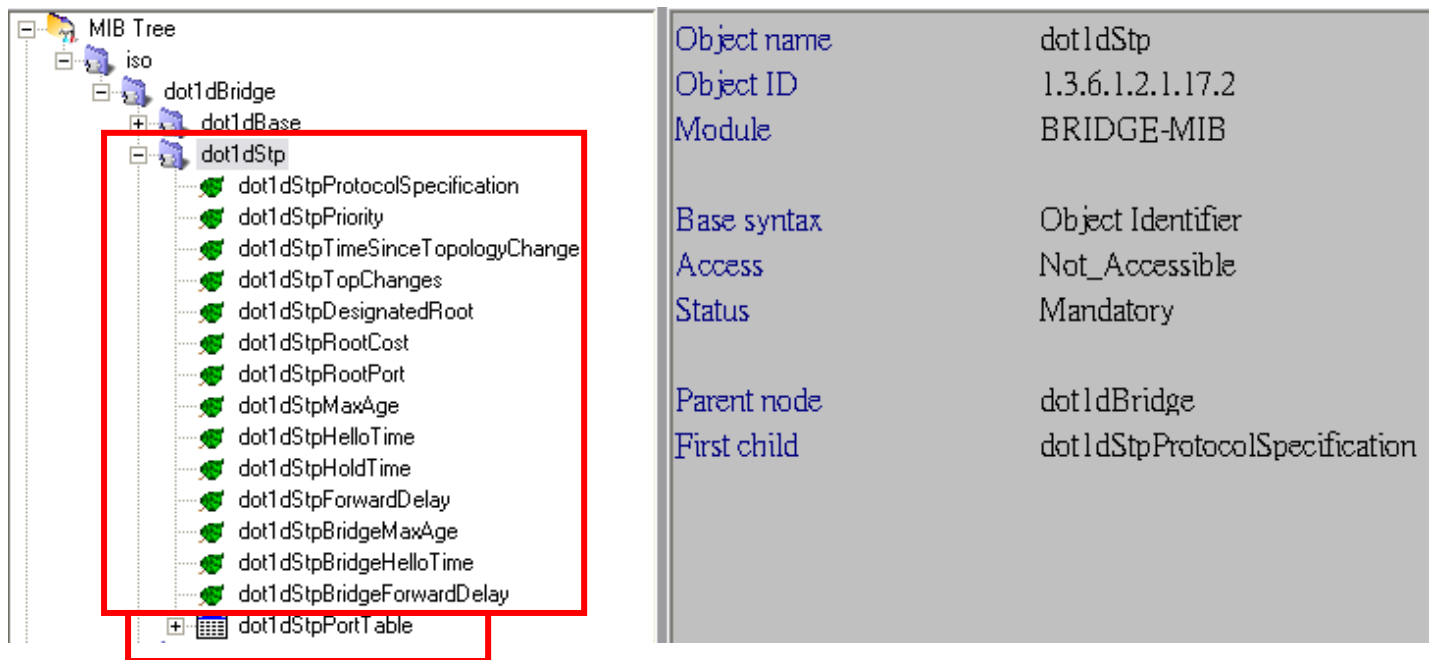


How to use Net SNMP—STP

STP MIB Value:



The screenshot shows a MIB Tree on the left and a properties panel on the right. The MIB Tree is expanded to show the following structure:

- iso
 - dot1dBridge
 - dot1dBase
 - dot1dStp
 - dot1dStpProtocolSpecification
 - dot1dStpPriority
 - dot1dStpTimeSinceTopologyChange
 - dot1dStpTopChanges
 - dot1dStpDesignatedRoot
 - dot1dStpRootCost
 - dot1dStpRootPort
 - dot1dStpMaxAge
 - dot1dStpHelloTime
 - dot1dStpHoldTime
 - dot1dStpForwardDelay
 - dot1dStpBridgeMaxAge
 - dot1dStpBridgeHelloTime
 - dot1dStpBridgeForwardDelay
 - dot1dStpPortTable

