

DAP-2553

Release 1.10

AirPremier N

Dual Band PoE Access Point



User Manual

Business Class Networking

Table of Contents

Product Overview	4	Home > Advanced Settings	27
Package Contents	4	Performance	27
System Requirements	4	Multi-SSID	29
Introduction	5	VLAN	31
Features	7	VLAN List	31
Wireless Basics	8	Port List	32
Standards-Based Technology	9	Add/Edit VLAN	33
Wireless Installation Considerations	10	PVID Setting	34
Four Operational Modes	11	Intrusion	35
Getting Started	12	Schedule	36
Connecting PoE (Power over Ethernet)	13	QoS	37
Configuration	14	DHCP Server	39
Home > Basic Settings	16	Dynamic Pool Settings	39
Wireless	16	Static Pool Setting	41
Access Point mode	16	Current IP Mapping List	43
WDS with AP mode	18	Filters	44
WDS mode	20	Wireless MAC ACL	44
Wireless Client mode	22	WLAN Partition	45
Open System/Shared Key authentication	23	Home > Status	46
WPA-Personal authentication	24	Device Information	46
WPA-Enterprise authentication	25	Client Information	47
LAN	26	WDS Information	48
		Stats	49
		Ethernet	49
		WLAN	50

Log	51
View Log	51
Log Settings	52
Maintenance	53
Administrator Settings.....	53
Limit Administrator	54
System Name Settings.....	55
Login Settings	56
Console Settings	57
SNMP Settings.....	58
Firmware and SSL Certification Upload	59
Configuration File	60
Time and Date	61
System.....	62
System Settings	62
Help	63
Troubleshooting	64
Networking Basics	66
Check your IP address	66
Statically Assign an IP address	67
Technical Specifications.....	69

Package Contents

- D-Link DAP-2553 AirPremier N Dual Band PoE Access Point
- Power Adapter
- CAT5 Ethernet Cable
- CD-ROM with User Manual
- Quick Install Guide



Note: Using a power supply with a different voltage rating than the one included with the DAP-2553 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
- Internet Explorer Version 7.0 or Firefox 3.0 and Above (for configuration)

Introduction

The DAP-2553 802.11n selectable AP increases productivity by allowing you to work faster and more efficiently. With the DAP-2553, bandwidth-intensive applications like graphics or multimedia will benefit significantly because large files are now able to move across the network quickly.

The DAP-2553 is capable of operating in one of four different wireless networking modes; access point, WDS (Wireless Distribution System) with AP, WDS, or Wireless Client mode.

Use less wiring, enjoy increased flexibility, save time and money with PoE (Power over Ethernet). With PoE, the DAP-2553 shares power and data over the CAT5 cable, making the setup of your network less expensive and more convenient.

An ideal solution for quickly creating and extending a wireless local area network (WLAN) in offices or other workplaces, trade shows, and special events, the DAP-2553 providing data transfer rates up to 300Mbps. (The 802.11n standard is backwards compatible with 802.11a, 802.11g, and 802.11b devices.)

WPA/WPA2 is offered in two flavors: 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. The 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 then 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 802.11 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.

Features

- **Four different operation modes** - Capable of operating in one of four different operation modes to meet your wireless networking needs: Access Point, WDS with AP, WDS, or Wireless Client.
- Faster wireless networking with the 802.11n (draft) 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 11 Mbps, allowing you to migrate your system to the 802.11n (draft) 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 54 Mbps in the 2.4 GHz frequency range.
- Compatible with the 802.11a standard to provide a wireless data rate of up to 54 Mbps in the 5 GHz frequency range.
- Better security with WPA - The DAP-2553 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.
- **AP Manager II 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-2553 is not just fast, but also supports SNMP v.3 for better network management. Superior wireless AP manager software is bundled with the DAP-2553 for network configuration and firmware upgrade. Systems administrators can also set up the DAP-2553 easily with the Web-based configuration. A D-Link D-View 6.0 module will be downloadable for network administration and real-time network traffic monitoring with D-Link D-View 6.0 software.
- Utilizes OFDM technology (Orthogonal Frequency Division Multiplexing).
- Supports 802.3af Power over Ethernet.
- Supports one 10/100/1000M Ethernet port.
- Operates in the 2.4~2.5 GHz and 5.15~5.85 GHz** frequency ranges.
- Web-based interface for managing and configuring.

*Maximum wireless signal rate derived from IEEE Standard 802.11 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.

**Please note that operating frequency ranges vary depending on the regulations of individual countries and jurisdictions. The DAP-2553 isn't supported in the 5.25~5.35 GHz and 5.47 ~ 5.725 GHz frequency ranges in some regions.

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-2553 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-2553 Wireless Access Point utilizes the 802.11a, 802.11b, 802.11g, and 802.11n (draft) standards.

The IEEE 802.11n (draft) standard is an extension of the 802.11a, 802.11b, and 802.1g standards that came before it. It increases the maximum wireless signal rate up to 300 Mbps* within both the 2.4 GHz and the 5 GHz 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-2553 will automatically sense the best possible connection speed to ensure the greatest possible speed and range.

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

*Maximum wireless signal rate derived from IEEE Standard 802.11 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 Installation Considerations

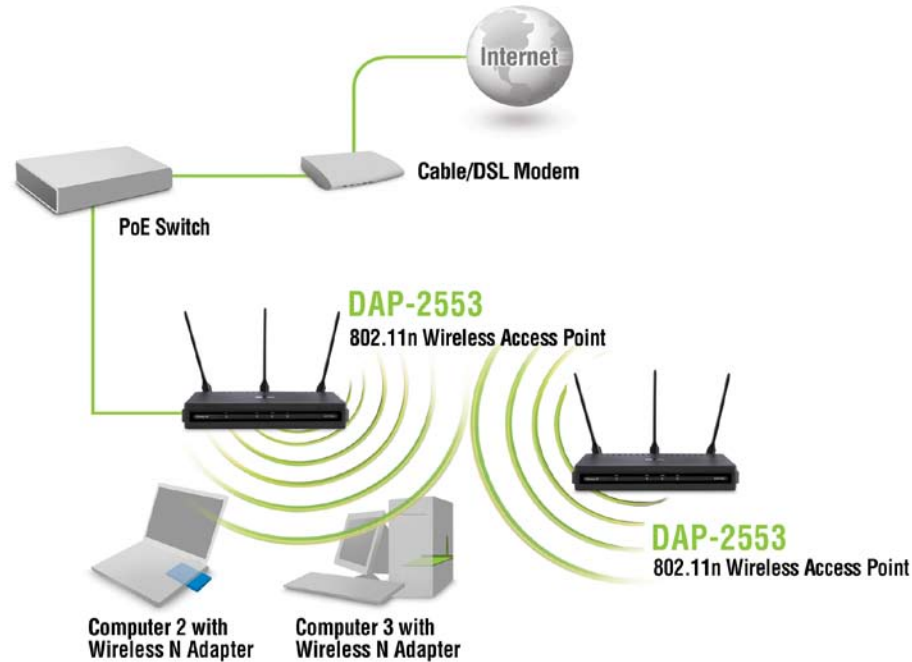
The D-Link AirPremier N wireless access point lets you access your network using a wireless connection from virtually anywhere within the operating range of your wireless network. Keep in mind, however, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals 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.

Four Operational Modes

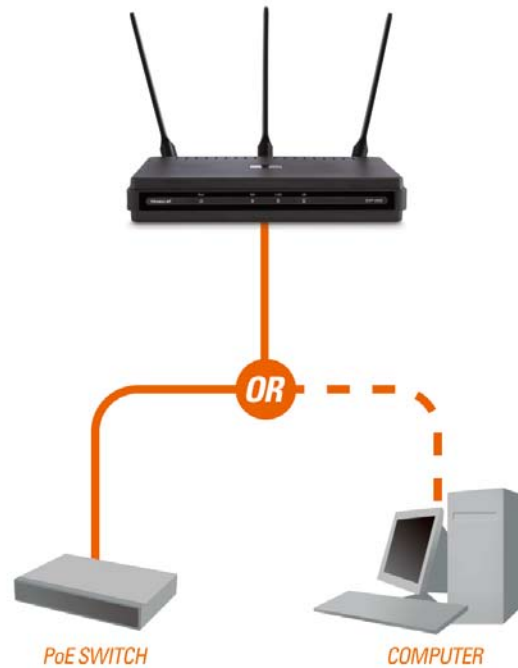
Operation Mode (Only supports 1 mode at a time)	Function
Access Point (AP)	Create a wireless LAN
WDS with AP	Wirelessly connect multiple networks while still functioning as a wireless AP
WDS	Wirelessly connect multiple networks
Wireless Client	AP acts as a wireless network adapter for your Ethernet-enabled device

Getting Started



1. You will need broadband Internet access.
2. Consult with your cable or DSL provider for proper installation of the modem.
3. Connect the cable or DSL modem to a router. See the printed Install Guide included with your router.
4. If you are connecting a desktop computer to your network, install a wireless PCI adapter into an available PCI slot on your desktop computer.
5. Install the drivers for your wireless CardBus adapter into a laptop computer.

Connecting PoE (Power over Ethernet)



Connect one end of an Ethernet cable (included with your package) to the LAN port on the DAP-2553 and the other end of the Ethernet cable to either your computer or to your PoE switch. The AP can be powered on by a PoE switch or by the power adapter shipped with the AP.

Configuration

To configure the DAP-2553, use a computer that is connected to the DAP-2553 with an Ethernet cable (see the *Network Layout diagram*).

First, disable the **Access the Internet using a proxy server** function. To disable this function, go to **Control Panel > Internet Options > Connections > LAN Settings** and uncheck the enable box.

Start your web browser program (Internet Explorer, Mozilla Firefox).

Type the IP address and http port of the DAP-2553 in the address field (**http://192.168.0.50**) and press **Enter**. Make sure that the IP addresses of the DAP-2553 and your computer are in the same subnet.



