

DAP-2310

Version 2.05

Wireless N  
**Access Point**

 **User Manual**

**Business Class Networking**

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# Package Contents

- D-Link DAP-2310 Wireless N Access Point
- CAT5 Ethernet Cable
- Two Detachable Antennas
- Power Adapter
- CD-ROM with User Manual
- Install Guide



**Note:** Using a power supply with a different voltage rating than the one included with the DAP-2310 will cause damage and void the warranty for this product.

## System Requirements

- Computers with Windows®, Macintosh®, or Linux-based operating systems with an installed Ethernet Adapter
- For configuration, the following web browsers are supported:
  - Microsoft® Internet Explorer® 11.0 and higher
  - Mozilla Firefox 28 and higher
  - Google™ Chrome 33 and higher
  - Apple Safari 7 and higher



# Introduction

The DAP-2310 802.11n Wireless N Access Point increases productivity by allowing you to work faster and more efficiently. With the DAP-2310, bandwidth-intensive applications like graphics or multimedia will benefit significantly because large files are now able to move across the network quickly.

The DAP-2310 is capable of operating in one of four different wireless networking modes: Access Point, WDS (Wireless Distribution System) with AP, WDS, Wireless Client mode or AP Repeater mode.

An ideal solution for quickly creating and extending a wireless local area network (WLAN) in offices or other workplaces, hotels, resorts, assist living, trade shows and special events, the DAP-2310 provides data transfer rates up to 300Mbps. (The 802.11n standard is backwards compatible with 802.11g and 802.11b devices.)

WPA/WPA2 is offered in two options: Enterprise (used for corporations) and Personal (used for home users). WPA-Personal and WPA2-Personal are directed towards home users who do not have the server-based equipment required for user authentication. This method of authentication is similar to WEP because you define a “Pre-Shared Key” on the wireless router/AP. Once the pre-shared key is confirmed and satisfied at both the client and access point, access is then granted. The encryption method used is referred to as the Temporal Key Integrity Protocol (TKIP), which offers per-packet dynamic hashing. It also includes an integrity checking feature which ensures that the packets were not tampered with during wireless transmission.

WPA-Enterprise and WPA2-Enterprise are ideal for businesses that already have existing security infrastructures established. Management and security implementation can now be centralized on a server participating on the network. Utilizing 802.1X with a RADIUS (Remote Authentication Dial-in User Service) server, a network administrator can define a list of authorized users who can access the wireless LAN. When attempting to access a wireless LAN with WPA-Enterprise configured, the new client will be requested to enter a username with a password. If the new client is authorized by the administration, and enters the correct username and password, then access is granted. In the case where an employee leaves the company, the network administrator is able to remove the previous employee from the authorized list to avoid compromising the network.

EAP (Extensible Authentication Protocol) is available through the Windows® XP operating system. You will need to use the same type of EAP protocol on all devices in your network when using the 802.1X feature.

\*Maximum wireless signal rate derived from IEEE Standard 802.11n and 802.11g specifications. Actual data throughput may vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead can lower actual data throughput rate.

### **Power Usage**

This device is an Energy Related Product (ErP) with High Network Availability (HiNA), and automatically switches to a power-saving Network Standby mode within 1 minute of no packets being transmitted. It can also be turned off through a power switch to save energy when it is not needed.

**Network Standby:** 1.87 watts

**Switched Off:** 0.11 watts

# Features

- **Five different operation modes** - Capable of operating in one of five different operation modes to meet your wireless networking needs: Access Point, WDS with AP, WDS, Wireless Client and Repeater.
- Faster wireless networking with the 802.11n standard to provide a maximum wireless signal rate of up to 300 Mbps\*.
- Compatible with the 802.11b standard to provide a wireless data rate of up to 11Mbps, allowing you to migrate your system to the 802.11n and 802.11g standards on your own schedule without sacrificing connectivity.
- Compatible with the 802.11g standard to provide a wireless data rate of up to 54Mbps in the 2.4GHz frequency range.
- Better security with WPA - The DAP-2310 can securely connect wireless clients on the network using WPA (Wi-Fi Protected Access) to provide a much higher level of security for your data and communications than its previous versions.
- **Central WiFiManager management software** - The real-time display of the network's topology and AP's information makes network configuration and management quick and simple.
- **SNMP for management** - The DAP-2310 supports SNMP v.3 for better network management. Superior wireless AP manager software is bundled with the DAP-2310 for network configuration and firmware upgrade. Systems administrators can also set up the DAP-2310 easily with the Web-based configuration.
- Utilizes OFDM technology (Orthogonal Frequency Division Multiplexing).
- Supports one 10/100/1000M Ethernet port.
- Operates in the 2.4 ~ 2.4835GHz frequency ranges.
- Web-based interface for managing and configuring.

\*Maximum wireless signal rate derived from IEEE Standard 802.11n and 802.11g specifications. Actual data throughput may vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead can lower actual data throughput rate.

# Wireless Basics

D-Link wireless products are based on industry standards to provide high-speed wireless connectivity that is easy to use within your home, business or public access wireless networks. D-Link wireless products provides you with access to the data you want, whenever and wherever you want it. Enjoy the freedom that wireless networking can bring to you.

WLAN use is not only increasing in both home and office environments, but in public areas as well, such as airports, coffee shops and universities. Innovative ways to utilize WLAN technology are allowing people to work and communicate more efficiently. Increased mobility and the absence of cabling and other types of fixed infrastructure have proven to be beneficial to many users.

Wireless adapter cards used on laptop and desktop systems support the same protocols as Ethernet adapter cards, allowing wireless users to use the same applications as those used on a wired network.

People use WLAN technology for many different purposes:

**Mobility** - productivity increases when people can have access to data in any location within the operating range of their WLAN. Management decisions based on real-time information can significantly improve the efficiency of a worker.

**Low implementation costs** - WLANs are easy to set up, manage, change and relocate. Networks that frequently change can benefit from WLAN's ease of implementation. WLANs can operate in locations where installation of wiring may be impractical.

**Installation and network expansion** - by avoiding the complications of troublesome cables, a WLAN system can be fast and easy during installation, especially since it can eliminate the need to pull cable through walls and ceilings. Wireless technology provides more versatility by extending the network beyond the home or office.

**Inexpensive solution** - wireless network devices are as competitively priced as conventional Ethernet network devices. The DAP-2310 saves money by providing users with multi-functionality configurable in four different modes.

**Scalability** - Configurations can be easily changed and range from Peer-to-Peer networks, suitable for a small number of users to larger Infrastructure networks to accommodate hundreds or thousands of users, depending on the number of wireless devices deployed.

# Standards-Based Technology

The DAP-2310 Wireless Access Point utilizes the 802.11b, 802.11g, and 802.11n standards.

The IEEE 802.11n standard is an extension of the 802.11b and 802.11g standards that came before it. It increases the maximum wireless signal rate up to 300Mbps\* within the 2.4GHz bands, utilizing OFDM technology.

This means that in most environments - within the specified range of this device - you will be able to transfer large files quickly, or even watch a movie in MPEG format over your network without noticeable delays. This technology works by transmitting high-speed digital data over a radio wave utilizing OFDM (Orthogonal Frequency Division Multiplexing) technology. OFDM works by splitting the radio signal into multiple smaller sub-signals that are then simultaneously transmitted at different frequencies to the receiver. OFDM reduces the amount of crosstalk (interference) in signal transmissions.

The D-Link DAP-2310 will automatically sense the best possible connection speed to ensure the greatest possible speed and range.

IEEE 802.11n offers the most advanced network security features available today, including WPA.

\*Maximum wireless signal rate derived from IEEE Standard 802.11n and 802.11g specifications. Actual data throughput may vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead can lower actual data throughout rate.

# Wireless Installation Considerations

The D-Link DAP-2310 lets you access your network using a wireless connection from virtually anywhere within the operating range of your wireless network. Keep in mind, however, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

1. Keep the number of walls and ceilings between the access point and other network devices to a minimum. Each wall or ceiling can reduce your adapter's range from 3-90 feet (1-30 meters). Position your devices so that the number of walls or ceilings is minimized.
2. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle, it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.
3. Building Materials make a difference. A solid metal door or aluminum studs may have a negative effect on the range. Try to position access points, wireless routers, and computers so that the signal passes through drywall or open doorways. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, brick, and concrete will degrade your wireless signal.
4. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.
5. If you are using 2.4GHz cordless phones or X-10 (wireless products such as ceiling fans, lights, and home security systems), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4GHz phone base is as far away from your wireless devices as possible. The base transmits a signal even if the phone is not in use.

# Hardware Overview

## LEDs



1	Power LED	This light will be solid green when the unit is powered on.
2	WLAN LED	This light will be flickering green when the 2.4GHz frequency is in use.
3	LAN LED	This light will be flickering green when there is active LAN traffic.

# Hardware Overview

## Connections



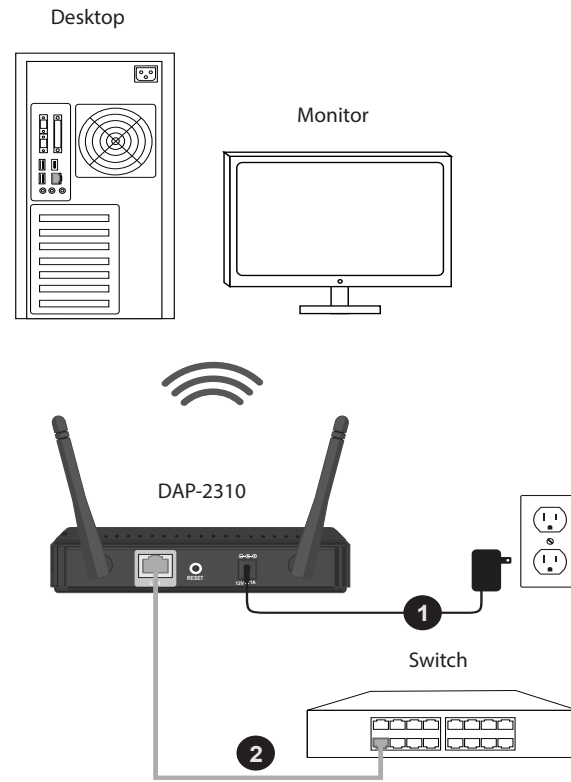
1	PoE Gigabit	802.3af complaint switch
2	Reset	Reset the Access Point.
3	Power Receptor	Receptor for Power Adapter.



# Five Operational Modes

<b>Operation Mode</b> (Only supports 1 mode at a time)	<b>Function</b>
Access Point (AP)	Create a wireless LAN
WDS with AP	Wirelessly connect multiple networks while still functioning as a wireless AP
WDS	Wirelessly connect multiple networks
Wireless Client	AP acts as a wireless network adapter for your Ethernet-enabled device
AP Repeater	AP acts as repeater to extend to wireless coverage.

# Getting Started



1. Connect the power adapter to the receptor on the rear panel of the DAP-2310 and then plug the other end of the power adapter to a wall outlet or power strip. The power LED will turn ON to indicate proper operation.

**Note :** You can also powered by PoE Switch

2. Using an Ethernet cable, insert one end of the cable to the LAN port on the rear panel of the DAP-2310 and the other end of the cable to a switch or router's LAN port .

**Note:** You can also connect the DAP-2310 directly to the computer that will be used for configuration. The LAN LED will illuminate to indicate a proper Ethernet connection.

3. Computers with 802.11 b/g/n wireless adapters can connect to the DAP-2310.

# Configuration

To configure the DAP-2310, use a computer that is connected to the DAP-2310 with an Ethernet cable (see the *Network Layout diagram*).

Launch your web browser.

Type the IP address of the DAP-2310 in the address field (**http://192.168.0.50** or **https://192.168.0.50**) and press **Enter**. Make sure that the IP addresses of the DAP-2310 and your computer are in the same subnet.



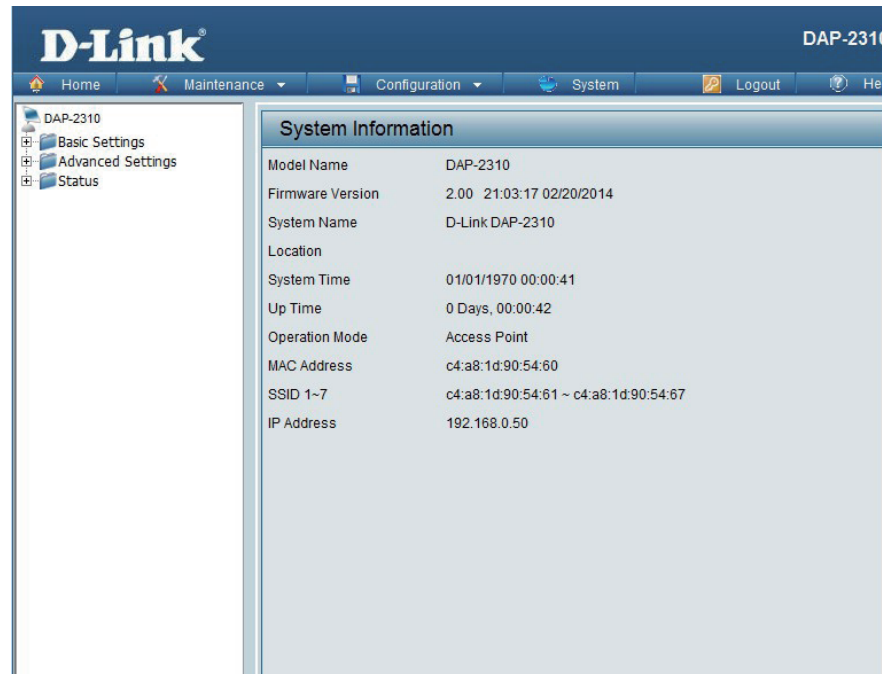
**Note:** If you have changed the default IP address assigned to the DAP-2310, make sure to enter the correct IP address.

Enter the user name (**admin**) and your password. Leave the password field blank by default and click **Login**.


A screenshot of the D-Link DAP-2310 login page. The page has a dark blue header with the "D-Link" logo on the left and "DAP-2310" on the right. Below the header is a light blue box containing a "LOGIN" section. Inside the login section, it says "Login to the Access Point:". There are two input fields: "User Name" and "Password". The "User Name" field contains the text "admin". To the right of the "Password" field is a "Login" button.

**Note:** If you have changed the password, make sure to enter the correct password.

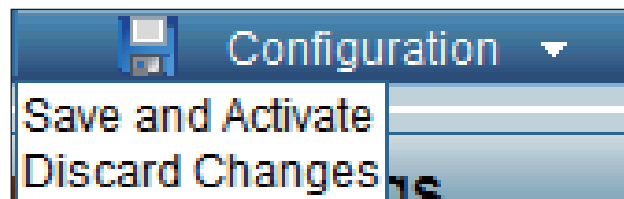
After successfully logging into the DAP-2310, the following screen will appear:



## Save and Activate Settings

When making changes on most of the configuration screens in this section, use the  button at the bottom of each screen to save (not activate) your configuration changes.

You may change settings to multiple pages before activating. Once you are finished, click the **Configuration** button located at the top of the page and then click **Save and Activate**.



# Basic Settings

## Wireless

### Access Point mode

**Wireless Band:** Select **2.4GHz** from the drop-down menu.

**Mode:** Select Access Point from the drop-down menu. The other three choices are WDS with AP, WDS, wireless Client and AP Repeater.

**Network Name (SSID):** Service Set Identifier (SSID) is the name designated for a specific wireless local area network (WLAN). The SSID's factory default setting is **dlink**. The SSID can be easily changed to connect to an existing wireless network or to establish a new wireless network. The SSID can be up to 32 characters and is case-sensitive.

**SSID Visibility:** **Enable** or **Disable** SSID visibility. Enabling this feature broadcasts the SSID across the network, thus making it visible to all network users. This feature is enabled by default.

**Auto Channel Selection:** Enabling this feature automatically selects the channel that provides the best wireless performance. **Enable** is set by default. The channel selection process only occurs when the AP is booting up.

**Channel:** All devices on the network must share the same channel. To change the channel, first toggle the Auto Channel Selection setting to **Disable**, and then use the drop-down menu to make the desired selection.

***Note:** The wireless adapters will automatically scan and match the wireless settings.*

The screenshot displays the D-Link DAP-2310 configuration interface. The 'Wireless Settings' tab is active, showing the following configuration:

- Wireless Band:** 2.4GHz
- Mode:** Access Point
- Network Name (SSID):** dlink
- SSID Visibility:** Enable
- Auto Channel Selection:** Enable
- Channel:** 1
- Channel Width:** 20 MHz
- Authentication:** Open System
- Key Settings:**
  - Encryption:** Disable (selected)
  - Key Type:** HEX
  - Key Index(1~4):** 1
  - Network Key:** [Empty field]
  - Confirm Key:** [Empty field]

A 'Save' button is located at the bottom right of the settings area.

- Channel Width:** Allows you to select the channel width you would like to operate in. Select **20 MHz** if you are not using any 802.11n wireless clients. **Auto 20/40 MHz** allows you to connect to both 802.11n and 802.11b/g wireless devices on your network.
- Authentication:** Use the drop-down menu to choose **Open System**, **Shared Key**, **WPA-Personal**, **WPA-Enterprise**, or **802.11x**.
- Select **Open System** to communicate the key across the network.
- Select **Shared Key** to limit communication to only those devices that share the same WEP settings. If multi-SSID is enabled, this option is not available.
- Select **WPA-Personal** to secure your network using a password and dynamic key changes. No RADIUS server is required.
- Select **WPA-Enterprise** to secure your network with the inclusion of a RADIUS server.
- Select **802.1x** to secure your network using 802.1x authentication.

# WDS with AP mode

In WDS with AP mode, the DAP-2310 wirelessly connects multiple networks while still functioning as a wireless AP.

- Wireless Band:

Select **2.4GHz** from the drop-down menu.
- Mode:

**WDS with AP** mode is selected from the drop-down menu.
- Network Name (SSID):

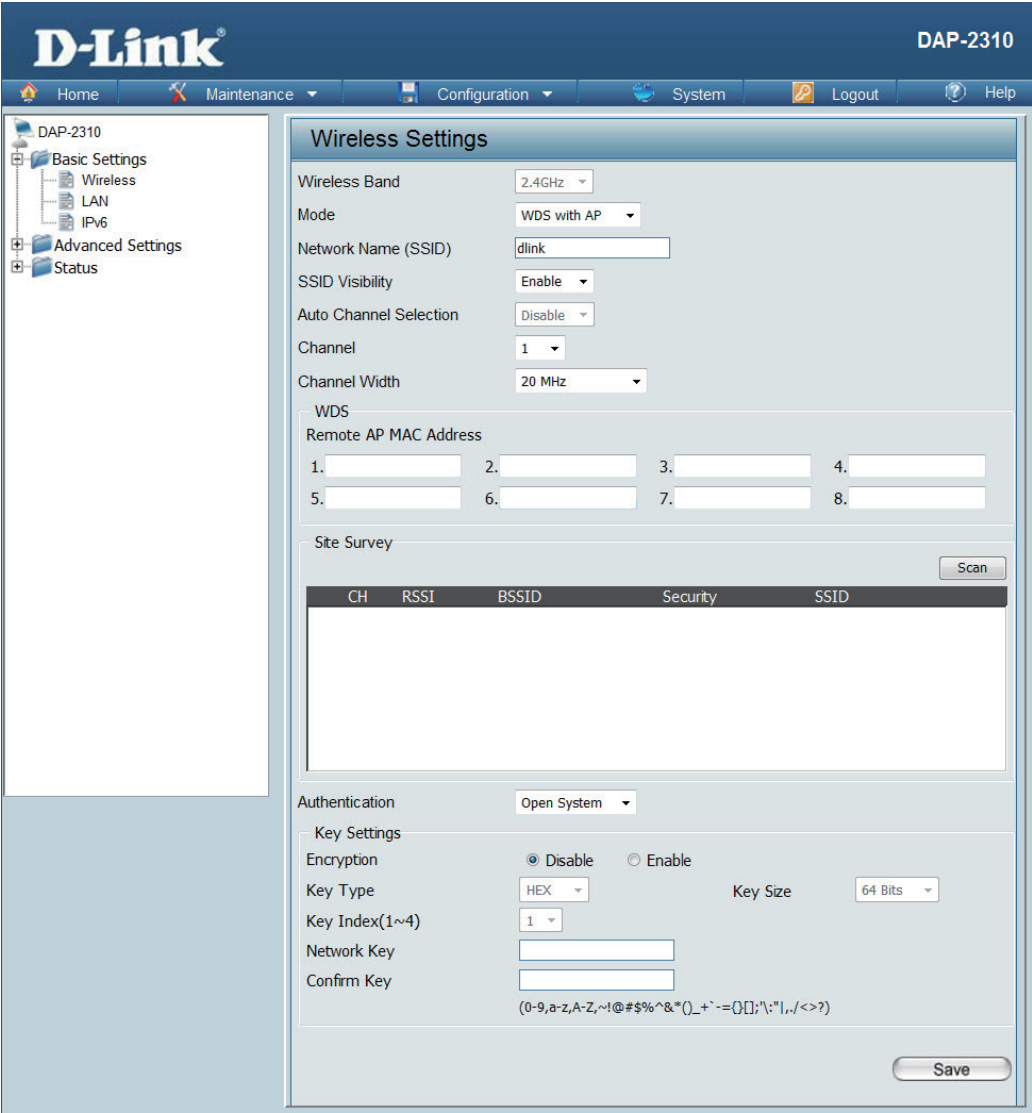
Service Set Identifier (SSID) is the name designated for a specific wireless local area network (WLAN). The SSID's factory default setting is **dlink**. The SSID can be easily changed to connect to an existing wireless network or to establish a new wireless network.
- SSID Visibility:

**Enable** or **Disable** SSID visibility. Enabling this feature broadcasts the SSID across the network, thus making it visible to all network users.
- Auto Channel Selection:

Enabling this feature automatically selects the channel that will provide the best wireless performance. This feature is not supported in WDS with AP mode. The channel selection process only occurs when the AP is booting up.
- Channel:

To change the channel, use the drop-down menu to make the desired selection. (**Note:** The wireless adapters will automatically scan and match the wireless settings.)
- Channel Width:

Indicates whether the device is capable of 20MHz operation only or both 20MHz and 40MHz operation.



<b>Remote AP MAC Address:</b>	Enter the MAC addresses of the APs on your network that will serve as bridges to wirelessly connect multiple networks.
<b>Site Survey:</b>	Click on the <b>Scan</b> button to search for available wireless networks, then click on the available network that you want to connect with.
<b>Authentication:</b>	<p>Use the drop-down menu to choose <b>Open System</b>, <b>Shared Key</b>, or <b>WPA-Personal</b>.</p> <p>Select <b>Open System</b> to communicate the key across the network.</p> <p>Select <b>Shared Key</b> to limit communication to only those devices that share the same WEP settings. If multi-SSID is enabled, this option is not available.</p> <p>Select <b>WPA-Personal</b> to secure your network using a password and dynamic key changes. No RADIUS server is required.</p>



## WDS mode

In WDS mode, the DAP-2310 wirelessly connects multiple networks, without functioning as a wireless AP.

- Wireless Band:** Select **2.4GHz** from the drop-down menu.
- Mode:** **WDS** is selected from the drop-down menu.
- Network Name (SSID):** Service Set Identifier (SSID) is the name designated for a specific wireless local area network (WLAN). The SSID's factory default setting is **dlink**. The SSID can be easily changed to connect to an existing wireless network or to establish a new wireless network.
- SSID Visibility:** **Enable** or **Disable** SSID visibility. Enabling this feature broadcasts the SSID across the network, thus making it visible to all network users.
- Auto Channel Selection:** Enabling this feature automatically selects the channel that will provide the best wireless performance. This feature is not supported in WDS mode.
- Channel:** All devices on the network must share the same channel. To change the channel, use the drop-down menu to make the desired selection.
- Channel Width:** Use the drop-down menu to choose **20 MHz** or **Auto 20/40 MHz**.
- Remote AP MAC Address:** Enter the MAC addresses of the APs on your network that will serve as bridges to wirelessly connect multiple networks.

The screenshot shows the D-Link DAP-2310 configuration interface. The left sidebar contains a tree view with 'Basic Settings' (Wireless, LAN, IPv6), 'Advanced Settings', and 'Status'. The main content area is titled 'Wireless Settings'. The 'Wireless Band' is set to '2.4GHz'. The 'Mode' is set to 'WDS'. The 'Network Name (SSID)' is 'dlink'. 'SSID Visibility' is 'Enable'. 'Auto Channel Selection' is 'Disable'. The 'Channel' is '1' and 'Channel Width' is '20 MHz'. The 'WDS' section includes a 'Remote AP MAC Address' field with eight input boxes (1-8). Below this is a 'Site Survey' section with a 'Scan' button and a table with columns 'CH', 'RSSI', 'BSSID', 'Security', and 'SSID'. The 'Authentication' section is set to 'Open System'. The 'Key Settings' section has 'Encryption' set to 'Disable' (radio button), 'Key Type' set to 'HEX', 'Key Index' set to '1', and 'Key Size' set to '64 Bits'. There are input fields for 'Network Key' and 'Confirm Key'. A 'Save' button is at the bottom right.

