



User's Guide

TL-R410

Multifunctional Broadband Router



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Package Contents

The following contents should be found in your TL-R410 package:

- ➢ One TL-R410 Router.
- One AC power adapter.
- One User's Guide (Presswork).
- One Warranty card.

If any of the above contents is damaged or missing, please contact the retailer you purchased the TL-R410 Router from.

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TL-R410 Multifunctional Broadband Router User's Guide

Chapter 1 About this User's Guide

Thanks for your choosing of the TL-R410 Multifunctional Broadband Router. The TL-R410 Multifunctional Broadband Router provides a perfect SOHO solution. This User's Guide helps you how to get the best operating performance from your TL-R410 Router. You can configure the Router all by yourself without the help of professional. Please read this guide carefully before you use the R410 Router.

1.1 Usage

This User's Guide tells you how to use your R410 Router.

1.2 Assumpsit

The Router mentioned in this User's Guide stands for the R410 Multifunctional Broadband Router.

1.3 Overview of this User's Guide

Chapter 1	About this User's Guide		
Chapter 2	Introduction. Describes the R410 Router and its features		
Chapter 3	Installation. Describes the steps for the hardware installation		
	of the TL-R410 Router		
Chapter 4	Internet Access. Describes the basic configurations of the		
	R410 Router		
Chapter 5	Advanced Configuration. Describes how to configure advanced		
	functions in order to get the most from the R410 Router		
Annex	Trouble Shooting		

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Chapter 2 Introduction

2.1 Overview of the product

The TL-R410 Multifunctional Broadband Router is specially designed for SOHO solution. It is a multifunctional, high performance, and easy-to-configure Router. The TL-R410 Router provides many management functions, including DHCP server, Virtual Server, DMZ host, Firewall, and Static Routing Table, etc.

The TL-R410 Router provides flexible access control, allowing children or stuff to browse the specific websites. The TL-R410 Router is also a smart machine. It can connect to the Internet automatically on demand and disconnect when idle so as to save network fee. It's easy-to-configure. Quick Setup Wizard is supported and friendly help messages are provided for every step.

2.2 Features and Specification

2.2.1 Features

- Integrates a 100Base-TX Ethernet port for connecting to a wide area network (WAN) device, such as a Cable or DSL Modem.
- Integrates a 4-port 10/100Base-T/TX switch.
- Allows multiple users to access the Internet at the same time, sharing a single public IP address.
- Uses NAT to allow all of your network's PCs to connect to the Internet using only one IP address.
- Built-in DHCP server, providing the function of assigning LAN IP

addresses automatically. PCs on local LAN can also get a fixed IP address.

- Allows external Internet users to access information from the internal target host by setting the Virtual Server.
- Supports DMZ, One PC on local LAN can be configured to allow unrestricted 2-way communication with servers or individual users on the Internet.
- Supports VPN Pass-through.
- Built-in firewall to protect your PCs from outside intruders.
- Support Special Internet Applications, allow the applications, which use non-standard connections or port numbers, to be used normally.
- Supports Static Routing, allows PCs connected to the R410 Router, either directly or through a hub/switch, to communicate with other PCs in the respective LAN segment that are connected to the R410 Router through another Router.
- Supports Domain Name Filtering and MAC address Filtering.
- Supports firmware upgrade by TFTP.
- Supports remote Web management.

2.2.2 Specification

- Compliant with IEEE 802.3 (10Base -T), IEEE 802.3u (100Base-TX)
- Supports protocols: TCP/IP, PPPoE, DHCP, ICMP, NAT
- Supports IEEE802.3x flow control for full-duplex mode and collision-based backpressure for half-duplex mode
- Supports the port N-way auto-negotiation function, automatically

negotiate the speed and duplex mode between two devices

- All ports support auto-MDI/MDIX
- Integrates LED indicators
- Power input: external, 9V~50Hz 0.8A
- Operating temperature: 0°C to 40°C (32 °F to 104°F)
- Storage Humidity: 5% to 90% RH

Chapter 3 Installation

- 3.1 Panel Layout
- 3.1.1 The Front Panel

TP-LINK [®]	
TI -R410	M1 O Link/Act. O O O O
2	M2 O 10/100 O O O O
Multifunctional Broadband SOHO Router	4 3 2 1



LED Indicators

Description	Function	Remark
Router status	Steady on when Router	M1 and M2 flash
indicator	has a Hardware error	Simultaneously when
Router status	Steady on when Router	the Router is restoring
indicator	works properly	the factory default Settings
WAN and LAN	Steady on when the	
status indicator	Ethernet link exists	
	Blinking when data is	
	flowing through the port	
WAN and speed	Steady on when the port is	
indicator	in the 100M mode	
	Steady off when the port is	
	in the 10M mode	
	Description Router status indicator Router status indicator WAN and LAN status indicator WAN and speed indicator	DescriptionFunctionRouter statusSteady on when Routerindicatorhas a Hardware errorRouter statusSteady on when Routerindicatorworks properlyWAN and LANSteady on when thestatus indicatorEthernet link existsBlinking when data isflowing through the portWAN and speedSteady on when the port isindicatorin the 100M modesteady off when the port isin the 10M mode

3.1.2 The Rear Panel

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Figure 3-2 Rear Panel of the R410 Router

1) **Power jack:** Connect the supplied AC power adapter here.

⚠ Note:

Only use the power adapter provided. Using a different one may cause hardware damage.

2) RESET: This button is used to reboot the device (pressed and released), or be used to restore the factory default settings of the R410 Router. In order to restore the factory default settings, restart the router, press and hold the Reset button until the M1 and M2 indicators flash simultaneously.

⚠ Note:

Ensure the Router is powered on before it restarts completely.

- 3) WAN: WAN port (RJ45) for connecting a DSL or Cable Modem.
- Ports 1-4: LAN ports (RJ45) for connecting your PCs or Hub/ Switch.

