



Configuring Domain Parameters

The Fibre Channel domain (fcdomain) feature performs principal switch selection, domain ID distribution, FC ID allocation, and fabric reconfiguration functions as described in the FC-SW-2 standards. The domains are configured on a per VSAN basis. If you do not configure a domain ID, the local switch uses a random ID.

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Caution

Changes to fcdomain parameters should not be performed on a daily basis. These changes should be made by an administrator or individual who is completely familiar with switch operations.



Tip

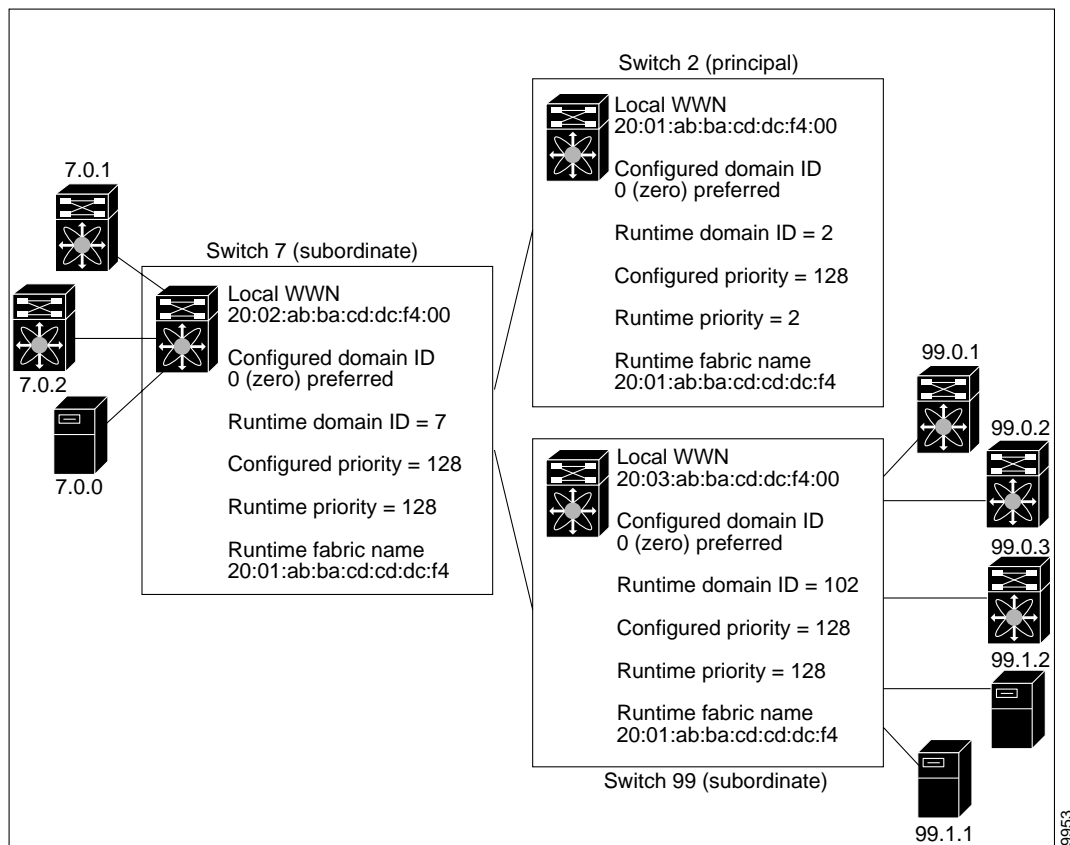
When you change the configuration, be sure to save the running configuration using the **copy running-config startup-config** command. The next time you reboot the switch, the saved configuration is used. If you do not save the configuration, the previously saved startup configuration is used.

About fcdomain Phases

This section describes each fcdomain phase (see [Figure 24-1](#)):

- Principal switch selection—This phase guarantees the selection of a unique principal switch across the fabric.
- Domain ID distribution—This phase guarantees each switch in the fabric obtains a unique domain ID.
- FC ID allocation—This phase guarantees a unique FC ID assignment to each device attached to the corresponding switch in the fabric.
- Fabric reconfiguration—This phase guarantees a resynchronization of all switches in the fabric to ensure they simultaneously restart a new principal switch selection phase.

