

DGS-3630 Series Switches

Enabling Layer 3 Switching

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Out of the box the DGS-3630 Layer 3 switches offer some Layer 3 functionality.

L3 Features	<ul style="list-style-type: none">• IPv4 ARP/IPv6 ND: support up to 32K/16K⁴<ul style="list-style-type: none">• 512 Static ARP• Gratuitous ARP• IP Interface<ul style="list-style-type: none">• Supports 256 interfaces• Loopback Interface• Proxy ARP<ul style="list-style-type: none">• Support local ARP proxy	<ul style="list-style-type: none">• IPv6 Tunneling<ul style="list-style-type: none">• Static• ISATAP• GRE• 6to4• VRRP v2/v3• IP Helper
L3 Routing	<ul style="list-style-type: none">• Supports 16K hardware routing entries shared by IPv4/IPv6<ul style="list-style-type: none">• 1 entry consumed by each IPv4 route• 2 entries consumed by each IPv6 route• Supports up to 32K hardware L3 forwarding entries shared by IPv4/IPv6⁴<ul style="list-style-type: none">• 1 entry consumed by each IPv4 route• 2 entries consumed by each IPv6 route• Static Route<ul style="list-style-type: none">• Max. 512 IPv4 entries• Max. 256 IPv6 entries• IPv4/IPv6 Default Route	<ul style="list-style-type: none">• PBR (Policy-based Route)• Null Route• Route Preference• Route Redistribution• Graceful Restart (GR) Helper• BFD (Bidirectional Forwarding Detection)<ul style="list-style-type: none">• IPv4/v6 Static Route• RIP<ul style="list-style-type: none">• VRRP• RIPv1/v2/ng
L3 Multicast	<ul style="list-style-type: none">• IGMP/MLD Filtering	

Enabling Layer 3 Switching

To enable full Layer 3 functionality the switch image licence needs to be upgraded from Standard Image (SI) to Enhanced Image (EI).

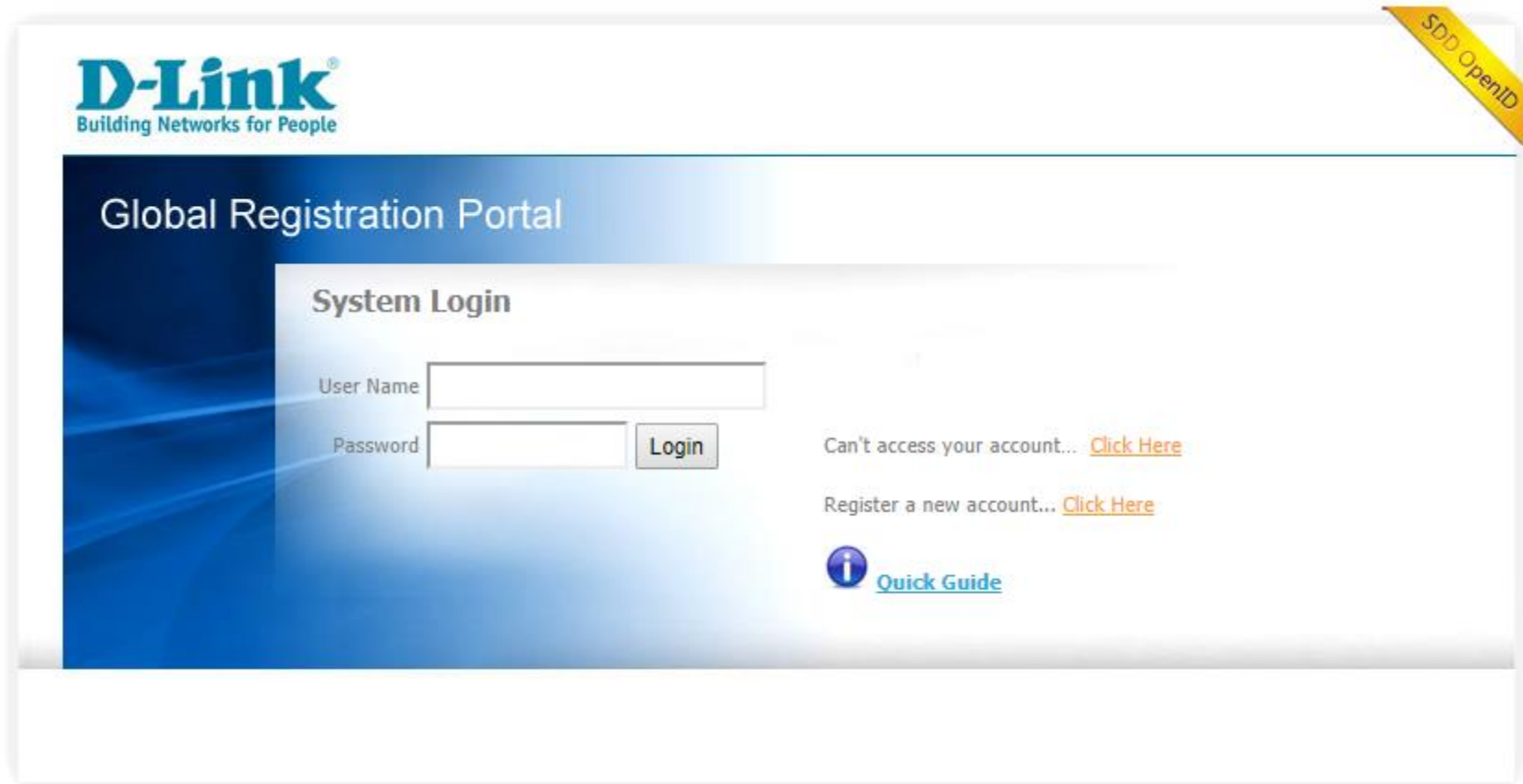
DGS-3630-28TC-SE-LIC
DGS-3630-28PC-SE-LIC
DGS-3630-28SC-SE-LIC
DGS-3630-52TC-SE-LIC
DGS-3630-52PC-SE-LIC

