

Version 1.3

Smart WLAN Manager

Configuration Guide

Business Class Networking

Table of Contents

Introduction	3
Scenario 1 - Basic Setup	3
Enable the Wireless Awareness Function	4
Discover the switch and APs	7
Basic Configuration	9
Performance Test	10
Scenario 2 - Advanced Setup	11
Enable the Wireless Awareness Function	12
Topology View	15
Configuring the Anti-Rogue AP	17

Scenario 3 – Connecting AP indirectly to Switch... 19

Introduction

This document provides users with a quick guide that explains the essential operation of the Smart Wireless System (DES-1228P, DWL-3140AP, and Smart Wireless Manager). For detailed functions, please refer to the User Manual for each device.

Scenario 1 - Basic Setup

The diagram below shows a very basic L2 edge network configuration with one DES-1228P smart switch and two DWL-3140AP access points. All devices and the DHCP server are all in the same L2 domain.

The objectives in this setup are as follows:

- Understand the minimum configuration for operation.
- Discover the switch and APs.
- Understand the essential D-Link Web Smart Thin Access Point features.



The overview of the configuration steps for the Smart Wireless System is as follows:

- 1. Enable the wireless awareness function on the DES-1228P.
- 2. Discover the switch and APs.
- 3. Save the configuration.
- 4. Perform tests.

The table below shows the IP addresses used in this scenario. The following steps will guide you through the configuration of the Wireless Switch and the Access Point.

Device	Subnet
Wireless Switch	192.168.1.x/24
AP1	192.168.1.y/24
AP2	192.168.1.z/24
DHCP Pool	192.168.1.100~199/24

To begin the Wireless Switch configuration, connect APs to ports 9 and 17 (or any other unused ports). Continue to connect from a PC that is installed with the Smart Wireless Manager and on the same subnet (192.168.1.0/24) to port 1 (or any other unused port).

Enable the Wireless Awareness Function

 Launch the Smart WLAN Manager (no default password). Choose Tools > Switch Discover Utility or directly press the icon. The Discovery List window will appear. Click the Discovery button on the top right portion of the utility, and the Smart WLAN devices will be listed as shown below:

D-LINK Smart WLAN Manag	er								
<u>∃ S</u> ystem <u>V</u> iew <u>T</u> ools <u>L</u> og <u>H</u> el	P								
🤍 📚 🗒 🙀 😵 🔒	1	4 4 🕵		_	_		_		
The second secon	View by:	💽 _ist 🛛 Tree 🔾	Topology						
S AP	Filter Typ	D-Link WLAN Smart	Console I	Jtility					
🖳 Client									
Summary	Status		\bigcirc	()	🥶 🙆			<u> </u>	iscovery
FGroup	Onlin	🔮 Utility Settings	Monitor	IP Address	MAC Address	Protocol Version	Product Name	System Name	DHC
Otilization		😭 Log	-	192.168.0.1	001cf0ba2fae	2.002.003	DWL-3140_WLS	DWL-3140_WLS	enab
firmware Upgrade			~	192.168.0.1	001cf0ba2faf	2.002.003	DWL-3140_WLS	DWL-3140_WLS	enab
Ve Log		= Trap	~	192.168.0.1	00195b0994e0	2.001.003	DES-1228P	SW_1	enab
🕵 WLAN Smart Console Utility		💾 File	-						
		🥥 Help							

Note: DWL-3140AP with firmware version 1.00 cannot be discovered by the WLAN Smart Console. Please refer to the Firmware Upgrade section in the User Manual to upgrade the access points.

 Select DES-1228P, and then click the device setting icon, the device setting window will appear. Enable DHCP Setting, LLDP Setting and SNMP Setting then click **OK**. (Note: The default password is admin). If the DHCP server is not in your environment, insert the manual IP address directly into the device setting window.

Product Name	DES-1228P			
P Address	102 169 0 1		Product Name	DWL-3140_WLS_SW
MAC Address	00195b0994e0		IP Address	192 . 168 . 0 . 102
Sateway	192 . 168 . 0 . 254		MAC Address	001cf0ba2faf
Subnet Mask	255 . 255 . 255 . 0	1	Cateway	192 168 0 5
System Name		1	Galeway	102 . 100 . 0 . 0
frap IP	0.0.0.0	1	Subnet Mask	255 . 255 . 255 . 0
Group Interval	120	1	System Name	DWL-3140_WLS_SW
öystem Key	0.0.0.0		Group Interval	120
ICP Setting	LLDP Setting			
Enabled 🤨 🛛	Disabled C Enabled	Disabled	DHCP Setting	
			C Enabled	Disabled
IMP Setting				
Enabled 🕑 Disi	abled			
Confirm Password		-	Confirm Password	
committeessitore				

Note: The password for the DWL-3140AP in the Smart WLAN console is the SNMP community name, and the default value is "private".

