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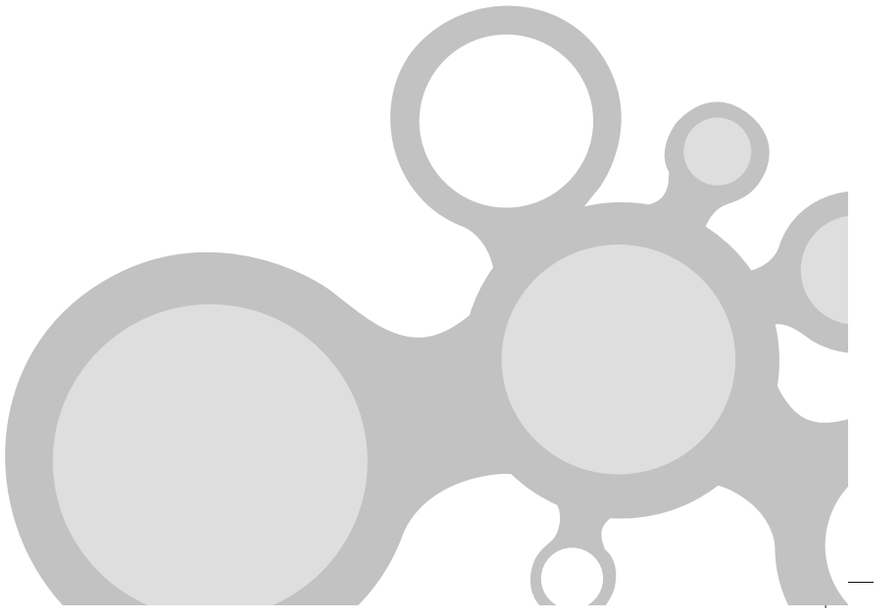
TP-LINK®

User's Guide

TL-R410

Multifunctional Broadband Router



TP-LINK®

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Rev 1.0

Table of Contents

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.

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

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 (10 0Base-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

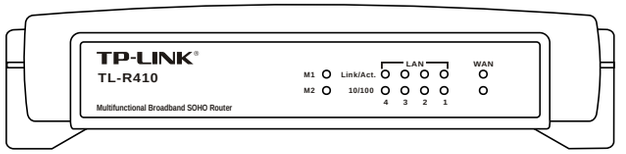


Figure 3-1 Front Panel of the R410 Router

LED Indicators

LED	Description	Function	Remark
M1	Router status indicator	Steady on when Router has a Hardware error	M1 and M2 flash Simultaneously when the Router is restoring the factory default Settings
M2	Router status indicator	Steady on when Router works properly	
Link/Act	WAN and LAN status indicator	Steady on when the Ethernet link exists Blinking when data is flowing through the port	
10/100M	WAN and speed indicator	Steady on when the port is in the 100M mode Steady off when the port is in the 10M mode	

3.1.2 The Rear Panel

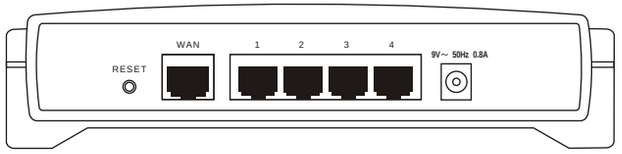


Figure 3-2 Rear Panel of the R410 Router

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.

4) **Ports 1-4:** LAN ports (RJ45) for connecting your PCs or Hub/ Switch.

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 twisted-pair 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.

1) Power everything off, including your PCs, your Cable or DSL Modem and the R410 Router.
2) Connect the PCs and each Switch/Hub on you LAN to the LAN Ports on the rear of the Router.
3) Connect the DSL /Cable Modem to the WAN port on the rear of the Router.
4) 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.

