



# Configuring WWN Pools

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## WWN Pools

A World Wide Name (WWN) pool is a collection of WWNs for use by the Fibre Channel vHBAs in a Cisco UCS domain. You create separate pools for the following:

- WW node names assigned to the vHBA
- WW port names assigned to the vHBA
- Both WW node names and WW port names



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**Important**

A WWN pool can include only WWNNs or WWPNs in the ranges from 20:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF. All other WWN ranges are reserved. To ensure the uniqueness of the Cisco UCS WWNNs and WWPNs in the SAN fabric, Cisco recommends using the following WWN prefix for all blocks in a pool:  
20:00:00:25:B5:XX:XX:XX

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If you use WWN pools in service profiles, you do not have to manually configure the WWNs that will be used by the server associated with the service profile. In a system that implements multi-tenancy, you can use a WWN pool to control the WWNs used by each organization.

You assign WWNs to pools in blocks.

### WWNN Pools

A WWNN pool is a WWN pool that contains only WW node names. If you include a pool of WWNNs in a service profile, the associated server is assigned a WWNN from that pool.

### WWPN Pools

A WWPN pool is a WWN pool that contains only WW port names. If you include a pool of WWPNs in a service profile, the port on each vHBA of the associated server is assigned a WWPN from that pool.

### WWxN Pools

A WWxN pool is a WWN pool that contains both WW node names and WW port names. You can specify how many ports per node are created with WWxN pools. The pool size must be a multiple of *ports-per-node* + 1. For example, if you specify 7 ports per node, the pool size must be a multiple of 8. If you specify 63 ports per node, the pool size must be a multiple of 64.

You can use a WWxN pool whenever you select a WWNN or WWPN pool. The WWxN pool must be created before it can be assigned.

- For WWNN pools, the WWxN pool is displayed as an option in the **WWNN Assignment** drop-down list.
- For WWPN pools, choose **Derived** in the **WWPN Assignment** drop-down list.

## Configuring WWNN Pools

### Creating a WWNN Pool



#### Important

A WWN pool can include only WWNNs or WWPNs in the ranges from 20:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF. All other WWN ranges are reserved. To ensure the uniqueness of the Cisco UCS WWNNs and WWPNs in the SAN fabric, Cisco recommends using the following WWN prefix for all blocks in a pool:  
20:00:00:25:B5:XX:XX:XX

A WWNN pool with the last four digits ending in 00:01 causes the vHBA to not initialize, no output from the lunlist command, and displays the Waiting for Flogi error. This error occurs if the WWPN is in the same block as the WWNN ending in 00:01. To ensure that the WWNN and WWPN addresses do not overlap, we recommend using a unique WWN address.

#### Procedure

- Step 1** In the **Navigation** pane, click **SAN**.
- Step 2** In the **SAN** tab, expand **SAN > Pools**.
- Step 3** Expand the node for the organization where you want to create the pool.  
If the system does not include multitenancy, expand the **root** node.
- Step 4** Right-click **WWNN Pools** and select **Create WWNN Pool**.
- Step 5** In the **Define Name and Description** dialog box of the **Create WWNN Pool** wizard, complete the following fields:

Name	Description
Name field	<p>The name of the World Wide Node Name pool.</p> <p>This name can be between 1 and 32 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and you cannot change this name after the object is saved.</p>
Description field	<p>A description of the pool.</p> <p>Enter up to 256 characters. You can use any characters or spaces except ` (accent mark), \ (backslash), ^ (carat), " (double quote), = (equal sign), &gt; (greater than), &lt; (less than), or ' (single quote).</p>
Assignment Order field	<p>This can be one of the following:</p> <ul style="list-style-type: none"> <li>• <b>Default</b>—Cisco UCS Manager selects a random identity from the pool.</li> <li>• <b>Sequential</b>—Cisco UCS Manager selects the lowest available identity from the pool.</li> </ul>

**Step 6** Click **Next**.

**Step 7** In the **Add WWN Blocks** page of the **Create WWNN Pool** wizard, click **Add**.

**Step 8** In the **Create WWN Block** dialog box, complete the following fields:

Name	Description
From field	The first WWN in the block.
Size field	<p>The number of WWNs in the block.</p> <p>For WWxN pools, the pool size must be a multiple of <i>ports-per-node</i> + 1. For example, if there are 7 ports per node, the pool size must be a multiple of 8. If there are 63 ports per node, the pool size must be a multiple of 64.</p>

**Step 9** Click **OK**.

**Step 10** Click **Finish**.

### What to Do Next

Include the WWNN pool in a service profile and template.

