

Wireless Aware Smart Switching System

Configuration Guide

Business Class Networking

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Introduction

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

System Requirement

Suggested Specifications for Smart WLAN Manager installation:

- A PC or Notebook with an installed network adapter
- Supported OS: Windows[®] 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.

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 are in the same L2 domain, and a DHCP server needs to be in the network.

The objectives in the setup procedure are as follows:

- Understand the minimum configuration for operation
- Discover the switch and APs
- Understand the essential D-LINK Unified Access Point features.



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

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

The table below provides 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 port 9 and 17 (or any other unused ports). Continue to connect from a PC that has the Smart Wireless Manager installed and on the same subnet (192.168.1.0/24) to port 1 (or any other unused port).

1.1 Enable the Wireless Awareness Function

1. Launch the Smart WLAN Manager (no default password). Choose Tools>Switch Discover Utility or directly press the icon, and the Discovery List window will appear:

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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 set	ting Firmware up	grade Exi	t		

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

Device information	
Device Type	DES-1228P
Firmware Version	1.20.03 🖕
Protocol Version	2.001.D03
MAC Address	00-17-9a-52-38-38
DHCP Client	Enabled Settings
IP Address	192.168.1.101
Subnet Mask	255.255.255.0
Default Gateway	192.168.1. <mark>1</mark>
Safeguard Engine	Enabled Settings

3. To enable SNMP, click the hyperlink on the homepage (or choose System>SNMP Settings), make sure the read_write community name is set to "private", and then enable the function.

5
0 days 0 hours 21 mins 21 seconds
Disabled <u>Settings</u>
Disabled <u>Settings</u>
Disabled <u>Settings</u>
Disabled Settings
Disabled Setting
Disabled Settings

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Tools 👻	/html	- <u>1</u> Lo
ES-1228P System Top Settings Ford Settings Prof Settings Prof Settings Prof Settings Prof Settings Prof Settings Configuration Prof Security Monitoring	SNMP Settings SNMP O Enable Community Settings Access Right Read_Only public Read_Write PRNATE	
	Trap Settings O Enabled O Enabled Trap Name IP public O, O, O, O Fiber Link Up / Link Down Fiber Link Up / Link Down Fiber Link Up / Link Down Twisted Pair Link Up / Link Down Twisted Pair Link Up / Link Down Twisted Pair Abnormal Receive Error	
	Twisted Pair Abnormal Transmit Error Power On/ Power Offic Power Threshold Above/Below PoE Power Fail Power Overcurrent Vitimi	

4. Enable LLDP on the DES-1228P switch. To do that in the menu on the left go to *Configuration > LLDP Settings*. Select "Enabled" and click Apply.



1.2 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", and the IP of DES-1228P:

Discovery Wizard					0
Discovery password: Please input the IP address of w Input IP From IP 192.168.1.100 To IP:	private 'ireless switch Add>> Delete	From IP 192.168.1.100		End IP	
			OK		Cancel

2. Press "OK" to scan the IP address range, and notice the scanned results when they appear as shown in the table below:

Save New I	Device			۲
Discoverd Nev	v Device :			
Apply defa	Device Na SW_1 AP_1 AP_2	Device T switch AP AP		
	Save]	Cancel	

3. Click "Save" to add the devices found into the database. This will include the basic information of managed APs including *IP address*, *MAC address*, *SSID*, and *channel* as listed below:

D-Link Smart WLAN Mana	ger										000
	<u>H</u> elp										
2 12 13 24 3	🍾 📽 4	a 🕵									
Monitor	View by: 💿	List 🔾 Tree	Topology								
C AP	Filter Type		🗧 Filter	\$	😑 Managed A	P 885					
Cirent	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		
Sroup 6	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 to view the tree structure to list the wireless switch and APs. This will also show which physical port the APs are connected to the wireless switch:

D-Link Smart WLAN Mana	iger
<u>S</u> ystem <u>V</u> iew <u>T</u> ools <u>L</u> og	Help
2 12 13 24 2	N 4 1 1 1 K 🖌
Monitor	View by: O List 💿 Tree O Topology
C AP	J □
🖳 Client	(09.01) AP_3: (00:19:58:45:8D:8D): 192.168.1.101
💺 Summary	(17,01) AP_4: (00:19:58:45:8D:97): 192.168.1.104
Sroup 🥏	
Vtilization	
👚 Firmware Upgrade	
1 Log	
🕵 Switch Discover Utility	

1.3 Basic Configuration

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

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

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

The AP will reboot after the

modification is made.

