



All TB2 & TB3 RAID 5 Storage MSU User Manual

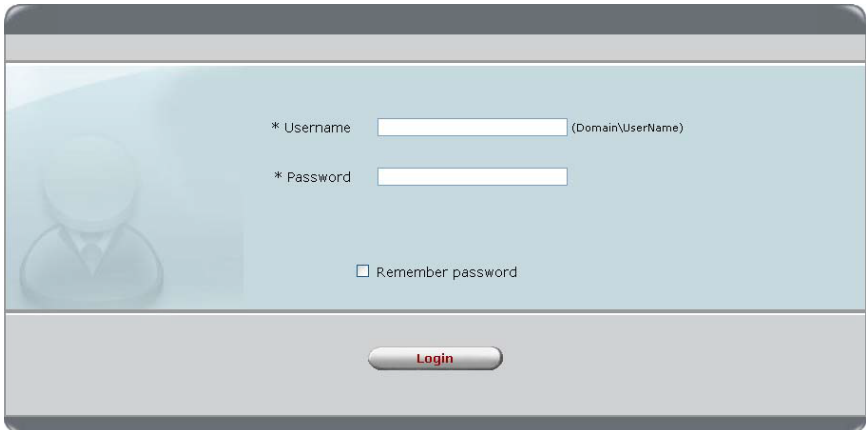
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1. Login Page

Opening the MSU takes you to a login page, as shown in Figure1-1. Use your **Windows** username and password to log into the MSU. If you have a username but no password, then leave the password field blank.

Note: If you are on a network, then preface your username with the network domain name and a backslash.

Figure 1-1 MSU Login



The screenshot displays a login interface with a light blue background and a faint image of a person in a suit on the left. The form contains the following elements:

- A label "* Username" followed by a text input field and the text "(Domain\UserName)" to its right.
- A label "* Password" followed by a text input field.
- A checkbox labeled "Remember password".
- A "Login" button at the bottom center, with the text "Login" in red.

2. Creating a Virtual Disk

You can create virtual disks using the following methods:

- [Creating a Virtual Disk Using Quick Create](#)
- [Creating a Virtual Disk Using Create Array](#)

2.1 Creating a Virtual Disk Using Quick Create

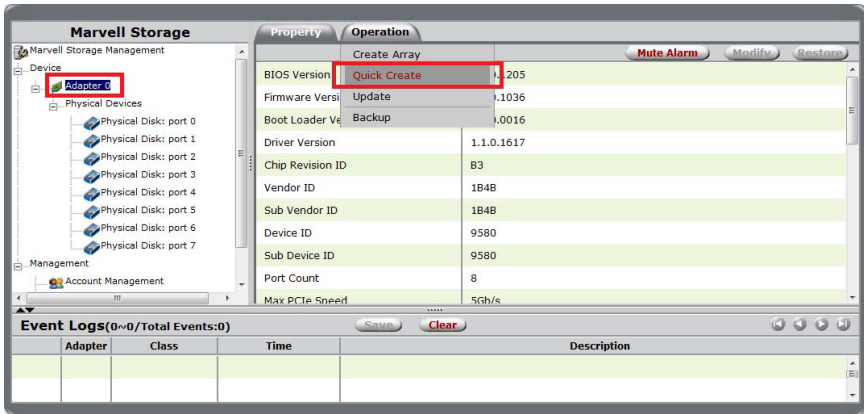
A **Virtual Disk** is a combination of two or more physical disks that are presented to the operating system as a single storage device. Quick Create provides an easy way to create virtual disks. This wizard offers you a choice of creating virtual disks based on best performance and highest reliability. The MSU has the flexibility to create multiple virtual disks.