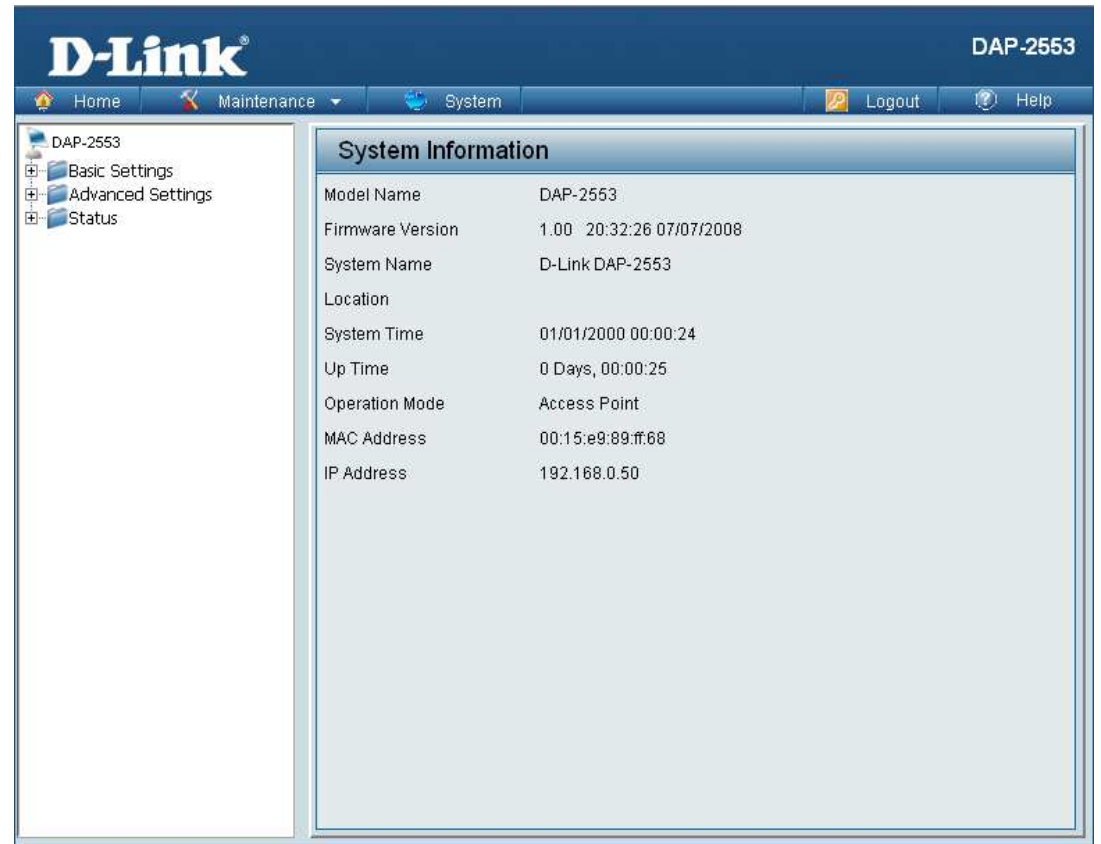
Note: If you have changed the default IP address assigned to the DAP-2553, make sure to enter the correct IP address.

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-2553 login page. The page has a dark blue header with the "D-Link" logo on the left and "DAP-2553" on the right. Below the header is a light blue box titled "LOGIN" with the text "Login to the Access Point:". There are two input fields: "User Name" with "admin" entered, and "Password" which is empty. A "Login" button is located to the right of the password field.

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

After successfully logging into the DAP-2553 the following screen will appear:



When making changes on most of the configuration screens in this section, use the **Apply** button at the bottom of each screen to save your configuration changes.



Click the **Apply** button to configure changes.

Home > Basic Settings

Wireless

Access Point mode

Wireless Band: Select either **2.4 GHz** or **5 GHz** from the pull-down menu.

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

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.

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 pull-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 web management interface for a DAP-2553 device. The page title is "Wireless Settings". The interface includes a navigation menu on the left with options for Basic Settings, Wireless, LAN, Advanced Settings, and Status. The main content area shows the following 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:** [Empty text box]
 - Confirm Key:** [Empty text box]

An "Apply" 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 or 802.11a wireless devices on your network.

Authentication: Use the pull-down menu to choose **Open System**, **Shared Key**, **WPA-Personal**, or **WPA-Enterprise**.
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.

WDS with AP mode

In WDS with AP mode, the DAP-2553 wirelessly connects multiple networks while still functioning as a wireless AP.

Wireless Band: Select either **2.4GHz** or **5GHz** from the pull-down menu.

Mode: **WDS with AP** mode 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 **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: All devices on the network must share the same channel. To change the channel, use the pull-down menu to make the desired selection. (Note: The wireless adapters will automatically scan and match the wireless settings.)

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 or 802.11a wireless devices on your network.

- Remote AP MAC Address:** Enter the MAC addresses of the APs on your network that will serve as bridges to wirelessly connect multiple networks.
- 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 pull-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. 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.

WDS mode

In WDS mode, the DAP-2553 wirelessly connects multiple networks, without functioning as a wireless AP.

- Wireless Band:** Select either **2.4GHz** or **5GHz** from the pull-down menu.
- Mode:** **WDS** 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 **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 pull-down menu to make the desired selection.
- Channel Width:** Use the pull-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-2553 web interface. The top navigation bar includes Home, Maintenance, System, Logout, and Help. The left sidebar shows a tree view with Basic Settings, Wireless, LAN, Advanced Settings, and Status. The main content area is titled "Wireless Settings" and contains the following configuration options:

- Wireless Band:** 2.4GHz
- Mode:** WDS
- Network Name (SSID):** dlink
- SSID Visibility:** Enable
- Auto Channel Selection:** Disable
- Channel:** 1
- Channel Width:** 20 MHz

Below these settings is a section for "WDS" with "Remote AP MAC Address" fields numbered 1 through 4. There is also a "Site Survey" section with a "Scan" button and a table with columns for CH, Signal, BSSID, Security, and SSID. The "Authentication" section is set to "Open System". The "Key Settings" section includes "Encryption" (Disable selected), "Key Type" (HEX), "Key Size" (64 Bits), "Key Index(1~4)" (1), "Network Key", and "Confirm Key" fields. An "Apply" button is located 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 pull-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 either **2.4 GHz** or **5 GHz** from the pull-down menu.

Mode: **Wireless Client** 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 **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-2553 is connected to when set to **Wireless Client** mode.

Channel Width: Use the pull-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.

Authentication: Use the pull-down menu to choose **Open System** or **WPA-Personal**.
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.

The screenshot displays the D-Link DAP-2553 configuration interface. The 'Wireless Settings' section is active, showing the following configurations:

- Wireless Band:** 2.4GHz
- Mode:** Wireless Client
- Network Name (SSID):** dlink
- SSID Visibility:** Enable
- Auto Channel Selection:** Disable
- Channel:** 1
- Channel Width:** 20 MHz

The 'Site Survey' section includes a 'Scan' button and a table with the following headers: CH, Signal, BSSID, Security, and SSID. The table is currently empty.

The 'Authentication' section is set to 'Open System'. Under 'Key Settings', 'Encryption' is set to 'Disable', 'Key Type' is 'HEX', 'Key Index' is '1', and 'Key Size' is '64 Bits'. There are input fields for 'Network Key' and 'Confirm Key', and an 'Apply' button at the bottom right.

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 pull-down menu.

The screenshot displays the D-Link DAP-2553 configuration interface. The 'Wireless Settings' section is active, showing various parameters for the wireless network. The 'Authentication' is set to 'Open System'. The 'Key Settings' section is expanded, showing 'Encryption' as 'Disable', 'Key Type' as 'HEX', and 'Key Size' as '64 Bits'. The 'Key Index (1~4)' is set to '1'. There are input fields for 'Network Key' and 'Confirm Key', and an 'Apply' button at the bottom right.

****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-Personal authentication

WPA Mode: When **WPA-Personal** is selected for Authentication type, you must also select a WPA mode from the pull-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 pull down menu.

Group Key Update: Select the interval during which the group key will be valid. The default value of **1800** is recommended.

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

The screenshot displays the D-Link DAP-2553 configuration interface. The 'Wireless Settings' section 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: WPA-Personal

Under the 'PassPhrase Settings' section:

- WPA Mode: AUTO (WPA or WPA2)
- Cipher Type: Auto
- Group Key Update Interval: 1800 Seconds
- PassPhrase: [Empty text box]
- Confirm PassPhrase: [Empty text box]

An 'Apply' button is located at the bottom right of the settings area.

WPA-Enterprise authentication

WPA Mode: When **WPA-Enterprise** is selected, you must also select a WPA mode from the pull-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 pull-down menu: **Auto**, **AES**, or **TKIP**.

Group Key Update Interval: Select the interval during which the group key will be valid. **1800** is the recommended value as 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-2553 configuration interface. The 'Wireless Settings' section is active, displaying 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: WPA-Enterprise
- RADIUS Server Settings:**
 - WPA Mode: AUTO (WPA or WPA2)
 - Cipher Type: Auto
 - Group Key Update Interval: 1800 Seconds
- Network Access Protection:**
 - Network Access Protection: Disable Enable
- Primary RADIUS Server Setting:**
 - RADIUS Server: [Empty field]
 - RADIUS Port: 1812
 - RADIUS Secret: [Empty field]

An 'Apply' button is located at the bottom right of the settings panel.

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-2553. 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-2553. 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: 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.

The screenshot shows the D-Link DAP-2553 web interface. The top navigation bar includes 'Home', 'Maintenance', 'System', 'Logout', and 'Help'. The left sidebar shows a tree view with 'DAP-2553' expanded, containing 'Basic Settings', 'Wireless', 'LAN', 'Advanced Settings', and 'Status'. The main content area is titled 'LAN Settings' and contains the following fields:

- Get IP From: Static IP (Manual) (dropdown menu)
- IP Address: 192.168.0.50 (text input)
- Subnet Mask: 255.255.255.0 (text input)
- Default Gateway: (empty text input)

An 'Apply' button is located at the bottom right of the settings area.

Home > Advanced Settings Performance

Wireless: Use the pull-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** in the 2.4 GHz band and **Mixed 802.11n, 802.11a, 802.11a only**, and **802.11n Only** in the 5 GHz band. Please note that when backwards compatibility is enabled for legacy (802.11a/g/b) clients, degradation of 802.11n (draft) 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 (for 2.4 GHz) and **802.11a only** mode (for 5 GHz). The choices available are **Best (Up to 54)**, **54, 48, 36, 24, 18, 12, 9, 6** for 5 GHz and **Best (Up to 54)**, **54, 48, 36, 24, 18, 12, 9, 6, 11, 5.5, 2** or **1** for 2.4 GHz.



*Maximum wireless signal rate derived from IEEE Standard 802.11 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.

Beacon Interval (25-500):	Beacons are packets sent by an access point to synchronize a wireless network. Specify a value in milliseconds. The default (100) 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.
DTM Interval (1-15):	Select a Delivery Traffic Indication Message setting between 1 and 15 . 1 is the default setting. DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.
Transmit Power:	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 50% as the option. Use the pull-down menu to select 100% , 50% , 25% , or 12.5% .
WMM (Wi-Fi Multimedia):	WMM stands for Wi-Fi Multimedia. Enabling this feature will improve the user experience for audio and video applications over a Wi-Fi network.
Ack Time Out (2.4 GHZ, 64~200) or Ack Time Out (5 GHZ, 25~200):	To effectively optimize throughput over long distance links enter a value for Acknowledgement Time Out between 25 and 200 microseconds for 5 GHz or from 64 to 200 microseconds in the 2.4 GHz in the field provided.
Short GI:	Select Enable or Disable . 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.
IGMP Snooping:	Select Enable or Disable . 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.
Link Integrity:	Select Enable or Disable . If the Ethernet connection between the LAN and the AP is disconnected, enabling this feature will cause the wireless segment associated with the AP to be disassociated from the AP.
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, when the number of users exceeds this value, the DAP-2553 will not allow clients to associate with the AP.
User Limit (0-64):	Set the maximum amount of users that are allowed access (0-64 users). To use this feature, the Connection Limit above must be enabled. For most users, a limit of 10 is recommended. The default setting is 20 .

