

AP Manager II



User Manual

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Product Overview

AP Manager II is a convenient software tool used to manage the configuration of your wireless network from a central computer. With AP Manager II there is no need to configure devices individually.

AP Manager II allows you to configure AP settings, update the firmware, and organize and sort your APs into manageable groups.

Minimum System Requirements

- Computer with Windows® 2000/XP/2003/Vista 32-bit or 64-bit
- An installed Ethernet Adapter
- At least 128MB of memory and a 500MHz processor

Minimum Software Requirements

- PostgreSQL Server 8.3
- PostgreSQL © ODBC Connector (psqlodbc)

Access Point Requirements

- SNMP must be enabled on Access Points used with AP Manager II

Software Installation

Install PostgreSQL Server

Before installing AP Manager II on your computer, you must first install PostgreSQL Server 5.0 and PostgreSQL © ODBC Connector. During the AP Manager II install process, AP Manager II will check if these PostgreSQL programs have been installed. If they are not found, you will be reminded to download them.

The PostgreSQL® software and documentation can be found at the following links:

PostgreSQL® Server 8.3:

<http://www.enterprisedb.com/products/pgdownload.do#windows>

PostgreSQL® ODBC Connector 08_03_0400:

http://wwwmaster.postgresql.org/download/mirrors-ftp?file=%2Fodbc%2Fversions%2Fmsi%2Fpsqlodbc_08_03_0400.zip

Install AP Manager II

Once the PostgreSQL Server 8.3 and PostgreSQL ODBC Connector 08.03.0400 programs have been installed, proceed with the AP Manager II installation. To launch the AP Manager II installation, double-click the installation package icon:



APManagerII.exe
D-Link

As the installation begins, a welcome screen appears and recommends you end all other programs running before continuing with the installation. Click **Next** to continue.



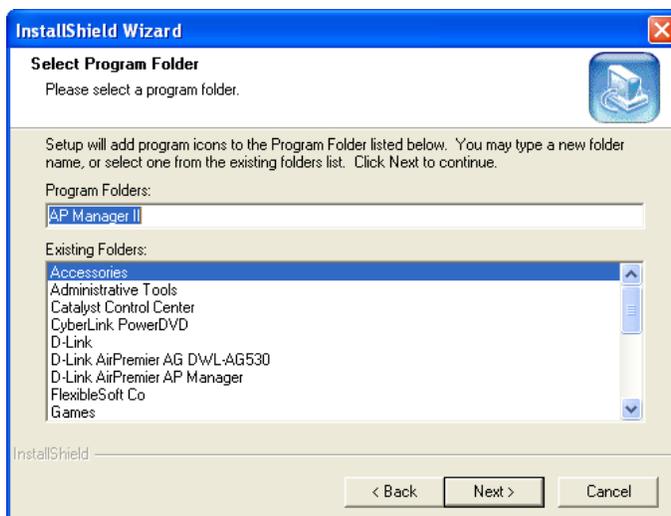
Choose Destination Location

By default, AP Manager II will be installed in the **C:\Program Files\D-Link\AP Manager II** directory. Click **Browse** to select a new location to install the software or click **Next** to continue.



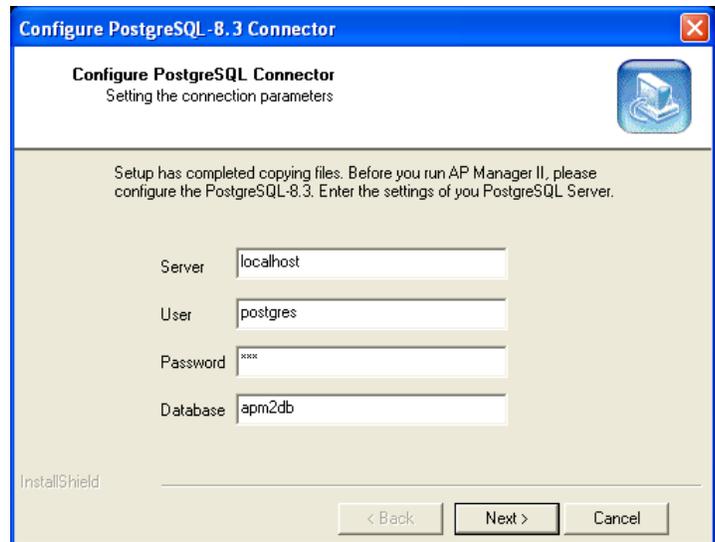
Select Program Folder

By default, the setup process will install the program in a folder called **AP Manager II**. You can keep this setting, type in a new folder name, or choose one from the list of existing folders. Click **Next** to continue.

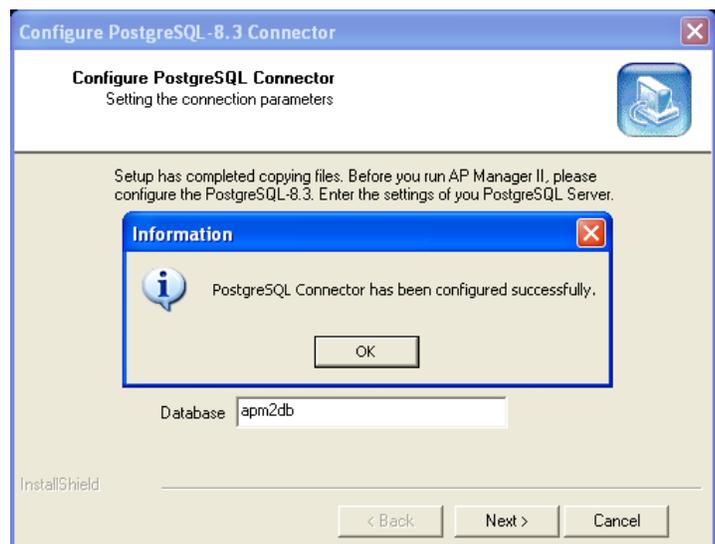


Configure PostgreSQL Connector

To configure the PostgreSQL Connector, enter the IP Address of the PC running the PostgreSQL server, the root username and password and database name. These settings are configured during the PostgreSQL Server install process. Click **Next** to continue.

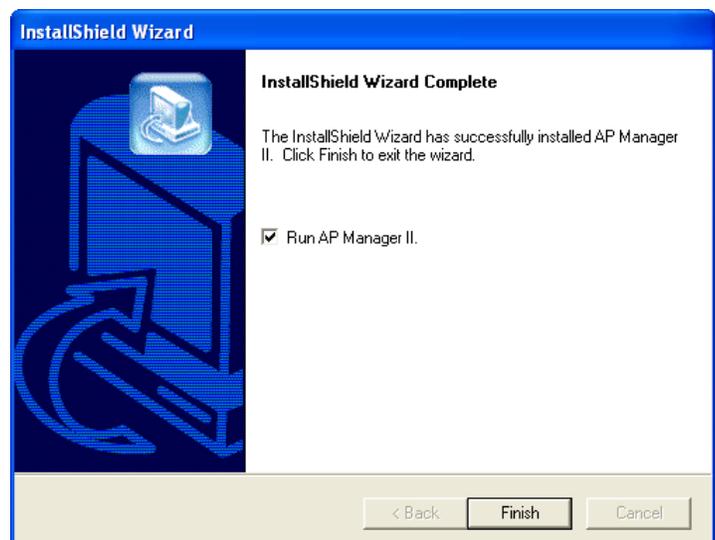


If the PostgreSQL Connector is configured properly, you will get a message confirming the setup was successful. Click **OK** to continue.



Install Complete!

When the InstallShield Wizard has completed, you are given the option to launch the AP Manager II program. Check the box to run AP Manager II and click **Finish** to complete the installation.



If you checked the **Run AP Manager II** box the program will launch and you will be prompted with a login screen. The default user name is **admin** and the default password is **admin**. Continue to the next section in this manual, “Using AP Manager II”.

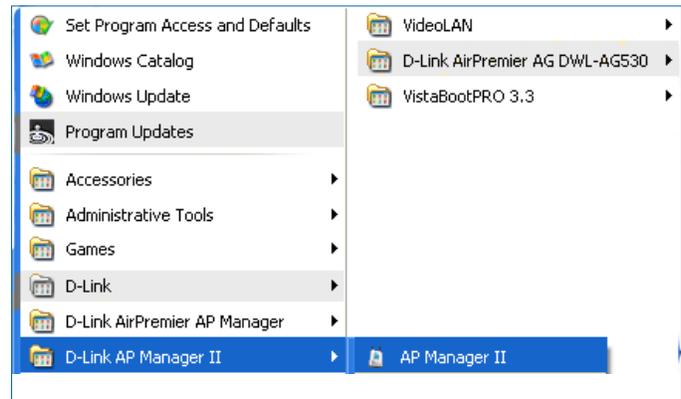
After the installation of AP manager II, you need to install the managed AP modules by double-click the module installation packages.



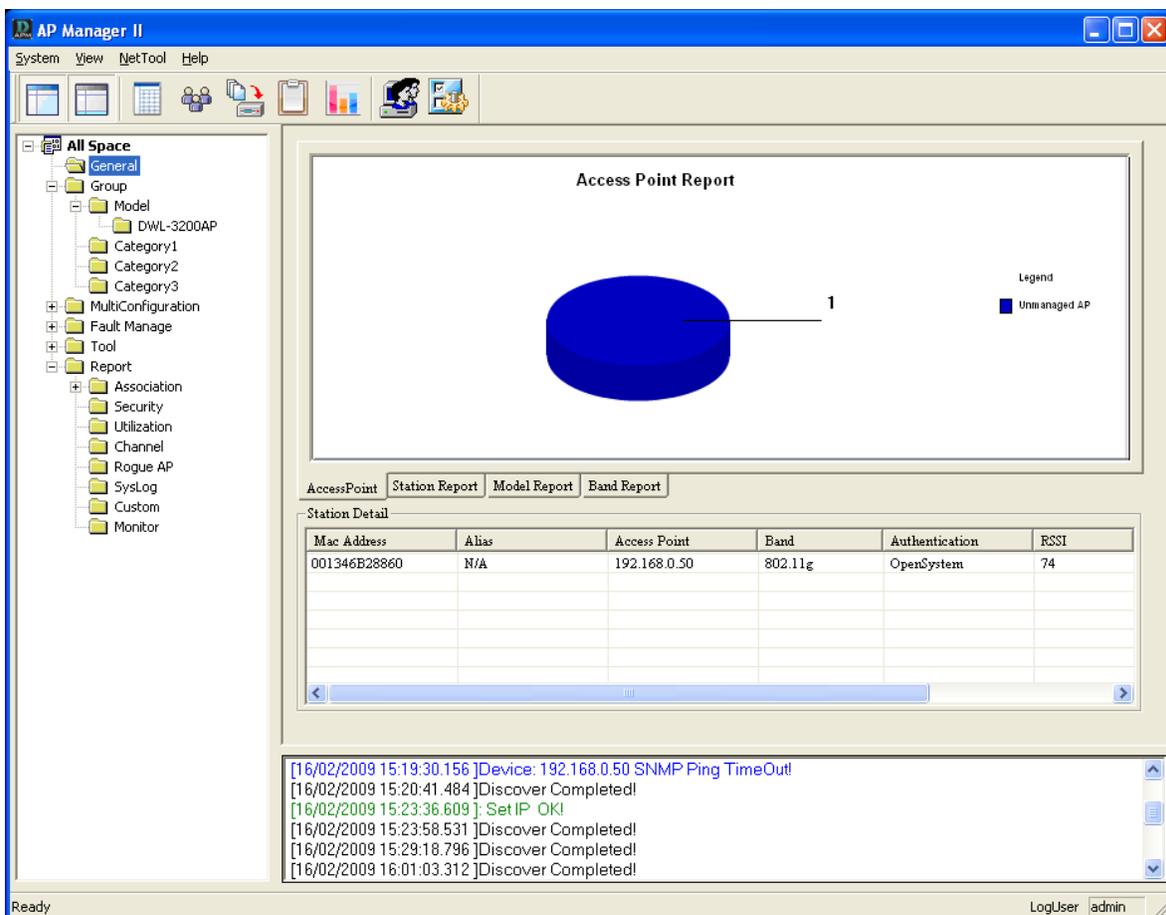
Using AP Manager II

To launch **AP Manager II**:

- Go to the **Start Menu**
- Select **Programs**
- Select **D-Link AP Manager II**
- Select **AP Manager II**



The main AP Manager II screen will appear as shown below:

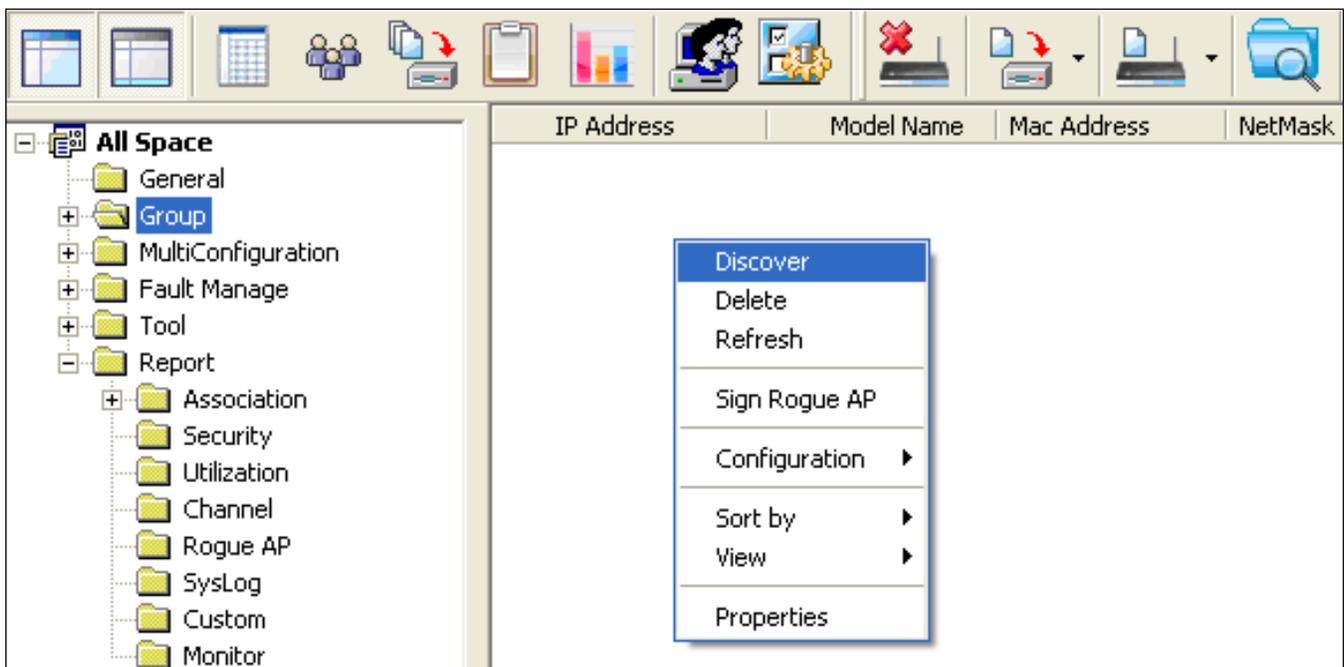


General View

Discovering Devices

Before you can manage and monitor Access Points using the AP Manager II, you must create a list of Access Points. The AP Manager can automatically search for and “discover” Access Points on your LAN using the Discovery process.

To initiate the discovery process, right-click anywhere on the All Space > Group view window and select Discover from the drop-down menu, as shown below.



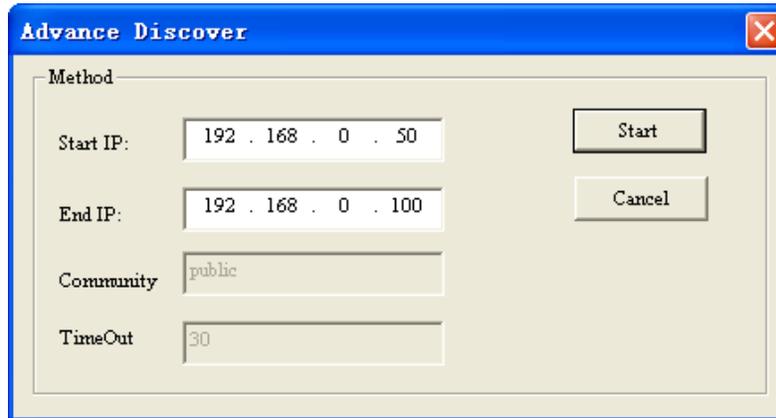
The following dialog window will appear during the Discovery process.



At the end of the Discovery process, the window will close and any Access Points discovered will be added to the **All Space > Group View** window.

Advanced Discovery

The standard discovery can only discover the APs in the same sub network. To discover the APs in the other network segments, highlight the **All Space > Group View** window, click the **Discover/Advanced Discover** icon  in the tools bar and select **Advanced Discover** from the drop-down menu, as shown below:



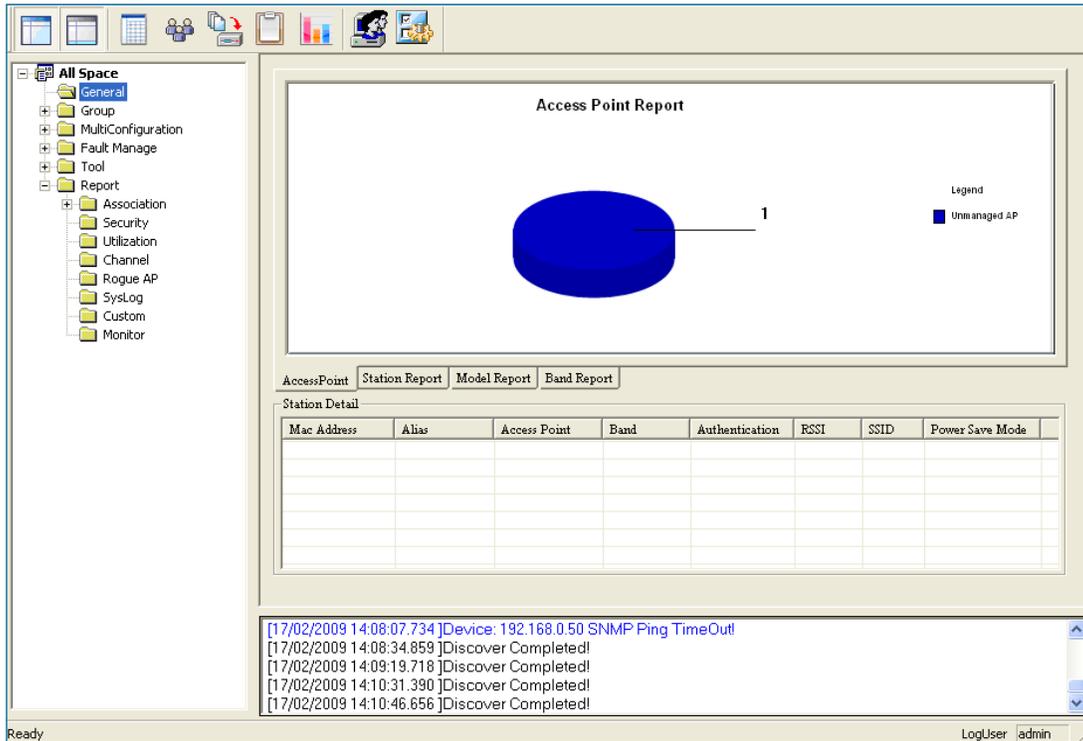
Enter the start/end IP, and then click the Start button to search the APs that can be managed by AP manager II in this IP range. Every detected AP is added an icon at the front of the record according to its type.

Explanation of icons:

| Icon | Description |
|---|--|
|  | New found AP. |
|  | Managed AP. |
|  | The AP that cannot be ping, but its IP can be modified. |
|  | The AP is offline or its SNMP engine is off. |
|  | The AP is specified as a Rogue AP. When the AP is online and its SNMP engine is open, the device can be specified as Rogue AP by right-clicking the AP and select the Sign Rouge AP item from the drop-down menu. |

Access Point Report

The **General View > Access Point** window, as shown below, displays the current list of access points that the AP Manager II has discovered. These Access Points are divided into Managed APs and Unmanaged APs and the results are displayed graphically. The Managed APs are listed in the Station Detail table below the Access Point Report.



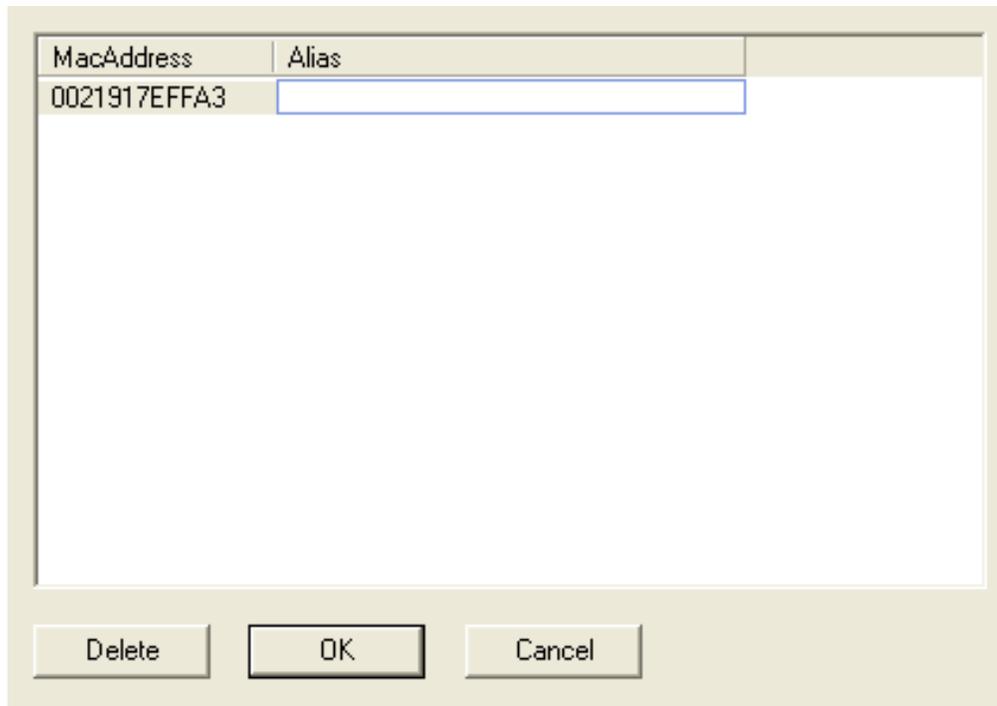
Station Detail

The Station Detail table lists the MAC Address, Alias, Access Point, IP Address, Band, Authentication type, RSSI, SSID, and Power Save Mode of all stations connected to the Managed APs.

| Mac Address | Alias | Access Point | Band | Authentication | RSSI | SSID | Power Save Mode |
|--------------|-------|--------------|---------|----------------|------|--------------|-----------------|
| 0021917EFTA3 | N/A | 192.168.0.50 | 802.11g | OpenSystem | 100 | Primary-SSID | Off |
| | | | | | | | |

The Station Detail table allows you to kick off the station from its associated AP. To remove a station from the AP, right-click the station in the **Station Detail** list and select **kick off item** from the drop-down menu.

Also you can give a tag to the associated station for better identification. To create an alias, right-click the station in the Station Detail list and select Alias item from the drop-down menu. In the alias management window, double-click the records and then type the alias, shown as below:



| MacAddress | Alias |
|-------------|-------|
| 0021917EFA3 | |

Buttons: Delete, OK, Cancel

Below the Station Report table is a real-time display of the SNMP report exchange between AP Manager II and Managed APs.

Station Report

The **General View > Station Report** displays a graphical representation of the associated wireless stations, as shown below. It classifies the stations by bands, and shows the station numbers of every band.

The screenshot shows the 'Station Report' interface. On the left is a navigation tree under 'All Space' with folders for 'General', 'Group', 'MultiConfiguration', 'Fault Manage', 'Tool', and 'Report'. The 'Report' folder is expanded to show sub-folders: 'Association', 'Security', 'Utilization', 'Channel', 'Rogue AP', 'SysLog', 'Custom', and 'Monitor'. The main area displays a 3D pie chart titled 'Station Report' with a single blue slice labeled '1'. A legend on the right shows a blue square next to '802.11g'. Below the chart are tabs for 'AccessPoint', 'Station Report', 'Model Report', and 'Band Report'. Under the 'Station Report' tab is a table titled 'Station Detail' with columns: 'Mac Address', 'Alias', 'Access Point', 'Band', 'Authentication', 'RSSI', 'SSID', and 'Power Save Mode'. The table is currently empty. At the bottom is a log window with the following entries:

```
[17/02/2009 14:08:07.734]Device: 192.168.0.50 SNMP Ping TimeOut!  
[17/02/2009 14:08:34.859]Discover Completed!  
[17/02/2009 14:09:19.718]Discover Completed!  
[17/02/2009 14:10:31.390]Discover Completed!  
[17/02/2009 14:10:46.656]Discover Completed!
```

The status bar at the bottom shows 'Ready' on the left and 'LogUser admin' on the right.

Model Report

The **General View > Model Report** displays a graphical representation of the numerical distribution of models the AP Manager II has discovered and is currently managing.

The screenshot displays the AP Manager II software interface. On the left is a navigation tree under 'All Space' with categories like General, Group, MultiConfiguration, Fault Manage, Tool, and Report. The 'Report' category is expanded to show sub-items: Association, Security, Utilization, Channel, Rogue AP, SysLog, Custom, and Monitor. The main area is titled 'Model Report' and contains a 3D pie chart with a single slice labeled '1'. A legend on the right identifies the slice as 'DWL-3200AP'. Below the chart are tabs for 'AccessPoint', 'Station Report', 'Model Report', and 'Band Report'. Under the 'Model Report' tab is a 'Station Detail' table with columns: Mac Address, Alias, Access Point, Band, Authentication, RSSI, SSID, and Power Save Mode. The table is currently empty. At the bottom, a log window shows several entries: '[17/02/2009 14:08:07.734] Device: 192.168.0.50 SNMP Ping TimeOut!', '[17/02/2009 14:08:34.859] Discover Completed!', '[17/02/2009 14:09:19.718] Discover Completed!', '[17/02/2009 14:10:31.390] Discover Completed!', and '[17/02/2009 14:10:46.656] Discover Completed!'. The status bar at the bottom shows 'Ready' and 'LogUser admin'.

| Mac Address | Alias | Access Point | Band | Authentication | RSSI | SSID | Power Save Mode |
|-------------|-------|--------------|------|----------------|------|------|-----------------|
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Band Report

The **General View > Band Report** displays a graphical representation of the distribution of WLAN bands (802.11a, 802.11b/802.11g and 802.11b/g/n) currently being used by the APs the AP Manager II is managing. It shows the AP numbers of every band.

Band Report

Legend

- 11b/g

1

AccessPoint Station Report Model Report Band Report

Station Detail

| Mac Address | Alias | Access Point | Band | Authentication | ESSI | SSID | Power Save Mode |
|-------------|-------|--------------|------|----------------|------|------|-----------------|
| | | | | | | | |
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| | | | | | | | |

[17/02/2009 14:08:07.734] Device: 192.168.0.50 SNMP Ping TimeOut!
[17/02/2009 14:08:34.859] Discover Completed!
[17/02/2009 14:09:19.718] Discover Completed!
[17/02/2009 14:10:31.390] Discover Completed!
[17/02/2009 14:10:46.656] Discover Completed!

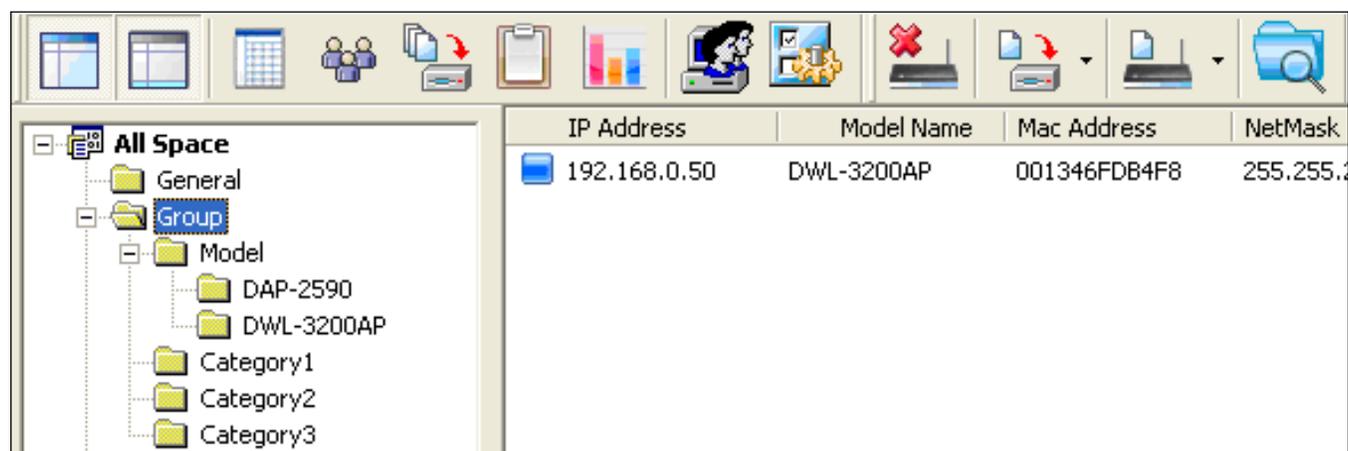
Ready LogUser admin

Group View

The Group window, as shown below, displays the APs the AP Manager II has discovered and is currently managing. You can group these APs by model or into categories that can make their distribution easier to visualize.

The AP Manager II can actively monitor and manage several models of D-Link Access Points. The models are installed as the form of plug-in under the installation directory of AP Manager II, it is flexible to add or remove a supported model.

APs that are detected during the discovery process will be listed in the main window of the AP Manager.

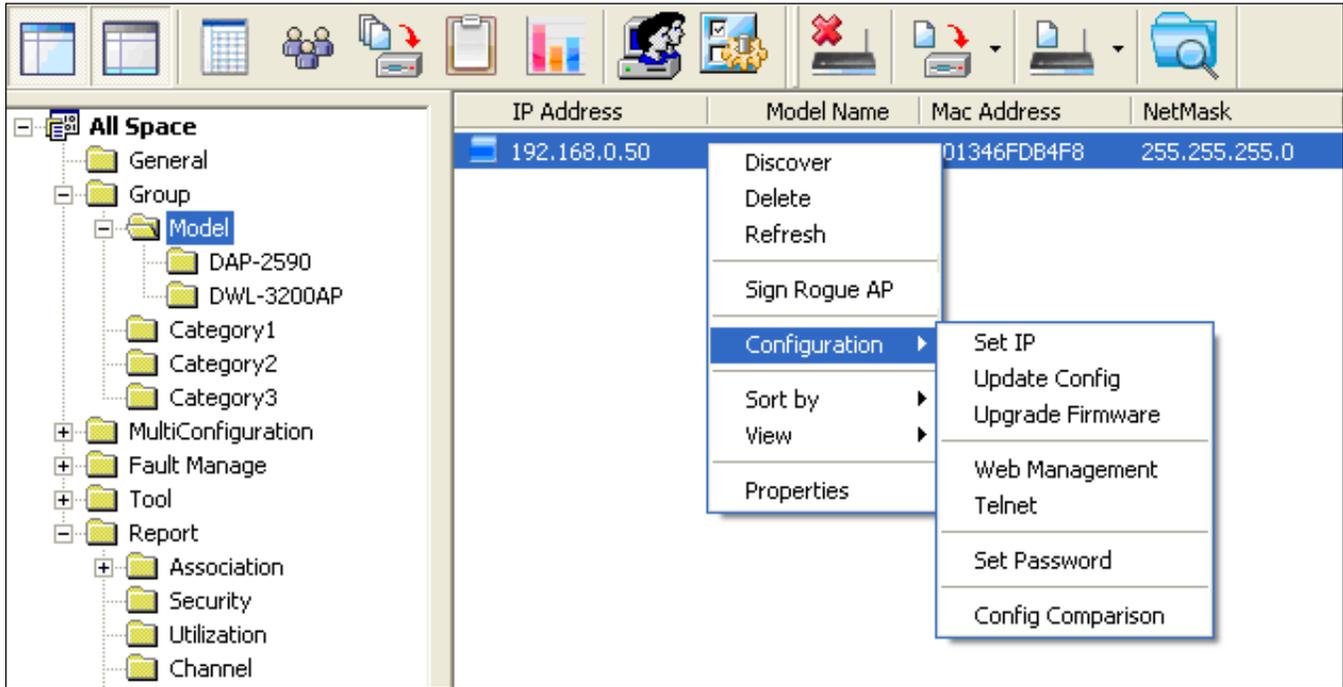


To delete the APs from the group view window, highlight the AP and select the **Delete** item from the right-click menu.