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3.2 System Requirements

- Broadband Internet Access service (DSL/Cable/Ethernet).
- One DSL/Cable modem (you don't need this if connect the Router to an Ethernet).
- Each PC on the LAN needs an Ethernet NIC and a standard twistedpair Ethernet cable (UTP network cable) with RJ45 connectors.
- TCP/IP protocol must be installed on all Purchase.
- System OS: Windows 95/98, Windows NT4.0, or Windows 2000/XP
- Web browser, such as Microsoft Internet Explorer 5.0 or later, Netscape Navigator 6.0 or later

3.3 Installation Environment Requirements

- Lay the R410 Router horizontally.
- > Don't put the Router near water or humidity.
- Avoid the dust and strong electronmagnetism.
- Temperature: 0°C to 40°C (32 °F to 104°F).
- Humidity: 5% to 90% RH.

3.4 Hardware Installation Procedure

Before you install the R410 Router, we hope you have connected your PC to the Internet through your broadband service successfully. If there is any problem, please contact your ISP. After that, please install the Router according to the following steps. Don't forget to pull out the power plug and keep your hands dry.

- Power everything off, including your PCs, your Cable or DSL Modem and the R410 Router.
- Connect the PCs and each Switch/Hub on you LAN to the LAN Ports on the rear of the Router.
- Connect the DSL /Cable Modem to the WAN port on the rear of the Router.
- Connect the AC power adapter to the Power port on the rear of the Router, and then plug in the supplied AC power. The Router will start to work automatically.
- 5) Power on the Cable/DSL Modem.



Figure 3-3 Physical Installation of the R410 Router

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Chapter 4 Internet Access

This chapter helps you to configure the basic functions of the R410 Router. If you follow these procedures correctly, there should be no problem in accessing the Internet via the Router. If you want to have the advanced configurations, please read Chapter 5.

4.1 TCP/IP Configuration

Above all, ensure proper Operating System (Windows 95/98/Me/NT/ 2000/XP) is available on your PCs. Default IP address of the R410 Router is 192.168.1.1, and default Subnet Mask is 255.255.255.0. These values refer to your internal network settings. Unless you have specific needs, there should be no reason to change them.

Connect the PCs to the LAN Ports on the rear of the R410 Router. After that, there are two means to configure the IP address for your PCs.

- Configure the IP address yourself
- To set up the TCP/IP Protocol for the PCs, which need to be configured IP address.
- Configure the network parameters. IP address is 192.168.1.xxx ("xxx" is from 2 to 254), Subnet Mask is 255.255.255.0, and Gateway IP is the Router's IP address (the default value is 192.168.1.1).
- Assign the IP address by the DHCP server built in the R410 Router.

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- Configure your PCs, which need to be assigned IP addresses, in
 Obtain an IP address automatically mode.
- Power off the R410 Router and PCs. Then power on the Router first, and then restart the PCs. The Built-in DHCP server will assign IP addresses for the PCs.

Now, you can run the Ping command in MS-DOS mode to verify the network connection between your PCs and the R410 Router. We choose Windows 2000 OS as an example.

At the DOS command prompt, type **ping 192.168.1.1**, press **Enter**.

If the information such as the following data displayed, the connection beween the PCs and the R410 Router has been established.

Finging 192.168.1.1 with 32 bytes of data:

Reply From 192.168.1.1: hytest32 timeClAns T16-64

Raply from 192.168.1.1: Nylev-32 time<18ms 116-54 Reply from 192.168.1.1: Nylev-32 time<18ms IIL-64

Reply from 192.168.1.1: bytes-32 time<18ms TIL-64 Ping statistics for 192.168.1.1: Tackets: Sent - 4, Received - 4, Lost - 0 (8% Loss), Approximate round trip times in milli-seconds: Niniman Mac, Nusiman Mac, Austrage Mac

If the information displayed as follow, your PCs have not connected to the R410 Router. Please ensure you LAN hardware connection is OK, and all the equipments are power on. (The Link/Act LEDs of LAN on the Router and LEDs on the PCs' NICs should be lit.) If the connection is established, ensure that your PCs and the Router are on the same subnet. Please Check the TCP/IP settings on your PCs. If the IP address of the Router is 192.168.1.1, the PCs' IP addresses must be within the range of

192.168.1.2~192.168.1.254 and the Subnet Mask must be 255.255.255.0.



4.2 Fast Configuration

With a web-based UI (User Interface), the R410 Router is easy to setup and maintain; all functions can be configured via a web browser such as Netscape Communicator and Internet Explorer on any Windows, Macintosh or UNIX OS.

Start the web browser first, and you should remove the proxy and the dialup settings on your Internet browser.

Type http://192.168.1.1 in the browser's address box and then press Enter.

A login window opens as fallow. Type **admin** in the User Name box, **admin** in the Password box, and then click **OK**. If the user name or password was previously changed, enter the current user name and password.

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Flease type v	our uper name and password	
Sicc	192 168 1.1	
Realm	TP-UNK Douter E410	
Loar Name	adını	
Fassword		
🗖 Eave Ihs	paseword in your paseword lie:	
	CK I	ar cal
	Fisass (γρου Sicα Realm Losn Name Fassword Γ Eave Nos	Fisade Cype Vour Lostramie End Saxwold Sico 192168.1.1 Realm TP41NK Douter E410 Lost Name addum Fasewold Among Saxwold In your pasewold fo:

If the user's name and password are correct, the R410 Router's setup page will then appear, and a Wizard page will pop up either. (If not, please click the **Wizard** menu on the setup page.)



Click Next button, the page to choose the type of accessing to the

Internet will appear as follows.

v,	nserd
	The full tensupports of the put that ways to connect to them etc. Please choise accurcing to your situation
	C status rectile of op (1996) C Broadbard Hiberon, getting L ladderess from SP automatically (Denomic L) R Broadbard Ethernen, fixed IP econesis provide by ISP (Etheric IP)
	Blok Nool

The R410 Router supports three popular types to connect to the Internet. Please choose one of them according to your situation. And then click **Next** to enter the necessary network parameters.