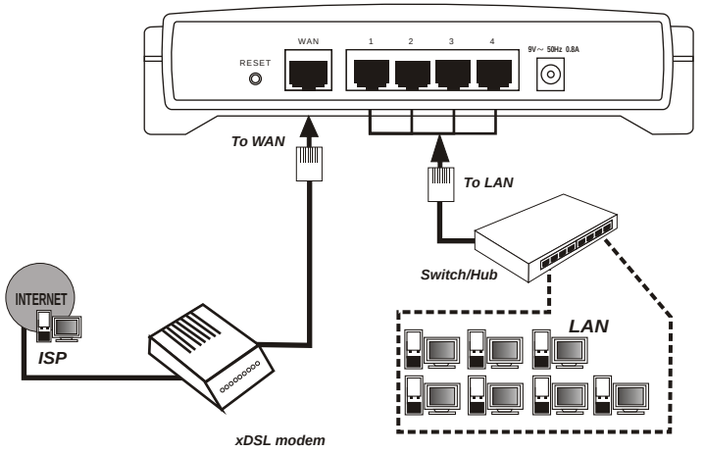


Figure 3-3 Physical Installation of the R410 Router

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

1) To set up the TCP/IP Protocol for the PCs, which need to be configured IP address.
2) 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.

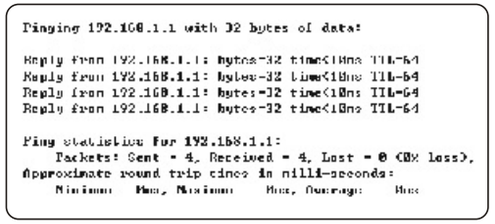
1) Configure your PCs, which need to be assigned IP addresses, in **Obtain an IP address automatically** mode.

2) 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.

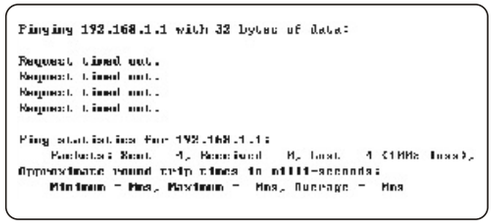
At the DOS command prompt, type **ping 192.168.1.1**, press **Enter**.

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



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

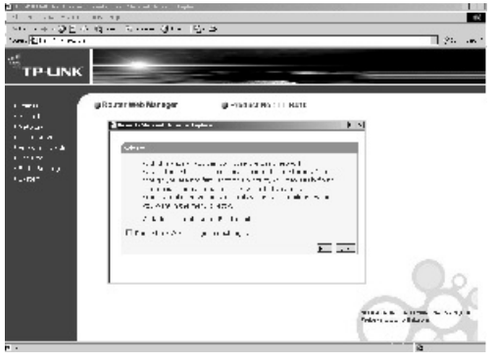
With a web-based UI (User Interface), the R410 Router is easy to setup and maintain; all functions can be configured via a web browser such as Netscape Communicator and Internet Explorer on any Windows, Macintosh or UNIX OS.

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

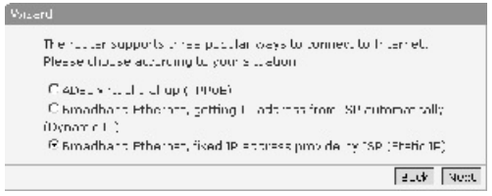
Type **http://192.168.1.1** in the browser's address box and then press **Enter.**

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.

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.)

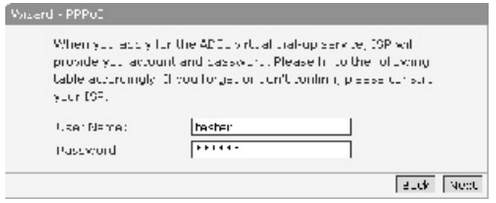


Click **Next** button, the page to choose the type of accessing to the Internet will appear as follows.



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.

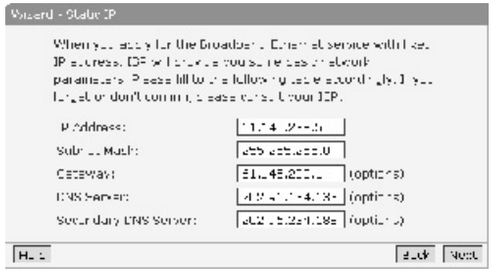
1) If you choose **PPPoE**, i.e. ADSL virtual dial-up service, you should enter the following parameters:



- 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.