Multi-SSID

The device supports up to four multiple Service Set Identifiers. You can set the Primary SSID in the **Basic > Wireless** section. 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.

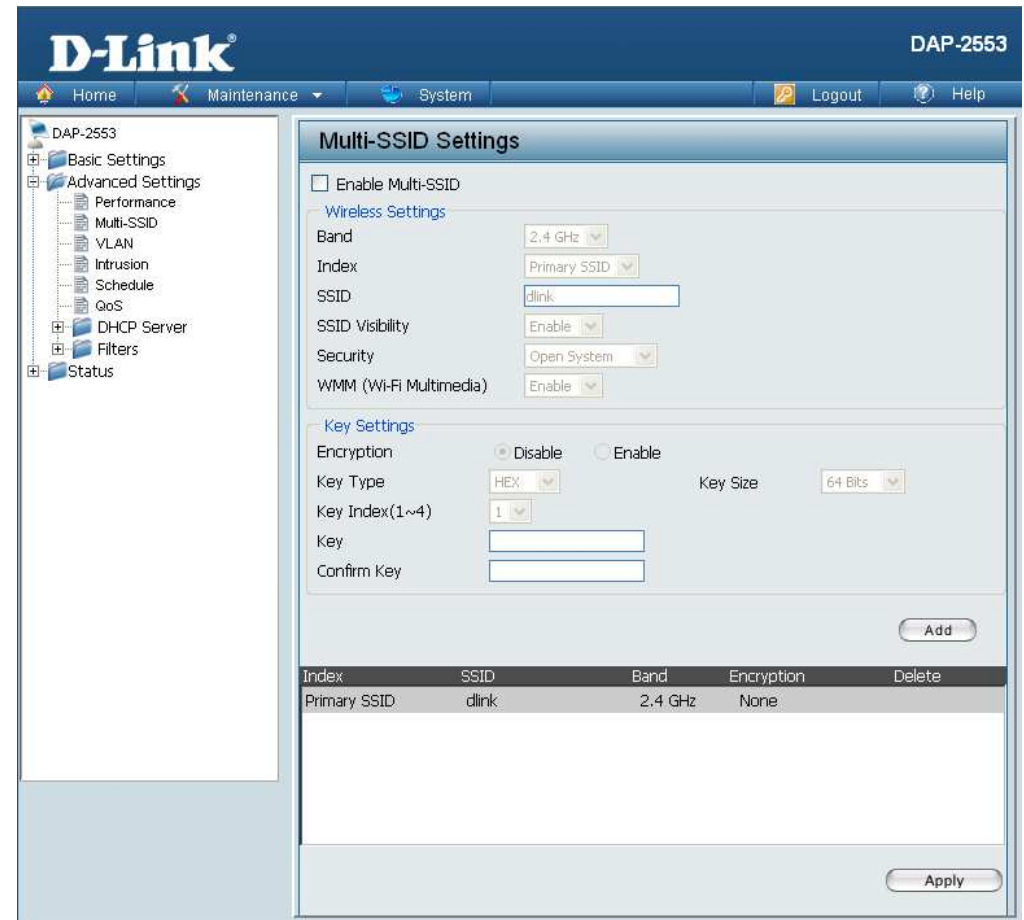
Band: This read-only value is the current band setting.

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**, or **WPA-Enterprise**. For a detailed description of the Open System parameters please go to page 23. For a detailed description of the WPA-Personal parameters please go to page 24. For a detailed description of the WPA-Enterprise parameters please go to page 25.



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

VLAN

VLAN List

The DAP-2553 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-2553 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.

The screenshot shows the D-Link DAP-2553 web interface. The top navigation bar includes 'Home', 'Maintenance', 'System', 'Logout', and 'Help'. The left sidebar shows a tree view with 'DAP-2553' expanded to 'Advanced Settings' > 'VLAN'. The main content area is titled 'VLAN Settings' and contains the following elements:

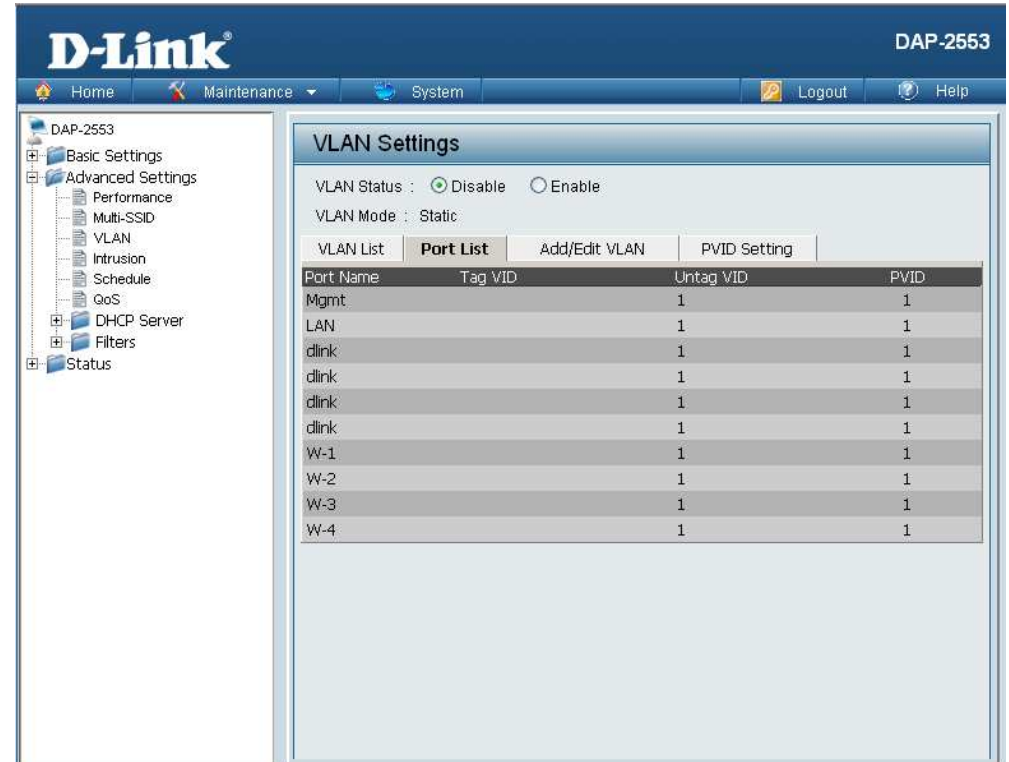
- VLAN Status: Disable Enable
- VLAN Mode: Static
- Navigation tabs: VLAN List (selected), Port List, Add/Edit VLAN, PVID Setting
- VLAN List table:

VID	VLAN Name	Untag VLAN Ports	Tag VLAN Ports	Edit	Delete
1	default	Mgmt, LAN, Primary, S-1, S-2, S-3, W-1, W-2, W-3, W-4			

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-2553 web interface. The 'VLAN Settings' section is visible, with the 'Port List' tab selected. The table below shows the current port configuration:

Port Name	Tag VID	Untag VID	PVID
Mgmt		1	1
LAN		1	1
dlink		1	1
dlink		1	1
dlink		1	1
dlink		1	1
W-1		1	1
W-2		1	1
W-3		1	1
W-4		1	1

Add/Edit VLAN

The **Add/Edit VLAN** tab is used to configure VLANs. Once you have made the desired changes, click the **Apply** 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.

The screenshot shows the D-Link DAP-2553 web interface. The top navigation bar includes 'Home', 'Maintenance', 'System', 'Logout', and 'Help'. The left sidebar shows a tree view of settings: Basic Settings, Advanced Settings (Performance, Multi-SSID, VLAN, Intrusion, Schedule, QoS), DHCP Server, Filters, and Status. The main content area is titled 'VLAN Settings' and has a sub-tab 'Add/Edit VLAN'. The 'VLAN Status' is set to 'Disable' and 'VLAN Mode' is 'Static'. Below these are three tables for configuring ports:

VLAN ID (VID)	VLAN Name	Add	
Port	Select All	Mgmt	LAN
Untag	All		
Tag	All	<input type="radio"/>	<input type="radio"/>
Not Member	All		
MSSID Port	Select All	Primary	S-1 S-2 S-3
Untag	All		
Tag	All	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Not Member	All		
WDS Port	Select All	W-1	W-2 W-3 W-4
Untag	All		
Tag	All	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>
Not Member	All		

An 'Apply' button is located at the bottom right of the configuration area.

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 **Apply** 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.

The screenshot shows the D-Link DAP-2553 web interface. The left sidebar contains a navigation tree with categories like Basic Settings, Advanced Settings, Performance, Multi-SSID, VLAN, Intrusion, Schedule, QoS, DHCP Server, Filters, and Status. The main content area is titled 'VLAN Settings' and includes the following configuration options:

- VLAN Status: Disable Enable
- VLAN Mode: Static
- Navigation tabs: VLAN List, Port List, Add/Edit VLAN, **PVID Setting**
- PVID Auto Assign Status: Disable Enable
- Port PVID table:

Port	Mgmt	LAN
PVID	<input type="text" value="1"/>	<input type="text" value="1"/>
- MSSID Port PVID table:

MSSID Port	Primary	S-1	S-2	S-3
PVID	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>
- WDS Port PVID table:

WDS Port	W-1	W-2	W-3	W-4
PVID	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>
- An **Apply** button is located at the bottom right of the configuration area.

Intrusion

The Wireless Intrusion Protection window is used to set APs as **All**, **Valid**, **Neighborhood**, **Rogue**, and **New**. Click the **Apply** 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.

The screenshot shows the D-Link DAP-2553 configuration interface. The top navigation bar includes 'Home', 'Maintenance', 'System', 'Logout', and 'Help'. The left sidebar shows a tree view with 'DAP-2553' expanded, containing 'Basic Settings', 'Advanced Settings' (with sub-items: Performance, Multi-SSID, VLAN, Intrusion, Schedule, QoS), 'DHCP Server', 'Filters', and 'Status'. The main content area is titled 'Wireless Intrusion Protection' and features a 'Detect' button at the top. Below it is an 'AP List' section with a dropdown menu set to 'All'. A table with columns 'Type', 'Band', 'CH', 'SSID', 'BSSID', 'Last Seen', and 'Status' is present but empty. At the bottom of the main area are four buttons: 'Set as Valid', 'Set as Neighborhood', 'Set as Rogue', and 'Set as New'. Below these are two radio button options: 'Mark All New Access Points as Valid Access Points' (which is selected) and 'Mark All New Access Points as Rogue Access Points'. An 'Apply' button is located at the bottom right of the main content area.

Schedule

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

- Wireless Schedule:** Use the pull-down menu to enable the device's scheduling feature.
- Name:** Enter a name for the new scheduling rule in the field provided.
- Day(s):** Toggle the radio button between **All Week** and **Select Day(s)**. If the second option is selected, check the specific days you want the rule to be effective on.
- All Day(s):** Check this box to have your settings apply 24 hours a day.
- Wireless:** Toggle the pull-down menu between **Off** and **On**.