To create a virtual disk using Quick Create

1. Select **Adapter** in the **Marvell Storage Management** pane.

2. Roll-over the **Operation** tab in the **Properties** pane to select Quick Create, as shown in Figure2-1.

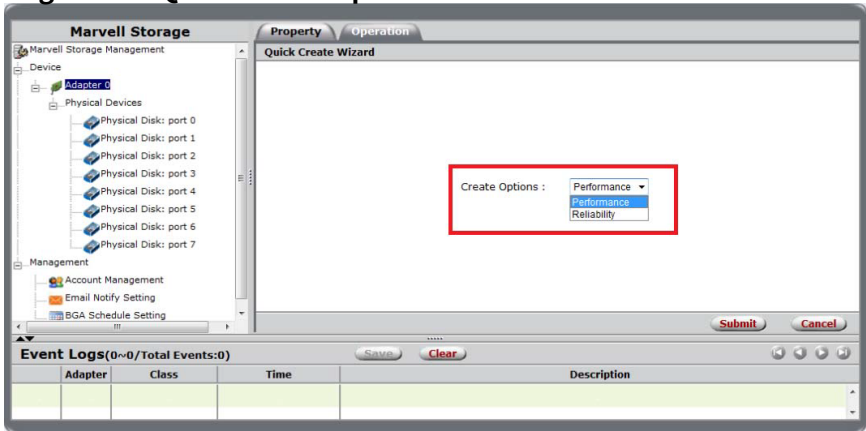
Figure 2-1 Quick Create



3. Select one of the following Quick Create Options:
 - **Performance**—Creates a virtual disk optimized for best read and write performance.
 - **Reliability**—Creates a virtual disk optimized for best fault tolerance.

Based on your selection of performance and reliability, as shown in Figure 2-2, and the capabilities of the RAID controller, the MSU creates a virtual disk using some or all of the available physical disks.

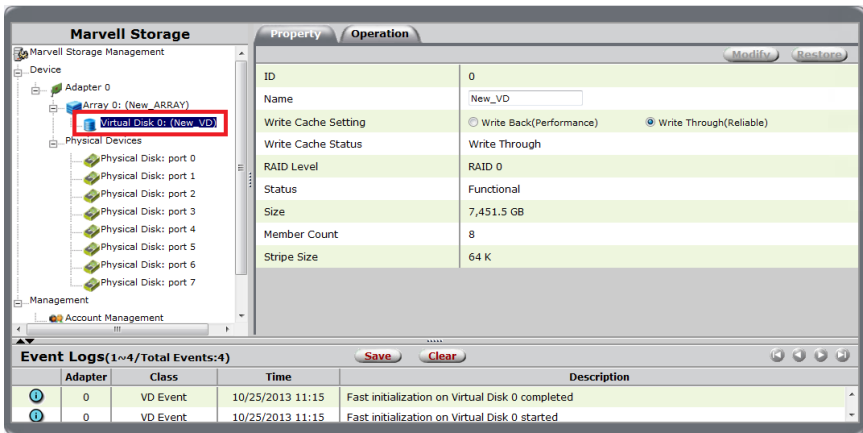
Figure 2-2 Quick Create Options



4. Select Submit.
5. Select **OK** to create the new **Disk Group**

After creating the virtual disk, the MSU displays the Property tab for the new Virtual Disk, as shown in Figure2-3.

Figure 2-3 New Virtual Disk



2.2 Creating a Virtual Disk Using Create Array

An array is a combination of two or more physical disks that are presented to the operating system as a single storage device that comprises one or more virtual disks. In addition to the procedures for creating a virtual disk using Quick Create, detailed in section 2.1, the MSU provides advanced virtual disk configuration and creation options to build a virtual disk manually.