## Adding a WWN Block to a WWNN Pool



**Important** A WWN pool can include only WWNNs or WWPNS in the ranges from 20:00:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF:FF. All other WWN ranges are reserved. To ensure the uniqueness of the Cisco UCS WWNNs and WWPNS in the SAN fabric, Cisco recommends using the following WWN prefix for all blocks in a pool:  
20:00:00:25:B5:XX:XX:XX

### Procedure

- Step 1** In the **Navigation** pane, click **SAN**.
- Step 2** In the **SAN** tab, expand **SAN > Pools > Organization\_Name**.
- Step 3** Expand the **WWNN Pools** node.
- Step 4** Right-click the WWNN pool to which you want to add a WWN block and select **Create WWN Block**.
- Step 5** In the **Create WWN Block** dialog box, complete the following fields:

Name	Description
<b>From</b> field	The first WWN in the block.
<b>Size</b> field	The number of WWNs in the block.  For WWxN pools, the pool size must be a multiple of <i>ports-per-node</i> + 1. For example, if there are 7 ports per node, the pool size must be a multiple of 8. If there are 63 ports per node, the pool size must be a multiple of 64.

- Step 6** Click **OK**.

## Deleting a WWN Block from a WWNN Pool

If you delete an address block from a pool, Cisco UCS Manager does not reallocate any addresses in that block that were assigned to vNICs or vHBAs. All assigned addresses from a deleted block remain with the vNIC or vHBA to which they are assigned until one of the following occurs:

- The associated service profiles are deleted.
- The vNIC or vHBA to which the address is assigned is deleted.
- The vNIC or vHBA is assigned to a different pool.

### Procedure

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- Step 1** In the **Navigation** pane, click **SAN**.
  - Step 2** In the **SAN** tab, expand **SAN > Pools > Organization\_Name > WWNN Pools > WWNN\_Pool\_Name**.
  - Step 3** Right-click the WWN block that you want to delete and select **Delete**.
  - Step 4** If a confirmation dialog box displays, click **Yes**.
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## Adding a WWNN Initiator to a WWNN Pool



### Important

A WWN pool can include only WWNNs or WWPNS in the ranges from 20:00:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF:FF:FF. All other WWN ranges are reserved. To ensure the uniqueness of the Cisco UCS WWNNs and WWPNS in the SAN fabric, Cisco recommends using the following WWN prefix for all blocks in a pool:  
20:00:00:25:B5:XX:XX:XX

### Procedure

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- Step 1** In the **Navigation** pane, click **SAN**.
  - Step 2** In the **SAN** tab, expand **SAN > Pools > Organization\_Name**.
  - Step 3** Expand the **WWNN Pools** node.
  - Step 4** Right-click the WWNN pool to which you want to add a WWNN initiator and select **Create WWNN Initiator**.
  - Step 5** In the **Create WWNN Initiator** dialog box, complete the following fields:

Name	Description
<b>World Wide Name</b> field	The WWN.
<b>Name</b> field	The name of the WWNN initiator.  This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and you cannot change this name after the object is saved.
<b>Description</b> field	A user-defined description of the WWNN initiator.  Enter up to 256 characters. You can use any characters or spaces except ` (accent mark), \ (backslash), ^ (carat), " (double quote), = (equal sign), > (greater than), < (less than), or ' (single quote).

- Step 6** Click **OK**.
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## Deleting a WWNN Initiator from a WWNN Pool

### Procedure

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- Step 1** In the **Navigation** pane, click **SAN**.
- Step 2** In the **SAN** tab, expand **SAN > Pools > *Organization\_Name***.
- Step 3** Expand the **WWPN Pools** node.
- Step 4** Choose the WWNN pool from which you want to delete a WWNN initiator.
- Step 5** In the **Work** pane, click the **Initiators** tab.
- Step 6** Right-click the initiator that you want to delete and choose **Delete**.
- Step 7** If a confirmation dialog box displays, click **Yes**.
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## Deleting a WWNN Pool

If you delete a pool, Cisco UCS Manager does not reallocate any addresses from that pool that were assigned to vNICs or vHBAs. All assigned addresses from a deleted pool remain with the vNIC or vHBA to which they are assigned until one of the following occurs:

- The associated service profiles are deleted.
- The vNIC or vHBA to which the address is assigned is deleted.
- The vNIC or vHBA is assigned to a different pool.

