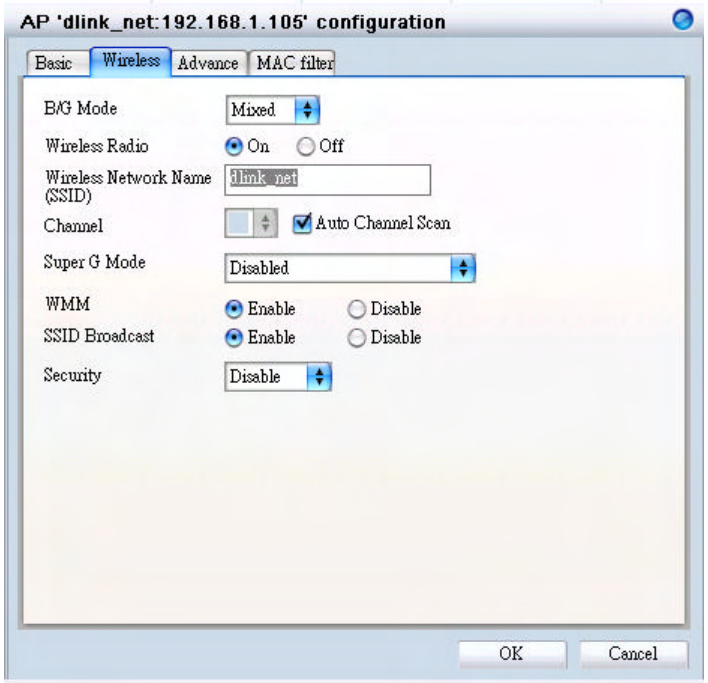
Wireless Configuration



B/G Mode - Select if you want to include both 802.11b and 11g devices (**Mixed**), or only 802.11b (**B_only**), 802.11g (**G_only**) device in the network.

Wireless Radio - Select **On** of **Off** the radio wave.

Wireless Network Name (SSID) - The Service Set Identifier of the wireless network.

Channel - Allows you to manually choose a channel. It's only selectable when *Auto Channel Scan* is disabled.

Auto Channel Scan - Select this option to allow the channel to be decided automatically.

Super G Mode - Select this option to enable the wireless signal rate of up to 108Mbps. You can choose with or without Turbo mode. (**Note**: You can only choose Super G or B/G mode for AP, these two mode cannot be enabled at the same time.)

WMM - Select **Enable** of **Disable** the Wi-Fi Multimedia (WMM) function. Enabling this feature will improve the user experience for multimedia application if the wireless device supports WMM as well.

SSID Broadcast - Select **Enable** or **Disable** the broadcast of SSID.

Security - Select the security setting of the network. The available authentication mechanisms include:

Disable (default)
WEP
WPA

WPA2

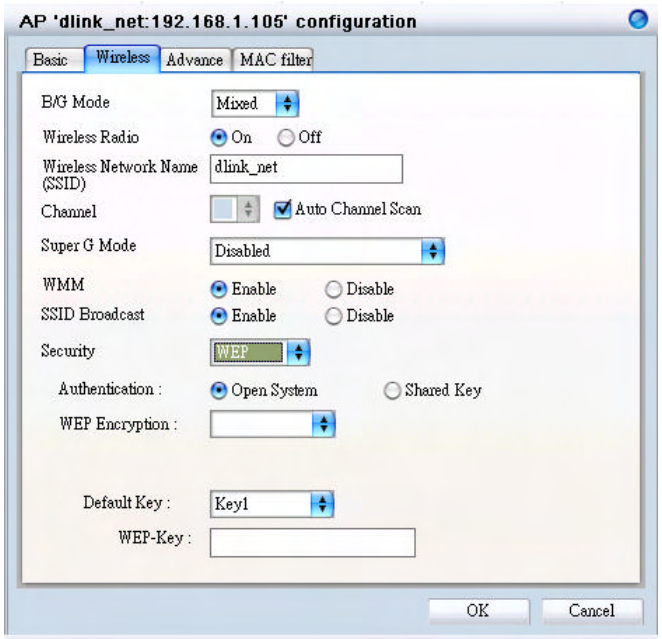
If you select **WEP** as the security type, additional columns will appear with following options.

Authentication - Select **Open System** or **Shared Key** to be used on the network.

WEP Encryption - Select the key size (**64-bit**. **128-bit**, or **152-bit**).

Default Key - Select which defined key is active on the network.

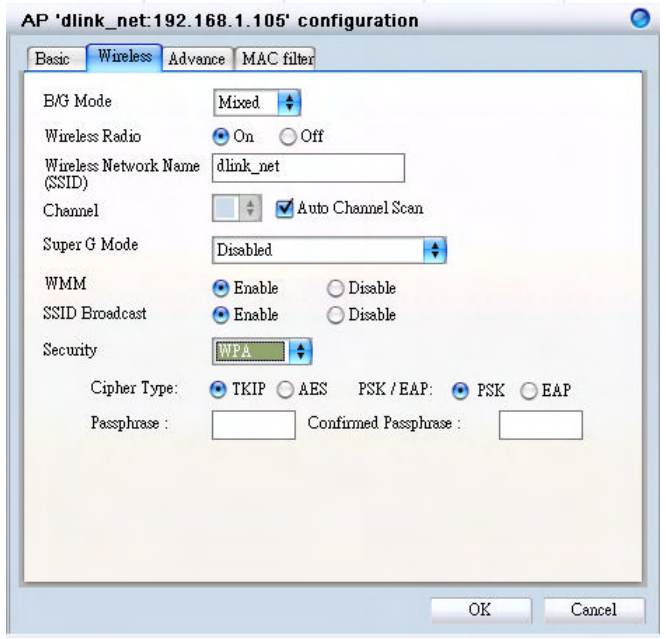
WEP-Key - Enter a string as the key.



If you select **WPA-PSK** or **WPA2-PSK** as the security type, additional columns will appear with following options.

Cipher Type - Select **TKIP** or **AES**.

Passphrase - Enter a string as the Passphrase.



If you select **WPA-EAP** or **WPA2-EAP** as the security type, additional columns will appear with following options.

Cipher Type - Select **TKIP** or **AES**.

Radius Server 1 - Enter the IP address, port used, and the secret of the Radius server 1

Radius Server 2 - Enter the IP address, port used, and the secret of the Radius server 2

Advanced Configuration

Transmit Data Rates - Select the maximum wireless signal rate of the AP. Default is **Auto**.

Transmit Power - Select the transmit power of the AP. Default is **100%**.

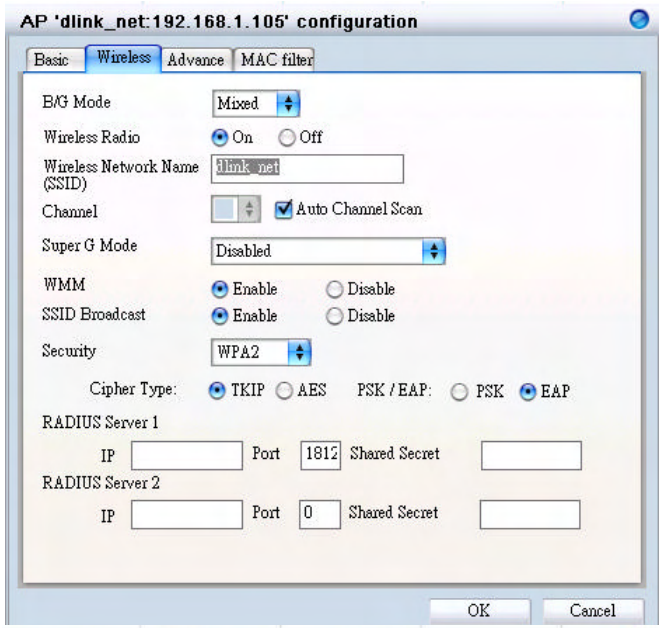
Beacon Interval - Beacon is the packet sent by an AP to synchronize a network. Specify the interval to send a beacon. Default is **100** micro seconds.

