# Configuring VDSL2 and ADSL2/2+

VDSL2 and ADSL2/2+ provide highly reliable WAN connections for remote sites. These interfaces offer cost-effective virtualized WAN connections in both point-to-point and point-to-multipoint designs.

Organization needs high speed digital data transmission to operate between their data equipment and central office, usually located at the telecom service provider premises. The Cisco multimode VDSL2 and ADSL1/2/2+ provides 1-port (2-pair) multimode VDSL2 and ADSL2+ WAN connectivity. This connectivity in combination with Cisco 8100 Series Secure Routers, provides high-speed digital data transmission between customer premises equipment (CPE) and the central office.

This capability enables service providers and resellers to offer additional services, such as business-class security, voice, video, and data; differentiated classes of service (QoS), and managed network access over existing telephony infrastructure. These value-added features, along with the flexible manageability and reliability of Cisco IOS Software, provide the mission-critical networking features that businesses expect.

The following table describes the VDSL2 and ADSL2/2+ Variants:

| Product Number | Description |
|---|---|
| C8130-VAP-G2- Annex A<br>C8151-CVAP-G2 - Annex A | 1-port (2-pair) VDSL2/ADSL2+ over POTS<br>• VDSL2 over POTS Band Plans<br>  • VDSL2 profiles: 8a, 8b, 8c, 8d, 12a, 12b, 17a, and 35b<br>• ADSL1/2/2+ Annex A, ADSL2 Annex L, non-optimized ADSL2/2+ |
| C8130-VAI-G2 - Annex B/J<br>C8151-CVAI-G2 - Annex B/J | 1-port (1-pair) VDSL2/ADSL2+ over ISDN<br>• ADSL1/2/2+ Annex B, non-optimized ADSL2/2+ Annex J<br>• VDSL2 over ISDN Band Plans (8a to 17a, and 35b) |

# Configure DSL

Cisco Cisco 8100 Series Secure Routers support asymmetric digital subscriber line (ADSL) 1/2/2+ and very high speed digital subscriber line 2 (VDSL2) transmission modes, also called multimode.

# Configure ADSL

Perform the below mentioned steps to configure a DSL controller.

## Configure auto mode

### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface ATM 0/2/0**
4. **no shutdown**
5. **controller VDSL** *slot/subslot/port*
6. **operating mode** *auto*
7. **end**

### DETAILED STEPS

**Procedure**

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **enable**<br>**Example:**<br>`router> enable` | Enables privileged EXEC mode. |
| **Step 2** | **configure terminal**<br>**Example:**<br>`router# configure terminal` | Enters global configuration mode. |
| **Step 3** | **interface ATM 0/2/0**<br>**Example:**<br>`router# interface ATM 0/2/0` | Select and enter configuration mode for the ATM 0/2/0 interface. |
| **Step 4** | **no shutdown**<br>**Example:**<br>`router# no shutdown` | Activate the ATM 0/2/0 interface by using the **no shutdown** command. This ensures the interface remains operational and available for control path communication between the host and the DSL module PHY. |
| **Step 5** | **controller VDSL** *slot/subslot/port*<br>**Example:** | Enters configuration mode for the VDSL controller. |

| | Command or Action | Purpose |
|---|---|---|
| | `router(config-controller)# controller vdsl 0/2/0` | |
| **Step 6** | **operating mode** *auto*<br>**Example:**<br>`router(config-controller)# operating mode auto` | Configures the auto operating mode, which is the default configuration. |
| **Step 7** | **end**<br>**Example:**<br>`router(config-controller)# end` | Exits controller configuration mode. |

## Configure ADSL1 and ADSL2/2+ Annex A mode

### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface ATM 0/2/0**
4. **no shutdown**
5. **controller VDSL** *slot/subslot/port*
6. **operating mode** {*adsl1* | *adsl2 annex a* | *adsl2+* | *annex a*}
7. **end**