### Procedure

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- Step 1** In the **Navigation** pane, click **SAN**.
- Step 2** In the **SAN** tab, expand **SAN > Pools > *Organization\_Name***.
- Step 3** Expand the **WWNN Pools** node.
- Step 4** Right-click the WWNN pool you want to delete and select **Delete**.
- Step 5** If a confirmation dialog box displays, click **Yes**.
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# Configuring WWPN Pools

## Creating a WWPN Pool



### Important

A WWN pool can include only WWNNs or WWPNs in the ranges from 20:00:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF:FF. All other WWN ranges are reserved. To ensure the uniqueness of the Cisco UCS WWNNs and WWPNs in the SAN fabric, Cisco recommends using the following WWN prefix for all blocks in a pool:  
20:00:00:25:B5:XX:XX:XX

A WWNN pool with the last four digits ending in 00:01 causes the vHBA to not initialize, no output from the lunlist command, and displays the Waiting for Flogi error. This error occurs if the WWPN is in the same block as the WWNN ending in 00:01. To ensure that the WWNN and WWPN addresses do not overlap, we recommend using a unique WWN address.

### Procedure

- Step 1** In the **Navigation** pane, click **SAN**.
- Step 2** In the **SAN** tab, expand **SAN > Pools**.
- Step 3** Expand the node for the organization where you want to create the pool.  
If the system does not include multitenancy, expand the **root** node.
- Step 4** Right-click **WWPN Pools** and select **Create WWPN Pool**.
- Step 5** In the **Define Name and Description** page of the **Create WWPN Pool** wizard, complete the following fields:

Name	Description
<b>Name</b> field	The name of the World Wide Port Name pool.  This name can be between 1 and 32 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and you cannot change this name after the object is saved.
<b>Description</b> field	A description of the pool.  Enter up to 256 characters. You can use any characters or spaces except ` (accent mark), \ (backslash), ^ (carat), " (double quote), = (equal sign), > (greater than), < (less than), or ' (single quote).
<b>Assignment Order</b> field	This can be one of the following: <ul style="list-style-type: none"> <li>• <b>Default</b>—Cisco UCS Manager selects a random identity from the pool.</li> <li>• <b>Sequential</b>—Cisco UCS Manager selects the lowest available identity from the pool.</li> </ul>

**Step 6** Click **Next**.

**Step 7** In the **Add WWN Blocks** page of the **Create WWPN Pool** wizard, click **Add**.

**Step 8** In the **Create WWN Block** dialog box, complete the following fields:

Name	Description
From field	The first WWN in the block.
Size field	The number of WWNs in the block.  For WWxN pools, the pool size must be a multiple of <i>ports-per-node</i> + 1. For example, if there are 7 ports per node, the pool size must be a multiple of 8. If there are 63 ports per node, the pool size must be a multiple of 64.

**Step 9** Click **OK**.

**Step 10** Click **Finish**.

### What to Do Next

Include the WWPN pool in a vHBA template.

## Adding a WWN Block to a WWPN Pool



### Important

A WWN pool can include only WWNNs or WWPNs in the ranges from 20:00:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF:FF:FF. All other WWN ranges are reserved. To ensure the uniqueness of the Cisco UCS WWNNs and WWPNs in the SAN fabric, Cisco recommends using the following WWN prefix for all blocks in a pool:  
20:00:00:25:B5:XX:XX:XX

### Procedure

**Step 1** In the **Navigation** pane, click **SAN**.

**Step 2** In the **SAN** tab, expand **SAN > Pools > Organization\_Name**.

**Step 3** Expand the **WWPN Pools** node.

**Step 4** Right-click the WWPN pool to which you want to add a WWN block and select **Create WWN Block**.

**Step 5** In the **Create WWN Block** dialog box, complete the following fields:

Name	Description
From field	The first WWN in the block.

Name	Description
Size field	<p>The number of WWNs in the block.</p> <p>For WWxN pools, the pool size must be a multiple of <i>ports-per-node</i> + 1. For example, if there are 7 ports per node, the pool size must be a multiple of 8. If there are 63 ports per node, the pool size must be a multiple of 64.</p>

**Step 6** Click **OK**.

## Deleting a WWN Block from a WWPN Pool

If you delete an address block from a pool, Cisco UCS Manager does not reallocate any addresses in that block that were assigned to vNICs or vHBAs. All assigned addresses from a deleted block remain with the vNIC or vHBA to which they are assigned until one of the following occurs:

- The associated service profiles are deleted.
- The vNIC or vHBA to which the address is assigned is deleted.
- The vNIC or vHBA is assigned to a different pool.