Note: To view a list of the supported access points, please go to the Frequently Asked Questions page on <http://support.dlink.com/faq>

Configuration

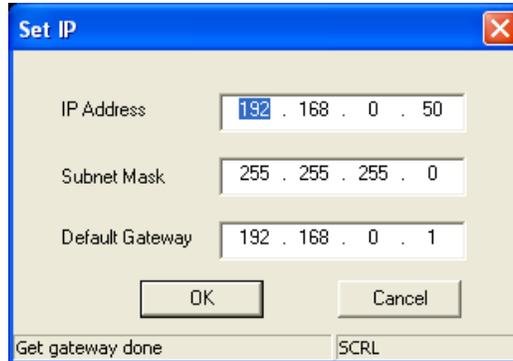
Any Access Point that the AP Manager II has discovered can be configured by right-clicking on that Access Point's icon, displayed in the Group or Category View - as shown below



Under the Configuration menu entry, you can select **Set IP**, **Update Config**, **Upgrade Firmware**, **Web manage**, **Telnet**, **Set Password** and **Config Comparison**. Each of these options is described in the pages that follow.

Set IP

You can manually set the IP Address of a selected Access Point. Selecting **Set IP** will open the following dialog box



For each Access Point the AP Manager II has discovered, you can use this function to assign a new IP address, Subnet Mask and Default Gateway to the device. Enter the new IP address, subnet mask and default gateway in the appropriate field and click the **OK** button.

| IP Address | Model Name | Mac Address | NetMask | FW version | Location | Action | Result |
|--------------|------------|--------------|---------------|------------|--------------|--------|--------|
| 192.168.0.50 | DWL-3200AP | 001346FDB4F8 | 255.255.255.0 | v2.50 | Access Point | Reset | 31% |

Action column shows the executing operation, for example: Set IP, Reset, and OK (Operation successful), and **Result** column shows the executive progress by percentage. You can set the IPs of multi devices at the same time.

If the operation is failed, please check whether the device and AP manager II are logically connected and the username and password are correct, for more information, refer to **Set Password** section.

When the selected Access Point's IP address has been set, this window will close and the IP address and Net Mask information presented in the Group view table will be changed to reflect the update.

Update Configuration

When updating the device configuration, a new window specific to the AP being updated opens, which allows you to configure settings but does not actually apply the settings to the device unless you click the **Apply** button. You can also save and load configuration files from this window. When you load a configuration file, you must click **Apply** if you want the settings to be applied to the selected device(s).

The screenshot displays the 'Information' tab of the D-Link AP Manager II software. The interface features a blue sidebar on the left with a 'Home' button at the top and a navigation menu containing 'Information', 'Basic', 'Advanced', 'Tools', 'Status', and 'System'. The 'Information' tab is active, showing a 'System Information' section with the following details:

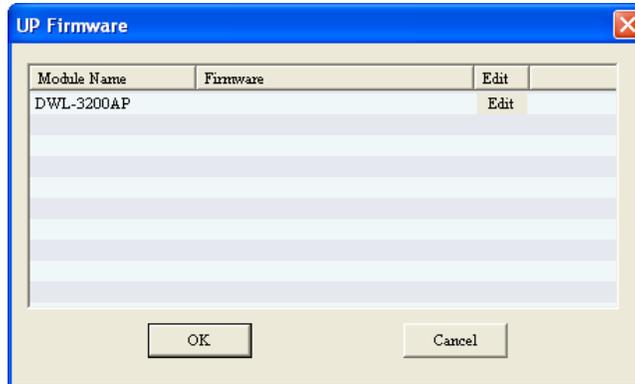
| System Information | |
|--------------------|---------------|
| Model Name | DWL-3200AP |
| System Time | Not Available |
| Up Time | 0:00:40.00 |
| Firmware Version | v2.50 |
| IP address | 192.168.0.50 |

At the bottom left of the interface, there is a status indicator: (DISNMP++) Ok!

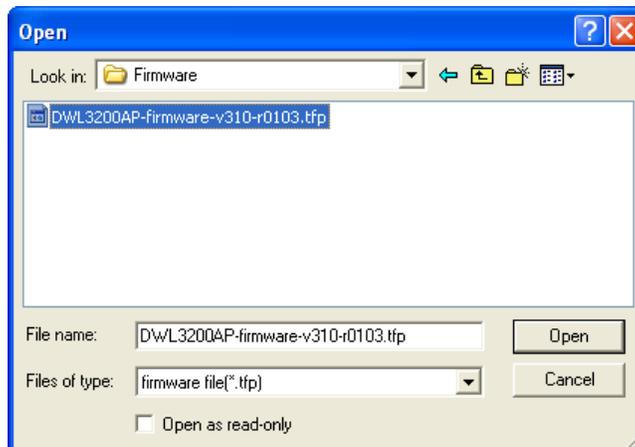
Note: See the section “Configuring 802.11a/b/g APs with AP Manager II” and “Configuring 802.11n APs with AP Manager II” for more information on updating the configuration of an AP.

Upgrade Firmware

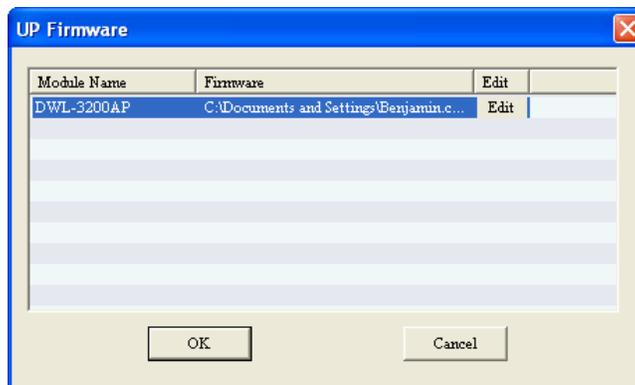
For each Access Point the AP Manager II has discovered, you can use this function to upload a new firmware file to the device.



Click **Edit** to select the update firmware file from the appropriate field.



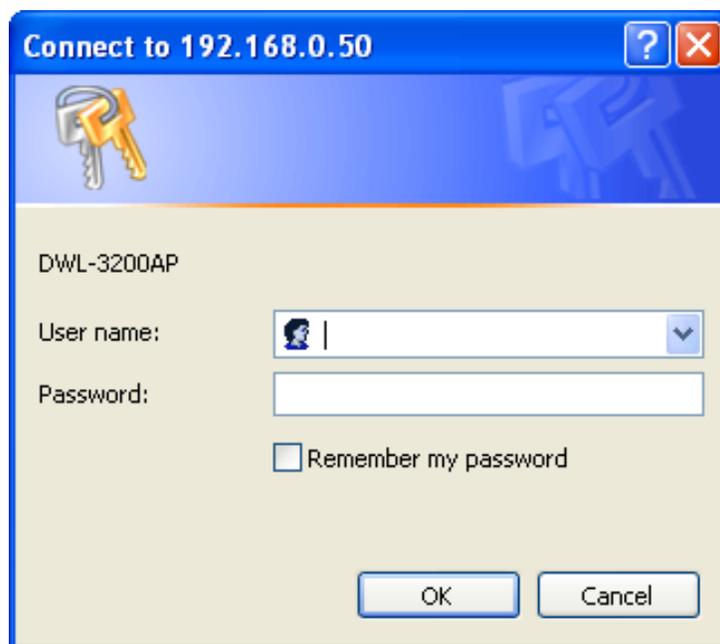
Click the **OK** button to upload the firmware.



When the selected Access Point's firmware has been updated, this window will close and the firmware version information presented in the Group view table will be changed to reflect the update.

Web Management

Selecting **Web Manage** from the drop-down menu will open your PC's web browser and automatically direct it to a selected Access Point's IP address. This will allow you access to the Access Point's built-in web-based manager. The first window to open will be the Windows User name and Password dialog box, as shown below.



Enter the appropriate User name and Password into the fields above and click the **OK** button. Your PC's web browser will open and the Access Point's IP address will be entered into the address field. You can the configure the Access Point using its built-in web-based manager as you would normally. There is no difference in using an Access Point's web-based manager initiated by the AP Manager II or any other method.

Telnet

Selecting Telnet from the drop-down menu will open your PC's command line interface and automatically direct it to a selected Access Point's IP address. This will allow you access to the Access Point's built-in Telnet CLI manager. The first window to open will be the Telnet console. Enter the appropriate User name and Password and press the Enter key, as shown below.

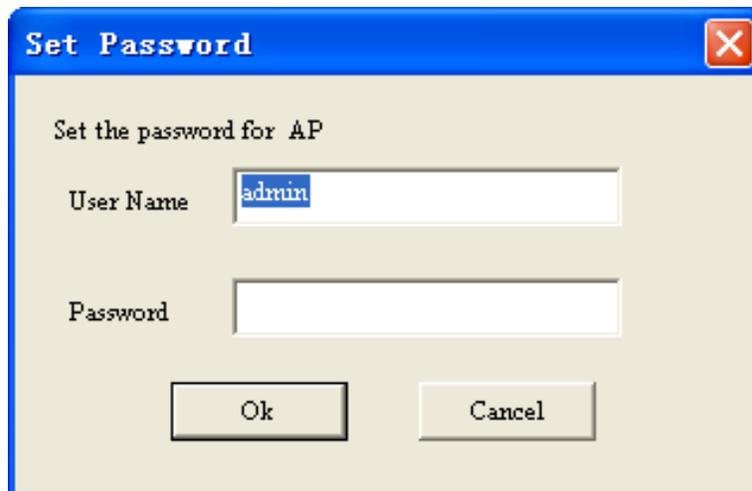
```
D-Link Access Point login: admin
Password:

Wireless Driver Rev 4.0.0.167
D-Link Access Point wlan1 -> _
```

Set Password

Selecting the Set Password option will allow you to set a new login password for the AP being configured. The screen shown below will pop up, enter a new password and click **OK**.

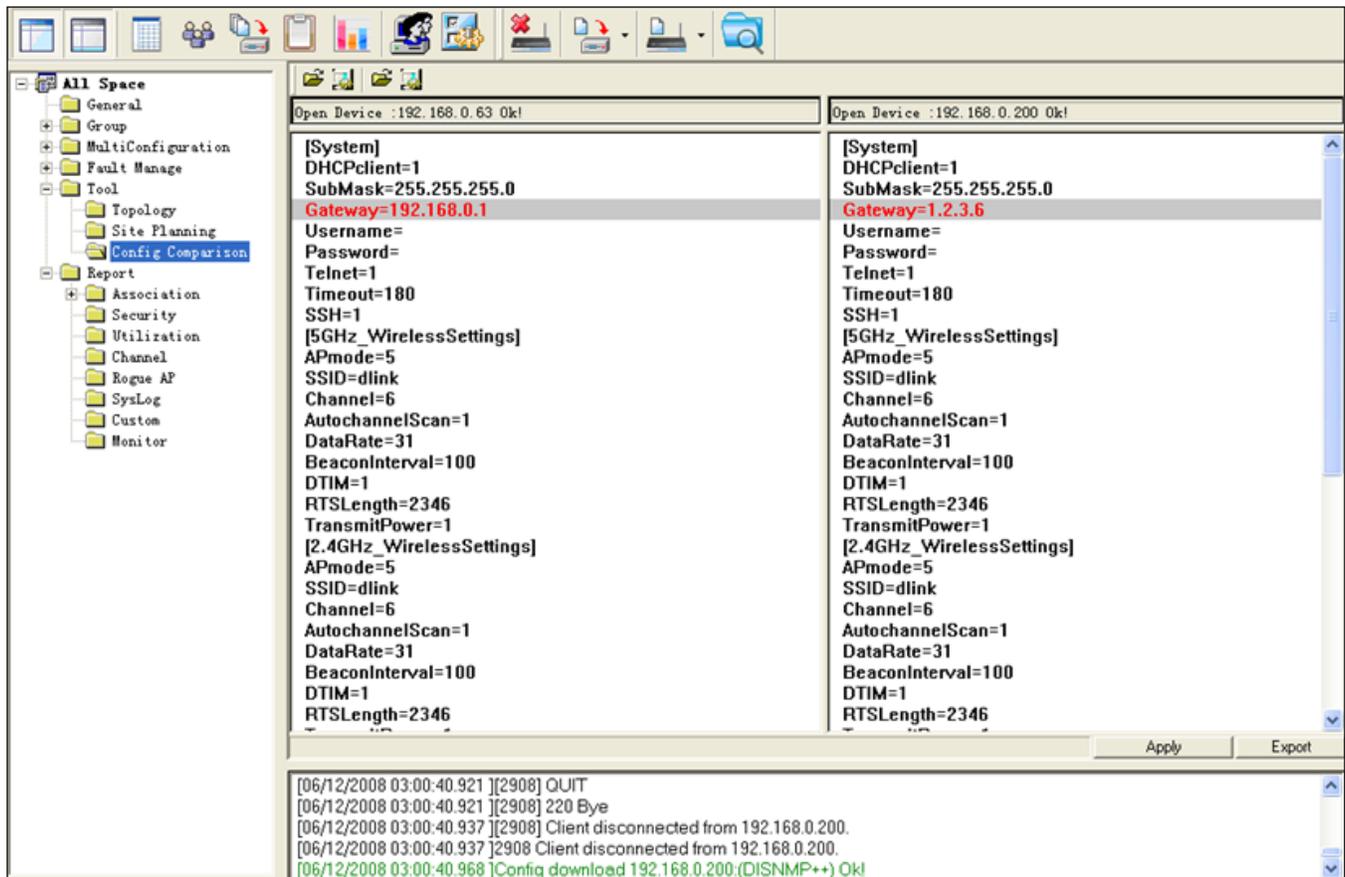
Note: The username and password must accord with the one entered in the web login, or the execution of Set IP function will be failed.



Config Comparison

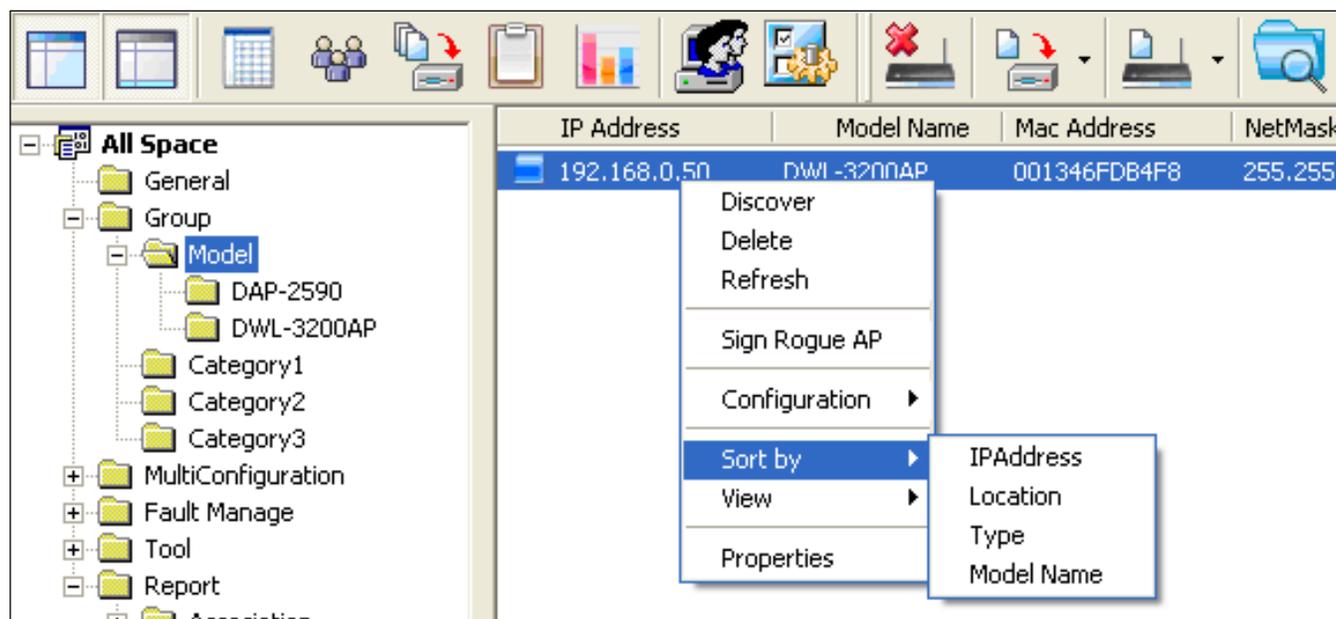
Selecting the Set Password option will allow you to set a new login password for the AP being configured. The screen shown below will pop up, enter a new password and click **OK**.

Note: The username and password must accord with the one entered in the web login, or the execution of Set IP function will be failed.



Sorting

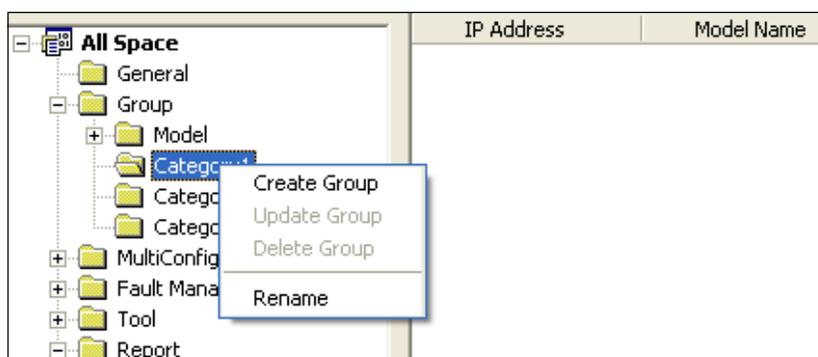
You can sort the order the Access Points that have been detected by the AP Manager II by IP address, by Location, or by Status - as necessary - by right-clicking anywhere on the Group view window and selecting Sorting followed by the sorting criteria.



Explanation of sorting types:

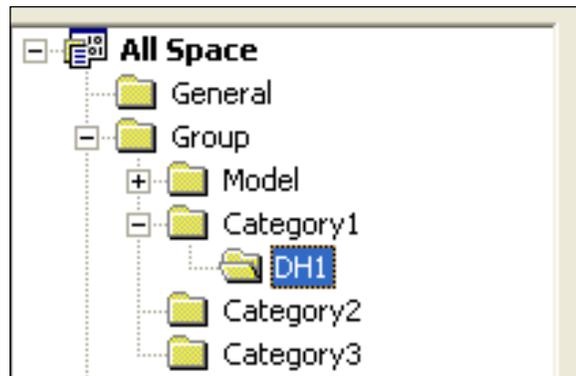
- **IP Address:** Sorting by IP Address column.
- **Location:** Sorting by Location column.
- **Type:** Sorting by specified AP types, the types are: **Unmanaged**, **Managed**, and **Rogue AP**.
- **Model Name:** Sorting by Model Name of the AP.

You can classify the APs to the different groups, right-click one of the three sub items category 1, category 2, or category 3 of Group, and select **Create Group** from the drop-down menu to create a new group, as shown below.



In the group creation window, enter a description in the Group Name and choose the members in the Manager members, then click **OK** button to create a new group.

You can add APs to the sub-group by dragging the APs from the main group view list to the group you created under the category sub item, as shown below.

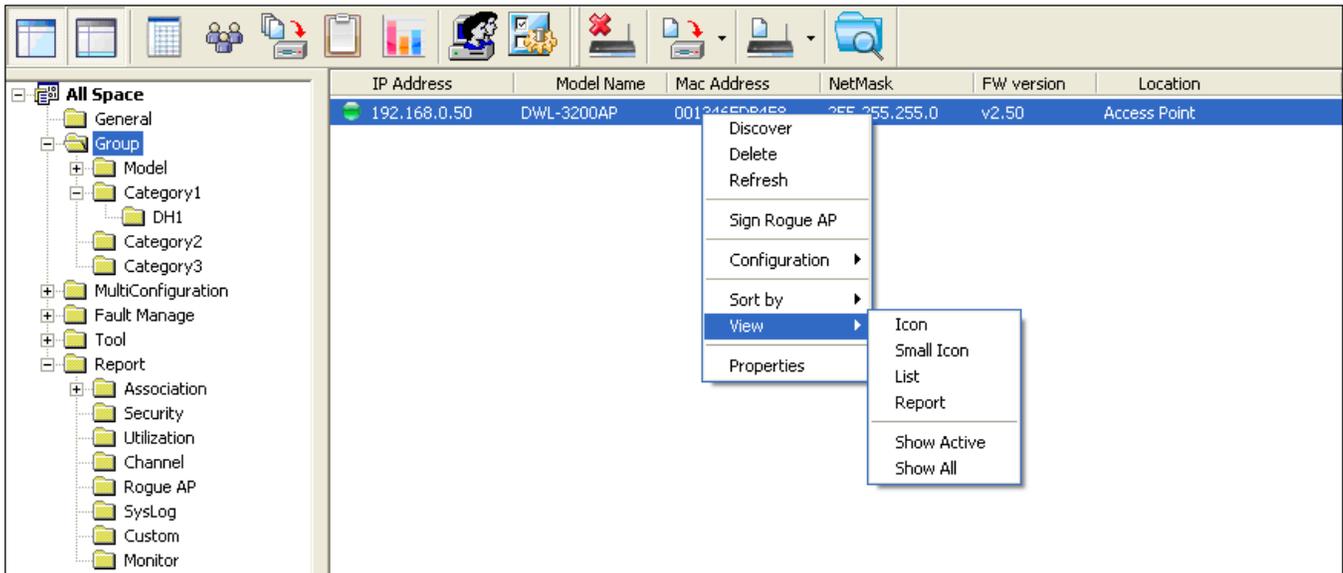


The type of the AP will be changed to Managed and the icon will be changed to .

| | IP Address | Model Name | Mac Address | NetMask | FW version | Location |
|---|--------------|------------|--------------|---------------|------------|--------------|
|  | 192.168.0.50 | DWL-3200AP | 001346FDB4F8 | 255.255.255.0 | v2.50 | Access Point |

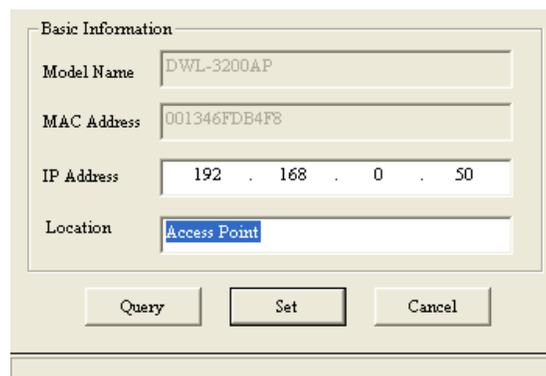
View

You can also change the way the list of Access Points detected by the AP Manager II are displayed by right-clicking anywhere in the Group View window and selecting View By followed by Icon, Small Icon, List, Report, Show Active, or Show All - as shown below.



Property

You can also view the properties of Access Points detected by the AP Manager II by right-clicking the AP in the Group View window and selecting **Property** - as shown below.



You can enter a description string in the Location textbox to describe the AP and then click the **Set** button to apply the change.

Configuring APs with AP Manager II

When updating the device configuration, a new window specific to the AP being updated opens, which allows you to configure settings but does not actually apply the settings to the device unless you click the **Apply** button. You can also save and load configuration files from this window. When you load a configuration file, you must click **Apply** if you want the settings to be applied to the selected device(s).

The screenshot displays the AP Manager II configuration interface. On the left is a vertical navigation menu with a blue background and white text. At the top of the menu is a 'Home' button with a house icon. Below it is an 'Information' button with a document icon. At the bottom of the menu are five buttons: 'Basic', 'Advanced', 'Tools', 'Status', and 'System'. The main content area on the right has a blue header bar with the text 'Information' and a dropdown arrow. Below the header is a white box titled 'System Information' containing a table of device details.

| System Information | |
|--------------------|---------------|
| Model Name | DWL-3200AP |
| System Time | Not Available |
| Up Time | 20:52:49.00 |
| Firmware Version | v2.50 |
| IP address | 192.168.0.50 |

At the bottom left of the window, there is a status bar that reads '(DISNMP++) Ok!'.

Navigate the AP configuration using the menu on the left side of the window. This menu contains the following sections, **Home**, **Basic**, **Advanced**, **Tools**, **Status**, and **System**. These sections and their menus will be discussed in detail in the following pages.

Home Information

The **Home > Information** page contains basic configuration information about the access point being configured. This information includes the **Model Name**, **System Time**, **Up Time**, **Firmware Version** and **IP address**.

There will be minor differences when using AP Manager II with a single band AP and a dual band AP. This manual references both 802.11a and 802.11g configuration settings.

The screenshot displays the 'Home > Information' page in the D-Link AP Manager II interface. The page is divided into a left sidebar and a main content area. The sidebar includes a 'Home' tab with an information icon and a list of navigation options: 'Basic', 'Advanced', 'Tools', 'Status', and 'System'. The main content area is titled 'Information' and contains a 'System Information' section with the following details:

| System Information | |
|--------------------|---------------|
| Model Name | DWL-3200AP |
| System Time | Not Available |
| Up Time | 20:52:49.00 |
| Firmware Version | v2.50 |
| IP address | 192.168.0.50 |

At the bottom of the page, a status bar displays the message '(DISNMP++) Ok!'.

Basic Wireless

Home Basic Advanced Maintenance Status System Help

Home
Basic
Wireless
LAN

Advanced
Maintenance
Status
System

Get OK.

Wireless

Wireless Band: 2.4GHz

Mode: Access Point

Network Name (SSID): dlink

SSID Visibility: Enable

Channel Width: 20 MHz

Channel: 6 Auto Channel Selection

Authentication: Open System

Key Settings

Encryption: Disable Key Size: 64 Bits

Valid Key: First Key Type: HEX

Network Key

Confirm Key

Wireless Band: Select the wireless band to configure: **802.11a** or **802.11g** for A/G access points and **5GHz** or **2.4GHz** for N access points.

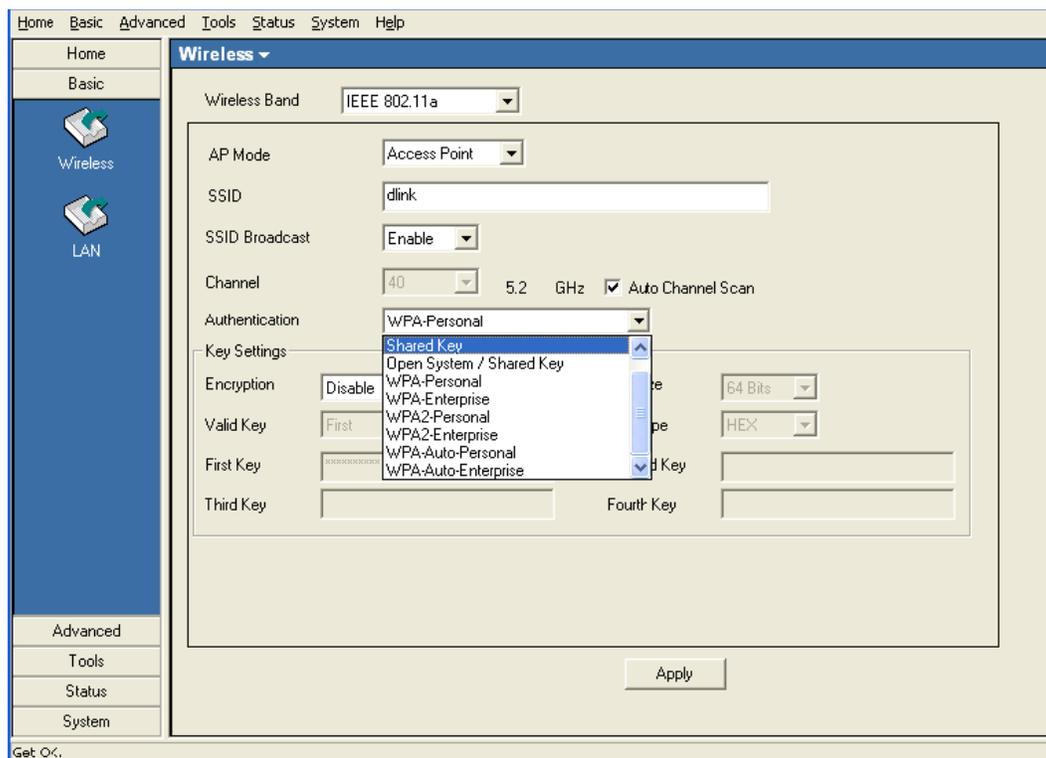
SSID: The Service Set (network) Identifier of your wireless network.

SSID Broadcast: Enabled by default, selecting **Disable** allows you to **disable** the broadcasting of the SSID to network clients.

Channel: Allows you to select a channel. The channel of an 802.11a network may not be set manually in certain regions (e.g. Europe and USA) in order to comply with DFS (Dynamic Frequency Selection).

AP Mode: There are 3 AP modes: **Access Point**, **WDS with AP**, and **WDS**. IEEE 802.11n access points will also include **Wireless Client** mode.

Wireless Authentication



Open System: The key is communicated across the network.

Shared Key: Limited to communication with devices that share the same WEP settings.

Both: The key is communicated and identical WEP settings are required.

Authentication: Select **Open System/Shared Key** to allow either form of data encryption.

Select **WPA-Enterprise** to secure your network with the inclusion of a RADIUS server.

Select **WPA-Personal** to secure your network using a password and dynamic key changes. (No RADIUS server required.)

Select **WPA2-Enterprise** to secure your network with the inclusion of a RADIUS server and upgrade the encryption of data with the Advanced Encryption Standard (AES).

Select **WPA2-Personal** to secure your network using a password and dynamic key changes. No RADIUS server required and encryption of data is upgraded with the Advanced Encryption Standard (AES).

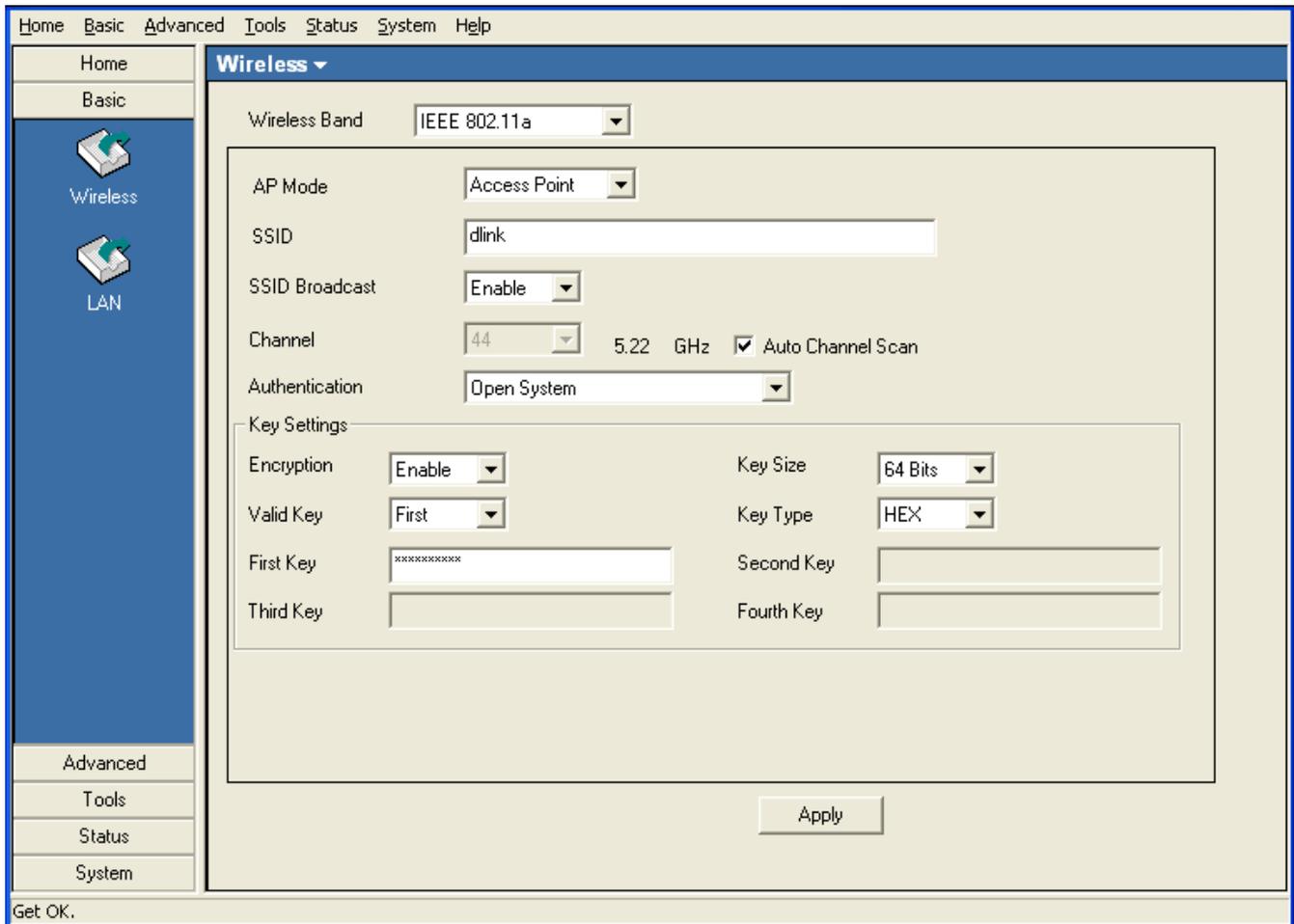
Select **WPA-Auto-Enterprise** to allow the client to either use **WPA-Enterprise** or **WPA2-Enterprise**.

