

Release 1.01

## **Smart WLAN Manager**

# User Manual

Oct 2007 Version 1.01

**Business Class Networking** 

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## Introduction

The **Smart WLAN Manager** is a convenient tool to manage the configuration of your network from a central computer. With **Smart WLAN Manager** there is no need to configure the D-Link DWL-3140AP Wireless Access Points individually.

## System Requirement

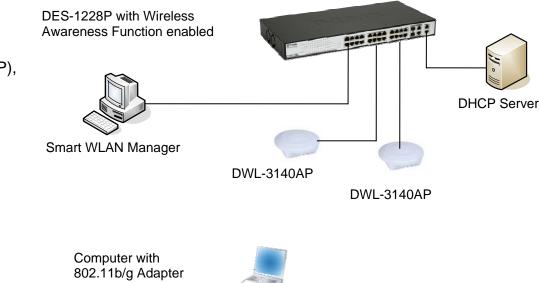
Suggested Specifications for Smart WLAN Manager installation:

- A PC or Notebook with an installed network adapter
- Supported OS: Windows<sup>®</sup> 2000 or XP
- DHCP server is required

**Note:** The performance of a wired connection is better than a wireless connection for each computer running WLAN Manager. It is recommended to use the wired connection to manage the Access Point.

## **Getting Started**

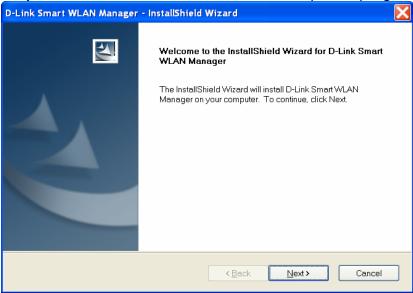
Please prepare your network environment as the following topology (see diagram). Switch (DES-1228P), Access Point (DWL-3140AP), and the DHCP server need to be in the same IP domain; the PC for Smart WLAN Manager installation can connect the switch directly, or via the Internet.



## Installing the Smart WLAN Manager

Please do following steps to install the Smart WLAN Manager:

Step 1. Insert the CD and execute the "setup.exe" program. The InstallShield Wizard will appear



## **Step 2.** Choose the destination folder where you want to install the program to and click "Next".

D-Link Smart WLAN Manager - InstallShield Wizard
Choose Destination Location Select folder where setup will install files.
Setup will install D-Link Smart WLAN Manager in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
C Destination Folder
C:\Program Files\D-Link\D-Link Smart WLAN Manager\
InstallShield
< <u>B</u> ack Next> Cancel

## **Step 3.** The program will perform the installation automatically.

D-Link Smart WLAN Manager - InstallShield Wizard	
Setup Status	N
D-Link Smart WLAN Manager is configuring your new software installation.	
Removing applications	
InstallShieldCance	

## Step 4. Click "Finish" to complete the installation.

D-Link Smart WLAN Manager - InstallShield Wizard					
	InstallShield Wizard Complete				
	Setup has finished installing D-Link Smart WLAN Manager on your computer.				
	< Back Finish Cancel				

## Discovering the Switch and AP

To launch the Smart WLAN Manager:

- Go to the Start Menu
- Select Programs
- Select D-Link Smart WLAN Manager

The D-Link Smart WLAN Manager will appear. Click "OK" (There's no default password) to continue.



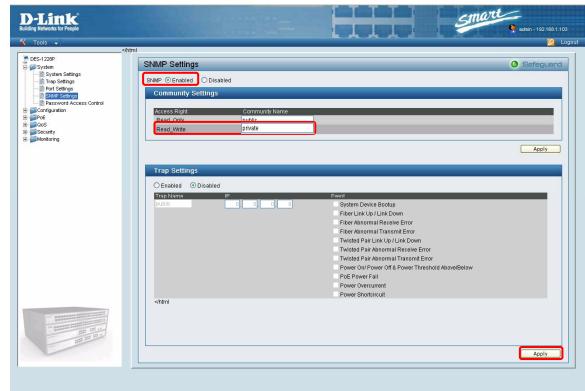
Choose **Tools→Switch Discover Utility** or directly press

the icon "", the Discovery List window will appear:

Discovery List MAC Address	IP Address	Protocol Version	Product Name	System Name	DHCP	Lo
				· ·		
00179a523836	192.168.1.100	2.001.003	DES-1228P	SW_1	enable	
•						)+
Discovery	Configuration se	tting Firmware up	grade Exi	it		

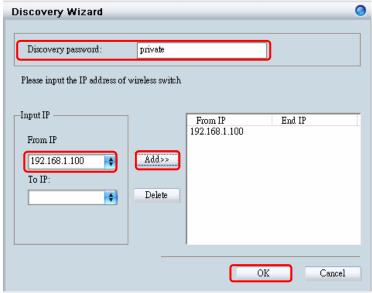
Launch the web browser on your PC, and connect the switch by the IP address found (default password: *admin*). Make sure the firmware version of DES-1228P is at least 1.20.03.

Make sure the SNMP read\_write community is "private" (default value) and enable the function.



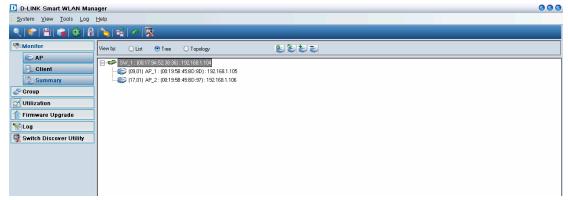
On the Smart WLAN Manager, choose **Tools→Discovery Wizard** or click the

icon "**S**"; fill in the Discovery password with the SNMP read\_write Community Name "private", and the IP of the switch. Click "OK".



