# Monitoring and Reporting for SVM Accounts

This chapter contains the following sections:

## About Monitoring and Reporting for SVM Accounts

Cisco UCS Director displays all managed components in each NetApp SVM account.

### Components You Can Monitor

You can monitor each component and perform tasks such as creating, deleting, and modifying these components. The following components are monitored in a NetApp SVM account:

- Volumes

- Volume LIF Association

- LUNs

- QTrees

- Quotas

- Initiator Groups

- Initiators

- CIFS Shares

- DNS

- IP Hostname

- Export Rules

- Export Policies

- Portsets

- WWPN Aliases

# Managing Volumes

A volume is a logical file system whose structure is made visible to users when you export the volume to a UNIX host through an NFS mount or to a Windows host through a CIFS share. A volume is the most inclusive of the logical containers. It can store files and directories, qtrees, and LUNs.

**Step 1** On the menu bar, choose **Physical** > **Storage**.

**Step 2** In the left pane, choose the pod that includes the NetApp SVM account and select the account.

**Step 3** Click the **Volumes** tab.
The volumes available in the SVM account are displayed. The **Volumes** tab provides the following actions:

| Action | Description |
|---|---|
| **Refresh** | Refreshes the current page. |
| **Favorite** | Adds this page to the **Favorites** tab which displays the page that you go to most often. |
| **Create** | Creates a volume in the NetApp SVM account. |

| Action | Description |
|---|---|
| **Create Multi-Snapshot** | Creates a multi-snapshot for the volume. |
| | To create a multi-snapshot, do the following in the **Create Multi-Volume Snapshot** dialog box: |
| | 1 In the **Volume Names** field, click **Select** and check the check boxes for the volumes that you want to select. |
| | 2 In the **Snapshot Name** field, enter a name for the snapshot. |
| | 3 Click **Submit**. |

When you choose a volume, the following additional actions appear:

| Action | Description |
|---|---|
| **Modify** | Updates an existing volume. |
| **Delete** | Deletes a volume. |
| **Online** | Moves a volume to an online state. |
| **Offline** | Moves a volume to an offline state. |
| **Resize** | Resizes the volume. |
| | To resize the volume, complete the following fields: |
| | 1 **Volume Name** field—*Display Only*. The name of the volume. |
| | 2 **Current Volume Size**—*Display Only*. The current size of the volume in GB. |
| | 3 **New Size** field—The required size of the volume. |
| | 4 **Size Units** drop-down list—Choose the size of the volume as **MB**, **GB**, or **TB**. |
| **Clone Volume** | Clones the volume. |
| | In the **Clone Cluster Volume** dialog box, enter the volume name and choose the parent snapshot. |
| **Move** | Moves the volume to the selected aggregate. |
| **Mount** | Mounts the volume on the specified junction path. The junction path should start with / and should not end with /. |

| Action | Description |
|---|---|
| **Unmount** | Unmounts the volume. |
| **Enable Dedupe** | Enables data deduplication on the volume to remove duplicate entries. |

# Creating a Volume within SVM

**Step 1**     Navigate to the **Volumes** tab.
For more information about how to navigate to the **Volumes** tab, see the "Managing Volumes" topic.

**Step 2**     Click **Create**.

**Step 3**     In the **Create Volume** dialog box, complete the following fields:

| Name | Description |
|---|---|
| **Volume Type** drop-down list | Choose the type of volume. |
| **Volume Name** field | The name of the volume. |
| **Volume Size** field | The size of the volume to be created. |
| **Aggregate Name** drop-down list | Choose an aggregate from the list. |
| **Volume State** drop-down list | Choose the state of the volume. |
| **Volume Size Units** drop-down list | Choose the size of the volume as **MB**, **GB**, or **TB**. |
| **Space Guarantee** drop-down list | Choose the guaranteed space from the list. |
| **Security Style** drop-down list | Choose the security style. |
| **Snapshot Size** field | The snapshot size as a percentage to be used by the volume. |
| **Export Policy** drop-down list | Choose the export policy. |
| **Snapshot Policy** field | Click **Select** and choose a snapshot policy for the volume. |

