

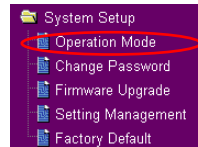


4. Wireless router features

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

1) Choosing an appropriate operation mode

ASUS WL-500gP V2 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 V2 as a wireless bridge. In this mode, all Ethernet ports on WL-500gP V2 (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 scenario and press **Apply** button, and then you can continue to setup advanced features for your WL-500gP V2.

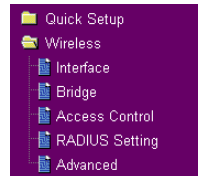
System Setup - Operation Mode	
ASUS Wireless Router supports three operation modes to meet different requirements from different group of people. Please select the mode that match your situation.	
<input checked="" type="radio"/> Home Gateway	In this mode, we suppose you use ASUS Wireless Router to connect to Internet through ADSL or Cable Modem. And, there are many people in your environment share the same IP to ISP. Explaining with technical terms, gateway mode is, NAT is enabled, 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.
<input type="radio"/> 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. Explaining with technical terms, router mode is, NAT is disabled, static routing protocol are allowed to set.
<input type="radio"/> 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. 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.
<input type="button" value="Apply"/>	



2) Setting up wireless encryption

WL-500gP V2 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 V2, contact your network administrator for advice.

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



Wireless - Interface	
SSID:	WL500gP
Channel:	Auto
Wireless Mode:	Auto <input type="checkbox"/> 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
<input type="button" value="Restore"/> <input type="button" value="Finish"/> <input type="button" value="Apply"/>	

Encryption

The encryption modes supported by WL-500gP V2 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 hexadecimal digits for 64-bit key or 26 hexadecimal 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 V2 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.

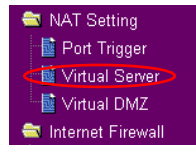
Radius with 802.1X: Similar with WPA, this solution also uses RADIUS server for authentication. The difference lays on the encryption methods: WPA adopts TKIP or AES encryption methods, while Radius with 802.1X does not provide encryption.

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:

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 **Save&Restart** button to continue.

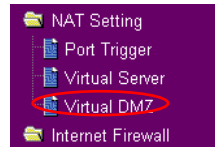
Save&Restart



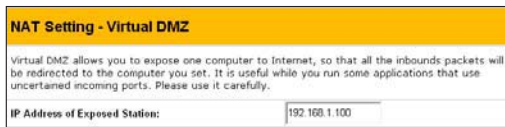
4) Setting up virtual DMZ in your LAN

To expose an internal host to Internet and make all services provided by this host available to outside users, enable Virtual 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.

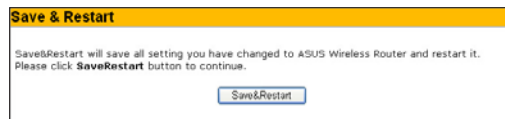
1. Click **Virtual DMZ** in the NAT Setting menu.



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



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



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 ASUS DDNS service. The ASUS DDNS server has already recorded your IP address information. You just set your domain name and you can access USB Hard Disc Drive that plugged in WL-500gP V2 via Internet.

ASUS DDNS Service

1. Click **DDNS** from **IP Config** folder.
2. Select **Yes** to enable the DDNS service.





3. Select WWW.ASUS.COM for detail setting. You do not necessary to key in **User Name of E-mail Address** and **Password or DDNS Key** if you select this server. Or you can select another website to register and apply for DDNS service. Please refer to Page 18 to see another service setting.