### DETAILED STEPS

**Procedure**

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **enable**<br>**Example:**<br>`router> enable` | Enables privileged EXEC mode. |
| **Step 2** | **configure terminal**<br>**Example:**<br>`router# configure terminal` | Enters global configuration mode. |
| **Step 3** | **interface ATM 0/2/0**<br>**Example:**<br>`router# interface ATM 0/2/0` | Select and enter configuration mode for the ATM 0/2/0 interface. |
| **Step 4** | **no shutdown**<br>**Example:**<br>`router# no shutdown` | Activate the ATM 0/2/0 interface by using the **no shutdown** command. This ensures the interface remains operational and available for control path communication between the host and the DSL module PHY. |

| | Command or Action | Purpose |
|---|---|---|
| **Step 5** | **controller VDSL** *slot/subslot/port*<br>**Example:**<br>`router(config-controller)# controller vdsl 0/2/0` | Enters configuration mode for the VDSL controller. |
| **Step 6** | **operating mode** {*adsl1* \| *adsl2 annex a* \| *adsl2+* \| *annex a*}<br>**Example:**<br>`router(config-controller)# operating mode adsl2+` | Configures the operating mode.<br>• ADSL1—Configures operation in ITU G.992.1 Annex A full-rate mode.<br>• ADSL2—Configures operation in ADSL2 operating mode (ITU G.992.3 Annex A and Annex L). If an Annex operating mode is not chosen, both Annex A and Annex L are enabled. The final mode is determined by negotiation with the DSL access multiplexer (DSLAM).<br>• ADSL2+—Configures operation in ADSL2+ mode (ITU G.992.5 Annex A). If Annex A operating mode is not chosen, Annex A is enabled. The final mode is determined by negotiation with the DSLAM.<br>• Annex A—(Optional) If the annex option is not specified, Annex A is enabled. The final mode is determined by negotiation with the Digital Synchronous Line Access Multiplexer (DSLAM). |
| **Step 7** | **end**<br>**Example:**<br>`router(config-controller)# end` | Exits controller configuration mode. |

# Configure VDSL2

### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface Ethernet 0/2/0**
4. **no shutdown**
5. **controller VDSL** *slot/subslot/port*
6. **operating mode** *mode*
7. **end**

**DETAILED STEPS**

**Procedure**

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **enable**<br>**Example:**<br>`router> enable` | Enables privileged EXEC mode. |
| **Step 2** | **configure terminal**<br>**Example:**<br>`router# configure terminal` | Enters global configuration mode. |
| **Step 3** | **interface Ethernet 0/2/0**<br>**Example:**<br>`router# interface Ethernet 0/2/0` | Select and enter configuration mode for the Ethernet 0/2/0 interface. |
| **Step 4** | **no shutdown**<br>**Example:**<br>`router# no shutdown` | Activate the Ethernet 0/2/0 interface by using the **no shutdown** command. This ensures the interface remains operational and available for control path communication between the host and the DSL module PHY. |
| **Step 5** | **controller VDSL** *slot/subslot/port*<br>**Example:**<br>`router(config-controller)# controller vdsl 0/2/0` | Enters configuration mode for the VDSL controller. |
| **Step 6** | **operating mode** *mode*<br>**Example:**<br>`router(config-controller)# operating mode vdsl2` | Configures the operating mode. The operating mode is VDSL2. Enables 8a through 17a profile. |
| **Step 7** | **end**<br>**Example:**<br>`router(config-controller)# end` | Exits controller configuration mode. |

# Examples of DSL Interface Configuration

In Cisco IOS XE, ATM PVCs can be configured under ATM sub-interfaces only. PVC configuration is not allowed under the main ATM interface. You can configure 8 point to point sub-interfaces either with one PVC configured under each point to point sub-interface or single multi-point sub-interface.

You do not need to configure the **tx-ring-limit** command in the Cisco 8100 Series Secure Routers, if you are migrating from classic Cisco IOS and using**tx-ring-limit** command to reduce the latency. Because the DSL modules buffers have been fine tuned for the optimal performance and latency.

The following example shows how to configure ATM interface:

```
interface ATM0/3/0
 no ip address
```

```
 no atm oversubscribe
 no atm enable-ilmi-trap
 no shut


interface ATM0/3/0.1 point-to-point
 ip address 192.0.2.1 255.255.255.0
 no atm enable-ilmi-trap
 pvc 1/77
 vbr-rt 400 400
```

The following example shows how to configure Ethernet interface.

```
interface Ethernet0/2/0
 ip address 192.0.2.1 255.255.255.0
 load-interval 30
 no negotiation auto
```