**Step 4**     Click **Submit**.

# Managing Volume LIF Association

**Step 1**     On the menu bar, choose **Physical** > **Storage**.

**Step 2**     In the left pane, choose the pod that includes the NetApp SVM account and select the SVM account.

**Step 3**     Click the **Volume LIF Association** tab.
The LIFs that are associated with volumes available in the SVM account are displayed. The **Volume LIF Association** tab provides the following actions:

| Action | Description |
|--------|-------------|
| **Refresh** | Refreshes the current page. |
| **Favorite** | Adds this page to the **Favorites** tab which displays the page that you go to most often. |

# Managing LUNs

A logical unit number (LUN) is used to identify a logical unit, which is a device that is addressed by the SCSI protocol or similar protocols such as Fibre Channel or iSCSI. LUNs are central to the management of block storage arrays shared over a storage area network (SAN).

**Step 1**     On the menu bar, choose **Physical** > **Storage**.

**Step 2**     In the left pane, choose the pod that includes the NetApp SVM account and select the SVM account.

**Step 3**     Click the **LUNs** tab.
The LUNs available in the SVM are displayed. The **LUNs** tab provides the following actions:

| Action | Description |
|--------|-------------|
| **Refresh** | Refreshes the current page. |
| **Favorite** | Adds this page to the **Favorites** tab which displays the page that you go to most often. |
| **Create** | Creates an LUN in the SVM account. |

When you choose a LUN, the following additional actions appear:

| Action | Description |
|---|---|
| **Delete** | Deletes a LUN. Check the **Force** check box in the **Destroy LUN** dialog box to allow a force deletion of the LUN. |
| **Resize** | Resizes the LUN within the volume.<br><br>To resize the LUN, complete the following fields:<br><br>1   **LUN Size** field—The required size of the LUN.<br>2   **Size Units** drop-down list—Choose the size of the LUN as **MB**, **GB**, or **TB**. |
| **Clone** | Clones a source LUN to a destination LUN within the same volume. Starts the LUN clone operation asynchronously.<br><br>To clone the LUN, complete the following fields:<br><br>1   **LUN Name** field—*Display Only*. The name of the LUN.<br>2   **Snapshot Clone** checkbox—Check this check box to clone the LUN from the snapshot.<br>3   **New LUN Name** field—The new LUN name. |
| **Offline/Online** | Moves LUN to the online or offline state. |
| **Map iGroup** | Maps the LUN to one of the existing initiator groups. Choose the initiator group (iGroup) from the **Initiator Group** drop-down list. Check the **Specify LUN ID** check box to specify the LUN ID; otherwise, the system generates a LUN ID automatically. |
| **Unmap iGroup** | Unmaps the iGroup for the selected LUN after confirmation. |
| **Toggle Space Reservation** | Enables or disables space reservation settings for the selected LUN. |
| **View Details** | Displays a summary of the LUN. |

# Creating a LUN

**Step 1**     Navigate to the **LUNs** tab.

For more information about how to navigate to the LUNs tab, see Managing LUNs, on page 5.

**Step 2** Click **Create**.

**Step 3** In the **Create LUN** dialog box, complete the following fields:

| Name | Description |
|---|---|
| **Select Volume** drop-down list | Choose the volume to which the LUN belongs. |
| **LUN Name** field | The name of the LUN. |
| **Size** field | The required size of the LUN to be created. |
| **Size Units** drop-down list | Choose the size of the volume as **MB**, **GB**, or **TB**. |
| **OS Type** drop-down list | Choose a type of an operating system from the list. |

**Step 4** Click **Submit**.

# Managing Qtrees

A qtree is similar in concept to a partition. It creates a subset of a volume to which a quota can be applied to limit its size. As a special case, a qtree can be the entire volume. A qtree is more flexible than a partition because you can change the size of a qtree at any time.