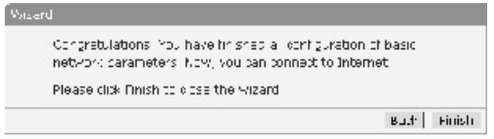
2) If you choose **Dynamic IP**, i.e. automatically get IP address from your ISP, your host can connect to the Internet straight, without entering any parameter.

3) If you choose **Static IP**, i.e. fixed IP address provided by ISP, you should enter the following parameters:



- 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 255.255.255.0.
- 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.



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**

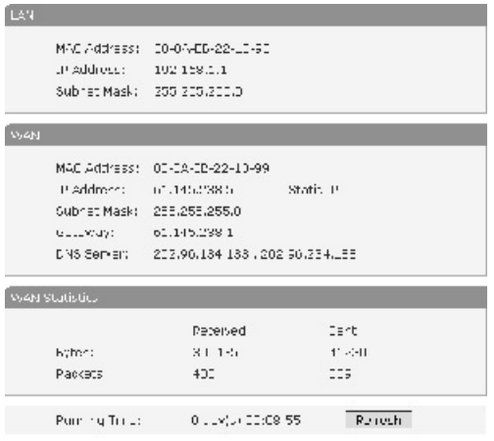
This field shows the current LAN port's MAC address, IP address and Subnet Mask.

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.



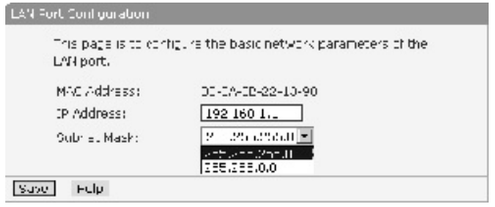
5.3 Wizard

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



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.

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:

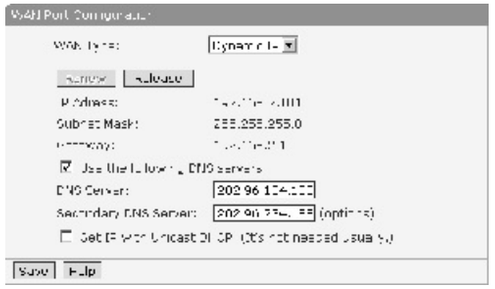
If the new LAN IP address you set is not on a same subnet, the Virtual Server and DMZ Host will not take effect, until it is re-configured correctly.

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.

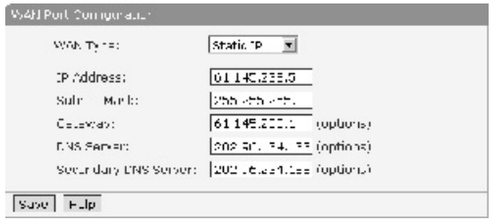
1) If you choose **Dynamic IP**, i.e. automatically get IP address from your ISP, you can see the page as follows.



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 **RIease** 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)

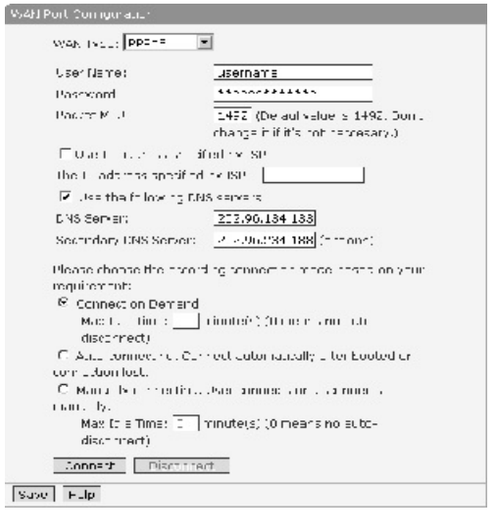
2) If you choose **Static IP**, i.e. fixed IP address provide by ISP, the page will be shown as follow.



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 255.255.255.0.
- 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.