**Site Survey:** Click on the **Scan** button to search for available wireless networks, then click on the available network that you want to connect with.

**Authentication:** Use the drop-down menu to choose **Open System**, **Shared Key**, or **WPA-Personal**.  
Select **Open System** to communicate the key across the network.  
Select **Shared Key** to limit communication to only those devices that share the same WEP settings.  
Select **WPA-Personal** to secure your network using a password and dynamic key changes. No RADIUS server is required.

# Wireless Client mode

- Wireless Band:

Select **2.4GHz** from the drop-down menu.
- Mode:

**Wireless Client** is selected from the drop-down menu.
- Network Name (SSID):

Service Set Identifier (SSID) is the name designated for a specific wireless local area network (WLAN). The SSID's factory default setting is **dlink**. The SSID can be easily changed to connect to an existing wireless network.
- SSID Visibility:

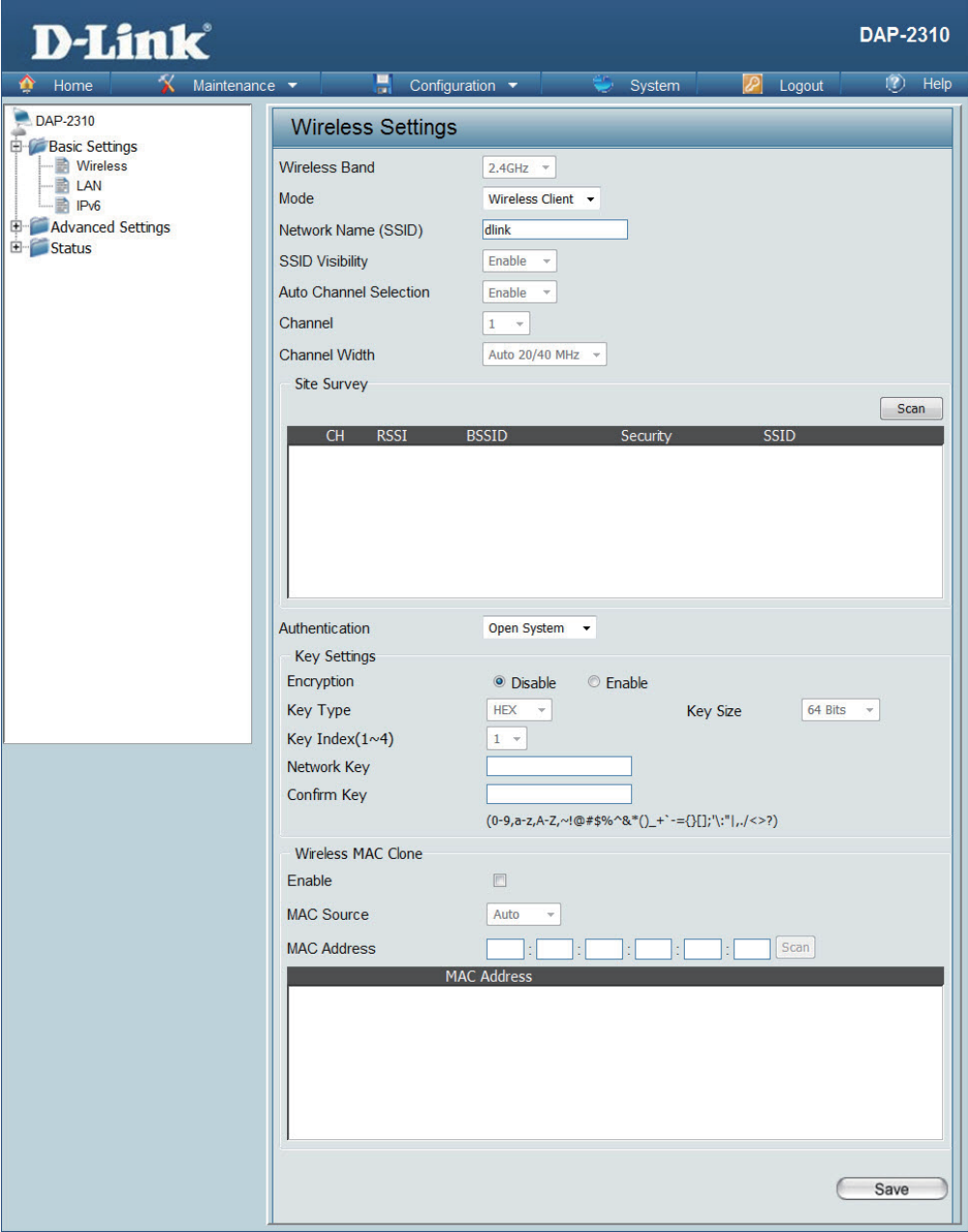
This option is unavailable in **Wireless Client** mode.
- Auto Channel Selection:

Enabling this feature automatically selects the channel that will provide the best wireless performance. This feature is not supported in **Wireless Client** mode.
- Channel:

The channel used will be displayed, and matches the AP that the DAP-2310 is connected to when set to **Wireless Client** mode.
- Channel Width:

Use the drop-down menu to choose **20 MHz** or **Auto 20/40 MHz**.
- Site Survey:

Click on the **Scan** button to search for available wireless networks, then click on the available network that you want to connect with. Use the drop-down menu to choose **Open System** or **WPA-Personal**.



**Authentication:** Select **Open System** to communicate the key across the network.  
Select **WPA-Personal** to secure your network using a password and dynamic key changes. No RADIUS server is required.

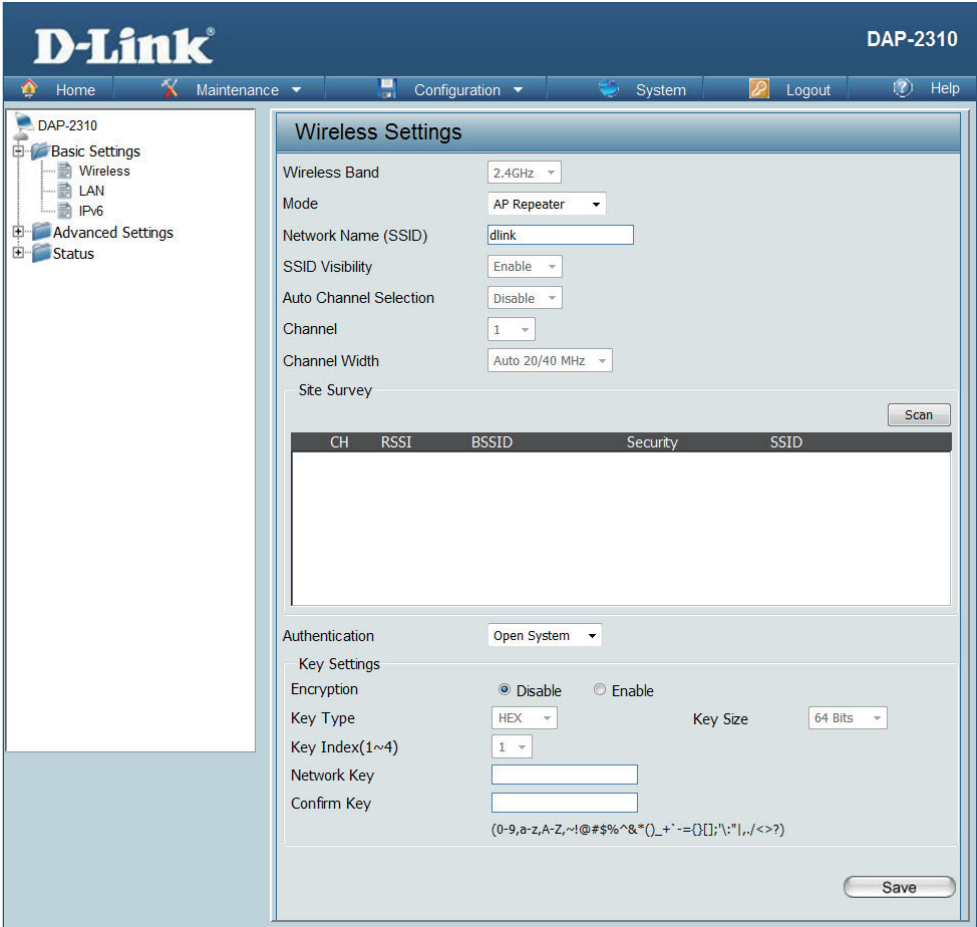
**Enable:** Check to enable clone MAC. This feature will allow you to change the MAC address of the access point to the MAC address of a client.

**MAC Source:** Select the MAC source from the drop-down menu.

**MAC Address:** Enter the MAC address that you would like to assign to the access point.

# AP Repeater mode

Wireless Band:	Select <b>2.4GHz</b> from the drop-down menu.
Mode:	<b>AP Repeater</b> is selected from the pull-down menu.
Network Name (SSID):	Service Set Identifier (SSID) is the name designated for a specific wireless local area network (WLAN). The SSID's factory default setting is <b>dlink</b> . The SSID can be easily changed to connect to an existing wireless network.
SSID Visibility:	This option is unavailable in <b>AP Repeater</b> mode.
Auto Channel Selection:	Enabling this feature automatically selects the channel that will provide the best wireless performance. This feature is not supported in <b>AP Repeater</b> mode.
Channel:	The channel used will be displayed, and matches the AP that the DAP-2310 is connected to when set to <b>AP Repeater</b> mode.
Channel Width:	Use the pull-down menu to choose <b>20 MHz</b> or <b>Auto 20/40 MHz</b> .
Site Survey:	Click on the <b>Scan</b> button to search for available wireless networks, then click on the available network that you want to connect with.
Authentication:	Use the pull-down menu to choose <b>Open System</b> or <b>WPA-Personal</b> . Select <b>Open System</b> to communicate the key across the network. Select <b>WPA-Personal</b> to secure your network using a password and dynamic key changes. No RADIUS server is required.



## Open System/Shared Key Authentication

- Encryption:** Use the radio button to disable or enable encryption.
- Key Type\*:** Select **HEX** or **ASCII**.
- Key Size:** Select **64 Bits** or **128 Bits**.
- Key Index (1-4):** Select the 1st through the 4th key to be the active key.
- Key:** Input up to four keys for encryption. You will select one of these keys in the Key Index drop-down menu.

**D-Link** DAP-2310

Home Maintenance Configuration System Logout Help

**Wireless Settings**

Wireless Band: 2.4GHz

Mode: Access Point

Network Name (SSID): dlink

SSID Visibility: Enable

Auto Channel Selection: Enable

Channel: 1

Channel Width: 20 MHz

Authentication: Open System

**Key Settings**

Encryption: ☒ Disable ☐ Enable

Key Type: HEX

Key Size: 64 Bits

Key Index(1~4): 1

Network Key:

Confirm Key:

(0-9,a-z,A-Z,~!@#\$%^&\*()\_+`~:;\",./<>?)

Save

*\*\*Hexadecimal (HEX) digits consist of the numbers 0-9 and the letters A-F.*

*\*ASCII (American Standard Code for Information Interchange) is a code that represents English letters using numbers ranging from 0-127.*

## WPA/WPA2-Personal Authentication

**WPA Mode:** When **WPA-Personal** is selected for Authentication type, you must also select a WPA mode from the drop-down menu: **AUTO (WPA or WPA2)**, **WPA2 Only**, or **WPA Only**. WPA and WPA2 use different algorithms. **AUTO (WPA or WPA2)** allows you to use both WPA and WPA2.

**Cipher Type:** When you select **WPA-Personal**, you must also select **AUTO**, **AES**, or **TKIP** from the drop-down menu.

**Group Key Update:** Select the interval during which the group key will be valid. The default value of **1800** is recommended. Select **Manual** to enter your key (PassPhrase).

**Periodical Key Change:** You can select **Periodical Key Change** to have the access point automatically change your PassPhrase. Enter the Activate From time and the time in hours to change the key.

**PassPhrase:** When you select **WPA-Personal**, please enter a PassPhrase in the corresponding field.

**D-Link** DAP-2310

Home Maintenance Configuration System Logout Help

**Wireless Settings**

Wireless Band: 2.4GHz

Mode: Access Point

Network Name (SSID): dlink

SSID Visibility: Enable

Auto Channel Selection: Enable

Channel: 1

Channel Width: 20 MHz

Authentication: WPA-Personal

**PassPhrase Settings**

WPA Mode: AUTO (WPA or WPA2)

Cipher Type: Auto

Group Key Update Interval: 3600 (Seconds)

☒ Manual

☐ Periodical Key Change

Activated From: Sun 00 : 00

Time Interval: 1 (1~168)hour(s)

PassPhrase:

Confirm PassPhrase:

notice: 8~63 in ASCII or 64 in Hex.  
(0-9,a-z,A-Z,~!@#\$%^&\*()\_+~-={}|;'\",./<>?)

Save

## WPA/WPA2-Enterprise Authentication

**WPA Mode:** When **WPA-Enterprise** is selected, you must also select a WPA mode from the drop-down menu: **AUTO (WPA or WPA2)**, **WPA2 Only**, or **WPA Only**. WPA and WPA2 use different algorithms. **AUTO (WPA or WPA2)** allows you to use both WPA and WPA2.

**Cipher Type:** When WPA-Enterprise is selected, you must also select a cipher type from the drop-down menu: **Auto**, **AES**, or **TKIP**.

**Group Key Update Interval:** Select the interval during which the group key will be valid. The recommended value is **1800**. A lower interval may reduce data transfer rates.

**Network Access Protection:** Enable or disable Microsoft Network Access Protection.

**RADIUS Server:** Enter the IP address of the RADIUS server.

**RADIUS Port:** Enter the RADIUS port.

**RADIUS Secret:** Enter the RADIUS secret.

The screenshot shows the D-Link DAP-2310 configuration interface. The left sidebar shows a tree view with 'Basic Settings', 'Wireless', 'LAN', 'IPv6', 'Advanced Settings', and 'Status'. The 'Wireless' section is selected. The main content area is titled 'Wireless Settings' and contains the following configuration options:

- Wireless Band:** 2.4GHz
- Mode:** Access Point
- Network Name (SSID):** dlink
- SSID Visibility:** Enable
- Auto Channel Selection:** Enable
- Channel:** 1
- Channel Width:** 20 MHz
- Authentication:** WPA-Enterprise
- RADIUS Server Settings:**
  - WPA Mode:** AUTO (WPA or WPA2)
  - Cipher Type:** Auto
  - Group Key Update Interval:** 3600 (Seconds)
- Network Access Protection:**
  - Network Access Protection:** ☒ Disable ☐ Enable
- RADIUS Server Mode:**
  - RADIUS Server:** ☒ External ☐ Internal
- Primary RADIUS Server Setting:**
  - RADIUS Server:**
  - RADIUS Port:** 1812
  - RADIUS Secret:**
- Backup RADIUS Server Setting (Optional):**
  - RADIUS Server:**
  - RADIUS Port:** 1812
  - RADIUS Secret:**
- Primary Accounting Server Setting:**
  - Accounting Mode:** Disable
  - Accounting Server:**
  - Accounting Port:** 1813
  - Accounting Secret:**
- Backup Accounting Server Setting (Optional):**
  - Accounting Server:**
  - Accounting Port:** 1813
  - Accounting Secret:**

A 'Save' button is located at the bottom right of the configuration area.



## 802.1x Authentication

**Key Update Interval:** Select the interval during which the group key will be valid (**300** is the recommended value). A lower interval may reduce data transfer rates.

**RADIUS Server:** Enter the IP address of the RADIUS server.

**RADIUS Port:** Enter the RADIUS port.

**RADIUS Secret:** Enter the RADIUS secret.

The screenshot shows the D-Link DAP-2310 configuration interface. The left sidebar contains a tree view with 'Basic Settings' expanded, showing 'Wireless', 'LAN', 'IPv6', 'Advanced Settings', and 'Status'. The main content area is titled 'Wireless Settings'. Under the 'Authentication' dropdown, '802.1X' is selected. Below this, the 'RADIUS Server Settings' section is visible, including a 'Key Update Interval' of 300 seconds. The 'RADIUS Server Mode' is set to 'External'. The 'Primary RADIUS Server Setting' section includes fields for 'RADIUS Server' (IP address), 'RADIUS Port' (1812), and 'RADIUS Secret' (password). The 'Backup RADIUS Server Setting (Optional)' section includes similar fields for a secondary server. The 'Primary Accounting Server Setting' section includes fields for 'Accounting Mode' (Disable), 'Accounting Server' (IP address), 'Accounting Port' (1813), and 'Accounting Secret' (password). The 'Backup Accounting Server Setting (Optional)' section includes similar fields for a secondary accounting server. A 'Save' button is located at the bottom right of the configuration area.

# LAN

LAN is short for Local Area Network. This is considered your internal network. These are the IP settings of the LAN interface for the DAP-2310. These settings may be referred to as private settings. You may change the LAN IP address if needed. The LAN IP address is private to your internal network and cannot be seen on the Internet.

**Get IP From:** **Static IP (Manual)** is chosen here. Choose this option if you do not have a DHCP server in your network, or if you wish to assign a static IP address to the DAP-2310. When **Dynamic IP (DHCP)** is selected, the other fields here will be grayed out. Please allow about two minutes for the DHCP client to be functional once this selection is made.

**IP Address:** The default IP address is 192.168.0.50. Assign a static IP address that is within the IP address range of your network.

**Subnet Mask:** Enter the subnet mask. All devices in the network must share the same subnet mask.

**Default Gateway:** Enter the IP address of the gateway in your network. If there is a gateway in your network, please enter an IP address within the range of your network.

**DNS:** Enter the DNS IP address used here.

The screenshot displays the D-Link DAP-2310 web interface. The top navigation bar includes links for Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar shows a tree view with Basic Settings (Wireless, LAN, IPv6), Advanced Settings, and Status. The main content area is titled 'LAN Settings'. It features a dropdown menu for 'Get IP From' set to 'Static IP (Manual)'. Below this are input fields for 'IP Address' (192.168.0.50), 'Subnet Mask' (255.255.255.0), 'Default Gateway', and 'DNS'. A 'Save' button is located at the bottom right of the settings area.

# IPv6

**Enable IPv6:** Check to enable the IPv6.

**Get IP From:** Auto is chosen here. Choose this option the DAP-2310 can get IPv6 address automatically or use Static to set IPv6 address manually. DAP-2310. When Auto is selected, the other fields here will be grayed out.

**IP Address:** Enter the LAN IPv6 address used here.

**Prefix:** Enter the LAN subnet prefix length value used here.

**Default Gateway:** Enter the LAN default gateway IPv6 address used here.

The screenshot displays the D-Link DAP-2310 web interface. The top navigation bar includes links for Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar shows a tree view of settings categories: Basic Settings (Wireless, LAN, IPv6), Advanced Settings (Performance, Multi-SSID, VLAN, Intrusion, Schedule, QoS, AP Array, ARP Spoofing Prevention, DHCP Server, Filters), and Status. The main panel is titled 'IPv6 Settings' and contains the following configuration options:

- ☐ Enable IPv6
- Get IP From: Auto (dropdown menu)
- IP Address: [text input field]
- Prefix: [text input field]
- Default Gateway: [text input field]
- Save (button)

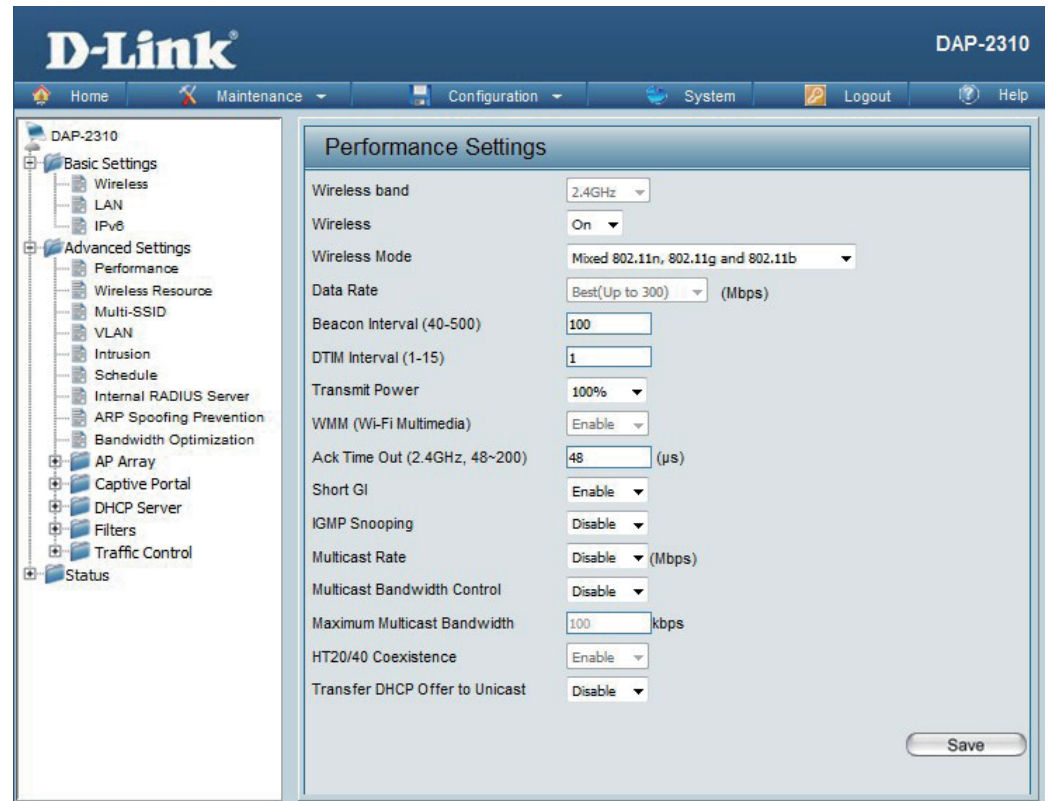
# Advanced Settings

## Performance

**Wireless:** Use the drop-down menu to turn the wireless function **On** or **Off**.

**Wireless Mode:** The different combination of clients that can be supported include **Mixed 802.11n, 802.11g and 802.11b, Mixed 802.11g and 802.11b and 802.11n Only**. Please note that when backwards compatibility is enabled for legacy (802.11g/b) clients, degradation of 802.11n wireless performance is expected.

**Data Rate\*:** Indicate the base transfer rate of wireless adapters on the wireless LAN. The AP will adjust the base transfer rate depending on the base rate of the connected device. If there are obstacles or interference, the AP will step down the rate. This option is enabled in **Mixed 802.11g and 802.11b** mode. The choices available are **Best (Up to 54), 54, 48, 36, 24, 18, 12, 9, 6, 11, 5.5, 2** or **1**.



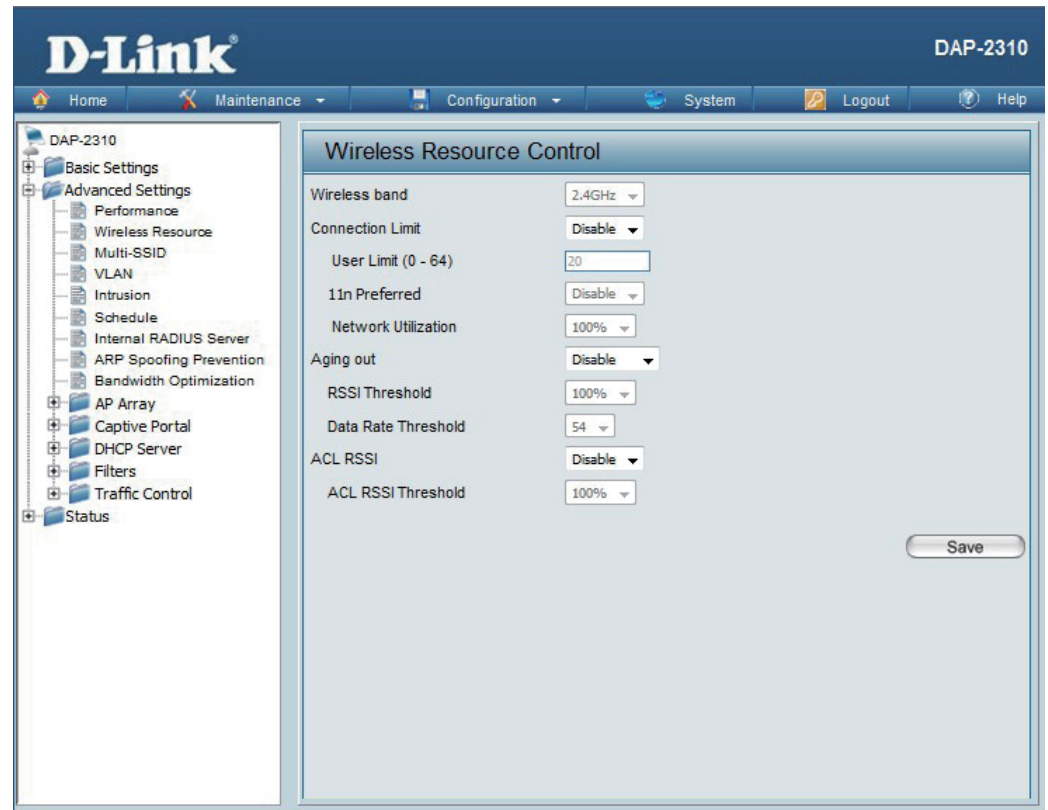
\*Maximum wireless signal rate derived from IEEE Standard 802.11n and 802.11g specifications. Actual data throughput may vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead can lower actual data throughput rate.

