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About This Software

Sun StorEdge™ Configuration Service 2.1.1

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Help in Adobe Acrobat PDF Format

[Click to launch this help in Adobe Acrobat PDF format.](#)

Using This Help

Caution – Do not configure the Sun StorEdge 6000 Family arrays by using the array command-line interface `sscs(1M)` and this web browser user interface at the same time. Use the command-line interface `sscs(1M)` **or** web browser user interface.

This help describes the Sun StorEdge Configuration Service software for the Sun StorEdge 6000 Family of storage arrays and systems. Depending on your Sun StorEdge product, some differences might exist in the web-browser user interface. Where the interfaces differ is noted in the help.

- Accessible Help

This help includes the default Javascript-based version and a simple HTML Accessible version. The Javascript version launches when you click Help in the user interface and includes Content, Index, and Search links in the navigation pane.

To use the Accessible version, click the Accessible Help link in the Contents pane. The Accessible help launches in a separate browser window. This version includes navigation icons and a link to an index in each content pane.

- Print and Navigation Icons

The default help includes print and navigation icons on each content page (in addition to the Back, Forward, and Print buttons available from your web browser). You can print the Accessible help using your browser's Print button or dialog box.

Note – In the Javascript version of the help, click the folder icon to expand and show all subfolders. Click a top-level folder icon to read text associated with the folder and subfolders.

Getting Started

Note – The software has an activity timeout value of 30 minutes. If you log in to the software and do not perform an activity within 30 minutes, the software logs you out when you try to access a feature.

After you log in to the Sun StorEdge Configuration Service software, you can perform the following procedures:

Caution – Changing these values might disable access to the software.

1. Configure [passwords](#) (Sun StorEdge 6300) or [access](#) (Sun StorEdge 6100) for users.
2. Optionally [configure the network interfaces for the system](#).
3. Set the administrator [contact email address](#).
4. [Manage the arrays](#):
 - [Create storage pools](#) and add disk drives to each pool
 - [Configure the array cache settings](#)
5. [Create initiators](#) and optionally add initiators to a group.
6. [Create initiator groups](#) and add initiators to a group.
7. [Create a volume group](#).
8. [Create a volume](#), set the LUN size and number, and add it to a volume group by using the Create New Volume wizard.

Search for Components

The user interface enables you to search for storage components such as:

- Arrays
- Trays
- Pools
- Volumes
- Volume Groups
- Initiators
- Initiator Groups

1. Click Search in the right corner of the interface.

The Search page is displayed.

2. Select the Item Type to search on.

3. Select the search criteria from the submenu, depending on the component:

- Name
- Description
- World Wide Name

4. Type a search text string, if known

5. Click Search.

The Search Results page displays any information found in a summary table. The table might include links to view device details.

Administering Your System

The Administration page enables you to configure various settings for the Sun StorEdge 6100 arrays and 6300 systems:

- Sun StorEdge 6100 array
 - [User Access and Roles \(Sun StorEdge 6100\)](#)
 - [Power Management \(Sun StorEdge 6100\)](#)
 - [Array Details and Tray Reconfiguration](#)
 - [Network Settings](#)
 - [System Time](#)
 - [Email Event Notifications](#)
 - [System Logs](#) of events and alarms
 - [System Report](#) of arrays, storage pools, and so on
- Sun StorEdge 6300 system
 - [Power Management \(Sun StorEdge 6300\)](#) and General system settings
 - [Array Details and Tray Reconfiguration](#)
 - [Network Settings](#)
 - [System Time](#)
 - [User Names and Passwords \(Sun StorEdge 6300\)](#) for the admin, storage, and guest users
 - [Firewall Port Filtering](#)
 - [Email Event Notifications](#)
 - [System Logs](#) of events and alarms
 - [System Report](#) of arrays, storage pools, and so on

See also [Understanding User Accounts and Roles](#).

Power Management (Sun StorEdge 6300)

The General link on the Administration page enables the admin user to power down the system or the array. This page enables the admin user to power down the entire storage system, all arrays, or individual arrays. The individual array power down is useful when adding trays or other components to an array.

- [To Power Down the System \(Full Shutdown\)](#)
- [To Power Down All Arrays \(Partial Shutdown\)](#)
- [To Restart the Array \(from Partial Shutdown\)](#) (See [Note](#))
- [To Power Down Individual Arrays](#)
- [To Restart an Array](#)

Note – To power on the system or arrays after you have remotely powered them off, you must manually power them on at the cabinet.

However, if you perform a partial shutdown on arrays in the Sun StorEdge 6300 system, a Restart button is available from the General link at the Administration Page the next time you display this page.

The Partial Shutdown button is displayed only if you or Sun Service personnel have installed a USB cable between the remote power relay and the Storage Service Processor.

▼ To Power Down the System (Full Shutdown)

1. Click **General** at the **Administration** page.
2. Click the **Full Shutdown** button to power down the Sun StorEdge 6300 storage system Storage Service Processor and all arrays.

See also this [Note](#).

▼ To Power Down All Arrays (Partial Shutdown)

Note – These partial shutdown steps apply to the Sun StorEdge 6300 storage system. The Partial Shutdown button is displayed only if you or Sun Service personnel have installed a USB cable between the remote power relay and the Storage Service Processor. If you perform a partial shutdown on arrays in the Sun StorEdge 6300 system, a Restart button is available from the General link at the Administration Page the next time you display this page.

1. Click **General** at the **Administration** page.
2. Click the **Partial Shutdown** button.

When you click the Partial Shutdown button, the Storage Service Processor and accessory tray remain powered on and accessible. The arrays are powered down.

▼ To Restart the Array (from Partial Shutdown)

Note – You can restart arrays in the Sun StorEdge 6300 storage system if you or Sun Service personnel have installed a USB cable between the remote power relay and the Storage Service Processor and you have performed a [partial shutdown](#). If you perform a partial shutdown on arrays in the Sun StorEdge 6300 system, a Restart button is available from the General link at the Administration Page the next time you display this page.

1. Click **General** at the **Administration** page.
2. Click the **Restart** button to reset and power on the arrays.

▼ To Power Down Individual Arrays

1. Click **General** at the **Administration** page.
2. Select one or more arrays in the table under the **Array Power Management** section.

Note – The tray Name link in the table, when clicked, enables you to view array details and change tray settings as described in [Array Details and Tray Reconfiguration](#).

3. Click the **Shutdown** button.

To power on the array, you must manually power them on at the array cabinet.

4. Confirm the power down action.

▼ To Restart an Array

1. Click **General** at the **Administration** page.
2. Select one or more arrays in the table under the **Array Power Management** section.
3. Click the **Restart** button.
4. Confirm the restart action.

Power Management (Sun StorEdge 6100)

The General link on the Administration page enables the admin user to power down the system or the array. The individual array power down is useful when adding trays or other components to an array.

▼ To Power Down the Array

1. **Click General at the Administration page.**
2. **Select one or more arrays in the table under the Array Power Management section.**

Note – The tray Name link in the table, when clicked, enables you to view array details and change tray settings as described in [Array Details and Tray Reconfiguration](#).

3. **Click the Shutdown button.**
To power on the array, you must manually power them on at the array cabinet.
4. **Confirm the power down action.**
This button powers off the selected array. Repeat these steps to power down more than one array.

▼ To Restart the Array

1. **Click General at the Administration page.**
2. **Select an array.**
3. **Click the Restart button to reset and power on the selected array.**
Repeat these steps to restart more than one array.

Array Details and Tray Reconfiguration

Caution – Before performing these reconfiguration procedures, ensure that you back up your data to tape or other media. See also [To Restore Array Defaults Information](#).

