Mellanox Switch Management Interface Setup

Terminal software:

Bottom switch:

switch-ca3a08 [standalone: master] > **show interfaces**

Interface **lo** status:
  Comment:
  Admin up: **yes**
  Link up: **yes**
  DHCP running: **no**
  IP address: 127.0.0.1
  Netmask: 255.0.0.0
  IPv6 enabled: yes
  Autoconf enabled: yes
  Autoconf route: yes
  Autoconf privacy: no
  DHCPv6 running: no
  IPv6 addresses: 1
  IPv6 address: ::1/128
  Speed: N/A
  Duplex: N/A
  Interface type: loopback
  Interface source: loopback
  MTU: 16436
  HW address: N/A

Rx:
  0   bytes
  0   packets
  0   mcast packets
  0   discards
  0   errors
  0   overruns
  0   frame

Tx:
  0   bytes
  0   packets

```
0          discards
0          errors
0          overruns
0          carrier
0          collisions
0          queue len
```

Interface **mgmt0** status:
  Comment:
  Admin up: yes
  Link up: yes
  DHCP running: yes (but no valid lease)
  IP address:
  Netmask:
  IPv6 enabled: yes
  Autoconf enabled: no
  Autoconf route: yes
  Autoconf privacy: no
  DHCPv6 running: yes (but no valid lease)
  IPv6 addresses: 1
  IPv6 address: fe80::ee0d:9aff:feca:3a08/64
  Speed: 1000Mb/s (auto)
  Duplex: full (auto)
  Interface type: ethernet
  Interface source: bridge
  MTU: 1500
  HW address: EC:0D:9A:CA:3A:08

enable
configure terminal
configuration jump-start

Top switch (had to reboot):

switch-cedfe2 login:

CHANGED admin password on both - save to Last Pass

VPN did not work - add to access list

switch-cedfe2 [standalone: master] > enable
switch-cedfe2 [standalone: master] # configure terminal

switch-cedfe2 [standalone: master] (config) # configuration jump-start

Configuration wizard

Step 1: Hostname? [switch-cedfe2] itb-mellanox-2
Step 2: Use DHCP on mgmt0 interface? [yes] no
Step 3: Use zeroconf on mgmt0 interface? [no]
Step 4: Primary IPv4 address and masklen? [0.0.0.0/0] 10.38.0.8
Step 5: Netmask or mask length? [255.255.255.0]
Step 6: Default gateway? 10.38.0.1
Step 7: Primary DNS server?
Step 8: Domain name? hpc.pomona.edu
Step 9: Enable IPv6? [yes] no
Step 10: Admin password (Enter to leave unchanged)?
Step 10: Confirm admin password?

You have entered the following information:

  1. Hostname: itb-mellanox-2
  2. Use DHCP on mgmt0 interface: no
  3. Use zeroconf on mgmt0 interface: no
  4. Primary IPv4 address: 10.38.0.8
  5. Netmask or mask length: 255.255.255.0
  6. Default gateway: 10.38.0.1
  7. Primary DNS server:
  8. Domain name: hpc.pomona.edu
  9. Enable IPv6: no
  10. Admin password (Enter to leave unchanged): (CHANGED)

To change an answer, enter the step number to return to.
Otherwise hit <enter> to save changes and exit.

tb-mellanox-2 [standalone: master] (config) # show interface mgmt0
Interface mgmt0 status:
  Comment:
  Admin up: yes
  Link up: yes
  DHCP running: no
  IP address: 10.38.0.8
  Netmask: 255.255.255.0
  IPv6 enabled: no
  Speed: 1000Mb/s (auto)

```
   Duplex:           full (auto)
   Interface type:   ethernet
   Interface source: bridge
   MTU:              1500
   HW address:       EC:0D:9A:CE:DF:E2
```

