

## **Configuring Network**

## CHAPTERS

- 1. Overview
- 2. WAN Configuration
- 3. LAN Configuration
- 4. IPTV Configuration
- 5. MAC Configuration
- 6. Switch Configuration
- 7. VLAN Configuration
- 8. IPv6 Configuration

### \*

#### This guide applies to:

TL-R470T+ v6 or above, TL-R480T+ v9 or above, TL-R600VPN v4 or above, TL-ER5120 v3 or above, TL-ER6020 v2 or above, TL-ER6120 v3 or above

## 1 Overview

The Network module provides basic router functions, including WAN connection, DHCP service, VLAN, IPTV service and more.

## **1.1 Supported Features**

#### WAN

The router can provide a maximum of four WAN ports. Each WAN port has its own internet connection, providing link backup and load balancing.

#### LAN

For LAN configuration, you can configure the LAN IP address and DHCP (Dynamic Host Configuration Protocol) server. With its DHCP server enabled, the router can automatically assign IP addresses to hosts in the LAN.

#### IPTV

IPTV services is based on the Internet protocol, rather than through traditional satellite signal or cable transmission.

The router supports three kinds of IPTV configuration according to your ISP:

- IPTV based on IGMP.
- IPTV in Bridge mode.
- IPTV in Custom mode.

#### MAC

You can change the default MAC address of the WAN port or LAN port according to your needs.

#### Switch

The router supports some basic switch port management functions, like Port Mirror, Rate Control, Flow Control and Port Negotiation, to help you to monitor the traffic and manage the network effectively.

## VLAN

The router supports 802.1Q VLAN, which can divide the LAN into multiple VLANs, helping to manage the network more effectively.

### IPv6

You can set up an IPv6 internet connection if your ISP provides IPv6 service.

## **2** WAN Configuration

You can configure at most four WAN ports. Each WAN port can have its own WAN connection, providing link backup and load balancing.

To complete WAN configuration, follow these steps:

- 1) Configure the number of WAN ports.
- 2) Configure the WAN connection.

## 2.1 Configuring the Number of WAN Ports

Choose the menu **Network > WAN > WAN Mode** to load the following page.

WAN Mode						
WAN Mode:	01	○ 2	⊖ 3	• 4		
	WAN1	WAN2	WAN3	WAN4		
Save						
WAN Mode	Specify	Specify the number of WAN ports.				
	1: Configure physical interface 1 as WAN1.					
	2: Configure physical interface 1 and interface 2 as WAN1 and WAN2 respectively.					
	3: Configure physical interface 1, interface 2 and interface3 as WAN1, WAN2 and WAN3 respectively.					
				ace 1, inte spectively.		terface 3 and interface 4 as WAN1,
Note:						
	a WAN port the port-rela		•			ally added; when a WAN port is de-
• The ro	outer will rebo	oot after s	witching t	he WAN m	ode.	

Figure 2-1 Configuring the WAN Mode

## 2.2 Configuring the WAN Connection

The router supports six connection types: **Static IP**, **Dynamic IP**, **PPPoE**, **L2TP**, **PPTP and BigPond Cable**, you can choose one according to the service provided by your ISP.

**Static IP**: If your ISP provides you with a fixed IP address and the corresponding parameters, choose Static IP.

**Dynamic IP**: If your ISP automatically assigns the IP address and the corresponding parameters, choose Dynamic IP.

**PPPoE**: If your ISP provides you with a PPPoE account, choose PPPoE.

**L2TP**: If your ISP provides you with an L2TP account, choose L2TP.

**PPTP**: If your ISP provides you with a PPTP account, choose PPTP.

**BigPond Cable**: If your ISP provides you with a BigPond Cable account, choose BigPond Cable. BigPond Cable is only available for Australian users.

#### Configuring the Dynamic IP

Choose the menu **Network > WAN > WAN** to load the following page.

Figure 2-2 Configuring the Dynamic IP

Connection Configuration			Connection Status	
Connection Type: Host Name: Upstream Bandwidth: Downstream Bandwidth:	Dynamic IP	(Optional) Kbps (100-1000000) Kbps (100-1000000)	Connection Status IP Address Subnet Mask Default Gateway	Disconnected 0.0.0.0 0.0.0.0 0.0.0.0
MTU: Primary DNS: Secondary DNS:	1500	(576-1500) (Optional) (Optional)	Primary DNS Secondary DNS	0.0.0.0
Vlan: Save Connect Disc	10  Get IP using Unicast DHCP onnect			

In the **Connection Configuration** section, select the connection type as Dynamic IP. Enter the corresponding parameters and click **Save**.

Connection Type	Choose the connection type as Dynamic IP if your ISP automatically assigns the IP address.
Host Name	Optional. Enter a name for the router. It is null by default.
Upstream Bandwidth	Specify the upstream bandwidth of the WAN port. The value configured here is the upper limit of the "Maximum Upstream Bandwidth" on <b>Transmission &gt; Bandwidth Control &gt; Bandwidth Control</b> page, to make "Bandwidth Control" take effect, please ensure this parameter is set correctly.
Downstream Bandwidth	Specify the downstream bandwidth of the WAN port. The value configured here is the lower limit of the "Maximum Downstream Bandwidth" on <b>Transmission &gt; Bandwidth Control &gt; Bandwidth Control</b> page, to make "Bandwidth Control" take effect, please ensure this parameter is set correctly.

MTU	Specify the MTU (Maximum Transmission Unit) of the WAN port.
	MTU is the maximum data unit transmitted in the physical network. When Dynamic IP is selected, MTU can be set in the range of 576-1500 bytes. The default value is 1500.
Primary/ Secondary DNS	Optional. Enter the IP address of the DNS server provided by your ISP.
VLAN	Add the WAN port to a VLAN. Generally, you don't need to manually configure it unless required by your ISP.
	By default, the WAN port is automatically assigned to a VLAN, and the egress rule of the VLAN is UNTAG, so the packets are transmitted by the WAN port without VLAN tags. If you want the WAN port to transmit packets with VLAN tag, you need to create the corresponding VLAN first and configure its egress rule as TAG, then manually add the WAN port to that VLAN. To create VLANs, go to <b>Network &gt; VLAN &gt; VLAN</b> .
	<b>Note</b> : When using the IPTV function, either in Bridge mode or Custom mode, the router will automatically create corresponding VLANs after you finished the configuration, and add port 1 (WAN 1) to the VLANs. Users cannot then manually select the VLAN that WAN 1 belongs to.
Get IP using Unicast DHCP	The broadcasting requirement may not be supported by a few ISPs. Select this option if you can not get the IP address from your ISP even with a normal network connection. This option is not required generally.
Connect/ Disconnect	Click the button to active/terminate the connection.

### • Configuring the Static IP

Choose the menu **Network > WAN > WAN** to load the following page.

Figure 2-3 Configuring the Static IP

Connection Configuration			Connection Status	
Connection Type:	Static IP 🔹		Connection Status	Disconnected
IP Address:			IP Address	0.0.0.0
Subnet Mask:			Subnet Mask	0.0.0.0
Default Gateway:		(Optional)	Default Gateway	0.0.0.0
Upstream Bandwidth:	1000000	Kbps (100-1000000)	Primary DNS	0.0.0.0
Downstream Bandwidth:	1000000	Kbps (100-1000000)	Secondary DNS	0.0.0.0
MTU:	1500	(576-1500)		
Primary DNS:		(Optional)		
Secondary DNS:		(Optional)		
Vlan:	336 🔹			
Save				

In **Connection Configuration** section, select the connection type as Static IP. Enter the corresponding parameters and click **Save**.