Figure 24-1 Sample fcdomain Configuration



Note

Domain IDs and VSAN values used in all procedures are only provided as examples. Be sure to use IDs and values that apply to your configuration.

Restarting the Domain

Fibre Channel domains can be started disruptively or nondisruptively. If you perform a disruptive restart, reconfigure fabric (RCF) frames are sent to other switches in the fabric. If you perform a nondisruptive restart, build fabric (BF) frames are sent to other switches in the fabric.



Note

A static domain is specifically configured by the user and may be different from the runtime domain. If the domain IDs are different, the runtime domain ID changes to take on the static domain ID after the next restart.



Tip

If a VSAN is in interop mode, you cannot restart the fcdomain for that VSAN disruptively.

The **fcdomain restart** command applies your changes to the runtime settings.

You can apply most of the configurations to their corresponding runtime values by using the **restart disruptive** option. Each of the following sections provide further details on how the fcdomain parameters are applied to the runtime values.

To restart the fabric disruptively or nondisruptively, follow these steps:

	Command	Purpose
Step 1	switch# config t switch(config)#	Enters configuration mode.
Step 2	switch(config)# fcdomain restart vsan 1	Forces the VSAN to reconfigure without traffic disruption.
	switch(config)# fcdomain restart disruptive vsan 1	Forces the VSAN to reconfigure with data traffic disruption.

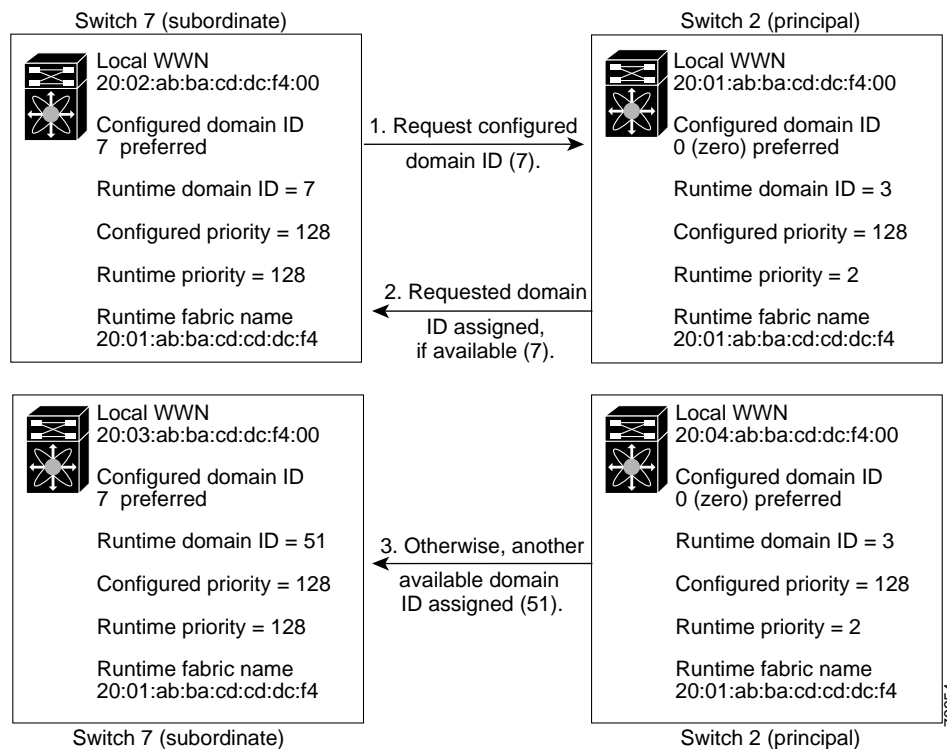
Configuring the Domain

The configured domain ID can be **preferred** or **static**. By default, the configured domain is **0** and the configured type is **preferred**. If you do not configure a domain ID, the local switch sends a random ID in its request.

When a subordinate switch requests a domain, the following process takes place (see [Figure 24-2](#)):

1. The local switch sends a configured domain ID request to the principal switch.
2. The principal switch assigns the requested domain ID if available. Otherwise, it assigns another available domain ID.