Spanning Tree

```
en
conf t
interface ethernet 1/1
```

itb-mellanox-1 [standalone: master] (config interface ethernet 1/1) # spanning-tree port type network
itb-mellanox-1 [standalone: master] (config interface ethernet 1/1) # spanning-tree guard loop

itb-mellanox-1 [standalone: master] (config) # spanning-tree mode rst

itb-mellanox-1 [standalone: master] (config interface ethernet 1/1) # spanning-tree port-priority 0

itb-mellanox-1 [standalone: master] (config interface ethernet 1/1) # show spanning-tree

```
Switch                : ethernet-default
Spanning tree protocol rst : enabled
Spanning tree force version: 2

Root ID:
 Priority        : 32768
 Address         : ec:0d:9a:61:1d:c0
 Bridge root     : yes
 Hello Time (sec)   : 2
 Max Age (sec)      : 20
 Forward Delay (sec): 15

Bridge ID:
 Priority        : 32768
 Address         : ec:0d:9a:61:1d:c0
 Hello Time (sec)   : 2
 Max Age (sec)      : 20
 Forward Delay (sec): 15
```

L: Loop Inconsistent
R: Root Inconsistent
G: BPDU Guard Inconsistent

```
-------------------------------------------------------------------------
Interface        Role      Sts          Cost    Prio  Type
-------------------------------------------------------------------------
Eth1/29          Designated  Forwarding    500     128   normal
Eth1/31          Designated  Forwarding    500     128   normal
Eth1/32          Designated  Forwarding    500     128   normal
```

itb-mellanox-2 [standalone: master] (config) # show spanning-tree

Switch   : ethernet-default
Spanning tree protocol rst : enabled
Spanning tree force version: 2

Root ID:
  Priority   : 32768
  Address   : ec:0d:9a:61:17:40
  Bridge root   : yes
  Hello Time (sec)   : 2
  Max Age (sec)   : 20
  Forward Delay (sec): 15

Bridge ID:
  Priority   : 32768
  Address   : ec:0d:9a:61:17:40
  Hello Time (sec)   : 2
  Max Age (sec)   : 20
  Forward Delay (sec): 15

L: Loop Inconsistent
R: Root Inconsistent
G: BPDU Guard Inconsistent

```
-------------------------------------------------------------------------
Interface        Role      Sts          Cost    Prio  Type
-------------------------------------------------------------------------
```

Eth1/29	Designated	Forwarding	500	128	normal
Eth1/31	Designated	Forwarding	500	128	normal
Eth1/32	Designated	Forwarding	500	128	normal

itb-mellanox-1 [standalone: master] (config interface ethernet 1/1) # show spanning-tree detail

Switch ethernet-default
Spanning tree protocol is enabled
Bridge is executing the rst compatible Spanning Tree Protocol

    Bridge Identifier priority: 32768
    Bridge Identifier address: ec:0d:9a:61:1d:c0
    Configured hello time: 2, max age 20, forward delay 15
    Current root: priority 32768, address ec:0d:9a:61:1d:c0
    Number of topology changes: 0, last change occurred 00:00:00 ago
    Last TCN received from: N/A
    Timers: hold 6 hello 2, max age 20, forward delay 15
    Default port type: normal
    Default bpdu filter: disabled
    Default bpdu guard: disabled

itb-mellanox-2 [standalone: master] (config interface ethernet 1/1) # show spanning-tree detail

Switch ethernet-default
Spanning tree protocol is enabled
Bridge is executing the rst compatible Spanning Tree Protocol

    Bridge Identifier priority: 32768
    Bridge Identifier address: ec:0d:9a:61:17:40
    Configured hello time: 2, max age 20, forward delay 15
    Current root: priority 32768, address ec:0d:9a:61:17:40
    Number of topology changes: 0, last change occurred 00:00:00 ago
    Last TCN received from: N/A
    Timers: hold 6 hello 2, max age 20, forward delay 15
    Default port type: normal
    Default bpdu filter: disabled
    Default bpdu guard: disabled

itb-mellanox-2 [standalone: master] (config) # show spanning-tree interface 1/1

% Unrecognized command "1/1".
Type "show spanning-tree interface ?" for help.
itb-mellanox-2 [standalone: master] (config) # show spanning-tree interface ethernet 1/1

