DLink Smart Pro Setup Guide

When used with ELAN Video Over IP products

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Introduction

The ELAN Video Over IP solution requires a layer 3 Managed switch in order for HDMI distribution to be achieved reliably and with no loss in performance.

The following guide is a step-by-step instruction on how to connect and configure your DLink Smart Pro Layer 3 Managed network switch.

In this setup guide we will be refering to the DLink Smart Pro DGS-1510-28P network switch. Should you be installing an alternate model DLink switch please check performence and configuration options are equal to or better than this model.

DLink Feature Requirements

The following features need to be enabled on the DLink network switch:-

1. Jumbo Frame
2. Layer 2 Advanced Features
3. IGMP Snooping/Video Over IP
4. MLD Snooping
5. POE (if utilised)

Feature explanation:

- Video Over IP (one-to-many or many-to-many distribution) is group communication where information is addressed to a group of network devices simultaneously (ELAN Video Over IP products).
- Jumbo frames are Ethernet frames with more than 1500 bytes of payload. Conventionally, jumbo frames can carry up to 9000 bytes of payload and must be activated in order to send large packets of data for HDMI distribution.
- IGMP management & snooping is the process of listening to Internet Group Management Protocol (IGMP) network traffic. The feature allows a network switch to listen in on the IGMP conversation between hosts, routers & receivers (Video Over IP Transmitter, network switch and Video Over IP Receiver). By listening to this flow of traffic the switch maintains a map of which links need which IP Video Over IP streams. (which ELAN Video Over IP products are active and where the signal is being distributed to).

Connecting To The Switch Web GUI Interface

To login into the DLink network switch the factory default details are:

IP Address: 10.90.90.90

User: admin

Password: admin

In order to connect to the network switch your computer will need to be physically connected to the DLink switch using a Ethernet network cable. The computer must also be in the same IP range as the DLink switch default IP address. If you are unsure how to update your computer IP range follow the 'Changing your computer IP address' instructions at the rear of this guide.

1) Open your internet browser (Google Chrome, Mozilla, Internet Explorer etc)
2) Type the network switch default IP address into the web browser bar
3) Enter the default user name and password

Note: If the switch is not using the factory default settings you will need to know these login details or have to factory reset the unit. For details how to factory reset the network switch please refer to the networks switch user manual.

Please note once defaulted, the DLink switch will welcome you with a Smart Wizard that will take you through setting up the switch. This Smart Wizard is not required and you can ignore the wizard and 'Exit' out of the wizard.

Jumbo Frame

To enable Jumbo Frame,

Under 'System' menu

Under 'Port Configuration'

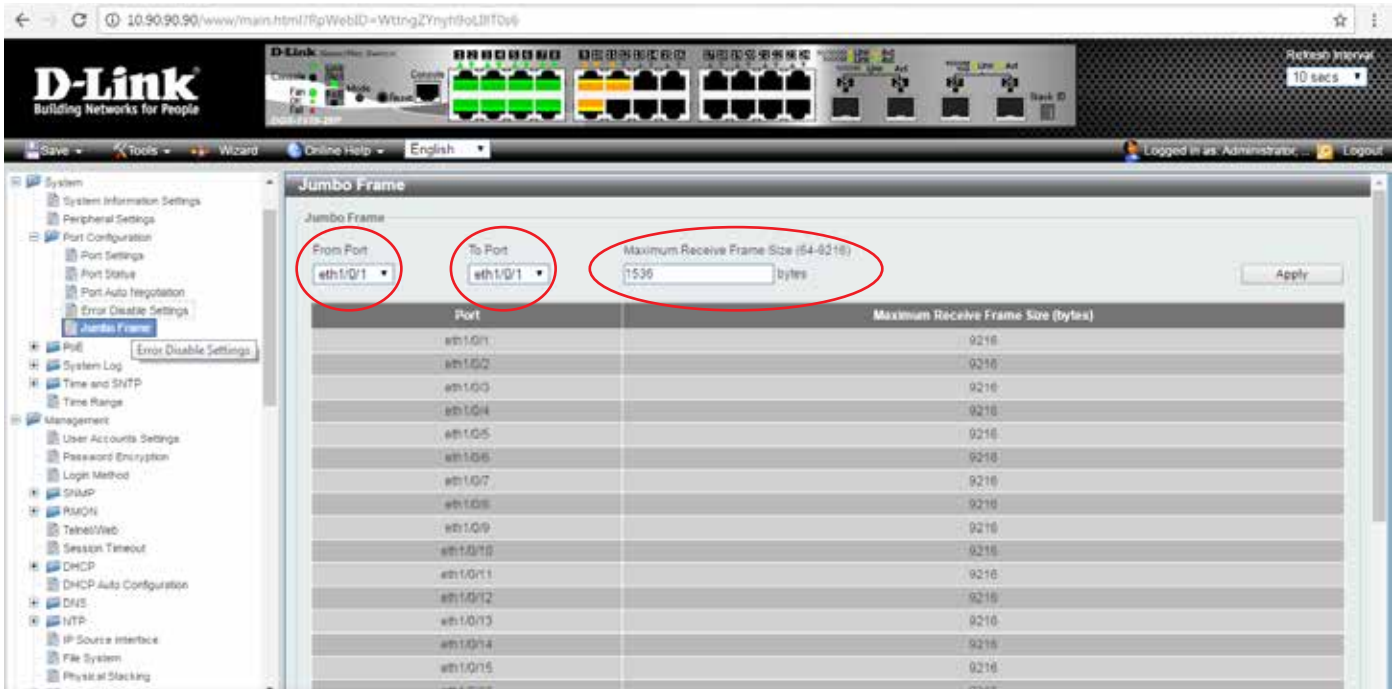
Select 'Jumbo Frame'

Change the following settings:

From Port to 'eth1/0/1'

To Port to 'eth1/0/28'

Maximum Receive Frame Size to '9216'



Click 'Apply' to update the setting.

