DGS-3630 Series Switches

Enabling Layer 3 Switching

D-Link ®
FOR BUSINESS

Enabling Layer 3 Switching

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

L3 Features	• IPv4 ARP/IPv6 ND: support up to 32K/16K[4]
	   • 512 Static ARP
	 • Gratuitous ARP
	 • IP Interface
	   • Supports 256 interfaces
	 • Loopback Interface
	 • Proxy ARP
	   • Support local ARP proxy
		• IPv6 Tunneling
		   • Static
		   • ISATAP
		   • GRE
		   • 6to4
		 • VRRP v2/v3
		 • IP Helper

L3 Routing	• Supports 16K hardware routing entries shared by IPv4/IPv6
	   • 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/IPv6[4]
	   • 1 entry consumed by each IPv4 route
	   • 2 entries consumed by each IPv6 route
	 • Static Route
	   • Max. 512 IPv4 entries
	   • Max. 256 IPv6 entries
	 • IPv4/IPv6 Default Route
		• PBR (Policy-based Route)
		 • Null Route
		 • Route Preference
		 • Route Redistribution
		 • Graceful Restart (GR) Helper
		 • BFD (Bidirectional Forwarding Detection)
		   • IPv4/v6 Static Route
		   • RIP
		   • VRRP
		 • RIPv1/v2/ng

L3 Multicast	• IGMP/MLD Filtering	

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To enable full Layer 3 functionality the switch image licence needs to be upgraded from Standard Image (SI) to Enhanced Image (EI).
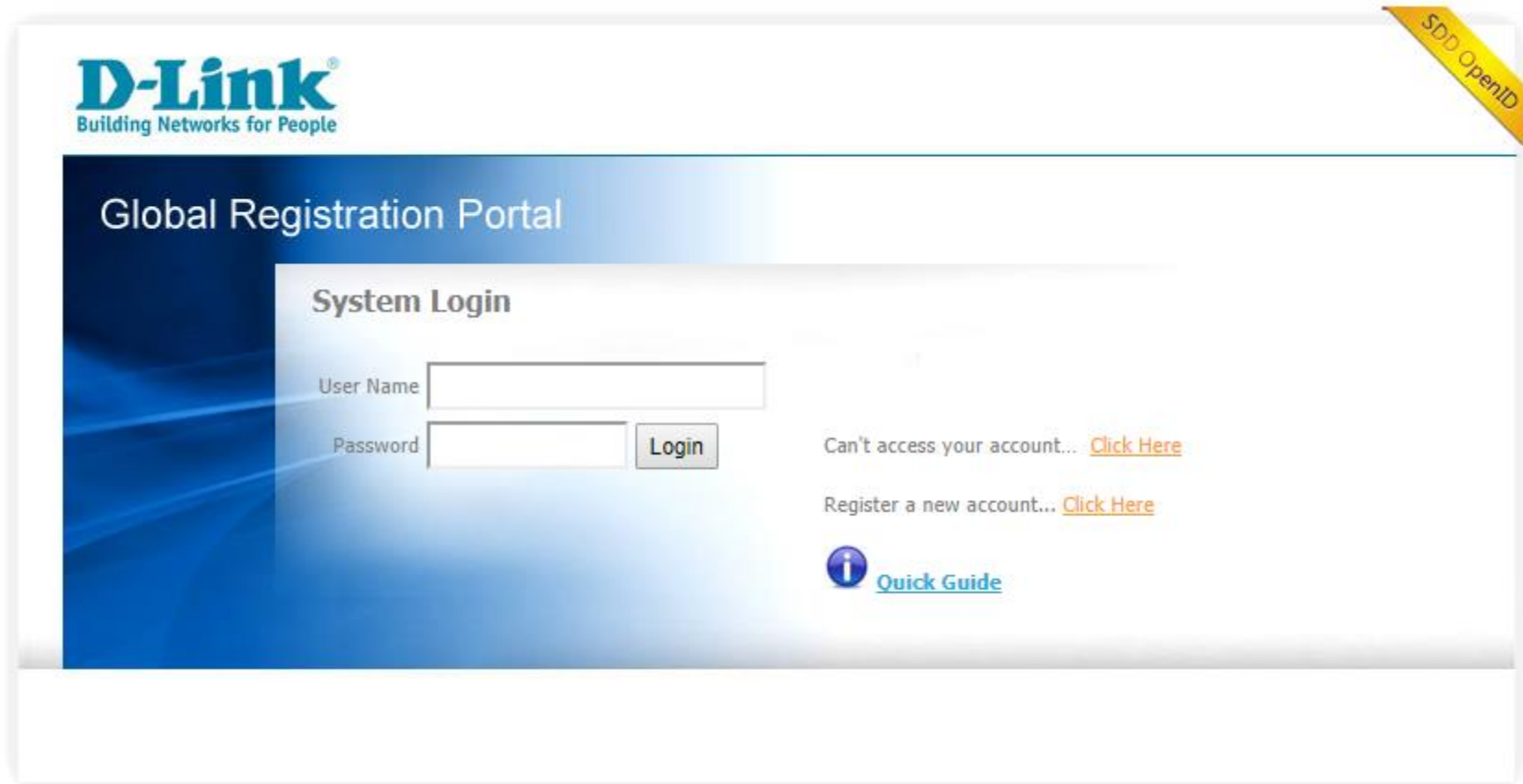
DGS-3630-28TC-SE-LIC
DGS-3630-28PC-SE-LIC
DGS-3630-28SC-SE-LIC
DGS-3630-52TC-SE-LIC
DGS-3630-52PC-SE-LIC