D-Link DAP-2553

Home Maintenance System Logout Help

Wireless Schedule Settings

Wireless Schedule:

Add Schedule Rule

Name:

Day(s): All Week Select Day(s)

Sun Mon Tue Wed Thu Fri Sat

All Day(s):

Start Time: : (hour:minute, 24 hour time)

End Time: : (hour:minute, 24 hour time)

Wireless:

Schedule Rule List

Name	Day(s)	Time Frame	Wireless	Edit	Delete

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 doesn't 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.

The screenshot shows the D-Link DAP-2553 web interface. The top navigation bar includes 'Home', 'Maintenance', 'System', 'Logout', and 'Help'. The left sidebar shows a tree view with 'DAP-2553' expanded, containing 'Basic Settings' (Wireless, LAN) and 'Advanced Settings' (Performance, Multi-SSID, VLAN, Intrusion, Schedule, QoS, DHCP Server, Filters, Status). The main content area is titled 'QoS Settings' and features a 'QoS(Quality of Service)' dropdown set to 'Disable'. Below this is the 'Priority Classifiers' section with checkboxes for 'HTTP' and 'Automatic' (with a note: '(default if not matched by anything else)'). The 'Add QoS Rule' section contains input fields for Name, Priority (set to 'Background(BK)'), Protocol (set to 'Any'), Host 1 IP Range, Host 1 Port Range, Host 2 IP Range, and Host 2 Port Range, along with 'Add' and 'Clear' buttons. At the bottom is the 'QoS Rules List' table with columns: Name, Priority, Host 1 IP Range, Host 2 IP Range, Protocol / Ports, Edit, and Del. An 'Apply' button is located at the bottom right of the main content area.

Name:	Enter a name for the new QoS rule in the field provided.
Priority:	Use the pull-down menu to select the desired priority: Background (BK) , Best Effort (BE) , Video (VI) , or Voice (VO) .
Protocol:	Use the pull-down menu to choose the appropriate protocol used by the messages: Any , TCP , UDP , Both , IMCP , or Other .
Host 1 IP Range:	The rule applies to a flow of messages for which one computer's IP address falls within the range set here.
Host 1 Port Range:	The rule applies to a flow of messages for which host 1's port number is within the range set here when the Protocol is set to TCP , UDP , or Both .
Host 2 IP Range:	The rule applies to a flow of messages for which the other computer's IP address falls within the range set here.
Host 2 Port Range:	The rule applies to a flow of messages for which host 2's port number is within the range set here when the Protocol is set to TCP , UDP , or Both .

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-2553 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-2553 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-2553 web interface. The top navigation bar includes Home, Maintenance, System, Logout, and Help. The left sidebar shows a tree view of settings: DAP-2553, Basic Settings (Wireless, LAN), Advanced Settings (Performance, Multi-SSID, VLAN, Intrusion, Schedule, QoS), DHCP Server (Dynamic Pool Setting, Static Pool Setting, Current IP Mapping List), Filters, and Status. The main content area is titled 'Dynamic Pool Settings' and contains the following fields:

- DHCP Server Control:** Function Enable/Disable (Dropdown menu set to 'Disable')
- Dynamic Pool Settings:**
 - IP Assigned From: 192.168.0.20
 - The Range of Pool (1-254): 235
 - Subnet Mask: 255.255.255.0
 - Gateway: (Empty field)
 - WINS: (Empty field)
 - DNS: (Empty field)
 - Domain Name: dlink-ap
 - Lease Time (60 - 31536000 sec): 604800

An 'Apply' 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-2553 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 **Apply**; 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-2553 web interface. 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", the "Assigned IP" is empty, "Assigned MAC Address" is empty, "Subnet Mask" is "255.255.255.0", "Gateway" is empty, "Wins" is empty, "DNS" is empty, and "Domain Name" is "dlink-ap". An "Apply" button is located at the bottom right of the settings section. Below the settings is a table for the Assigned Static Pool with columns for MAC Address, IP Address, Edit, and Delete.

MAC Address	IP Address	Edit	Delete

Gateway: Specify the Gateway address for the wireless 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 with a dynamically assigned IP address, if applicable.

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

Domain Name: 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.

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.

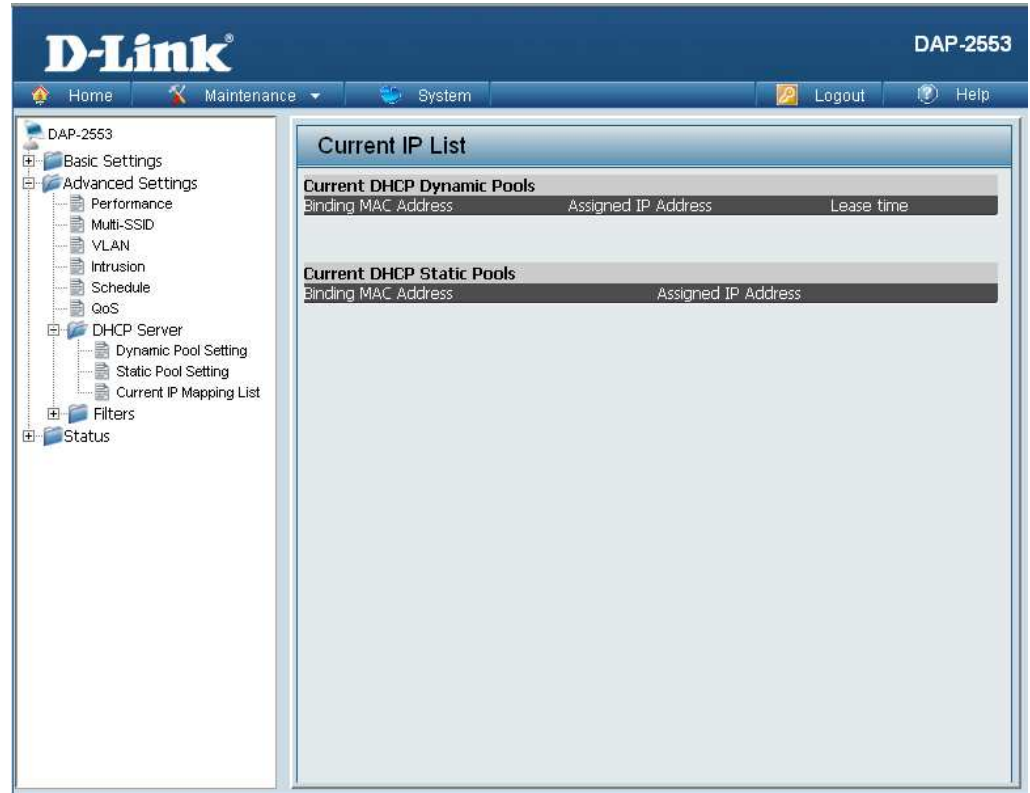
Current DHCP Static Pools: These are the IP address pools of the DHCP server assigned through the static pool settings.

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.

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 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 **Apply**.
- 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.

The screenshot displays the D-Link DAP-2553 configuration interface. The top navigation bar includes 'Home', 'Maintenance', 'System', 'Logout', and 'Help'. The left sidebar shows a tree view with 'Filters' expanded to 'Wireless MAC ACL'. The main panel is titled 'Wireless MAC ACL Settings' and contains the following elements:

- Wireless Band:** A dropdown menu currently set to '2.4GHz'.
- Access Control List:** A dropdown menu currently set to 'Disable'.
- MAC Address:** A text input field with a placeholder ' : : : : : ' and an 'Add' button.
- Access Control List Table:** A table with columns 'ID', 'MAC Address', and 'Delete'. The table is currently empty.
- Current Client Information Table:** A table with columns 'MAC Address', 'SSID', 'Band', 'Authentication', 'Signal', and 'Add'. The table is currently empty.
- Apply Button:** A button at the bottom right of the settings panel.

WLAN Partition

Wireless Band: Displays the current wireless band rate.

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.


Ethernet 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.



Home > Status

Device Information

Device Information: This read-only window displays the configuration settings of the DAP-2553, including the firmware version and the device's MAC address.



The screenshot shows the D-Link DAP-2553 web interface. The top navigation bar includes 'Home', 'Maintenance', 'System', 'Logout', and 'Help'. The left sidebar shows a tree view with 'DAP-2553' expanded, containing 'Basic Settings', 'Advanced Settings', 'Status', 'Client Information', 'WDS Information', 'Stats', and 'Log'. The main content area is titled 'Device Information' and displays the following settings:

Firmware Version: 1.00	
Ethernet MAC Address:	00:15:e9:89:ff:68
Wireless MAC Address:	Primary: 00:15:e9:89:ff:68
	SSID 1~3: 00:15:e9:89:ff:69 ~ 00:15:e9:89:ff:6b
Ethernet	
IP Address	192.168.0.50
Subnet Mask	255.255.255.0
Gateway	N/A
Wireless (5GHz)	
Network Name (SSID)	dlink
Channel	157
Data Rate	Auto
Security	None

Client Information

Client Information: This window displays the wireless client information for clients currently connected to the DAP-2553.

The following information is available for each client communicating with the DAP-2553.

SSID: Displays the SSID of the client.

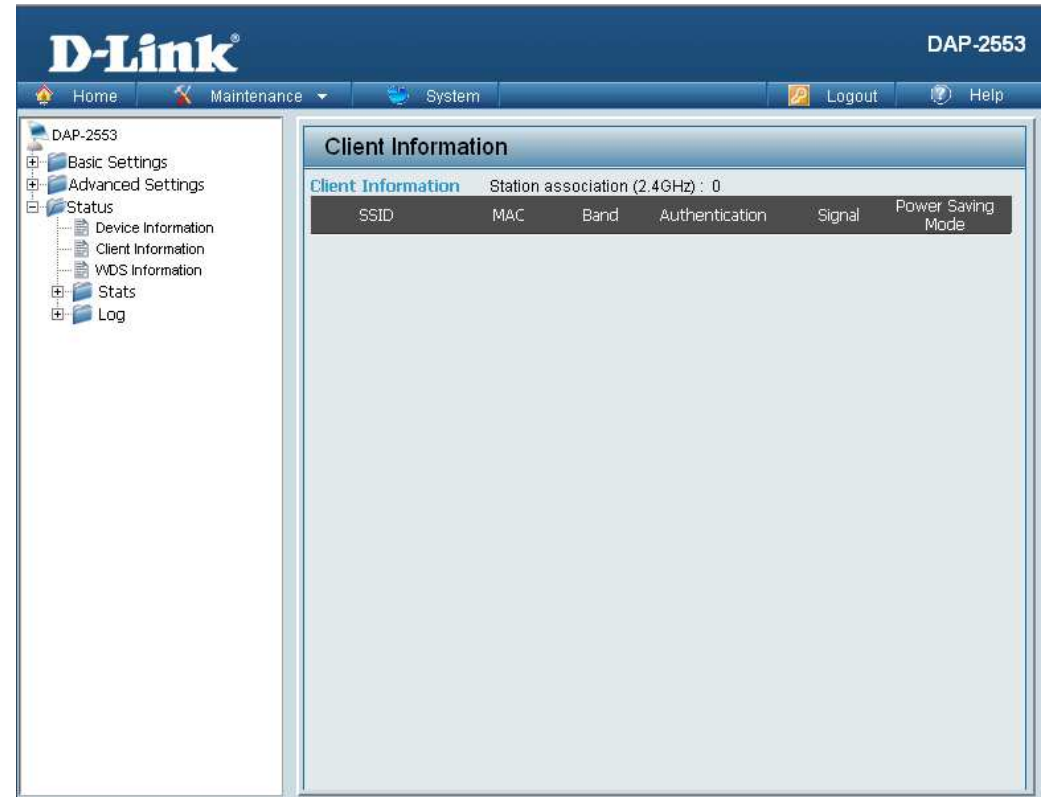
MAC: Displays the MAC address of the client.