IGMP Snooping

To enable IGMP Snooping,

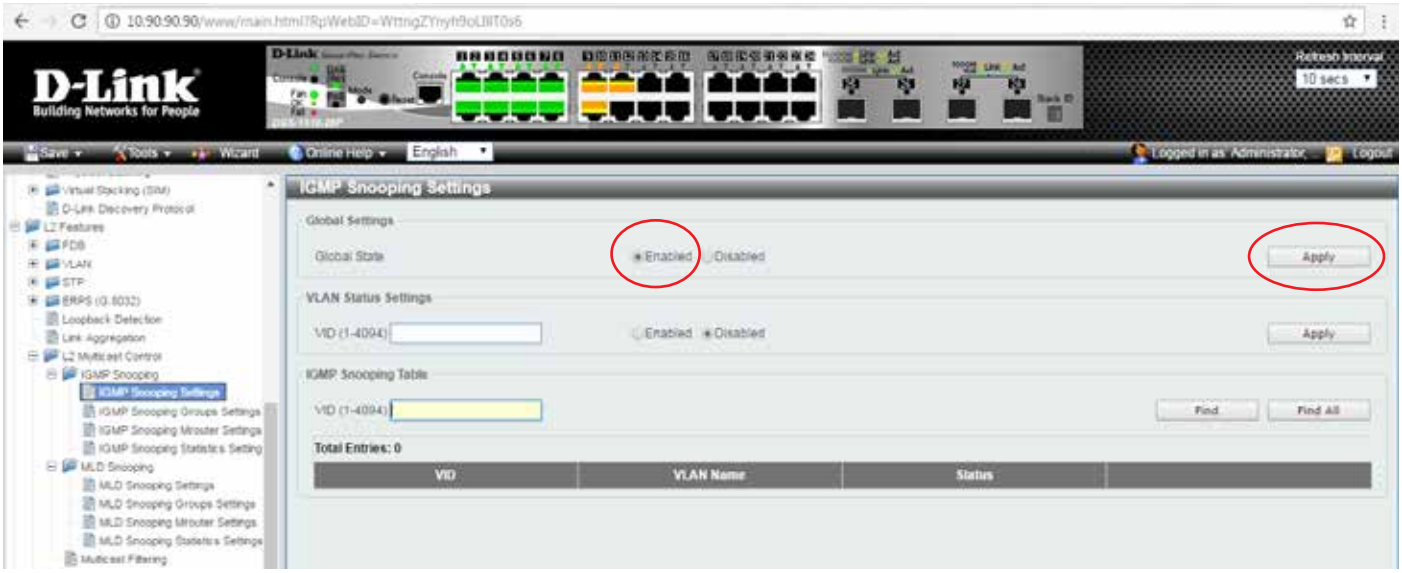
Under 'L2 Features' menu

Under 'L2 Video Over IP Control'

Under 'IGMP Snooping'

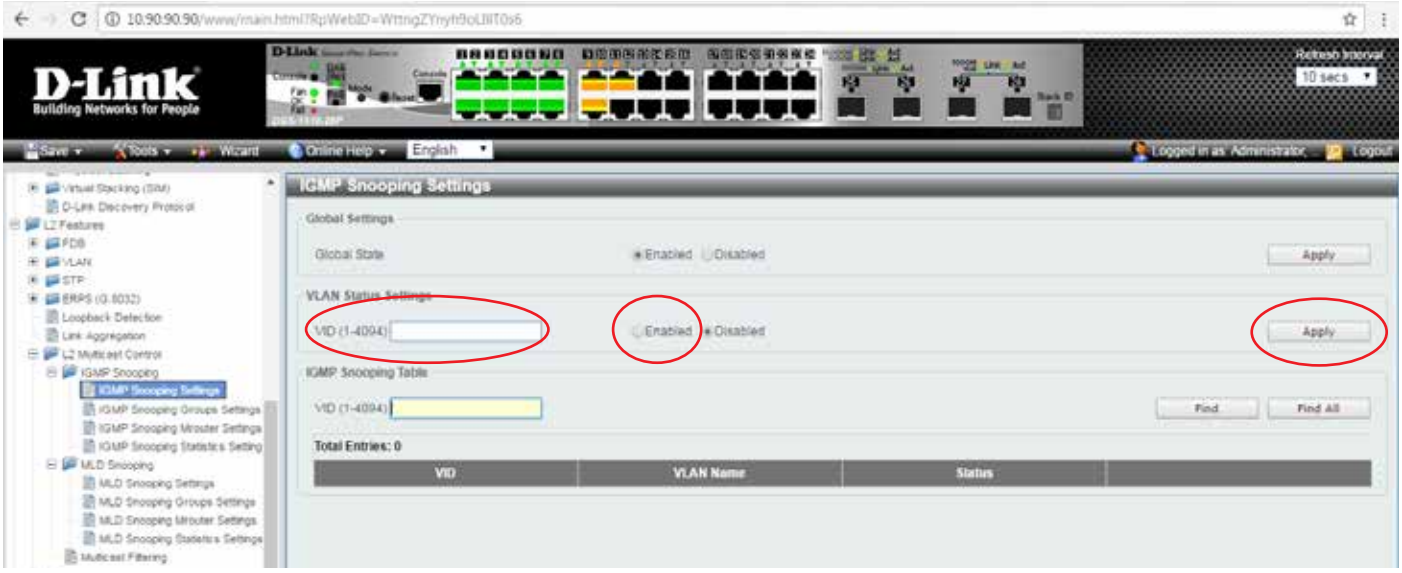
Select 'IGMP Snooping Settings'

Change Global State to 'Enabled' and click 'Apply'



In the VID field, enter '1'