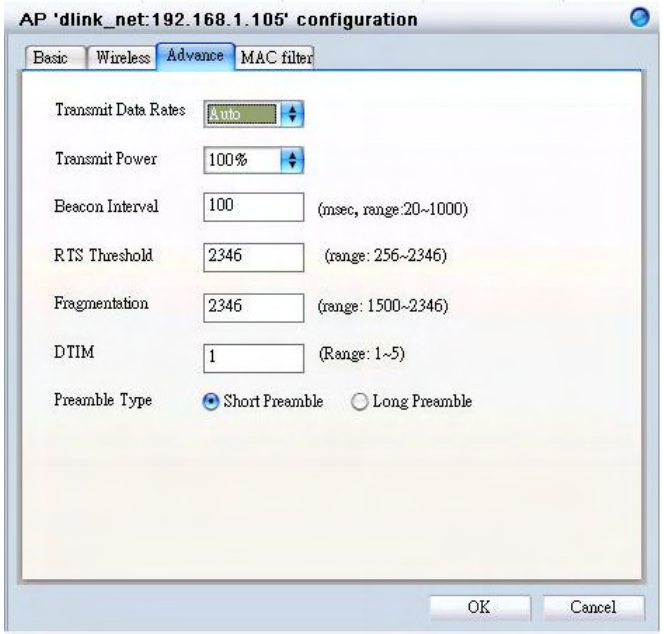
RTS Threshold - The RTS threshold is not recommended to be changed unless you encounter inconsistent data flow. The default value is **2346**.

Fragmentation - Specify the fragmentation threshold that packets exceeding it will be fragmented. Default is **2346** bytes.

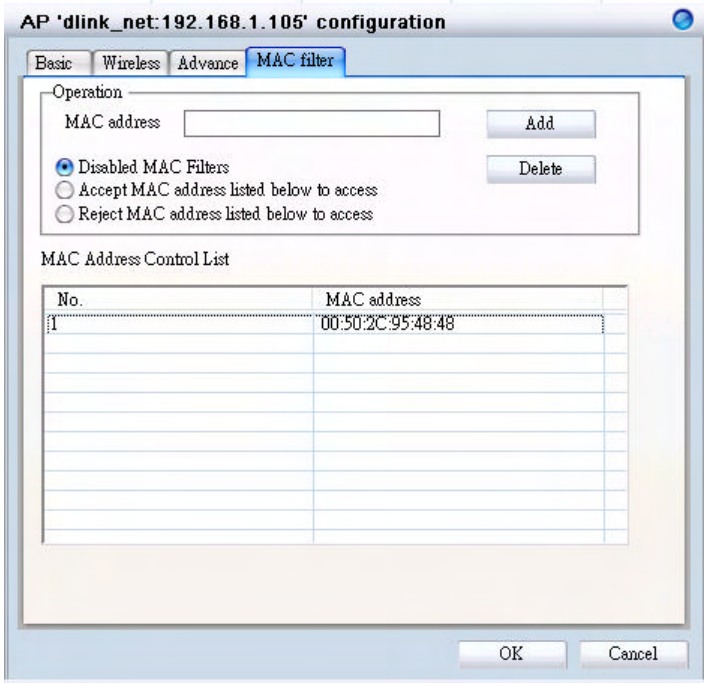
DTIM - DTIM (Delivery Traffic Indication Message) is a countdown informing clients of the next listening window for broadcast and multicast messages. The default value is **1**.

Preamble Type - Select **Short** or **Long** preamble.





Mac Filter Configuration



MAC Address - Add MAC addresses to the MAC Address Control List. Select an entry on the Address Control List and click **Delete** if you want to remove that Mac address.

Disable MAC Filters - Not filtering based on the Mac addresses.

Accept MAC Filters listed below to access - When it is selected, only devices with a Mac address in the list are granted access.

Reject MAC Filters listed below to access - When it is selected, only devices with a Mac address in the list are not granted access.

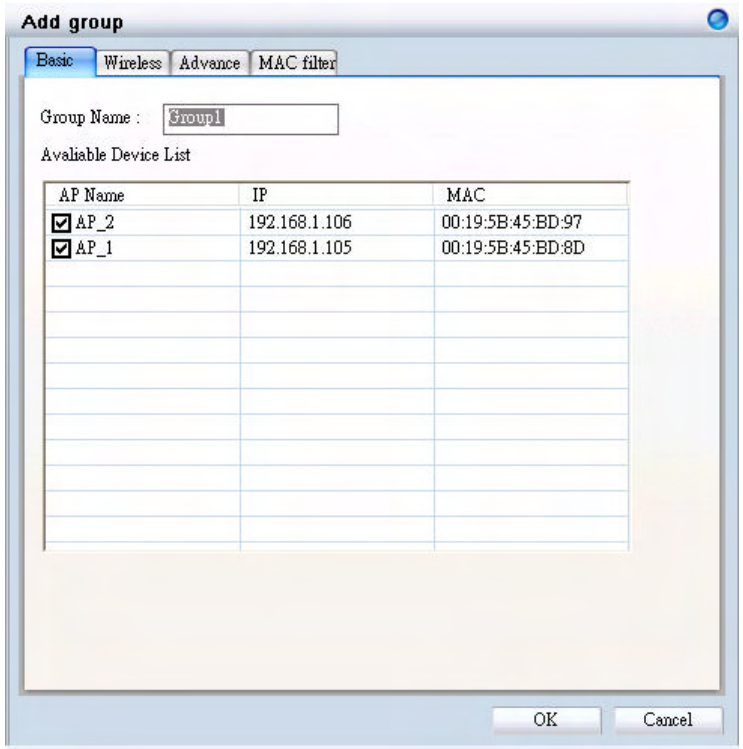
Configure the Access Point by Group

In **Group**, user can configure a group template for multiple access points' use.

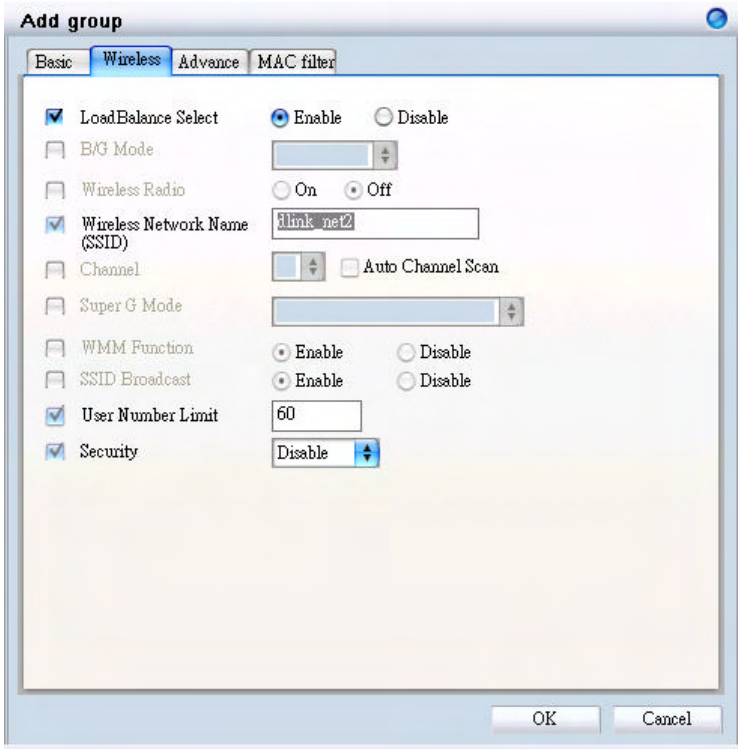
Create a Group Template

Click "Add Group" icon ( ) and a window will appear:

Enter the group name and choose which APs you want to include in this group. You can also add APs after a group is created.



In the Wireless tab, you can choose if want to enable the **Load Balance** function, and other options. When configuring load balance, **SSID**, **User Number Limit**, **Security**, and **MAC Filter** must need to be specified as well.



When the load balance is enabled, once the number of clients connect to an AP has reached to the threshold, the new client can only join other APs with connection limits available.