Additional Enhanced Image (EI) Features	
VLAN	• Super VLAN

L3 Routing	• BGP
	  • BGPv4/v4+
	  • 4bytes AS
	  • Text/MD5 for BGPv4
	• VRF-Lite
	  • IPv4 Static Route
	  • RIPv1/v2
	  • OSPFv2
	  • BGPv4
	
	• Bidirectional Forwarding Detection (BFD) for OSPF
	• OSPF
	  • OSPF v2/v3
	  • OSPF passive interface
	  • Stub/NSSA area
	  • OSPF equal cost route
	  • Text/MD5 for OSPFv2

L3 Multicast	• IGMPv1/v2/v3 • MLDv1/v2 • IGMP/MLD Proxy • DVMRPv3 • PIM-DM/SM/SSM/SDM • SSM Mapping for IPv4/IPv6 • Multicast Source Discovery Protocol (MSDP)

Licence activation Step 1:

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

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.

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.

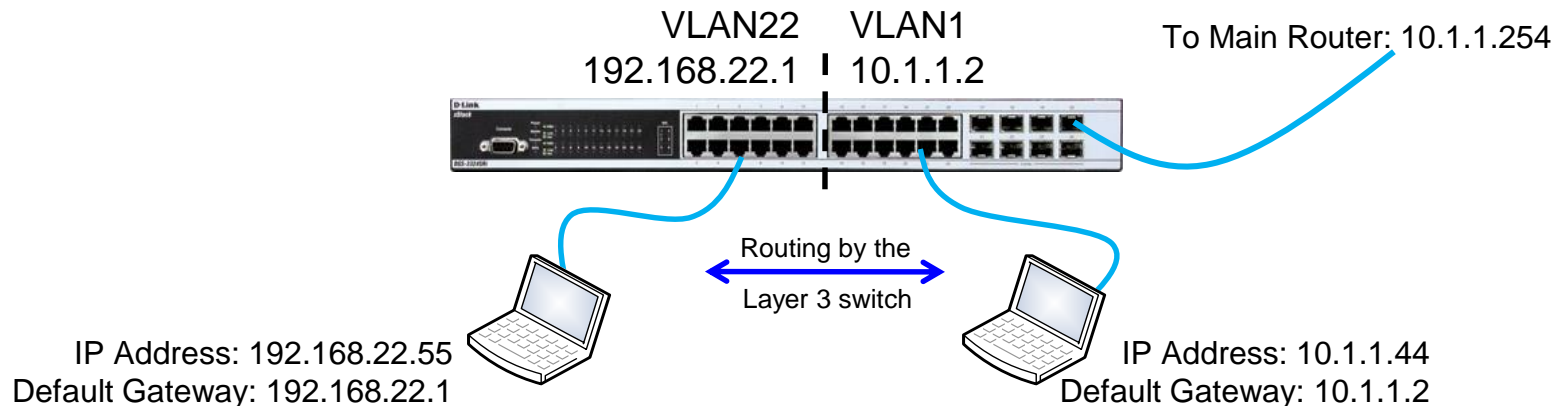Switch Image upgrade licence is a one-time purchase (does not expire)

