



Configuration:

```
N9K-A# show interface transceiver
<... output omitted ...>

Ethernet1/47
  transceiver is present
  type is Unknown Type-(unknown)
  name is CISCO-AVAGO
  part number is SFBR-5780AMZ-CS1
  revision is G4.1
  serial number is AV1806B14F
  nominal bitrate is 8500 MBit/sec
  Link length supported for 50/125um OM2 fiber is 50 m
  Link length supported for 62.5/125um fiber is 21 m
  Link length supported for 50/125um OM3 fiber is 150 m
  cisco id is 3
  cisco extended id number is 4
  cisco part number is 10-2418-01
  cisco product id is DS-SFP-FC8G-SW
  cisco version id is V01

Ethernet1/48
  transceiver is present
  type is Unknown Type-(unknown)
  name is CISCO-AVAGO
  part number is SFBR-5780AMZ-CS1
  revision is G4.1
  serial number is AV1806B172
  nominal bitrate is 8500 MBit/sec
  Link length supported for 50/125um OM2 fiber is 50 m
  Link length supported for 62.5/125um fiber is 21 m
  Link length supported for 50/125um OM3 fiber is 150 m
  cisco id is 3
  cisco extended id number is 4
  cisco part number is 10-2418-01
  cisco product id is DS-SFP-FC8G-SW
  cisco version id is V01
<... output omitted ...>

N9K-A# configure terminal
N9K-A(config)# install feature-set fcoe
N9K-A(config)# feature-set fcoe
Please configure the following for fcoe to be fully functional:
- hardware access-list team region ing-rac1 <TCAM size>
- hardware access-list team region ing-ifac1 <TCAM size>
- hardware access-list team region ing-redirect <TCAM size>

N9K-A(config)# hardware access-list team region ing-rac1 1536
Please save config and reload the system for the configuration to take effect

N9K-A(config)# hardware access-list team region ing-ifac1 256
Please save config and reload the system for the configuration to take effect

N9K-A(config)# hardware access-list team region ing-redirect 256
Warning: Please save config and reload the system for the configuration to take effect

N9K-A(config)# slot 1
N9K-A(config-slot)# port 47-48 type fc
All ports in a port-group will be converted together.
Ports 45-48 will be converted to FC
Do you want to continue [y/n]: [n] y
Port type is changed. ACTION REQUIRED: Please save configurations and reload the switch

N9K-A(config)# copy running-config startup-config
[#####] 100%
Copy complete, now saving to disk (please wait) ...
Copy complete.
N9K-A(config)# reload
This command will reboot the system. [y/n]? [n] y

N9K-A# show interface brief
<... output omitted ...>

Interface Vsan Admin Admin Status SFP Oper Oper Port
          Mode Mode      Mode      Mode Speed Channel
                  (Gbps)
-----
fc1/45   1    auto    on    sfpAbsent  --  --  --
fc1/46   1    auto    on    sfpAbsent  --  --  --
fc1/47   1    auto    on    down      swl  --  --
fc1/48   1    auto    on    down      swl  --  --
<... output omitted ...>

N9K-A# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
N9K-A(config)# interface fc 1/47-48
N9K-A(config-if-range)# switchport mode E
N9K-A(config-if-range)# switchport speed 8000
N9K-A(config-if-range)# port-license acquire
N9K-A(config-if-range)# no shutdown

N9K-A(config-if-range)# show interface brief
<... output omitted ...>

Interface Vsan Admin Admin Status SFP Oper Oper Port
          Mode Mode      Mode      Mode Speed Channel
                  (Gbps)
-----
fc1/45   1    auto    on    sfpAbsent  --  --  --
fc1/46   1    auto    on    sfpAbsent  --  --  --
fc1/47   1    E      on    notConnected swl  --  --
fc1/48   1    E      on    notConnected swl  --  --
<... output omitted ...>

MDS# show run interface fc1/1-2
<... output omitted ...>
interface fc1/1
  switchport speed 8000
  switchport description Connects to N9K-A fc 1/47
  port-license acquire
  switchport full-pattern IDLE speed 8000

interface fc1/2
  switchport speed 8000
  switchport description Connects to N9K-A fc 1/48
  port-license acquire
  switchport full-pattern IDLE speed 8000

MDS# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
MDS(config)# interface fc1/1-2
MDS(config-if)# switchport mode ?