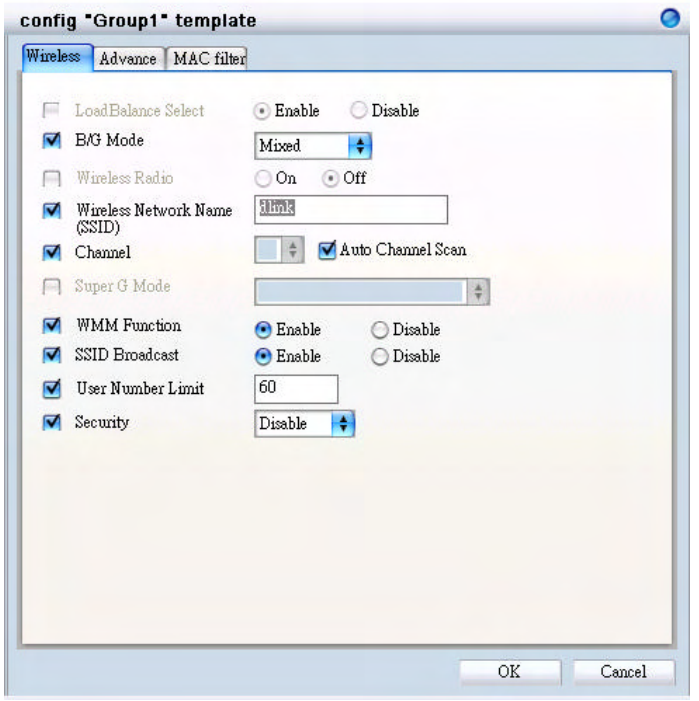
Note: For detailed explanation for rest of Wireless, Advanced, and MAC Filter functions, please refer to section 3.2.2 through 3.2.4.

Click “OK” when you are done. The template with access points will appear in the database column.

Note: If you choose to apply the configuration template to an AP, the AP will reboot.

Edit a Group Template

Click “Configure Group Template” icon ( ) and an edit window will appear:

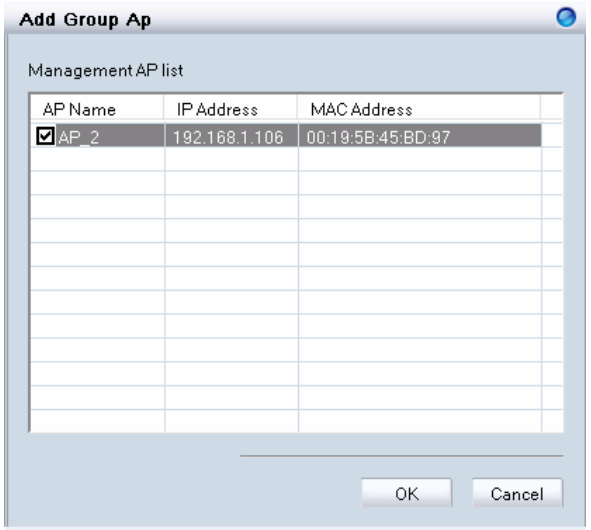


Note: For detailed explanation for rest of Wireless, Advanced, and MAC Filter functions, please refer to section 3.2.2 through 3.2.4.

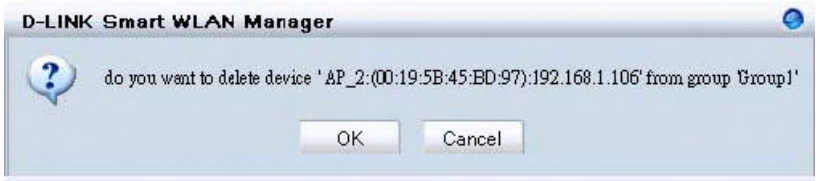
Click “OK” when you are done.

Note: Change a configuration template will cause all APs in the group to reboot.

Add AP: If you want to add a new AP to the template, just click the “Add AP to selected group” icon ( ) and a window will appear.



Delete AP/Template: If you want to remove an AP from the group, or delete a template, just select the AP or template (the entry will be highlighted in gray), and click “Delete Group/AP” icon ( ); then a warning message will appear.



Or

Show AP Configuration: Click “Show AP Configuration” icon ( ) to display the configuration of selected AP.

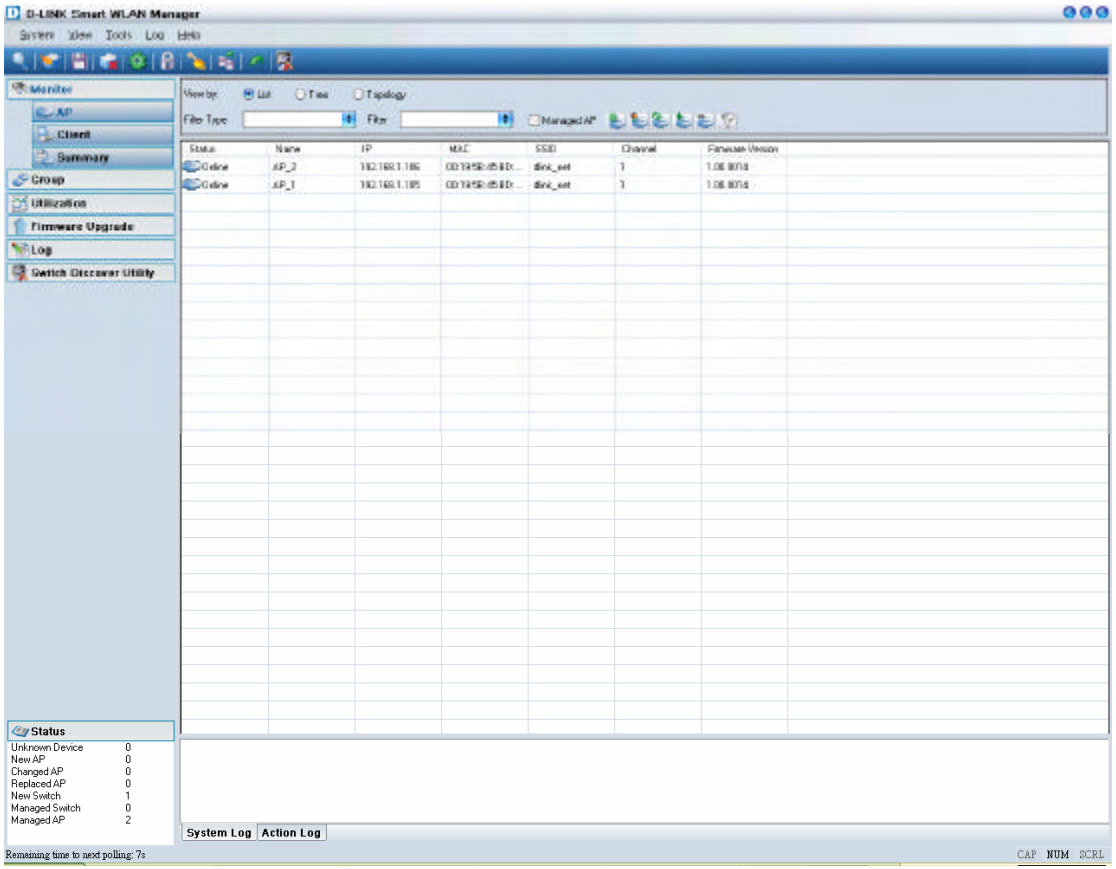
Management

Monitoring

The Monitor function allows user to view the wireless system status.

Monitoring AP and Wireless Switch by List

In **Monitor→AP**, user can choose three different views. View by **List** lists the information of wireless access points in the database column. If a failure happens, the icon will change from online ( ) to failed ( ).