<b>Beacon Interval (25-500):</b>	Beacons are packets sent by an access point to synchronize a wireless network. Specify a value in milliseconds. The default ( <b>100</b> ) is recommended. Setting a higher beacon interval can help to save the power of wireless clients, while setting a lower one can help a wireless client connect to an access point faster.
<b>DTM Interval (1-15):</b>	Select a Delivery Traffic Indication Message setting between <b>1</b> and <b>15</b> . The default value is <b>1</b> . DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.
<b>Transmit Power:</b>	This setting determines the power level of the wireless transmission. Transmitting power can be adjusted to eliminate overlapping of wireless area coverage between two access points where interference is a major concern. For example, if wireless coverage is intended for half of the area, then select <b>50%</b> as the option. Use the drop-down menu to select <b>100%</b> , <b>50%</b> , <b>25%</b> , or <b>12.5%</b> .
<b>WMM (Wi-Fi Multimedia):</b>	WMM stands for Wi-Fi Multimedia. Enabling this feature will improve the user experience for audio and video applications over a Wi-Fi network.
<b>Ack Time Out (2.4 GHZ, 64~200) :</b>	To effectively optimize throughput over long distance links, enter a value for Acknowledgement Time Out from <b>64</b> to <b>200</b> microseconds in the 2.4 GHz in the field provided.
<b>Short GI:</b>	Select <b>Enable</b> or <b>Disable</b> . Enabling a short guard interval can increase throughput. However, be aware that it can also increase the error rate in some installations due to increased sensitivity to radio-frequency installations.
<b>IGMP Snooping:</b>	Select <b>Enable</b> or <b>Disable</b> . Internet Group Management Protocol allows the AP to recognize IGMP queries and reports sent between routers and an IGMP host (wireless STA). When IGMP snooping is enabled, the AP will forward multicast packets to an IGMP host based on IGMP messages passing through the AP.
<b>Multicast Rate:</b>	Select the multicast rate for 2.4G band.
<b>Multicast Bandwidth Control:</b>	Adjust the multicast packet data rate here. The multicast rate is supported in AP mode and WDS with AP mode, including Multi-SSIDs.
<b>Maximum Multicast Bandwidth :</b>	Set the multicast packets maximum bandwidth pass through rate from the Ethernet interface to the Access Point.
<b>HT20/40 Coexistence :</b>	Enable this option to reduce interference from other wireless networks in your area. If the channel width is operating at 40MHz and there is another wireless network's channel over-lapping and causing interference, the Access Point will automatically change to 20MHz.
<b>Transfer DHCP Offer to Unicast :</b>	Enable to transfer the DHCP Offer to Unicast from LAN to WLAN, suggest to enable this function if stations number is larger than 30.

# Wireless Resource Control

The Wireless Resource Control window is used to configure the wireless connection settings so that the device can detect the better wireless connection in your environment.

- Wireless band:** Select **2.4GHz**.
- Connection Limit:** Select **Enable** or **Disable**. This is an option for load balancing. This determines whether to limit the number of users accessing this device. The exact number is entered in the User Limit field below. This feature allows the user to share the wireless network traffic and the client using multiple APs. If this function is enabled and when the number of users exceeds this value, or the network utilization of this AP exceeds the percentage that has been specified, the DAP-2310 will not allow clients to associate with the AP.
- User Limit:** Set the maximum amount of users that are allowed access (zero to 64 users) to the device using the specified wireless band. The default setting is 20.
- 11n Preferred:** Use the drop-down menu to **Enable** the 11n Preferred function. The wireless clients with 802.11n protocol will have higher priority to connect to the device.



<b>Network Utilization:</b>	Set the maximum utilization of this access point for service. The DAP-2310 will not allow any new clients to associate with the AP if the utilization exceeds the value the user specifies. Select a utilization percentage between 100%, 80%, 60%, 40%, 20%, or 0%. When this network utilization threshold is reached, the device will pause one minute to allow network congestion to dissipate.
<b>Aging out:</b>	Use the drop-down menu to select the criteria of disconnecting the wireless clients. Available options are <b>RSSI</b> and <b>Data Rate</b> .
<b>RSSI Threshold:</b>	When <b>RSSI</b> is selected in the <b>Aging out</b> drop-down menu, select the percentage of RSSI here. When the RSSI of wireless clients is lower than the specified percentage, the device disconnects the wireless clients.
<b>Data Rate Threshold:</b>	When <b>Data Rate</b> is selected in the <b>Aging out</b> drop-down menu, select the threshold of data rate here. When the data rate of wireless clients is lower than the specified number, the device disconnects the wireless clients.
<b>ACL RSSI:</b>	Use the drop-down menu to <b>Enable</b> the function. When enabled, the device denies the connection request from the wireless clients with the RSSI lower than the specified threshold below.
<b>ACL RSSI Threshold:</b>	Set the ACL RSSI Threshold.



# Multi-SSID

The device supports up to four multiple Service Set Identifiers. In the **Basic > Wireless** section, you can set the Primary SSID. The SSID's factory default setting is **dlink**. The SSID can be easily changed to connect to an existing wireless network or to establish a new wireless network.

- Enable Multi-SSID:

Check to enable support for multiple SSIDs.
- Band:

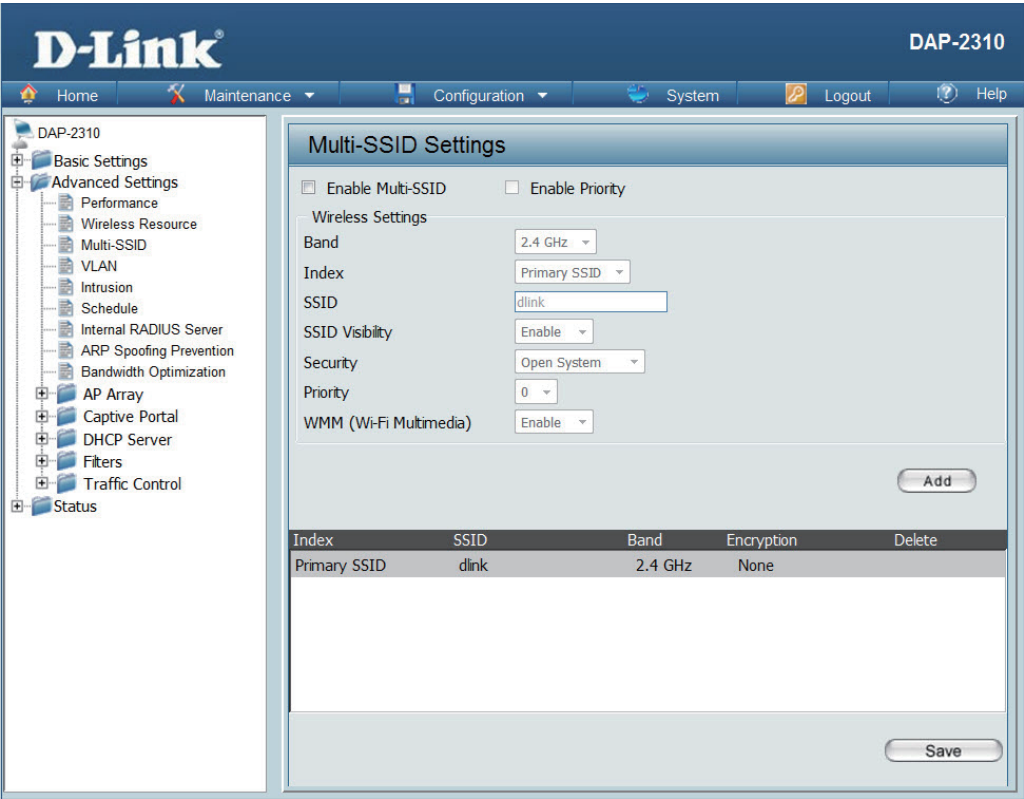
This read-only value is the current band setting.
- Index:

You can select up to three multi-SSIDs. With the Primary SSID, you have a total of four multi-SSIDs.
- SSID:

Service Set Identifier (SSID) is the name designated for a specific wireless local area network (WLAN). The SSID's factory default setting is **dlink**. The SSID can be easily changed to connect to an existing wireless network or to establish a new wireless network.
- SSID Visibility:

**Enable** or **Disable** SSID visibility. Enabling this feature broadcasts the SSID across the network, thus making it visible to all network users.
- Security:

The Multi-SSID security can be **Open System**, **WPA-Personal**, **WPA-Enterprise**, or **802.1x**. For a detailed description of the Open System parameters, please go to page 25. For a detailed description of the WPA-Personal parameters, please go to page 26. For a detailed description of the WPA-Enterprise parameters, please go to page 27. For a detailed description of the 802.1x parameters, please go to page 28.





<b>Priority:</b>	Check the <b>Enable Priority</b> box at the top of this window to enable. Select the priority from the drop-down menu.
<b>WMM (Wi-Fi Multimedia):</b>	Select <b>Enable</b> or <b>Disable</b> .
<b>Encryption:</b>	When you select <b>Open System</b> , toggle between <b>Enable</b> and <b>Disable</b> . If <b>Enable</b> is selected, the Key Type, Key Size, Key Index (1~4), Key, and Confirm Keys must also be configured.
<b>Key Type:</b>	Select <b>HEX</b> or <b>ASCII</b> .
<b>Key Size:</b>	Select <b>64 Bits</b> or <b>128 Bits</b> .
<b>Key Index (1-4):</b>	Select from the 1st to 4th key to be set as the active key.
<b>Key:</b>	Input up to four keys for encryption. You will select one of these keys in the Key Index drop-down menu.
<b>WPA Mode:</b>	When you select either <b>WPA-Personal</b> or <b>WPA-Enterprise</b> , you must also choose a WPA mode from the drop-down menu: <b>AUTO (WPA or WPA2)</b> , <b>WPA2 Only</b> , or <b>WPA Only</b> . WPA and WPA2 use different algorithms. <b>AUTO (WPA or WPA2)</b> allows you to use both WPA and WPA2. In addition, you must configure Cipher Type and Group Key Update Interval.
<b>Cipher Type:</b>	Select <b>Auto</b> , <b>AES</b> , or <b>TKIP</b> from the drop-down menu.
<b>Group Key Update Interval:</b>	Select the interval during which the group key will be valid. The default value of <b>1800</b> seconds is recommended.
<b>PassPhrase:</b>	When you select <b>WPA-Personal</b> , please enter a PassPhrase in the corresponding field.
<b>Confirm PassPhrase:</b>	When you select <b>WPA-Personal</b> , please re-enter the PassPhrase entered in the previous item in the corresponding field.
<b>RADIUS Server:</b>	When you select <b>WPA-Enterprise</b> , enter the IP address of the RADIUS server. In addition, you must configure RADIUS Port and RADIUS Secret.
<b>RADIUS Port:</b>	Enter the RADIUS port.
<b>RADIUS Secret:</b>	Enter the RADIUS secret.

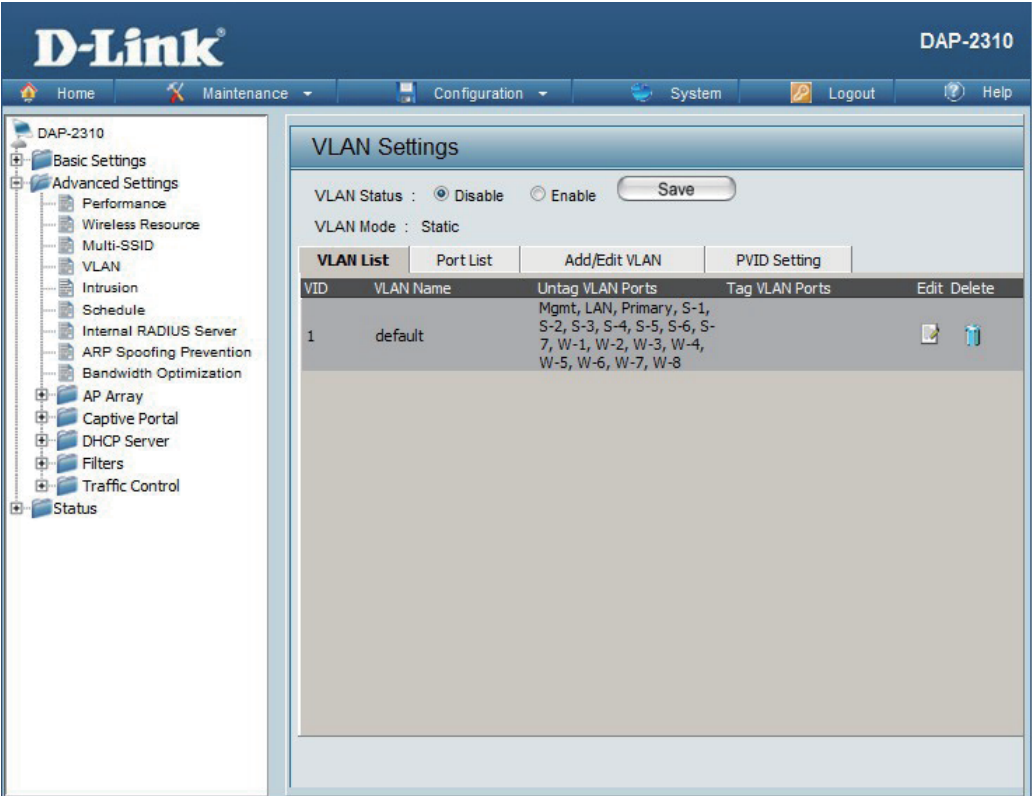
# VLAN

## VLAN List

The DAP-2310 supports VLANs. VLANs can be created with a Name and VID. Mgmt (TCP stack), LAN, Primary Multiple SSID, and WDS connection can be assigned to VLANs as they are physical ports. Any packet which enters the DAP-2310 without a VLAN tag will have a VLAN tag inserted with a PVID.

The VLAN List tab displays the current VLANs.

**VLAN Status:** Use the radio button to toggle between **Enable** or **Disable**. Next, go to the **Add/Edit VLAN** tab to add or modify an item on the **VLAN List** tab.



## Port List

The Port List tab displays the current ports. If you want to configure the guest and internal networks on a Virtual LAN (VLAN), the switch and DHCP server you are using must also support VLANs. As a prerequisite step, configure a port on the switch for handling VLAN tagged packets as described in the IEEE 802.1Q standard.

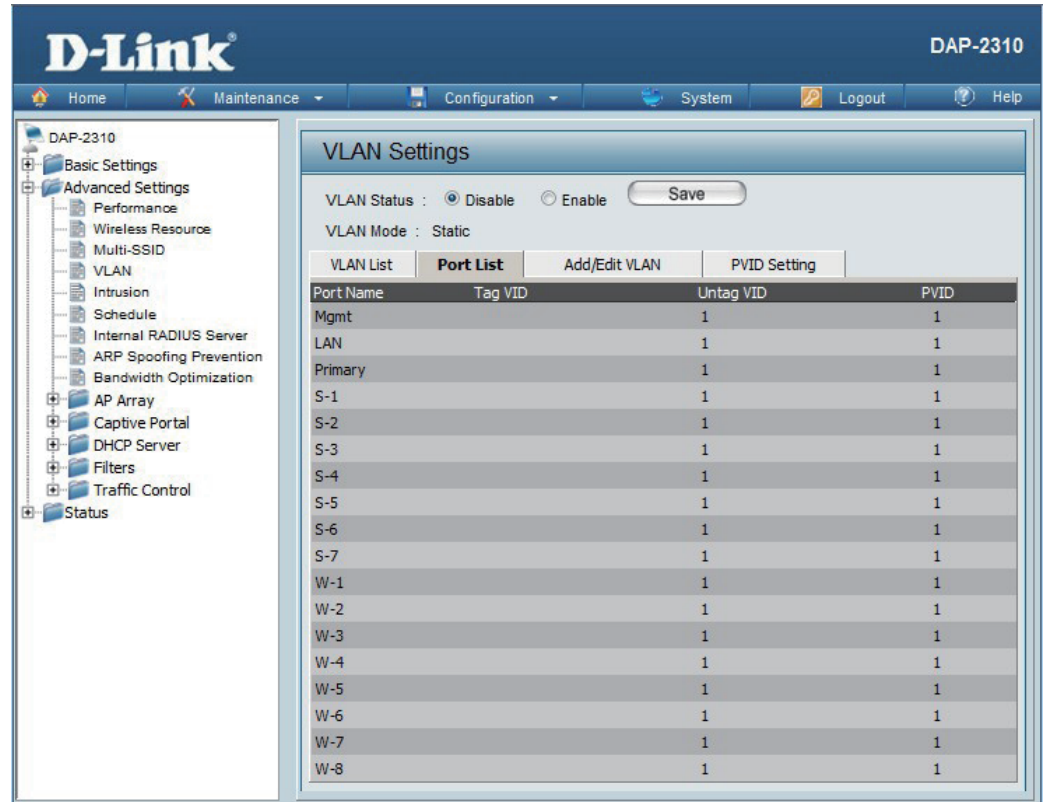
**VLAN Status:** Use the radio button to toggle to Enable. Next, go to the **Add/Edit VLAN** tab to add or modify an item on the **VLAN List** tab.

**Port Name:** The name of the port is displayed in this column.

**Tag VID:** The Tagged VID is displayed in this column.

**Untag VID:** The Untagged VID is displayed in this column.

**PVID:** The Port VLAN Identifier is displayed in this column.



The screenshot shows the D-Link DAP-2310 web interface. The left sidebar contains a tree view with categories like Basic Settings, Advanced Settings, and Status. The main content area is titled 'VLAN Settings'. It includes a 'VLAN Status' section with 'Disable' (selected) and 'Enable' radio buttons, and a 'VLAN Mode' section with 'Static' selected. Below these is a tabbed interface with 'VLAN List', 'Port List' (selected), 'Add/Edit VLAN', and 'PVID Setting'. The 'Port List' tab displays a table with the following data:

Port Name	Tag VID	Untag VID	PVID
Mgmt		1	1
LAN		1	1
Primary		1	1
S-1		1	1
S-2		1	1
S-3		1	1
S-4		1	1
S-5		1	1
S-6		1	1
S-7		1	1
W-1		1	1
W-2		1	1
W-3		1	1
W-4		1	1
W-5		1	1
W-6		1	1
W-7		1	1
W-8		1	1

## Add/Edit VLAN

The **Add/Edit VLAN** tab is used to configure VLANs. Once you have made the desired changes, click the **Save** button to let your changes take effect.

- VLAN Status:** Use the radio button to toggle to Enable.
- VLAN ID:** Provide a number between 1 and 4094 for the Internal VLAN.
- VLAN Name:** Enter the VLAN to add or modify.

**D-Link** DAP-2310

Home Maintenance Configuration System Logout Help

**VLAN Settings**

VLAN Status : ☒ Disable ☐ Enable

VLAN Mode : Static

VLAN List Port List **Add/Edit VLAN** PVID Setting

VLAN ID (VID)  VLAN Name

Port	Select All	Mgmt	LAN
Untag	<input type="button" value="All"/>	<input type="radio"/>	<input type="radio"/>
Tag	<input type="button" value="All"/>	<input type="radio"/>	<input type="radio"/>
Not Member	<input type="button" value="All"/>	<input type="radio"/>	<input type="radio"/>

MSSID Port	Select All	Primary	S-1	S-2	S-3	S-4	S-5	S-6	S-7
Untag	<input type="button" value="All"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tag	<input type="button" value="All"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not Member	<input type="button" value="All"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

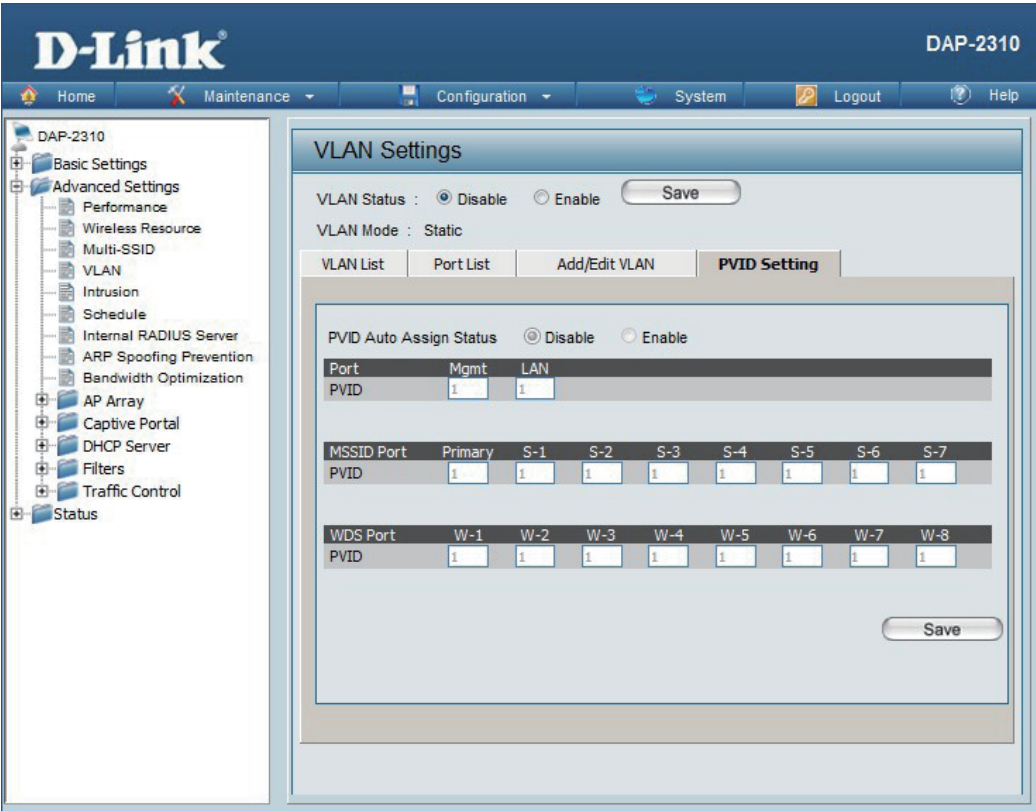
WDS Port	Select All	W-1	W-2	W-3	W-4	W-5	W-6	W-7	W-8
Untag	<input type="button" value="All"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tag	<input type="button" value="All"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not Member	<input type="button" value="All"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# PVID Setting

The **PVID Setting** tab is used to enable/disable the Port VLAN Identifier Auto Assign Status as well as to configure various types of PVID settings. Click the **Save** button to let your changes take effect.

**VLAN Status:** Use the radio button to toggle between **Enable** and **Disable**.

**PVID Auto Assign Status:** Use the radio button to toggle PVID auto assign status to **Enable**.

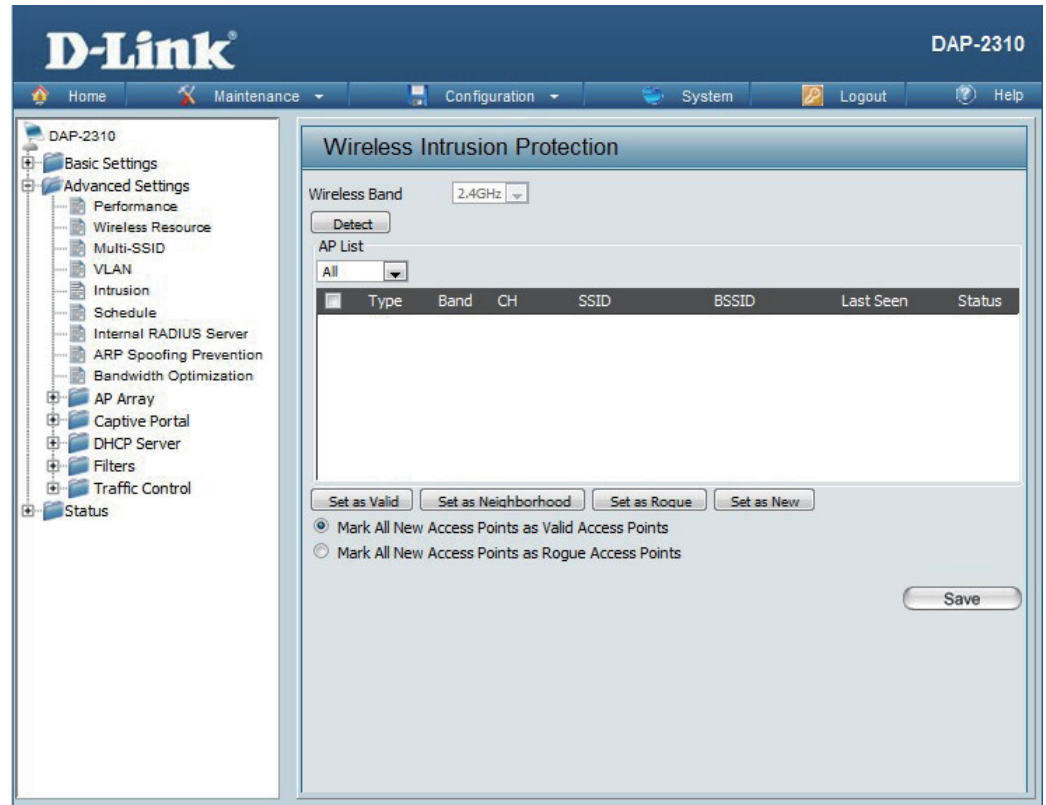


# Intrusion

The Wireless Intrusion Protection window is used to set APs as **All**, **Valid**, **Neighborhood**, **Rogue**, and **New**. Click the **Save** button to let your changes take effect.