Select **WPA-Auto-Enterprise** to allow the client to either use **WPA-Personal** or **WPA2-Personal**.

Security

| AP Mode | Authentication Available |
|-----------------|---|
| Access Point | Open System Shared Key Open System/Shared Key WPA-Enterprise WPA-Personal WPA2-Enterprise WPA2-Personal WPA-Auto-Enterprise WPA-Auto-Personal |
| WDS with AP | Open System Shared Key Open System/Shared Key WPA-Personal WPA2-Personal WPA-Auto-Personal |
| WDS | Open System Shared Key Open System/Shared Key WPA-Personal WPA2-Personal WPA-Auto-Personal |
| Wireless Client | Open System WPA-Personal WPA2-Personal |

WEP Encryption (AP Mode)



Authentication: Select from the drop-down menu the type of authentication to be used on the selected device(s). In this example you may select **Open**, **Shared**, or **Open System/Shared Key**.

Encryption: **Enable** or **Disable** encryption on the selected device(s). This option will only be available when security is set to **Open** or **Open System/Shared Key**.

Valid Key: Select which defined key is active on the selected device(s). This option will only be available when security is set to **Open**, **Shared**, or **Open System/Shared Key**.

Key Values: Select the **Key Size** (**64-bit**, **128-bit**, or **152-bit**) and **Key Type** (**HEX** or **ASCII**) and then enter a string to use as the key. The key length is automatically adjusted based on the settings you choose. This option will only be available when security is set to **Open**, **Shared**, or **Open System/Shared Key**.

WPA/WPA2 Enterprise (AP Mode)

Personal/ Enterprise: Select **Auto**, **WPA-Only**, or **WPA2-Only**. This option is available for 802.11n access points only.

Cipher Type: Select **Auto**, **TKIP**, or **AES** from the drop-down menu.

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

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

RADIUS Port: Enter the port used on the RADIUS server.

RADIUS Secret: Enter the RADIUS secret.

WPA/WPA2 Personal (AP Mode)

Home Basic Advanced Tools Status System Help

Home
Basic
Wireless
LAN

Advanced
Tools
Status
System

Get OK.

Wireless

Wireless Band: IEEE 802.11g

AP Mode: Access Point

SSID: dlink

SSID Broadcast: Enable

Channel: 6 2.437 GHz Auto Channel Scan

Authentication: WPA2-Personal

PassPhrase Settings

Cipher Type: Auto Group Key Update Interval (300-9999999): 1800

PassPhrase:

Apply

Personal/Enterprise: Select **Auto**, **WPA-Only**, or **WPA2-Only**. This option is available for 802.11n access points only.

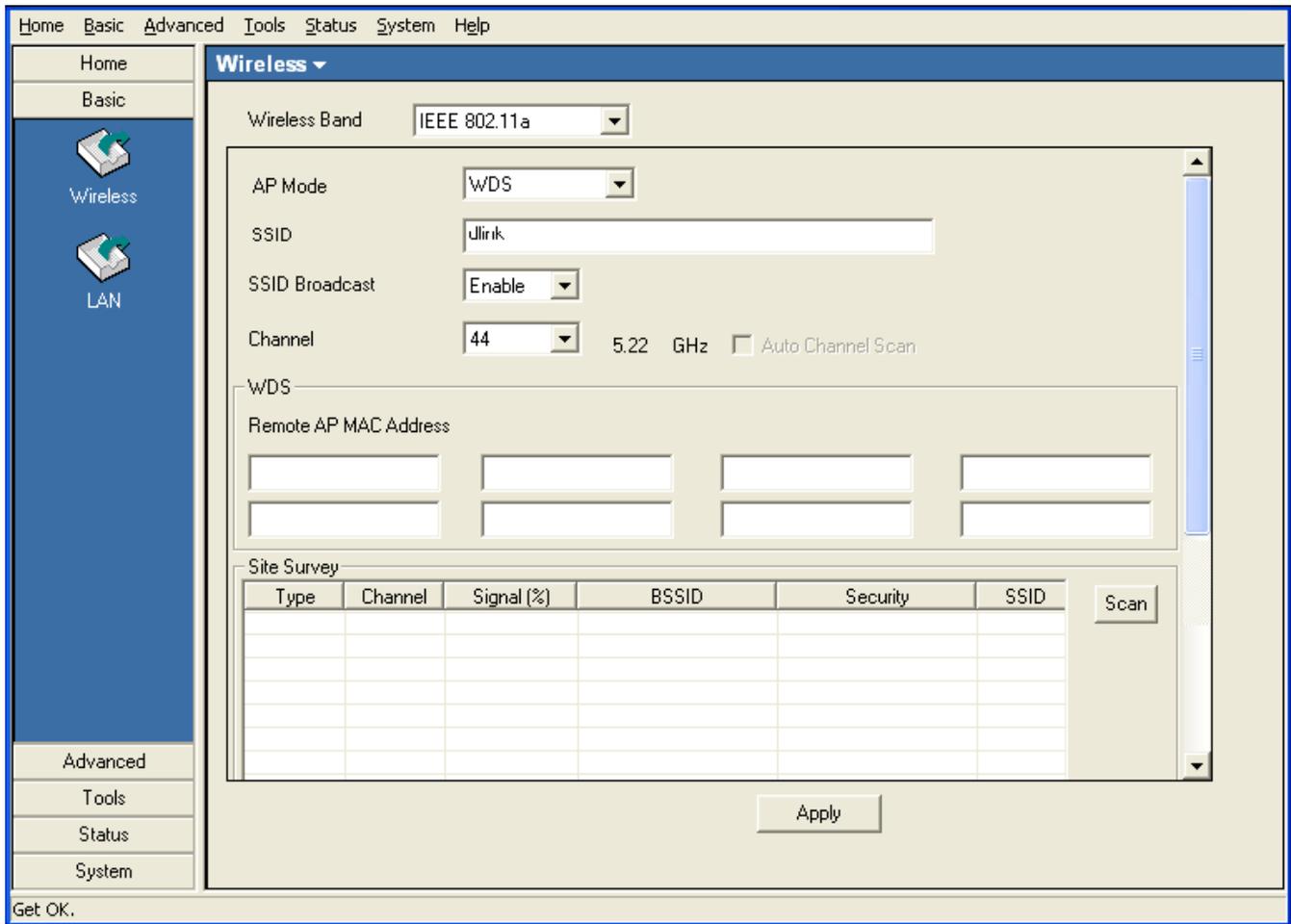
Wireless Band: Select the wireless band from the drop-down menu.

Cipher Type: Select **Auto**, **TKIP**, or **AES** from the drop-down menu.

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

Passphrase: Enter a **PassPhrase** between 8-63 characters in length.

WDS Mode

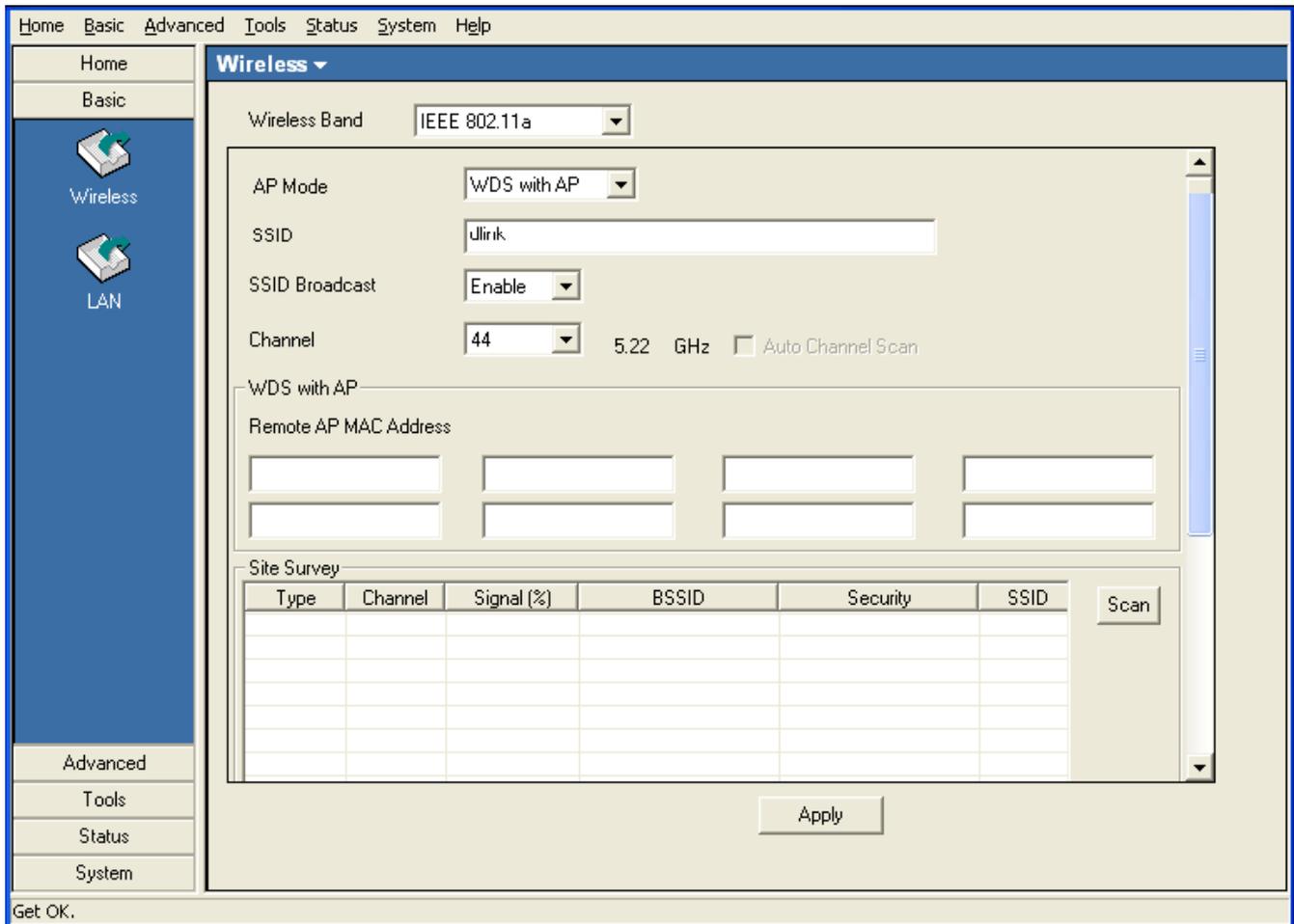


WDS: A Wireless Distribution System that interconnects so called Basic Service Sets (BSS). It bridges two or more wired networks together over wireless. The AP wirelessly connects multiple networks without functioning as a wireless AP.

Remote AP MAC Address: Enter the MAC Addresses of the other APs you want to connect to using WDS mode.

Site Survey: Click the **Scan** button to search for local APs.

WDS with AP Mode



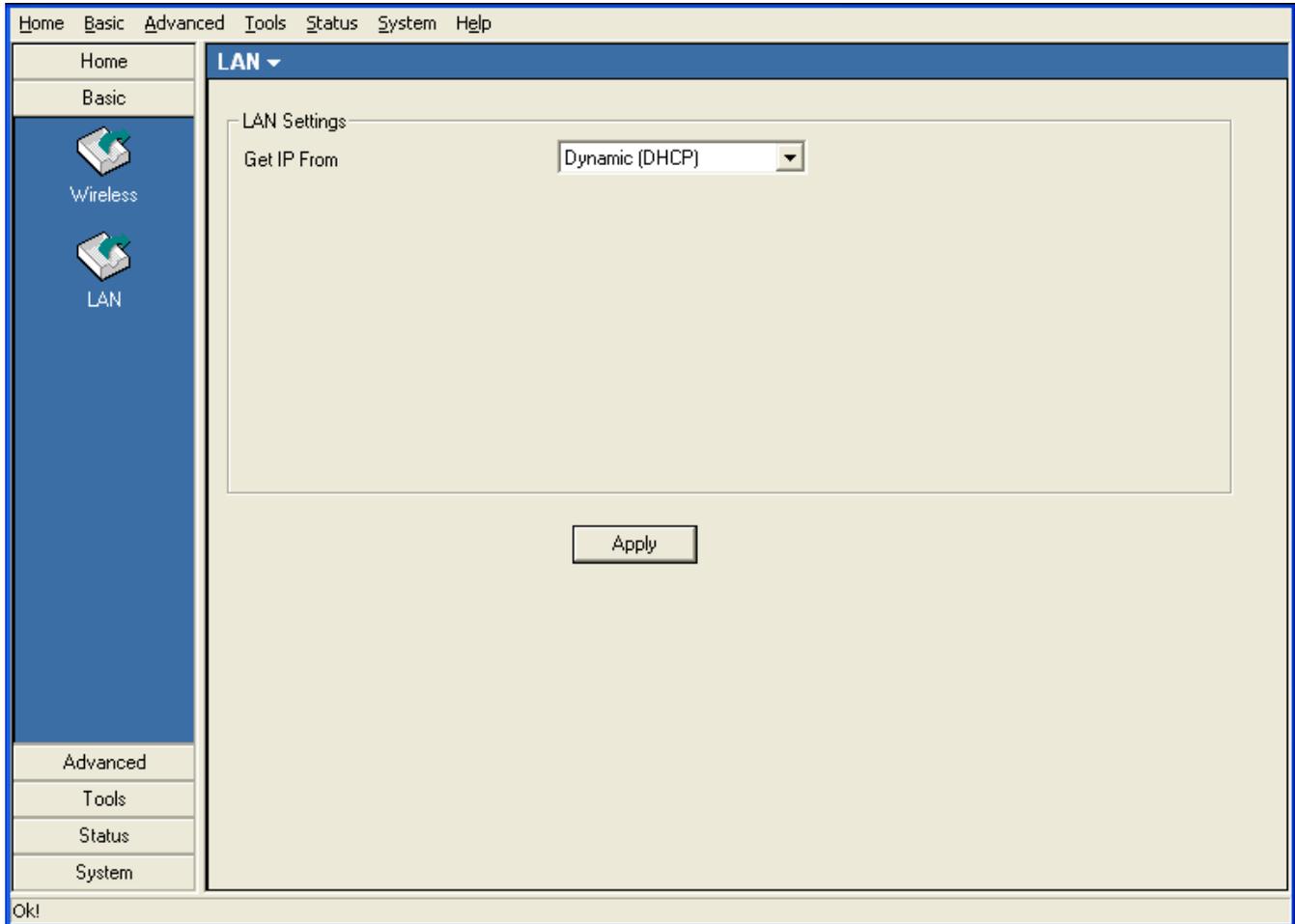
WDS with AP: Wireless Distribution System with Access Points. APs in a network are wirelessly wired together and connected via a Distribution System. The AP wirelessly connects multiple networks, while still functioning as a wireless AP.

Remote AP MAC Address: Enter the MAC Addresses of the other APs you want to connect to using WDS mode.

Site Survey: Click the **Scan** button to search for local APs.

LAN

Dynamic (DHCP)



Get IP From: When set to Dynamic (DHCP) the AP(s) will function as a DHCP client(s). This allows them to receive IP configuration information from a DHCP server.

Static (Manual)

The screenshot displays the LAN configuration page in the D-Link AP Manager II software. The interface includes a top menu bar with 'Home', 'Basic', 'Advanced', 'Tools', 'Status', 'System', and 'Help'. A left sidebar contains navigation options: 'Home', 'Basic', 'Wireless', and 'LAN' (selected), along with 'Advanced', 'Tools', 'Status', and 'System'. The main content area is titled 'LAN' and contains a 'LAN Settings' section. Within this section, the 'Get IP From' dropdown is set to 'Static (Manual)'. Below it, the 'IP address' is set to '192 . 168 . 0 . 50', the 'Subnet Mask' is '255 . 255 . 255 . 0', and the 'Default Gateway' is '0 . 0 . 0 . 0'. An 'Apply' button is located at the bottom of the settings area. The bottom of the window shows an 'Ok!' button.

Get IP From: When set to Static (Manual) the access point(s) must have a static IP address assigned to them.

Advanced Performance (802.11a)

Home Basic Advanced Tools Status System Help

Home
Basic
Advanced

Performance
Filter
Grouping
DHCP Server
Multi-SSID
Rogue AP

Tools
Status
System

Get OK.

Performance

Advanced Wireless Setting:

Wireless Band IEEE 802.11a

Frequency 5.22 GHz

Data Rate Auto

Beacon Interval (20 - 1000) 100

DTIM (1 - 255) 1

Fragment Length (256 - 2346) 2346

RTS Length (256 - 2346) 2346

Transmit Power Full

Channel 44

Radio ON

WMM Enable

Super Mode Disable

Antenna Diversity Enable

Advance Data Rate Settings

Enable Data Rate Control

6Mb/sec Basic

9Mb/sec Enable

12Mb/sec Basic

18Mb/sec Enable

24Mb/sec Basic

36Mb/sec Enable

48Mb/sec Enable

54Mb/sec Enable

Reset

Apply

Frequency: Displays the current frequency of the wireless band.

Data Rate: Set to Auto by default, use the drop-down menu to select the maximum wireless signal rate for the selected device(s).

Beacon Interval (20~1000): Beacons are packets sent by an access point to synchronize a network. Specify the beacon value for the selected device(s) here. The default value of **100** is recommended.

DTIM (1~255): DTIM (Delivery Traffic Indication Message) is a countdown informing clients of the next listening window for broadcast and multicast messages.

Fragment Length (256~2346): This sets the fragmentation threshold (specified in bytes). Packets exceeding the value set here will be fragmented. The default is **2346**.

RTS Length The RTS value should not be changed unless you encounter inconsistent data flow. **(256~2346):** The default value is **2346**.

Transmit Power: Choose **full**, **half (-3dB)**, **quarter (-6dB)**, **eighth (-9dB)**, **minimum power**. This tool can be helpful for security purposes if you wish to limit the transmission range.

Auto Channel: **Enable** this option to automatically select the most optimal channel available for wireless networking and to scan for the least populated channel.

Radio: Select **Enable** or **Disable**.

WMM: (Wi-Fi Multimedia) Improves the user experience for audio, video, and voice applications over a Wi-Fi network. WMM is based on a subset of the IEEE 802.11e WLAN QoS standard.

Super Mode: Select Super A to enable a wireless signal rate of up to 108Mbps. Super A is a group of performance enhancement features that increase end user application throughput in a 802.11a network. Super A is backwards compatible with standard 802.11a devices. For ideal performance, all wireless devices on the network should be Super A capable.

| Super A Mode | Function |
|----------------------------|---|
| Disabled | Standard 802.11a support. No enhanced capabilities. |
| Super A without Turbo | Capable of Packet Bursting, FastFrames, Compression. No Turbo mode. |
| Super A with Dynamic Turbo | Capable of Packet Bursting, FastFrames, Compression, and Dynamic Turbo mode. This setting is backwards compatible with non-Turbo (legacy) devices. Dynamic Turbo mode is only enabled when all devices on the wireless network are configured with Super A and Dynamic Turbo enabled. |
| Super A with Static Turbo | Capable of Packet Bursting, FastFrames, Compression, and Static Turbo mode. This setting is not backwards compatible with non-Turbo (legacy) devices. Static turbo mode is always on and is only enabled when all devices on the wireless network are configured with Super A and Static Turbo enabled. |

Antenna Diversity: This option is Enabled by default. When enabled for 802.11 a/g AP, each radio will automatically switch to the antenna with the greatest RSSI value. When disabled, each radio will use its main antenna - when facing the AP, 5GHz transmits from the right antenna, while the 2.4GHz radio uses the antenna on the left. Refer to each AP's manual for detail.

Performance (802.11g)

Home Basic Advanced Tools Status System Help

Home
Basic
Advanced

Performance
Filter
Grouping
DHCP Server
Multi-SSID
Rogue AP

Tools
Status
System

Get OK.

Performance

Advanced Wireless Setting:

Wireless Band: IEEE 802.11g

| | | |
|------------------------------|----------------|-----|
| Frequency | 2.437 | GHz |
| Data Rate | Auto | |
| Beacon Interval (20 - 1000) | 100 | |
| DTIM (1 - 255) | 1 | |
| Fragment Length (256 - 2346) | 2346 | |
| RTS Length (256 - 2346) | 2346 | |
| Transmit Power | Full | |
| Channel | 6 | |
| Radio | ON | |
| WMM | Enable | |
| Super Mode | Disable | |
| Antenna Diversity | Enable | |
| Wireless B/G Mode | Mixed | |
| Preamble | Short and Long | |

Enable Data Rate Control

| | |
|-----------|--------|
| 1Mb/sec | Basic |
| 2Mb/sec | Basic |
| 5.5Mb/sec | Basic |
| 6Mb/sec | Enable |
| 9Mb/sec | Enable |
| 11Mb/sec | Basic |
| 12Mb/sec | Enable |
| 18Mb/sec | Enable |
| 24Mb/sec | Enable |
| 36Mb/sec | Enable |
| 48Mb/sec | Enable |
| 54Mb/sec | Enable |

Reset

Apply

Frequency: Displays the current frequency of the wireless band.

Data Rate: Set to Auto by default, use the drop-down menu to select the maximum wireless signal rate for the selected device(s).

Beacon Interval (20~1000): Beacons are packets sent by an access point to synchronize a network. Specify the beacon value for the selected device(s) here. The default value of **100** is recommended.

DTIM (1~255): DTIM (Delivery Traffic Indication Message) is a countdown informing clients of the next listening window for broadcast and multicast messages.

Fragment Length (256~2346): This sets the fragmentation threshold (specified in bytes). Packets exceeding the value set here will be fragmented. The default is **2346**.

RTS Length The RTS value should not be changed unless you encounter inconsistent data flow.
(256~2346): The default value is **2346**.

Transmit Power: Choose **full**, **half (-3dB)**, **quarter (-6dB)**, **eighth (-9dB)**, **minimum power**. This tool can be helpful for security purposes if you wish to limit the transmission range.

Auto Channel: **Enable** this option to automatically select the most optimal channel available for wireless networking and to scan for the least populated channel.

Radio: Select **Enable** or **Disable**.

WMM: (Wi-Fi Multimedia) Improves the user experience for audio, video, and voice applications over a Wi-Fi network. WMM is based on a subset of the IEEE 802.11e WLAN QoS standard.

Super Mode: Select Super G to enable a wireless signal rate of up to 108Mbps. Super G is a group of performance enhancement features that increase end user application throughput in a 802.11g network. Super G is backwards compatible with standard 802.11g devices. For ideal performance, all wireless devices on the network should be Super G capable.

Antenna Diversity: This option is **Enabled** by default. When enabled, each radio will automatically switch to the antenna with the greatest RSSI value.

Wireless B/G Mode: Select **Mixed**, **11g Only**, or **11b Only**.

Preamble: Select **Short and Long** (recommended) or **Long-Only**.

Note: Super Mode with Static Turbo is only available for 802.11a.

Performance (802.11n)

Home Basic Advanced Maintenance Status System Help

Home
Basic
Advanced

Performance
Filters
DHCP Server
Multi-SSID
Intrusion

Maintenance
Status
System

Ok!

Performance Settings

| | | | |
|-------------------------------|------------------------------------|---------------------|---------|
| Wireless Mode | Mixed 802.11n, 802.11g and 802.11b | | |
| Wireless | On | Connection Limit | Disable |
| Data Rate | Best (Up to 300) (Mbps) | User Limit (0 - 64) | 20 |
| Beacon interval (25-500) | 100 | Link Integrity | Disable |
| DTIM interval (1-15) | 1 | Network Utilization | 100 % |
| Transmit Power | 100 % | | |
| WMM (Wi-Fi Multimedia) | Enable | | |
| Short GI | Enable | | |
| IGMP Snooping | Disable | | |
| Ack Time Out (2.4GHz, 48~200) | 48 | (μ s) | |

Apply

Wireless Mode: Select the wireless mode from the drop-down menu.

Data Rate: Set to **Auto** by default, use the drop-down menu to select the maximum wireless signal rate for the selected device(s).

Beacon Interval (25~500): Beacons are packets sent by an access point to synchronize a network. Specify the beacon value for the selected device(s) here. The default value of **100** is recommended.

DTIM (1~15): DTIM (Delivery Traffic Indication Message) is a countdown informing clients of the next listening window for broadcast and multicast messages.

Transmit Power: Choose the percentage of transmit power. This tool can be helpful for security purposes if you wish to limit the transmission range.

WMM: (Wi-Fi Multimedia) Improves the user experience for audio, video, and voice applications over a Wi-Fi network. WMM is based on a subset of the IEEE 802.11e WLAN QoS standard.

Short GI: Select **Enable** to allow the Short GI.

IGMP Snooping: Select **Enable** to allow IGMP Snooping.

ACK Time Out: Set the maximum time of ACK session.

ConnectionLimit: Select **Enable** to limit the connections by the user limit or network utilization.

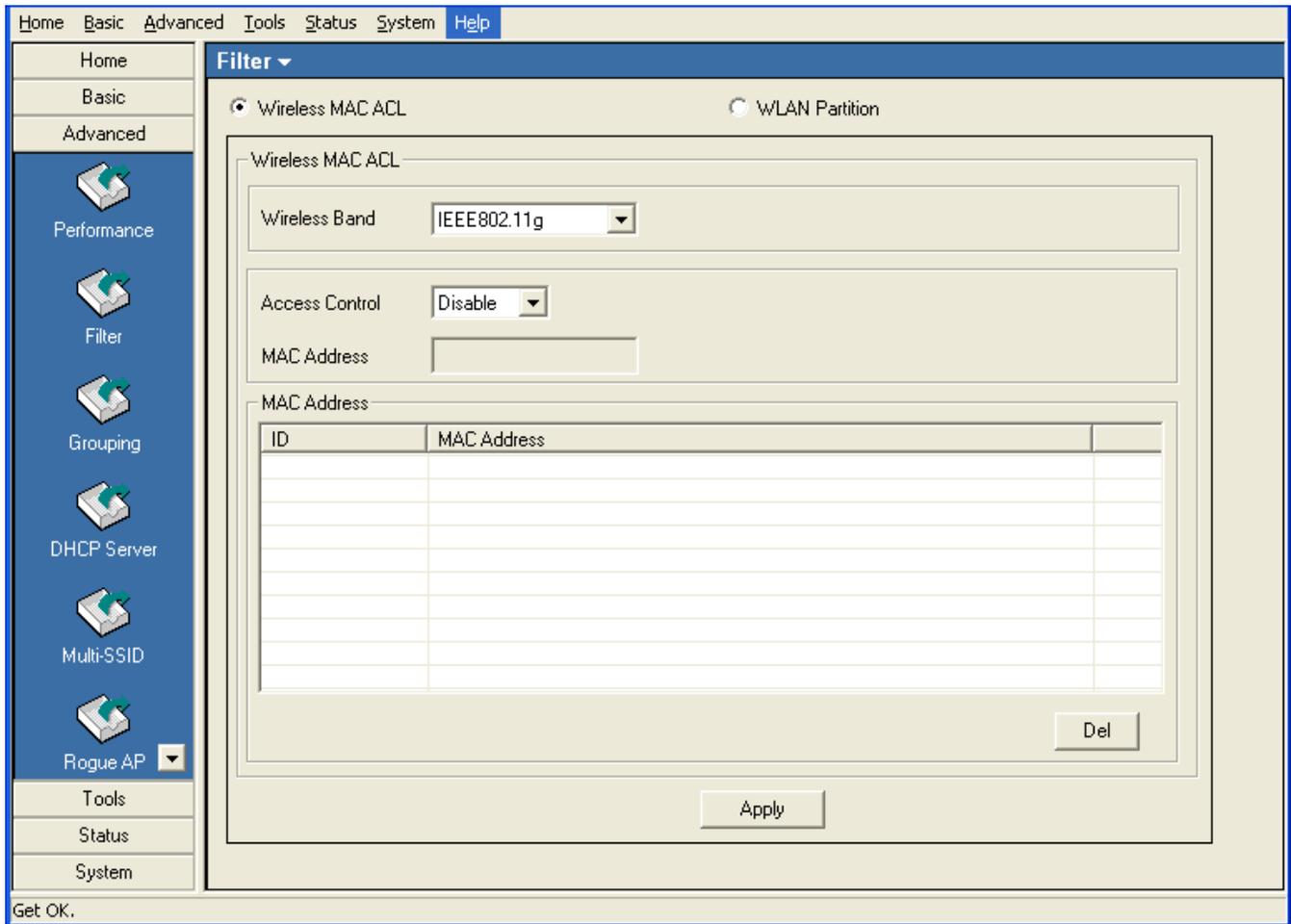
User Limit: Set the maximum users that can connect to AP. Only available when Connection Limit is enabled.

Link Integrity: If enabled, when the uplink of AP is off, the connected wireless client will be disconnected.

Network Utilization: Set the network utilization, if the utilization is more than the setting, no clients can connect to AP. Only available when **Connection Limit** is enabled.

Note: Super Mode with Static Turbo is only available for 802.11a

Filter (Wireless MAC ACL)



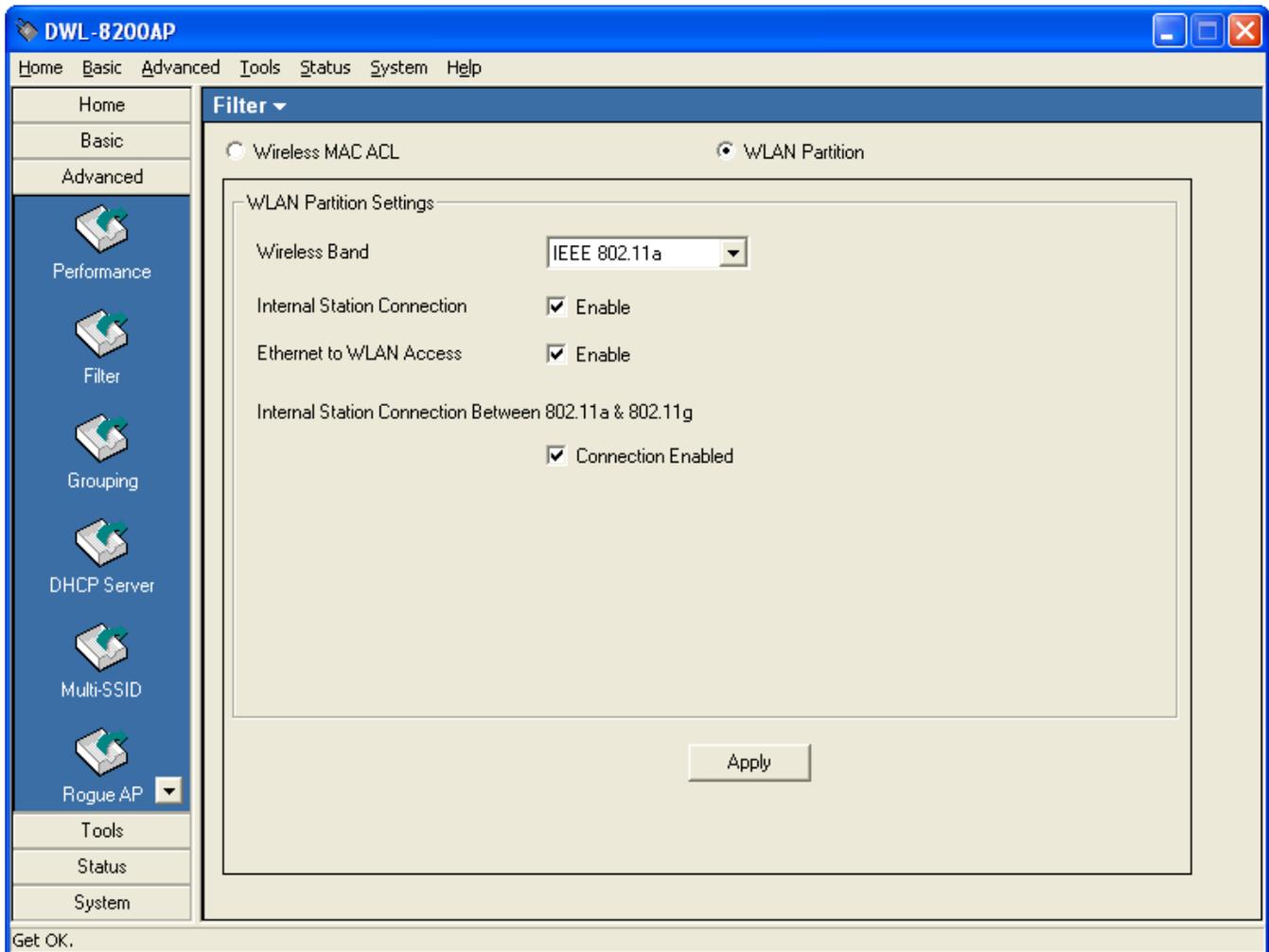
Wireless Select the **802.11a** or **802.11g** wireless network to apply the access control filter to.
Band: When connecting to an 802.11n access point, select either **2.4GHz** or **5GHz**.