E    E mode
F    F mode
Fx   Fx mode
NP   NP port mode for N-Port Virtualizer (NPV) only
SD   SD mode
auto Auto mode

MDS(config-if)# switchport mode E
MDS(config-if)# no shutdown

N9K-A# show interface brief
<... output omitted ...>

Interface Vsan Admin Admin Status SFP Oper Oper Port
          Mode Mode      Mode      Mode Speed Channel
                  (Gbps)
-----
fc1/45   1    auto    on    sfpAbsent  --  --  --
fc1/46   1    auto    on    sfpAbsent  --  --  --
fc1/47   1    E      on    trunking  swl  TE  8  --
fc1/48   1    E      on    trunking  swl  TE  8  --
<... output omitted ...>

N9K-A# show interface fc1/47-48
<... output omitted ...>
Port mode is TE
Port vsan is 1
Speed is 8 Gbps
Transmit B2B Credit is 500
Receive B2B Credit is 64
Receive data field Size is 2112
Beacon is turned off
Trunk vsans (admin allowed and active) (1)
Trunk vsans (up) (1)
Trunk vsans (isolated) ()
Trunk vsans (initializing) ()
<... output omitted ...>

MDS# show interface fc1/1-2
fc1/1 is trunking
Port description is Connects to N9K-A fc 1/47
<... output omitted ...>
Port mode is TE
Port vsan is 1
Admin Speed is auto
Operating Speed is 8 Gbps
Rate mode is dedicated
Port flow-control is R_RDY

Transmit B2B Credit is 64
Receive B2B Credit is 500
B2B State Change: Admin(on), Oper(down)
Receive data field Size is 2112
Beacon is turned off
Logical type is core
Trunk vsans (admin allowed and active) (1,1048)
Trunk vsans (up) (1)
Trunk vsans (isolated) (1048)
Trunk vsans (initializing) ()
<... output omitted ...>

MDS(config-if)# vsan database
MDS(config-vsan-db)# vsan 1048 interface fc1/1, fc1/2

N9K-A(config)# vsan database
N9K-A(config-vsan-db)# vsan 1048 interface fc 1/47-48
vsan 1048 is not configured on the switch
N9K-A(config-vsan-db)# vsan 1048
N9K-A(config-vsan-db)# vsan 1048 interface fc 1/47-48

N9K-A(config)# zone mode enhanced vsan 1048
WARNING: This command would distribute the zoning database of this switch throughout the fabric. Do you want to continue? [y/n] [n] y
Current zoning mode same as specified zoning mode

N9K-A(config)# interface fc1/47-48
N9K-A(config-if-range)# shutdown
N9K-A(config-if-range)# no shutdown

N9K-A# show vsan membership
vsan 1 interfaces:
  fc1/45      fc1/46

vsan 1048 interfaces:
  fc1/47      fc1/48

vsan 4079(evfp_isolated_vsan) interfaces:

vsan 4094(isolated_vsan) interfaces:

N9K-A# show vsan
vsan 1 information
  name:VSAN0001 state:active
  interoperability mode:default
  loadbalancing:src-id/dst-id/oxid
  operational state:up

vsan 1048 information
  name:VSAN1048 state:active
  interoperability mode:default
  loadbalancing:src-id/dst-id/oxid
  operational state:up

vsan 4079:evfp_isolated_vsan

vsan 4094:isolated_vsan

MDS(config)# interface fc1/1-2
MDS(config-if)# channel-group 10
fc1/1 fc1/2 added to port-channel 10 and disabled
please do the same operation on the switch at the other end of the port-channel, then do "no shutdown" at both ends to bring it up
MDS(config-if)# no shutdown

N9K-A(config)# interface fc1/47-48
N9K-A(config-if-range)# channel-group 10
fc1/47 fc1/48 added to port-channel 10 and disabled
please do the same operation on the switch at the other end of the port-channel, then do "no shutdown" at both ends to bring it up
N9K-A(config-if-range)# no shutdown

N9K-A# show san-port-channel database
san-port-channel10
  Administrative channel mode is on
  Operational channel mode is on
  Last membership update succeeded
  First operational port is fc1/47
  2 ports in total, 2 ports up
  Ports: fc1/47 [up] *
         fc1/48 [up]

MDS(config-if)# show port-channel database
port-channel10
  Administrative channel mode is active
  Operational channel mode is active
  Last membership update succeeded
  First operational port is fc1/1
  2 ports in total, 2 ports up
  Ports: fc1/1 [up] *
         fc1/2 [up]

MDS(config-if)# interface san-port-channel 10
MDS(config-if)# switchport trunk allowed vsan 1048
Warning: This command will remove all VSANs currently being trunked and trunk only the specified VSANs.