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

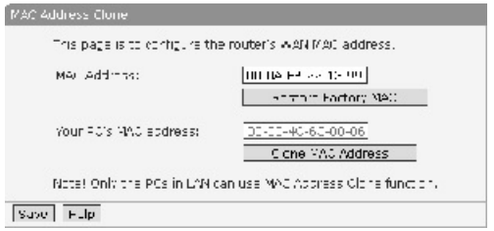


- User Name: Input the user name provided by your ISP. If you have any question, consult your ISP.
- Password: Input the password provided by your ISP. If you have any question, consult your ISP.
- Packet MTU: Input range is 576 -1492, the default value is 1492. Don't change it if unnecessary.
- Use 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 re-connect every a certain period (30 seconds) until connected successfully.

- 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.



- 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.

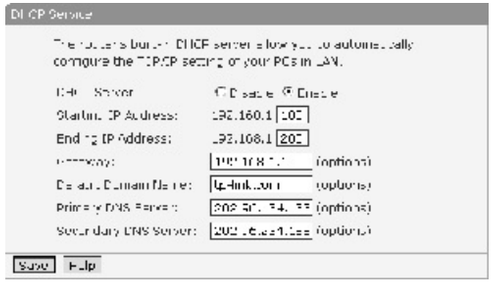
Note:

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

5.5 DHCP Server

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



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.

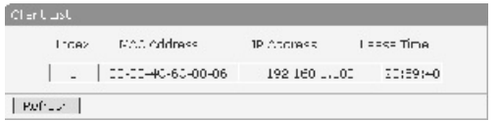
To apply this function, you should enter the following parameters:

- 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.

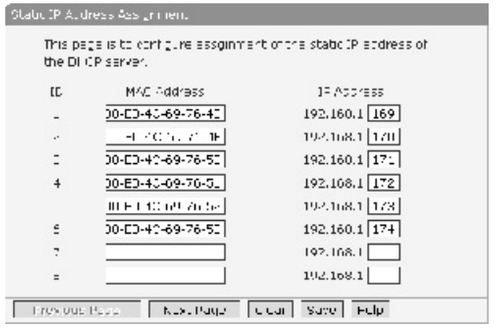
5.5.2 Client List



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



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

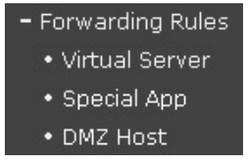
IP address.

- 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:

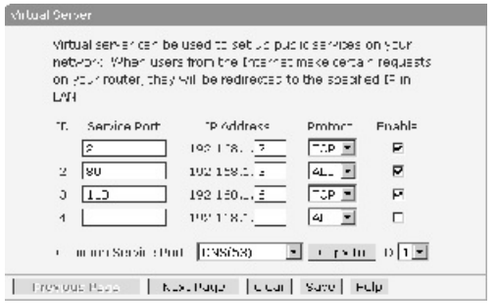
To use this function, it is recommended that you have to use a fixed Public IP address from your ISP.

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.

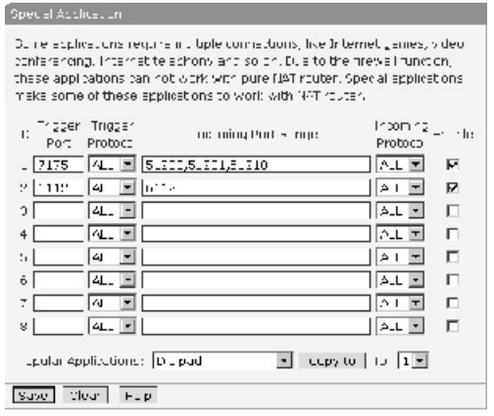
For example: If you have an FTP server (port 21) at 192.168.1.2, a web server (port 80) at 192.168.1.3, and a POP3 server (port 110) at 192.168.1.6, you need to specify the following virtual server mapping table:



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

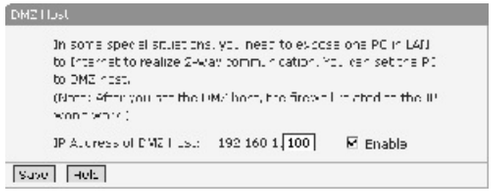


Some applications require multiple connections, like Internet games, video conferencing, Internet telephony and so on. Due to the firewall function, these applications can't work with pure NAT Router. Special Application makes some of these applications to work with NAT Router.