**Step 1** On the menu bar, choose **Physical** > **Storage**.

**Step 2** In the left pane, choose the pod that includes the NetApp SVM account and select the SVM account.

**Step 3** Click the **QTrees** tab.
The qtree available in the SVM account are displayed. The **QTrees** tab provides the following actions:

| Action | Description |
|---|---|
| **Refresh** | Refreshes the current page. |
| **Favorite** | Adds this page to the **Favorites** tab which displays the page that you go to most often. |
| **Create** | Creates a qtree in the SVM account. |

When you choose a Qtree, the following additional actions appear:

| Action | Description |
|---|---|
| **Rename** | Renames the qtree. |

| Action | Description |
|---|---|
| **Modify** | Updates the oplocks and security style of the qtree. |
| **Delete** | Deletes a qtree after confirmation. |

# Creating a QTree

| | |
|---|---|
| **Step 1** | Navigate to the **QTrees** tab.<br>For more information about how to navigate to the **QTrees** tab, see the "Managing QTrees" topic. |
| **Step 2** | Click **Create QTree**. |
| **Step 3** | In the **Create QTree** dialog box, do the following:<br>a) In the **Volume Name** field, click **Select** and choose the volume in which you want to create the qtree.<br>b) In the **Qtree Name** field, enter the name of the qtree.<br>c) Click **Submit**. |

# Managing Quotas

A quota limits the amount of disk space and the number of files that a particular user or group can consume. A quota can also restrict the total space and files used in a qtree, or the usage of users and groups within a qtree.

| | |
|---|---|
| **Step 1** | On the menu bar, choose **Physical** > **Storage**. |
| **Step 2** | In the left pane, choose the pod that includes the NetApp C-Mode account and select the NetApp C-Mode account. |
| **Step 3** | Click the **SVMs** tab. |
| **Step 4** | Click the SVM for which you wish to view details and click **View Details** from the purple drop-down list on the right pane. |
| **Step 5** | Click the **Quotas** tab.<br>The quotas available in the SVM account are displayed. The **Quotas** tab provides the following actions: |

| Action | Description |
|---|---|
| **Refresh** | Refreshes the current page. |

| Action | Description |
|---|---|
| **Favorite** | Adds this page to the Favorites tab which displays the page that you go to most often. |
| **Create Quota** | Creates a quota for a qtree in the SVM account. |

When you choose a quota, the following additional actions appear:

| Action | Description |
|---|---|
| **Remove Quota** | Removes quota of the qtree after confirmation. |
| **Modify Quota** | Updates the quota of the qtree. |

# Creating a Quota

**Step 1**   Navigate to the **Quotas** tab.

For more information about how to navigate to the **Quotas** tab, see Managing Quotas.

**Step 2**   Click **Create Quota**.

**Step 3**   In the **Create Quota** dialog box, complete the following fields:

| Action | Description |
|---|---|
| **Qtree Name** field | Click **Select** and choose a qtree for which the quota needs to be created. |
| **Quota Type** drop-down list | Choose **Tree** from the drop-down list. |
| **Disk Space Hard Limit (GB)** field | The maximum disk space value in GB. |
| **Files Hard Limit** field | The maximum number of files in the quota. |
| **Threshold (GB)** field | The threshold limit for the disk space value in GB. |
| **Disk Space Soft Limit (GB)** field | The soft quota for the maximum number of files in GB. |
| **Files Soft Limit** field | The soft limit for the number of files in the quota. |

# Managing Initiator Groups

Initiator groups (igroups) specify which hosts can access specified LUNs on the storage system. Initiator groups are protocol-specific.

**Step 1**    On the menu bar, choose **Physical** > **Storage**.

**Step 2**    In the left pane, choose the pod that includes the NetApp SVM account and select the SVM account.

**Step 3**    Click the **Initiator Groups** tab.
The initiator groups available under the account are displayed. The **Initiator Groups** tab provides the following actions:

| Action | Description |
|---|---|
| **Refresh** | Refreshes the current page. |
| **Favorite** | Adds this page to the **Favorites** tab which displays the page that you go to most often. |
| **Create** | Creates an initiator group. |

When you choose an initiator group, the following additional actions appear:

| Action | Description |
|---|---|
| **Delete** | Deletes an initiator group. |
| **Rename** | Renames an initiator group. |
| **Bind Portset** | Chooses the port sets to bind with the iGroup. |
| **Unbind Portset** | Chooses the port sets to unbind from the iGroup. |

# Creating an Initiator Group

**Step 1**    Navigate to the **Initiator Groups** tab.

For more information about how to navigate to the **Initiator Groups** tab, see .