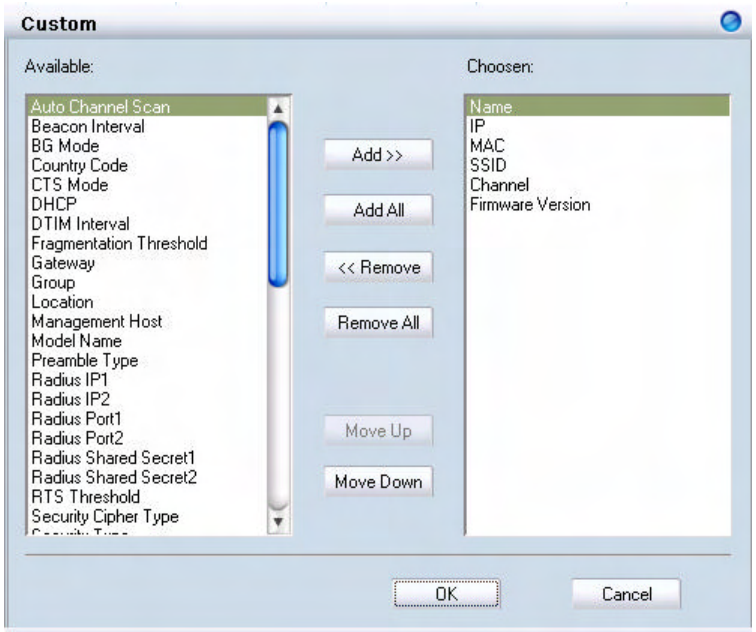


Following options are provided:

1. **Filter Type:** User can enable the filter to narrow down the database display by various attributes
2. **Filter:** After the *Filter Type* is chosen, user can select the specific content.
3. **Managed AP:** Check this option if you just need to see managed AP only
4. **Configuration ( ):** User can view or modify the selected AP's configuration
5. **AP Connection ( ):** It will redirect user to the selected AP's *Utilization* page.
6. **Reload Previous Configuration ( ):** Allows user to reverse AP to the previous configuration.
7. **Save to Database ( ):** To add a newly found

AP to database.

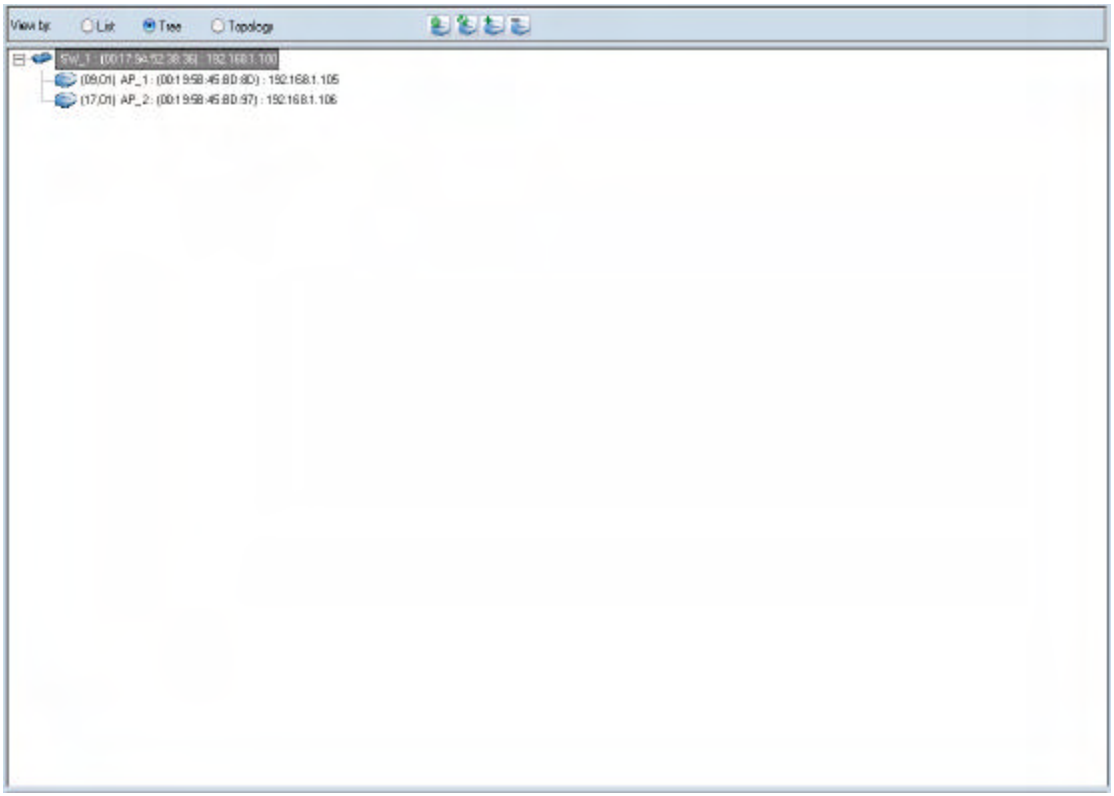
8. **Delete from Database ( ):** To delete an AP from database.
9. **Customize ( ):** Users can change the view by adding/deleting attributes according their needs.



10. **Replace:** Right click the selected AP and choose “Replace”.

Monitoring AP and Wireless Switch by Tree

View by **Tree** lists down the wireless switch and the access points connect to it in the database column. The information displayed includes System Name, Mac address, IP address, and the physical port in which AP connects to the switch. If a failure happens, the icon will change from online (or) to failed (or).



Following options are provided:

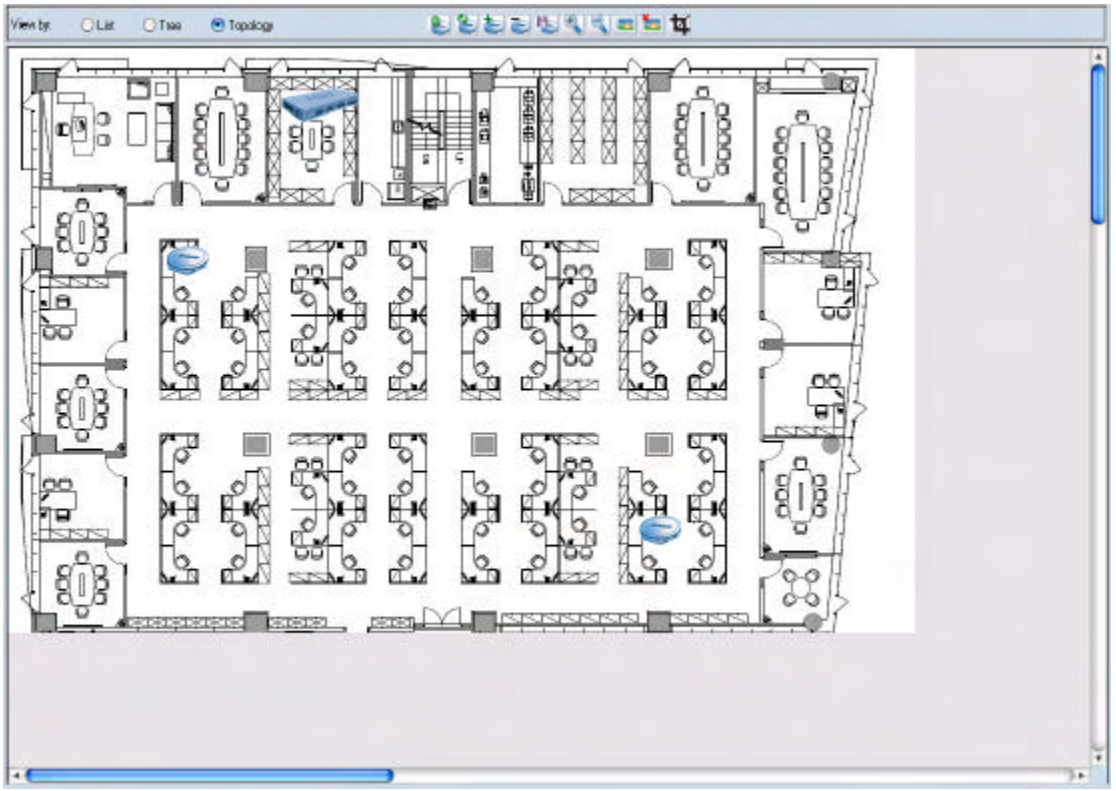
1. **Configuration ( ):** User can view or modify the selected AP's configuration
2. **Reload Previous Configuration ( ):** Allows user to reverse AP to the previous configuration.
3. **Save to Database ( ):** To add a newly found AP to database.
4. **Delete from Database ( ):** To delete an AP from database.