Figure 24-2 Configuration Process Using the preferred Option



The behavior for a subordinate switch changes based on the allowed domain ID lists, on the configured domain ID, and on the domain ID that the principal switch has assigned to the requesting switch.

- When the received domain ID is not within the allowed list, the requested domain ID becomes the runtime domain ID and all interfaces on that VSAN are isolated.
- When the assigned and requested domain IDs are the same, the **preferred** and **static** options are not relevant, and the assigned domain ID becomes the runtime domain ID.
- When the assigned and requested domain IDs are different, the following cases apply:
 - If the configured type is **static**, the assigned domain ID is discarded, all local interfaces are isolated, and the local switch assigns itself the configured domain ID, which becomes the runtime domain ID.
 - If the configured type is **preferred**, the local switch accepts the domain ID assigned by the principal switch and the assigned domain ID becomes the runtime domain ID.

**Caution**

You must issue the **fcdomain restart** command if you want to apply the configured domain changes to the runtime domain.

If you change the configured domain ID, the change is only accepted if the new domain ID is included in all the allowed domain ID lists currently configured in the VSAN. Alternatively, you can also configure zero-preferred domain ID.

**Note**

The 0 (zero) value can be configured only if you use the **preferred** option.

While the **static** option can be applied to runtime after a disruptive or nondisruptive restart, the **preferred** option is applied to runtime only after a disruptive restart (see the “[Restarting the Domain](#)” section on page 24-3).

**Tip**

When the FICON feature is enabled in a given VSAN, the domain ID for that VSAN remains in the static state. You can change the static ID value but you cannot change it to the preferred option.

To specify a **preferred** or a **static** domain ID, follow these steps:

	Command	Purpose
Step 1	switch# config t switch(config)#	Enters configuration mode.
Step 2	switch(config)# fcdomain domain 3 preferred vsan 8	Configures the switch in VSAN 8 to request a preferred domain ID 3 and accepts any value assigned by the principal switch.
	switch(config)# no fcdomain domain 3 preferred vsan 8	Resets the configured domain ID to 0 (default) in VSAN 8. The configured domain ID becomes 0 preferred.
Step 3	switch(config)# fcdomain domain 2 static vsan 237	Configures the switch in VSAN 237 to accept only a specific value and moves the local interfaces in VSAN 237 to an isolated state if the requested domain ID is not granted.
	switch(config)# no fcdomain domain 18 static vsan 237	Resets the configured domain ID to factory defaults in VSAN 237. The configured domain ID becomes 0 preferred.

Setting Switch Priority

By default, the configured priority is 128. The valid range to set the priority is between 1 and 254. Priority 1 has the highest priority. Value 255 is accepted from other switches, but cannot be locally configured.

Any new switch cannot become the principal switch when it joins a stable fabric. During the principal switch selection phase, the switch with the highest priority becomes the principal switch. If two switches have the same configured priority, the switch with the lower WWN becomes the principal switch.

To configure the priority for the principal switch, follow these steps:

	Command	Purpose
Step 1	switch# config t switch(config)#	Enters configuration mode.
Step 2	switch(config)# fcdomain priority 25 VSAN 99	Configures a priority of 25 for the local switch in VSAN 99.
	switch(config)# no fcdomain priority 25 VSAN 99	Reverts the priority to the factory default (128) in VSAN 99.

The priority configuration is applied to runtime through a disruptive restart (see the [“Restarting the Domain”](#) section on page 24-3).

Configuring Allowed Domain ID Lists

By default, the valid range for an assigned domain ID list is from 1 to 239. You can specify a list of ranges to be in the allowed domain ID list and separate each range with a comma. The principal switch ensures that the domain requested by any switch in the fabric is specified in the allowed list.



Tip

If you configure an allowed list on one switch in the fabric, we recommend you configure the same list in all other switches in the fabric to ensure consistency.

An allowed domain ID list must satisfy the following conditions:

- If this switch is a principal switch, all the currently assigned domain IDs must be in the allowed list.
- If this switch is a subordinate switch, the local runtime domain ID must be in the allowed list.
- The locally configured domain ID of the switch must be in the allowed list.
- The intersection of the assigned domain IDs with other already configured domain ID lists must not be empty.

