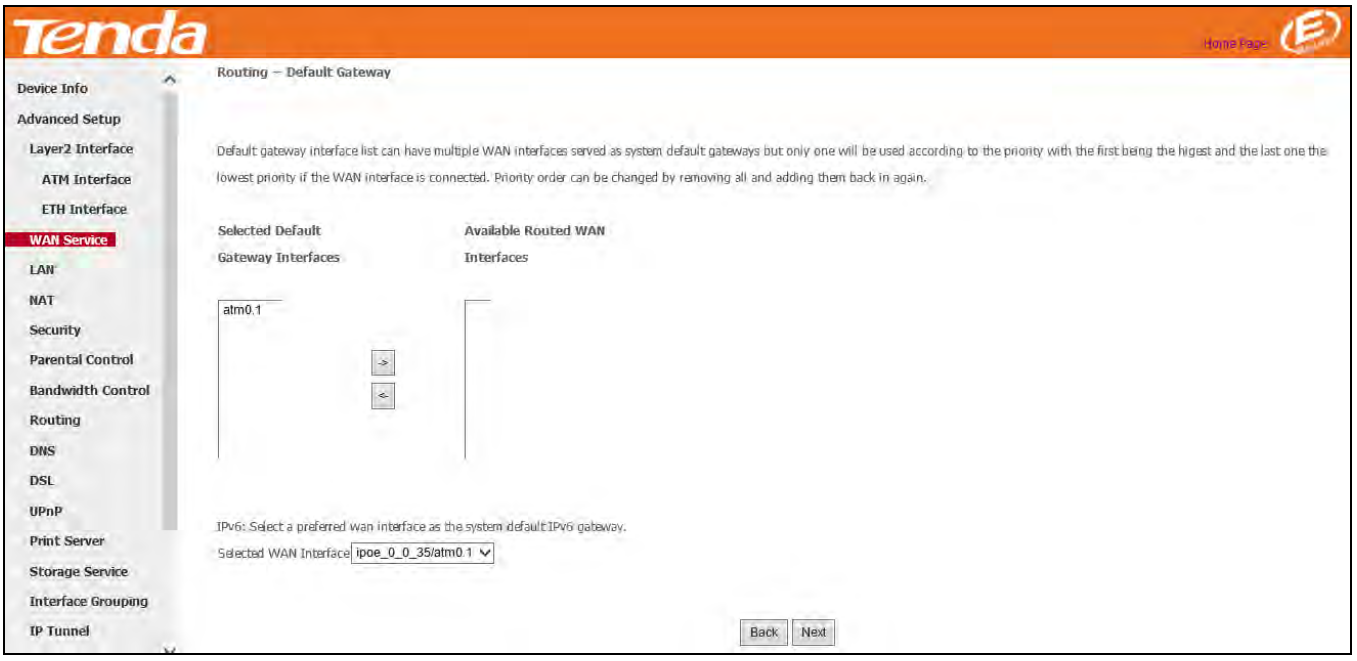
If ISP provides you with the static IPv6 address, configure a static IP address by checking **Use the following Static IPv6 address** and enter the static IPv6 address.



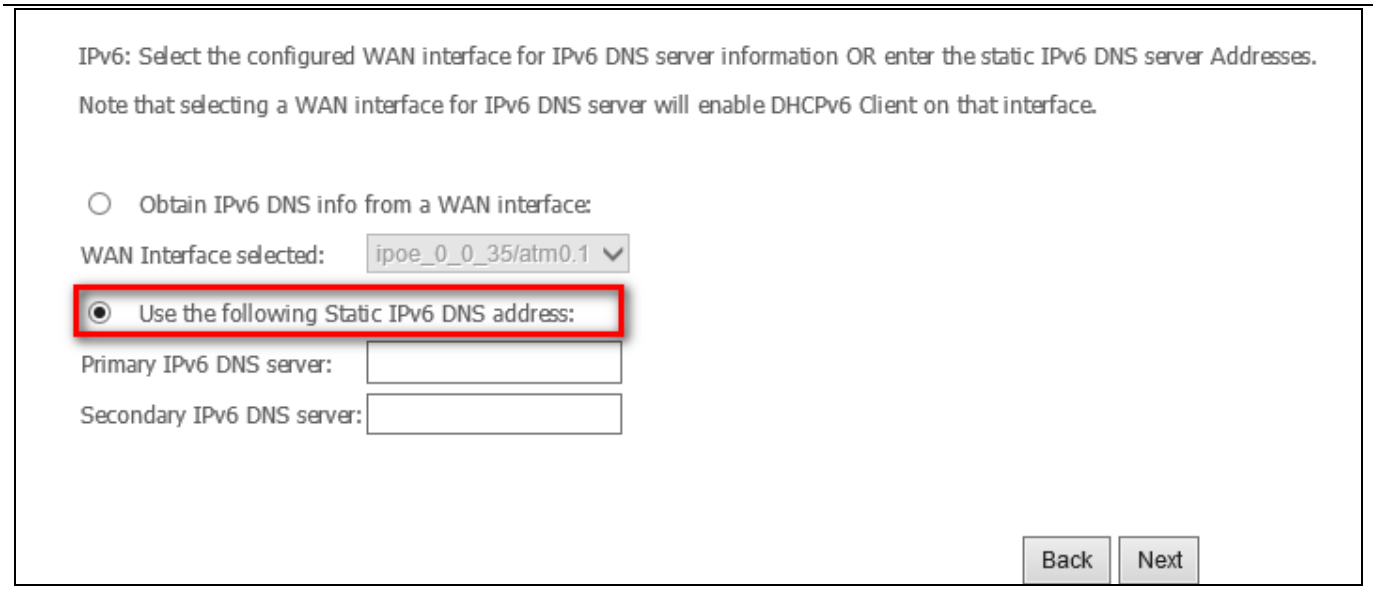
Step 5: Configure NAT settings. If you are unsure about the options, please keep the default settings and then click **Next**.

Step 6: Configure the WAN gateway address. Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

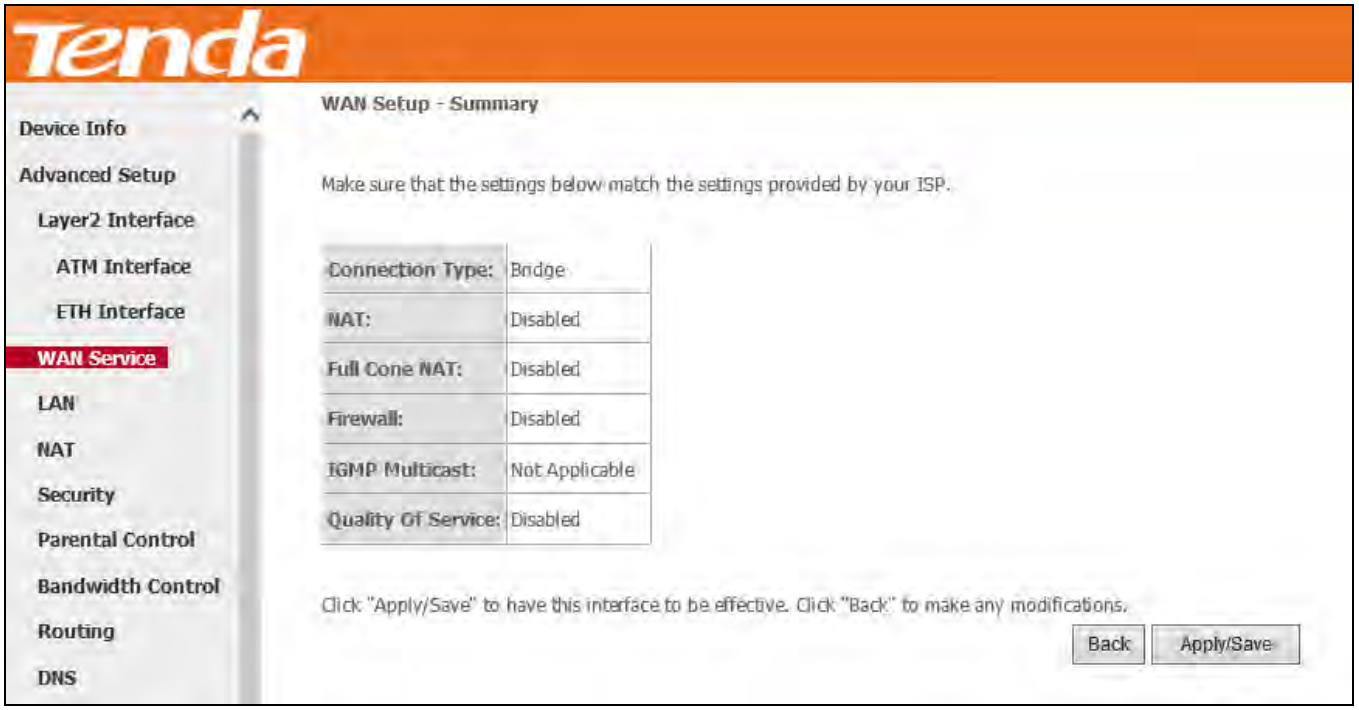
If you are unsure about the options, please keep the default settings and then click **Next**.



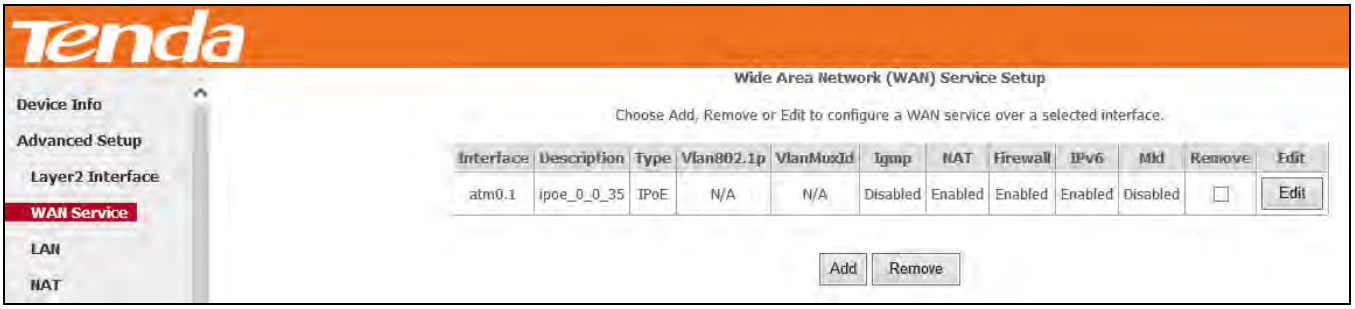
If you are using static IPv6 DNS address, select **Use the following Static IPv6 DNS address** and manually enter the DNS server address. If you have two DNS server addresses, enter the secondary also. And click **Next**.



Step 7: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.

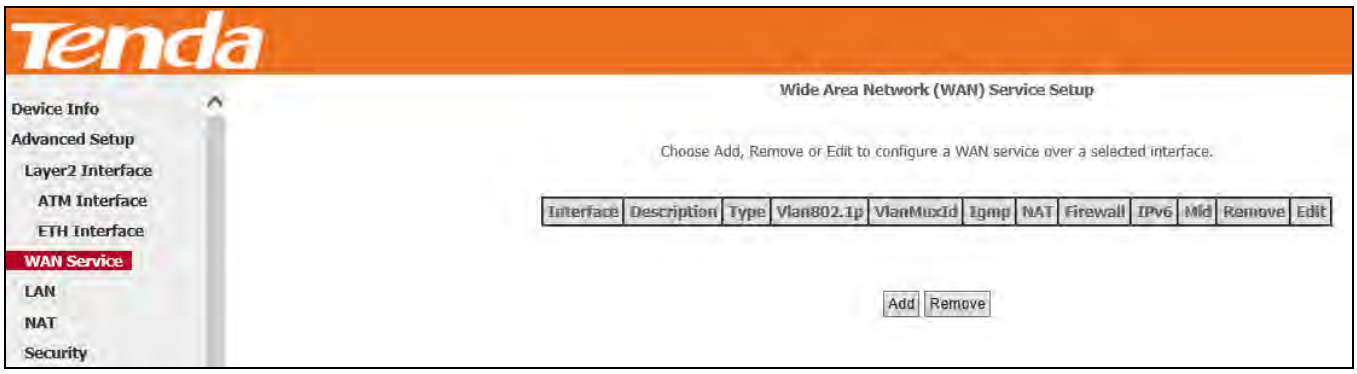


When the IPoE connection is successful, you can access the Internet.



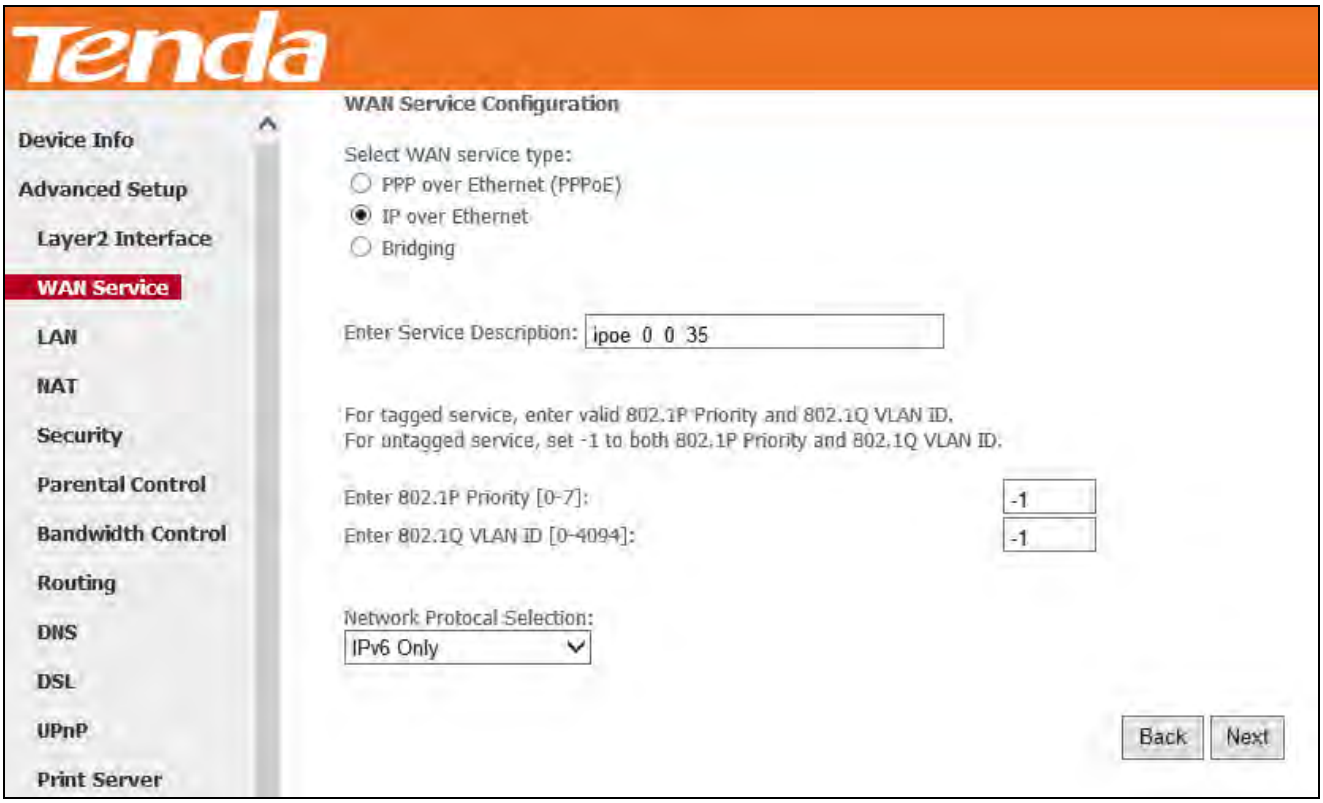
IPv6 Only

Step 1: Click **Advanced Setup** > **WAN Service** and then click the **Add** button.



Step 2: Select the ATM interface you added just now from the pull-down menu in the figure below. Click **Next**.

Step 3: Select **IP over Ethernet (IPoE)**. Edit the **Enter Service Description** field which is optional. Suggest you keep the default. Select a network protocol you need: **IPv6 Only**. Click **Next**.



Step 4: Enter the WAN information provided by your ISP to configure the WAN IPv6 settings.

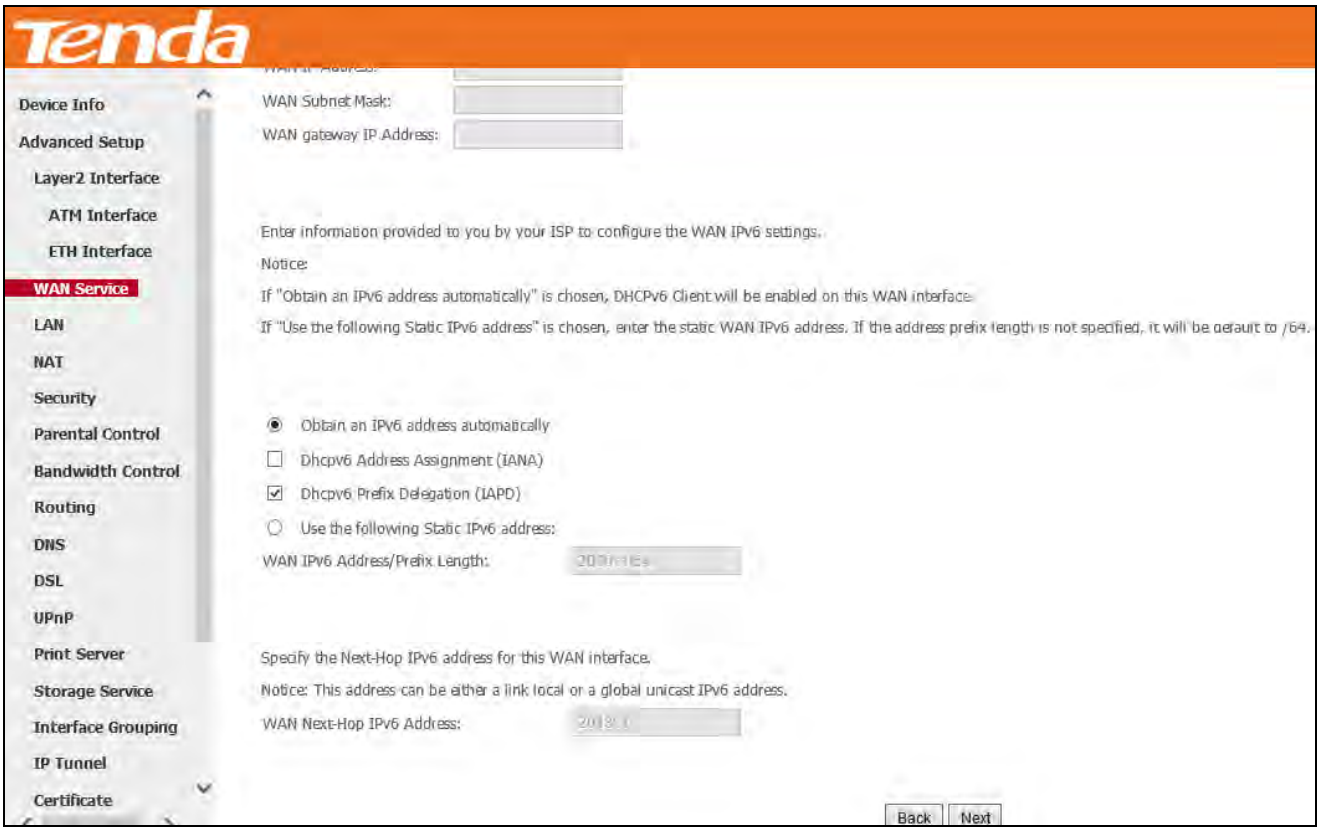
To obtain an IP address automatically:

Select **Obtain an IPv6 address automatically**.

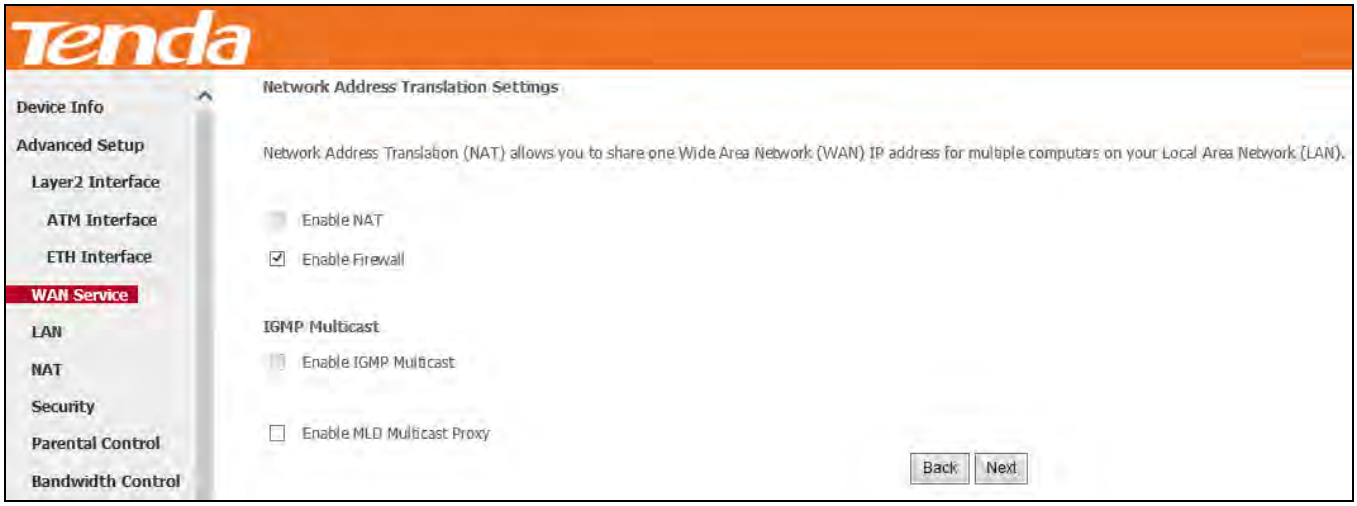
Check **Dhcp6c Prefix Delegation (IAPD)**.

If your ISP is using stateful DHCPv6, check **Dhcp6c Address Assignment (IANA)** also.

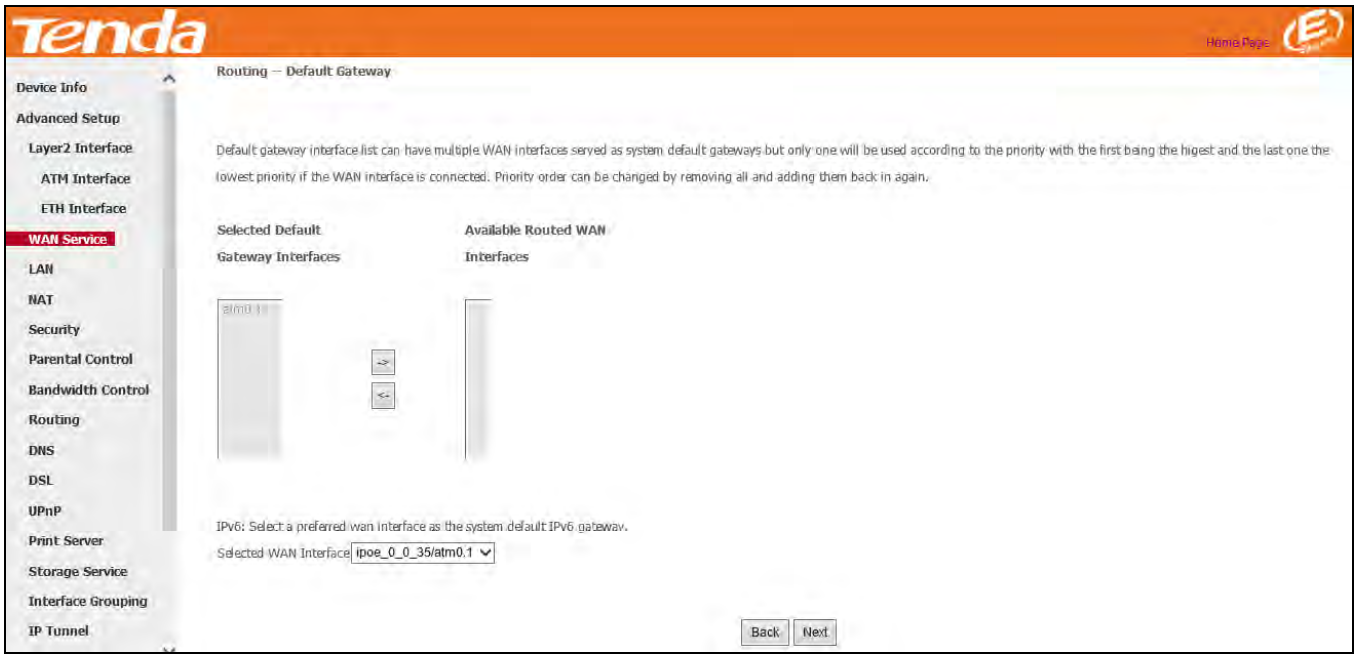
Click **Next** to go forwards.



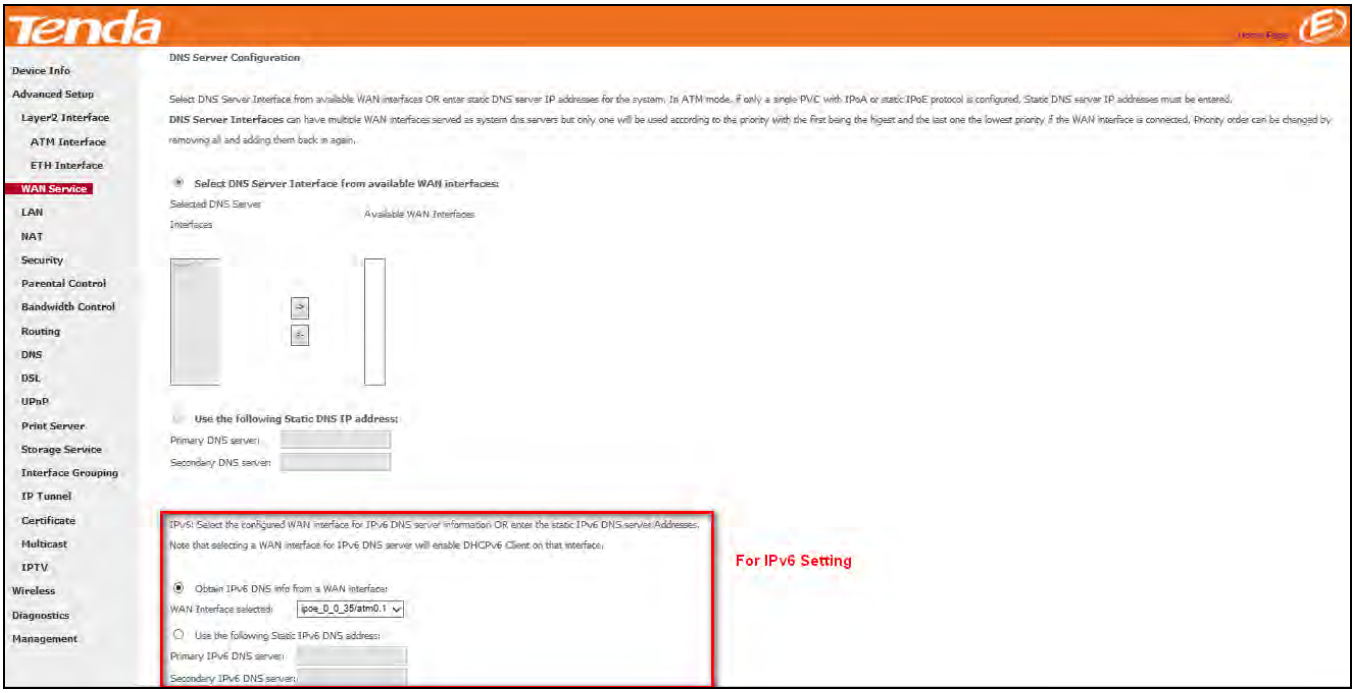
Step 5: Finish Network Address Translation Settings. Suggest keep the default settings. Click **Next**.



Step 6: To configure the Default Gateway interface when using IPv6, select the interface that you want to configure with the WAN gateway address in **Selected WAN Interface** box. Then click **Next**.

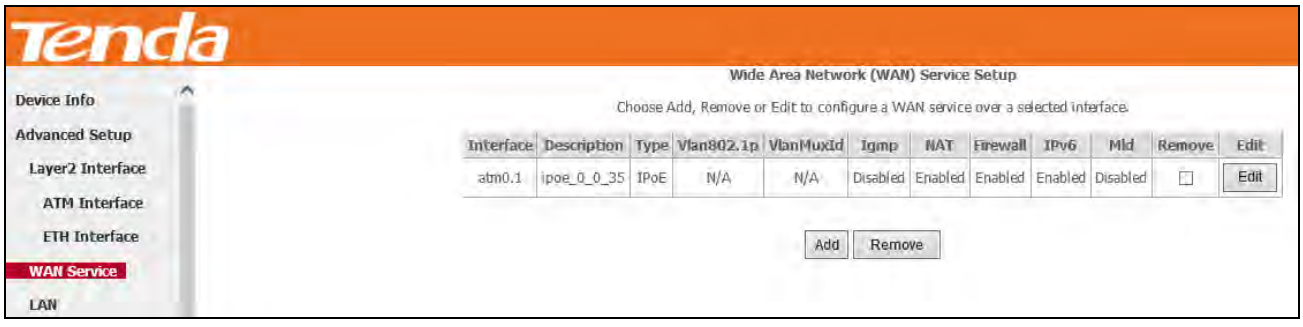


Step 7: To configure the WAN DNS address, check the **Obtain IPv6 DNS info from a WAN interface** option, or select the **Use the following Static IPv6 DNS address** option to enter the static DNS server IPv6 addresses provided by your ISP. At last, click **Next**.



Step 8: Here you can view your configurations. Click **Apply/Save** to have this interface to be effective.

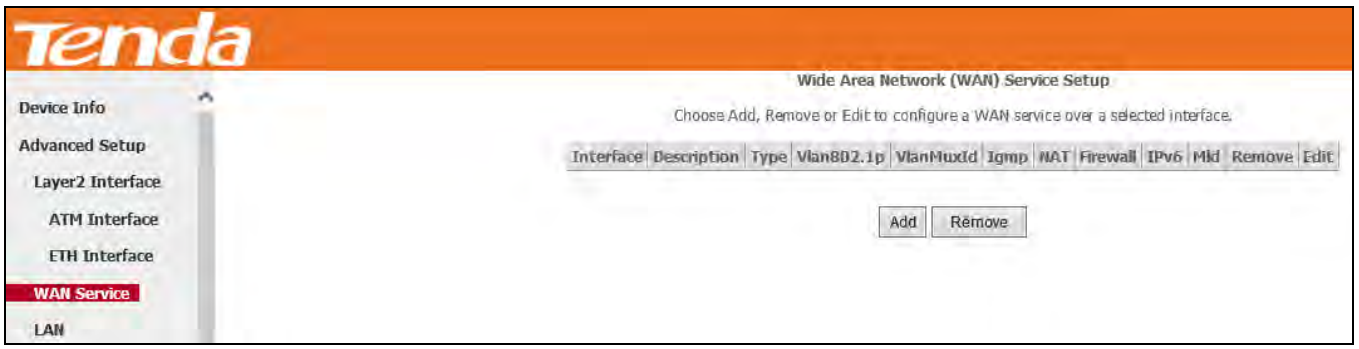
When the IPoE connection is successful, you can access the Internet.



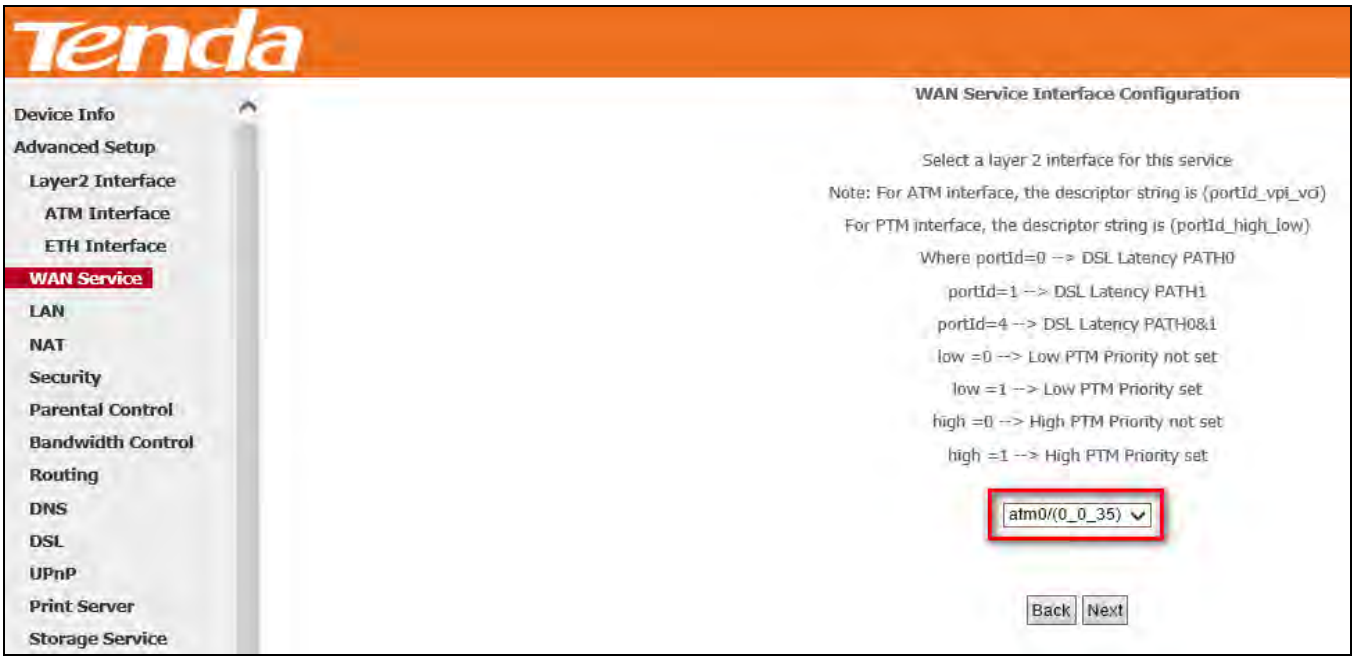
Bridge

If you wish to initiate a dialup directly from your PC for Internet access or enjoy the entire Internet connection (instead of sharing it with others), you can use the Bridging DSL link type and create a dialup program on your PC.

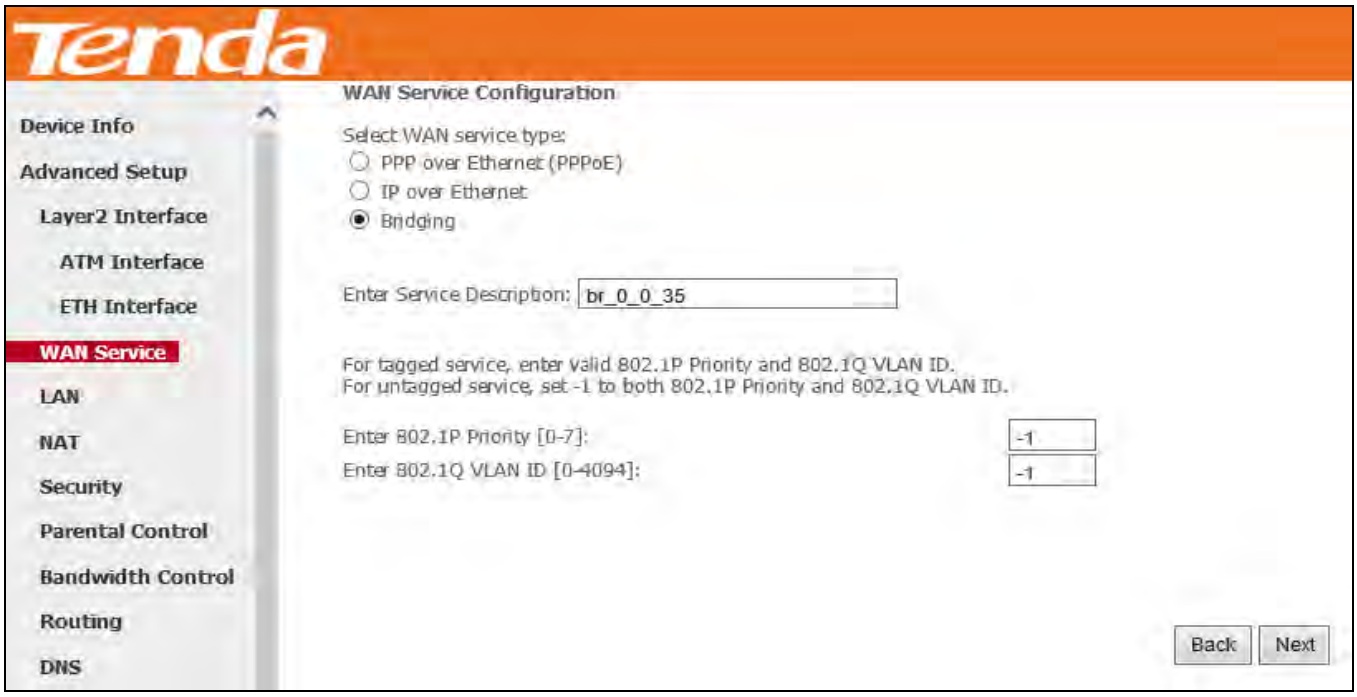
Step 1: Click **Advanced Setup > WAN Service** and then click the **Add** button.



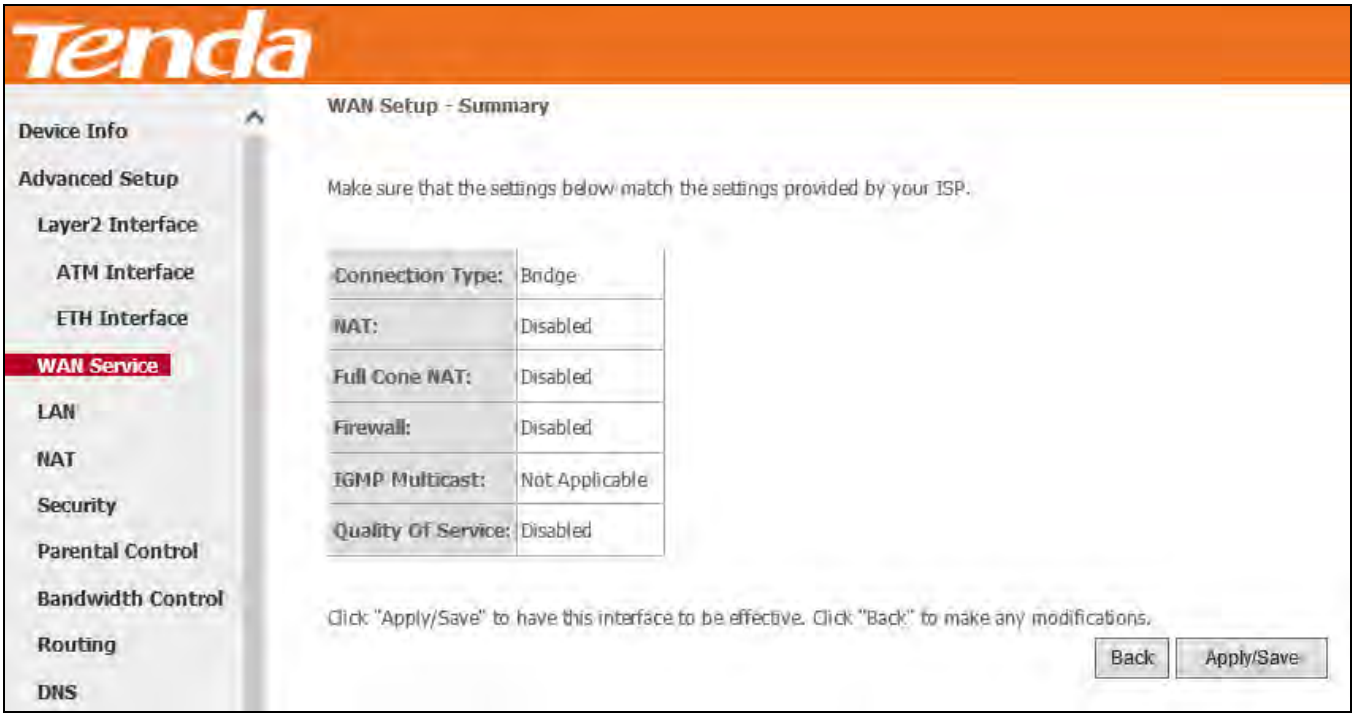
Step 2: Select the ATM interface you added just now from the pull-down menu in the figure below. Click **Next**.



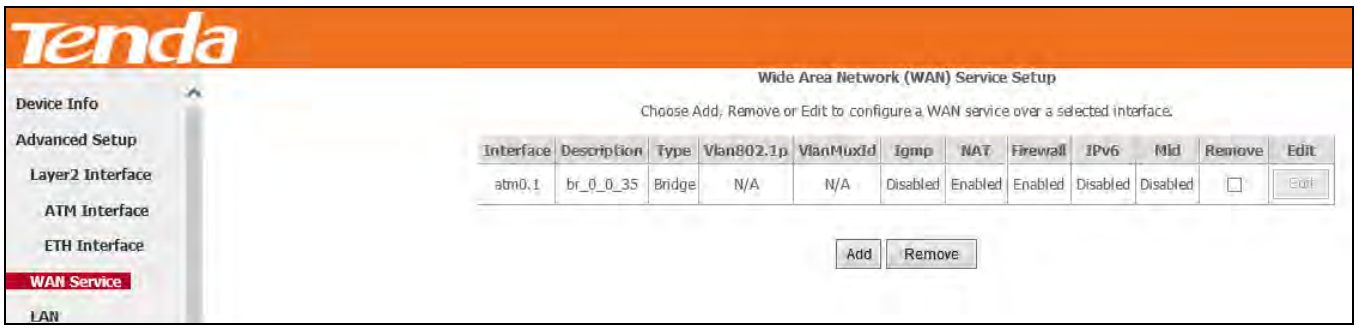
Step 3: Select **Bridging**. Edit the **Enter Service Description** which is optional. Suggest you keep the default. Click **Next**.



Step 4: Here you can view your configurations. Click **Apply/Save** to have this interface to be effective.



After the bridging connection is successful, initiate a dialup directly from your PC for Internet access.



Note

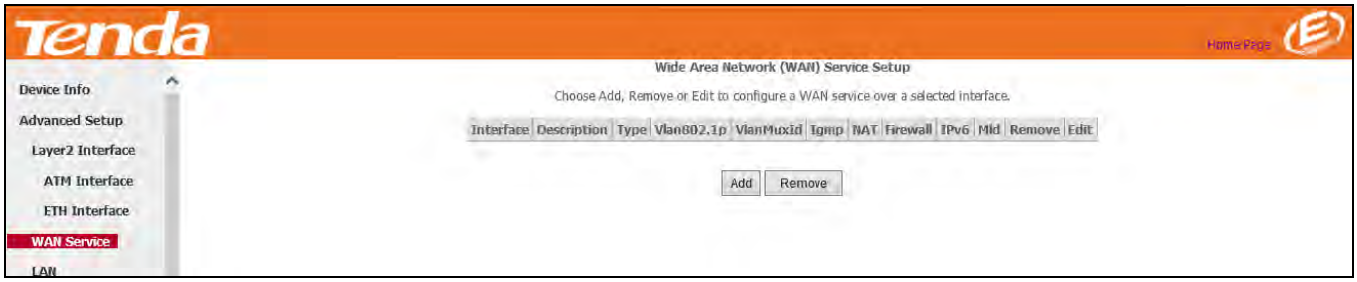
To configure multiple WAN connect ions, simply configure multiple ATM interfaces and then follow the instructions above.

PPPoA

If you have selected the **PPPoA** from the **ATM Interface** screen in **Layer2 Interface**, you will see the screen below when you click the **WAN Service** tab, select the configured interface and click **Next**.

