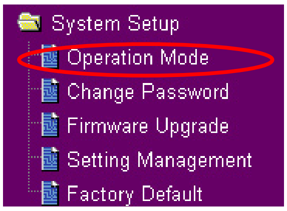
# 4. Wireless router features

This chapter provides setup examples of some frequentlly used router features. You can setup these features via your Web browser.

## 1) Choosing an appropriate operation mode



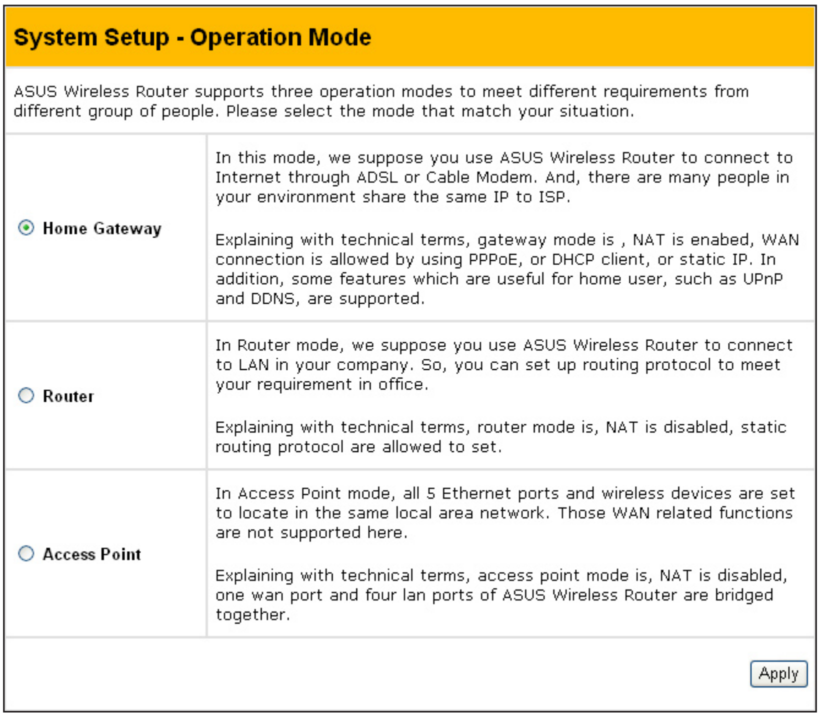
ASUS WL-500gP Wireless Router supports three operation modes: home gateway, router, and access point. Click **System Setup -> Operation mode** to open the configuration page.

**Home gateway** mode is for home or SOHO users who want to connect to their ISPs for Internet services. In this operation mode, NAT, WAN connection, Internet firewall functions are supported.

**Router** mode is for office use where multiple routers and switches co-exist. You can set up routing policies in this mode; however, NAT function is disabled.

**Access point** mode works when you setup WL-500gP as a wireless bridge. In this mode, all Ethernet ports on WL-500gP (4 LAN ports and 1 WAN port) are recognized as LAN ports. WAN connection, NAT, and Internet firewall functions are disabled in access point mode.

Select a proper mode which complies to your network senario and press **Apply** button, and then you can continue to setup advanced features for your WL-500gP.



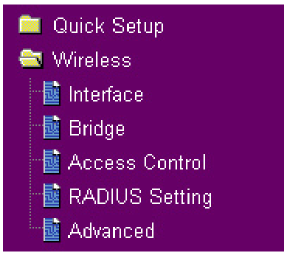
System Setup - Operation Mode

ASUS Wireless Router supports three operation modes to meet different requirements from different group of people. Please select the mode that match your situation.

