



## Global VSAN

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## Global VSAN

Cisco UCS Central enables you to define global VSAN in the SAN cloud, at the domain group root, or at a domain group level. The global VSANs created in Cisco UCS Central are specific to the fabric interconnect where you create them. You can assign a VSAN to either Fabric A or Fabric B, or to both Fabric A and B. Global VSANs are not common VSANs in Cisco UCS Central.

Resolution of global VSANs takes place in Cisco UCS Central prior to deployment of global service profiles that reference them to Cisco UCS Manager. If a global service profile references a global VSAN, and that VSAN does not exist, deployment of the global service profile to Cisco UCS Manager will fail due to insufficient resources. All global VSANs created in Cisco UCS Central must be resolved before deploying that global service profile.



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**Note** Beginning with Cisco UCS Manager Release 1.3, you can push global VSANs to Cisco UCS Manager without deploying a service profile. For more information, see .

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VSANs deployed with a global service profile are visible to Cisco UCS Manager only if a global service profile is deployed that references the VSANs. Once a VSAN deployed with a global service profile becomes available in Cisco UCS Manager, locally-defined service profiles and policies can reference it. A global VSAN is not deleted when a global service profile that references it is deleted.

Global VSANs that are referenced by a global service profile available to a Cisco UCS Manager instance remain available unless they are specifically deleted for use from the domain group. Global VSANs can be localized in Cisco UCS Manager, in which case they act as local VSANs. Unless a global VSAN is localized, it cannot be deleted from Cisco UCS Manager.

## Creating VSANs

This procedure describes how to create VSANs in a domain group in Cisco UCS Central.

**Procedure**

	<b>Command or Action</b>	<b>Purpose</b>
<b>Step 1</b>	UCSC# <b>connect resource-mgr</b>	Enters resource manager mode.
<b>Step 2</b>	UCSC(resource-mgr) <b>#scope domain-group</b> <i>domain-group</i>	Enters the UCS domain group configuration mode.
<b>Step 3</b>	UCSC(resource-mgr) /domain-group <b>#scope fc-uplink</b>	Enters fabric configuration command mode.
<b>Step 4</b>	UCSC(resource-mgr) /domain-group/fc-uplink <b>#scope fabric</b> {a   b}.	Enters the configuration mode for the chosen fabric interconnect .
<b>Step 5</b>	UCSC(resource-mgr) /domain-group/fc-uplink/fabric <b># create vsan</b> <i>vsan-name vsan-id fcoe-id</i>	Enters the VSAN configuration command mode, and creates a VSAN with the VSAN name, VSAN ID, and FCoE VLAN ID that you enter.
<b>Step 6</b>	UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan <b>#commit-buffer</b>	Commits the transaction to the system.

**Example**

The following example shows how to create two VSANs each for both fabric interconnect A and B in domain group 12:

```
UCSC#connect resource-mgr
UCSC(resource-mgr) #scope domain-group 12
UCSC(resource-mgr) /domain-group #scope fc-uplink
UCSC(resource-mgr) /domain-group/fc-uplink #scope fabric a
UCSC(resource-mgr) /domain-group/fc-uplink/fabric # create vsan VSANA 21 21
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* #commit-buffer
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan # up
UCSC(resource-mgr) /domain-group/fc-uplink/fabric # up
UCSC(resource-mgr) /domain-group/fc-uplink/fabric # create vsan VSANA2 23 23
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* #commit-buffer
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan # up
UCSC(resource-mgr) /domain-group/fc-uplink/fabric # up
UCSC(resource-mgr) /domain-group/fc-uplink/up
UCSC(resource-mgr) /domain-group/fc-uplink #scope fabric b
UCSC(resource-mgr) /domain-group/fc-uplink/fabric # create vsan VSANB 22 22
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* #commit-buffer
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan # up
UCSC(resource-mgr) /domain-group/fc-uplink/fabric # up
UCSC(resource-mgr) /domain-group/fc-uplink/fabric # create vsan VSANB2 24 24
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* #commit-buffer
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan # up
UCSC(resource-mgr) /domain-group/fc-uplink/fabric # up
UCSC(resource-mgr) /domain-group/fc-uplink/up
```

## Modifying VSAN Settings

This procedure describes how to modify VSAN settings for either fabric interconnect A or B in a domain group in Cisco UCS Central.