**Step 2**   Click **Create**.

**Step 3**   In the **Create Initiator Group** dialog box, complete the following fields:

| Name | Description |
|---|---|
| **Initiator Group Name** field | The name of the initiator group. |
| **Group Type** drop-down list | Choose **ISCSI** or **FCP** as the initiator group type. |
| **OS Type** drop-down list | Choose the type of the operating system from the list. |
| **Portset Name** field | Click **Select** and choose a port set from the table. |

**Step 4**   Click **Submit**.

# Managing Initiators

**Step 1**   On the menu bar, choose **Physical** > **Storage**.

**Step 2**   In the left pane, choose the pod that includes the NetApp SVM account and select the SVM account.

**Step 3**   Click the **Initiators** tab.
The initiators available under the account are displayed. The **Initiators** tab provides the following actions:

| Action | Description |
|---|---|
| **Refresh** | Refreshes the current page. |
| **Favorite** | Adds this page to the **Favorites** tab which displays the page that you go to most often. |
| **Create** | Adds an initiator to an initiator group. |

When you choose an initiator, the following additional actions appear:

| Action | Description |
|---|---|
| **Delete** | Removes an initiator. Check the **Force** check box to force delete the initiator. |
| | **Note**    You cannot delete an initiator if LUN maps exist for the initiator group. |

# Adding an Initiator

| | |
|---|---|
| **Step 1** | Navigate to the **Initiators** tab.<br>For more information about how to navigate to the **Initiators** tab, see Managing Initiators, on page 11. |
| **Step 2** | Click **Create**. |
| **Step 3** | In the **Create Initiator** dialog box, complete the following fields: |

| Name | Description |
|---|---|
| **Initiator Group Name** drop-down list | Choose the initiator group under which the initiator to be created. |
| **Initiator Name** field | The name of the initiator. |
| **WWPN alias** field | Click **Select** and check the check boxes of the WWPN alias for the initiator. |
| **Force** check box | Check this check box to forcibly add the initiator. |

| | |
|---|---|
| **Step 4** | Click **Submit**. |

# Managing CIFS Shares

The CIFS protocol is used with Microsoft operating systems for remote file operations (mapping network drives), browsing (through the network neighborhood icon), authentication (Windows NT and Windows 2000), and remote printer services. The core of native Microsoft networking is built around its CIFS services.

| | |
|---|---|
| **Step 1** | On the menu bar, choose **Physical** > **Storage**. |
| **Step 2** | In the left pane, choose the pod that includes the NetApp SVM account and select the SVM account. |
| **Step 3** | Click the **CIFS Shares** tab.<br>The CIFS shares available in the SVM are displayed. The **CIFS Shares** tab provides the following actions: |

| Action | Description |
|---|---|
| **Refresh** | Refreshes the current page. |
| **Favorite** | Adds this page to the **Favorites** tab which displays the page that you go to most often. |

| Action | Description |
|---|---|
| **Create** | Creates a CIFS share in the SVM account. |

When you choose a CIFS share, the following additional actions appear:

| Action | Description |
|---|---|
| **Delete** | Deletes a CIFS share. |
| **Modify** | Updates the volume path and comment of the CIFS share. |
| **Set Share Access** | Creates a CIFS share access.<br><br>To create CIFS share access, complete the following fields:<br><br>1 **Permission** drop-down list—Choose the level of access permission from the list.<br>2 **User or Group** field—The user or group name for which the permissions are listed.<br>3 **Comment** field—Comments, if any. |
| **Delete Share Access** | Deletes the CIFS share access. |
| **Modify Share Access** | Updates the permission to access the CIFS share. |

# Creating CIFS Shares

**Step 1** Navigate to the **CIFS Share** tab.
For more information about how to navigate to the **CIFS Share** tab, see .