To configure the allowed domain ID list, follow these steps:

	Command	Purpose
Step 1	switch# config t switch(config)#	Enters configuration mode.
Step 2	switch(config)# fcdomain allowed 50-110 vsan 4	Configures the list to allow switches with the domain ID 50 through 110 in VSAN 4.
	switch(config)# no fcdomain allowed 50-110 vsan 5	Reverts to the factory default of allowing domain IDs from 1 through 239 in VSAN 5.

Merging Stable Fabrics

By default, the **auto-reconfigure** option is disabled. When you join two switches belonging to two different stable fabrics that have overlapping domains, the following cases apply:

- If the **auto-reconfigure** option is enabled on both switches, a disruptive reconfiguration phase is started.
- If the **auto-reconfigure** option is disabled on either or both switches, the links between the two switches become isolated.

To enable automatic reconfiguration in a specific VSAN (or range of VSANs), follow these steps:

	Command	Purpose
Step 1	switch# config t switch(config)#	Enters configuration mode.
Step 2	switch(config)# fcdomain auto-reconfigure vsan 10	Enables the automatic reconfiguration option in VSAN 10.
	switch(config)# no fcdomain auto-reconfigure 69	Disables the automatic reconfiguration option and reverts it to the factory default in VSAN 69.

The **auto-reconfigure** option takes immediate effect at runtime—you do not need to restart the fcdomain. If a domain is currently isolated due to domain overlap, and you later enable the **auto-reconfigure** option on both switches, the fabric continues to be isolated. However, if you enable the **auto-reconfigure** option on both switches before connecting the fabric, a disruptive reconfiguration (RCF) occurs. A disruptive reconfiguration may affect data traffic. You can nondisruptively reconfigure the fcdomain by changing the configured domains on the overlapping links and getting rid of the domain overlap.

Assigning Contiguous Domains

By default, the **contiguous-allocation** option is disabled. When the subordinate switches request the principal switch for two or more domains and the domains are not contiguous, the following cases apply:

- If the **contiguous-allocation** option is enabled in the principal switch, the principal switch locates contiguous domains and assigns them to the subordinate switches.
- If the **contiguous-allocation** option is disabled in the principal switch, the principal switch assigns the available domains to the subordinate switches.

To enable contiguous domains in a specific VSAN (or a range of VSANs), follow these steps:

	Command	Purpose
Step 1	switch# config t switch(config)#	Enters configuration mode.
Step 2	switch(config)# fcdomain contiguous-allocation vsan 81-83	Enables the contiguous allocation option in VSAN 81 through 83.
	switch(config)# no fcdomain contiguous-allocation vsan 1030	Disables the contiguous allocation option and reverts it to the factory default in VSAN 1030.

The **contiguous-allocation** option takes immediate effect at runtime—you do not need to restart the fcdomain.

Disabling the fcdomain Feature

By default, the fcdomain feature is enabled on each switch. You can disable the fcdomain feature by using the **no fcdomain** command. If you disable the fcdomain feature in a switch, that switch can no longer participate with other switches in the fabric.

To disable fcdomains in a single VSAN or a range of VSANs, follow these steps:

	Command	Purpose
Step 1	switch# config t switch(config)#	Enters configuration mode.
Step 2	switch(config)# no fcdomain vsan 7-200	Disables the fcdomain configuration in VSAN 7 through 200.
	switch(config)# fcdomain vsan 2008	Enables the fcdomain configuration in VSAN 2008.

The fcdomain configuration is applied to runtime through a disruptive restart.

Setting the Fabric Name

By default the configured fabric name is 20:01:00:05:30:00:28:df.

- When the fcdomain feature is disabled, the runtime fabric name is the same as the configured fabric name.
- When the fcdomain feature is enabled, the runtime fabric name is the same as the principal switch's WWN.

