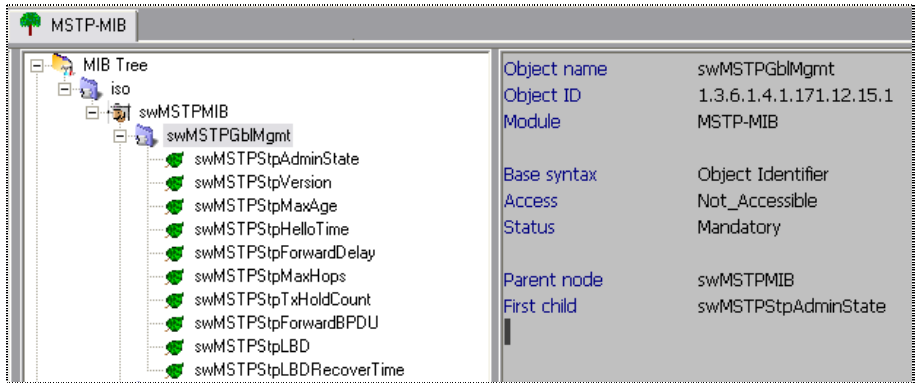


How to check STP status and STP port status on DES-3526 (R5.01)

STP Status

⇒ **MIB::** *dlkMSTP.mib* → *swMSTPGblMgmt*

⇒ **OID::** 1.3.6.1.4.1.171.12.15.1



⇒ **CMD::**

→ **CLI:** show stp

```
DES-3526:admin#show stp
Command: show stp

STP Bridge Global Settings
-----
STP Status      : Enabled
STP Version     : RSTP
Max Age        : 20
Hello Time     : 2
Forward Delay  : 15
Max Hops       : 20
TX Hold Count  : 6
Forwarding BPDU : Enabled
```

→ **SNMP:**

Parameter	Command
STP Status	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.1.1
STP Version	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.1.2
Max Age	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.1.3
Hello Time	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.1.4
Forward Delay	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.1.5
Max Hops	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.1.6
TX Hold Count	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.1.7
Forwarding BPDU	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.1.8

⇒ **Description:**

```
Object name      swMSTPStpAdminState
Object ID       1.3.6.1.4.1.171.12.15.1.1
Module         MSTP-MIB

Base syntax     Integer
Composed syntax INTEGER
Access         Read-Write
Status         Current
Value list     1 : other(1)
              2 : disabled(2)
              3 : enabled(3)

Parent node     swMSTPGblMgmt
First child     None
Description     This object indicates the spanning tree state of the bridge.
```

Object name	swMSTPStpVersion
Object ID	1.3.6.1.4.1.171.12.15.1.2
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : stp(0) 2 : rstp(1) 3 : mstp(2)
Parent node	swMSTPGblMgmt
First child	None
Description	The version of Spanning Tree Protocol the bridge is currently running.

Object name	swMSTPStpMaxAge
Object ID	1.3.6.1.4.1.171.12.15.1.3
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : 600..4000
Parent node	swMSTPGblMgmt
First child	None
Description	The value that all bridges use for MaxAge when this bridge is acting as the root. Note that the range for this parameter is related to the value of StpForwardDelay and PortAdminHelloTime. $MaxAge \leq 2(ForwardDelay - 1); MaxAge \geq 2(HelloTime + 1)$ 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.

Object name	swMSTPStpHelloTime
Object ID	1.3.6.1.4.1.171.12.15.1.4
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : 100..1000
Parent node	swMSTPGblMgmt
First child	None
Description	The value is used for HelloTime when this bridge is acting in RSTP or STP mode. Only in RSTP or STP mode can read/write this value.

Object name	swMSTPStpForwardDelay
Object ID	1.3.6.1.4.1.171.12.15.1.5
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : 400..3000
Parent node	swMSTPGblMgmt
First child	None
Description	This value, controls how long a port changes its spanning state from blocking to learning state and from learning to forwarding state. Note that the range for this parameter is related to MaxAge

Object name	swMSTPStpMaxHops
Object ID	1.3.6.1.4.1.171.12.15.1.6
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : 6..40
Parent node	swMSTPGblMgmt
First child	None
Description	This value applies to all Spanning Trees within an MST Region for which the Bridge is the Regional Root.