**AP List:** The choices include **All**, **Valid**, **Neighbor**, **Rogue**, and **New**.

**Detect:** Click this button to initiate a scan of the network.



# Schedule

The Wireless Schedule Settings window is used to add and modify scheduling rules on the device. Click the **Save** button to let your changes take effect.

<b>Wireless Schedule:</b>	Use the drop-down menu to enable the device's scheduling feature.
<b>Name:</b>	Enter a name for the new scheduling rule in the field provided.
<b>Index:</b>	Select the index from the drop-down menu.
<b>SSID:</b>	Enter the name of your wireless network (SSID).
<b>Day(s):</b>	Toggle the radio button between <b>All Week</b> and <b>Select Day(s)</b> . If the second option is selected, check the specific days you want the rule to be effective on.
<b>All Day(s):</b>	Check this box to have your settings apply 24 hours a day.
<b>Start Time:</b>	Enter the start time for your rule. If you selected <b>All Day</b> , this option will be greyed out.
<b>End Time:</b>	Enter the end time for your rule.
<b>Add:</b>	Click to add the rule to the list.
<b>Schedule Rule List:</b>	This section will display the list of created schedules.
<b>Save:</b>	Click the <b>Save</b> button to save your created rules.



## Internal RADIUS Server

The DAP-2310 features a built-in RADIUS server. Once you have finished adding a RADIUS account, click the Save button to let your changes take effect. The newly-created account will appear in this RADIUS Account List. The radio buttons allow the user to enable or disable the RADIUS account. Click the icon in the delete column to remove the RADIUS account. We suggest you limit the number of accounts below 30.

<b>User Name:</b>	Enter a name to authenticate user access to the internal RADIUS server.
<b>Password:</b>	Enter a password to authenticate user access to the internal RADIUS server. The length of your password should be 8~64.
<b>Status:</b>	Toggle the drop-down menu between Enable and Disable.
<b>RADIUS Account List:</b>	Displays the list of users.

The screenshot displays the D-Link DAP-2310 web interface. The top navigation bar includes links for Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar shows a tree view of configuration options, with 'Internal RADIUS Server' selected under 'Advanced Settings'. The main content area is titled 'Internal RADIUS Server' and contains two sections: 'Add RADIUS Account' and 'RADIUS Account list'. The 'Add RADIUS Account' section has input fields for 'User Name' and 'Password', and a 'Status' dropdown menu set to 'Enable'. The 'RADIUS Account list' section is currently empty, showing only the column headers: 'User Name', 'Enable', 'Disable', and 'Delete'. A 'Save' button is located at the bottom right of the configuration area.



## ARP Spoofing Prevention Settings

The ARP Spoofing Prevention feature allows users to add IP/MAC address mapping to prevent arp spoofing attack.

**ARP Spoofing Prevention:** This check box allows you to enable the arp spoofing prevention function.

**Gateway IP Address:** Enter a gateway IP address.

**Gateway MAC Address:** Enter a gateway MAC address.

The screenshot shows the D-Link DAP-2310 web interface. The left sidebar contains a tree view with categories like Basic Settings, Advanced Settings, Performance, Wireless Resource, Multi-SSID, VLAN, Intrusion, Schedule, Internal RADIUS Server, ARP Spoofing Prevention, Airtime Fairness, AP Array, Captive Portal, DHCP Server, Filters, Traffic Control, and Status. The main content area is titled 'ARP Spoofing Prevention Settings'. It features a dropdown menu for 'ARP Spoofing Prevention' set to 'Disable'. Below this is the 'Add Gateway Address' section with input fields for 'Gateway IP Address' and 'Gateway MAC Address' (formatted as four pairs of boxes separated by colons), and 'Add' and 'Clear' buttons. The 'Gateway Address List' section shows 'Total Entries: 0' and a 'Delete All' button. A table with columns 'Gateway IP Address', 'Gateway MAC Address', 'Edit', and 'Delete' is present but empty. A 'Save' button is at the bottom right.

## Bandwidth Optimization

The Bandwidth Optimization window allows the user to manage the bandwidth of the device and arrange the bandwidth for various wireless clients. When the Bandwidth Optimization rule is finished, click the Add button. To discard the Add Bandwidth Optimization Rule settings, click the Clear button. Click the Save button to let your changes take effect.

**Enable Bandwidth Optimization:**

Use the drop-down menu to Enable the Bandwidth Optimization function.

**Downlink Bandwidth:**

Enter the downlink bandwidth of the device in Mbits per second.

**Uplink Bandwidth:**

Enter the uplink bandwidth of the device in Mbits per second.

**Rule Type:**

Use the drop-down menu to select the type that is applied to the rule. Available options are: Allocate average BW for each station, Allocate maximum BW for each station, Allocate different BW for 11b/g/n stations, and Allocate specific BW for SSID.

**Allocate average BW for each station:**

AP will distribute average bandwidth for each client.

**Allocate maximum BW for each station:**

Specify the maximum bandwidth for each connected client. Reserve certain bandwidth for future clients.

**Allocate different BW for b/g/n stations:**

The weight of 11b/g/n client are 10%/20%/70%. AP will distribute different bandwidth for 11b/g/n clients.

**D-Link** DAP-2310

Home Maintenance Configuration System Logout Help

**Bandwidth Optimization**

Enable Bandwidth Optimization: Disable

Downlink Bandwidth: 80 Mbits/sec

Uplink Bandwidth: 80 Mbits/sec

**Add Bandwidth Optimization Rule**

Rule Type: Allocate average BW for each station

Band: 2.4 GHz

SSID Index: Primary SSID

Downlink Speed: Kbits/sec

Uplink Speed: Kbits/sec

Add Clear

**Bandwidth Optimization Rules**

Band	Type	SSID Index	Downlink Speed	Uplink Speed	Edit	Del

Save

- Allocate specific BW for SSID:

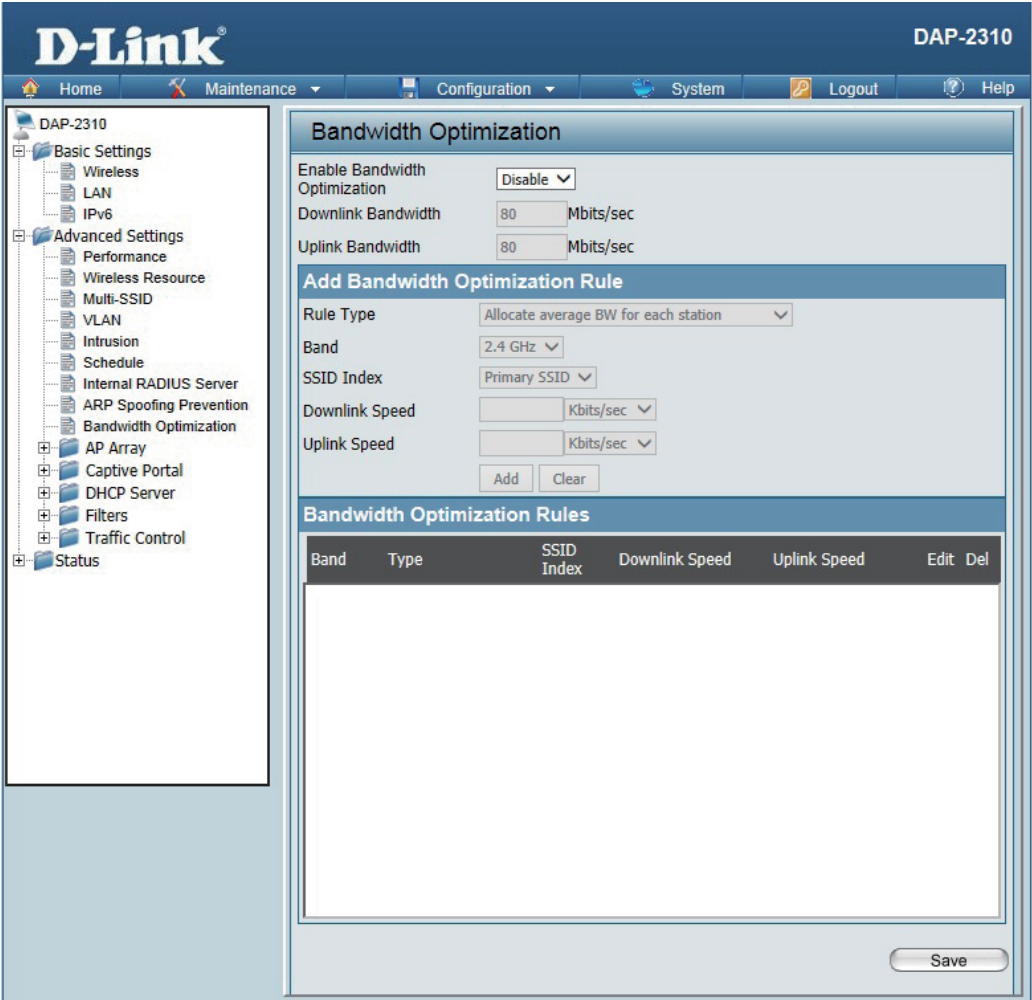
All clients share the total bandwidth.
- Band:

Use the drop-down menu to toggle the wireless band 2.4GHz.
- SSID Index:

Use the drop-down menu to select the SSID for the specified wireless band.
- Downlink Speed:

Enter the limitation of the downloading speed in either Kbits/sec or Mbits/sec for the rule.
- Uplink Speed:

Enter the limitation of the uploading speed in either Kbits/sec or Mbits/sec for the rule.



# AP Array

## AP Array Scan

The AP Array window is used to create up to 32 APs on a local network to be organized into a single group in order to increase ease of management. Click the Save button to let your changes take effect. Central WiFiManager and AP Array are mutually exclusive functions.

### Enable AP Array:

Select the check box to enable the AP array function. The three modes that are available are Master, Backup Master, and Slave. APs in the same array will use the same configuration. The configuration will sync the Master AP to the Slave AP and the Backup Master AP when a Slave AP and a Backup Master AP join the AP array.

### AP Array Name:

Enter an AP array name for the group here.

### AP Array Password:

Enter an AP array password for the group here. This password must be the same on all the APs in the group.

### Scan AP Array List:

Click this button to initiate a scan of all the available APs currently on the network.

### Connection Status:

Display the AP array connection status.

### AP Array List:

This table displays the current AP array status for the following parameters: Array Name, Master IP, MAC, Master, Backup Master, Slave, and Total.

### Current Members:

This table displays all the current array members. The DAP-2310 AP array feature supports up to eight AP array members.

**D-Link** DAP-2310

Home Maintenance Configuration System Logout Help

**AP Array Scan** Version:2.0

☐ Enable AP Array

☐ Master ☐ Backup Master ☒ Slave

AP Array Name:

AP Array Password:

Scan AP Array List:

Connection Status: Disconnect

**AP Array List**

Array Name	Master IP	MAC	Master	Backup Master	Slave	Total

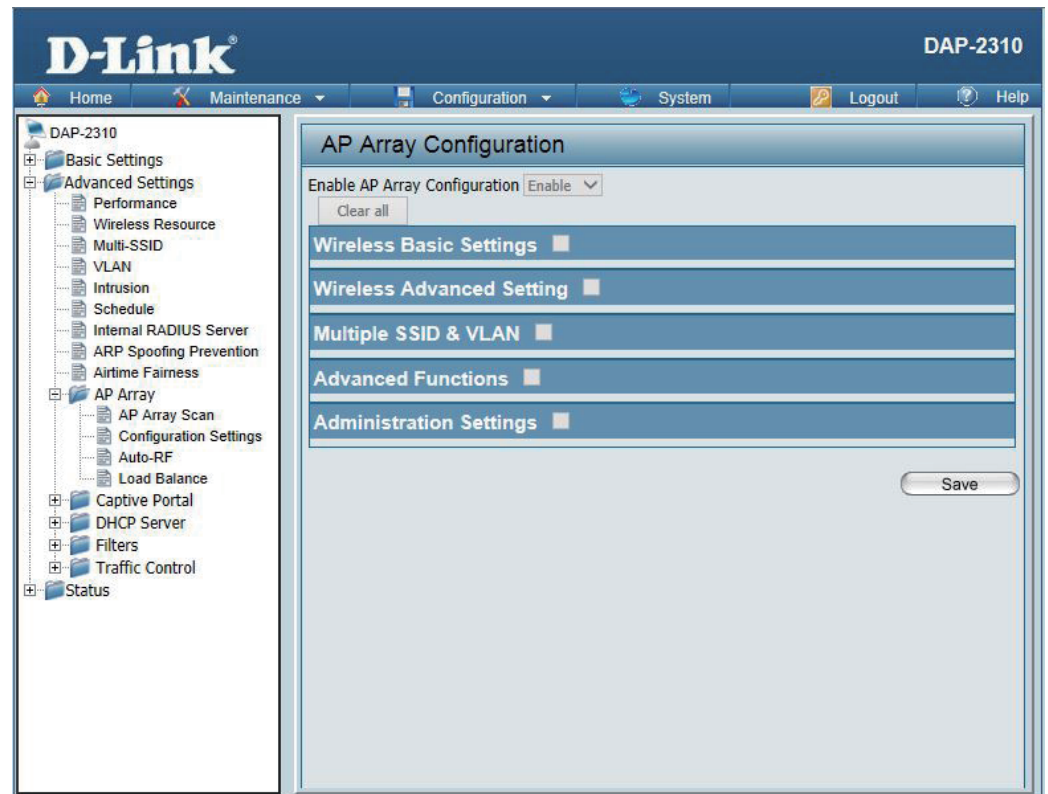
**Current Members**

Index	Role	IP Address	MAC Address	Location

## Configuration Settings

In the AP array configuration settings windows, users can specify which settings all the APs in the group will inherit from the master AP. Make the required selection in this window and click the Save button to accept the changes made.

<b>Enable AP Array Configuration:</b>	Select to Enable or Disable the AP array configure feature here.
<b>Wireless Basic Settings:</b>	Select this option to specify the basic wireless settings that the APs in the group will inherit.
<b>Wireless Advanced Settings:</b>	Select this option to specify the advanced wireless settings that the APs in the group will inherit.
<b>Multiple SSID &amp; VLAN:</b>	Select this option to specify the multiple SSIDs and VLAN settings that the APs in the group will inherit.
<b>Advanced Functions:</b>	Select this option to specify the other advanced settings that the APs in the group will inherit.
<b>Administration Settings:</b>	Select this option to specify the administrative settings that the APs in the group will inherit.



## Auto-RF

In this windows, users can view and configure the automatic radio frequency settings as well as configure the the auto-initiate period and threshold values. Click the Save button to accept the changes made.

<b>Enable: Auto-RF:</b>	Select to Enable or Disable the auto-RF feature here.
<b>Initiate Auto-RF:</b>	Click the Auto-RF Optimize button to initiate the auto-RF optimization feature.
<b>Auto-Initiate:</b>	Select the Enable or Disable the auto-initiate feature here.
<b>Auto-Initiate Period:</b>	After enabling the auto-initiate option, the auto-initiate period value can be entered here. This value must be between 1 and 24 hours.
<b>RSSI Threshold:</b>	Select the RSSI threshold value here. This value is listed in the drop-down menu in increments of 10% from 10% to 100%.
<b>RF Report Frequency:</b>	Enter the RF report frequency value here.

The screenshot shows the D-Link DAP-2310 configuration web interface. The top navigation bar includes links for Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar displays a tree view of configuration categories: Basic Settings, Advanced Settings (with sub-items like Performance, Wireless Resource, Multi-SSID, VLAN, Intrusion, Schedule, Internal RADIUS Server, ARP Spoofing Prevention, Airtime Fairness, AP Array, AP Array Scan, Configuration Settings, Auto-RF, and Load Balance), Captive Portal, DHCP Server, Filters, Traffic Control, and Status. The main content area is titled 'Auto-RF' and contains the following settings:

- Enable Auto-RF:** A dropdown menu currently set to 'Disable'.
- Initiate Auto-RF:** A button labeled 'Auto-RF Optimize'.
- Auto-Initiate:** A dropdown menu currently set to 'Disable'.
- Auto-Initiate Period:** A text input field containing '24' followed by '(hours)'.
- RSSI Threshold:** A dropdown menu currently set to '40%'.
- RF Report Frequency:** A text input field containing '10' followed by '(Seconds)'.

A 'Save' button is located at the bottom right of the configuration area.



## Load Balance

In this window, users can view and configure the AP array's load balancing settings. Click the Save button to accept the changes made.

**Enable Load Balance:** Select to Enable or Disable the load balance feature here.

**Active Threshold:** Enter the active threshold value here.

The screenshot displays the D-Link DAP-2310 web management interface. The top navigation bar includes links for Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar shows a tree view of configuration options, with 'Load Balance' selected under the 'AP Array' section. The main content area is titled 'Load Balance' and contains two settings: 'Enable Load Balance' set to 'Disable' (with a dropdown arrow) and 'Active Threshold' set to '1' (in a text input field). A 'Save' button is located at the bottom right of the configuration area.

# Captive Portal

## Authentication Settings-Web Redirection Only

The Captive Portal is a built-in web authentication server. When a station connects to an AP, the web browser will be redirected to a web authentication page. In this window, user can view and configure the Captive Portal settings. After selecting Web Redirection Only as the Authentication Type, we can configure the redirection website URL that will be applied to each wireless client in this network.

<b>Session timeout(1-1440) :</b>	Enter the session timeout value here. This value can be from 1 to 1440 minutes. By default, this value is 60 minutes.
<b>Band :</b>	Select 2.4GHz.
<b>SSID Index :</b>	Select the SSID for this Authentication.
<b>Authentication Type :</b>	Select the captive portal encryption type here. Options to choose from are Web Redirection, Username/Password, Passcode, Remote RADIUS, LDAP and POP3. In this section we'll discuss the Web Redirection option.
<b>Web Redirection State :</b>	Default setting is Enable when select Web Redirection Only.
<b>URL Path :</b>	Select whether to use either HTTP or HTTPS here. After selecting either http:// or https://, enter the URL of the website that will be used in the space provided.
<b>IPIF Status :</b>	Select to Enable or Disable the Captive Portal with its IP interface feature here.
<b>VLAN Group :</b>	Enter the VLAN Group ID here

**D-Link** DAP-2310

Home Maintenance Configuration System Logout Help

**Captive Portal Authentication**

Session Timeout (1-1440) 60 Minute(s)

Band 2.4GHz

SSID Index Primary SSID

Authentication Type Web Redirection Only

**Web Redirection Interface Settings**

Web Redirection State Enable

URL Path http://

**IP Interface Settings**

IPIF Status Disable

VLAN Group

Get IP From Static IP(Manual)

IP Address

Subnet Mask

Gateway

DNS

Save

Band	SSID Index	Captive Profile	Edit	Delete



**Get IP From :** Static IP (Manual) is chosen here. Choose this option if you do not have a DHCP server in your network, or if you wish to assign a static IP address to the DAP-2310. When Dynamic IP (DHCP) is selected, the other fields here will be grayed out. Please allow about 2 minutes for the DHCP client to be functional once this selection is made.

**IP Address :** Assign a static IP address that is within the IP address range of your network.

**Subnet Mask :** Enter the subnet mask. All devices in the network must share the same subnet mask.

**Gateway :** Enter the IP address of the gateway/router in your network.

**DNS :** Enter a DNS server IP address. This is usually the local IP address of your gateway/router.

**D-Link** DAP-2310

Home Maintenance Configuration System Logout Help

**Captive Portal Authentication**

Session Timeout (1-1440) 60 Minute(s)

Band 2.4GHz

SSID Index Primary SSID

Authentication Type Web Redirection Only

**Web Redirection Interface Settings**

Web Redirection State Enable

URL Path http://

**IP Interface Settings**

IPIF Status Disable

VLAN Group

Get IP From Static IP(Manual)

IP Address

Subnet Mask

Gateway

DNS

Save

Band	SSID Index	Captive Profile	Edit	Delete

## Authentication Settings- Username/Password

The Captive Portal is a built-in web authentication server. When a station connects to an AP, the web browser will be redirected to a web authentication page. In this window, user can view and configure the Captive Portal settings. After selecting Username/Password as the Authentication Type, we can configure the Username/Password authentication that will be applied to each wireless client in this network.

- Session timeout(1-1440) :** Enter the session timeout value here. This value can be from 1 to 1440 minutes. By default, this value is 60 minutes.
- Band :** Select 2.4GHz.
- SSID Index :** Select the SSID for this Authentication.
- Authentication Type :** Select the captive portal encryption type here. Options to choose from are Web Redirection, Username/Password, Passcode, Remote RADIUS, LDAP and POP3. In this section we'll discuss the Username/Password option.
- Web Redirection State :** Default is Disable or select Enable to enable the website redirection feature.
- URL Path :** Select whether to use either HTTP or HTTPS here. After selecting either http:// or https://, enter the URL of the website that will be used in the space provided.
- IPIF Status :** Select to Enable or Disable the Captive Portal with its IP interface feature here.
- VLAN Group :** Enter the VLAN Group ID here.

**D-Link DAP-2310**

Home Maintenance Configuration System Logout Help

**Captive Portal Authentication**

Session Timeout (1-1440): 60 Minute(s)

Band: 2.4GHz

SSID Index: Primary SSID

Authentication Type: Username/Password

**Web Redirection Interface Settings**

Web Redirection State: Disable

URL Path: http://

**IP Interface Settings**

IPIF Status: Disable

VLAN Group:

Get IP From: Static IP(Manual)

IP Address:

Subnet Mask:

Gateway:

DNS:

**Username/Password Settings**

Username:

Password:

Add Clear

Username	Edit	Delete

Save

Band	SSID Index	Captive Profile	Edit	Delete

**Get IP From :** Static IP (Manual) is chosen here. Choose this option if you do not have a DHCP server in your network, or if you wish to assign a static IP address to the DAP-2310. When Dynamic IP (DHCP) is selected, the other fields here will be grayed out. Please allow about 2 minutes for the DHCP client to be functional once this selection is made.

**IP Address :** Assign a static IP address that is within the IP address range of your network.

**Subnet Mask :** Enter the subnet mask. All devices in the network must share the same subnet mask.

**Gateway :** Enter the IP address of the gateway/router in your network.

**DNS :** Enter a DNS server IP address. This is usually the local IP address of your gateway/router.

**Username:** Enter the username for the new account here.

**Password:** Enter the password for the new account here.

The screenshot displays the D-Link DAP-2310 web interface. The left sidebar shows a tree view with categories: Basic Settings, Advanced Settings, Performance, Wireless Resource, Multi-SSID, VLAN, Intrusion, Schedule, Internal RADIUS Server, ARP Spoofing Prevention, Bandwidth Optimization, AP Array, Captive Portal, DHCP Server, Filters, Traffic Control, and Status. The 'Captive Portal' option is selected. The main content area is titled 'Captive Portal Authentication'. It contains the following settings:

- Session Timeout (1-1440): 60 Minute(s)
- Band: 2.4GHz
- SSID Index: Primary SSID
- Authentication Type: Username/Password
- Web Redirection Interface Settings:
  - Web Redirection State: Disable
  - URL Path: http://
- IP Interface Settings:
  - IPIF Status: Disable
  - VLAN Group:
  - Get IP From: Static IP(Manual)
  - IP Address:
  - Subnet Mask:
  - Gateway:
  - DNS:
- Username/Password Settings:
  - Username:
  - Password:
  - Buttons: Add, Clear

Below the settings are two tables for user management:

Username	Edit	Delete

Band	SSID Index	Captive Profile	Edit	Delete

A 'Save' button is located at the bottom right of the main settings area.

## Authentication Settings- Passcode

The Captive Portal is a built-in web authentication server. When a station connects to an AP, the web browser will be redirected to a web authentication page. In this window, user can view and configure the Captive Portal settings. After selecting Passcode as the Authentication Type, we can configure the Passcode authentication that will be applied to each wireless client in this network.

- Session timeout(1-1440) :** Enter the session timeout value here. This value can be from 1 to 1440 minutes. By default, this value is 60 minutes.
- Band :** Select 2.4GHz.
- SSID Index :** Select the SSID for this Authentication.
- Authentication Type :** Select the captive portal encryption type here. Options to choose from are Web Redirection, Username/Password, Passcode, Remote RADIUS, LDAP and POP3. In this section we'll discuss the Passcode option.
- Web Redirection State :** Default is Disable or select Enable to enable the website redirection feature.
- URL Path :** Select whether to use either HTTP or HTTPS here. After selecting either http:// or https://, enter the URL of the website that will be used in the space provided.
- IPIF Status :** Select to Enable or Disable the Captive Portal with its IP interface feature here.
- VLAN Group :** Enter the VLAN Group ID here.