To set the fabric name value for a disabled fcdomain, follow these steps:

	Command	Purpose
Step 1	switch# config t switch(config)#	Enters configuration mode.
Step 2	switch(config)# fcdomain fabric-name 20:1:ac:16:5e:0:21:01 vsan 3	Assigns the configured fabric name value in VSAN 3.
	switch(config)# no fcdomain fabric-name 20:1:ac:16:5e:0:21:01 vsan 3010	Changes the fabric name value to the factory default (20:01:00:05:30:00:28:df) in VSAN 3010.

The fabric name is applied to runtime through a disruptive restart when the fcdomain is configured as disabled (see the [“Restarting the Domain”](#) section on page 24-3).

Stopping Incoming RCFs

The **rcf-reject** option is configured on a per-interface, per-VSAN basis. By default, the **rcf-reject** option is disabled (that is, RCF request frames are not automatically rejected).

To stop incoming RCF request frames, follow these steps:

	Command	Purpose
Step 1	switch# config t switch(config)#	Enters configuration mode.
Step 2	switch(config)# int fc1/1 switch(config-if)#	Configures the specified interface.
Step 3	switch(config-if)# fcdomain rcf-reject vsan 1	Enables the RCF filter on the specified interface in VSAN 1.
	switch(config-if)# no fcdomain rcf-reject vsan 1	Disables the RCF filter on the specified interface in VSAN 1.

The **rcf-reject** option takes immediate effect to runtime through a disruptive restart (see the “[Restarting the Domain](#)” section on page 24-3).

Enabling Persistent FC IDs

Persistent FC IDs are disabled by default. You can enable this option globally or for each VSAN. If you choose to enable it globally, you can do so at any time using the initial setup routine or the setup command (see the “[Initial Setup Routine](#)” section on page 4-2). When you enable this option globally, the switch remains in this state until you change the global configuration.



Note

If you enable this option during the initial switch setup, this option is automatically enabled in all configured VSANs. If you enable this option at a later stage, this option is automatically enabled in all VSANs configured after that stage. VSANs configured before that stage remain unchanged.

When an N or NL port logs into a Cisco MDS 9000 Family switch, it is assigned a FC ID. By default, the persistent FC ID feature is disabled. If this feature is disabled, the following consequences apply:

- An N or NL port logs into a Cisco MDS 9000 Family switch. The WWN of the requesting N or NL port and the assigned FC ID, are retained and stored in a volatile cache. The contents of this volatile cache are not saved across reboots.
- The switch is designed to preserve the binding FC ID to the WWN on a best-effort basis. For example, if one N port disconnects from the switch and its FC ID is requested by another device, this request is granted, and the WWN with the initial FC ID association is released.
- The volatile cache stores up to 4000 entries of WWN to FC ID binding. If this cache is full, a new (more recent) entry overwrites the oldest entry in the cache. In this case, the corresponding WWN to FC ID association for the oldest entry is lost.
- The switch connection behavior differs between N ports and NL ports:
 - N ports receive the same FC IDs if disconnected and reconnected to any port within the same switch (as long as it belongs to the same VSAN).
 - NL ports receive the same FC IDs only if connected back to the same port on the switch to which they were originally connected.

The assigned FC IDs in a `fcdomain` can be enabled to remain persistent even after a reboot. This ensures that an attached N port receives the same FC IDs after a reboot. If you enable this feature, the following consequences apply:

- The currently *in use* FC IDs in the `fcdomain` are saved across reboots.
- The `fcdomain` automatically populates the database with dynamic entries that the switch has learned about after a device (host or disk) is plugged into a port interface.



Note If you connect to the switch from an AIX or HP-UX host, be sure to enable the persistent FC ID feature in the VSAN that connects these hosts.

A persistent FC ID assigned to an F port can be moved across interfaces and can continue to maintain the same persistent FC ID.



Note Persistent FC IDs with loop-attached devices (FL ports) need to remain connected to the same port in which they were configured.

To enable the persistent FC ID feature, follow these steps:

	Command	Purpose
Step 1	<code>switch# config t</code>	Enters configuration mode.
Step 2	<code>switch(config)# fcdomain fcid persistent vsan 1000</code> FCID(s) persistent feature is enabled.	Activates persistency of FC IDs in VSAN 1000.
	<code>switch(config-if)# no fcdomain fcid persistent vsan 20</code>	Disables the FC ID persistency feature in VSAN 20.