Object name	swMSTPStpTxHoldCount
Object ID	1.3.6.1.4.1.171.12.15.1.7
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : 1..10
Parent node	swMSTPGblMgmt
First child	None
Description	The value used by the Port Transmit state machine to limit the maximum transmission rate.

Object name	swMSTPStpForwardBPDU
Object ID	1.3.6.1.4.1.171.12.15.1.8
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : other(1) 2 : disabled(2) 3 : enabled(3)
Parent node	swMSTPGblMgmt
First child	None
Description	The enabled/disabled status is used to forward BPDU to non stp port.

STP Port Status 1

⇒ MIB:: *dlkMSTP.mib* → *swMSTPPortTable*

⇒ OID:: 1.3.6.1.4.1.171.12.15.2.4

The screenshot shows a MIB browser interface with a tree view on the left and a details pane on the right. The tree view shows the following structure:

- MSTP-MIB
 - iso
 - swMSTPMIB
 - swMSTPGblMgmt
 - swMSTPCtrl
 - swMSTPName
 - swMSTPRevisionLevel
 - swMSTPInstanceCtrlTable
 - swMSTPPortTable
 - swMSTPPortEntry
 - swMSTPPort
 - swMSTPPortAdminHelloTime
 - swMSTPPortOperHelloTime
 - swMSTPSTPPortEnable
 - swMSTPPortExternalPathCost
 - swMSTPPortMigration
 - swMSTPPortAdminEdgePort
 - swMSTPPortOperEdgePort
 - swMSTPPortAdminP2P
 - swMSTPPortOperP2P
 - swMSTPPortFbpdud
 - swMSTPPortLBD
 - swMSTPPortRestrictedRole
 - swMSTPPortRestrictedTCN
 - swMSTPPortOperFilterBpdu
 - swMSTPPortRecoverFilterBpdu
 - swMSTPMstPortTable
 - swMSTPTraps
 - swMSTPNotify
 - swMSTPNotifyPrefix
 - swMSTPHwFilterStatusChange
 - swMSTPRootRestrictedChange

The details pane for **swMSTPPortTable** shows the following information:

- Object name: swMSTPPortTable
- Object ID: 1.3.6.1.4.1.171.12.15.2.4
- Module: MSTP-MIB
- Base syntax: Sequence Of swMSTPPortEntry
- Access: Not_Accessible
- Status: Current
- Sequence:
 - 1:swMSTPPort - Integer
 - 2:swMSTPPortAdminHelloTime - Integer
 - 3:swMSTPPortOperHelloTime - Integer
 - 4:swMSTPSTPPortEnable - Integer
 - 5:swMSTPPortExternalPathCost - Integer
 - 6:swMSTPPortMigration - Integer
 - 7:swMSTPPortAdminEdgePort - Integer
 - 8:swMSTPPortOperEdgePort - Integer
 - 9:swMSTPPortAdminP2P - Integer
 - 10:swMSTPPortOperP2P - Integer
 - 11:swMSTPPortFbpdud - Integer
 - 12:swMSTPPortLBD - Integer
 - 13:swMSTPPortRestrictedRole - Integer
 - 14:swMSTPPortRestrictedTCN - Integer
 - 15:swMSTPPortOperFilterBpdu - Integer
 - 16:swMSTPPortRecoverFilterBpdu - Integer
- Parent node: swMSTPCtrl
- First child: swMSTPPortEntry
- Description: A table that contains port-specific information for the Spanning Tree Protocol.