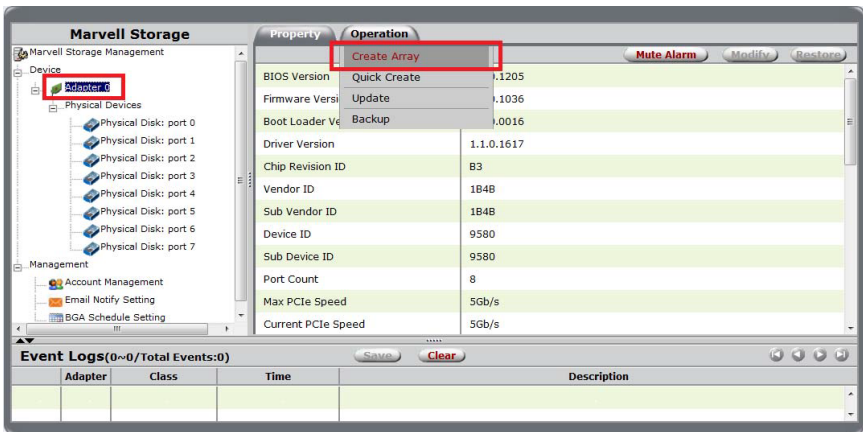


Creating a RAID virtual disk destroys all data on the physical disks included in the virtual disk. Back up your data before continuing.

To create a custom virtual disk

1. Select **Adapter** in the **Marvell Storage Management** pane.
2. Roll-over the **Operation** tab in the **Properties** pane to select **Create Array**, as shown in Figure 2-4.

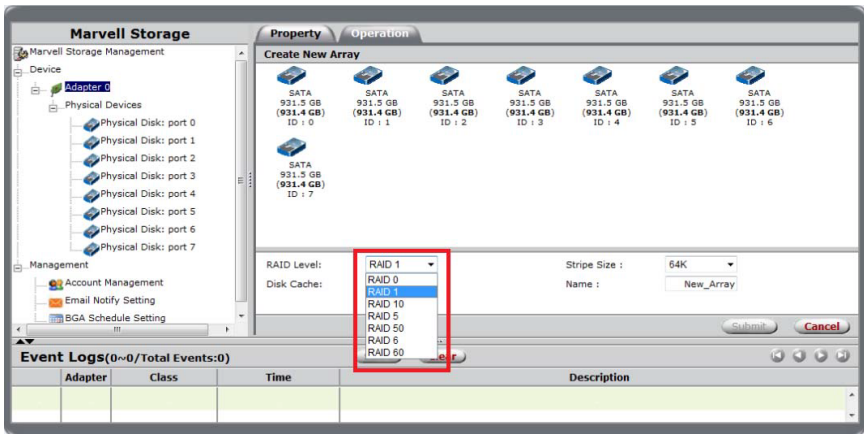
Figure 2-4 Create Array



3. The **Create New Array** screen populates and displays eight SATA icons.
4. Select the RAID Level drop-down to select your preferred RAID level, as shown in Figure 2-5.

Note: For information on RAID levels, see AppendixB, **Selecting a RAID Level.**

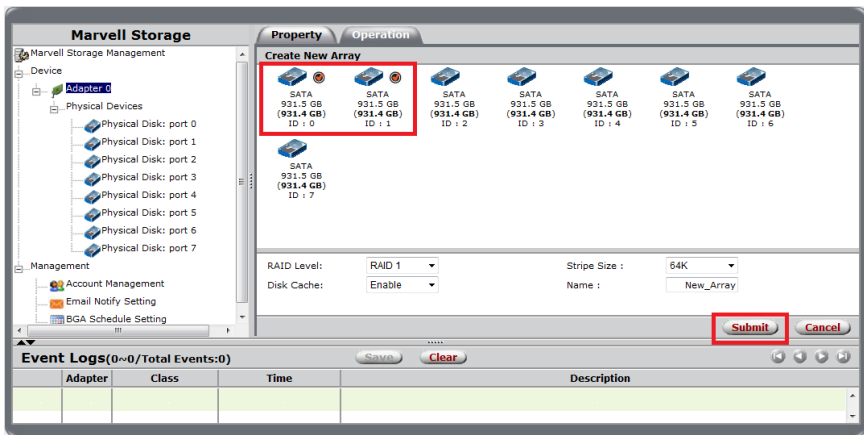
Figure 2-5 Select RAID Level



5. Select the physical disk icons you want to include in your virtual disk. Selected drives are marked by a red check in a black circle, as shown in Figure 2-6.