IPv4 Only

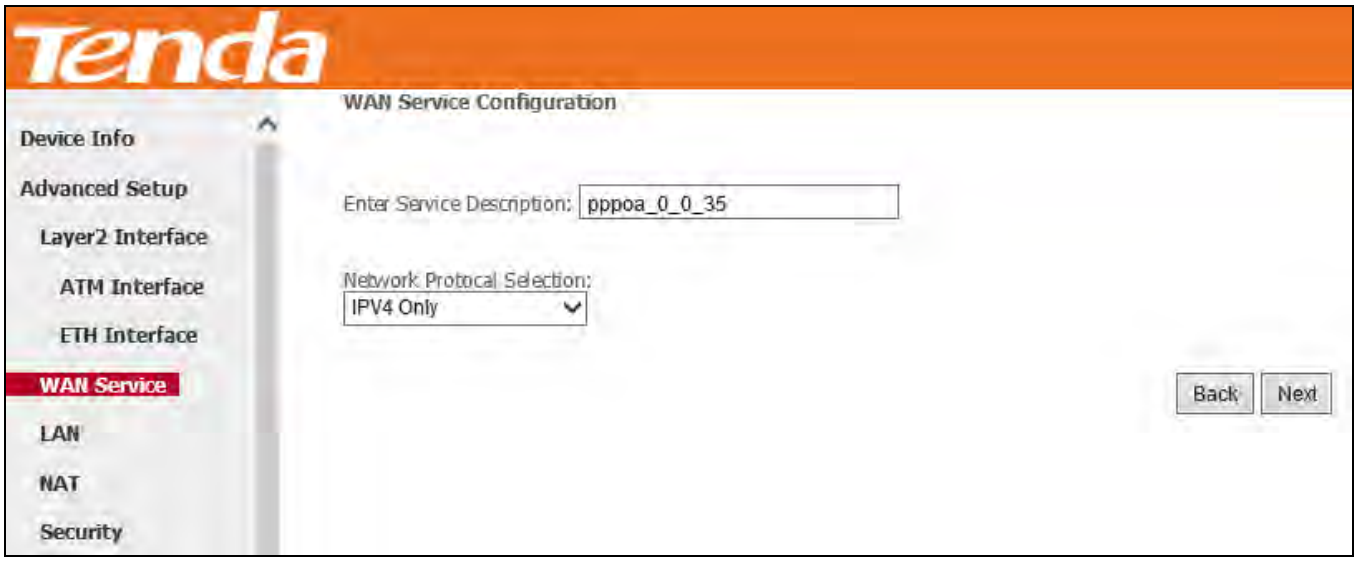
Step 1: Click **Advanced Setup > WAN Service** and then click the **Add** button.



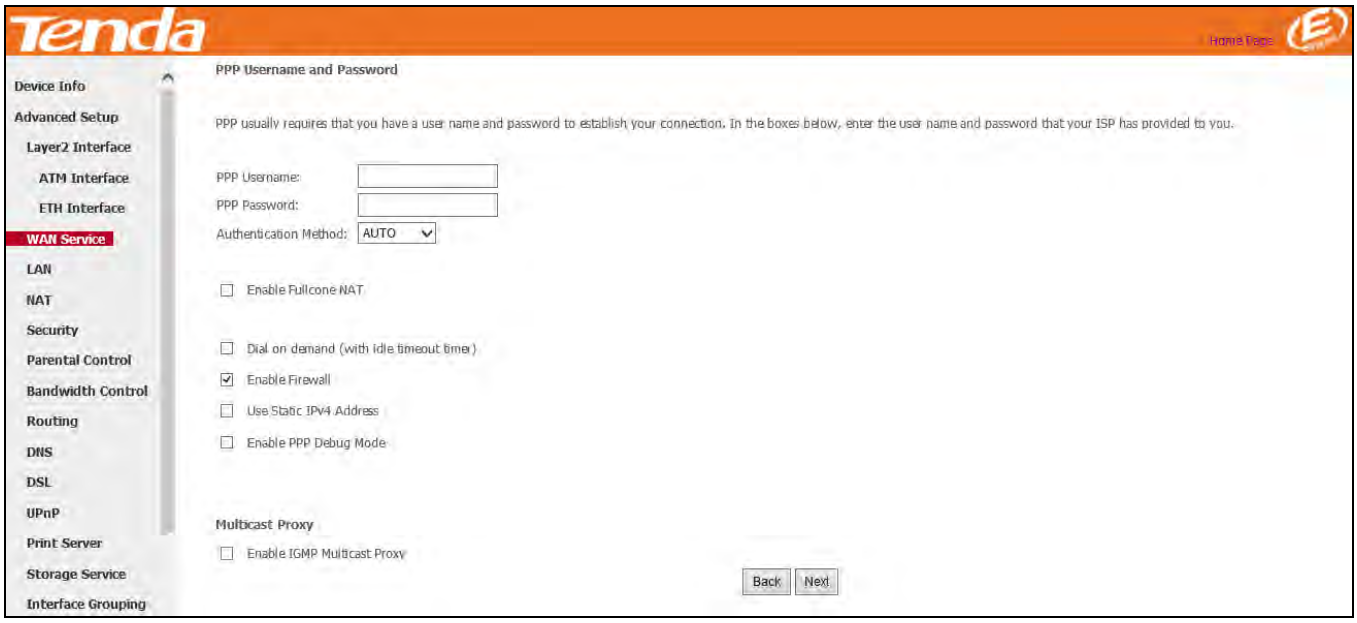
Step 2: Select the ATM interface you added just now from the pull-down menu in the figure below. Click **Next**.

Step 3: Edit the **Enter Service Description.** This field is optional. We recommend that you keep the default.

Select a network protocol: **IPv4 Only**, **IPv6 Only** or **IPv4 & IPv6 (Dual Stack)**. Click **Next**.



Step 4: Enter PPP username and its password provided by your ISP. Click **Next**.



PPP Username: This is for logging in to your ISP. If you cannot locate this information, ask your ISP to provide it.

PPP Password: This is for logging in to your ISP. If you cannot locate this information, ask your ISP to provide it.

Authentication Method: This is used by ISP to authenticate the client that attempts to connect. If you are not sure, consult your ISP or select **AUTO**.

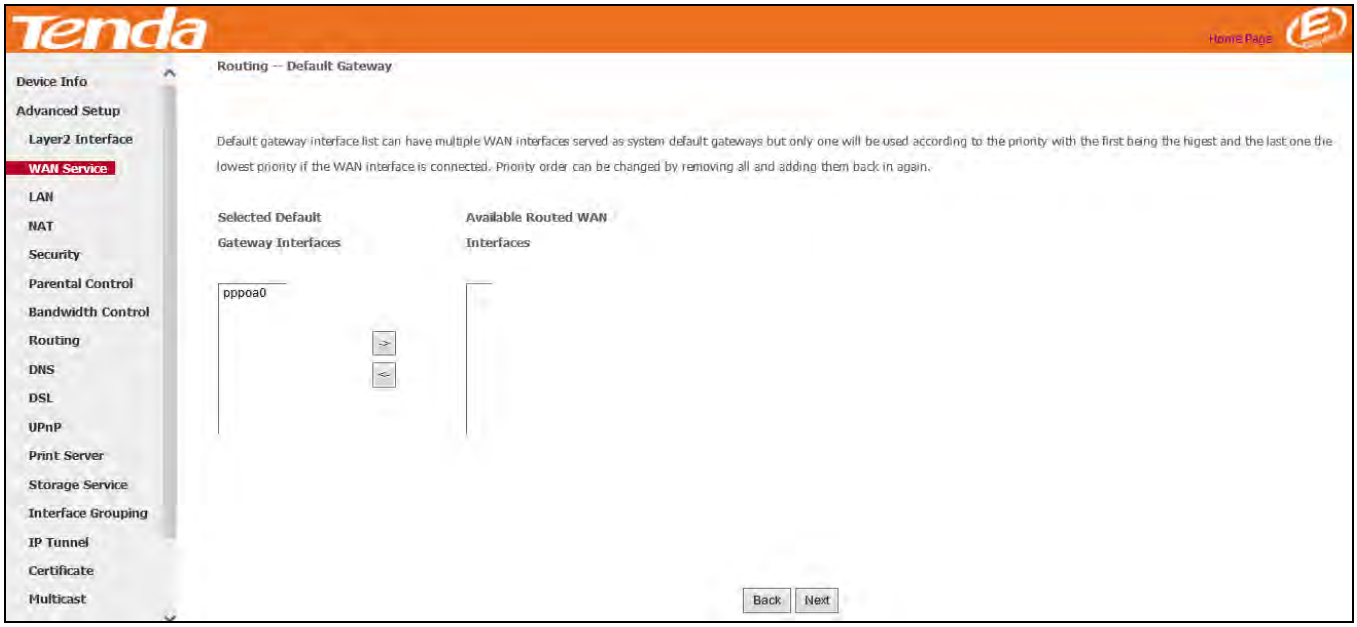
Dial on demand: Connect to ISP only when there is traffic transmission. This saves your broadband Internet service bill.

Enable PPP Debug Mode: Only enable this feature if supported by your ISP.

Multicast Proxy: If enabled, the router will use multicast proxy.

If you are not sure about the options on this screen, simply enter your ISP user name and password and leave the other options unchanged from defaults. Click **Next** to enter the following screen.

Step 5: To configure the WAN gateway address. After you configure it click **Next**. The default setting is recommended.

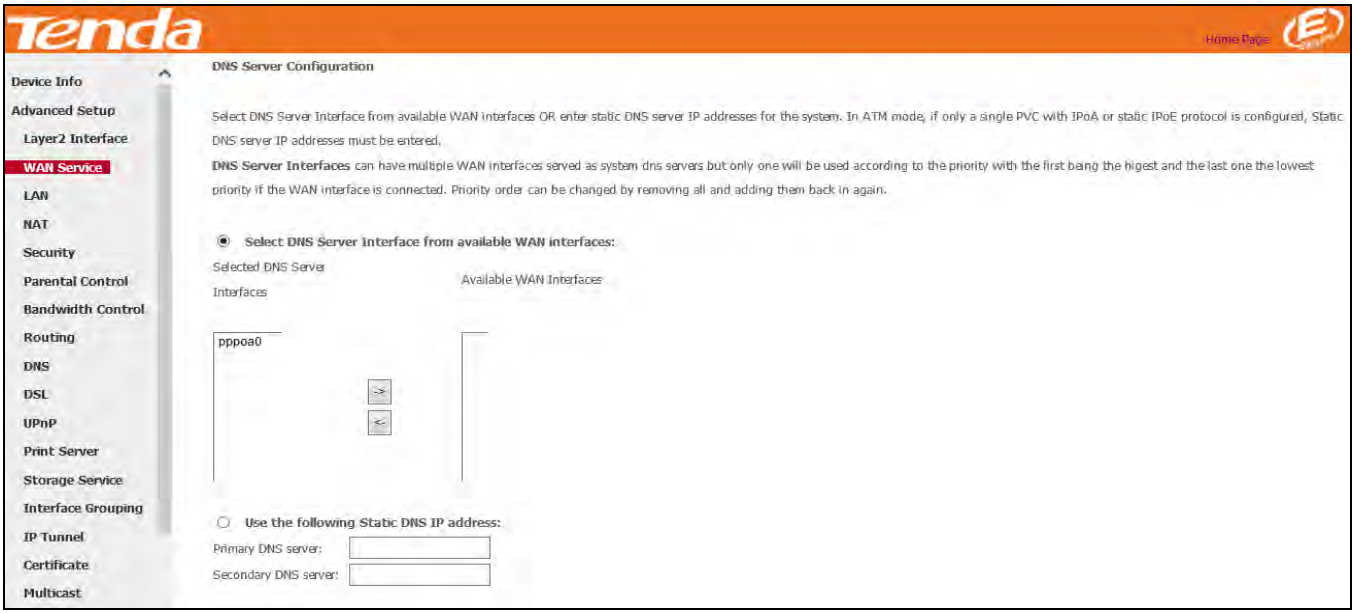


Step 6: To configure the WAN DNS address. Choose a way to get DNS server according to what your ISP has provided.

-Click the Select DNS Server Interface from available WAN interfaces option.

-Select the **Use the following Static DNS IP address** option and enter static DNS server IP addresses for the system.

And then click **Next**.



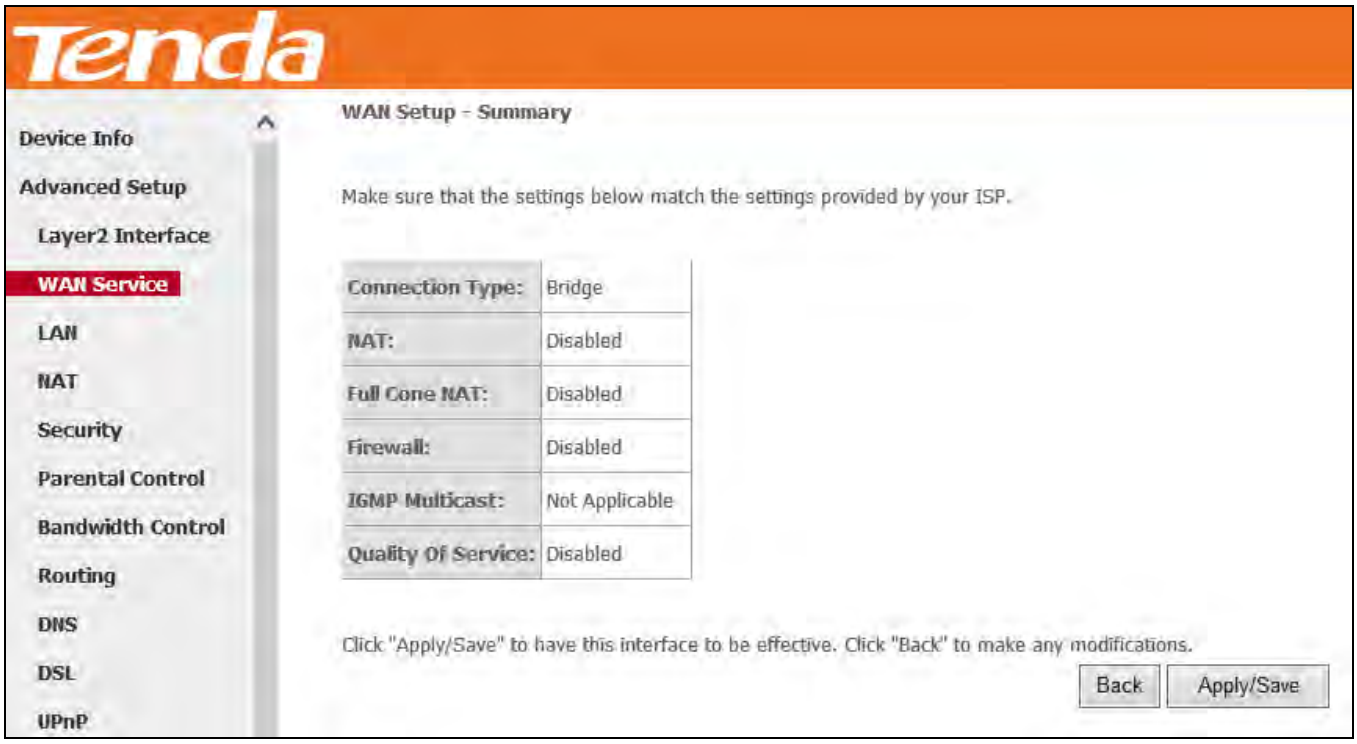
Note

1. DNS Server Interfaces can have multiple WAN interfaces served as system DNS servers but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

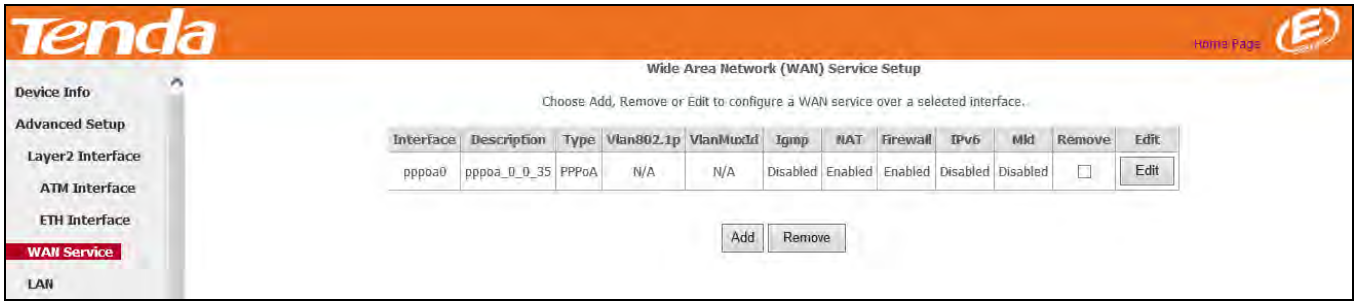
2. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.

3. If you cannot locate the static DNS server IP information, ask your ISP to provide it.

Step 7: Here you can view your configurations. Click **Apply/Save** to have this interface to be effective.

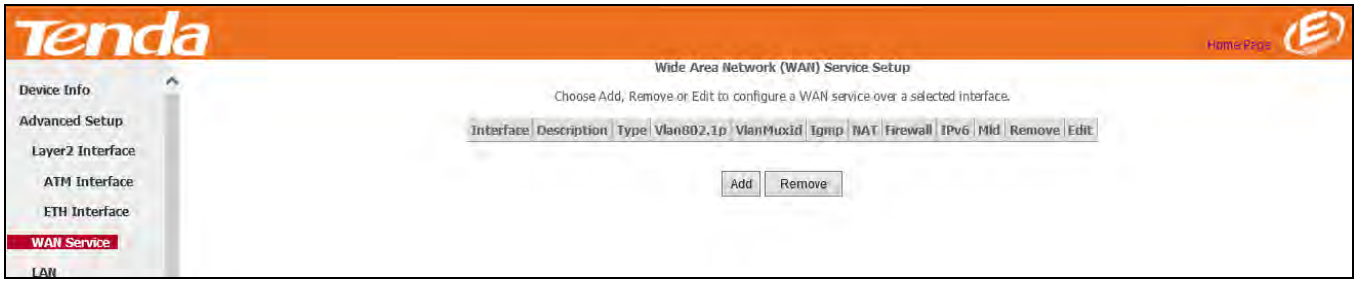


Step 8: When the PPPoA connection is successful, you can access the Internet.



IPv4 & IPv6 (Dual Stack)

Step 1: Click **Advanced Setup** > **WAN Service** and then click the **Add** button.

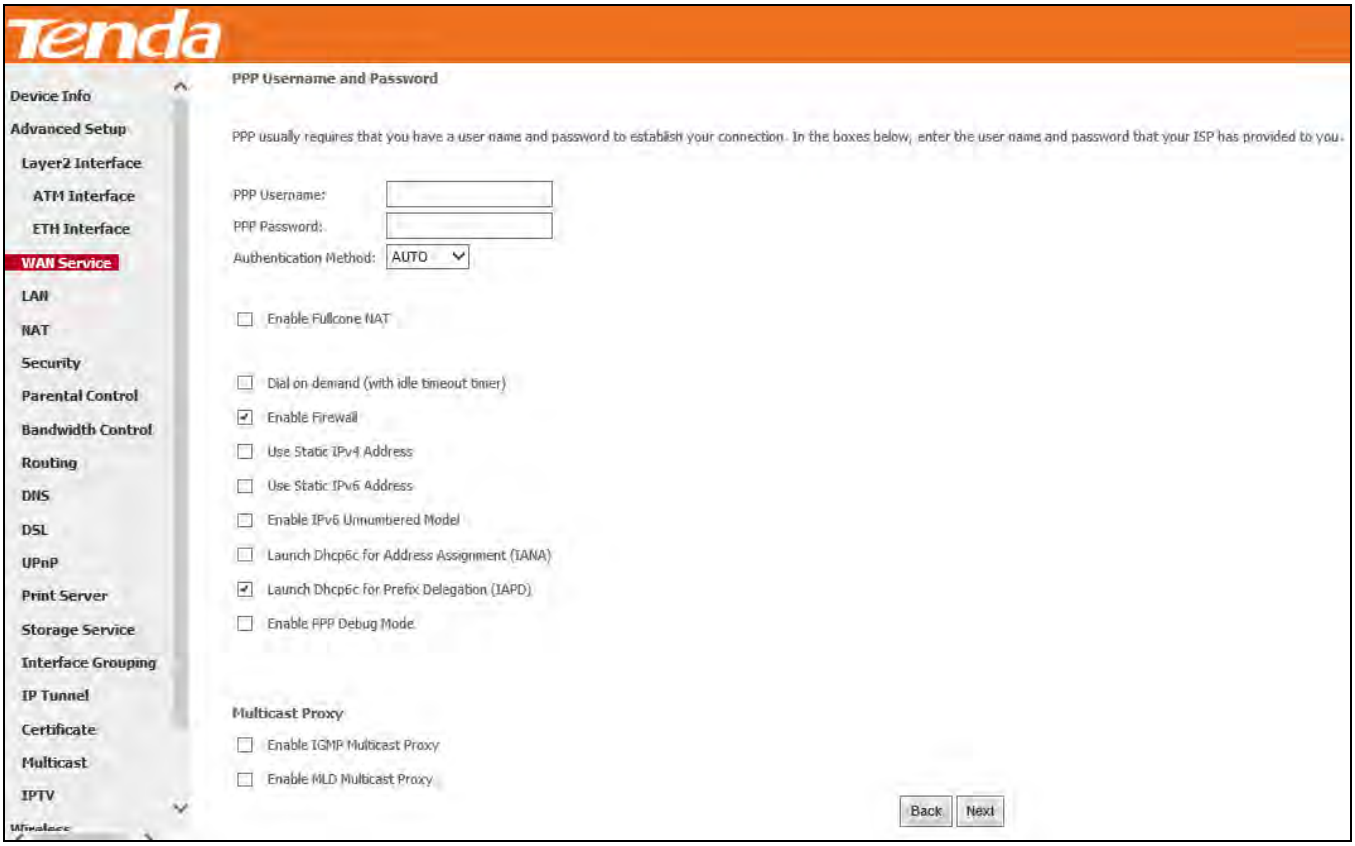


Step 2: Select the ATM interface you added just now from the pull-down menu in the figure below. Click **Next**.

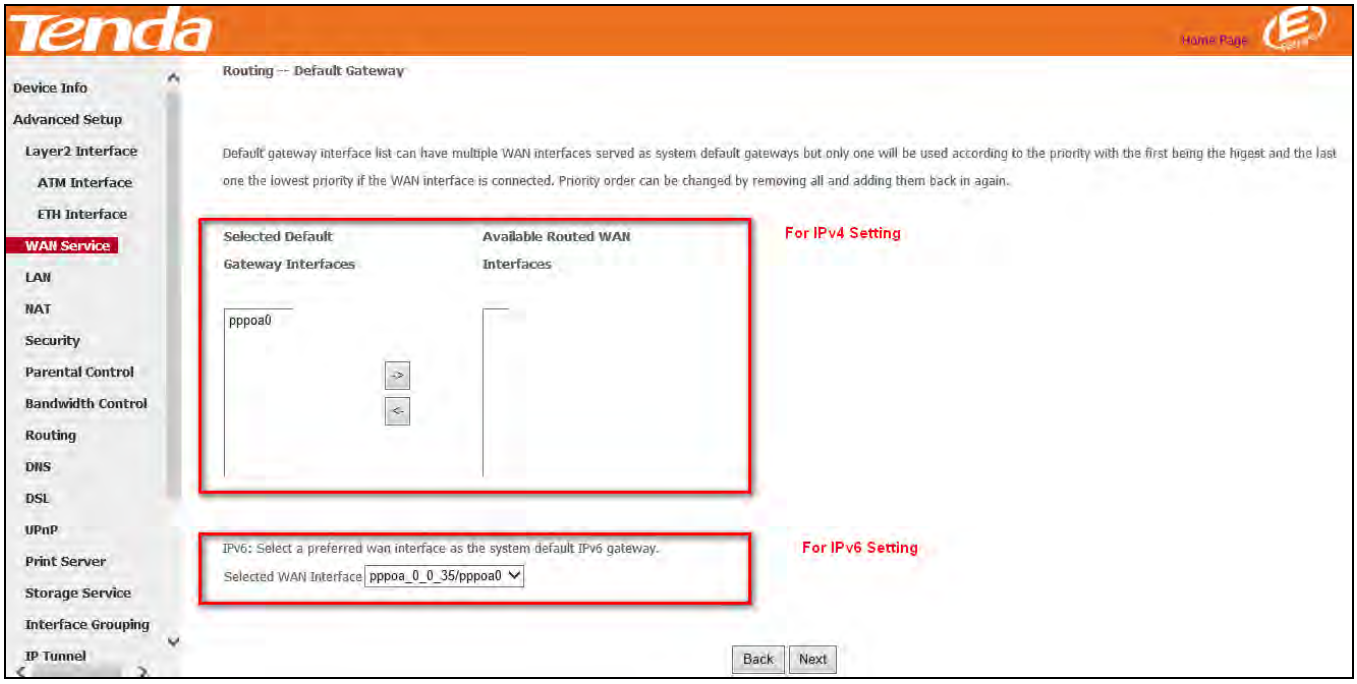
Step 3: Edit the **Enter Service Description.** This field is optional. We recommend that you keep the default.

Select a network protocol: **IPv4 & IPv6 (Dual Stack)**. Click **Next**.

Step 4: Enter PPP username and its password provided by your ISP. Click **Next**.



Step 5: To configure the WAN gateway address. After you configure it click **Next**. The default setting is recommended.

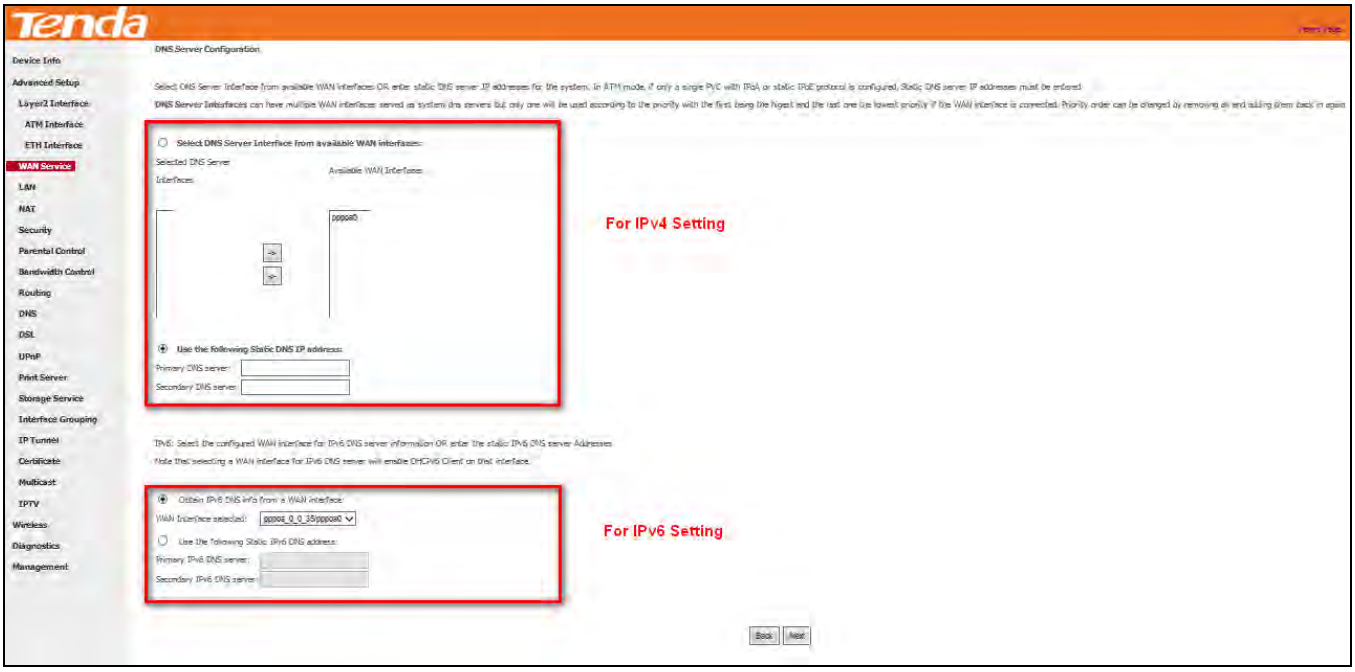


Note

Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

Step 6: To configure the WAN DNS address

Select DNS Server Interface from available WAN interfaces OR enter static DNS server IP addresses for the system. And then click **Next**.



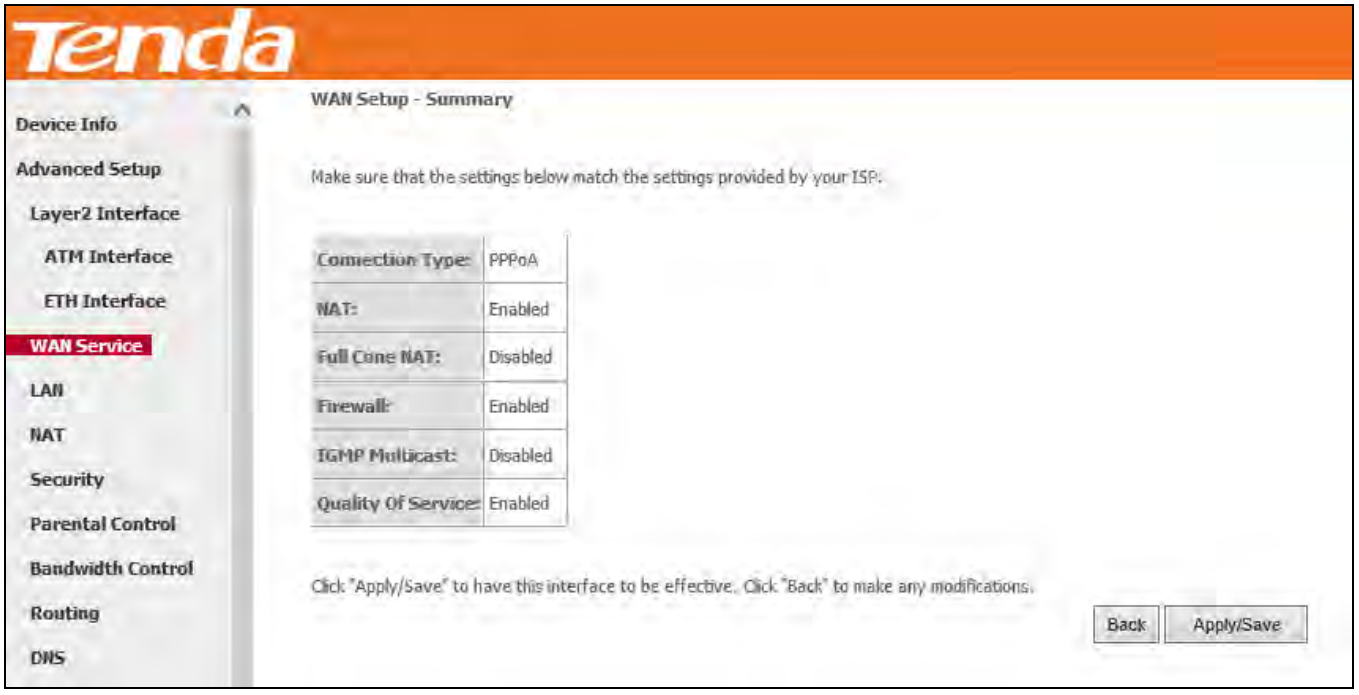
Note

1. DNS Server Interfaces can have multiple WAN interfaces served as system DNS servers but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

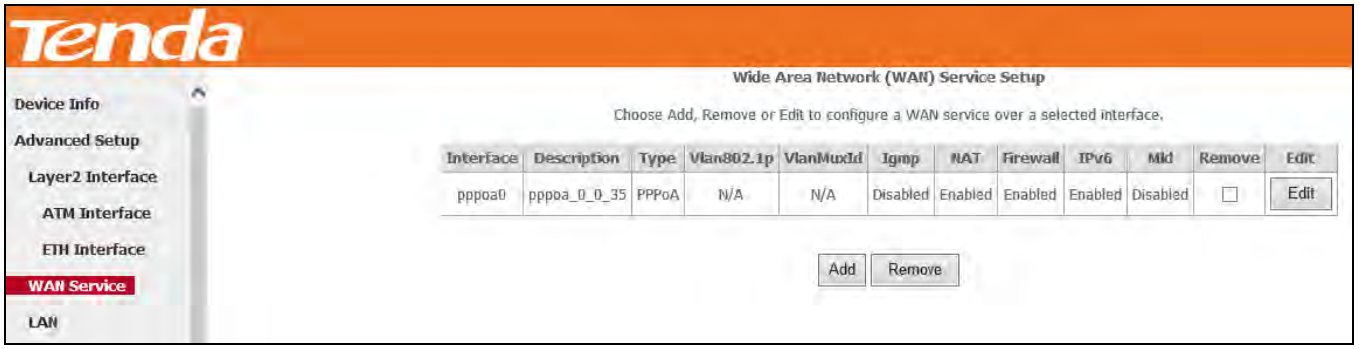
2. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.

3. If you cannot locate the static DNS server IP information, ask your ISP to provide it.

Step 7: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.

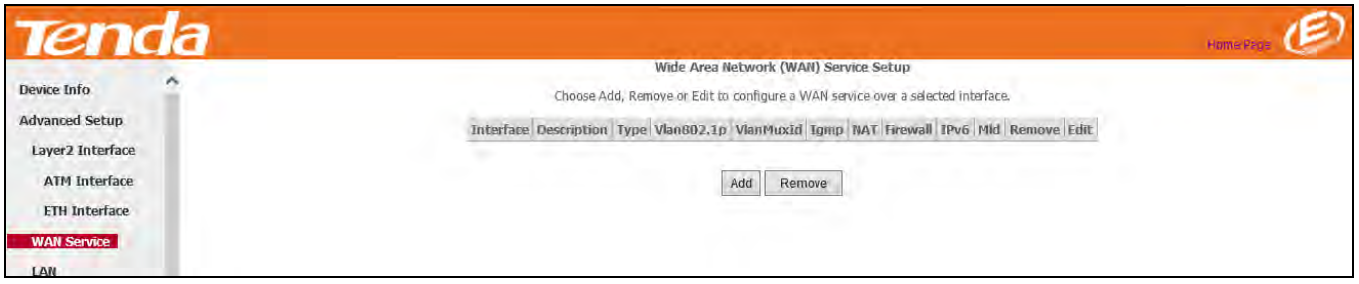


Step 8: When the PPPoA connection is successful, you can access the Internet.



IPv6 Only

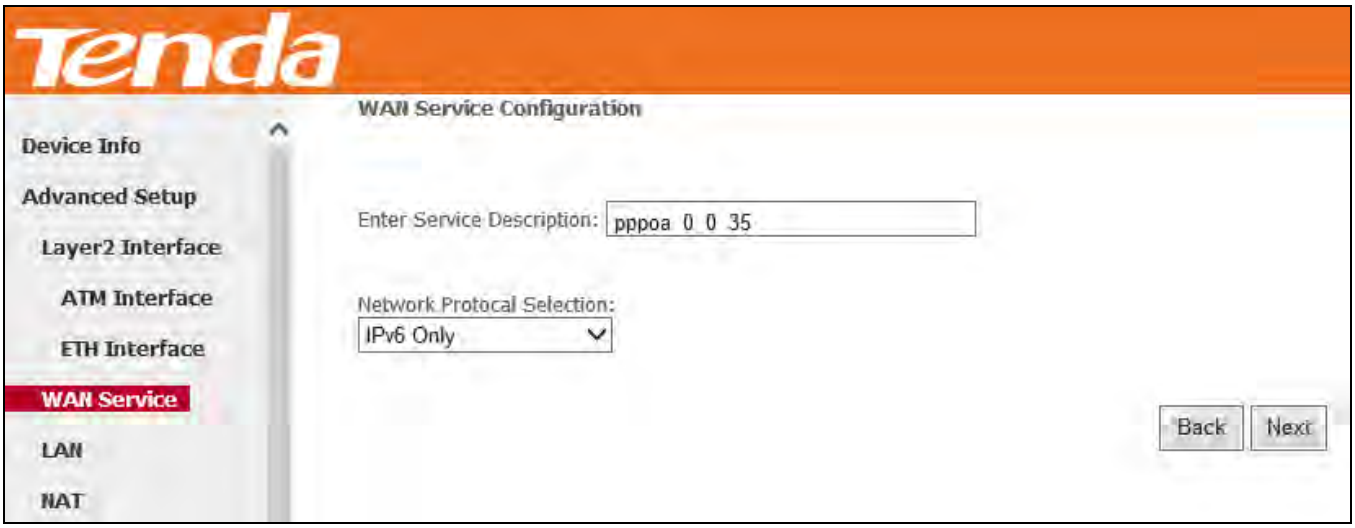
Step 1: Click **Advanced Setup > WAN Service** and then click the **Add** button.



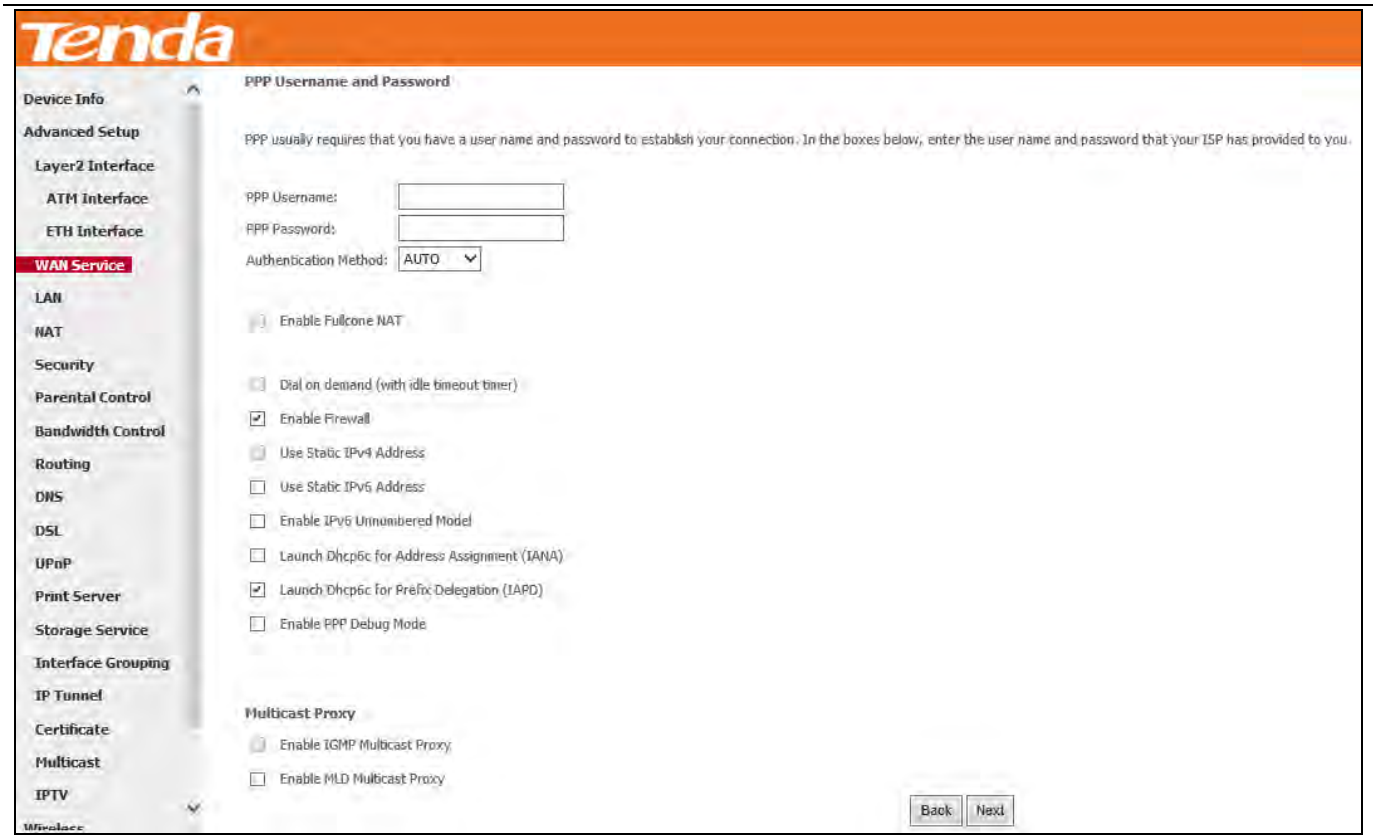
Step 2: Select the ATM interface you added just now from the pull-down menu in the figure below. Click **Next**.

Step 3: Edit the **Enter Service Description.** This field is optional. We recommend that you keep the default.

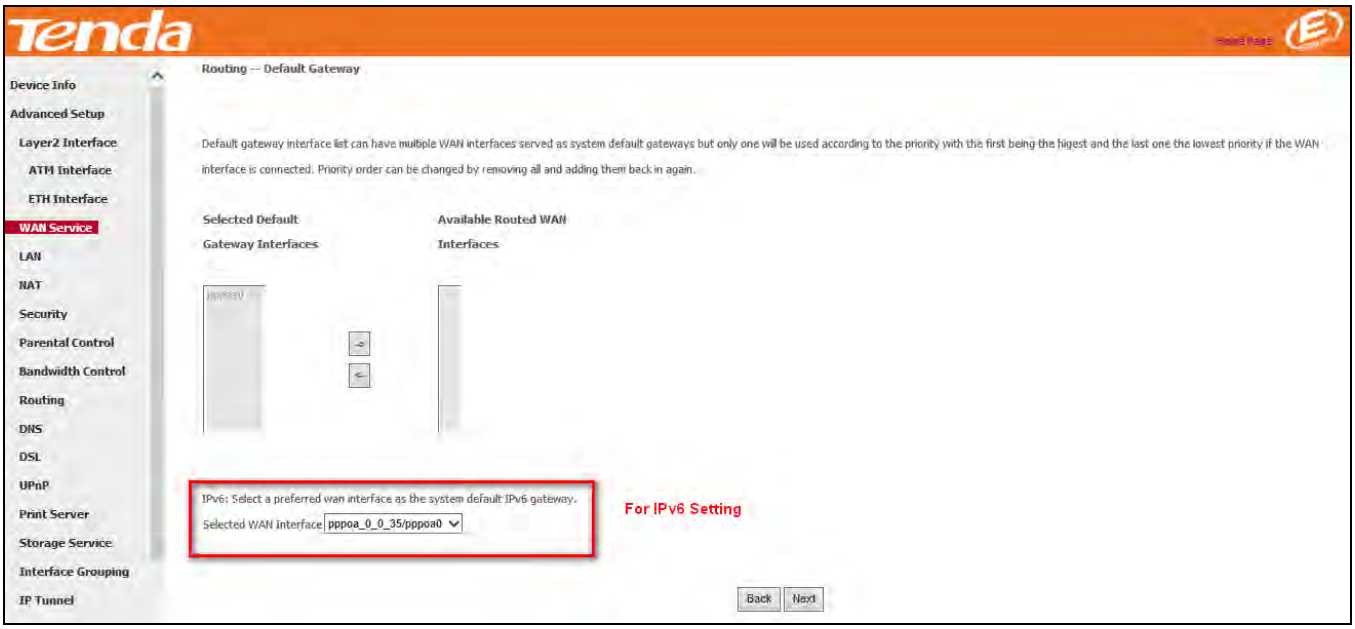
Select a network protocol: **IPv6 Only**. Click **Next**.