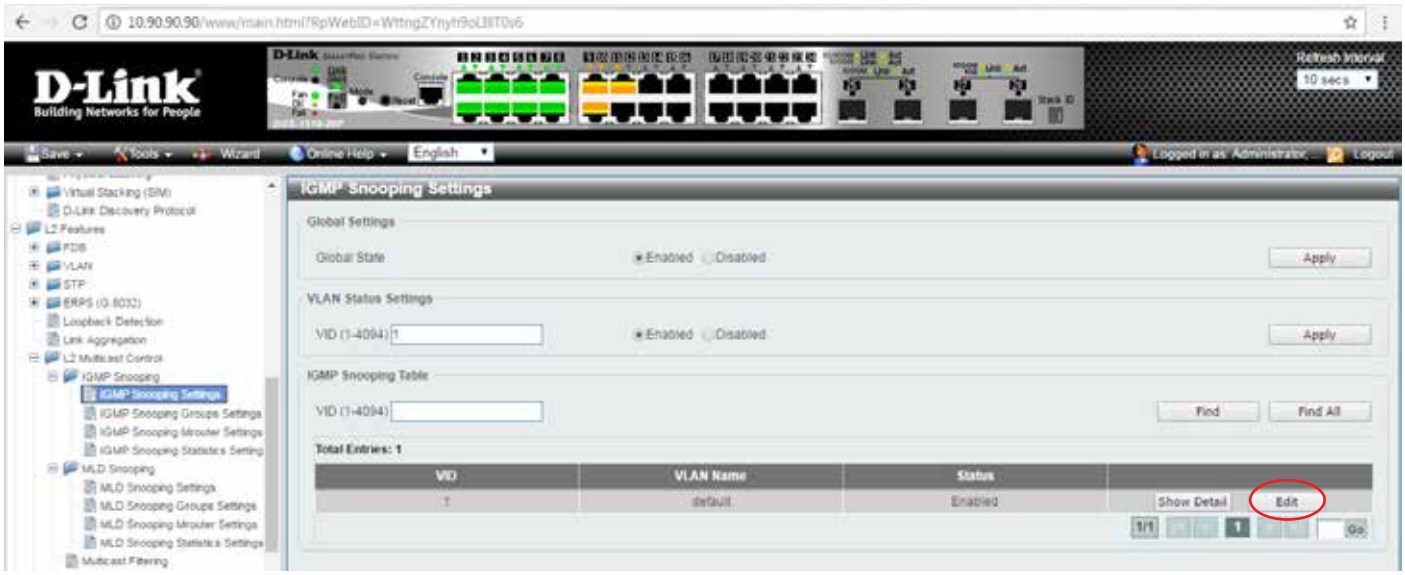
Change VID state to 'Enabled'



Click 'Apply' to update the setting.

IGMP Snooping

Click on the 'Edit' button associated with VID 1 we just created.

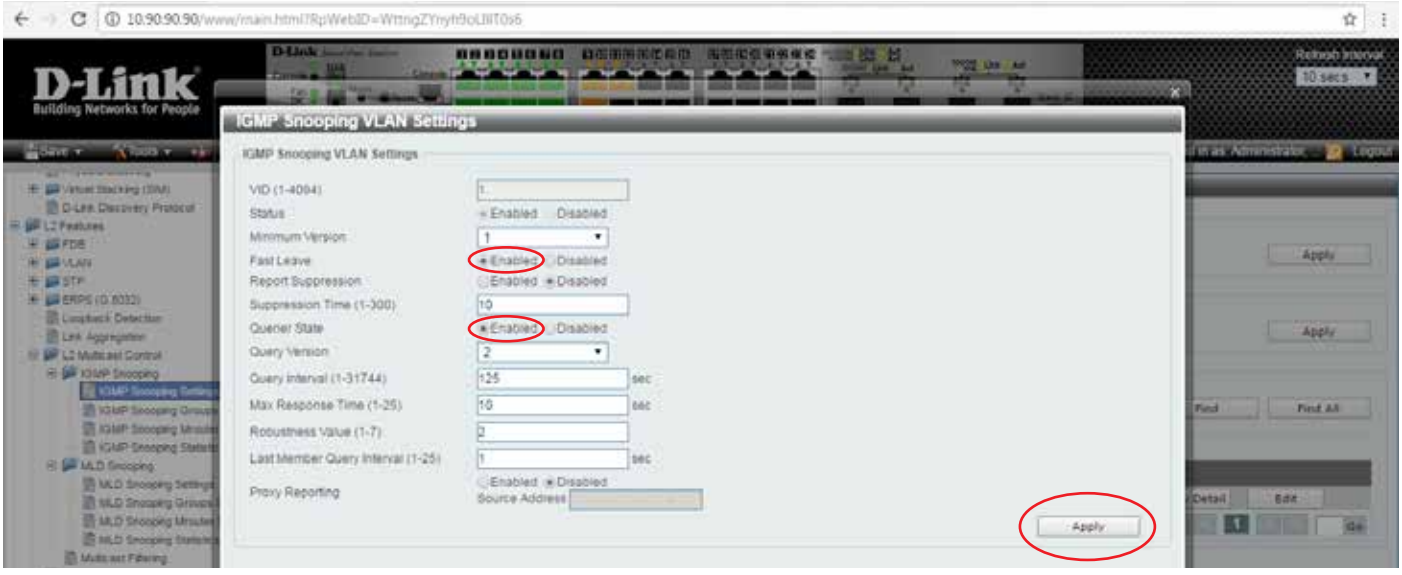


It is important that IGMP Quierier State is enabled however when using mulitple switches, this feature must only be enabled on the first switch.This is because the first switch is managing the IGMP table and subsequent switches will read this from the first switch.

To enable this, in the pop up window:

Change Fast Leave to 'Enabled'

Change Querier State to 'Enabled'



Click 'Apply' to update the setting.