**Step 2** Click **Create**.

**Step 3** In the **Create CIFS Share** dialog box, complete the following fields:

| Name | Description |
|---|---|
| **Volume Name** drop-down list | Choose the volume under which you want to create the CIFS share. |
| **Share Name** field | The name of the CIFS share. |
| **Comment** field | Comments, if any. |

| Name | Description |
|---|---|
| **Set Share Access** check box | Check the check box to provide access to the CIFS share. |

# Managing DNS

You can view the domain, configured name servers, and state of DNS in the SVM account.

**Step 1**    On the menu bar, choose **Physical** > **Storage**.

**Step 2**    In the left pane, choose the pod that includes the NetApp SVM account and select the SVM account.

**Step 3**    Click the **DNS** tab.
The DNS configured in the SVM account is displayed. The **DNS** tab provides the following actions:

| Action | Description |
|---|---|
| **Refresh** | Refreshes the current page. |
| **Favorite** | Adds this page to the **Favorites** tab which displays the page that you go to most often. |

# Managing IP Hostname

You can view the IP address and name of hosts in the SVM account.

**Step 1**    On the menu bar, choose **Physical** > **Storage**.

**Step 2**    In the left pane, choose the pod that includes the NetApp SVM account and select the SVM account.

**Step 3**    Click the **IP Hostname** tab.
The SVM name, IP address, and hostname in the SVM account are displayed. The **IP Hostname** tab provides the following actions:

| Action | Description |
|---|---|
| **Refresh** | Refreshes the current page. |
| **Favorite** | Adds this page to the **Favorites** tab which displays the page that you go to most often. |

# Managing Export Policies

An export policy includes export rules to control client access to volumes. An export policy must exist on a SVM for clients to access data. You associate an export policy with each volume to configure client access to the volume.

A single SVM can contain multiple export policies. This enables you to do the following for SVMs with multiple volumes:

- Assign different export policies to each volume of the SVM for individual client access control to each volume.

- Assign the same export policy to multiple volumes of the SVM for identical client access control without having to create a new export policy for each volume.

**Step 1** On the menu bar, choose **Physical** > **Storage**.

**Step 2** In the left pane, choose the pod that includes the NetApp SVM account and select the SVM account.

**Step 3** Click the **Export Policies** tab.
The export policies available under the account are displayed. The **Export Policies** tab provides the following actions:

| Action | Description |
|--------|-------------|
| Refresh | Refreshes the current page. |
| Favorite | Adds this page to the **Favorites** tab which displays the page that you go to most often. |
| Create | Creates an export policy.<br>In the **Create Export Policy** dialog box, enter the policy name and click **Submit**. |

When you choose an export policy, the following additional actions appear:

| Action | Description |
|--------|-------------|
| Delete | Deletes an export policy after confirmation. |
| Modify | Updates an export policy. |

# Managing Export Rules

You can configure export rules to determine how to handle the client access requests to volumes.

At least one export rule need to be added to an export policy to allow access to clients. If an export policy contains more than one rule, the rules are processed based on rule index. The permissions defined in a rule are applied to the clients that match the client match criteria specified in the export rule.

**Step 1**  On the menu bar, choose **Physical** > **Storage**.

**Step 2**  In the left pane, choose the pod that includes the NetApp SVM account and select the SVM account.

**Step 3**  Click the **Export Rules** tab.
The export rules available under the account are displayed. The **Export Rules** tab provides the following actions:

| Action | Description |
| --- | --- |
| **Refresh** | Refreshes the current page. |
| **Favorite** | Adds this page to the **Favorites** tab which displays the page that you go to most often. |
| **Create** | Creates an export rule. |

When you choose an export rule, the following additional actions appear:

| Action | Description |
| --- | --- |
| **Modify** | Updates an export rule. |
| **Delete** | Deletes an export rule after confirmation. |

# Creating an Export Rule

**Step 1**  Navigate to the **Export Rules** tab.
For more information about how to navigate to the **Export Rules** tab, see Managing Export Rules, on page 16.