 If you choose **PPPoE**, i.e. ADSL virtual dial-up service, you should enter the following parameters:

Valuerd - PPPoD		
When you add yil. provide you accou table accordingly your IOP.	r the ADDL virtual than nt and cassivery. Ple Divocitor get on clen't	al-up service, IOP will vise fri to the following confirm, presse constru
User Name: Password	hesher FRIAA	
		Buck Next

- User Name: The user name that ISP provides for you. If you forget it or are not sure, please consult your ISP.
- Password: The password that ISP provides for you. If you forget it or are not sure, please consult your ISP.
- If you choose **Dynamic IP**, i.e. automatically get IP address from your ISP, your host can connect to the Internet straight, without entering any parameter.
- 3) If you choose Static IP, i.e. fixed IP address provided by ISP, you

should enter the following parameters:

When you end y for the G	uado-ril, Elo-riel service sollidize.
IP sucress, IDF or listury,	a you some pas or abyork
parameters. Please fill to .	r e following test erecordingly, 1 year
funget or don't commit dis	ase cursul your JCP.
P Address:	11/14/12/94 5111
Subrial Mash:	att actiacc.0
Ceteway:	51,145,200,1 (options)
CNS Server:	4.9.5101-4.18+ (optimis)
Securidary ENS Server:	[20215.254.185] (options)
H-1	BLOK NOOL

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- IP Address: The Router's WAN IP address, namely the IP address your ISP provides for you. Please consult your ISP if you have any question.
- Subnet Mask: The Router's WAN Subnet Mask provided by your ISP, usually is 255.255.25.0.
- Gateway: Optional, the IP address of the Gateway provided by ISP.
 Please consult your ISP if you have any question.
- DNS Server: Optional, the IP address of the DNS server provided by your ISP. Consult your ISP if you have any question.
- Secondary DNS Server: Optional, if ISP provides you two DNS servers, input the IP address of another DNS server here.

After finishing all configurations of basic network parameters, please click **Finish** button to close the page.

Please disk Finish to dose the wizard	Congretulations, You have this n network carameters, Now, you :	ed all configuration of basic an connect to Internet	
	Please click Finish to dose the W	izard	

Chapter 5 Advanced Configuration

5.1 Login

After your successful login, the R410 Router's setup page will appear. There are eight menus in the left menu bar: **Status, Wizard, Network, DHCP Server, Forwarding Rules, Security, Static Routing** and **System**. Click any one, and then you can configure the corresponding function. You can click each page's "Help" button to get more detailed explanations and instructions. To apply any setting you have altered on the page, please click the "Save" button. To clear the values you've entered on the page, click **Clear** button and re-enter values.



There are the detailed explanations for every function of the menus below.

5.2 Status

This page shows the R410 Router's current status. All information provided is read-only.

1) **LAN**

This field shows the current LAN port's MAC address, IP address and Subnet Mask.

2) WAN

This field shows the current WAN port's MAC address, IP address, Subnet Mask, Gateway and DNS Server: The type to connect to the Internet (PPPoE/Dynamic IP/Static IP) is showed on the right also. If PPPoE is chosen, the **Duration** button will be shown here while any user accessing the Internet. User can cut the connection by clicking the button. If user's host has not connected to the Internet, a **Connect** button will be shown here. User can establish the connection by clicking the button.

3) WAN Statistic

The current statistic information of the WAN port is shown here.

LAN			
	MAC Address:	00-07-EB-22-LD-90	
	un address:	102 158.1.1	
	Subret Mask;	255 215,200,0	
054N			
	MAC Address:	00-0A-00-22-10-99	
	Pladdronn:	67.145.238.5	Static P
	Gubriet Mask:	255,255,255,0	
	Genevay:	61.145.238 1	
	DINS Servicin	202,90,134 133 ,202	50,234,155
W4N	Statistics		
		Peceived	Cart
	hyter:	81,155	11 - 640
	Packets	400	::;
	Puining Trius	0.124(2) 00:08 (55 Ronoch
	Puining Tring:	0.11v(2) 00:09 (55 Rurroch

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5.3 Wizard

Please refer to Chapter 4 Internet Access.

5.4 Network



There are three submenus under the **Network** menu: **LAN**, **WAN** and **MAC Clone**. Click any of them, and you can configure the corresponding function. The detailed explanations for every submenu are provided below.

5.4.1 LAN Port Configuration

LAN Fort Conliguration	
This page is to conf LAN port.	ig, is the basic network parameters of the
MAC Address: IP Address:	DD-DA-DD-22-10-90 192 160 1.1
Oubriel Mask:	24 220 220 20 20 20 20 20 20 20 20 20 20 2
Save Help	· · · · · · · · · · · · · · · · · · ·

This page is to configure the basic network parameters of the LAN port.

- MAC Address: MAC address of the Router's LAN port. The value can't be changed.
- IP Address: IP address of the Router's LAN port. The gateway of all PCs on the LAN must be set to this IP address.

\Lambda Note:

If you have change the IP address of the LAN port, you must use the new IP Address to login the R410 Router.

Subnet Mask: Subnet Mask of the Router's LAN port, usually is 255.255.255.0. The Subnet Mask of all PCs on the LAN must be set to a same value.

⚠ Note:

If the new LAN IP address you set is not on a same subnet, the Virtual Server and DMZ Host will not take effect, until it is reconfigured correctly.

5.4.2 WAN Port Configuration

First, please choose the type (PPPoE/Dynamic IP/Static IP) to connect to the Internet. The default type is Dynamic IP.

The connection type you choose is dependent on the settings assigned by your ISP. The connection type you need to choose may differ from ISP as well as the service you applied for. If you are not sure which connection type you use currently, please contact your ISP to obtain the correct information.

 If you choose Dynamic IP, i.e. automatically get IP address from your ISP, you can see the page as follows.