### Procedure

- Step 1** In the **Navigation** pane, click **SAN**.
- Step 2** In the **SAN** tab, expand **SAN > Pools > *Organization\_Name* > WWPN Pools > *WWPN\_Pool\_Name***.
- Step 3** Right-click the WWN block that you want to delete and select **Delete**.
- Step 4** If a confirmation dialog box displays, click **Yes**.

## Adding a WWPN Initiator to a WWPN Pool



### Important

A WWN pool can include only WWNNs or WWPNS in the ranges from 20:00:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF:FF. All other WWN ranges are reserved. To ensure the uniqueness of the Cisco UCS WWNNs and WWPNS in the SAN fabric, Cisco recommends using the following WWN prefix for all blocks in a pool:  
20:00:00:25:B5:XX:XX:XX

## Procedure

- Step 1** In the **Navigation** pane, click **SAN**.
- Step 2** In the **SAN** tab, expand **SAN > Pools > Organization\_Name**.
- Step 3** Expand the **WWPN Pools** node.
- Step 4** Right-click the WWPN pool to which you want to add a WWPN initiator and select **Create WWPN Initiator**.
- Step 5** In the **Create WWPN Initiator** dialog box, complete the following fields:

Name	Description
<b>World Wide Name</b> field	The WWN.
<b>Name</b> field	The name of the WWPN initiator.  This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and you cannot change this name after the object is saved.
<b>Description</b> field	A user-defined description of the WWPN initiator.  Enter up to 256 characters. You can use any characters or spaces except ` (accent mark), \ (backslash), ^ (carat), " (double quote), = (equal sign), > (greater than), < (less than), or ' (single quote).

- Step 6** If you want to add a SAN boot target, expand the **Boot Target** area and complete the following fields:

Name	Description
<b>Boot Target WWPN</b> field	The WWPN that corresponds to the location of the boot image.
<b>Boot Target LUN</b> field	The LUN that corresponds to the location of the boot image.

- Step 7** Click **OK**.

## Deleting a WWPN Initiator from a WWPN Pool

### Procedure

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- Step 1** In the **Navigation** pane, click **SAN**.
  - Step 2** In the **SAN** tab, expand **SAN > Pools > Organization\_Name**.
  - Step 3** Expand the **WWPN Pools** node.
  - Step 4** Choose the WWPN pool from which you want to delete a WWPN initiator.
  - Step 5** In the **Work** pane, click the **Initiators** tab.
  - Step 6** Right-click the initiator that you want to delete and choose **Delete**.
  - Step 7** If a confirmation dialog box displays, click **Yes**.
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## Deleting a WWPN Pool

If you delete a pool, Cisco UCS Manager does not reallocate any addresses from that pool that were assigned to vNICs or vHBAs. All assigned addresses from a deleted pool remain with the vNIC or vHBA to which they are assigned until one of the following occurs:

- The associated service profiles are deleted.
- The vNIC or vHBA to which the address is assigned is deleted.
- The vNIC or vHBA is assigned to a different pool.

### Procedure

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- Step 1** In the **Navigation** pane, click **SAN**.
  - Step 2** In the **SAN** tab, expand **SAN > Pools > Organization\_Name**.
  - Step 3** Expand the **WWPN Pools** node.
  - Step 4** Right-click the WWPN pool you want to delete and select **Delete**.
  - Step 5** If a confirmation dialog box displays, click **Yes**.
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# Configuring WWxN Pools

## Creating a WWxN Pool



### Important

A WWN pool can include only WWNNs or WWPNS in the ranges from 20:00:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF:FF:FF. All other WWN ranges are reserved. To ensure the uniqueness of the Cisco UCS WWNNs and WWPNS in the SAN fabric, Cisco recommends using the following WWN prefix for all blocks in a pool:  
20:00:00:25:B5:XX:XX:XX

### Procedure

- Step 1** In the **Navigation** pane, click **SAN**.
- Step 2** In the **SAN** tab, expand **SAN > Pools**.
- Step 3** Expand the node for the organization where you want to create the pool. If the system does not include multitenancy, expand the **root** node.
- Step 4** Right-click **WWxN Pools** and select **Create WWxN Pool**.
- Step 5** In the **Define Name and Description** page of the **Create WWxN Pool** wizard, complete the following fields:

Name	Description
<b>Name field</b>	The name of the World Wide Port Name pool.  This name can be between 1 and 32 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and you cannot change this name after the object is saved.
<b>Description field</b>	A description of the pool.  Enter up to 256 characters. You can use any characters or spaces except ` (accent mark), \ (backslash), ^ (carat), " (double quote), = (equal sign), > (greater than), < (less than), or ' (single quote).
<b>Max Ports per Node field</b>	The maximum number of ports that can be assigned to each node name in this pool.  You cannot change this value once the object has been saved.
<b>Assignment Order field</b>	This can be one of the following: <ul style="list-style-type: none"> <li>• <b>Default</b>—Cisco UCS Manager selects a random identity from the pool.</li> <li>• <b>Sequential</b>—Cisco UCS Manager selects the lowest available identity from the pool.</li> </ul>

**Step 6** Click **Next**.

**Step 7** In the **Add WWN Blocks** page of the **Create WWxN Pool** wizard, click **Add**.

**Step 8** In the **Create WWN Block** dialog box, complete the following fields:

Name	Description
From field	The first WWN in the block.
Size field	The number of WWNs in the block.  For WWxN pools, the pool size must be a multiple of <i>ports-per-node</i> + 1. For example, if there are 7 ports per node, the pool size must be a multiple of 8. If there are 63 ports per node, the pool size must be a multiple of 64.

**Step 9** Click **OK**.

**Step 10** Click **Finish**.

### What to Do Next

Include the WWxN pool in a service profile and template.

## Adding a WWN Block to a WWxN Pool



### Important

A WWN pool can include only WWNNs or WWPNS in the ranges from 20:00:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF:FF. All other WWN ranges are reserved. To ensure the uniqueness of the Cisco UCS WWNNs and WWPNS in the SAN fabric, Cisco recommends using the following WWN prefix for all blocks in a pool:  
20:00:00:25:B5:XX:XX:XX

### Procedure

**Step 1** In the **Navigation** pane, click **SAN**.

**Step 2** In the **SAN** tab, expand **SAN > Pools > Organization\_Name**.

**Step 3** Expand the **WWxN Pools** node.

**Step 4** Right-click the WWxN pool to which you want to add a WWN block and select **Create WWN Block**.

**Step 5** In the **Create WWN Block** dialog box, complete the following fields:

Name	Description
From field	The first WWN in the block.

Name	Description
Size field	<p>The number of WWNs in the block.</p> <p>For WWxN pools, the pool size must be a multiple of <i>ports-per-node</i> + 1. For example, if there are 7 ports per node, the pool size must be a multiple of 8. If there are 63 ports per node, the pool size must be a multiple of 64.</p>

**Step 6** Click **OK**.

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## Deleting a WWN Block from a WWxN Pool

If you delete an address block from a pool, Cisco UCS Manager does not reallocate any addresses in that block that were assigned to vNICs or vHBAs. All assigned addresses from a deleted block remain with the vNIC or vHBA to which they are assigned until one of the following occurs:

- The associated service profiles are deleted.
- The vNIC or vHBA to which the address is assigned is deleted.
- The vNIC or vHBA is assigned to a different pool.

### Procedure

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- Step 1** In the **Navigation** pane, click **SAN**.
- Step 2** In the **SAN** tab, expand **SAN > Pools > Organization\_Name > WWxN Pools > WWxN\_Pool\_Name**.
- Step 3** Right-click the WWN block that you want to delete and select **Delete**.
- Step 4** If a confirmation dialog box displays, click **Yes**.
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## Deleting a WWxN Pool

If you delete a pool, Cisco UCS Manager does not reallocate any addresses from that pool that were assigned to vNICs or vHBAs. All assigned addresses from a deleted pool remain with the vNIC or vHBA to which they are assigned until one of the following occurs:

- The associated service profiles are deleted.
- The vNIC or vHBA to which the address is assigned is deleted.
- The vNIC or vHBA is assigned to a different pool.

## Procedure

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- Step 1** In the **Navigation** pane, click **SAN**.
  - Step 2** In the **SAN** tab, expand **SAN > Pools > *Organization\_Name*** .
  - Step 3** Expand the **WWxN Pools** node.
  - Step 4** Right-click the WWxN pool you want to delete and select **Delete**.
  - Step 5** If a confirmation dialog box displays, click **Yes**.
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