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, several DDNS clients are embedded in WL500GPv2. You can click Free Trial below to start with a free trial account.	
Enable the DDNS Client?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Server:	WWW.ASUS.COM Free Trial
User Name or E-mail Address:	WWW.ASUS.COM
Password or DDNS Key:	WWW.DYNDNS.ORG WWW.DYNDNS.ORG(CUSTOM) WWW.DYNDNS.ORG(STATIC) WWW.TZO.COM WWW.ZONEEDIT.COM
Host Name:	<input type="text"/> <input type="button" value="Submit Query"/>

4. Enter the host name then click **Submit Query**. The format should be xxx.asuscomm.com. (xxx is what you want to set up a host name)

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, several DDNS clients are embedded in WL500GPv2. You can click Free Trial below to start with a free trial account.	
Enable the DDNS Client?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Server:	WWW.ASUS.COM Free Trial
User Name or E-mail Address:	<input type="text"/>
Password or DDNS Key:	<input type="text"/>
Host Name:	aaa.asuscomm.com <input type="button" value="Submit Query"/>
Enable wildcard?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Update Manually:	<input type="button" value="Update"/>

5. You can see this message when your host name is successfully registered.

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, several DDNS clients are embedded in WL500GPv2. You can click Free Trial below to start with a free trial account.	
Enable the DDNS Client?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Server:	WWW.ASUS.COM Free Trial
User Name or E-mail Address:	<input type="text"/>
Password or DDNS Key:	<input type="text"/>
Host Name:	ivan.asuscomm.com <input type="button" value="Submit Query"/>
Enable wildcard?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Update Manually:	<input type="button" value="Update"/>





6. If host name's format does not follow xxx.asuscomm.com, you will see this message. Please re-enter your host name again.

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, severnal DDNS clients are embedded in WL500GPv2. You can click Free Trial below to start with a free trial account.

Enable the DDNS Client? [Free Trial](#)

Server: [Free Trial](#)

User Name or E-mail Address:

Password or DDNS Key:

Host Name:

Enable wildcard? Yes No

Update Manually:



7. If you want to change host name, please enter new host name and click **Submit Query**. You can see this message when your host name is successfully updated.

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, severnal DDNS clients are embedded in WL500GPv2. You can click Free Trial below to start with a free trial account.

Enable the DDNS Client? [Free Trial](#)

Server: [Free Trial](#)

User Name or E-mail Address:

Password or DDNS Key:

Host Name:

Enable wildcard? Yes No

Update Manually:



8. If the host name had been registered, you will see this message. Please re-enter your host name again.

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, severnal DDNS clients are embedded in WL500GPv2. You can click Free Trial below to start with a free trial account.

Enable the DDNS Client? [Free Trial](#)

Server: [Free Trial](#)

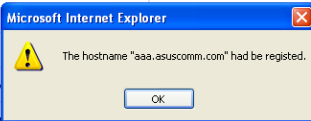
User Name or E-mail Address:

Password or DDNS Key:

Host Name:

Enable wildcard? Yes No

Update Manually:



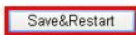
9. Click **Apply** then click **Finish**.



10. Click **Save & Restart** to restart WL-500gP V2 and activate settings.

Save & Restart

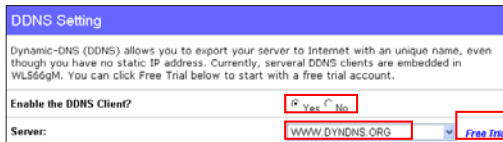
Save&Restart will save all setting you have changed to WL500GPv2 and restart it. Please click **Save&Restart** button to continue.



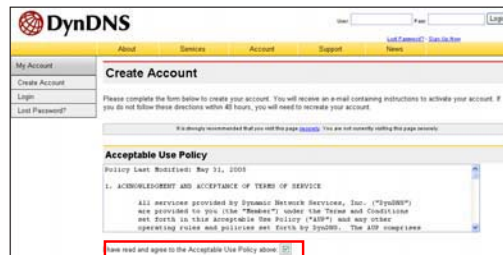
11. You can type your host name in the address bar of browser to access your Hard Disk Drive plugged in WL-500gP V2. For FTP site setting, please refer to P25 "Setting up FTP Site" section.