DES-1228P with firmware version 1.20 or earlier cannot configure LLDP and SNMP setting on the WLAN Smart Console Utility directly. Please refer to the following step to enable these two functions or find local technical support to upgrade the DES-1228P.

3. If you cannot find the LLDP/SNMP setting in the device setting window, click the web access icon to launch the Web-based Management Utility for the DES-1228P. (Note: The default password is admin).

D-LINK Smart WLAN Manage	t								
i System <u>V</u> iew <u>T</u> ools Log <u>H</u> elp	,								
옷 [알] 🗄 🙀 🔅 🔒	N	4 🖉 🕵							
The Monitor	View by:	● List O Tree O	Topology						
S AP	Filter Typ	D-Link WLAN Smart	Console	Utility					-
Sclient Client									=
Summary	Status		\odot	()	iig 😥			<u> </u>	iscovery
FGroup	💭 Onlir	🎡 Utility Settings	Monitor	IP Address	MAC Address	Protocol Version	Product Name	System Name	DHC
🔀 Utilization		Sea Log	-	192.168.0.1	001cf0ba2fae	2.002.003	DWL-3140_WLS	DWL-3140_WLS	enab
firmware Upgrade			-	192.168.0.1	001cf0ba2faf	2.002.003	DWL-3140_WLS	DWL-3140_WLS	enab
1 Log		= Trap	-	192.168.0.1	00195b0994e0	2.001.003	DES-1228P	SW_1	enab
🕵 WLAN Smart Console Utility		File	-						
		lelp		а. 					

4. Enable the SNMP in **System** > **SNMP Settings** and enable the LLDP function in **Configuration** > **LLDP Setting**.

D-Link Building Networks for People	A LE OF N OF ALL AL ALL ALL ALL ALL ALL ALL ALL ALL	admin - 192.168.1.103
<	/html	
DES-1228P	SNMP Settings	O Safeguard
	SNMP	
	Community Settings	
Password Access Control		
	Access Right Community Name	
i in a start and a start a st	Read_Only public	
E-Security	Read_Winte PRIVATE	
i		
		Apply

D-Link Building Networks for People	A LA CALL A LA CALL A LA CALL AND AN AND AND AND AND AND AND AND AND	admin - 192168.0.5
DES-1228P System System Settings Trap Settings Port Settings Port Settings SubMP Settings Dot Settings Source Settings Source Settings Source Settings Dot Settings Monitoring	LLDP Configuration	C Safeguard

Discover the switch and APs

1. On the Smart WLAN Manager, choose **Tools** > **Discovery Wizard**. Fill in the Discovery password with the SNMP Read_Write Community Name "private" to discover the switch and APs.

D-LINK Smart WLAN Manag	Er				
<u>i S</u> ystem <u>V</u> iew <u>T</u> ools <u>L</u> og <u>H</u> el	P				
🔍 🐑 🖺 🙀 🏟 🔒	🍾 📽 🖉	1			
The Monitor	View by: 💽 Li	st 🔘 Tree	O Topology		
C AP	Filter Type		🖨 Filter		🕴 📃 Managed AP 🕴
Sclient Client		N	ID		COID.
🛃 Summary	Status	Name	IP	MAL	5510
Froup	Discovery	Wizard			0
🚰 Utilization					
🚹 Firmware Upgrade	Discove	ery Password :	private		
1 Log					
🕵 WLAN Smart Console Utility	Adva	nce		OK	Cancel

2. Click **OK** to scan the network by using the discovery password. The scanned results will appear as shown below.

Save New	Device			0
Discoverd Nev	w Device :			
Apply defa	Device Na	Device T		
	SW_1 AP 1	switch AP		
	AP_2	AP		
	Save		Cancel	

3. Click **Save** to add the devices found into the database. The basic information of managed APs including *IP address*, *MAC address*, *SSID*, and *Channel* are listed as below:

D-Link Smart WLAN Mana	iger										000
<u>S</u> ystem <u>V</u> iew <u>T</u> ools <u>L</u> og	<u>H</u> elp										
🔍 📚 🖺 🙀 🏟 🔒	1 🍾 📽 🖌	a 🕵									
Monitor	View by: 💿	List 🔘 Tree	Topology								
Client	Filter Type		🗧 Filter	\$	📃 Managed AP	8581	939				
Summary	Status	Name	IP	MAC	SSID	Channel	Firmware Version	Auto Channel S	Management H	Loadbalance gr	
Summary	i Online	AP_4	192.168.1.104	00:19:5B:45:BD:	dlink	11	1.00.0014	1	0.0.0.0		
Group	i Online	AP_3	192.168.1.101	00:19:5B:45:BD:	dlink	11	1.00.0014	1	0.0.0.0		
🚰 Utilization											
🚹 Firmware Upgrade											
1 Log											
🕵 Switch Discover Utility 👘											

4. Change the view to tree view. The wireless switch and APs will be listed as shown below. This also shows which physical port the AP connects to the wireless switch.