MLD Snooping

To enable MLD Snooping,

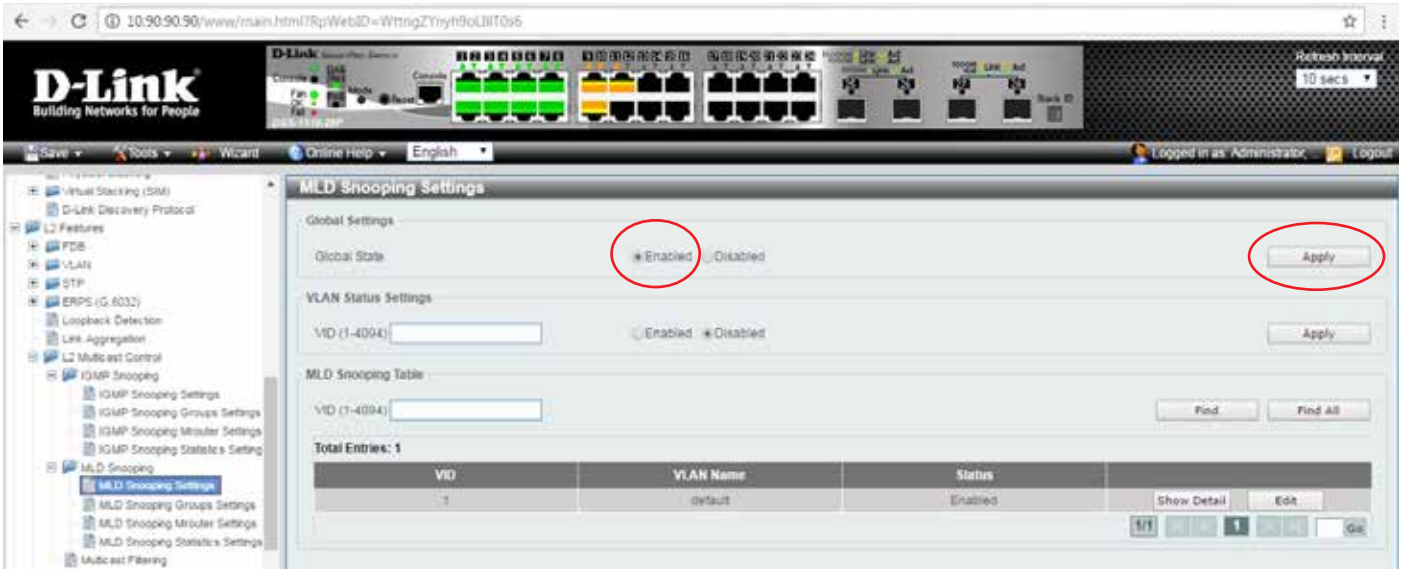
Under 'L2 Features' menu

Under 'L2 Video Over IP Control'

Under 'MLD Snooping'

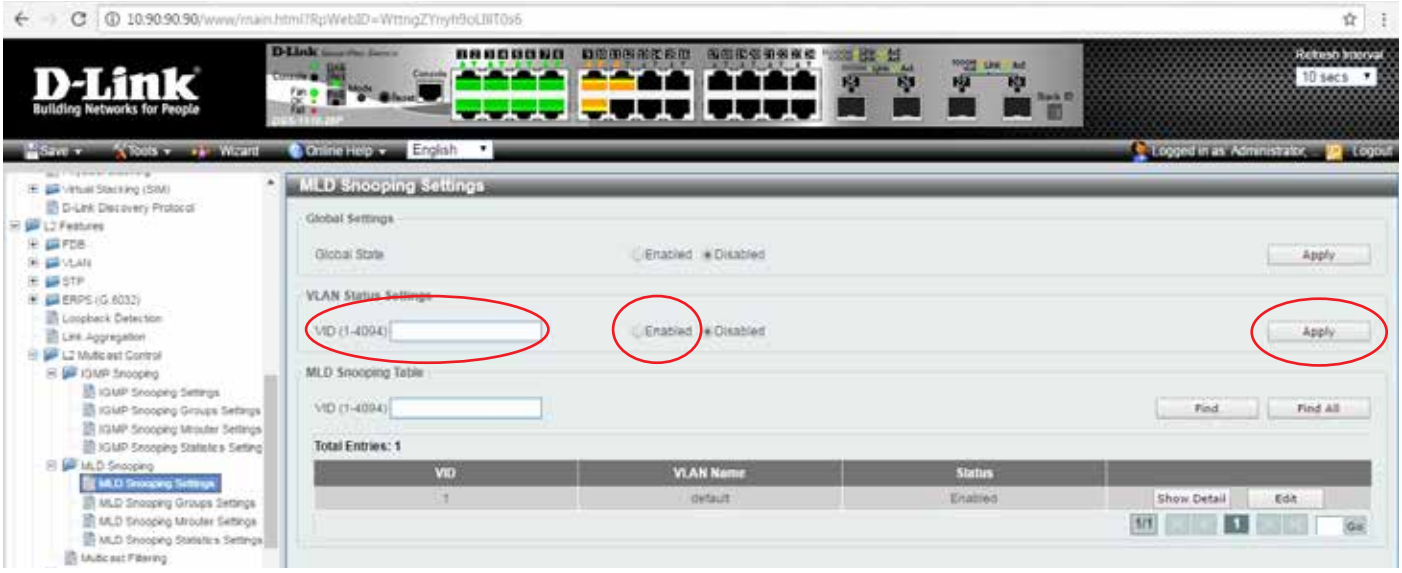
Select 'MLD Snooping Settings'

Change Global State to 'Enabled' and click 'Apply'



In the VID field, enter '1'

Change VID state to 'Enabled'



Click 'Apply' to update the setting.

MLD Snooping

Click on the 'Edit' button assosciated with VID 1 we just created.