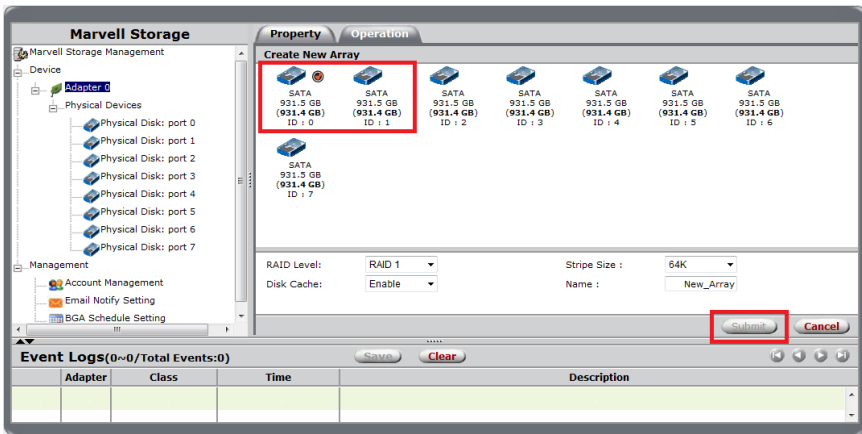
Each RAID level can take different numbers of physical disks. When you select a valid number of physical disks for your virtual disk, the **Submit** button on the lower right-hand corner of the **Create New Array** screen lights up red.

Figure 2-6 Select Physical Disk



The **Submit** button only lights up red when a valid number of disks is chosen for each RAID level. In Figure 2-7, the **Submit** button is not lit up red because the number of disks chosen is not valid for the RAID 1 level. RAID 1 level requires a minimum of two physical disks.

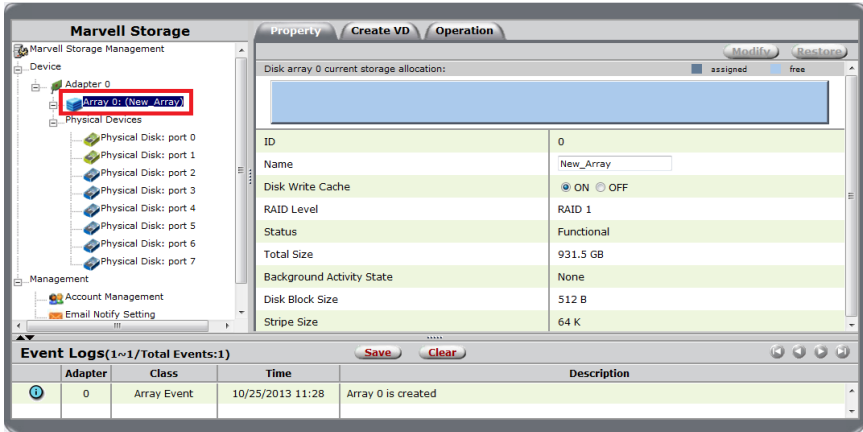
Figure 2-7 Invalid Drive-to-RAID Selection



6. Select **Submit**.

A blue **Array** icon populates under the **Adapter** branch in the **Marvell Storage Management** pane, as shown in Figure 2-8.

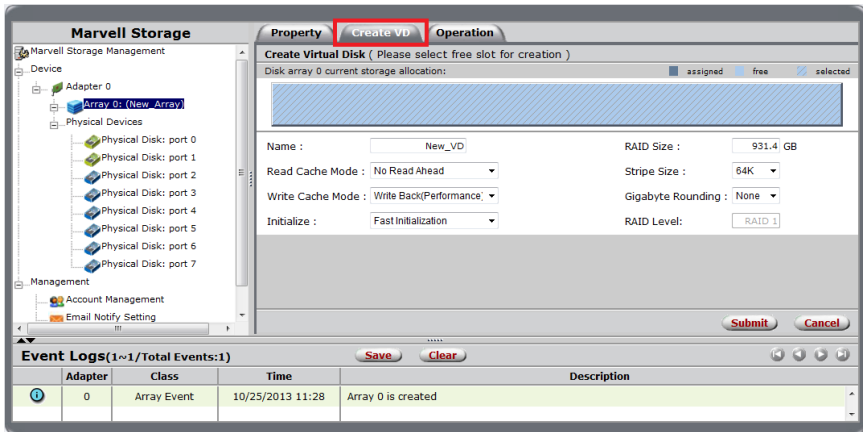
Figure 2-8 New Array



7. Select the **Create VD** tab.

The Create VD screen now provides configuration options for the virtual disk, as shown in Figure 2-9.