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WON Tyre:	Dynamic I- 💌
series sclease	U
P Adress:	1 - A.M A.101
Subret Mask:	255.255.255.0
entraday:	7. (e. 11) e. (11)
☑ Use the following	_ DNO Servers
DNG Cerver:	202 96 104:000
Secondary ENS Ser	en: 202 90 234, 55 (options)
El Set 13 Mon Unio	ast DLCP (Ct's not needed usually)

The page shows the R410 Router's network parameters assigned dynamically by the DHCP server of your ISP, just like IP address, Subnet Mask, Gateway, etc. Click the **Renew** button, and you can update these parameters from the DHCP server. Click the **Rlease** button, and you can release IP configurations to the DHCP server. You can also set DNS server manually here.

A few ISP's DHCP server doesn't support broadcast application. If you can't get the IP address normally, you can choose the **Get IP with Unicast DHCP** option. (You needn't choose this option usually)

 If you choose Static IP, i.e. fixed IP address provide by ISP, the page will be shown as follow.

WON TYPE:	Static IP 🔳
(Pińddress)	01140.235.5
Sulr Mark:	255 255 255
Celevay:	61145.200.1 (options)
ENS Server:	202 St. 34, 33 (options)
Securidary ENS Server:	202 (etast.tes (options)

You should enter the following parameters:

- IP Address: The Router's WAN IP address, namely the IP address your ISP provides to you. Please consult your ISP if you have any question.
- Subnet Mask: The Router's WAN Subnet Mask provided by your ISP, usually is 255.255.25.0.
- Gateway: Optional, the IP address of the gateway provided by your ISP. Please consult your ISP if you have any question.
- DNS Server: Optional, the IP address of the DNS server, which is provided by your ISP. Consult your ISP if you have any question.
- Secondary DNS Server: Optional, if ISP provides you two DNS servers, input the IP address of another DNS server here.
- If you choose **PPPoE**, i.e. ADSL virtual dial-up service, you should enter the following parameters:

user Neme:	JSernaria
Pastword	***********
Pacine M. U	the state of the s
Eller is or i	fiel 😪 SP
the Lods rass specified	5× (SP
🗵 Use the following DA	IS serve is
DNS Semen:	212.90.134 133
Secondary DNS Server:	2 2002/34 188 (nmont)
lease choose the spear equirement:	анд зарреате с мосе, совор ор уси:
Connection Demand	
Mac L. Tim : discorrecty	rinnleé (Alore e s n o och
C Alle connection Car	rect outor randally ofter Eooled or
ohn u Buon Tost.	
C Manu Ivi mertiri.	then arrows our coarrows of
ion. ly.	
Max Iole Time: Iol disconnect)	minute(s) (0 means no auto-
Connect Discourse	ct.

Lipper Name: Input the upper name provided by your ISD. If you have

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User Name: Input the user name provided by your ISP. If you have any question, consult your ISP.

TL-R410

- Password: Input the password provided by your ISP. If you have any question, consult your ISP.
- Packet MTU: Input range is 576 -1492, the default value is 1492. Don't change it if unnecessary.
- Use IP address specified by ISP: If your ISP specifies an IP address for you, please select this option and input the IP address specified by your ISP.
- DNS Server: The DNS server's IP address assigned automatically by your ISP. You can also configure the DNS server manually.
- Secondary DNS Server: The secondary DNS server assigned automatically by your ISP. You can also configure the secondary DNS server manually.
- Connect on Demand: By choosing this mode, the R410 Router will connect to the internet automatically when there is any Internet access from LAN.
- Max Idle Time: For non-zero value T, the router will disconnect the network connection automatically after the router has idled for T minute(s). The setting only takes effect to Connect on Demand and Manually connecting.
- Auto-connecting: Under this mode, the R410 Router will connect automatically after booting. If the network connection is broken after connected, because of external factors, the Router will try to reconnect every a certain period (30 seconds) until connected successfully.

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Manually connecting: The Router must be connected or disconnected to Internet manually.

5.4.3 MAC Address Clone

This page is to configure the MAC address of the R410 Router's WAN

port.

This page is to configure the	e router's wANTAD address.
May address:	HILLING FREEZE 15:00
	so that Factory MAC
Your Folis HAC address:	00-00-40-60-00-06
	Cicne VAC Address

- MAC Address: The Router's MAC adddress of WAN port, which don't need to be changed usually. However some ISPs may bind the MAC address of your machine, then only the packets sent by this MAC address will be passed. You can input the MAC address that binded and click **Save** button. Then the WAN MAC address is cloned.
- Your PC's MAC address: The MAC address of the PC that is now browsing this page.
- Restore Factory MAC: Click this button to restore the MAC address of the Router's WAN port to the factory default value.
- Clone MAC Address: Click this button to copy the MAC address of current managing PC to the blank after MAC Address. Only the PCs on the LAN can use Clone MAC address function.

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Note:

If you click the Save button, the R410 Router will reboot.

5.5 DHCP Server

- DHCP Server
DHCP Service
• Client List
• Static Address

There are three submenus under the **DHCP Server** menu: **DHCP Service**, **Client List** and **Static Address**. Click any of them, and you can configure the corresponding function. The detailed explanations for every submenu are provided below.

5.5.1 DHCP Service

DI CP Service		
The routens built-right compute the TCP/CP set	Fiserber Bilowiyu. ting of your PCs in	Lo autometically LAN,
0.40 Solver Otartini, OP Audress: End to OP Address;	C Disatie ⊗ En 192.160.1 [10] 192.108.1 [20]	ele
1	1991681.2	(options)
Die aus Dumann Nemes Primely DNS Fervels	44-Hink John 202 St. 34, 33	(options) (options)
Securidary ENS Server:	20216.231.155	(options)
Sase Hulp		

The settings of TCP/IP include Host IP, Subnet Mask, Gateway, and DNS configurations. It is not an easy job to configure many computers on your LAN. Fortunately, DHCP provides a rather simple approach to handle all these settings. If you enable the R410 Router's DHCP server, it will

automatically assign the proper TCP/IP settings of the PCs on the LAN.