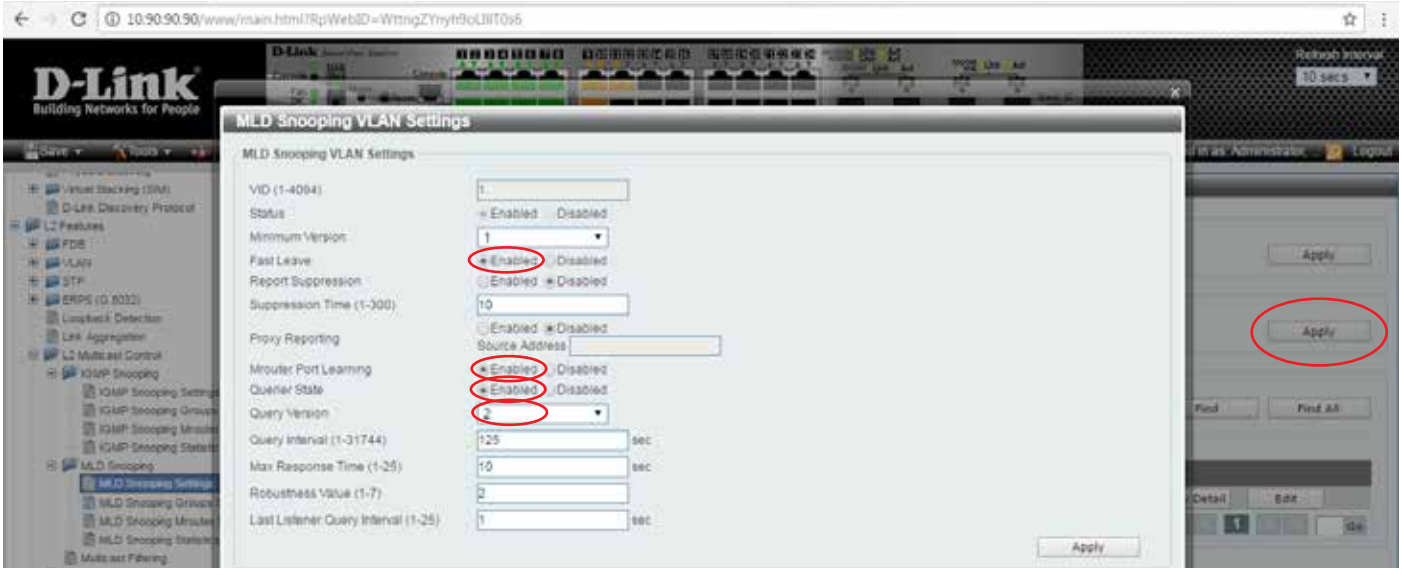
To enable this, in the pop up window:

Change Fast Leave to 'Enabled'

Change Mrouter Port Learning to 'Enabled'

Change Querier State to 'Enabled'

Change Query Version to '2'



Click 'Apply' to update the setting.

Turning On/Off POE

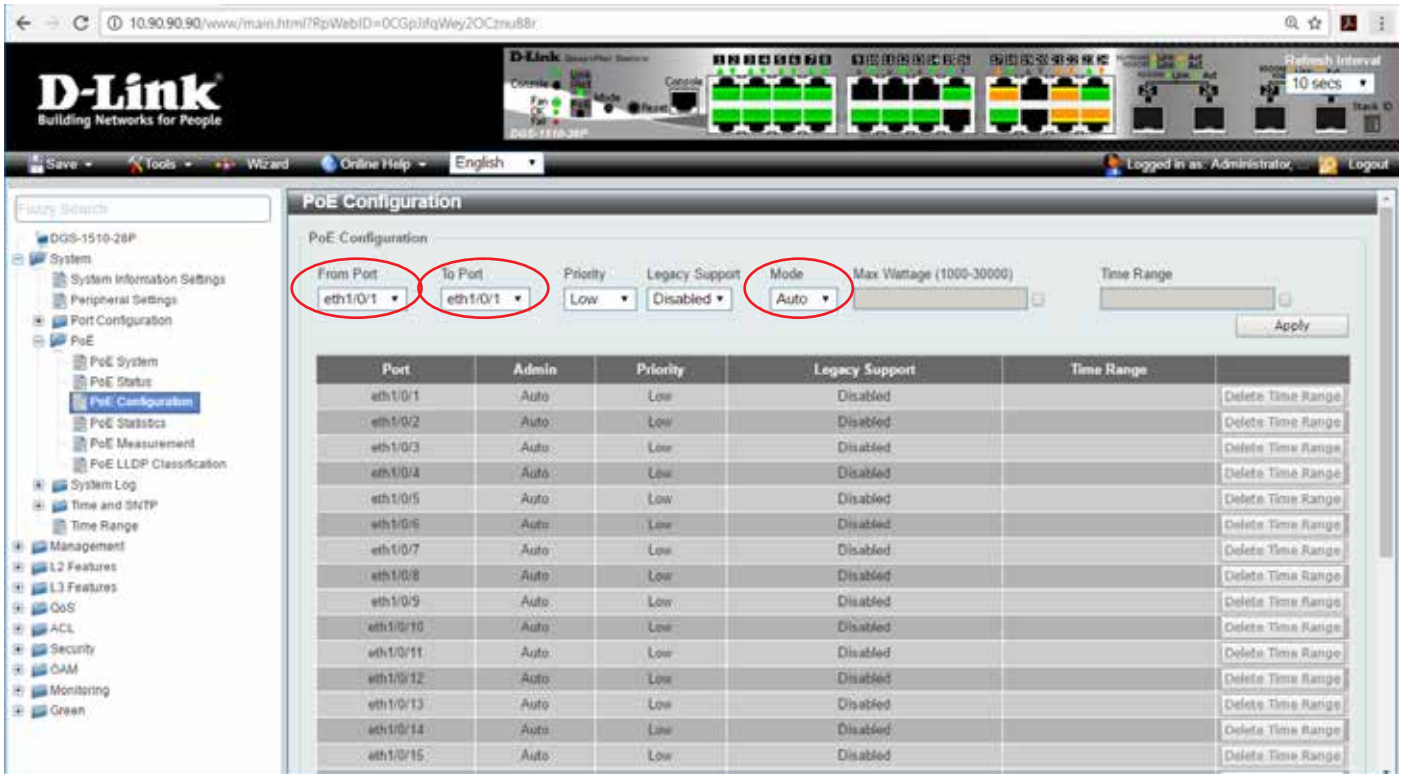
Not all DLink DGS switches support POE. Those network switches that do support POE come with this as factory default to 'ON'. If you are unsure of the port setting please follow the below instructions.