Connection Type	Choose the connection type as Static IP if your ISP has offered you a fixed IP address.
IP Address	Enter the IP address provided by your ISP.
Subnet Mask	Enter the subnet mask provided by your ISP.
Default Gateway	Enter the default gateway provided by your ISP.
Upstream Bandwidth	Specify the downstream bandwidth of the WAN port. The value configured here is the lower limit of the "Maximum Downstream Bandwidth" on <b>Transmission &gt; Bandwidth Control &gt; Bandwidth Control</b> page, to make "Bandwidth Control" take effect, please ensure this parameter is set correctly.
Downstream Bandwidth	Specify the downstream bandwidth of the WAN port. The value configured here is the lower limit of the "Maximum Downstream Bandwidth" on <b>Transmission &gt; Bandwidth Control &gt; Bandwidth Control</b> page, to make "Bandwidth Control" take effect, please ensure this parameter is set correctly.
MTU	Specify the MTU (Maximum Transmission Unit) of the WAN port.
	MTU is the maximum data unit transmitted in the physical network. When Static IP is selected, MTU can be set in the range of 576-1500 bytes. The default value is 1500.
Primary/ Secondary DNS	Optional. Enter the IP address of the DNS server provided by your ISP.
VLAN	Add the WAN port to a VLAN. Generally, you don't need to manually configure it unless required by your ISP.
	By default, the WAN port is automatically assigned to a VLAN, and the egress rule of the VLAN is UNTAG, so the packets are transmitted by the WAN port without VLAN tags. If you want the WAN port to transmit packets with VLAN tag, you need to create the corresponding VLAN first and configure its egress rule as TAG, then manually add the WAN port to that VLAN. To create VLANs, go to <b>Network &gt; VLAN &gt; VLAN</b> .
	<b>Note</b> : When using the IPTV function, either in Bridge mode or Custom mode, the router will automatically create corresponding VLANs after you finished the configuration, and add port 1 (WAN1) to the VLANs. Users cannot then manually select the VLAN that WAN 1 belongs to.

### • Configuring the PPPoE

### Choose the menu **Network > WAN > WAN** to load the following page.

E' 0 1	0 0 0	
Figure 2-4	Configuring	the PPPOE

Connection Configuration			Connection Status	
Connection Type:	РРРОЕ 🔻		Connection Status	Disconnected
Username:			IP Address	0.0.0
Password:			Subnet Mask	0.0.0
Connection Mode:	Connect Automatically 🔻		Default Gateway	0.0.0
Upstream Bandwidth:	100000	Kbps (100-1000000)	Primary DNS	0.0.0
Downstream Bandwidth:	1000000	Kbps (100-1000000)	Secondary DNS	0.0.0
MTU:		(576-1492)		
	1492	· ·	Secondary Connection	
Service Name:		(1-128 characters, optional)	IP Address	0.0.0.0
Primary DNS:		(Optional)	Subnet Mask	0.0.0.0
Secondary DNS:		(Optional)		
Vlan:	10 🔻			
Secondary Connection:	○ None ○ Dynamic IP	Static IP		
IP Address:				
Subnet Mask:				
Save Connect Disc	onnect			

In the **Connection Configuration** section, select the connection type as PPPoE. Enter the corresponding parameters and click **Save**.

Connection Type	Choose the connection type as PPPoE if your ISP provides you with a PPPoE account.
Username	Enter the PPPoE username provided by your ISP.
Password	Enter the PPPoE password provided by your ISP.
Connection Mode	Choose the connection mode, including <b>Connect Automatically</b> , <b>Connect Manually</b> and <b>Time-Based.</b>
	<b>Connect Automatically:</b> The router will activate the connection automatically when the router reboots or the connection is down.
	Connect Manually: You can manually activate or terminate the connection.
	<b>Time-Based:</b> During the specified period, the router will automatically activate the connection.
Time	Choose the effective time range when the <b>Connection Mode</b> is chosen as <b>Time-Based</b> . To create the time range, go to <b>Preferences &gt; Time Range &gt; Time Range</b> .
Upstream Bandwidth	Specify the upstream bandwidth of the WAN port. The value configured here is the upper limit of the "Maximum Upstream Bandwidth" on <b>Transmission &gt; Bandwidth Control &gt; Bandwidth Control</b> page, to make "Bandwidth Control" take effect, please ensure this parameter is set correctly.

Downstream Bandwidth	Specify the downstream bandwidth of the WAN port. The value configured here is the lower limit of the "Maximum Downstream Bandwidth" on <b>Transmission &gt; Bandwidth Control &gt; Bandwidth Control</b> page, to make "Bandwidth Control" take effect, please ensure this parameter is set correctly.
MTU	Specify the MTU (Maximum Transmission Unit) of the WAN port.
	MTU is the maximum data unit transmitted in the physical network. When PPPoE is selected, MTU can be set in the range of 576-1492 bytes. The default value is 1492.
Service Name	Optional. Enter the service name. This parameter is not required unless provided by your ISP. It is null by default.
Primary/ Secondary DNS	Optional. Enter the IP address of the DNS server provided by your ISP.
VLAN	Add the WAN port to a VLAN. Generally, you don't need to manually configure it unless required by your ISP.
	By default, the WAN port is automatically assigned to a VLAN, and the egress rule of the VLAN is UNTAG, so the packets are transmitted by the WAN port without VLAN tags. If you want the WAN port to transmit packets with VLAN tag, you need to create the corresponding VLAN first and configure its egress rule as TAG, then manually add the WAN port to that VLAN. To create VLANs, go to <b>Network &gt; VLAN &gt; VLAN</b> .
	<b>Note</b> : When using the IPTV function, either in Bridge mode or Custom mode, the router will automatically create corresponding VLANs after you finished the configuration, and add port 1 (WAN 1) to the VLANs. Users cannot then manually select the VLAN that WAN 1 belongs to.
Secondary Connection	Secondary connection is required by some ISPs. Select the connection type required by your ISP.
	None: Select this if the secondary connection is not required by your ISP.
	<b>Dynamic IP:</b> Select this if your ISP automatically assigns the IP address and subnet mask for the secondary connection.
	<b>Static IP:</b> Select this if your ISP provides you with a fixed IP address and subnet mask for the secondary connection.
Connect/ Disconnect	Click the button to active/terminate the connection.

### • Configuring the L2TP

### Choose the menu **Network > WAN > WAN** to load the following page.

Figure 2-5	Configuring t	LALATD
Fluure 2-5	Comaumai	ne LZIP

Connection Configuration			Connection Status	
Connection Type: Username: Password: Connection Mode:	L2TP   Connect Automatically		Connection Status IP Address Subnet Mask Default Gateway	Disconnected 0.0.0.0 0.0.0.0 0.0.0.0
Upstream Bandwidth: Downstream Bandwidth:	1000000	Kbps (100-1000000) Kbps (100-1000000) (576-1460) (Optional) (Optional)	Primary DNS Secondary DNS	0.0.0.0
MTU: Primary DNS: Secondary DNS:	1460		Secondary Connection IP Address Subnet Mask	0.0.0.0
Vlan: Secondary Connection: VPN Server IP/Domain Name:	<ul> <li>Dynamic IP</li></ul>		Default Gateway Primary DNS Secondary DNS	0.0.0.0 0.0.0.0 0.0.0.0
IP Address: Subnet Mask:		(Optional)		
Default Gateway: Primary DNS: Secondary DNS: Save Connect Disco	nnect	(Optional) (Optional) (Optional)		

In the **Connection Configuration** section, select the connection type as L2TP. Enter the corresponding parameters and click **Save**.

Connection Type	Choose the connection type as L2TP if your ISP provides you with an L2TP account.
Username	Enter the L2TP username provided by your ISP.
Password	Enter the L2TP password provided by your ISP.
Connection Mode	Choose the connection mode, including <b>Connect Automatically</b> , <b>Connect Manually</b> and <b>Time-Based.</b>
	<b>Connect Automatically:</b> The router will activate the connection automatically when the router reboots or the connection is down.
	Connect Manually: You can manually activate or terminate the connection.
	<b>Time-Based:</b> During the specified period, the router will automatically activate the connection.
Time	Choose the effective time range when the <b>Connection Mode</b> is chosen as <b>Time-Based</b> . To create the time range, go to <b>Preferences &gt; Time Range &gt; Time Range</b> .