**Step 2**  Click **Create**.

**Step 3**  In the **Create Export Rule** dialog box, complete the following fields:

| Name | Description |
|------|-------------|
| **Policy Name** drop-down list | Choose an export policy to which you want to add the new export rule. The export policy must already exist. |
| **Access Protocol** drop-down list | Choose an access protocol to which you want to apply the export rule. The possible values of the access protocol include the following:<br><br>• **any**—Any current or future access protocol<br><br>• **nfs**—Any current or future version of NFS<br><br>• **nfs3**—The NFSv3 protocol<br><br>• **nfs4**—The NFSv4 protocol<br><br>• **cifs**—The CIFS protocol<br><br>• **flexcache**—The FlexCache protocol |
| **Client Match Spec** field | The client or clients to which the export rule applies.<br><br>You can specify the match in any of the following formats:<br><br>• As a hostname; for instance, host1<br><br>• As an IPv4 address; for instance, 10.1.12.24<br><br>• As an IPv4 address with a subnet mask expressed as a number of bits; for instance, 10.1.12.10/4<br><br>• As an IPv4 address with a network mask; for instance, 10.1.16.0/255.255.255.0<br><br>• As a netgroup, with the netgroup name preceded by the @ character; for instance, @eng<br><br>• As a domain name preceded by the . character; for instance, .example.com |

| Name | Description |
|---|---|
| **Read Only Access Rule** drop-down list | Choose one of the following option to define the security type for read-only access to volumes:<br><br>• **any**—To allow read access to the volume regardless of the security type of the incoming request. The effective security type of the incoming request remains the same.<br>   **Note**   If the security type of the incoming request is AUTH_NONE, read access will be granted to the incoming request as an anonymous user.<br>• **none**—To allow read access to the volume as an anonymous user if the security type of the incoming request is not explicitly listed in the list of values in the read-only rule. The effective security type of the incoming request becomes none.<br>• **never**—To not allow any access to the volume regardless of the security type of the incoming request.<br>• **krb5**—To allow read access to the volume if the security type of the incoming request is Kerberos 5. The effective security type of the incoming request becomes krb5.<br>• **ntlm**—To allow read access to the volume if the security type of the incoming request is CIFS NTLM. The effective security type of the incoming request becomes ntlm.<br>• **sys**—To allow read access to the volume if the security type of the incoming request is AUTH_SYS. The effective security type of the incoming request becomes sys. |

| Name | Description |
|------|-------------|
| **Read Write Access Rule** drop-down list | Choose one of the following option to define the security type for read-write access to volumes: <br><br> • **any**—To allow write access to the volume regardless of the effective security type of the incoming request. <br><br> • **none**—To allow write access to the volume as an anonymous user if the effective security type of the incoming request is none. <br><br> **Note**    If the effective security type of the incoming request is none, write access will be granted to the incoming request as an anonymous user. <br><br> • **never**—To not allow write access to the volume regardless of the effective security type of the incoming request. <br><br> • **krb5**—To allow write access to the volume if the effective security type of the incoming request is Kerberos 5. <br><br> • **ntlm**—To allow write access to the volume if the effective security type of the incoming request is CIFS NTLM. <br><br> • **sys**—To allow write access to the volume if the effective security type of the incoming request is AUTH_SYS. |
| **Rule Index** field | The index number of the export rule that specifies order of the rule in the export policy. |

**Step 4**     Click **Submit**.

# Managing Snapshot Policies

**Step 1**     On the menu bar, choose **Physical** > **Storage**.

**Step 2**     In the left pane, choose the pod that includes the NetApp SVM account and select the SVM account.

**Step 3**     Click the **Snapshot Policies** tab.
The snapshot policies available under the account are displayed. The **Snapshot Policies** tab provides the following actions:

| Action | Description |
|---|---|
| **Refresh** | Refreshes the current page. |
| **Favorite** | Adds this page to the **Favorites** tab which displays the page that you go to most often. |
| **Create** | Creates a new snapshot policy. |

When you choose a snapshot policy, the following additional actions appear:

| Action | Description |
|---|---|
| **Enable/Disable** | Enables or disables the snapshot policy. |
| **Delete** | Deletes the snapshot policy. |
| **View Details** | Displays the schedule of the snapshot policy. Also, provides the options to create a new schedule, update a schedule, and delete the schedule. |

# Creating a Snapshot Policy

**Step 1** Navigate to the **Snapshot Policies** tab.
For more information about how to navigate to the **Snapshot Policies** tab, see .