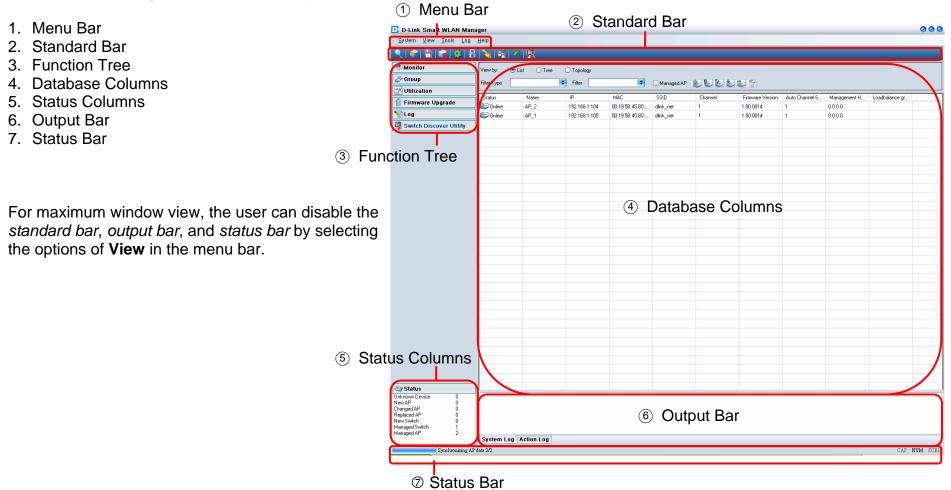
In Monitor>Tree, right click the newly found AP and choose "Save to Database (<sup>1</sup>)" to add the AP into the database. The Status of the AP will change from "New" to "Online" after being added to the database.

**Note:** For detailed connection configuration, please also refer to the Configuration Guide.



## Using the Smart WLAN Manager

## Understanding the Screen Layout



## **Discovering Devices**



Click the **Discovery Wizard** icon or choose **Tools**→**Discovery Wizard** to discover **available devices** on the network.

**Discovery password -** The discovery password needs to be consistent with the SNMP read\_write community name

**Input IP** - Enter the IP address of the switch. User can either input a specific IP address (fill in "From IP"), or a range of IP addresses (fill in both "From IP" and "To IP")

Discovery Wizard					0
Discovery password:					
Please input the IP address of v	vireless switch				
-Input IP From IP To IP:	Add>> Delete	From IP		End IP	
			OK		Cancel

#### Polling Information



By default the Smart WLAN Manager will scan the network every 15 seconds. Click the Start Polling icon to scan the network immediately.

#### Save to Database



Click the Save to Database icon or choose System→Save all to database to save all of the discovered devices. You can also use the hotkey (Ctrl +S) to achieve the same results.

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## **Clear Database**



Click the Clear Database icon or choose System→Clear all from database to clear all of the records saved.

## Modify the Preference



Click the **Preference** icon or choose **Tools**→**Preference** to modify the preference.

#### **Global Setting**

The *Global Setting* allows you to change the monitoring parameters and the log levels.

**Interval -** The time needed to wait for the next polling. The range is from 10 to 6000 seconds, and default value is **60**.

**TimeOut -** The waiting time for the device to respond, in which failure to respond in time will be determined to be in *offline* status. The range is from 1 to 20 seconds, and default value is **2**.

**Monitor interval -** The period to scan for devices. The range is from 10 to 60000 seconds, and default value is **60**.

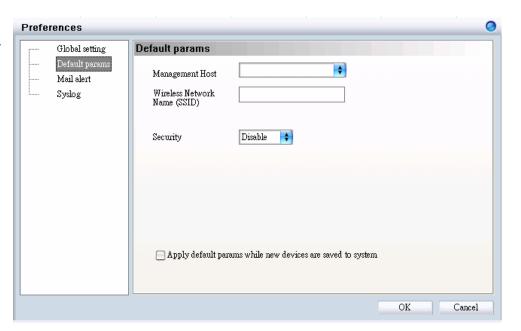
**Max. Polling thread** – The maximum devices polled at one time. The default value is **5**.

Global Setting Default Params Mail Alert Syslog	Global Setting			
	Interval(10-6000) Timeout(1-20)	60	Sec Sec	
	Monitor Interval(10-60000)		Sec	
	Max Polling Thread(5-20)	5		
	Log Level Setting			
	✓Critical	🖃 Info.		
	<b>⊠</b> Warning	🗹 Debug		

In Log Level Setting, users can define what levels of events are to be logged. The default levels are Critical, Warning, and Debug.

#### **Default Parameters**

In *Default Params,* users can configure the SSID and security to specific managed AP, or to create a default profile for all new devices by checking the option.



#### Mail Alert

In *Mail alert,* users can configure when an event happens, and a log message will be sent from a certain SMTP (mail) server to a specific email address. You can also specify if you want to send the email in real time, or to accumulate the messages and send them out by daily, weekly, or monthly.

The default message types to be sent are C*ritical*, W*arning*, and D*ebug*.

Preferences	
Preferences Global setting Default params Mail alert Syslog	Mail alert         Dest Email :         SMTP Server Setting         SMTP Server Address:         Authentication Method:         None         Port:         25         Send Mail Address:         User name:         Password:         Time & send log level setting         ✓ Critical       ✓ Warning         Info.       ✓ Debug         Critical       ✓ Warning         Info.       ✓ Debug         ♥ Critical       ✓ Warning         Info.       ♥ Debug
	OK Cancel

#### **Syslog**

In *Syslog*, users are allowed to set the IP address of the syslog server, the level of events to be sent to the syslog server, and when to send out the message.

The default setting for logs to be recorded are all types (*Critical*, Warning, Info, and Debug).

Preferences		e
Global setting Default params Mail alert Syslog	Syslog server IP:         Time & send log level setting         ♥ Critical         ♥ Warning         ♥ Info.         ♥ Realtime         Day         Week         Month         ● None	07:00:
	OK	Cancel

## Modifying the Device Password



Click the **Device Password Manager** icon or choose **Tools**→**Password Manager** to modify the device password.

Name	Туре	IP	MAC	Password	Modify single
W_1	switch	192.168.1.100	00:17:9A:52:38:36	akakakakaka	
P_1	ap	192.168.1.105	00:19:5B:45:BD:8D	yokokokok yokokokok	Modify all
.P_2	ap	192.168.1.104	00:19:5B:45:BD:97	*****	
					Exit

Users can either change the password individually by selecting the device and clicking "Modify single", or change all devices at once by clicking "Modify all".

Modify Password	Modify all devices password 🛛 🥥
IP Address 192 . 168 . 1 . 100	Madde All Management Davids a December
Device Type DES1228P	Modify All Management Devices Password! NMS Will Use Saved Device Password To Do Authentication And Modify To New Password
Current Password *****	Automatically!
New Password	New Password
OK Cancel	OK Cancel

## Modifying the Device System Key



Click the **Modify All Device System Key** icon or choose **Tools**→**System Key Manager** to modify the device system key.

User can assign the system key to examine the validity of the access point. Once the key is configured, it needs to be identical on both access point and wireless switch for normal operation.