Do you want to continue? [y/n] [n] y

N9K-A(config)# interface san-port-channel 10
N9K-A(config-if)# switchport trunk allowed vsan 1048
Warning: This command will remove all VSANs currently being trunked and trunk only the specified VSANs.
Do you want to continue? [y/n] [n] y

N9K-A# show interface san-port-channel 10
san-port-channel 10 is trunking
<... output omitted ...>
Trunk vsans (admin allowed and active) (1048)
Trunk vsans (up) (1048)
Trunk vsans (isolated) ()
Trunk vsans (initializing) ()
<... output omitted ...>
N9K-A# show interface fc1/47
fc1/47 is trunking
<... output omitted ...>
Belongs to san-port-channel 10
Trunk vsans (admin allowed and active) (1048)
Trunk vsans (up) (1048)
Trunk vsans (isolated) ()
Trunk vsans (initializing) ()
<... output omitted ...>
N9K-A# show interface fc1/48
fc1/48 is trunking
<... output omitted ...>
Belongs to san-port-channel 10
Trunk vsans (admin allowed and active) (1048)
Trunk vsans (up) (1048)
Trunk vsans (isolated) ()
Trunk vsans (initializing) ()
<... output omitted ...>

N9K-A(config-if)# zone mode enhanced vsan 1048
WARNING: This command would distribute the zoning database of this switch throughout the fabric. Do you want to continue? [y/n] [n] y
Current zoning mode same as specified zoning mode

N9K-A(config-if)# interface san-port-channel 10
N9K-A(config-if)# shutdown
N9K-A(config-if)# no shutdown

N9K-A(config)# show interface san-port-channel 10
san-port-channel 10 is trunking
Hardware is Fibre Channel
Port WWN is 24:02:8c:60:4f:72:06:80
Admin port mode is E, trunk mode is on
snmp link state traps are enabled
Port mode is TE
Port vsan is 1048
Speed is 16 Gbps
Trunk vsans (admin allowed and active) (1048)
Trunk vsans (up) (1048)
Trunk vsans (isolated) ()
Trunk vsans (initializing) ()

MDS# show flogi database
No flogi sessions found.

N9K-A# show flogi database
No flogi sessions found.

MDS# show fcns database

VSAN 1048:

FCID    TYPE PWWN                                (VENDOR)    FC4-TYPE:FEATURE
-----
0x133ea6 N    20:0e:00a0:98:d5:6c:36 (NetApp)    scsi-fcp:target
0x1340a6 N    20:0f:00a0:98:d5:6c:36 (NetApp)    scsi-fcp:target
Total number of entries = 1

N9K-A# show fcns database

VSAN 1048:

FCID    TYPE PWWN                                (VENDOR)    FC4-TYPE:FEATURE
-----
0x133ea6 N    20:0e:00a0:98:d5:6c:36 (NetApp)    scsi-fcp:target
0x1340a6 N    20:0f:00a0:98:d5:6c:36 (NetApp)    scsi-fcp:target
0xe10000 N    20:00:00:25:b5:00:04:01 (Cisco)     scsi-fcp:init fc-gs
Total number of entries = 1

MDS# show flogi database
No flogi sessions found.

*The FLOGI database on the Cisco MDS switch is empty since the Cisco UCS server has logged into the SAN using the N9K-A switch.

*Created by Matthew Rich, TCE, Cisco Systems, Inc.
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