The array details page that is shown after clicking the tray Name link from the Administration page (see [To View Array Information](#)) enables the admin user to view brief array status and also add expansion units to or remove expansion units from an array.

A wizard guides you (in the admin user or role) through the expansion unit addition or removal. Before attempting these procedures, consider the following:

- The Sun StorEdge 6020 and 6120 Arrays System Manual contains more details about physically adding and removing expansion units and other array configuration changes. **Please read the array configuration chapter in this manual before attempting this procedure.** Note that the Sun StorEdge 6300 system does not allow access by telnet. The wizards described in this help perform the underlying commands needed to add or remove expansion units.
- Perform all reconfigurations while the system is offline and prevented from accepting I/O operations from the host system (that is, I/O operations have been quiesced).
- System reconfigurations involve power cycling of storage arrays.
- Evacuate any data stored on the arrays before removing trays. If you are adding trays, you might want to back up your existing data on the arrays.

Note – Depending on the current state of the selected array, the Add Expansion or Remove Expansion buttons might be disabled. For example, you cannot remove trays in a 2x2 configuration.

See the following:

- [To View Array Information](#)
- [To Add an Expansion Unit to an Array](#)
- [To Remove an Expansion Unit from an Array](#)
- [Restore Array Defaults Button \(Clear Array Information\)](#)

▼ To View Array Information

1. Click **General** at the **Administration** page.
2. Click the array **Name** link in the table under the **Individual Array Power Management** section.

The Array Details page is displayed. A table shows a summary of details, such as name, description, and array health. For more tray details, see [To View Tray Details](#).

▼ To Add an Expansion Unit to an Array

Note – Depending on the current state of the selected array, the Add Expansion or Remove Expansion buttons might be disabled. For example, you cannot add more trays in a 2x6 configuration.

1. **Click General at the Administration page.**

2. **Click the array Name link in the table in the Array Power Management section.**

The Array Details and Reconfiguration page is displayed.

3. **Click the Add Expansion button.**

The Add Expansion Unit wizard window is displayed.

- The wizard detects if any active jobs are running.
- If active jobs are running, wait until the jobs are completed before you click the Next button.

Caution – You cannot cancel this operation if you click the Next button in this wizard window. Click Cancel to cancel the procedure.

4. **Click the Next button.**

This step begins the array “unconfiguration” procedure. The wizard shows the following operations being performed:

- Place any existing storage pools in the offline state
- Disable the tray alternate master controller and unconfigure the controller (if necessary; this step is skipped if the controller is already disabled or if the controller is the only controller, as in a 1x1 configuration)
- Shut down the array

When the operations are completed, the wizard instructs you to click Next to view a summary of instructions to physically add the expansion units.

Note – The Sun StorEdge 6020 and 6120 Arrays System Manual contains more details about physically adding and removing expansion units and other array configuration changes. **Please read the array configuration chapter in this manual before attempting this procedure.** Note that the Sun StorEdge 6300 system does not allow access by telnet. The wizards described in this help perform the underlying software commands needed to add or remove expansion units.

The instructions shown in the wizard are as follows:

- Turn off power by pressing the power rocker switches on each array power and cooling unit (PCU)
- Remove all power cords from all enclosures in the original configuration
- Verify all LEDs are off before proceeding
- Disconnect loop card cables
- Add the new expansion units
- Move the controller board from the former alternate master enclosure to the enclosure above it.
- If the new configuration is 2x4, the controller board should be on the first and third enclosure from the bottom. If the new configuration is 2x6, the controller board should be on the first and fourth enclosure from the bottom. Do not move the tray, move only the controller board.
- Connect the loop card, Ethernet, and host cables
- Connect power cords to all enclosures
- Power on the array
- Once the array is powered on and all LEDs are lighted, click the Next button to perform verification of the new configuration

5. Click the Next button when the array is powered on and all LEDs are lighted.

The wizard window refreshes as the array is detected. This process might take up to 20 minutes. If the wizard times out, re-check the array installation.

When the software detects the array, the wizard window displays a confirmation message that the array is available and shows a link to the Storage Automated Diagnostic Environment software (if installed).

6. (Optional) Select the Online Existing Pools to place the existing storage pools online.

7. Click the Finish Wizard button.

Note – You can use the Storage Automated Diagnostic Environment software (if installed) to perform an array test such as `6120volverify` after adding expansion units. See the `6120volverify(1M)` man page for command information.

8. If desired, configure the array.

You might want to create storage pools, volumes, permissions, and other features. See the following:

- [Configuring An Array](#)
- [Express Array Configuration](#)
- [Custom Array Configuration](#)

▼ To Remove an Expansion Unit from an Array

Caution – All data is lost when performing this procedure. Before performing these reconfiguration procedures, ensure that you back up your data to tape or other media. You might also wish to record your storage pool and volume configuration information.

Note – Depending on the current state of the selected array, the Add Expansion or Remove Expansion buttons might be disabled. For example, you cannot remove trays in a 2x2 configuration.

1. Click General at the Administration page.

2. Click the array Name link in the table in the Array Power Management section.

The Array Details and Reconfiguration page is displayed.

3. Click the Remove Expansion button.

The Remove Expansion Unit wizard window is displayed.

- For a Sun StorEdge 6300 system, the wizard verifies the Reverse Address Resolution Protocol (RARP) service configuration and that the entry for the RARP service exists. It also shows the associated controller's media access control (MAC) address
- For a Sun StorEdge 6100 system, the wizard displays a message asking you to ensure that the RARP and controller MAC information is correct for your configuration

4. Click the Next button if the RARP information is correct.

- The wizard detects if any active jobs are running.
- If active jobs are running, wait until the jobs are completed before you click the Next button.

Caution – You cannot cancel this operation if you click the Next button in this wizard window. Click Cancel to cancel the procedure.

5. Click the Next button.

This step begins the array “unconfiguration” procedure. The wizard shows the following operations being performed:

- Place any existing storage pools in the offline state

- Disable the tray alternate master controller and unconfigure the controller (if necessary; this step is skipped if the controller is already disabled or if the controller is the only controller, as in a 1x1 configuration)
- Reset labels (this action might take a few minutes; see also [Restore Array Defaults Button \(Clear Array Information\)](#))
- Shut down the array

When the operations are completed, the wizard instructs you to click Next to view a summary of instructions to physically remove the expansion units.

Note – The Sun StorEdge 6020 and 6120 Arrays System Manual contains more details about physically adding and removing expansion units and other array configuration changes. **Please read the array configuration chapter in this manual before attempting this procedure.** Note that the Sun StorEdge 6300 system does not allow access by telnet. The wizards described in this help perform the underlying software commands needed to add or remove expansion units.

Also, always remove expansion units in pairs. An array configuration should always contain two, four, or six expansion units.

The instructions shown in the wizard are as follows:

- Turn off power by pressing the power rocker switches on each array power and cooling unit (PCU)
- Remove all power cords from all enclosures in the original configuration
- Verify all LEDs are off before proceeding
- Disconnect loop card cables
- Move the controller board down to the next tray. For example, if the resulting configuration is 2x4, the boards should be in the first and third enclosure from the bottom.
- Remove the expansion unit.
- Connect the loop card, Ethernet, and host cables
- Connect power cords to all enclosures
- Power on the array
- Once the array is powered on and all LEDs are lighted, click the Next button to perform verification of the new configuration

6. Click the Next button when the array is powered on and all LEDs are lighted.

The wizard window refreshes as the array is detected. This process might take up to 20 minutes. If the wizard times out, re-check the array installation.