DynDNS Service

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

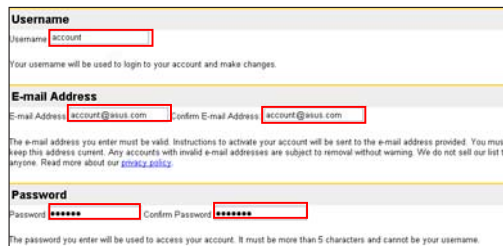


2. After clicking Free Trial, you are directed to the homepage of www.DynDNS.org, where you can register and apply for DDNS service.

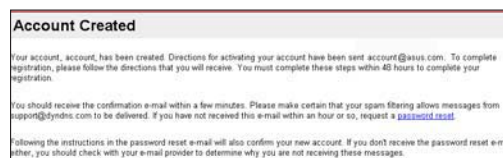


Read the policy and select "I have read..."

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



4. 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.





5. 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.dyn dns.com/services/> for a full listing of all of our available services.

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

<https://www.dyn dns.com/account/confirm/bbNtkWZBhTjM4emvCrqA>

6. 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 subscriptions@lists.dyn dns.org.

7. 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: Password:

*password not given

8. After logging in, you can see this welcome message.

Logged In

You are currently logged in as: account ([Logout](#))

9. Select **Services** tab.

DynDNS Updated in user MyWebHop

Navigation: [Home](#) **Services** [Account](#) [Support](#) [News](#)

Services

DynDNS provides a variety of services that help enhance your home or business Internet experience. We offer superior domain name services (DNS), high quality domain management, web/camera e-mail services, web redirection, and network monitoring. All of our services include free technical support by e-mail or phone where you speak to a highly trained engineer rather than a call center reading a script off of a screen.

DNS Services

- **Custom DNS** - Our flagship DNS management tool for your own domain.
- **SecureDNS** - Add reliability to your own name servers.
- **Business DNS** - Ensure DNS resolution for your DNS queries.
- **Dynamic DNS** - A free DNS service for those with dynamic IP addresses.
- **Static DNS** - A free DNS service for those with static IP addresses.
- **TLD DNS** - DNS for operators of oTLDs and gTLDs.

Domain Registration

- **Domain Registration** - Register new domains.
- **Domain Transfer** - Buy or sell your quality bulk sellers.

10. Click **Add Dynamic DNS Host**.

My Account

My Services

- Account Upgrades
- MailHop Outbound
- Recursive DNS
- SLA
- Premier Support
- My Zones
- Add Zone Services
- My Hosts
- Add Host Services**
- Dynamic DNS
- Static DNS
- WebHop
- MyWebHop
- Network Monitoring
- Account Settings
- Billing

Add Host Services

Dynamic DNS (7)	Add Dynamic DNS Host
Static DNS (7)	Add Static DNS Host
WebHop (7)	Add WebHop
MyWebHop (7)	Add MyWebHop
Network Monitoring (7)	Add Network Monitoring

11. Enter the host name then click **Add Host**.

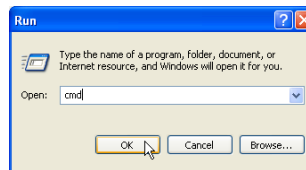
12. You can see this message when your hostname is successfully created.

13. Fill the account information into the DDNS setting fields of your wireless router.

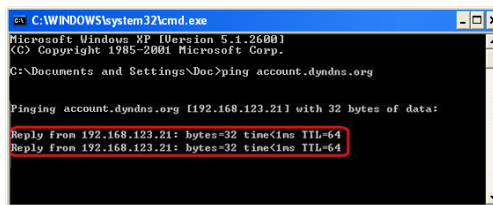
14. Click **Finish**.

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

16. Verify whether DDNS is working. Click **Start** menu and select **Run...**Type **cmd** and click **OK** to open the CLI console.



17. Type **ping account.dydns.org** (your DDNS domain name). If you can see the reply like what is shown in the right picture, DDNS is working correctly.