To apply this function, you should enter the following parameters:

- Starting address: The starting address loaded automatically by the DHCP server.
- Ending address: The ending address loaded automatically by the DHCP server.
- Gateway: Optional. Suggest to input the IP address of the LAN port of the Router, default value is 192.168.1.1.
- Default Domain Name: Optional. Input the domain name of your network.
- Primary DNS Server: Optional. Input the DNS server provided by your ISP. Or consult your ISP.
- Secondary DNS Server: Optional. You can input the IP address of another DNS server if your ISP provides two DNS servers.

Note:

To use the DHCP server function of the R410 Router, you must ensure that all the computers on the LAN work as "**Obtain an IP address automatically**" mode. This function will take effect after rebooting the router.

5.5.2 Client List

	Lices	MAD Address	1P Abdress	Leese Time
1		00-00-40-60-00-06	192 16000	20:59:40

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This page shows the information of the LAN client hosts, whose IP addresses are assigned by DHCP.

- Index: The index of the client hosts.
- MAC Address: The MAC addresses of the client hosts.
- IP Address: The client hosts' IP addresses assigned by DHCP.
- Lease Time: The time that DHCP client hosts can use the IP addresses assigned by Router's DHCP server. Before the time is up, DHCP client hosts will request to renew the lease automatically.

5.5.3 Static Address

he DI	CP server.	
10	MAC Address	1F Address
-	00-ED-40-69-76-40	192,160,1 169
	IN HER ONLY 11H	192.168.1 170
2	00-ED-40-69-76-50	192,160,1 171
4	00-ED-40-09-70-5L	192,108,1 172
	ILLE F 100 090 76 564	192.168.1 173
5	00-ED-40-69-76-50	192,160,1 174
7		197.168.1
=		192.168.1

The R410 Router provides static IP address assignment to control the IP addresses of the PCs on the LAN better. The static IP address assignment table can obligate static IP addresses for the PCs with specified MAC addresses. When the PC applies for IP address, the DHCP server will assign the obligated IP address to it.

MAC Address: The MAC address of the PC that will have obligated

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IP address.

IP Address: Obligated IP address.

Note:

The function won't take effect until the Router rebooting.

5.6 Forwarding Rules



There are three submenus under the **Forwarding Rules** menu: **Virtual Server**, **Special App** and **DMZ Host**. Click any of them, and you can configure the corresponding function. The detailed explanations for every submenu are provided below.

5.6.1 Virtual Server

The Virtual Server function allows you to set up public services that can be accessed by external users on the Internet, such as a web address, Email and FTP etc. Each service provided by a dedicated network computer (server) is configured with a fixed IP address. Although the internal service addresses are not accessible directly for the external user, the R410 Router is able to identify the service requested by the service port number and redirects the request to the appropriate internal IP address.

Note:

To use this function, it is recommended that you have to use a fixed Public IP address from your ISP.

You should enter the following parameters:

- Service Port: When users from the Internet make certain requests on the given Service Port, the Router can forward those requests to the specific computers.
- IP Address: The IP address of the computer specified as server on the LAN.
- Protocol: The protocol (TCP/UDP/ALL) used by the server.
- Enable: The rule will be realized only after you choose this option.

The R410 Router provides some common service ports in the list box of the service port. You can choose one of them and click the "Copy to" button to copy the provided service port to the vitual server table above. You can also add the port manually if it isn't in the list box.

For example: If you have an FTP server (port 21) at 192.168.1.2, a web server (port 80) at 192.168.1.3, and a POP3 server (port 110) at 192.168.1.6, you need to specify the following virtual server mapping table:

Virtual server can b	e used to set up pu	IC IC SEMPIDES	on your
on 21 - router the	IS IFOR CHEME	to the sound	ed (C in
LAN			
T. Service Port	"P Address	Protoca	Enabl=
2	192 1 18 7	TOP -	P
2 80	102 158.1. 5	4L. •	P
J 1.J	192 150	TOP 🔳	F
1	1991187.	4	
	. In the second	_	

Note:

If you set the Virtual Server with service port 80, you must set the web management port in the **Web Access** of **Security** to be any value except 80 such as 8080. Otherwise there will be conflict to disable the virtual server.

5.6.2 Special App

Our electrications regulateriation table connections, like internet transes, y deo	
contersnong, Internetite echony and so on, Due to the mewell function, these applications can not work work pure fIAT router. Special applications make some of these applications to work with 1471 router.	
Trigger Trigger including Port & rupe informing — the Port Protoco including Port & rupe Protoco	:
. 7175 ALL 🗉 51200,51201,51210 ALL 💌 🕅	
2 112 4 • 612 A • 8	
2 4L - A.L -	
4 4	
б 4L А.L - П	
8 44	
spular Applications: Dispadine Copy to 10 11	
Sase Clear Hup	

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Some applications require multiple connections, like Internet games, video conferencing, Internet telephony and so on. Due to the firewall function, these applications can't work with pure NAT Router. Special Application makes some of these applications to work with NAT Router.

To enable this function, you should configure the following items:

- Trigger Port: The port number to trigger the opening of Incoming Port Range.
- Trigger Protocol: The protocol of Trigger Port.
- Incoming Port Range: When the trigger packet is detected, the inbound packets to the specified port numbers are allowed to pass the firewall so that the according special application can work. You can input a single port, or input at most 5 groups of ports (or port section). The format of group is **starting port-ending port**. All groups of ports must be apart with comma (","), for example: 2000-2038, 2050-2051, 2085, 3010-3030.
- Incoming Protocol: The protocol of Incoming Port Range.
- Enable: The rule configured in this item takes effect only after you choose this option.

5.6.3 DMZ Host



In some special situations, you need to expose one PC on the LAN to the Internet to realize 2-way communication. You can specify the PC to be the DMZ host.