⇒ CMD:: (example on port 1)

➔ CLI: show stp port 1

```
DES-3526:admin#sh stp p 1
Command: show stp ports 1
MSTP Port Information

Port Index      : 1      , Hello Time: 2 / 2 , Port STP enabled
Restricted role  : False  ; Restricted TCN : False
External PathCost : Auto  /200000 , Edge Port : False/No , P2P : Auto /Yes
Port Forward BPDU : disabled
BPDU Type      : RSTP

Msti  Designated Bridge  Internal PathCost  Prio  Status  Role
-----
0     N/A                200000             128   -        Disabled
```

➔ SNMP: (1 = port 1)

Parameter	Command
Hello Time	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.4.1.2.1
Port STP Status	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.4.1.4.1
Restricted role	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.4.1.13.1
Restricted TCN	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.4.1.14.1
External PathCost	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.4.1.5.1
Edge Port	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.4.1.7.1
P2P	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.4.1.9.1
Port Forward BPDU	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.4.1.11.1

⇒ Description:

Object name	swMSTPPortAdminHelloTime
Object ID	1.3.6.1.4.1.171.12.15.2.4.1.2
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : 100..1000
Parent node	swMSTPPortEntry
First child	None
Description	The amount of time between the transmission of BPDU 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.

Object name	swMSTPSTPPortEnable
Object ID	1.3.6.1.4.1.171.12.15.2.4.1.4
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : enabled(1) 2 : disabled(2)
Parent node	swMSTPPortEntry
First child	None
Description	The enabled/disabled status of the port.

Object name	swMSTPPortExternalPathCost
Object ID	1.3.6.1.4.1.171.12.15.2.4.1.5
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : 0..200000000
Parent node	swMSTPPortEntry
First child	None
Description	The contribution of this port to the path cost of paths towards the CIST root which include this port.

Object name	swMSTPPortAdminEdgePort
Object ID	1.3.6.1.4.1.171.12.15.2.4.1.7
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : true(1) 2 : false(2) 3 : auto(3)
Parent node	swMSTPPortEntry
First child	None
Description	The value of the Edge Port parameter. A value of TRUE indicates that this port should be assumed as an edge-port and a value of FALSE indicates that this port should be assumed as a non-edge-port.

Object name	swMSTPPortAdminP2P
Object ID	1.3.6.1.4.1.171.12.15.2.4.1.9
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : true(0) 2 : false(1) 3 : auto(2)
Parent node	swMSTPPortEntry
First child	None
Description	The point-to-point status of the LAN segment attached to this port.

Object name	swMSTPPortFbpdud
Object ID	1.3.6.1.4.1.171.12.15.2.4.1.11
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : enabled(1) 2 : disabled(2) 3 : hw-filter(3)
Parent node	swMSTPPortEntry
First child	None
Description	The enabled status is used to forward BPDU to those ports whose forwarding BPDU status is enabled. When the status of this port is disabled, the received BPDU will be discard. When the state is set to hw-filter(3), the port will be changed to BPDU hardware filtering mode if STP BPDU's are received by this port, as such that all layer 2 control packets will be dropped by the hardware.

Object name	swMSTPPortRestrictedRole
Object ID	1.3.6.1.4.1.171.12.15.2.4.1.13
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	TruthValue
Access	Read-Write
Status	Current
Value list	1 : true(1) 2 : false(2)
Parent node	swMSTPPortEntry
First child	None
Description	If TRUE causes the port not to be selected as Root Port for the CIST or any MSTI, even it has the best spanning tree priority vector.

Object name	swMSTPPortRestrictedTCN
Object ID	1.3.6.1.4.1.171.12.15.2.4.1.14
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	TruthValue
Access	Read-Write
Status	Current
Value list	1 : true(1) 2 : false(2)
Parent node	swMSTPPortEntry
First child	None
Description	If TRUE causes the port not to propagate received topology change notifications and topology changes to other Ports.