When the software detects the array, the wizard window displays a confirmation message that the array is available and shows a link to the Storage Automated Diagnostic Environment software (if installed).

7. Click the Close Wizard button.

8. If desired, configure the array.

You might want to recreate storage pools, volumes, permissions, and other features. See the following:

- [Configuring An Array](#)
- [Express Array Configuration](#)
- [Custom Array Configuration](#)

Restore Array Defaults Button (Clear Array Information)

The Restore Array Defaults button on the Administration>General page clears all system labels, configuration settings, and volume information for the selected array.

You typically use this button if you want to return your arrays to their initial default state. You must then reconfigure the array when the Restore Array Defaults operation is complete.

Consider the following:

- Perform all reconfigurations while the system is offline and prevented from accepting I/O operations from the host system (that is, I/O operations have been quiesced).
- System reconfigurations involve power cycling of storage arrays.
- Evacuate any data stored on the arrays before removing trays. If you are adding trays, you might want to back up your existing data on the arrays.

▼ To Restore Array Defaults Information

Caution – Performing this procedure results in unrecoverable data loss. Data stored on the arrays will need to be evacuated before any reconfiguration procedures start. This procedure might take up to 15 minutes to complete. This procedure reboots the selected array.

1. **Click General at the Administration page.**
2. **Select one or more trays in the array tray table.**
3. **Click Restore Array Defaults.**

A confirmation page is displayed. Ensure that the information displayed on this page is correct (selected arrays, MAC address, and so on).

4. **Perform one of the following:**
 - Click Cancel if the page shows any active jobs or users on the array
 - Click Restore Array Defaults if you are sure you want to clear the array

When the procedure is completed, the Administration>General page is displayed.

5. **If desired, configure the array.**

See the following:

- [Configuring An Array](#)
- [Express Array Configuration](#)
- [Custom Array Configuration](#)

To Type or View a Contact Email Address

Note – Only the admin user can change this email address. All other users can view it only.

1. **Type an email contact address for the system administrator or other contact person in the Contact E-mail text field.**

This email address is displayed at the Login page.

2. **Click Save.**

Network Settings

Note – See also [Firewall Port Filtering](#).

The Network page displays the current network IP address and other settings for the system. Typically, these values are set at the factory or by Sun service engineers or authorized service personnel.

Caution – Changing these settings might disable access to the application.

▼ To Change Network Settings

1. **Click Network at the Administration page.**
2. **Sun StorEdge 6300 Systems Only - Click DHCP if your system obtains its network settings from a Dynamic Host Configuration Protocol (DHCP) server.**
This choice is the default setting for the system.
3. **Sun StorEdge 6300 Systems Only - Click Fixed to manually configure network settings.**

4. To manually configure the network settings, type the following entries:

IP Address: type the Storage Service Processor or array IP address

Gateway IP: type the gateway IP address

Netmask: type the subnet mask IP address

Sun StorEdge 6300 Systems Only - Name Server: type the domain name server (DNS) IP address

5. Click Save.

System Time

The System Time page enables you to automatically get the system time from a Network Time Protocol (NTP) server on your network or to manually set the time.

▼ To Change the Current Time Zone

1. Click System Time at the Administration page.

2. Click Change Time Zone.

3. Select the Greenwich Mean Time offset from the Filter list.

For example, select GMT-08 if your location is 8 hours or time zones behind the Greenwich Mean time zone.

4. Select your location's time zone from the Selection list.

5. Click Save.

▼ To Set the Time Automatically

1. Click System Time at the Administration page.

2. Select NTP and type the NTP IP address in the NTP Server Address Field.

3. Click Save.

▼ To Set the Time Manually

1. **Click System Time at the Administration page.**
2. **Select Manual.**
3. **Type the month, day, and year in the text fields.**
4. **Click Save.**

Firewall Port Filtering

This page enables you to open or close ports to enable or disable access to the Storage Service Processor, system, or the Sun StorEdge Configuration Service software. See [To Enable or Disable Port Access](#).

You can open or close the following ports:

| Port | Port Number | Description |
|--|-------------|--|
| Array Management HTTP, non-secure | 9080 | Enables access to the Sun StorEdge Configuration Service Login page or command-line interface sscs. A non-secure connection. |
| Array Management HTTPS | 9443 | Enables secure access to the Sun StorEdge Configuration Service Login page or command-line interface sscs. This port uses the Secure Socket Layer (SSL) protocol. Log in using this port if you are concerned about password security. |
| Storage Automated Diagnostic Environment software, non-secure HTTP | 7654 | Enables access to the Storage Automated Diagnostic software. The software is installed by default on the Storage Service processor. You can optionally install the software on a Solaris host if you are using Sun StorEdge 6120 arrays. |
| Storage Automated Diagnostic Environment software, secure HTTPS | 7443 | Enables access to the Storage Automated Diagnostic software. The software is installed by default on the Storage Service processor. You can optionally install the software on a Solaris host if you are using Sun StorEdge 6120 arrays. |
| SNMP | 161 | Enables the simple network management protocol port for third-party device management application access. |
| CIM HTTP | 5988 | Enables the Common Information Model port for CIM-compatible web-based management application access. |
| NTP | 123 | Enables the system to request the current time from a network time protocol server. |
| PatchPro | 443 | Enables access to the Sun PatchPro web page to provide updates for firmware and software updates. |

▼ To Enable or Disable Port Access

1. Click the **Port Filtering** link at the **Administration** page.

This page displays the current port configuration. A selected check box indicates that the related port is open; an unselected check box indicates that the port is closed or not accessible.

2. Select the ports you wish to open or unselect the ports you wish to close.

3. Click **Save**.

Understanding User Accounts and Roles

The Sun StorEdge 6320 System is configured with three *user accounts* and the Sun StorEdge 6120 Array is configured with three *user roles* shown in the table. The software enables the `admin` user or role to authorize users to access the system and the software, and to set passwords for the accounts or roles. The user accounts and roles are as follows:

| User Account or Role | Description |
|----------------------|---|
| <code>admin</code> | An <code>admin</code> user or role has all administration privileges. The <code>admin</code> user can add, modify, and delete users and modify system attributes on the Administration page. |
| <code>storage</code> | A <code>storage</code> user or role can use most of the software features related to storage device configuration. The Administration page is available to this user as read-only; this user cannot modify admin settings. This user can use the features available from the Array Management and Storage Access pages. |
| <code>guest</code> | A <code>guest</code> user or role has read-only privileges and can view the information. This user cannot modify any settings or feature. |

Note – Only the `admin` user or role can change the passwords.

User Access and Roles (Sun StorEdge 6100)

The Administration page enables you to add or remove users who can access the Sun StorEdge Configuration Service web interface. The first task to perform after you log in to the interface is to assign roles to users. The users then log in to the interface, using their normal usernames and passwords.

Note – For the Sun StorEdge 6120 storage arrays, valid user names are existing or newly-created Solaris or other operating environment user accounts with assigned user roles. The system administrator first logs in as `root` and assigns the user role (admin, storage, or guest) to the valid user account. Once user roles are assigned, users can log in using their user name and password - the user role defines array access. See also [Array Root Password \(Sun StorEdge 6120\)](#).