Access Control: When disabled access control is not filtered based on the MAC address. If **Accept** or **Reject** is selected, then a box appears for entering MAC addresses. When **Accept** is selected, only devices with a MAC address in the list are granted access. When **Reject** is selected, devices in the list of MAC addresses are not granted access.

Access Control List: **Add** or **Delete** MAC addresses in the Access Control List.

Current Client Information: The table lists the current associated clients. Click the **Add** button to add the client into access control list.

Filter (WLAN Partition)

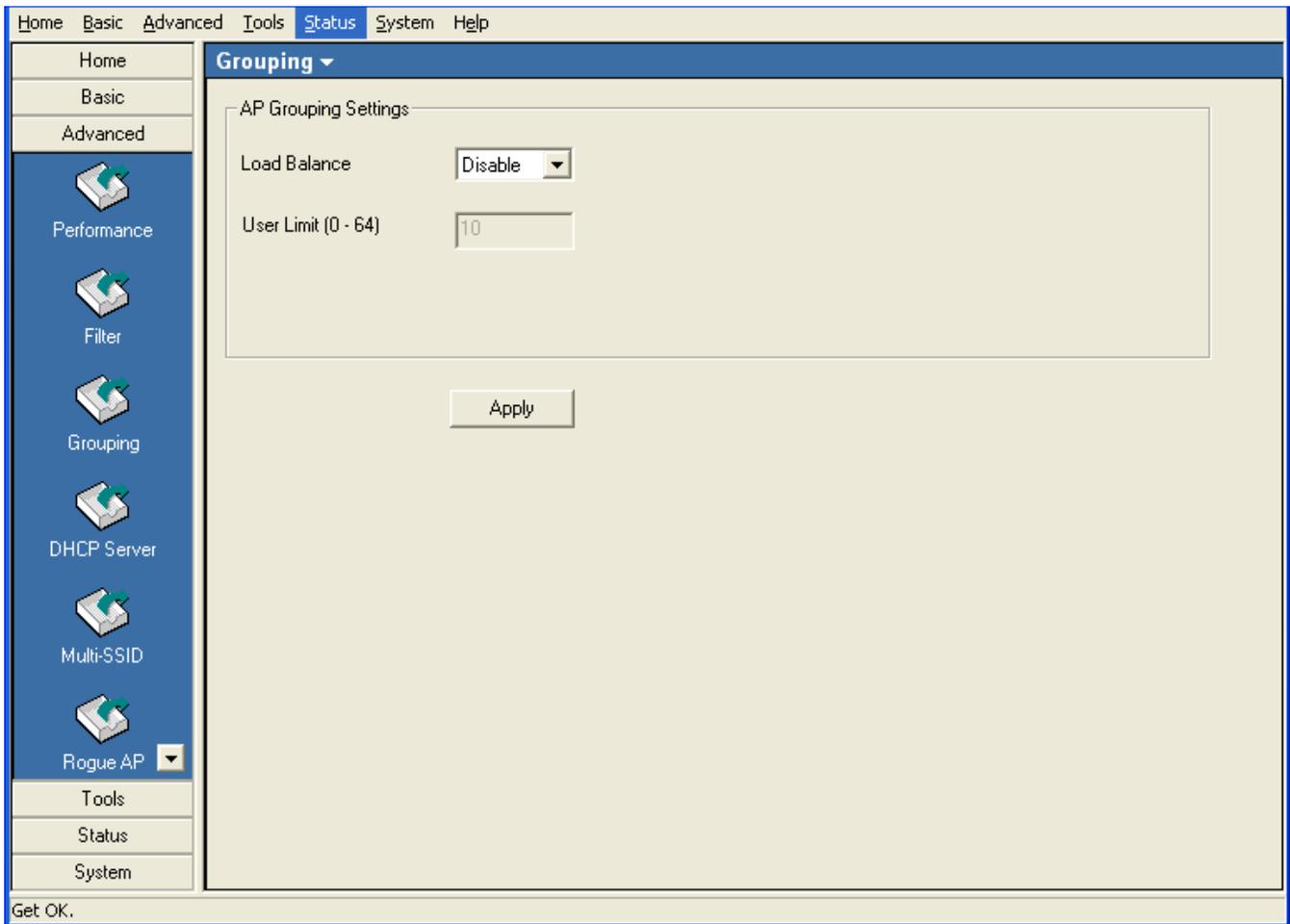


Internal Station Connection: Enabling this allows wireless clients to communicate with each other. When this option is disabled, wireless stations are not allowed to exchange data through the access point.

Ethernet to WLAN Access: Enabling this option allows Ethernet devices to communicate with wireless clients. When this option is disabled, all data from Ethernet to wireless clients is blocked. Wireless devices can still send data to the Ethernet devices when this is disabled.

Internal Station Connection: Check the "Connection Enabled" box to allow communication between devices on the 802.11a network and devices on the 802.11g network.

Grouping (AP Grouping Settings)



Load Balance: Disabled by default, select Enable to activate load balancing among the APs.

User Limit: Enter a user limit amount, between 0-64.

DHCP Server (Dynamic Pool Settings)

The screenshot shows the DHCP Server configuration page in a web interface. The page has a navigation menu on the left with options: Home, Basic, Advanced, Tools, Status, System, and Help. The 'Advanced' section is expanded, showing sub-options: Performance, Filter, Grouping, DHCP Server (selected), Multi-SSID, and Rogue AP. The main content area is titled 'DHCP Server' and contains three radio buttons: 'Dynamic Pool Settings' (selected), 'Static Pool Settings', and 'Current IP Mapping List'. Below these is a 'Function Enable/Disable' dropdown set to 'Enable'. A large box labeled 'Dynamic Pool Settings' contains the following fields: 'IP Assigned From' (0 . 0 . 0 . 0), 'The Range of Pool (1-255)' (0), 'SubMask' (0 . 0 . 0 . 0), 'Gateway' (0 . 0 . 0 . 0), 'Wins' (0 . 0 . 0 . 0), 'DNS' (0 . 0 . 0 . 0), 'Domain Name' (empty), 'Lease Time (60 - 31536000 sec)' (0), and 'Status' (OFF). An 'Apply' button is at the bottom right of the form. The status bar at the bottom left says 'Ok!'.

Dynamic Pool Settings: Click to enable Dynamic Pool Settings. Configure the IP address pool in the fields below.

Function Enable/Disable: Enable or disable the DHCP server function.

IP Assigned From: Enter the initial IP address to be assigned by the DHCP server.

Range of Pool (1~255): Enter the number of allocated IP addresses.

SubMask: Enter the subnet mask.

Gateway: Enter the gateway IP address, typically a router.

WINS: WINS (Windows Internet Naming Service) is a system that determines the IP address of a network computer with a dynamically assigned IP address, if applicable.

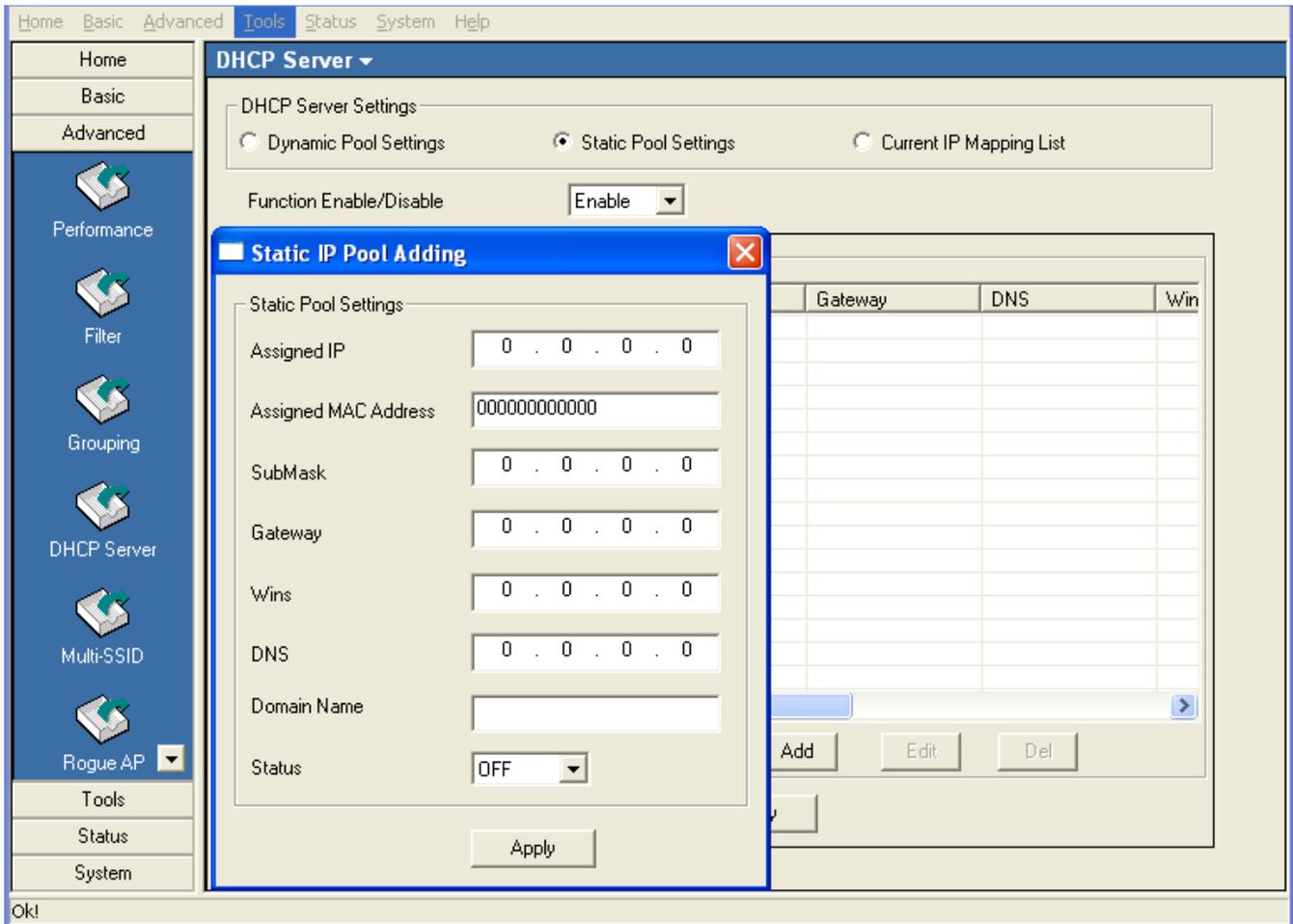
DNS: The IP address of the DNS server, if applicable.

Domain Name: Enter the domain name of the AP, if applicable.

Lease Time: The period of time that the client will retain the assigned IP address.

Status: This option turns the dynamic pool settings on or off.

DHCP Server (Static Pool Settings)



Dynamic Pool Settings: Click to enable Static Pool Settings. Use this function to assign the same IP address to a device at every restart. The IP addresses assigned in the Static Pool list must NOT be in the same IP range as the Dynamic Pool.

Enable/Disable: Enable or disable the DHCP server function.

Assigned IP: Enter the IP address to be statically assigned by the DHCP server.

Assigned MAC Address: Enter the MAC Address of the wireless client.

SubMask: Enter the subnet mask.

Gateway: Enter the gateway IP address, typically a router.

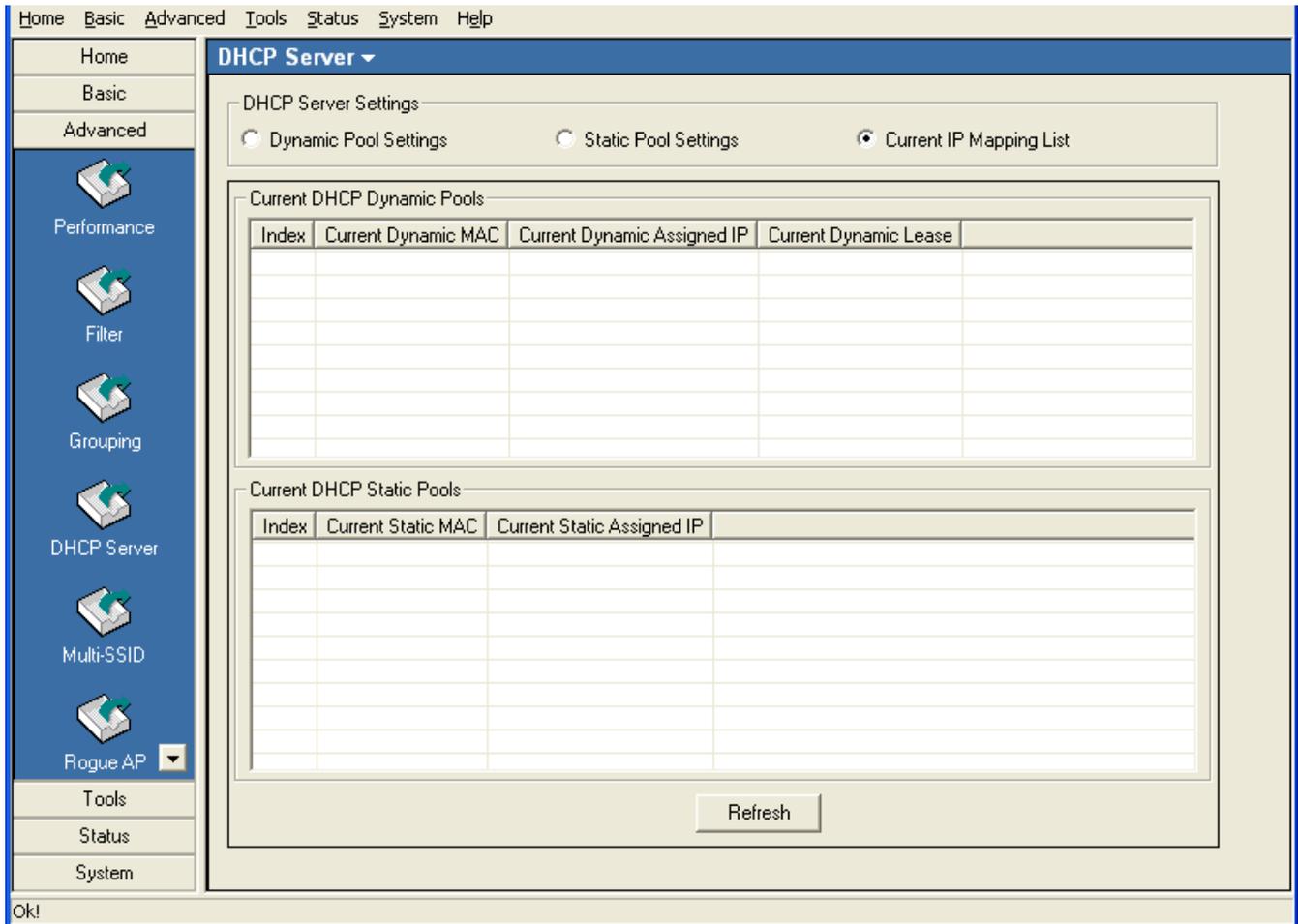
WINS: WINS (Windows Internet Naming Service) is a system that determines the IP address of a network computer with a dynamically assigned IP address, if applicable.

DNS: The IP address of the DNS server, if applicable.

Domain Name: Enter the domain name of the AP, if applicable.

Status: This option turns the static pool settings on or off.

DHCP Server (Current IP Mapping List)



This screen displays information about the current DHCP dynamic and static IP address pools. This information is available when you enable the DHCP function of the AP and assign dynamic and static IP address pools.

Current DHCP Dynamic Pools: These are IP address pools to which the DHCP server function has assigned dynamic IP addresses.

Current Dynamic MAC: The MAC address of a device on the network that is within the DHCP dynamic IP address pool.

Current Dynamic Assigned IP: The current corresponding DHCP-assigned dynamic IP address of the device.

Current Dynamic Lease: The length of time that the dynamic IP address will be valid.

Current DHCP Static Pools: These are IP address pools to which the DHCP server function has assigned static IP addresses.

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

Current Static Assigned IP: The current corresponding DHCP-assigned static IP address of the device.

Multi-SSID

Home Basic Advanced Tools Status System Help

Home Basic Advanced

Performance Filter Grouping DHCP Server Multi-SSID Rogue AP

Tools Status System

Get OK.

Multi-SSID

Multi-SSID Settings

Enable Multi-SSID Enable VLAN State both 11a 11g

Band: IEEE 802.11g WMM: Enable VLAN ID: 1

MSSID Index: Primary SSID SSID: dlink

Security: None Ethernet: LAN1 LAN2 Enable SSID Broadcast

Key Settings

Key Size: 64 Bits Key Index: First

Key Type: HEX Key Value: [REDACTED]

| Index | SSID | Band | Encryption | VLAN ID | Ethernet |
|---------|-------|------|------------|---------|----------|
| Primary | dlink | 11a | OFF | OFF | LAN1 |
| Primary | dlink | 11g | OFF | OFF | LAN1 |
| | | | | | |
| | | | | | |

Del

Apply

Enable Multi-SSID: When Multi-SSID is enabled, you can configure your SSIDs for either **Both**, **11a** only, or **11g** only networks.

Enable VLAN: Check to enable VLANs.

Band: Select the wireless band (**IEEE802.11a** or **IEEE802.11g**). When configuring an 802.11n access point, select **2.4GHz** or **5GHz**.

MSSID Index: Service Set Identifier (SSID) is the name designated for a specific wireless local area network (WLAN). The SSID 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.

VLAN ID: Enter a VLAN number (0 - 4094).

MSSID Index: You can select up to 7 MSSIDs per band, the default MSSID is the primary, which puts the total to 8 MSSIDs per band.

Ethernet: Select “**Main**” if you wish to configure the network on LAN 1 (PoE). Select “**Guest**” to set up the network on LAN 2.

Security: Select the security level from the drop-down menu.

SSID Broadcast: For each SSID, select to enable or disable the broadcast of the SSID.

WEP Encryption

Key Index: Select which defined key is active on the selected device(s).

WEP Key: In the first drop-down menu select **HEX** or **ASCII**. Select the level of encryption (64, 128, or 162-bit) from the second drop-down box, and then enter the WEP key in the box.

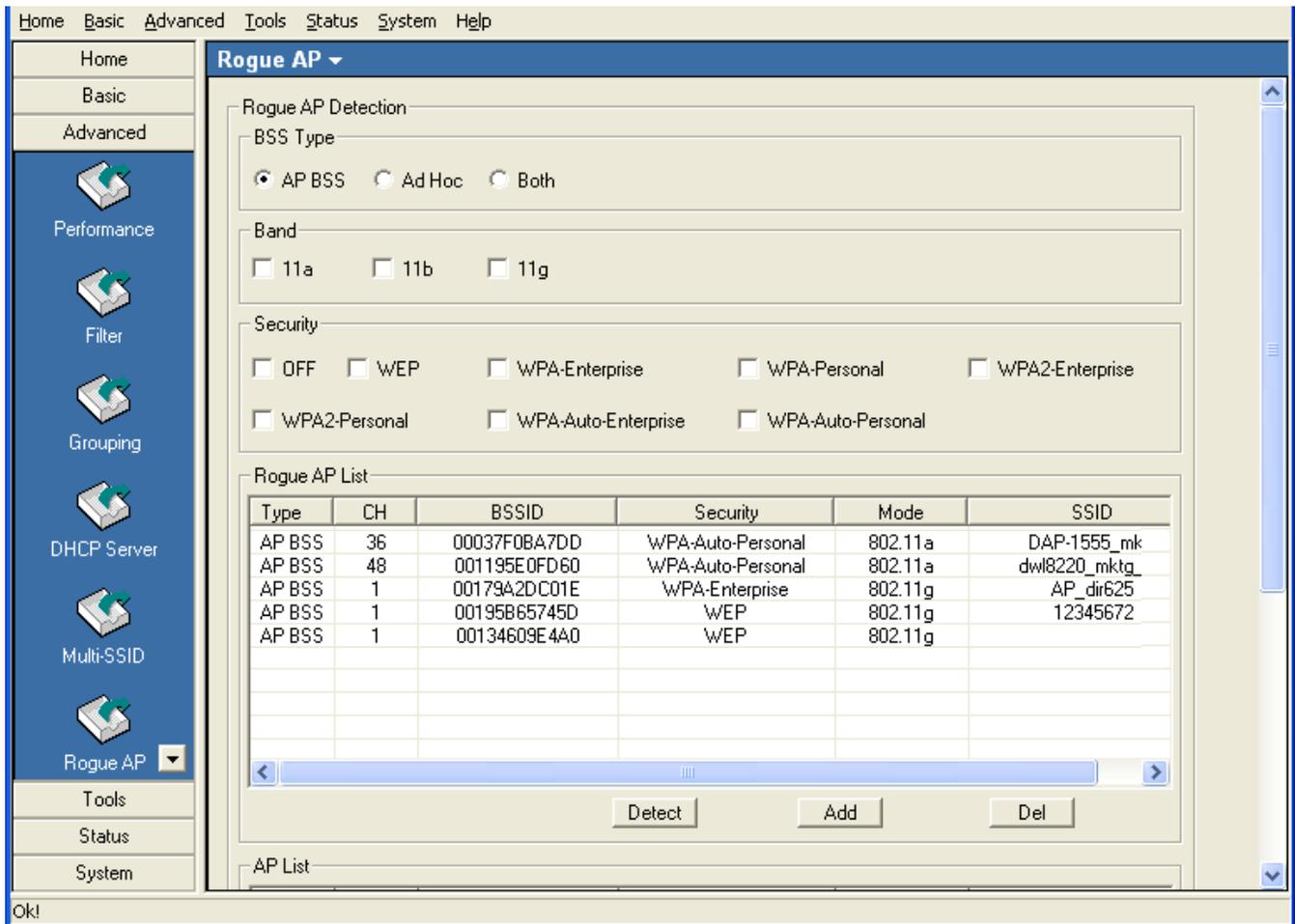
WPA/WPA2 Personal

Cipher Type: Select **Auto**, **AES**, or **TKIP**.

Group Key Update Interval: Enter the Group Key Interval (1800 is default).

Passphrase: Enter the WPA passphrase (between 8-63 characters).

Rogue AP



BSS Type: The Basic Service Set Type allows you to select from **AP BSS**, **Ad Hoc**, or **Both**.

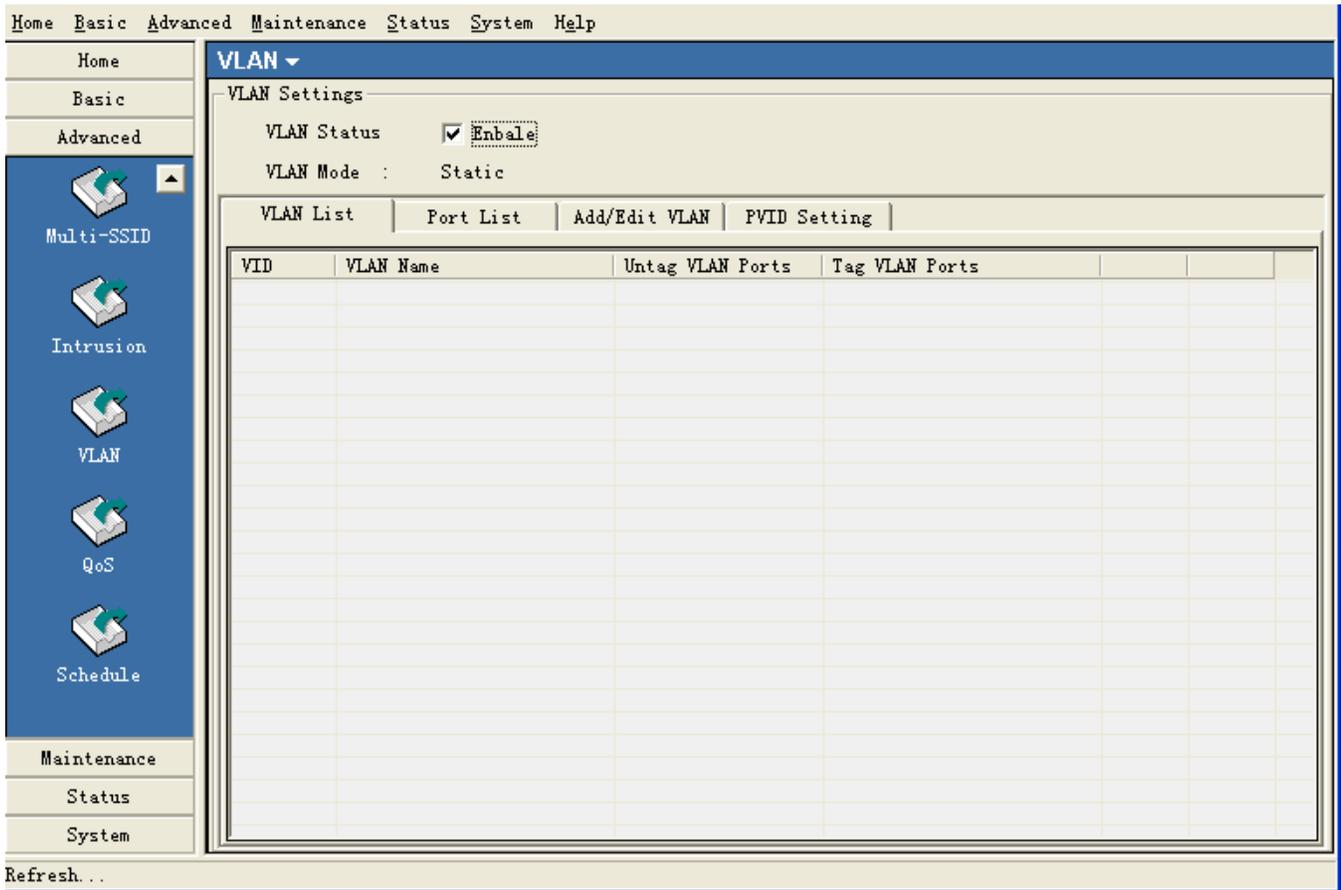
Band: Security: Select the type of network (bands **11a**, **11b**, and **11g**) that you would like the AP detection to search on.

Rogue AP List: Select the Security type - **Off**, **WEP**, **WPA-Enterprise**, **WPA-Personal**, **WPA2 Enterprise**, **WPA2-Personal**, **WPA-Auto-Enterprise**, and **WPA2-Auto-Personal** that you would like to be consider during AP detection.

AP List: This window shows all of the neighbor APs detected, which is based on your criteria from above (BSS Type, Band, and Security). If the AP is in the same network, or if you know the AP, just click on **"Add"** to save it to the AP list.

This window shows all of the APs that are allowed access on the network.

VLAN (802.11n only)



VLAN Status: Check this box to enable the VLAN function.

VLAN Mode: Displays the mode of VLAN.

VLAN List: This window lists the configured VLAN on the AP.

Port List: This window lists the configured Port on the AP.

Add/Edit VLAN (802.11n only)

Home Basic Advanced Maintenance Status System Help

Home
Basic
Advanced

Multi-SSID
Intrusion
VLAN
QoS
Schedule

Maintenance
Status
System

OK

VLAN

VLAN Settings

VLAN Status Enable

VLAN Mode : Static

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

VID VLAN Name Add

| Port | Select All | Mgmt | LAN |
|------------|------------|----------------------------------|----------------------------------|
| Untag | ALL | <input checked="" type="radio"/> | <input checked="" type="radio"/> |
| Tag | ALL | <input type="radio"/> | <input type="radio"/> |
| Not Member | 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 | ALL | <input checked="" type="radio"/> |
| Tag | ALL | <input type="radio"/> |
| Not Member | ALL | <input type="radio"/> |

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

Apply

VID: Enter a VID number in this box.

VLAN Name: Enter a VID description string in this box.

Port/MSSIDPort/WDS Port: Select and assign the VLAN members from Port/MSSID Port/WDS Port.

PVID Setting (802.11n only)

Home
Basic
Advanced
Maintenance
Status
System
Help

Home

Basic

Advanced

Multi-SSID

Intrusion

VLAN

QoS

Schedule

Maintenance

Status

System

VLAN

VLAN Settings

VLAN Status Enable

VLAN Mode : Static

VLAN List
Port List
Add/Edit VLAN
PVID Setting

PVID Auto Assign Status Enable

| Port | Mgmt | LAN |
|------|------|-----|
| PVID | 1 | 1 |

| MSSID Port | Primary | S-1 | S-2 | S-3 | S-4 | S-5 | S-6 | S-7 |
|------------|---------|-----|-----|-----|-----|-----|-----|-----|
| PVID | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

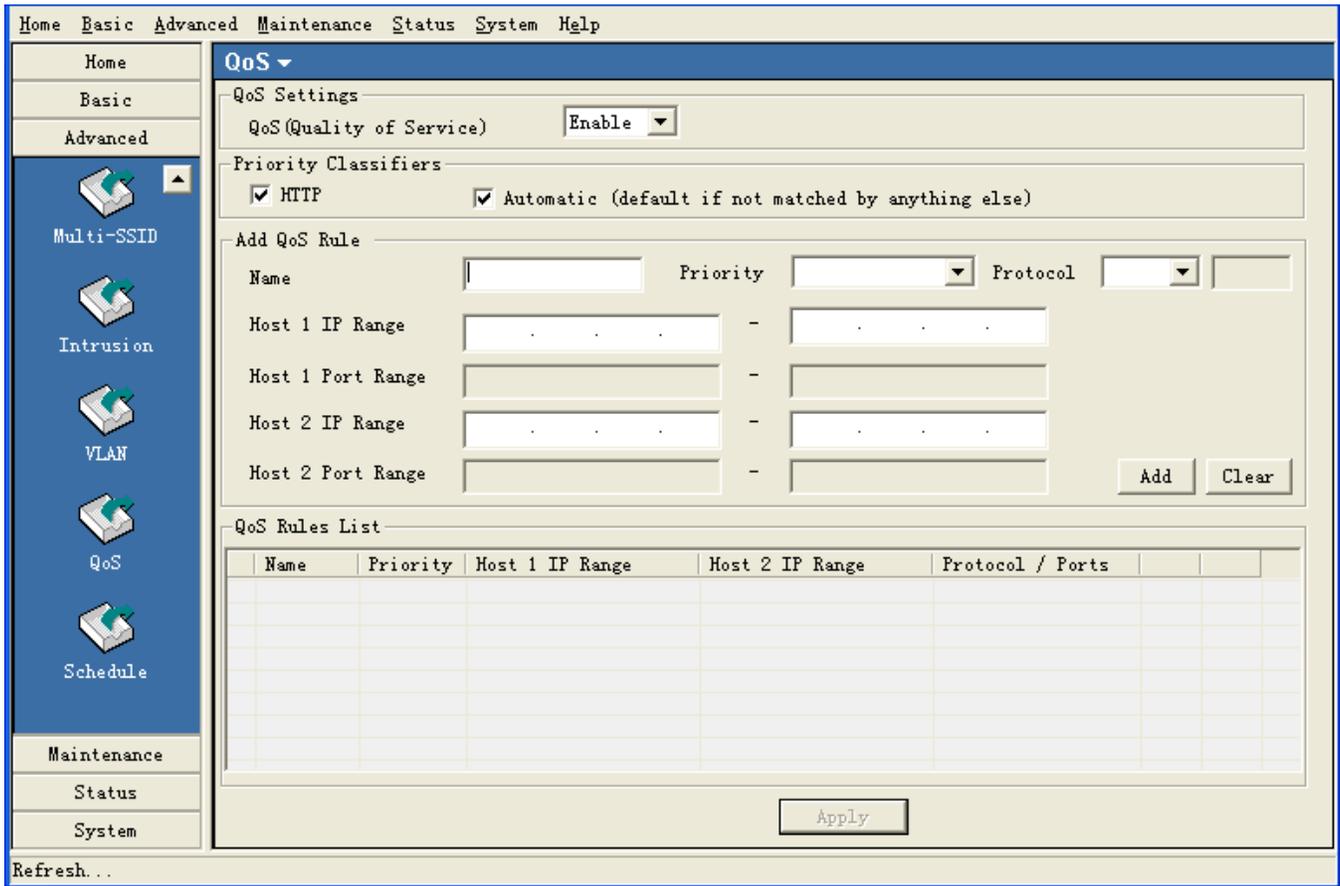
| WDS Port | W-1 | W-2 | W-3 | W-4 | W-5 | W-6 | W-7 | W-8 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|
| PVID | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

OK

PVID AutoAssign Status: Check this box to assign the PVID automatically.