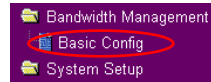




6) Setting up Bandwidth Management

Bandwidth Management provides a mechanism to setup download and upload bandwidth based on IP address and port range. You can define the minimum bandwidth and maximum bandwidth for host within your LAN, and therefore control the traffic of you network. To set up upload bandwidth management, you need first setup virtual server to allow the incoming packets of the specified services.

1. Click **Basic Config** page in Bandwidth Management folder.



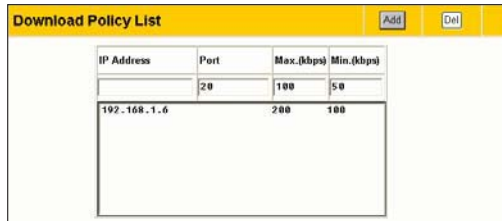
2. Select **Yes** to enable Bandwidth Management function.



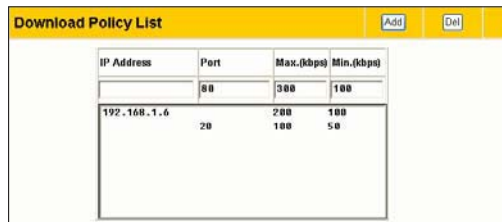
3. Download bandwidth

If you want to limit the download bandwidth of a host within a speed range, for example, between 100 to 200kbps, you need to fill in the host IP address, the speeds (maximum: 200kbps; minimum: 100kbps). When the minimum speed is defined, the host can transmit data at the minimum speed regardless of the traffic conditions.

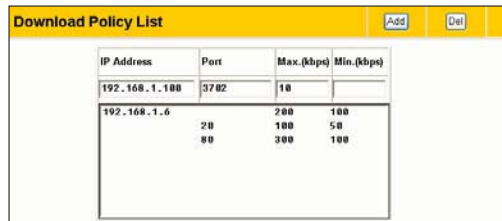
1. To apply on all host an **FTP** download speed policy, leave the IP address field blank, input "20" in the **Port** field and define the speeds, then click **Add**.



2. To set up **Web** access download policy, input "80" in the **Port** field, define the speeds and click **Add**.



3. To set up download bandwidth policy of a certain service for a host, input the host IP address and the port number of the service, define the speeds and click **Add**.

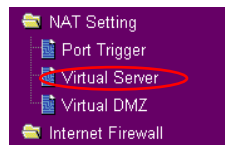


4. To set up download bandwidth policy for the all hosts in your LAN, leave the IP address and port fields blank, define the speeds (the speeds are higher than download policies). Click **Add** to add the rule.

IP Address	Port	Max.(kbps)	Min.(kbps)
		500	200
192.168.1.0		200	100
	20	100	50
	80	300	100
192.168.1.100	3702	10	

4. Upload stream

If you want to set up upload traffic control policy, for example, to limit the upload bandwidth of port 2100 of 192.168.1.2 between 10 to 80kbps, You need first set up NAT policy to allow incoming packets.



1. Select **Yes** to enable Virtual Server function. In the Virtual Server List field, fill the port, IP address into the fields and press **Add**.

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

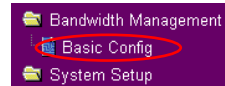
Well-Known Applications:

Port Range	Local IP	Local Port	Protocol	Description
2100	192.168.1.2	2100	TCP	

2. Press **Apply** button.

Restore Finish Apply

3. Return to the Upload Policy List in Bandwidth Management setting page.



4. Set the **Port** as "2100", **Max (kbps)** as "80", **Min.(kbps)** as "10", then click **Add**.

Port	Max.(kbps)	Min.(kbps)
2100	80	10

5. When the settings are complete, press **Finish**.

Restore Finish Apply

6. 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 **Save&Restart** button to continue.

Save&Restart