

How to show FDB table, create & delete static FDB entry via NETSNMP in DGS-3100 series (FW_3.60.28_MIB)

The OIDs for configuring FDB entry are defined in “BRIDGE-MIB” (rfc-1493.mib).

dot1dTpFdbTable

The screenshot shows the MIB Tree on the left and the details for the dot1dTpFdbTable module on the right. The MIB Tree is expanded to show the path: iso > org > dod > internet > mgmt > mib-2 > dot1dBridge > dot1dTp > dot1dTpFdbTable. The details pane shows the following information:

Name:	dot1dTpFdbTable
Type:	OBJECT-TYPE
OID:	1.3.6.1.2.1.174.3
Full path:	iso(1) org(3) dod(6) internet(1) mgmt(2) mib-2(1) dot1dBridge(17) dot1dTp(4) dot1dTpFdbTable
Module:	BRIDGE-MIB
Parent:	dot1dTp
First child:	dot1dTpFdbEntry
Prev sibling:	dot1dTpAgingTime
Next sibling:	dot1dTpPortTable
Numerical syntax:	Sequence
Base syntax:	SEQUENCE OF Dot1dTpFdbEntry
Composed syntax:	SEQUENCE OF Dot1dTpFdbEntry
Status:	mandatory
Max access:	not-accessible
Sequences:	1: dot1dTpFdbAddress - MacAddress(4 - octets) 2: dot1dTpFdbPort - INTEGER(2 - int, int32) 3: dot1dTpFdbStatus - INTEGER(2 - int, int32)
Description:	A table that contains information about unicast entries for which the bridge has forwarding and/or filtering information. This information is used by the transparent bridging function in determining how to propagate a received frame.

dot1dTpFdbEntry

The screenshot shows the MIB Tree on the left and the details for the dot1dTpFdbEntry module on the right. The MIB Tree is expanded to show the path: iso > org > dod > internet > mgmt > mib-2 > dot1dBridge > dot1dTp > dot1dTpFdbTable > dot1dTpFdbEntry. The details pane shows the following information:

Name:	dot1dTpFdbEntry
Type:	OBJECT-TYPE
OID:	1.3.6.1.2.1.174.3.1
Full path:	iso(1) org(3) dod(6) internet(1) mgmt(2) mib-2(1) dot1dBridge(17) dot1dTp(4) dot1dTpFdbTable(3) dot1dTpFdbEntry
Module:	BRIDGE-MIB
Parent:	dot1dTpFdbTable
First child:	dot1dTpFdbAddress
Numerical syntax:	Null
Base syntax:	Dot1dTpFdbEntry
Composed syntax:	Dot1dTpFdbEntry
Status:	mandatory
Max access:	not-accessible
Sequences:	1: dot1dTpFdbAddress - MacAddress(4 - octets) 2: dot1dTpFdbPort - INTEGER(2 - int, int32) 3: dot1dTpFdbStatus - INTEGER(2 - int, int32)
Indexes:	1: dot1dTpFdbAddress
Description:	Information about a specific unicast MAC address for which the bridge has some forwarding and/or filtering information.

dot1dTpFdbAddress

The screenshot shows a MIB browser window with the MIB Tree on the left and a details pane on the right. The MIB Tree is expanded to show the path: iso > org > dod > internet > mgmt > mib-2 > dot1dBridge > dot1dTp > dot1dTpFdbTable > dot1dTpFdbEntry > dot1dTpFdbAddress. The details pane for the selected object is as follows:

Module:	BRIDGE-MIB
Name:	dot1dTpFdbAddress
Type:	OBJECT-TYPE
OID:	1.3.6.1.2.1.174.3.1.1
Full path:	iso(1)org(3)dod(6)internet(1)mgmt(2)mib-2(1)dot1dBridge(17)dot1dTp(4)dot1dTpFdbTable(3)dot1dTpFdbEntry(5)dot1dTpFdbAddress
Module:	BRIDGE-MIB
Parent:	dot1dTpFdbEntry
Next sibling:	dot1dTpFdbPort
Numerical syntax:	Octets
Base syntax:	OCTET STRING
Composed syntax:	MacAddress
Status:	mandatory
Max access:	read-only
Reference:	IEEE 802.1D-1990: Section 3.9.1, 3.9.2
Description:	A unicast MAC address for which the bridge has forwarding and/or filtering information.

dot1dTpFdbPort

The screenshot shows a MIB browser window with the MIB Tree on the left and a details pane on the right. The MIB Tree is expanded to show the path: iso > org > dod > internet > mgmt > mib-2 > dot1dBridge > dot1dTp > dot1dTpFdbTable > dot1dTpFdbEntry > dot1dTpFdbPort. The details pane for the selected object is as follows:

Module:	BRIDGE-MIB
Name:	dot1dTpFdbPort
Type:	OBJECT-TYPE
OID:	1.3.6.1.2.1.174.3.1.2
Full path:	iso(1)org(3)dod(6)internet(1)mgmt(2)mib-2(1)dot1dBridge(17)dot1dTp(4)dot1dTpFdbTable(3)dot1dTpFdbEntry(5)dot1dTpFdbPort
Module:	BRIDGE-MIB
Parent:	dot1dTpFdbEntry
Prev sibling:	dot1dTpFdbAddress
Next sibling:	dot1dTpFdbStatus
Numerical syntax:	Integer (32 bit)
Base syntax:	INTEGER
Composed syntax:	INTEGER
Status:	mandatory
Max access:	read-only
Description:	Either the value '0', or the port number of the port on which a frame having a source address equal to the value of the corresponding instance of dot1dTpFdbAddress has been seen. A value of '0' indicates that the port number has not been learned but that the bridge does have some forwarding/filtering information about this address (e.g. in the dot1dStaticTable). Implementors are encouraged to assign the port value to this object whenever it is learned even for addresses for which the corresponding value of

dot1dTpFdbStatus

The screenshot shows a MIB browser window with the MIB Tree on the left and a details pane on the right. The MIB Tree is expanded to show the path: iso > org > dod > internet > mgmt > mib-2 > dot1dBridge > dot1dTp > dot1dTpFdbTable > dot1dTpFdbEntry > dot1dTpFdbStatus. The details pane for the selected object is as follows:

Module:	BRIDGE-MIB
Name:	dot1dTpFdbStatus
Type:	OBJECT-TYPE
OID:	1.3.6.1.2.1.174.3.1.3
Full path:	iso(1)org(3)dod(6)internet(1)mgmt(2)mib-2(1)dot1dBridge(17)dot1dTp(4)dot1dTpFdbTable(3)dot1dTpFdbEntry(5)dot1dTpFdbStatus
Module:	BRIDGE-MIB
Parent:	dot1dTpFdbEntry
Prev sibling:	dot1dTpFdbPort
Numerical syntax:	Integer (32 bit)
Base syntax:	INTEGER
Composed syntax:	INTEGER
Status:	mandatory
Max access:	read-only
Value list:	1: other(1) 2: invalid(2) 3: learned(3) 4: self(4) 5: mgmt(5)
Description:	The status of this entry. The meanings of the values are: other(1) : none of the following. This would include the case where some other MIB object (not the corresponding instance of dot1dTpFdbPort, nor an

dot1dStaticTable

The screenshot shows the MIB browser interface with the MIB Tree on the left and the details pane on the right. The MIB Tree is expanded to show the path: iso > org > dod > internet > mgmt > mib-2 > dot1dBridge > dot1dBase > dot1dStp > dot1dSr > dot1dTp > dot1dStatic > dot1dStaticTable. The details pane for dot1dStaticTable is as follows:

Module:	BRIDGE-MIB
Name:	dot1dStaticTable
Type:	OBJECT-TYPE
OID:	1.3.6.1.2.1.17.5.1
Full path:	iso(1)org(3)dod(6)internet(1)mgmt(2)mib-2(1)dot1dBridge(17)dot1dStatic(5)dot1dStaticTable(1)
Module:	BRIDGE-MIB
Parent:	dot1dStatic
First child:	dot1dStaticEntry
Numerical syntax:	Sequence
Base syntax:	SEQUENCE OF Dot1dStaticEntry
Composed syntax:	SEQUENCE OF Dot1dStaticEntry
Status:	mandatory
Max access:	not-accessible
Sequences:	1: dot1dStaticAddress - MacAddress(4 - octets) 2: dot1dStaticReceivePort - INTEGER(2 - int, int32) 3: dot1dStaticAllowedToGoTo - OCTET STRING(4 - octets) 4: dot1dStaticStatus - INTEGER(2 - int, int32)
Reference:	IEEE 802.1D-1990: Section 6.7.2
Description:	A table containing filtering information configured into the bridge by (local or network) management specifying the set of ports to which frames received from specific ports and containing specific destination addresses are allowed to be forwarded. The value of zero in this table as the port number from which frames with a specific destination address are received is used to

dot1dStaticEntry

The screenshot shows the MIB browser interface with the MIB Tree on the left and the details pane on the right. The MIB Tree is expanded to show the path: iso > org > dod > internet > mgmt > mib-2 > dot1dBridge > dot1dBase > dot1dStp > dot1dSr > dot1dTp > dot1dStatic > dot1dStaticTable > dot1dStaticEntry. The details pane for dot1dStaticEntry is as follows:

Module:	BRIDGE-MIB
Name:	dot1dStaticEntry
Type:	OBJECT-TYPE
OID:	1.3.6.1.2.1.17.5.1.1
Full path:	iso(1)org(3)dod(6)internet(1)mgmt(2)mib-2(1)dot1dBridge(17)dot1dStatic(5)dot1dStaticTable(1)dot1dStaticEntry(1)
Module:	BRIDGE-MIB
Parent:	dot1dStaticTable
First child:	dot1dStaticAddress
Numerical syntax:	Null
Base syntax:	Dot1dStaticEntry
Composed syntax:	Dot1dStaticEntry
Status:	mandatory
Max access:	not-accessible
Sequences:	1: dot1dStaticAddress - MacAddress(4 - octets) 2: dot1dStaticReceivePort - INTEGER(2 - int, int32) 3: dot1dStaticAllowedToGoTo - OCTET STRING(4 - octets) 4: dot1dStaticStatus - INTEGER(2 - int, int32)
Indexes:	1: dot1dStaticAddress 2: dot1dStaticReceivePort
Reference:	IEEE 802.1D-1990: Section 6.7.2
Description:	Filtering information configured into the bridge by (local or network) management specifying the set of ports to which frames received from a specific port and containing a specific

dot1dStaticAddress

The screenshot shows the MIB browser interface with the MIB Tree on the left and the details pane on the right. The MIB Tree is expanded to show the path: iso > org > dod > internet > mgmt > mib-2 > dot1dBridge > dot1dBase > dot1dStp > dot1dSr > dot1dTp > dot1dStatic > dot1dStaticTable > dot1dStaticEntry > dot1dStaticAddress. The details pane for dot1dStaticAddress is as follows:

Module:	BRIDGE-MIB
Name:	dot1dStaticAddress
Type:	OBJECT-TYPE
OID:	1.3.6.1.2.1.17.5.1.1.1
Full path:	iso(1)org(3)dod(6)internet(1)mgmt(2)mib-2(1)dot1dBridge(17)dot1dStatic(5)dot1dStaticTable(1)dot1dStaticEntry(1)dot1dStaticAddress(1)
Module:	BRIDGE-MIB
Parent:	dot1dStaticEntry
Next sibling:	dot1dStaticReceivePort
Numerical syntax:	Octets
Base syntax:	OCTET STRING
Composed syntax:	MacAddress
Status:	mandatory
Max access:	read-write
Reference:	IEEE 802.1D-1990: Section 3.9.1, 3.9.2
Description:	The destination MAC address in a frame to which this entry's filtering information applies. This object can take the value of a unicast address, a group address or the broadcast address.

dot1dStaticReceivePort

The screenshot shows the MIB Tree on the left and the BRIDGE-MIB details on the right. The MIB Tree highlights the path: iso(1) org(3) dod(6) internet(1) mgmt(2) mib-2(1) dot1dBridge(17) dot1dStatic(5) dot1dStaticTable(1) dot1dStaticEntry(1) dot1dStaticReceivePort. The details on the right are as follows:

Module:	BRIDGE-MIB
Name:	dot1dStaticReceivePort
Type:	OBJECT-TYPE
OID:	1.3.6.1.2.1.17.5.1.1.2
Full path:	iso(1) org(3) dod(6) internet(1) mgmt(2) mib-2(1) dot1dBridge(17) dot1dStatic(5) dot1dStaticTable(1) dot1dStaticEntry(1) dot1dStaticReceivePort
Module:	BRIDGE-MIB
Parent:	dot1dStaticEntry
Prev sibling:	dot1dStaticAddress
Next sibling:	dot1dStaticAllowedToGoTo
Numerical syntax:	Integer (32 bit)
Base syntax:	INTEGER
Composed syntax:	INTEGER
Status:	mandatory
Max access:	read-write
Description:	Either the value '0', or the port number of the port from which a frame must be received in order for this entry's filtering information to apply. A value of zero indicates that this entry applies on all ports of the bridge for which there is no other applicable entry.

dot1dStaticAllowedToGoTo

The screenshot shows the MIB Tree on the left and the BRIDGE-MIB details on the right. The MIB Tree highlights the path: iso(1) org(3) dod(6) internet(1) mgmt(2) mib-2(1) dot1dBridge(17) dot1dStatic(5) dot1dStaticTable(1) dot1dStaticEntry(1) dot1dStaticAllowedToGoTo. The details on the right are as follows:

Module:	BRIDGE-MIB
Name:	dot1dStaticAllowedToGoTo
Type:	OBJECT-TYPE
OID:	1.3.6.1.2.1.17.5.1.1.3
Full path:	iso(1) org(3) dod(6) internet(1) mgmt(2) mib-2(1) dot1dBridge(17) dot1dStatic(5) dot1dStaticTable(1) dot1dStaticEntry(1) dot1dStaticAllowedToGoTo
Module:	BRIDGE-MIB
Parent:	dot1dStaticEntry
Prev sibling:	dot1dStaticReceivePort
Next sibling:	dot1dStaticStatus
Numerical syntax:	Octets
Base syntax:	OCTET STRING
Composed syntax:	OCTET STRING
Status:	mandatory
Max access:	read-write
Description:	The set of ports to which frames received from a specific port and destined for a specific MAC address, are allowed to be forwarded. Each octet within the value of this object specifies a set of eight ports, with the first octet specifying ports 1 through 8, the second octet specifying ports 9 through 16, etc. Within each octet, the most significant bit represents the lowest numbered port, and the least significant bit represents the highest numbered port. Thus, each port of the bridge is represented by a single bit within the

dot1dStaticStatus

The screenshot shows the MIB Tree on the left and the BRIDGE-MIB details on the right. The MIB Tree highlights the path: iso(1) org(3) dod(6) internet(1) mgmt(2) mib-2(1) dot1dBridge(17) dot1dStatic(5) dot1dStaticTable(1) dot1dStaticEntry(1) dot1dStaticStatus. The details on the right are as follows:

Module:	BRIDGE-MIB
Name:	dot1dStaticStatus
Type:	OBJECT-TYPE
OID:	1.3.6.1.2.1.17.5.1.1.4
Full path:	iso(1) org(3) dod(6) internet(1) mgmt(2) mib-2(1) dot1dBridge(17) dot1dStatic(5) dot1dStaticTable(1) dot1dStaticEntry(1) dot1dStaticStatus
Module:	BRIDGE-MIB
Parent:	dot1dStaticEntry
Prev sibling:	dot1dStaticAllowedToGoTo
Numerical syntax:	Integer (32 bit)
Base syntax:	INTEGER
Composed syntax:	INTEGER
Status:	mandatory
Max access:	read-write
Value list:	1: other(1) 2: invalid(2) 3: permanent(3) 4: deleteOnReset(4) 5: deleteOnTimeout(5)
Description:	This object indicates the status of this entry. The default value is permanent(3). other(1) - this entry is currently in use but the conditions under which it will remain so are different from each of the following values.

[Test Scenario]

DGS-3100-24 (port 24) --- PC_MAC_00:15:f2:d1:35:07

[Show FDB]

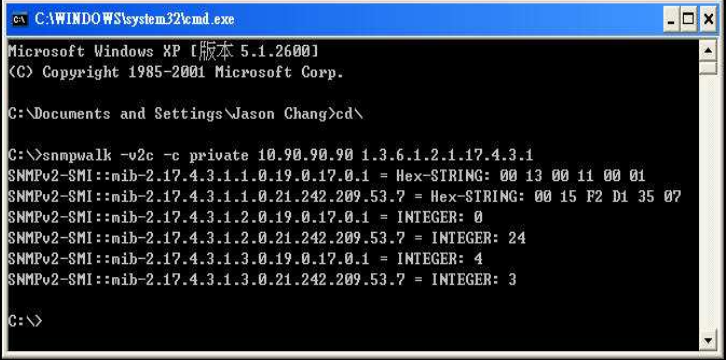
```
DGS-3100# sh switch
Device Type      : DGS-3100-24 Gigabit stackable L2 Managed Switch
MAC Address      : 00:13:00:11:00:01
IP Address       : 10.90.90.90
VLAN Name        : default
Subnet Mask      : 255.0.0.0
Default Gateway  : 0.0.0.0
Boot PROM Version : 1.0.1.05
Firmware Version : 3.60.28
Hardware Version : 02
Serial Number    : CAMEO_SAMPLE_1(unit 1)
System Name      : DGS-3100
System Location  :
System Contact   :
System Up Time   : 0 days 0 hours 0 mins 56 seconds
Spanning Tree    : Disabled
GVRP             : Disabled
IGMP Snooping    : Disabled
TELNET           : Enabled
WEB              : Enabled (TCP 80)

DGS-3100#
DGS-3100# show fdb

Unicast MAC Address Aging Time = 300

VID  VLAN NAME  MAC Address      Port  Type
-----
1    default    00:13:00:11:00:01 CPU    self
1    default    00:15:f2:d1:35:07 1:24  dynamic

DGS-3100#
```