The properties panel on the right lists the following values:

| | |
|-------------|-------------------------------|
| Object name | dot1dStp |
| Object ID | 1.3.6.1.2.1.17.2 |
| Module | BRIDGE-MIB |
| Base syntax | Object Identifier |
| Access | Not_Accessible |
| Status | Mandatory |
| Parent node | dot1dBridge |
| First child | dot1dStpProtocolSpecification |

MIB File: BRIDGE-MIB

OID: 1.3.6.1.2.1.17.2

1) dot1dStp

1.1) dot1dStpProtocolSpecification

| | |
|-----------------|--|
| Object name | dot1dStpProtocolSpecification |
| Object ID | 1.3.6.1.2.1.17.2.1 |
| Module | BRIDGE-MIB |
| Base syntax | Integer |
| Composed syntax | INTEGER |
| Access | Read-Only |
| Status | Mandatory |
| Value list | 1 : unknown(1) 2 : decLb100(2) 3 : ieee8021d(3) |
| Parent node | dot1dStp |
| First child | None |
| Description | An indication of what version of the Spanning Tree Protocol is being run. The value 'decLb100(2)' indicates the DEC LANbridge 100 Spanning Tree protocol. IEEE 802.1d implementations will return 'ieee8021d(3)'. If future versions of the IEEE Spanning Tree Protocol are released that are incompatible with the current version a new value will be defined. |

:: **MIB**::

dot1dStpProtocolSpecification

:: **OID**::

1.3.6.1.2.1.17.2.1

:: **Command**::

snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.1

1.2) dot1dStpPriority

| | |
|-----------------|--|
| Object name | dot1dStpPriority |
| Object ID | 1.3.6.1.2.1.17.2.2 |
| Module | BRIDGE-MIB |
| Base syntax | Integer |
| Composed syntax | INTEGER |
| Access | Read-Write |
| Status | Mandatory |
| Value list | 1 : 0..65535 |
| Parent node | dot1dStp |
| First child | None |
| Description | The value of the write-able portion of the Bridge ID, i.e., the first two octets of the (8 octet long) Bridge ID. The other (last) 6 octets of the Bridge ID are given by the value of dot1dBaseBridgeAddress. |

:: MIB::

dot1dStpPriority

:: OID::

1.3.6.1.2.1.17.2.2

:: Command::

snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.2

snmpset -c private -v 2c 10.90.90.90 1.3.6.1.2.1.17.2.2.0 i 4096

1.3) dot1dStpTimeSinceTopologyChange

| | |
|-----------------|---|
| Object name | dot1dStpTimeSinceTopologyChange |
| Object ID | 1.3.6.1.2.1.17.2.3 |
| Module | BRIDGE-MIB |
| Base syntax | TimeTicks |
| Composed syntax | TimeTicks |
| Access | Read-Only |
| Status | Mandatory |
| Parent node | dot1dStp |
| First child | None |
| Description | The time (in hundredths of a second) since the last time a topology change was detected by the bridge entity. |

:: MIB::

dot1dStpTimeSinceTopologyChange

:: OID::

1.3.6.1.2.1.17.2.3

:: Command::

snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.3

1.4) dot1dStpTopChanges

| | |
|-----------------|---|
| Object name | dot1dStpTopChanges |
| Object ID | 1.3.6.1.2.1.17.2.4 |
| Module | BRIDGE-MIB |
| Base syntax | Counter |
| Composed syntax | Counter |
| Access | Read-Only |
| Status | Mandatory |
| Parent node | dot1dStp |
| First child | None |
| Description | The total number of topology changes detected by this bridge since the management entity was last reset or initialized. |

:: MIB::

dot1dStpTopChanges

:: OID::

1.3.6.1.2.1.17.2.4

:: Command::

snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.4

1.5) dot1dStpDesignatedRoot

| | |
|-----------------|--|
| Object name | dot1dStpDesignatedRoot |
| Object ID | 1.3.6.1.2.1.17.2.5 |
| Module | BRIDGE-MIB |
| Base syntax | Octet String |
| Composed syntax | BridgeId |
| Access | Read-Only |
| Status | Mandatory |
| Value list | 1 : 8..8 |
| Parent node | dot1dStp |
| First child | None |
| Description | The bridge identifier of the root of the spanning tree as determined by the Spanning Tree Protocol as executed by this node. This value is used as the Root Identifier parameter in all Configuration Bridge PDUs originated by this node. |