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-2553.

The following information is available for each client communicating with the DAP-2553.

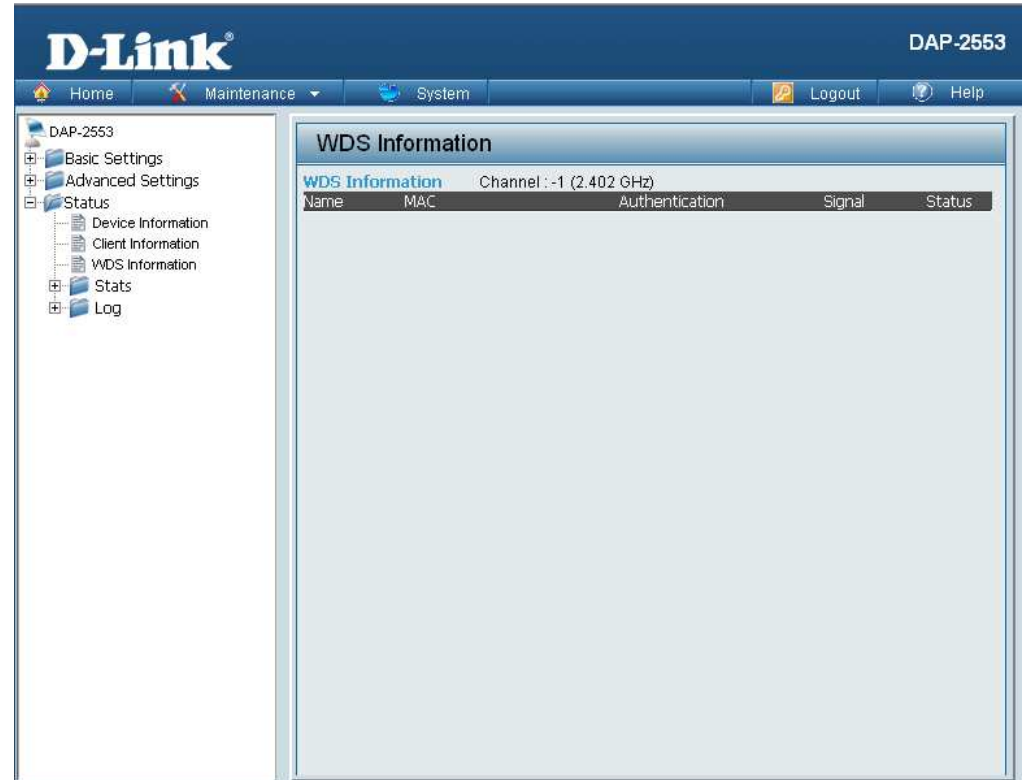
Name: Displays the SSID of the client.

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.

The screenshot shows the D-Link web interface for a DAP-2553 device. The top navigation bar includes 'Home', 'Maintenance', 'System', 'Logout', and 'Help'. A sidebar on the left lists navigation options: 'Basic Settings', 'Advanced Settings', 'Status' (with sub-items: 'Device Information', 'Client Information', 'WDS Information'), 'Stats' (with sub-items: 'Ethernet', 'WLAN'), and 'Log'. The main content area is titled 'Ethernet Traffic Statistics' and contains a table with the following data:

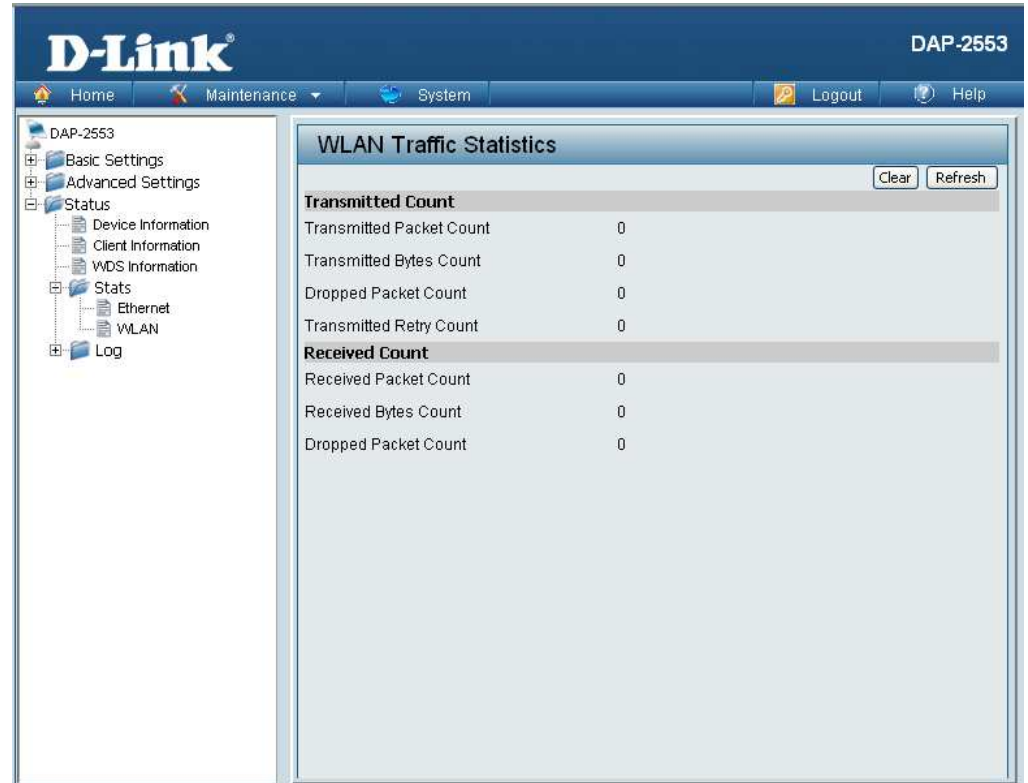
Transmitted Count	
Transmitted Packet Count	1266
Transmitted Bytes Count	1476180
Dropped Packet Count	0

Received Count	
Received Packet Count	1032
Received Bytes Count	97370
Dropped Packet Count	0

WLAN

WLAN Traffic Statistics:

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



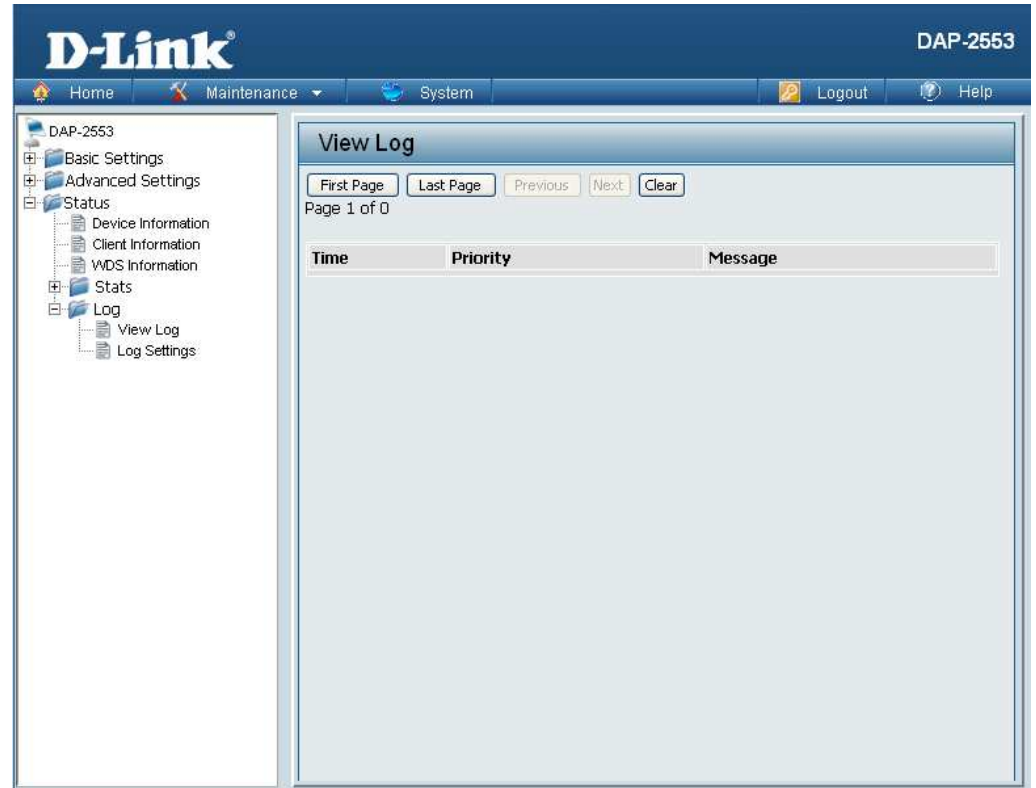
The screenshot shows the D-Link DAP-2553 web interface. The top navigation bar includes 'Home', 'Maintenance', 'System', 'Logout', and 'Help'. The left sidebar contains a tree view with categories: 'Basic Settings', 'Advanced Settings', 'Status', 'Stats', 'Ethernet', 'WLAN', and 'Log'. The main content area is titled 'WLAN Traffic Statistics' and features a 'Clear' and 'Refresh' button. Below the title, there are two sections: 'Transmitted Count' and 'Received Count', each with a table of statistics.

Transmitted Count	
Transmitted Packet Count	0
Transmitted Bytes Count	0
Dropped Packet Count	0
Transmitted Retry Count	0

Received Count	
Received Packet Count	0
Received Bytes Count	0
Dropped Packet Count	0

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.