Under 'System' menu

Select 'PoE'

Select 'PoE Configuration'

The following table shows the settings for each RJ45 LAN port on the network switch. The Mode should be set to 'Auto' meaning the POE feature is automatically active if a POE device is connected. The default setting for POE is auto (Enabled) so changes should not be required. If mode is set to 'Never' then please follow below instructions.



Specificy the port or ports you wish to enable or disable POE for by adjusting the From Port and To Port fields to cover all ports being adjusted.

Change the mode to 'Auto'

Click 'Apply' to save the settings.

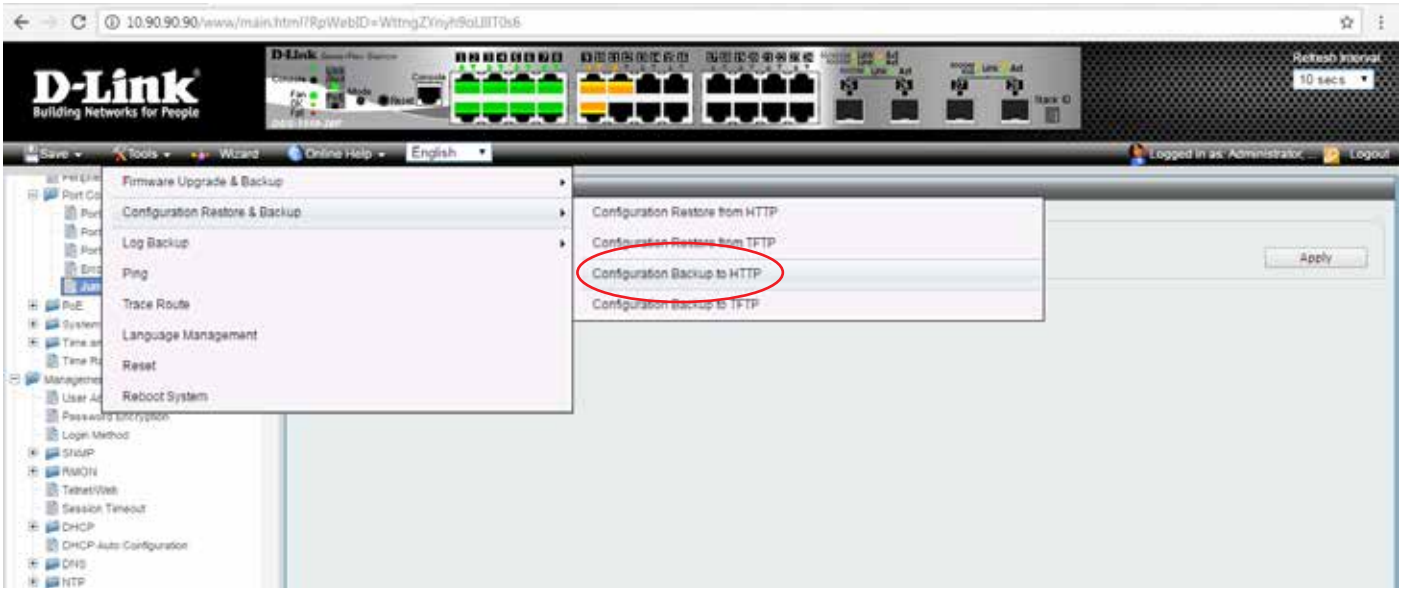
Apply and Save Settings

It is highly recommended to backup and save the switch's configuration after all changes have been made.
To backup the configuration:

Under 'Tools' menu

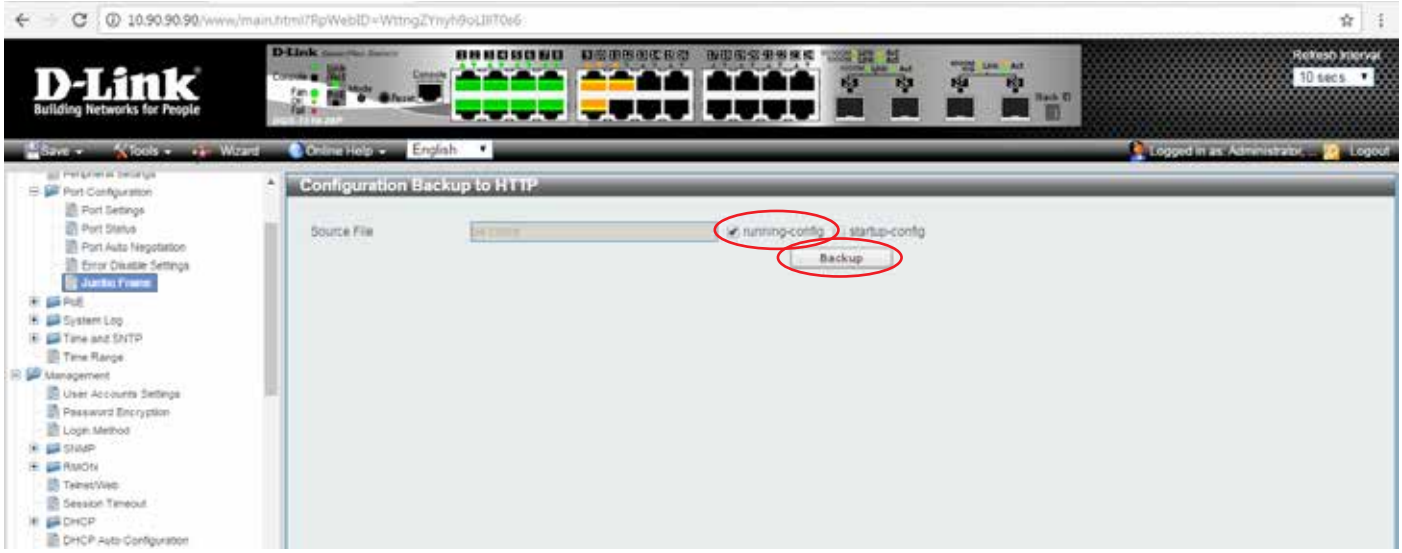
Select 'Configuration Restore and Backup'