- [To Add an Admin User Role \(First-Time Log In\)](#)
- [To Add Users and Related Roles](#)
- [To Remove a User's Role](#)

▼ To Add an Admin User Role (First-Time Log In)

1. **Log in to the Sun StorEdge Configuration Service software as the root user.**
 - The Sun StorEdge 6100 arrays are factory-configured without a password for the root user.
2. **Click the Administration tab.**
3. **Click the Users link.**

The Manage Users page is displayed. The default view of the page shows all users. To show users according to their roles, select Storage, Admin, or Guest from the Filter menu.
4. **Click Add.**
5. **Type the user name of a user who has an existing account on the machine where the software is installed.**

This user will be assigned a role of admin in the following steps.
6. **Select Admin from the Role menu.**

A user with an admin role can add or delete users and has access to the features on the Administration page
7. **Click Save.**

8. Click Log Out.

▼ To Add Users and Related Roles

Note – For the Sun StorEdge 6120 storage arrays, valid user names are existing or newly-created Solaris or other operating environment user accounts with assigned user roles. The system administrator first logs in as `root` and assigns the user role admin to the valid user account. After the admin user logs in and assigns user roles as described here, users can log in using their user name and password - the user role defines array access.

1. Log in to the Sun StorEdge Configuration Service software as the admin user.

2. Click the Administration tab.

3. Click the Users link.

The Manage Users page is displayed. The default view of the page shows all users. To show users according to their roles, select Storage, Admin, or Guest from the Filter menu.

4. Click Add.

5. Type the user name of a user who has an existing account on the machine where the software is installed or the current machine where you are running the software.

6. Select a role from the Role menu.

admin - A user with an admin role can add or delete users and has access to the features on the Administration page

storage - A user with a storage role can use the features available from the Array Management and Storage Access pages

guest - A user with a guest role can view each page in the interface, but cannot modify or change any editable attributes. Access to the software is read-only.

7. Click Save.

▼ To Remove a User's Role

1. Log in to the Sun StorEdge Configuration Service software as the admin user.

2. Click the Administration tab.

3. Click the Users link.

The Manage Users page is displayed. The default view of the page shows all users. To show users according to their roles, select Storage, Admin, or Guest from the Filter menu.

4. Select a user in the table.

5. Click Remove.

6. Confirm the removal of this user's role.

User Names and Passwords (Sun StorEdge 6300)

The Administration page enables you to set passwords for the three user accounts that are allowed to access the Sun StorEdge Configuration Service web or command-line interface. As the `admin` user, you can change the default user passwords. The user account (or name) determines user privileges. The user accounts are as follows:

| User Name | Default Password | Description |
|----------------------|-----------------------|---|
| <code>admin</code> | <code>!admin</code> | An <code>admin</code> user has all administration privileges. The <code>admin</code> user can add, modify, and delete users and modify system attributes on the Administration page. |
| <code>storage</code> | <code>!storage</code> | A <code>storage</code> user can use most of the software features related to storage device configuration. The Administration page is available to this user as read-only; this user cannot modify admin settings. This user can use the features available from the Array Management and Storage Access pages. |
| <code>guest</code> | <code>!guest</code> | A <code>guest</code> user has read-only privileges and can view the information. This user cannot modify any settings or feature. |

▼ To Enter a New User Password

1. Click the Passwords link at the Administration Page.

2. **Type a new password in the Enter New Password and Confirm New Password fields for the desired user type.**
3. **Click Save.**

Email Event Notifications

The Notifications page displays a table summarizing the categories of events that have occurred in the system. You can display details about an event by clicking a link in the Event Category column.

This page also enables you to manage the email notification list. The system sends event information such as when volumes have been deleted, when storage pools are created, and so on, to users whose email address you enter.

▼ To View Event Details

1. **Click Notifications at the Administration page.**

The Event Categories table is displayed.

2. **Click an Event link in the table.**

The Event Category Detail page is displayed.

3. **(Sun StorEdge 6300 systems only) Click a link in the Name column of the Events table.**

The Event Detail table displays information about the event. This page also shows the subscribed users that will receive email notification about this event.

▼ To Add an Email Address to the Notification Subscription List

1. Click **Notifications** at the **Administration** page.
2. Click an **Event** link in the table.
3. Scroll down to the **New Subscription** region.
4. Type an email address in the **Add Email Address** field.

You can add one or more addresses here. Separate each address you type with a comma character (,).

5. Click **Add**.

▼ To Delete an Email Address from the Notification Subscription List

1. Click **Notifications** at the **Administration** page.
2. Click an **Event** link in the table.
3. Scroll down to the **Subscribed Users** region.
4. Click the check box next to the email address to select that address.
5. Click **Remove**.

System Logs

The software enables you to view logs of events (also known as alarms) that have occurred. You view all events or you can sort the events or alarms by category.

▼ To View Logs (Sun StorEdge 6300)

1. Click the **Administration** tab.
2. Click **Logs**.
3. Click **Next** to see more logs if more than one page of system logs exists.

▼ To View Logs (Sun StorEdge 6100)

1. Click the **Administration** tab.
2. Click **Logs**.
3. Click **Next** to see more logs if more than one page of system logs exists.

System Report

This page displays detailed information about each storage array, tray, volume, and disk drive in the system. Scroll down the page to view more report information.

Array Management

Caution – Do not configure the Sun StorEdge 6000 Family arrays by using the array command-line interface and this web browser user interface at the same time. Use the command-line interface **or** web browser user interface.

Do not use more than one instance of the software at a time to access or configure the same storage arrays or systems. For example, two storage users using the software from two different machines cannot add the same volumes to a volume group each user is creating or modifying.

The Array Management main menu is the default page that is displayed after you log into the software. From this page, you can:

- Configure specific storage arrays
- Configure multiple arrays by duplicating an existing array's settings to another array

This page also enables you to check detailed system and device health status by launching the Storage Automated Diagnostic Environment application. (This application is installed by default on the Sun StorEdge 6300 Storage Service Processor. It must be installed on the local Solaris host for the Sun StorEdge 6100 arrays to be able to launch it from this page.)

See also [Array Details and Tray Reconfiguration](#).

- [Configuring An Array](#)
- [Managing Storage Pools](#)
- [Array Registration \(Sun StorEdge 6120\)](#)
- [Express Array Configuration](#)
- [Managing Profiles](#)
- [Custom Array Configuration](#)
- [Duplicating Array Settings](#)

- [Managing Volumes](#)

Configuring An Array

Caution – Do not configure the Sun StorEdge 6000 Family arrays by using the array telnet command-line interface and this web browser user interface at the same time. Use the command-line interface `sscs(1M)` **or** web browser user interface.

Do not use more than one instance of the software at a time to access or configure the same storage arrays or systems. For example, two storage users using the software from two different machines cannot add the same volumes to their unique volume groups.

See the following to configure an array and its volumes:

- [Managing Storage Pools](#) - create and manage storage pools
- [Array Registration \(Sun StorEdge 6120\)](#) - add or remove an array
- [Express Array Configuration](#) - simple, novice-level configuration
- [Custom Array Configuration](#) - expert-level configuration
- [Managing Volumes](#) - create, delete, and view storage volumes

See also [About Creating Storage Pools and Configuring Arrays](#) and [Managing Volume Groups](#).

Note – Do not use spaces, commas, colon (:), or special characters ?, *, !, @, %, or & as a character in any name you specify (for example, volumes, volume groups, initiators, initiator groups and so on).

About Creating Storage Pools and Configuring Arrays

If you select Express Configuration (available by clicking Array Management page > Individual Configuration button > Express Configuration button) and perform the following:

- Click Add Storage to Profile
- Select all drives in a fully-populated tray

then two storage pools are created by default.

If you select less than the total number for available drives or the tray is not fully populated with drives, then one storage pool is created.

For more control over the number of pools created per tray, for example one storage pool per tray, use the Manage Pools feature available from the Custom Configuration page (available by clicking Array Management page > Individual Configuration button > Custom Configuration button).