Port/MSSIDPort/WDS Port: Assign the PVID manually.

QoS (802.11n only)



QoS Settings Check the box to enable the QoS function.

Priority Classifiers: Check the HTTP box to apply the rule to http packets. Check Automatic box to apply the rule to all the packets.

Add QoS Rule Name: Enter a name for this QoS rule.

Priority: Select a priority level from the drop-down list. There are four types of priority: **Background, Best Effort, Video** and **Voice**.

Protocol: Select the protocol from the drop-down list.

Host IP Range: Enter the IP range that applies the rule.

Host Port Range: Enter the Port range that applies the rule.

QoS Rules List: This window lists the configured QoS rules.

Schedule (802.11n only)

Home Basic Advanced Maintenance Status System Help

Home
Basic
Advanced

Multi-SSID
Intrusion
VLAN
QoS
Schedule

Maintenance
Status
System

Ok!

Schedule

Wireless Schedule Settings

Wireless Schedule: Enable

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: Off

Add Clear

Schedule Rules List

| Name | Day(s) | Time Frame | Wireless |
|------|--------|------------|----------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Edit Del

Apply

Wireless Schedule Settings: The schedule is used to open or close the wireless function of the AP at the specified time.

Wireless Schedule: Select **Enable** from the drop-down list to enable this function.

Add Schedule Rule: Enter a name for this schedule rule.

Name:

Day(s): Select the days that apply the schedule.

Start/End Time: Enter the start and end times that apply the schedule.

Wireless: Open or close the wireless function at the schedule time.

Schedule Rules List: This window lists the configured schedule rules.

Tools (802.11g) Admin

The screenshot shows the 'Admin' configuration page in the D-Link AP Manager II software. The interface has a top navigation bar with links: Home, Basic, Advanced, Tools, Status, System, and Help. A left sidebar contains icons for Home, Basic, Advanced, Tools, Admin, Firmware and SSL, Configuration File, and SNTP. The main content area is titled 'Admin' and contains two sections: 'Login Settings' and 'Console Settings'. In the 'Login Settings' section, there are four text input fields: 'User Name' (containing 'admin'), 'Old Password', 'New Password', and 'Confirm New Password'. The 'Console Settings' section includes a 'Console Protocol' section with three radio buttons: 'None', 'Telnet' (selected), and 'SSH'. Below this is a 'Timeout' dropdown menu set to '3 Mins'. An 'Apply' button is located at the bottom right of the settings area. At the bottom left of the interface, there is an 'Ok!' button.

Login 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.

Confirm New Password: Confirm your new password here.

Console Settings

Status: Status is Enabled by default. Select "**None**" to disable the console.

Console Protocol: Select the type of protocol you would like to use, **Telnet** or **SSH**.

Firmware and SSL

The screenshot shows the 'Firmware and SSL' configuration page in the D-Link AP Manager II software. The page has a navigation menu on the left with options: Home, Basic, Advanced, Tools, Admin, Firmware and SSL (selected), Configuration File, and SNTP. The main content area is titled 'Firmware and SSL' and contains two sections:

- Update Firmware From Local Hard Drive:** This section shows the current 'Firmware Version' as 'v2.01'. Below this, there is a text input field labeled 'Upload Firmware From File:' followed by a 'Browse..' button and an 'UpLoad' button.
- Update SSL Certification From Local Hard Drive:** This section contains two text input fields. The first is labeled 'Upload Certificate From File:' and the second is labeled 'Upload Key From File:'. Each field is followed by a 'Browse..' button and an 'UpLoad' button.

At the bottom left of the page, there is a status message that says 'Get OK.'

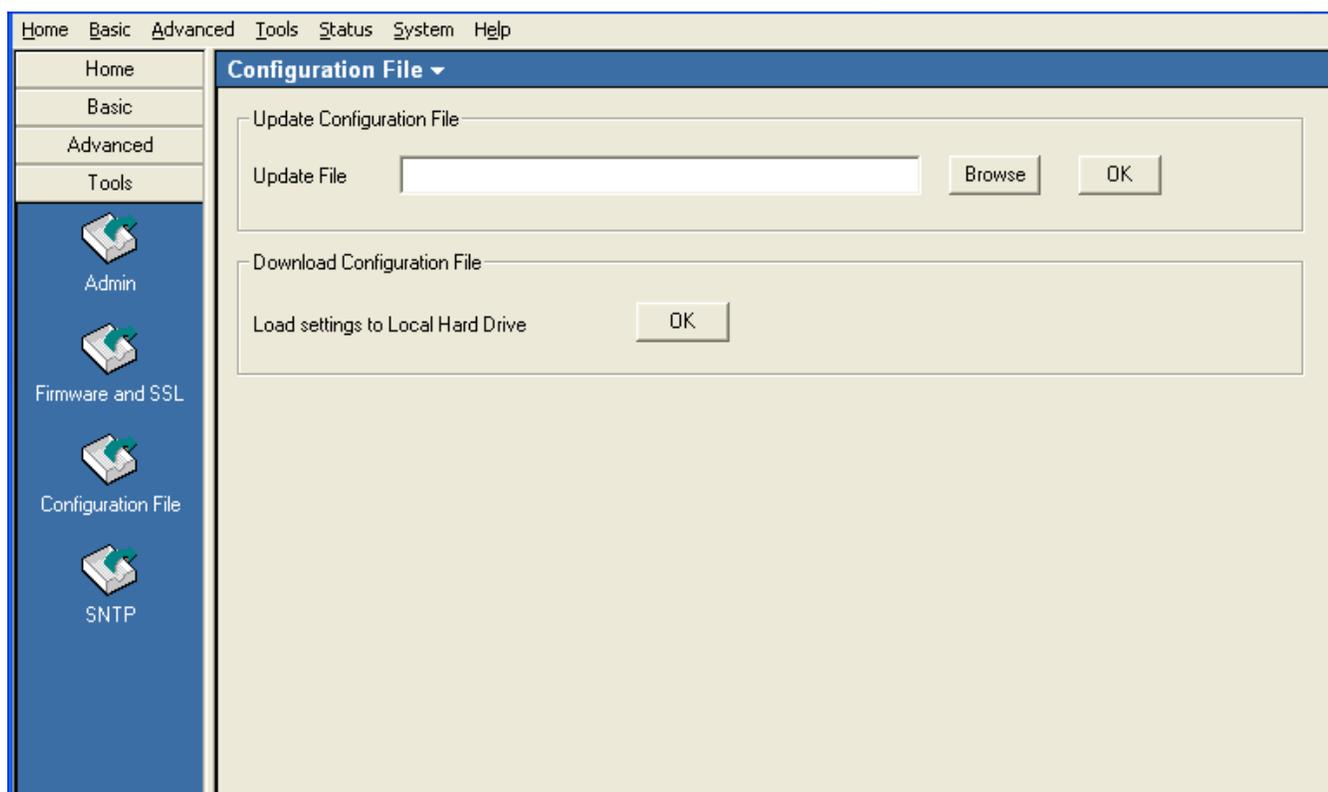
Upgrade Firmware from Local Hard Drive

- Download the latest firmware upgrade from <http://support.dlink.com> to an easy to find location on your hard drive.
- Click on the **Browse** button as shown above.
- A popup window will appear. Locate the firmware upgrade file and click **Open**.
- The path to the file will be displayed in the "Upgrade Firmware File From" field. Click the **Upload** button to upload the file to the AP.

Update SSL Certification from Local Hard Drive

To update the SSL Certification on the AP, use the **Browse** buttons to locate the SSL certificate and key files on your local computer. Use the **Upload** buttons to upload the files to the AP.

Configuration File



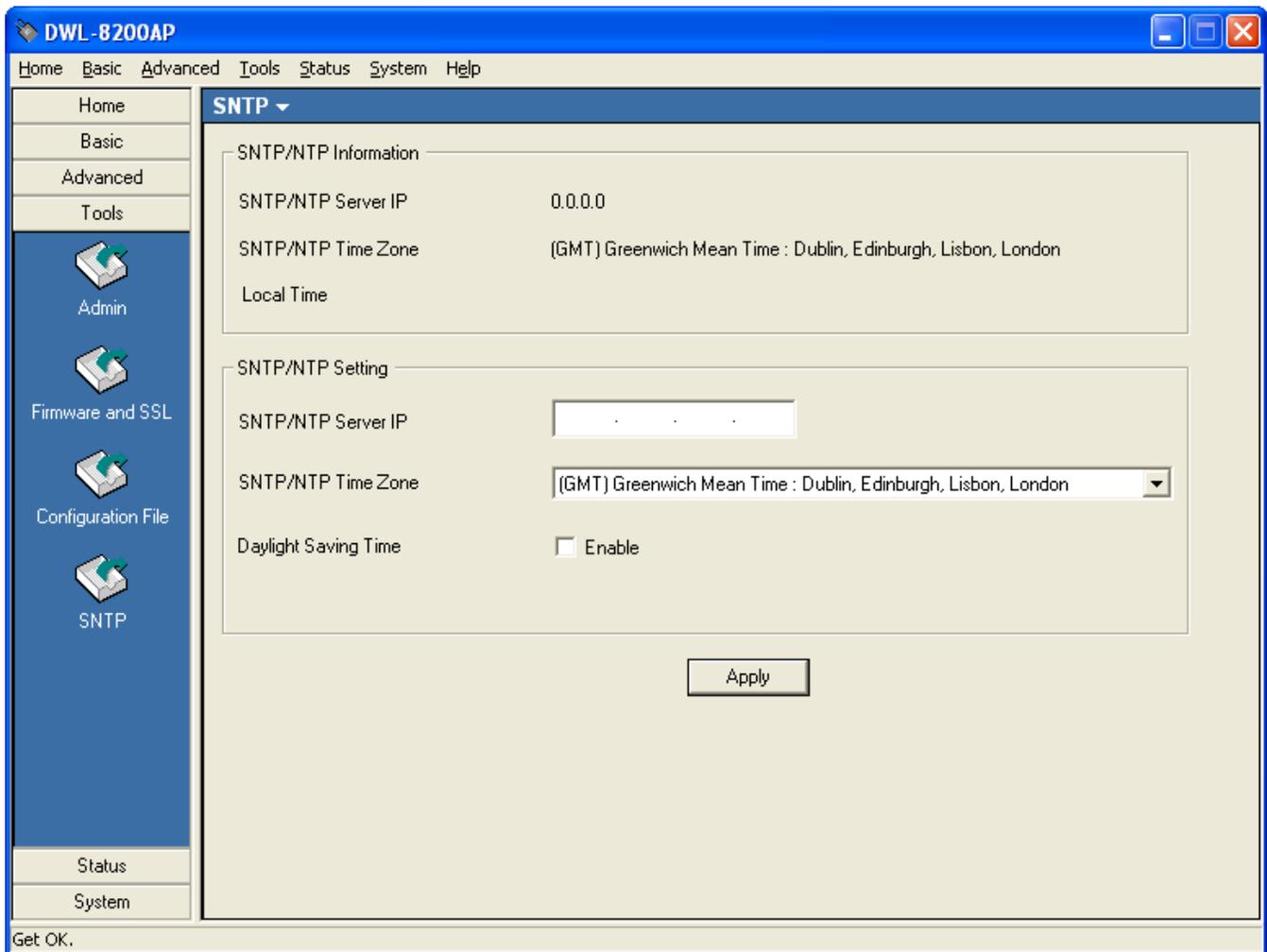
The AP Manager II software allows you to save the device settings to a configuration file. To save a configuration file follow these steps:

- Select a device from the Device List on the main screen of AP Manager II.
- Browse to the Tools > Configuration page of AP Manager II.
- Click the OK button under **Download Configuration File** after you have all the settings as you want them.
- A popup window will appear prompting you for a file name and location. Enter the file name, choose a file destination, and click Save.

To load a previously saved configuration file, follow these steps:

- Click Browse to locate the device configuration file on your computer.
- A popup window will appear prompting you to locate the configuration file. Locate the file and click **Open**.
- The path to the file will be displayed in the "Upgrade File" field. Click the **OK** button to upload the configuration file to the AP.

SNTP



SNTP/NTP Information: The time server IP address, time zone, and the local time will be displayed here.

Server IP Address: Enter the IP address of a SNTP/NTP server.

Time Zone: Select your time zone from the drop-down menu.

Daylight Saving Time: Check the box to enable daylight savings time.

Maintenance (802.11n) Admin

Home Basic Advanced Maintenance Status System Help

Home
Basic
Advanced
Maintenance
Admin
Firmware and SSL
Configuration File
Date and Time
Status
System

Admin

Limit Administrator IP

IP Range From

To

Limit Administrator VID 1

| ID | IP From | IP To |
|----|---------|-------|
| | | |
| | | |

Add
Del

Login Settings

User Name admin

Old Password

New Password

Confirm New Password

Console Settings

Console Protocol None Telnet SSH

Timeout 3 Mins

Ping Control Settings

Status Enable

System Name Settings

System Name D-Link DAP-2590

Ok!

Limit Administrator IP

IP Range From: Check this box to allow only the computers within the IP range can manage the AP.

Limit Administrator VID: Check this box to allow only the computers within the VID can manage the AP.

Login 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.

Confirm New Password: Confirm your new password here.

Console Settings

Console Protocol: Select the type of protocol you would like to use, Telnet or SSH or select “None” to disable the console.

Timeout: Select the expired time from the drop-down list.

Ping Control Settings

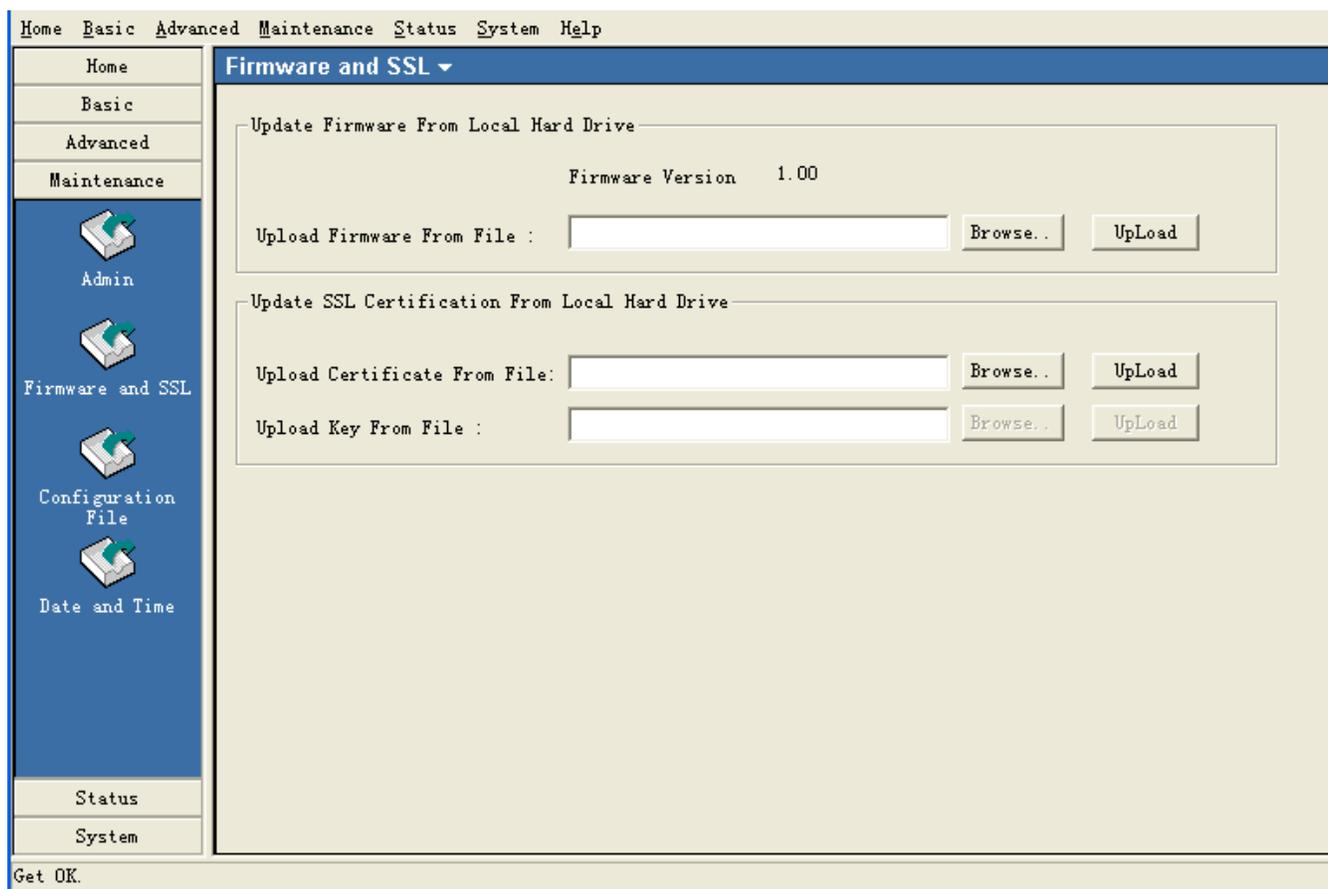
Status: Check this box to allow the computer ping the AP.

System Name Settings

System Name: Enter a name for this device.

Location: Enter a string to describe the location of device.

Firmware and SSL



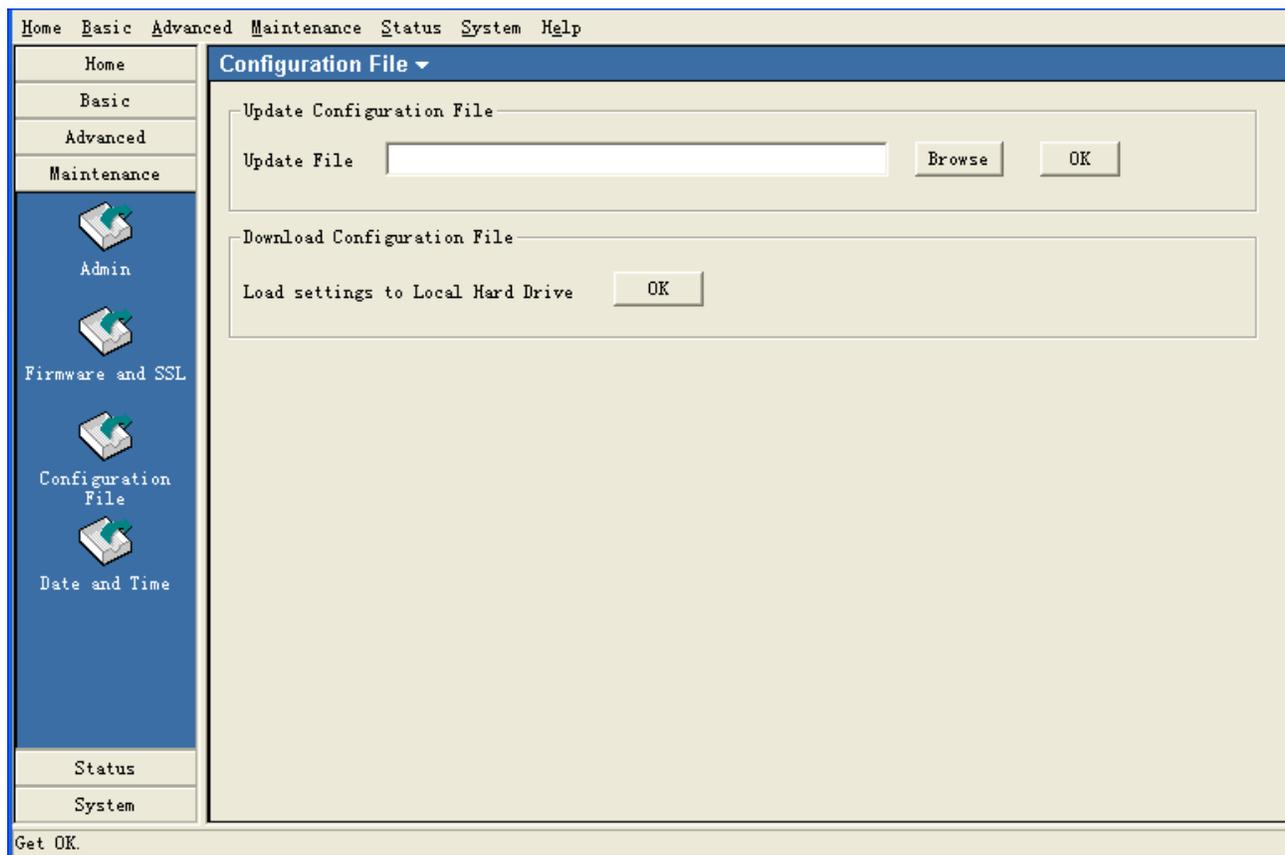
Upgrade Firmware from Local Hard Drive

- Download the latest firmware upgrade from <http://support.dlink.com> to an easy to find location on your hard drive.
- Click on the **Browse** button as shown above.
- A popup window will appear. Locate the firmware upgrade file and click **Open**.
- The path to the file will be displayed in the "Upgrade Firmware File From" field. Click the **Upload** button to upload the file to the AP.

Update SSL Certification from Local Hard Drive

To update the SSL Certification on the AP, use the **Browse** buttons to locate the SSL certificate and key files on your local computer. Use the **Upload** buttons to upload the files to the AP.

Configuration File



The AP Manager II software allows you to save the device settings to a configuration file. To save a configuration file follow these steps:

- Select a device from the Device List on the main screen of AP Manager II.
- Browse to the Tools > Configuration page of AP Manager II.
- Click the OK button under **Download Configuration File** after you have all the settings as you want them.
- A popup window will appear prompting you for a file name and location. Enter the file name, choose a file destination, and click Save.

To load a previously saved configuration file, follow these steps:

- Click Browse to locate the device configuration file on your computer.
- A popup window will appear prompting you to locate the configuration file. Locate the file and click **Open**.
- The path to the file will be displayed in the “Upgrade File” field. Click the **OK** button to upload the configuration file to the AP.

SNTP

Home Basic Advanced Maintenance Status System Help

Home
Basic
Advanced
Maintenance

Admin
Firmware and SSL
Configuration File
Date and Time
Status
System

Date and Time

Time Configuration

Time: Fri Dec 31 17:18:38 1999

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 Used: [Empty] [Select NTP Server]

Set the Date and Time Manually

Date And Time: 2008- 6-11 15:52:50 [Copy Your Computer's Time Settings]

Apply

Get OK.

Time Configuration

Time: The current local time will be displayed here.

Time Zone: Select your time zone from the drop-down list.

Daylight Saving Time: Check the box to enable daylight savings time.

Daylight Saving Offset: Select the offset time from the drop-down list.

Daylight Saving Dates: Select the start and end date of daylight saving.

Automatic Time Configuration

Enable NTP Server: Check this box to synchronize the time with NTP server.

NTP Server Used: Select one NTP server from the drop-down list.

Set the Date and Time Manually

Date And Time: Select the date and time from the box or copy your computer's time setting to AP.

Status (802.11g)

Device Information

The screenshot shows the 'Device Information' page in the D-Link AP Manager II software. The interface includes a top navigation bar with 'Home', 'Basic', 'Advanced', 'Tools', 'Status', 'System', and 'Help'. A left sidebar contains icons for 'Home', 'Basic', 'Advanced', 'Tools', 'Status', 'Device Information', 'Stats', 'Client Information', 'WDS Information', 'Log', and 'System'. The main content area is titled 'Device Information' and contains the following data:

| Device Information | | | |
|----------------------|---------------|-----------------------|-----------------------------|
| Firmware Version: | v2.01 | Ethernet MAC Address: | 001195A2EA20 |
| WLAN0 MAC Address: | | | |
| Primary: | 001195A2EA20 | Secondary: | 001195A2EA21 ~ 001195A2EA27 |
| WLAN1 MAC Address: | | | |
| Primary: | 001195A2EA28 | Secondary: | 001195A2EA29 ~ 001195A2EA2F |
| Ethernet | | | |
| Get IP From: | Manual | | |
| IP address: | 192.168.0.50 | | |
| Subnet Mask: | 255.255.255.0 | | |
| Gateway: | 0.0.0.0 | | |
| Wireless (802.11a) | | | |
| SSID: | dlink | | |
| Channel: | 44 | | |
| Rate: | Auto | | |
| Authentication: | Open System | | |
| Encrypt: | Disabled | | |
| Super Mode: | Disabled | | |
| Wireless (802.11b/g) | | | |
| SSID: | dlink | | |
| Channel: | 6 | | |
| Rate: | Auto | | |
| Authentication: | Open System | | |
| Encrypt: | Disabled | | |
| Super Mode: | Disabled | | |

Get OK.

Device Information: This window displays the configuration settings of the AP, including the firmware version and device MAC address. It also displays WLAN information for both the 802.11a and 802.11g wireless networks.

Stats

The screenshot shows the 'Stats' page in the D-Link AP Manager II software. The interface includes a top menu bar with 'Home', 'Basic', 'Advanced', 'Tools', 'Status', 'System', and 'Help'. A left sidebar contains navigation options: 'Home', 'Basic', 'Advanced', 'Tools', 'Status', 'Device Information', 'Stats', 'Client Information', 'WDS Information', 'Log', and 'System'. The main content area is titled 'Stats' and displays 'WLAN 802.11A Traffic Statistics'. It is divided into several sections: 'ThroughPut', 'Transmitted Frame Count', 'Received Frame Count', and 'WEP Frame Error Count'. Each section contains a table of statistics.

| ThroughPut | | |
|------------------------|-----|---|
| Transmit Success Rate | 100 | % |
| Transmit Retry Rate | 0 | % |
| Receive Success Rate | 0 | % |
| Receive Duplicate Rate | 0 | % |
| RTS Success Count | 0 | |
| RTS Failure Count | 2 | |

| Transmitted Frame Count | |
|-----------------------------------|------|
| Transmitted Frame Count | 4925 |
| Multicast Transmitted Frame Count | 952 |
| Transmitted Error Count | 0 |
| Transmitted Total Retry Count | 0 |
| Transmitted Multiple Retry Count | 0 |

| Received Frame Count | |
|--------------------------------|---|
| Received Frame Count | 0 |
| Multicast Received Frame Count | 0 |
| Received Frame FCS Error Count | 2 |
| Received Frame Duplicate Count | 0 |
| Ack Rcv failure Count | 5 |

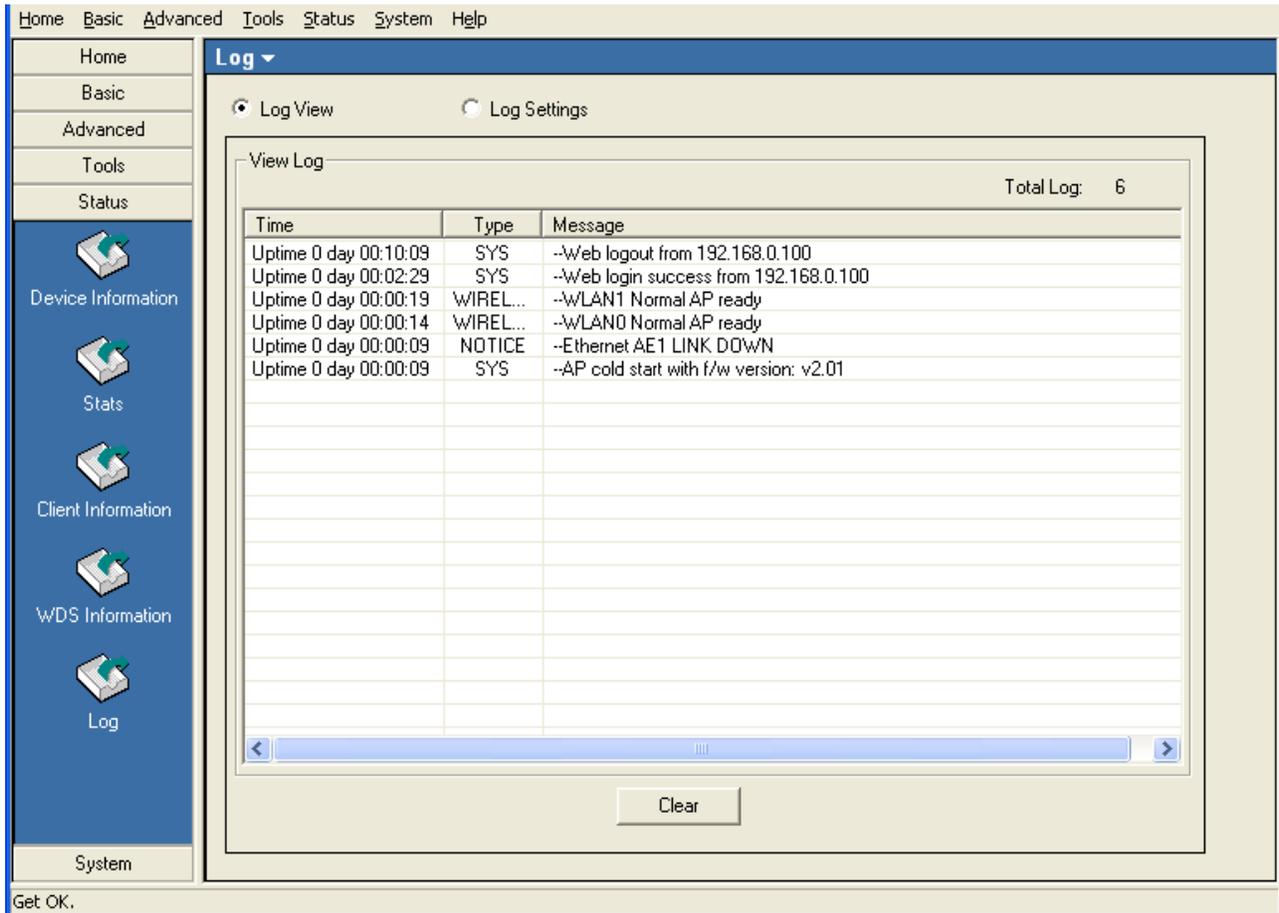
| WEP Frame Error Count | |
|--------------------------|---|
| WEP Excluded Frame Count | 0 |
| WEP ICV Error Count | 0 |

Get OK.

WLAN 802.11a This page displays statistics for data throughput, transmitted and received frames, **Traffic Statistics:** and WEP frame errors for the 802.11a wireless network.

WLAN 802.11g This page displays statistics for data throughput, transmitted and received frames, **Traffic Statistics:** and WEP frame errors for the 802.11g wireless network.

Log View



View Log: The log displays system and network messages including a time stamp and message type.

Log Settings

The screenshot shows a web interface for configuring log settings. At the top, there is a menu bar with options: Home, Basic, Advanced, Tools, Status, System, and Help. On the left side, there is a vertical navigation pane with buttons for Home, Basic, Advanced, Tools, and Status, and a list of icons for Device Information, Stats, Client Information, WDS Information, Log (highlighted), and System. The main content area is titled 'Log' and contains two radio buttons: 'Log View' (unselected) and 'Log Settings' (selected). Below this, there are two main sections: 'Log Settings' and 'SMTP'. The 'Log Settings' section includes a text input field for 'Log Server / IP Address', a 'Log Type' section with three checked checkboxes: 'System Activity', 'Wireless Activity', and 'Notice'. The 'SMTP' section includes an 'Enable' checkbox (unchecked), and three text input fields for 'SMTP Server / IP address', 'SMTP Sender', and 'SMTP Recipient'. An 'Apply' button is located at the bottom right of the main content area. At the bottom left of the interface, there is an 'Ok!' status indicator.

Log Settings

Log Server / IP Address: Enter the IP address of the server you would like to send the AP log to.

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

SMTP Settings

SMTP: Check the box to enable SMTP.

SMTP Server / IP Address: Enter the IP address of the SMTP server.

SMTP Sender: Enter the e-mail address of the SMTP sender.

SMTP Recipient: Enter the e-mail address of the SMTP recipient.