Additional Enhanced Image (EI) Features	
VLAN	<ul style="list-style-type: none">• Super VLAN
L3 Routing	<ul style="list-style-type: none">• BGP<ul style="list-style-type: none">• BGPv4/v4+• 4bytes AS• Text/MD5 for BGPv4• VRF-Lite<ul style="list-style-type: none">• IPv4 Static Route• RIPv1/v2• OSPFv2• BGPv4• Bidirectional Forwarding Detection (BFD) for OSPF• OSPF<ul style="list-style-type: none">• OSPF v2/v3• OSPF passive interface• Stub/NSSA area• OSPF equal cost route• Text/MD5 for OSPFv2
L3 Multicast	<ul style="list-style-type: none">• IGMPv1/v2/v3• MLDv1/v2• IGMP/MLD Proxy• DVMRPv3• PIM-DM/SM/SSM/SDM• SSM Mapping for IPv4/IPv6• Multicast Source Discovery Protocol (MSDP)

Enabling Layer 3 Switching

Licence activation Step 1:

- Go to **<https://register.dlink.com>** and register a new account (if you do not have one):



The screenshot displays the D-Link Global Registration Portal. At the top left is the D-Link logo with the tagline "Building Networks for People". A yellow banner in the top right corner reads "SDD OpenID". The main heading is "Global Registration Portal". Below this is a "System Login" section with two input fields: "User Name" and "Password", followed by a "Login" button. To the right of the login form are two links: "Can't access your account... [Click Here](#)" and "Register a new account... [Click Here](#)". At the bottom of the login section is a "Quick Guide" link with an information icon.

Enabling Layer 3 Switching

Licence activation Step 2:

- Log in and select "License Key Activation".
- Enter the product's serial number and the purchased Licence Key.
- Click on the "Get Activation Code" button to obtain the code.

The screenshot shows a web browser window with the URL `register.dlink.com/DLMS/Generate_Activation_Code.aspx`. The page header includes the D-Link logo, "Global Registration Port", and a "Welcome LogOut" message. A left sidebar contains navigation links: "Profile", "License Key Activation", "License Key Status Inquiry", "Get Software AC", and "Contact Us". The main content area is titled "License Key Activation" and includes a note: "Required fields are indicated with an Asterisk". Below this is a form with the following fields:

* OBU	DAU	
* Customer		
* Serial Number	* License Key	ex: ABCDEFGHIJ1234567890

At the bottom of the form are three buttons: "Get Activation Code", "Clear", and "Export to Excel".

Enabling Layer 3 Switching

Licence activation Step 3:

- Log into the switch and under Tools select "DLMS Settings".
- Enter the Activation Code and click Apply.