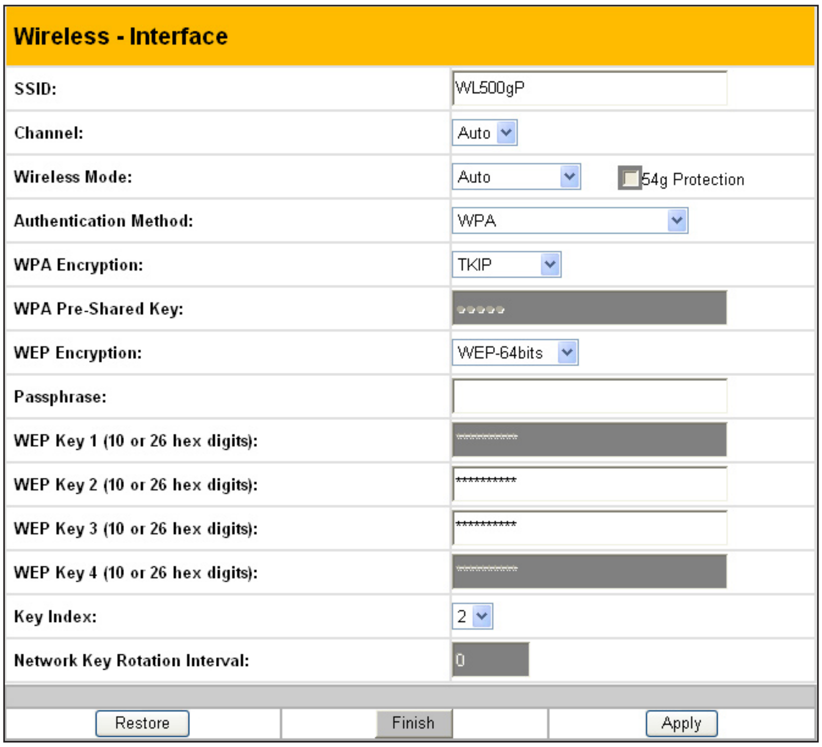
| | |
|---|---|
| ● Home Gateway | In this mode, we suppose you use ASUS Wireless Router to connect to Internet through ADSL or Cable Modem. And, there are many people in your environment share the same IP to ISP.<br>Explaining with technical terms, gateway mode is , NAT is enabed, WAN connection is allowed by using PPPoE, or DHCP client, or static IP. In addition, some features which are useful for home user, such as UPnP and DDNS, are supported. |
| ○ Router | In Router mode, we suppose you use ASUS Wireless Router to connect to LAN in your company. So, you can set up routing protocol to meet your requirement in office.<br>Explaining with technical terms, router mode is, NAT is disabled, static routing protocol are allowed to set. |
| ○ Access Point | In Access Point mode, all 5 Ethernet ports and wireless devices are set to locate in the same local area network. Those WAN related functions are not supported here.<br>Explaining with technical terms, access point mode is, NAT is disabled, one wan port and four lan ports of ASUS Wireless Router are bridged together. |

## 2) Setting up wireless encryption

WL-500gP provides a set of encryption and authentication methods to meet the different demands of home, SOHO, and enterprise users. Before setting up encryption and authentication for WL-500gP, contact your network administrator for advice.



Click **Wireless -> Interface** to open the configuration page.



**Wireless - Interface**

| | |
|---|---|
| SSID: | WL500gP |
| Channel: | Auto |
| Wireless Mode: | Auto □ 54g Protection |
| Authentication Method: | WPA |
| WPA Encryption: | TKIP |
| WPA Pre-Shared Key: | ***** |
| WEP Encryption: | WEP-64bits |
| Passphrase: | |
| WEP Key 1 (10 or 26 hex digits): | ********** |
| WEP Key 2 (10 or 26 hex digits): | ********** |
| WEP Key 3 (10 or 26 hex digits): | ********** |
| WEP Key 4 (10 or 26 hex digits): | ********** |
| Key Index: | 2 |
| Network Key Rotation Interval: | 0 |

### Encryption

The encrytion modes supported by WL-500gP are: WEP (64bits), WEP (128bits), TKIP, AES, and TKIP+AES.