STP Port Status 2

⇒ MIB:: *dlkMSTP.mib* → *swMSTPMstPortTable*

⇒ OID:: 1.3.6.1.4.1.171.12.15.2.5

Object name	swMSTPMstPortTable
Object ID	1.3.6.1.4.1.171.12.15.2.5
Module	MSTP-MIB
Base syntax	Sequence Of swMSTPMstPortEntry
Access	Not_Accessible
Status	Current
Sequence	1:swMSTPMstPort - Integer 2:swMSTPMstPortInsID - Integer 3:swMSTPMstPortDesignatedBridge - Octet String 4:swMSTPMstPortInternalPathCost - Integer 5:swMSTPMstPortPriority - Integer 6:swMSTPMstPortStatus - Integer 7:swMSTPMstPortRole - Integer
Parent node	swMSTPCtrl
First child	swMSTPMstPortEntry
Description	A table that contains port-specific information for the MST Protocol.

→ CLI: show stp port 1

```
DES-3526:admin#sh stp p 1
Command: show stp ports 1
MSTP Port Information
-----
Port Index       : 1           , Hello Time: 2 /2 , Port STP enabled
Restricted role  : False      , Restricted TCN : False
External PathCost : Auto      /200000 , Edge Port : False/No , P2P : Auto /Yes
Port Forward BPDU : disabled
BPDU Type : RSTP

Msti  Designated Bridge  Internal PathCost  Prio  Status  Role
-----
0     N/A                200000             128   -       Disabled
```

→ SNMP: (1 = port 1)

Parameter	Command
MSTI	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.5.1.2.1.0
Designated Bridge	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.5.1.3.1.0
Internal PathCost	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.5.1.4.1.0
Prio	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.5.1.5.1.0
Status	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.5.1.6.1.0
Role	snmpwalk -v2c -c public 10.90.90.90 1.3.6.1.4.1.171.12.15.2.5.1.7.1.0

⇒ Description:

Object name	swMSTPMstPortDesignatedBridge
Object ID	1.3.6.1.4.1.171.12.15.2.5.1.3
Module	MSTP-MIB
Base syntax	Octet String
Composed syntax	BridgeId
Access	Read-Only
Status	Current
Value list	1 : 8..8
Parent node	swMSTPMstPortEntry
First child	None
Description	.

Object name	swMSTPMstPortInsID
Object ID	1.3.6.1.4.1.171.12.15.2.5.1.2
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : 0..4
Parent node	swMSTPMstPortEntry
First child	None
Description	This object indicates the MSTP Instance Id(MSTID).

Object name	swMSTPMstPortInternalPathCost
Object ID	1.3.6.1.4.1.171.12.15.2.5.1.4
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : 0..200000000
Parent node	swMSTPMstPortEntry
First child	None
Description	This is the value of this port to the path cost of paths towards the MSTI root.

Object name	swMSTPMstPortPriority
Object ID	1.3.6.1.4.1.171.12.15.2.5.1.5
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Write
Status	Current
Value list	1 : 0..240
Parent node	swMSTPMstPortEntry
First child	None
Description	The value of the priority field which is contained in the first (in network byte order) octet of the (2 octet long) Port ID..

Object name	swMSTPMstPortStatus
Object ID	1.3.6.1.4.1.171.12.15.2.5.1.6
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	<ul style="list-style-type: none"> 1 : other(1) 2 : disabled(2) 3 : discarding(3) 4 : learning(4) 5 : forwarding(5) 6 : broken(6) 7 : no-stp-enabled(7)
Parent node	swMSTPMstPortEntry
First child	None
Description	<p>When the port Enable state is enabled, the port's current state as defined by application of the Spanning Tree Protocol.</p> <p>If the PortEnable is disabled, the the port status will be no-stp-enabled(7)</p>

Object name	swMSTPMstPortRole
Object ID	1.3.6.1.4.1.171.12.15.2.5.1.7
Module	MSTP-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	<ul style="list-style-type: none"> 1 : disable(0) 2 : alternate(1) 3 : backup(2) 4 : root(3) 5 : designated(4) 6 : master(5) 7 : nonstp(6) 8 : loopback(7)
Parent node	swMSTPMstPortEntry
First child	None
Description	<p>When the port Enable state is enabled, the port's current port role as defined by application of the Spanning Tree Protocol.</p> <p>If the Port Enable state is disabled, the the port role will be nonstp(5)</p>