:: MIB::

dot1dStpDesignatedRoot

:: OID::

1.3.6.1.2.1.17.2.5

:: Command::

#snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.5

1.6) dot1dStpRootCost

| | |
|-----------------|--|
| Object name | dot1dStpRootCost |
| Object ID | 1.3.6.1.2.1.17.2.6 |
| Module | BRIDGE-MIB |
| Base syntax | Integer |
| Composed syntax | INTEGER |
| Access | Read-Only |
| Status | Mandatory |
| Parent node | dot1dStp |
| First child | None |
| Description | The cost of the path to the root as seen from this bridge. |

:: MIB::

dot1dStpRootCost

:: OID::

1.3.6.1.2.1.17.2.6

:: Command::

snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.6

1.7) dot1dStpRootPort

| | |
|-----------------|--|
| Object name | dot1dStpRootPort |
| Object ID | 1.3.6.1.2.1.17.2.7 |
| Module | BRIDGE-MIB |
| Base syntax | Integer |
| Composed syntax | INTEGER |
| Access | Read-Only |
| Status | Mandatory |
| Parent node | dot1dStp |
| First child | None |
| Description | The port number of the port which offers the lowest cost path from this bridge to the root bridge. |

:: MIB::

dot1dStpRootPort

:: OID::

1.3.6.1.2.1.17.2.7

:: Command::

snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.7

1.8) dot1dStpMaxAge

| | |
|-----------------|--|
| Object name | dot1dStpMaxAge |
| Object ID | 1.3.6.1.2.1.17.2.8 |
| Module | BRIDGE-MIB |
| Base syntax | Integer |
| Composed syntax | Timeout |
| Access | Read-Only |
| Status | Mandatory |
| Parent node | dot1dStp |
| First child | None |
| Description | The maximum age of Spanning Tree Protocol information learned from the network on any port before it is discarded, in units of hundredths of a second. This is the actual value that this bridge is currently using. |

:: MIB::

dot1dStpMaxAge

:: OID::

1.3.6.1.2.1.17.2.8

:: Command::

snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.8

1.9) dot1dStpHelloTime

| | |
|-----------------|--|
| Object name | dot1dStpHelloTime |
| Object ID | 1.3.6.1.2.1.17.2.9 |
| Module | BRIDGE-MIB |
| Base syntax | Integer |
| Composed syntax | Timeout |
| Access | Read-Only |
| Status | Mandatory |
| Parent node | dot1dStp |
| First child | None |
| Description | The amount of time between the transmission of Configuration bridge PDUs by this node on any port when it is the root of the spanning tree or trying to become so, in units of hundredths of a second. This is the actual value that this bridge is currently using. |

:: MIB::

dot1dStpHelloTime

:: OID::

1.3.6.1.2.1.17.2.9

:: Command::

snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.9

1.10) dot1dStpHoldTime

| | |
|-----------------|---|
| Object name | dot1dStpHoldTime |
| Object ID | 1.3.6.1.2.1.17.2.10 |
| Module | BRIDGE-MIB |
| Base syntax | Integer |
| Composed syntax | INTEGER |
| Access | Read-Only |
| Status | Mandatory |
| Parent node | dot1dStp |
| First child | None |
| Description | This time value determines the interval length during which no more than two Configuration bridge PDUs shall be transmitted by this node, in units of hundredths of a second. |

:: MIB::

dot1dStpHoldTime

:: OID::