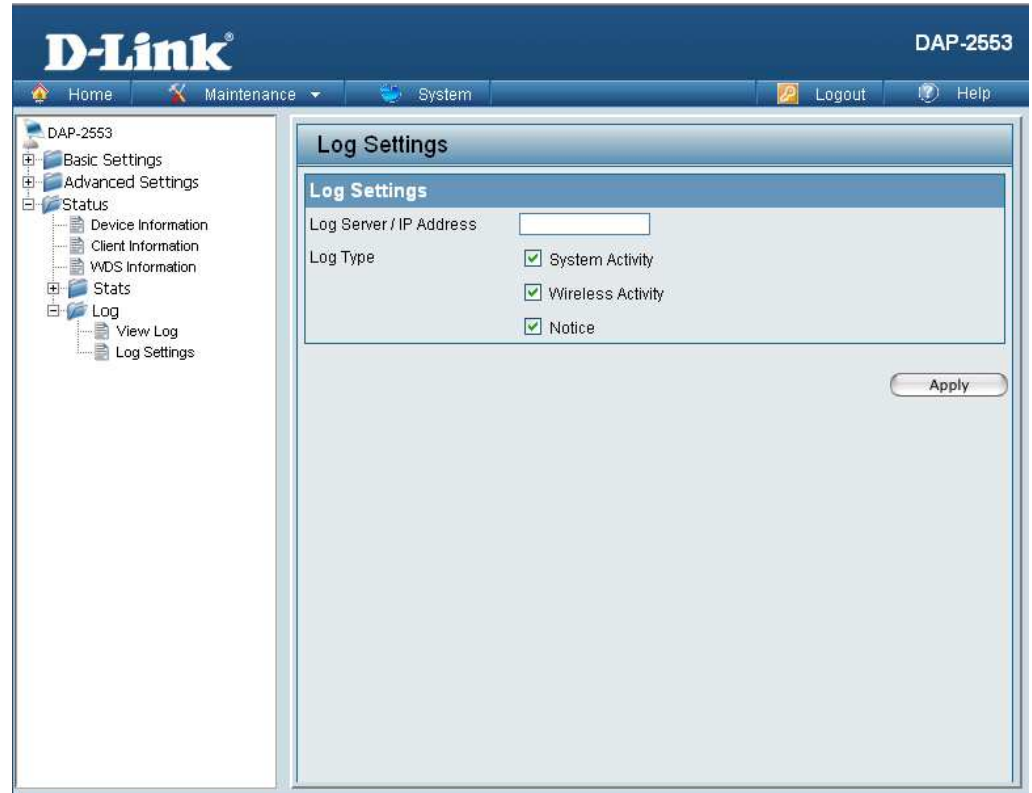
Log Settings

Log Server/IP Address:

Enter the IP address of the server you would like to send the DAP-2553 log to.

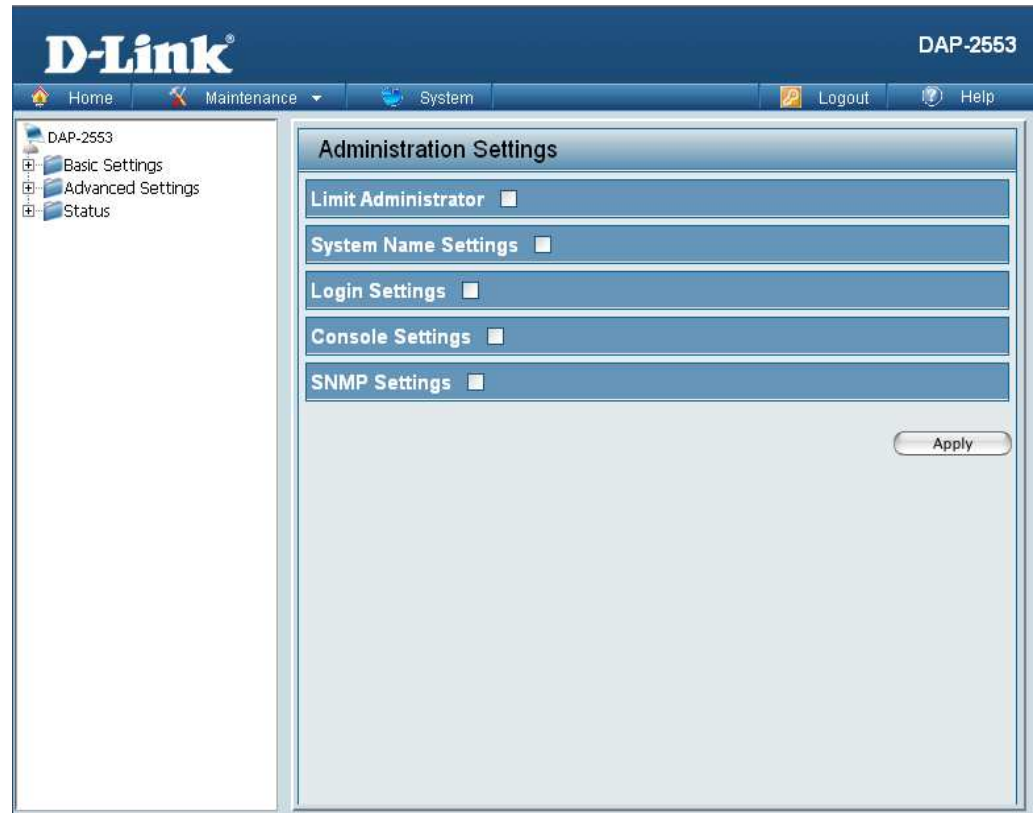
Log Type:

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



Maintenance Administrator 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-2553 web interface. The top navigation bar includes Home, Maintenance, System, Logout, and Help. The left sidebar shows a tree view with DAP-2553, Basic Settings, Advanced Settings, and Status. The main content area is titled "Administration Settings" and contains the following configuration options:

- Limit Administrator:** A checkbox is checked. Below it are two "Enable" checkboxes, each followed by a text input field. The first is for "Limit Administrator VLAN ID" and the second is for "Limit Administrator IP".
- IP Range:** A section with "From:" and "To:" text input fields, followed by an "Add" button.
- Table:** A table with columns for "Item", "From", "To", and "Delete". The table is currently empty.
- System Name Settings:** A checkbox is unchecked.
- Login Settings:** A checkbox is unchecked.
- Console Settings:** A checkbox is unchecked.
- SNMP Settings:** A checkbox is unchecked.

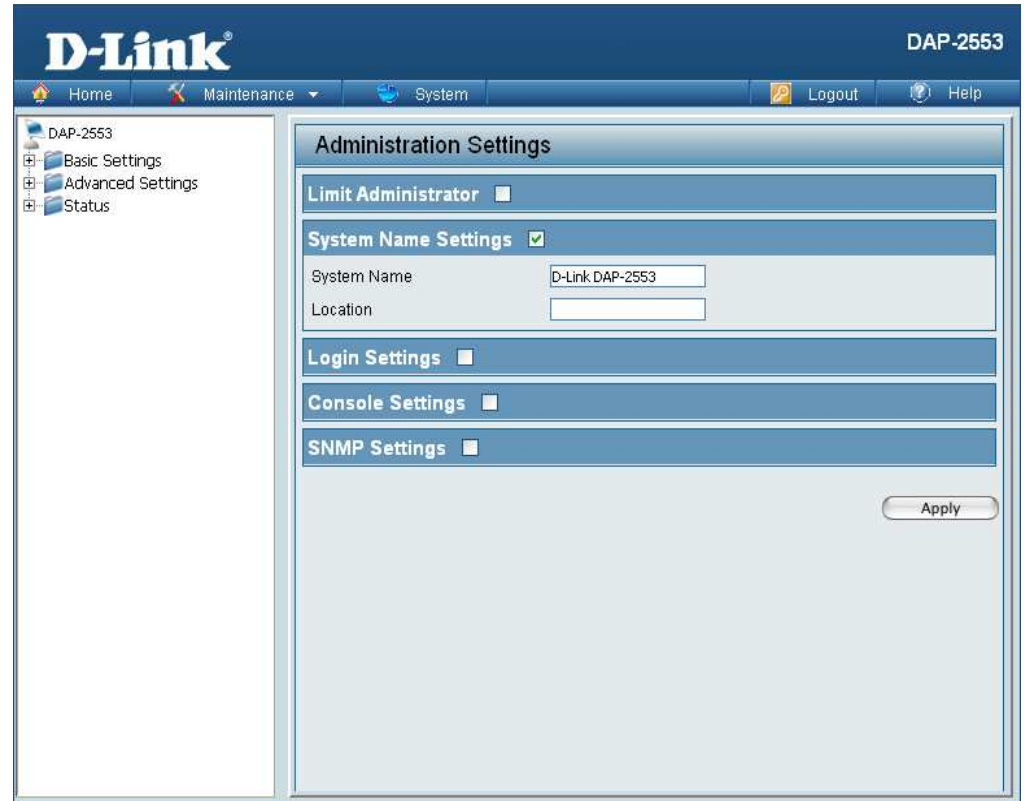
An "Apply" button is located at the bottom right of the configuration area.

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-2553**.

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



Login Settings

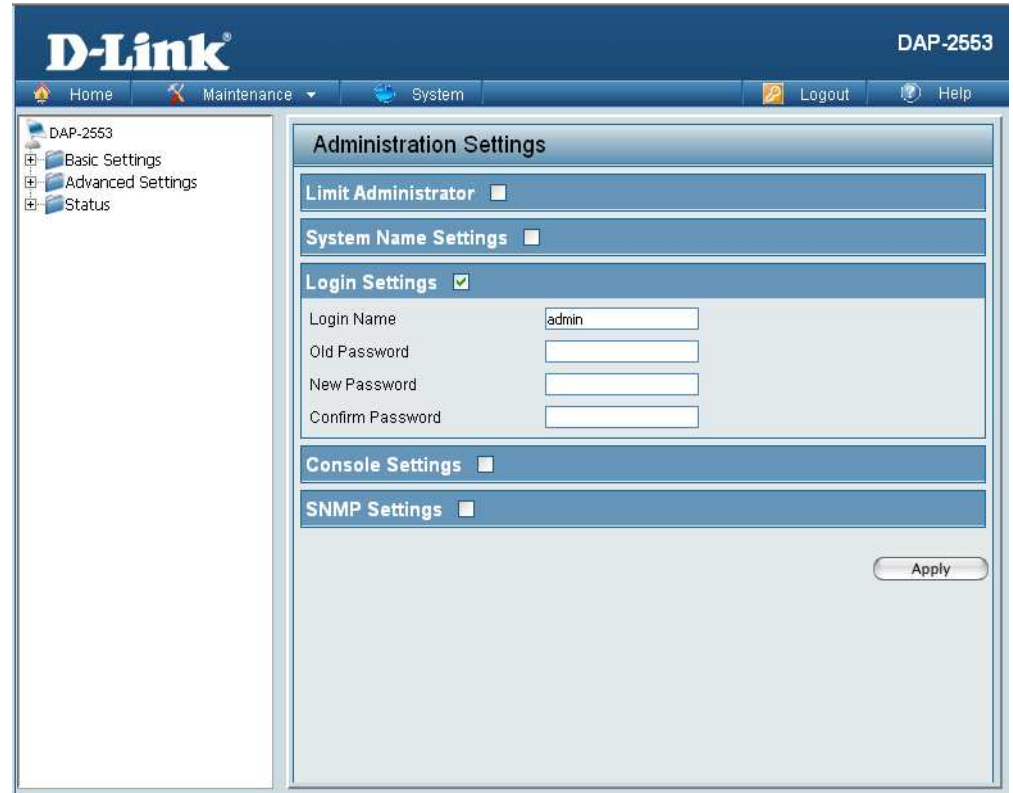
Each of the five main categories display various hidden administrator parameters and settings.