Modify System K	ey		0
💿 All managed devic	e		
System Key			
O All managed syste	em key error device		
O Single Device			
IP Address		\$	
Device Model		\$	
Password			
System Key			
	ОК	Cancel	

#### Backup the Database



Click the **Backup Database** icon or choose **System→Backup database** to save the current database to the PC.

## Restore the Database



Click the **Restore Database** icon or choose **System→Restore database** to open the saved database from the PC.

## Searching the Switch

🔍 👻 🛗 🛸 🏟 🔒 🍾 📽 🖉 🔣

Click the Switch Discovery Utility icon or choose Tools→Switch Discovery Wizard to search the available switch.

The Discovery List window shows the following information of the switch available:

MAC Address - The MAC address of the switch.

**IP Address -** The IP address of the switch.

Product Name - The model name.

**System Name -** The name identifies the switch in the network.

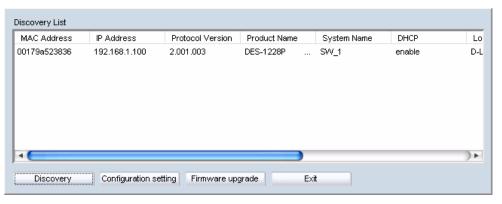
**DHCP** - The status of the DHCP client of the switch.

Location - The location of the switch.

**Trap IP -** The IP address of the **server**, which receives the SNMP Trap message.

**Subnet Mask -** The subnet mask of the switch IP address. **Gateway -** The IP address of the gateway for the switch.

Selecting the switch and clicking "Configuration setting", will allow the user to modify some of the attributes. Click "Set" when done.



roduct name	DES-1228P	MAC Address	00179a523836
<sup>o</sup> Address	192 . 168 . 1 . 100	Subnet mask	255 . 255 . 255 . 0
≩ateway	192 . 168 . 1 . 1	Trap server	3.0.0.0
System name	SW_1	Location	5F
assword			
HCP	🖸 Enable 🕓 Disable		

## **Configure the Wireless System**

### **Configure the Wireless Switch**

In **Monitor**->**AP**, choose the view by Tree or topology, and double click the wireless switch you want to change the setting, and the configuration window will pop up.

#### **System Configuration**

**IP Address** – Users can choose static or dynamic (DHCP) IP address for the wireless switch. When static IP is selected, please manually input the IP Address, Subnet Mask and Gateway IP.

**LLDP** – Select to **Enable** or **Disable** the LLDP function. When the LLDP function is enabled, the LLDP will begin searching the access points.

**Name -** Enter the system name for the wireless switch.

Location - Enter the location of the wireless switch.

-IP information -	
🔘 Static	⊙ DHCP
IP Address	192 . 168 . 1 . 100
Subnet Mask	255 . 255 . 255 . 0
Gateway	192 . 168 . 1 . 1
System informati	on
LLDP	💿 Enable 🛛 🔿 Disable
Name	SW_1
Location	5F

#### **Anti-Rogue Configuration**

Configure the ports you want to enable the anti-rogue function. Once it is enabled on a port, the switch will check the AP with the system key to determine if it will be authenticated or denied.

From Port	To Port	Control			
1 💠	2	Enable	\$	Apply	)
Port	Anti-R	logue Contro	1		-
1	Enable	logas contro	•		-
2	Enable				_
3	Disable				_
4	Disable				_
5	Disable				_
6	Disable				_
7	Disable				_
8	Enable				-
9	Disable				-
10	Disable				-
11	Disable				-
12	Disable				-
13	Disable				
1.4	D130010				

#### **Port Mapping Configuration**

It shows the ports that access points connect to, and their IP addresses.

Switch config	l	0
System Anti-ro	gue Port mapping	
System Antro Local Port NO. 9 17	Peer IP 192.168.1.105 192.168.1.106	Peer Port NO. 1 1 1
		OK Cancel

## Configure the Access Point individually

In **Monitor** AP, double click the AP you want to change the setting, and the configuration windows will pop up.

#### **Basic Configuration**

**IP Address** – Users can choose either static or dynamic (DHCP) IP address for the wireless switch. When the static IP was selected, please manually input the IP Address, Subnet Mask and Gateway IP.

Name - User can input the system name for the access point.

**Connection Limit -** Maximum number of clients can be connected. Default value is **60**.

**Management Host -** Configure the IP address of the Smart WLAN Manager. Default is **none**.

Location - Users can input the location of the AP.

-IP address setting [W	Jaming: don't change these if you're not sure!]
LAN IP	Dymannic IP Address     Static IP Address
IP Address	192 . 168 . 1 . 105
Subnet Mask	255 . 255 . 255 . 0
Gateway	192 . 168 . 1 . 1
-Other information -	
Name	AP_1
Connection Limit	60
Management Host	0.0.0.0
Location	5F_Left
Active clients	0

#### **Wireless Configuration**

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

Wireless Radio – Select to turn the radio wave On or Off. 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 to **Enable or 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 to Enable or Disable the broadcast of the SSID.

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

Disable (default) WEP WPA

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AP 'dlink_net:192.1	68.1.105' configuratio	n	(
Basic Wireless Adva	nce MAC filter		
B/G Mode Wireless Radio Wireless Network Name (SSID) Channel Super G Mode WMM	👘 🕈 Auto Channel Sc Disabled	an \$	
WMM SSID Broadcast	<ul> <li>Enable</li> <li>Disable</li> <li>Enable</li> <li>Disable</li> </ul>		
Security	Disable 🗧		
		OK	Cancel

#### WPA2

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

Cipher Type - Select TKIP or AES.

**Passphrase -** Enter a string as the Passphrase.

AP 'dlink_net:192.1	68.1.105' configuration	9
Basic Wireless Advan	nce MAC filter	
B/G Mode	Mixed 🗧	
Wireless Radio	💿 On 🔘 Off	I
Wireless Network Name (SSID)	dlink_net	I
Channel	📄 🛊 🗹 Auto Channel Scan	I
Super G Mode	Disabled	I
WMM	💿 Enable 🔘 Disable	I
SSID Broadcast	📀 Enable 🔘 Disable	I
Security	WEP 🔷	I
Authentication :	💿 Open System 😑 Shared Key	I
WEP Encryption :	•	I
		I
Default Key :	Keyl 💠	I
WEP-Key:		I
	OK Cancel	1

AP 'dlink_net:192.1	68.1.105' configuration	0
Basic Wireless Advar	nce MAC filter	
B/G Mode Wireless Radio Wireless Network Name (SSID) Channel Super G Mode	Mixed On Off dlink_net Auto Channel Scan Disabled	
WMM SSID Broadcast	Enable     Disable     Disable     Disable	
Security	WPA 🔷	
Cipher Type: Passphrase :	TKIP AES PSK / EAP     Confirmed Passphrase :	
	OK Cance	el

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

**RTS Threshold -** The RTS threshold should not be changed (recommended), 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.