Follow the steps to set the DMZ host: Input the IP address of the DMZ host, choose **Enable** option, then click **Save** button to realize the setting.

Note:

If you set the DMZ host, the firewall related to the IP won't work.

5.7 Security

Security • Firewall • DNS Filter

- MAC Filter
- Web Access
- Ping

There are five submenus under the **Security** menu: **Firewall, DNS Filter, MAC Filter, Web Access** and **Ping**. Click any of them, and then you can configure the corresponding function. The detailed explanations for every submenu are provided below.

5.7.1 Firewall

To take more control of your LAN PCs, you can allow or deny your PCs to access certain Internet hosts by setting packet filter.

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Follow the steps to set the firewall:

- 1) Click the **Firewall** submenu.
- 2) Choose **Enable Packet Filter** option to make this fuction active.
- 3) There are two options: Allow all to pass except those match the following rules and Deny all to pass except those match the following rules, choose the one you need.
- 4) In the LAN IP column, input the IP address of the PC on the LAN. Empty means to control all of the PCs on the LAN. You can also input an IP address range, for example 192.168.1.20-192.168.1.30.
- 5) In the LAN Port column, input the service port of the PC on the LAN. Empty means to control all service ports of the PC. You can also input a service port range, for example 1030-2000.
- 6) In the WAN IP column, input the IP address of remote host in the Internet, which needs to be controlled. Empty means to control all the remote hosts. You can also input an IP address section, for example 61.145.238.6-61.145.238.47.
- 7) In the WAN **Port** column, input the service port of remote host on the Internet. Empty means to control all service ports of the host. You can also input a service port range, for example 25-100 or 25,110.
- Choose the protocol used by the controlled packet. If you want the packets matching this rule pass the router, choose the **Pass** option, otherwise deny.
- 9) Choose **Enable** option and click **Save** button.

For example, if you want the PC with IP address 192.168.1.7 on the LAN can't receive and send email, the PC with IP address 192.168.1.8 can't visit the website of IP 202.96.134.12, while other PCs can do, you should specify the following packet filter table:

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This page is	-n titer the	היידיני איז איזייני	TTA F.C.s	1163 m	ectes	s Trhe	het.
Nute Facre passed And	ts matching I packats will	these releasivity of The dropped if me	ass dieu tering ru	koukisele Iosiwitho	etella ut as	e II de se selec	tod
E Er actor →	adres Filter						
 	to pass and to pass extra	epichecon ach e sptithose meter f	e fotos e fotos	ing reles. Intimited			
D LAN.	ort	AVAN 1.1	1 pro	I rotacal	Pass	Enable	L'elate
ю цам. 1 <u>192,150,1</u>	or:	WAN 17	1 ort \$5,110	i otacal	Poss П	Enable IZ	L'elste
D LANI 1 <u>1-2.150.1</u> 2 1.2.118.1	ог: ./	ASA 11	1 ort 25.110	i otecel ALL - ALL -		Enable IZ IZ	L'elste
10 LANI 1 <u>192,150,1</u> 2 <u>1,2,118,1</u> 3	ог: ./	A(A), 10 212/01/13/15	1 ort 25.110	I rotecel ALL - ALL -		Etable R D	
10 LANI 1 <u>1-2.150.1</u> 2 <u>1.2.118.1</u> 3	./	WAN 11	1 pr: 25.110	ALL - ALL - ALL - ALL - ALL -		Eracia P D	
10 LAN. 1 <u>1-2.150.1</u> 2 <u>1.2.118.1</u> 3 5		WAN 11	1 pr: 25.110	ALL - ALL - ALL - ALL - ALL - ALL -			
10 LAN. 1 <u>1-2.150.1</u> 2 <u>1.2.118.1</u> 3 5 6	or: ./	212 01 131 15	ort <u> </u>	ALL • ALL • ALL • ALL • ALL • ALL • ALL •			
10 LAN. 1 <u>1-2.150.1</u> 2 <u>1.2.118.1</u> 3 5 6 7	or: 	202 01 131 15	or: 25.110	ALL - ALL - ALL - ALL - ALL - ALL - ALL - ALL - ALL -			

5.7.2 Domain Name Filter

Domain Name Filter let you prevent LAN users from accessing specific domains.

Follow the steps to set the DNS Filter:

- 1) Click the **DNS Filter** submenu.
- 2) Choose Enable Domain Name Filter option to make this fuction active.
- 3) In the Domain Name column, input the Domain name to be filtered, or a part of it. Empty means all websites are prohibited. If you input a string (case insensitive) here, the PC on the LAN can't visit all websites including that string.
- 4) Choose **Enable** option and then click **Save** button.

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For example, suppose you want the PCs on the LAN can't visit **www.yahoo.com** and **www.sohu.com**, and all the websites ending with **.NET**, you need to specify the following Domain Name Filter table:

Domain N from acce	lame Niter let you prevent users und issing specific comains	der this router
🗵 enable	e Du naim Namu Filcer	
i.	Consin Nan C	Ender
1	www.sohu.com	P
2	exectsahoo com	M
3	3122	P
1		
5		
ú		П
7		
0		

5.7.3 MAC Filter

The MAC Filter function allows network administrators to use the MAC addresses of PCs to restrict users/computers from accessing the Internet.

Follow the steps to set the MAC address filter:

- 1) Click the **MAC filter** submenu.
- Choose Enable MAC Address Filter option to make this function active.
- 3) There are two options: Only those PCs with MAC address matching the following settings can access the Internet and All other PCs can access the Internet, except those matching the following settings, choose the one you need.
- 4) In the **MAC Address** column, input the MAC address of the PC.
- 5) In the **Description** column, input the simple description of the PC.

6) Click **Save** button.