Interface Eth1/1
        Status: Disabled Discarding
        Port path cost: 500
        Port priority: 128
        Port Identifier: 128.1
        Designated root priority: 0
        Designated root address: unknown
        Designated bridge priority: 0
        Designated bridge address: unknown
        Designated port id: 0.0
        Designated path cost: 0
        Number of transitions to forwarding state: 0
        Port type: network
        PortFast is: off
        Bpdu filter: enabled
        Bpdu guard: disabled
        Loop guard: enabled
        Root guard: enabled
        Link type: point-to-point
        BPDU sent: 0
        BPDU received: 0

itb-mellanox-1 [standalone: master] (config interface ethernet 1/1) # show spanning-tree interface ethernet 1/1

Interface Eth1/1
        Status: Disabled Discarding
        Port path cost: 500
        Port priority: 0
        Port Identifier: 0.1
        Designated root priority: 0
        Designated root address: unknown
        Designated bridge priority: 0
        Designated bridge address: unknown
        Designated port id: 0.0
        Designated path cost: 0
        Number of transitions to forwarding state: 0
        Port type: network

PortFast is: off
Bpdu filter: enabled
Bpdu guard: disabled
Loop guard: enabled
Root guard: enabled
Link type: point-to-point
BPDU sent: 0
BPDU received: 0

itb-mellanox-2 [standalone: master] (config) # show spanning-tree root
% Spanning-tree Protocol type is rst

itb-mellanox-1 [standalone: master] (config) # show spanning-tree root
% Spanning-tree Protocol type is rst

itb-mellanox-1 [standalone: master] (config) # show spanning-tree topo-change-history

----
Interface   Date   Time
----

itb-mellanox-2 [standalone: master] (config) # show spanning-tree topo-change-history

----
Interface   Date   Time
----

itb-mellanox-2 [standalone: master] (config) # show mac-address-table
----
Vlan   Mac Address   Type   Port
----
1   50:6B:4B:39:5F:5F   Dynamic   Eth1/31
1   50:6B:4B:39:5F:87   Dynamic   Eth1/29
1   50:6B:4B:39:5F:DF   Dynamic   Eth1/32

Number of unicast: 3
Number of multicast: 0

itb-mellanox-1 [standalone: master] (config) # show mac-address-table

```
--------------------------------------------------
Vlan    Mac Address        Type       Port
--------------------------------------------------
1      50:6B:4B:39:5F:5E   Dynamic     Eth1/31
1      50:6B:4B:39:5F:86   Dynamic     Eth1/32
1      50:6B:4B:39:5F:DE   Dynamic     Eth1/29


Number of unicast:   3
Number of multicast: 0
```

itb-mellanox-1 [standalone: master] (config) # show interface switchport

```
-------------------------------------------------------------------------------------
Interface       Mode         Access vlan       Allowed vlans
-------------------------------------------------------------------------------------
Eth1/1          access       1
Eth1/2          access       1
Eth1/3          access       1
Eth1/4          access       1
Eth1/5          access       1
Eth1/6          access       1
Eth1/7          access       1
Eth1/8          access       1
Eth1/9          access       1
Eth1/10         access       1
Eth1/11         access       1
Eth1/12         access       1
Eth1/13         access       1
Eth1/14         access       1
Eth1/15         access       1
Eth1/16         access       1
Eth1/17         access       1
Eth1/18         access       1
Eth1/19         access       1
Eth1/20         access       1
Eth1/21         access       1
Eth1/22         access       1
Eth1/23         access       1
```

```
Eth1/24      access      1
Eth1/25      access      1
Eth1/26      access      1
Eth1/27      access      1
Eth1/28      access      1
Eth1/29      access      1
Eth1/30      access      1
Eth1/31      access      1
Eth1/32      access      1
```