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sic Wireless Adv	68.1.105' configurati	ion
WG Mode Wireless Radio Wireless Network Nam SSID) "hannel uper G Mode WMM SID Broadcast ecurity Cipher Type:	Auto Channel :     Disabled     Enable Disable     Enable Disable     WPA2	<b>*</b>
ADIUS Server 1 IP	Port 1812 Shared	Secret
ADIUS Server 2		
IP	Port O Shared	Secret
3140:192.168.0.1	05' configuration	
'3140:192.168.0.1 sic Wireles Adv	D5' configuration	
sic Wireless Adv	MAC Filter	
sic Wireless Adv Transmit Data Rates	Auto	ge:20~1000)
sic Wireless Adv Transmit Data Rates Transmit Power	Auto	
sic Wireless Adv Transmit Data Rates Transmit Power Beacon Interval	Auto + 100% + 100 (Msec, Ran	56~2346)
sic Wireless Adv Transmit Data Rates Transmit Power Beacon Interval RTS Threshold	Auto         Image: 2346           (Masec, Range: 25	56~2346) )0~2346)
sic Wireless Adv Transmit Data Rates Transmit Power Beacon Interval R TS Threshold Fragmentation	Auto         Image: Auto           100%         Image: Auto           100%         Image: Auto           2346         (Range: 25)           2346         (Range: 150)           1         (Range: 1-5)	56~2346) )0~2346)
sic Wireless Adv Transmit Data Rates Transmit Power Beacon Interval RTS Threshold Fragmentation DTIM	Auto         Image: Auto           100%         Image: Auto           100%         Image: Auto           2346         (Range: 25)           2346         (Range: 150)           1         (Range: 1-5)	56-2346) 10-2346) 5) ng Preamble

**WLAN Partition -** Disabling this feature allows wireless clients to communicate with each other. If this is enabled, wireless stations of the selected band are not allowed to exchange data through the access point.

#### **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.

MAC address		Add
💽 Disabled MAC F:		Delete
	lress listed below to access ress listed below to access	
C Reject MAC and:	less fisted delow to access	
IAC Address Control	l List	
No.	MAC address	
No. [	00:50:2C:95:48:48	3

## Configure the Access Point by Group

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

#### Create a Group Template

Click the "Add Group" icon (<sup>></sup>) and a window will appear:

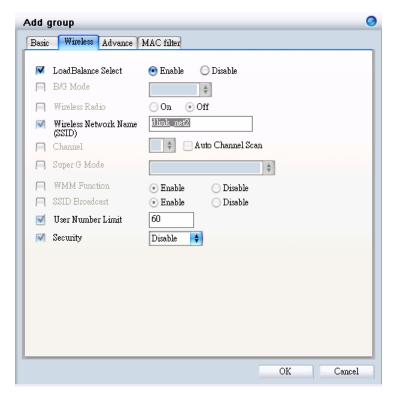
Enter the group name and choose which APs you want to include in this group. You can also add APs after a group is created.

valiable Device Lis			
AP Name	IP	MAC	
☑ AP_2 ☑ AP_1	192.168.1.106 192.168.1.105	00:19:5B:45:BD:97 00:19:5B:45:BD:8D	
• ni _i	152.100.1.105	00.15.55.45.85.00	

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 be specified as well.

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

**Note:** For a detailed explanation on 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 the "Configure Group Template" icon (Section and an edit window will appear:

**Note:** For a detailed explanation on Wireless, Advanced, and MAC Filter functions, please refer to section 3.2.2 through 3.2.4.

Click "OK" when you are done.

**Note:** Changing 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 (<sup>Sel</sup>) and a window will appear.

reless Advance MAC filter	
<ul> <li>LoadBalance Select</li> <li>B/G Mode</li> <li>Wireless Radio</li> <li>Wireless Network Name (SSID)</li> <li>Channel</li> <li>Super G Mode</li> <li>WMM Function</li> <li>SSID Broadcast</li> <li>User Number Limit</li> <li>Security</li> </ul>	<ul> <li>Enable</li> <li>Disable</li> <li>On</li> <li>Off</li> <li>Imme</li> <li>Auto Channel Scan</li> <li>Imme</li> <li>Auto Channel Scan</li> <li>Enable</li> <li>Disable</li> <li>Enable</li> <li>Disable</li> <li>Disable</li> <li>Enable</li> <li>Disable</li> <li>Disable</li> </ul>
	OK Cancel

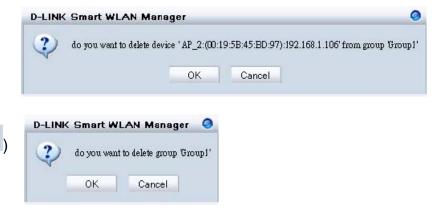
Add Group Ap			0
Management AP	list		
AP Name	IP Address	MAC Address	
AP_2	192.168.1.106	00:19:5B:45:BD:97	
*		· · · · ·	
		OK Cancel	

**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 the "Delete Group/AP" icon (<sup>2)</sup>); a warning message will appear.

Or

**Show AP Configuration:** Click the "Show AP Configuration" icon (



## Management

## Monitoring

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

#### Monitoring AP and Wireless Switch by List

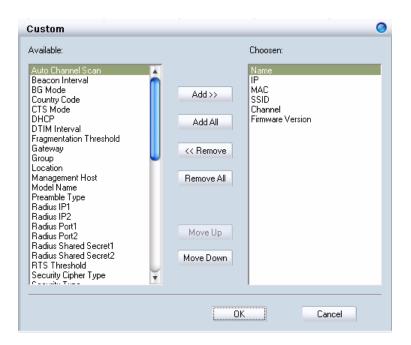
In **Monitor** $\rightarrow$ **AP**, users can choose three different views. View by **List** lists the information of wireless access points in the database column. If a failure happens, the icon will change from online ( $\bigcirc$ ) to failed ( $\bigcirc$ ).