Managing Storage Pools

The Manage Pools page enables you to create and delete storage pools, place the storage in the pools online or offline, and refresh the storage pool status. The Create New Pool wizard enables you to create two storage pools per tray at a time.

This page also shows a summary of currently-available storage pools. See [To View Storage Pool Information](#).

Note – To create a volume and add it to a storage pool, see [To Create a Volume](#).

- **Click the `show` link in the Volumes column to display information about volumes associated with that pool. See [To View Storage Pool Volume Details](#).**

See the following topics:

- [To Create a Storage Pool](#)
- [To Delete a Storage Pool](#)
- [To Place a Storage Pool Online or Offline](#)
- [To View Storage Pool Information](#)
- [To View Storage Pool Volume Details](#)

▼ To Create a Storage Pool

Note – To create a volume and add it to a storage pool, see [To Create a Volume](#).

1. **Click Individual Configuration at the Array Management page.**
2. **Select a storage array in the table and click Custom Configuration.**
3. **Click Manage Pools.**
4. **Click Create.**

The Create New Pool wizard is displayed. See also [About Creating Storage Pools and Configuring Arrays](#).

5. **Select the following in the wizard:**
 - Select the first tray where you will create the storage pool.
 - Name the pool and select the number of disk drives per RAID level.
 - Repeat for the second storage pool.

6. **Type an email address or addresses in the Enter Email field.**

Separate multiple email addresses with a comma. The software sends email to these addresses when the storage pools are created.

7. **Click Confirm.**

▼ To Delete a Storage Pool

1. **Click Individual Configuration at the Array Management page.**
2. **Select a storage array in the table and click Custom Configuration.**
3. **Click Manage Pools.**
4. **Select one or more pools in the table to delete.**
5. **Click Delete.**

▼ To Place a Storage Pool Online or Offline

1. Click **Individual Configuration** at the **Array Management** page.
2. Select a storage array in the table and click **Custom Configuration**.
3. Click **Manage Pools**.
4. Select one or more pools in the table.
5. Click one of the following buttons:
 - Click **Online** to place the storage pool volumes online, making the storage available
 - Click **Offline** to place the storage pool volumes offline. Note - you can initialize a pool that is offline.
6. Click **Refresh** to update the storage pool status in the table.

▼ To View Storage Pool Information

1. Click **Individual Configuration** at the **Array Management** page.
2. Select a storage array in the table and click **Custom Configuration**.
3. Click **Manage Pools**.

The storage pool summary table is displayed. The table displays the following information:

- Pool name - name of an existing pool
- RAID - RAID level of the pool volumes; levels are 0, 1, or 5
- Available - the available storage capacity for new volumes you might create and add to this pool. The maximum storage size for a new volume 200 Gbytes

With no volumes created, the Available column shows the total storage capacity available to the pool.

The maximum size for a new volume is 200 Gbytes. With one or more volumes created, the Available column shows the maximum allowed size for the next new volume you create and add to this pool (200 Gbytes, if this amount is available) or the actual amount of storage available to a new volume, if less than 200 Gbytes of storage is available to the pool

- Total - the total storage capacity of the pool. Once you create a storage pool, this number remains constant
- Hotspare - shows the number of available hotspare drives in the pool
- Status - shows the pool status, online and available or offline and unavailable. See [To Place a Storage Pool Online or Offline](#)
- Volumes - Click the **show** link in the Volumes column to display information about volumes associated with that pool. See [To View Storage Pool Volume Details](#)

▼ To View Storage Pool Volume Details

You navigate to the summary table link as follows:

- Click the Individual Configuration button at the Array Management page.
- Select a pool and click the Custom Configuration button.
- Click the Manage Pools button.

1. Click the `show` link in the Volumes column of the Storage Pool summary table.

The volume summary table is displayed, showing the volume name, capacity, and online status.

2. Click the Volume Name link to display volume details.

The Storage Volume Details page is displayed.

Optional: You can also change the volume access permissions:

a. Select a permission type from the Permissions menu:

- None; this setting is the default, specifying no access
- Read-only; specifies read access only for this volume
- Read/Write; specifies full access (read and write) for this volume

b. Click Save

Optional: You can also add this volume to an existing volume group:

a. Select a volume group in the Volume Groups table.

b. Click Add to Group.

c. Click Save

You can delete the volume from a volume group from this page. Also see [To Remove a Volume from a Volume Group](#).

Array Root Password (Sun StorEdge 6120)

Sun StorEdge 6120 arrays are shipped from the factory with no password set for the array's root user. Ensure that you set the array's root user password before logging in to the web browser to manage arrays.

Note – You can register the Sun StorEdge 6120 array without a root user password but you cannot manage the arrays unless the root user password exists. See [To Register A New Array](#) for the array registration procedure.

▼ To Assign a Root Password for an Array

1. Telnet to the Sun StorEdge 6120 array using the array's IP address.

```
% telnet array_IP_address
Trying array_IP_address ...
Connected to array_IP_address
Escape character is '^]'.
Unauthorized access is prohibited.
```

2. Log in as root. Do not type a password.

```
Login: root
Password:
6120 Release 3.0.3 Mon Mar 10 15:47:42 PST 2003 (10.4.36.137)
Copyright (C) 1997-2003 Sun Microsystems, Inc.
All Rights Reserved.
```

3. Issue the `passwd` command. Do not type a password for the OLD password.

```
prompt> passwd
OLD password:
NEW password: new_password
NEW password (confirm): new_password
prompt>
```

4. Log out of the telnet session.

Array Registration (Sun StorEdge 6120)

This page enables you to register new Sun StorEdge 6120 storage arrays or remove currently registered storage arrays.

- [Array Root Password \(Sun StorEdge 6120\)](#)
- [To Register A New Array](#)
- [To Edit the Array Registration](#)
- [To Remove an Array](#)

▼ To Register A New Array

1. Click the **Array Management** page tab.
2. Click **Array Registration**.
3. Click **Register New Array**.
The New Array Registration page is displayed.
4. Type the following information in the text fields:
 - IP Address of the array
 - Root Password for array access
 - Root password in the Verify field
5. Select **Persist Password** if you do not want to have the system prompt you for the password each time you access the array.
If you do not type a password and click Save, the system will prompt you for a password each time you attempt to access the array.
6. Click **Save**.

▼ To Edit the Array Registration

1. Click the Array Management page tab.

2. Click Array Registration.

3. Click the array Name link.

The Array Details page is displayed.

4. Perform one of the following steps:

Click Clear Password to remove any existing password and have the system prompt you for a password every time you attempt to access this array

Type a new root password in the Root Password and Verify Password fields, then click Change Password.

5. Click Save.

▼ To Remove an Array

1. Click the Array Management page tab.

2. Click Array Registration.

3. Select an array.

4. Click Remove.

5. Click Remove Registration to confirm the removal.

Express Array Configuration

The [Express Configuration](#) button from the Array Management Individual Configuration page displays novice-level array configuration setting options. When you choose to express-configure an individual array, you can type a text description of the array, add disk drive trays to an existing storage profile, or change the characteristics of an existing profile such as array type, raid settings, read-ahead, and segment size.

When you change an existing profile to a new profile, the existing profile's settings (such as cache settings) are copied to the new profile and the existing profile is deleted. You can select the number of drives from a tray to add to the profile.

Caution – When you change an existing profile, data found on any detected volumes is deleted.

See the following topics:

- [To Express-Configure an Array](#)
- [Managing Profiles](#)
- [To Change an Array Disk Profile](#)

▼ To Express-Configure an Array

Note – You can also change the storage array disk profiles by using the [Change Profile](#) button. See also [About Creating Storage Pools and Configuring Arrays](#).