Enabling Layer 3 Switching

Layer 3 Switch:
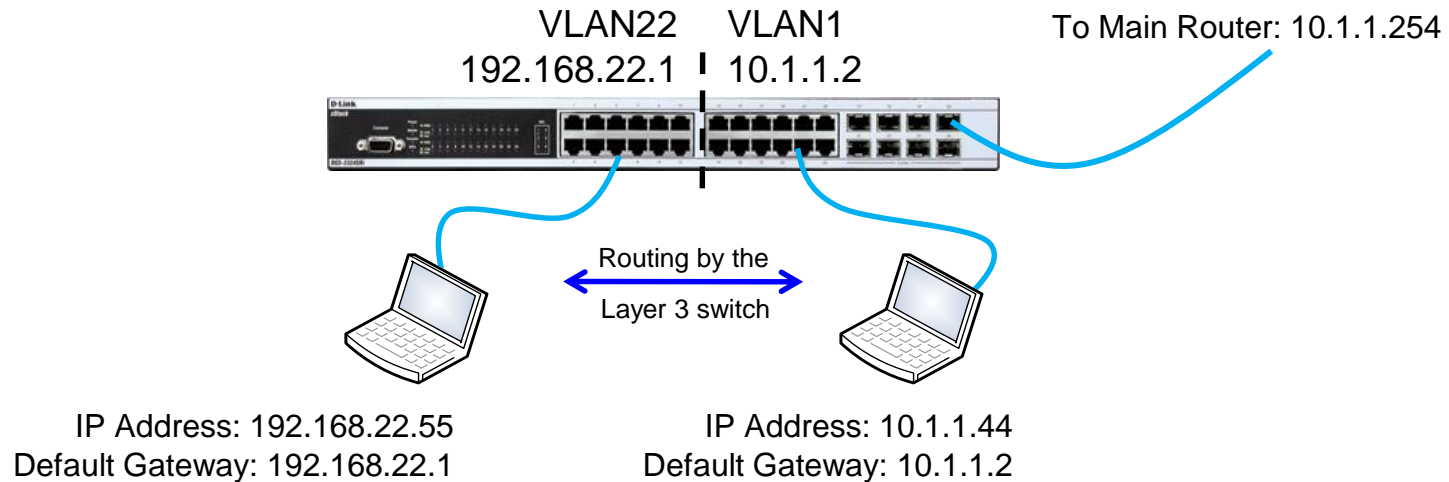
- To enable Layer 3 inter VLAN routing, set IP interfaces and assign them to VLANs.

- Each IP interface can have one or multiple ports. All ports act as Default Gateway for connected computers.

VLAN22   VLAN1

192.168.22.1   10.1.1.2

To Main Router: 10.1.1.254

Routing by the
Layer 3 switch

IP Address: 192.168.22.55
Default Gateway: 192.168.22.1

IP Address: 10.1.1.44
Default Gateway: 10.1.1.2

```
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

Enabling Layer 3 Switching (GUI)

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

Enabling Layer 3 Switching (GUI)

Optional step:

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