**D-Link DAP-2310**

Home Maintenance Configuration System Logout Help

**Captive Portal Authentication**

Session Timeout (1-1440): 60 Minute(s)

Band: 2.4GHz

SSID Index: Primary SSID

Authentication Type: Passcode

Web Redirection Interface Settings

Web Redirection State: Disable

URL Path: http://

**IP Interface Settings**

IPIF Status: Disable

VLAN Group:

Get IP From: Static IP(Manual)

IP Address:

Subnet Mask:

Gateway:

DNS:

Passcode Settings

Passcode Quantity:

Duration: Hour

Last Active Time: Year 2015 Month Jan Day 1 Hour 1:00

User Limit:

Add Clear

Delete All

Passcode	Duration	Last Active Time	User Limit	Delete

Save

**Get IP From :** Static IP (Manual) is chosen here. Choose this option if you do not have a DHCP server in your network, or if you wish to assign a static IP address to the DAP-2310. When Dynamic IP (DHCP) is selected, the other fields here will be grayed out. Please allow about 2 minutes for the DHCP client to be functional once this selection is made.

**IP Address :** Assign a static IP address that is within the IP address range of your network.

**Subnet Mask :** Enter the subnet mask. All devices in the network must share the same subnet mask.

**Gateway :** Enter the IP address of the gateway/router in your network.

**DNS :** Enter a DNS server IP address. This is usually the local IP address of your gateway/router.

**Passcode Quantity:** Enter the number of ticket that will be used here.

**Duration:** Enter the duration value, in hours, for this passcode.

**Last Active Day:** Select the last active date for this passcode here. Year, Month and Day selections can be made.

**User Limit:** Enter the maximum amount of users that can use this passcode at the same time.

**D-Link** DAP-2310

Home Maintenance Configuration System Logout Help

**Captive Portal Authentication**

Session Timeout (1-1440) 60 Minute(s)

Band 2.4GHz

SSID Index Primary SSID

Authentication Type Passcode

Web Redirection Interface Settings

Web Redirection State Disable

URL Path http://

**IP Interface Settings**

IPIF Status Disable

VLAN Group

Get IP From Static IP(Manual)

IP Address

Subnet Mask

Gateway

DNS

Passcode Settings

Passcode Quantity

Duration Hour

Last Active Time Year 2015 Month Jan Day 1 Hour 1:00

User Limit

Add Clear

Delete All

Passcode	Duration	Last Active Time	User Limit	Delete

Save

Band	SSID Index	Captive Profile	Edit	Delete



## Authentication Settings- Remote RADIUS

The Captive Portal is a built-in web authentication server. When a station connects to an AP, the web browser will be redirected to a web authentication page. In this window, user can view and configure the Captive Portal settings. After selecting Remote RADIUS as the Authentication Type, we can configure the Remote RADIUS authentication that will be applied to each wireless client in this network.

<b>Session timeout(1-1440) :</b>	Enter the session timeout value here. This value can be from 1 to 1440 minutes. By default, this value is 60 minutes.
<b>Band :</b>	Select 2.4GHz.
<b>SSID Index :</b>	Select the SSID for this Authentication.
<b>Authentication Type :</b>	Select the captive portal encryption type here. Options to choose from are Web Redirection, Username/Password, Passcode, Remote RADIUS, LDAP and POP3. In this section we'll discuss the Remote RADIUS option.
<b>Web Redirection State :</b>	Default is Disable or select Enable to enable the website redirection feature.
<b>URL Path :</b>	Select whether to use either HTTP or HTTPS here. After selecting either http:// or https://, enter the URL of the website that will be used in the space provided.
<b>IPIF Status :</b>	Select to Enable or Disable the Captive Portal with its IP interface feature here.
<b>VLAN Group :</b>	Enter the VLAN Group ID here.

**D-Link DAP-2310**

Home Maintenance Configuration System Logout Help

**Captive Portal Authentication**

Session Timeout (1-1440): 60 Minute(s)

Band: 2.4GHz

SSID Index: Primary SSID

Authentication Type: Remote RADIUS

Web Redirection Interface Settings

Web Redirection State: Disable

URL Path: http://

**IP Interface Settings**

IPIF Status: Disable

VLAN Group:

Get IP From: Static IP(Manual)

IP Address:

Subnet Mask:

Gateway:

DNS:

**Remote RADIUS Settings**

**Radius Server Settings**

Radius Server: Radius Port: 1812

Radius Secret:

Remote RADIUS Type: SPAP

**Secondary radius Server Settings**

Radius Server: Radius Port: 1812

Radius Secret:

Remote RADIUS Type: SPAP

**Third radius Server Settings**

Radius Server: Radius Port: 1812

Radius Secret:

Remote RADIUS Type: SPAP

Save

Band	SSID Index	Captive Profile	Edit	Delete

**Get IP From :** Static IP (Manual) is chosen here. Choose this option if you do not have a DHCP server in your network, or if you wish to assign a static IP address to the DAP-2310. When Dynamic IP (DHCP) is selected, the other fields here will be grayed out. Please allow about 2 minutes for the DHCP client to be functional once this selection is made.

**IP Address :** Assign a static IP address that is within the IP address range of your network.

**Subnet Mask :** Enter the subnet mask. All devices in the network must share the same subnet mask.

**Gateway :** Enter the IP address of the gateway/router in your network.

**DNS :** Enter a DNS server IP address. This is usually the local IP address of your gateway/router.

**Radius Server:** Enter the RADIUS server's IP address here.

**Radius Port:** Enter the RADIUS server's port number here.

**Radius Port:** Enter the RADIUS server's shared secret here.

**Remote Radius Type:** Select the remote RADIUS server type here. Currently, only SPAP will be used.

**D-Link** DAP-2310

Home Maintenance Configuration System Logout Help

**Captive Portal Authentication**

Session Timeout (1-1440)  Minute(s)

Band

SSID Index

Authentication Type

Web Redirection Interface Settings

Web Redirection State

URL Path

**IP Interface Settings**

IPIF Status

VLAN Group

Get IP From

IP Address

Subnet Mask

Gateway

DNS

Remote RADIUS Settings

**Radius Server Settings**

Radius Server  Radius Port

Radius Secret

Remote RADIUS Type

**Secondary radius Server Settings**

Radius Server  Radius Port

Radius Secret

Remote RADIUS Type

**Third radius Server Settings**

Radius Server  Radius Port

Radius Secret

Remote RADIUS Type

Band	SSID Index	Captive Profile	Edit	Delete

## Authentication Settings- LDAP

The Captive Portal is a built-in web authentication server. When a station connects to an AP, the web browser will be redirected to a web authentication page. In this window, user can view and configure the Captive Portal settings. After selecting LDAP as the Authentication Type, we can configure the LDAP authentication that will be applied to each wireless client in this network.

<b>Session timeout(1-1440) :</b>	Enter the session timeout value here. This value can be from 1 to 1440 minutes. By default, this value is 60 minutes.
<b>Band :</b>	Select 2.4GHz.
<b>SSID Index :</b>	Select the SSID for this Authentication.
<b>Authentication Type :</b>	Select the captive portal encryption type here. Options to choose from are Web Redirection, Username/Password, Passcode, Remote RADIUS, LDAP and POP3. In this section we'll discuss the LDAP option.
<b>Web Redirection State :</b>	Default is Disable or select Enable to enable the website redirection feature.
<b>URL Path :</b>	Select whether to use either HTTP or HTTPS here. After selecting either http:// or https://, enter the URL of the website that will be used in the space provided.
<b>IPIF Status :</b>	Select to Enable or Disable the Captive Portal with its IP interface feature here.
<b>VLAN Group :</b>	Enter the VLAN Group ID here.
<b>Get IP From :</b>	Static IP (Manual) is chosen here. Choose this option if you do not have a DHCP server in your network, or if you wish to assign a static IP address to the DAP-2310. When Dynamic IP (DHCP) is selected, the other fields here will be grayed out. Please allow about 2 minutes for the DHCP client to be functional once this selection is made.

**D-Link** DAP-2310

Home Maintenance Configuration System Logout Help

**Captive Portal Authentication**

Session Timeout (1-1440) 60 Minute(s)

Band 2.4GHz

SSID Index Primary SSID

Authentication Type LDAP

Web Redirection Interface Settings

Web Redirection State Disable

URL Path http://

**IP Interface Settings**

IPIF Status Disable

VLAN Group

Get IP From Static IP(Manual)

IP Address

Subnet Mask

Gateway

DNS

LDAP Settings

Server

Port 389

Authenticate Mode Simple

Username

Password

Base DN (ou=,dc=)

Account Attribute (ex.cn)

Identity ☐ Auto Copy

Save

Band	SSID Index	Captive Profile	Edit	Delete



- IP Address :** Assign a static IP address that is within the IP address range of your network.
- Subnet Mask :** Enter the subnet mask. All devices in the network must share the same subnet mask.
- Gateway :** Enter the IP address of the gateway/router in your network.
- DNS :** Enter a DNS server IP address. This is usually the local IP address of your gateway/router.
- Server:** Enter the LDAP server's IP address or domain name here.
- Port:** Enter the LDAP server's port number here.
- Authenticate Mode:** Select the authentication mode here. Options to choose from are Simple and TLS.
- Username:** Enter the LDAP server account's username here.
- Password:** Enter the LDAP server account's password here.
- Base DN:** Enter the administrator's domain name here
- Account Attribute:** Enter the LDAP account attribute string here. This string will be used to search for clients.
- Identity:** Enter the identity's full path string here. Alternatively, select the Auto Copy checkbox to automatically add the generic full path of the web page in the identity field.

The screenshot shows the D-Link DAP-2310 web interface. The left sidebar contains a navigation tree with the following items: Basic Settings, Advanced Settings, Performance, Wireless Resource, Multi-SSID, VLAN, Intrusion, Schedule, Internal RADIUS Server, ARP Spoofing Prevention, Bandwidth Optimization, AP Array, Captive Portal, Authentication Settings, Login Page Upload, IP Filter Settings, MAC Bypass, DHCP Server, Filters, Traffic Control, and Status. The main content area is titled 'Captive Portal Authentication' and contains the following settings:

- Session Timeout (1-1440): 60 Minute(s)
- Band: 2.4GHz
- SSID Index: Primary SSID
- Authentication Type: LDAP
- Web Redirection Interface Settings:
  - Web Redirection State: Disable
  - URL Path: http://
- IP Interface Settings:
  - IPIF Status: Disable
  - VLAN Group:
  - Get IP From: Static IP(Manual)
  - IP Address:
  - Subnet Mask:
  - Gateway:
  - DNS:
  - LDAP Settings:
    - Server:
    - Port: 389
    - Authenticate Mode: Simple
    - Username:
    - Password:
    - Base DN: (ou=,dc=)
    - Account Attribute: (ex.cn)
    - Identity: ☐ Auto Copy

At the bottom right of the settings area is a 'Save' button. Below the settings is a table with the following columns: Band, SSID Index, Captive Profile, Edit, and Delete. The table is currently empty.

## Authentication Settings- POP3

The Captive Portal is a built-in web authentication server. When a station connects to an AP, the web browser will be redirected to a web authentication page. In this window, user can view and configure the Captive Portal settings. After selecting POP3 as the Authentication Type, we can configure the POP3 authentication that will be applied to each wireless client in this network.

**Session timeout(1-1440) :** Enter the session timeout value here. This value can be from 1 to 1440 minutes. By default, this value is 60 minutes.

**Band :** Select 2.4GHz.

**SSID Index :** Select the SSID for this Authentication.

**Authentication Type :** Select the captive portal encryption type here. Options to choose from are Web Redirection, Username/Password, Passcode, Remote RADIUS, LDAP and POP3. In this section we'll discuss the POP3 option.

**Web Redirection State :** Default is Disable or select Enable to enable the website redirection feature.

**URL Path :** Select whether to use either HTTP or HTTPS here. After selecting either http:// or https://, enter the URL of the website that will be used in the space provided.

**IPIF Status :** Select to Enable or Disable the Captive Portal with its IP interface feature here.

**VLAN Group :** Enter the VLAN Group ID here.

**Get IP From :** Static IP (Manual) is chosen here. Choose this option if you do not have a DHCP server in your network, or if you wish to assign a static IP address to the DAP-2310. When Dynamic IP (DHCP) is selected, the other fields here will be grayed out. Please allow about 2 minutes for the DHCP client to be functional once this selection is made.

- IP Address :** Assign a static IP address that is within the IP address range of your network.
- Subnet Mask :** Enter the subnet mask. All devices in the network must share the same subnet mask.
- Gateway :** Enter the IP address of the gateway/router in your network.
- DNS :** Enter a DNS server IP address. This is usually the local IP address of your gateway/router.
- Server:** Enter the POP3 server's IP address or domain name here.
- Port:** Port: Enter the POP server's port number here.
- Connection Type:** Select the connection type here. Options to choose from are None and SSL/TLS.

The screenshot shows the D-Link DAP-2310 web interface. The left sidebar contains a tree view with the following items: Home, Maintenance, Configuration, System, Logout, and Help. Under Configuration, the following items are listed: Basic Settings, Advanced Settings, Performance, Wireless Resource, Multi-SSID, VLAN, Intrusion, Schedule, Internal RADIUS Server, ARP Spoofing Prevention, Bandwidth Optimization, AP Array, Captive Portal, Authentication Settings, Login Page Upload, IP Filter Settings, MAC Bypass, DHCP Server, Filters, Traffic Control, and Status. The main content area is titled "Captive Portal Authentication" and contains the following settings:

- Session Timeout (1-1440): 60 Minute(s)
- Band: 2.4GHz
- SSID Index: Primary SSID
- Authentication Type: POP3
- Web Redirection Interface Settings:
  - Web Redirection State: Disable
  - URL Path: http://
- IP Interface Settings:
  - IPIF Status: Disable
  - VLAN Group:
  - Get IP From: Static IP(Manual)
  - IP Address:
  - Subnet Mask:
  - Gateway:
  - DNS:
  - POP3 Settings:
    - Server:
    - Port: 110
    - Connection Type: None

At the bottom right of the settings area is a "Save" button. Below the settings area is a table with the following columns: Band, SSID Index, Captive Profile, Edit, and Delete. The table is currently empty.

# Login Page Upload

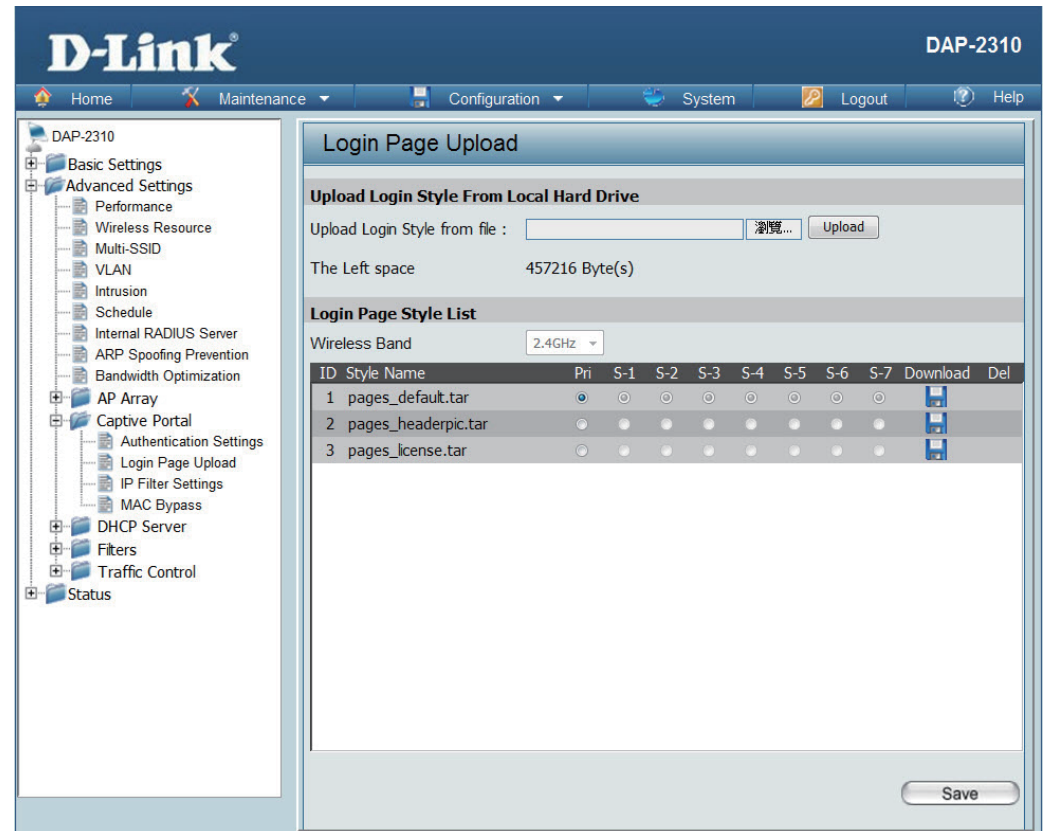
In this window, users can upload a custom login web page that will be used by the captive portal feature. Click the **Browse** button to navigate to the login style, located on the managing computer and then click the **Upload** button to initiate the upload.

**Upload Login Style From Local Hard Drive:**

In this field the path to the login style file, that will be uploaded, will be displayed. Alternatively, the path can be manually entered here.

**Login Page Style List :**

Select the wireless band and login style that will be used in each SSID here. Click Download button to download the template file for login page and Click Del button to delete the template file.



## IP Filter Settings

Enter the IP address or network address that will be used in the IP filter rule. For example, an IP address like 192.168.70.66 or a network address like 192.168.70.0. This IP address or network will be inaccessible to wireless clients in this network.

- Wireless Band :** Select 2.4GHz.
- IP Address:** Enter the IP address or network address
- Subnet Mask:** Enter the subnet mask of the IP address or networks address
- Upload IP Filter File:** To upload a IP filter list file, click Browse and navigate to the IP filter list file saved on the computer, and then click Upload.
- Download IP Filter File:** To download IP Filter list file, click Download and to save the IP Filter list.

The screenshot shows the D-Link DAP-2310 web interface. The top navigation bar includes links for Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar displays a tree view of the configuration menu, with 'IP Filter Settings' selected under the 'Advanced Settings' section. The main content area is titled 'IP Filter Settings' and contains the following fields:

- Wireless Band:** A dropdown menu set to '2.4GHz'.
- SSID Index:** A dropdown menu set to 'Primary SSID'.
- IP Address:** A text input field.
- Subnet Mask:** A text input field.
- Add:** A button to add a new filter rule.

Below these fields is a table with the following columns: ID, IP Address, Subnet Mask, and Delete. The table is currently empty.

At the bottom of the page, there are two sections:

- Upload IP Filter File:** Includes a text input for 'Upload File', a '浏览...' (Browse) button, and an 'Upload' button.
- Download IP Filter File:** Includes a 'Download' button and a 'Save' button.

# MAC Bypass

The DAP-2310 features a wireless MAC Bypass. Once a user is finished with these settings, click the Save button to let the changes take effect.

- Wireless Band:** Select the wireless band for MAC Bypass.
- SSID Index:** Select the SSID for MAC Bypass.
- MAC Address:** Enter each MAC address that you wish to include in your bypass list, and click Add.
- MAC Address List:** When a MAC address is entered, it appears in this list.  
Highlight a MAC address and click the Delete icon to remove it from this list.
- Upload File:** To upload a MAC bypass list file, click Browse and navigate to the MAC bypass list file saved on the computer, and then click Upload.
- Load MAC File to Local Hard Driver:** To download MAC bypass list file, click Download and to save the MAC bypass list.

The screenshot shows the D-Link DAP-2310 web interface. The top navigation bar includes Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar shows a tree view of settings: Basic Settings, Advanced Settings (Performance, Wireless Resource, Multi-SSID, VLAN, Intrusion, Schedule, Internal RADIUS Server, ARP Spoofing Prevention, Bandwidth Optimization), AP Array, Captive Portal, Authentication Settings (Login Page Upload, IP Filter Settings, MAC Bypass), DHCP Server, Filters, Traffic Control, and Status. The main content area is titled 'MAC Bypass Settings'. It contains the following fields and controls:

- Wireless Band:** A dropdown menu set to '2.4GHz'.
- SSID Index:** A dropdown menu set to 'Primary SSID'.
- MAC Address:** A text input field with a colon separator and an 'Add' button.
- MAC Address List:** A table with columns 'ID', 'MAC Address', and 'Delete'. The table is currently empty.
- Upload MAC File:** A section with an 'Upload File' label, a text input field, a '浏览...' (Browse) button, and an 'Upload' button.
- Download MAC File:** A section with a 'Load MAC File to Local Hard Driver' label and a 'Download' button.
- Save:** A large 'Save' button at the bottom right of the settings area.



# DHCP Server

## Dynamic Pool Settings

The DHCP address pool defines the range of the IP address that can be assigned to stations in the network. A Dynamic Pool allows wireless stations to receive an available IP with lease time control. If needed or required in the network, the DAP-2310 is capable of acting as a DHCP server.

**Function Enable/Disable:** Dynamic Host Configuration Protocol (DHCP) assigns dynamic IP addresses to devices on the network. This protocol simplifies network management and allows new wireless devices to receive IP addresses automatically without the need to manually assign new IP addresses. Select **Enable** to allow the DAP-2310 to function as a DHCP server.

**IP Assigned From:** Input the first IP address available for assignment on your network.

**The Range of Pool (1-254):** Enter the number of IP addresses available for assignment. IP addresses are increments of the IP address specified in the "IP Assigned From" field.

**Subnet Mask:** All devices in the network must have the same subnet mask to communicate. Enter the submask for the network here.

**Gateway:** Enter the IP address of the gateway on the network.

**WINS:** Specify the Windows Internet Naming Service (WINS) server address for the wireless network. WINS is a system that determines the IP address of a network computer that has a dynamically assigned IP address.

The screenshot shows the D-Link DAP-2310 web interface. The top navigation bar includes links for Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar shows a tree view of configuration options: Basic Settings, Advanced Settings (Performance, Wireless Resource, Multi-SSID, VLAN, Intrusion, Schedule, Internal RADIUS Server, ARP Spoofing Prevention, Bandwidth Optimization), AP Array, Captive Portal, DHCP Server (Dynamic Pool Settings, Static Pool Settings, Current IP Mapping List), Filters, Traffic Control, and Status. The main content area is titled "Dynamic Pool Settings". Under "DHCP Server Control", the "Function Enable/Disable" dropdown is set to "Disable". Under "Dynamic Pool Settings", the following fields are visible: "IP Assigned From" (192.168.0.20), "The Range of Pool (1-254)" (235), "Subnet Mask" (255.255.255.0), "Gateway" (empty), "WINS" (empty), "DNS" (empty), "Domain Name" (dlink-ap), and "Lease Time (60 - 31536000 sec)" (604800). A "Save" button is located at the bottom right of the settings area.

**DNS:** Enter the IP address of the Domain Name System (DNS) server. The DNS server translates domain names such as **www.dlink.com** into IP addresses.

**Domain Name:** Enter the domain name of the network, if applicable. (An example of a domain name is: **www.dlink.com.**)

**Lease Time**  
**(60-31536000**  
**sec):** The lease time is the period of time before the DHCP server will assign new IP addresses.



## Static Pool Setting

The DHCP address pool defines the range of IP addresses that can be assigned to stations on the network. A static pool allows specific wireless stations to receive a fixed IP without time control.

**Function Enable/Disable:**

Dynamic Host Configuration Protocol (DHCP) assigns IP addresses to wireless devices on the network. This protocol simplifies network management and allows new wireless devices to receive IP addresses automatically without the need to manually assign IP addresses. Select **Enable** to allow the DAP-2310 to function as a DHCP server.

**Assigned IP:**

Use the Static Pool Settings to assign the same IP address to a device every time you start up. The IP addresses assigned in the Static Pool list must NOT be in the same IP range as the Dynamic Pool. After you have assigned a static IP address to a device via its MAC address, click **Save**; the device will appear in the Assigned Static Pool at the bottom of the screen. You can edit or delete the device in this list.

**Assigned MAC Address:**

Enter the MAC address of the device requesting association here.

**Subnet Mask:**

Define the submask of the IP address specified in the "IP Assigned From" field.

The screenshot shows the D-Link DAP-2310 web interface. The top navigation bar includes links for Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar shows a tree view of configuration options: Basic Settings, Advanced Settings (Performance, Wireless Resource, Multi-SSID, VLAN, Intrusion, Schedule, Internal RADIUS Server, ARP Spoofing Prevention, Bandwidth Optimization), AP Array, Captive Portal, DHCP Server (Dynamic Pool Settings, Static Pool Settings, Current IP Mapping List), Filters, Traffic Control, and Status. The main content area is titled "Static Pool Settings". Under "DHCP Server Control", the "Function Enable/Disable" is set to "Disable". Under "Static Pool Setting", fields for Host Name, Assigned IP, Assigned MAC Address (in hex format), Subnet Mask (255.255.255.0), Gateway, WINS, DNS, and Domain Name (dlink-ap) are visible. A "Save" button is at the bottom right. Below the settings is a table with columns: Host Name, MAC Address, IP Address, Edit, and Delete. The table is currently empty.