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

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.

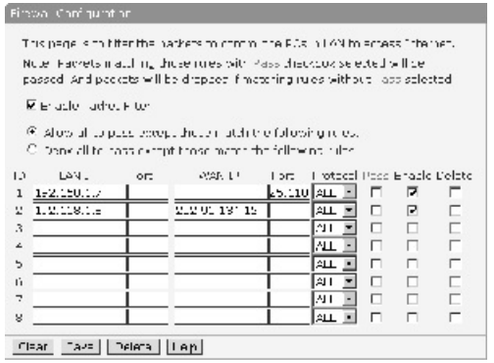
5.7.1 Firewall

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

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.
8) 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:



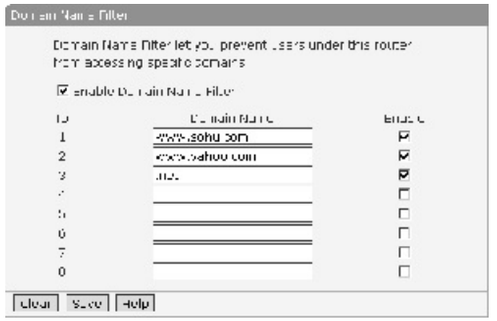
5.7.2 Domain Name Filter

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.

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:



5.7.3 MAC Filter

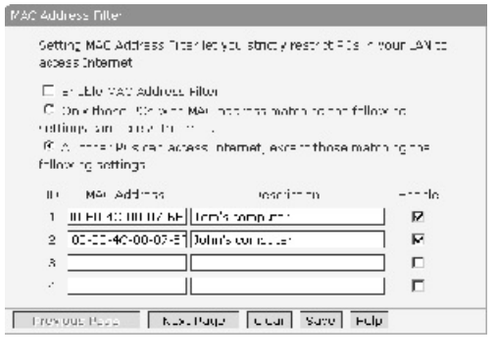
The MAC Filter function allows network administrators to use the MAC addresses of PCs to restrict users/computers from accessing the Internet.

Follow the steps to set the MAC address filter:

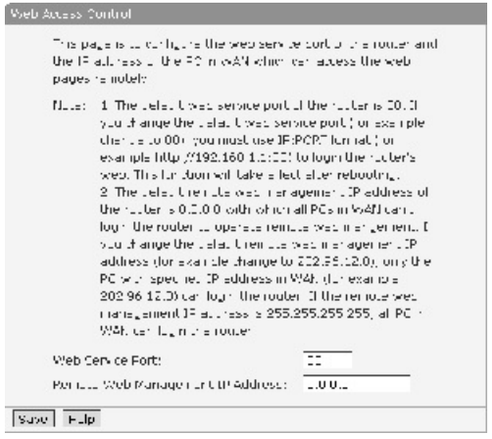
1) Click the **MAC filter** submenu.
2) Choose **Enable MAC Address Filter** option to make this function active.
3) There are two options: **Only those PCs with MAC address matching the following settings can access the Internet** and **All other PCs can access the Internet, except those matching the 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:



5.7.4 Web Access



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.

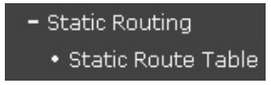
The default remote Web management IP address of the Router is 0.0.0.0 and all PCs on the WAN can't login the Router to operate remote Web mangement. If you change the default remote Web management IP address (for example change to 202.96.12.8), only the PC with specified IP address on the WAN (for example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

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

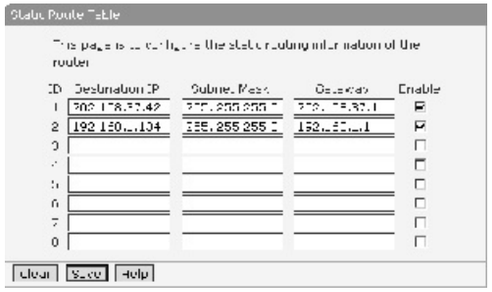
- Ignore Ping Packets From WAN: Enable this function, the Router will not response to the Ping requests from the WAN.
- Prohibit Ping Packets From LAN: After enable this function, no Ping packet can pass through the Router from the LAN to the WAN.