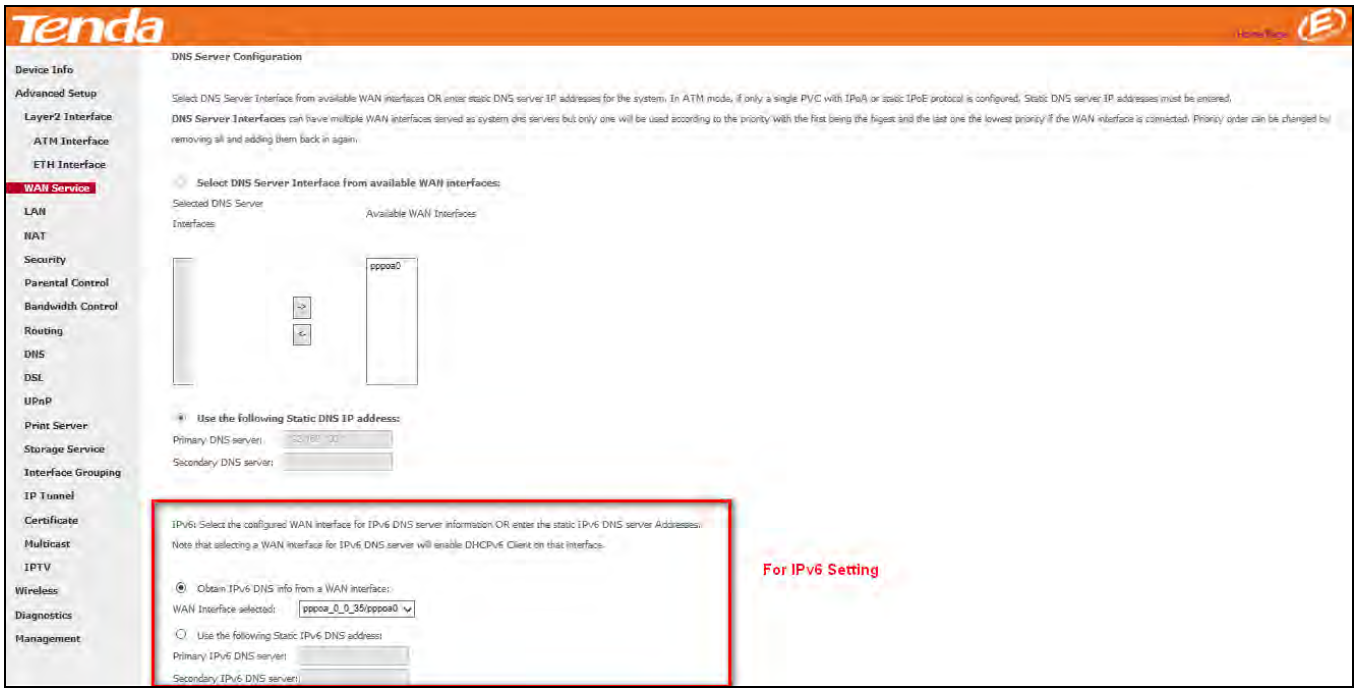
Step 4: Enter PPP username and its password provided by your ISP. Click **Next**.



Step 5: Select a preferred wan interface as the system default IPv6 gateway. Click **Next**.



Step 6: To configure the WAN DNS address, select the configured WAN interface for IPv6 DNS server information or enter the static IPv6 DNS server addresses. And then click **Next**.

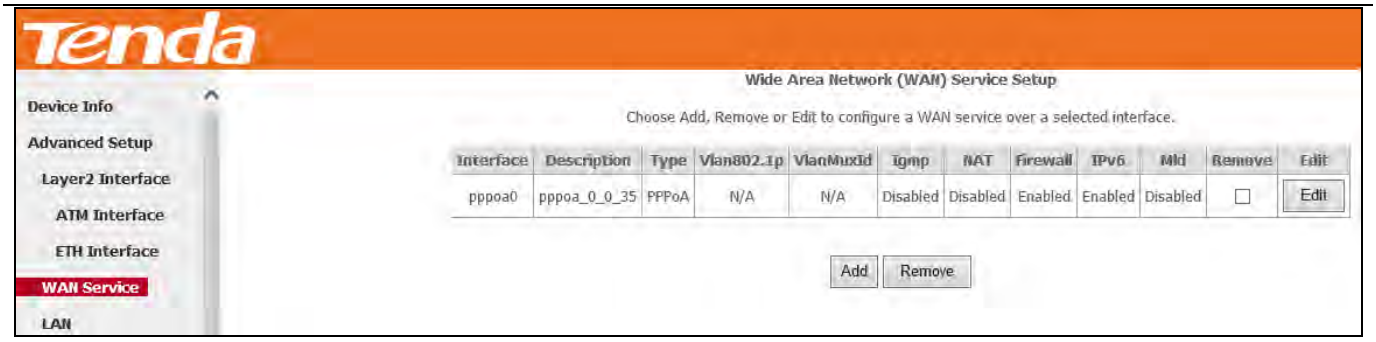


Note

Selecting a WAN interface for IPv6 DNS server will enable DHCPv6 Client on that interface.

Step 7: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.

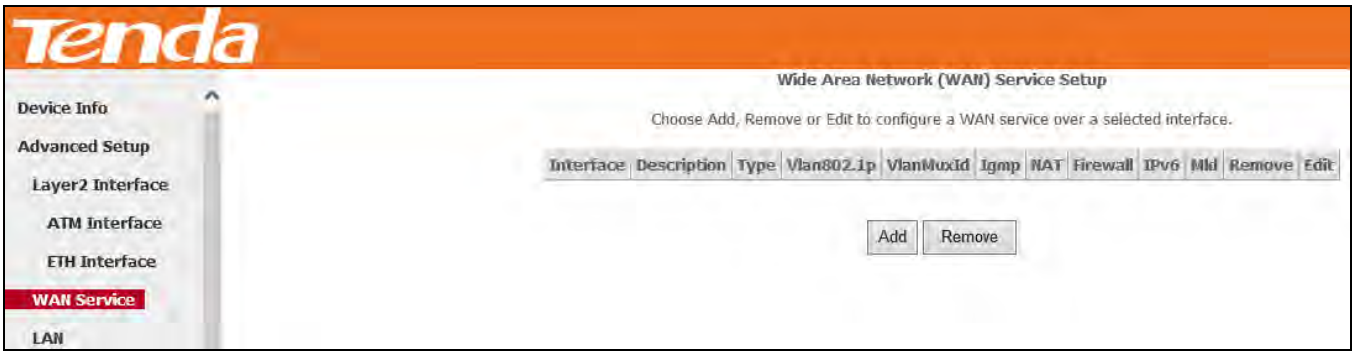
Step 8: When the PPPoA connection is successful, you can access the Internet.



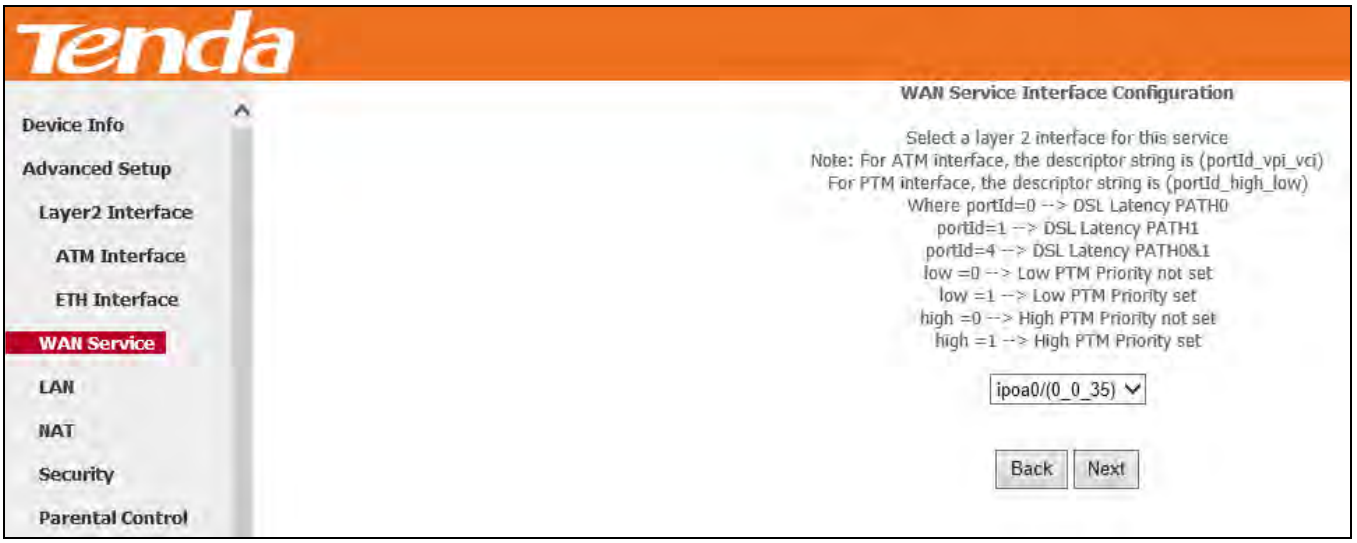
IPoA

If you have selected the **IPoA** from the **ATM Interface** screen in **Layer2 Interface**, you will see the screen above when you click the **WAN Service** tab, select the configured interface and click **Next**.

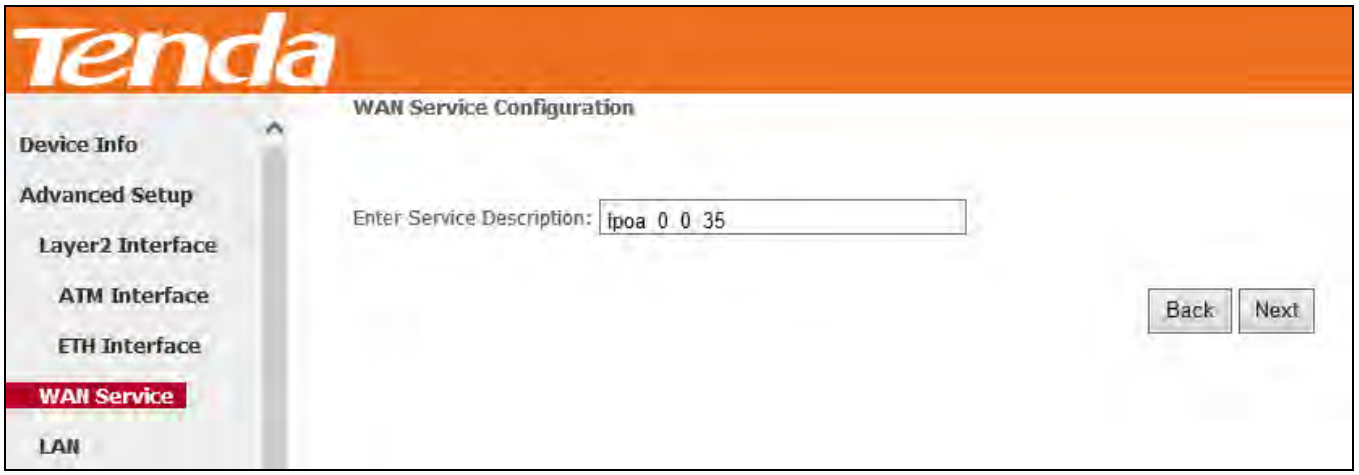
Step 1: Click **Advanced Setup > WAN Service** and then click the **Add** button.



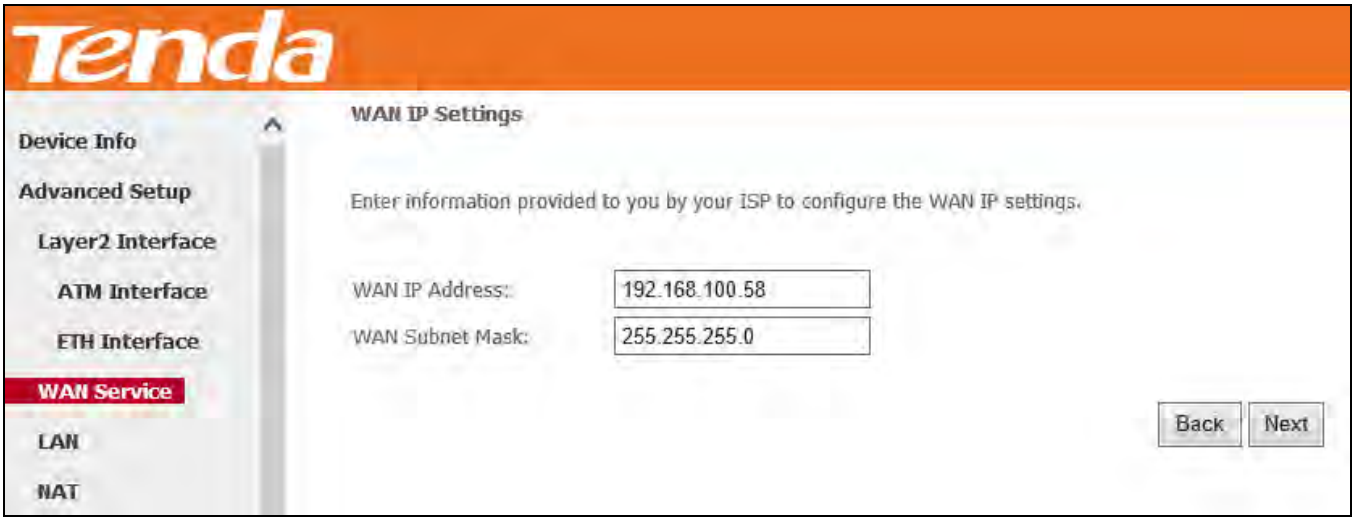
Step 2: Select the ATM interface you added just now from the pull-down menu in the figure below. Click **Next**.



Step 3: Edit the Enter Service Description. This field is optional. We recommend that you keep the default. Click **Next**.



Step 4: Enter the WAN IP address and subnet mask which should have been provided to you by your ISP. If you cannot locate this information, ask your ISP to provide it. And then click **Next**.

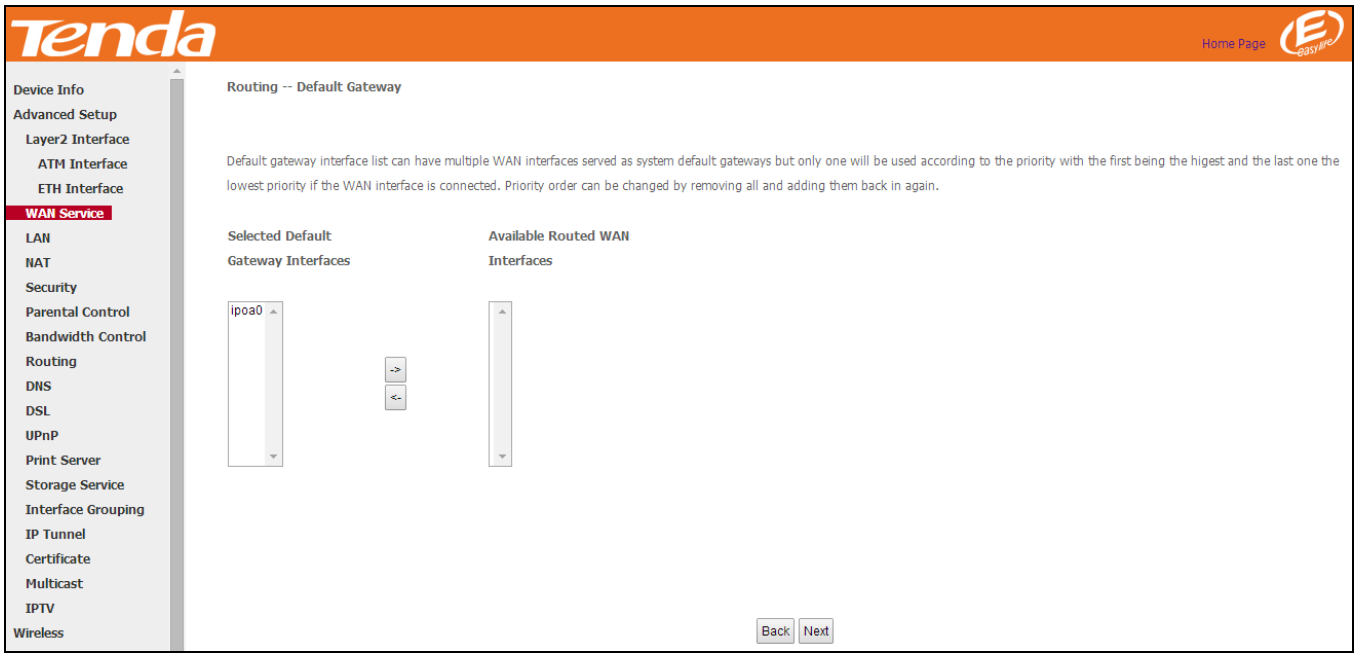


WAN IP Address: The Internet IP address provided by your ISP for accessing the Internet.

WAN Subnet Mask: The subnet mask address provided by your ISP for accessing the Internet.

Step 5: Keep the defaults if you are unsure about the options on the screen below and click **Next**.

Step 6: To configure the WAN gateway address. After you configure it click **Next**. The default setting is recommended.



Note

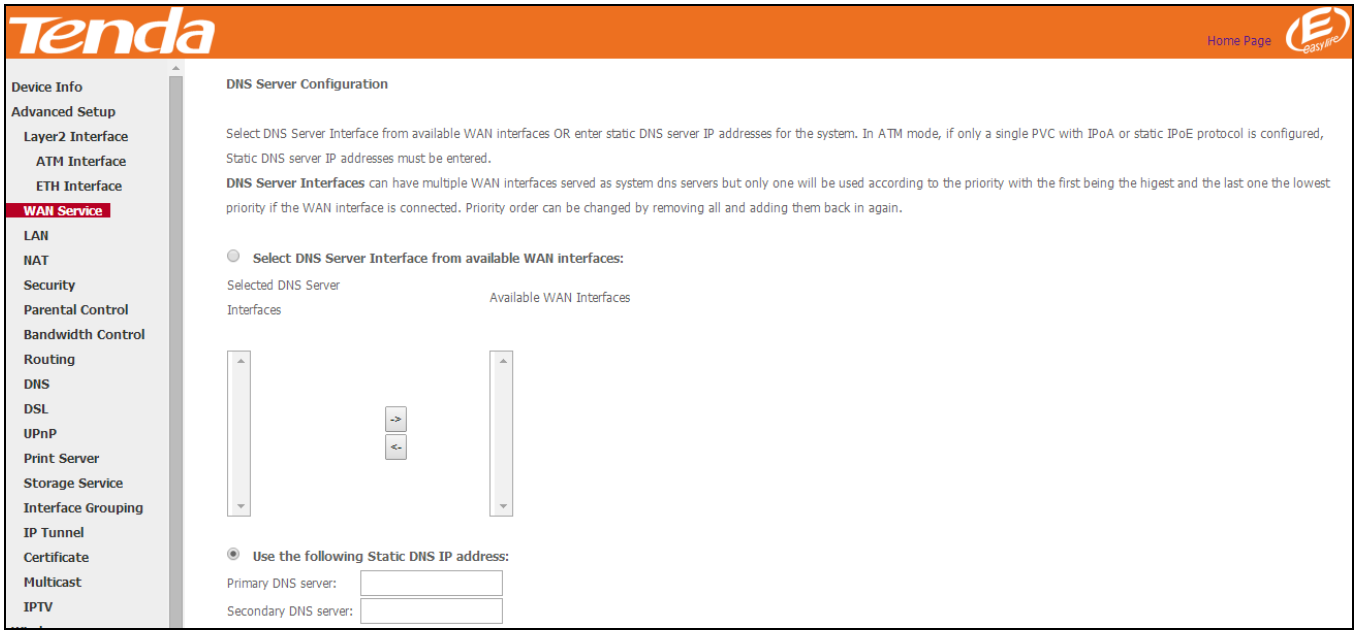
Default gateway interface list can have multiple WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

Step 7: Configure the WAN DNS Server configuration according to your ISP.

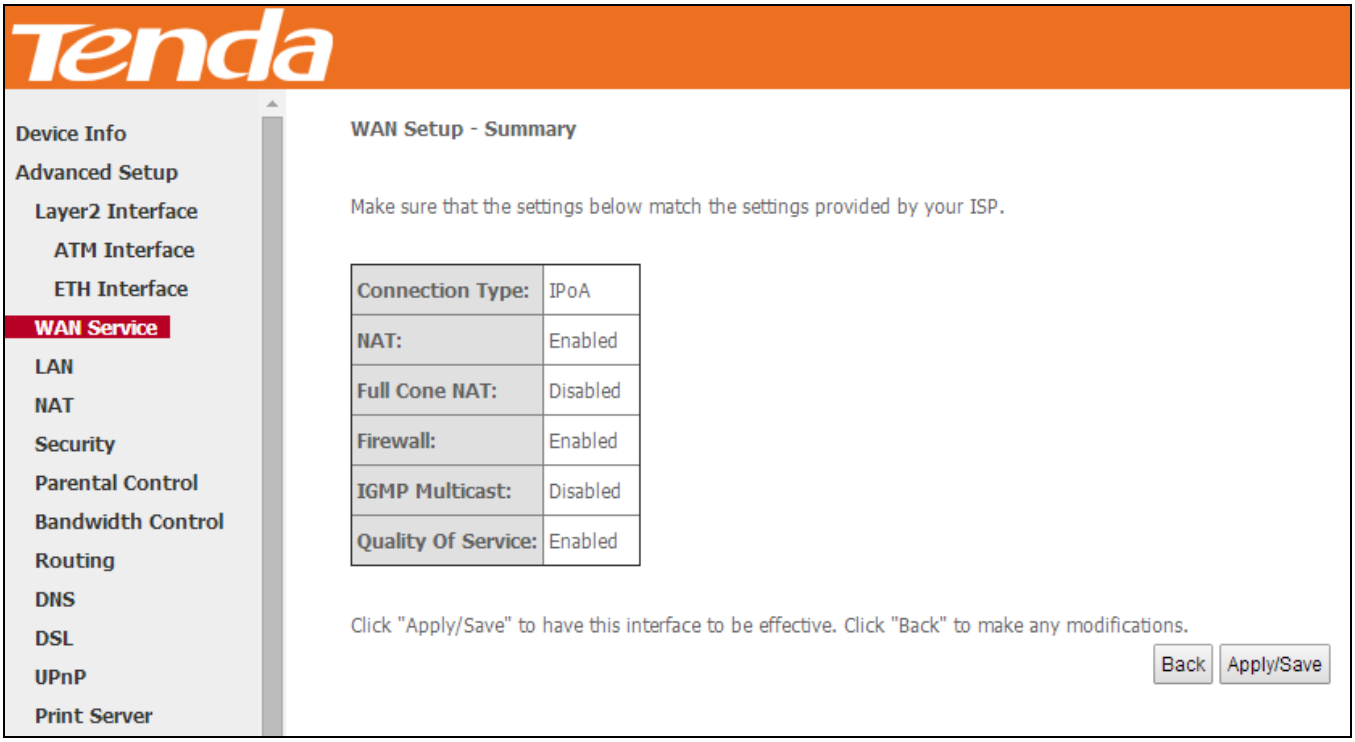
-Click the **Select DNS Server Interface** from available WAN interfaces option;

-Or select the **Use the following Static DNS IP address** option and enter static DNS server IP addresses for the system.

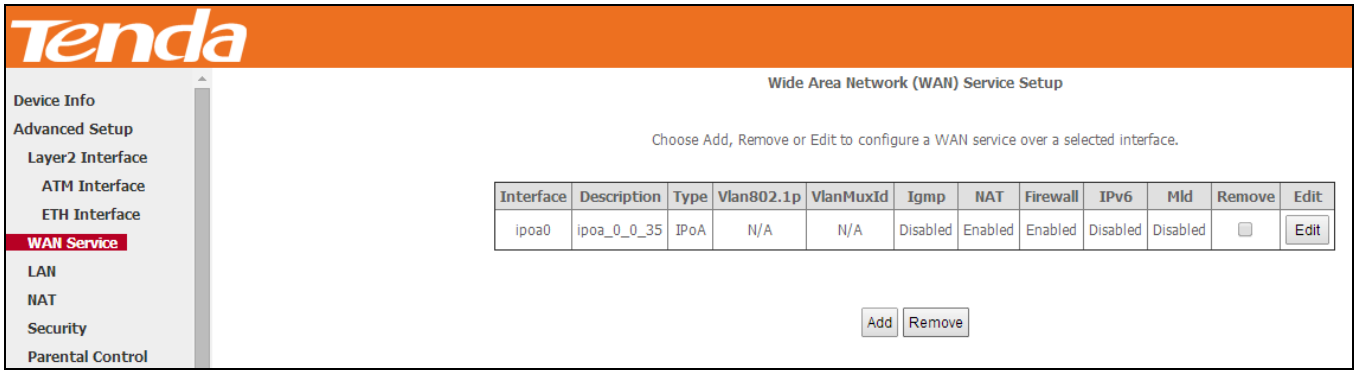
And then click **Next**.



Step 8: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.



Step 9: IPoA WAN service setup parameter is shown as below.



To Set up WAN Service for ETH Interface

Three Internet connections: PPP over Ethernet (PPPoE), IP over Ethernet (IPoE) and Bridging are available in the Ethernet uplink mode.

If you selected and configured the **ETH Interface** (Ethernet uplink), follow steps below to configure the WAN service:

Tip

eth0, eth1, eth2 and eth3 respectively represent the LAN port1, LAN port2, LAN port3 and LAN port4 of the device.

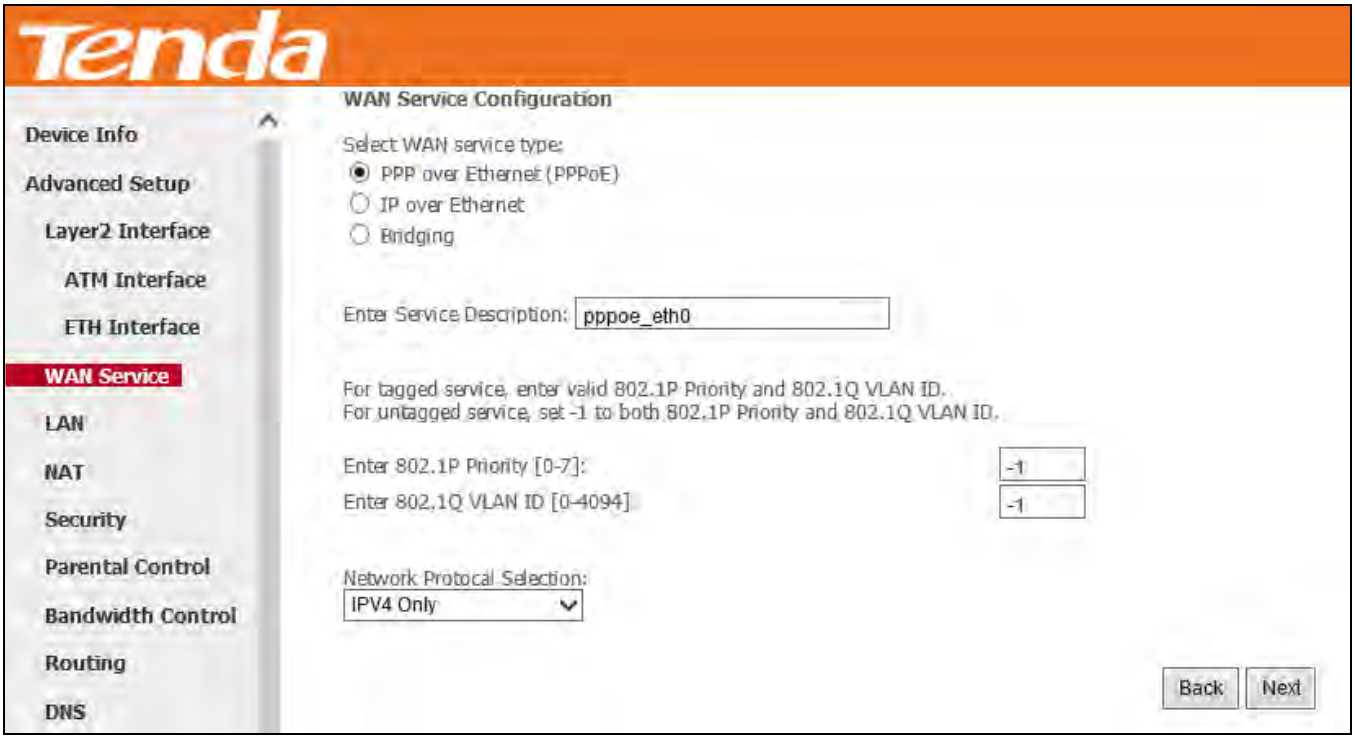
PPP over Ethernet (PPPoE)

IPv4

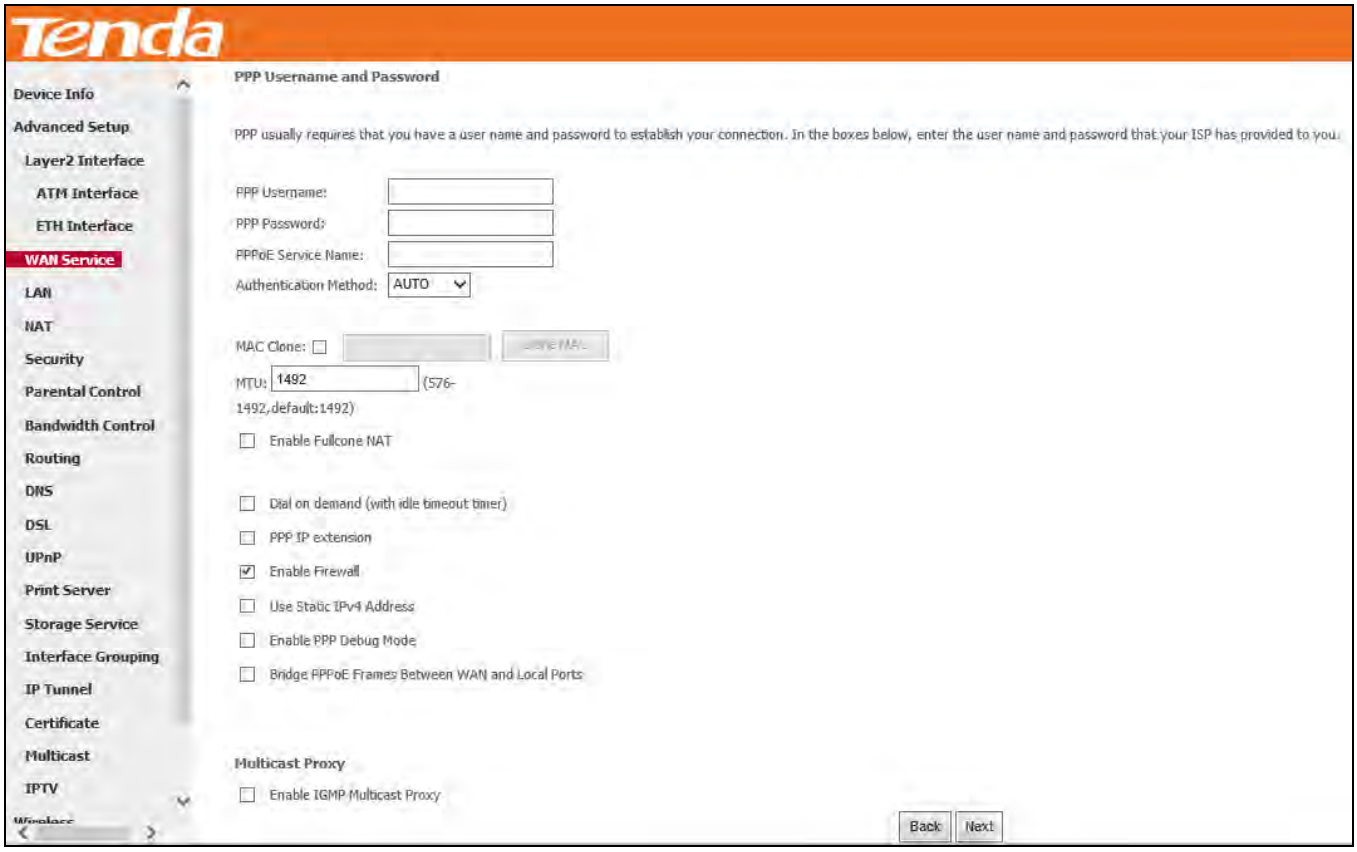
Step 1: Click **Advanced Setup > WAN Service** and then click the **Add** button.

Step 2: Select the ETH interface you added just now from the pull-down menu in the figure below. Click **Next**.

Step 3: Select **PPP over Ethernet**. Edit the **Enter Service Description**. This field is optional. We recommend that you keep the default. Select a network protocol: **IPv4 Only**. And click **Next**.



Step 4: Enter the PPP username and password provided by your ISP. If you are not sure about other options, just leave them unchanged from defaults. And click **Next**.



PPP Username: This is for logging in to your ISP. If you cannot locate this information, ask your ISP to provide it.

PPP Password: This is for logging in to your ISP. If you cannot locate this information, ask your ISP to provide it.

PPPoE Service Name: This information is provided by your ISP. Only enter it if instructed by your ISP.

Authentication Method: This is used by ISP to authenticate the client that attempts to connect. If you are not sure, consult your ISP or select **Auto**.

MAC Clone: Clicking **Clone MAC** button copies the MAC address of your PC to the router. Many broadband ISPs restrict access by allowing traffic only from the MAC address of your broadband modem, but some ISPs additionally register the MAC address of the network interface card in your computer when your account is first opened. They then accept traffic only from the MAC address of that computer. If so, configure your router to "clone" the MAC address from the authorized computer.

MTU: Short for ***M**aximum **T**ransmission **U**nit,* the largest physical packet size, measured in bytes, which a network can transmit. Any messages larger than the MTU are divided into smaller packets before being sent. The default MTU is 1492 bytes. For some ISPs, you might need to change the MTU. This is rarely required, and should not be done unless you are sure it is necessary for your ISP connection.

Dial on demand: Connect to ISP only when there is traffic transmission. This saves your broadband Internet service bill.

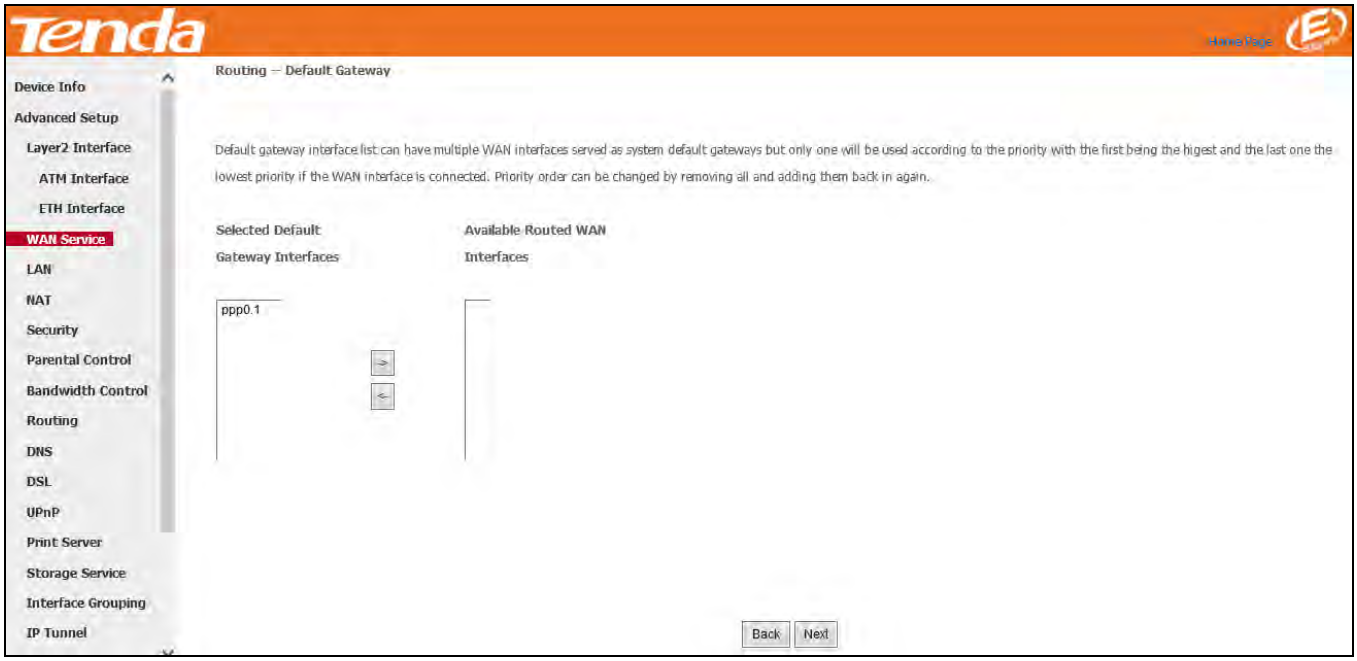
PPP IP extension: If enabled, all the IP addresses in outgoing packets including management packets on the WAN port will be changed to the device's WAN IP address. Only change the default settings if necessary.

Enable PPP Debug Mode: Only enable this feature if supported by your ISP.

Bridge PPPoE Frames Between WAN and Local Ports: If enabled, PPPoE dialup frame from LAN side will directly egress the WAN port without modification.

Multicast Proxy: If enabled, the router will use multicast proxy.

Step 5: Configure the WAN gateway address. After you configure it click **Next**. The default setting is recommended.

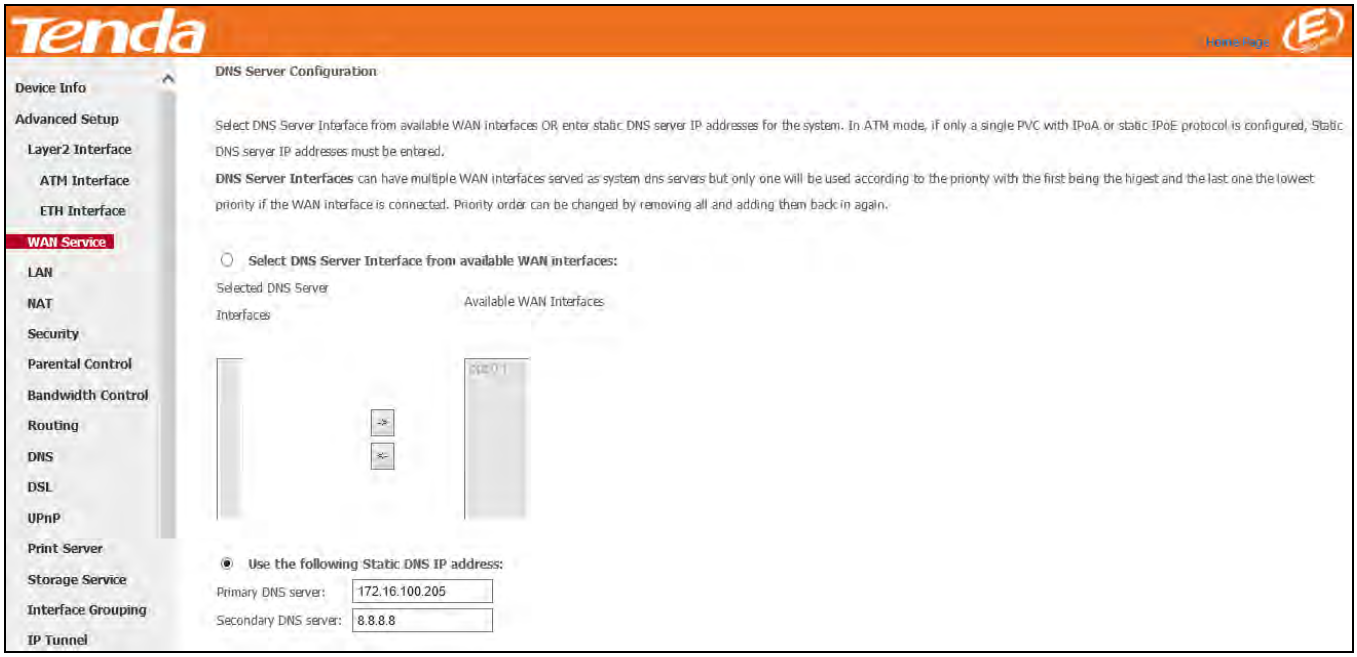


Step 6: Configure the WAN DNS address according to your ISP.

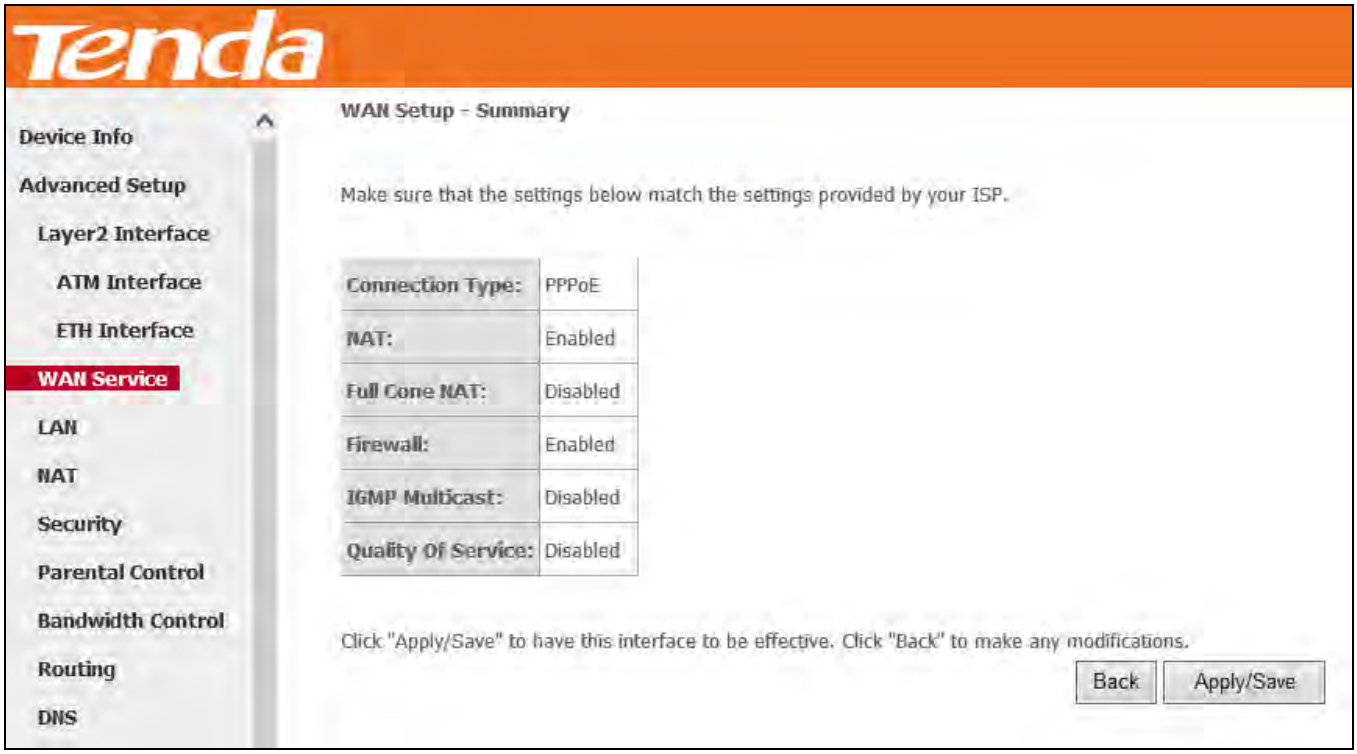
-Click the **Select DNS Server Interface** from available WAN interfaces option;

-Or select the **Use the following Static DNS IP address** option and enter static DNS server IP addresses for the system.