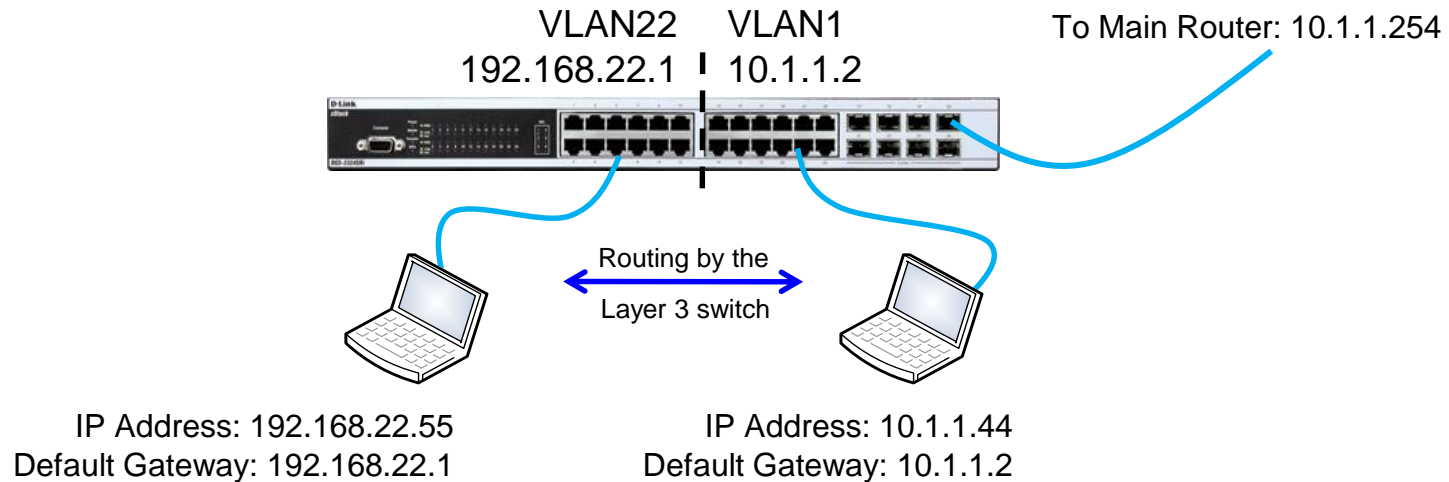
The screenshot shows a network switch configuration interface. The 'Tools' menu is open, and 'DLMS Settings' is highlighted. Below, the 'DLMS Settings' page is shown with the 'DLMS Activation Code' field containing 'AB123CD5678EFGH90' and an 'Apply' button. A table at the bottom shows license details.

License Model	Activation Code	Time Remaining
SI	SI	

Switch Image upgrade licence is a one-time purchase (does not expire)

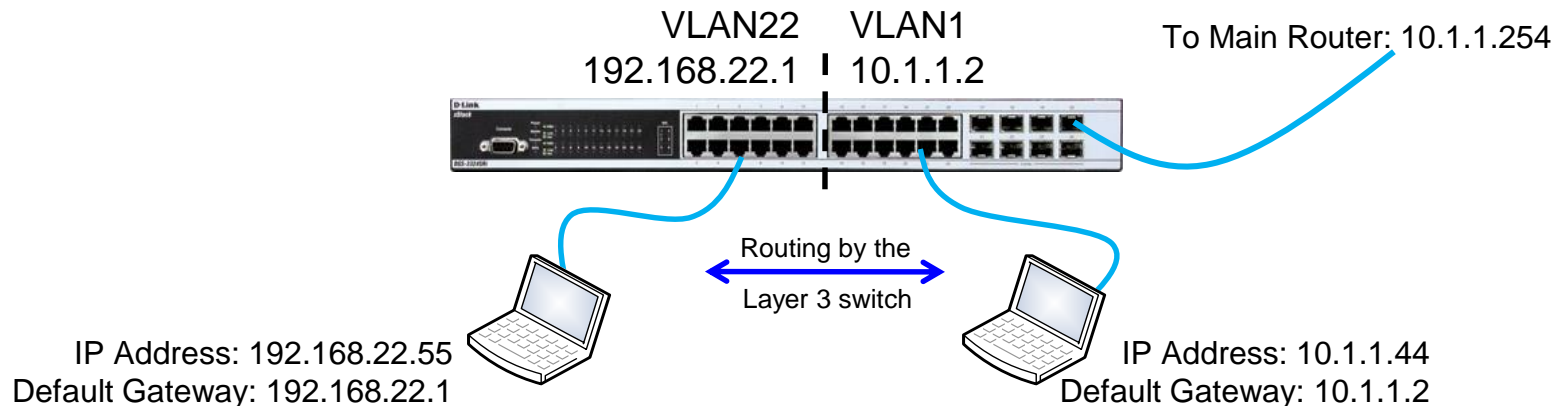
Enabling Layer 3 Switching

Layer 3 Switch:



- To enable Layer 3 inter VLAN routing, set IP interfaces and assign them to VLANs.
- Each IP interface can have one or multiple ports. All ports act as Default Gateway for connected computers.

Enabling Layer 3 Switching (CLI)



```
Switch> enable
Switch# configure terminal
# vlan 22
# ip address 192.168.22.1 255.255.255.0
# exit
# interface range ethernet 1/0/1-10
# switchport hybrid allowed vlan add untagged 2
# switchport hybrid allowed vlan remove 1
# exit

# vlan 1
# ip address 10.1.1.2 255.255.255.0
# exit
# interface range ethernet 1/0/11-24
# switchport hybrid allowed vlan add untagged 1
# exit
#ip route 0.0.0.0 0.0.0.0 10.1.1.254
```


Enabling Layer 3 Switching (GUI)

- L2 Features > VLAN > 802.1Q VLAN
- Add VLAN 22

The screenshot displays the D-Link web management interface for configuring a new 802.1Q VLAN. The left sidebar shows the navigation tree with '802.1Q VLAN' selected. The main configuration area is titled '802.1Q VLAN' and includes a 'VID List' field containing the value '22'. Below this is a 'Find VLAN' section with an empty 'VID (1-4094)' field. A table titled 'Total Entries: 2' lists the existing VLANs. The entry for '22 VLAN22' is highlighted with a red box, indicating it is the newly added or selected VLAN.

VID	VLAN Name	Tagged Member Ports	Untagged Member Ports	VLAN Type	Edit	Delete
1	default		1/0/11-1/0/24		Edit	Delete
22	VLAN22		1/0/1-1/0/10		Edit	Delete

Enabling Layer 3 Switching (GUI)

- L3 Features > Interface > IPv4 Interface.
- Specify VLAN 22 as new IP Interface. Edit VLAN's interface addresses as required.

Fuzzy Search

DGS-3630-28TC

- System
- Management
- L2 Features
- L3 Features
 - ARP
 - Gratuitous ARP
 - IPv6 Neighbor
 - Interface
 - IPv4 Interface**
 - IPv6 Interface

IPv4 Interface

IPv4 Interface

Interface VLAN (1-4094)

Total Entries: 2

Interface	State	IP Address	Secondary	Link Status	
vlan1	Enabled	10.1.1.2/255.255.255.0 Manual	No	Up	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
vlan22	Enabled	192.168.22.1/255.255.255.0 Manual	No	Down	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

IP Settings

Get IP From

IP Address

Mask

Secondary

Enabling Layer 3 Switching (GUI)

Optional step:

- L3 Features > IPv4 Static/Default Route
- Add a Default Route pointing to 10.1.1.254.

Fuzzy Search

- DGS-3630-28TC
 - System
 - Management
 - L2 Features
 - L3 Features
 - ARP
 - Gratuitous ARP
 - IPv6 Neighbor
 - Interface
 - UDP Helper
 - IPv4 Static/Default Route**
 - IPv4 Static Route BFD
 - IPv4 Route Table
 - IPv6 Static/Default Route
 - IPv6 Static Route BFD
 - IPv6 Route Table
 - Route Preference
 - ECMP Settings
 - IPv6 General Prefiv

IPv4 Static/Default Route

IPv4 Static/Default Route

VRF Name: 12 chars

IP Address: . . . Mask: . . . Default Route

IP Tunnel (0-9999): Tunnel IP

Gateway: 10 . 1 . 1 . 254

Null Interface: Disabled

Backup State: Primary

VRF Name: 12 chars

Total Entries: 1

IP Address	Mask	Gateway	Interface Name	VRF Name	
0.0.0.0	0.0.0.0	10.1.1.254	vlan1		<input type="button" value="Delete"/>