Basic Configuration

1. Double-click the switch entry, and the configuration window will appear. Click **OK** if any change is made.

⊖ Static	DHCP
IP Address	192 . 168 . 1 . 100
Subnet Mask	255 . 255 . 255 . 0
Gateway	192 . 168 . 1 . 1
System informat	ion
Name	SW_1
Location	D-Link HQ 5F

2. Similarly, double-click the AP entries, and the configuration window will appear. Click **OK** if any change is made.

Ap '192.168.1.101' c	onfiguration 🥥
Basic Wireless Advan	ce MAC filter
-IP address setting [Wa	uning: don't change these if you're not sure!]
LAND	💿 Dynamic IP Address
LANIT	Static IP Address
IP Address	192 . 168 . 1 . 101
Subnet Mask	255 . 255 . 255 . 0
Gateway	192.168.1.1
Other information —	
Name	AP 1
Connection Limit	60
Management Host	0.0.0.
Location	D Link SR Loft
1000abir	D-Duk Jr_Dell
Active clients	0
	OK Cancel

3. The AP will reboot after the modification is made.

Ap '192.168.1.104' configuration [40%]	
Rebooting deviceplease wait	
	Cancel

4. Use a wireless terminal (eg. Laptop or PDA) to connect to the SSID "dlink"; change to **Monitor** > **Client** and the client information will appear as shown below:

D -Link Smart WLAN Manager							
<mark>S</mark> ystem <u>V</u> iew <u>T</u> ools <u>L</u> og	<u>H</u> elp						
2 😒 🗃 🙀 😵	8	\$					
Monitor	Filter Type :	•	Filter :	•	Clean Filter		
Client	AP Name AP 2	AP MAC 00:19:5B:45:BD:97	AP IP 192 168 1 104	Client MAC	RSSI 23	Mode b-mode	
Summary							
Sroup 🖉							
🚰 Utilization							
👚 Firmware Upgrade							
1 Log							
Switch Discover Utility							

Performance Test

Ping AP, WS, and the default gateway from the client to test the connectivity.

Scenario 2 - Advanced Setup

Continued from the previous scenario, this session has the following objectives:

- Understand how to perform the central management for APs by group.
- Understand how to use the topology view.
- Understand how to enable the anti-rogue AP function.



Enable the Wireless Awareness Function

Smart WLAN Manager allows users to configure multiple access points at the same time by grouping them together. It makes the AP management more efficient, especially in large networks. Please see the following steps for more information on group configurations.

- 1. Change to the "Group" menu, and click the Add Group icon 🔝 . A window will appear. Fill in the group name "Test" and select both APs in the "Basic" tab.
- 2. Click **OK** and a confirmation message will appear. Click **OK** to confirm the change, and the group view will appear as shown below.

ld group			
Basic Wireless A	dvance MAC filter		
Group Name : Tes	t		
Avaliable Device List			
AP Name	IP	MAC	
☑ AP_1	192.168.1.101	00:19:5B:45:BD:8D	
AP_2	192.168.1.104	00:19:5B:45:BD:97	
1			
		OK	Cancel

3. Select the "Test" group and click the Config Group Template icon ⊵ . The Config template window will appear.



4. Check the Wireless Network Name and fill in new SSID "*dlink_net*". Change the following settings:

- Security: WEP
- Authentication: Shared Key
- WEP Encryption: 64Bit
- Default Key: Key1
- WEP-Key: 1234567890

Click OK to confirm the change and both APs will be rebooted.



5. Right-click on an AP and select "Configuration". Select the "Wireless" tab and note that all changes from the template will have been applied to the AP.

Ap ' AP_1:(00:19:5B:45:BD:8D):192.168.1.101' configuration 💦 🧕				
Basic Wireless Adva	nce MAC filter			
BAG Mode Wireless Radio Wireless Network Name (SSID) Channel Super G Mode	Mixed On Off Mine net Auto Channel Scan Disabled			
SSID Broadcast	Enable Disable Disable Disable			
Security Authentication : WEP Encryption :	WEP • Open System • Shared Key 64Bit •			
Default Key : WEP-Key :	Keyl • 1234567890			
	OK Cancel			

Topology View

Topology View offers users to visualize the status of the AP and wireless switch on the floor plan. With the topology view, users can locate the troubled AP very quickly once the failure occurs. Please see the following steps to configure topology view.