For example, if you hope that all PCs on the LAN can access the Internet, except the PCs with MAC address 00-E0-4C-00-07-BE and 00-E0-40-4C-00-07-5F, you need to specify the following MAC Address Filter table:

access Internet	et you strictly restrict Pils	ein vour LAN to
🗏 - T.Elo Vett address, Filu		
C On others, State T MAR	internet materiale for the	tilox to
efficies and a reaction of		
R A Pils ren actess	ptemet, excern those r	natro no tos
fillowing settings		-
III MeLedaras	POSCIET TD	
1 JULED 40: 00: 07: 6E	היא מחומי צ'ח	R
1 <u>ПЕНЕНСКО ПЕНЕТА</u> 2 00-00-40-00-07-51 Jul	n's conplication In's constituer	N
1 00 E0 40:00 07 EE 07 2 00-00-40-00-07-51 Jul 3	n's conplication Infs conceller	
1 <u>01 E0 40 00 07 EE 07</u> 2 00-00-07-01 Jul 3	n's conputer Infs concluser	

5.7.4 Web Access

Web Access Control	
This page is to configure the web servic the IF address of the FC mickAN which pages remotely	e cort of the router and carriabless the web
Nume: 1 The tells towardservice portion and that use if the tells towards use if the tells towards the NUM (192,160,16,10,10) were. This for doin with take a fee 2. This for doin with take a fee 2. The tells the rules of the rules is 0,100 outh other four the rules outhers (for a rule thange to PC with specifies 10 address in 1,200 96,12,30 cm four four the rules is 1,250 cm 1,2 m the rules is 1,250 cm 1,2 m the rules.	ul the rule of is no 10, 11 side poil () on skall ple (POPT for national to four the rule of the table rebooting, ageins 1, 12 address of all POS in Walthant Lis Machinar general, 12 Machinar ageiner 12 (2023;51:20), only the Walt, (for example and the removement 255:255:255, all PO
Web Cervice Fort:	
Periodal Web Manageri and DI Address:	1.00.1
Save Fulp	

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This page is to specify the web service port of the R410 Router and the IP address of the PC on the WAN that can access the web pages remotely.

- Web service Port: The service port of Router's Web server.
- Remote Web Management IP Address: IP address of the PC on the WAN that can access Web pages remotely.

The default Web service port of the Router is 80. If you change the default web service port (for example change to 88), you must use IP: PORT format (for example http://192.168.1.1:88) to login the Router's Web server. This function will take effect after reboot.

The default remote Web management IP address of the Router is 0.0.0.0 and all PCs on the WAN can't login the Router to operate remote Web management. If you change the default remote Web management IP address (for example change to 202.96.12.8), only the PC with specified IP address on the WAN (for example 202.96.12.8) can login the R410 Router. If the remote Web management IP address is 255.255.255.255, all PCs on the WAN can login the Router.

5.7.5 Ping

Ριιφ	
Ignore Ping Patkers From WON	N
Pronicit Fing Fackats From UAN	 Celeric egenistisorie viruses)
Sabe Hulp	

This function allows you to prohibit the ping packets from LAN ports or WAN port of the R410 Router.

- Ignore Ping Packets From WAN: Enable this function, the Router will not response to the Ping requests from the WAN.
- Prohibit Ping Packets From LAN: After enable this function, no Ping packet can pass through the Router from the LAN to the WAN.

5.8 Static Routing

- Static Routing

Static Route Table

There is only a **Static Route Table** submenu under the **Static Routing** menu. Click it, and you can configure the Static Routing function. The detailed explanations for the configuration of Static Routing are provided below.

5.8.1 Static Route Table

Olalu: Por ru	ute Table Is page is ta carti uter	, re the station of	ung miller nation o	ol Ure
ID.	Destination IP	Subnet Mask	Ostaway	Enable
1	202 178.37.42	215, 255 255 1	202.05.37.1	E
2	192 150104	IBE. 255 255 I	152501	E E
С				
1				
5		1		
0				
7				
0		1		
clear	Suco Help			

This page is to configure the static routing information of the R410 Router. You can set eight rules of Static Routing.

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- Destination IP: The IP address of the network or PC you want to access.
- Subnet Mask: The Subnet Mask of the network or PC you want to access, the default value is 255.255.255.0.
- Gateway: The IP address of the Router or PC that packet is sending to. The IP address must be on a same subnet with the Router's WAN or LAN port.
- Enable: Choose this option to make the Static Routing rule active.

5.9 System



There are six submenus under the **System** menu: **Firmware Upgrade**, **Restore Default**, **Reboot**, **Change Password**, **Log** and **Statistic**. Click one of them, and you can configure the corresponding function. The detailed explanations for every submenu are provided below.

5.9.1 Firmware Upgrade

Upgrade thair	outer's firmware, you may get new functions	
File Name: TTTP Cerver IP	r4 Tc3.hin	
Filmware vers Heirt ware Ver	ion (2.2. Built 040227 89.5 927) 5 7 : 841023 78560072	
Note: Please (hardware whe router during damaged, it y ungrad to, the	thoose the firm ware eccordent with the current an you upgrade the firm ware. Don't do yer off the upgrading, otherwise the router will be ill take about 20 seconds to upgrade. After the a router will recoot eutomatically.	

This setting page allows you to upgrade the latest version firmware to keep your R410 Router up-to-date.

Follow the steps to upgrade the firmware of your Router:

- Download the latest version firmware from our website: http:// www.tp-link.com.
- 2) Set a PC on the LAN to TFTP server, and put the firmware file into the service folder on the TFTP server.
- 3) In the **File Name** column, input the file name of the firmware.
- In the TFTP Server IP column, input the IP address of the TFTP server.
- 5) Click **Upgrade** button to upgrade the firmware. After upgrading, the R410 Router will reboot automatically.

Caution:

Don't power off the R410 Router during upgrading, otherwise the Router will be damaged.

5.9.2 Restore Default

0	cloth sibutton to restore all settings of the router to factory
d	lefault
1	Restore Factory Denault

Click **Restore Factory Default** button to restore the factory default settings of the R410 Router.

Please pay attention to the following default values:

- Default User Name: admin
- Default Password: admin
- Default IP Address: 192.168.1.1
- Default Subnet Mask: 255.255.255.0

After restoring, the R410 Router will reboot automatically.