Configuring Persistent FC IDs Manually

Once the persistent FC ID feature is enabled, you can enter the persistent FC ID submode and add static or dynamic entries in the FC ID database. By default, all added entries are static. Persistent FC IDs are configured on a per-VSAN basis. Follow these requirements to manually configure a persistent FC ID:

- Ensure that the persistent FC ID feature is enabled in the required VSAN.
- Ensure that the required VSAN is an active VSAN—persistent FC IDs can only be configured on active VSANs.
- Verify that the domain part of the FC ID is the same as the runtime domain ID in the required VSAN. If the software detects a domain mismatch, the command is rejected.
- Verify that the port field of the FC ID is 0 (zero) when configuring an area.
- Do not replace an FC ID that is already configured in another WWN. If you want to use a previously configured WWN, first delete the configured WWN before proceeding with this procedure.



Note You cannot configure persistent FC IDs in FICON-enabled VSANs.

To configure persistent FC IDs, follow these steps:

	Command	Purpose
Step 1	switch# config t switch(config)#	Enters configuration mode.
Step 2	switch(config)# fcdomain fcid database	Activates persistency of FC IDs in the specified VSAN.
Step 3	switch(config-fcid-db)# vsan 1000 wwn 33:e8:00:05:30:00:16:df fcid 0x070128	Configures a device WWN (33:e8:00:05:30:00:16:df) with the FC ID 0x070128 in VSAN 1000.
	switch(config-fcid-db)# vsan 1000 wwn 11:22:11:22:33:44:33:44 fcid 0x070123 dynamic	Configures a device WWN (11:22:11:22:33:44:33:44) with the FC ID 0x070123 in VSAN 1000 in dynamic mode.
	switch(config-fcid-db)# vsan 1000 wwn 11:22:11:22:33:44:33:44 fcid 0x070100 area	Configures a device WWN (11:22:11:22:33:44:33:44) with the FC IDs 0x070100 through 0x701FF in VSAN 1000. Note To secure the entire area for this fcdomain, assign 00 as the last two characters of the FC ID.

Configuring Unique Area FC IDs for Some HBAs



Note

This section does not apply if either the HBA port or the storage port is connected to different switches.

Some HBA ports require a different area ID than storage ports when they are both connected to the same switch. For example, if the storage port FC ID is 0x6f7704, the area for this port is 77. In this case, the HBA port's area can be anything other than 77. The HBA port's FC ID must be manually configured to be different from the storage port's FC ID.

Switches in the Cisco MDS 9000 Family facilitate this requirement with the FC ID persistence feature. You can use this feature to preassign an FC ID with a different area to either the storage port or the HBA port. The procedure in this example uses a switch domain of 111(6f hex). The HBA port connects to interface fc1/9 and the storage port connects to interface fc 1/10 in the same switch.

To configure a different area ID for the HBA port, follow these steps:

- Step 1** Obtain the Port WWN (Port Name field) ID of the HBA using the **show flogi database** command).

```
switch# show flogi database
```

```
-----
INTERFACE  VSAN   FCID      PORT NAME                NODE NAME
-----
fc1/9      3      0x6f7703  50:05:08:b2:00:71:c8:c2  50:05:08:b2:00:71:c8:c0
fc1/10     3      0x6f7704  50:06:0e:80:03:29:61:0f  50:06:0e:80:03:29:61:0f
```



Note

Both FC IDs in this setup have the same area 77 assignment.

Step 2 Shut down the HBA interface in the MDS switch.

```
switch# conf t
switch(config)# interface fc1/9
switch(config-if)# shutdown
switch(config-if)# end
switch#
```

Step 3 Verify that the FC ID feature is enabled using the **show fcdomain vsan** command.

```
switch# show fcdomain vsan 1
...
Local switch configuration information:
    State: Enabled
    FCID persistence: Disabled
```

If this feature is disabled, continue with this procedure to enable the FC ID persistence.

If this feature is already enabled, skip to [Step 5](#).