If the trained mode is VDSL2 or VDSL2+, the TC mode should be in Packet Transfer Mode (PTM). In this case, the PTM Ethernet interface is in the **up** state. All other upper layer parameters such as PPP, IP, and so on should be configured under the Ethernet interface. If the trained mode is ADSL, ADSL2, or ADSL2+, the TC mode should be ATM and all the upper layer parameters should be configured under the ATM Permanent Virtual Circuit (PVC). If you change the operating mode between ADSL and VDSL, you need not to reboot the router in order to activate the corresponding Ethernet or ATM interfaces. In case of PTM mode, check with your ISP if they are expecting Dot1q tag configuration on the CPE. ISP should provide Dot1q tag value.

```
Router(config)#interface Ethernet0.835

Router(config-subif)#encapsulation dot1Q 835

Router(config-subif)#pppoe-client dial-pool-member 1
```

# Show and debug commands

Verifies that the configuration is set properly.

```
Router#show controller vdsl 0/2/0
Controller VDSL 0/2/0 is UP

Daemon Status:          UP

                        XTU-R (DS)              XTU-C (US)
Chip Vendor ID:         'RETK'                   'BDCM'
Chip Vendor Specific:   0x0000                   0x0000
Chip Vendor Country:    0xB500                   0xB500
Modem Vendor ID:        'RETK'                   'BDCM'
Modem Vendor Specific:  0x0000                   0x0000
Modem Vendor Country:   0xB500                   0xB500
Serial Number Near:     08-04-25 AVM br u318 MIPS32 EUR
Serial Number Far:      08-04-25 AVM br u318 MIPS32 EUR
Modem Version Near:     G137L310
Modem Version Far:      G137L310

Modem Status:           TC Sync (Showtime!)
DSL Config Mode:        AUTO
Trained Mode:           G.992.5 (ADSL2+) Annex A

TC Mode:                ATM
Selftest Result:        0x00
```

```
DELT configuration:     disabled
DELT state:             not running

Failed full inits:      0
Short inits:            0
Failed short inits:     0

Modem FW  Version:      VADSL26.1.1.3
Modem PHY Version:      G137L310 AVM b_08-04-25 AVM b
Modem PHY Source:       System

Line 0:

                        XTU-R (DS)              XTU-C (US)
Trellis:                 OFF                     ON
SRA:                     enabled                 enabled
SRA count:               0                       0
Bit swap:                enabled                 enabled
Bit swap count:          0                       0
Line Attenuation:        10.8 dB                  7.2 dB
Signal Attenuation:      10.8 dB                  6.8 dB
Noise Margin:            12.4 dB                 5.9 dB
Attainable Rate:        0 kbits/s                0 kbits/s
Actual Power:            0.0 dBm                 0.0 dBm
Total FECC:             0                       0
Total ES:               0                       0
Total SES:              0                       0
Total LOSS:             0                       0
Total UAS:              0                       0
Total LPRS:             0                       0
Total LOFS:             0                       0
Total LOLS:             0                       0

cannot access pm lineinit counters

                   DS Channel1     DS Channel0   US Channel1       US Channel0
Speed (kbps):              NA           25458            NA               914
SRA Previous Speed:        NA               0            NA                 0
Previous Speed:            NA               0            NA                 0
Total Cells:               NA               0            NA                 0
User Cells:                NA               0            NA                 0
Reed-Solomon EC:           NA               0            NA                 0
CRC Errors:                NA               0            NA                 0
Header Errors:             NA               0            NA                 0
Interleave (ms):           NA            0.00            NA              0.00
Actual INP:                NA            0.00            NA              0.00

Training Log :  Stopped
Training Log Filename : flash:vdsllog.bin
```