itb-mellanox-2 [standalone: master] (config) # show interface switchport

```
-------------------------------------------------------------------------------
Interface      Mode       Access vlan      Allowed vlans
-------------------------------------------------------------------------------
Eth1/1         access     1
Eth1/2         access     1
Eth1/3         access     1
Eth1/4         access     1
Eth1/5         access     1
Eth1/6         access     1
Eth1/7         access     1
Eth1/8         access     1
Eth1/9         access     1
Eth1/10        access     1
Eth1/11        access     1
Eth1/12        access     1
Eth1/13        access     1
Eth1/14        access     1
Eth1/15        access     1
Eth1/16        access     1
Eth1/17        access     1
Eth1/18        access     1
Eth1/19        access     1
Eth1/20        access     1
Eth1/21        access     1
Eth1/22        access     1
Eth1/23        access     1
Eth1/24        access     1
Eth1/25        access     1
Eth1/26        access     1
Eth1/27        access     1
```

Eth1/28	access	1
Eth1/29	access	1
Eth1/30	access	1
Eth1/31	access	1
Eth1/32	access	1

itb-mellanox-2 [standalone: master] (config) # show interfaces ethernet status

Port	Operational state	Speed	Negotiation
----	----------------	-----	-----------
Eth1/1	Down	40 Gbps	No-Negotiation
Eth1/2	Down	40 Gbps	No-Negotiation
Eth1/3	Down	40 Gbps	No-Negotiation
Eth1/4	Down	40 Gbps	No-Negotiation
Eth1/5	Down	40 Gbps	No-Negotiation
Eth1/6	Down	40 Gbps	No-Negotiation
Eth1/7	Down	40 Gbps	No-Negotiation
Eth1/8	Down	40 Gbps	No-Negotiation
Eth1/9	Down	40 Gbps	No-Negotiation
Eth1/10	Down	40 Gbps	No-Negotiation
Eth1/11	Down	40 Gbps	No-Negotiation
Eth1/12	Down	40 Gbps	No-Negotiation
Eth1/13	Down	40 Gbps	No-Negotiation
Eth1/14	Down	40 Gbps	No-Negotiation
Eth1/15	Down	40 Gbps	No-Negotiation
Eth1/16	Down	40 Gbps	No-Negotiation
Eth1/17	Down	40 Gbps	No-Negotiation
Eth1/18	Down	40 Gbps	No-Negotiation
Eth1/19	Down	40 Gbps	No-Negotiation
Eth1/20	Down	40 Gbps	No-Negotiation
Eth1/21	Down	40 Gbps	No-Negotiation
Eth1/22	Down	40 Gbps	No-Negotiation
Eth1/23	Down	40 Gbps	No-Negotiation
Eth1/24	Down	40 Gbps	No-Negotiation
Eth1/25	Down	40 Gbps	No-Negotiation
Eth1/26	Down	40 Gbps	No-Negotiation
Eth1/27	Down	40 Gbps	No-Negotiation
Eth1/28	Down	40 Gbps	No-Negotiation
Eth1/29	Up	40 Gbps	No-Negotiation
Eth1/30	Down	40 Gbps	No-Negotiation
Eth1/31	Up	40 Gbps	No-Negotiation
Eth1/32	Up	40 Gbps	No-Negotiation