Upstream Bandwidth	Specify the upstream bandwidth of the WAN port. The value configured here is the upper limit of the "Maximum Upstream Bandwidth" on <b>Transmission &gt; Bandwidth Control &gt; Bandwidth Control</b> page, to make "Bandwidth Control" take effect, please ensure this parameter is set correctly.
Downstream Bandwidth	Specify the downstream bandwidth of the WAN port. The value configured here is the lower limit of the "Maximum Downstream Bandwidth" on <b>Transmission &gt; Bandwidth Control &gt; Bandwidth Control</b> page, to make "Bandwidth Control" take effect, please ensure this parameter is set correctly.
MTU	Specify the MTU (Maximum Transmission Unit) of the WAN port.
	MTU is the maximum data unit transmitted in the physical network. When L2TP is selected, MTU can be set in the range of 576-1460 bytes. The default value is 1460.
Primary/ Secondary DNS	Optional. Enter the IP address of the DNS server provided by your ISP.
VLAN	Add the WAN port to a VLAN. Generally, you don't need to manually configure it unless required by your ISP.
	By default, the WAN port is automatically assigned to a VLAN, and the egress rule of the VLAN is UNTAG, so the packets are transmitted by the WAN port without VLAN tags. If you want the WAN port to transmit packets with VLAN tag, you need to create the corresponding VLAN first and configure its egress rule as TAG, then manually add the WAN port to that VLAN. To create VLANs, go to <b>Network &gt; VLAN &gt; VLAN</b> .
	<b>Note</b> : When using the IPTV function, either in Bridge mode or Custom mode, the router will automatically create corresponding VLANs after you finished the configuration, and add port 1 (WAN 1) to the VLANs. Users cannot then manually select the VLAN that WAN 1 belongs to.
Secondary	Select the secondary connection type provided by your ISP
Connection	The secondary connection is required for L2TP connection. The router will get some necessary information after the secondary connection succeeded. These information will be used in the L2TP connection process.
VPN Server/ Domain Name	Enter the VPN Server/Domain Name provided by your ISP.
IP Address	Enter the IP address provided by your ISP for the secondary connection.
Subnet Mask	Enter the subnet mask provided by your ISP for the secondary connection.
Default Gateway	Enter the default gateway provided by your ISP for the secondary connection.
Primary/ Secondary DNS	Enter the primary/secondary DNS provided by your ISP for the secondary connection.
Connect/ Disconnect	Click the button to active/terminate the connection.

### • Configuring the PPTP

### Choose the menu **Network > WAN > WAN** to load the following page.

Figure 2-6	Configuring	the PPTP

Connection Configuration			Connection Status	
Connection Type: Username: Password: Connection Mode:	PPTP   Connect Automatically		Connection Status IP Address Subnet Mask Default Gateway	Disconnected 0.0.0.0 0.0.0.0 0.0.0.0
Upstream Bandwidth: Downstream Bandwidth:	1000000	Kbps (100-1000000) Kbps (100-1000000)	Primary DNS Secondary DNS	0.0.0.0
MTU: Primary DNS: Secondary DNS:	1420	(576-1420) (Optional) (Optional)	Secondary Connection IP Address Subnet Mask	0.0.0.0
Vlan: Secondary Connection: VPN Server IP/Domain Name:	Dynamic IP     Static IP		Default Gateway Primary DNS Secondary DNS	0.0.0.0
IP Address: Subnet Mask:			Secondary ones	0.0.0
Default Gateway: Primary DNS: Secondary DNS:		(Optional) (Optional) (Optional)		
Save Connect Disco	onnect			

In **Connection Configuration** section, select the connection type as PPTP. Enter the corresponding parameters and click **Save**.

Connection Type	Choose the connection type as PPTP if your ISP provides you with a PPTP account.
Username	Enter the PPTP username provided by your ISP.
Password	Enter the PPTP password provided by your ISP.
Connection Mode	Choose the connection mode, including <b>Connect Automatically</b> , <b>Connect Manually</b> and <b>Time-Based</b> .
	<b>Connect Automatically:</b> The router will activate the connection automatically when the router reboots or the connection is down.
	Connect Manually: You can manually activate or terminate the connection.
	<b>Time-Based:</b> During the specified period, the router will automatically activate the connection.
Time	Choose the effective time range when the <b>Connection Mode</b> is chosen as <b>Time-Based</b> . To create the time range, go to <b>Preferences &gt; Time Range &gt; Time Range</b> .

Upstream Bandwidth	Specify the upstream bandwidth of the WAN port. The value configured here is the upper limit of the "Maximum Upstream Bandwidth" on <b>Transmission &gt; Bandwidth Control &gt; Bandwidth Control</b> page, to make "Bandwidth Control" take effect, please ensure this parameter is set correctly.
Downstream Bandwidth	Specify the downstream bandwidth of the WAN port. The value configured here is the lower limit of the "Maximum Downstream Bandwidth" on <b>Transmission &gt; Bandwidth Control &gt; Bandwidth Control</b> page, to make "Bandwidth Control" take effect, please ensure this parameter is set correctly.
MTU	Specify the MTU (Maximum Transmission Unit) of the WAN port.
	MTU is the maximum data unit transmitted in the physical network. When PPTP is selected, MTU can be set in the range of 576-1420 bytes. The default value is 1420.
Primary/ Secondary DNS	Optional. Enter the IP address of the DNS server provided by your ISP.
VLAN	Add the WAN port to a VLAN. Generally, you don't need to manually configure it unless required by your ISP.
	By default, the WAN port is automatically assigned to a VLAN by default, and the egress rule of the VLAN is UNTAG, so the packets are transmitted by the WAN port without VLAN tags. If you want the WAN port to transmit packets with VLAN tag, you need to create the corresponding VLAN first and configure its egress rule as TAG, then manually add the WAN port to that VLAN. To create VLANs, go to <b>Network</b> > <b>VLAN</b> > <b>VLAN</b> .
	<b>Note</b> : When using the IPTV function, either in Bridge mode or Custom mode, the router will automatically create corresponding VLANs after you finished the configuration, and add port 1 (WAN 1) to the VLANs. Users cannot then manually select the VLAN that WAN 1 belongs to.
Secondary Connection	Select the secondary connection type provided by your ISP
	The secondary connection is required for PPTP connection. The router will get some necessary information after the secondary connection succeeded. These information will be used in the PPTP connection process.
VPN Server/ Domain Name	Enter the VPN Server/Domain Name provided by your ISP.
IP Address	Enter the IP address provided by your ISP for the secondary connection.
Subnet Mask	Enter the subnet mask provided by your ISP for the secondary connection.
Default Gateway	Enter the default gateway provided by your ISP for the secondary connection.
Primary/ Secondary DNS	Enter the primary/secondary DNS provided by your ISP for the secondary connection.
Connect/ Disconnect	Click the button to active/terminate the connection.

### • Configuring the BigPond Cable

Choose the menu **Network > WAN > WAN** to load the following page.

Figure 2-7 Configuring the BigPond Cable

Connection Configuration			Connection Status	
Connection Type: Username: Password: Connection Mode: Upstream Bandwidth: Downstream Bandwidth: MTU: Auth. Server: Auth. Server: Auth. Domain: Vlan: Save Connect Disc	BigPond Cable ▼ Connect Automatically ▼ 1000000 1000000 1500 336 ▼ onnect	Kbps (100-1000000) Kbps (100-1000000) (576-1500)	Connection Status IP Address Subnet Mask Default Gateway Primary DNS Secondary DNS	Disconnected 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0

In **Connection Configuration** section, select the connection type as BigPond Cable. Enter the corresponding parameters and click **Save**.