# Module specific show commands

```
Router# show platform hardware qfp active datapath pmd ifdev | section eth0
Port#0 - Name: eth0
  State Information
    Bind name      : net_caden0
    Driver         : net_caden
    PMD State      : I/O Ready
    PMD Last State : Added
    MAC Address    : 5267.9991.e796
    Device         : RUNNING
    Port Mode      : Poll
    CIO State      : ENABLED, if_type 0, uidb_index 1020, module_id 1, flags 0x9
```

```
    CIO Events     : Enable 3, Disable 3
    Tx_Drain       : FALSE
    Vdev Pause     : Inactive
    Admin State    : Up
    Oper State     : Up (Up)
    Link state chg : Up 1, Down 0
    Events         : Remove 0, Reset 0, Link up 0, Link dn 0
    Events         : Bond del 0, Unknown 0
    Vdev Rmv Pendng: 0
    Attach Attempts: 50
    Link Speeds : 0x00000020
      Speed      : 1000
      Duplex     : full
  Attributes
    RECONFIGURE_SUPPORTED
    RX_OFFLOAD_CRC_STRIP_SUPPORTED
    SET_MTU_API_SUPPORTED
    MAC_FILTER_API_SUPPORTED
    ALWAYS_MC_PROMISC
    PAUSE_FRAME_SUPPORTED
    TX_DRAIN_SYNC
    RX_DESC_ALLOCATES_MBUF
  Configuration
    Promiscuous    : Admin ENABLED, Override DISABLED, Multicast ENABLED
    MTU config     : 10240
      cur/min/max  : 10240/46/65535
    Trans VLAN Id  : 0x0000
    Trans VLAN COS : 0
    Rx ring size   : 0
    Tx ring size   : 0
    Rx Total Q Cnt : 1
    Rx Active Q Cnt: 1
    Rx CIO Q Cnt   : 1
    Rx Desc Cnt
      Queue 0      : 1024
    Tx Q Cnt       : 2
    Tx Desc Cnt
      Queue 0      : 1024
      Queue 1      : 1024
    Num VLANs      : 0
```

```
Router# show platform hardware qfp active datapath pmd controllers | section eth0
NIC extended stats for port 0  (eth0) net_caden 5267.9991.e796 xstats count 99
  rx_good_packets: 709
  tx_good_packets: 3769
  rx_good_bytes: 62290
  tx_good_bytes: 4399365
  rx_missed_errors: 0
  rx_errors: 0
  tx_errors: 0
  rx_mbuf_allocation_errors: 0
  tx_octets: 4399365
  tx_frames: 3769
  tx_broadcast_frames: 9
  tx_multicast_frames: 5
  tx_pause_frames: 0
  tx_64_byte_frames: 648
  tx_65_127_byte_frames: 12
  tx_128_255_byte_frames: 55
  tx_256_511_byte_frames: 3
  tx_512_1023_byte_frames: 0
  tx_1024_1518_byte_frames: 3051
  tx_greater_than_1518_byte_frames: 0
  tx_underrun: 0
  tx_single_collision_frames: 0
```

```
tx_multiple_collision_frames: 0
tx_excessive_collisions: 0
tx_late_collisions: 0
tx_deferred_frames: 0
tx_carrier_sense_errors: 0
rx_octets: 62290
rx_frames: 709
rx_broadcast_frames: 0
rx_multicast_frames: 4
rx_pause_frames: 1744
rx_64_byte_frames: 589
rx_65_127_byte_frames: 18
rx_128_255_byte_frames: 63
rx_256_511_byte_frames: 39
rx_512_1023_byte_frames: 0
rx_1024_1518_byte_frames: 0
rx_greater_than_1518_byte_frames: 0
rx_undersized_frames: 0
rx_oversize_frames: 0
rx_jabbers: 0
rx_frame_check_sequence_errors: 0
rx_length_field_frame_errors: 0
rx_symbol_errors: 0
rx_alignment_errors: 0
rx_resource_errors: 0
rx_overruns: 0
rx_ip_header_checksum_errors: 0
rx_tcp_checksum_errors: 0
rx_udp_checksum_errors: 0
q0_rx_packets: 0
q0_rx_bytes: 0
q0_rx_dropped: 0
q1_rx_packets: 0
q1_rx_bytes: 0
q1_rx_dropped: 0
q2_rx_packets: 0
q2_rx_bytes: 0
q2_rx_dropped: 0
q3_rx_packets: 0
q3_rx_bytes: 0
q3_rx_dropped: 0
q4_rx_packets: 0
q4_rx_bytes: 0
q4_rx_dropped: 0
q5_rx_packets: 0
q5_rx_bytes: 0
q5_rx_dropped: 0
q6_rx_packets: 0
q6_rx_bytes: 0
q6_rx_dropped: 0
q7_rx_packets: 0
q7_rx_bytes: 0
q7_rx_dropped: 0
q0_tx_packets: 0
q0_tx_bytes: 0
q0_tx_dropped: 0
q1_tx_packets: 0
q1_tx_bytes: 0
q1_tx_dropped: 0
q2_tx_packets: 0
q2_tx_bytes: 0
q2_tx_dropped: 0
q3_tx_packets: 0
q3_tx_bytes: 0
```

```
q3_tx_dropped: 0
q4_tx_packets: 0
q4_tx_bytes: 0
q4_tx_dropped: 0
q5_tx_packets: 0
q5_tx_bytes: 0
q5_tx_dropped: 0
q6_tx_packets: 0
q6_tx_bytes: 0
q6_tx_dropped: 0
q7_tx_packets: 0
q7_tx_bytes: 0
q7_tx_dropped: 0
```