<b>Gateway:</b>	Specify the Gateway address for the wireless network.
<b>WINS:</b>	Specify the Windows Internet Naming Service (WINS) server address for the wireless network. WINS is a system that determines the IP address of a network computer with a dynamically assigned IP address, if applicable.
<b>DNS:</b>	Enter the Domain Name System (DNS) server address for the wireless network. The DNS server translates domain names such as <b>www.dlink.com</b> into IP addresses.
<b>Domain Name:</b>	Specify the domain name for the network.

## Current IP Mapping List

This window displays information about the current assigned DHCP dynamic and static IP address pools. This information is available when you enable DHCP server on the AP and assign dynamic and static IP address pools.

**Current DHCP Dynamic Profile:**

These are IP address pools the DHCP server has assigned using the dynamic pool setting.

**Host Name:**

The host name of a device on the network that is assigned an IP address from the DHCP dynamic pool.

**Binding MAC Address:**

The MAC address of a device on the network that is assigned an IP address from the DHCP dynamic pool.

**Assigned IP Address:**

The current corresponding DHCP-assigned IP address of the device.

**Lease Time:**

The length of time that the dynamic IP address will be valid.

**Current DHCP Static Pools:**

These are the IP address pools of the DHCP server assigned through the static pool settings.

**Host Name:**

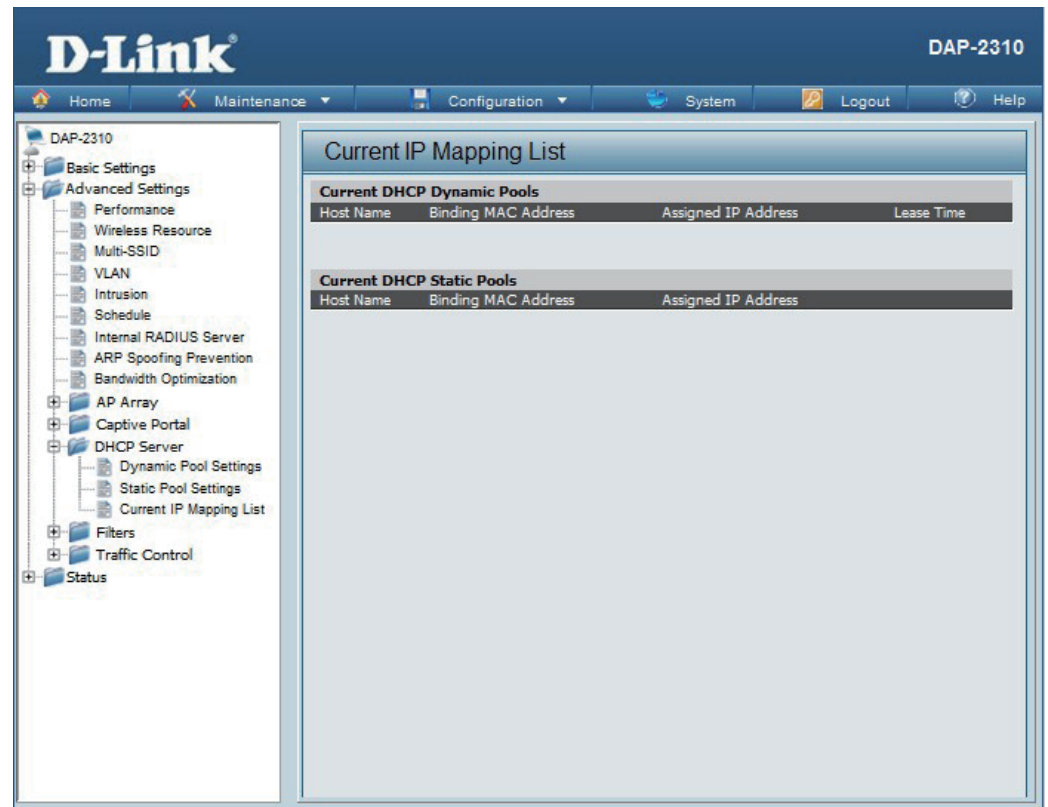
The host name of a device on the network that is assigned an IP address from the DHCP dynamic pool.

**Binding MAC Address:**

The MAC address of a device on the network that is within the DHCP static IP address pool.

**Assigned IP Address:**

The current corresponding DHCP-assigned static IP address of the device.



# Filters

## Wireless MAC ACL

- Wireless Band:** Displays the current wireless band rate.
- Access Control List:** Select **Disable** to disable the filters function.
- Select **Accept** to accept only those devices with MAC addresses in the Access Control List. All other devices not on the list will be rejected.
- Select **Reject** to reject the devices with MAC addresses on the Access Control List. All other devices not on the list will be accepted.
- MAC Address:** Enter each MAC address that you wish to include in your filter list, and click **Add**.
- MAC Address List:** When you enter a MAC address, it appears in this list. Highlight a MAC address and click **Delete** to remove it from this list.
- Upload ACL File:** You may create an ACL list and upload it to the access point instead of manually entering the information. Once created, click the **Browse** button and locate your file. Select it and then click **Upload**.
- Download ACL File:** Click **Download** to export the ACL to a file on your computer.

**D-Link** DAP-2310

Home Maintenance Configuration System Logout Help

**Wireless MAC ACL Settings**

Wireless Band: 2.4GHz

Access Control List: Disable

SSID Index: Primary SSID

MAC Address: [ ] : [ ] : [ ] : [ ] : [ ] : [ ] **Add**

ID	MAC Address	Delete

**Current Client Information**

MAC Address	SSID	Band	Authentication	Signal	Add

**Upload ACL File**

Upload File : [ ] **Browse...** **Upload**

**Download ACL File**

Load ACL File to Local Hard Driver : **Download**

**Save**

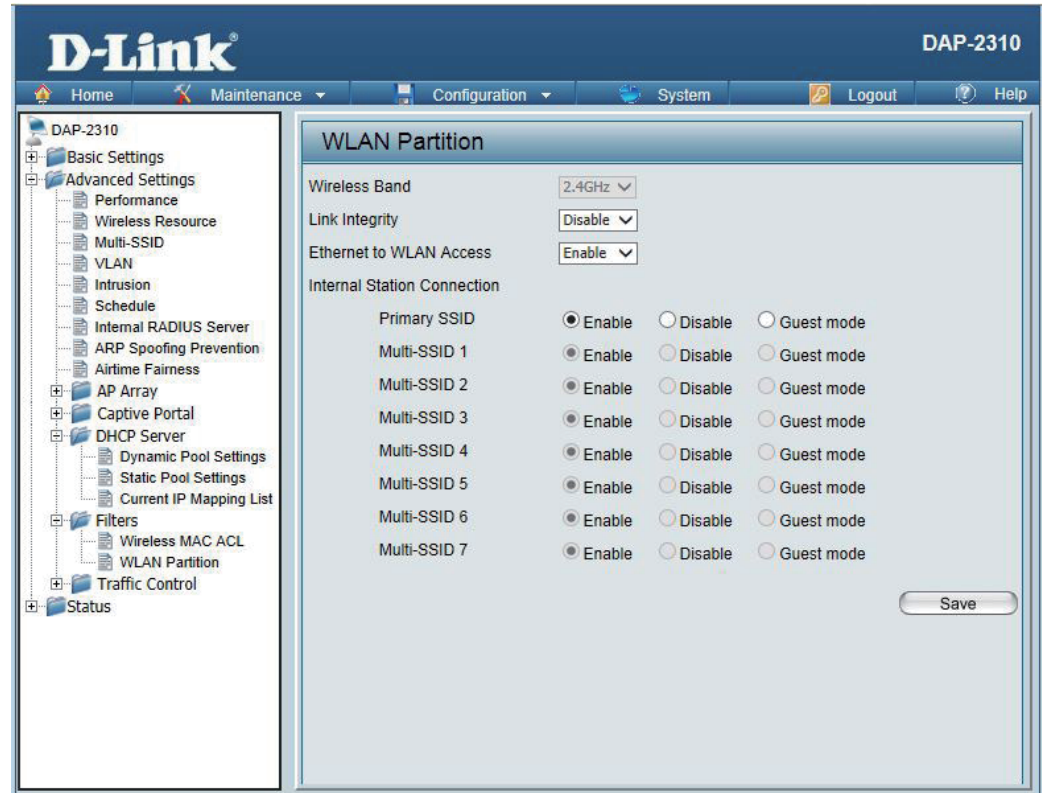
## WLAN Partition

**Wireless Band:** Displays the current wireless band rate.

**Link Integrity:** Select **Enable** or **Disable**.

**Ethernet to WLAN Access:** The default is **Enable**. When disabled, all data from the Ethernet to associated wireless devices will be blocked. Wireless devices can still send data to the Ethernet.

**Internal Station Connection:** The default value is **Enable**, which allows stations to inter-communicate by connecting to a target AP. When disabled, wireless stations cannot exchange data through the AP.



# Traffic Control

## Uplink/Downlink Settings

The uplink/downlink setting allows users to customize the downlink and uplink interfaces including specifying downlink/uplink bandwidth rates in Mbits per second. These values are also used in the QoS and Traffic Manager windows. Once the desired uplink and downlink settings are finished, click the Save button to let your changes take effect.

**Downlink Bandwidth:** The downlink bandwidth in Mbits per second.

**Uplink Bandwidth:** Uplink Bandwidth: The uplink bandwidth in Mbits per second.

The screenshot shows the D-Link DAP-2310 web interface. The left sidebar contains a tree view with categories: Basic Settings, Advanced Settings (Performance, Wireless Resource, Multi-SSID, VLAN, Intrusion, Schedule, Internal RADIUS Server, ARP Spoofing Prevention, Airtime Fairness), AP Array, Captive Portal, DHCP Server, Filters (Wireless MAC ACL, WLAN Partition), Traffic Control (Uplink/Downlink Settings, QoS, Traffic Manager), and Status. The main content area is titled 'Uplink and Downlink Setting'. It has tabs for Ethernet, Download, and Uplink. Under 'Download Interface', there are checkboxes for Primary-ssid, Multi-ssid1 through Multi-ssid7, and WDS1 through WDS8. Under 'Uplink Interface', there are similar checkboxes for Primary-ssid, Multi-ssid1 through Multi-ssid7, and WDS1 through WDS8. At the bottom, there are input fields for 'Downlink Bandwidth(1~300)' and 'Uplink Bandwidth(1~300)', both set to 100 Mbits/sec. A 'Save' button is located at the bottom right.



## QoS

Quality of Service (QoS) enhances the experience of using a network by prioritizing the traffic of different applications. A QoS Rule identifies a specific message flow and assigns a priority to that flow. For most applications, the priority classifiers ensure the right priorities and specific QoS Rules are not required. QoS supports overlaps between rules. If more than one rule matches a specific message flow, the rule with the highest priority will be used.

### QoS (Quality of Service):

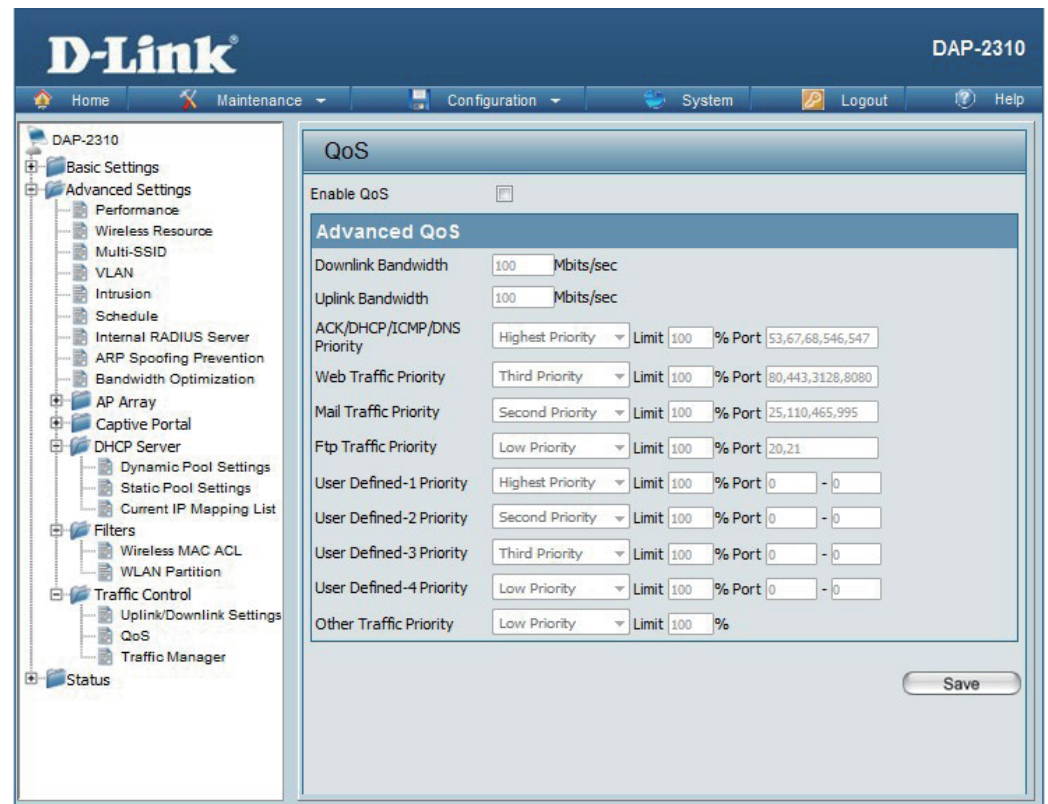
Enable this option if you want to allow QoS to prioritize your traffic Priority Classifiers.

#### HTTP:

Allows the access point to recognize HTTP transfers for many common audio and video streams and prioritize them above other traffic. Such streams are frequently used by digital media players.

#### Automatic:

When enabled, this option causes the access point to automatically attempt to prioritize traffic streams that it does not otherwise recognize, based on the behavior that the streams exhibit. This acts to de-prioritize streams that exhibit bulk transfer characteristics, such as file transfers, while leaving interactive traffic, such as gaming or VoIP, running at a normal priority.



## Traffic Manager

The traffic manager feature allows users to create traffic management rules that specify how to deal with listed client traffic and specify downlink/ uplink speed for new traffic manager rules. Click the Save button to let your changes take effect.

<b>Traffic Manager:</b>	Use the drop-down menu to Enable the traffic manager feature.
<b>Unlisted Client Traffic:</b>	Select Deny or Forward to determine how to deal with unlisted client traffic.
<b>Downlink Bandwidth:</b>	The downlink bandwidth in Mbits per second. This value is entered in the Uplink/Downlink Setting window.
<b>Uplink Bandwidth:</b>	Uplink Bandwidth: The uplink bandwidth in Mbits per second. This value is entered in the Uplink/Downlink Setting window.

**D-Link** DAP-2310

Home Maintenance Configuration System Logout Help

DAP-2310

- Basic Settings
- Advanced Settings
  - Performance
  - Wireless Resource
  - Multi-SSID
  - VLAN
  - Intrusion
  - Schedule
  - Internal RADIUS Server
  - ARP Spoofing Prevention
  - Airtime Fairness
- AP Array
- Captive Portal
- DHCP Server
- Filters
  - Wireless MAC ACL
  - WLAN Partition
- Traffic Control
  - Uplink/Downlink Settings
  - QoS
  - Traffic Manager**
- Status

### Traffic Manager

Traffic Manager:

Unlisted Clients Traffic: ☐ Deny ☒ Forward

Downlink Bandwidth:  Mbits/sec

Uplink Bandwidth:  Mbits/sec

#### Add Traffic Manager Rule

Name:

Client IP(optional):

Client MAC(optional):

Downlink Speed:  Mbits/sec

Uplink Speed:  Mbits/sec

#### Traffic Manager Rules

Name	Client IP	Client MAC	Downlink Speed	Uplink Speed	Edit Del
<input type="button" value="Save"/>					



# Status

## Device Information

**Device Information:** This read-only window displays the configuration settings of the DAP-2310, including the firmware version and the device's MAC address.

The screenshot shows the D-Link DAP-2310 web interface. The top navigation bar includes links for Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar shows a tree view with options: Basic Settings, Advanced Settings, Status (selected), Device Information, Client Information, WDS Information, Channel Analyze, Statistics, and Log. The main content area is titled 'Device Information' and displays the following settings:

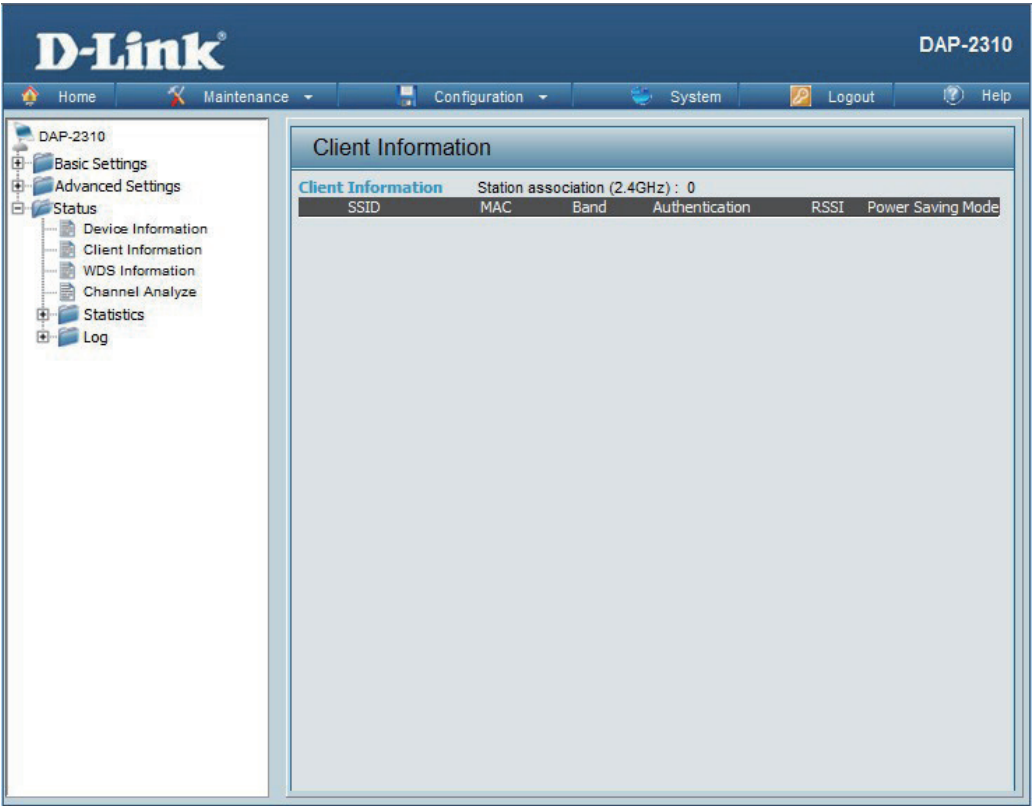
Firmware Version: 2.01	
Ethernet MAC Address:	c4:a8:1d:91:b1:10
Wireless MAC Address:	Primary: c4:a8:1d:91:b1:10
	SSID 1~7: c4:a8:1d:91:b1:11 ~ c4:a8:1d:91:b1:17
<b>Ethernet</b>	
IP Address	192.168.0.50
Subnet Mask	255.255.255.0
Gateway	N/A
DNS	
<b>Wireless (2.4GHz)</b>	
Network Name (SSID)	dlink
Channel	1
Data Rate	Auto
Security	None
<b>AP Array</b>	
AP Array	d-link
Role	Slave
Location	
<b>Device Status</b>	
CPU Utilization	3%
Memory Utilization	51%
<b>Central WiFiManager</b>	
Connection Status	Disconnect
Server IP	
Service Port	
Live Port	
Group ID	

# Client Information

**Client Information:** This window displays the wireless client information for clients currently connected to the DAP-2310.

The following information is available for each client communicating with the DAP-2310.

- SSID:** Displays the SSID of the client.
- MAC:** Displays the MAC address of the client.
- Band:** Displays the wireless band that the client is connected to.
- Authentication:** Displays the type of authentication being used.
- Signal:** Displays the client's signal strength.
- Power Saving Mode:** Displays the status of the power saving feature.

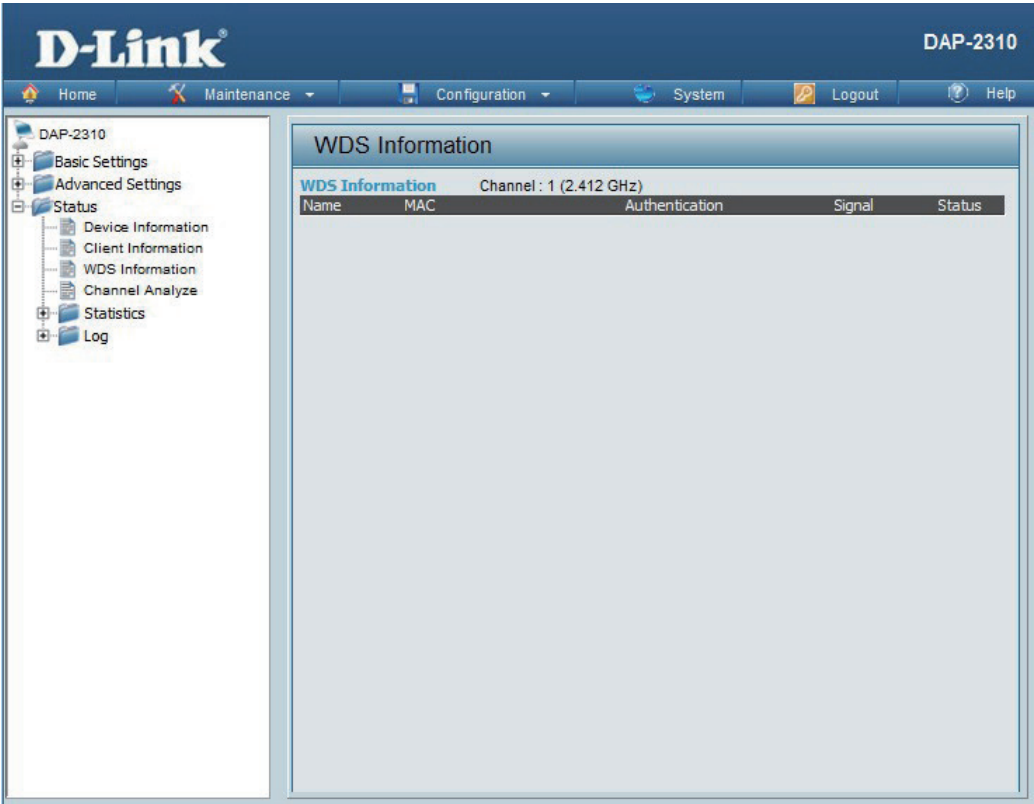


# WDS Information

**WDS Information:** This window displays the Wireless Distribution System information for clients currently connected to the DAP-2310.

The following information is available for each client communicating with the DAP-2310.

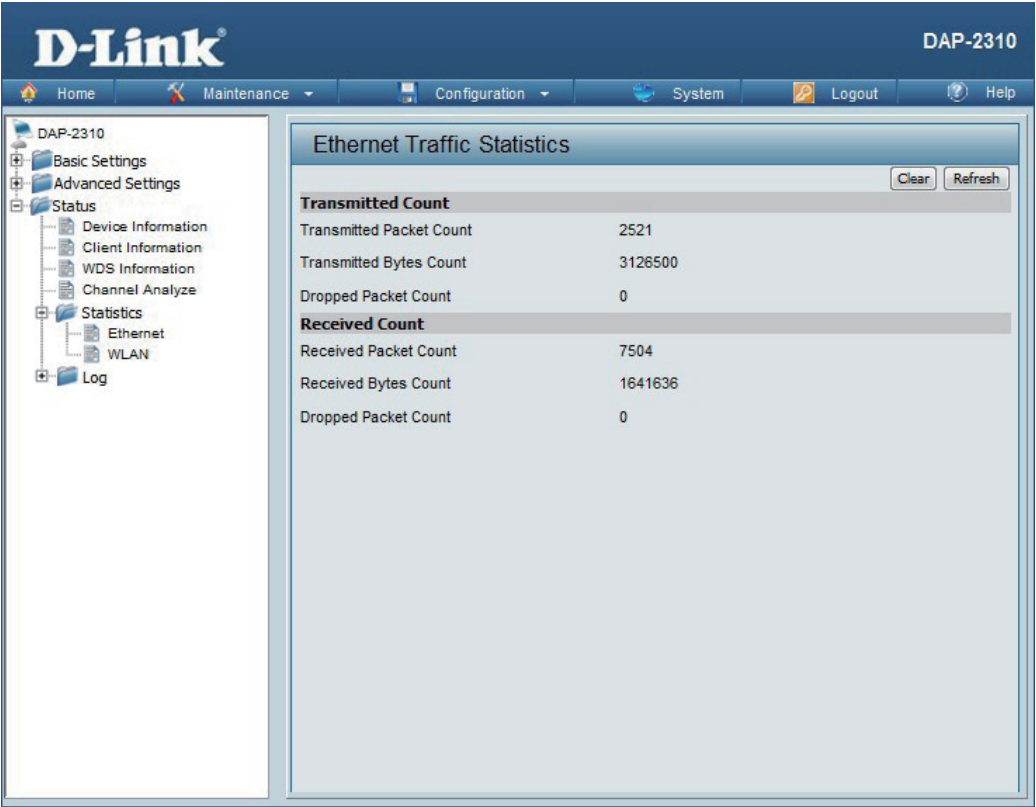
- Name:** Displays the SSID of the client.
- MAC:** Displays the MAC address of the client.
- Authentication:** Displays the type of authentication being used.
- Signal:** Displays the client's signal strength.
- Status:** Displays the status of the power saving feature.