Connection Type	Choose the connection type as BigPond if your ISP provides you with a BigPond account.
Username	Enter the BigPond username provided by your ISP.
Password	Enter the BigPond password provided by your ISP.
Connection Mode	Choose the connection mode, including <b>Connect Automatically</b> , <b>Connect Manually</b> and <b>Time-Based.</b>
	<b>Connect Automatically:</b> The router will activate the connection automatically when the router reboots or the connection is down.
	Connect Manually: You can manually activate or terminate the connection.
	<b>Time-Based:</b> During the specified period, the router will automatically activate the connection.
Time	Choose the effective time range when the <b>Connection Mode</b> is chosen as <b>Time-Based</b> . To create the time range, go to <b>Preferences &gt; Time Range &gt; Time Range</b> .
Upstream Bandwidth	Specify the upstream bandwidth of the WAN port. The value configured here is the upper limit of the "Maximum Upstream Bandwidth" on <b>Transmission &gt; Bandwidth Control &gt; Bandwidth Control</b> page, to make "Bandwidth Control" take effect, please ensure this parameter is set correctly.
Downstream Bandwidth	Specify the downstream bandwidth of the WAN port. The value configured here is the lower limit of the "Maximum Downstream Bandwidth" on <b>Transmission &gt; Bandwidth Control &gt; Bandwidth Control</b> page, to make "Bandwidth Control" take effect, please ensure this parameter is set correctly.

MTU	Specify the MTU (Maximum Transmission Unit) of the WAN port.
	MTU is the maximum data unit transmitted in the physical network. When BigPond Cable is selected, MTU can be set in the range of 576-1500 bytes. The default value is 1500.
Auth.Server	Enter the authenticating server's IP address or hostname.
Auth.Domain	Enter the server's domain name suffix (based on your location). For example, nsw. bigpond.net.au for NSW/ACT, vic.bigpond.net.au for VIC/TAS/WA/SA/NT, or qld. bigpond.net.au for QLD.
VLAN	Add the WAN port to a VLAN. Generally, you don't need to manually configure it unless required by your ISP.
	By default, the WAN port is automatically assigned to a VLAN, and the egress rule of the VLAN is UNTAG, so the packets are transmitted by the WAN port without VLAN tags. If you want the WAN port to transmit packets with VLAN tag, you need to create the corresponding VLAN first and configure its egress rule as TAG, then manually add the WAN port to that VLAN. To create VLANs, go to <b>Network &gt; VLAN &gt; VLAN</b> .
	<b>Note</b> : When using the IPTV function, either in Bridge mode or Custom mode, the router will automatically create corresponding VLANs after you finished the configuration, and add port 1 (WAN 1) to the VLANs. Users cannot then manually select the VLAN that WAN 1 belongs to.
Connect/ Disconnect	Click the button to active/terminate the connection.

# **3** LAN Configuration

The LAN port is used to connect to the LAN clients, and works as the default gateway for these clients. You can configure the DHCP server for the LAN clients, and clients will automatically be assigned to IP addresses if the method of obtaining IP addresses is set as "Obtain IP address automatically".

For LAN configuration, you can:

- Configure the IP address of the LAN port.
- Configure the DHCP server.

## 3.1 Configuring the IP Address of the LAN Port

Choose the menu **Network** > **LAN** > **LAN** to load the following page.

Figure 3-1 Configuring the LAN IP Address

LAN		
IP Address:	192.168.0.61	
Subnet Mask:	255.255.255.0	
Management Vlan:		•
Save		

Enter the IP address of the LAN port, and click **Save**.

IP Address	Enter the IP address of the LAN port.
	This IP address is the default gateway of the LAN clients, and the IP addresses of all the LAN clients should be in the same subnet with this LAN IP address.
Subnet Mask	Enter the subnet mask of the LAN port.
Management Vlan	Specify the management VLAN. If you set a management VLAN here, then only the clients in the specified VLAN can access and manage the router. The default value is "", which means no VLAN is selected, and any client in the LAN can access and manage the router.



- Changing the IP address of LAN port will automatically redirect the browser to the new management page. If the redirecting failed, please try to reconnect your PC to the router to automatically get a new IP address, or configure a proper static IP address manually.
- Changing the IP address of the LAN port may affect some related functions, like the IP pool of the DHCP server.

## 3.2 Configuring the DHCP Server

You can configure an IP address pool for the DHCP server to assign IP addresses. When clients send requests to the DHCP server, the server will automatically assign IP addresses and the corresponding parameters to the clients. Moreover, if you want to reserve an IP address for a certain client, you can use **Address Reservation** to bind the IP address with the client's MAC address, and the bound IP address will always be assigned to that client.

#### Configuring the DHCP Server

Choose the menu **Network > LAN > DHCP Server** to load the following page.

DHCP Settings		
Starting IP Address:	192.168.0.100	
Ending IP Address:	192.168.0.199	
Lease Time:	120	minutes. (1-2880. The default value is 120)
Default Gateway:		(Optional)
Default Domain:		(Optional)
Primary DNS:		(Optional)
Secondary DNS:		(Optional)
Option60:		(Optional)
Option138:		(Optional)
Status:	Enable	
Save		

Figure 3-2 Configuring the DHCP Server

Configure the parameters of the DHCP server, then click **Save**.

Starting IP Address	Enter the starting IP address of the DHCP server's IP pool. The IP pool defines the IP range that can be assigned to the clients in the LAN. <b>Note</b> : The starting IP address should be in the same subnet with the IP address of the
	LAN port.
Ending IP Address	Enter the ending IP address of the DHCP server's IP pool. The ending IP address should be greater than the starting IP address.
	<b>Note</b> : The ending IP address should be in the same subnet with the IP address of the LAN port.
Lease Time	Specify the lease time for DHCP clients.
	Lease time defines how long the clients can use the IP address assigned by the DHCP server. Generally, the client will automatically request the DHCP server for extending the lease time before the lease expired. If the request failed, the client will have to stop using that IP address when the lease finally expired, and try to get a new IP address from the other DHCP servers.
Default Gateway	Optional. It is recommended to enter the IP address of the LAN port.
Default Domain	Optional. Enter the domain name of your network.
Primary/ Secondary DNS	Optional. Enter the DNS server address provided by your ISP. If you are not clear, please consult your ISP.
Option60	Optional. Specify the option 60 for device identification. Mostly it is used under the scenario where the clients apply for different IP addresses from different servers according to the needs. By default, it is TP-LINK.
	If a client requests option 60, the server will respond a packet containing the option 60 configured here. And then the client will compare the received option 60 with its
	own. If they are the same, the client will accept the IP address assigned by the server, otherwise the assigned IP address will not be accepted.
Option 138	own. If they are the same, the client will accept the IP address assigned by the server,
Option 138 Status	<ul><li>own. If they are the same, the client will accept the IP address assigned by the server, otherwise the assigned IP address will not be accepted.</li><li>Optional. Specify the option 138, which can be configured as the management IP address of an AC (Access Controller) device. If the APs in the local network request this option, the server will respond a packet containing this option to inform the APs</li></ul>

## • Configuring the Address Reservation

Choose the menu **Network > LAN > Address Reservation** and click **Add** to load the following page.

Figure 3-3 Configuring the Address Reservation

	ID	MAC Address		IP Address	Description	Status	Operation
IP De	AC Address: Address: escription:			(Optional)			
	port to IP-MAG atus:	C Binding: 🗹 Enable					
	ОКС	ancel					

Enter the MAC address of the client and the IP address to be reserved, then click OK.

MAC Address	Enter the MAC address of the client.
IP Address	Enter the IP address to be reserved.
Description	Optional. Enter a brief description for the entry. Up to 32 characters can be entered.
Export to IP- MAC Binding	Optional. Check the box to export this binding entry to IP-MAC Binding List on <b>Firewall</b> > <b>Anti ARP Spoofing &gt; IP-MAC Binding</b> page.
Status	Check the box to enable this entry.

## 3.3 Viewing the DHCP Client List

#### Choose the menu Network > LAN > DHCP Client List to load the following page.

Figure 3-4 Viewing the DHCP Client List

DHCP Clie	nt List				
Total Clien	its: 0				🕖 Refresh
ID	Client Name	MAC Address	Assigned IP Address	Lease Time	Operation

Here you can view the DHCP client list.