**Other useful CLIs for debugging issues related to packet flow:**

- **show platform hardware backplaneswitch-manager rp active ffp statistics**
- **show platform hardware backplaneswitch-manager rp active subslot** *subslot* **GE0 statistics**
- **Show platform hardware qfp active infra bqs queue out default interface** *interface name*
- **show platform hardware qfp active interface if-name** *interface name*
- **show platform hardware qfp active interface if-name** *interface name* **statistics**
- **show platform hardware qfp active statistics drop**
- **show platform hardware qfp active interface statistics clear**

# Packet flow specific to ATM PVC related show and debug commands

```
Router#show platform software atm F0 pvc
Forwarding Manager ATM PVC Information
Interface VCD ID Ing-ID Eg-ID VC State AOM ID
ATM0/3/0.1 1 0x1004010 0 0 0x1248 378
```

```
Router#show platform hardware qfp active infrastructure bqs interface-string
ATM0/3/0.1.1.1004010 hierarchy detail
Interface: ATM0/3/0.1.1.1004010 QFP: 0.0 if_h: 33 Num Queues/Schedules: 5
Queue specifics:
Index 0 (Queue ID:0x448, Name: ATM0/3/0.1.1.1004010)
PARQ Software Control Info:
(cache) queue id: 0x00000448, wred: 0xe79955d0, qlimit (pkts ): 64
parent_sid: 0x91, debug_name: ATM0/3/0.1.1.1004010
sw_flags: 0x08000011, sw_state: 0x00000c01, port_uidb: 65503
orig_min : 0 , min: 0
min_qos : 0 , min_dflt: 0
orig_max : 0 , max: 0
max_qos : 0 , max_dflt: 0
share : 1
plevel : 0, priority: 65535
defer_obj_refcnt: 0
ifm_h: 36, qos_h: 0x00000000, parent_obj_h: 0x00000024
ifh 33 queue_type 0(NONE)
qm_obj: 0x00007f81b81c9fa0
subdevice_id : 0
Statistics:
tail drops (bytes): 0 , (packets): 0
```

```
total enqs (bytes): 103686 , (packets): 6098
queue_depth (pkts ): 0
Schedule specifics:
Index 0 (SID:0x91, Name: ATM0/3/0.1.1.1004010)
PARQ Software Control Info:
sid: 0x91, parent_sid: 0x90
evfc_fc_id: 0x5200, fc_sid: 0xffffff
obj_id: 0x24, parent_obj_id: 0x20, debug_name: ATM0/3/0.1.1.1004010
num_entries (active): 1, num_children (max): 1
presize_hint: 0
sw_flags: 0x0842002a, sw_state: 0x00000801
orig_min : 0 , min: 0
min_qos : 0 , min_dflt: 1045000
orig_max : 0 , max: 1045000
max_qos : 0 , max_dflt: 1045000
share : 1
plevel: 0, service_fragment: False, port_uidb: 65503
priority: 0, defer_obj_refcnt: 0
ifm_h: 36, qos_h: 0x00000000, parent_obj_h: 0x00000020
ifh 33 queue_type 0(NONE)
qm_obj: 0x00007f81b81ca0f0
subdevice_id : 0
REM Schedule Info:
Cntl=0x0 (FC_Enabled) Aggregate State=0x0 (XON XON XON)
HP2, priority level 1. Enforced State=XON (XON)
Bytes Left=2147483647, Paks Left=2147483647
Rvd Flow-On Msgs=0, Rvd Flow-Off Msgs=0
Rvd Refresh Msgs=370, Refresh xon_mismatch=0 xoff_mismatch=0
HP1, priority level 2. Enforced State=XON (XON XON)
Bytes Left=0, Paks Left=0
Rvd Flow-On Msgs=0, Rvd Flow-Off Msgs=0
Rvd Refresh Msgs=0, Refresh xon_mismatch=0 xoff_mismatch=0
LP, normal priority. Enforced State=XON (XON XON XON)
Bytes Left=2147483647, Paks Left=2147483647
Rvd Flow-On Msgs=0, Rvd Flow-Off Msgs=0