itb-mellanox-1 [standalone: master] (config) # show interfaces ethernet status

Port	Operational state	Speed	Negotiation
Eth1/1	Down	40 Gbps	No-Negotiation
Eth1/2	Down	40 Gbps	No-Negotiation
Eth1/3	Down	40 Gbps	No-Negotiation
Eth1/4	Down	40 Gbps	No-Negotiation
Eth1/5	Down	40 Gbps	No-Negotiation
Eth1/6	Down	40 Gbps	No-Negotiation
Eth1/7	Down	40 Gbps	No-Negotiation
Eth1/8	Down	40 Gbps	No-Negotiation
Eth1/9	Down	40 Gbps	No-Negotiation
Eth1/10	Down	40 Gbps	No-Negotiation
Eth1/11	Down	40 Gbps	No-Negotiation
Eth1/12	Down	40 Gbps	No-Negotiation
Eth1/13	Down	40 Gbps	No-Negotiation
Eth1/14	Down	40 Gbps	No-Negotiation
Eth1/15	Down	40 Gbps	No-Negotiation
Eth1/16	Down	40 Gbps	No-Negotiation
Eth1/17	Down	40 Gbps	No-Negotiation
Eth1/18	Down	40 Gbps	No-Negotiation
Eth1/19	Down	40 Gbps	No-Negotiation
Eth1/20	Down	40 Gbps	No-Negotiation
Eth1/21	Down	40 Gbps	No-Negotiation
Eth1/22	Down	40 Gbps	No-Negotiation
Eth1/23	Down	40 Gbps	No-Negotiation
Eth1/24	Down	40 Gbps	No-Negotiation
Eth1/25	Down	40 Gbps	No-Negotiation
Eth1/26	Down	40 Gbps	No-Negotiation
Eth1/27	Down	40 Gbps	No-Negotiation
Eth1/28	Down	40 Gbps	No-Negotiation
Eth1/29	Up	40 Gbps	No-Negotiation
Eth1/30	Down	40 Gbps	No-Negotiation
Eth1/31	Up	40 Gbps	No-Negotiation
Eth1/32	Up	40 Gbps	No-Negotiation

itb-mellanox-1 [standalone: master] (config) # interface ethernet 1/1
itb-mellanox-1 [standalone: master] (config interface ethernet 1/1) # shutdown
itb-mellanox-1 [standalone: master] (config interface ethernet 1/1) # exit

itb-mellanox-1 [standalone: master] (config) # interface ethernet 1/2
itb-mellanox-1 [standalone: master] (config interface ethernet 1/2) # shutdown

itb-mellanox-2 [standalone: master] (config) # interface ethernet 1/1
itb-mellanox-2 [standalone: master] (config interface ethernet 1/1) # shutdown
itb-mellanox-2 [standalone: master] (config interface ethernet 1/1) # exit
itb-mellanox-2 [standalone: master] (config) # interface ethernet 1/2
itb-mellanox-2 [standalone: master] (config interface ethernet 1/2) # shutdown

itb-mellanox-1 [standalone: master] (config interface ethernet 1/2) # exit
itb-mellanox-1 [standalone: master] (config) # interface ethernet 1/1
itb-mellanox-1 [standalone: master] (config interface ethernet 1/1) # module-type qsfp-split-4
the following interfaces will be unmapped: 1/1 1/2
Type 'yes' to confirm split: yes
itb-mellanox-1 [standalone: master] (config) #

itb-mellanox-2 [standalone: master] (config interface ethernet 1/1) # module-type qsfp-split-4
the following interfaces will be unmapped: 1/1 1/2
Type 'yes' to confirm split: yes