**WEP** stands for Wired Equivalent Privacy, it uses 64bits or 128bits static keys to encrypt the data for wireless transmission. To setup WEP keys, set **WEP Encryption** to **WEP-64bits** or **WEP-128bits**, then manually type in four sets **WEP Keys** (10 hexadicimal digits for 64-bit key or 26 hexadicimal digits for 128-bit key). You can also let the system generate the keys by entering a **Passphrase**.

**TKIP** stands for Temporal Key Integrity Protocol. TKIP dynamically generates unique keys to encrypt every data packet in a wireless session.

**AES** stands for Advanced Encryption Standard. This solution offers stronger protection and increases the complexity of wireless encryption.

**TKIP+AES** is used when both WPA and WPA2 clients co-exist in the wireless network.

### Authentication

The authentication methods supported by WL-500gP include: Open, shared key, WPA-PSK, WPA, and Radius with 80.211x.

**Open:** This option disables authentication protection for wireless network. Under Open mode, any IEEE802.11b/g client can connect to your wireless network.

**Shared:** This mode uses the the WEP keys currently in use for authentication.

**WPA and WPA-PSK:** WPA stands for WiFi-Protected Access. WPA provides two security modes: WPA for enterprise network, and WPA-PSK for home and SOHO users. For enterprise network, WPA uses the already existing RADIUS server for authentication; for home and SOHO user, it provides Pre-Shared Key (PSK) for user identification. The Pre-Shared Key consists of 8 to 64 characters.

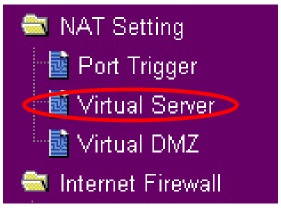
**Radius with 802.11x:** Similar with WPA, this solution also uses RADIUS server for authentication. The difference lays on the encryption mothods: WPA adopts TKIP or AES encryption methods, while Radius with 802.11x does not provide encryption.

When authentication and encryption are set, click **Finish** to save the settings and restart the wireless router.

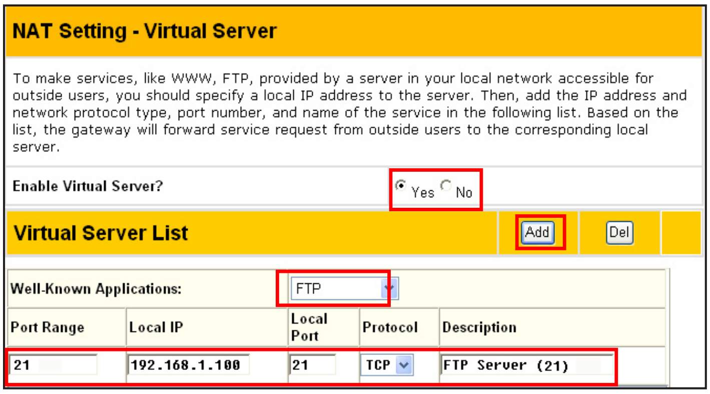
## 3) Setting up virtual server in your LAN

Virtual server is a Network Address Translation (NAT) function which turns a computer within a LAN into a server by allowing data packets of certain service, such as HTTP, from Internet.

1. Click **Virtual Server** in NAT Setting folder to open the NAT configuration page.



2. Select **Yes** to enable virtual server. For example, if host 192.168.1.100 is FTP server which is to be accessed by Internet user, it means all packets from Internet with destination port as 21 are to be directed to the host. Set Well-known Application to FTP. Port range to 21, Local IP to the host IP, Local Port to 21, Protocol to TCP.



NAT Setting - Virtual Server

To make services, like WWW, FTP, provided by a server in your local network accessible for outside users, you should specify a local IP address to the server. Then, add the IP address and network protocol type, port number, and name of the service in the following list. Based on the list, the gateway will forward service request from outside users to the corresponding local server.

