# **Configuring SNMP on D-Link switches**

## Introduction

In order to supervise this type of equipment, you need to provide Esia with a community that has read-only SNMP V1/V2c access. We therefore need to start by configuring SNMP on this equipment.

To do this, you first need to enter the IP address of the switch in the URL of your browser. Then authenticate yourself.

It is then possible and **necessary to activate SNMP**. By default, it offers SNMP access in V1/V2c for the 'public' (read-only access) and 'private' (read and write) communities. **public' (read-only access) and 'private' (read and write) communities**. As a reminder, only read-only access is required for Esia. Depending on the range of the switch, the views used in the default community may be more or less restrictive.

Depending on the range, switch configuration differs little, but the following elements may differ:

- The design of the management interface
- The location of the SNMP administration pages in the menu tree.
- The presence or absence of additional SNMP options.
- The default settings for views and other parameters may differ.

#### Don't forget to save your configuration once it's working properly.

This tutorial has been tested with the following switches:

- DGS-12XX series or equivalent : DGS-1210
- DGS-15XX, DGS-31XX, DGS-36XX, DXS-34XX, DXS-36XX series

### **DGS-12XX** series

#### Menu

Go to « SNMP  $\Rightarrow$  SNMP ».

The configuration pages of interest are :

- SNMP Global Settings: To enable SNMP (which is disabled by default).
- SNMP View Table Configuration: To configure rules for SNMP views and therefore control access to the various SNMP OIDs.
- SNMP Community Table: Binds community names to SNMP users.
- SNMP User Table: Configures SNMP users, who are linked to an SNMP group.
- SNMP Group Table: Configure SNMP groups and link views to them for SNMP read (what we are interested in), write and notification actions.

The last 2 pages (User and Group) are present on all switches. They are dedicated to SNMPv3 configuration, which is not required for Esia, but these pages are necessary for SNMPv2 in some switches (DGS-1210 for example) in order to link an SNMPv2 community to a particular view.



#### **Enable SNMP on the switch**

Tick the 'Enabled' box and then the 'Apply' button. Your Esia can now access the switch via SNMP via the 'public' community.

Your switch can now be monitored by Esia. The rest of this tutorial is useful if your switch is not configured by default or if you wish to make more detailed settings. In particular, it is advisable to change the name of the community (see below).

#### **Configuring a view**

You can configure different views in your switch by adding rules. You need at least one rule to create a view and access defined OIDs. The rule parameters are :

- View name: Name of the view that will have this rule.
- Subtree OID: The tree of OIDs to include or exclude.
- View Type: Choose whether to include or exclude the branch of OIDs specified above.

As you can see from the screenshots below, a view called ReadWrite is already configured with all the OIDs.

D-Link Building Networks for People	Wizard 🔹 Help 🗸	Surveillance Mode			admin - 172.17.200.3
DGS-1210-10MP           B         System           B         VLAN           B         L2 Functions           B         Security           B         Security           B         AAA           B         ACL           B         PoE	SNMP View Table View Name Subtree OID OID Mask View Type	e Configuration	] ]		Safeguard
PoE Global Settings     PoE Pot Settings     SNMP     SNMP     SNMP User     SNMP Group     SNMP Group     SNMP Community     SNMP Host     SNMP Engine ID     RMON     Monitoring	View Name ReadWrite	Subtree OID	OID Mask 1	View Type Included	Delete Delete

#### **Configuring an SNMP community**

The parameters are :

- Community Name: The name of the community
- User Name (View Policy): The SNMP user. Necessary for linking views. You therefore need to browse the SNMP User and Group configuration pages.
- The community used by default, 'public', is linked to the 'ReadOnly' user. It can be used for Esia access. You can therefore use this community, but it is preferable to create your own community and link it to the 'ReadOnly' user.