1. **Click Individual Configuration at the Array Management page.**
2. **Select a storage array in the table.**
3. **Click Express Configuration.**
4. **Type a description of the array in the Description text field.**
The maximum number of characters allowed is 26.
5. **Click Save.**
Continue with the following steps if you wish to add storage to the profile.
6. **Click Add Storage to Profile to add storage devices to the array profile.**
The Tray Summary table lists any trays and disk drives that are not assigned to a storage pool.
7. **Select a tray from the table.**
You can add all drives or a specific number of drives in the array to the profile.
8. **Select how many drives to add from the pull-down menu in the Drives to Allocate column.**
9. **If you want to be notified when the add-drive operation is finished, type an email address in the Notification text field.**
10. **Click Add Selected.**
11. **The Jobs page is displayed, showing the progress of the drive addition operation.**

Managing Profiles

Clicking the Array Management Profile tab displays the Profile Management page. You can choose a pre-configured profile or create a new one. Filter the profiles to display with the following information:

- Name - The profile name
- Raid - RAID level 0, 1, or 5 configured across all disks within a virtual disk
Segment size- A segment size of 4 Kbytes, 8 Kbytes, 16 Kbytes, 32 Kbytes, or 64 Kbytes. In a RAID-5 configuration, the segment size is the size of the data striped across volumes.
- Readahead - The read-ahead cache.status (on/off)
- Array Type - Determines the specific array type to use:
 - 1) Exact Match – IOPS (1x2, 2x4 array)
 - 2) Exact Match – Bandwidth (1x1, 2x2 array)
 - 3) Exact Match – Capacity (1x3, 2x6 array)
 - 4) Best Available Match – IOPS
 - 5) Best Available Match – Bandwidth
 - 6) Best Available Match - Capacity

Types 1 to 3 match only one array configuration (1x1, 1x2, 1x3, 2x2, 2x4, 2x6). If a profile has one of these three parameter settings and the specific array is not available, then the profile cannot be applied.

Types 4 to 6 attempt to match the best available array based on the environment (IOPS, Bandwidth, Capacity). For example, Best Available Match – Capacity will search for 2x6s, then 2x4s, then 2x2s. The following rules apply to the three Best Available Match settings for the listed models:

- (SE6120: MR-1) IOPS: 1x2 - 1x1 - 1x3
- (SE6120: MR-1) Bandwidth: 1x1 - x2- 1x3
- (SE6120: MR-1) Capacity: 1x3 - 1x2 - 1x1
- (SE6120: MR-2, SE6320) IOPS: 2x4 - 2x2 - 2x6
- (SE6120: MR-2, SE6320) Bandwidth: 2x2 - 2x4 - 2x6
- (SE6120: MR-2, SE6320) Capacity: 2x6 - 2x4 - 2x2

Note: that for the last three choices, the array or system determines the best available match.

Use the Profile Management buttons to:

- Create a new profile
- Delete a profile

- Import a profile
- Export a profile

Select an option from the Filter button to display:

- All profiles
- Profiles in use
- Profiles not in use

Also see [To Change an Array Disk Profile](#).

Custom Array Configuration

The [Custom Configuration](#) button from the Array Management Individual Configuration page displays expert-level array configuration setting options. When you choose to custom-configure an individual array, you can:

- Create and manage storage pools
- Duplicate storage tray settings from one tray to another
- Create and manage array cache settings, including cache mode, segment size, and LUN failover mode and reconstruction rate

Caution – When you change array settings, data found on any detected volumes is deleted.

See the following for more detail:

- [To Custom-Configure an Array](#)
- [To Configure Fibre Channel Port Settings](#)
- [To Change an Array Disk Profile](#)
- [To Duplicate Tray Settings to Another Tray](#)
- [To View Tray Details](#)
- [To View Storage Pools for Individual Trays](#)

▼ To Custom-Configure an Array

Caution – Before you reconfigure an existing array, note that any information you enter and save at this page overwrites the existing information for the array.

1. **Click Individual Configuration at the Array Management page.**

2. **Select a storage array in the table and click Custom Configuration.**

You can also configure a Fibre Channel array settings from this page. See [To Configure Fibre Channel Port Settings](#).

3. **Type a description of the array in the Description text field.**

The maximum number of characters allowed is 26.

4. **Select or enable the following:**

- **Segment Size**

You can choose a LUN segment size of 16 Kbytes, 32 Kbytes, or 64 Kbytes. In a RAID-5 configuration, the segment size is the size of the data striped across volumes.

- **Read Ahead cache mode**

Select On to enable it or select Off to disable it.

- **Disk Reconstruction Rate**

Selecting high might impact system I/O performance; selecting low might increase system I/O performance.

- **Failover Mode**

Select Explicit LUN Failover or Implicit LUN Failover.

- **Cache Mode**

off - disable the cache mode.

auto - use write-behind or write-through caching depending on I/O characteristics.

writebehind - write all read and write operations to cache.

writethrough - write data to cache and then to disk.

5. **Click Save.**

▼ To Configure Fibre Channel Port Settings

This page displays when you click the FC Configuration button from the Custom Configuration page.

1. **Select the port speed from the Set Speed menu.**

You can set the speed to 1 gigabits per second, 2 gigabits per seconds, or auto.

2. **Select the Fibre Channel topology for the array.**

You can set the topology as follows:

- **auto** - automatically sense the topology type
- **loop** - loop
- **fabric loop** - arbitrated loop
- **fabric point-to-point** - point to point

3. **Click Save.**

▼ To Change an Array Disk Profile

Note – Before you reconfigure an existing array, note that any information you enter here overwrites the existing information for the array.

1. **Select the Array Management Individual Configuration tab.**

2. **Select an array in the Array Selection table and click Express Configuration.**

The Express Configuration page displays showing array details. You can update the array description.

3. **Click Change Profile.**

The Change Profile Wizard displays, showing the current profile and new profiles to select. The page lists profile details such as raid settings, read-ahead status, and segment size.

4. **Select a profile from the Profile List.**

5. **Click next.**

6. **Select a tray from the table.**

You can add all drives or a specific number of drives in the array to the profile.

Note – If the number of available drives is less than number of total drives plus a hotspare drive, all drives must be selected for maximum utilization.

7. **Select the number of drives to allocate from the drives to add from the Allocate pull-down menu.**

8. **Click next.**

The Confirm Selection page appears with a list of the affected volumes and trays that will be affected by a changed profile.

9. **Press the next button to save the profile changes or press the Back or Cancel button to not change the profile.**

▼ To Duplicate Tray Settings to Another Tray

1. **Click Individual Configuration at the Array Management page.**

2. **Click Custom Configuration.**

3. Click Duplicate Tray.

The Duplicate Tray wizard is displayed.

4. Select the following in the wizard:

- The source tray that has the settings to duplicate
- The destination trays

5. Click Confirm.

▼ To View Tray Details

1. **Click Individual Configuration at the Array Management page.**
2. **Click Custom Configuration.**
3. **Scroll down the page to the table showing the trays in the array.**

This table also shows the tray Master or Alternate Master Roles and State (Enabled or Disabled). For arrays that are not a controller, the Role, State, and Status Columns shows the dash (-) character.

4. **Click the Tray ID link.**

The Tray Details page is displayed. To view existing storage pools for this tray, see [To View Storage Pools for Individual Trays](#).

▼ To View Storage Pools for Individual Trays

1. **Perform the steps in [To View Tray Details](#).**

This page shows the Tray Details and Pool table.

2. **Click the `show volume(s)` link to display the volumes assigned to a storage pool.**

The volume table page is displayed. Each volume name is a link that, when clicked, shows volume details.