**Step 2** Click **Create**.

**Step 3** In the **Create Snapshot Policy** dialog box, complete the following fields:

| Action | Description |
|---|---|
| **Snapshot Policy Name** field | The name of the snapshot policy. |
| **Schedule** drop-down list | Choose the cron job or schedule interval to be added to the policy. |
| **Count** field | The number of snapshots to be retained for the schedule. |
| **Snapmirror label** field | The label of the SnapMirror. |

| Action | Description |
|--------|-------------|
| **Prefix** field | The prefix text to be included in the created snapshot names. |
| **Is Enabled** check box | Check this check box to enable the policy. |

**Step 4**    Click **Submit**.

# Managing Port Sets

A port set consists of a group of Fibre Channel (FC) target ports. You bind a port set to an igroup, to make the LUN available only on a subset of the storage system's target ports. Any host in the igroup can access the LUNs only by connecting to the target ports in the port set.

If an igroup is not bound to a port set, the LUNs mapped to the igroup are available on all of the storage system FC target ports. The igroup controls which initiators LUNs are exported to. The port set limits the target ports on which those initiators have access.

**Step 1**    On the menu bar, choose **Physical** > **Storage**.

**Step 2**    In the left pane, choose the pod that includes the NetApp SVM account and select the SVM account.

**Step 3**    Click the **Portsets** tab.
The port sets available under the account are displayed. The **Portsets** tab provides the following actions:

| Action | Description |
|--------|-------------|
| **Refresh** | Refreshes the current page. |
| **Favorite** | Adds this page to the **Favorites** tab which displays the page that you go to most often. |
| **Create** | Creates a port set. <br><br> In the **Create Portset** dialog box, do the following: <br><br> 1  In the **Portset Name** field, enter the port set name. <br><br> 2  In the **Portset Type** drop-down list, choose **ISCSI**, **FCP**, or **MIXED** as the port set type. <br><br> 3  Click **Submit**. |

When you choose a port set, the following additional actions appear:

| Action | Description |
|---|---|
| **Destroy** | Deletes a port set after confirmation. |
| **Add Port** | Adds a port to a port set. In the **Add Port To Portset** dialog box, click **Select** and choose LIF to which the port needs to be assigned. |
| **Remove Port** | Removes a port from a port set. In the **Remove Port From Portset** dialog box, choose a port that needs to be removed from the port set. |

# Managing WWPN Aliases

A World Wide Port Names (WWPN) is a unique, 64-bit identifier displayed as a 16-character hexadecimal value in Data ONTAP. However, SAN Administrators may find it easier to identify FC ports using an alias instead, especially in larger SANs. You can create multiple aliases for a WWPN, but you cannot use the same alias for multiple WWPNs.

**Step 1**   On the menu bar, choose **Physical** > **Storage**.

**Step 2**   In the left pane, choose the pod that includes the NetApp SVM account and select the SVM account.

**Step 3**   Click the **WWPN Aliases** tab.
The WWPN aliases available under the account are displayed. The **WWPN Aliases** tab provides the following actions:

| Action | Description |
|---|---|
| **Refresh** | Refreshes the current page. |
| **Favorite** | Adds this page to the **Favorites** tab which displays the page that you go to most often. |

| Action | Description |
|--------|-------------|
| **Create** | Creates a WWPN Alias. <br><br> In the **Create WWPN Alias** dialog box, do the following: <br><br> 1 In the **WWPN Alias** field, enter the WWPN alias name. The alias can consist of up to 32 characters and can contain only the letters A through Z, a through z, numbers 0 through 9, hyphen (-), underscore (_), left brace ({), right brace (}), and period (.). <br><br> 2 In the **WWPN** field, enter the FCP initiator WWPN name. For example, 00:00:00:00:00:00:00:00. <br><br> 3 Click **Submit**. |

When you choose a port set, the following additional actions appear:

| Action | Description |
|--------|-------------|
| **Modify** | Updates the WWPN of the alias. |
| **Delete** | Deletes the WWPN alias after confirmation. |