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DGS-1210-10MP  System VLAN  L2 Functions L3 Functions  CoS CoS Security CoS Source Sou	SNMP Community Table         Community Name         User Name (View Policy)         Image: Indicates mandatory data.         Community Name         public         ReadOnly         private	Add Delete Delete Delete

#### Setting up an SNMP group

Allows you to create user groups and link them to views corresponding to a particular SNMP action. The parameters of a group are :

- Group Name: Name of the user group
- Read View Name: The view to be used for read operations (for Esia, a view with few restrictions is required).
- Write View Name: The view to be used for write operations (Not required in Esia).
- Notify View Name: The view to be used for SNMP traps (not required in Esia).
- Security Model: V2c is preferable for Esia.

You can leave the default D-Link settings.

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DGS-1210-10MP	Wizard O Help	Table	nce Mode				Logout Safeguard
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🖻 🌈 SNMP	ReadOnly	ReadWrite		ReadWrite	v1	NoAuthNoPriv	Delete
SNMP	ReadOnly	ReadWrite		ReadWrite	v2c	NoAuthNoPriv	Delete
SNMP User	ReadWrite	ReadWrite	ReadWrite	ReadWrite	v1	NoAuthNoPriv	Delete
SNMP Group	ReadWrite	ReadWrite	ReadWrite	ReadWrite	v2c	NoAuthNoPriv	Delete
SNMP View SNMP Community SNMP Host SNMP Engine ID S							

#### Configuring an SNMP user

To create SNMP users, it is then possible to assign a community to these user(s). The parameters are :

- User Name: Name of the user
- Group Name: Group to which you wish to link the user
- SNMP Version: Choose V2c

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DGS-1210-10MP	SNMP User Ta	able				😑 Safeguard
L2 Functions	User Name	×				
	Group Name	· · · ·				
E Security	SNMP Version	v1 ~				
ACL	Encrypt	Disabled 🗸				
PoE Global Settings	Auth-Protocol	MD5 V	Password			
SNMP	Privacy Protocol	DES 🗸	Password			
SNMP Global Settings	* indicates mandatory data.					
	User Name	Group Name	SNMP Version	Auth Protocol	Privacy Protocol	Delete
SNMP View	ReadOnly	ReadOnly	v1	None	None	Delete
SNMP Community	ReadOnly	ReadOnly	v2c	None	None	Delete
SNMP Engine ID	ReadWrite	ReadWrite	v1	None	None	Delete
± <sup>™</sup> RMON	ReadWrite	ReadWrite	v2c	None	None	Delete
🗈 🎬 Monitoring						

The 'ReadOnly' user shown above is sufficient in Esia.

# DGS-15XX, DGS-31XX, DGS-36XX, DXS-34XX, DXS-36XX series

The firmware of the following switches is identical, so the tutorial is compatible: DGS-1250/1510/1520/3630/DXS-3400/DXS-3610

#### Menu

- Go to « Management  $\Rightarrow$  SNMP ».
- Or, more easily, enter 'SNMP' in the search bar.

The configuration pages of interest are :

- SNMP Global Settings: to enable SNMP (which is disabled by default).
- SNMP View Table Configuration: to configure rules for SNMP views and thus control access to the various SNMP OIDs.
- SNMP Community Table: Binds community names to SNMP users.
- SNMP User Table: Only for SNMPv3.
- SNMP Group Table: For SNMPv3 only.

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snmp						
DGS-3130-30PS						
E System						
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User Accounts Settings						
Password Encryption						
Password Recovery						
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E SNMP						
SNMP Global Settings						
SNMP Linkchange Trap Settings						
SNMP View Table Settings						
SNMP Community Table Settings						
SNMP Group Table Settings						
SNMP Engine ID Local Settings						
SNMP User Table Settings						
SNMP Host Table Settings						

#### Enable SNMP on the switch

Tick the 'Enabled' box and then the 'Apply' button. Your Esia can now access the switch via SNMP via the 'public' community.