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [版本 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Jason Chang>cd\

C:\>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.2.1.17.4.3.1
SNMPv2-SMI::mib-2.17.4.3.1.1.0.19.0.17.0.1 = Hex-STRING: 00 13 00 11 00 01
SNMPv2-SMI::mib-2.17.4.3.1.1.0.21.242.209.53.7 = Hex-STRING: 00 15 F2 D1 35 07
SNMPv2-SMI::mib-2.17.4.3.1.2.0.19.0.17.0.1 = INTEGER: 0
SNMPv2-SMI::mib-2.17.4.3.1.2.0.21.242.209.53.7 = INTEGER: 24
SNMPv2-SMI::mib-2.17.4.3.1.3.0.19.0.17.0.1 = INTEGER: 4
SNMPv2-SMI::mib-2.17.4.3.1.3.0.21.242.209.53.7 = INTEGER: 3

C:\>
```

[Command of “show fdb”]

```
C:\>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.2.1.17.4.3.1
```

```
SNMPv2-SMI::mib-2.17.4.3.1.1.0.19.0.17.0.1 = Hex-STRING: 00 13 00 11 00 01
```

```
SNMPv2-SMI::mib-2.17.4.3.1.1.0.21.242.209.53.7 = Hex-STRING: 00 15 F2 D1 35 07
```

```
SNMPv2-SMI::mib-2.17.4.3.1.2.0.19.0.17.0.1 = INTEGER: 0 => means CPU ipif
```

```
SNMPv2-SMI::mib-2.17.4.3.1.2.0.21.242.209.53.7 = INTEGER: 24
```

```
SNMPv2-SMI::mib-2.17.4.3.1.3.0.19.0.17.0.1 = INTEGER: 4 => self(4)
```

```
SNMPv2-SMI::mib-2.17.4.3.1.3.0.21.242.209.53.7 = INTEGER: 3
```

```
MAC address : Hex-decimal 00:15:f2:d1:35:07 => Decimal 0.21.242.209.53.7
```

```
dot1dTpFdbPort : Port 24
```

```
dot1dTpFdbStatus : learned(3)
```

[Create & Delete Static FDB 00:00:00:00:00:02 on Port 2]

DGS-3100#
DGS-3100# show fdb

Unicast MAC Address Aging Time = 300

VID	VLAN NAME	MAC Address	Port	Type
1	default	00:13:00:11:00:01	CPU	self
1	default	00:15:f2:d1:35:07	1:24	dynamic

DGS-3100#
DGS-3100# show fdb

Unicast MAC Address Aging Time = 300

VID	VLAN NAME	MAC Address	Port	Type
1	default	00:00:00:00:00:02	1:2	static
1	default	00:13:00:11:00:01	CPU	self
1	default	00:15:f2:d1:35:07	1:24	dynamic

create static fdb 00:00:00:00:00:02 on port 2

DGS-3100#
DGS-3100#
DGS-3100#
DGS-3100#
DGS-3100#
DGS-3100#
DGS-3100#
DGS-3100# show fdb

Unicast MAC Address Aging Time = 300

VID	VLAN NAME	MAC Address	Port	Type
1	default	00:13:00:11:00:01	CPU	self
1	default	00:15:f2:d1:35:07	1:24	dynamic

delete static fdb 00:00:00:00:00:02

DGS-3100#
DGS-3100#
DGS-3100#

C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [版本 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\Jason Chang>cd\
C:\>snmpset -v2c -c private 10.90.90.90 1.3.6.1.2.1.17.5.1.1.1.0.0.0.0.2.2 x 0
000000000002 1.3.6.1.2.1.17.5.1.1.2.0.0.0.0.0.2.2 i 2 1.3.6.1.2.1.17.5.1.1.4.0.0.
0.0.0.2.2 i 3
SNMPv2-SMI::mib-2.17.5.1.1.1.0.0.0.0.2.2 = Hex-STRING: 00 00 00 00 02
SNMPv2-SMI::mib-2.17.5.1.1.2.0.0.0.0.0.2.2 = INTEGER: 2
SNMPv2-SMI::mib-2.17.5.1.1.4.0.0.0.0.0.2.2 = INTEGER: 3
C:\>

C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [版本 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\Jason Chang>cd\
C:\>snmpset -v2c -c private 10.90.90.90 1.3.6.1.2.1.17.5.1.1.4.0.0.0.0.2.2 i 2
SNMPv2-SMI::mib-2.17.5.1.1.4.0.0.0.0.0.2.2 = INTEGER: 2
C:\>