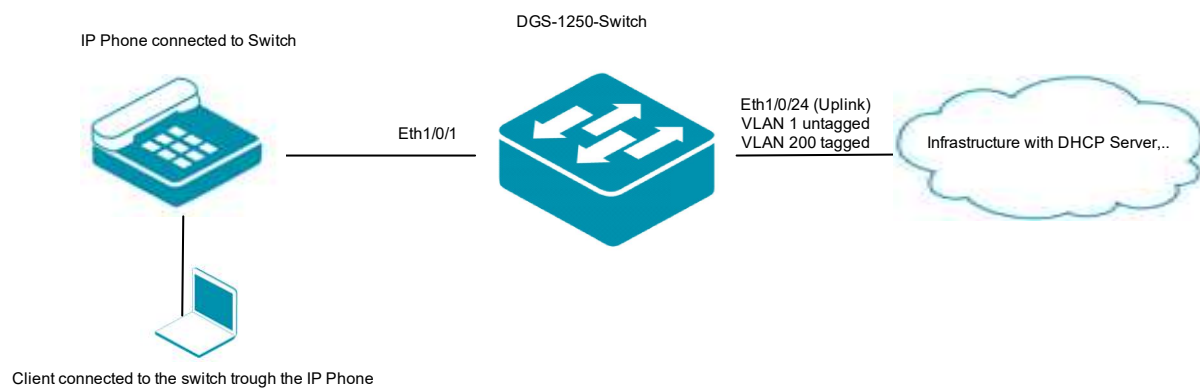


# HowTo: LLDP VLAN Assignment

## [Requirements]

1. DGS-1250-xx with latest Firmware 2.10.x and higher
2. implemented VLAN configuration on the switches and the network
3. LLDP capable IP Phone (f.e. Snom) which should be VLAN 200 tagged

## [Topologie]



## [Procedure]

1. Create VLAN 200
2. Enable Voice VLAN
  - 2.1 Set Voice VLAN to 200
  - 2.2 Enable port 1 Voice VLAN state
3. Enable LLDP global state
  - 3.1 Enable LLDP-MED capability TLV (Enable LLDP-MED state)
  - 3.2 Enable LLDP-MED Network Policy TLV on port 1
4. Connect IP Phone to switch.

**[VLAN & LLDP configuration on the switch]**

```
configure terminal | enter global configuration mode
vlan 200 | create VLAN 200
exit
voice vlan 200 | set Voice VLAN to 200
interface eth1/0/1 | enter configuration mode eth1/0/1
voice vlan mode auto tag | enable port 1 Voice VLAN state
voice vlan enable | enable port 1 Voice VLAN state
lldp tlv-select port-description | select TLVs to transmit
lldp tlv-select system-name | select TLVs to transmit
lldp tlv-select system-description | select TLVs to transmit
lldp tlv-select system-capabilities | select TLVs to transmit
lldp med-tlv-select capabilities | select TLVs to transmit
lldp med-tlv-select inventory-management | select TLVs to transmit
lldp med-tlv-select network-policy | select TLVs to transmit
lldp med notification enable | enable LLDP MED notification
exit
interface eth1/0/24 | enter configuration mode eth1/0/24
switchport mode hybrid | set switchport to hybrid mode
switchport hybrid allowed vlan tagged 200 | add vlan 200 TAGGED
exit
lldp run | enable LLDP
end
```