Monitoring AP and Wireless Switch by Topology

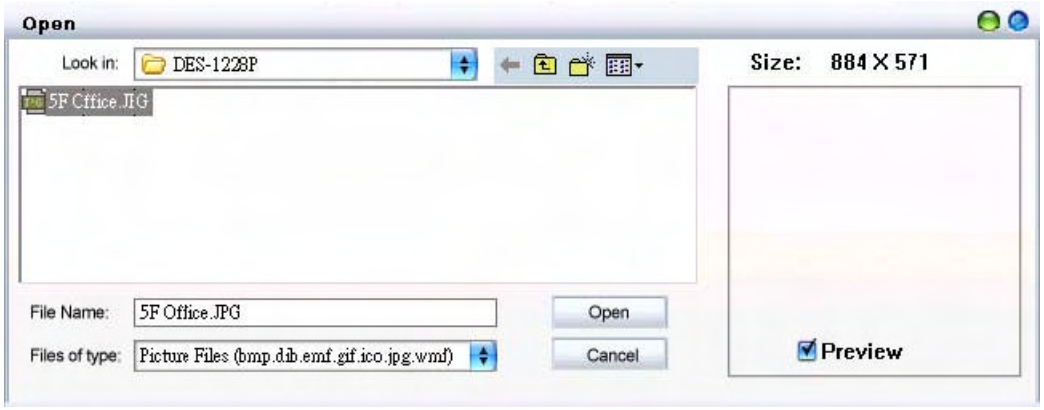
Choose to view by **Topology** in **Monitor→AP** offers user to visualize the status of AP and wireless switch on the floor plan. After importing the map, user can drag the icons to their locations. If a failure happens, the icon will change from online ( or ) to failed ( or ).

Following options are provided:

1. **Configuration ( ):** User can view or modify the selected AP's configuration.
2. **Reload Previous Configuration ( ):** Allows user to reverse AP to the previous configuration.
3. **Save to Database ( ):** To add a newly found AP to database.
4. **Delete from Database ( ):** To delete an AP from database.
5. **Save Topology Position ( ):** To reserve the location user set for AP and wireless switch; otherwise it will return to the default when the Smart WLAN manager restarted.
6. **Zoom In ( ):** User can get a closer look of the floor plan.
7. **Zoom Out ( ):** User can choose to see the topology overview.

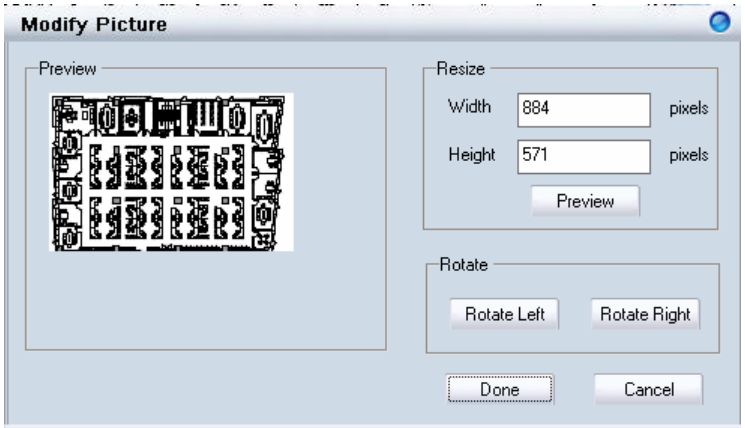


8. **Load Map ( ):** Import the picture file as the floor plan file. The file types supported are BMP, DIB, EMF, GIF, ICO, JPG, and WMF.



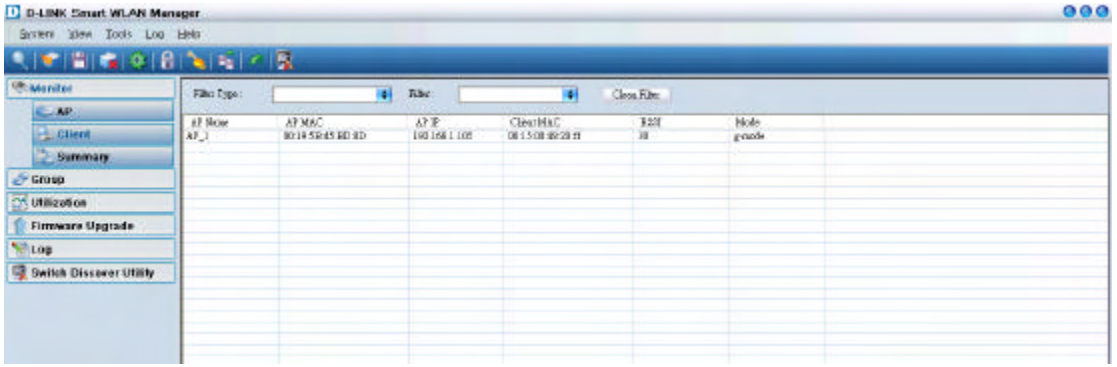
9. **Remove Map ( ):** Remove the current floor plan.

10. **Modify Map ( ):** User can resize the picture by pixels, and can preview before taking efforts. Rotation can also be done for appropriate view.



Monitoring Clients

In **Monitor→Client**, user can see the status of wireless clients connected.

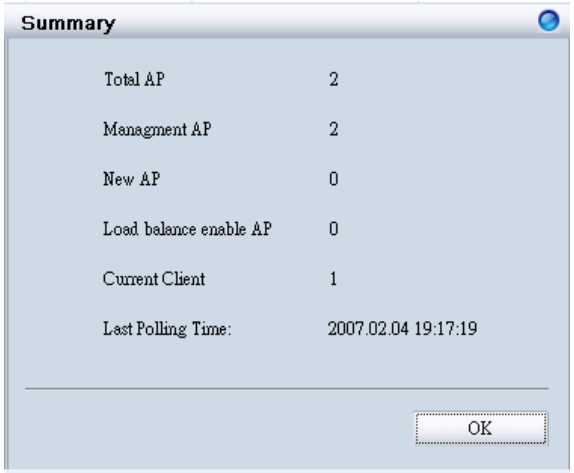


Following options are provided:

1. **Filter Type:** User can enable the filter to narrow down the database display by various attributes
2. **Filter:** After the *Filter Type* is chosen, user can select the specific content.

Monitoring Summary

In **Monitor→Summary**, a summary window will appear to provide following information:



AP Status and Trouble Shooting

Status	List view	Tree view	Topology view	Description/Trouble shooting	Remark
Normal online AP				An AP links and works properly in the network.	
Changed AP				A known AP which configuration has been changed. You can reload the original setting or save the current setting by: 1. Reload: double click to Reload old configuration, or 2. Save: press the save current	
New AP				A new AP was discovered by WLAN Manager.	
Offline AP				An existing AP lost the connection 1. Check the status of the connected switch and ensure the switch is online 2. Cold start the AP from the switch webpage 3. Cold start the AP detached the wire reconnected to switch 4. Factory reset	Please check “Appendix” to do “Cold Start” and “Factory Reset”.
Replaced AP				A existing AP was replaced by a new AP You can reverse AP to the previous configuration or save the current setting: Replace: double click to reverse the previous configuration Save: press the save current status	
DHCP error				A AP cannot get IP from the DHCP server 1. Make sure the DHCP server for the AP is available. 2. If the DHCP server did not connect, please reconnect the DHCP server and wait about 60 seconds, then press the start polling from WLAN manager 3. If the DHCP server was connected, you can try any one of following methods: a. Cold start the AP from the switch webpage and Restart Shutdown the POE from switch. b. Cold start by the reconnected AP. c. Factory reset. d. Restart the port from web.	Please check “Appendix” to do “Cold Start” and “Factory Reset”.
Anti rogue key error				The Anti Rouge AP function of switch was enabled, but the key of AP and switch is not matched The AP key is different with connected switch, to active the system key manager Solution, you can try any one of following methods:	

				1. Select the all managed system key Error Device 2. All managed device change to same system key 3. Disable the anti rouge function from switch 4. Factory reset the AP and switch	
Not available				WLAN Manager can discover AP successfully but cannot get configuration from AP correctly. Possible problems: 1. Password error; Delete the troubled AP and run discovery wizard to find the AP again, make sure the password is correct before discover the AP. 2. Different subnet; change the management PC subnet and to, a. Try to cold start the AP by web, or b. Try to factory reset	
Unknown device				Unknown network devices	
Switch on line				The DES-1228P switch links and works properly in the network.	
Switch offline				The existing DES-1228P lost the connection 1. Check the switch power, 2. Check SNMP community and cable and subnet 3. factory reset the switch	
New Switch				A new DES-1228P switch was discovered by WLAN Manager.	
Group apply AP				The AP setting is same with group setting	
Group not apply				The AP setting is different with group setting	