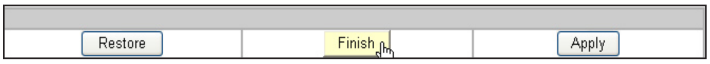
Enable Virtual Server? ● Yes ○ No

Virtual Server List Add Del

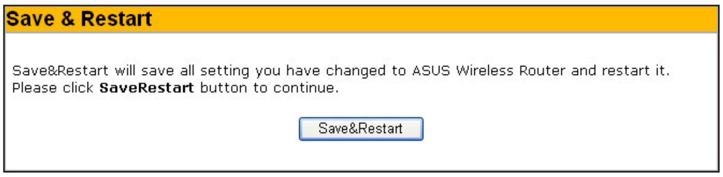
Well-Known Applications: FTP

| Port Range | Local IP | Local Port | Protocol | Description |
|---|---|---|---|---|
| 21 | 192.168.1.100 | 21 | TCP | FTP Server (21) |

3. Click **Finish**.



4. Click **Save & Restart** to restart the wireless router and activate the settings.



Save & Restart

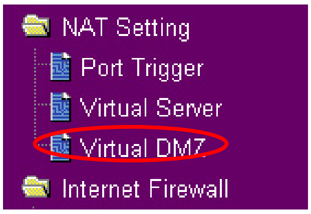
Save&Restart will save all setting you have changed to ASUS Wireless Router and restart it. Please click **SaveRestart** button to continue.

Save&Restart

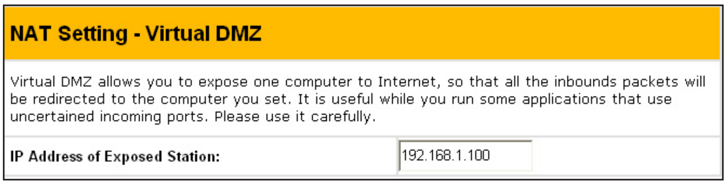
## 4) Setting up virtual DMZ in your LAN

To expose an internal host to Internet and make all services provided by this host available to outside users, enable Vitural DMZ function to open all ports of the host. This function is useful when the host plays multiple roles such as HTTP server and FTP server. However, in doing this, your network becomes less secure.

1. Click **Virtual DMZ** in the NAT Setting menu.



2. Enter the IP address of the host and click **Finish**.

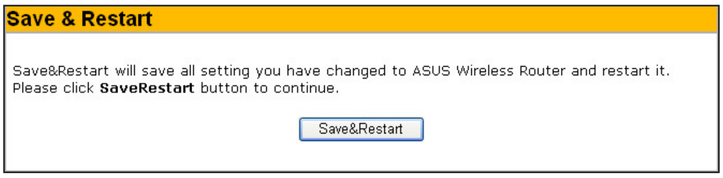


**NAT Setting - Virtual DMZ**

Virtual DMZ allows you to expose one computer to Internet, so that all the inbounds packets will be redirected to the computer you set. It is useful while you run some applications that use uncertained incoming ports. Please use it carefully.

| | |
|---|---|
| IP Address of Exposed Station: | 192.168.1.100 |

3. Click **Save & Restart** to restart the wireless router and activate the settings.



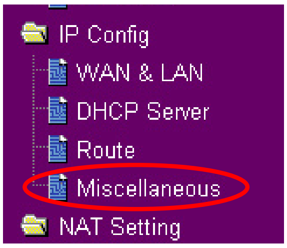
**Save & Restart**

Save&Restart will save all setting you have changed to ASUS Wireless Router and restart it. Please click **SaveRestart** button to continue.

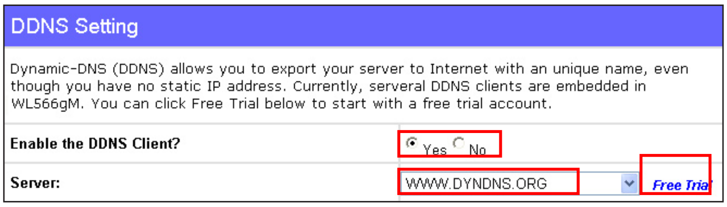
## 5) Setting up DDNS

DNS enables host who uses static IP address to associate with a domain name; for dynamic IP user, they can also associate with a domain name via dynamic DNS (DDNS). DDNS requires registering and account-creating at DDNS service providers' website. The DDNS server updates your IP address information once you are assigned to a new IP address. Therefore, Internet user can always access your network.