The following options are provided:

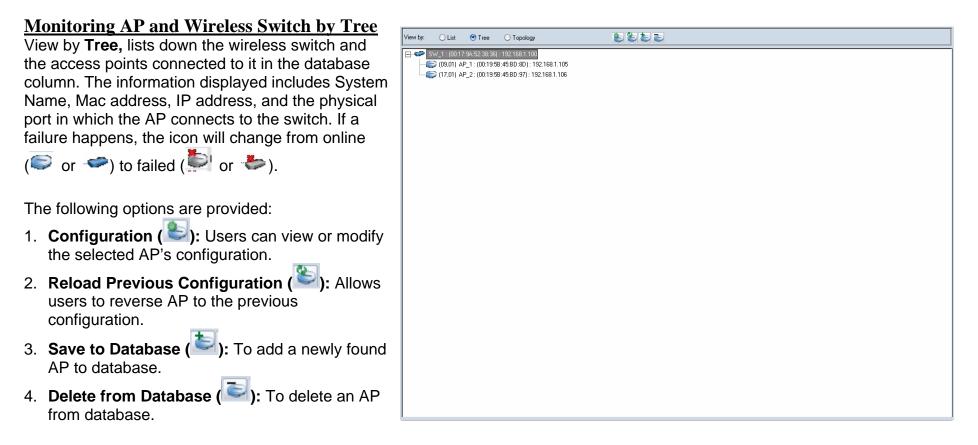
- 1. **Filter Type:** Users can enable the filter to narrow down the database display by various attributes.
- 2. **Filter:** After the *Filter Type* is chosen, users can select the specific content.
- 3. **Managed AP:** Check this option if you just need to see the managed AP only.
- 4. **Configuration (**<sup>Solo</sup>): Users can view or modify the selected AP's configuration
- 5. **AP Connection (**<sup>Solow</sup>): It will redirect users to the selected AP's *Utilization* page.
- 6. **Reload Previous Configuration (**<sup>Solon</sup>): Allows users to reverse the AP to the previous configuration.

D-LINK Smart WLAN Mai	-	_						00
System ⊻iew Tools Log								
2 😰 💾 🙀 🕸 🔓	🍾   🗳	🖉   🕵 👘	_	_	_	_		
Monitor	View by: 🧕	List 🔾 Tree	🕒 Topology					
C AP	Filter Type		Filter	<b>+</b>	- Managed &P	5533		
吳 Client								
👌 Summary	Status	Name AP_2	IP 192.168.1.106	MAC 00:19:58:45:8D:	SSID dlink_net	Channel 1	Firmware Version 1.00.0014	
Group	0nine	AP_2 AP_1	192.168.1.105	00:19:58:45:BD:		1	1.00.0014	
<b>Utilization</b>	1							
Firmware Upgrade	i 📃							
Log	i							
Switch Discover Utility	i							
, and the state of	-							
	-							
🦅 Status	1							
nknown Device 0 ew AP 0 ranged AP 0 eplaced AP 0 ew Switch 1 anaged Switch 0								
anaged AP 2	System Log	Action Log						
maining time to next polling: 7s	-							CAP NUM S

- 7. Save to Database (): To add a newly found AP to the database.
- 8. **Delete from Database (** ): To delete an AP from the database.
- 9. **Customize** (Section 2): Users can change the view by adding/deleting attributes according to their needs.



10. Replace: Right click the selected AP and choose "Replace".



#### Monitoring AP and Wireless Switch by Topology

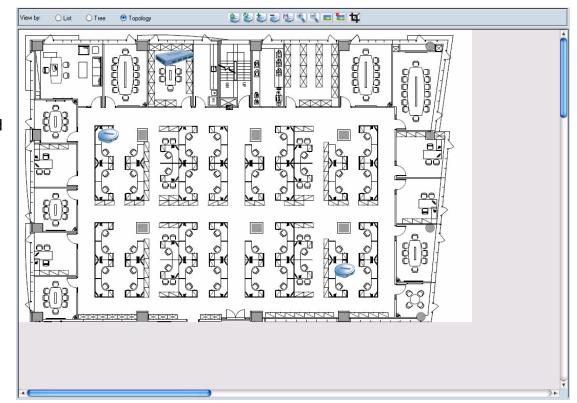
Choose to view by **Topology**, **Monitor→AP** offers users to visualize the status of the AP and wireless switch on a floor plan. After

importing the map, users can drag the icons to their locations. If a failure happens, the icon will change from online (

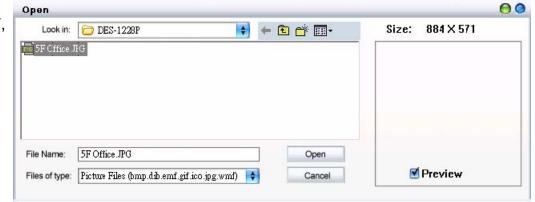


The following options are provided:

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



8. Load Map (<sup>[E]</sup>): 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 (**<sup>[1]</sup>): Remove the current floor plan.
- 10. **Modify Map** (<sup>11</sup>): Users can resize the picture by pixels, and can preview them before taking efforts. Rotating the picture can also be done.

Modify Picture	0
	Resize Width 884 pixels Height 571 pixels Preview Rotate Rotate
	Done Cancel

#### **Monitoring Clients**

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

The following options are provided:

- 1. **Filter Type:** Users can enable the filter to narrow down the database display using various attributes
- 2. **Filter:** After the *Filter Type* is chosen, users can select the specific content.

#### 000 D-LINK Smart WLAN Manager <u>S</u>ystem ⊻iew <u>T</u>ools <u>L</u>og <u>H</u>elp 💌 🖹 🙀 🔕 🔒 🍾 🐔 🧖 🕵 Monito Filter Type 🗧 Filter : \$ Clean Filter 😂 AP AP Name AP MAC 00:19:5B:45:BD:8D Client MAC 00:15:00:48:20:ff RSSI AP IP Mode 🖳 Client AP\_1 192.168.1.105 30 g-mode 📩 Summary Sroup 🌮 Utilization Firmware Upgrade 😪 Log 🗟 Switch Discover Utility

#### **Monitoring Summary**

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

Summary	1	0
1	Fotal AP	2
ł	Managment AP	2
1	New AP	0
I	oad balance enable AP	0
C	Current Client	1
I	ast Polling Time:	2007.02.04 19:17:19
		OK