Basic	Wireless Advan	ce MAC filter			
	address setting [Wa	aming: don't change these if you're n	iot sure!]		7
L	N IP	💽 Dynamic IP Address			
		🔘 Static IP Address			
IP	Address	192 . 168 . 1 . 101			
Su	ıbnet Mask	255 . 255 . 255 . 0			
Ga	ateway	192 . 168 . 1 . 1			
Ot	ner information —				
N	ame	AP_1			
	nnection Limit	60			
	UDISCUOJI DUBL				
M	anagement Host	0.0.0.0			
Lo	ocation	D-Link 5F_Left]	
Ad	tive clients:	0			
			OK	Са	ncel
	Ap '192.168.	1.104' configuration [40%	•]		
	Rebooting device	please wait			

3. Use a wireless terminal (e.g. Laptop or PDA) to connect the SSID "dlink"; Select Monitor>Client and the client information will be shown as below:

D-Link Smart WLAN Mana	ger						
<u>i S</u> ystem ⊻iew <u>T</u> ools <u>L</u> og	<u>H</u> elp						
🔍 😒 🖺 🙀 🏟 🔒	🔪 🗳 🖉	\$					
Monitor	Filter Type :	+	Filter :	•	Clean Filter		
- m	AP Name	AP MAC	AP IP	Client MAC	RSSI	Mode	
Sclient 🔁	AP_2	00:19:5B:45:BD:97	192.168.1.104	00:c0:49:c9:f5:64	23	b-mode	
🛃 Summary							
Sroup 6							
Vtilization							
🚹 Firmware Upgrade							
1 Log							
Switch Discover Utility							

1.4 Performance Test

1. Ping AP, Wireless Switch, and the default gateway from the client to test the connectivity.

Scenario 2 – Advanced Setup

As 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



2.1 Group Management

 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:

add group			0
Basic Wireless A	lvance MAC filter		
Group Name : 🛛 🕅 Group Name : 🔹 🕅 Group Name : 🔹 🖓 Test (1990) (19900) (19900) (19900) (1990) (19900) (19900) (19900) (19900) (19900) (19900) (19900)			
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	
		ОК С	lancel

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Press "OK", and a confirmation message will appear. Click "OK" to confirm the change, and the group view will be shown as below:



config "Test" template

Wireless Advance MAC filter

 Select the "Test" group and click the "Config group template" icon. Check the Wireless Network Name and fill in the new SSID "*dlink_net*"; change the security setting to WEP/Shared Key Authentication/64 bit Encryption/Default Key 1: 1234567890. Click "OK".

🔲 LoadBalance Select 💿 Enable 🔘 Disable
A B/G Mode
Mireless Radio On Off
Wireless Network Name dlink_net
Channel Channel Scan
C Super G Mode
MMM Function 💿 Enable 🔘 Disable
SSID Broadcast 💿 Enable 🔿 Disable
User Number Limit
Security WEP 🛊 🖕 2
Authentication : 🕞 Open System 💿 Shared Key 🧲 3
WEP Encryption : 64Bit 😝 🧲 4
Default Key : Keyl + 5 WEP-Key : 1234567890 - 6
OK Cancel

Confirm the change and both APs will reboot.

3. Right click on an AP and choose "configuration". Select the "Wireless" tab and all changes from the template will have been applied to the AP.

Ab . Ab 1:(nn:18:25	3:45:BD:8D):192.168.1.101 Configuration
Basic Wireless Adva	nce MAC filter
514111	
B/G Mode	Mixed 🗘
Wireless Radio	💿 On \ominus Off
Wireless Network Name (SSID)	dlink_net
Channel	2 💠 🗹 Auto Channel Scan
Super G Mode	Disabled
WMM	📀 Enable 🔘 Disable
SSID Broadcast	💽 Enable 🔘 Disable
Security	WEP 🔶
Authentication :	🔘 Open System 📀 Shared Key
WEP Encryption :	64Bit
Default Key :	Keyl
Denout Roy .	
WEP-Key:	1234567890
	OK Cancel

0

2.2 Topology View

1. Change to Monitor>AP, view by topology



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

D-Link Smart WLAN Manager	000
System View Tools Log Help	
™Manitar View by: List Tree ● Topology ● Topology	
Carl Status) +

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



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

System View Tools Log Help	
View by: O List O Tree 🕑 Topology 😜 😜 🦢 🤤 🖏 🖏 📼 🖬 🛱	
Verter Unit Tre Tre Tree Tree	
Carl Status)+

2.3 Configuring the Anti-Rogue AP

1. Before configuring the Anti-Rogue AP function, decide which switch and ports will become the wireless ports. Once this function is enabled on a port, the switch will check the AP with the system key to determine whether it will be authenticated or denied. Only the DWL-3140AP with the correct system key can connect to the switch.



2. Select the switch from tree or topology view



3. Configure the Anti Rogue function in the "Anti-Rogue" tab. Select the "From" port, "To" port, and "Enable" the control so that it is active. Press the "Apply" button.

Switch config	0
System Anti-ro;	gue Port Mapping
From Port	To Port Control
2 📫	5 💠 Enable 🔶 Apply
Port	Anti-Rogue Control
1	Disable
2	Disable
3	Disable
4	Disable
5	Disable
б	Disable 🔍
7	Disable
8	Disable
9	Disable
10	Disable
11	Disable
12	Disable
13	Disable
	OK Cancel