1. Click **Miscellaneous** from IP Config folder.



2. Select **Yes** to enable the DDNS service. If you do not have a DDNS account, click **Free Trial** to register for a trial account.



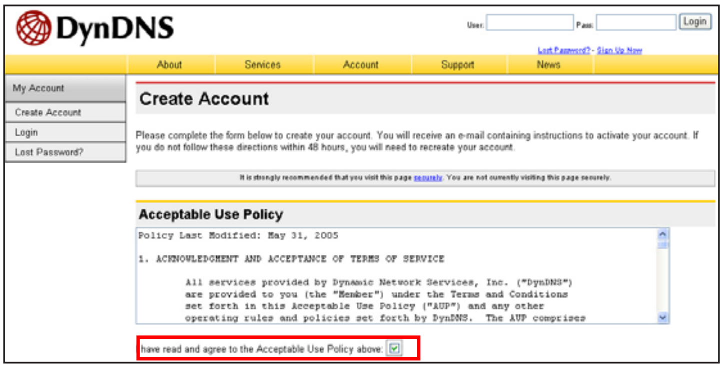
DDNS Setting

Dynamic-DNS (DDNS) allows you to export your server to Internet with an unique name, even though you have no static IP address. Currently, serveral DDNS clients are embedded in WL566gM. You can click Free Trial below to start with a free trial account.

| | |
|---|---|
| Enable the DDNS Client? | ● Yes ○ No |
| Server: | WWW.DYNDNS.ORG Free Tria |

3. After clicking Free Trial, you are directed to the homepage of www.DynDNS.org, where you can register and apply for DDNS service.

   Read the policy and select "**I have read...**".



## Create Account

Please complete the form below to create your account. You will receive an e-mail containing instructions to activate your account. If you do not follow these directions within 48 hours, you will need to recreate your account.

It is strongly recommended that you visit this page securely. You are not currently visiting this page securely.

### Acceptable Use Policy

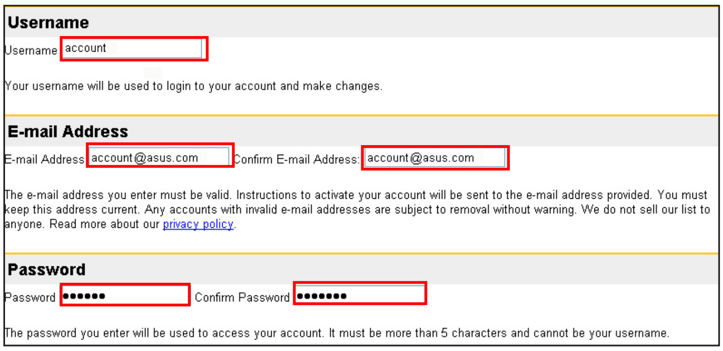
```
Policy Last Modified: May 31, 2005

1. ACKNOWLEDGMENT AND ACCEPTANCE OF TERMS OF SERVICE

       All services provided by Dynamic Network Services, Inc. ("DynDNS")
       are provided to you (the "Member") under the Terms and Conditions
       set forth in this Acceptable Use Policy ("AUP") and any other
       operating rules and policies set forth by DynDNS.  The AUP comprises
```

have read and agree to the Acceptable Use Policy above: ☑

4. Enter your user name, e-mail address, password, then click **Create Account**.



### Username

Username: account

Your username will be used to login to your account and make changes.

### E-mail Address

E-mail Address: account@asus.com  Confirm E-mail Address: account@asus.com

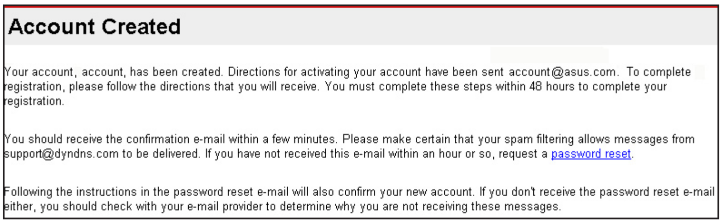
The e-mail address you enter must be valid. Instructions to activate your account will be sent to the e-mail address provided. You must keep this address current. Any accounts with invalid e-mail addresses are subject to removal without warning. We do not sell our list to anyone. Read more about our privacy policy.