## 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	•			<ul> <li>A known AP which its configuration has been changed.</li> <li>You can reload the original setting or save the current setting by:</li> <li>1. Reload: double click to Reload the old configuration, or</li> <li>2. Save: press to save the current configuration.</li> </ul>	
New AP				A new AP was discovered by WLAN Manager.	
Offline AP	b	Ð	Ø	<ul> <li>An existing AP lost the connection <ol> <li>Check the status of the connected switch and ensure the switch is online.</li> <li>Cold start the AP from the switch webpage.</li> <li>Cold start the AP detached from the wire reconnected to the switch.</li> <li>Factory reset.</li> </ol></li></ul>	Please check "Appendix" to do a "Cold Start" and "Factory Reset".
Replaced AP	۲			An existing AP was replaced by a new AP. You can reverse the AP to the previous configuration, or save the current setting by: Replace: double click to reverse the previous configuration Save: press to save current status	
DHCP error			₹ <b>p</b>	<ul> <li>An AP cannot get an IP from the DHCP server</li> <li>1. Make sure that the DHCP server for the AP is available.</li> <li>2. If the DHCP server did not connect, please reconnect the DHCP server and wait for about 60 seconds, then press the start polling from WLAN manager</li> <li>3. If the DHCP server was connected, you can try any one of following methods: <ul> <li>a. Cold start the AP from the switch webpage and Restart Shutdown the POE from the switch.</li> <li>b. Cold start by the reconnected AP.</li> <li>c. Factory reset.</li> <li>d. Restart the port from the web.</li> </ul> </li> </ul>	Please check "Appendix" to do "Cold Start" and "Factory Reset".
Anti rogue key error		1	8	The Anti Rouge AP function of the switch was enabled, but the key of the AP and switch is not matched. The AP key is different with the connected switch, to activate the system	

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				<ul> <li>key manager Solution, you can try any one of following methods:</li> <li>1. Select the all managed system key Error Device.</li> <li>2. All managed devices change to same system key.</li> <li>3. Disable the anti rouge function from the switch.</li> <li>4. Factory reset the AP and switch.</li> </ul>	
Not available				<ul> <li>WLAN Manager can discover the AP successfully but cannot get configuration from the AP correctly.</li> <li>Possible problems: <ol> <li>Password error; Delete the troubled AP and run the discovery wizard to find the AP again, make sure the password is correct before discovering the AP.</li> <li>Different subnet; change the management PC subnet and, a. Try to cold start the AP by web, or b. Try to factory reset.</li> </ol></li></ul>	
Unknown device		N		Unknown network devices.	
Switch on line			A COMMAN	The DES-1228P switch links and works properly in the network.	
Switch offline		×	a sub	<ul><li>The existing DES-1228P lost the connection:</li><li>1. Check the switch power.</li><li>2. Check the SNMP community, cable and subnet.</li><li>3. Factory reset the switch.</li></ul>	
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	6			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, users can monitor four different statistics by graphic reports.

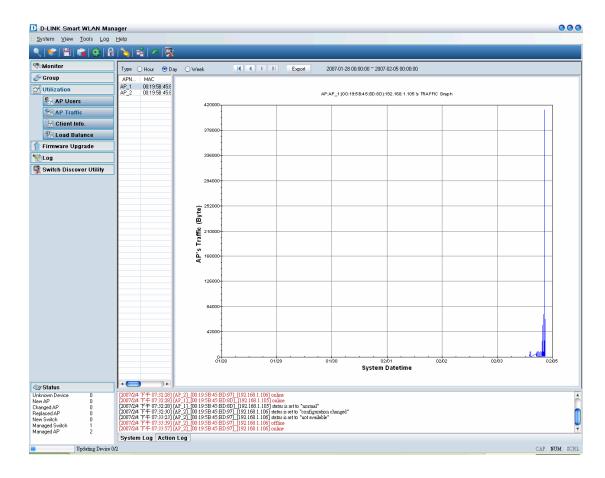
#### <u>Utilization→AP Users</u>

This allows users 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.

System ⊻iew Tools Log									
R 😵 🔚 🙀 🔅 I	)   🍾   🗳   🖉	<u>R</u>							
🔊 Monitor	Type 🔾 Hour 🧕	Day 🔾 Week		Export	2007-01-28 00:00:00 ~ 20	07-02-05 00:00:00			
🖻 Group	APN MAC								
🔀 Utilization	AP_1 00:19:58:4 AP_2 00:19:58:4	5.E 5.E		AP:	AP 1:00:19:58:45:80:80	):192.168.1.105 's Users Gra	aph		
Service AP Users		10							
😪 AP Traffic									
🚼 Client Info.									
😨 Load Balance									
🕆 Firmware Upgrade									
E Log		8							
🕺 Switch Discover Utility									
		- 7							
		-							
		۲ و							
		Connection 							
		- <u>-</u>							
		i i							
		ect							
		L 4							
		0							
		3							
		2							
		- 1							
		- 1-							
		- 1							
		0	в 01/29	01/30	01/31 02	01 02/02	02/03	02/04	02/05
						Datetime			
		•							
W Status nknown Device 0			5/BD/971 [192 168 1 1061 ov	line					
ew AP 0	[2007/2/4 下午 07:32: [2007/2/4 下午 07:32:	28] [AP_1] [00:19:5B:4	5:BD:97] [192.168.1.106] on 5:BD:8D] [192.168.1.105] on 5:BD:8D] [192.168.1.105] etc	line tus is set to "norms1"					
hanged AP 0 eplaced AP 0	[2007/2/4 下午 07:32:]	30] [AP_2]_[00.19.5B.4	5:BD:8D]_[192.168.1.105] sta 5:BD:97]_[192.168.1.106] sta 5:BD:97]_[192.168.1.106] sta	tus is set to "configuratio	n changed"				
ew Switch 0	[2007/2/4 下午 07:33:] [2007/2/4 下午 07:33:]	23 J [AP_2]_[UU:19:5B:4 39] [AP_2]_[00:19:5B:4	5:BD:97]_[192.168.1.106] star 5:BD:97]_[192.168.1.106] off	tus 1s set to "not available line	r				
lanaged Switch 1 lanaged AP 2			5 BD 97] [192 168 1 106] off 5 BD 97] [192 168 1 106] on	line					
-	System Log Ac	tion Log							

#### **<u>Utilization</u>**→**AP** Traffic

This allows users 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.