Your switch can now be monitored by Esia. The rest of this tutorial is useful if your switch is not

configured by default or if you wish to make more detailed settings. In particular, it is advisable to change the name of the community (see below).

#### **Configuring a view**

You can configure different views in your switch by adding rules. You need at least one rule to create a view and access defined OIDs. The rule parameters are :

- View name: Name of the view that will have this rule.
- Subtree OID: The tree of OIDs to include or exclude.
- View Type: Choose whether to include or exclude the branch of OIDs specified above.

As you can see from the screenshots below, by default, 2 views are offered 'restricted' and 'CommunityView'. These 2 views are both restricted in OIDs.

<b>D-Link</b> Building Networks for People	и та та та та та та та	D-Link		
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E D Management	View Name * 32 chars			
📄 Command Logging	Subtree OID * N N N N			
📑 User Accounts Settings				
Password Encryption	View Type Included	<u> </u>		
Password Recovery	* Mandatory Field			Add
E Login Method				
SNMP	Total Entries: 8			
SNMP Global Settings	View Name	Subtree OID	View Type	
SNMP View Table Settings	restricted	1.3.6.1.2.1.1	Included	Delete
SNMP Community Table Se	restricted	1.3.6.1.2.1.11	Included	Delete
SNMP Group Table Setting	restricted	1.3.6.1.6.3.10.2.1	Included	Delete
SNMP Engine ID Local Set	restricted	1361631121	Included	Delete
SNMP User Table Settings	restricted	10010011	Included	Delete
RMON	restricted	1.3.0.1.0.3.15.1.1	Included	Delete
Telnet/Web	CommunityView	1	Included	Delete
Session Timeout	CommunityView	1.3.6.1.6.3	Excluded	Delete
E DHCP	CommunityView	1.3.6.1.6.3.1	Included	Delete
📄 DHCP Auto Configuration				

You can use the default view 'CommunityView'. This is restrictive with regard to OID 1.3.6.1.6.3 (snmpModules) but these OIDs are not used in Esia (and therefore not necessary).

If you still want to be able to access all the OIDs on these switches, you can either :

- Remove the exclusion rule for oid 1.3.6.1.6.3 for 'CommunityView'.
- Create a new view with the following parameters
  - Subtree OID: 1
  - View Type: Included

#### **Configure an SNMP community**

The parameters are :

- Community Name: The name of the community
- View Name: The view to be used.
- Access Right: Read-only (sufficient for Esia) or Read-Write
- IP Access-List Name: Only available on stackable switches, this option allows you to restrict the IPs that can access the switch via SNMP. For greater security, you can enter the IP address of Esia or Unity.

Building Networks for People	sh <u>r</u>	D-Link			as: administrator, 2
snmp	SNMP Community Ta	ble Settings			
□ DGS-3130-30PS     □    □    □	SNMP Community Settings				
Management	Кеу Туре Р	lain Text 🔻			
📄 Command Logging	Community Name 22	charg			
User Accounts Settings	Community Name 32	cliais			
Password Encryption	View Name 32	chars			
Password Recovery	Access Right R	ead Only 🔹			
Login Method					
	IP Access-List Name 52	chars			
SNMP Global Settings					Add
SNMP LInkchange Trap Se					
SNMP Community Table St	Total Entries: 2				
SNMP Group Table Setting	Community Name	View Name	Access Right	IP Access-List Name	
SNMP Engine ID Local Set	private	CommunityView	rw		Delete
SNMP User Table Settings	public	Community / iow			Delete
SNMP Host Table Settings	public	Communityview	10		Delete

You enter the view to be used directly in View Name. You do not have to go through a user and a user group as is the case for other D-LINK switches.

The 'public' community uses the 'CommunityView' view by default. By default, this view is restricted for oid 1.3.6.1.6.3 (snmpModules) which is not used by Esia. You can therefore use this community, but it is preferable to create a new community using this view.



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