Client Name	Displays the name of the client.
MAC Address	Displays the MAC address of the client.
Assigned IP Address	Displays the IP address assigned to the client.
Lease Time	Displays the remaining lease time of the assigned IP address. After the lease expires, the IP address will be re-assigned.

## **4** IPTV Configuration

You can configure IPTV according to the type of IPTV service provided by your ISP:

- Configure IPTV based on IGMP.
- Configure IPTV in Bridge mode.
- Configure IPTV in Custom mode.

## 4.1 Configuring IPTV Based on IGMP

Some ISPs provide IPTV service based on IGMP technology. In this scenario, you can just enable IGMP snooping and IGMP proxy, and connect your STB (Set-Top Box) to any LAN port of the router. The IPTV stream will then be transmitted to the corresponding LAN port.

Choose the menu **Network > IPTV** > **IPTV** to load the following page.

Figure 4-1 Configuring IPTV Based on IGMP

IGMP Snooping: 🕑 Enable	Settings			
	IGMP Spooping:	- Enable		
IGMP PLOXY: Flable		<ul> <li>Enable</li> </ul>		
IGMP Version: V2			•	

Enable IGMP Snooping and IGMP Proxy, and choose the IGMP version, then click **Save**.

IGMP Snooping	Check the box to enable IGMP Snooping.
	Without IGMP Snooping, the router will broadcast multicast stream to all LAN ports, even though some LAN ports are not connected to any multicast member.
	With IGMP Snooping enabled, the LAN ports listen IGMP packets transmitted between the router and the clients and build a multicast table. The multicast table records the multicast members and the corresponding connected LAN port. So the multicast stream will be transmitted to only the ports that connected to multicast members.
IGMP Proxy	Check the box to enable IGMP Proxy.
	IGMP Proxy sends IGMP querier packets to the LAN ports to detect if there is any multicast member connected to the LAN ports.
IGMP Version	Choose the IGMP version as V2 or V3. The default is IGMP V2.

## 4.2 Configuring IPTV in Bridge Mode

If your ISP doesn't provide any parameters and the IPTV service is not based on IGMP technology, you can enable IPTV function and choose the Bridge mode, then specify a port to connect IPTV set-top box.

Choose the menu Network > IPTV > IPTV to load the following page.

Figure 4-2 Configuring the Bridge Mode

IPTV:	Enable IPTV	
Mode:	Bridge	•
Port3 Mode:	Internet	•
Port4 Mode:	Internet	•
Port5 Mode:	IPTV	•
Save		
Save		

Enable IPTV function, choose the mode as Bridge, and choose a LAN port to connect to the IPTV set-top box, then click **Save**.

IPTV	Check the box to enable IPTV function.
Mode	Choose the mode as Bridge.
	In Bridge mode, the LAN port chosen to connect to the IPTV becomes a dedicated port for IPTV service.
Port Mode	Specify the service to be supported by the LAN port.
	<b>Internet</b> : Specify the port to support only internet service. If you want to access the internet, you should connect your host to this port.
	<b>IPTV</b> : Specify the port to only support IPTV service. If you want to use IPTV, you should connnect your IPTV set-top box to this port.

## 4.3 Configuring IPTV in Custom Mode

If your ISP supports Triple-Play service, i.e., providing internet, VoIP and IPTV services over one single broadband connection, you can configure IPTV in Custom mode.

In Triple-Play, services are labeled with different VLAN tags specified by the ISP. When the WAN port receives packets, it will forward the packets to the corresponding LAN port according to the VLAN tag.

Choose the menu Network > IPTV > IPTV to load the following page.

Figure 4-3 Configuring the Custom Mode

IPTV:	<ul> <li>Enable IPTV</li> </ul>			
Mode:	Custom	•		
Internet VLAN ID:	100	Internet VLAN Priority:	0 🔹	802.1Q Tag
IP-Phone VLAN ID:	200	IP-Phone VLAN Priority:	0 🔹	
IPTV VLAN ID:	300	IPTV VLAN Priority:	0 🔹	
IPTV Multicast VLAN ID:	0	IPTV Multicast VLAN Priority:	0	Enable
Port3 Mode:	Internet	•		
Port4 Mode:	IPTV	•		
Port5 Mode:	Internet	•		
Save				

Follow these steps to configure IPTV in Custom mode:

1) Enable IPTV function and choose the mode as Custom.

IPTV	Check the box to enable IPTV function.
Mode	Choose the mode as Custom.
	In Custom mode, the services are labeled with different VLAN tags, which is specified by the ISP. The WAN port will forward the packets to its corresponding LAN port.

2) Enter the parameters provided by your ISP, including the VLAN IDs and priorities of different services.

Internet VLAN ID	Enter the VLAN ID of the internet service. It is provided by your ISP.
Internet VLAN Priority	Enter the VLAN priority of the internet service. It is provided by your ISP.
802.1Q Tag	Optional. Check the box and the egress internet packets of WAN 1 port will be tagged.
IP-Phone VLAN ID	Enter the VLAN ID of the IP-Phone service. It is provided by your ISP.
IP-Phone VLAN Priority	Enter the VLAN priority of the IP-Phone service. It is provided by your ISP.
IPTV VLAN ID	Enter the VLAN ID of the IPTV service. It is provided by your ISP.

IPTV VLAN Priority	Enter the VLAN priority of the IPTV service. It is provided by your ISP.
IPTV Multicast VLAN ID	Enter the VLAN ID of the IPTV multicast service. It is provided by your ISP.
IPTV Multicast VLAN Priority	Enter the VLAN priority of the IPTV multicast service. It is provided by your ISP.

#### 3) Specify the service to support for the LAN port.

<b>Internet</b> : Specify the port to support only Internet service. If you want to surf th internet, you should connect your host to this port.
<b>IP-Phone</b> : Specify the port to support only IP-Phone service. If you want to mak an IP-Phone call, you should connect your IP-Phone to this port.
<b>IPTV</b> : Specify the port to only support IPTV service. If you want to use IPTV, yo should connnect your IPTV set-top box to this port.

- In Bridge mode, after you have saved the configuration, the router will automatically and randomly create some VLANs for WAN 1 and the LAN ports. These VLANs will be displayed on the VLAN page.
- In Custom mode, after you configured the VLAN IDs of different services, these VLANs will
  automatically be created, and port 1 (WAN 1) will automatically be added to the IPTV VLAN and
  Internet VLAN. These VLANs will be displayed on the VLAN page.

\_\_ . \_ \_ . \_ \_ . \_ \_ . \_ \_ . \_ \_

## **5** MAC Configuration

Generally, the MAC address does not need to be changed. However, in some particular situations, you may need to change the MAC address of the WAN port or LAN port.

Configure the MAC Address of the WAN port

In the condition that your ISP has bound the account to the MAC address of the dial-up device, if you want to replace the dial-up device with this router, you can just set the MAC address of this router's WAN port as the same as that of the previous dial-up device for a normal internet connection.

Configure the MAC Address of the LAN port

In a complex network with all the devices are ARP bound, if you want to replace the current router with this router, you can just set the MAC address of this router's LAN port as the same as that of the previous router, which can avoid all the devices under this network node to update their ARP binding tables.

## 5.1 Configuring MAC Address

Choose the menu **Network > MAC > MAC** to load the following page.

Interface Name	Current MAC Address	MAC Clone
WAN1	00-0A-EB-61-20-11	Restore Factory MAC Clone Current PC's MAC
WAN2	00-0A-EB-61-20-12	Restore Factory MAC Clone Current PC's MAC
LAN	00-0A-EB-61-20-10	Restore Factory MAC

Figure 5-1 Configuring MAC Address

Configure the MAC address of the WAN port or LAN port according to your need, then click **Save**.

Interface Name	Displays the WAN port and LAN port.
Current MAC Address	Configure the MAC address of the WAN port or LAN port.