Step 4 Enable the FC ID persistence feature in the Cisco MDS switch.

```
switch# conf t
switch(config)# fcdomain fcid persistent vsan 1
switch(config)# end
switch#
```

Step 5 Assign a new FC ID with a different area allocation. In this example, we replace *77* with *ee*.

```
switch# conf t
switch(config)# fcdomain fcid database
switch(config-fcid-db)# vsan 3 wwn 50:05:08:b2:00:71:c8:c2 fcid 0x6fee00
```

Step 6 Enable the HBA interface in the Cisco MDS switch.

```
switch# conf t
switch(config)# interface fc1/9
switch(config-if)# no shutdown
switch(config-if)# end
switch#
```

Step 7 Verify the pWWN ID of the HBA using the **show flogi database** command.

```
switch# show flogi database
-----
INTERFACE  VSAN    FCID          PORT NAME          NODE NAME
-----
fc1/9      3       0x6fee00     50:05:08:b2:00:71:c8:c2  50:05:08:b2:00:71:c8:c0
fc1/10     3       0x6f7704     50:06:0e:80:03:29:61:0f  50:06:0e:80:03:29:61:0f
```



Note Both FC IDs now have different area assignments.

Purging Persistent FC IDs

Persistent FC IDs can be purged selectively. Static entries and FC IDs currently in use cannot be deleted. [Table 24-1](#) identifies the FC ID entries that are deleted by the **purge fcdomain** command.

Table 24-1 Purged FC IDs

Persistent FC ID state	Persistent Usage State	Action
Static	In use	Not deleted
Static	Not in use	Not deleted
Dynamic	In use	Not deleted
Dynamic	Not in use	Deleted

Use the **purge fcdomain** command to remove dynamic or not in use FC IDs (see [Table 24-1](#)).

To purge persistent FC IDs, follow this step:

Command	Purpose
Step 1 switch# purge fcdomain fcid vsan 4	Purges all dynamic and unused FC IDs in VSAN 4.
switch# purge fcdomain fcid vsan 3-5	Purges dynamic and unused FC IDs in VSAN 3, 4, and 5.

Displaying fcdomain Information

Use the **show fcdomain** command to display global information about fcdomain configurations. See [Example 24-1](#).



Note

In [Example 24-1](#), the fcdomain feature is disabled. Consequently, the runtime fabric name is the same as the configured fabric name.

Example 24-1 Displays the Global fcdomain Information

```
switch# show fcdomain vsan 2
The local switch is the Principal Switch.

Local switch run time information:
  State: Stable
  Local switch WWN:      20:01:00:0b:46:79:ef:41
  Running fabric name:  20:01:00:0b:46:79:ef:41
  Running priority:    128
  Current domain ID:   0xed(237)

Local switch configuration information:
  State: Enabled
  FCID persistence:   Disabled
  Auto-reconfiguration: Disabled
  Contiguous-allocation: Disabled
  Configured fabric name: 20:01:00:05:30:00:28:df
  Configured priority: 128
  Configured domain ID: 0x00(0) (preferred)

Principal switch run time information:
```

```
Running priority: 128
```

```
No interfaces available.
```

Use the **show fcdomain domain-list** command to display the list of domain IDs of all switches belonging to a specified VSAN. This list provides the WWN of the switches owning each domain ID. See [Example 24-2](#).

Example 24-2 Displays the fcdomain Lists

```
switch# show fcdomain domain-list vsan 1

Number of domains: 1
Domain ID          WWN
-----
0x16(22)          20:01:00:05:30:00:16:df [Local] [Principal]
```

Use the **show fcdomain allowed vsan** command to display the list of allowed domain IDs configured on this switch. See [Example 24-3](#).

Example 24-3 Displays the Allowed Domain ID Lists

```
switch# show fcdomain allowed vsan 1
Assigned or unallowed domain IDs: 1-96,100,111-239.
[Interoperability Mode 1] allowed domain IDs: 97-127.
[User] configured allowed domain IDs: 50-110.
```



Tip

Ensure that the requested domain ID passes the Cisco SAN-OS software checks, if **interop 1** mode is required in this switch.

Use the **show fcdomain fcid persistent** command to display all existing, persistent FC IDs for a specified VSAN. You can also specify the **unused** option to view only persistent FC IDs that are still not in use. See Examples [24-4](#) and [24-5](#).