[check switch's LLDP configuration]

```
Switch#
Switch#sh lldp interface ethernet 1/0/1

Port ID: eth1/0/1
-----
Port ID                               :eth1/0/1
Admin Status                           :TX and RX
Notification                            :LLDP-MED
Basic Management TLVs:
  Port Description                      :Enabled
  System Name                           :Enabled
  System Description                     :Enabled
  System Capabilities                   :Enabled
  Enabled Management Address:
  (None)
IEEE 802.1 Organizationally Specific TLVs:
  Port VLAN ID                          :Disabled
  Enabled Port_and_Protocol_VLAN_ID
  (None)
  Enabled VLAN Name
  (None)
  Enabled Protocol_Identity
  (None)
IEEE 802.3 Organizationally Specific TLVs:
  MAC/PHY Configuration/Status          :Disabled
  Power Via MDI                          :Disabled
  Link Aggregation                       :Disabled
  Maximum Frame Size                     :Disabled
LLDP-MED Organizationally Specific TLVs:
  LLDP-MED Capabilities TLV              :Enabled
  LLDP-MED Network Policy TLV            :Enabled
  LLDP-MED Extended Power Via MDI PSE TLV :Disabled
  LLDP-MED Inventory TLV                 :Enabled

Switch#
```

```
Datei Bearbeiten Einstellungen Steuerung Fenster Hilfe
Switch#sh lldp neighbors i
Switch#sh lldp neighbors interface eth1/0/1

Port ID: eth1/0/1
-----
Remote Entities Count : 2
Entity 1
  Chassis ID Subtype      : Network Address
  Chassis ID              : 0.0.0.0
  Port ID Subtype         : Local
  Port ID                 : 0004139F5B84:P1
  Port Description        : NET PORT
  System Name             : snon370
  System Description      : snon370-SIP 8.7.5.35;lid:8
                          .7.5.35
  System Capabilities     : Bridge, Telephone
  Management Address Count : 0
  Port PVID               : 0
  PPVID Entries Count     : 0
  VLAN Name Entries Count : 0
  Protocol ID Entries Count : 0
  MAC/PHY Configuration/Status : (See Detail)
  Power Via MDI           : (None)
  Link Aggregation        : (None)
  Maximum Frame Size     : 0
  LLDP-MED capabilities   : (See Detail)
  Extended power via MDI  : (See Detail)
  Network policy          : (See Detail)
  Inventory Management    : (See Detail)
  Unknown TLVs Count     : 0

Entity 2
  Chassis ID Subtype      : Network Address
  Chassis ID              : 192.168.11.3
  Port ID Subtype         : Local
  Port ID                 : 0004139F5B84:P1
  Port Description        : NET PORT
  System Name             : snon370
  System Description      : snon370-SIP 8.7.5.35;lid:8
                          .7.5.35
  System Capabilities     : Bridge, Telephone
  Management Address Count : 0
  Port PVID               : 0
  PPVID Entries Count     : 0
  VLAN Name Entries Count : 0
  Protocol ID Entries Count : 0
  MAC/PHY Configuration/Status : (See Detail)
  Power Via MDI           : (None)
  Link Aggregation        : (None)
  Maximum Frame Size     : 0
  LLDP-MED capabilities   : (See Detail)
  Extended power via MDI  : (See Detail)
  Network policy          : (See Detail)
  Inventory Management    : (See Detail)
  Unknown TLVs Count     : 0

Switch#
```

Detailed information for eth1/0/1

```
Switch#
Switch#sh lldp local interface ethernet 1/0/1 detail

Port ID: eth1/0/1
-----
Port ID Subtype           : Local
Port ID                   : eth1/0/1
Port Description          : D-Link Corporation DGS-1250-28XMP
                          HW A1 firmware 2.01.006 Port 1
Port PVID                  : 1
Management Address Count  : 0
  (None)
PPVID Entries Count       : 0
  (None)
VLAN Name Entries Count   : 2
  Entry 1 :
    VLAN ID       : 1
    VLAN Name     : default
  Entry 2 :
    VLAN ID       : 200
    VLAN Name     : VLAN0200
Protocol Identity Entries Count : 0
  (None)
MAC/PHY Configuration/Status :
  Auto-Negotiation Support    : Supported
  Auto-Negotiation Enabled    : Enabled
  Auto-Negotiation Advertised Capability : 6c01(hex)
  Auto-Negotiation Operational MAU Type : 0010(hex)

Power Via MDI              :
  Port Class                 : PSE
  PSE MDI Power Support      : Supported
  PSE MDI Power State        : Enabled
  PSE Pairs Control Ability  : Uncontrollable
  PSE Power Pair             : 1
  Power Class                 : 2

Link Aggregation           :
  Aggregation Capability     : Aggregated
  Aggregation Status         : Not Currently in Aggregation
  Aggregation Port ID       : 0

Maximum Frame Size        : 1536

LLDP-MED Capabilities Support:
  Capabilities               :Support
  Network Policy             :Support
  Location Identification    :Not Support
  Extended Power Via MDI PSE :Support
  Extended Power Via MDI PD  :Not Support
  Inventory                   :Support

Network Policy:
  Application Type :Voice
  VLAN ID         :200
  Priority         :5
  DSCP             :0
  Unknown         :False
  Tagged          :True

Extended Power Via MDI:
  Power Priority    :Low
  Power Value      :15.40 Watts

Switch#
```