# Stats Ethernet

**Ethernet Traffic Statistics:**

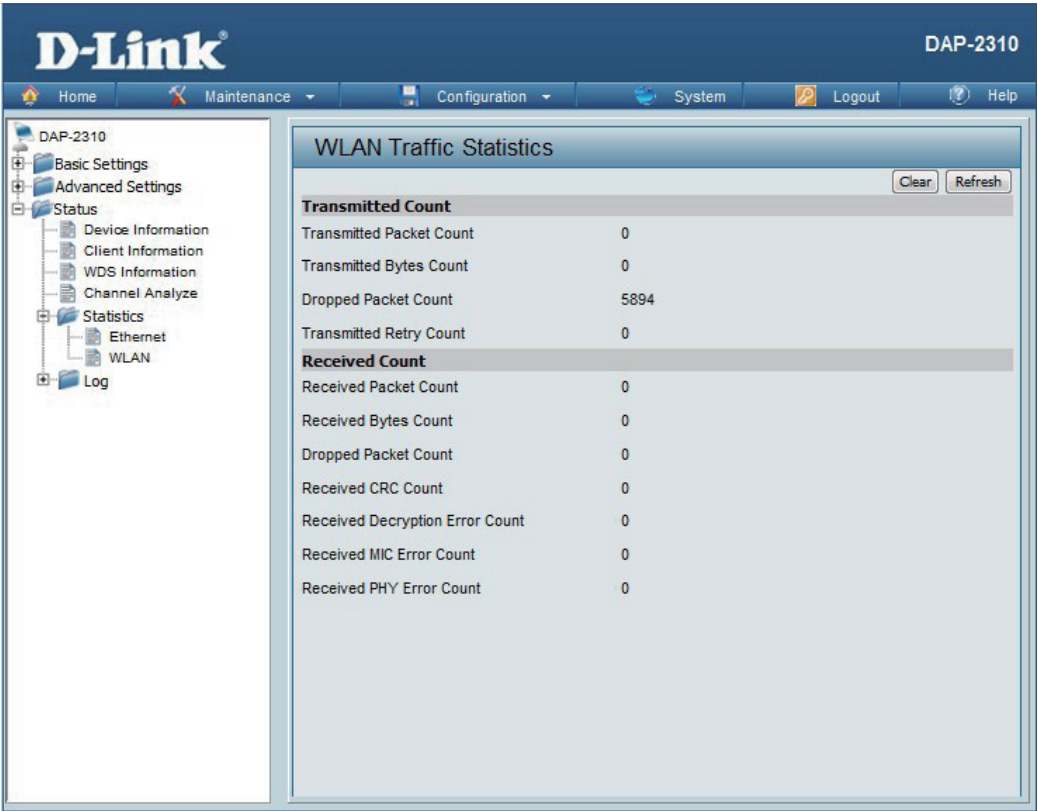
This page displays transmitted and received count statistics for packets and bytes.



# WLAN Traffic

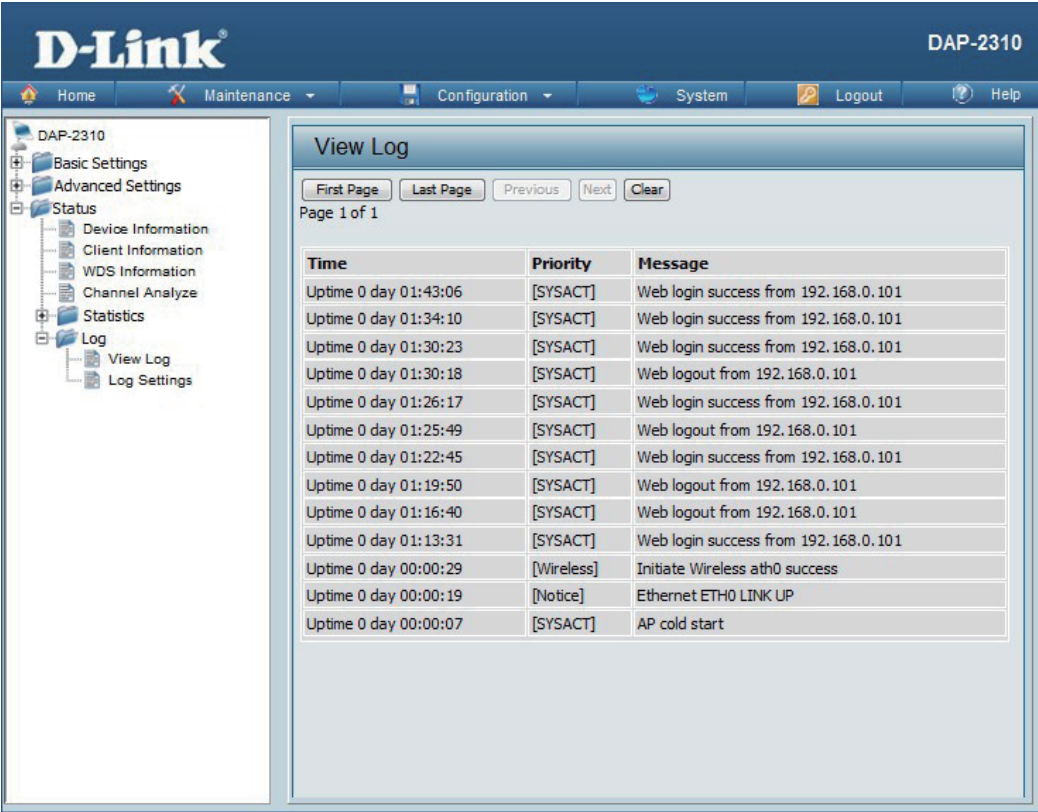
**WLAN Traffic Statistics:**

This page displays wireless network statistics for data throughput, transmitted and received frames, and frame errors.



# Log View Log

**View Log:** The AP's embedded memory displays system and network messages including a time stamp and message type. The log information includes but is not limited to the following items: cold start AP, upgrading firmware, client associate and disassociate with AP, and web login. The web page holds up to 500 logs.



## Log Settings

**Log Server/IP Address:** Enter the IP address of the server you would like to send the DAP-2310 log to.

**Log Type:** Check the box for the type of activity you want to log. There are three types: System Activity, Wireless Activity, and Notice.

**Email Notification:** Check to enable Email notification.

**Outgoing Mail Server (SMTP):** Select the SMTP server from the drop-down menu.

**Authentication:** Check to enable authentication.

**SSL / TLS:** Check to enable SSL/TLS authentication.

**From Email Address:** Enter the "From" email address.

**To Email Address:** Enter the destination email address.

**Email Server Address:** Enter the Email Server Address.

**SMTP Port:** Enter the SMTP port.

**Username:** Enter your email username.

**Password:** Enter your email password.

**Confirm Password:** Enter your email password again.

**Schedule:** Select when to send the log to your email (in hours). You will receive an email when the log is full too.

**D-Link** DAP-2310

Home Maintenance Configuration System Logout Help

**Log Settings**

**Log Settings**

Log Server / IP Address

Log Type ☒ System Activity ☒ Wireless Activity ☒ Notice

**Email Notification**

Email Notification ☐ Enable

Outgoing mail server (SMTP) Internal

Authentication ☐ Enable

SSL/TLS ☐ Enable

From Email Address

To Email Address

Email Server Address

SMTP Port

User Name

Password

Confirm Password

**Email Log Schedule**

Schedule 0 hours or when Log is full

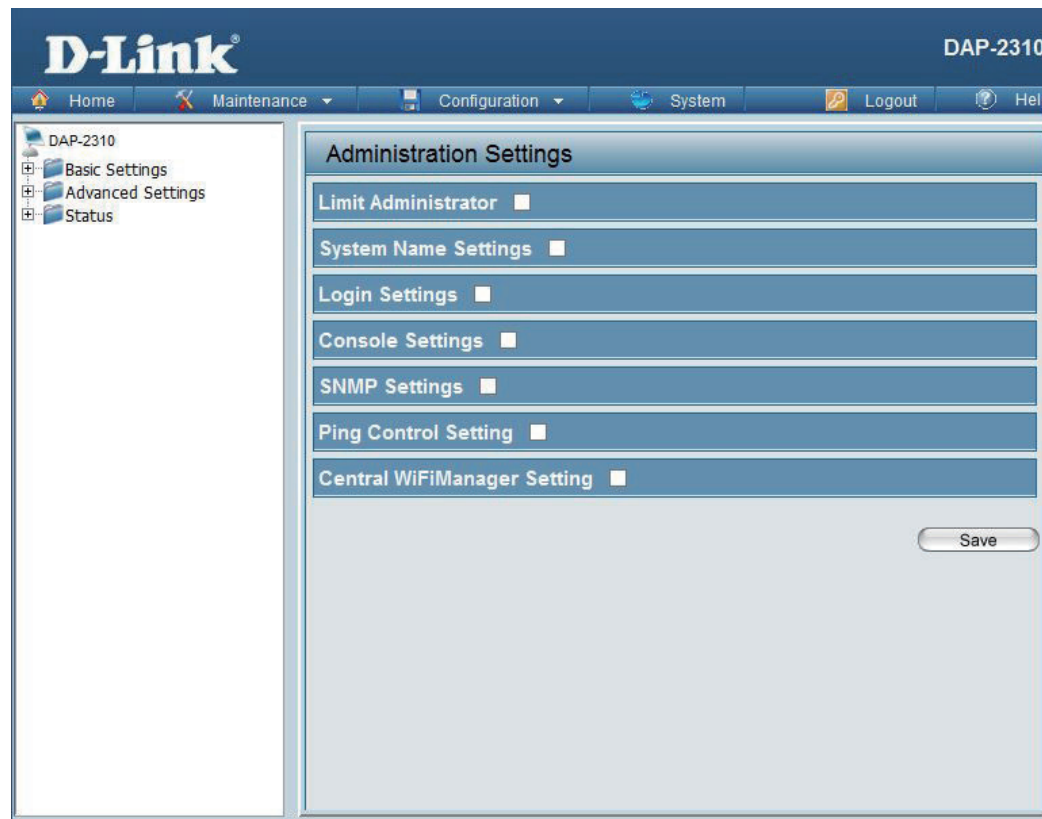
Save



# Maintenance

## Administration Settings

Check one or more of the five main categories to display the various hidden administrator parameters and settings displayed on the next five pages.



## Limit Administrator

Each of the five main categories display various hidden administrator parameters and settings.

**Limit Administrator VLAN ID:** Check the box provided and then enter the specific VLAN ID that the administrator will be allowed to log in from.

**Limit Administrator IP:** Check to enable the Limit Administrator IP address.

**IP Range:** Enter the IP address range that the administrator will be allowed to log in from and then click the **Add** button.

The screenshot shows the D-Link DAP-2310 web interface. The top navigation bar includes Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar shows the navigation menu with DAP-2310, Basic Settings, Advanced Settings, and Status. The main content area is titled "Administration Settings" and contains the "Limit Administrator" section, which is currently expanded. This section includes a checkbox for "Limit Administrator" (checked), a "Limit Administrator VLAN ID" field with a value of 1, a "Limit Administrator IP" field with a value of 1, and an "IP Range" section with "From" and "To" fields and an "Add" button. Below these fields is a table with columns for Item, From, To, and Delete. The table is currently empty. At the bottom of the page, there is a "Save" button.

Item	From	To	Delete
------	------	----	--------

## System Name Settings

Each of the five main categories display various hidden administrator parameters and settings.

**System Name:** The name of the device. The default name is **D-Link DAP-2310**.

**Location:** The physical location of the device, e.g. 72nd Floor, D-Link HQ.

The screenshot displays the D-Link DAP-2310 web management interface. The top navigation bar includes links for Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar shows a tree view with 'DAP-2310' selected, containing sub-items for Basic Settings, Advanced Settings, and Status. The main content area is titled 'Administration Settings' and lists several configuration sections: Limit Administrator, System Name Settings (which is expanded), Login Settings, Console Settings, SNMP Settings, Ping Control Setting, and Central WiFiManager Setting. The 'System Name Settings' section contains two input fields: 'System Name' with the value 'D-Link DAP-2310' and an empty 'Location' field. A 'Save' button is located at the bottom right of the configuration area.

## Login Settings

Each of the five main categories display various hidden administrator parameters and settings.

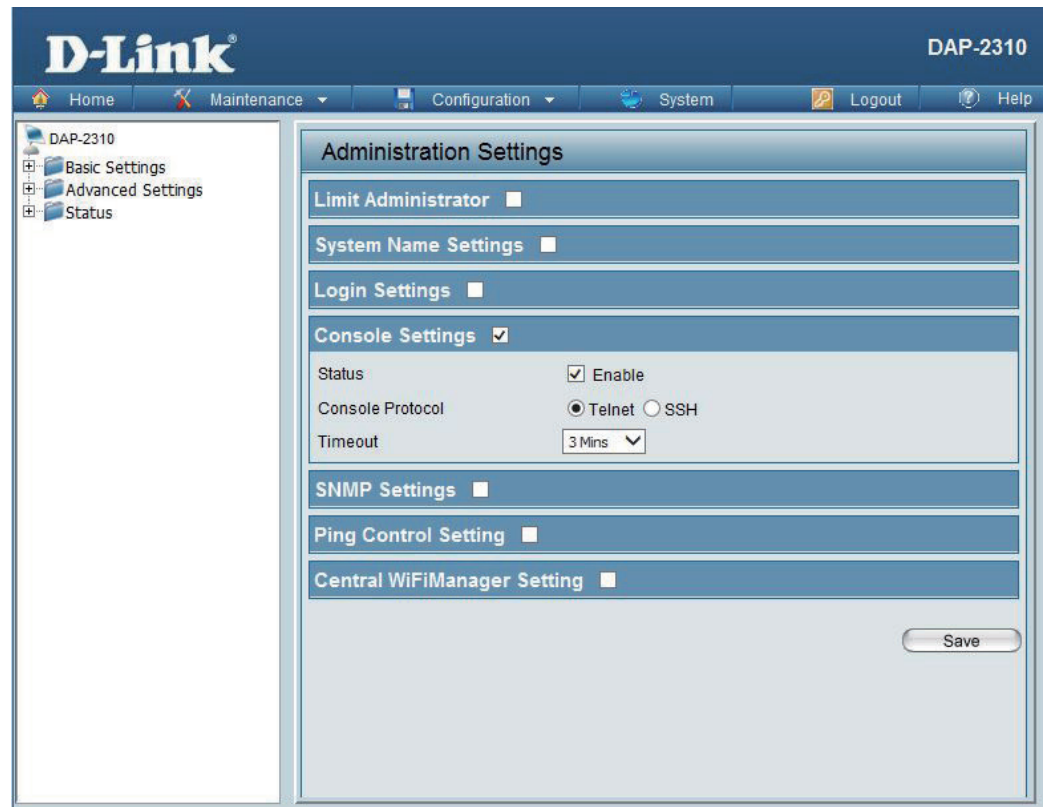
- Login Name:** Enter a user name. The default is **admin**.
- Old Password:** When changing your password, enter the old password here.
- New Password:** When changing your password, enter the new password here. The password is case-sensitive. "A" is a different character than "a." The length should be between 0 and 12 characters.
- Confirm Password:** Enter the new password a second time for confirmation purposes.

The screenshot shows the D-Link DAP-2310 web interface. The top navigation bar includes links for Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar shows a tree view with DAP-2310, Basic Settings, Advanced Settings, and Status. The main content area is titled 'Administration Settings' and contains several expandable sections: Limit Administrator, System Name Settings, Login Settings (which is expanded), Console Settings, SNMP Settings, Ping Control Setting, and Central WiFiManager Setting. The 'Login Settings' section contains three input fields: 'Login Name' (with 'admin' entered), 'New Password', and 'Confirm Password'. There is also an 'Apply New Password' checkbox. A 'Save' button is located at the bottom right of the page.

## Console Settings

Each of the five main categories display various hidden administrator parameters and settings.

- Status:** Status is enabled by default. Uncheck the box to disable the console.
- Console Protocol:** Select the type of protocol you would like to use, **Telnet** or **SSH**.
- Timeout:** Set to **1 Min**, **3 Mins**, **5 Mins**, **10 Mins**, **15 Mins** or **Never**.



# SNMP Settings

Each of the five main categories display various hidden administrator parameters and settings.

- Status:

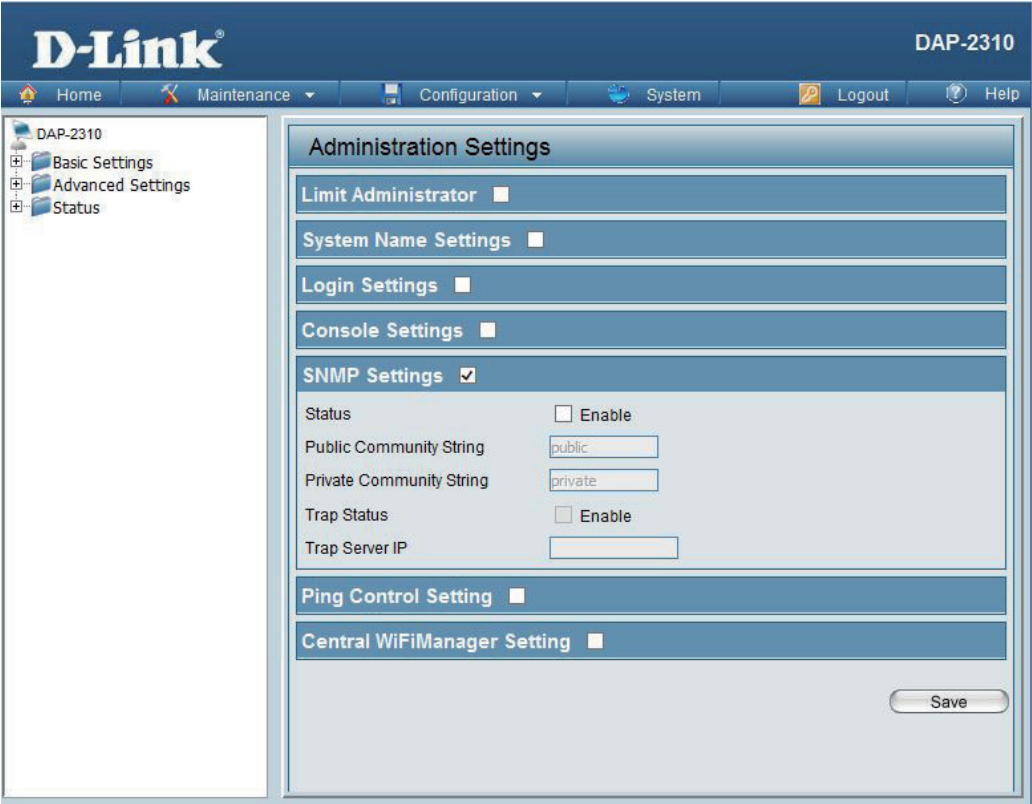
Check the box to enable the SNMP functions. This option is disabled by default.
- Public Community String:

Enter the public SNMP community string.
- Private Community String:

Enter the private SNMP community string.
- Trap Status:

Check the box to enable Trap Status.
- Trap Server IP:

Enter the Trap Server IP address.

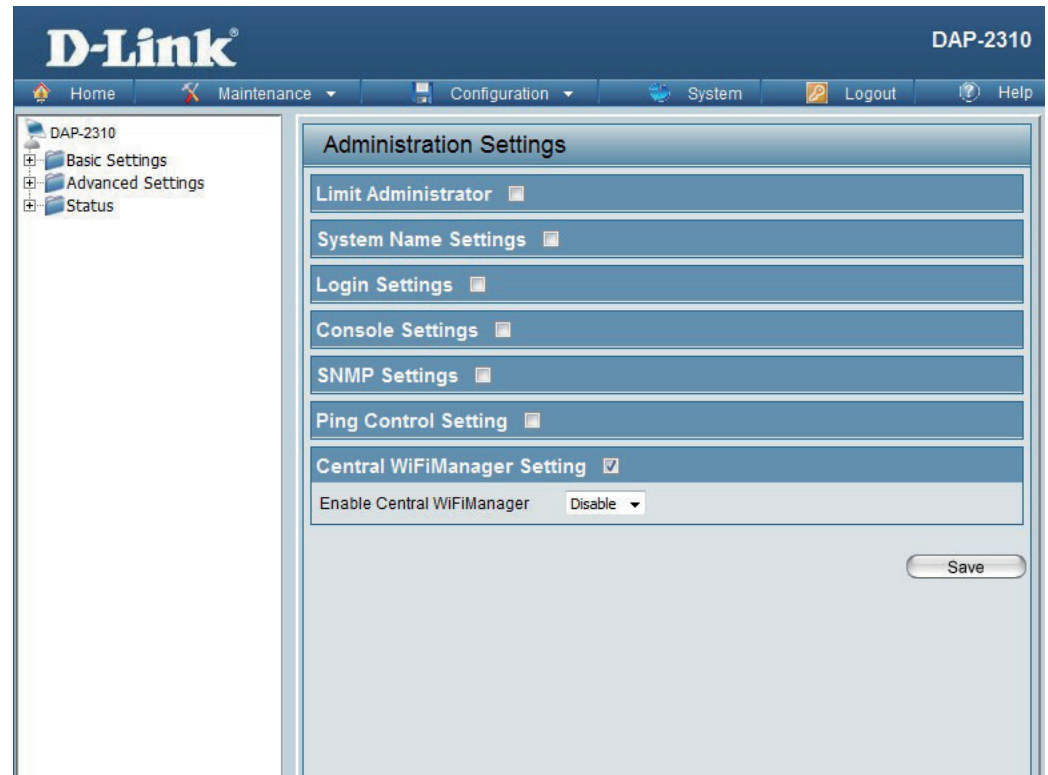


## Central WiFiManager Settings

The Central WiFiManager section is used to configure and managed a set of APs on the Internet to into a single group in order to increase ease of management. Central WiFiManager and AP Array are mutually exclusive functions.

**Enable Central WiFiManager:**

Select to enable or disable the Central WiFiManager.





# Firmware and SSL Certification Upload

This page allows the user to perform a firmware upgrade. A Firmware upgrade is a function that upgrade the running software used by the access point. This is a useful feature that prevents future bugs and allows for new features to be added to this product. Please go to your local D-Link website to see if there is a newer version firmware available.

## Upload Firmware From Local Hard Drive:

The current firmware version is displayed above the file location field. After downloading the most recent version of firmware for the DAP-2310 from <http://support.dlink.com> to your local computer, use the **Browse** button to locate the firmware file on your computer. Click **Upload** to update the firmware version. Please don't turn the power off while upgrading.

## Language Pack Upgrade:

You may load a language pack to display the utility in another language. Click **Browse** to locate the language pack file on your local computer. After selecting and opening the file, click **Upload** to upload the file to the DAP-2310.

## Upload SSL Certification From Local Hard Drive:

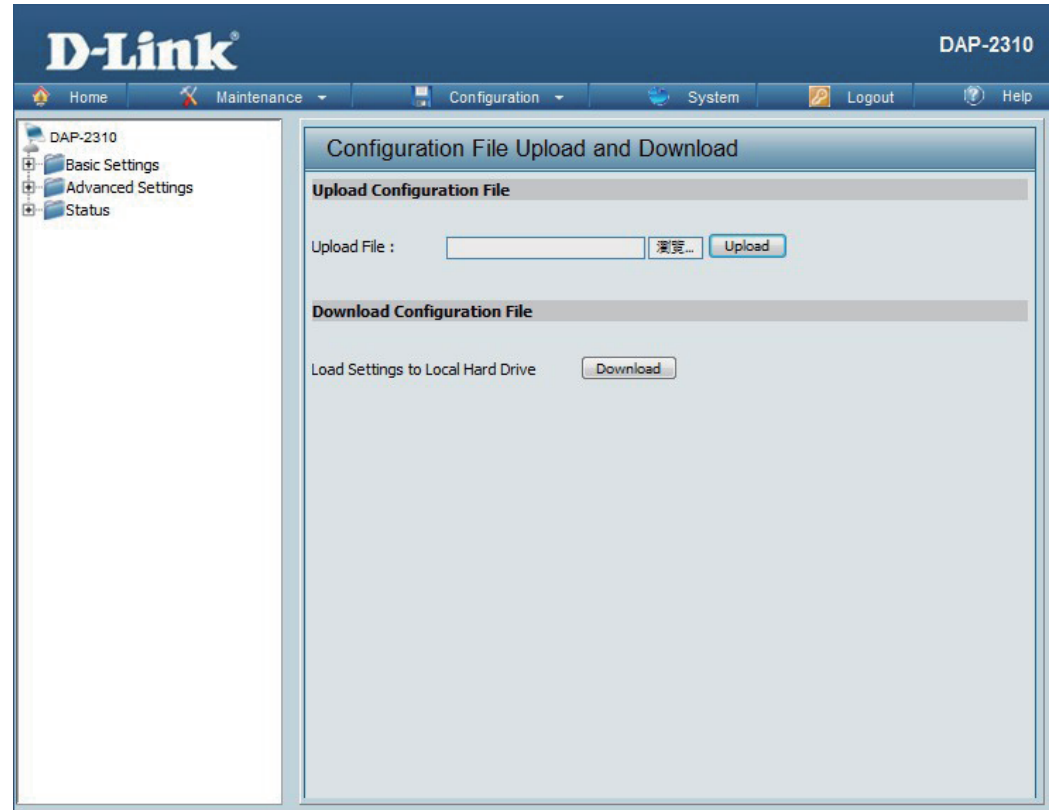
Click **Browse** to locate the SSL Certification file on your local computer. After selecting and opening the file, click **Upload** to upload the file to the DAP-2310.