Status (802.11n) Device Information

The screenshot shows the 'Device Information' page in the D-Link AP Manager II web interface. The page is organized into several sections:

- Device Information:**
 - Firmware Version: 1.00
 - Ethernet MAC Address: 00055D989810
 - Wireless MAC Address:
 - Primary: 00055D989810
 - SSID 1~7: 00055D989811 ~ 00055D989817
- Ethernet:**
 - IP address: 192.168.0.50
 - Subnet Mask: 255.255.255.0
 - Gateway: N/A
- Wireless (2.4GHz):**
 - Network Name: zz
 - Channel: 1
 - Data Rate: Auto
 - Security: None
- AP Status:**
 - CPU Utilization: 8 %
 - Memory Utilization: 68 %

The left sidebar contains navigation links: Home, Basic, Advanced, Maintenance, Status, System, Help, Device Information, Stats, Client Information, WDS Information, Log, and System. The status bar at the bottom indicates 'Get OK'.

Device Information: This window displays the configuration settings of the AP, including the firmware version and device MAC address. It also displays WLAN information for either the 2.4GHz or the 5GHz wireless networks.

WLAN Traffic Statistics

Home Basic Advanced Maintenance Status System Help

Home
Basic
Advanced
Maintenance
Status
Device Information
Stats
Client Information
WDS Information
Log
System

Stats ▾

WLAN Traffic Statistics Ethernet Traffic Statistics

WLAN Traffic Statistics

| Transmitted Count | |
|--------------------------|--------|
| Transmitted Packet Count | 73068 |
| Transmitted Bytes Count | 835797 |
| Dropped Packet Count | 0 |
| Transmission Retry Count | 0 |

| Received Count | |
|---------------------------------|----------|
| Received Packet Count | 73069 |
| Received Bytes Count | 13465613 |
| Dropped Packet Count | 0 |
| Received CRC Count | 0 |
| Received Decryption Error Count | 0 |
| Received MIC Error Count | 0 |
| Received PHY Error Count | 0 |

Refresh Clear

Ok!

WLAN Traffic Statistics: This page displays statistics for data throughput, transmitted and received frames for the wireless network.

Ethernet Traffic Statistics

The screenshot shows the 'Stats' section of the D-Link AP Manager II Software. The 'Ethernet Traffic Statistics' tab is selected, displaying the following data:

| Transmitted Count | |
|--------------------------|-------|
| Transmitted Packet Count | 51 |
| Transmitted Bytes Count | 31426 |
| Dropped Packet Count | 0 |

| Received Count | |
|---------------------------------|------|
| Received Packet Count | 51 |
| Received Bytes Count | 6236 |
| Dropped Packet Count | 0 |
| Received Multicast Packet Count | 0 |
| Received Broadcast Packet Count | 34 |
| Len 64 Packet Count | 28 |
| Len 65~127 Packet Count | 13 |
| Len 128~255 Packet Count | 4 |
| Len 256~511 Packet Count | 6 |
| Len 512~1023 Packet Count | 0 |
| Len 1024~1518 Packet Count | 0 |
| Len 1519~MAX Packet Count | 0 |

Buttons for 'Refresh' and 'Clear' are located at the bottom of the statistics table.

Ethernet Traffic This page displays statistics for data throughput, transmitted and received frames for **Statistics:** the Ethernet port of AP.

Log View

Home Basic Advanced Maintenance Status System Help

Home
Basic
Advanced
Maintenance
Status
Device Information
Stats
Client Information
WDS Information
Log
System

Log View Log Settings

View Log Total Log: 48

| Time | Priority | Message |
|---------------------|----------|---|
| Uptime 0 day 01:... | SYSACT | Web logout from 192.168.0.82 |
| Uptime 0 day 01:... | SYSACT | Web login success from 192.168.0.82 |
| Uptime 0 day 00:... | Wireless | Received Deauth: STA 00:13:46:00:00:06 (reason 3) |
| Uptime 0 day 00:... | Wireless | Association Success: STA 00:13:46:00:00:06 |
| Uptime 0 day 00:... | Wireless | Association Success: STA 00:13:46:00:00:06 |
| Uptime 0 day 00:... | Wireless | Association Success: STA 00:1C:BF:4F:4E:5F |
| Uptime 0 day 00:... | Wireless | Association Success: STA 00:13:46:00:00:06 |
| Uptime 0 day 00:... | Wireless | Received Deauth: STA 00:13:46:00:00:06 (reason 3) |
| Uptime 0 day 00:... | Wireless | Received Deauth: STA 00:13:46:00:00:06 (reason 3) |
| Uptime 0 day 00:... | Wireless | Association Success: STA 00:13:46:00:00:06 |
| Uptime 0 day 00:... | Wireless | Association Success: STA 00:1C:BF:4F:4E:5F |
| Uptime 0 day 00:... | Wireless | Association Success: STA 00:1C:BF:4F:4E:5F |
| Uptime 0 day 00:... | Wireless | Association Success: STA 00:13:46:00:00:06 |
| Uptime 0 day 00:... | Wireless | Association Success: STA 00:13:46:00:00:06 |
| Uptime 0 day 00:... | Wireless | Association Success: STA 00:13:46:00:00:06 |
| Uptime 0 day 00:... | Wireless | Received Deauth: STA 00:13:46:00:00:06 (reason 3) |
| Uptime 0 day 00:... | Wireless | Received Deauth: STA 00:13:46:00:00:06 (reason 3) |
| Uptime 0 day 00:... | Wireless | Association Success: STA 00:13:46:00:00:06 |

Clear

Get OK.

View Log: The log displays system and network messages including a time stamp and message type.

Log Settings

Log Settings

Log Server / IP Address: Enter the IP address of the server you would like to send the AP log to.

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

Email Notification

Email Notification: Check the box to enable email notification.

Email Server Address: Enter the IP address of the SMTP server.

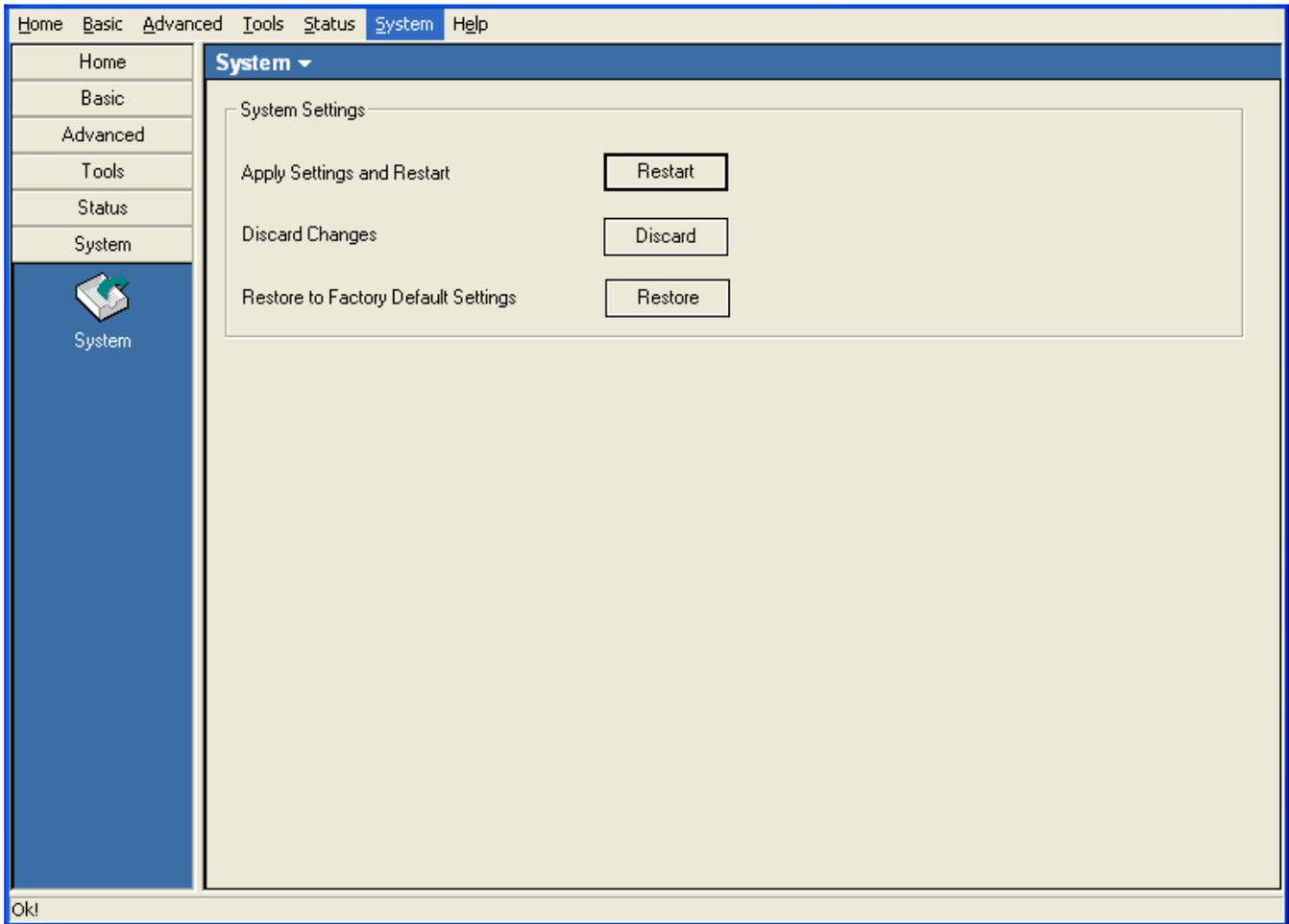
From Email Address: Enter the e-mail address of the SMTP sender.

To Email Address: Enter the e-mail address of the SMTP recipient.

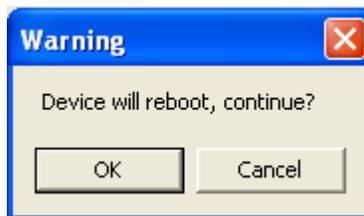
Username / Password: Enter the user name and password of the SMTP server.

Email Log Schedule: Select an interval time from drop-down list to send the logs to mail recipient.

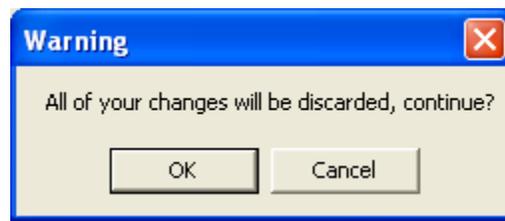
System



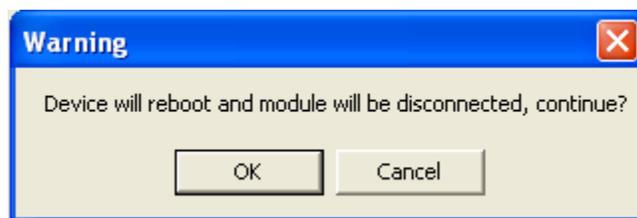
Click **Apply Settings and Restart** to restart the AP and save the configuration settings. You will receive the following prompt.



Click **Discard Changes** to cancel any changes made to the configuration settings. You will receive the following prompt.



Click **Restore** to restore the AP back to factory default settings. You will receive the following prompt.



Multiconfiguration Template

Administrators can manage the configuration of APs that AP Manager II has detected by using a template. The same profile can be used for multiple APs. Each template profile can have unique settings for the access point features which include System, Wireless, Security and Filter settings.

The screenshot displays the AP Manager II software interface. On the left is a navigation tree under 'All Space' with folders: General, Group, Model, Category1 (containing DH1, Category2, Category3), MultiConfiguration (containing Template, Task Schedule), Fault Manage, and Tool (containing Topology, Site Planning, Config Comparison). The 'Template' folder is selected. The right pane shows a table of templates.

| Template Name | Creator | Create Date |
|------------------|---------|--------------------|
| Default Template | admin | 2/18/2009 13:39:13 |
| Test | admin | 2/18/2009 13:41:05 |

Create a new template

To create a new template, right-click anywhere on the template view window and select the **New** item. Each of these items is described in the pages that follow:

General

Basic Info: Enter a name for this template.

Content Selection: Check the box to select the configuration contents included in this template. Then configure the settings in the following page.

The screenshot shows two configuration panels. The top panel, titled 'Basic Info', contains three fields: 'Name' with the value 'dlink', 'Creator' with the value 'admin', and 'Time' with a dropdown menu showing '2/18/2009'. The bottom panel, titled 'Content Selection', has four rows of checkboxes. The first row is 'System' with a checked checkbox. The second row is 'Wireless' with a checked checkbox and two sub-checkboxes for '2.4GHz' (unchecked) and '5GHz' (checked). The third row is 'Security' with a checked checkbox and two sub-checkboxes for '2.4GHz' (unchecked) and '5GHz' (checked). The fourth row is 'Filter' with a checked checkbox and two sub-checkboxes for '2.4GHz' (unchecked) and '5GHz' (checked). At the bottom of the panels are three buttons: '< Back', 'Next >', and 'Cancel'.

System

LAN Settings: Enter a name for this template.

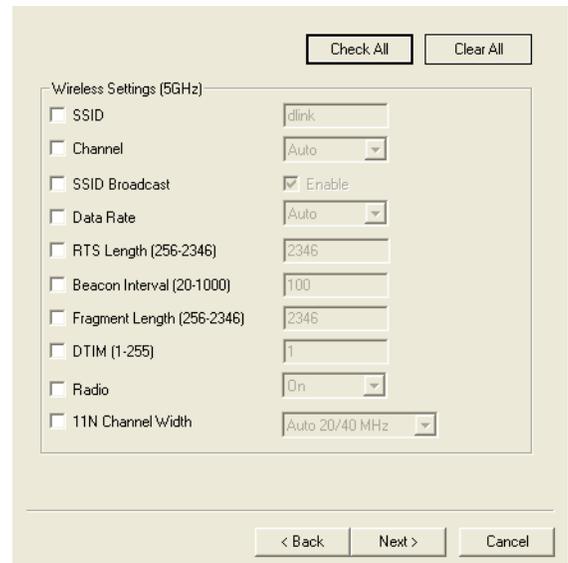
Admin: Check the box to select the configuration contents included in this template.

Misc: Then configure the settings in the following page.

The screenshot shows a configuration panel with three sections. At the top right are two buttons: 'Check All' and 'Clear All'. The first section, 'LAN Settings', has a checked checkbox and three fields: 'Get IP From' with a dropdown menu showing 'Static (Manual)', 'Subnet Mask' with a text input field containing '1 . . .', and 'Default Gateway' with a text input field containing '. . .'. The second section, 'Admin', has a checked checkbox and two fields: 'User Name' with a text input field containing 'admin' and 'Password' with a text input field. The third section, 'Console settings', has a checked checkbox and three fields: 'Status' with a checked checkbox, 'Console Protocol' with radio buttons for 'Telnet' (unchecked) and 'SSH' (checked), and 'Timeout' with a dropdown menu showing '5 Mins'. At the bottom of the panel are three buttons: '< Back', 'Next >', and 'Cancel'.

Wireless

Check the box to select the configuration contents included in this template.



Wireless Settings (5GHz)

SSID

Channel

SSID Broadcast Enable

Data Rate

RTS Length (256-2346)

Beacon Interval (20-1000)

Fragment Length (256-2346)

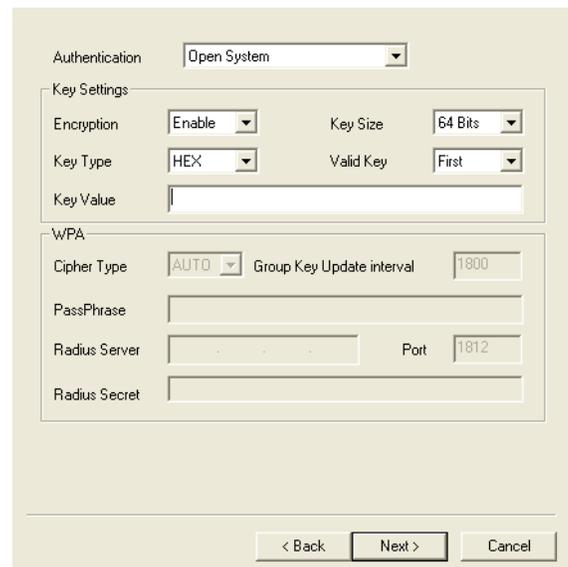
DTIM (1-255)

Radio

11N Channel Width

Security

Check the box to select the configuration contents included in this template.



Authentication

Key Settings

Encryption Key Size

Key Type Valid Key

Key Value

WPA

Cipher Type Group Key Update interval

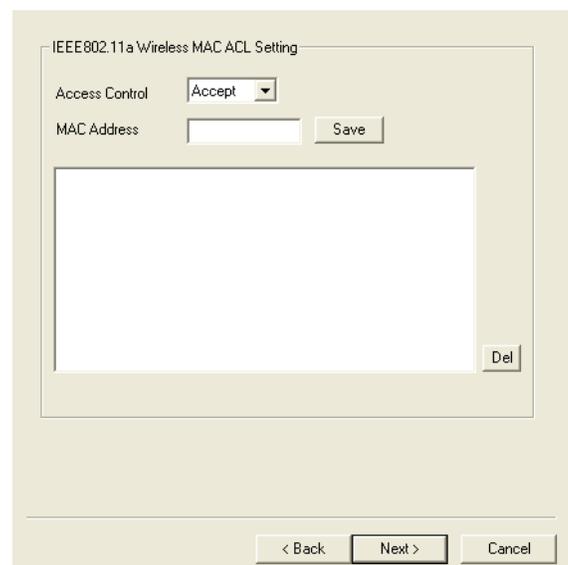
PassPhrase

Radius Server Port

Radius Secret

MAC Filter

Check the box to select the configuration contents included in this template.



IEEE802.11a Wireless MAC ACL Setting

Access Control

MAC Address

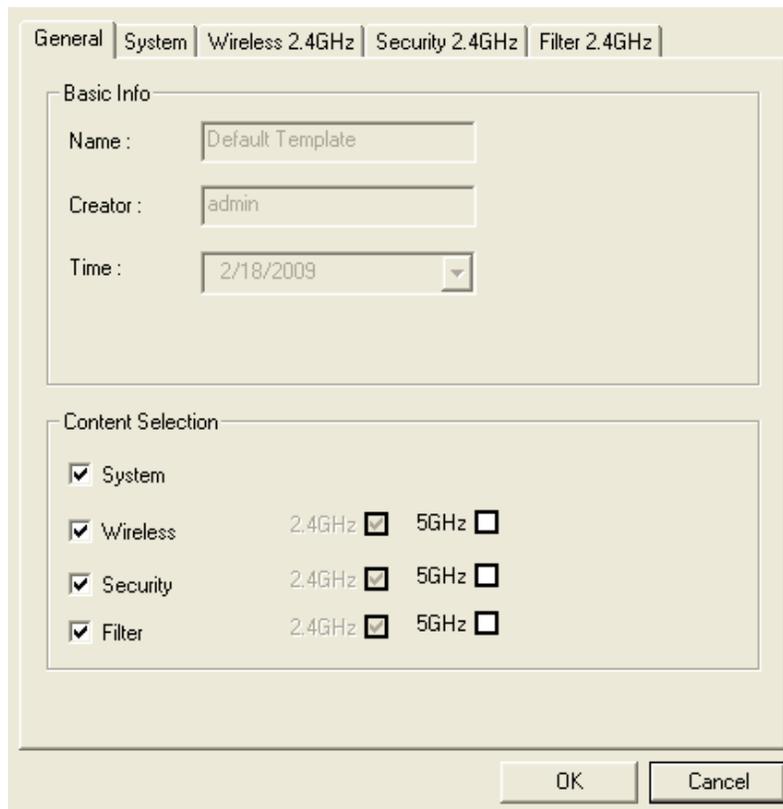
Setup Complete

Click the **Finish** button to complete the template.



Edit a template

To edit a template, double-click the template or right-click the template and select **Edit** item from the drop-down menu, the configuration page shown as below.



Delete a Template

To delete an exit template, right-click the template, and select the Delete item from the drop-down menu.

Import or Export a Template

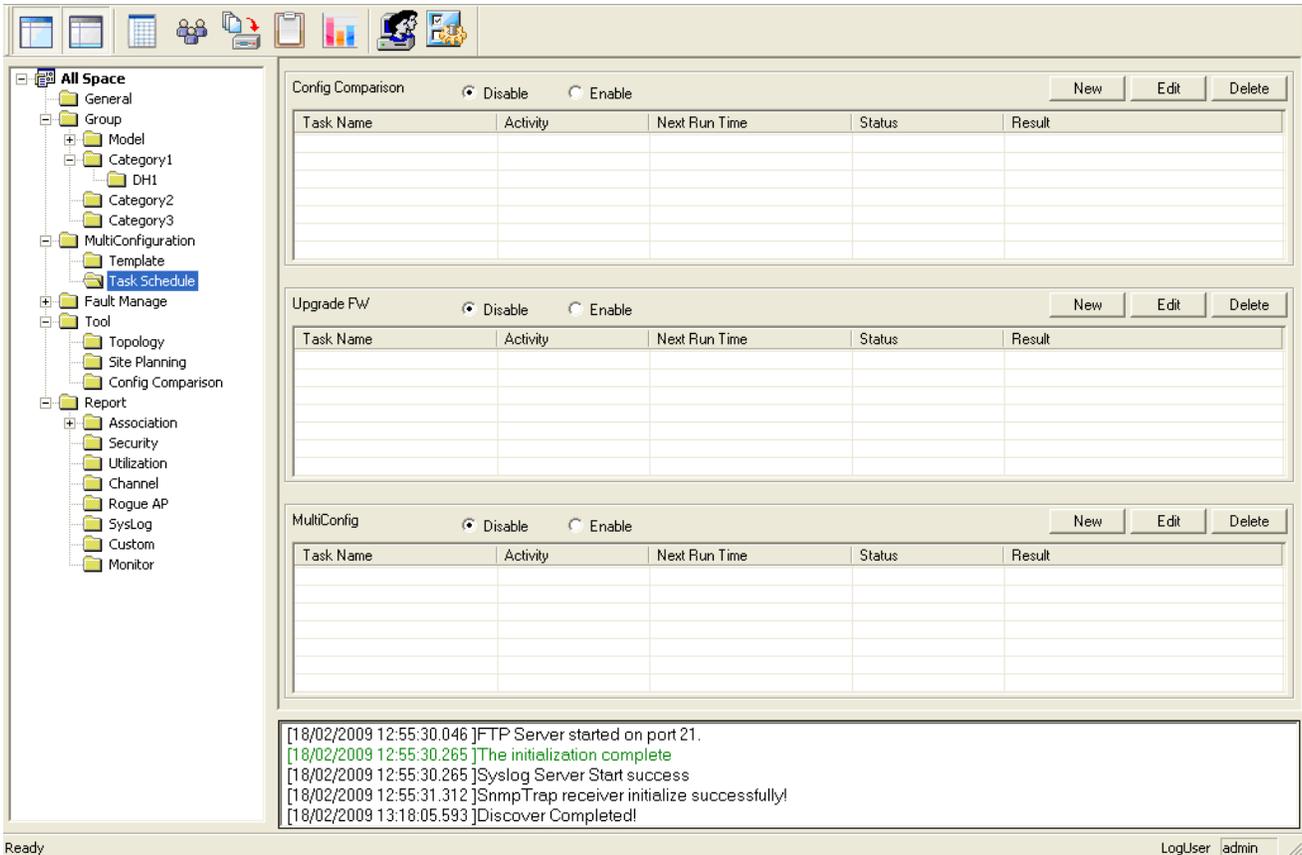
AP Manager II allows you to export the template to a profile saved in the disk or import a template from the profile.

To import a template profile, right-click anywhere on the **All Space > MultiConfiguration** view window, and select **Import** item from the drop-down menu or click the icon  from the tools bar. Then select the template file in the opening window and click the **Open** button to import this template.

To export a template, right-click the template on the **All Space > MultiConfiguration** view window, and select **Export** item from the drop-down menu or click the icon  from the tools bar. Then enter a profile name for this template in the File Name textbox and click the **Save** button to export the template to a file.

Task Schedule

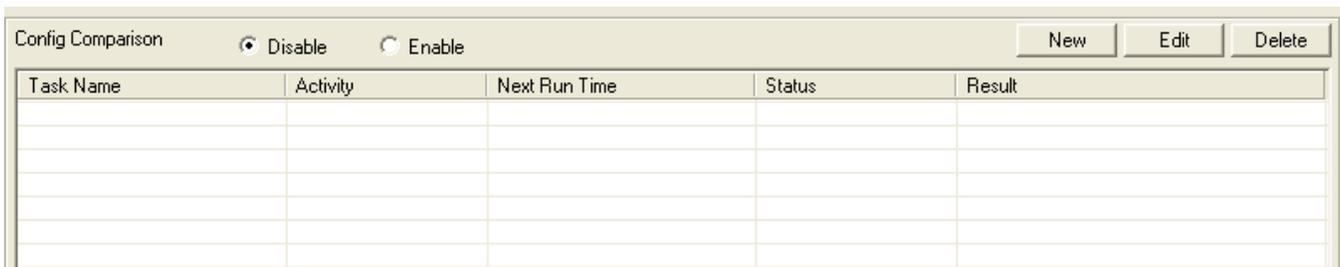
In this page, Administrator can compare the devices, upgrade the firmware and upload the template to device in batches



Each of these options is described in the pages as shown below.

Config Comparison

You can compare the configurations of a template and AP to point out their differences, the steps shown as below.



Enable Comparison

After establish the comparison record, highlight the record and then click **Enable** to implement the compare action. The results will show in a new window.

The following are different items between template and DWL-3200AP 192.168.0.50 :

| Template | Device |
|-----------------------|-----------------------|
| Gateway=192.168.1.1 | Gateway=192.168.0.1 |
| Password=admin | Password= |
| Telnet_option=Disable | Telnet_option=Enable |
| | IsSSH=Disable |
| | Telnet_timeout=3 Mins |
| SSID=dlink-1 | SSID=3200 |

OK

Upgrade Firmware

For all Access Points that the AP Manager II discovered, you can use this function to upload a new firmware file to devices in batches at a specified time, the steps shown as below.

| Task Name | Activity | Next Run Time | Status | Result |
|-----------|----------|---------------|--------|--------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Click the **New** button to open the following windows.

Device

Task Name: Enter a string to describe the task.

By Group: Select the APs by group. The APs that belong to the group will upgrade their firmware.

By IP: Select the APs by IP that will apply the firmware upgrade.

Task Name: test

By Group By IP

By Group

| Group Name | Sort |
|--|-------|
| <input type="checkbox"/> DAP-2590 | Model |
| <input checked="" type="checkbox"/> DwL-3200AP | Model |

By IP

| IP Address | Model Name |
|---------------------------------------|------------|
| <input type="checkbox"/> 192.168.0.50 | DwL-3200AP |

< Back Next > Cancel

Firmware File Setting

Firmware File Setting: Double-click the module name to configure its firmware location.

Notification: Take this action when device's version is lower than the upgrading version.

| Module Name | Version | Firmware File |
|-------------------|---------|---------------|
| DAP-2590 | | |
| DwL-3200AP | | |

when Device's current version is lower

Auto Upgrade Firmware

Notice User to action this change

< Back Next > Cancel

Firmware File Setting

Local: Select the update firmware file from the local hard drive.

Remote: Load the firmware from a remote ftp server. To implement this function, you need to type appropriate values in the Remote column.

Task Name:

By Group By IP

| Group Name | Sort |
|--|-------|
| <input type="checkbox"/> DAP-2590 | Model |
| <input checked="" type="checkbox"/> DwL-3200AP | Model |
| | |
| | |
| | |

By IP

| IP Address | Model Name |
|---------------------------------------|------------|
| <input type="checkbox"/> 192.168.0.50 | DwL-3200AP |
| | |
| | |
| | |

< Back Next > Cancel

Schedule

Run: Upgrade the firmware immediately.

Save: Just save this upgrade record.

Specify Time: Specify the day time that will apply the upgrade. The upgrade action will run at certain day(s) of every week.

Specify Day: Specify the date that will apply the upgrade.

| Module Name | Version | Firmware File |
|-------------|---------|---------------|
| DAP-2590 | | |
| DwL-3200AP | | |
| | | |
| | | |
| | | |

when Device's current version is lower

Auto Upgrade Firmware

Notice User to action this change

< Back Next > Cancel

After establish the upgrade record, highlight the record and then click **Enable** to implement the firmware upgrade action.

MultiConfig

For all Access Points that the AP Manager II discovered, you can use this function to upload a previously created template to devices in batches at a specified time, the steps shown as below.

| Task Name | Activity | Next Run Time | Status | Result |
|-----------|----------|---------------|--------|--------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Click the **New** button to open the following windows.

Device

Task Name: Enter a string to describe the task.

By Group: Select the APs by group. The APs that belong to the group will upgrade their firmware.

By IP: Select the APs by IP that will apply the firmware upgrade.

| Group Name | Sort |
|--|-------|
| <input type="checkbox"/> DAP-2590 | Model |
| <input checked="" type="checkbox"/> DWL-3200AP | Model |

| IP Address | Model Name |
|---------------------------------------|------------|
| <input type="checkbox"/> 192.168.0.50 | DWL-3200AP |

Select Template

Choose a template for uploading.

| Selected | Template Name |
|----------------------------------|------------------|
| <input checked="" type="radio"/> | Default Template |
| <input type="radio"/> | Test |

Schedule

Run: Upgrade the firmware immediately.

Save: Just save this upgrade record.

Specify Time: Specify the day time that will apply the upgrade. The upgrade action will run at certain day(s) of every week.

Specify Day: Specify the date that will apply the upgrade.

Run
 Save
 Specify Time
 Specify Day

Monday Tuesday Wednesday Thursday
 Friday Saturday Sunday

Date: 2/18/2009

Time: 13:55:57

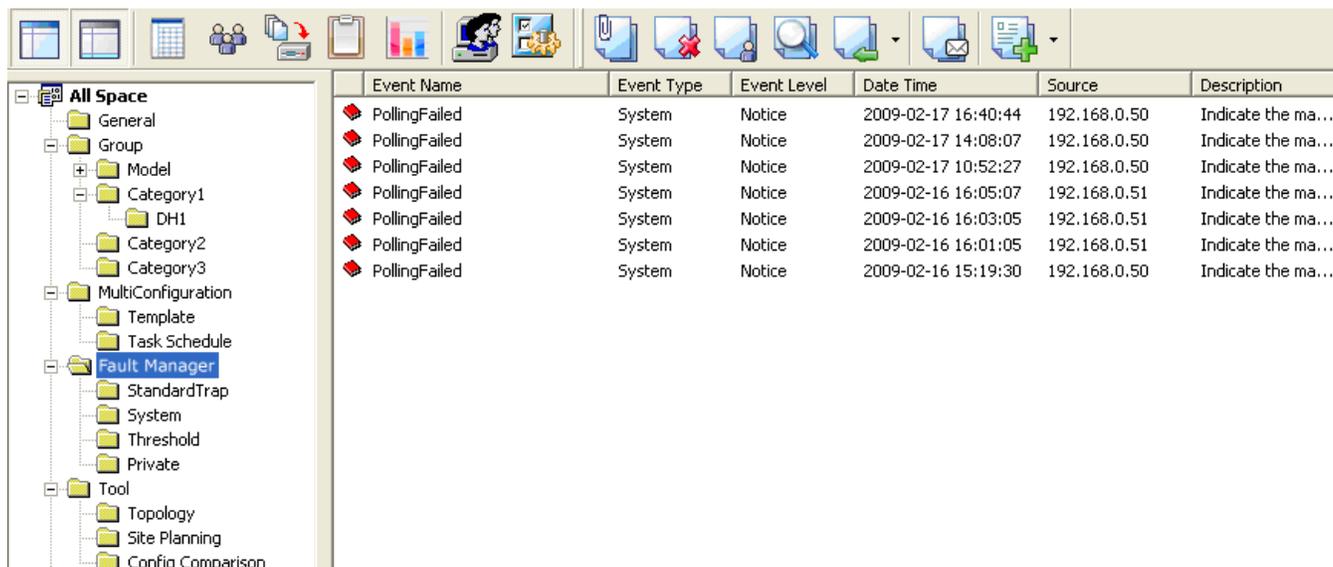
< Back Finish Cancel

After establish the upload record, highlight the record and then click **Enable** to implement the configuration upload action.

```
[19/02/2009 14:00:40.705 ]SSID=3200  
[19/02/2009 14:00:40.705 ]Show the Comparison result (different): end  
[19/02/2009 14:10:12.798 ]Apply Config to Device  
[19/02/2009 14:10:17.173 ]192.168.0.50 Apply Config file :Ok  
[19/02/2009 14:10:17.173 ]Reboot Devices :192.168.0.50
```

Fault Manager

Fault Manager window shows the trap data received from AP and polling data.