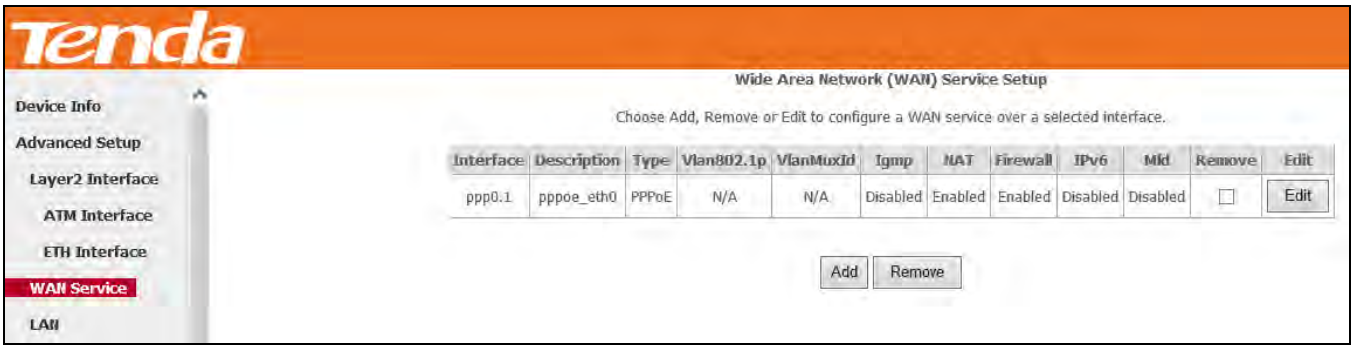
And then click **Next**.



Step 7: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.

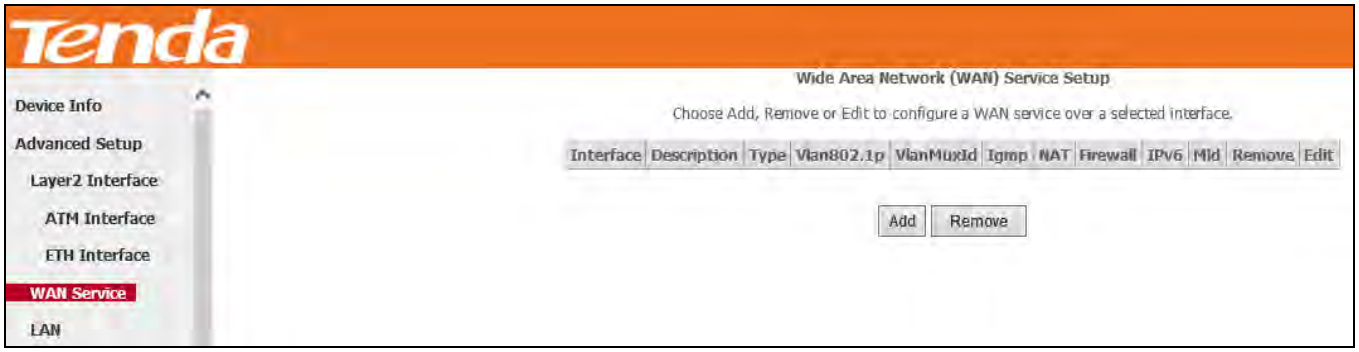


When the PPPoE connection is successful, you can access the Internet.



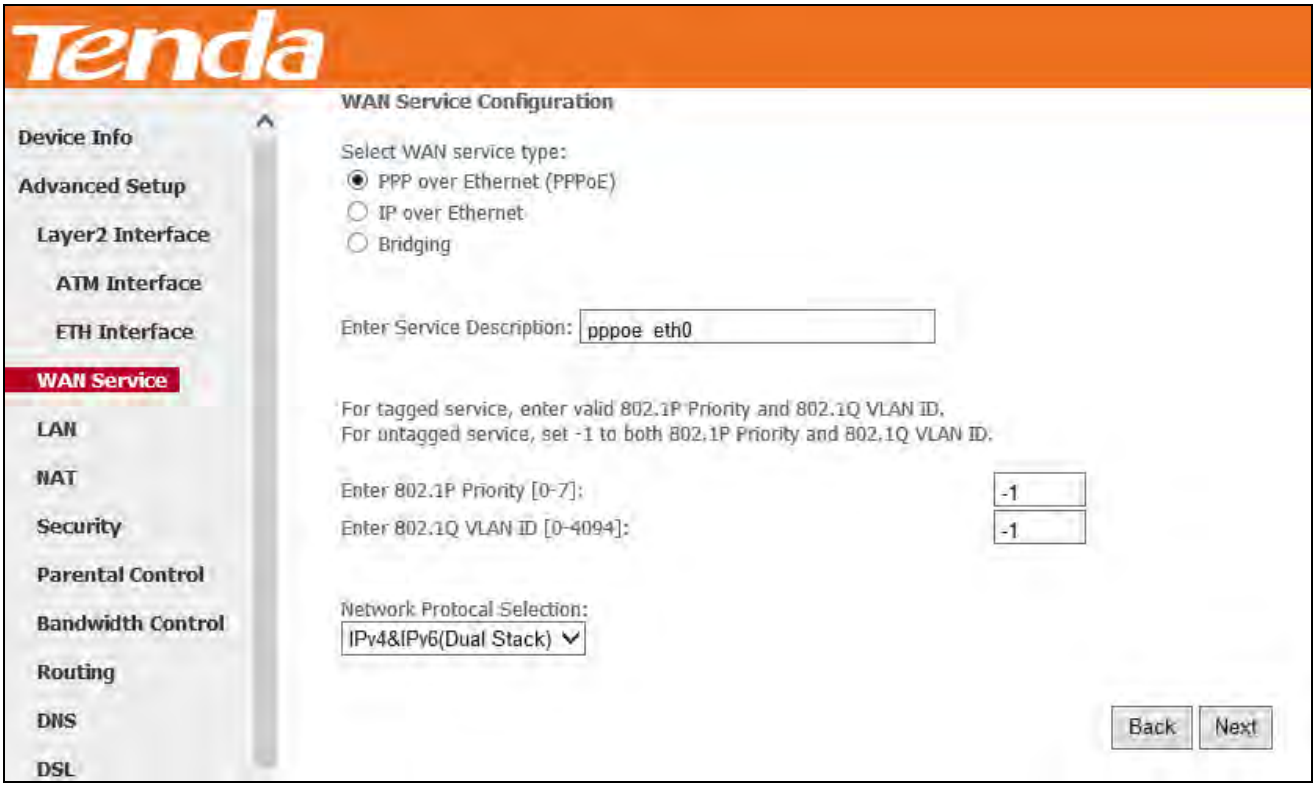
IPv4 & IPv6 (Dual Stack)

Step 1: Click **Advanced Setup > WAN Service** and then click the **Add** button.

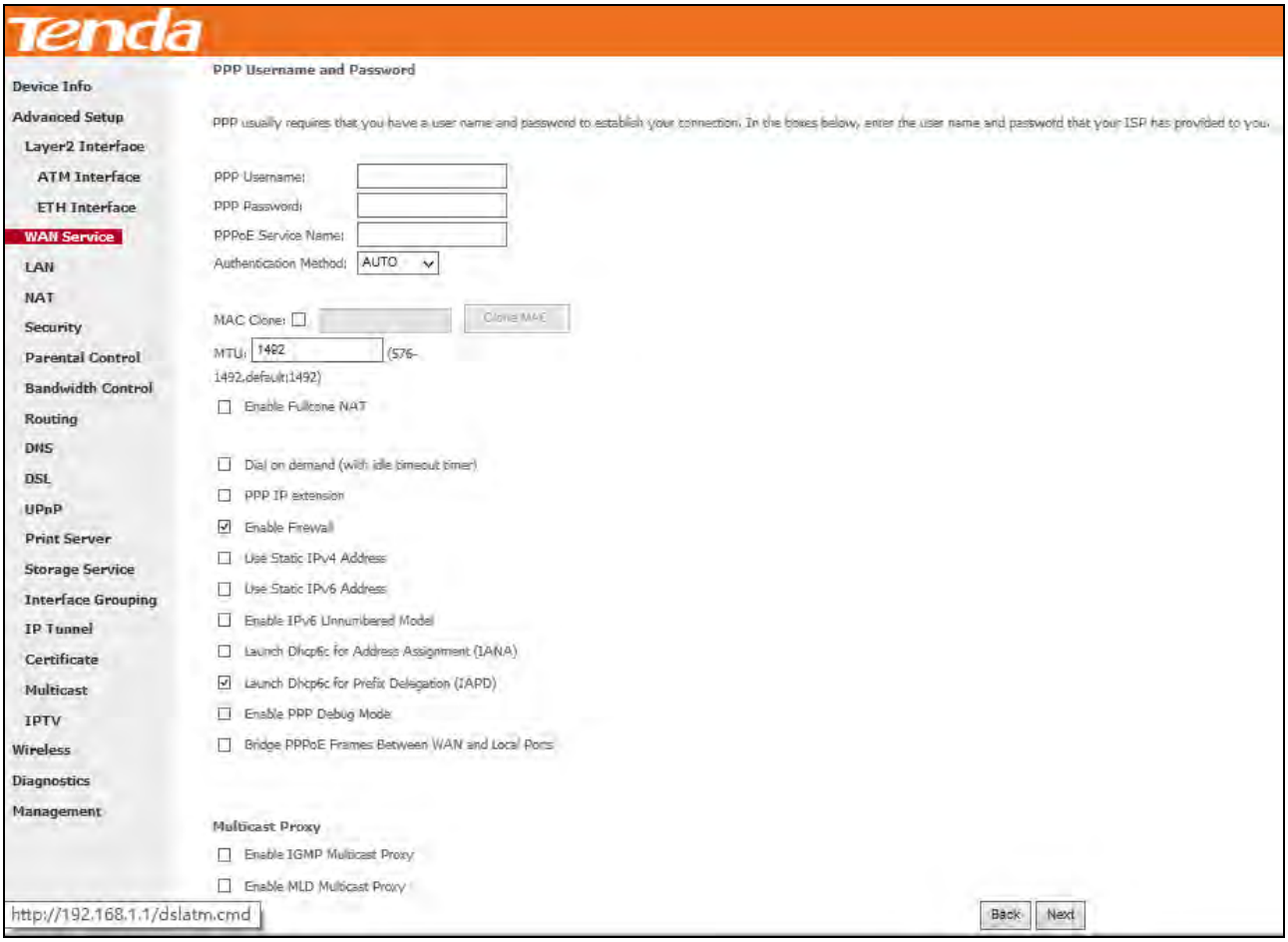


Step 2: Select the ETH interface you added just now from the pull-down menu in the figure below. Click **Next**.

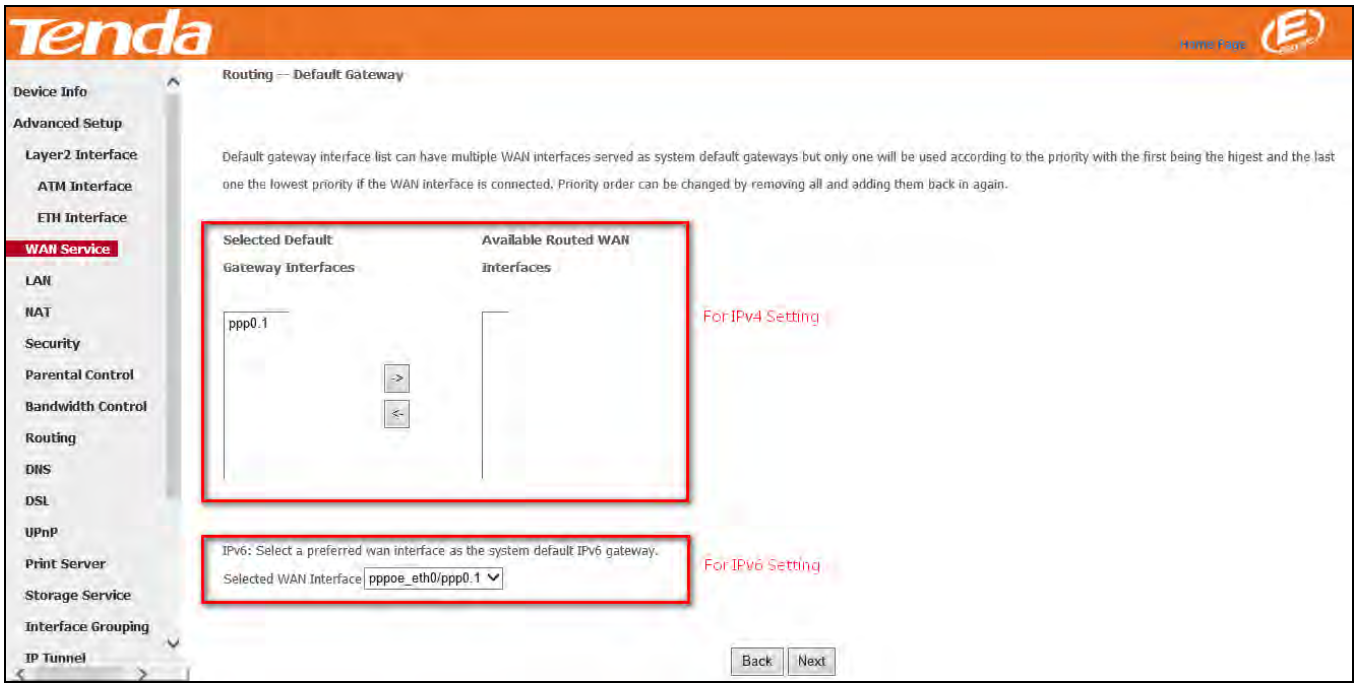
Step 3: Select **PPP over Ethernet**. Edit the **Enter Service Description**. This field is optional. We recommend that you keep the default. Select a network protocol: **IPv4&IPv6 (Dual Stack)**. And click **Next**.



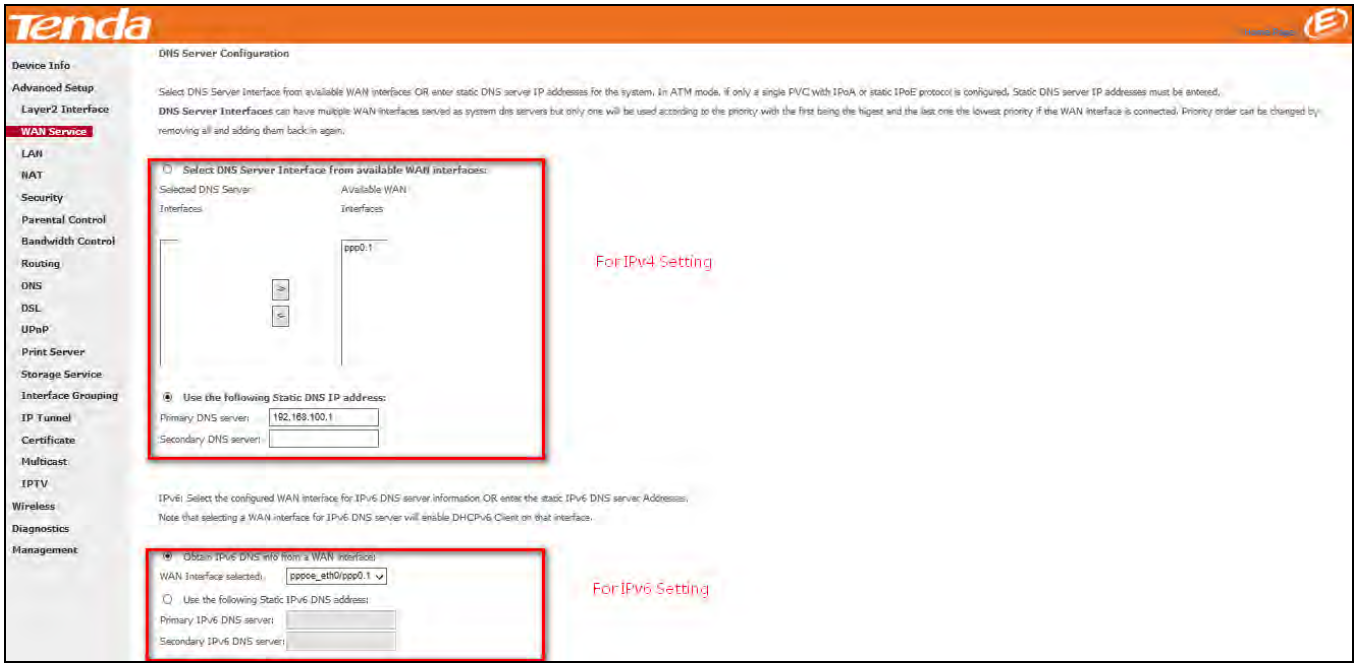
Step 4: Enter PPP username and PPP password provided by your ISP. Check **Launch Dhcp6c for Prefix Delegation (IAPD)**. If your ISP is using stateful DHCPv6, check **Launch Dhcp6c for Address Assignment (IANA)** also. Or configure a static IP address.



Step 5: Select a avaliable WAN interface as the system default gateway. Then click **Next**.

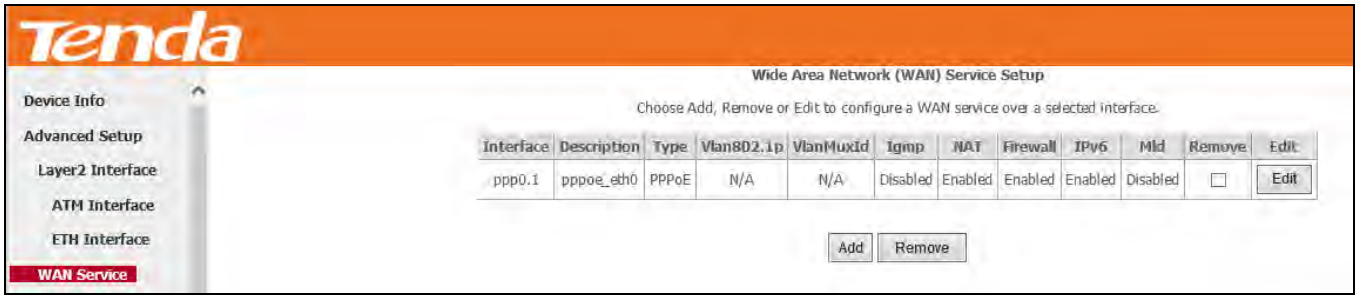


Step 6: Configure DNS server (Select an available DNS server interface or use a specified DNS server); configure IPv6 DNS server (Obtain IPv6 DNS info from a WAN interface or use a specified DNS server), and then click **Next**.



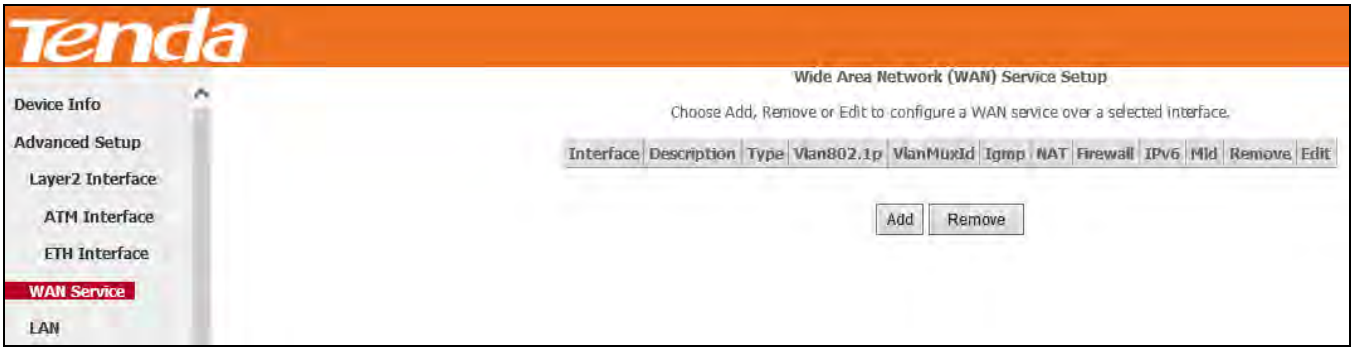
Step 7: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.

When the PPPoE connection is successful, you can access the Internet.



IPv6

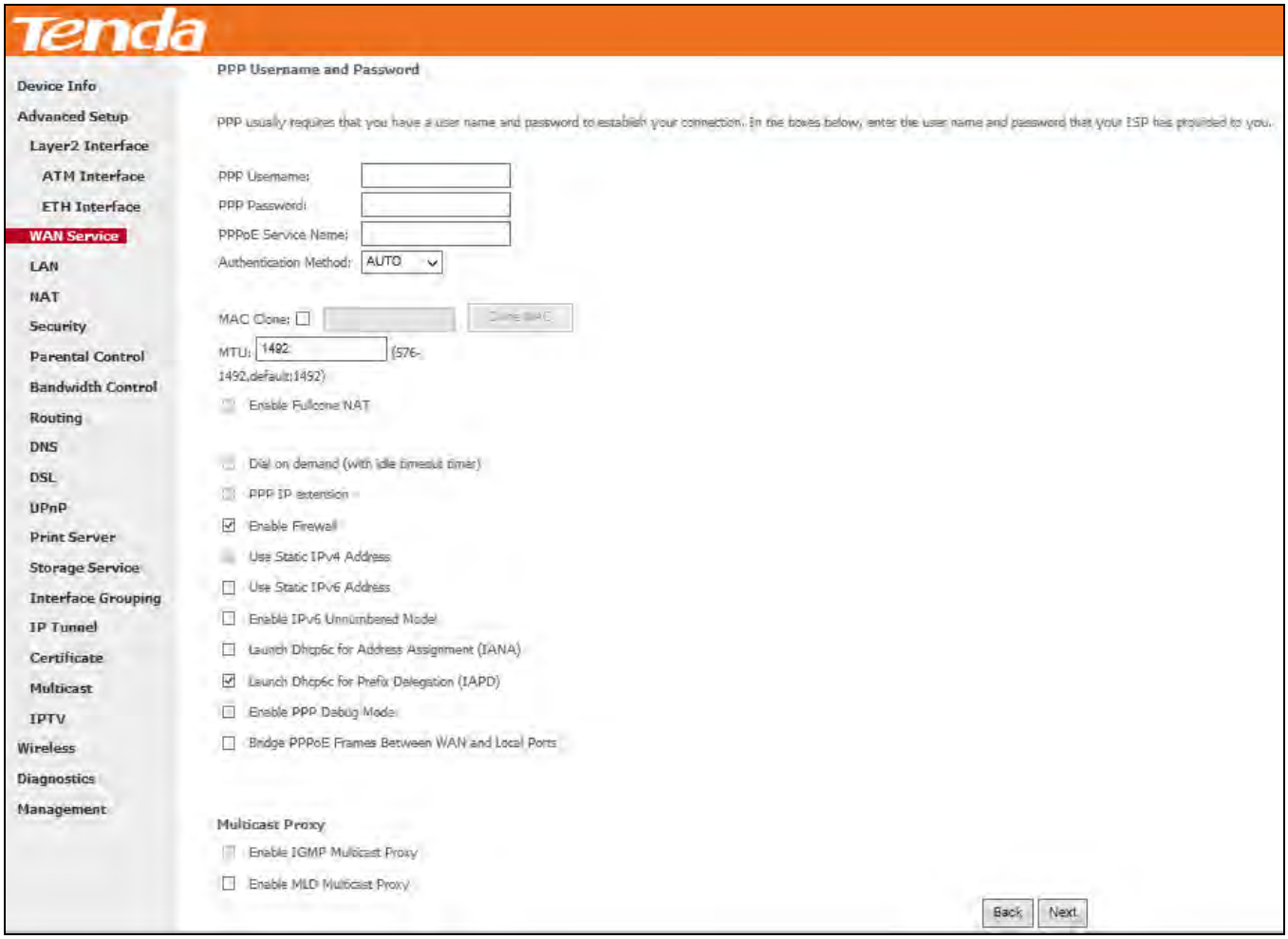
Step 1: Click **Advanced Setup > WAN Service** and then click the **Add** button.



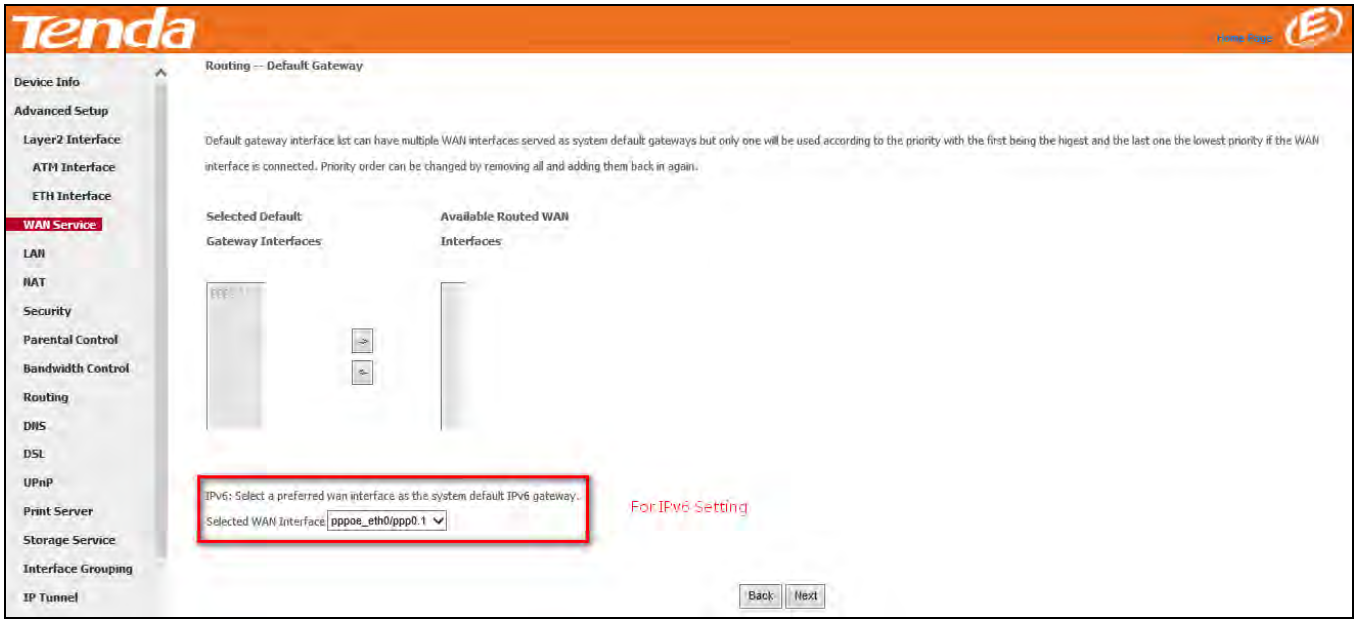
Step 2: Select the ETH interface you added just now from the pull-down menu in the figure below. Click **Next**.

Step 3: Select **PPP over Ethernet**. Edit the **Enter Service Description**. This field is optional. We recommend that you keep the default. Select a network protocol: **IPv6 Only**. And click **Next**.

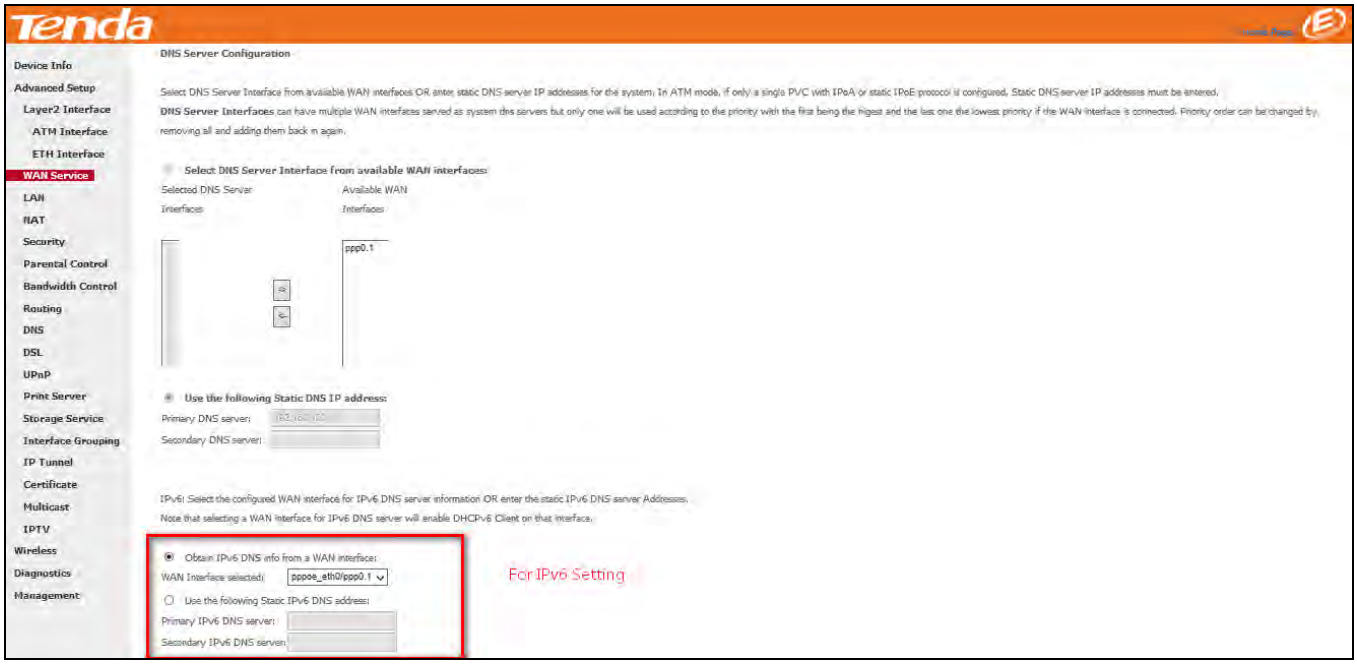
Step 4: Enter PPP username and PPP password provided by your ISP. Check **Launch Dhcp6c for Prefix Delegation (IAPD)**. If your ISP is using stateful DHCPv6, check **Launch Dhcp6c for Address Assignment (IANA)** also. Or configure a static IP address.



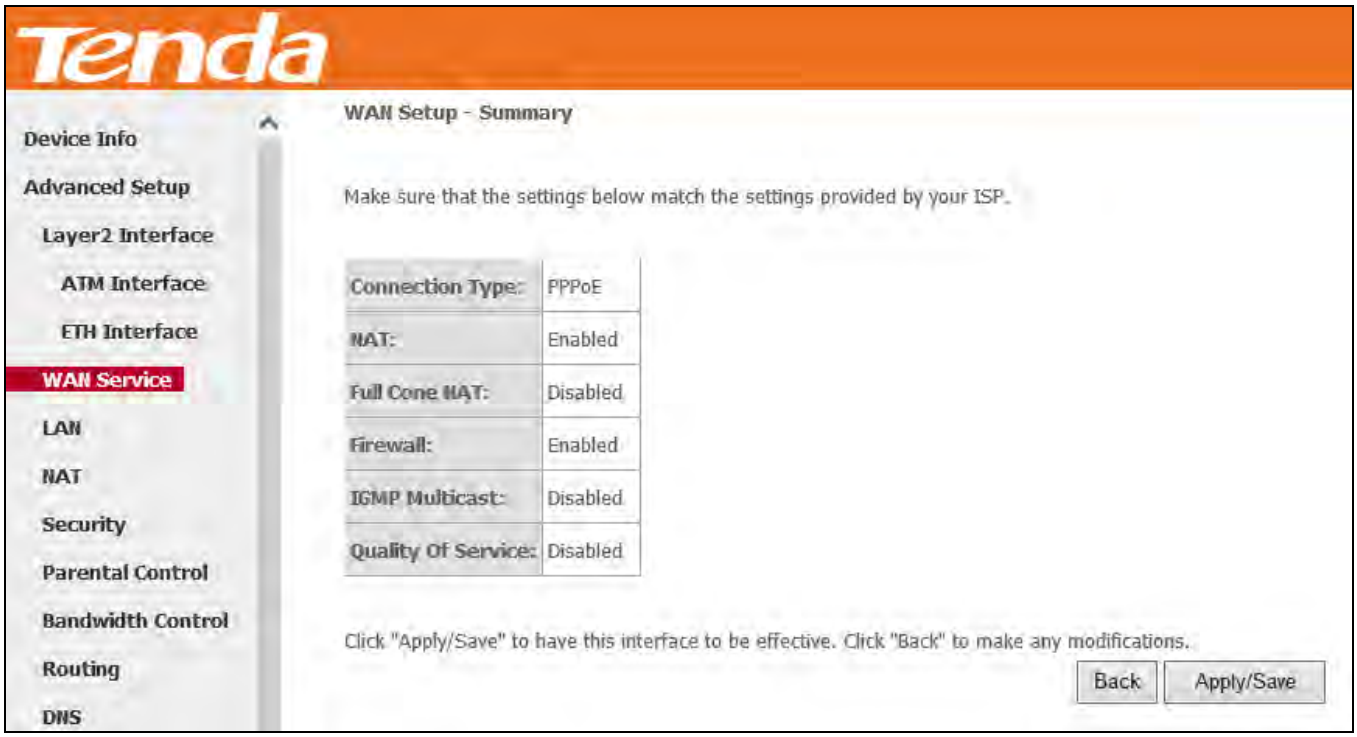
Step 5: Select a preferred WAN interface from the WAN interface lise as the system default IPv6 gateway. Click **Next**.



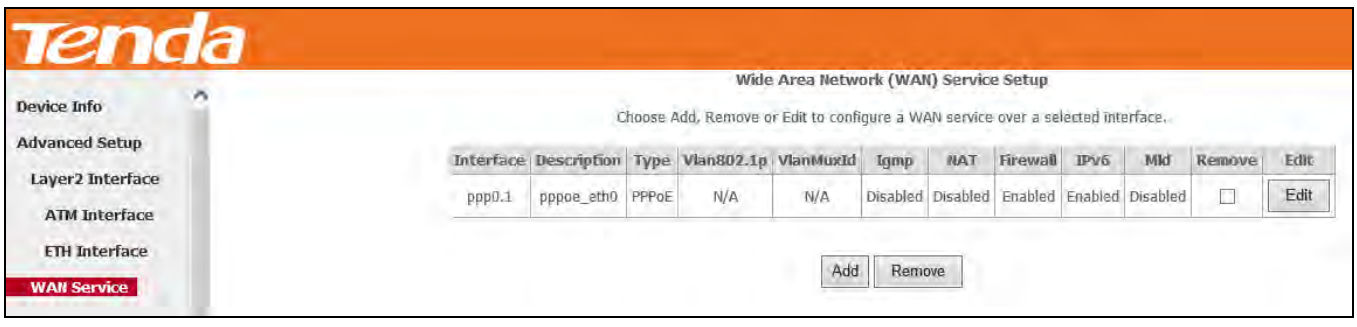
Step 6: Select the configured WAN interface for IPv6 DNS server information or use a static IPv6 DNS server address. Note that selecting a WAN interface for IPv6 DNS server will enable DHCPv6 Client on that interface. And then click **Next**.



Step 7: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.



When the PPPoE connection is successful, you can access the Internet.

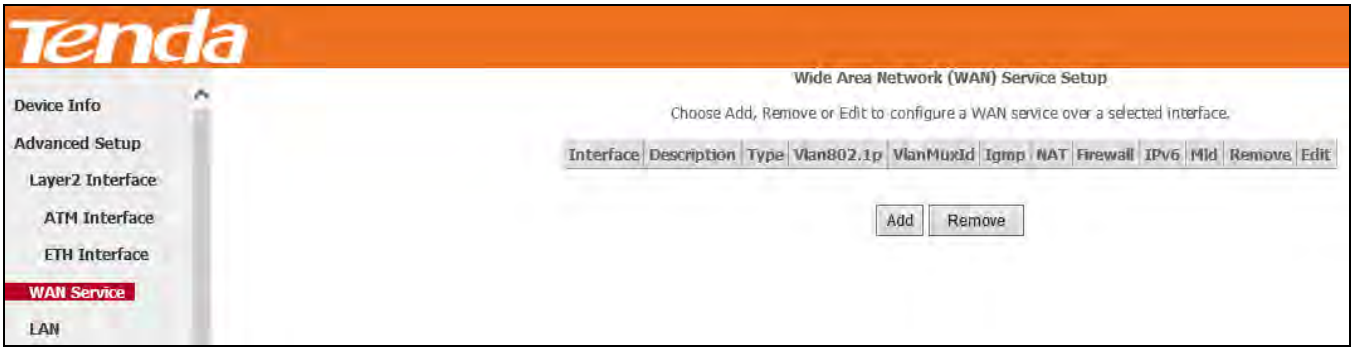


IP over Ethernet (IPoE)

If your ISP uses DHCP to assign your IP address or if your ISP assigns you a static (fixed) IP address, IP subnet mask and the gateway IP address, you need to select the IP over Ethernet (IPoE).

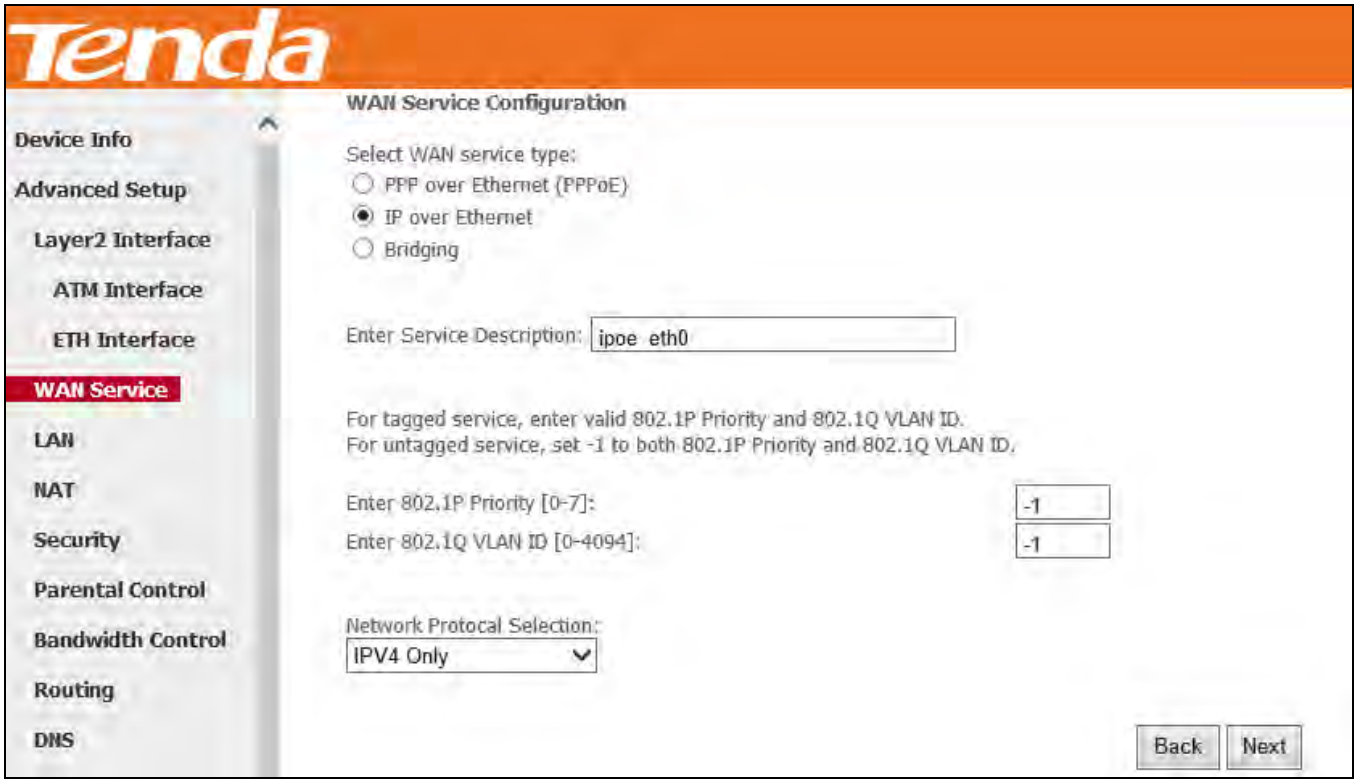
IPv4

Step 1: Click **Advanced Setup > WAN Service** and then click the **Add** button.

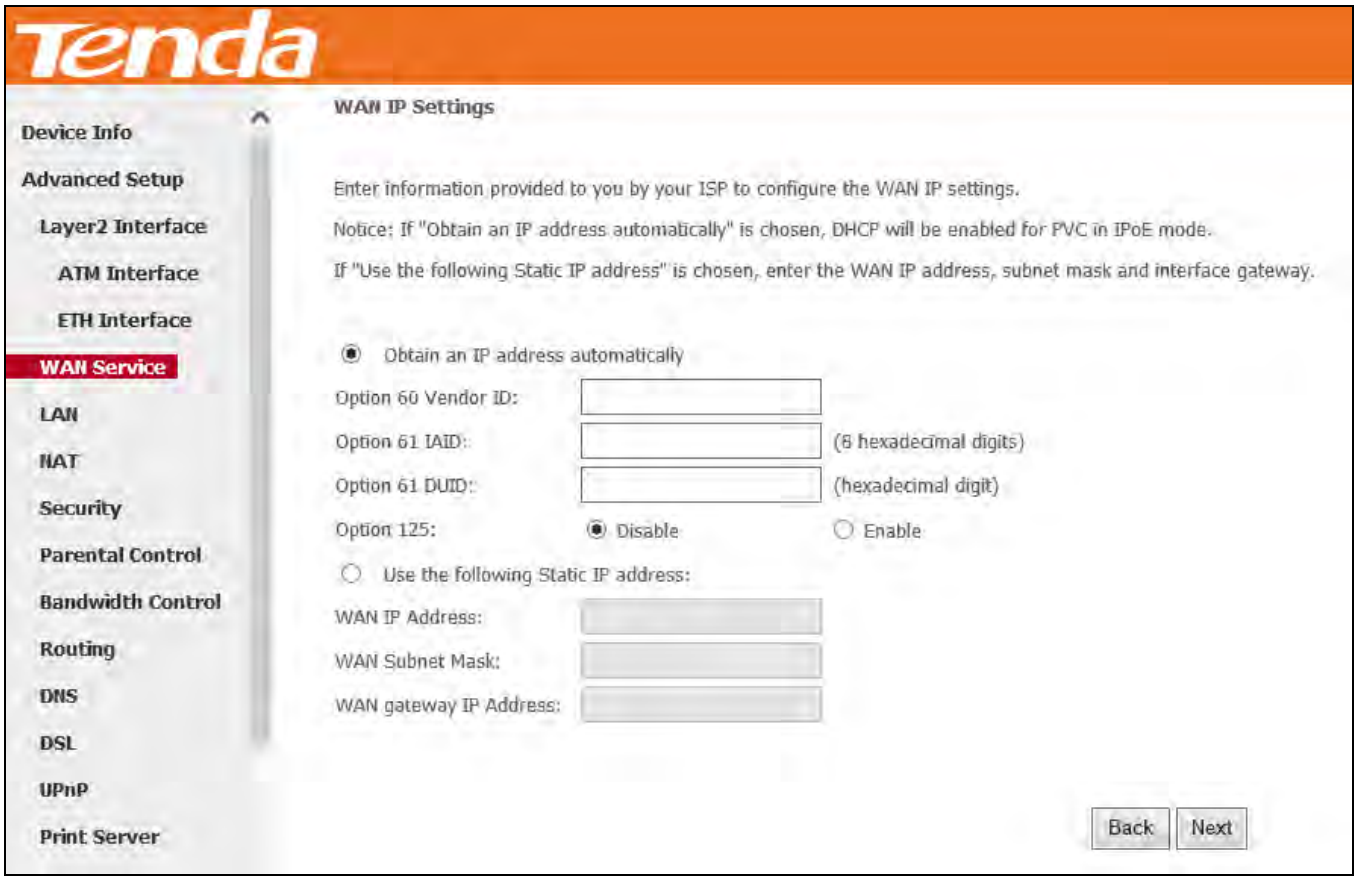


Step 2: Select the ETH interface you added just now from the pull-down menu in the figure below. Click **Next**.

Step 3: Select **IP over Ethernet** as WAN service type. Edit the **Enter Service Description.** This field is optional. We recommend that you keep the default. Select a network protocol: **IPv4 Only**. And then click **Next**.



Step 4: Enter the IP address/subnet mask/gateway IP address provided by your ISP or select **Obtain an IP address automatically** and then click the **Next** button.



Obtain an IP address automatically: This allows the router to automatically acquire IP information from your ISP or your existing networking equipment.