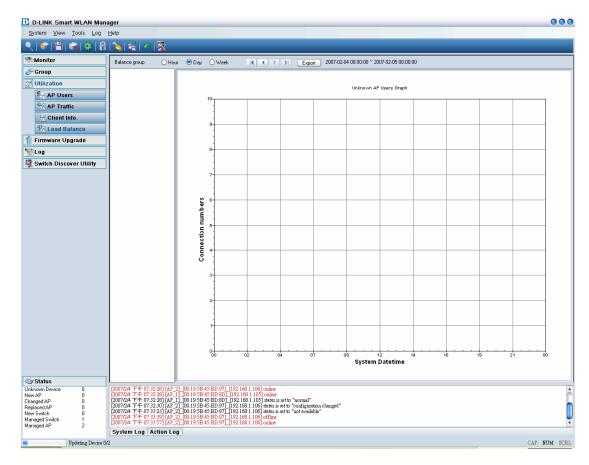
## <u>Utilization→Client Info.</u>

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

D-LINK Smart WLAN Ma	inager									000
System ⊻iew <u>T</u> ools Log	Help									
<u>   👻   🗄   🙀   🔅   </u>	a 💫 📽 🖉 🕵 -									
Monitor	Begin 2007/2/3 🝸	下午 07:47:21 € End 2	007/2/4 🖭	下午 07:47:	21 💽 🧏 🕷		Export	5/5		
Sroup	Station MAC Ad	Date_Poling	Client_state	RSSI	Mode	AP_Name	SSID	AP_MAC	AP_IP	
Utilization	00:15:00:48:20:ff	20070204_18.39.55 20070204_19.29.00	connect	32 31	g_mode g_mode	AP_1 AP_1	dink_net dink_net	00:19:58:45:8 00:19:58:45:8	192.168.1.105 192.168.1.105	
AP Users		20070204_19:30:45 20070204_19:32:07	disconnect	31 32	g_mode g_mode	AP_1 AP_1	dlink_net dlink_net	00:19:58:45:8 00:19:58:45:8	192.168.1.105 192.168.1.105	
AP Traffic		20070204_19:32:23	connect	46	g_mode	AP_1	dlink_net	00:19:5B:45:B	192.168.1.105	
Client Info.										
K Load Balance										
1 Firmware Upgrade										
1 Log										
🕵 Switch Discover Utility										
⁄ Status	1	1		1						
Unknown Device 0 New AP 0	[2007/244 下午 07:32:28] [AH [2007/244 下午 07:32:28] [AH [2007/244 下午 07:32:28] [AH [2007/244 下午 07:32:30] [AH [2007/244 下午 07:33:23] [AH [2007/244 下午 07:33:23] [AH	2_2]_[00:19:5B:45:BD:97]_[1 2_1]_[00:19:5B:45:BD:8D]_[1	92.168.1.106] onl 92.168.1.105] on	me ime	200					
Changed AP 0 Replaced AP 0	[2007/2/4 下午 07:32:28] [AI [2007/2/4 下午 07:32:30] [AI	2_1_00 19 5B 45 BD 8D] [1 2] [00 19 5B 45 BD 97] [1	92.168.1.105] sta 92.168.1.106] stat	tus is set to "no us is set to "co	ormal" infiguration chang	ed"				
New Switch 0 Managed Switch 1	[2007/2/4 下午 07:33:23] [AI [2007/2/4 下午 07:33:39] [AI [2007/2/4 下午 07:33:57] [AI	2_2]_[00:19:5B:45:BD:97]_[1: 2]_[00:19:5B:45:BD:97]_[1:	92.168.1.106] stat 92.168.1.106] off	us is set to "no line	ot available"					
Managed AP 2	[2007/2/4 千千 07:33:57] [AI System Log Action L		92.168.1.106] onl	ine						
Remaining time to next polling: 1s	System Log Action L	ug								CAP NUM SCR
remaining mus to next hound? Is										CAF NUM SCR.

#### **Utilization**→**Load Balance**

This allows users 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 users 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:

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

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

Status         Name         IP         MAC         SSID         Channel         Firmware Version           Online         AP_1         152.168.11.05         00:19.58.45.8D         dink_net         1         1.00.0014           Online         AP_2         192.168.11.06         00:19.58.45.8D         dink_net         1         1.00.0014           Online         AP_2         192.168.1.106         00:19.58.45.8D         dink_net         1         1.00.0014           Online         AP_2         192.168.1.106         00:19.58.45.8D         dink_net         1         1.00.0014           Image: Image	View by: 💽	AP 🔘 Swite	ch		Browse	Upgrade	
Online AP_1 192.168.1.105 00:19:58:45:8D: dlink_net 1 1.00.0014			IP	MAC			Firmware Version
Online         AP_2         1921681.106         00.19.58:45 BD         dink_net         11         1.00.0014           Image: AP_2	🕞 Online	AP_1		00:19:58:45:BD:	dlink_net	1	
ImageIma	Conline 💭	AP_2	192.168.1.106	00:19:58:45:BD:	dlink_net	11	1.00.0014
Image: section of the section of t							
Image: second							

## Log

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

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

In the following example, users choose the type "Description", enters "Group", and click " ". The filtered results are shown. To remove a filter, just delete the string entered and click " ".