Figure 2-9 Create Virtual Disk



The MSU assigns a default name to the virtual disk, called **New_VD**.

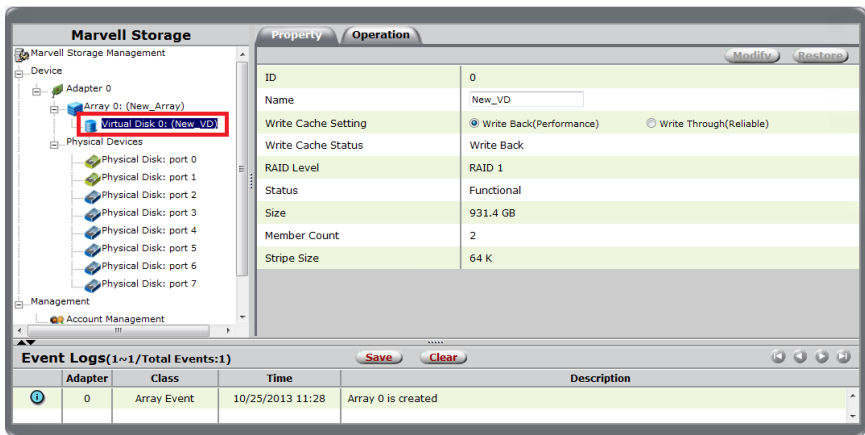
8. To change the default name, select the **Name** field and type in the desired name.
9. Select your following preferences for your virtual disk: **Cache Mode**, **Initialization**, **RAID Size**, **Stripe Size**, and **Gigabyte Rounding**.

Note: Foreground Initialization writes 0 to the entire virtual disk. As with Fast Initialization, all data on the virtual disk is destroyed. In Fast Initialization the MSU erases the Master Boot Record (MBR) in all physical disks constituting the virtual disk. This is a destructive process that erases all data on the virtual disk.

10. Select **Submit** create your **Virtual Disk**.

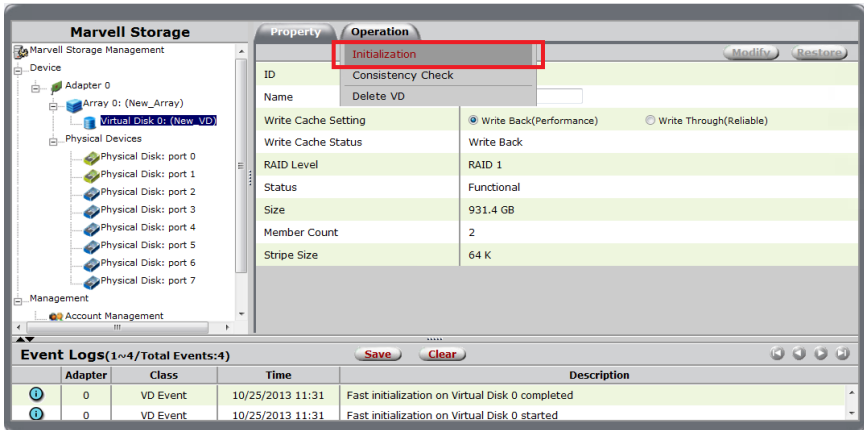
When you select **Submit** a blue **Physical Disk** icon populates under the **Array** branch in the **Marvell Storage Management** pane, as shown in Figure 2-10.

Figure 2-10 Virtual Disk



Note: A lime-colored **Physical Disk** icon in the **Marvell Storage Management** pane indicates a configured **physical disk** that is part of a virtual disk. A blue-colored **Physical Disk** icon indicates an unconfigured physical disk that is available for use in a virtual disk.