Use the following Static IP address: This allows you to specify the Static IP information provided by your ISP or that

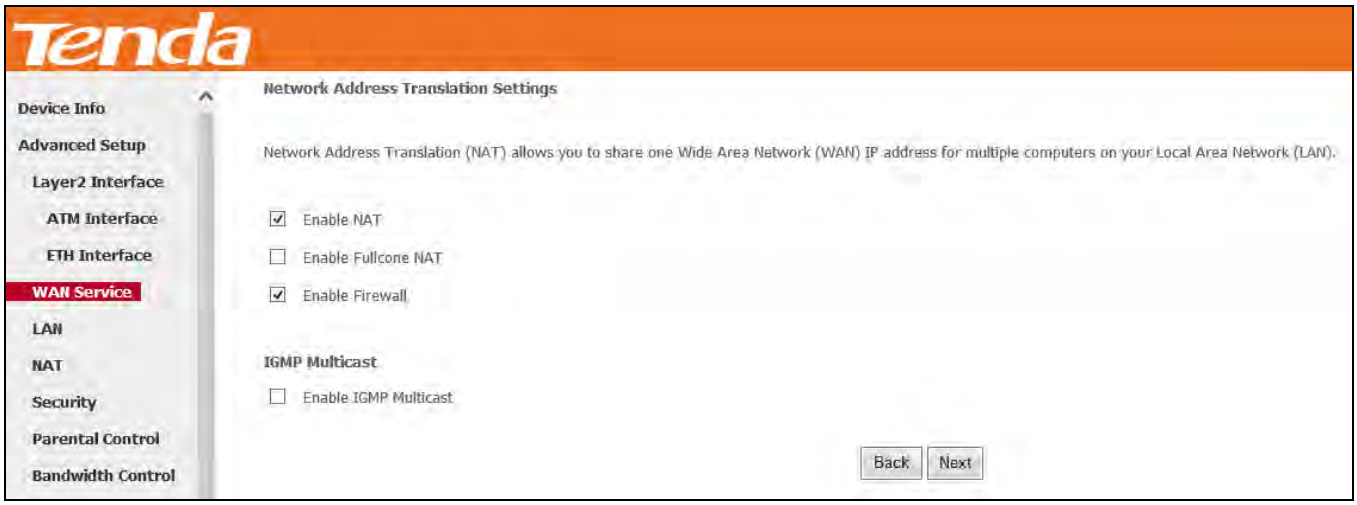
corresponds with your existing networking equipment.

WAN IP Address: The Internet IP address provided by your ISP for accessing the Internet.

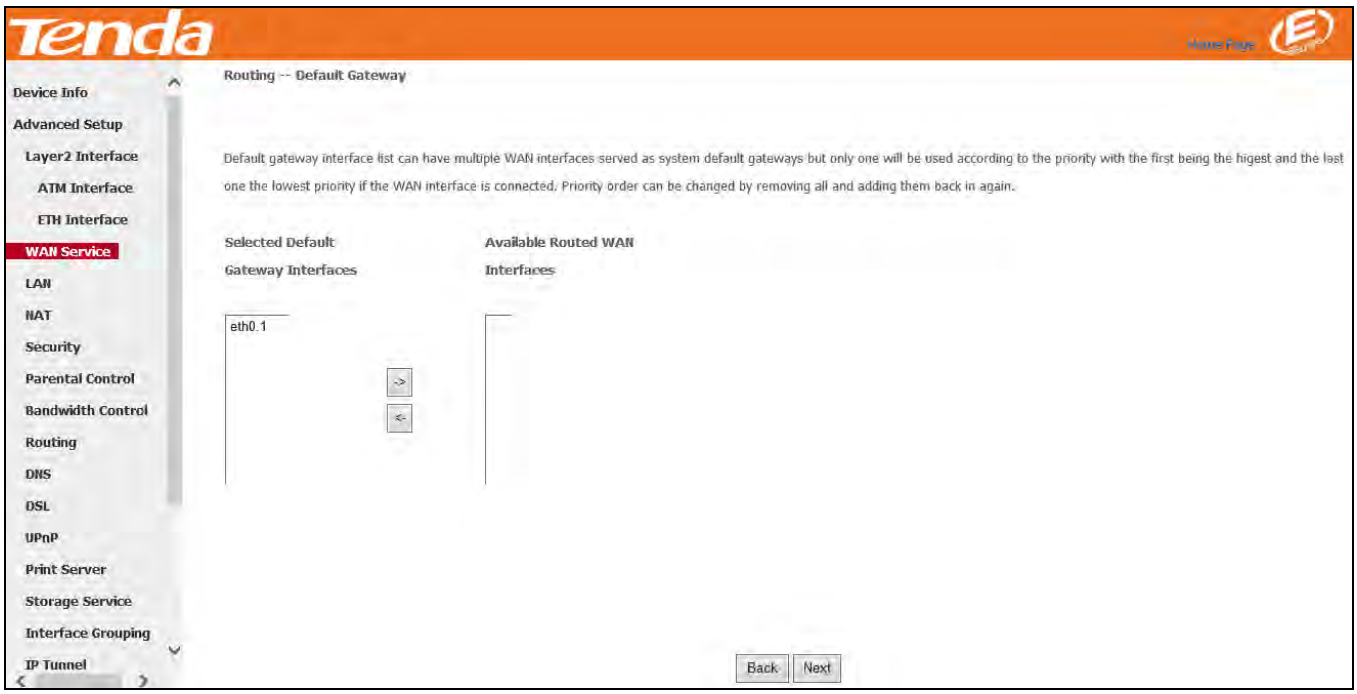
WAN Subnet Mask: The subnet mask address provided by your ISP for accessing the Internet.

WAN gateway IP Address: The gateway IP address provided by your ISP for accessing the Internet.

Step 5: Here you can configure the NAT. If you are not an advanced user we recommend you to keep the default settings and then click **Next**.



Step 6: Here you can configure the WAN gateway address. After you configure it click **Next**. The default setting is recommended.

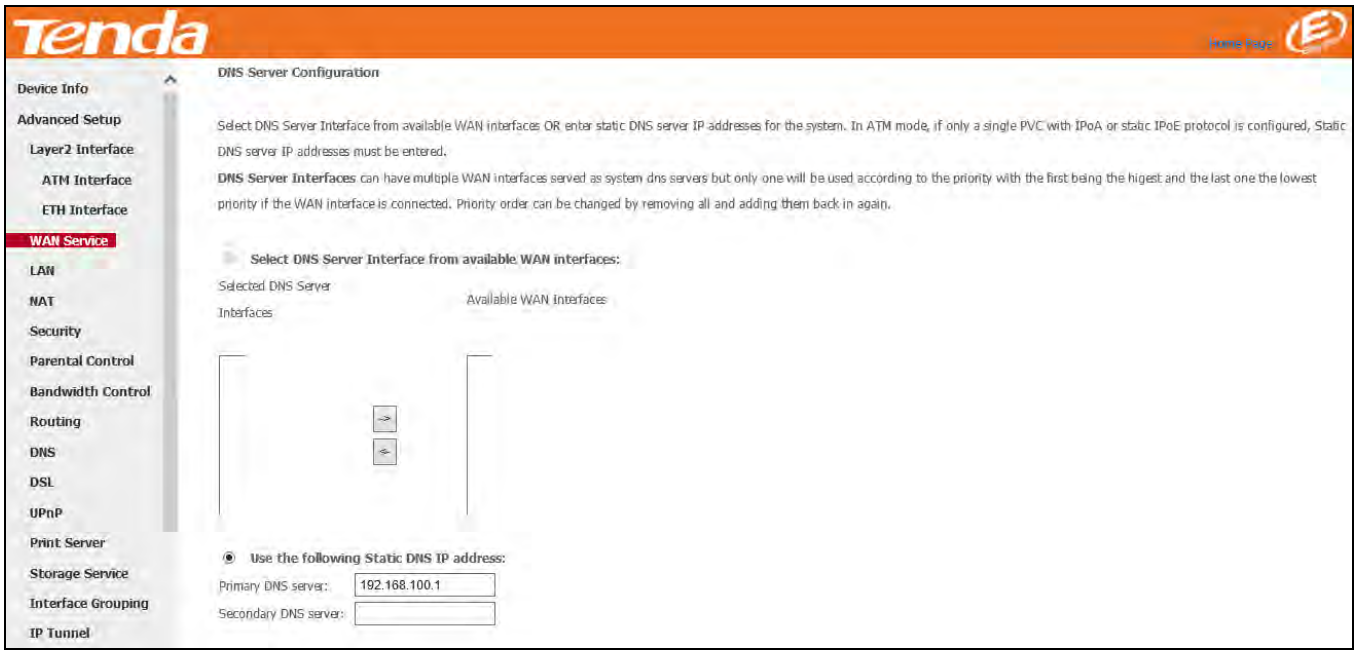


Step 7: Here you can configure the WAN DNS address.

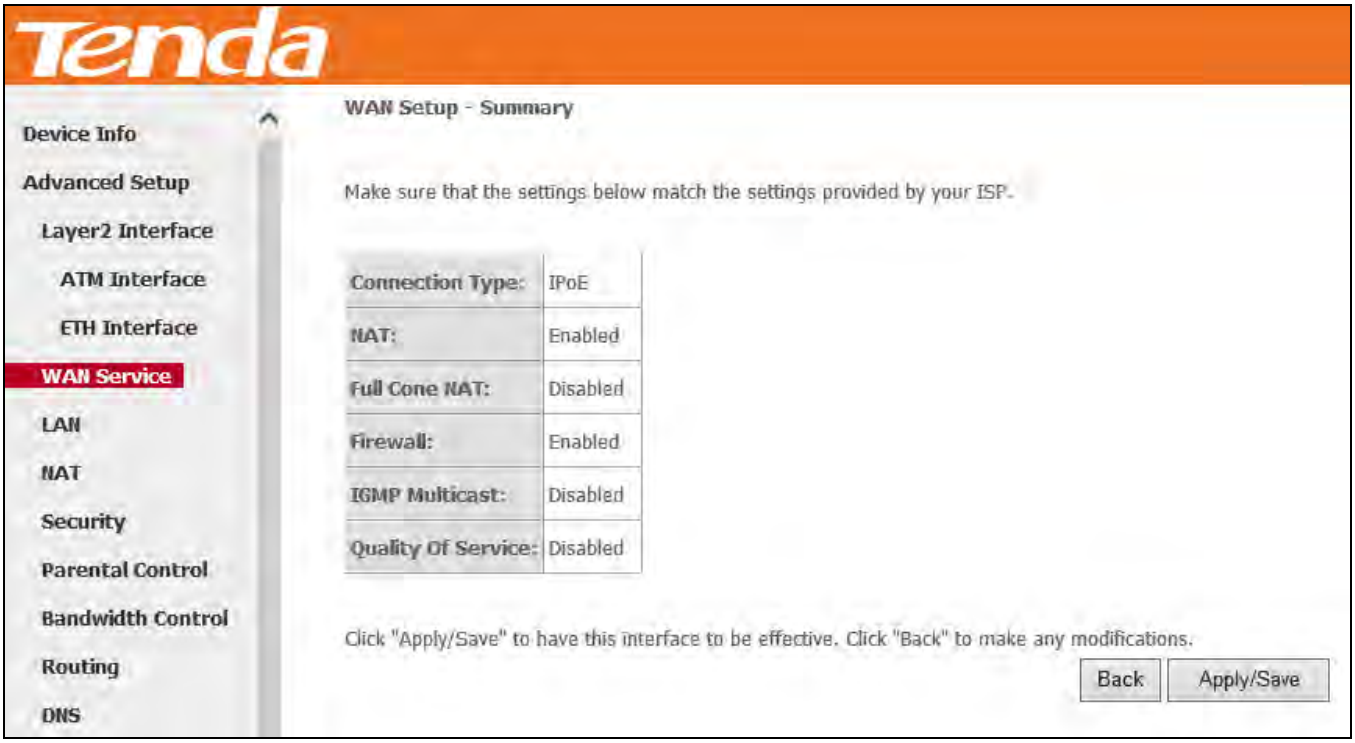
-Click the **Select DNS Server Interface** from available WAN interfaces option;

-Or select the **Use the following Static DNS IP address** option and enter static DNS server IP addresses for the system.

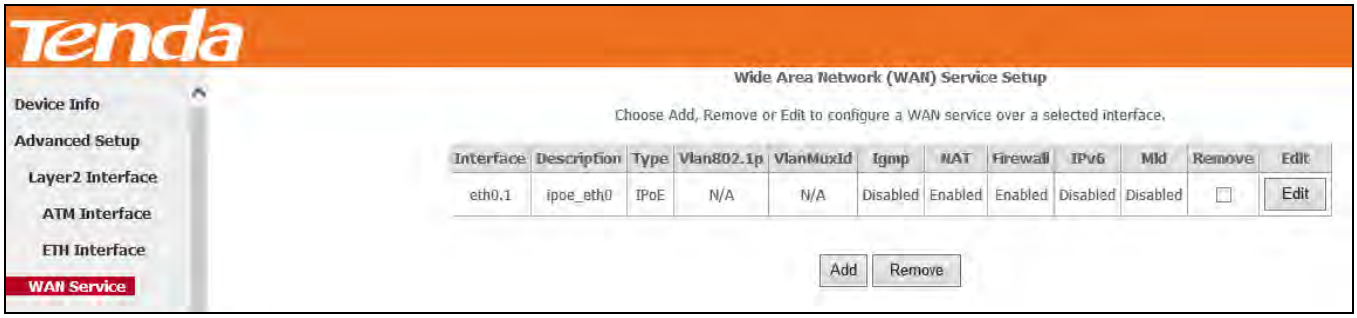
And then click **Next**.



Step 8: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.

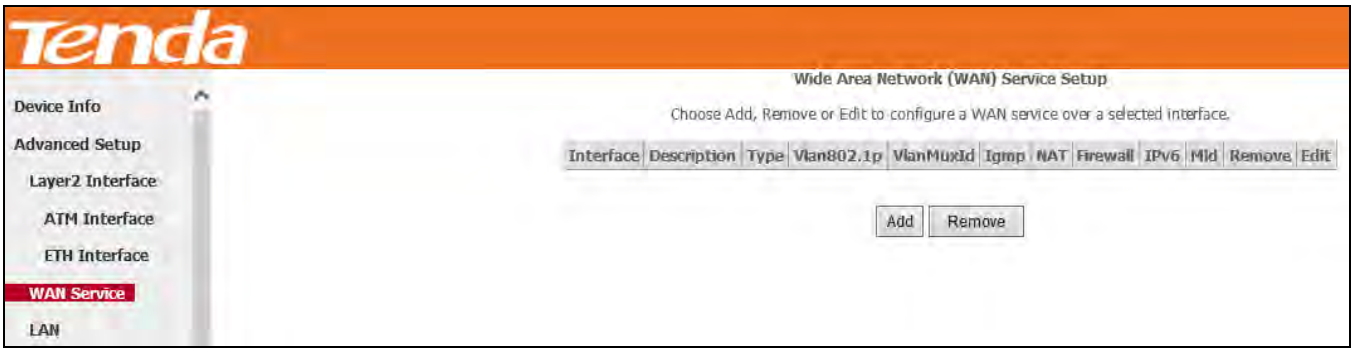


When the IPoE connection is successful, you can access the Internet.



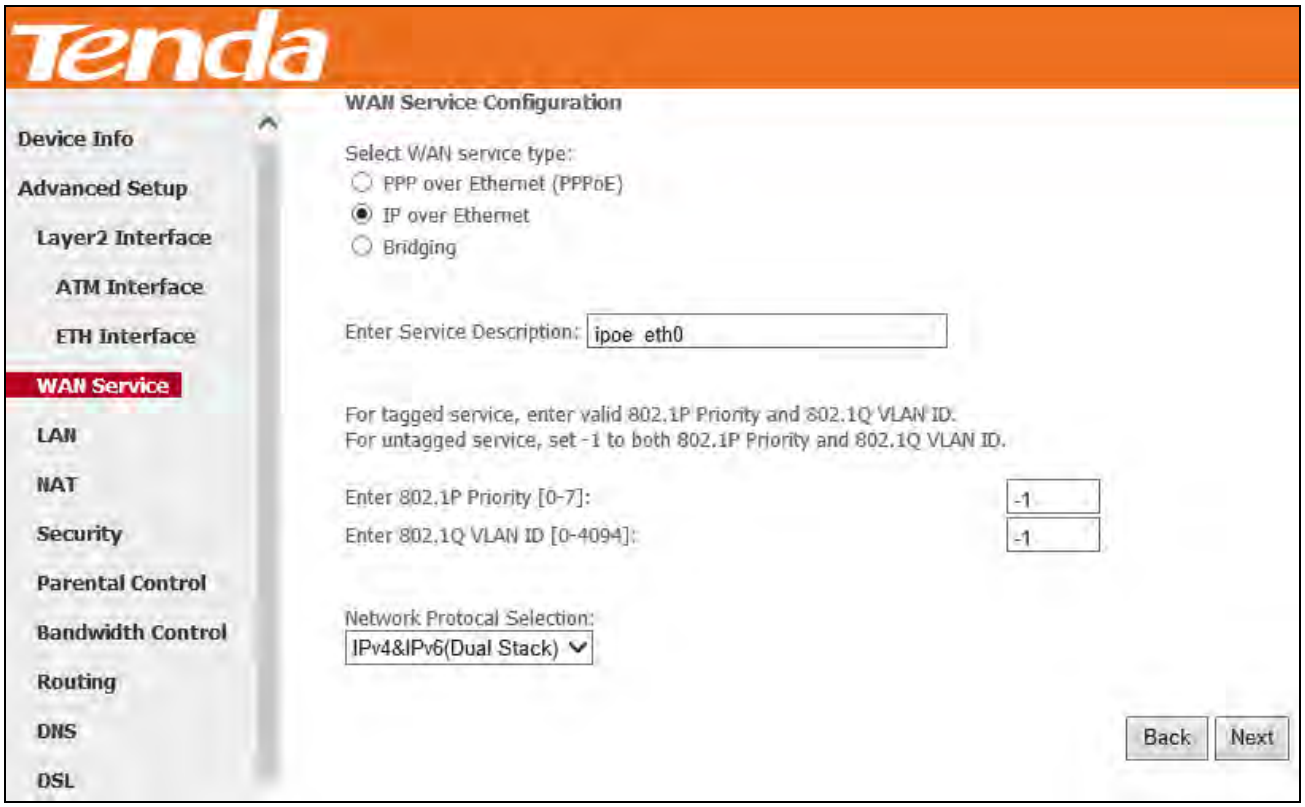
IPv4 & IPv6 (Dual Stack)

Step 1: Click **Advanced Setup > WAN Service** and then click the **Add** button.

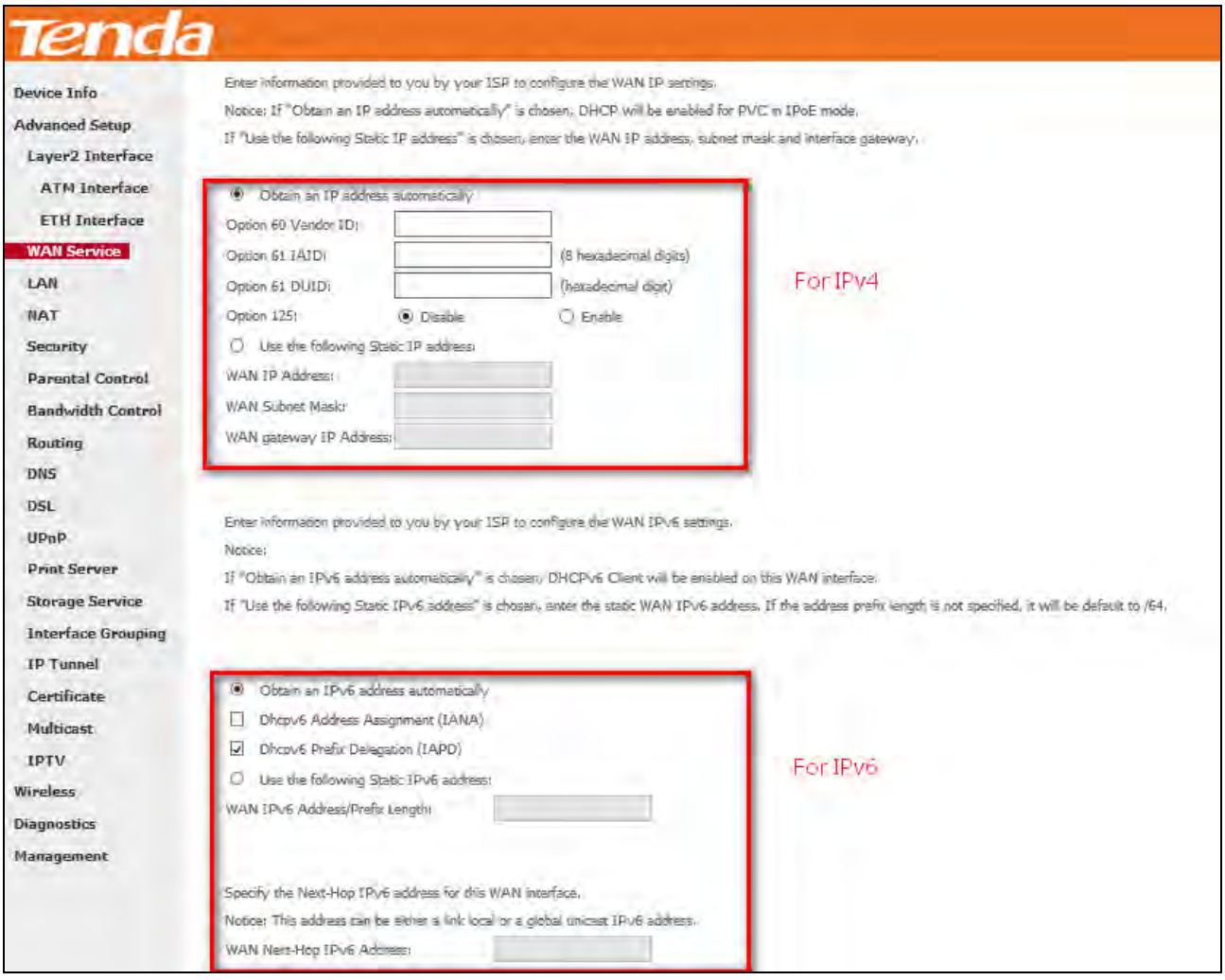


Step 2: Select the ETH interface you added just now from the pull-down menu in the figure below. Click **Next**.

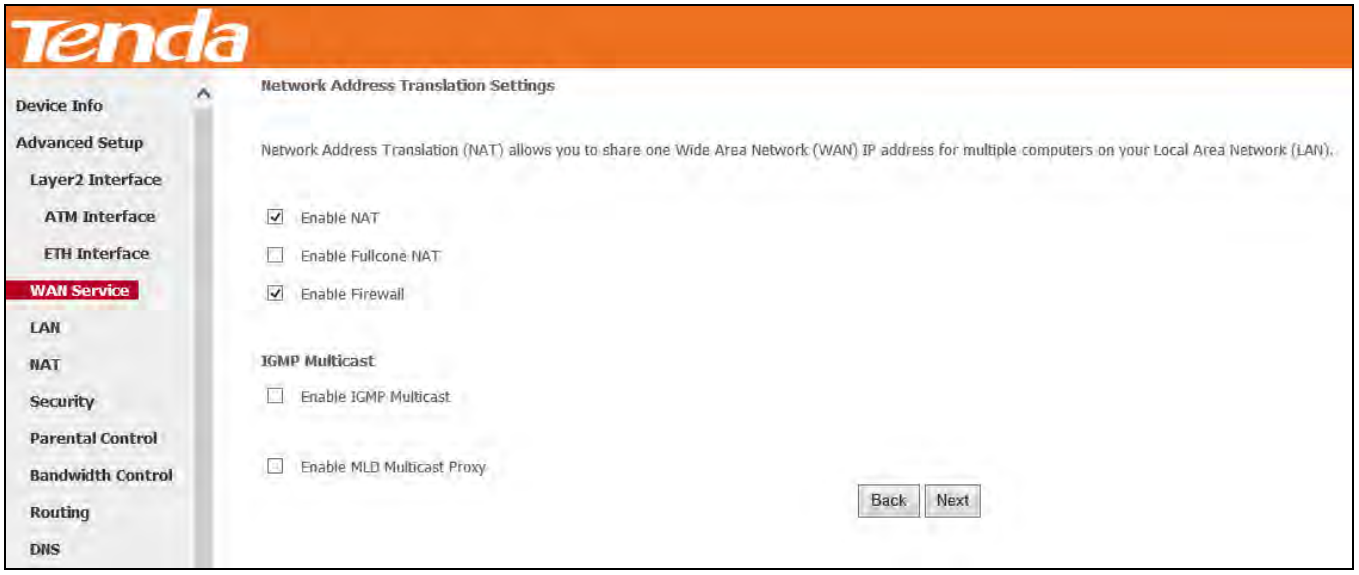
Step 3: Select **IP over Ethernet** as WAN service type. Edit the **Enter Service Description.** This field is optional. We recommend that you keep the default. Select a network protocol: **IPv4&IPv6 (Dual Stack)**. And then click **Next**.



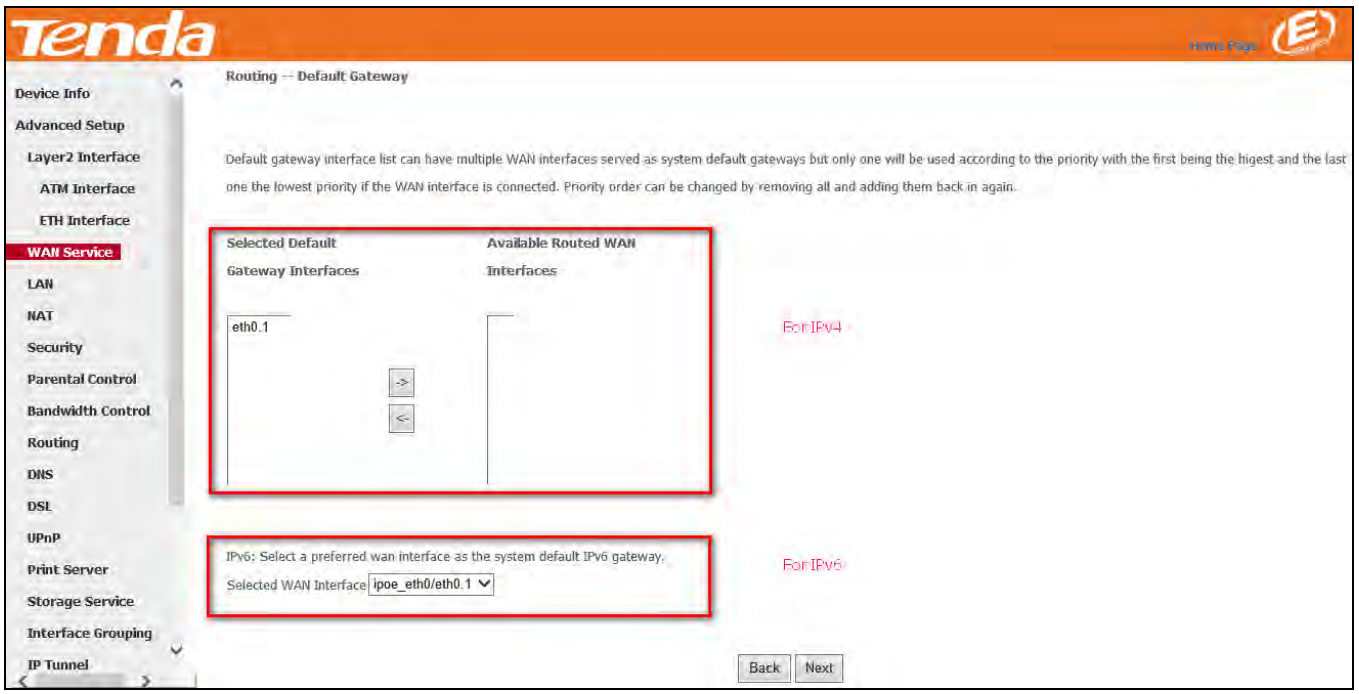
Step 4: Enter information provided by your ISP to configure the WAN IP settings.



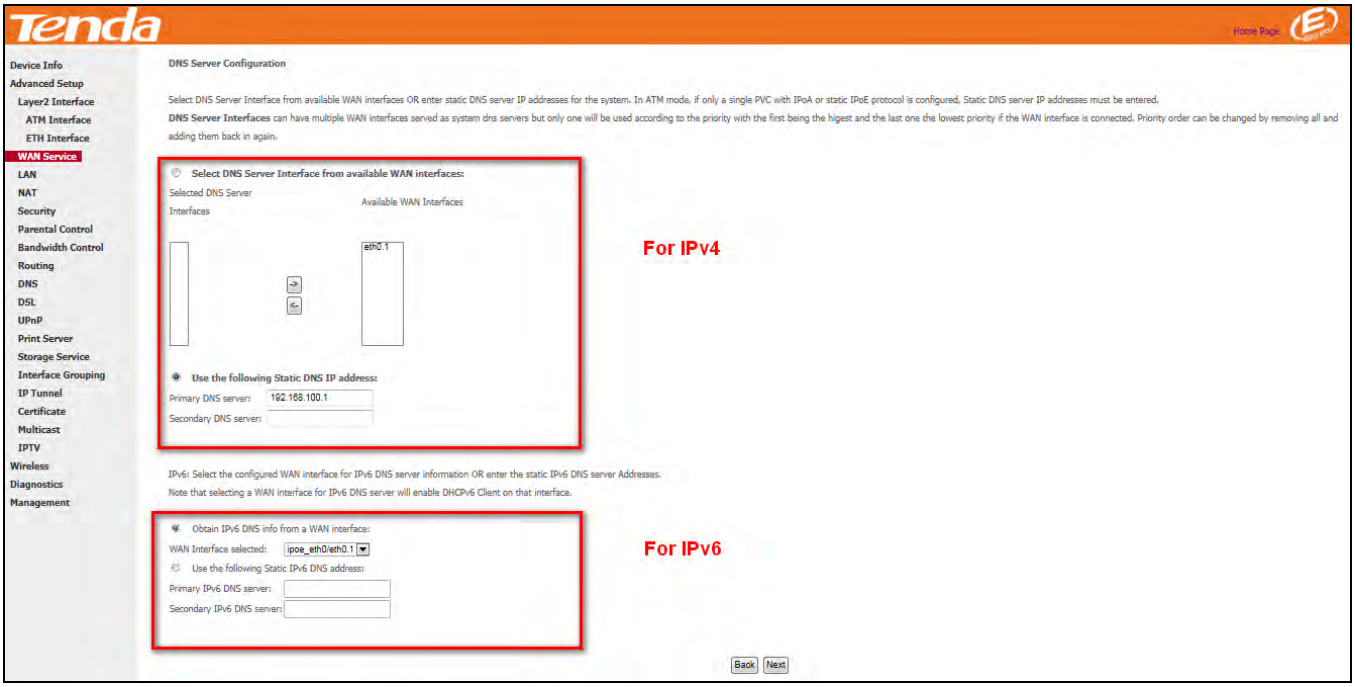
Step 5: Here you can configure the NAT. If you are not an advanced user we recommend you to keep the default settings and then click **Next**.



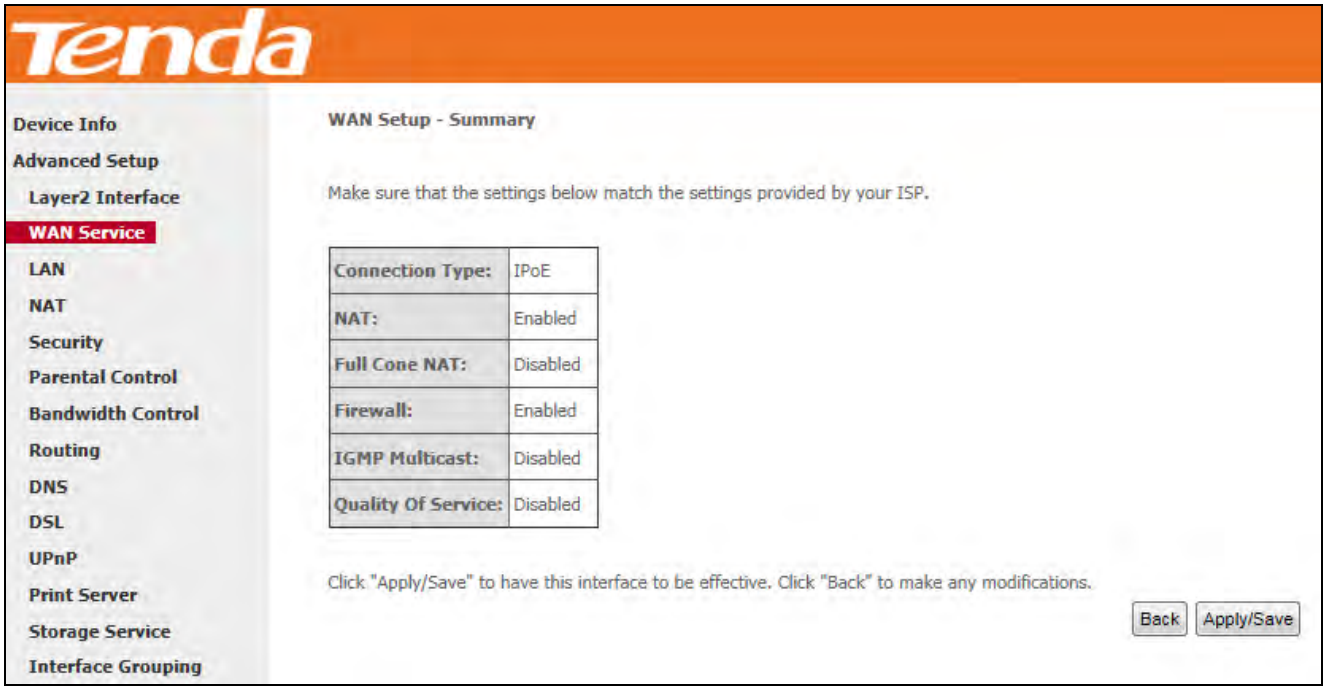
Step 6: Configure a WAN interface as the default gateway.



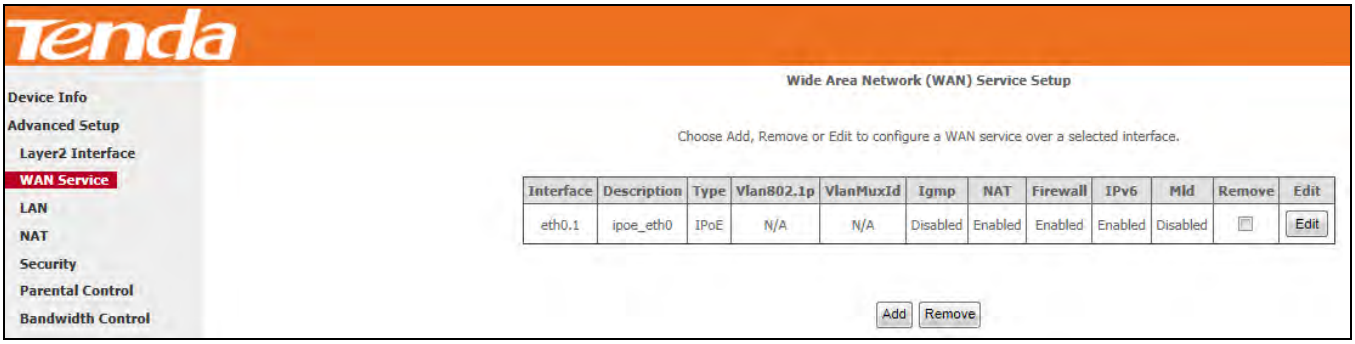
Step 7: Configure DNS server (Select an available DNS server interface or use a specified DNS server); configure IPv6 DNS server (Obtain IPv6 DNS info from a WAN interface or use a specified DNS server), and then click **Next**.



Step 8: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.

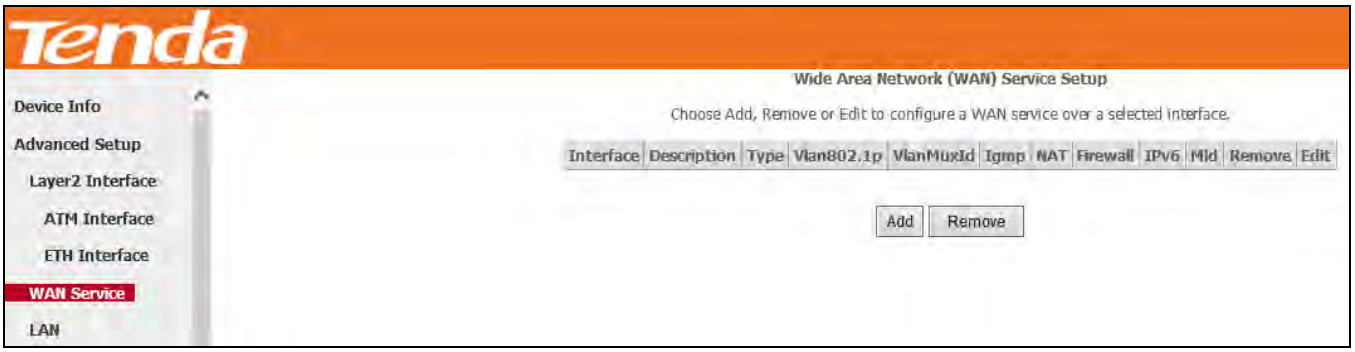


When the IPoE connection is successful, you can access the Internet.



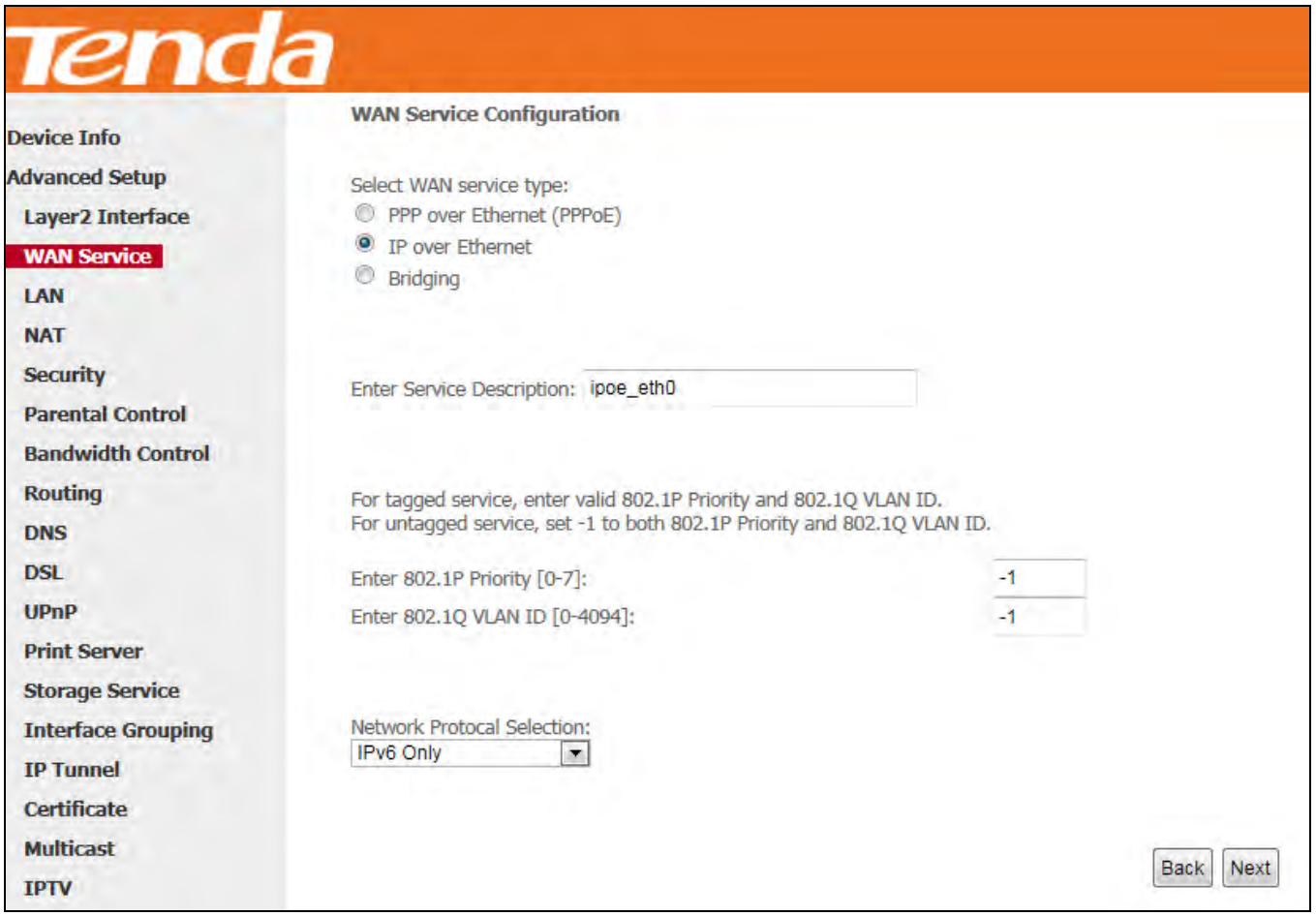
IPv6

Step 1: Click **Advanced Setup > WAN Service** and then click the **Add** button.



Step 2: Select the ETH interface you added just now from the pull-down menu in the figure below. Click **Next**.

Step 3: Select **IP over Ethernet** as WAN service type. Edit the **Enter Service Description.** This field is optional. We recommend that you keep the default. Select a network protocol: **IPv6 Only**. And then click **Next**.

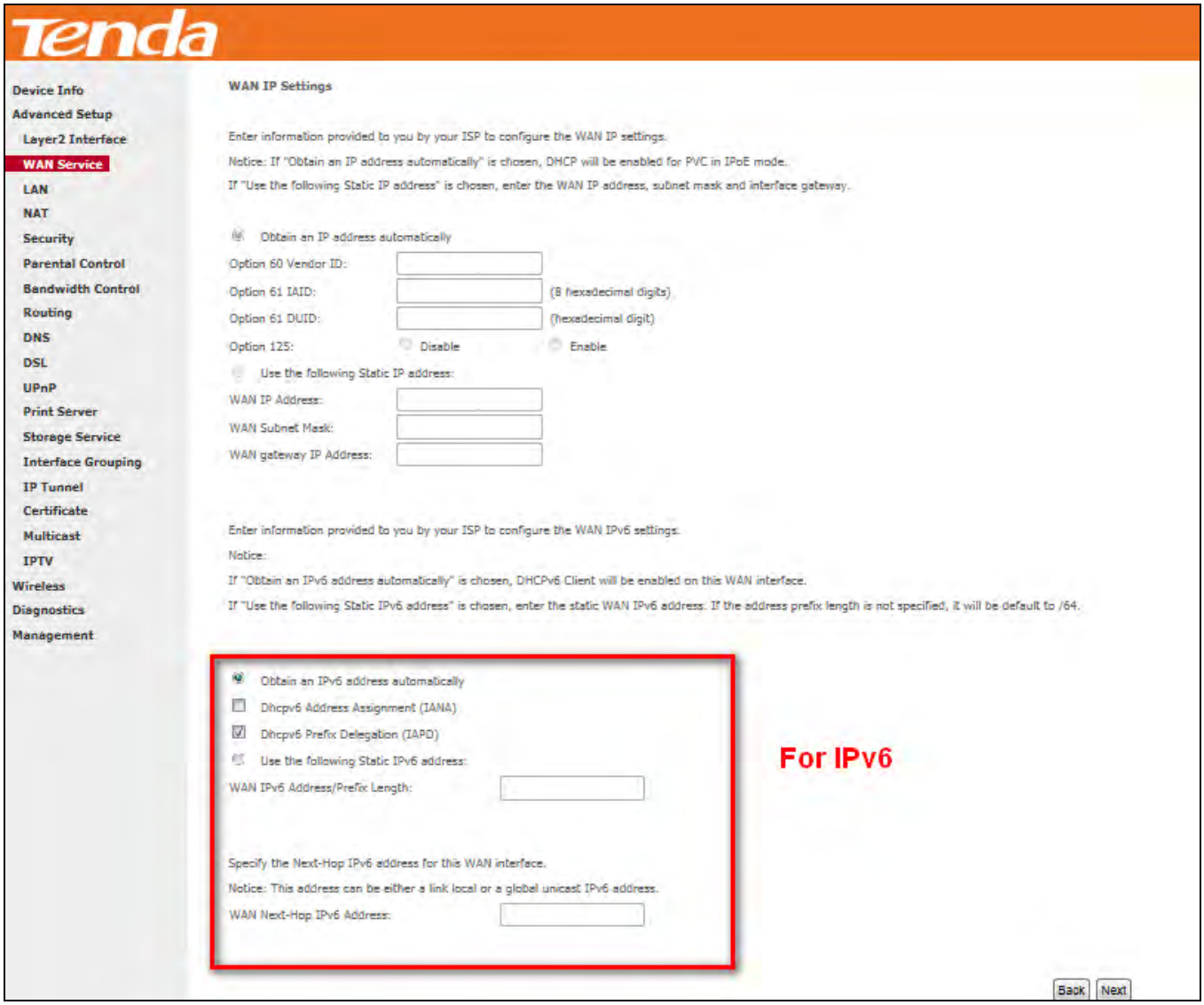


Step 4: Enter the WAN information provided by your ISP to configure the WAN IPv6 settings.