Rvd Refresh Msgs=370, Refresh xon_mismatch=0 xoff_mismatch=0
Schedule specifics:
Index 1 (SID:0x90, Name: ATM0/3/0 UBR COS)
PARQ Software Control Info:
sid: 0x90, parent_sid: 0x7f
evfc_fc_id: 0xffff, fc_sid: 0xffffff
obj_id: 0x20, parent_obj_id: 0x1c, debug_name: ATM0/3/0 UBR COS
num_entries (active): 1, num_children (max): 1
presize_hint: 0
sw_flags: 0x08520022, sw_state: 0x00000801
orig_min : 0 , min: 0
min_qos : 0 , min_dflt: 0
orig_max : 0 , max: 0
max_qos : 0 , max_dflt: 0
share : 1
plevel: 0, service_fragment: False, port_uidb: 65504
priority: 0, defer_obj_refcnt: 0
ifm_h: 32, qos_h: 0x00000000, parent_obj_h: 0x0000001c
ifh 0 queue_type 0(NONE)
qm_obj: 0x00007f81b81caa20
subdevice_id : 0
Schedule specifics:
Index 2 (SID:0x7f, Name: ATM0/3/0)
PARQ Software Control Info:
sid: 0x7f, parent_sid: 0x7c
evfc_fc_id: 0x5100, fc_sid: 0xffffff
obj_id: 0x1c, parent_obj_id: 0x17, debug_name: ATM0/3/0
num_entries (active): 2, num_children (max): 2
presize_hint: 0
```

```
sw_flags: 0x0842002a, sw_state: 0x00000801
orig_min : 0 , min: 1097000
min_qos : 0 , min_dflt: 1097000
orig_max : 0 , max: 1097000
max_qos : 0 , max_dflt: 1097000
share : 1
plevel: 0, service_fragment: False, port_uidb: 65525
priority: 0, defer_obj_refcnt: 0
ifm_h: 28, qos_h: 0x00000000, parent_obj_h: 0x00000017
ifh 11 queue_type 0(NONE)
qm_obj: 0x00007f81b81cb0b0
subdevice_id : 0
REM Schedule Info:
Cntl=0x0 (FC_Enabled) Aggregate State=0x0 (XON XON XON)
HP2, priority level 1. Enforced State=XON (XON)
Bytes Left=0, Paks Left=0
Rvd Flow-On Msgs=0, Rvd Flow-Off Msgs=0
Rvd Refresh Msgs=0, Refresh xon_mismatch=0 xoff_mismatch=0
HP1, priority level 2. Enforced State=XON (XON XON)
Bytes Left=0, Paks Left=0
Rvd Flow-On Msgs=0, Rvd Flow-Off Msgs=0
Rvd Refresh Msgs=0, Refresh xon_mismatch=0 xoff_mismatch=0
LP, normal priority. Enforced State=XON (XON XON XON)
Bytes Left=0, Paks Left=0
Rvd Flow-On Msgs=0, Rvd Flow-Off Msgs=0
Rvd Refresh Msgs=0, Refresh xon_mismatch=0 xoff_mismatch=0
Schedule specifics:
Index 3 (SID:0x7c, Name: Licensed Shaper)
PARQ Software Control Info:
sid: 0x7c, parent_sid: 0x0
evfc_fc_id: 0xffff, fc_sid: 0xfffff
obj_id: 0x17, parent_obj_id: 0x0, debug_name: Licensed Shaper
num_entries (active): 5, num_children (max): 5
presize_hint: 2
sw_flags: 0x0802208a, sw_state: 0x00000001
orig_min : 0 , min: 400000000
min_qos : 0 , min_dflt: 400000000
orig_max : 0 , max: 400000000
max_qos : 0 , max_dflt: 400000000
share : 1
plevel: 0, service_fragment: False, port_uidb: 0
priority: 0, defer_obj_refcnt: 0
ifm_h: 23, qos_h: 0x00000000, parent_obj_h: 0x00000000
ifh 0 queue_type 0(NONE)
qm_obj: 0x00007f81b81cbf20
subdevice_id : 0
```

- **show platform hardware qfp active interface platform ATM0/3/0.1.1.1004010 path**
- **show platform hardware qfp active interface if-name atm0/3/0.1 statistics**

# Collect DSL training logs

**Note** Training log collection is not supported in release 26.1.1. Support for this feature is planned for a future release.