1. Select Monitor > AP, and view by topology.

D-Link Smart WLAN Mana	ager							(000
<u>S</u> ystem <u>V</u> iew <u>T</u> ools <u>L</u> og	<u>H</u> elp								
2 😤 🖺 🙀 🔅 🔒	🍾 🗳 🖉 🖗	Ř.							
Monitor	View by: O List	🔿 Tree 🧕 🤇	Topology		8855	5. C. C. E. E.	¥		
C AP							-		
🖳 Client									
🛃 Summary									
Sroup .									
Utilization	The second second								
Firmware Opgrade									
Elog									U
Switch Discover Utility									
				\bigcirc					
				~					

2. Click the Load Map icon to upload the floor plan file.

D-Link Smart WLAN Mana	iger (000
<u>S</u> ystem <u>V</u> iew <u>T</u> ools <u>L</u> og	Help	
🔍 😒 🗒 🎼 🌚		
Monitor		Í

3. Zoom-in on the floor plan and drag the icons to their proper position, then click the "Save Topology Position" icon.



4. Disconnect an AP and observe the changes in the topology view.



Configuring the Anti-Rogue AP

The Anti-Rogue AP function allows users to block illegal access points and keep network access security. Please continue with the following steps to configure the Anti-Rogue AP function.

1. Double-click the switch you would like to enable the anti-rogue AP function from tree or topology view. The switch configuration window will appear.





- 2. Decide which switch and ports will be the wireless port before configuring the Anti-Rogue AP function.
- 3. Configure the Anti-Rogue function in the "Anti-Rogue" tab. Make the appropriate selections from the "From Port" and the "To Port". After selecting "Enable" from the Control selection, click the **Apply** button.

From Port	To Port Control	
Port	Anti-Rogue Control	
1	Disable	
2	Disable	
3	Disable	
4	Disable	
5	Disable	
5	Disable	
7	Disable	
3	Disable	
)	Disable	
10	Disable	
11	Disable	
12	Disable	
12	Disable	_

4. Click the "Modify All Device System Key" icon in the standard bar and key to set up the new configuration key. Select "All Managed Device" and input the new system key. Click **OK** to continue.

D D-LINK Smart WLAN Manager							
i ∑ystem ⊻iew Iools Log Hel	p						
୍ରାକାଆଲାଡ଼ାଳି 😼 ଶାମାହି							
The Monitor	View by: 🔿 List 💿 Tree 🔿 Topology 😜 🐑 🍉						
Client	SW_1: (00:13:58:09:34:E0): 192:16 → SW_1: (00:13:58:09:34:E0): 192:16 → Modify System Key	0					
🛃 Summary	 All Managed Device 						
Sroup 🥏	System Key						
Utilization	Modify System Key of All Managed Key Error APs						
🚹 Firmware Upgrade	Sinde Device						
1 Log							
🕵 WLAN Smart Console Utility	IP Address						
	Device Model						
	Password						
	System Key						
	OK Cancel)					

5. If a key error happens on access points, the devices status icon will change in the monitor list. Right-click the device icon and select **Modify System Key of All Managed Key Error APs** or go to the System Key configuration page and select **Modify System Key of All Managed Key Error APs** to change the system key of access points.

D-LINK Smart WLAN Manage	21	D D-LINK Smart WLAN Manager
<u>System View Tools Log H</u> elp	p	: System Yew Icols Log Help
옷 (빨) 🗒 🙀 🔅 🔒	N 🙀 🖆 🖉 🕵	Image: Second
Monitor AP Client	View by: O List O Tree O Topology Filter Type Filter Ma	Summary Old
Summary	Status Name IP MAC SSID	Firmware Upgrade Single Device
Foroup	Add 10 Managed AP 110:F0:BA:2F: dlink	IP Address
Utilization	Configuration	Device Model
firmware Upgrade	Reload Previous Configuration	Password
1 Log	Save To Database	
🕵 WLAN Smart Console Utility	Delete From Database Replace	OK Cancel

Scenario 3 – Connecting AP indirectly to Switch

In some large environments, the DES-1228P does not connect to the DWL-3140AP directly because of the limitation of the environment (Distance, number of AP...). Administrators have to make sure the devices between the switch and APs support the LLDP function or is transparent to the LLDP packet because the Smart WLAN Manager system is communicating to each other by the LLDP and SNMP protocol.



In this kind of topology, Smart WLAN Manager will behave a little differently with normal topology:

- 1. If either one of the APs under ES1 passed the anti-rogue authentication of the DES-1228P port, the switch port will not authenticate the other APs even if the system key is error.
- 2. If connecting more than two APs to ES1, the discovered APs will be shown as a replaced AP, not as a new AP.