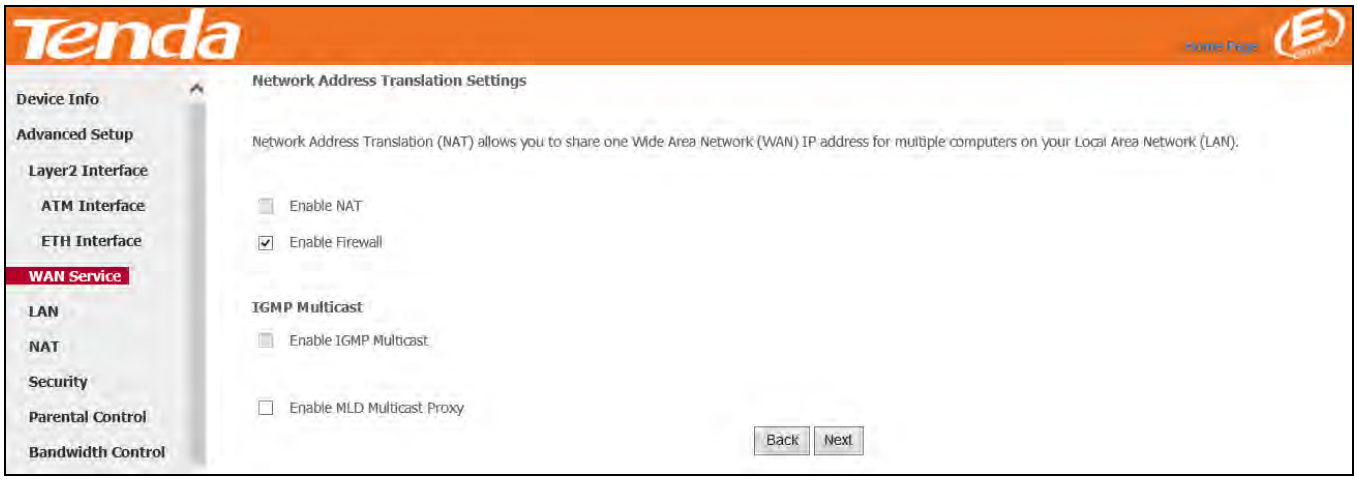
To obtain an IP address automatically:

Select **Obtain an IPv6 address automatically** and Check **Dhcp6c Prefix Delegation (IAPD)**.

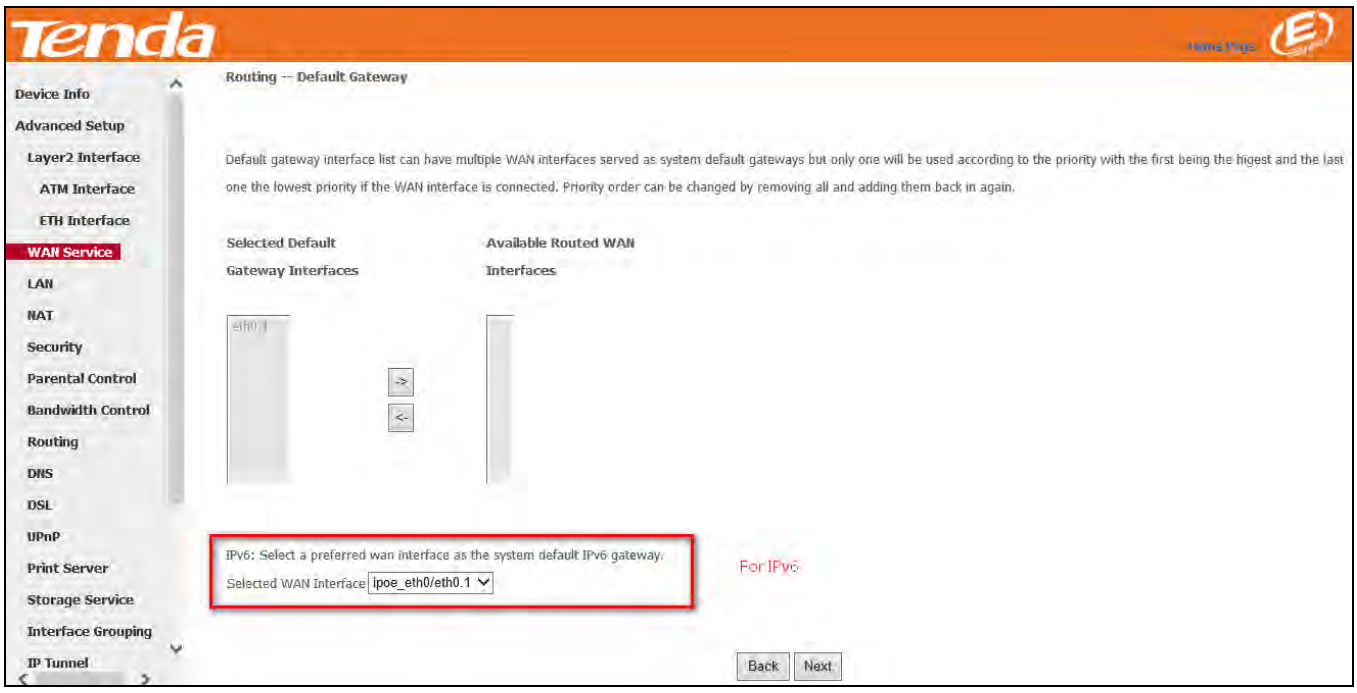
If your ISP is using stateful DHCPv6, check **Dhcp6c Address Assignment (IANA)** also. Click **Next** to go forwards.



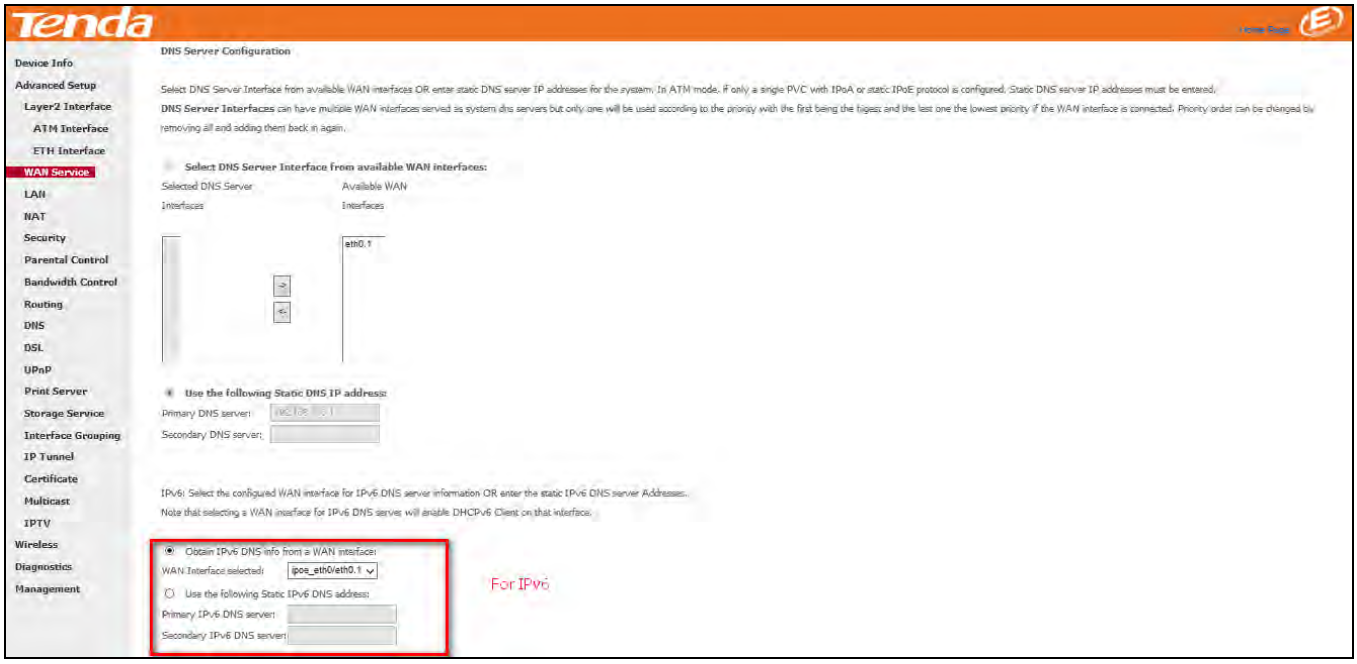
Step 5: Here you can configure the NAT. If you are not an advanced user we recommend you to keep the default settings and then click **Next**.



Step 6: To configure the Default Gateway interface when using IPv6, select the interface that you want to configure with the WAN gateway address in **Selected WAN Interface** box. Then click **Next**.

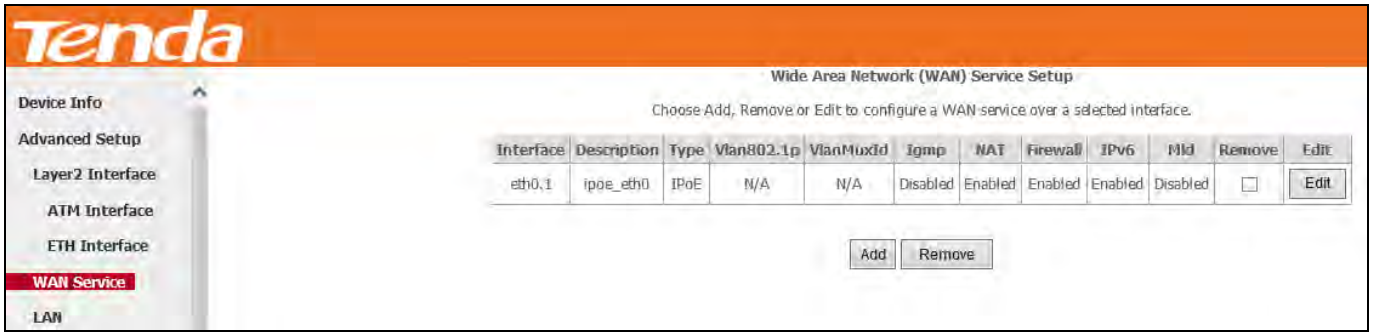


Step 7: To configure the WAN DNS address, check the **Obtain IPv6 DNS info from a WAN interface** option, or select the **Use the following Static IPv6 DNS address** option to enter the static DNS server IPv6 addresses provided by your ISP. At last, click **Next**.



Step 8: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.

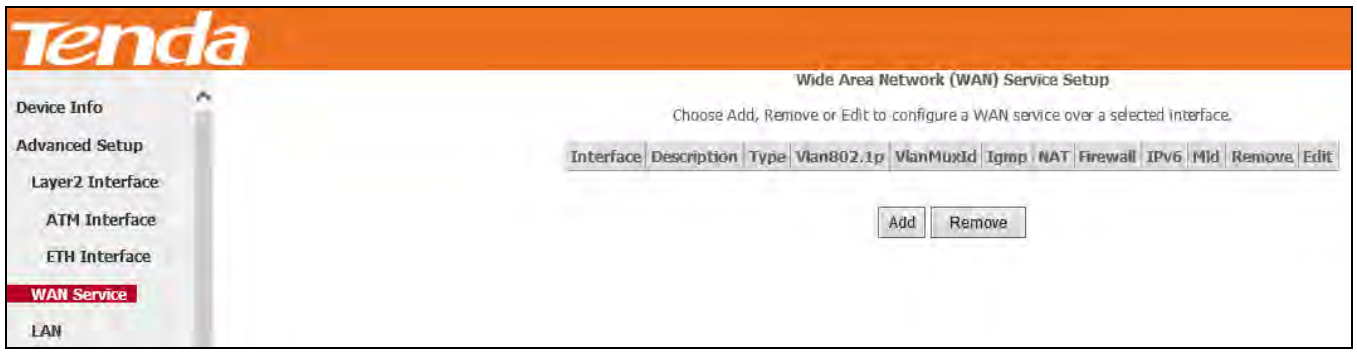
When the IPoE connection is successful, you can access the Internet.



Bridging

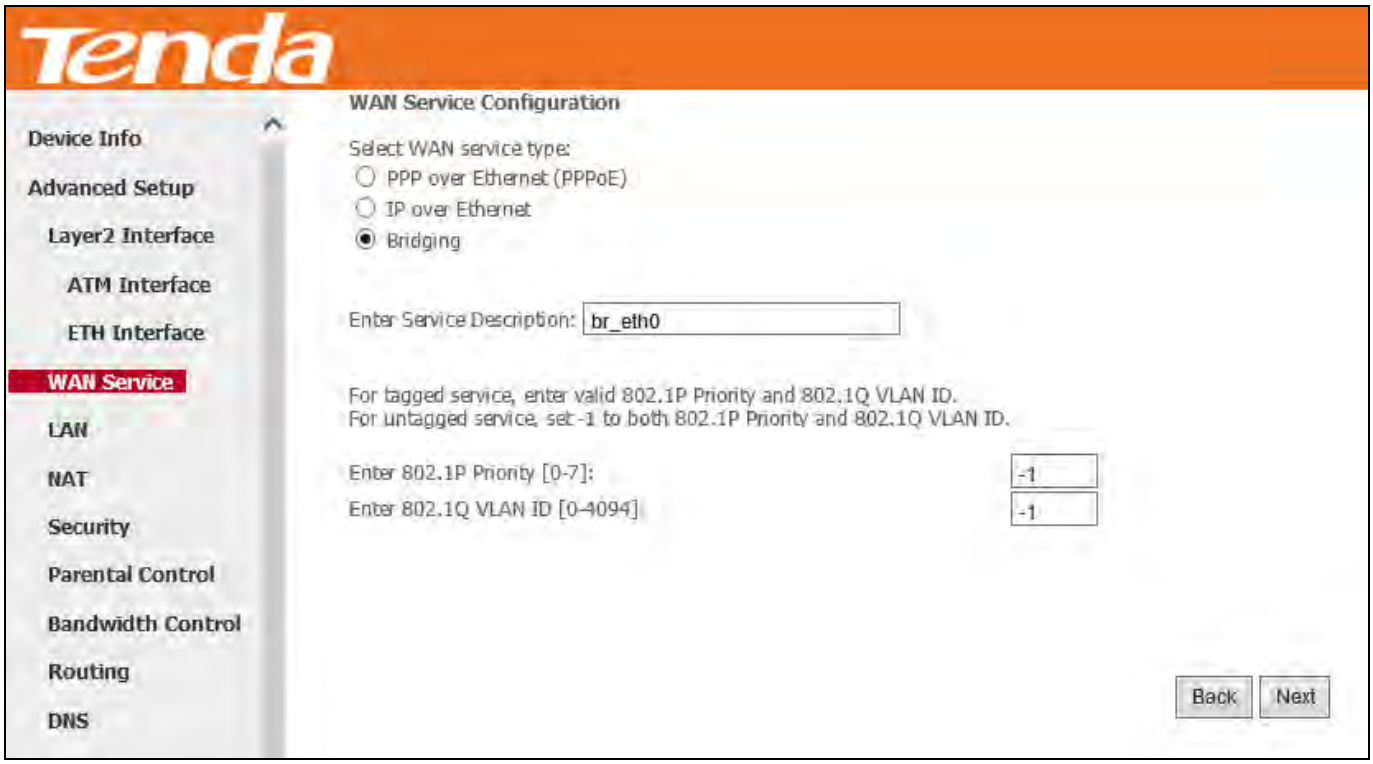
If you wish to initiate a dialup directly from your PC for Internet access or enjoy the entire Internet connection (instead of sharing it with others), you can select the Bridging and create a dialup program on your PC.

Step 1: Click **Advanced Setup > WAN Service** and then click the **Add** button.

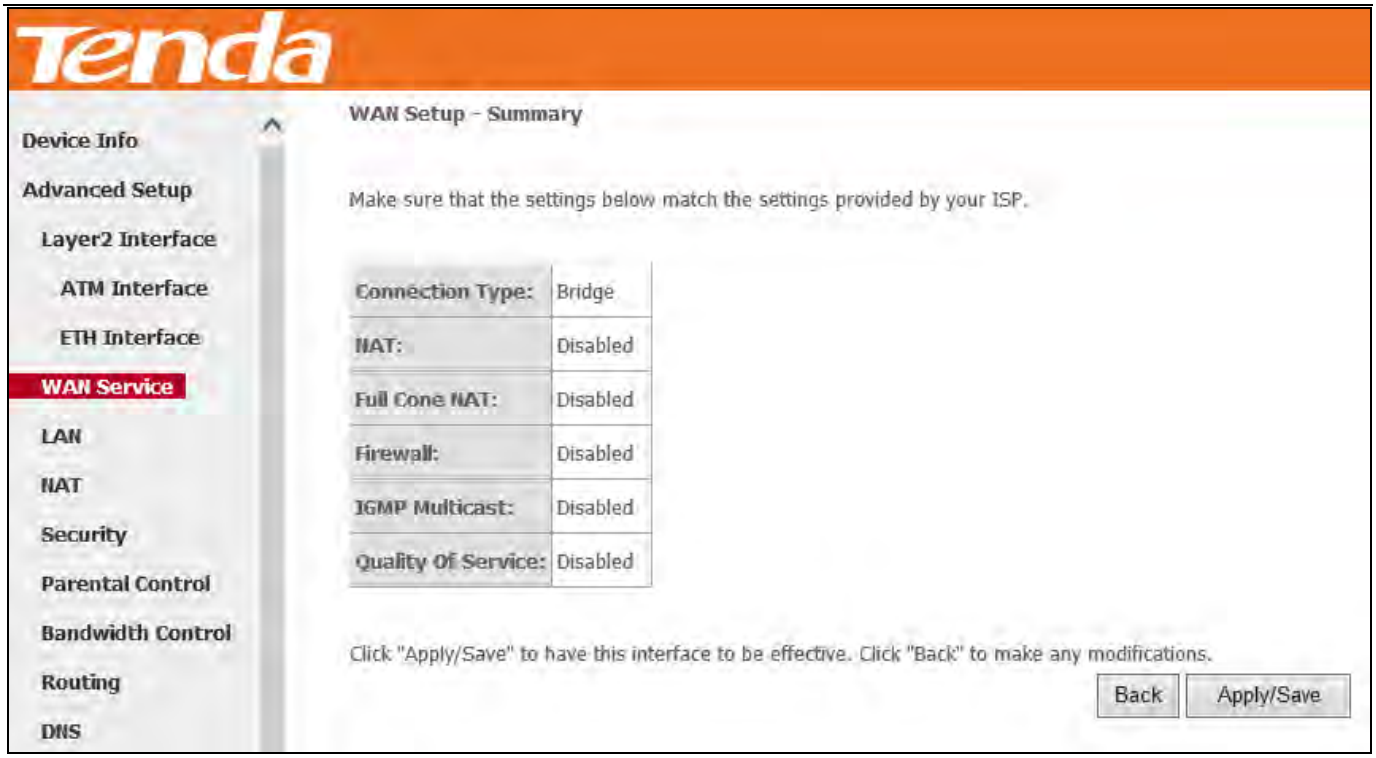


Step 2: Select the ETH interface you added just now from the pull-down menu in the figure below. Click **Next**.

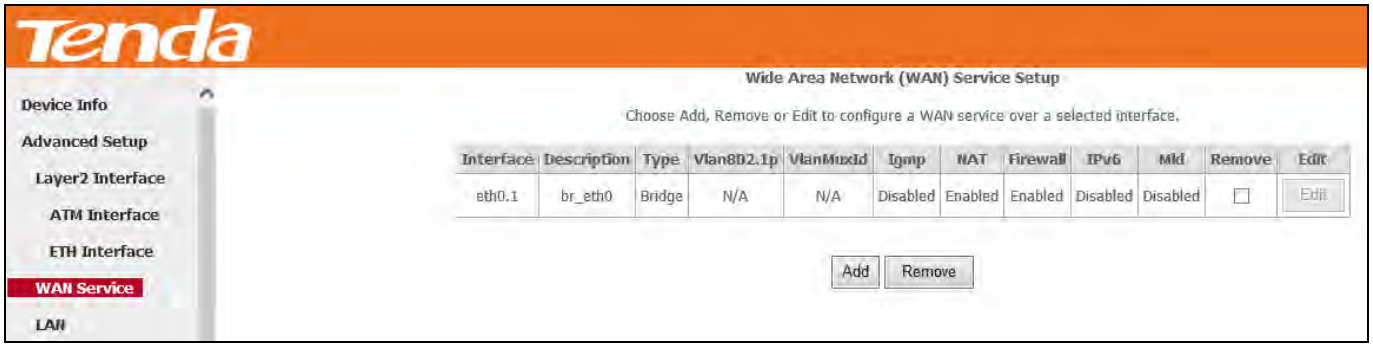
Step 3: Select **Bridging**. Edit the **Enter Service Description**. This field is optional. We recommend that you keep the default. And click **Next**.



Step 4: Here you can view your configurations. Click **Apply/Save** to save your settings if everything is correctly set.



After the bridging connection is successful, initiate a dialup directly from your PC for Internet access.



Note

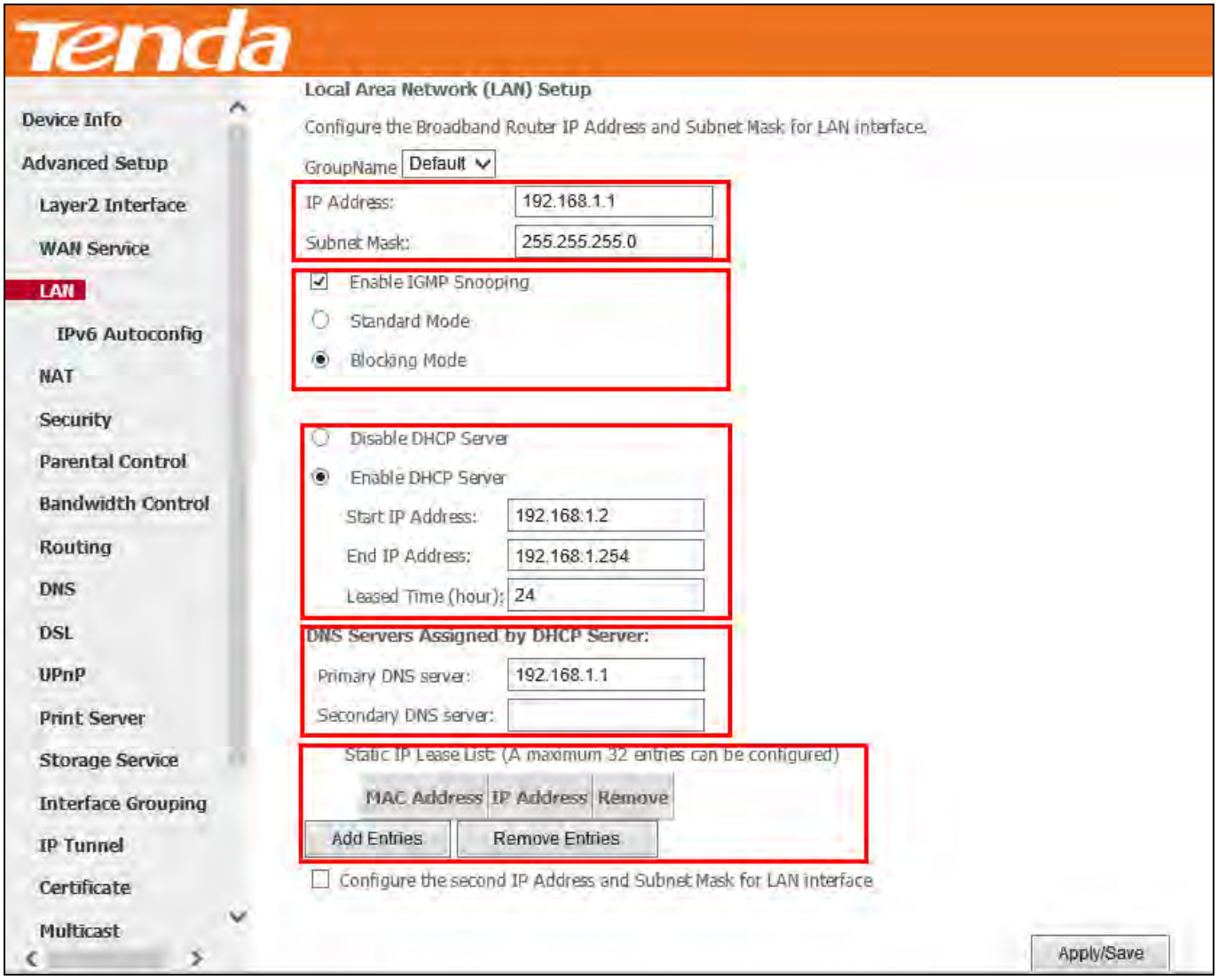
The device functions as a switch in Bridge mode -Ethernet uplink.

4.2.3 LAN

Here you can configure the LAN IP address and subnet mask. This IP address is to be used to access the device's settings through a web browser. Be sure to make a note of any changes you apply to this page.

IPv4

Click **Advanced** > **LAN** to enter the IPv4 address setting interface.



1) **IP Address/Subnet Mask:** The device's LAN IP address and subnet mask that both you can change to fit your network. The default IP address is 192.168.1.1. If you change the LAN IP address, you should use the new address to access the management interface next time.

2) **Enable IGMP Snooping**: Check to enable the IGMP Snooping feature. IGMP Snooping is to restrain broadcast on Layer 2. Enabling IGMP snooping is good for managing and controlling IPv4 broadcasts. Suggest selecting **Blocking Mode**.

- **Standard Mode:** If no members join in one broadcast group, packets of this group will be broadcasted; if there're members joining in the group, packets will be only forwarded to the LAN port where the group members exist.
- **Blocking Mode:** If no members join in one broadcast group, packets of this group will be dropped; if there's members joining in the broadcast group, packets will be only forwarded to the LAN port where the group members exist.

3) **Enable DHCP Server:** Check to enable the DHCP Server so that every upstream device connected to your router can obtain the IP address to access the Internet. If you would like to configure every upstream device with static IP

address to access the Internet, you can check **Disable DHCP Server**.

4) **Start/End IP Address:** Specify the start/end of the range for the IP address pool in the same subnet as the router. Only enabling DHCP server need you to finish this part configurations.

5) **Leased Time:** A time length that the IP address is assigned to each device before it is refreshed.

6) **Static IP Lease List:** A list of devices with reserved static IP addresses. If you prefer to configure each upstream device of your router with a static IP address for better management, you can add static IP addresses to the list.

- **Add Entries:** Click this button to add a static IP lease entry. A maximum 32 entries can be configured.
- **Remove Entries:** Click this button to remove a static IP lease entry.

7) **Configure the second IP Address and Subnet Mask for LAN interface:** If you want to configure two IP addresses for the LAN interface, you can check this option and enter the second IP Address and Subnet Mask manually. The second IP address and subnet mask have the same function as the first ones.

8) **Apply/Save:** After you configure all the needed settings, click this button to apply and save them.

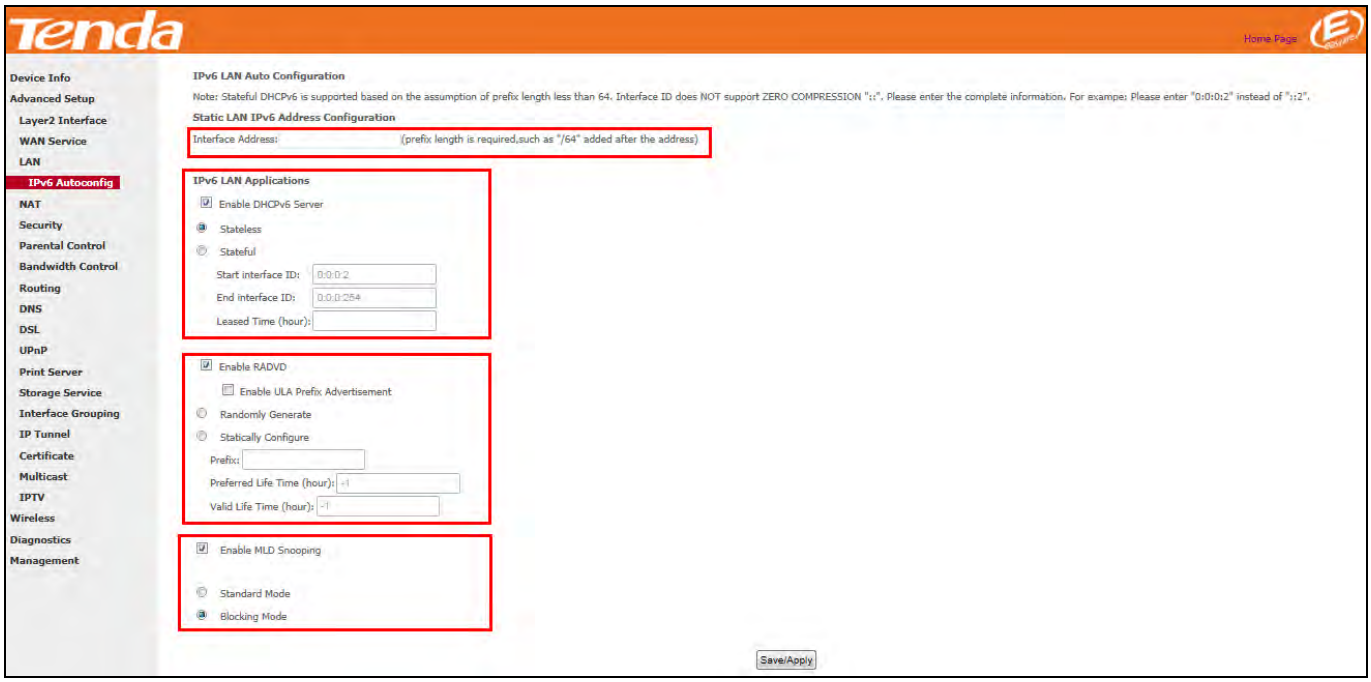
Tip:

DHCP (Dynamic Host Configuration Protocol) assigns an IP address to each device on the LAN/private network. When you enable the DHCP Server, the DHCP Server will automatically allocate an unused IP address from the IP address pool specified in this screen to the requesting device as long as the device is set to "Obtain an IP Address Automatically". By default, DHCP server is enabled.

IPv6 Autoconfig

IPv6 address can only be Aggregatable Global Unicast Addresses and Unique Local Address. Link-Local Unicast Addresses and Multicast Addresses are not permitted.

Click **Advanced** > **LAN > IPv6 Autoconfig** to enter the IPv6 address setting page.



❶ **Interface Address**: Enter the interface address with prefix length. E.g., the interface IPv6 address is “2000::1/64”, then you need to input http://[2000::1] in the browse address bar to access the device management interface.

❷ **Enable DHCPv6 Server:** Check to enable the DHCPv6 Server.

❸ Select **Stateless** or **Stateful** as you need.

- **Stateless:** If selected, IPv6 clients will generate IPv6 addresses automatically based on the Prefix Delegation's IPv6 prefix and their own MAC addresses.
- **Stateful:** Stateful DHCPv6 is supported based on the assumption of prefix length less than 64. Select this option and configure the start/end interface ID and leased time. The router will automatically assign IPv6 addresses to IPv6 clients.

❹ **Enable RADVD:** Check it to enable the RADVD for informing computers in the LAN of your router’s existence. When computers get the message, they will take the router’s IP address as the secondary route for easy use. In addition, checking RADVD can also broadcast the prefix address generated from the computer in the LAN.

❺ **Enable IGMP Snooping**: Check to enable the IGMP Snooping feature. IGMP Snooping is to restrain broadcast on Layer 2. Enabling IGMP snooping is good for managing and controlling IPv6 broadcasts. Suggest to select **Blocking Mode**.

- **Standard Mode:** If no members join in one broadcast group, packets of this group will be broadcasted; if there’re members joining in the group, packets will be only forwarded to the LAN port where the group members exist.
- **Blocking Mode:** If no members join in one broadcast group, packets of this group will be dropped; if there’s members joining in the broadcast group, packets will be only forwarded to the LAN port where the group members exist.

❻ Click **Save/Apply**.

Other fields' introduction that may help:

- **Enable ULA Prefix Advertisement:** If enabled, the router will advertise ULA prefix periodically.
- **Leased Time (hour):** A time length that the IP address is assigned to each device before it is refreshed.
- **Start interface ID/End interface ID:** Specify the start/end interface ID Interface ID does NOT support ZERO COMPRESSION "::". Please enter the complete information. For example: Please enter "0:0:0:2" instead of "::2".
- **Randomly Generate:** If selected, address prefix can be automatically generated.
- **Statically Configure:** If you select this option, you need to manually configure the address prefix and life time.
- **Prefix:** Specify the prefix.
- **Preferred Life Time (hour):** Specify the preferred life time in hour.
- **Valid Life Time (hour):** Specify the valid life time in hour.
- **Enable MLD Snooping:** MLD is used by IPv6 routers for discovering multicast listeners on a directly attached link. If disabled on layer2 devices, IPv6 multicast data packets will be broadcast on the entire layer2; if enabled, these packets will be multicast to only specified recipient instead of being broadcast on the entire layer2.

4.2.4 NAT

This section explains the following:

• Virtual Server

• Port Triggering

• DMZ Host

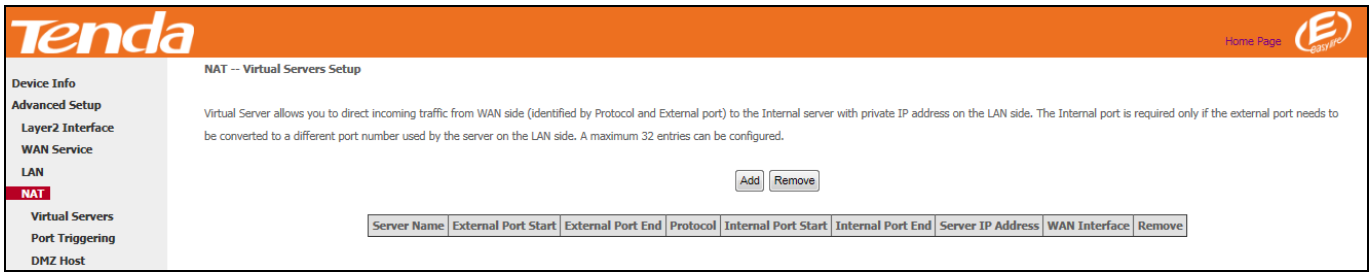
Virtual Server

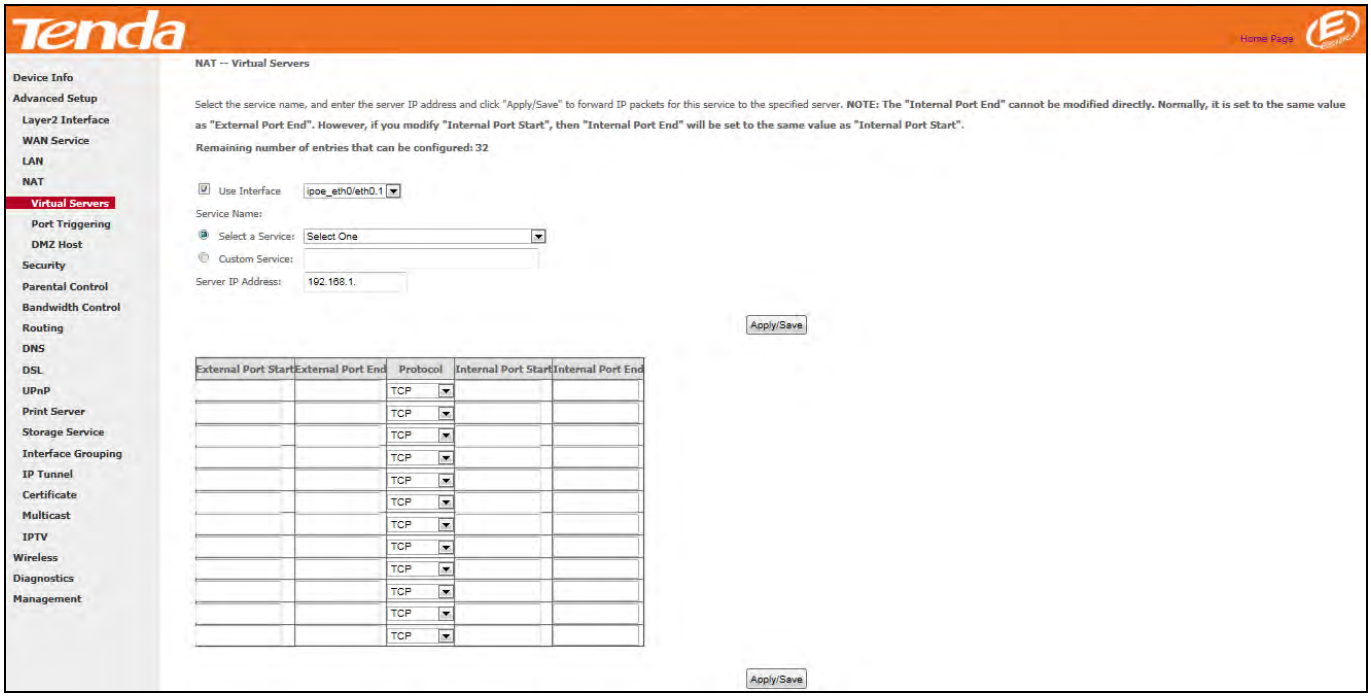
The Virtual Server is useful for web servers, ftp servers, e-mail servers, gaming and other specialized Internet applications.

Scenario: If you have a server in the LAN, such as a website, FTP server or game server, you want e-friends to visit the server, but the firewall and NAT function of your router stop visitors from accessing computers in the LAN.

Solution: Set virtual server rules to allow visitors to access the server via WAN IP address of your router.

Click **Advanced Setup > NAT > Virtual Servers** to enter the virtual server setup page. Click **Add** to add rules.





❶ **User Interface:** Select the WAN interface you will use to visit the server in your LAN.

❷ Configure the **Service Name > Select a Service** to select an existing service (**Select One** here is only an express to tell you select one service.) from the drop-down list. And then the corresponding external/internal start/end port will prompt automatically. Or configure **Service Name** > **Custom Service** to customize a service manually.

❸ **Server IP Address:** Enter the IP address of your local computer that will provide this service.

❹ Click **Apply/Save** to save configurations.

Other fields' introduction that may help:

External Port Start/External Port End: Server ports provided for Internet users to accessing the LAN.

Protocol: Select the protocol from the Protocol drop-down list. If you are unsure, select TCP/UDP.

Internal Port Start/Internal Port End: The ports used by the server in the LAN.

After all the configurations, visitors on the Internet can access your server by simply using "Protocol Name://WAN IP address: External Port".

Note

If UPnP feature on the router and some applications of the connected PC is enabled, you will be prompted on the Virtual

Server page that the UPnP interface is being used.

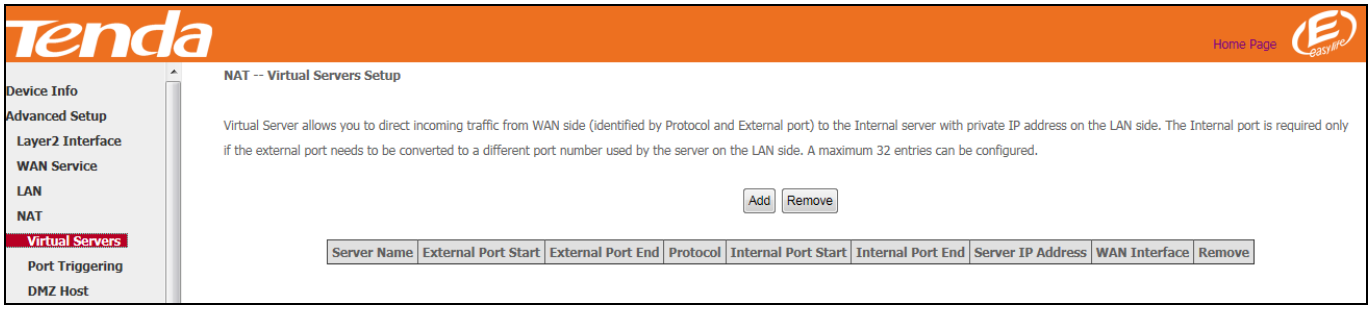
Application Scenario:

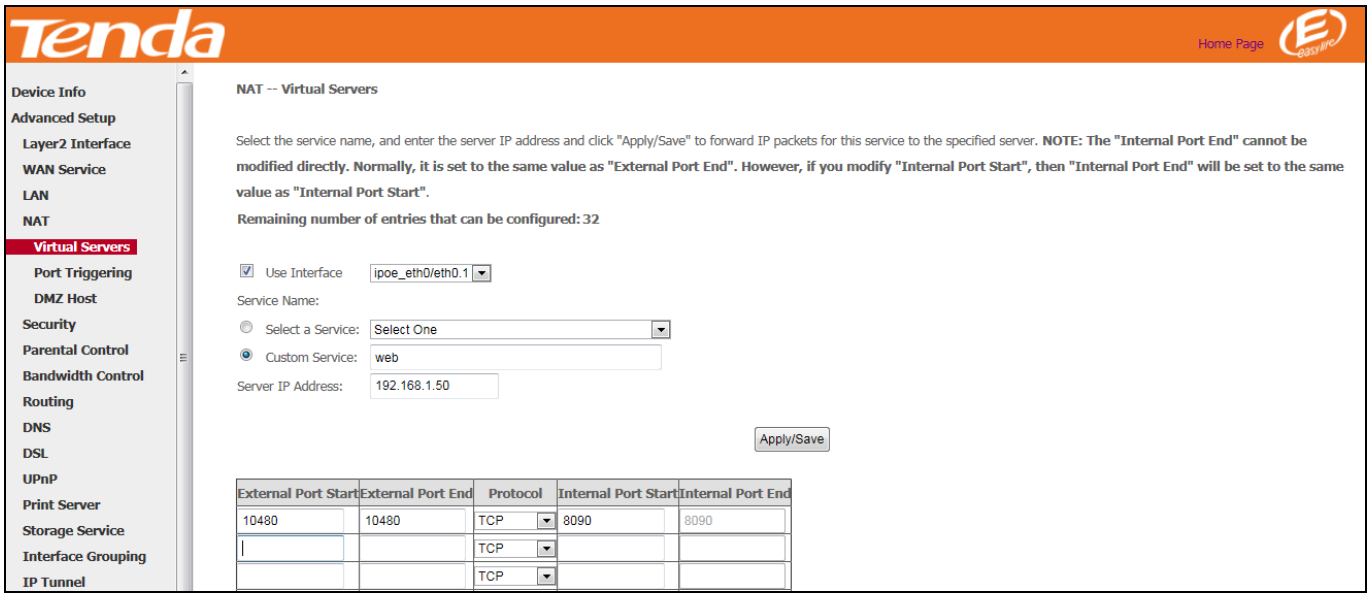
You have set up one web server on the LAN. Web server——IP: 192.168.1.50, TCP port: 8090.