MAC	Clone	<b>Restore Factory MAC</b> : Click this button to restore the MAC address to the factory default value.
		<b>Clone Current PC's MAC</b> : Click this button to clone the MAC address of the PC you are currently using to configure the router. It's only available for the WAN ports.
	Note:	
		AC address conflict in the LAN, it is not permitted to set the MAC address of the router's the MAC address of the current management PC.
	LAN port as	the MAC address of the current management PC.

## 6 Switch Configuration

The router provides some basic switch port management function, including **Statistics**, **Port Mirror**, **Port Config** and **Port Status**.

## 6.1 Viewing the Statistics

Choose the menu Network > Switch > Statistics to load the following page.

Packe	et Type	Port1	Port2	Port3	Port4	Port5
	Unicast	0	0	0	0	20562
	Broadcast	0	0	0	0	7517
	Pause	0	0	0	0	0
Provide	Mulitcast	0	0	0	0	42499
Received	Total	0 B	0 B	0 B	0 B	16.9 MB
	Undersize	0	0	0	0	0
	Normal	0	0	0	0	70578
	Oversize	0	0	0	0	0
	Unicast	0	0	0	0	28841
	Broadcast	0	0	0	0	0
ransmitted	Pause	0	0	0	0	0
	Mulitcast	0	0	0	0	1865
	Total	0 B	0 B	0 B	0 B	19.0 MB

Figure 6-1 Viewing the Statistics

Statistics displays the detailed traffic information of each port, which allows you to monitor the traffic and locate faults promptly.

Unicast	Displays the number of normal unicast packets received or transmitted on the port.
Broadcast	Displays the number of normal broadcast packets received or transmitted on the port.
Pause	Displays the number of flow control frames received or transmitted on the port.
Multicast	Displays the number of normal multicast packets received or transmitted on the port.

Total	Displays the total bytes of the received or transmitted packets (including error frames).
Undersize	Displays the number of received packets which have a length less than 64 bytes (including error frames).
Normal	Displays the number of received packets which have length between 64 bytes and the maximum frame length (including error frames).
Oversize	Displays the number of received packets that have a length greater than the maximum frame length (including error frames).
Note: Error Fra	ame: The frames that have a false checksum.

**Maximum frame length**: The maximum frame length supported by the router. For untagged frames, it's 1518 bytes long; for tagged packets, it's 1522 bytes long.

## 6.2 Configuring Port Mirror

Port Mirror function allows the switch to forward packet copies of the monitored port(s) to a specific monitoring port. Then you can analyze the copied packets to monitor network traffic and troubleshoot network problems.

Choose the menu Network > Switch > Mirror to load the following page.

Figure 6-2 Configuring Port Mirror

Settings		
Enable Port Mirror Mirror Mode: Ingress a	nd Egress	
Monitor List		
Mirrorin	) Port	Mirrored Port
○ Po	t1	✓ Port1
○ Po	t2	Port2
○ Po	t3	Port3
○ Po	t4	Dort4
Po	t5	Port5
Save		

Follow these steps to configure Port Mirror:

1) In **Settings** section, enable Port Mirror function, and choose the mirror mode.

Enable Port Mirror	Check the box to enable Port Mirror function.
Mirror Mode	Choose the mirror mode which includes Ingress, Egress and Ingress and Egress.
	<b>Ingress:</b> The packets received by the mirrored port will be copied to the mirroring port.
	<b>Egress:</b> The packets sent by the mirrored port will be copied to the mirroring port.
	<b>Ingress and Egress:</b> Both the incoming and outgoing packets through the mirrored port will be copied to the mirroring port.
In the <b>Monitor L</b> Save.	<b>ist</b> section, set the mirroring port and the mirrored port(s), then click
	<b>.ist</b> section, set the mirroring port and the mirrored port(s), then click The packets through the mirrored port will be copied to this port.
Save.	
Save.	The packets through the mirrored port will be copied to this port. Usually, the mirroring port is connected to a data diagnose device, which is used

## 6.3 Configuring Rate Control

2)

Rate Control enables you to control the traffic rate for the specific packets on each port to manage your network.

Choose the menu Network > Switch > Rate Control to load the following page.

Figure 6-3	Configuring	Rate Control
------------	-------------	--------------

Port	Ingress Limit	Ingress Frame Type	Ingress Rate(Mbps)	Egress Limit	Egress Rate(Mbp
Port1	Enable	All Frames 🔹	1000	Enable	1000
Port2	Enable	All Frames 🔹	1000	Enable	1000
Port3	Enable	All Frames 🔻	1000	Enable	1000
Port4	Enable	All Frames 🔻	1000	Enable	1000
Port5	Enable	All Frames 🔹	1000	Enable	1000

Choose the port and configure the ingress frames or egress frames limitation, then click **Save**.

Ingress Limit Check the box to enable the Ingress Limit feature.

Ingress Frame	Specify the ingress frame type to be limited. It is All Frames by default.
Туре	All Frames: The ingress rate of all frames is limited.
	Broadcast: The ingress rate of broadcast frames is limited.
	<b>Broadcast and Multicast</b> : The ingress rate of broadcast and multicast frames is limited.
Ingress Rate (Mbps)	Specify the limit rate for the ingress packets.
Egress Limit	Check the box to enable Egress Limit feature.
Egress Rate (Mbps)	Specify the limit rate for the egress packets.

## 6.4 Configuring Port Config

You can configure the flow control and negotiation mode for the port.

Choose the menu Network > Switch > Port Config to load the following page.

Figure 6-4 Configuring Flow Control and Negotiation

Port	Flow Control	Negotiation Mode
Port1	🗌 Enable	Auto 💌
Port2	Enable	Auto 🔻
Port3	Enable	Auto 🔻
Port4	Enable	Auto 💌
Port5	Enable	Auto 💌

Configure the flow control and negotiation mode for a port.

Flow Control Check the box to enable the flow control function.

Flow Control is the process of managing the data transmission of the sender to avoid the receiver getting overloaded.

Negotiation Mode	Select the negotiation mode for the port. You can set the mode as <b>Auto</b> , or manually set the speed and duplex mode for the port. It is recommended to configure both devices of a link to work in Auto-Negotiation mode or manually configure them to work in the same speed and duplex mode.
	If the two devices at both sides work in Auto mode, they will advertise their speed and duplex abilities to each other, and negotiate the optimal speed and duplex mode.
	If the local device works in Auto mode while the peer device does not, the local device will automatically detect and match the speed with the peer device. The local device will work in half-duplex mode, no matter what duplex mode the peer device is in.

## 6.5 Viewing Port Status

#### Choose the menu Network > Switch > Port Status to load the following page.

Port	Status	Speed(Mbps)	Duplex Mode	Flow Control
Port1	Link Down			
Port2	Link Down			
Port3	Link Down			
Port4	Link Down			
Port5	Link Up	1000M	Full-duplex	Disabled

Figure 6-5 Viewing Port Status

Status	Displays the port status.
	Link Down: The port is not connected.
	Link Up: The port is working normally.
Speed (Mbps)	Displays the port speed.
Duplex Mode	Displays the duplex mode of the port.
Flow Control	Displays if the Flow Control is enabled.

# **7** VLAN Configuration

The router supports 802.1Q VLAN, which can divide a LAN into multiple logical LANs. Each logical LAN is a VLAN. Hosts in the same VLAN can communicate with each other. However, hosts in different VLANs cannot communicate directly. Therefore, broadcast packets can be limited to within the VLAN.

## 7.1 Creating a VLAN

Choose the menu Network > VLAN > VLAN to load the following page.

					🕀 Add	🖨 Delet
ID	VLAN ID	Name		Ports	Description	Operation
VLAN I	ID:			(1-4094)		
Name:				(1-50 characters)		
Ports:			TAG	•		
		□ 2	TAG	•		
		□ 3	TAG	•		
		□ 4	TAG	•		
		□ 5	TAG	•		
Descrip	ption:			(1-50 characters, optional)		

Figure 7-1 Creating a VLAN

Create a VLAN and add the port(s) to the VLAN, then click OK.