The screenshot shows the D-Link DAP-2310 web interface. The top navigation bar includes links for Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar shows a tree view with DAP-2310, Basic Settings, Advanced Settings, and Status. The main content area is titled "Firmware and SSL Certification Upload". It contains three sections: "Update Firmware From Local Hard Drive" showing "Firmware Version 2.01" and an "Upload Firmware From File" field with "浏览..." and "Upload" buttons; "Language Pack Upgrade" with an "Upload:" field and "浏览..." and "Upload" buttons; and "Update SSL Certification From Local Hard Drive" with an "Upload Certificate From File" field and "浏览..." and "Upload" buttons. Below this is an "Upload Key From File" field with "浏览..." and "Upload" buttons.

# Configuration File Upload

**Upload File:** Click the **Browse** button to locate a previously saved configuration file on your local computer. After selecting the file, click **Upload** to apply the configuration settings to the DAP-2310.

**Download Configuration File:** Click **Download** to save the current DAP-2310 configuration to your local computer. Note that if you save one configuration with the administrator's password now, after resetting your DAP-2310, and then updating to this saved configuration file, the password will be gone.



# Time and Date

- Current Time:** Displays the current time and date settings.
- Enable NTP Server:** Check to enable the AP to get system time from an NTP server.
- NTP Server:** Enter the NTP server URL or IP address.
- Time Zone:** Use the drop-down menu to select your correct Time Zone.
- Enable Daylight Saving:** Check the box to Enable Daylight Saving Time.
- Daylight Saving Dates:** Use the drop-down menu to select the correct Daylight Saving offset.
- Set the Date and Time Manually:** You can either manually set the time for your AP here, or you can click the **Copy Your Computer's Time Settings** button to copy the time from the computer you are using (Make sure that the computer's time is set correctly).

The screenshot shows the D-Link DAP-2310 web interface. The top navigation bar includes links for Home, Maintenance, Configuration, System, Logout, and Help. The left sidebar lists various settings categories: Basic Settings, Advanced Settings, Status, Device Information, Client Information, WDS Information, Channel Analyze, Statistics, and Log. The main content area is titled "Time and Date Settings". It contains three sections: "Time Configuration" showing the current time as 01/01/1970 02:05:51; "Automatic Time Configuration" with checkboxes for "Enable NTP Server" and "Enable Daylight Saving", a text field for "NTP Server", and a dropdown menu for "Time Zone" set to "(GMT+08:00) Ulaan Bataar"; and "Set the Date and Time Manually" with dropdown menus for Year (2014), Month (Jul), Day (16), Hour (16), Minute (7), and Second (41). A button labeled "Copy Your Computer's Time Settings" is located below the manual settings section. A "Save" button is at the bottom right of the page.

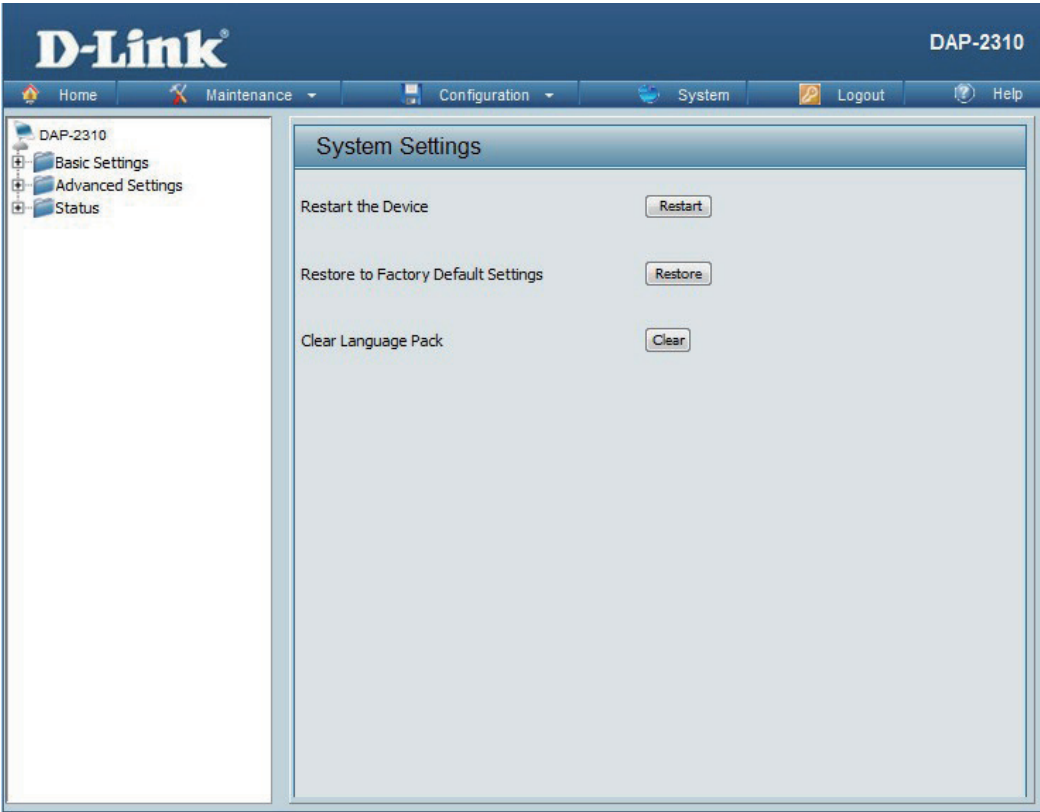
# System System Settings

- Restart the Device:

Click **Restart** to restart the DAP-2310.
- Restore to Factory Default Settings:

Click **Restore** to restore the DAP-2310 back to factory default settings.
- Clear Language Pack:

Click **Clear** to remove any loaded language packs.



# Help

**Help:** | Scroll down the Help page for topics and explanations.

Basic Settings

**Wireless Settings**

Allow you to change the wireless settings to fit an existing wireless network or to customize your wireless network.

**Wireless Band**

Operating frequency band. Choose 2.4GHz for visibility to legacy devices and for longer range.

**Mode**

Select a function mode to configure your wireless network. Function modes include Access Point, WDS (Wireless Distribution System) with AP, WDS, Wireless Client. Function modes are designed to support various wireless network topology and applications.

**Network Name (SSID)**

Also known as the Service Set Identifier, this is the name designated for a specific wireless local area network (WLAN). The factory default setting is "dlink". The SSID can be easily changed to connect to an existing wireless network or to establish a new wireless network.

**SSID Visibility**

Indicate whether or not the SSID of your wireless network will be broadcasted. The default value of SSID Visibility is set to "Enable," which allow wireless clients to detect the wireless network. By changing this setting to "Disable," wireless clients can no longer detect the wireless network and can only connect if they have the correct SSID entered.

**Auto Channel Selection**

If you check Auto Channel Scan, everytime when AP is booting up, the AP will automatically find the best channel to use. This is enabled by default.

**Channel**

Indicate the channel setting for the DAP-2360. By default, the AP is set to Auto Channel Scan. The Channel can be changed to fit the channel setting for an existing wireless network or to customize the wireless network.

**Channel Width**

Allows selection of the channel width you would like to operate in. 20 MHz and Auto 20/40MHz allow both 802.11n and non-802.11n wireless devices on your network when the wireless mode is Mixed 802.11 b/g/n in 2.4G. 802.11n wireless devices are allowed to transmit data using 40 MHz when the channel width is Auto 20/40 MHz

**Authentication**

For added security on a wireless network, data encryption can be enabled. There are several available Authentications type can be selected. The default value for Authentication is set to "Open System".

**Open System**

For Open System authentication, only the wireless clients with the same WEP key will be able to communicate on the wireless network. The Access Point will remain visible to all devices on the network.

# Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DAP-2310. Read the following descriptions if you are having problems. (The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.)

## 1. Why can't I access the web-based configuration utility?

When entering the IP address of the D-Link access point (192.168.0.50 for example), you are not connecting to a website on the Internet nor do you have to be connected to the Internet.

# Networking Basics

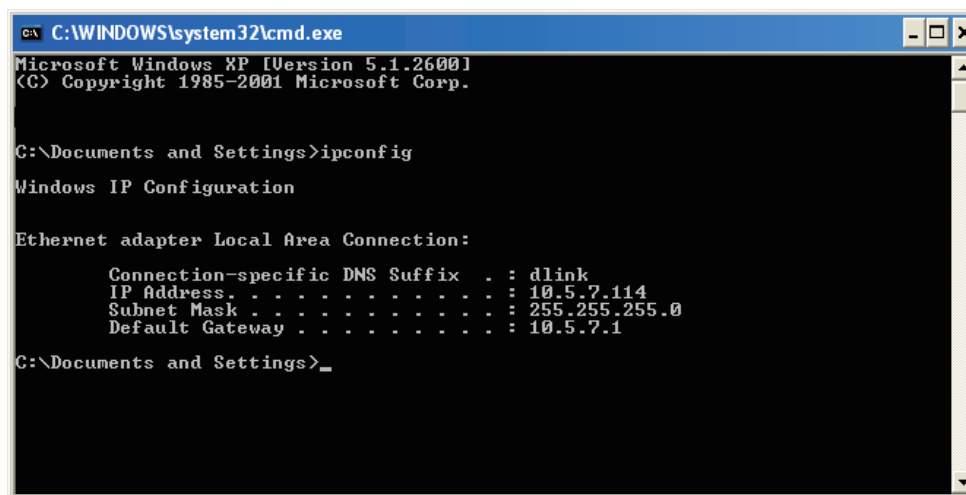
## Check your IP address

After you install your network adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

Click on **Start > Run**. In the run box type *cmd* and click **OK**.

At the prompt, type *ipconfig* and press **Enter**.

This will display the IP address, subnet mask, and the default gateway of your adapter.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : dlink
    IP Address. . . . . : 10.5.7.114
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.5.7.1

C:\Documents and Settings>
```

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.

- Make sure you have an updated Java-enabled web browser. We recommend the following:
  - Microsoft Internet Explorer® 11.0 and higher
  - Mozilla Firefox 28 and higher
  - Google™ Chrome 33 and higher
  - Apple Safari 7 and higher
- Verify physical connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different cable or connect to a different port on the device if possible. If the computer is turned off, the link light may not be on.
- Disable any internet security software running on the computer. Software firewalls such as Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, and Windows® XP firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.



## Statically Assign an IP address

If you are not using a DHCP capable gateway/router, or you need to assign a static IP address, please follow the steps below:

### Step 1

Windows® 2000: Click on **Start > Settings > Control Panel > Network Connections**

Windows® XP: Click on **Start > Control Panel > Network Connections**

Windows Vista®: Click on **Start > Control Panel > Network and Internet > Network and Sharing Center > Manage network connections**

### Step 2

Right-click on the **Local Area Connection** which represents your network adapter and select **Properties**.

### Step 3

Highlight **Internet Protocol (TCP/IP)** and click **Properties**.

### Step 4

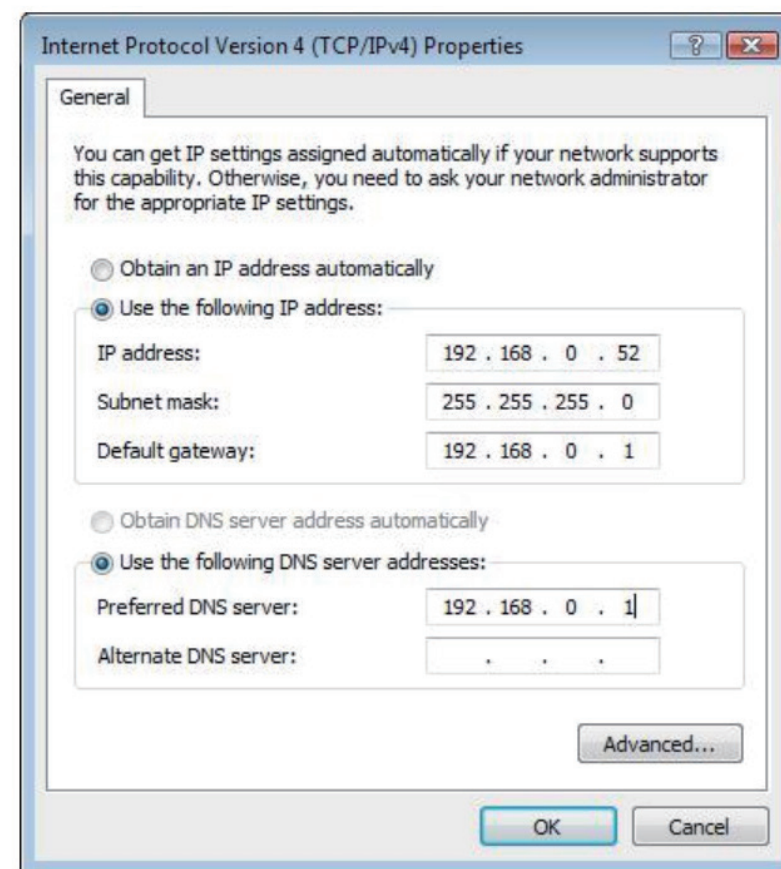
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

**Example:** If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network. Set Default Gateway the same as the LAN IP address of your router (192.168.0.1).

Set Primary DNS the same as the LAN IP address of your router (192.168.0.1). The Secondary DNS is not needed or you may enter a DNS server from your ISP.

### Step 5

Click **OK** twice to save your settings.



- Configure your Internet settings:

- Go to **Start > Settings > Control Panel**. Double-click the **Internet Options** icon. From the **Security** tab, click the button to restore the settings to their defaults.
  - Click the **Connection** tab and set the dial-up option to Never Dial a Connection. Click the LAN Settings button. Make sure nothing is checked. Click **OK**.
  - Go to the **Advanced** tab and click the button to restore these settings to their defaults. Click **OK** three times.
  - Close your web browser (if open) and open it.
- Access the web management. Open your web browser and enter the IP address of your D-Link access point in the address bar. This should open the login page for your the web management.
  - If you still cannot access the configuration, unplug the power to the access point for 10 seconds and plug back in. Wait about 30 seconds and try accessing the configuration. If you have multiple computers, try connecting using a different computer.

## 2. What can I do if I forgot my password?

If you forgot your password, you must reset your access point. Unfortunately, this process will change all your settings back to the factory defaults.

To reset the access point, locate the reset button (hole) on the rear panel of the unit. With the access point powered on, use a paperclip to hold the button down for 10 seconds. Release the button and the access point will go through its reboot process. Wait about 30 seconds to access the access point. The default IP address is 192.168.0.50. When logging in, the username is **admin** and leave the password box empty.

# Technical Specifications

## Standards

- IEEE 802.11b
- IEEE 802.11g
- IEEE 802.11n
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3af

## Network Management

- Web Browser interface
  - HTTP
  - Secure HTTP (HTTPS)
- Central WiFiManager
- AP Array Tool
- SNMP Support
  - Private MIB
- Command Line Interface
  - Telnet
  - Secure SSH Telnet

## Data Rates\*

For 802.11b:

- 11, 5.5, 2, and 1 Mbps

For 802.11g:

- 54, 48, 36, 24, 18, 12, 9, and 6 Mbps

For 802.11n:

HT20/HT40

- 144.4/300, 130/270, 117/243, 104/216, 78/162, 66/135, 58.5/121.5, 52/108, 39/81, 26/54, 19.5/40.5, 12/27, and 6.5/13.5 Mbps

## Security

- WPA™ Personal/Enterprise
- WPA2™ Personal/Enterprise
- 802.1x
- WEP™ 64-/128-bit
- SSID Broadcast Disable
- MAC Address Access Control

## Wireless Frequency Range

- 2.4 to 2.4835 GHz

## Operating Voltage

- 48V DC +/- 10% for PoE\*\*\* or 12V/1A

## Radio and Modulation Type

For 802.11g/n:

BPSK, QPSK, 16QAM, and 64QAM with OFDM

For 802.11b:

DQPSK, DBPSK, DSSS, and CCK

## Operating Frequency\*\*

For 802.11b/g:

2.4 ~ 2.4835 GHz

For 802.11n:

2.4 GHz Band: 2.4 ~ 2.4835 GHz

\* Maximum wireless signal rate derived from IEEE Standard 802.11g and 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental factors will adversely affect wireless signal range.

\*\*Please note that operating frequency ranges vary depending on the regulations of individual countries and jurisdictions.

\*\*\* Please note that PoE support depending on specific part number.

### Dipole Antenna

- 2dBi Gain @2.4 GHz

### Max Transmit Output Power (Dual Chain)

- FCC: 26dBm
- ETSI: 17dBm

### Max Power Consumption

- Max. 8W with 12V/DC
- Max. 9W with PoE\*\*\*

### LEDs

- Power
- LAN
- 2.4 GHz

### Temperature

- Operating: 0°C to 40°C
- Storing: -20°C to 65°C

### Humidity

- Operating: 10%~90% (non-condensing)
- Storing: 5%~95% (non-condensing)

### Certifications

- FCC Class B
- CE
- IC
- UL
- C-Tick
- WiFi

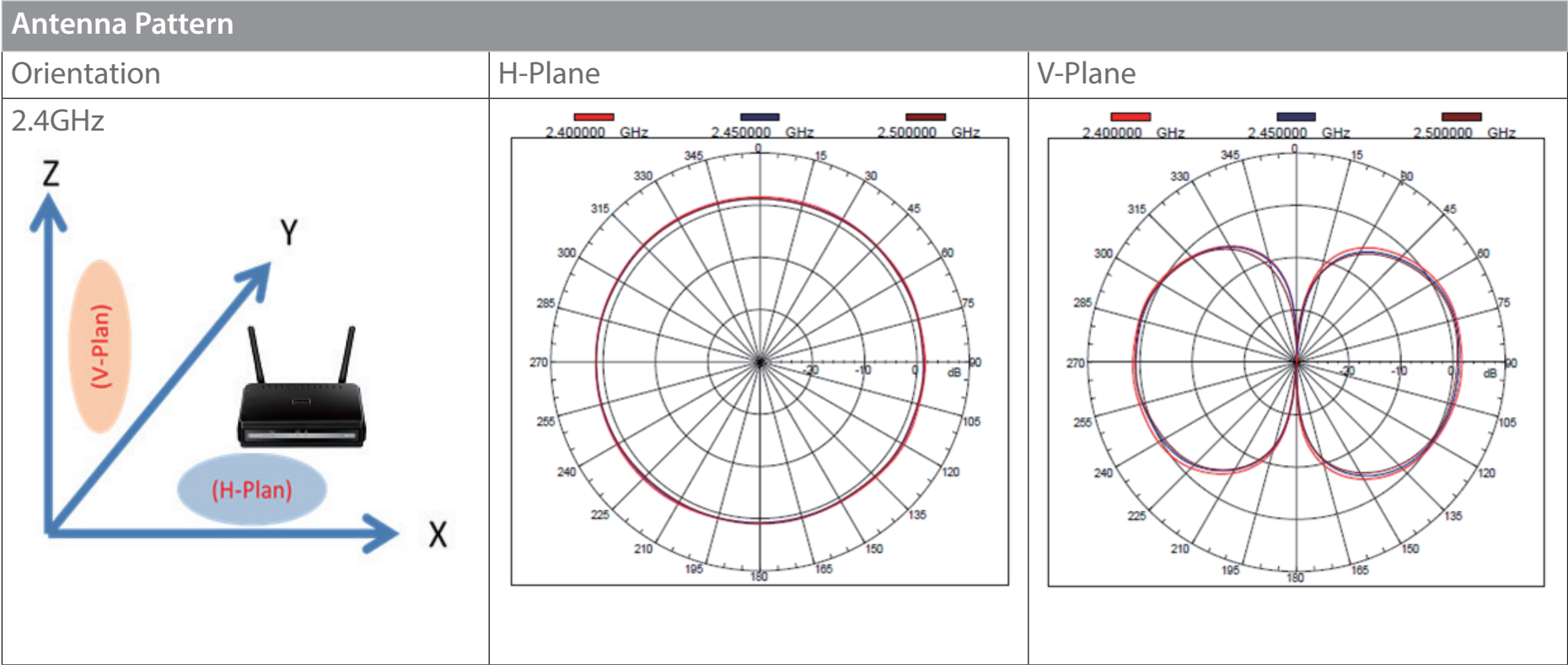
### Dimensions

- L = 111mm
- W = 148mm
- H = 28mm

### Weight

- 227g

# Antenna Pattern



# FREE Central WiFiManager Software

DOWNLOAD  
NOW

[DLINK.COM/WIFIDOWNLOAD](http://DLINK.COM/WIFIDOWNLOAD)

## With the easy-to-use web-based interface you can...

- Configure once and apply to multiple Access Points
- Install on Windows PC
- Access on any device using a web-browser, e.g. smartphone or notebook
- Utilise user authentication and access control
- Monitor your entire wireless network in real time<sup>1</sup>
- Access detailed reports
- Optimise your bandwidth

FREE Central  
WiFiManager  
User Interface

Supports  
multiple  
languages

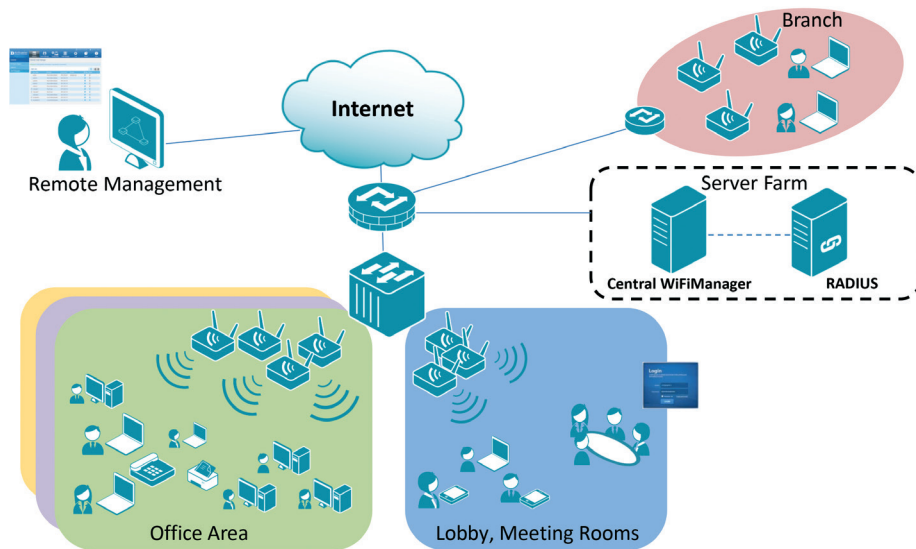


1. see overleaf for selected  
product information.





# FREE Central WiFiManager



Available on the following products<sup>2</sup>:

## DAP-2695

### Wireless AC1750 Indoor Access Point

Designed to support small to medium business or enterprise environments. Secure, manageable dual-band wireless LAN options.



## DAP-2310

### Wireless AC1200 Indoor Ceiling Access Point

Providing enhanced speeds of Wireless AC as well as dual-band connectivity to reduce interference, for a faster and more efficient network.



## DAP-2310

### Wireless N Indoor Access Point

Ideal for creating or expanding capacity of a wireless network; mainly used in high-traffic areas such as airports, coffee shops, sports venues, and university campus deployments.



## DAP-2360

### Wireless N PoE Access Point

For advanced indoor installations, this high-speed Access Point has integrated PoE support, allowing installation in areas where power outlets are not readily available.



## DAP-2690

### Wireless N Simultaneous Dual-Band PoE Access Point

Designed for indoor installation where power outlets are not readily available. Enables deployment of a highly manageable, robust and secure wireless network.



## DAP-2330

### Wireless N PoE Access Point

Ideal for wireless networks in high-traffic areas such as airports, coffee shops, shopping centres, sporting venues, hotels and campus deployments. PoE offers installation where power outlets are not available.



2. Visit [dlink.com](http://dlink.com) for selected Hardware & Software versions.