5.8 Static Routing



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



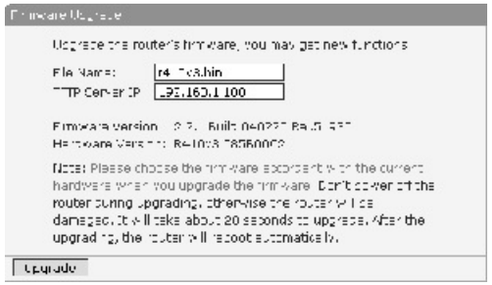
This page is to configure the static routing information of the R410 Router. You can set eight rules of Static Routing.

- 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



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

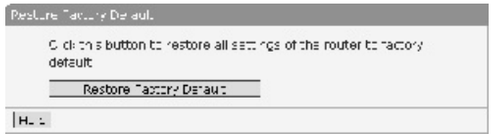
Follow the steps to upgrade the firmware of your Router:

1) 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.
4) 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



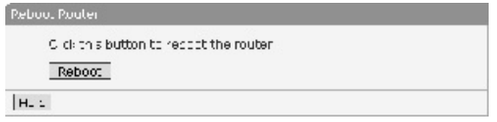
Click **Restore Factory Default** button to restore the factory default settings of the R410 Router.

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

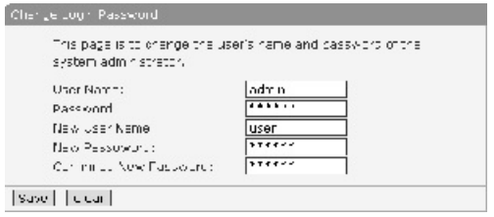
After restoring, the R410 Router will reboot automatically.

5.9.3 Reboot



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

5.9.4 Change Password

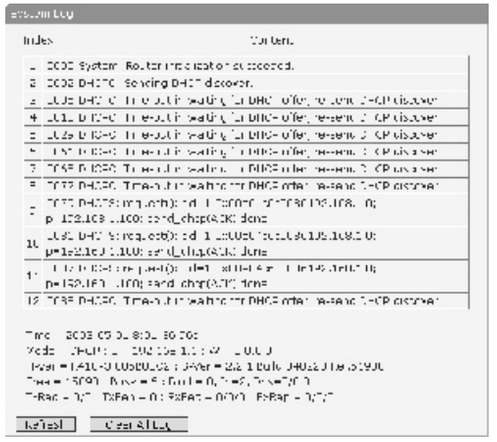


This fuction allows user to change the user name and password as the system administrator. Please input your original user name and password first, then input your new user name and password again in the **Confirmed New Password** column. Click **Save** button and the user name and password will be changed.

☞ **Caution:**

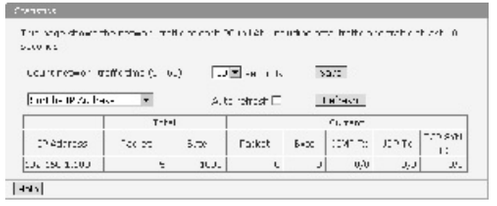
For security reasons, it is strongly recommended that you should change the default user name and password. If you forget the password, please restore the factory default setting of the R410 Router.

5.9.5 Log



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

5.9.6 Statistic



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.

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:

1) Check if the R410 Router is installed properly and powered ON, and check if LAN connections are OK.
2) 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.
3) 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:

1) Ensure both ends of the network cable and power adapter are connected properly. Check if the **M2** LED on the front panel is ON.
2) 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

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

3) 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:

1) 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.

3) 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.

1) Ensure that all of your cabling is connected properly and all of the Router's WAN and LAN LEDs are illuminated correctly.

2) 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.