VLAN ID	Enter a VLAN ID. The value ranges from 1 to 4094.
Name	Specify the name of the VLAN for easy identification.
Ports	Check the box to select the port and specify the port type in the specified VLAN. The port can be divided into two types: TAG or UNTAG.
	<b>TAG</b> : The egress rule of the packets transmitted by the port is Tagged.
	<b>UNTAG</b> : The egress rule of the packets transmitted by the port is Untagged.
Description	Optional. Enter a brief description for easy management and searching.

#### **Viewing the VLANs**

Choose the menu Network > VLAN > VLAN to load the following page.

Figure 7-2 Viewing the VLAN

VLAN I	list					
					🕀 Ad	ld 😑 Delete
	ID	VLAN ID	Name	Ports	Description	Operation
	1	20	vlan20	2(UNTAG)	Default Vlan For WAN2	2
	2	100	vlan100	1(UNTAG)		2
	3	300	vlan300	1(TAG)		2
	4	336	vlan336	4(UNTAG)		2
	5	1445	vlan1445	3(UNTAG)		2
	6	2988	vlan 2988	5(UNTAG)		2

In the VLAN list you can view all the VLANs existing in the router.

VLAN ID	Displays the VLAN ID.
Name	Displays the VLAN name.
Ports	Displays the ports which belongs to the corresponding VLAN.
Description	Displays the description of the VLAN.

#### Note:

\_ \_ \_ \_ \_ \_ \_ \_ \_

The VLAN list contains all the VLANs existing in the router. Some of them are manually created by the user, and can be edited or deleted. Some are automatically created and referenced by the router for some special scenarios like IPTV or management VLAN, and you cannot edit or delete these VLANs.

## 7.2 Configuring the PVID of a Port

Choose the menu Network > VLAN > Port to load the following page.

### Figure 7-3 Configuring the PVID

Port	PVID		VLAN
Port1	34	•	10(UNTAG) 34(TAG)
Port2	20	•	20(UNTAG)
Port3	1	•	1(UNTAG)
Port4	1	•	1(UNTAG)
Port5	1	•	1(UNTAG)

## Configure the PVID of the port, then click **Save**.

Port	Displays the port.
PVID	Specify the PVID for the port. PVID indicates the default VLAN for the corresponding port.
VLAN	Displays the VLAN(s) the port belongs to.

## 8 IPv6 Configuration

To complete IPv6 configuration, follow these steps:

- 1) Configure the LAN to specify the type of assigning IPv6 address to the client.
- 2) Configure the WAN connection.

## 8.1 Configuring the LAN

Configure the type of assigning IPv6 address to the LAN clients.

Choose the menu Network > IPv6 > LAN to load the following page.

General	
IPv6:	✓ Enable
Save	
LAN	
Assigned Type:	DHCPv6 O SLAAC+Stateless DHCP O SLAAC+RDNSS
Address Prefix:	/64
Release Time:	86400 seconds. (The default is 86400, do not change unless necessary.)
Address:	FE80::20A:EBFF:FE04:8011/64
Save	

Figure 8-1 Configuring the LAN

1) In **Global** section, enable IPv6 function and click **Save**.

IPv6 Check the box to enable IPv6 function for the LAN.

2) In LAN section, configure the Assigned Type and Address prefix, then click **Save**.

Assigned Type	Select the appropriate type of assigning the IPv6 address according to your ISP.
	<b>DHCPv6</b> : The DHCP server automatically assigns the IPv6 address and DNS information to the clients.
	<b>SLAAC+Stateless DHCP</b> : The DHCP server advertises the IPv6 prefix to the client, the client then dynamically form a host identifier that is 64 bits long and will be suffixed to the end of the advertised prefix to form an IPv6 address. Generally, the host identifier was formed using the EUI-64. The DHCP server can also offer the DNS information to the client when the client requests.
	<b>SLAAC+RDNSS</b> : The DHCP server advertises the IPv6 prefix to the client, the client then dynamically form a host identifier that is 64 bits long and will be suffixed to the end of the advertised prefix to form an IPv6 address. Generally, the host identifier was formed using the EUI-64. The DHCP server will also automatically advertise the DNS information to the client.
Address Prefix	Enter the LAN address prefix provided by your ISP.
	Note: If the "Prefix Delegation" in WAN configuration is enabled, the LAN prefix will be automatically assigned by the ISP, and you do not need to manually configure it here.
Release Time	The duration time in seconds when the assigned IPv6 address remains valid when you choose the Assigned Type as DHCPv6. The default value is 86400 seconds .
Address	Displays the IPv6 address of the LAN port.

## 8.2 Configuring the WAN

You can configure at most four WAN ports. Each WAN port can have its own IPv6 WAN connection, providing link backup and expanding the bandwidth.

To complete WAN configuration, follow these steps:

- 1) Configure the number of WAN ports.
- 2) Configure the WAN connection.

## 8.2.1 Configuring the Number of WAN Ports

Choose the menu **Network > WAN > WAN Mode** to load the following page.

Figure 8-1 Configuring the WAN Mode

WAN Mode					
WAN Mode:	01	0 2	⊖ 3	• 4	
	WAN1	WAN2	WAN3	WAN4	LAN
Save					
0010					



## 8.2.2 Configuring the WAN Connection

The router supports five IPv6 connection types: **Static IP, Dynamic IP (SLAAC/DHCPv6)**, **PPPoE, 6to4 Tunnel and Pass-Through (Bridge)**, you can choose one according to the information provided by your ISP.

**Static IP**: Select this if your ISP provides you with a fixed IPv6 address, default gateway and DNS address.

**Dynamic IP (SLAAC/DHCPv6)**: Select this if your ISP automatically assigns the IPv6 address and the corresponding parameters.

**PPPoE**: Select this if your ISP provides you with a PPPoE account.

6to4 Tunnel: Select this if your ISP uses 6to4 deployment for assigning address.

**Pass-Through (Bridge)**: Select this if your ISP uses Pass-Through (Bridge) network deployment. No parameters are required for this type of connection.

Choose the menu **Network** > **IPv6** > **WAN** to load the following page.

#### Configuring the Dynamic IP (SLAAC/DHCPv6)

Figure 8-2 Configuring the Dynamic IP (SLAAC/DHCPv6)

General	
IPv6:	✓ Enable
Save	
Internet	
Internet Connection Type:	Dynamic IP (SLAAC/DHCPv6)
IPv6 Address:	
Primary DNS:	
Secondary DNS:	::
Renew Release	
Advanced	
Get IPv6 Address:	DHCPv6      SLAAC+Stateless DHCP
Prefix Delegation:	O Enable
DNS Address:	● Get dynamically from ISP O Use the following DNS Addresses
Primary DNS:	::
Secondary DNS:	::
Save	

Follow these steps to configure Dynamic IP connection:

1) In the **General** section, check the box to enable IPv6 function, then click **Save**.

	IPv6	Check the box to enable IPv6 function.
--	------	--

2) In the Internet section, choose the Internet Connection type as Dynamic IP (SLAAC/ DHCPv6), and configure the corresponding parameters. Then click Save.

Internet Connection Type	Choose Dynamic IP (SLAAC/DHCPv6) as the connection type.
IPv6 Address/ Primary DNS/ Secondary DNS	Displays the IPv6 address/Primary DNS/Secondary DNS of the WAN port. These parameters are automatically assigned by the DHCPv6 server from your ISP.
Renew	Click this button to get new IPv6 parameters assigned by the DHCPv6 server from the ISP.
Release	Click this button to release the IPv6 parameters assigned by DHCPv6 server from the ISP.

3) In the **Internet** section, click **Advanced** to configure the way of getting the IPv6 address and DNS address, and configure the Prefix Delegation. Then click **Save**.