The screenshot shows the Fault Manager interface. On the left is a tree view under 'All Space' with folders like General, Group, Model, Category1-3, MultiConfiguration, Template, Task Schedule, Fault Manager (selected), StandardTrap, System, Threshold, Private, and Tool. On the right is a table of events.

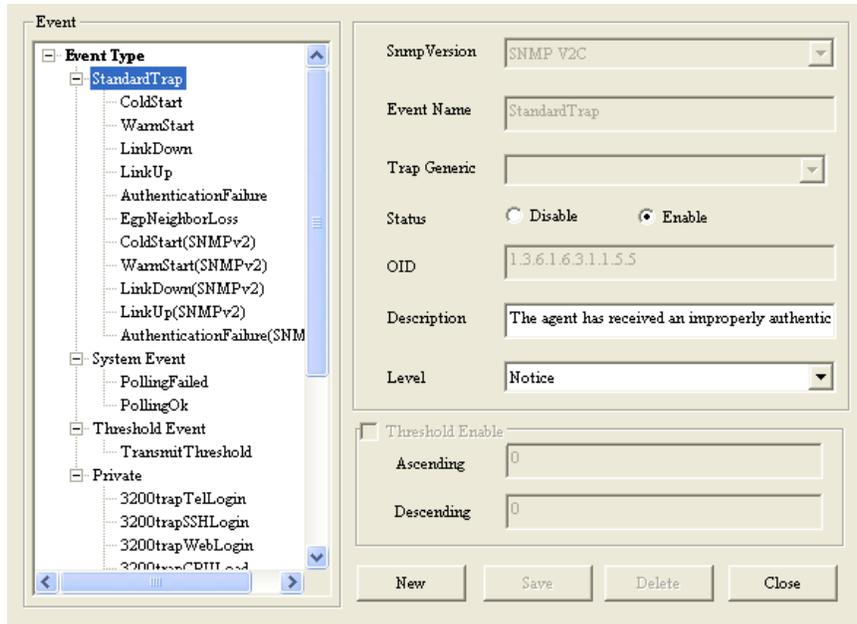
| Event Name | Event Type | Event Level | Date Time | Source | Description |
|---------------|------------|-------------|---------------------|--------------|--------------------|
| PollingFailed | System | Notice | 2009-02-17 16:40:44 | 192.168.0.50 | Indicate the ma... |
| PollingFailed | System | Notice | 2009-02-17 14:08:07 | 192.168.0.50 | Indicate the ma... |
| PollingFailed | System | Notice | 2009-02-17 10:52:27 | 192.168.0.50 | Indicate the ma... |
| PollingFailed | System | Notice | 2009-02-16 16:05:07 | 192.168.0.51 | Indicate the ma... |
| PollingFailed | System | Notice | 2009-02-16 16:03:05 | 192.168.0.51 | Indicate the ma... |
| PollingFailed | System | Notice | 2009-02-16 16:01:05 | 192.168.0.51 | Indicate the ma... |
| PollingFailed | System | Notice | 2009-02-16 15:19:30 | 192.168.0.50 | Indicate the ma... |

There are four types of events:

- **StandardTrap:** The standard trap view window displays the standard trap data received from APs.
- **System:** The system view window displays the polling results. To start the polling, please refer to page 116.
- **Threshold:** The Threshold view window displays the threshold notice data. To enable the threshold notice, please refer to page 116.
- **Private:** The Private view window displays the Private trap data received from APs.

Event settings

To configure the trap condition, click the icon  in the tool bar to set the event settings, as shown below.



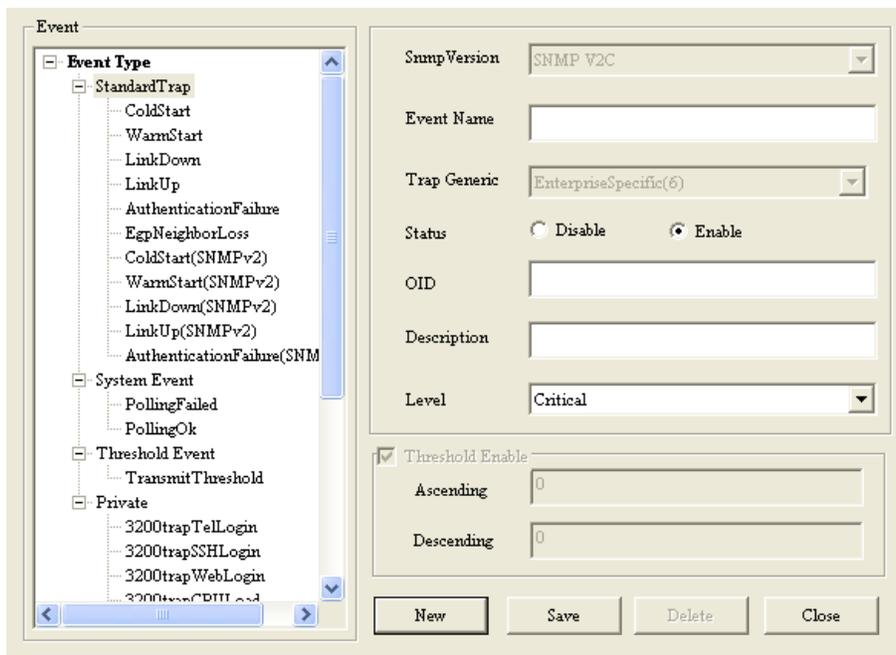
The screenshot shows the 'Event' configuration window. On the left, a tree view under 'Event Type' has 'StandardTrap' selected. The right pane shows the following settings:

- SnmpVersion: SNMP V2C
- Event Name: StandardTrap
- Trap Generic: (empty)
- Status: Enable
- OID: 1.3.6.1.6.3.1.1.5.5
- Description: The agent has received an improperly authentic
- Level: Notice
- Threshold Enable: (unchecked)
- Ascending: 0
- Descending: 0

Buttons at the bottom: New, Save, Delete, Close.

To modify an event setting, select the event from the Event Type list and then change the items. After the setting, click **Save** button to apply the changes.

To add a new event, click **New** button, and configure the settings in the event creation window as shown below.



The screenshot shows the 'Event' configuration window with a new event being created. The 'Event Type' list on the left is expanded to show 'StandardTrap'. The right pane shows the following settings:

- SnmpVersion: SNMP V2C
- Event Name: (empty)
- Trap Generic: EnterpriseSpecific(6)
- Status: Enable
- OID: (empty)
- Description: (empty)
- Level: Critical
- Threshold Enable: (checked)
- Ascending: 0
- Descending: 0

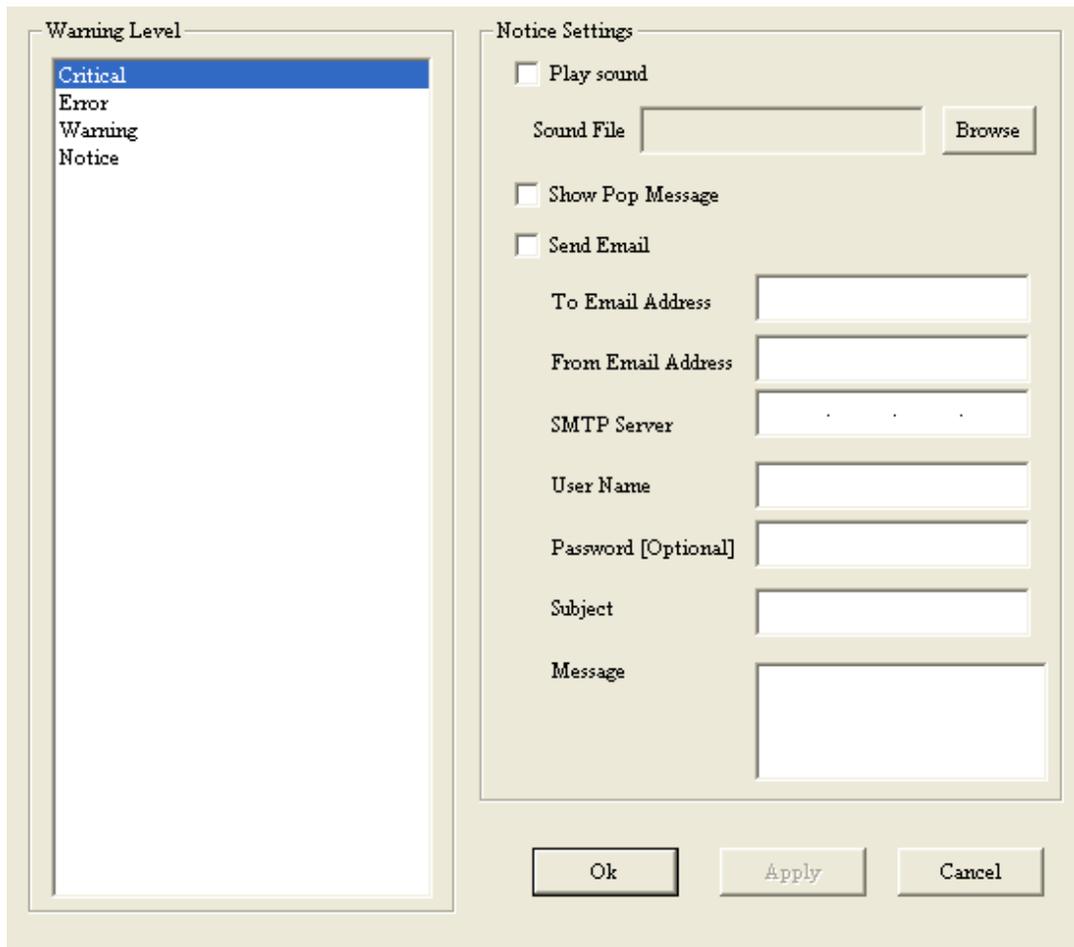
Buttons at the bottom: New, Save, Delete, Close.

Event Export

AP Manager II can export the event results to the files in the format of Text/Excel/PDF. To save event results, highlight the event record in the event window and click the **Event Export icon**  in the tools bar, then select the file format you want to save, AP Manager II will save all the records of that type to file.

Notice setting

AP Manager II can set the corresponding actions when some level of events occurs. To configure the notice setting, click the **Notice Settings icon**  in the tools bar, as shown below.



- **Play sound:** Click Browse to select the sound file. AP Manager II will play the sound file when this level of event occurs.
- **Show Pop Message:** AP Manager II will pop a message window when this level of event occurs.
- **Send Email:** Enter the Email information of To/From email address, SMTP server, User Name/Password [Optional], Subject and Message in the respective column. AP Manager II will send this email when this level of event occurs.

Watch List

AP manager II allows user to add custom watch list which only shows the specified devices and events.



To create a watch list, please follow the steps below:

- Click the **Create Watchlist** item under the icon  of the tools bar, and enter the Watch list Name in Create list form.
- Click the **Add** button to insert the events into event list, and select the events that need to be added in Select Event form, click the **Select** button, then click the **OK** button.
- Click the **Add** button to insert the devices into device list, and select the devices that need to be added in Select Device form, click the **Select** button, then click the **OK** button.

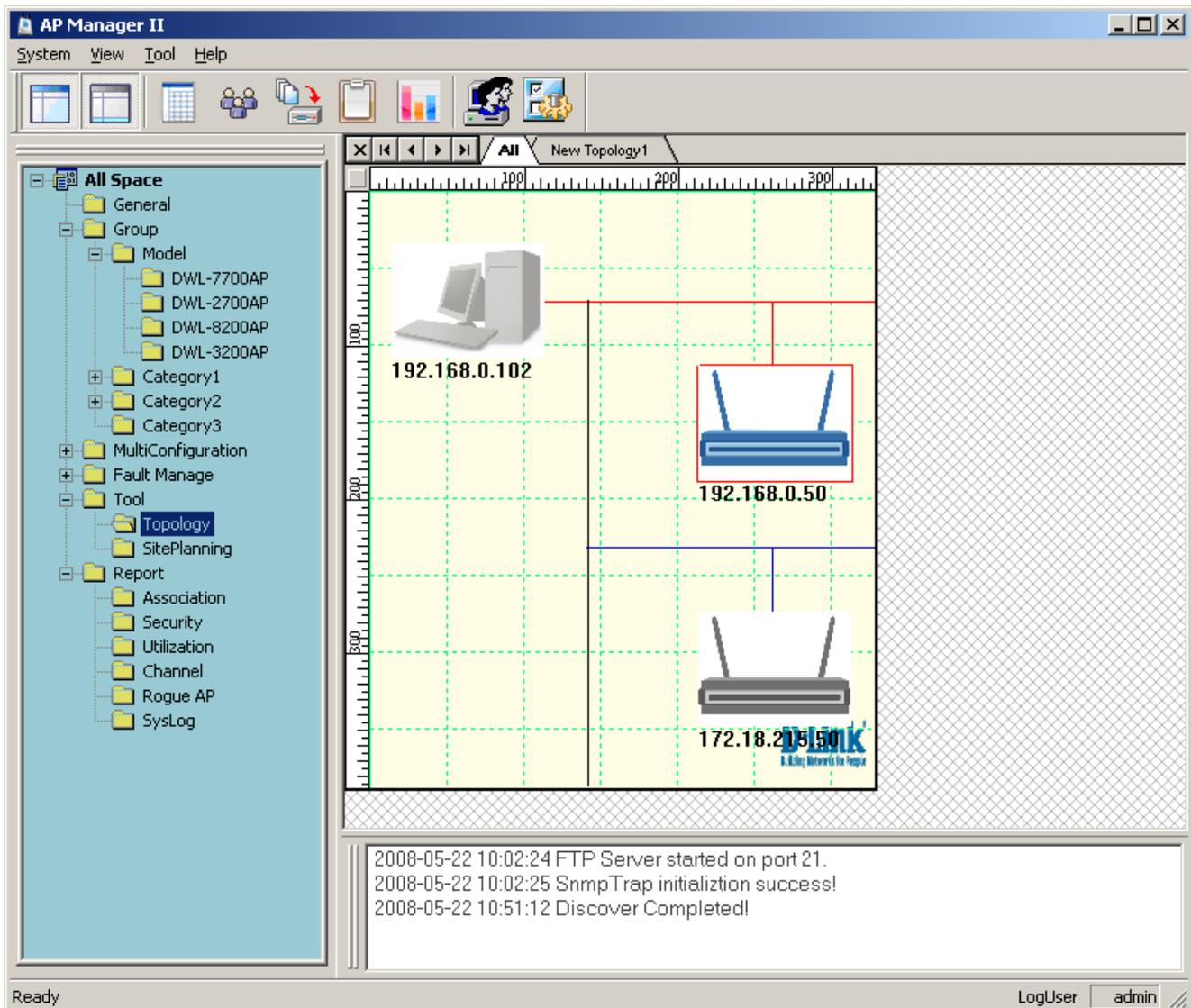
Note: The watch list name must be different from others; the event type of creating new event folder belongs to system event.

To delete a watch list, select the watch list item, and then click the **Delete watch list** item under the icon  of the tools bar.

Tools

Topology

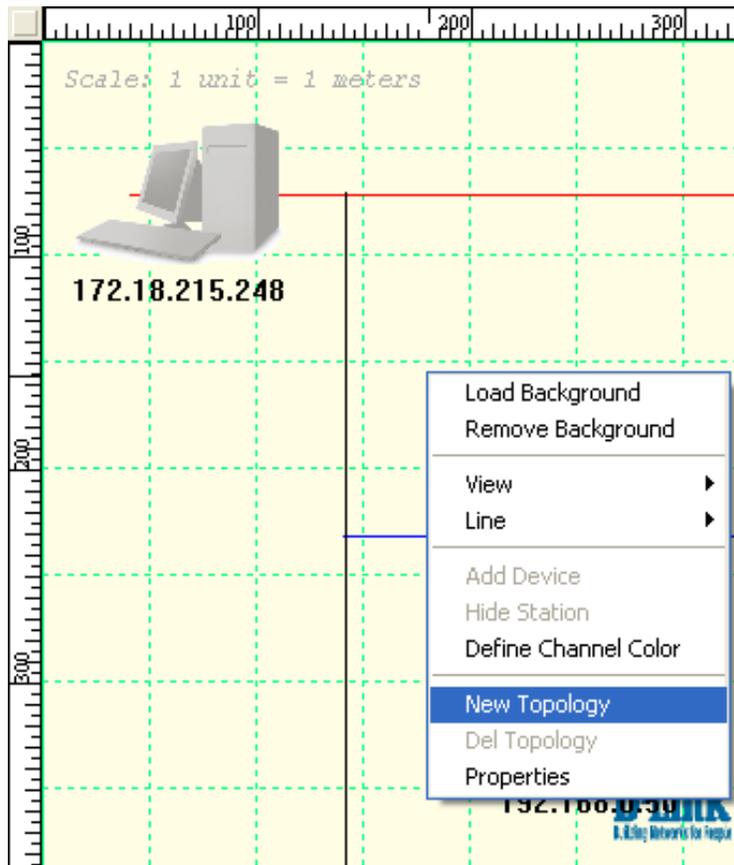
You can create a topology map to graphically represent planned or existing networks to aid network design, and also AP Manager II will periodically poll network devices to monitor the status. You can further customize their diagrams with selected icons and bitmap files used for the background. When a topology map is opened, AP Manager II will discover the devices connected on the network and display their icons on the map.



New Topology View

In the new topology, you can layout the APs according to the actual deployment. When an AP is failed, the administrator has a visual sight of which AP is failed, and substitutes it quickly.

To create a new topology view, right-click the blank place of the Topology view window and select New Topology item, as shown below.

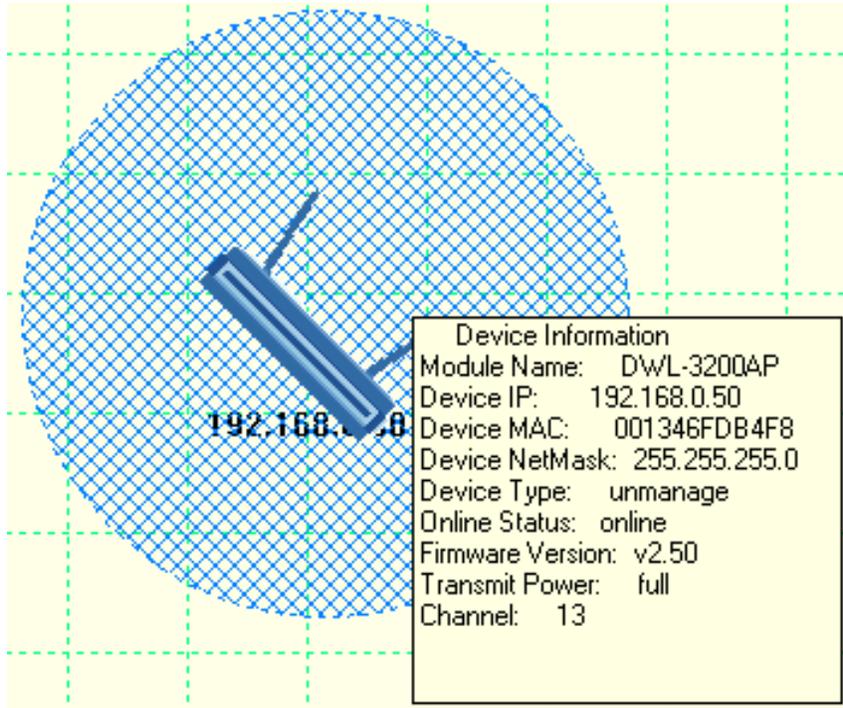


Firstly, you should import APs into the new topology by right-clicking the APs in the All topology view window and selecting the new topology under the Copy Component To item, as shown below.

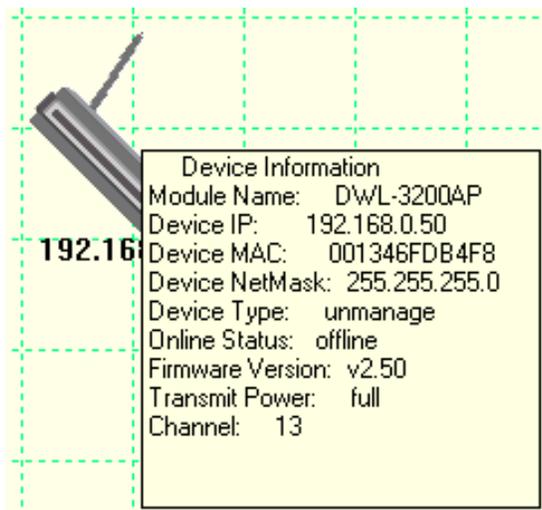


Show RF Range

The new topology view displays the device's RF range. RF range is based on the transmit power, and its color is related to the channel.

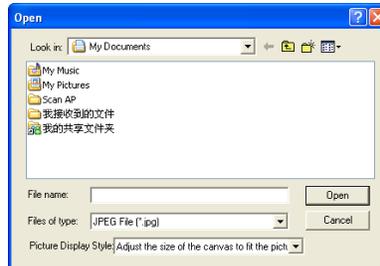


If AP is power off, it doesn't show the RF range.

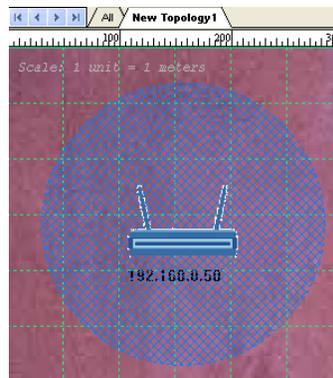


Background

To load a background for the new topology, right-click the blank place of the Topology view window and click the Load Background item.



After the successful loading:



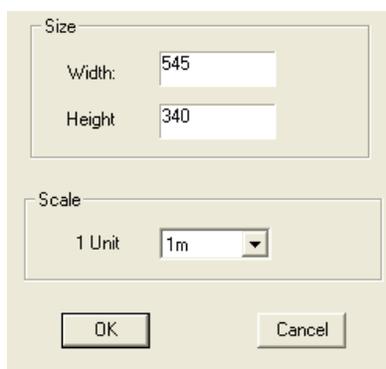
To remove the background, right-click the blank place of the Topology view window and select Remove Background item.

View

The view option provides the functions of showing the grid and ruler in topology configuring the size of topology, and displaying the AP with small or large icon.

To show/hide the grid and ruler, click Grid or Ruler item from the right-click menu.

To change the topology size and display ratio, click Topology Size item from the right-click menu, as shown below.

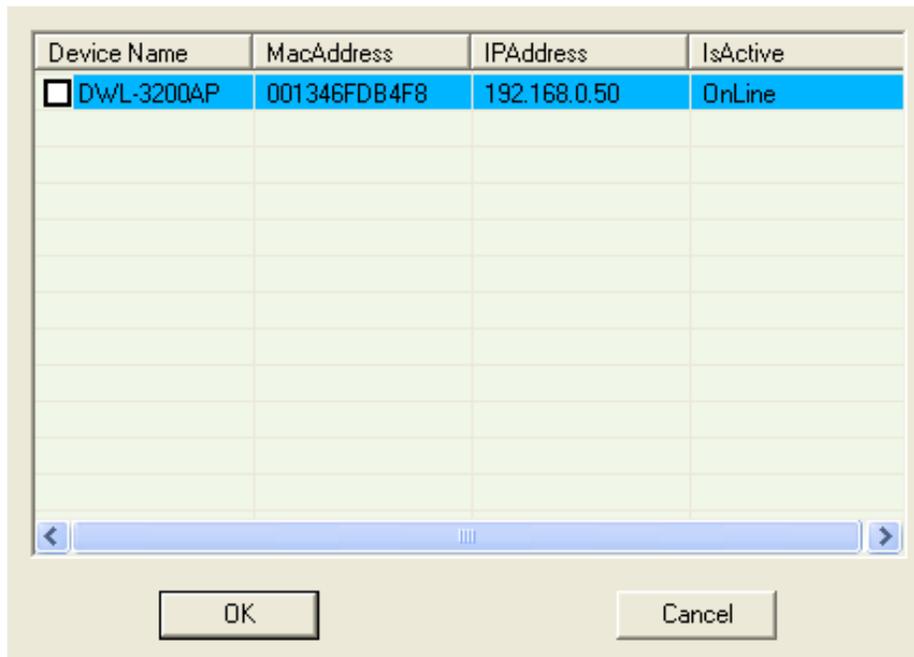


Line

You can insert lines into map to organize the APs more efficiently. To insert a line, click the Insert line item from the Line option of right-click menu, and use the mouse point to paint a line in the map. After insert a line, you can delete line/set line color/set line width/hide line by right-clicking the line and then select the corresponding item from the drop-down menu.

Add/Hide Device

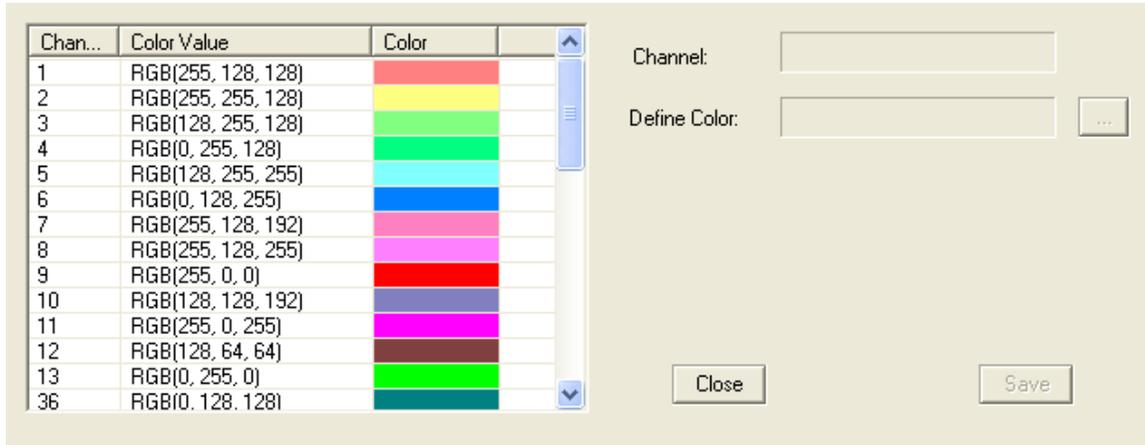
You can add station to the map by click Add Device item from the right-click menu, the window shown as below.



To hide a device in the topology view, right-click the device and then select Hide Device item from the drop-down menu.

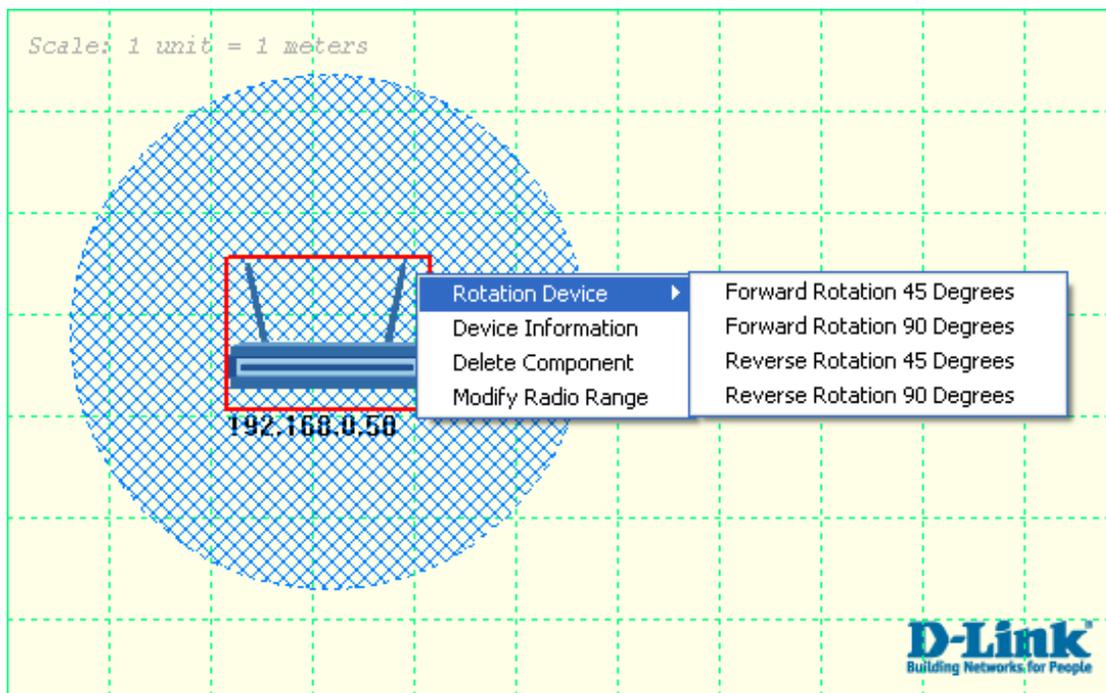
Define Channel Color

The topology view can show the channel in different colors. To set channel color, click Define Channel Color item from the right-click menu, the window shown as below.

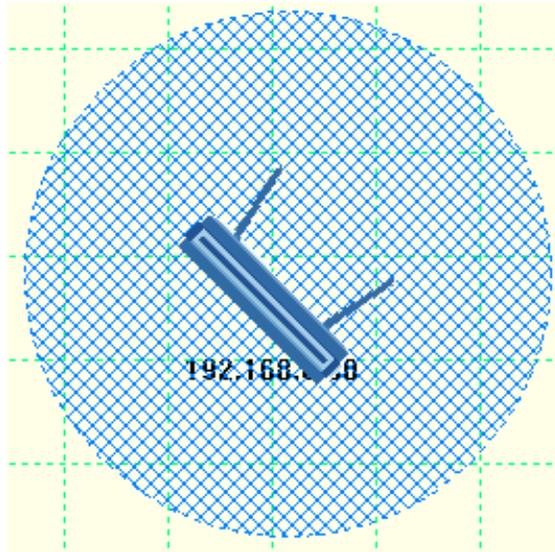


Rotation Device

You can change the device angle by right-clicking the device, the window shown as below.



To rotate the device at 45 degree clockwise, click Forward Rotation 45 Degrees item from Rotation Device option, shown as below.

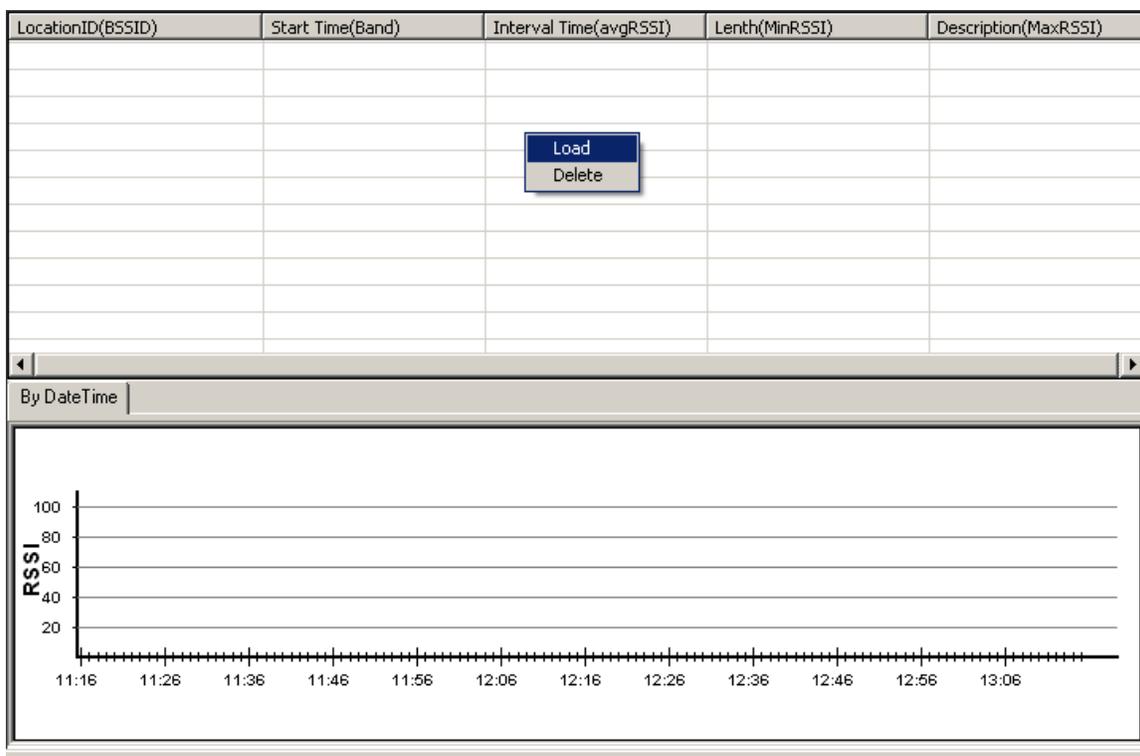


Site Planning

The Site Planning is designed to help user to layout the wireless network. Before establishing a wireless network, user needs to plan and evaluate at first. Normally, user locates some APs in the different places, and uses a notebook computer running scan AP program to test which places can reach the highest radio effort. After record the data, they can be import into AP Manager II for analyzing.