Example 24-4 Displays Persistent FC IDs in a Specified VSAN

```
switch# show fcdomain fcid persistent vsan 1000
Total entries 2.

Persistent FCIDs table contents:
VSAN          WWN          FCID          Mask          Used          Assignment
-----
1000         11:11:22:22:11:11:12:23  0x700101     SINGLE FCID   NO           STATIC
1000         44:44:33:33:22:22:11:11  0x701000     ENTIRE AREA   NO           DYNAMIC
```

Example 24-5 Displays All Persistent FC IDs in the fcdomain

```
switch# show fcdomain fcid persistent
Total entries 2.

Persistent FCIDs table contents:
VSAN          WWN          FCID          Mask          Used          Assignment
-----
```

```

1000    11:11:22:22:11:11:22:22    0x700501    SINGLE FCID    NO    STATIC
1003    44:44:33:33:22:22:11:11    0x781000    ENTIRE AREA    YES    DYNAMIC

```

Use the **show fcdomain statistics** command to display frame and other fcdomain statistics for a specified VSAN or PortChannel. See [Example 24-6](#) and [Example 24-7](#).

Example 24-6 *Displays fcdomain Statistics for a Specified VSAN*

```

switch# show fcdomain statistics vsan 1
VSAN Statistics
  Number of Principal Switch Selections: 5
  Number of times Local Switch was Principal: 0
  Number of 'Build Fabric's: 3
  Number of 'Fabric Reconfigurations': 0

```

Example 24-7 *Displays fcdomain Statistics for a Specified PortChannel*

```

switch# show fcdomain statistics interface port-channel 10 vsan 1
Interface Statistics:
      Transmitted      Received
      -----
      EFPs             13           9
      DIAs              7           7
      RDIs              0           0
      ACCs             21          25
      RJTs              1           1
      BFs               2           2
      RCFs              4           4
      Error             0           0
      Total            48          48
Total Retries: 0
Total Frames: 96
      -----

```

Use the **show fcdomain address-allocation** command to display FC ID allocation statistics including a list of assigned and free FC IDs. See [Example 24-8](#).

Example 24-8 *Displays FC ID Information*

```

switch# show fcdomain address-allocation vsan 1
Free FCIDs: 0x020000 to 0x02dfff
            0x02ff00 to 0x02fffe

Assigned FCIDs: 0x02fe00 to 0x02feff
               0x02ffff

Reserved FCIDs: 0x020100 to 0x02f0ff
               0x02fe00 to 0x02feff
               0x02ffff

Number free FCIDs: 65279
Number assigned FCIDs: 257
Number reserved FCIDs: 61697

```

Use the **show fcdomain address-allocation cache** command to display the valid address allocation cache. The cache is used by the principal switch to reassign the FC IDs for a device (disk or host) that exited and reentered the fabric. In the cache content, VSAN refers to the VSAN that contains the device, WWN refers to the device that owned the FC IDs, and mask refers to a single or entire area of FC IDs. See [Example 24-9](#).

Example 24-9 Displays Address Allocation Information

```

switch# show fcdomain address-allocation cache
Cache content:
line#    VSAN          WWN                      FCID          mask
-----  -
1.       12      21:00:00:e0:8b:08:a2:21  0xef0400     ENTIRE AREA
2.       6       50:06:04:82:c3:a1:2f:5c  0xef0002     SINGLE FCID
3.       8       20:4e:00:05:30:00:24:5e  0xef0300     ENTIRE AREA
4.       8       50:06:04:82:c3:a1:2f:52  0xef0001     SINGLE FCID

```

Default Settings

Table 24-2 lists the default settings for all fcdomain parameters.

Table 24-2 Default fcdomain Parameters

Parameters	Default
fcdomain feature	Enabled.
Configured domain ID	0 (zero).
Configured domain	Preferred.
auto-reconfigure option	Disabled.
contiguous-allocation option	Disabled.
Priority	128.
Allowed list	1 to 239.
Fabric name	20:01:00:05:30:00:28:df.
rcf-reject	Disabled.
Persistent FC ID	Disabled (globally configurable).