Get IPv6 Address	Choose the method by which the IPv6 address is obtained from the ISP.
	<b>DHCPv6</b> : The DHCP server automatically assigns the IPv6 address.
	<b>SLAAC+Stateless DHCP</b> : The DHCP server advertises the IPv6 prefix to the WAN port, the WAN port then dynamically form a host identifier that is 64 bits long and will be suffixed to the end of the advertised prefix to form an IPv6 address. Generally, the host identifier was formed using the EUI-64.
Prefix Delegation	Enable or disable prefix delegation. The prefix will be assigned to the LAN clients.
	<b>Enable</b> : The prefix of the IPv6 address will automatically be assigned by the ISP, and you do not need to configure the prefix in LAN page.
	<b>Disable</b> : You need to enter a prefix manually.
	Note: If more than one WAN port is enabled with Prefix Delegation, the LAN port will assign the prefix of the latest enabled WAN port to the LAN clients.
DNS Address	Choose the way of getting DNS address from the ISP.
	<b>Get dynamically from ISP</b> : The DNS address will automatically assigned by the ISP.
	<b>Use the following DNS address</b> : The user need to manually enter the DNS address provided by the ISP.
Primary DNS/ Secondary DNS	Enter the DNS address provided by the ISP.

### • Configuring the Static IP

Figure 8-3 Configuring the Static IP

General		?
IPv6:	✓ Enable	
Save		
Internet		
Internet Connection Type:	Static IP 👻	
IPv6 Address:		
Default Gateway:		
Primary DNS:		
Secondary DNS:		
Save		

Follow these steps to configure static IP connection:

- 1) In the **General** section, check the box to enable IPv6 function, then click **Save**.
  - IPv6 Check the box to enable IPv6 function.
- 2) In the **Internet** section, choose the Internet Connection type as **Static IP**, and configure the corresponding parameters. Then click **Save**.

Internet Connection Type	Choose Static IP as the connection type.
IPv6 Address	Enter the IPv6 address provided by your ISP.
Default Gateway	Enter the default gateway provided by your ISP.
Primary DNS/ Secondary DNS	Enter the DNS address provided by your ISP.

#### Configuring the PPPoE

Figure 8-4 Configuring the PPPoE

General	
IPv6:	✓ Enable
Save	
Internet	
Internet Connection Type:	PPPoE 🔹
	PPPoE same session with IPv4 connection
Username:	
Password:	
IPv6 Address:	
Advanced	
Get IPv6 Address:	DHCPv6 O SLAAC+Stateless DHCP O Specified by ISP
Prefix Delegation:	<ul> <li>Enable</li> <li>Disable</li> </ul>
DNS Address:	Get dynamically from ISP O Use the following DNS Addresses
Primary DNS:	::
Secondary DNS:	
Connect Disconnect	
Save	

Follow these steps to configure PPPoE connection:

1) In the **General** section, check the box to enable IPv6 function, then click **Save**.

IPv6 Check the box to enable IPv6 function.

2) In the **Internet** section, choose the Internet Connection type as **PPPoE**, and configure the corresponding parameters. Then click **Save**.

Internet	Choose PPPoE as the connection type.
Connection Type	<b>Note</b> : If your ISP provides only one PPPoE account for both IPv4 and IPv6 connections, and you have already established an IPv4 connection on this WAN port, you can check <b>PPPoE same session with IPv4 connection</b> , then the WAN port will use the PPP session of IPv4 PPPoE connection to get the IPv6 address. In this case, you do not need to enter the username and password of the PPPoE account on this page. If your ISP provides two separate PPPoE accounts for the IPv4 and IPv6 connections, or the IPv4 connection of this WAN port is not based on PPPoE, please don't check <b>PPPoE same session with IPv4 connection</b> and manually enter the username and password for the IPv6 connection.
Username	Enter the PPPoE username provided by your ISP.
Password	Enter the PPPoE password provided by your ISP.
IPv6 Address	Displays the IPv6 address of the WAN port.

3) In the **Internet** section, click **Advanced** to configure the way of getting the IPv6 address and DNS address, and configure the Prefix Delegation. Then click **Save**.

Get IPv6 Address	Choose the method by which the IPv6 address is obtained from the ISP.
	DHCPv6: The DHCP server automatically assigns the IPv6 address.
	<b>SLAAC+Stateless DHCP</b> : The DHCP server advertises the IPv6 prefix to the WAN port, the WAN port then dynamically forms a host identifier that is 64 bits long and will be suffixed to the end of the advertised prefix to form an IPv6 address. Generally, the host identifier is formed using the EUI-64.
Prefix Delegation	Enable or disable prefix delegation. The prefix will be assigned to the LAN clients.
	<b>Enable</b> : The prefix of the IPv6 address will automatically be assigned by the ISP, and you do not need to configure the prefix in the LAN page.
	<b>Disable</b> : You need to enter a prefix manually.
	Note: If more than one WAN port is enabled with Prefix Delegation, the LAN port will assign the prefix of the latest enabled WAN port to the LAN clients.
DNS Address	Choose the way of getting DNS address from the ISP.
	<b>Get dynamically from ISP</b> : The DNS address will automatically assigned by the ISP.
	<b>Use the following DNS address</b> : The user needs to manually enter the DNS address provided by the ISP.
Primary DNS/ Secondary DNS	Enter the DNS address provided by the ISP.

#### • Configuring the 6to4 Tunnel

6to4 is an internet transition mechanism for migrating from IPv4 to IPv6, a system that allows IPv6 packets to be transmitted over an IPv4 network. The IPv6 packet will be

encapsulated in the IPv4 packet and transmitted to the IPv6 destination through IPv4 network.



General		
IPv6:	Enable	
Save		
Takawa ak		
Internet		
Internet Connection Type:	6to4 Tunnel 🔹	
IPv4 Address:	0.0.0.0	
IPv4 Subnet Mask:	0.0.0.0	
IPv4 Default Gateway:	0.0.0.0	
Tunnel Address:		
O Margaret		
Advanced		
	Use the following DNS Server	
Primary DNS:		
Secondary DNS:		
Connect Disconnect		
Save		

Follow these steps to configure 6to4 Tunnel connection:

1) In the **General** section, check the box to enable IPv6 function, then click **Save**.

IPv6 Check the box to enable IPv6 function.

2) In the **Internet** section, choose the Internet Connection type as **6to4 Tunnel**, and configure the corresponding parameters. Then click **Save**.

Internet Connection Type	Choose the connection type as PPPoE.
IPv4 Address/ IPv4 Subnet Mask/IPv4 Default Gateway	These parameters will be dynamically generated by the IPv4 information of WAN port after you click Connect.
Tunnel Address	Displays the tunnel address of the WAN port.

 (Optional) In Internet section, click Advanced to configure the DNS server. Then click Save.

Use the following DNS Server	Check the box to manually enter the IP address DNS server provided by your ISP.
	Note: If this option is not enabled, the router will use the default DNS servers with the IPv6 address as 2001:4860:4860::8888 and 2001:4860:4860::8844.
Primary DNS/ Secondary DNS	Enter the IPv6 address of the DNS server provided by your ISP.

#### Configuring the Pass-Through (Bridge)

In Pass-Through (Bridge) mode, the router works as a transparent bridge. The IPv6 packets received from the WAN port will be transparently forwarded to the LAN port and vice versa. No extra parameter is required.

Figure 8-6 Configuring the Pass-Through (Bridge)

General	
IPv6:	✓ Enable
Save	
Internet	
Internet Connection Type:	Pass-Through (Bridge)
Save	

Follow these steps to configure Pass-Through (Bridge) connection:

. \_\_ . \_\_ . \_\_ . \_\_ . \_\_ . \_\_ . \_\_ . \_\_ . \_\_ .

1) In the **General** section, check the box to enable IPv6 function, then click **Save**.

IPv6 Check the box to enable IPv6 function.

2) In the **Internet** section, choose the Internet Connection type as **Pass-Through (Bridge)**, then click **Save**.

Internet Connection Type	Choose the connection type as Pass-Through (Bridge).
Note:	

If the Internet Connection Type of any WAN port is Pass-Through (Bridge), the IPv6 parameters of the LAN port and the other WAN ports cannot be configured.