Note – If you click the Name link in the table, you can change the volume access permissions on this page as described in [To Change Volume Access Permissions](#).

3. **Click Pool Management.**

The Manage Pools page is displayed. This page enables you manage the storage pools for this array.

See [Managing Storage Pools](#) for more information.

Duplicating Array Settings

You can duplicate array settings by copying one array's settings to another array. In this case, you must have already configured one array as described in [Custom Array Configuration](#).

▼ To Duplicate Array Settings

1. Click **Multiple Array Configuration** at the **Array Management** page.
2. **Select the source array and click Duplicate to copy the source array settings to multiple target arrays.**

The **Select Destination** page is displayed.

3. **Select one or more arrays in the array table and click Configure as Source.**

Managing Volumes

The software enables you to create and delete volumes through the Array Management page. The Create New Volume wizard enables you to:

- Configure the volume size
- Set volume access permissions
- Select or set the LUN for the volume
- Add the volume to an existing volume group

You can also view volume details, change access permissions, and add a volume to a volume group.

See the following:

- [To Create a Volume](#)
- [To Change Volume Access Permissions](#)
- [To Add a Volume to a Volume Group](#)
- [To Remove a Volume from a Volume Group](#)

▼ To Create a Volume

Note – You cannot change a volume's name after creating and naming it.

1. Click Individual Configuration at the Array Management page.

2. Click Manage Volumes.

The Manage Volumes page is displayed. This page displays a table showing details about currently-configured volumes.

3. Click Create.

The Create New Volume wizard is displayed in a new window.

4. Select or type the following in the wizard:

- Volume name; the name can be up to 12 characters
- Storage pool to which you add the volume
- Volume size - The maximum size for a new volume is 200 Gbytes
- Permissions: None, Read-Write, Read-Only
- Default logical unit number (LUN)
- Volume group to which you add the volume

Caution – Do not assign a volume to more than one volume group. To add a volume from an existing volume group to another volume group, remove the volume from its existing volume group first. See [To Remove a Volume from a Volume Group](#).

5. Click Confirm.

▼ To Change Volume Access Permissions

1. Click Individual Configuration at the Array Management page.

2. Click Manage Volumes.

The Manage Volumes page is displayed. This page displays a table showing details about currently-configured volumes.

3. Click a Name link in the volume status table.

The Volume Details page is displayed.

4. Select a permission type from the Permissions menu:

- None; this setting is the default, specifying no access
- Read-only; specifies read access only for this volume
- Read/Write; specifies full access (read and write) for this volume

5. Click Save.

Optional: You can also add this volume to an existing volume group:

a. Select a volume group in the Volume Groups table.

b. Click Add to Group.

c. Click Save.

▼ To Add a Volume to a Volume Group

Caution – Do not assign a volume to more than one volume group. To add a volume from an existing volume group to another volume group, remove the volume from its existing volume group first. See [To Remove a Volume from a Volume Group](#).

1. Click **Individual Configuration** at the **Array Management** page.

2. Click **Manage Volumes**.

The **Manage Volumes** page is displayed. This page displays a table showing details about currently-configured volumes.

3. Click the volume name link in the **Name** column in the volume table.

4. Select a volume group in the **Volume Groups** table.

5. Click **Add to Group**.

▼ To Remove a Volume from a Volume Group

Note – See also [To Remove One or More Volumes from a Volume Group](#).

1. Click **Individual Configuration** at the **Array Management** page.

2. Click **Manage Volumes**.

The **Manage Volumes** page is displayed. This page displays a table showing details about currently-configured volumes.

3. Click the volume name link in the **Name** column in the volume table.

4. Select a volume group in the **Volume Groups** table.

5. Click **Remove**.

6. Click **OK** to confirm.

Storage Access

Caution – Do not configure the Sun StorEdge 6000 Family arrays by using the array command-line interface and this web browser user interface at the same time. Use the command-line interface **or** web browser user interface.

The default view when you click the Storage Access tab is Individual Array Access Management. This page shows a table of existing storage arrays that you can select to manage:

- Volume groups
 - [Managing Volume Groups](#)
- Initiators and initiator groups
 - [Managing Initiators](#) and [Managing Initiator Groups](#)
- Array initiator groups, where you can import initiator groups from one array to another
 - [Managing Multiple Array Access](#)
- The access matrix lists the permissions of initiators for each volume.
 - [Viewing the Access Matrix](#)

Note – Do not use spaces, commas, colon (:), or special characters ?, *, !, @, %, or & as a character in any name you specify (for example, volumes, volume groups, initiators, initiator groups and so on).

Managing Volume Groups

Caution – Do not configure the Sun StorEdge 6000 Family arrays by using the array command-line interface and this web browser user interface at the same time. Use the command-line interface **or** web browser user interface.

The software enables you to manage volume groups in each storage array. The Manage Volume Groups page shows a table with links to details about each existing volume group and its associated initiator.

See the following sections for more information:

- [To View Volume Group Details](#)
- [To Create a Volume Group](#)
- [To Delete a Volume Group](#)
- [To Add Volumes to This Volume Group](#)
- [To Remove One or More Volumes from a Volume Group](#)

▼ To View Volume Group Details

1. **Click the Storage Access tab.**
2. **Select an array and click Manage Volume Groups.**

The Manage Volume Groups page is displayed. This page displays a table showing existing volume groups and initiators as links. When you click a link, a page is displayed showing details about that volume group or associated initiators.

3. **Click a volume group name link in the table.**

The details include the volume group name, a View List link to associated initiator groups, and a table showing each volume in the group.

4. **Click the initiator group or volume name link to see details about that selection.**

▼ To Create a Volume Group

Caution – Do not assign a volume to more than one volume group. To add a volume from an existing volume group to another volume group, remove the volume from its existing volume group first. See [To Remove One or More Volumes from a Volume Group](#).

1. **Click the Storage Access tab.**
2. **Select an array in which to create a volume group.**
3. **Click Manage Volume Groups.**

The Manage Volume Groups page is displayed. This page displays a table showing links to details about currently-configured volume groups and associated initiators.

4. **Click Create.**

The Create New Volume wizard is displayed in a new window.

5. **Select or type the following in the wizard:**

- Volume group name; the name can be up to 16 characters. Do not include the colon character (:) in the name
- Volumes to add to the group, if any. You can only add volumes if they are not a member of a volume group.
- Initiator group to associate with this volume group

6. **Click Confirm.**

▼ To Delete a Volume Group

1. **Click the Storage Access tab.**
2. **Select an array in which to delete a volume group.**
3. **Click Manage Volume Groups.**

The Manage Volume Groups page is displayed. This page displays a table showing links to details about currently-configured volume groups and associated initiators.

4. **Select a volume group in the table.**
5. **Click Delete.**
6. **Click Confirm.**

▼ To Add Volumes to This Volume Group

Caution – Do not assign a volume to more than one volume group. To add a volume from an existing volume group to another volume group, remove the volume from its existing volume group first. See [To Remove One or More Volumes from a Volume Group](#).

1. Click the Storage Access tab.

2. Click Manage Volume Groups.

The Manage Volume Groups page is displayed. This page displays a table showing links to details about currently configured volume groups and associated initiators.

3. Click a volume group Name link to select a volume group.

4. Click Add.

5. Select volumes from the volume table.

You can only add volumes that are not a member of a group.