### Before you begin

#### Procedure

	Command or Action	Purpose
<b>Step 1</b>	UCSC# <b>connect resource-mgr</b>	Enters resource manager mode.
<b>Step 2</b>	UCSC(resource-mgr) # <b>scope domain-group</b> <i>domain-group</i>	Enters the UCS domain group configuration mode.
<b>Step 3</b>	UCSC(resource-mgr) /domain-group # <b>scope fc-uplink</b>	Enters fabric configuration command mode.
<b>Step 4</b>	UCSC(resource-mgr) /domain-group/fc-uplink # <b>scope fabric</b> {a   b}	Enters configuration mode for the chosen fabric interconnect.
<b>Step 5</b>	UCSC(resource-mgr)#/domain-group/fc-uplink #/fc-uplink/fabric # <b>scope vsan</b> <i>vsan-name</i>	Enters VSAN configuration mode for the chosen VSAN.
<b>Step 6</b>	UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan # <b>set id</b> <i>vsan-id</i>	Sets the VSAN ID to the value you enter.
<b>Step 7</b>	UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* # <b>set fcoe</b> <i>vlan/fcoe-vlan-id</i>	Sets the FCoE VLAN ID to the value you enter.
<b>Step 8</b>	UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* # <b>set zoning</b> <i>state {enabled   disabled}</i>  <ul style="list-style-type: none"> <li>• disabled—The upstream switch configures and controls the Fibre Channel zoning, or Fibre Channel zoning is not implemented on this VSAN.</li> <li>• enabled—Cisco UCS Manager will configure and control Fibre Channel zoning when the VSAN is deployed.</li> </ul>	Sets the Fibre Channel zoning for the VSAN, as follows:
<b>Step 9</b>	UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* # <b>commit-buffer</b>	Commits the transaction to the system.

### Example

The following example shows how to modify the settings for a VSAN associated with fabric interconnect A in domain group 12:

```

UCSC#connect resource-mgr
UCSC(resource-mgr) # scope domain-group 12
UCSC(resource-mgr) #/domain-group #scope fc-uplink
UCSC(resource-mgr) #/domain-group/fc-uplink #scope fabric a
UCSC(resource-mgr) #/domain-group/fc-uplink #/fc-uplink/fabric # scope vsanVSANc
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan # set id2021
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* # set fcoevlan2021
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* # set zoningstatedisabled
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* # commit-buffer
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan #

```

## Enabling Global VSANs in a Cisco UCS Manager Instance

The **publish vsan** command allows you to use global VSANs that were created in Cisco UCS Central in a Cisco UCS Manager instance without deploying a service profile.

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	UCSC# <b>connect resource-mgr</b>	Enters resource manager mode.
<b>Step 2</b>	UCSC(resource-mgr) # <b>scope domain-mgmt</b>	Enters the UCS domain management configuration mode.
<b>Step 3</b>	UCSC(resource-mgr) /domain-mgmt # <b>scope ucs-domain domain-ID</b>	Enters the UCS domain configuration mode for the specified domain ID.  <b>Note</b> If you do not know the UCS domain ID, use the <b>show ucs-domain</b> command.
<b>Step 4</b>	UCSC(resource-mgr) /domain-mgmt/ucs-domain # <b>publish vsan vsan_name [a \ b]</b> .	Pushes the selected global VSAN to the Cisco UCS Manager instance in the specified fabric interconnect.

### Example

The following example shows how to enable global VSAN globVSAN for fabric interconnect A in the local domain 1008:

```

UCSC# connect resource-mgr
UCSC(resource-mgr) # scope domain-mgmt
UCSC(resrouce-mgr) /domain-mgmt # scope ucs-domain 1008
UCSC(resrouce-mgr) /domain-mgmt/ucs-domain # publish vsan globVSAN a

```

Publish Vsan is a standalone operation. You may lose any uncommitted changes in this CLI session.

```

Do you want to continue? (yes/no): yes
UCSC(resource-mgr) /domain-mgmt/ucs-domain #

```

## Deleting VSANs

This procedure describes how to delete one or more VSANs from a Cisco UCS Central domain group.