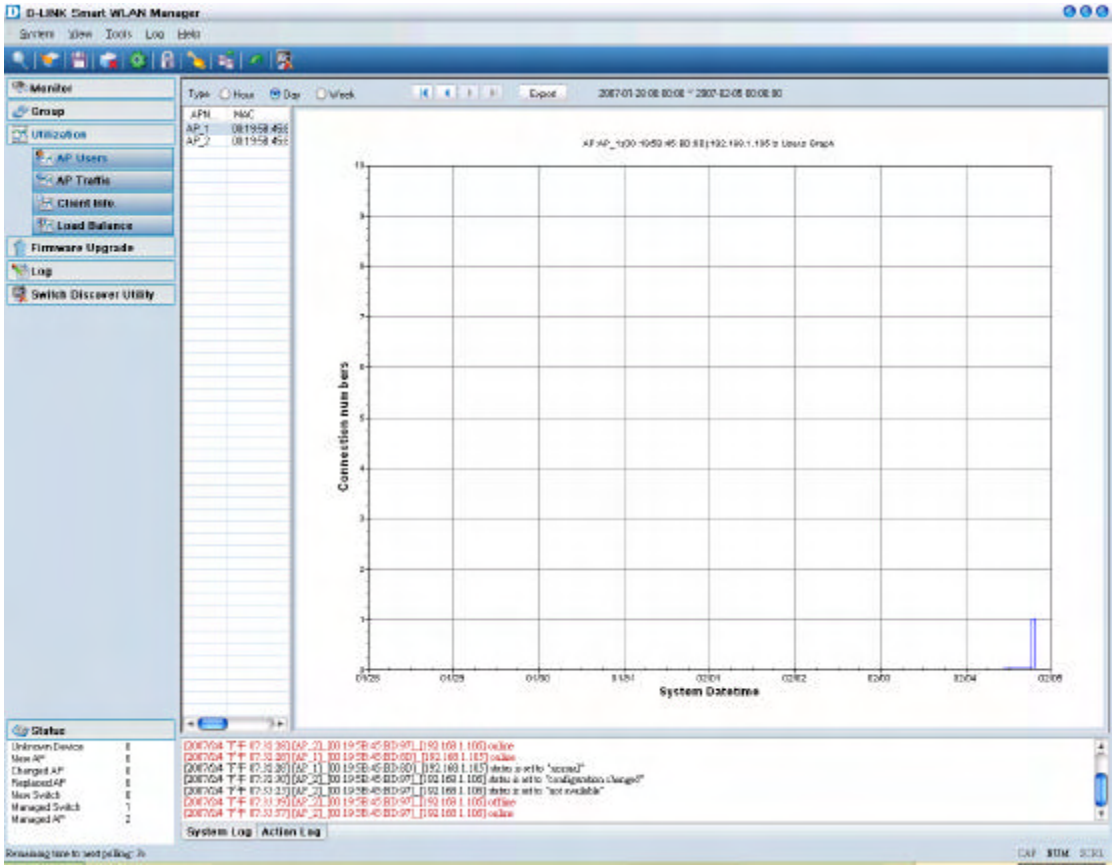
Note: If the discover utility can't find any switch or AP, please ensure there is only one NIC(network interface card) in your PC, multiple NIC may make the system work abnormally.

Utilization

In Utilization, user can monitor four different statistics by graphic reports.

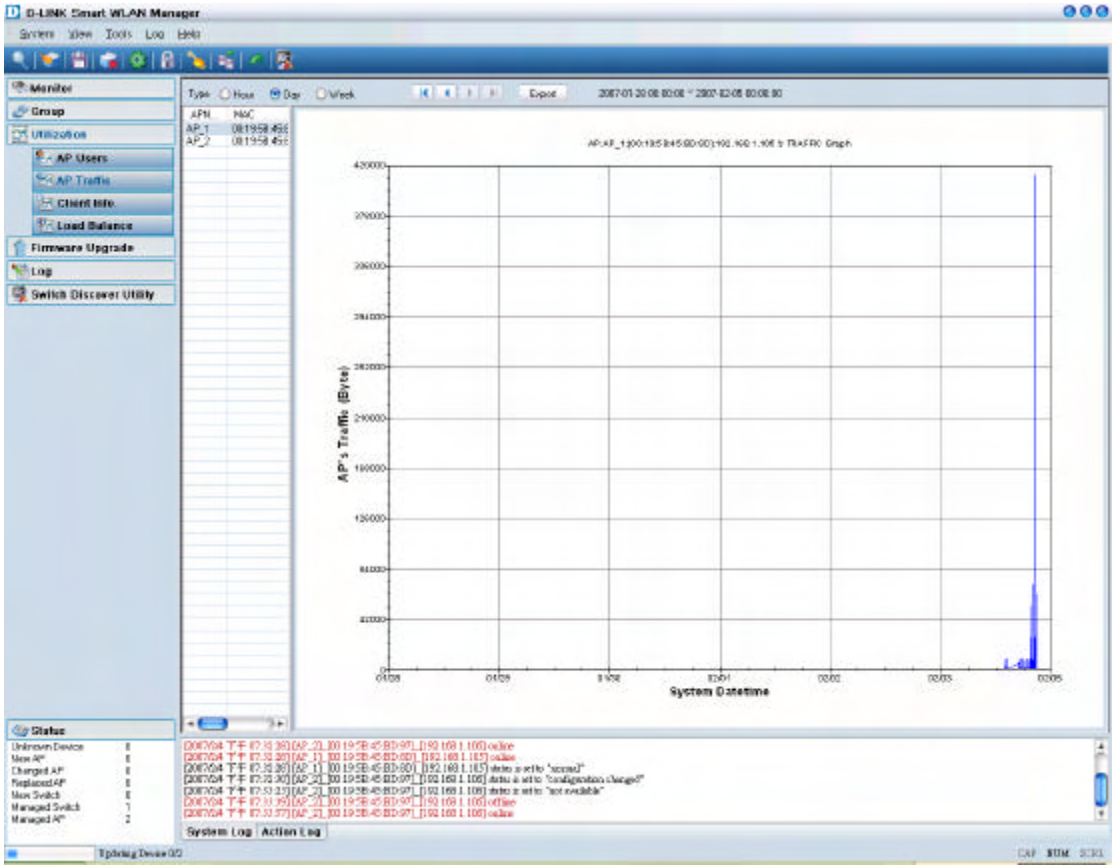
Utilization>AP Users

It allows user to see the connected client numbers of an access point. You can select the display type by **Hour**, **Day**, or **Week**. The supported file format for exporting includes CSV and PDF.