User 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-2553 Administration Settings page. The page has a blue header with the D-Link logo and the model number DAP-2553. Below the header is a navigation bar with links for Home, Maintenance, System, Logout, and Help. On the left side, there is a sidebar menu with options for Basic Settings, Advanced Settings, and Status. The main content area is titled "Administration Settings" and contains several sections: "Limit Administrator" (disabled), "System Name Settings" (disabled), "Login Settings" (checked), "Console Settings" (disabled), and "SNMP Settings" (disabled). The "Login Settings" section is expanded and shows four input fields: "Login Name" (with the value "admin"), "Old Password", "New Password", and "Confirm Password". An "Apply" button is located at the bottom right of the page.

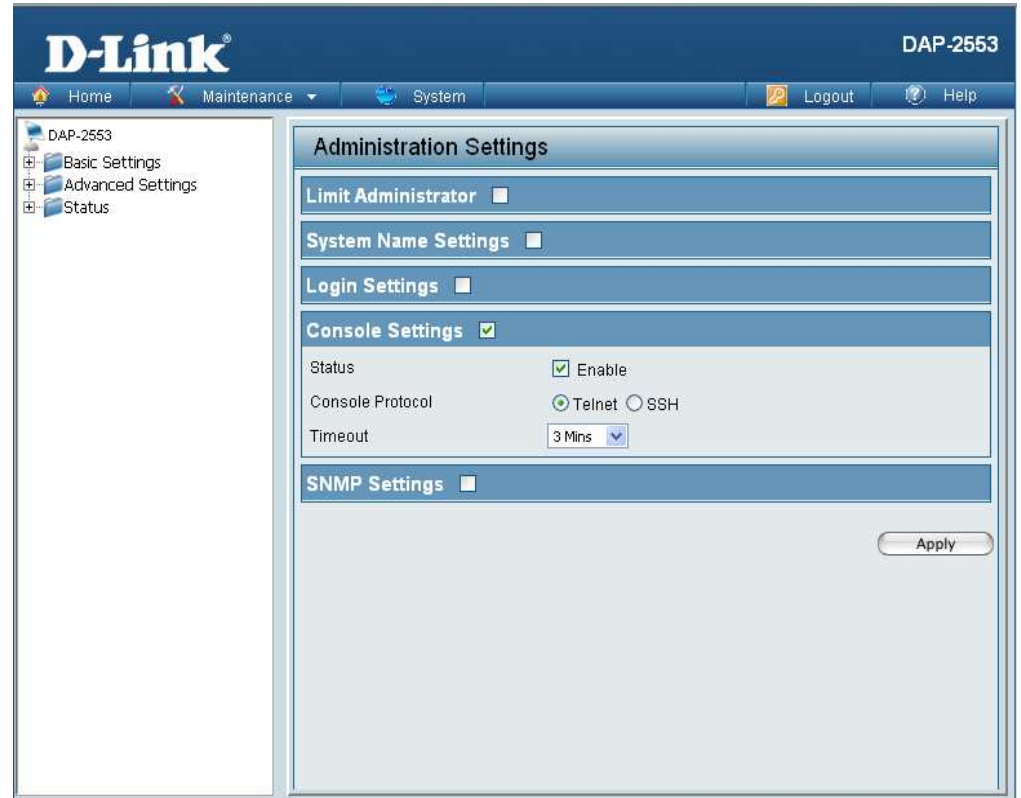
Console Settings

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 is enabled by default.

Public Community String: Enter the public SNMP community string.

Private Community String: Enter the private SNMP community string.

The screenshot shows the D-Link DAP-2553 web interface. The top navigation bar includes 'Home', 'Maintenance', 'System', 'Logout', and 'Help'. The left sidebar shows a tree view with 'DAP-2553' expanded, containing 'Basic Settings', 'Advanced Settings', and 'Status'. The main content area is titled 'Administration Settings' and contains several sections: 'Limit Administrator', 'System Name Settings', 'Login Settings', 'Console Settings', and 'SNMP Settings'. The 'SNMP Settings' section is active and shows a 'Status' checkbox checked, and two text input fields for 'Public Community String' (containing 'public') and 'Private Community String' (containing 'private'). An 'Apply' button is located at the bottom right of the settings area.

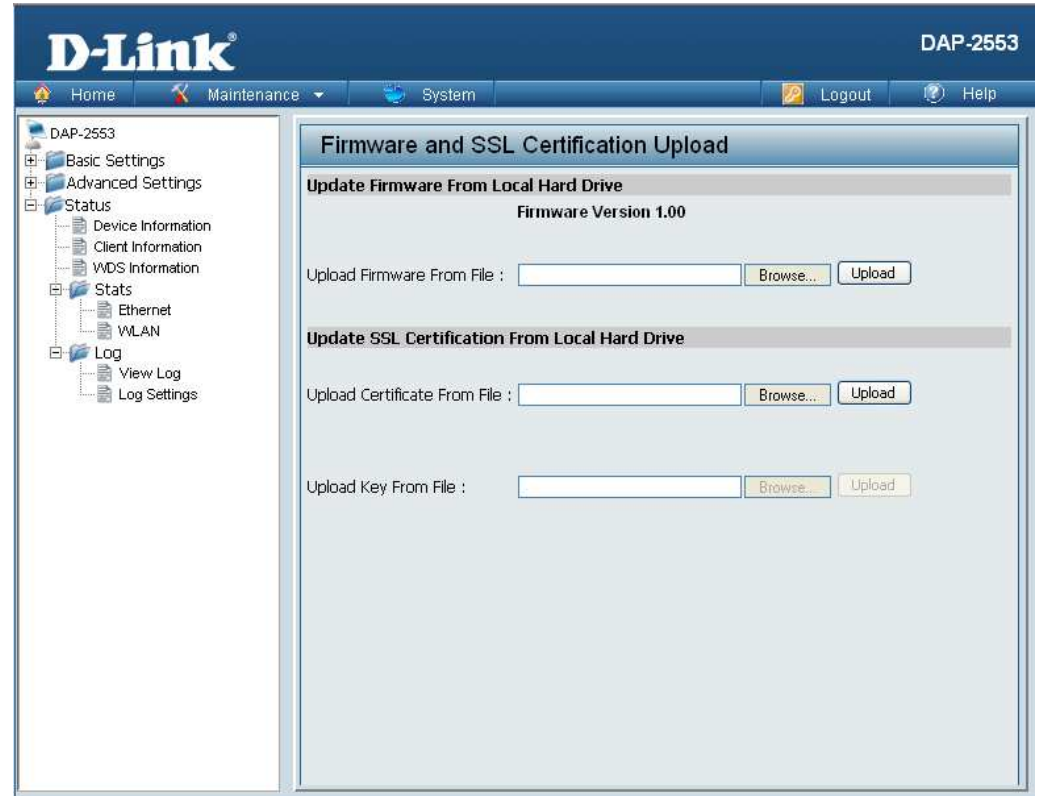
Firmware and SSL Certification Upload

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-2553 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.

Upload SSL Certification From Local Hard Drive:

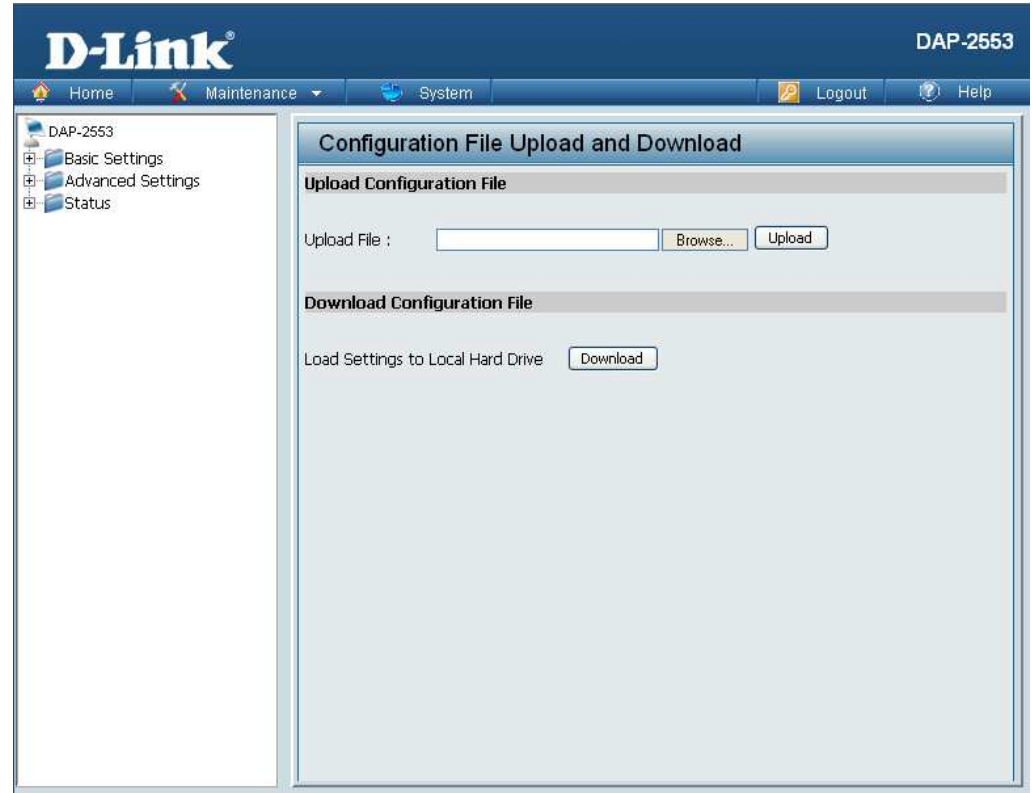
Click **Browse** to locate the SSL Certification file on your local computer. After selecting and opening the file, click **Upload** to upload the file to the DAP-2553.



Configuration File

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-2553.

Download Configuration File: Click **Download** to save the current DAP-2553 configuration to your local computer. Note that if you save one configuration with the administrator's password now, after resetting your DAP-2553, 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.
- Time Zone:** Use the pull-down menu to select your correct Time Zone.
- Enable Daylight Saving:** Check the box to Enable Daylight Saving Time.
- Daylight Saving Offset:** Use the pull-down menu to select the correct Daylight Saving period.
- Daylight Saving Dates:** Use the pull-down menu to select the correct Daylight Saving offset.
- Enable NTP Server:** Check to enable the AP to get system time from an NTP server.
- NTP Server:** Enter the NTP server IP address.
- 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-2553 web interface. The main content area is titled "Time and Date Settings".