### Before you begin

#### Procedure

	Command or Action	Purpose
<b>Step 1</b>	UCSC# <b>connect resource-mgr</b>	Enters resource manager mode.
<b>Step 2</b>	UCSC(resource-mgr) # <b>scope domain-group</b> <i>domain-group-name</i>	Enters the UCS domain group configuration mode.
<b>Step 3</b>	UCSC(resource-mgr) /domain-group # <b>scope fc-uplink</b>	Enters fabric configuration command mode.
<b>Step 4</b>	UCSC(resource-mgr) /domain-group/fc-uplink # <b>scope fabric</b> {a   b}	Enters configuration mode for the selected fabric interconnect.
<b>Step 5</b>	UCSC(resource-mgr)#/domain-group/fc-uplink #/fc-uplink/fabric # <b>scope vsan</b> <i>vsan-name</i>	Enters VSAN configuration mode for the selected VSAN.
<b>Step 6</b>	UCSC(resource-mgr)#/domain-group/fc-uplink #/fc-uplink/fabric/vsan # <b>delete vsan</b>	Deletes the VSAN.
<b>Step 7</b>	UCSC(resource-mgr)#/domain-group/fc-uplink #/fc-uplink/fabric/vsan* # <b>commit-buffer</b>	Commits the transaction to the system.

### Example

The following example shows how to delete one VSAN from fabric interconnect A and one from fabric interconnect B for domain group 12:

```
UCSC#connect resource-mgr
UCSC(resource-mgr) #scope domain-group 12
UCSC(resource-mgr) /domain-group #scope fc-uplink
UCSC(resource-mgr) /domain-group/fc-uplink #scope fabric a
UCSC(resource-mgr) /domain-group/fc-uplink/fabric # scope vsan VSANA
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* #commit-buffer
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan # up
UCSC(resource-mgr) /domain-group/fc-uplink/fabric # up
UCSC(resource-mgr) /domain-group/fc-uplink/up
UCSC(resource-mgr) /domain-group/fc-uplink #scope fabric b
UCSC(resource-mgr) /domain-group/fc-uplink/fabric # delete vsan VSANB
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* #commit-buffer
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan #
```

## Fibre Channel Zoning

Fibre Channel (FC) zoning allows you to partition the Fibre Channel fabric into one or more zones. Each zone defines the set of FC initiators and FC targets that can communicate with each other in a VSAN.

The access and data traffic control provided by zoning does the following:

- Enhances SAN network security
- Helps prevent data loss or corruption
- Reduces performance issues

Cisco UCS Central FC zoning combines direct attach storage with local zoning. Fibre Channel or FCoE storage is directly connected to the fabric interconnects, and zoning is performed in Cisco UCS Central, using Cisco UCS local zoning.

## Configuring FC Zoning on a VSAN

This procedure describes how to create Fibre Channel zoning on an existing VSAN.

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	UCSC# <b>connect resource-mgr</b>	Enters resource manager mode.
<b>Step 2</b>	UCSC(resource-mgr) # <b>scope domain-group</b> <i>domain-group</i>	Enters the UCS domain group configuration mode.
<b>Step 3</b>	UCSC(resource-mgr) /domain-group # <b>scope fc-uplink</b>	Enters fabric configuration command mode.
<b>Step 4</b>	UCSC(resource-mgr) /domain-group/fc-uplink # <b>scope fabric</b> {a   b}.	Enters the configuration mode for the chosen fabric interconnect .
<b>Step 5</b>	UCSC(resource-mgr) /domain-group/fc-uplink/fabric # <b>enter vsan</b> <i>vsan-name vsan-id fcoe-id</i>	Enters the VSAN configuration command mode for the specified VSAN.
<b>Step 6</b>	UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* # <b>set zoningstate</b> {enabled   disabled} <ul style="list-style-type: none"> <li>• disabled—The upstream switch configures and controls the Fibre Channel zoning, or Fibre Channel zoning is not implemented on this VSAN.</li> <li>• enabled—Cisco UCS Manager will configure and control Fibre Channel zoning when the VSAN is deployed.</li> </ul>	Configures Fibre Channel zoning for the VSAN, as follows:

	Command or Action	Purpose
<b>Step 7</b>	UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan #commit-buffer	Commits the transaction to the system.

### Example

The following example shows how to set the Fibre Channel zoning state on VSAN VSAN1A on fabric interconnect A in domain group 12:

```
UCSC# connect resource-mgr
UCSC(resource-mgr) # scope domain-group 12
UCSC(resource-mgr) /domain-group # scope fc-uplink
UCSC(resource-mgr) /domain-group/fc-uplink # scope fabric a
UCSC(resource-mgr) /domain-group/fc-uplink/fabric # enter vsan VSAN1A 25 25
ForDoc(resource-mgr) /domain-group/fc-uplink/fabric/vsan* # set zoningstate enabled
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan* # commit-buffer
UCSC(resource-mgr) /domain-group/fc-uplink/fabric/vsan #
```