Select 'Configuration Backup to HTTP'



Select 'Running-Config'

Click 'Backup' to save the settings

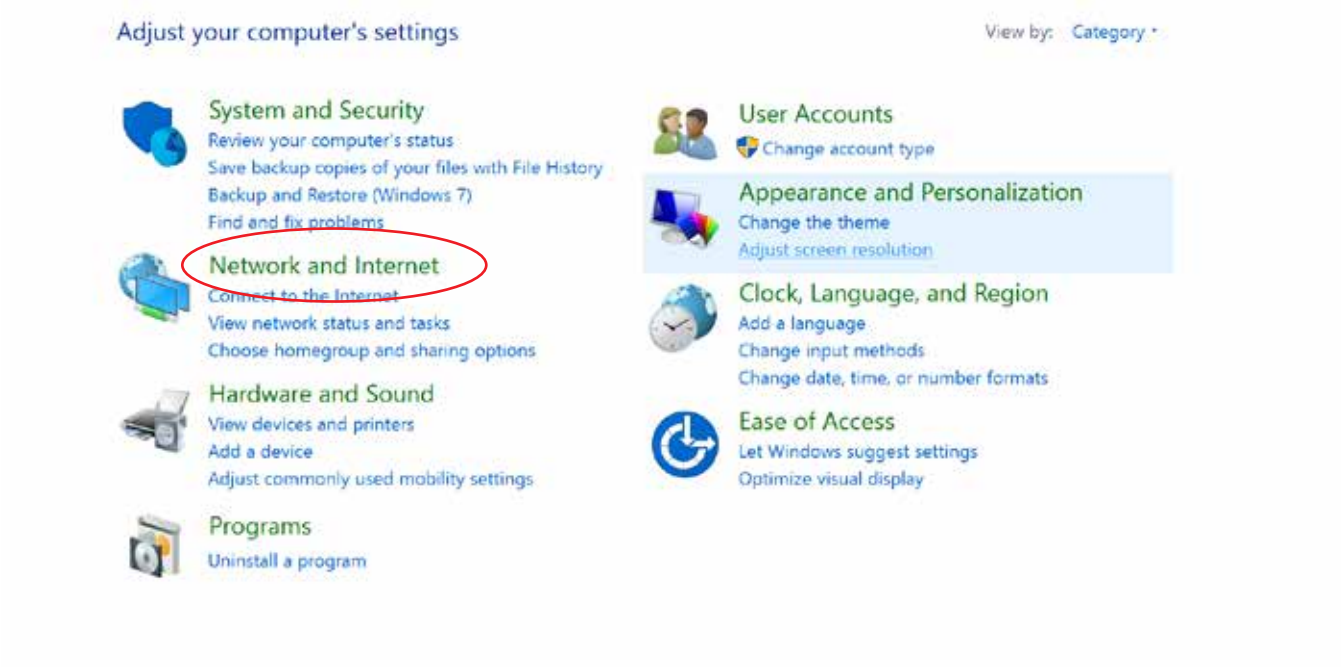


Changing your computer IP address to communicate with the DLink network switch

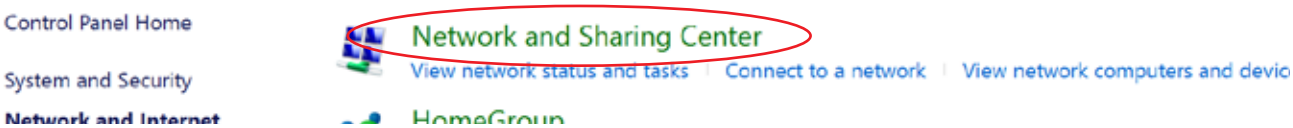
1) Connect your computer to your network switch using Ethernet cable

2) In the Windows toolbar navigate to 'CONTROL PANEL'

3) Select 'NETWORK AND INTERNET'



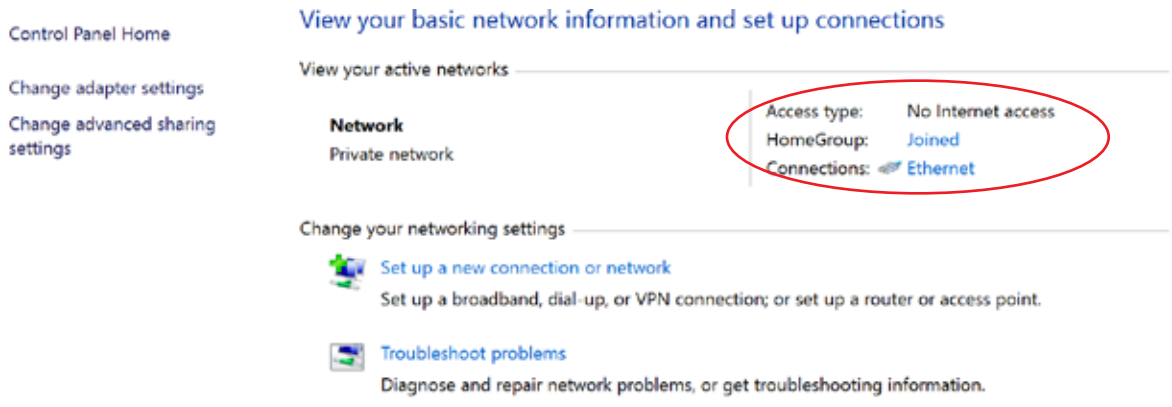
5) Select 'NETWORK AND SHARING CENTER'