Now you hope friends on the Internet can access your web by **Port 10480** through WAN port. WAN port——ipoe_eth0.1, IP: 1.2.3.4

Configuration Steps:

Click **Advanced Setup** > **NAT > Virtual Server** to enter it and then click the **Add** button.





❶ Select the WAN interface **ipoe_eth0/eth0.1** here.

❷ Input the word **web** in the **Custom Service** field. Then manually enter the port number 10480 in the **External Port Start** and **External Port End** fields, and enter the port number 8090 in the **Internal Port Start** and **Internal Port End** fields. Actually port in the **Internal Port End** filed follows the port number in the **Internal Port Start** field automatically.

❸ Select a protocol from the **Protocol** drop-down list. If you are unsure, select **TCP/UDP**.

❹ In the **Server IP Address** field, enter the IP address of the web server: **192.168.1.50**.

❺ Click **Apply/Save** to save the configuration.

Result:

Your friend on the Internet will be able to access your web server simply by entering “http://1.2.3.4:10480” in browser.

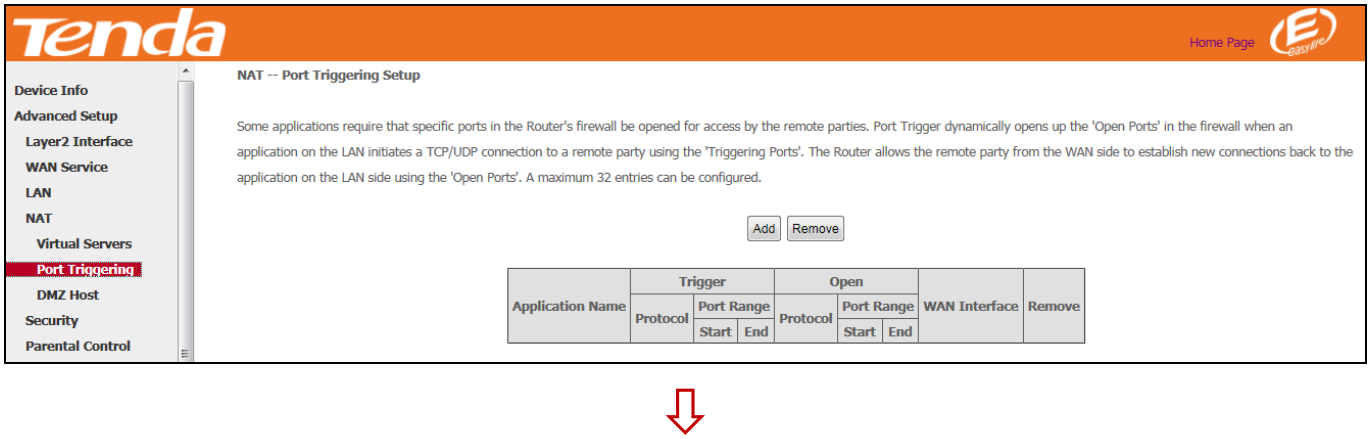
Actually if you set the DNS in 4.2.9 DNS, your friend can also enter http://domain name:10480 to access your web server.

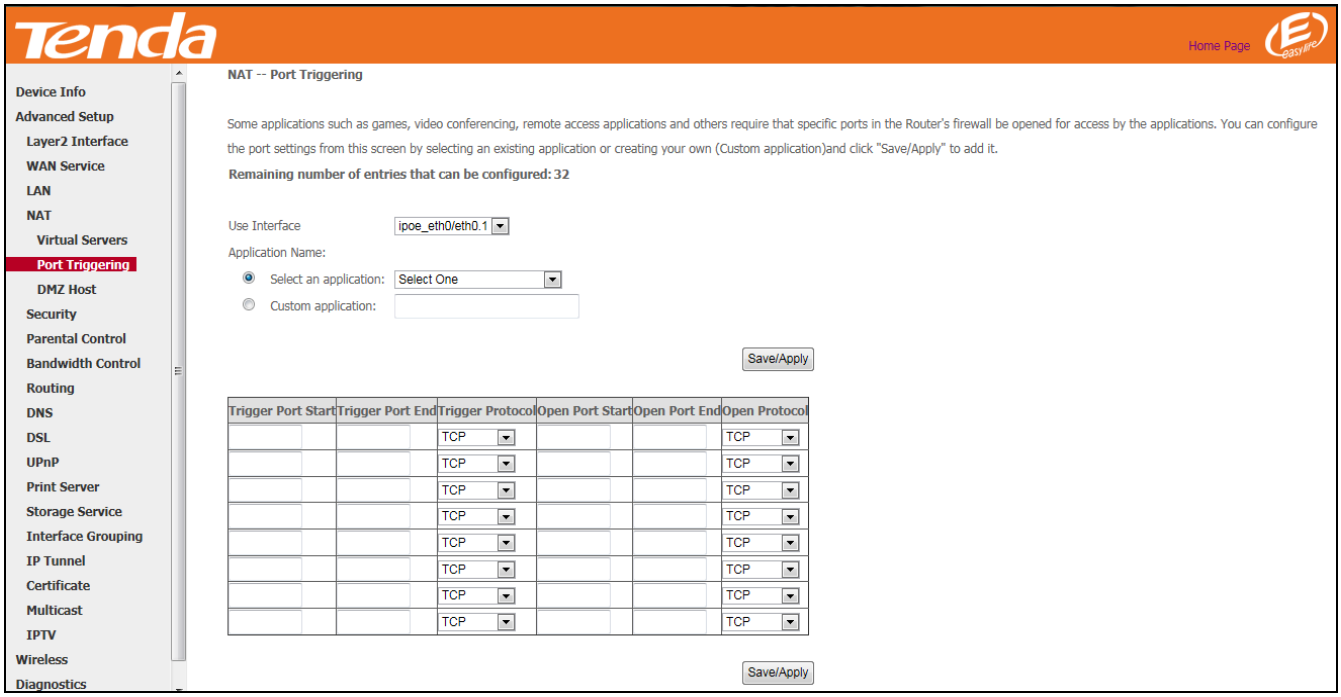
Port Triggering

Ports of some applications such as games, video conferencing and instant messenger, etc., are specified and meanwhile, your router’s firewall will stop messages to/from such ports, so for those applications, you cannot use them properly. However, **Port Triggering** is provided to help your play such games, or use this kind of instant messenger normally.

Some safety system applications (like, safe guard and firewall) in the computer on the LAN may interfere with the Port triggering function. When using Port triggering, you can disable such applications.

Click **Advanced Setup > NAT > Port Triggering** and then click the **Add** button to add rules.





Here in the **Port Triggering** interface, you can configure the port settings by selecting an existing application or creating your own (Custom application).

❶ **User Interface:** Select the WAN interface you will use to visit the server in your LAN.

❷ Configure the **Application Name > Select an application** to select an existing application (**Select One** here is only an express to tell you select one application.) from the drop-down list. And then the corresponding trigger start/end port will prompt automatically. Or configure **Application Name** > **Custom application** to customize an application manually.

❸ **Trigger Protocol:** Select the protocol from the drop-down list. If you are unsure, select TCP/UDP.

❹ Click **Save/Apply** to save configurations.

Other fields' introduction that may help:

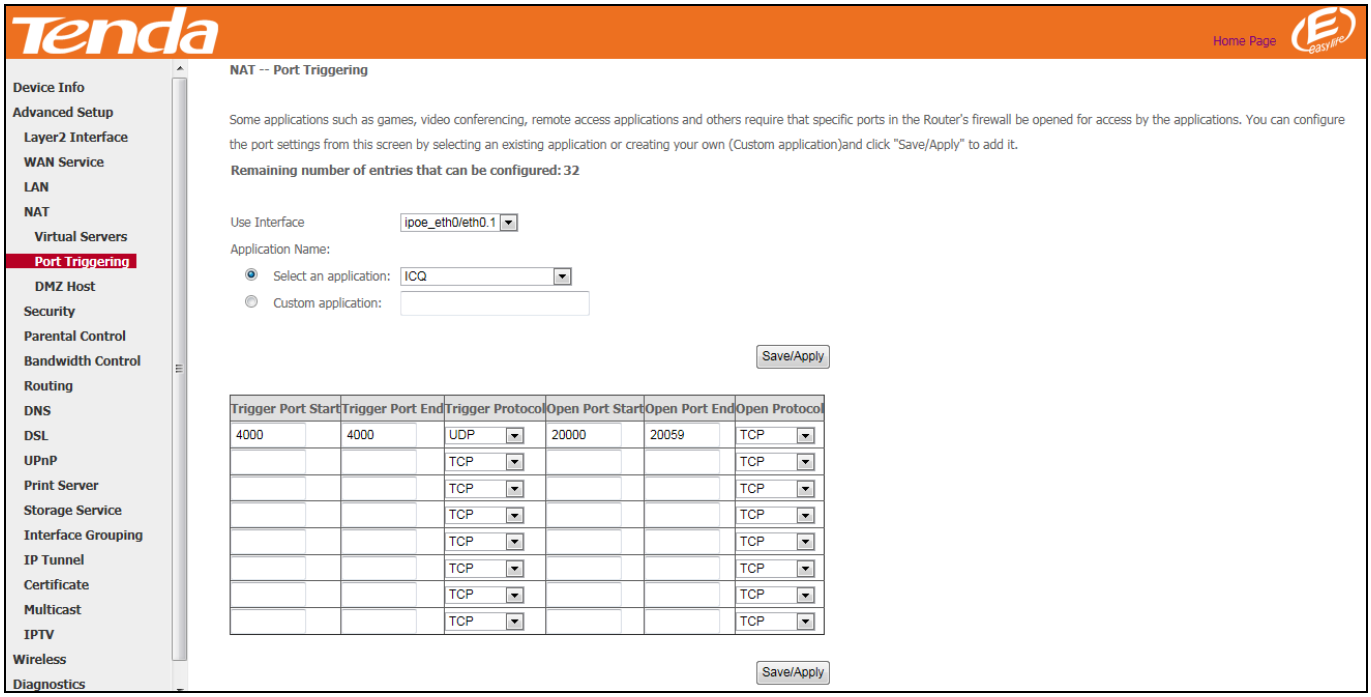
Trigger Port Start/End: The port range for an application to initiate connections.

Open Port Start/End: After the application connection is established, the built-in firewall of the router will open ports between the start port number and end port number automatically.

Application Scenario:

You always use ICQ to communicate with computers on the Internet. You hope your LAN is secure and your instant communication with other computers can be smoother. The WAN port now is ipoe_eth0.1.

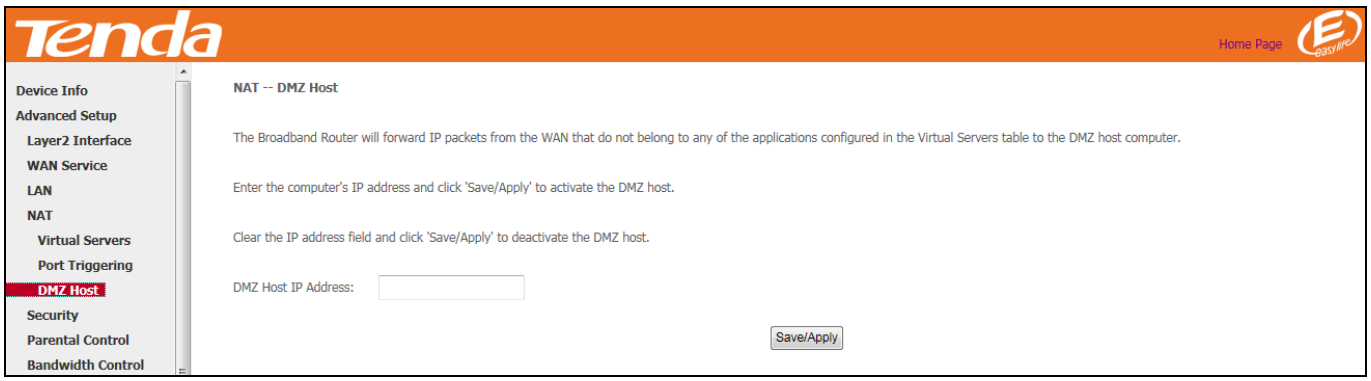
Solution:



DMZ Host

The default DMZ (De-Militarized Zone) host feature is helpful when you are using some online games and videoconferencing applications that are not compatible with NAT (Network Address Translation). Note that enabling DMZ host means the built-in firewall of your router takes no effect, and your computer that's set as the DMZ host will totally expose itself to the Internet. In this case, hacker may easily attack the DMZ host. Strongly recommend you to disable DMZ host and clear all the DMZ host settings as soon as possible when you do not use it.

Click **Advanced Setup > NAT > DMZ Host**, input the IP address of the computer that you want to configure as the DMZ host into the **DMZ Host IP Address** field. At last, click **Save/Apply**.



4.2.5 Security

This section explains the following information:

• IP Filtering

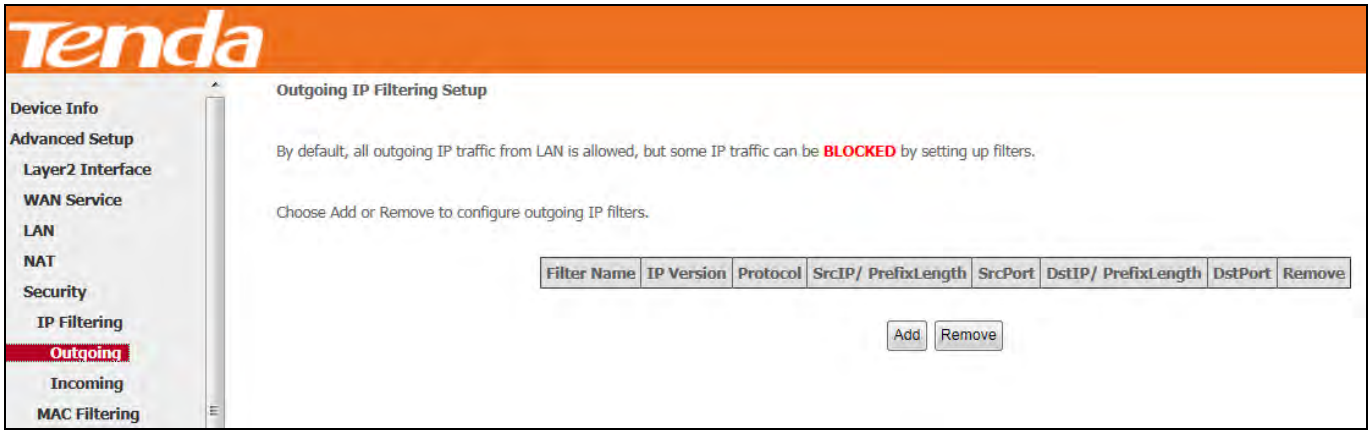
• MAC Filtering

IP Filtering

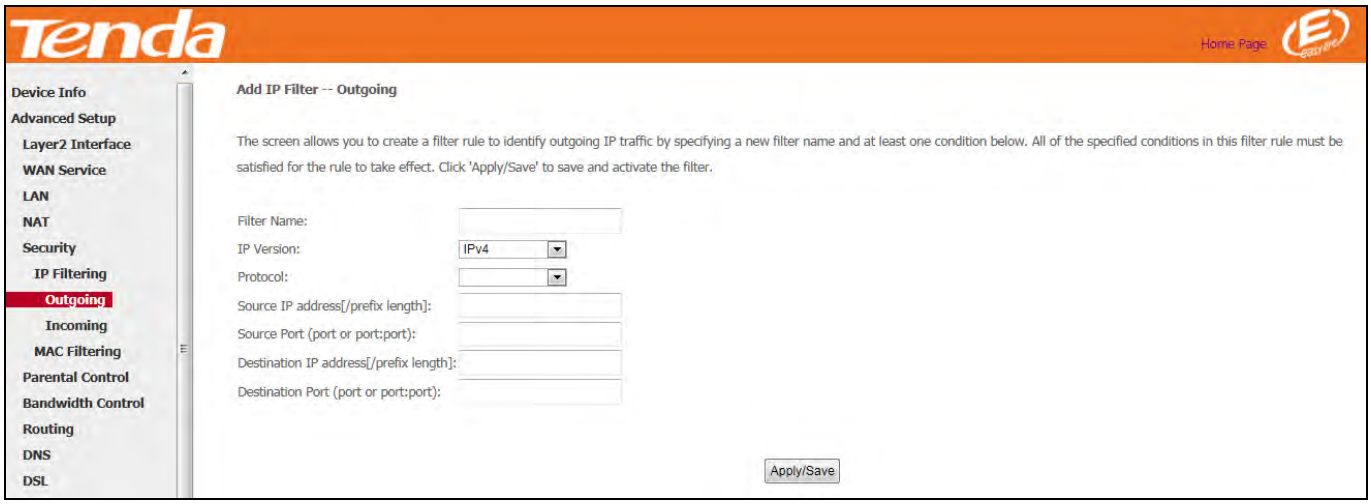
Outgoing IP Filtering Setup

By default, all outgoing IP traffic from LAN is allowed, but some IP traffic can be BLOCKED by setting up filters.

Choose **Add** or **Remove** to configure outgoing IP filters.



Choose **Add** to enter the following screen:



This screen allows you to create a filter rule to identify outgoing IP traffic by specifying a new filter name and at least one condition below. All of the specified conditions in this filter rule must be satisfied for the rule to take effect. Click 'Apply/Save' to save and activate the filter.

Filter Name: Enter a descriptive filtering name.

IP Version: Select the IP version that the filter rule supports. Here is IPv4.

Protocol: TCP/UDP, TCP, UDP and ICMP are available for your option.

Source IP address [/prefix length]: Enter the [LAN IP address/prefix length] to be filtered.

Source Port (port or port: port): Specify a port number or a range of ports used by LAN PCs to access the Internet. If you are unsure, leave it blank.

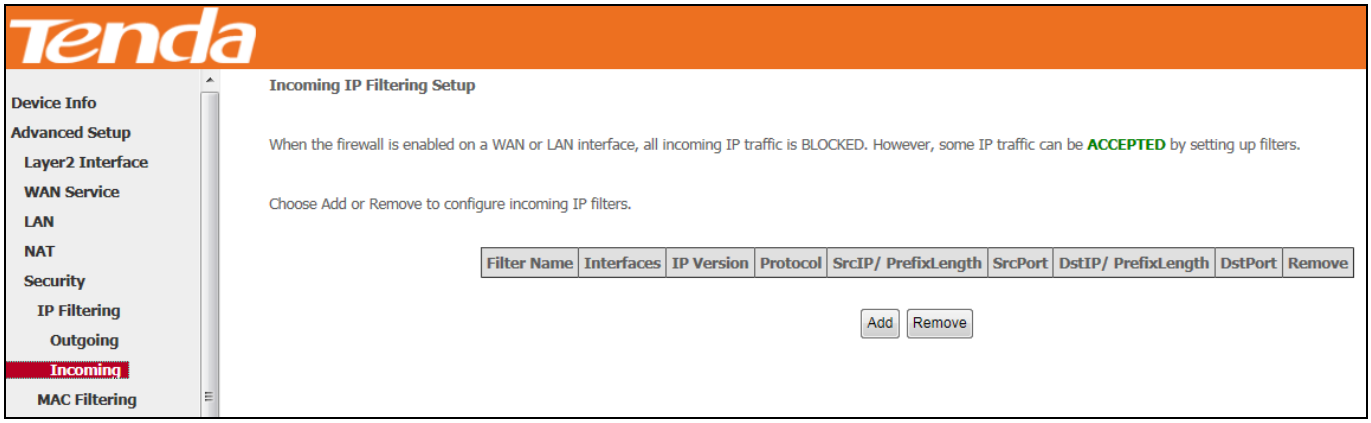
Destination IP address [/prefix length]: Specify the external network IP address to be accessed by specified LAN PCs.

Destination Port (port or port:port)**:** Specify a port number or a range of ports used by LAN PCs to access external network.

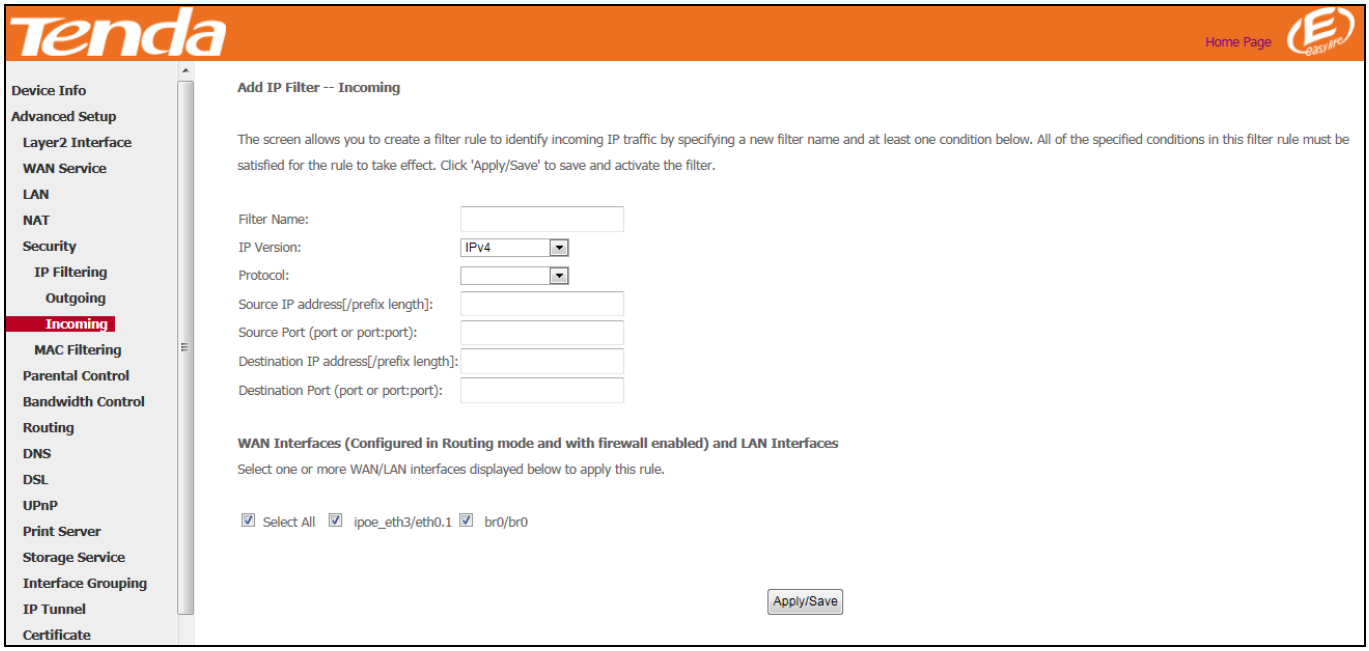
Incoming IP Filtering Setup

When the firewall is enabled on a WAN or LAN interface, all incoming IP traffic is BLOCKED. However, some IP traffic can be **ACCEPTED** by setting up filters.

Choose **Add** or **Remove** to configure incoming IP filters.



Click **Add** to enter the following screen:



This screen allows you to create a filter rule to identify incoming IP traffic by specifying a new filter name and at least one condition below. All of the specified conditions in this filter rule must be satisfied for the rule to take effect. Click **Apply/Save** to save and activate the filter.

IP Version: Select the IP version that the filter rule supports. Here is IPv4.

Protocol: TCP/UDP, TCP, UDP and ICMP are available for your option.

Source IP address [/prefix length]: Enter the Internal IP address [/prefix length] to be filtered.

Source Port (port or port:port): Specify a port number or a range of ports used by PCs from external network to access your internal network.

Destination IP address [/prefix length]: Specify the internal network IP address [/prefix length] to be accessed by the specified PCs from external network.

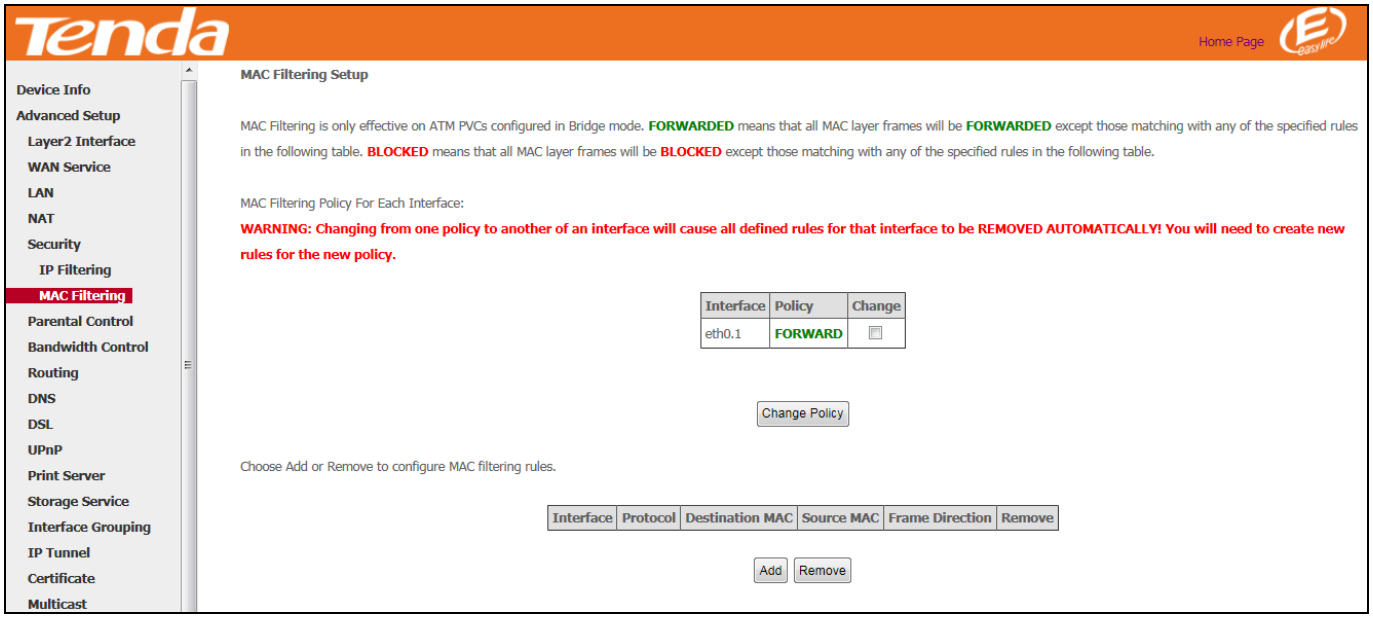
Destination Port (port or port:port)**:** Specify a port number or a range of ports used by PCs from external network to access your internal network.

MAC Filtering

Note: This feature can only be configured in a bridge WAN service.

MAC Filtering is only effective on ATM PVCs configured in Bridge mode. **FORWARDED** means that all MAC layer frames will be FORWARDED except those matching with any of the specified rules in the following table. **BLOCKED** means that all MAC layer frames will be BLOCKED except those matching with any of the specified rules in the following table.

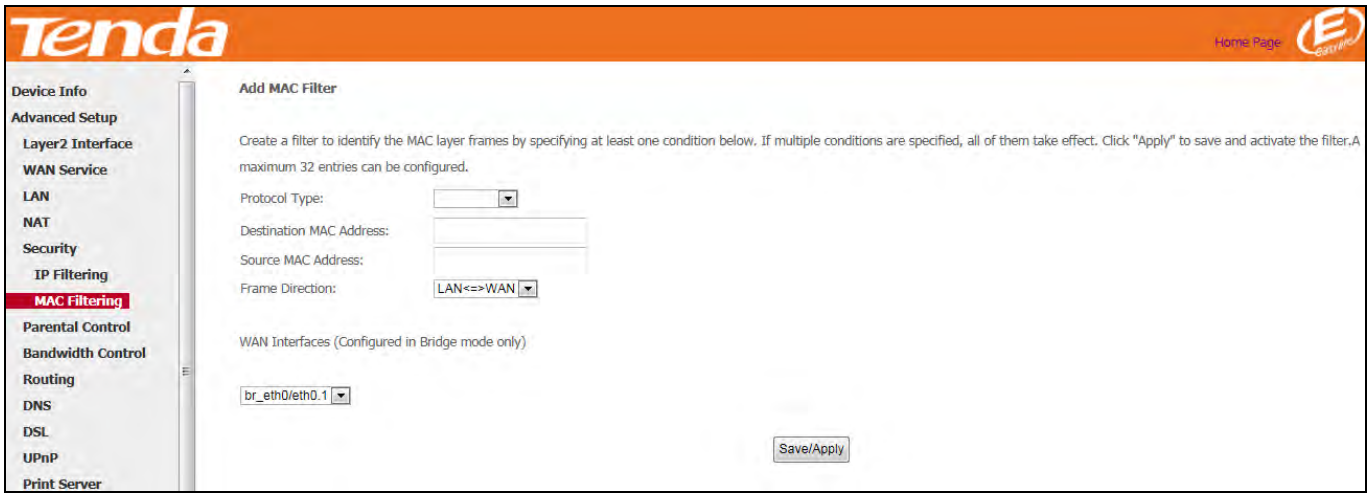
Choose **Add** or **Remove** to configure MAC filtering rules.



Warning!

Changing from one policy to another of an interface will cause all defined rules for that interface to be REMOVED AUTOMATICALLY! You will need to create new rules for the new policy.

Click **Add** to enter the following screen:



Here you can create a filter to identify the MAC layer frames by specifying at least one condition below. If multiple conditions are specified, all of them take effect. Click **Save/Apply** to save and activate the filter.

Protocol Type: Select a protocol type from the drop-down list.

Destination MAC Address: Enter the destination MAC address to which the MAC filtering rule apply.

Source MAC Address: Enter the source MAC address to which the MAC filtering rule apply.

Frame Direction: Select a frame direction from the drop-down list.

WAN Interfaces: Select a WAN interface from the drop-down list.

4.2.6 Parental Control

This section explains the following information:

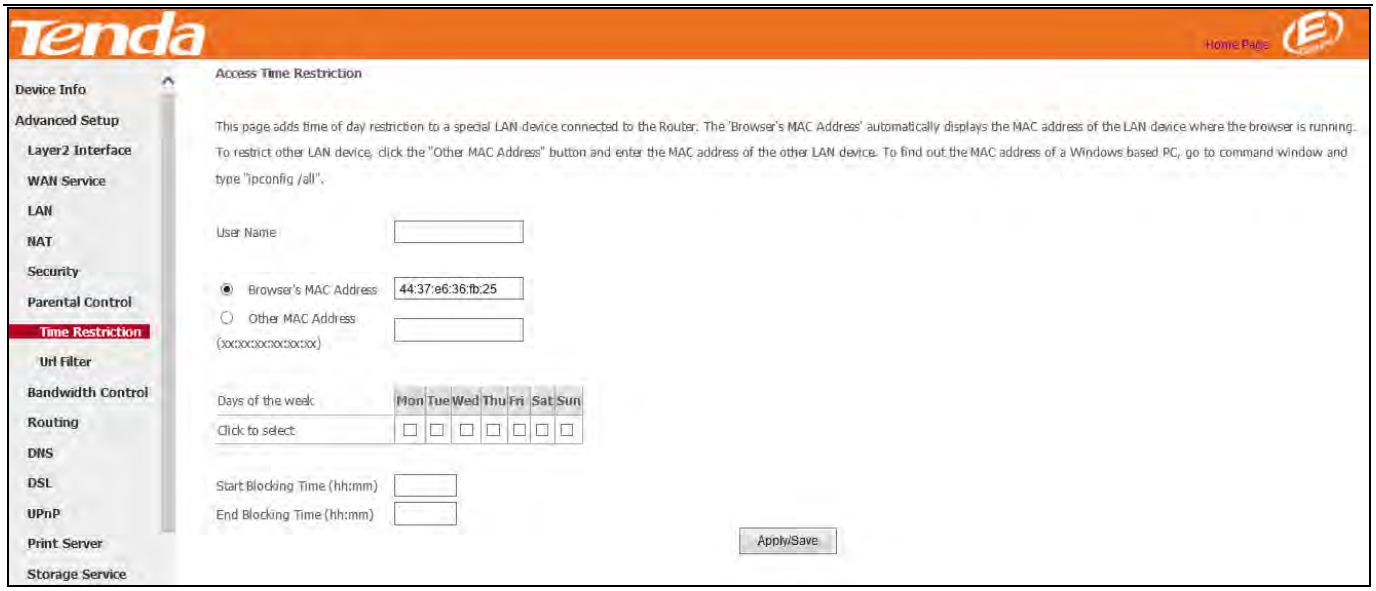
• Time Restriction

• URL Filter

Time Restriction

Here you can add time of day restriction that an attached LAN device can access the Internet.

Click **Parental Control > Time Restriction > Add** to enter the following screen.



User Name: Enter a user name.

Browser's MAC Address: Automatically adds the MAC address of the attached LAN device where the browser is running.

Other MAC Address: Specify the MAC address of the computer that you want to apply Internet access restriction.

Days of the week: Select the days of the week during which you wish to restrict Internet access.

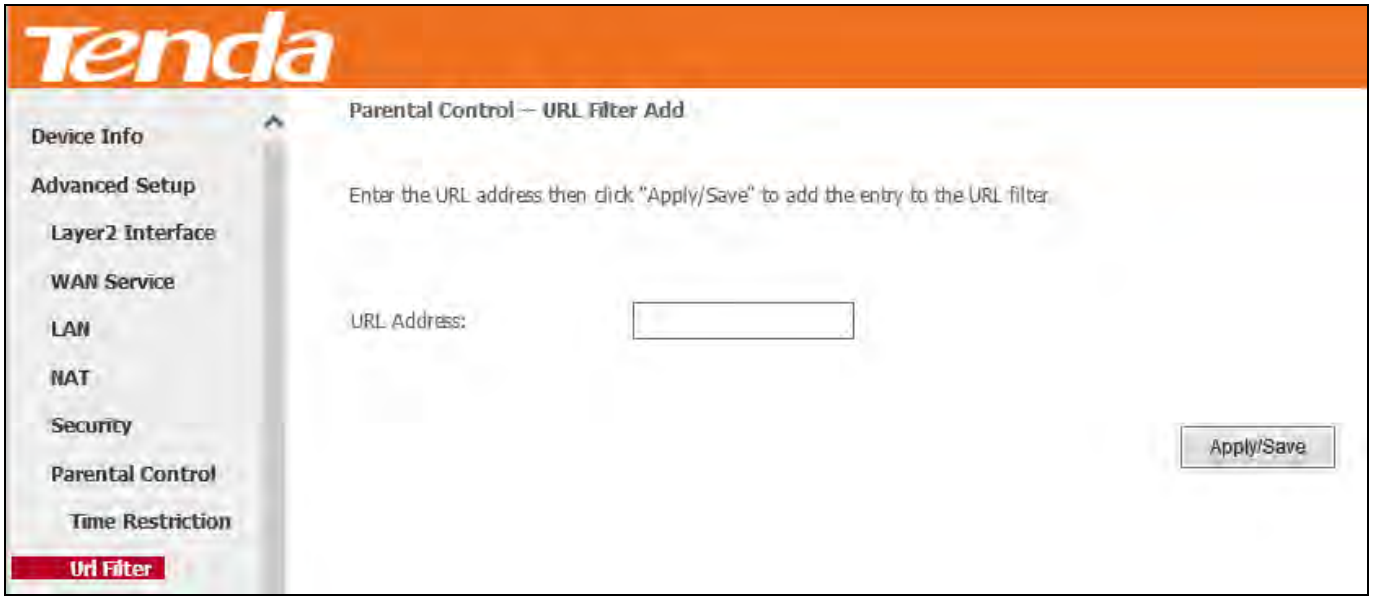
Start Blocking Time/End Blocking Time: Specify time of day restriction to an attached LAN device. Within this specified time length of the day, this LAN device will be blocked from the Internet.

Apply/Save: Click it to **save** your settings.

URL Filter

Here you can add URL access restriction to all PCs in LAN.

Select the **URL List Type** (Exclude or Include) first and then click **Add** to enter the screen below for configuring the list entries. Maximum 100 entries can be configured.



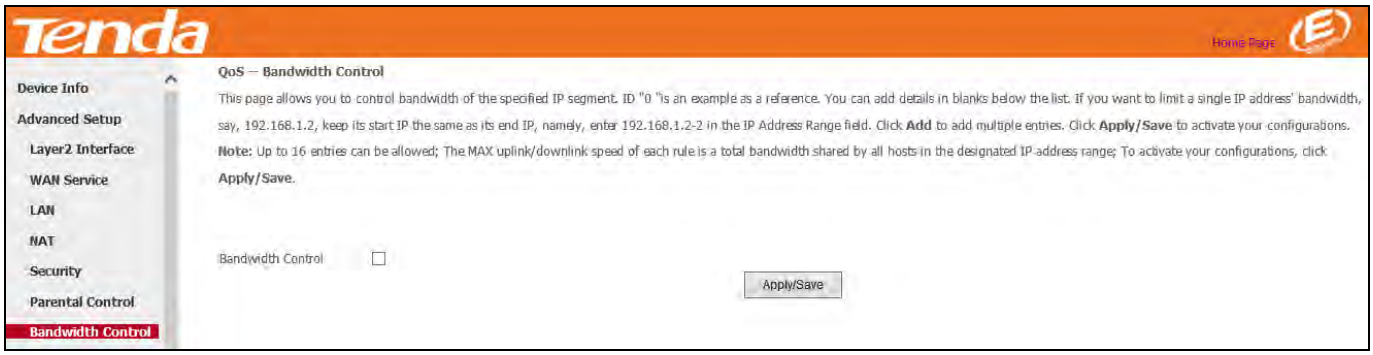
URL Address: Enter the URL you want to control the access. It can be a complete url address www.google.com, or a part of the domain, like “google”.

Note

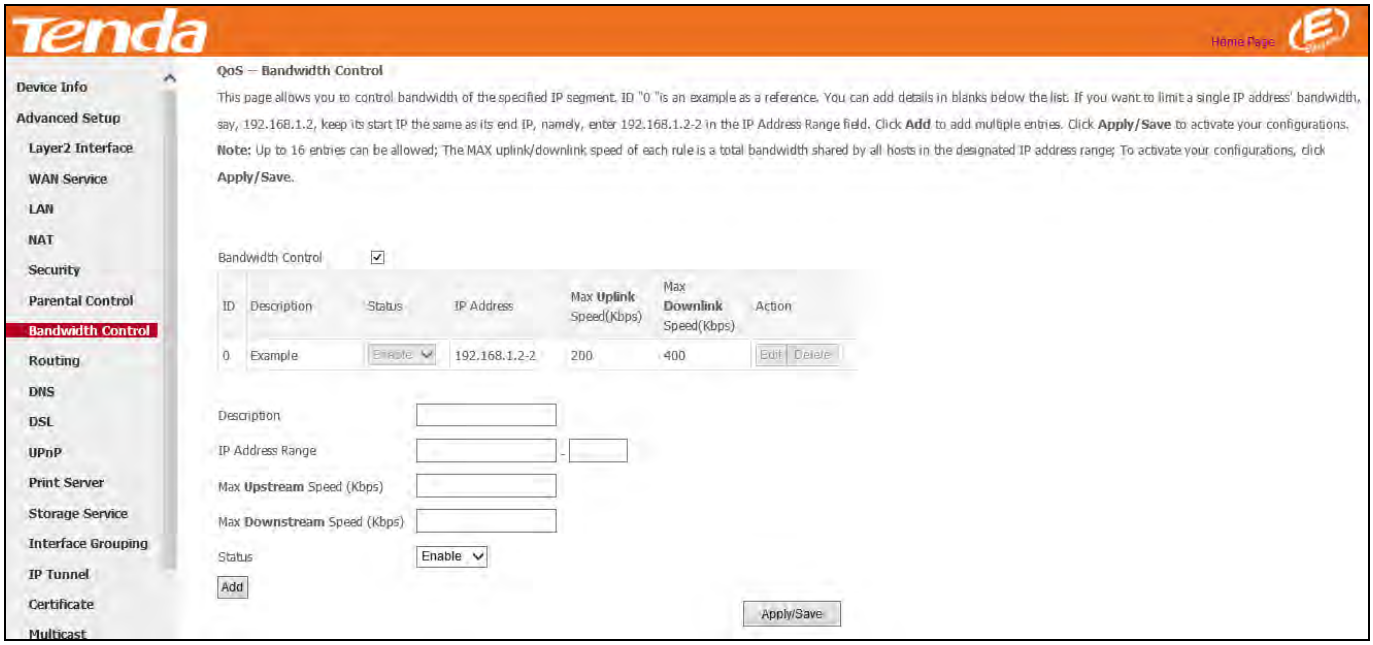
If you have accessed the URL before you include it in a URL filter rule, you must reboot the router and erase it from your PC to activate this URL filter rule. To erase the domain name from your PC, click **Win+R** to enable **Run** process; enter **cmd** and then type **ipconfig /flushdns**.

4.2.7 Bandwidth Control

This page allows you to control bandwidth of the specified IP segment.



Bandwidth Control: Check/uncheck to enable/disable the bandwidth control feature.



Description: Enter the description of the controlled host.

IP Address Range: Enter the IP address of the host you want to control. It can be hosts or a single host. If you want to limit a single IP address's bandwidth, just keep the start IP same with the end IP, like 192.168.1.2-2

Max Upstream Speed (Kbp/s): Set the max upstream speed.

Max Downstream Speed (Kbp/s): Set the max downstream speed.

Status: You can view the current status of the controlled hosts, or you can select **Enable/Disable** from the drop-down list to enable or disable the current control rule.

Action: Here displays the actions you can do about the corresponding rule. There are tow actions: **Edit** and **Delete**.

- **Edit:** Click the **Edit** button corresponding to the ID to eidt its control rule. And click **OK** to apply the modification.
- **Delete:** Click the **Delete** button corresponding to the ID to delete its control rule.

Add: Aftre finishing the bandwidth control settings, click **Add** to generate the control rule.

Apply/Save: Click this button to activate your configurations.

Note

Up to 16 entries can be allowed.

4.2.8 Routing

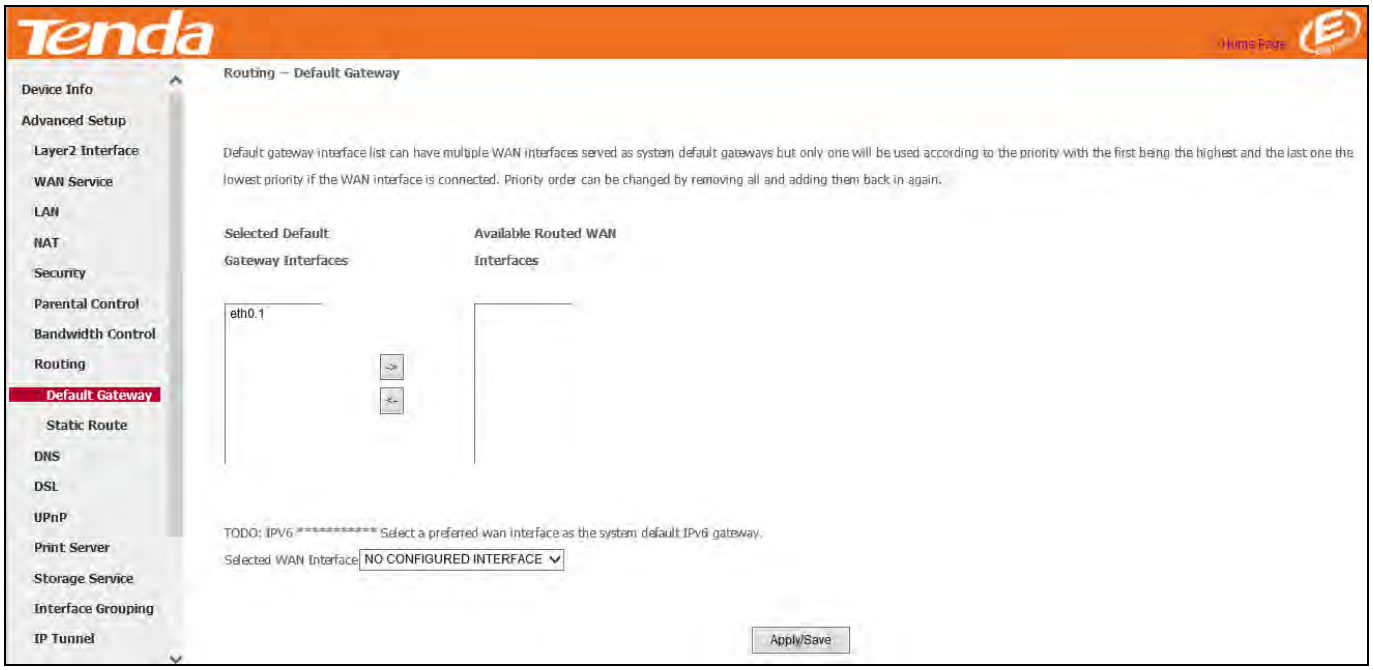
This section explains the following:

• Default Gateway

• Static Route

Default Gateway

Default gateway interface list can have multiple secondary WAN interfaces served as system default gateways but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.