6. Click Add Selected.

▼ To Remove One or More Volumes from a Volume Group

1. **Click the Storage Access tab.**
2. **Select an array in which to remove volumes from a volume group.**
3. **Click Manage Volume Groups.**

The Manage Volume Groups page is displayed. This page displays a table showing existing volume groups and initiators as links. When you click a link, a page is displayed showing details about that volume group or associated initiators.
4. **Click a volume group name link in the table.**

The Volume Group details page is displayed.
5. **Select one or more volumes from the Members table.**
6. **Click Remove.**
7. **Click Confirm.**

Managing Initiators

The software enables you to manage initiators in each storage array. This Manage Initiators page shows a table with links to each initiator by World Wide Name (WWN).

See the following sections for more information:

- [To View Initiator Details](#)
- [To Create an Initiator](#)
- [To Delete One or More Initiators](#)
- [Managing Initiator Groups](#)

▼ To View Initiator Details

1. **Click a WWN link to see details about the initiator.**

The Initiator Details page is displayed. The details shown include any initiator groups and related volume groups to which it belongs.

2. **Click an Initiator Group or Volume Group link to display details about those groups.**

▼ To Create an Initiator

1. **Click the Storage Access tab.**
2. **Select an array in which to create an initiator.**
3. **Click Manage Initiators.**

The Manage Initiators page is displayed. This page displays a table showing existing initiators as links. When you click a link, a page is displayed showing details about that initiator.

4. **Click Create.**
5. **Type the following:**
 - World Wide Name (WWN) of up to 16 hex characters. Do not include the colon character (:) in the name.
 - Text description of up to 16 characters
6. **Select an initiator group in which to add the initiator.**
7. **Click Save.**

▼ To Delete One or More Initiators

1. **Click the Storage Access tab.**
2. **Select an array in which to delete an initiator.**
3. **Click Manage Initiators.**
4. **Select one or more initiators.**
5. **Click Delete.**
6. **Click Confirm.**

Managing Initiator Groups

The software enables you to manage initiator groups in each storage array. This Manage Initiator Groups page shows a table with links to each initiator group and its associated volume group.

See the following sections for more information:

- [To View Initiator Details](#)
- [To Create an Initiator Group](#)
- [To Add Initiators to an Initiator Group](#)
- [To Delete an Initiator Group](#)
- [To Remove One or More Initiators from an Initiator Group](#)
- [To Add an Initiator Group to a Volume Group](#)
- [To Remove a Volume Group from an Initiator Group](#)
- [To Add a Volume Group to an Initiator Group](#)
- [Managing Initiators](#)

▼ To View Initiator Group Details

1. Click the **Storage Access** tab.
2. Click **Manage Initiator Groups**.
3. Click an initiator **Name** link to see details about the initiator group.

The Initiator Group Details page is displayed. The details shown include any related volume groups to which the initiator group belongs and links to each initiator.

4. Click a **Volume Group** or an **Initiator** link to display details about those items.

▼ To Create an Initiator Group

1. **Click the Storage Access tab.**
2. **Select an array in which to create an initiator group.**
3. **Click Manage Initiator Groups.**

The Manage Initiator Groups page is displayed. This page displays a table showing existing initiator groups as links. When you click a link, a page is displayed showing details about that group.

4. **Click Create.**
5. **Enter an initiator group Name in the Value field.**

The name can be up to 16 characters. Do not include the colon character (:) in the name.

6. **Select one or more initiators in the table.**
7. **Click Create.**

▼ To Add Initiators to an Initiator Group

1. **Click the Storage Access tab.**
2. **Select an array.**
3. **Click Manage Initiator Groups.**
4. **Click the initiator group Name link.**
5. **Click Add.**
6. **Select one or more initiators.**
7. **Click Add Selected.**

▼ To Delete an Initiator Group

1. **Click the Storage Access tab.**
2. **Select an array in which to delete an initiator group.**

3. **Select one or more initiator groups.**
4. **Click Delete**
5. **Click Confirm.**

▼ **To Remove One or More Initiators from an Initiator Group**

This page also enables you to add initiators to an initiator group. See [To Add Initiators to an Initiator Group](#).

1. **Click the Storage Access tab.**
2. **Select an initiator group in the table.**
3. **Click Manage Initiator Groups.**
4. **Select one or more initiators.**
5. **Click Delete.**
6. **Click Confirm.**

▼ **To Add an Initiator Group to a Volume Group**

1. **Select an initiator group from the table.**
2. **Click Add.**
3. **Click Add Selected.**

You can also set the access permissions to the initiator group in this volume group:

- a. **Select an initiator group in the table.**
- b. **Select the access from the menu: Read/Write or Read Only.**
- c. **Click Save.**

▼ To Remove a Volume Group from an Initiator Group

1. Click the **Storage Access** tab.
2. Select an initiator group in the table.
3. Click **Manage Initiator Groups**.
4. Click the `show` link in the **Volume Groups** column.
5. Select one or more volume groups.
6. Click **Remove**.

▼ To Add a Volume Group to an Initiator Group

Caution – Do not add a volume group to an initiator group if the volume group includes volumes that are part of another volume group. If the initiator were to access two or more volume groups containing duplicate volume members with, for example, different access permissions, data corruption could occur. See also [To Add Volumes to This Volume Group](#).

1. Click the **Storage Access** tab.
2. Select an initiator group in the table.
3. Click **Manage Initiator Groups**.
4. Click the `show` link in the **Volume Groups** column.
5. Click **Add**.
6. Select one or more volume groups.

You can also change the selected volume group access permission:

 - Select **Read/Write** or **Read Only** from the menu.
7. Click **Add Selected**.

Managing Multiple Array Access

The Storage Access page enables you to export initiator groups from one array and import them to another array. The following section describes this procedure.

▼ To Export Initiator Groups to Other Arrays

1. Click the **Storage Access** tab.
2. Click **Multiple Array Access Management**.
3. Select a source array and click **Select Initiator Groups**.
4. Select initiator groups to export.
5. Click **Select Targets**.
6. Select one or more target arrays.
7. Click **Import to Selected Arrays**.

Viewing the Access Matrix

Select Storage Access tab>Access Matrix button to display the Array Access Management page. The page lists the read/write permissions for each initiator by volume and the following fields:

- Volume Name.
- LUN - The logical unit number of the volume. The default LUN is the first one available.
- Group - The volume group name. A volume can only belong to one volume group.
- Initiator WWN - The World Wide Name (wwn) of the initiator. For example, 210000e08b047212.
- Group - The initiator group name.
- Permissions Default - Default read/write permissions on the volume. The permissions apply to all initiators unless mapped otherwise.
- Group - Group permissions between the volume group and this initiator group.
- Effective - Actual permission that the initiator has on the volume.

Jobs

The Jobs page displays jobs that the software is currently performing such as:

- Creating storage pools
- Creating volumes
- Duplicating tray characteristics

and so on.

Managing Jobs

The follow sections describe how to manage jobs:

- [To View Job Status](#)
- [To Cancel One or More Jobs](#)
- [To Delete Jobs](#)

▼ To View Job Status

1. Click the Jobs tab.

The Jobs page is displayed. This page shows a summary of all current or outstanding jobs.

2. Perform one of the following steps:

- - Select All Jobs from the menu to view current and completed jobs.
- - Select Outstanding Jobs from the menu to view current jobs.

3. Click **Refresh List** to update the page.

▼ To Cancel One or More Jobs

1. Click the **Jobs** tab.
2. Select **Outstanding Jobs** from the menu.
3. Select one or more jobs in the **Jobs Summary** table.
4. Click **Cancel Job**.
5. Click **Confirm**.
6. Click **Refresh** to update the page.

▼ To Delete Jobs

1. Click the **Jobs** tab.
2. Select **All Jobs** or **Outstanding Jobs** from the menu.
3. Select one or more jobs in the **Jobs Summary** table.
4. Click **Delete Jobs from List**.

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