### Password

Password: ●●●●●●  Confirm Password: ●●●●●●●

The password you enter will be used to access your account. It must be more than 5 characters and cannot be your username.

5. A message prompts out informing that your account has been created. An E-mail is sent to your mailbox. Open your mailbox and read the mail.



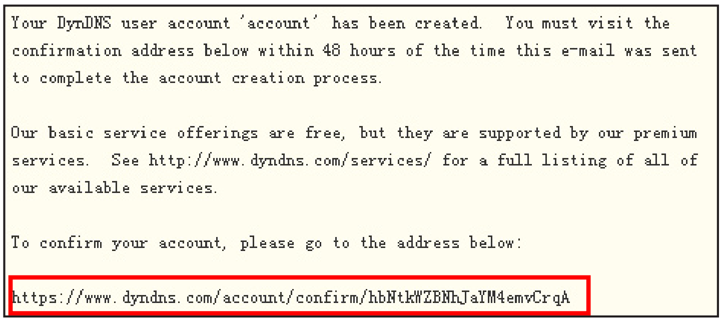
## Account Created

Your account, account, has been created. Directions for activating your account have been sent account@asus.com. To complete registration, please follow the directions that you will receive. You must complete these steps within 48 hours to complete your registration.

You should receive the confirmation e-mail within a few minutes. Please make certain that your spam filtering allows messages from support@dyndns.com to be delivered. If you have not received this e-mail within an hour or so, request a password reset.

Following the instructions in the password reset e-mail will also confirm your new account. If you don't receive the password reset e-mail either, you should check with your e-mail provider to determine why you are not receiving these messages.

6. You can find the activation letter in your E-mail box. Click the hyperlink.



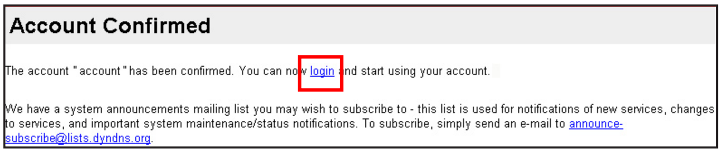
```
Your DynDNS user account 'account' has been created.  You must visit the
confirmation address below within 48 hours of the time this e-mail was sent
to complete the account creation process.

Our basic service offerings are free, but they are supported by our premium
services.  See http://www.dyndns.com/services/ for a full listing of all of
our available services.

To confirm your account, please go to the address below:

https://www.dyndns.com/account/confirm/hbNtkWZBNhJaYM4emvCrqA
```

7. The link directs you to a login page. Click **login**.

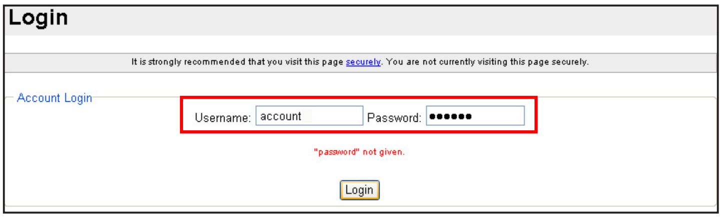


## Account Confirmed

The account "account" has been confirmed. You can now login and start using your account.

We have a system announcements mailing list you may wish to subscribe to - this list is used for notifications of new services, changes to services, and important system maintenance/status notifications. To subscribe, simply send an e-mail to announce-subscribe@lists.dyndns.org.

8. Enter the user name and password then click **Login**.



## Login

It is strongly recommended that you visit this page securely. You are not currently visiting this page securely.

Account Login

Username: account  Password: ●●●●●●

"password" not given.