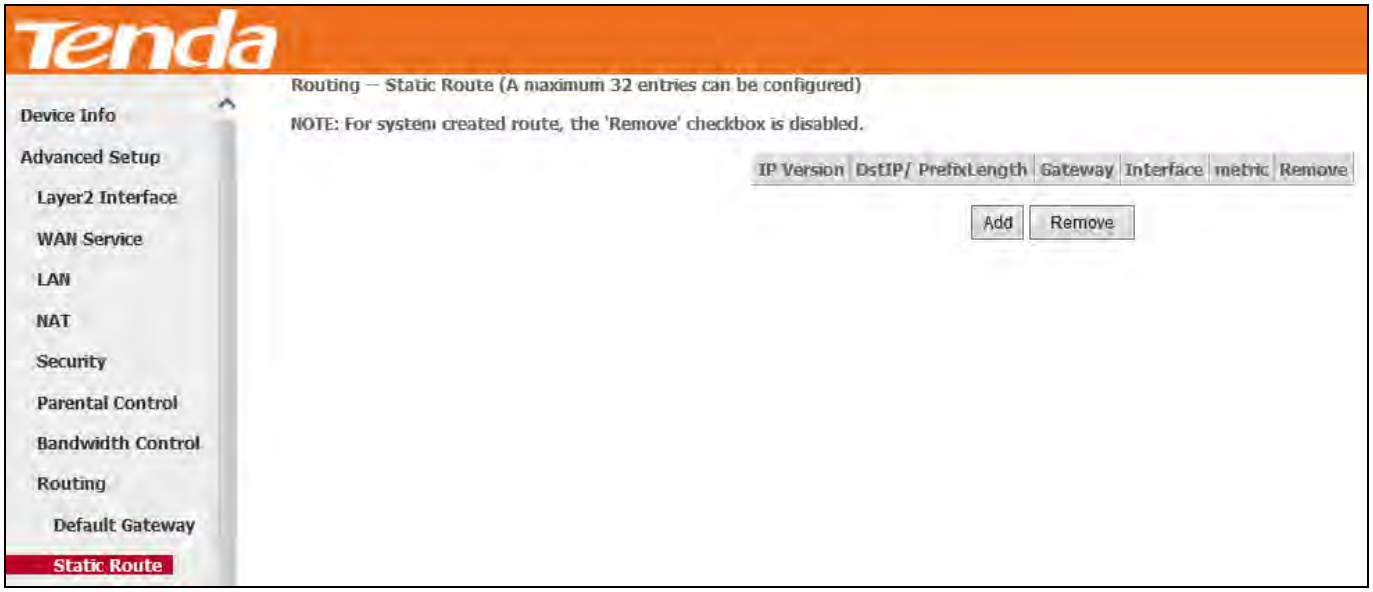
Selected Default Gateway Interfaces: Displays the selected default gateway interfaces. Select a WAN interface and click the -> button to move it to the **Available Routed WAN Interfaces** box.

Available Routed WAN Interfaces: Displays the available routed WAN interfaces. Select a WAN interface and click the <- button to add it to the **Selected Default Gateway Interfaces** box.

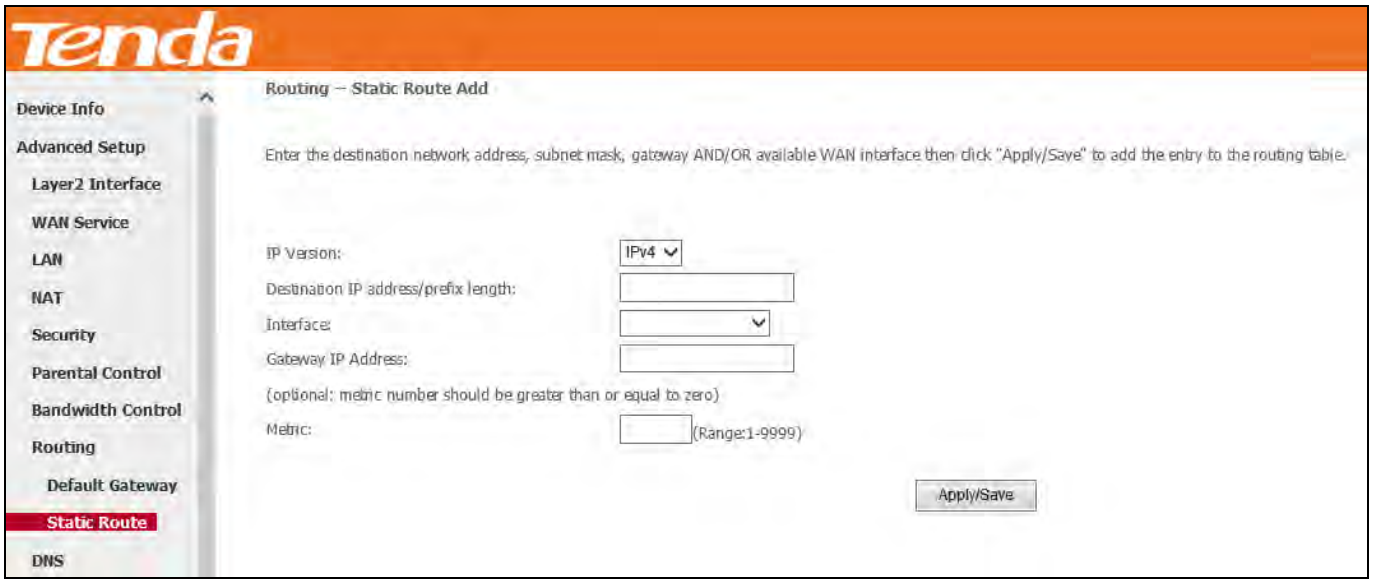
Apply/Save: Click it to save and activate your settings.

Static Route

Static routes provide additional routing information to your router. Typically, you do not need to add static routes. However, when there are several routers in the network, you may want to set up static routing. Static routing determines the path of the data in your network. You can use this feature to allow users on different IP domains to access the Internet via this device. It is not recommended to use this setting unless you are familiar with static routing. In most cases, dynamic routing is recommended, because this feature allows the router to detect the physical changes of the network layout automatically. If you want to use static routing, make sure the router's DHCP function is disabled.



Click **Add** to enter the following screen:



IP Version: Select IPv4 or IPv6.

Destination IP address/prefix length: Enter the destination IP address and prefix length of the final destination.

Interface: Select an interface from the drop-down list.

Gateway IP Address: Enter the gateway IP address, which must be a router on the same LAN segment as the router.

Metric: Enter a number in the Metric field. This stands for the number of routers between your network and the destination.

Apply/Save: Click it to apply and save your settings.

Note

1. Destination IP address cannot be in the same IP segment as WAN or LAN segment of the router.

2. Only configure additional static routes for unusual cases such as multiple routers or multiple IP subnets located on your network. Wrong static routes may lead to network failure.

4.2.9 DNS

DNS Server (Static DNS)

The DNS server translates domain names to numeric IP addresses. It is used to look up site addresses based on their names.

Select DNS Server Interface from available WAN interfaces or enter static DNS server IP addresses for the system.

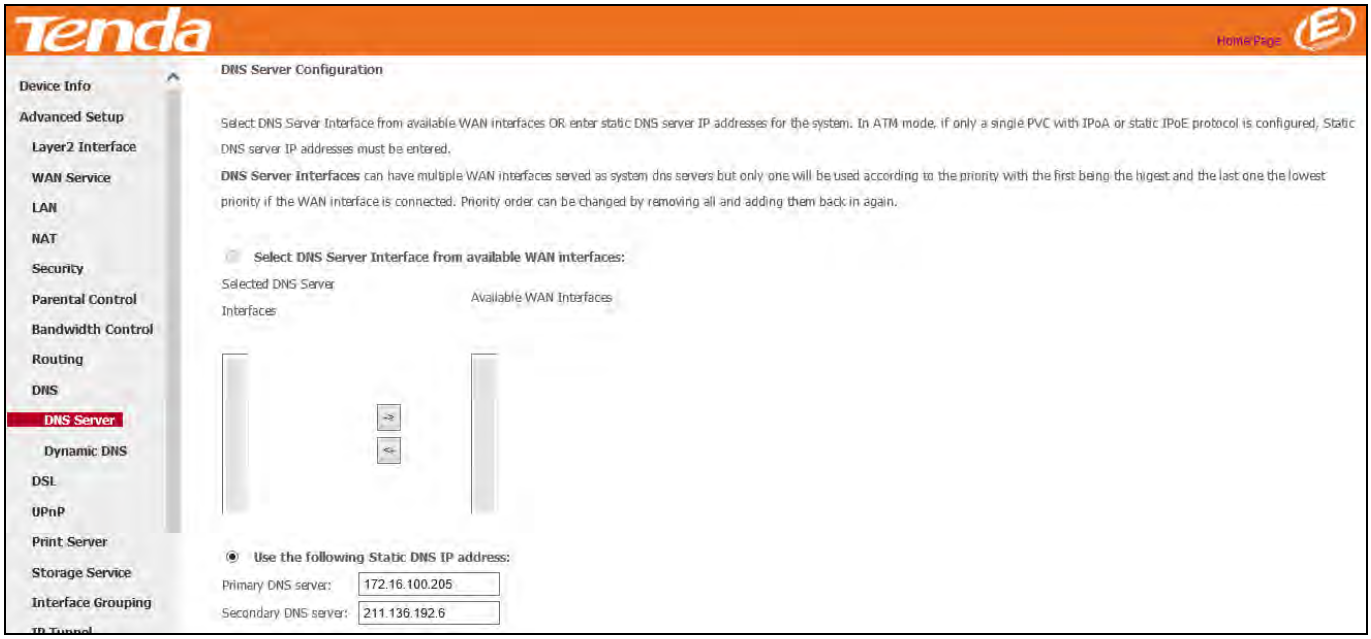
Here you can configure the WAN DNS address:

For IPv4:

-Click the Select DNS Server Interface from available WAN interfaces option;

-Or select the **Use the following Static DNS IP address** option and enter static DNS server IP addresses for the system.

And then click **Apply/Save**.

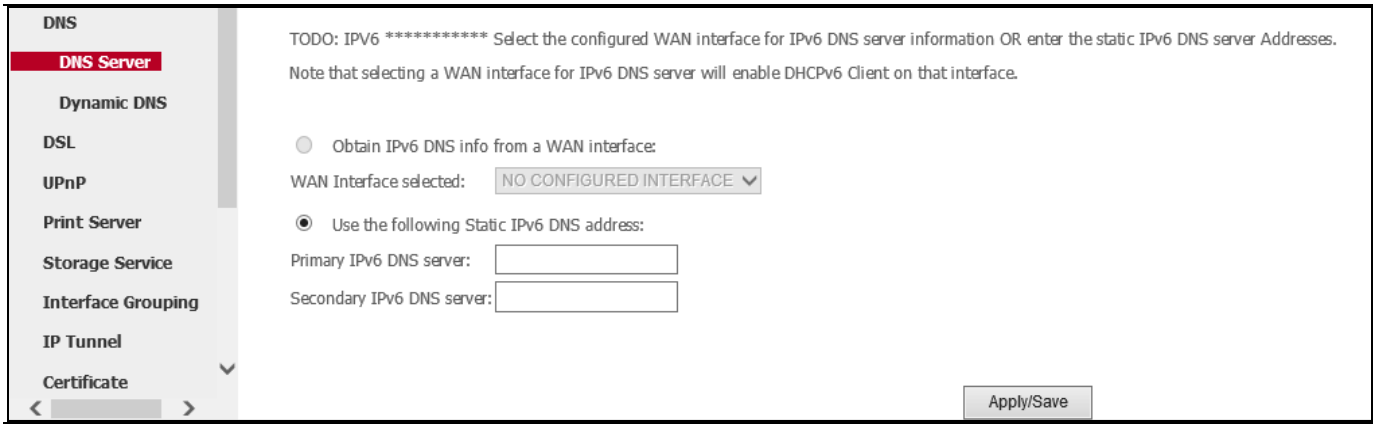


For IPv6:

-Select **Obtain IPv6 DNS info from a WAN interface** and Select a configured WAN interface for the IPv6 DNS server information.

-Select **Use the following Static IPv6 DNS address** and enter the static IPv6 DNS server addresses.

And then click **Apply/Save**.



Note

1. DNS Server Interfaces can have multiple WAN interfaces served as system DNS servers but only one will be used according to the priority with the first being the highest and the last one the lowest priority if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

2. In ATM mode, if only a single PVC with IPoA or static IPoE protocol is configured, Static DNS server IP addresses must be entered.

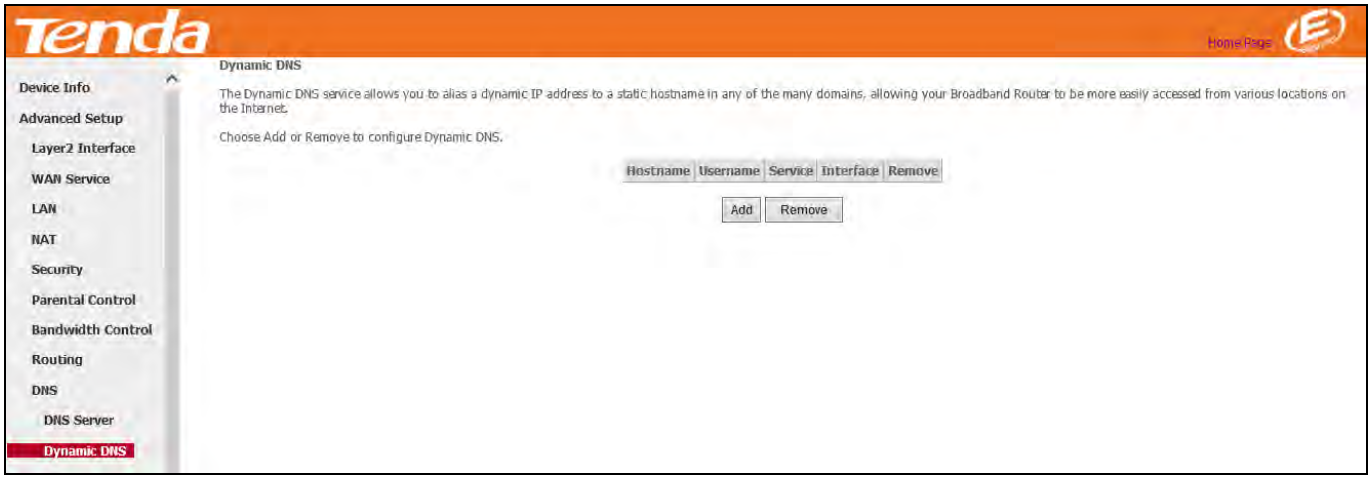
3. If you cannot locate the static DNS server IP information, ask your ISP to provide it.

4. The default settings are recommended if you are unsure about the DNS server addresses. If a wrong DNS server address is configured, webpages may not be open.

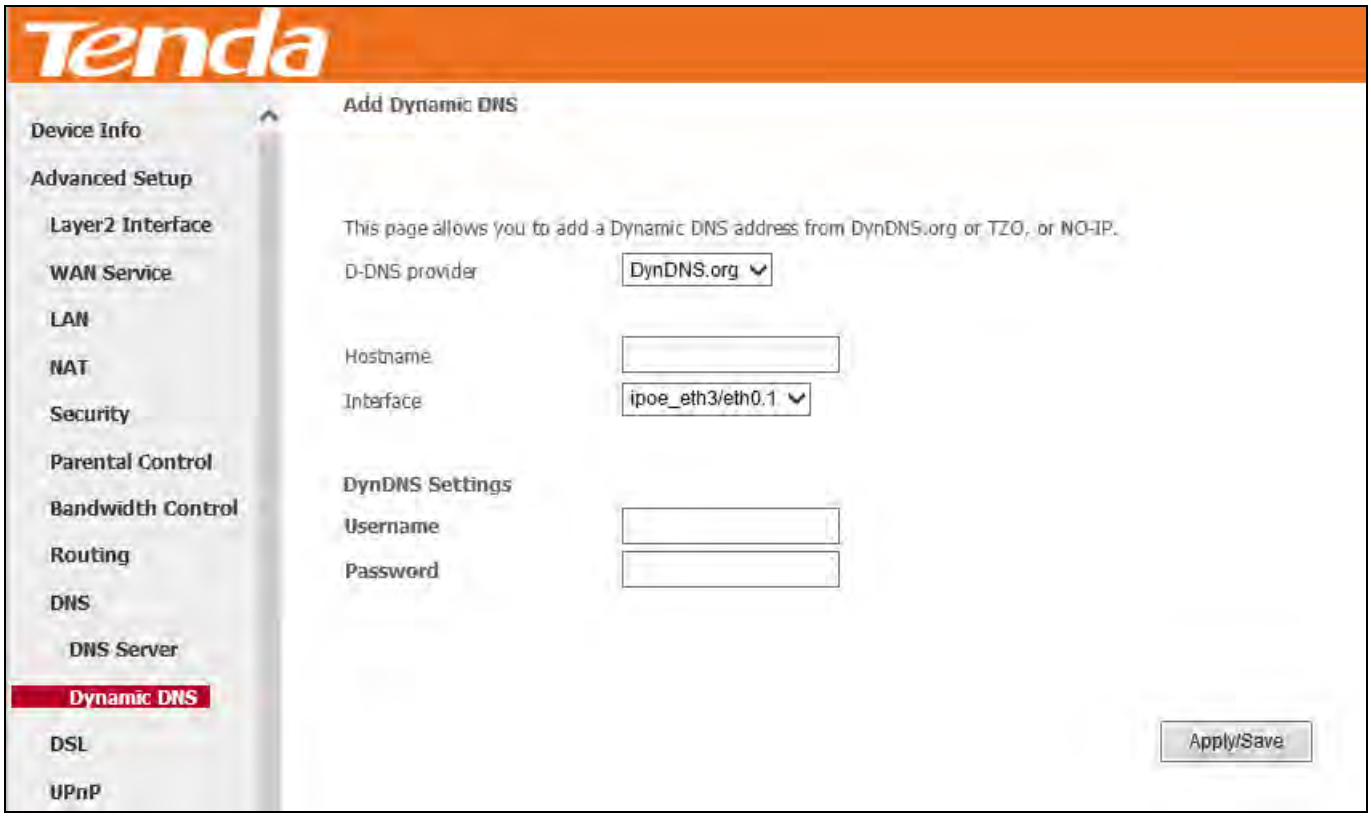
Dynamic DNS (DDNS)

If your Internet service provider (ISP) gave you a static (fixed) public IP address, you can register a domain name and have that name associated with your IP address by public Domain Name Servers (DNS). However, if your ISP gave you a dynamic (changing) public IP address, you cannot predict what your IP address will be, and the address can change frequently. In this case, you can use a commercial Dynamic DNS service. It lets you register your domain to their IP address and forwards traffic directed at your domain to your frequently changing IP address. If your ISP assigns a private WAN IP address (such as 192.168.x.x or 10.x.x.x), the Dynamic DNS service does not work because private addresses are not routed on the Internet.

Click **Advanced Setup** > **DNS** > **Dynamic DNS** to enter the Dynamic DNS screen.



Click the **Add** button to configure the DDNS settings.



D-DNS Provider: Select your DDNS service provider from the drop-down menu. It supports three kinds of D-DNS service: DynDNS.org, TZO and NO-IP.

Hostname: Enter the DDNS domain name registered with your DDNS service provider.

Interface: Specify a WAN connection interface.

Username: Enter the DDNS user name registered with your DDNS service provider.

Password: Enter the DDNS password registered with your DDNS service provider.

Example: Dyndns.org

Username: qiangweianbian

Password: 414637

Hostname: xhh3793.dyndns.org

Add Dynamic DNS

1) Select **DynDNS.org** from the **D-DNS provider** drop-down list.

2) Enter your Dyndns hostname. Here is “xhh3793.dyndns.org” as an example.

3) Specify a WAN connection interface.

DynDNS Settings

1) Enter your DynDNS username. Here is “qiangweianbian” as an example.

2) Enter the password of your DynDNS.org account. Here is “414637” as an example.

3) Click **Apply/Save** to save your configurations.


Tenda
Device Info
Advanced Setup
Layer2 Interface
WAN Service
LAN
NAT
Security
Parental Control
Bandwidth Control
Routing
DNS
DNS Server
Dynamic DNS
DSL
UPnP
Add Dynamic DNS
This page allows you to add a Dynamic DNS address from DynDNS.org or TZO, or NO-IP.
D-DNS provider
DynDNS.org
Hostname
xhh3793.dyndns.org
Interface
ipoe_eth3/eth0.1
DynDNS Settings
Username
qiangweianbian
Password
Apply/Save

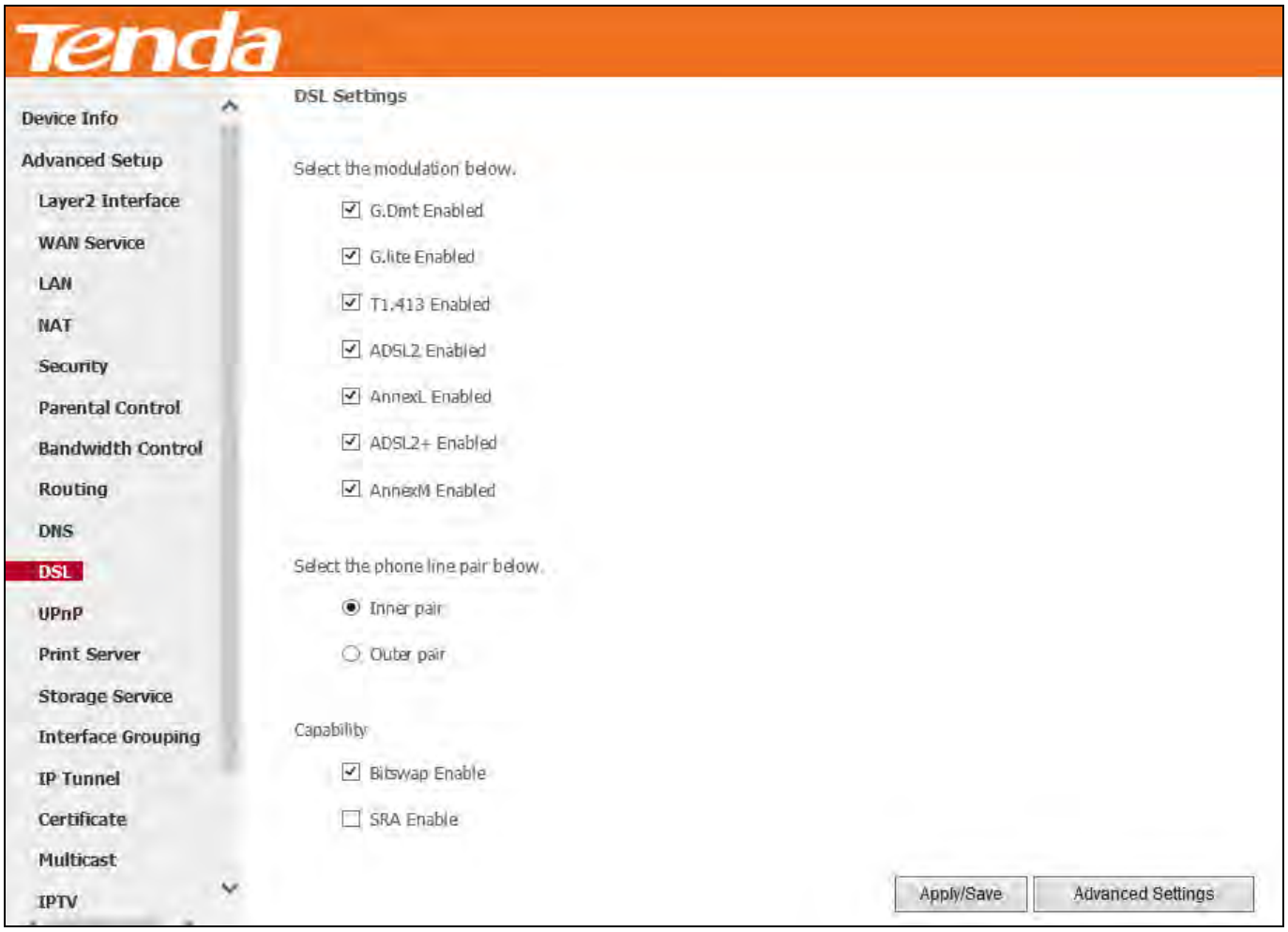

Tenda
Device Info
Advanced Setup
Layer2 Interface
WAN Service
LAN
NAT
Security
Parental Control
Bandwidth Control
Routing
DNS
DNS Server
Dynamic DNS
Dynamic DNS
The Dynamic DNS service allows you to alias a dynamic IP address to a static hostname in any of the many domains, allowing your Broadband Router to be more easily accessed from various locations on the Internet.
Choose Add or Remove to configure Dynamic DNS.
Hostname
Username
Service
Interface
Remove
xhh3793.dyndns.org
qiangweianbian
dyndns
eth0.1
Add
Remove

4.2.10 DSL

This screen provides multiple ASDL modulation modes to meet diversified environments. You can also select phone line pair and Capability.

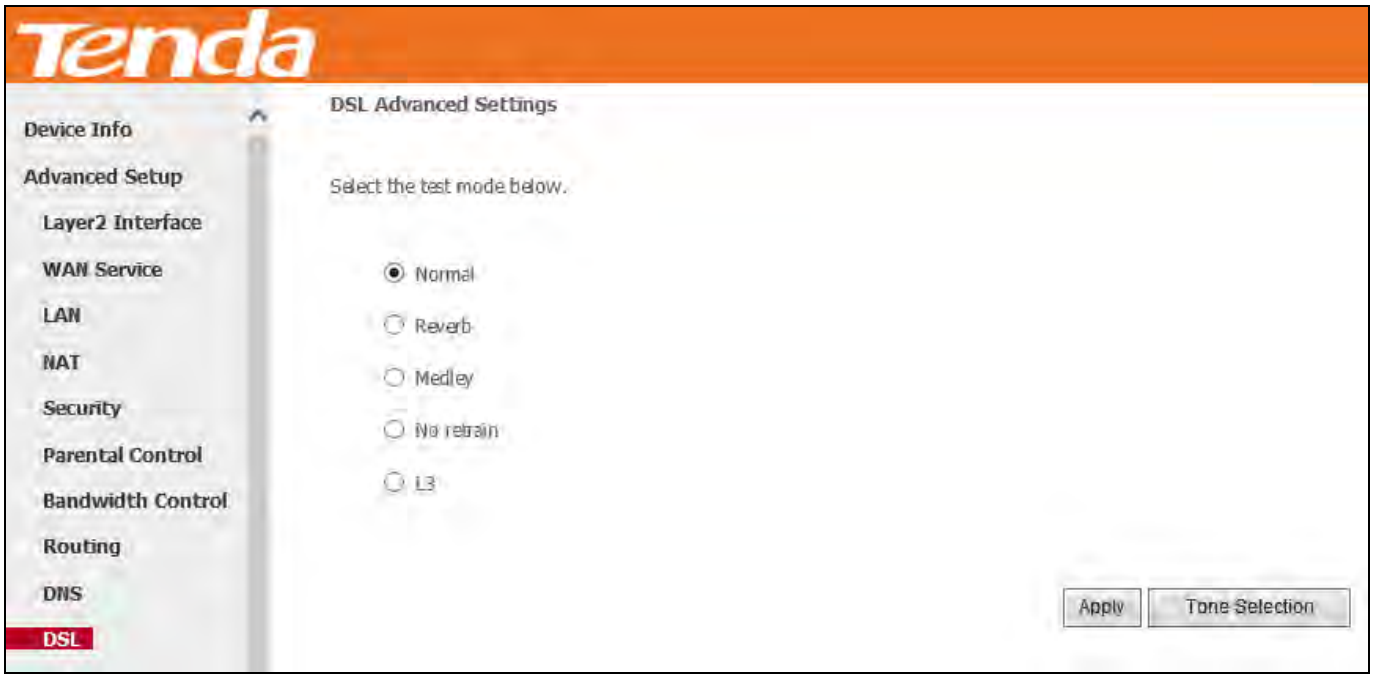
DSL parameter configurations must be supported by ISP to take effect. Actual parameters (see **Statistics-xDSL**) resulted from the negotiation between your router and ISP. Wrong configurations may fail your Internet access.

The best DSL configurations are the factory defaults. Only change them if you are instructed by your ISP or our technical staff when your router fails to negotiate with ISP in DSL (ATM) mode. Usually, this failure can be identified and confirmed if the ADSL LED on the device keeps displaying a slow or quick blinking light.



Check the checkbox next to a modulation to enable it and then click **Apply/Save**.

Advanced Settings: Click it to enter the Advanced Settings screen as below.



Here you can select the test mode and tone.

Tip

If you are unsure about the ADSL parameters, please apply the factory default settings. Wrong configurations may fail your Internet access.

4.2.11 UPnP

UPnP (Universal Plug and Play) allows Windows based systems to configure the device for various Internet applications automatically. UPnP devices can automatically discover the services from other registered UPnP devices on the network. If you use applications such as multiplayer gaming, peer-to-peer connections, or real-time communications, like instant messaging or remote assistance (a feature in Windows XP), you should enable UPnP.

Enable UPnP: Check/uncheck to enable/disable the UPnP feature.

Note

UPnP is activated only when there is a live WAN service with NAT enabled.

4.2.12 Print Server

Enabling the Print Server makes all PCs in the LAN have an access to the USB printer which has been connected to this router. Click **Advanced Setup > Printer Server** to enter screen below:

USB printing config:

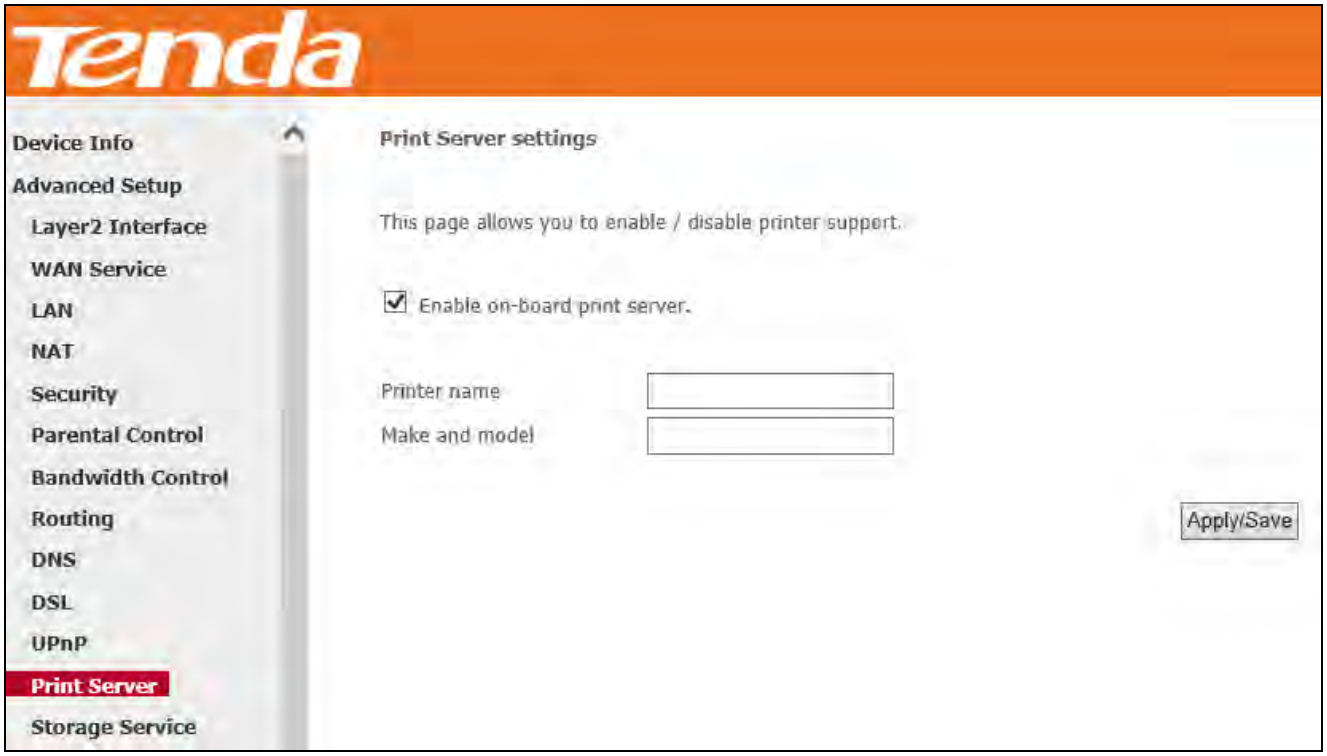
Step 1: Connect the USB printer to the USB port of the device.

Step 2: Enable USB printing service of the device (the router).

① Enter the name of the USB printer in Printer name box.

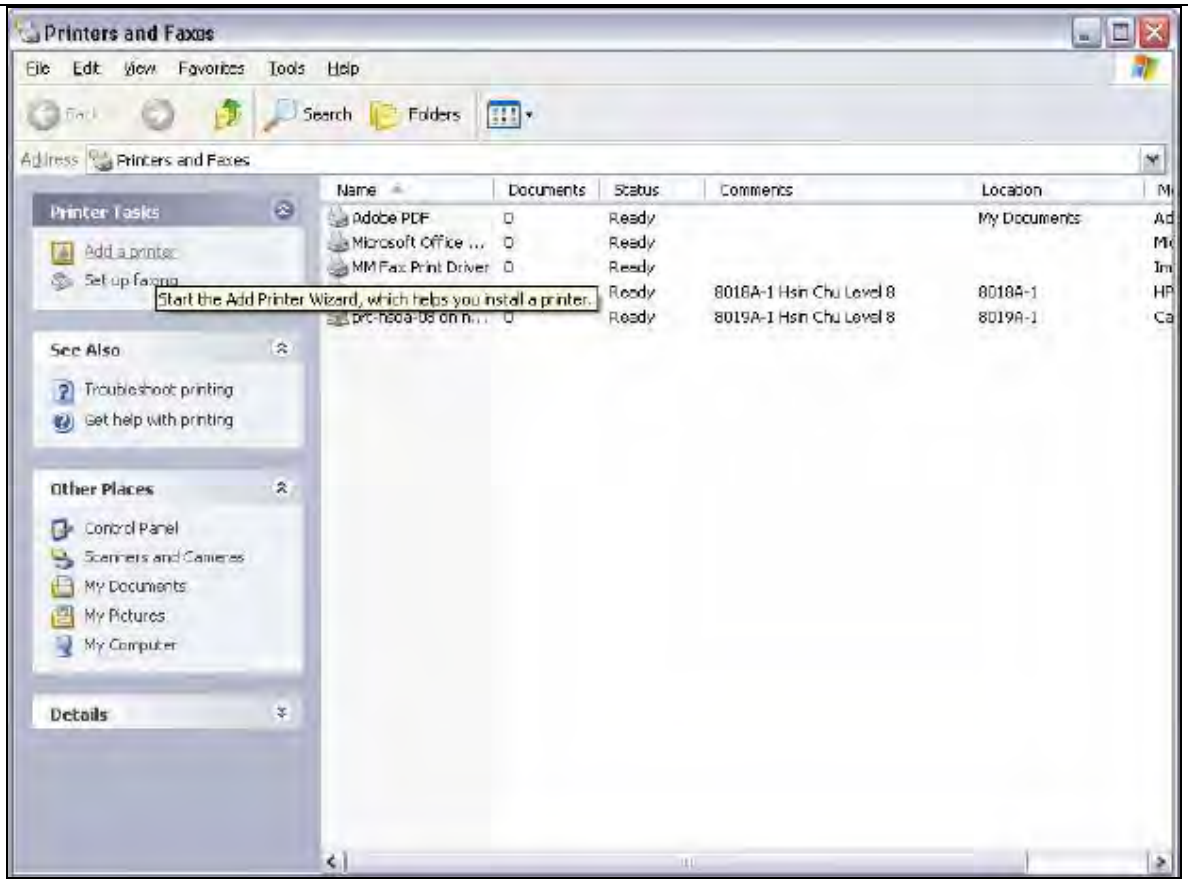
② Enter the manufacturer and model of the USB printer in the Make and model box.

③ Click **Apply/Save**.



Step 3: Add the printer from your local PC (In Windows XP OS)

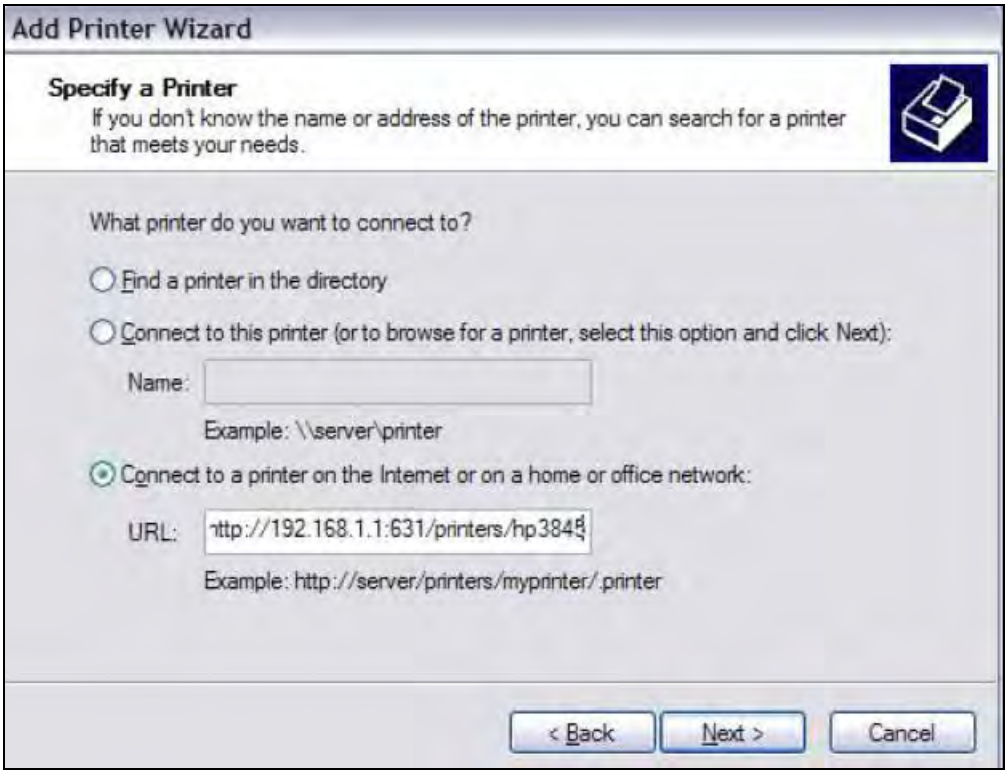
① Click **Start > Control Panel > Printers and Faxes > Add a printer**;



② Click **Next**;

③ Select **A network printer, or a printer attached to another computer** and click **Next**;

④ Select **Connect to a printer on the Internet or on a home or office network**, type in "http://192.168.1.1:631/printers/hp3845" in the URL field and click **Next**;

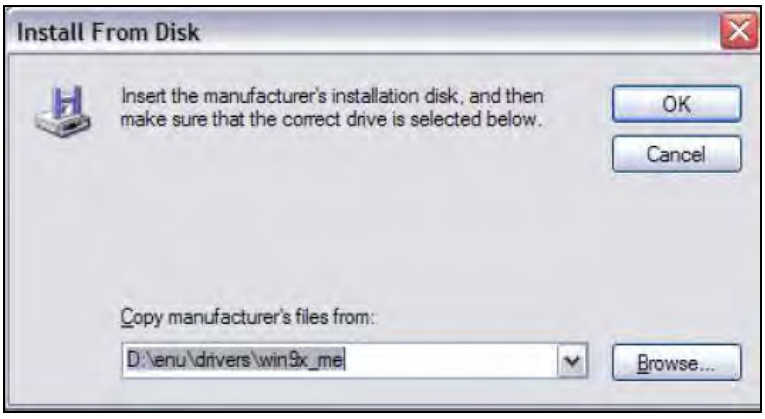


Note:

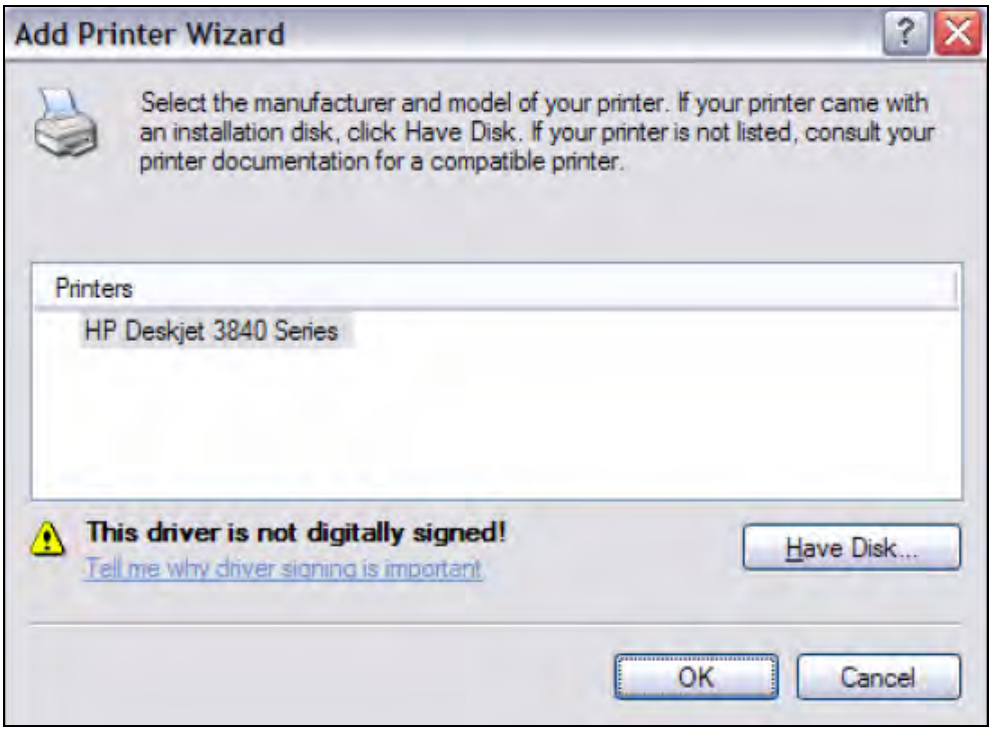
Here "192.168.1.1" refers to this router's LAN IP address and "hp3845" refers to the USB printer name you've filled in on the Print Server Settings page (See **Step 2**).

⑤ Insert the printer driver CD into your computer and click **Have Disk…**;

⑥ Click **Browse**, select driver file directory on CD-ROM and click **OK**;



⑦ Select the manufacturer and the model of your printer. And click **OK**.



⑧ Choose “Yes” or “No” for default printer setting and click **Next**.

⑨ Click **Finish**.

Check the status of printer from Windows “Control Panel”, printer window. Status should be shown “ready”.