5.9.3 Reboot

eboo. Poulei	
C d; this button to report the router	
Reboot	
H_ 1	

Click **Reboot** button to reboot the R410 Router. During rebooting, you can see the page as follow:

eboo.		
	Poblicing	
	Please way .	

5.9.4 Change Password

This page is to change the us system administratory	er's name and cassword of the
Uter Name: Ressword	admin
New User Name	user
Neo Pessoworu:	7777
Continue Aux Factories	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

This fuction allows user to change the user name and password as the system administrator. Please input your original user name and password first, then input your new user name and password. Input the new password again in the **Confirmed New Password** column. Click **Save** button and the user name and password will be changed.

Caution:

For security reasons, it is strongly recommended that you should change the default user name and password. If you forget the password, please restore the factory default setting of the R410 Router.

5.9.5 Log

. CCCC Syste	
	m Router indicator succeed.
3 COS DHC1	C Sending DHCT discover.
a LUJE DHY	di Tri e but in wating für DHC rolfer, he tend 2+CP discover
4 LU11 D IV-	of the eact in waiting for DHC+ offer, re-send of CP discover
: UC26 D 10-	of the e-but in waiting for DNC+ offer, re-served CP disposer
1.57 10.004	d. The early in waiting for DDG- offer, ressence to CP us a ser
7 DOSE DUDE	 To evolution water of a DHCF offer ressence 3. CP as a ser-
 1072 DHC4 	C. Time-but in waiting for PHCF often re-send CHCP distored
p 172.108	Sumpleth): 1d 117:0000 00:0030103.108.10; 11100: cond_chep(ACK) denc
C 1031 040 p=1-2.1cJ	Strepped(): ad 1 LatUau Sciuszius,105.108.10; 1.100: ser d_chap(AtUa) dans
p=152.160	Construct(): def xt0-04x tote14%.intta0; UCO: send chap(A.D) fone
2 TOBE DHC4	C. Time-but in waiting for PHCP often re-send CHCP distover

This function allows you to trace Internet connection by viewing the Log information.

5.9.6 Statistic

TO KT	horneo: Tri	Here cort 3	Civitat en	uritor or	a halfaa	ie met e s	t.241 ()
uchicles=o, ⊄	officitina (L. V.	.) 🗔	🖲 -н т К	>	a./c		
for the provide	*	A.t	⊐ teater a	1	ต่ำสุดๆ		
	T-1-	1	CL TEDT				
th Address	Tex et	5.720	Fa:kot	6+00	:04175	JENTO	1:10

This page shows the network traffic of each PC on the LAN, including total traffic and traffic of last 10 seconds.

There are two parameters you can configure:

- Count network traffic time: The period (10 seconds as default) to count the current network traffic.
- > IP Address: The IP address of the PC that is monitored.

In the flow Statistic table, you can see the following items:

- Packet (Total): The total amount of packets received and transmitted by the Router.
- Byte (Total): The total byte amount of bytes received and transmitted by the Router.
- Packet (Current): The total amount of packets received and transmitted in last 10 seconds.
- Byte (Current): The total byte amount of packets received and transmitted in last 10 seconds.
- ICMP Tx (Current): The amount of the ICMP packets transmitted to the WAN in last 10 seconds.
- UDP Tx (Current): The amount of the UDP packets transmitted to the WAN in last 10 seconds.
- TCP SYN Tx (Current): The amount of the TCP SYN packets transmitted to the WAN in last 10 seconds.

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Annex Trouble Shooting

This section provides solutions to problems you may encounter during installation and operation of your R410 Router. If your situation is described here, applying the corresponding solution should approach the problem.

1. I can't connect to the R410 Router to configure it.

Check the following:

- Check if the R410 Router is installed properly and powered ON, and check if LAN connections are OK.
- Check if your PC and R410 Router are on the same subnet. If not sure, you can initiate the DHCP function, let the PC get the IP address automatically.
- Ensure that your PC is using an IP address within the default range from 192.168.1.2 to 192.168.1.254.
- 4) Ensure that the Subnet Mask is set to 255.255.255.0.

2. I can't browse through the R410 Router.

Check the following:

- Ensure both ends of the network cable and power adapter are connected properly. Check if the M2 LED on the front panel is ON.
- Check the TCP/IP setup on the client side. The IP address of the PC should be 192.168.1.xxx ("xxx" is from 2 to 254.), and the Subnet Mask should be 255.255.255.0. The default gateway IP

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should be the Router's LAN IP address, and DNS is set correctly.

 Check the same setup values in the Status page of the R410 Router.

3. When I enter a URL or IP address I get a time out error. Check the following:

- Check if other PCs work. If they do, ensure that your PCs IP settings are correct. If using a Fixed IP address, check the Network Mask, Default gateway and DNS as well as the IP address.
- 2) If the PCs are configured correctly, but still don't work, check the Router. Ensure that it is connected and ON. Connect to it and check its settings. If you can't connect to it, check the LAN and power connections.
- If the R410 Router is configured correctly, check your Internet connection to ensure it is working correctly.

4. I can't obtain an IP address from my cable/DSL modem.

- Ensure that all of your cabling is connected properly and all of the Router's WAN and LAN LEDs are illuminated correctly.
- Power off your cable/DSL modem for a few seconds. Turn it on. After the modem goes through its self-test, check if you have an IP address now.
- 3) Ensure that your cable/DSL modem is compatible with DHCP.
- 4) Your ISP may require MAC address. Check with your ISP. This

address can be obtained in the **Status** screen of the R410 Router's web-based UI.

5. Some applications do not run properly when using the R410 Router.

The R410 Router processes the data passing through it, so it is not transparent.

Use the **Special Application** feature to allow the use of Internet applications that do not work correctly.

If this can't solve the problem, you can use DMZ function. It can work with almost every application, but the firewall is disabled when it works, and only one PC can use this feature.