Time Configuration

- Current Time: 01/01/2000 00:38:21
- Time Zone: (GMT-08:00) Pacific Time (US & Canada); Tijuana
- Enable Daylight Saving:
- Daylight Saving Offset: +1:00
- Daylight Saving Dates:

	Month	Week	Day of Week	Current Time
DST Start	Jan	1st	Sun	12 am
DST End	Jan	1st	Sun	12 am

Automatic Time Configuration

- Enable NTP Server:
- NTP Server: << Select NTP Server

Set the Date and Time Manually

Date And Time

Year	2008	Month	Jul	Day	9
Hour	15	Minute	47	Second	6

Buttons: Copy Your Computer's Time Settings, Apply

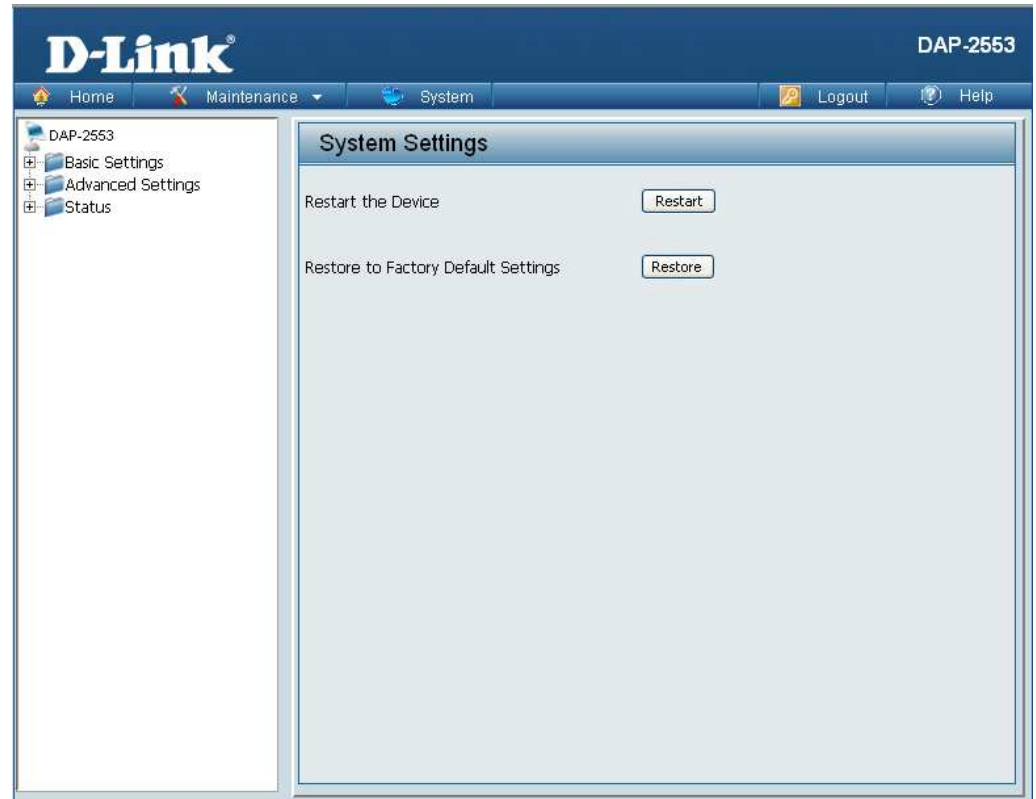
System System Settings

Restart the Device:

Click **Restart** to restart the DAP-2553.

Restore to Factory Default Settings:

Click **Restore** to restore the DAP-2553 back to factory default settings.



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. Choose 5GHz for least interference; interference can hurt performance. This AP will operate one band at a time.

Mode

Select a function mode to configure your wireless network. Function modes include AP, WDS (Wireless Distribution System) with AP, WDS and 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 allows 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-2553. 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 you to select the channel width you would like to operate in. Select 20MHz if you are not using any 802.11n wireless clients. Auto 20/40MHz allows you to use both 802.11n and non-802.11n wireless devices in your network.

Authentication

For added security on a wireless network, data encryption can be enabled. There are several available Authentication types that 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.

Shared Key

For Shared Key authentication, the Access Point cannot be seen on the wireless network except to the wireless clients that share the same WEP key.

WPA-Personal/WPA2-Personal/WPA-Auto-Personal

Wi-Fi Protected Access authorizes and authenticates users onto the wireless network. It uses TKIP encryption to protect the network through the use of a pre-shared key. WPA and WPA2 use different algorithms. WPA-Auto allows both WPA and WPA2.

WPA-Enterprise/ WPA2-Enterprise/ WPA-Auto-Enterprise

Wi-Fi Protected Access authorizes and authenticates users onto the wireless network. WPA uses stronger security than WEP and is based on a key that changes automatically at a regular interval. It requires a RADIUS server in the network. WPA and WPA2 use different algorithms. WPA-Auto allows both WPA and WPA2.

Network Access Protection

Network Access Protection (NAP) is a feature of Windows Server 2008. NAP controls access to network resources based on a client computer's identity and compliance with corporate governance policy. NAP allows network administrators to define granular levels of

Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DAP-2553. 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 or have to be connected to the Internet. The device has the utility built-in to a ROM chip in the device itself. Your computer must be on the same IP subnet to connect to the web-based utility.

- Make sure you have an updated Java-enabled web browser. We recommend the following:
 - Internet Explorer 7.0 or higher
 - Netscape 9.0 or higher
 - Firefox 3.0 or 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.

- 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.

Networking Basics

Check your IP address

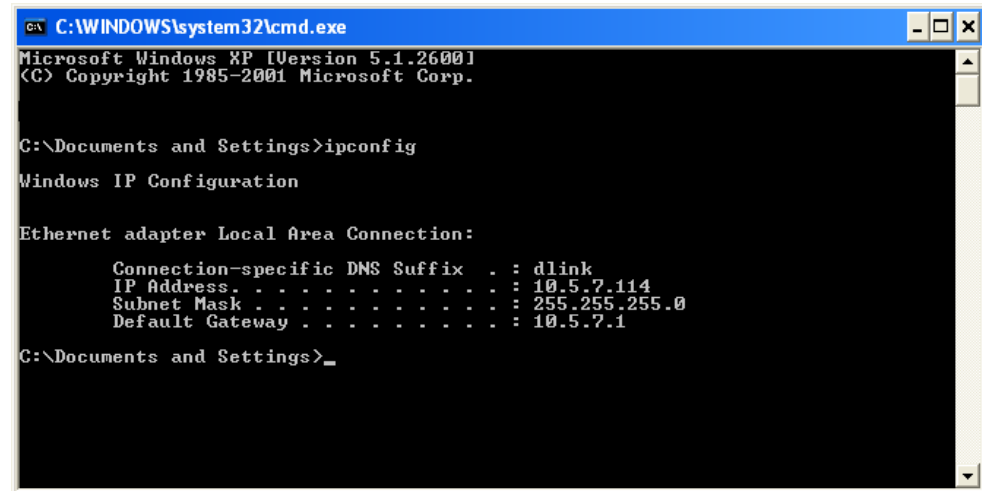
After you install your network adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

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.

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.



```
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 you are connecting to a wireless network at a hotspot (e.g. hotel, coffee shop, airport), please contact an employee or administrator to verify their wireless network settings.

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

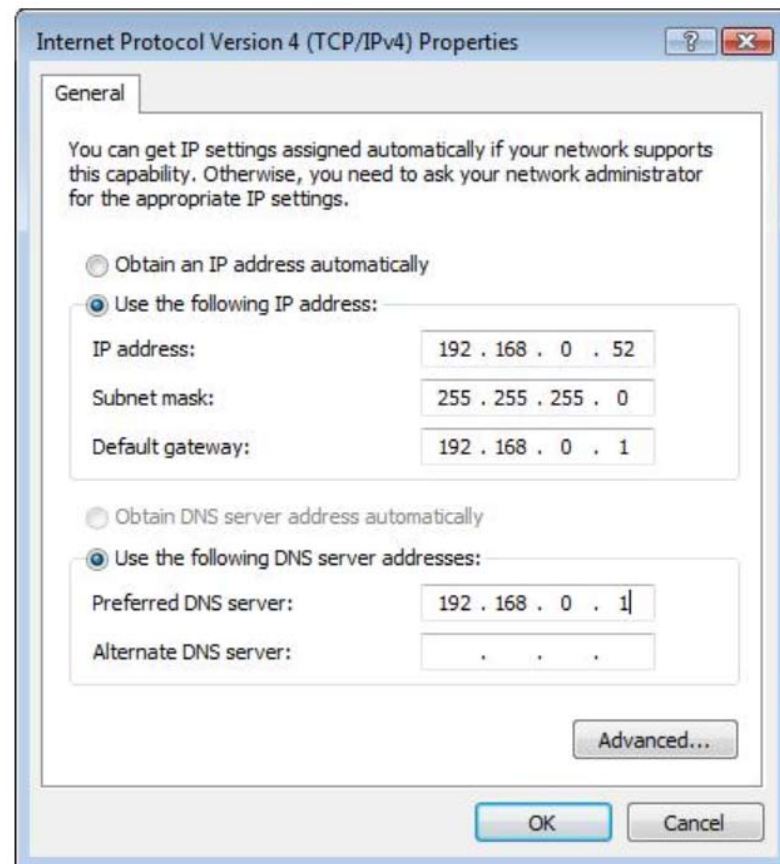
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

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.



Technical Specifications

Standards

- IEEE 802.11a
- IEEE 802.11b
- IEEE 802.11g
- IEEE 802.11n (draft)
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3ab
- IEEE 802.3af

Network Management

- Web Browser interface
 - HTTP
 - Secure HTTP (HTTPS)
- AP Manager II
- SNMP Support
 - D-View Module
 - Private MIB
- Command Line Interface
 - Telnet
 - Secure SSH Telnet

Data Rates*

For 802.11a:

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

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 (draft):

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
- WEP™ 64-/128-bit
- SSID Broadcast Disable
- MAC Address Access Control

Wireless Frequency Range

- 2.4 to 2.4835 GHz and 5.15 to 5.85 GHz**

Operating Voltage

- 48V DC +/- 10% for PoE or 5V/2.5A

Radio and Modulation Type

For 802.11a/g/n:

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

For 802.11b:

DQPSK, DBPSK, DSSS, and CCK

Operating Frequency**

For 802.11a:

5.15 ~ 5.85 GHz

For 802.11b/g:

2.4 ~ 2.4835 GHz

For 802.11n:

2.4 GHz Band: 2.4 ~ 2.4835 GHz

5 GHz Band: 5.15 ~ 5.85 GHz

Dipole Antenna

- 3dBi Gain @2.4 GHz
- 5dBi Gain @5 GHz

* Maximum wireless signal rate derived from IEEE Standard 802.11g and Draft 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.

Transmit Output Power (at Antenna Connector)

- 15dBm @ 2.4GHz
- 16dBm @ 5GHz

EIRP

- 22.7dBm @ 2.4GHz
- 26.7dBm @ 5GHz

Max Power Consumption

- 10.5W

LEDs

- Power
- LAN
- 2.4 GHz
- 5 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
- C-Tick
- CSA
- WiFi

Dimensions

- L = 198 mm
- W = 120 mm
- H = 32 mm

**Please note that operating frequency ranges vary depending on the regulations of individual countries and jurisdictions. The DAP-2553 isn't supported in the 5.25~5.35 GHz and 5.47 ~ 5.725 GHz frequency ranges in some regions.