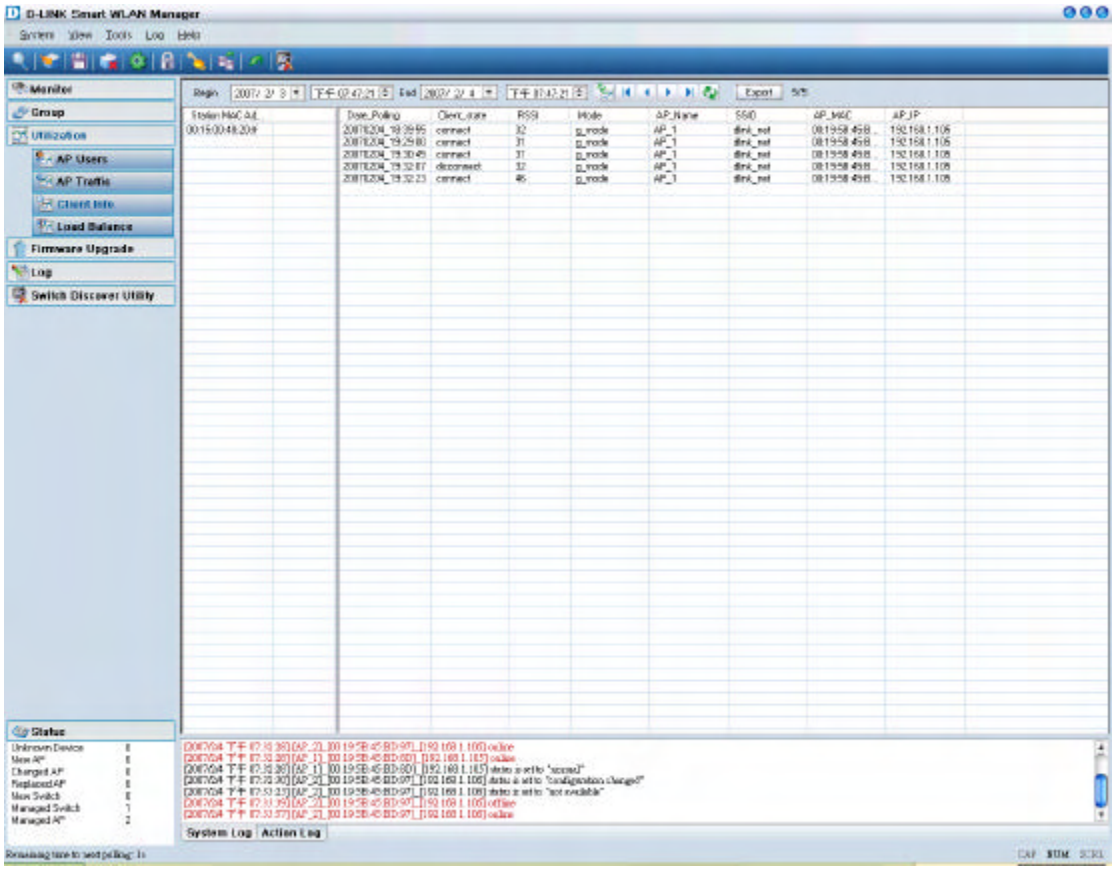
Utilization→AP Traffic

It allows user to see the traffic volume of an access point in bytes. You can select the display type by **Hour**, **Day**, or **Week**. The supported file format for exporting includes CSV and PDF.



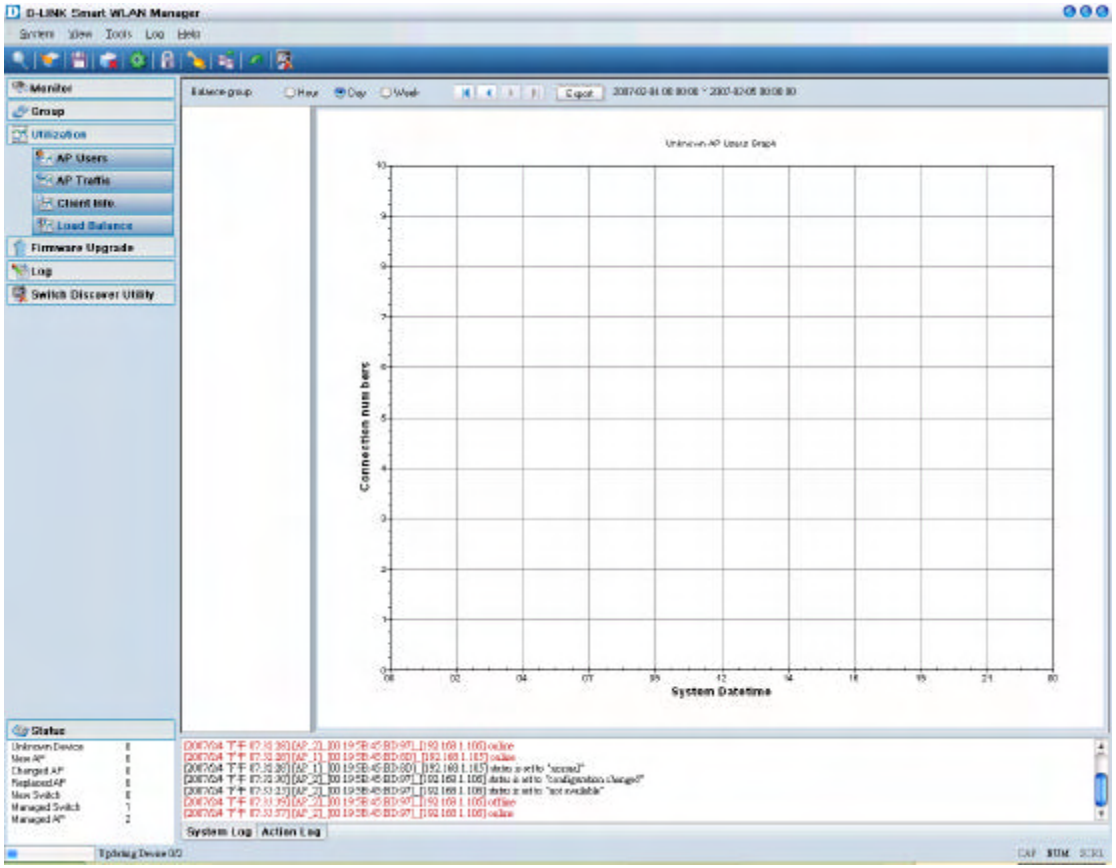
Utilization→Client Info.

It allows user to see the status history of a wireless client. The supported file format for exporting is CSV.



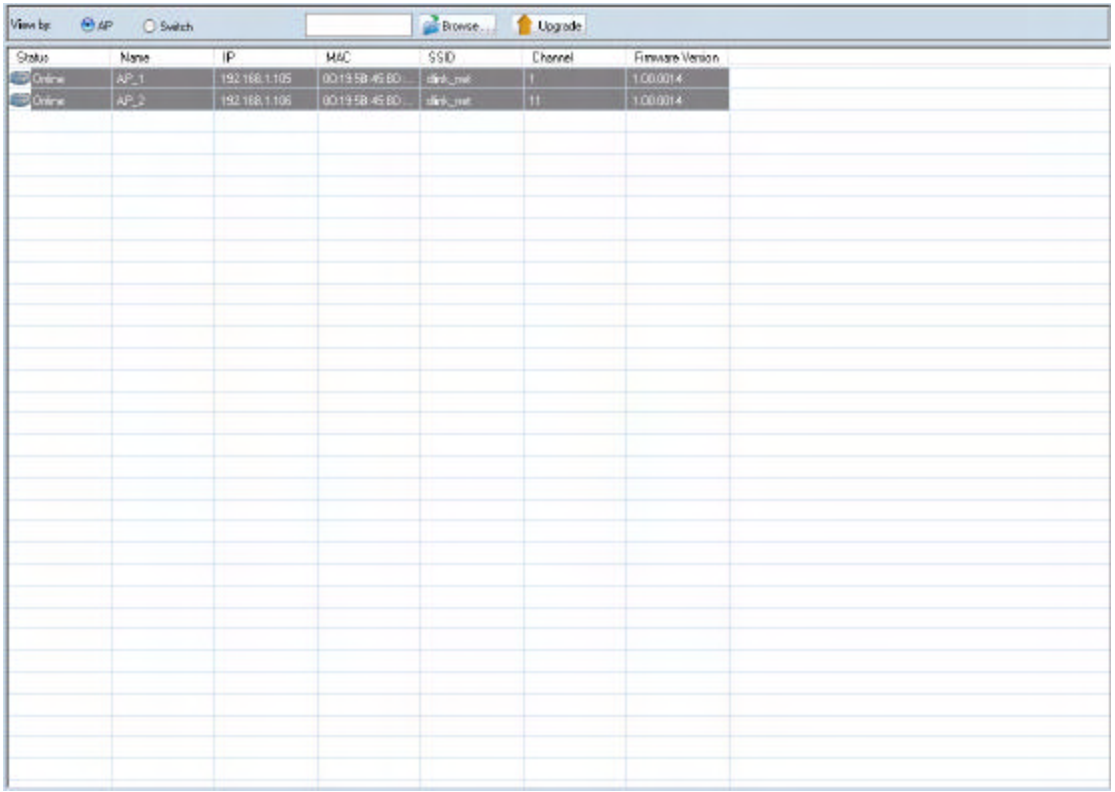
Utilization→Load Balance

It allows user to see the status of a load balance group. You can select the display type by **Hour**, **Day**, or **Week**. The supported file format for exporting is CSV.



Firmware Upgrade

The Smart WLAN Manager allows user to upgrade multiple devices' firmware all at once. To select a single device, just click on the device you want to select. To select multiple devices, hold down the **Ctrl** key while clicking on each additional device. To select an entire list, hold down the **Shift** key, click on the first device and then click on the last device on the list.