Ports Information ⓘ   **Product Documents**

Ports
Phy Profile
Monitor Session
Telemetry

SN2700

Splitter ports: 1/1   1/2   1/3   1/4

Port Info

Port number :	1/1	**Mac address :**	ec:0d:9a:61:1d:fc
Port type :	ETH	**MTU :**	1500 bytes
Port description :		**Flow-control :**	receive off send off
Admin state :	Enabled	**Actual speed :**	10 Gbps
Operational state :	Up	**Auto-negotiation :**	Enabled
PFC admin mode :	Off	**Switchport mode :**	access
Last clearing of counters :	Never	**PFC operational mode :**	Off
60 seconds ingress rate :	1736 bits/sec, 217 bytes/sec, 3 packets/sec		
60 seconds egress rate :	248 bits/sec, 31 bytes/sec, 1 packets/sec		
Threshold Level :	N\A		
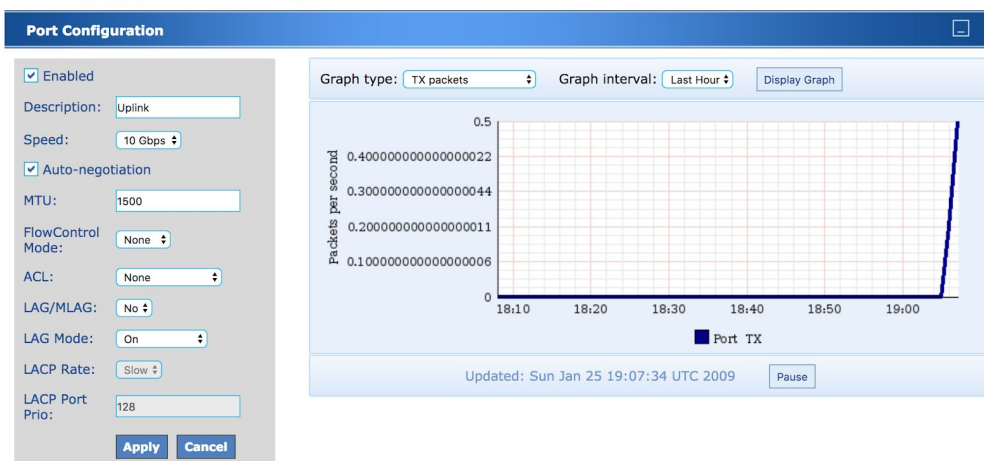
Port Configuration

☑ Enabled

Description: Uplink

Speed: 10 Gbps ⬍

☑ Auto-negotiation

MTU: 1500

FlowControl Mode: None ⬍

ACL: None ⬍

LAG/MLAG: No ⬍

LAG Mode: On ⬍

LACP Rate: Slow ⬍

LACP Port Prio: 128

Apply **Cancel**

Graph type: TX packets ⬍   Graph interval: Last Hour ⬍   Display Graph

Packets per second

0.5
0.400000000000000022
0.300000000000000044
0.200000000000000011
0.100000000000000006
0

18:10   18:20   18:30   18:40   18:50   19:00

■ Port TX

Updated: Sun Jan 25 19:07:34 UTC 2009   Pause

Ports Information ⓘ   **Product Documents**

Ports
Phy Profile
Monitor Session
Telemetry

SN2700

Splitter ports: 1/1 1/2 1/3 1/4

Port Info

Port number :	1/1	**Mac address :**	ec:0d:9a:61:17:7c
Port type :	ETH	**MTU :**	1500 bytes
Port description :		**Flow-control :**	receive off send off
Admin state :	Enabled	**Actual speed :**	10 Gbps
Operational state :	Up	**Auto-negotiation :**	Enabled
PFC admin mode :	Off	**Switchport mode :**	access
Last clearing of counters :	Never	**PFC operational mode :**	Off
60 seconds ingress rate :	1712 bits/sec, 214 bytes/sec, 3 packets/sec		
60 seconds egress rate :	1560 bits/sec, 195 bytes/sec, 2 packets/sec		
Threshold Level :	N\A		

Port Configuration

☑ Enabled

Description: Uplink

Speed: 10 Gbps ⬍

☑ Auto-negotiation

MTU: 1500

FlowControl Mode: None ⬍

ACL: None ⬍

LAG/MLAG: No ⬍

LAG Mode: On ⬍

LACP Rate: Slow ⬍

LACP Port Prio: 128

Apply **Cancel**

Graph type: TX packets ⬍   Graph interval: Last Hour ⬍   Display Graph

Packets per second

2
1.75
1.5
1.25
1
0.75
0.5
0.25
0

18:10   18:20   18:30   18:40   18:50   19:00

■ Port TX

Updated: Mon Feb 09 19:09:22 UTC 2009   Pause