System Log records all system events that have occurred. Users can choose to display by levels they are interested in. Filtering can be used for System Log as well. Log Type: 🛛 🗛 Action Log 🔷 Filter Type: Date/Time 😝 Filter: 😝 🛹 🖪 🔹 🕨 🗛 1/1 Date/Time Description 2007/2/4 下午 07:33:27 2007/2/4 下午 07:33:27 2007/2/4 下午 07:33:27 Save AP propertie delete filter mac [0015004820lf] from AP 192.168.1.106[00:19:58:45:8D:97] success set AP 192.168.1.106[00:19:58:45:8D:97] mac control filter to only allow success 2007/2/4下午 07:33:27 set AP 192.168.1.106[00:19:5B:45:BD:97] cts mode to auto success 2007/2/4 下午 07:33:27 2007/2/4 下午 07:33:27 set AP 192.168.1.106[00:19:58:45:BD:97] preamble type to short succe set AP 192.168.1.106[00:19:5B:45:BD:97] dtim interval to 1 success 2007/2/4下午 07:33:27 set AP 192.168.1.106[00:19:5B:45:BD:97] fragmentation to 2346 success 2007/2/4 下午 07:33:27 set AP 192.168.1.106[00:19:58:45:BD:97] rts threshold to 2346 success 2007/2/4 下午 07:33:27 2007/2/4 下午 07:33:27 set AP 192.168.1.106[00:19:58:45:BD:97] beacon interval to 100 success set AP 192,168.1.106[00:19:58:45:8D:97] transmit power to 100% success 2007/2/4下午 07:33:27 set AP 192.168.1.106[00:19:5B:45:BD:97] tx rates to Auto success 2007/2/4 下午 07:33:27 2007/2/4 下午 07:33:27 set AP 192.168.1.106[00:19:58:45:BD:97] wep64Key1 to 1234567890 success 2007/2/4下午 07:33:27 set AP 192.168.1.106[00:19:58:45:BD:97] wep152 default Key to key1 success 2007/2/4 下午 07:33:27 2007/2/4 下午 07:33:27 2007/2/4 下午 07:33:27 2007/2/4 下午 07:33:27 set AP 192.168.1.106[00:19:5B:45:BD:97] wep128 default Key to key1 success set AP 192.168.1.106[00:19:5B:45:BD:97] wep64 default Key to key1 success set AP 192.168.1.106[00:19:5B:45:BD:97] security type to wep 64bits share success 2007/2/4下午 07:33:27 set AP 192.168.1.106[00:19:5B:45:BD:97] ssid broadcast to enable success 2007/2/4 下午 07:33:27 2007/2/4 下午 07:33:27 set AP 192.168.1.106[00:19:5B:45:BD:97] wmm function to enable success set AP 192,168,1,106(00:19:58:45:BD:97) superg to disabled success 2007/2/4下午 07:33:27 set AP 192.168.1.106[00:19:5B:45:BD:97] ssid to dlink\_net success 2007/2/4 下午 07:33:27 set AP 192.168.1.106[00:19:5B:45:BD:97] wireless radio to on success 2007/2/4 下午 07:33:27 2007/2/4 下午 07:33:27 set AP 192.168.1.106[00:19:58:45:8D:97] bg mode to b/g success set AP 192.168.1.106[00:19:58:45:BD:97] location to 5F\_Right success 2007/2/4 下午 07:33:27 set AP 192.168.1.106[00:19:58:45:BD:97] trap host to 0.0.0.0 success 2007/2/4下午 07:33:27 set AP 192.168.1.106[00:19:5B:45:BD:97] user limit to 60 success 2007/2/4 下午 07:33:27 set AP 192.168.1.106[00:19:5B:45:BD:97] name to AP\_2 success set AP 192.168.1.106[00:19:58:45:BD:97] ip type to dhcp success 2007/2/4 下午 07:33:27 set AP 192.168.1.106[00:19:5B:45:BD:97] channel to 0 fail 2007/2/4 下午 07:33:12 apply Group1 template to AP 192.168.1.105[00:19:5B:45:BD:8D] success 2007/2/4 下午 07:31:51 2007/2/4下午 07:31:50 apply Group1 template to AP 192.168.1.106[00:19:5B:45:BD:97] success

Log Type: Action Log 😝 Filter Type: Description	🛉 Filter: Group 😝 🛹 🔍 🗸 🗩 🕅 🧛 1/1
Date/Time	Description
2007/2/4下午 07:31:51	apply Group1 template to AP 192.168.1.105[00:19:58:45:BD:8D] success
2007/2/4下午 07:31:50	apply Group1 template to AP 192.168.1.106[00:19:58:45:BD:97] success

i [AP_21_00:19:58:45:80:971_1192.168.1.106] online i [AP_21_00:19:58:45:80:971_1192.168.1.106] online
I [AP_2]_[00:19:58:45:BD:97]_[192.168.1.106] offline
AP 21 (00:19:59:45:9D:97) [192:169:1.106] status is set to "not available"
g [AP_2]_[00:19:5B:45:BD:97]_[192.168.1.106] status is set to "configuration changed"
g [AP_1](00:19:58:45:BD:8D](192.168.1.105) status is set to "normal"
I [AP_1](00:19:5B:45:BD:8D](192.168.1.105) online
I [AP_2]_(00:19:5B:45:BD:97]_(192.168.1.106] online
I [AP_1][00:19:5B:45:BD:8D][192.168.1.105] offline
g [AP_1]_[00:19:5B:45:BD_8D]_[192.168.1.105] status is set to "not available"
[AP_2]_(00:19:5B:45:BD:97]_[192.168.1.106] offline
g [AP_2]_[00:19:5B:45:BD:97]_[192.168.1.106] status is set to "configuration changed"
1 1 1 3

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## APPENDIX

#### **Cold Start the AP:**

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

- 1. Connect to the Switch configuration Web page, and select PoE port Settings.
- 2. Select the AP connected port at the switch, from port and to port, and disable the PoE\_Enable
- 3. Press the "Apply" button and wait for a few seconds
- 4. Select the "From Port" and "To Port". Enable the PoE\_Enable and wait about 1 minute.
- 5. Activate the WLAN Smart Manager and press start polling from the toolbar.

Tools 🗸		_				1947 I 1947 I		1	۱ 🖉	
DES-1228P	PoE Po	PoE Port Settings					O Safeguard			
Configuration PoE PoE Port Settings PoE System Settings	From Port			E_Enable Pisablec 💌	Power limit Auto	¥	Apply	Refresh	. 1	
Cos .	Port	PoE Enable	Power limit	Power(W)	Voltage(V)	Current(mA)	Classification	Status		
Security	01	Enabled	Auto	0.00	0.00	0.00	*	Normal	-	
Monitoring	02	Enabled	Auto	0.00	0.00	0.00	*	Normal		
	03	Enabled	Auto	0.00	0.00	0.00	*	Normal		
	04	Enabled	Auto	0.00	0.00	0.00	*	Normal		
	05	Enabled	Auto	0.00	0.00	0.00	*	Normal		
	06	Enabled	Auto	0.00	0.00	0.00	*	Normal		
	07	Enabled	Auto	0.00	0.00	0.00	*	Normal		
	08	Enabled	Auto	0.00	0.00	0.00	*	Normal		
	09	Enabled	Auto	0.00	0.00	0.00	*	Normal		
	10	Enabled	Auto	0.00	0.00	0.00	*	Normal		
	11	Enabled	Auto	0.00	0.00	0.00	*	Normal	1	
	12	Enabled	Auto	0.00	0.00	0.00	*	Normal	1	
	13	Enabled	Auto	0.00	0.00	0.00	*	Normal	1	
A REAL PROPERTY AND A REAL	14	Enabled	Auto	0.00	0.00	0.00	*	Normal	1	
	15	Enabled	Auto	0.00	0.00	0.00	*	Normal	1	
The designed provide the start strengt	16	Enabled	Auto	0.00	0.00	0.00	*	Normal	1	
	17	Enabled	Auto	0.00	0.00	0.00	*	Normal	-	

#### **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.