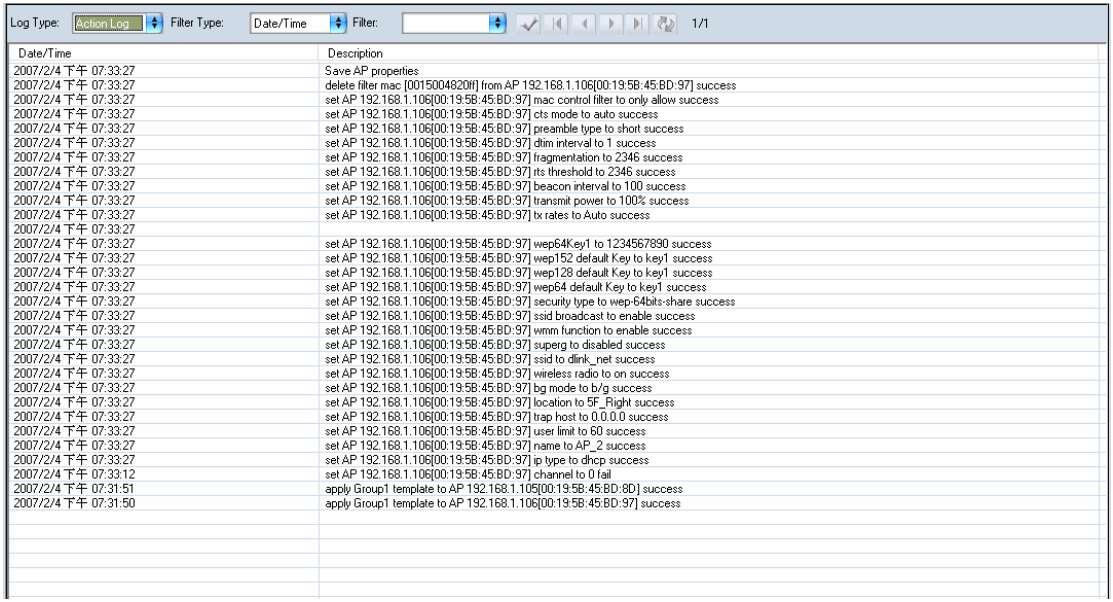
To upgrade the firmware by following steps:

1. Change to theon view by AP or switch.
2. Select the new image file by clicking "Browse" icon.
3. Select the devices
4. Select "Upgrade".

After firmware downloaded and upgraded, the device will reboot to complete the procedure.

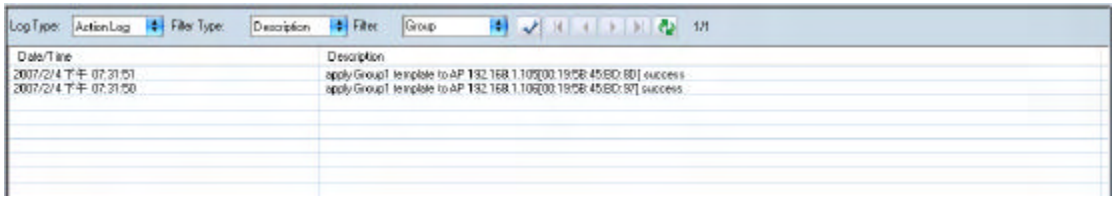
Log

The Smart WLAN Manager offers two kinds of log: **Action Log** and **System Log**. User can save logs by using **Log→Save Log As**, and load a saved log by using **Log→Open Log**. **Log→Clear Log** allows user to clear all the records not saved.

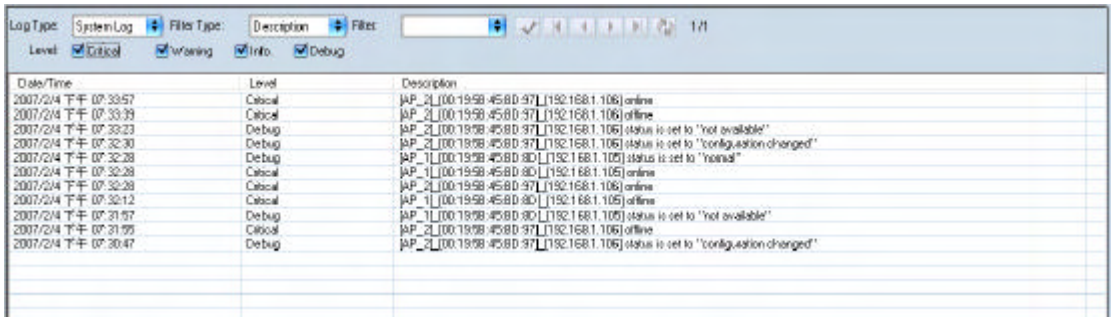


Action Log records all actions user has made. It allows user to filter the log by **Date/Time** or **Description**.

In the following example, user chooses the type “Description”, enters “Group”, and click “  ”. The filtered results are shown as below. To remove a filter, just delete the string entered and click “  ”.



System Log records all system events happened. User can choose to display by levels he/she is interested in. Filtering can be used for System Log as well.

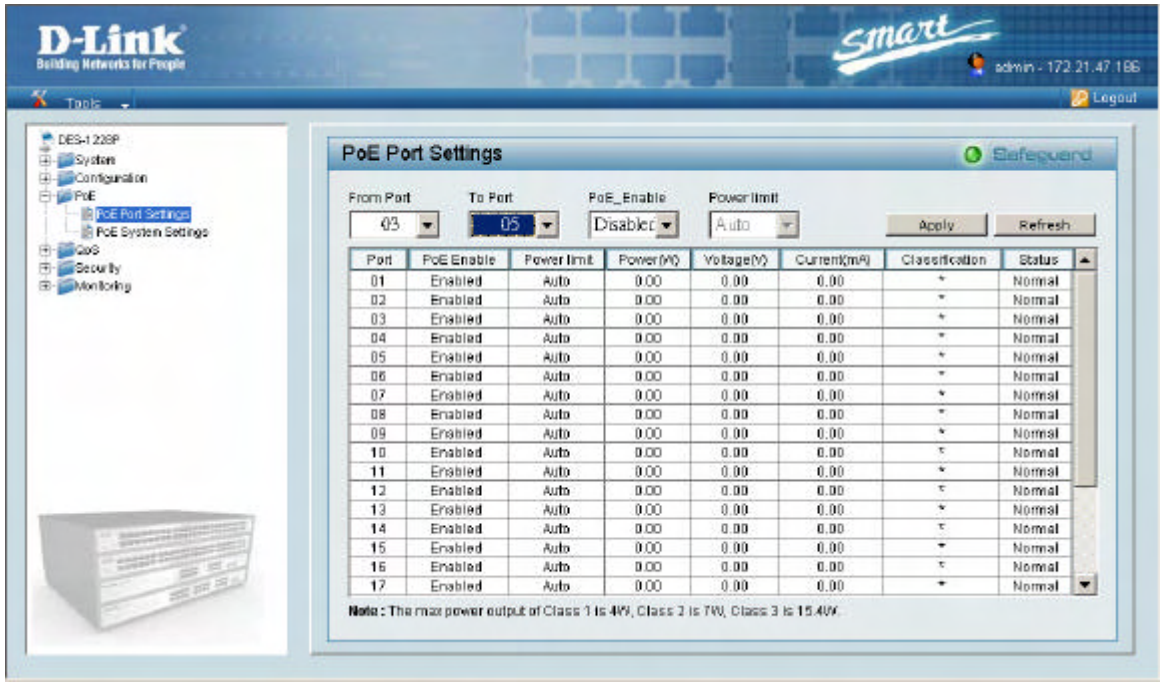


APPENDIX

Cold Start the AP:

Please follow the instructions below to *cold start* your AP from DES-1228P switch Web UI:

1. Connect to the Switch configuration Web page about PoE port Settings
2. Select the AP connected port at switch, from port and to port and disable the PoE_Enable
3. Press “Apply” button and wait few seconds
4. Select the “From Port” and “To Port” and enable the PoE_Enable and wait about 1 minute
5. Active the WLAN Smart Manager and press start polling from toolbar



Factory reset

Please follow the 2 steps for factory reset:

1. Reset the DWL-3140 AP to its factory default settings.
2. Restore the other devices on your network to their default settings, by pressing the Reset button on the top of the unit. Please note you will lose the current configuration settings by doing so.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

Industry Canada statement:

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.