To run the scan AP program in a notebook computer, copy the ScanAP.exe from the installation directory of AP Manager II of the computer which has been installed AP Manager II to notebook and then double click ScanAP.exe.

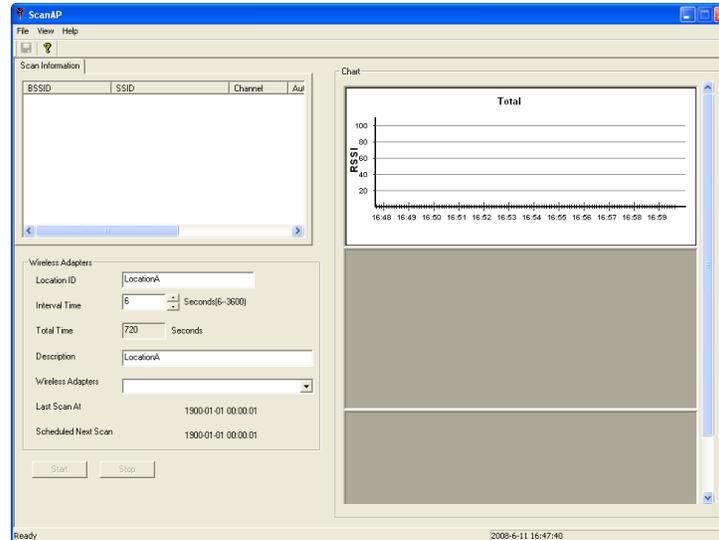
The Site Planning shows the results that tested by scan AP tool. Please first run the ScanAP.exe and save the scan result into the file and then right-click the Site Planning view window to load the file.



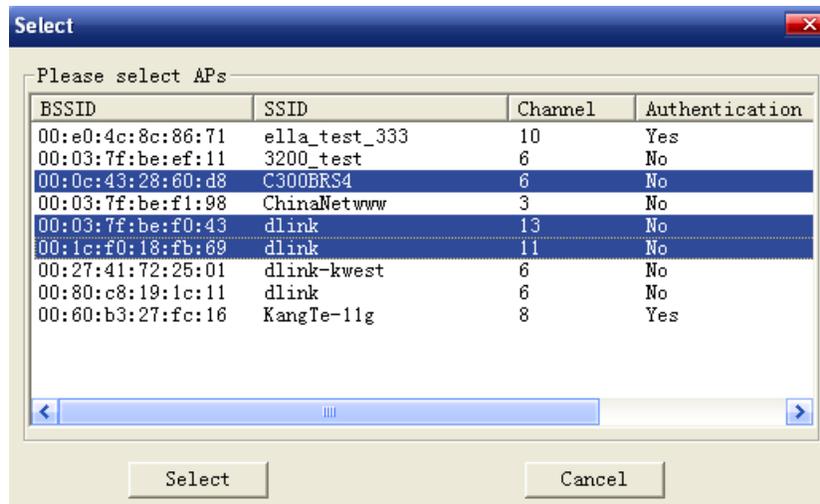
The Site Planning window shows BSSID, Start Time, Interval Time, Length, Description data of the site planning results.

Collect information

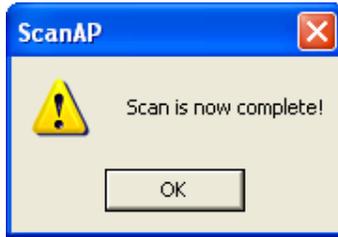
To collect the AP's RF information, please click the Scan item under the Tools menu or double click scanAP.exe in the notebook, the scanning program will run, as shown below.



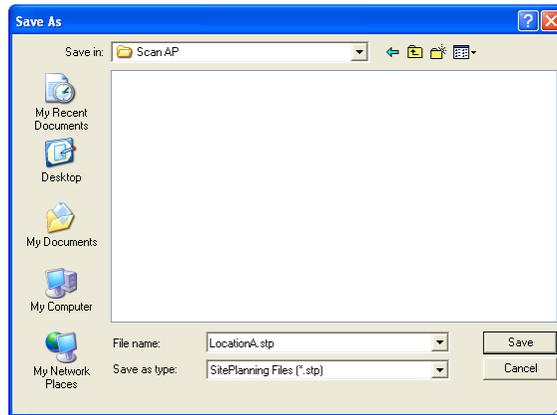
Enter the Location ID, Description, and select the interval Time and wireless adapter, and then click the Start button. At first, you must select target AP, as shown below.



Then ScanAP will start to collect the AP's RF information. The scan information table shows any information in details. When the scanning finished, the window shows:



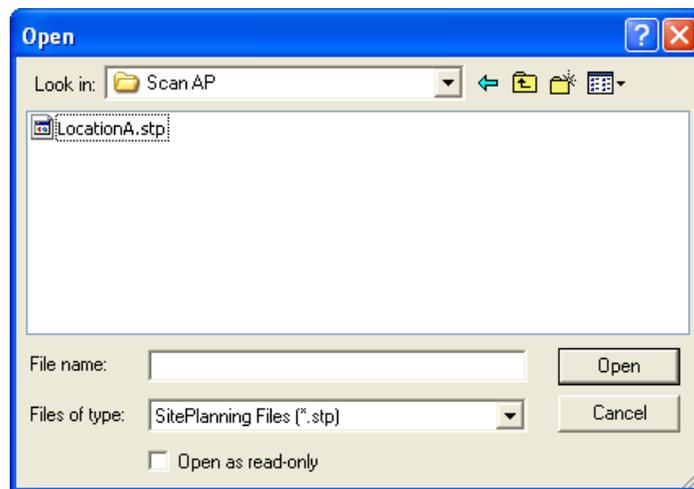
When you scan again or close the ScanAP, it prompts to save the information into disk:



Note: ScanAP can run on the laptop computer singly.

Load information

To load the result file into Site Planning application, click the Load button from the Site Planning window, as shown below.



Report Association

The association window shows managed APs and their associated client stations in two ways – By Access Point and By Wireless Station.

By Access Point

Highlight an Access Point and the details of client stations that associated with the AP list. The detail information includes, DateTime, MAC Address, Alias, Access Point, SSID, Band, Authentication, RSSI and Power save mode.

Access Point

GroupType Model All Group

| Model Name | Mac Address | IP Address |
|-------------------------------------|--------------|--------------|
| <input type="checkbox"/> DwL-3200AP | 001346FDB4F8 | 192.168.0.50 |
| | | |
| | | |
| | | |
| | | |

Station Detail

Select None Select All Refresh

| DateTime | Mac Address | Alias | Access Point | SSID | Band | Authentication |
|--------------------|--------------|-------|--------------|--------------|---------|----------------|
| 2/18/2009 15:36:13 | 00112493DCD3 | jacky | 192.168.0.50 | Primary-SSID | 802.11g | OpenSystem |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

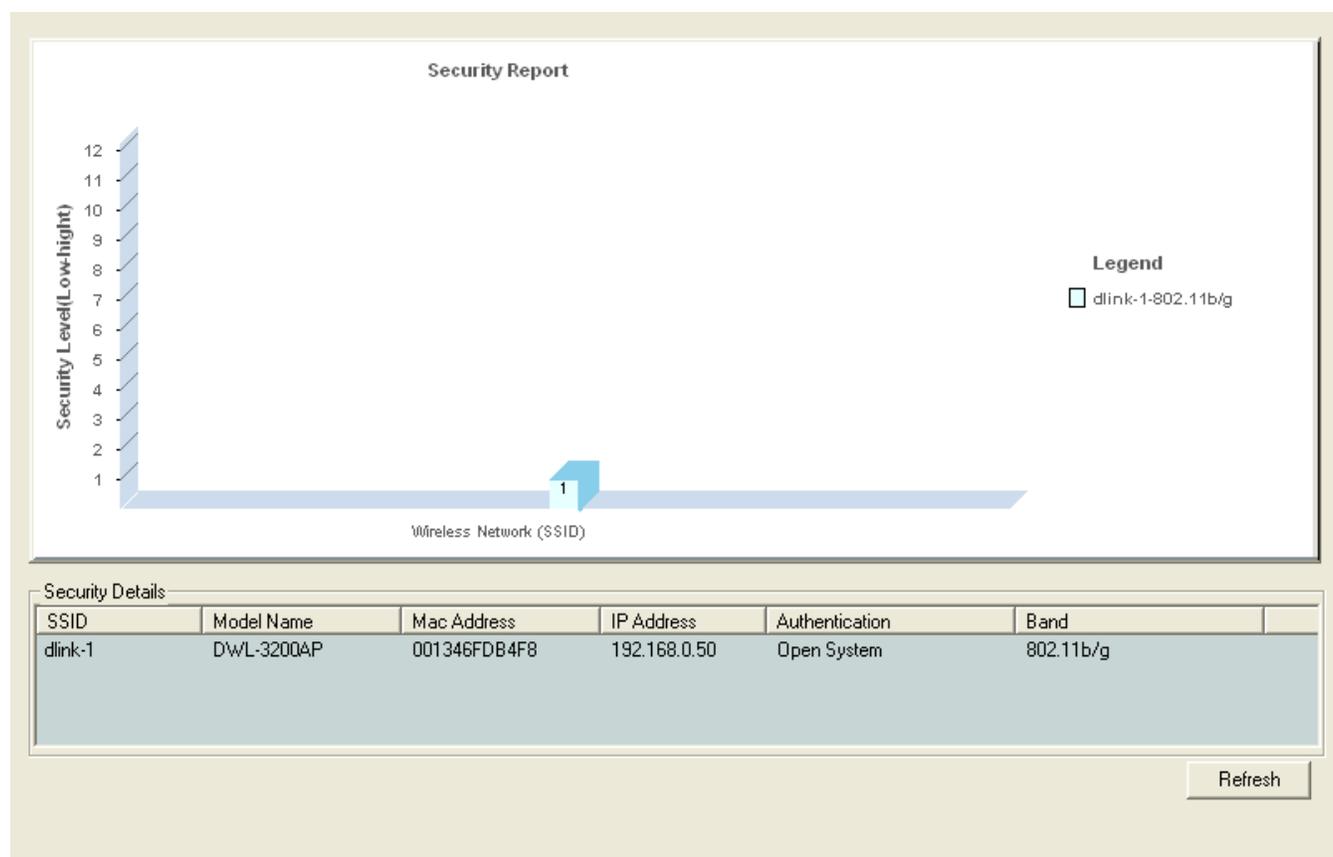
Export Text Clear

From the **Group Type**, you can specify that the window show the data according to specified model or group.

To export the AP data to file, click a file type from the **Export Text** drop-down menu or click the Export Text button, and then enter a file name in the Export window, click the **Save** button to save the AP data.

Security

The security window graphically lists the security level of the managed APs.



The security levels from the lowest to highest are: **Open System**, **Shared Key**, **WPA-Personal**, **WPA-Enterprise**, **WPA2-Personal**, and **WPA2-Enterprise**.

The security details window shows the **SSID**, **Mode Name**, **MAC Address**, **IP Address**, **Authentication**, and **Band** information of APs.

Utilization

Utilization window shows the band usage of specified APs. To show the usage, AP Manager II should poll the APs.

2008- 6-11 To 2008- 6-11 Search Export Text

Transmit Detail

| DateTime | IP Address | Max STA's Number | UpTime | Transmitted Packets | Transmitted Success Rate | Transmitted Retry Rate | Band |
|----------|------------|------------------|--------|---------------------|--------------------------|------------------------|------|
|----------|------------|------------------|--------|---------------------|--------------------------|------------------------|------|

Select

| Model Name | MAC Address | IP Address | Netmask |
|------------|--------------|--------------|---------------|
| DAP-2590 | 00055D989810 | 192.168.0.50 | 255.255.255.0 |

Select Cancel

Selele from CustomGroup

Polling Detail

Polling Interval 5 minutes Change Scheduled Next Poll 2008-06-11 15:20:38 Enable Threshold Notice Start

Dependency None Change Last Polled At 2008-06-11 15:20:38 Threshold Column TransSuccessRat End

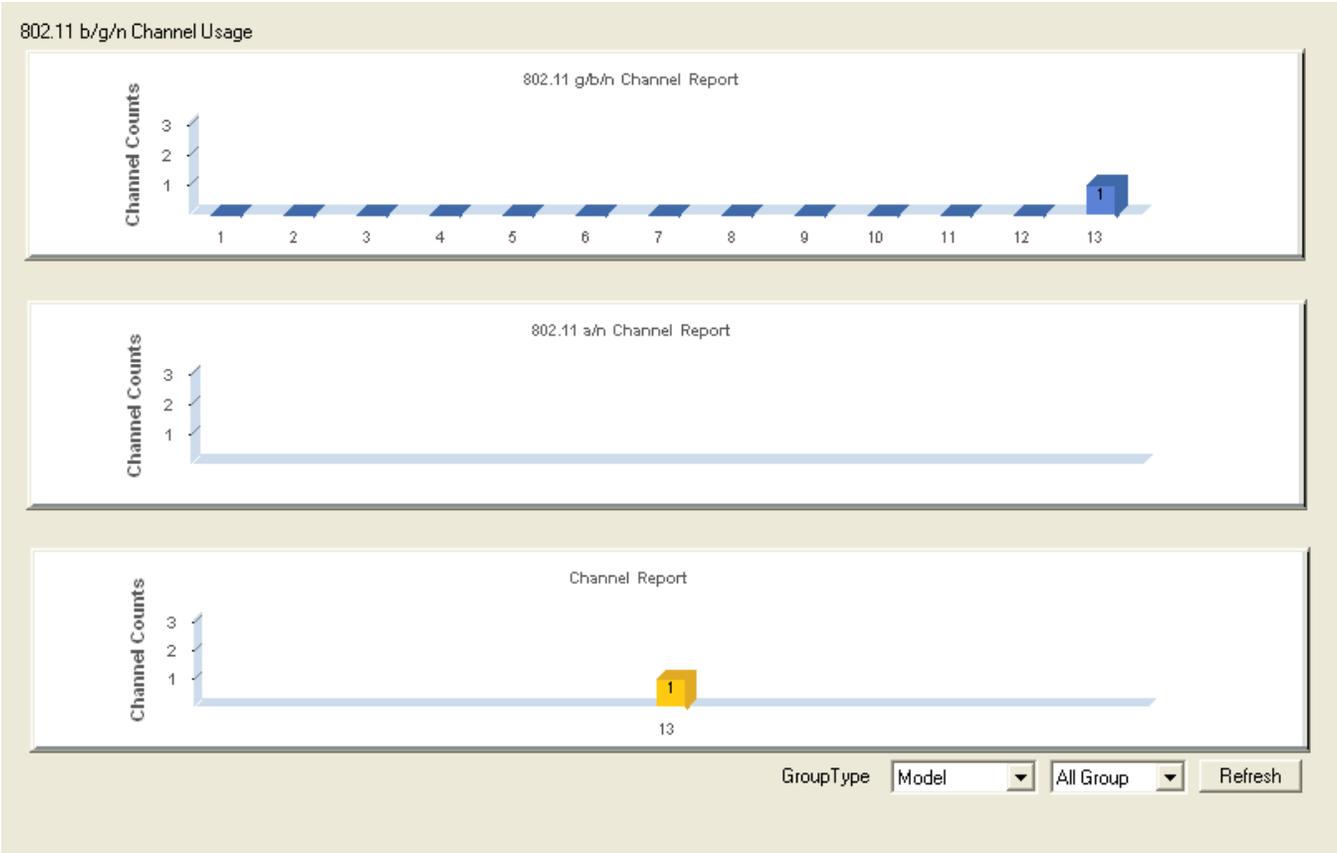
2008-06-11 15:20:05 FTP Server started on port 21.
2008-06-11 15:20:06 SnmpTrap initialization success!
2008-06-11 15:20:19 Discover Completed!
2008-06-11 15:20:20 Device: 192.168.0.50 SNMPping TimeOut!

ready LogUser admin

To start the polling, you should select the APs that AP Manager II will polling from the **Select** window by clicking the **Change** button of **Dependency** and then click **Start** button. You can also enable the threshold notice by clicking the **Enable Threshold Notice** and select the type of **Threshold Column**.

Channel

The channel window graphically lists the channel usage of the managed APs.



From the Group Type, you can specify that the graph shows the data according to specified model or group.

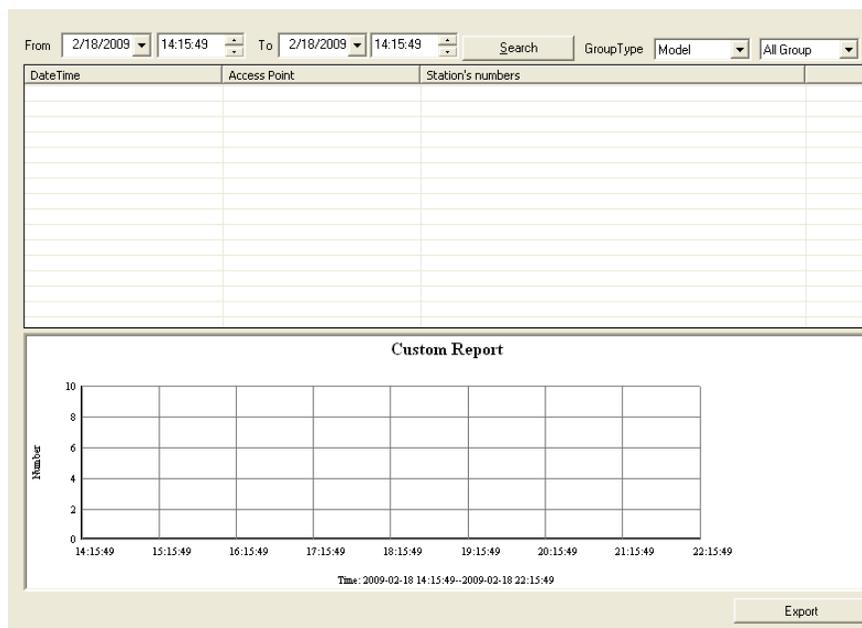
Syslog

The syslog window shows the system log information sent by the managed APs. Please configure the APs to send the syslog to AP Manager II first, for how to configure the log setting of AP, refer to page 76.

| Facility | Priority | Timestamp | Sender | Message |
|----------|----------|-------------------|---------------|--|
| 1 | 5 | 2008-5-9 9:32:12 | 172.18.215.50 | [SYS]--AP cold start with f/w version: v2.40 |
| 1 | 5 | 2008-5-9 9:32:13 | 172.18.215.50 | [SYS]--Web login success from 172.18.215.212 |
| 1 | 5 | 2008-5-9 9:32:14 | 172.18.215.50 | [WIRELESS]--WLAN1 Normal AP ready |
| 1 | 5 | 2008-5-9 9:34:52 | 192.168.0.50 | [SYS]--AP warm start with f/w version: v2.10 |
| 1 | 5 | 2008-5-9 9:34:53 | 192.168.0.50 | [NOTICE]--Ethernet AE1 LINK DOWN |
| 1 | 5 | 2008-5-9 9:34:54 | 192.168.0.50 | [WIRELESS]--WLAN0 Normal AP ready |
| 1 | 5 | 2008-5-9 9:34:55 | 192.168.0.50 | [WIRELESS]--WLAN1 Normal AP ready |
| 1 | 5 | 2008-5-9 9:38:05 | 172.18.215.50 | [SYS]--Web logout from 172.18.215.212 |
| 1 | 5 | 2008-5-9 11:05:22 | 172.18.215.50 | [SYS]--Web login success from 172.18.215.111 |
| 1 | 5 | 2008-5-9 11:11:05 | 172.18.215.50 | [SYS]--Web logout from 172.18.215.111 |

Customer

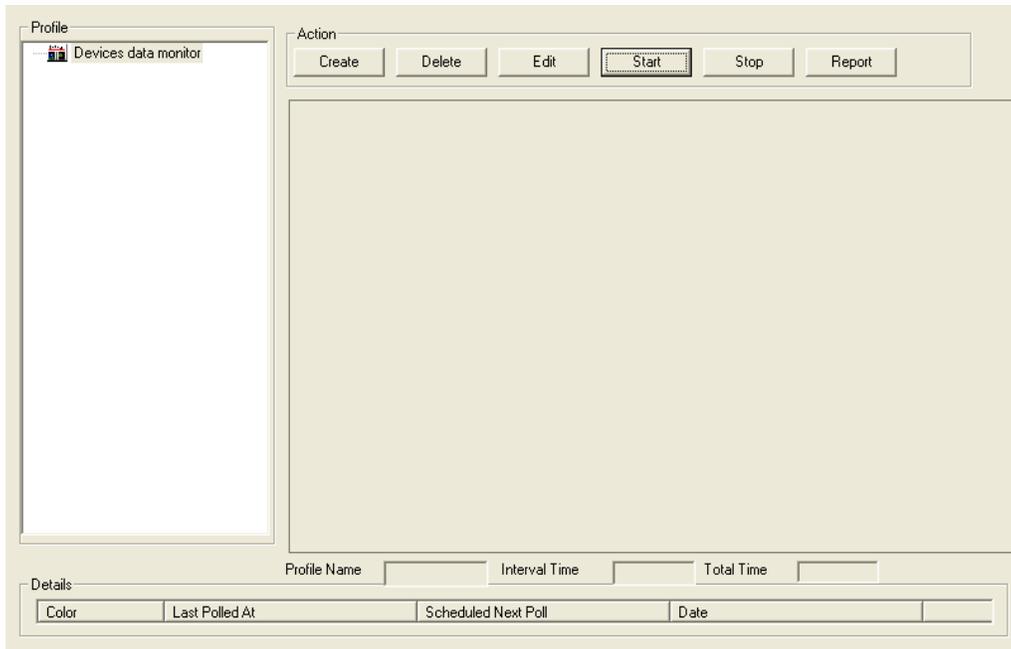
The Customer window shows summarized information about the associated station numbers of APs in a specified interval. To list the stations according to the detected date, choose the date range from From/To drop-down menu, and click **Search** button.



From the **Group Type**, you can specify that the window show the data according to specified group.

Monitor

The Monitor window shows the performance of a specified AP in real-time, the window shown as below.



To create a new surveillance profile, click **Create** button to open the following window.

The 'Settings' dialog box is shown with the following fields and values:

- Profile Name: Profile1
- Device IP Address: [Empty]
- Option: [Empty]
- Public Community String: public
- Interval Time (seconds): 5 Seconds
- Total Time (minutes): 60
- Monitor Item: 1.3.6.1
- Data Type: Absolute
- Unit: Bytes/s
- Range: 0 To 100
- Segment: 5

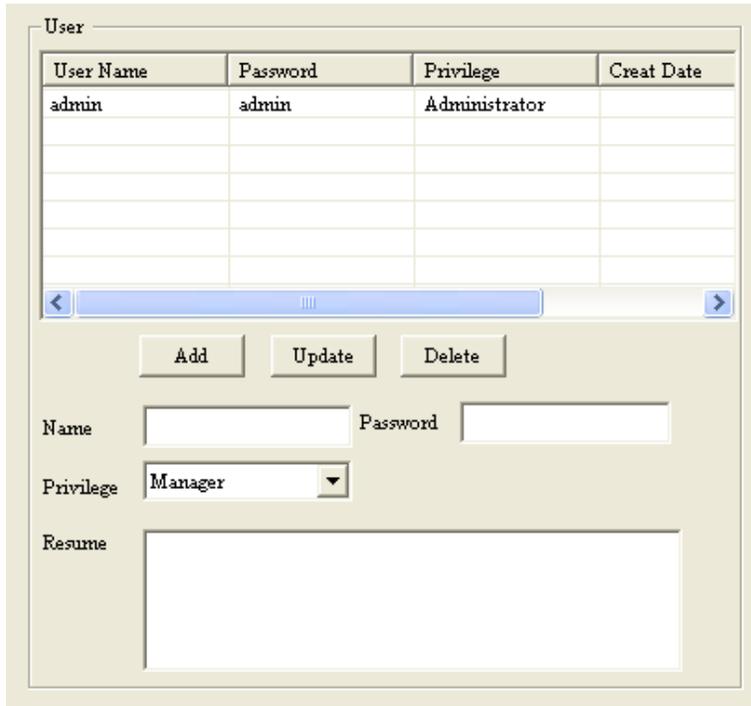
Buttons for 'OK' and 'Cancel' are located on the right side of the dialog.

Enter the profile name, public community string and select the device IP address, scan interval time, total display time and monitor items. Then click **Start** button to monitor the AP's received or transmitted data in visualized way.

The screenshot displays the 'Profile' configuration window in the D-Link AP Manager II software. On the left, a tree view shows a folder named 'Devices data monitor' containing a sub-item 'Profile1'. The 'Action' bar at the top right contains buttons for 'Create', 'Delete', 'Edit', 'Start', 'Stop', and 'Report'. The central area features a graph titled 'Profile1' with a vertical axis labeled 'Bytes/s' ranging from 0 to 100 in increments of 20. The graph area is currently empty. Below the graph, the 'Details' section includes several input fields: 'Profile Name' (Profile1), 'Interval Time' (5 Sec), 'Total Time' (60 Min), 'Color', 'Last Polled At', 'Scheduled Next Poll', and 'Date'.

User Management

AP Manager II allows you to manage the user profiles. To manage the users, click the **User Manage** item under the System menu or click the icon  in the tools bar. The configuration page is shown as below.



| User Name | Password | Privilege | Creat Date |
|-----------|----------|---------------|------------|
| admin | admin | Administrator | |
| | | | |
| | | | |
| | | | |

< [Progress Bar] >

Add Update Delete

Name Password

Privilege

Resume

Explanation of privilege levels:

- **Administrator:** Owns all the rights of AP Manager II.
- **Manager:** Owns all the rights except user manage.
- **Guest:** Only can view the information.

To add a new user, follow the steps below:

- Enter the username and password in the Name and Password textbox.
- Choose the right level in the Privilege drop-down menu.
- Enter the description about this user in the Resume textbox.
- Click the **Add** button to add this user to AP Manager II.

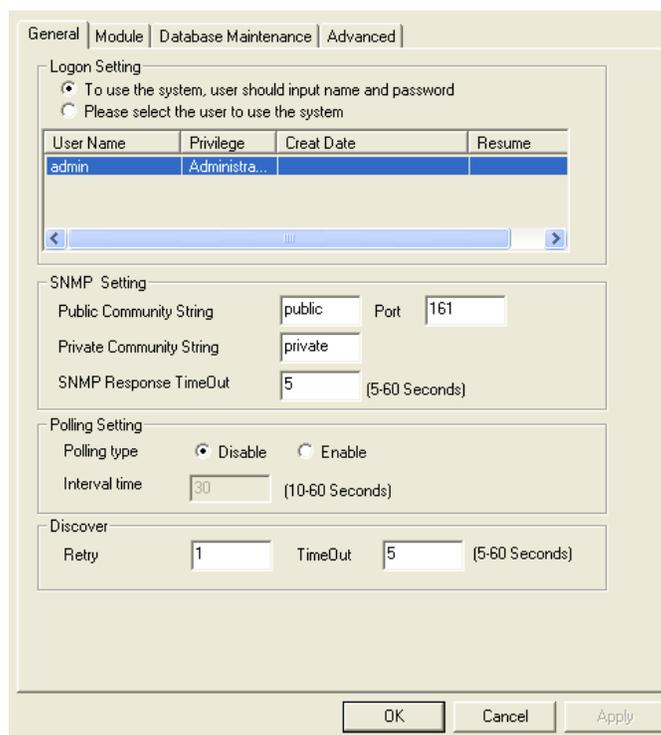
To modify a user, highlight the record line of that user, modify the contents in the corresponding textbox, and then click the **Update** button to apply the changes.

Note: The changes will take effect at next login.

To delete a user, highlight the record line of that user, and then click the **Delete** button to remove the user from AP Manager II.

System Environment

You can change the software operation environment of AP Manager II. To configure the system environment, click the **Options** item under the System menu or click the icon  in the tools bar. The configuration page is shown as below.



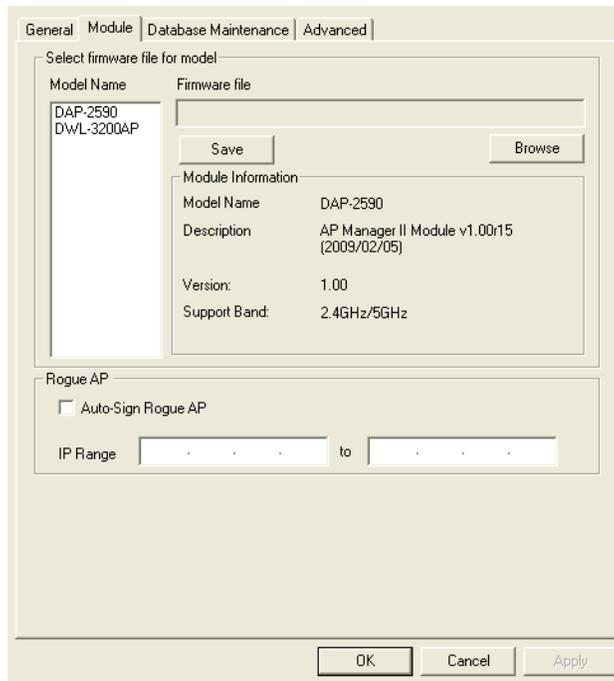
| User Name | Privilege | Creat Date | Resume |
|-----------|---------------|------------|--------|
| admin | Administra... | | |

Logon Setting: Set whether login the system automatically or by hand. To login automatically, you should select a user used to login the system from the user list.

SNMP Setting: Set the Public/Private Community String, Port number and SNMP Response Timeout.

Polling Setting: Disable by default. When this function is enabled, you must set the polling interval time, it is 30 seconds by default.

Discover: Enter the Retry number and the time of timeout when discovering.



Module: For updating the firmware of AP, you can specify a default firmware file for each model of AP. Highlight one type of AP, and click the **Browse** button to choose the firmware file then click the **Save** button to apply the changes.

General | Module | Database Maintenance | Advanced

Select: Fault Data

Notice By Records

To ensure the database efficient, Please notice user to clear the database

Notice user when records: 1000

Clear Rule

Delete all records

Delete these top records

Records: 100

Delete these records before the datetime

Datetime: 2/18/2009

Clear

OK Cancel Apply

SelectChoose: the type of records.

Notice By Record: Set the number that record reach to notice the user to clear the database.

Clear Rule:

- **Delete all records:** select this option to clear all the records.
- **Delete these top records:** select this option to clear the specified number of top records.
- **Delete these records before the date time:** select this option to clear the records that recorded before the specified time. Click the **Clear** button to apply the change.

The screenshot shows the 'Advanced' configuration tab in the D-Link AP Manager II software. It is divided into two main sections: 'TimeOut Settings' and 'FTP Server'.

TimeOut Settings: This section contains seven input fields for configuring various timeout values:

- Set Timeout(s): 5
- Reboot Timeout(s): 50
- Configuration Flash Update Time(s): 60
- Factory Reset Time(s): 60
- F/W Download Time(s): 60
- F/W Flash Update Time(s): 80
- Timing Tolerance Time(s): 5

A 'Default' button is located to the right of the Timing Tolerance Time(s) field.

FTP Server: This section allows users to choose between two server options:

- Enable Local FTP Server
- Enable Remote FTP Server

If the Remote FTP Server option is selected, the following fields are visible:

- Remote Server IP Address: 0 . 0 . 0 . 0
- User Name: admin
- Password: [masked]
- Port: 21

A 'Test' button is located below the Port field. At the bottom of the window, there are 'OK', 'Cancel', and 'Apply' buttons.

TimeOut Settings: Configure the system time out settings.

FTP Server: Select **Enable Local FTP Server** to run an ftp server on the local computer. The ftp server will run when AP Manager II starts.

Select **Enable Remote FTP Server** if all the system logs are stored in a lone ftp server. You should configure the ftp server parameters here.

Contacting Technical Support

Technical Support

You can find software updates and user documentation on the D-Link website.

U.S. and Canadian customers can contact D-Link Technical Support through our website, or by phone.

Tech Support for customers within the United States:

D-Link Technical Support over the Telephone:

(877) 354-6555

D-Link Technical Support over the Internet:

<http://support.dlink.com>

Tech Support for customers within Canada:

D-Link Technical Support over the Telephone:

(877) 354-6560

D-Link Technical Support over the Internet:

<http://support.dlink.com>

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