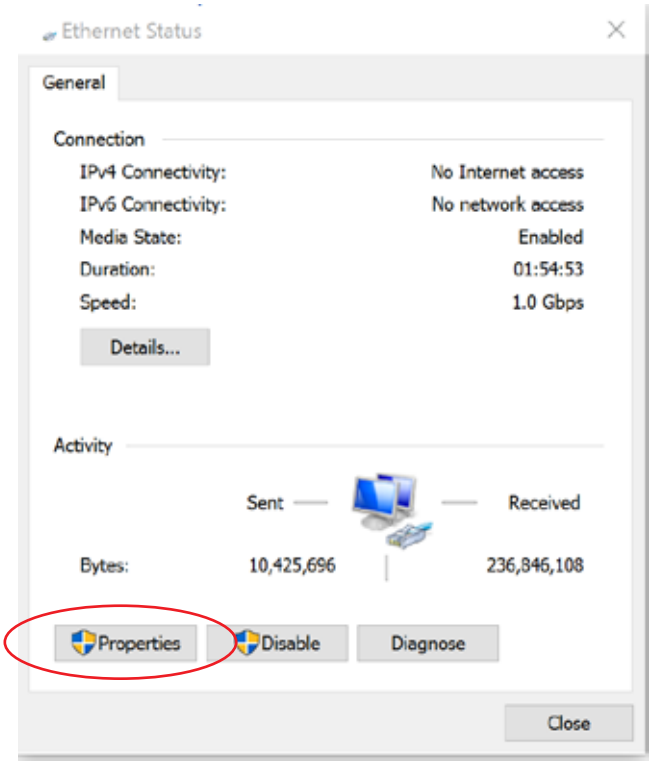
6) Under 'View your Active Networks' you can see connection types available.

The example below shows both LAN (local area connection) and Wireless.

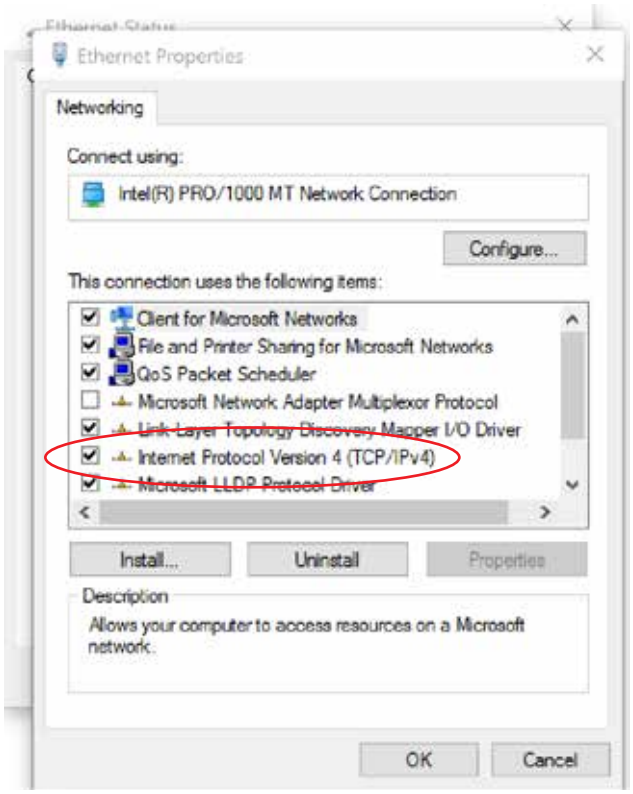
Select 'Local Area Connection' as this is the method of communication you are using with the switch.



7) In the next window select 'PROPERTIES'

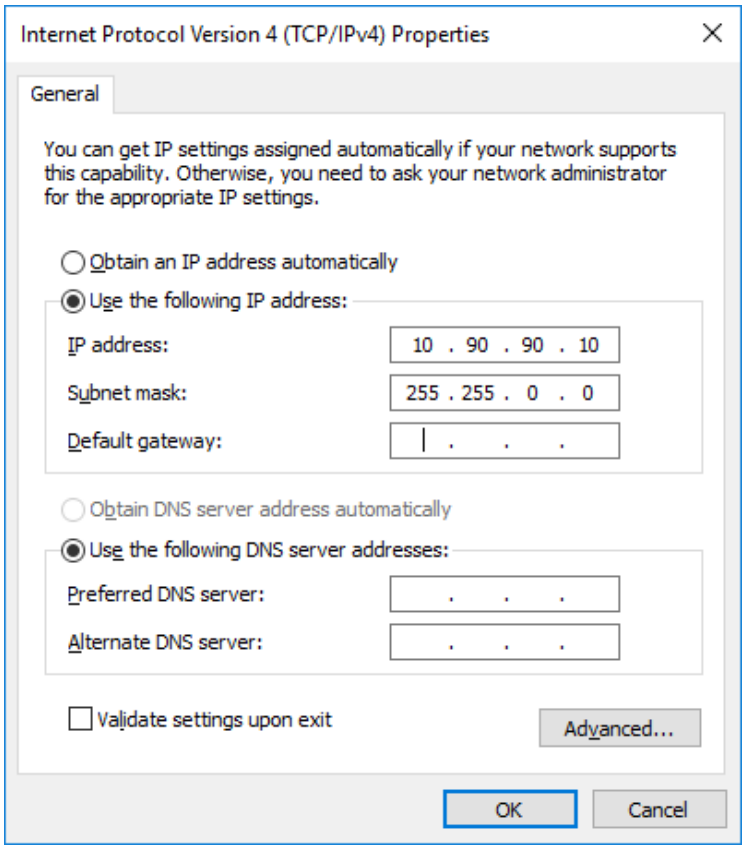


8) A. In the 'NETWORKING' window highlight/select 'INTERNET PROTOCOL VERSION 4 (TCP/IPv4)
B. Select 'PROPERTIES'



9) A. Under the 'General' tab select 'USE THE FOLLOWING IP ADDRESS'

B. Enter the following FIXED IP network details



10) Click 'OK' and exit the network setup

11) Enter the default DLink IP address in your web browser and check that you can connect to the unit.

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