1.3.6.1.2.1.17.2.10

:: Command::

snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.10

1.11) dot1dStpForwardDelay

| | |
|-----------------|---|
| Object name | dot1dStpForwardDelay |
| Object ID | 1.3.6.1.2.1.17.2.11 |
| Module | BRIDGE-MIB |
| Base syntax | Integer |
| Composed syntax | Timeout |
| Access | Read-Only |
| Status | Mandatory |
| Parent node | dot1dStp |
| First child | None |
| Description | This time value, measured in units of hundredths of a second, controls how fast a port changes its spanning state when moving towards the Forwarding state. The value determines how long the port stays in each of the Listening and Learning states, which precede the Forwarding state. This value is also used, when a topology change has been detected and is underway, to age all dynamic entries in the Forwarding Database. [Note that this value is the one that this bridge is currently using, in contrast to dot1dStpBridgeForwardDelay which is the value that this bridge and all others would start using if/when this bridge were to become the root.] |

:: MIB::

dot1dStpForwardDelay

:: OID::

1.3.6.1.2.1.17.2.11

:: Command::

snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.11

1.12) dot1dStpBridgeMaxAge

| | |
|-----------------|---|
| Object name | dot1dStpBridgeMaxAge |
| Object ID | 1.3.6.1.2.1.17.2.12 |
| Module | BRIDGE-MIB |
| Base syntax | Integer |
| Composed syntax | Timeout |
| Access | Read-Write |
| Status | Mandatory |
| Value list | 1 : 600..4000 |
| Parent node | dot1dStp |
| First child | None |
| Description | The value that all bridges use for MaxAge when this bridge is acting as the root. Note that 802.1D-1990 specifies that the range for this parameter is related to the value of dot1dStpBridgeHelloTime. The granularity of this timer is specified by 802.1D-1990 to be 1 second. An agent may return a badValue error if a set is attempted to a value which is not a whole number of seconds. |

:: MIB::

dot1dStpBridgeMaxAge

:: OID::

1.3.6.1.2.1.17.2.12

:: Command::

snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.12

snmpset -c private -v 2c 10.90.90.90 1.3.6.1.2.1.17.2.12.0 i 4000

1.13) dot1dStpBridgeHelloTime

| | |
|-----------------|--|
| Object name | dot1dStpBridgeHelloTime |
| Object ID | 1.3.6.1.2.1.17.2.13 |
| Module | BRIDGE-MIB |
| Base syntax | Integer |
| Composed syntax | Timeout |
| Access | Read-Write |
| Status | Mandatory |
| Value list | 1 : 100..1000 |
| Parent node | dot1dStp |
| First child | None |
| Description | The value that all bridges use for HelloTime when this bridge is acting as the root. The granularity of this timer is specified by 802.1D-1990 to be 1 second. An agent may return a badValue error if a set is attempted to a value which is not a whole number of seconds. |

:: MIB::

dot1dStpBridgeHelloTime

:: OID::

1.3.6.1.2.1.17.2.13

:: Command::

snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.13

snmpset -c private -v 2c 10.90.90.90 1.3.6.1.2.1.17.2.13.0 i 300

1.14) dot1dStpBridgeForwardDelay

| | |
|-----------------|--|
| Object name | dot1dStpBridgeForwardDelay |
| Object ID | 1.3.6.1.2.1.17.2.14 |
| Module | BRIDGE-MIB |
| Base syntax | Integer |
| Composed syntax | Timeout |
| Access | Read-Write |
| Status | Mandatory |
| Value list | 1 : 400..3000 |
| Parent node | dot1dStp |
| First child | None |
| Description | The value that all bridges use for ForwardDelay when this bridge is acting as the root. Note that 802.1D-1990 specifies that the range for this parameter is related to the value of dot1dStpBridgeMaxAge. The granularity of this timer is specified by 802.1D-1990 to be 1 second. An agent may return a badValue error if a set is attempted to a value which is not a whole number of seconds. |

:: **MIB**::

dot1dStpBridgeForwardDelay

:: **OID**::

1.3.6.1.2.1.17.2.14

:: **Command**::

snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.2.1.17.2.14

snmpset -c private -v 2c 10.90.90.90 1.3.6.1.2.1.17.2.14.0 i 2000

2) dot1dStpPortTable:

For the STP Port Table information, please refer to our KM page no. [\[DK0700161\] How to use NET-SNMP – STP Port Status](#)