11. Roll-over the **Operation** tab in the **Properties** pane to select **Initialization**, as shown in Figure 2-11.

Figure 2-11 Initialization

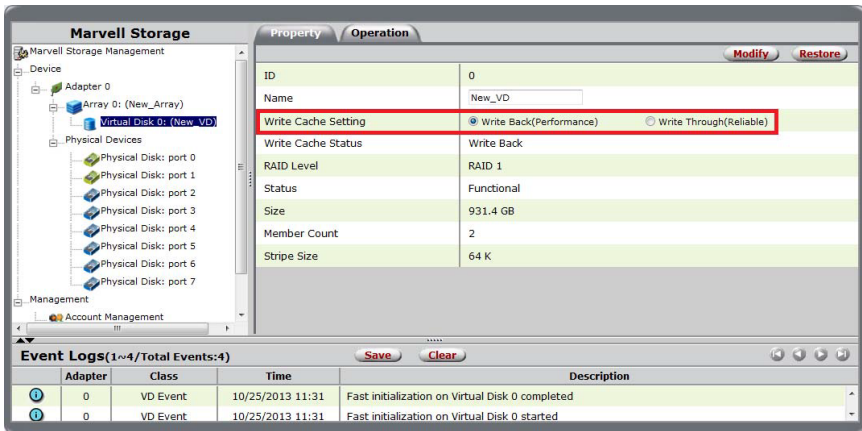
When you select **Initialization** the MSU defaults to **Background Initialization** mode, where mirrored data is updated to ensure consistency of data on each physical disk in the virtual disk. This non-destructive process is performed in the background, allowing the operating system to continue accessing the virtual disk.

12. Select **Start** to begin **Initialization**, or select **Cancel** if you do not prefer to initialize the virtual disk immediately.

13. Select your desired Cache Setting for your virtual disk, as shown in Figure 2-12:

- **Write Back (Performance)** mode offers best performance, but is less reliable. Write data is temporarily stored in the memory cache and flushed to the hard disk at the appropriate time. Because the data is not immediately written to the hard disk, data may be lost in the event of a power failure.
- **Write Through (Reliable)** mode is the default, and most reliable, **Cache** mode. In write through mode, all write operations are performed on the hard disk before signaling the completion of the write operation to the operating system.

Figure 2-12 Cache Setting



14. Select **Modify** to confirm your selection, or select **Restore** to cancel your selection.

Note: The Modify button is grayed-out until the Cache Settings change.

3. Migrating a Virtual Disk

Migrating a Virtual Disk allows you to increase disk capacity and change the RAID level of an operating RAID array.

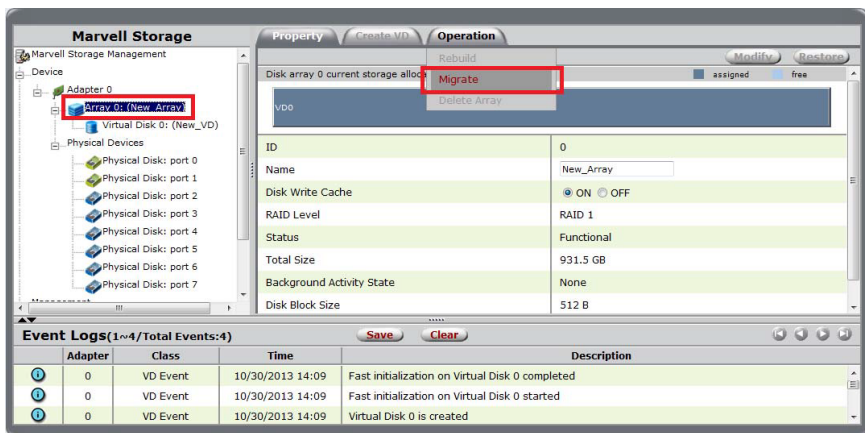
To extend the capacity of an array

1. Select the **Array** in the **Marvell Storage Management** pane.

Note: Place your cursor over the array storage allocation bar to view the size of the array. If you have already created one or more virtual disks, they are displayed as segments in the storage allocation bar and sized proportionally to their disk capacity. Hover your cursor over individual segments to view the virtual disk's name and size.

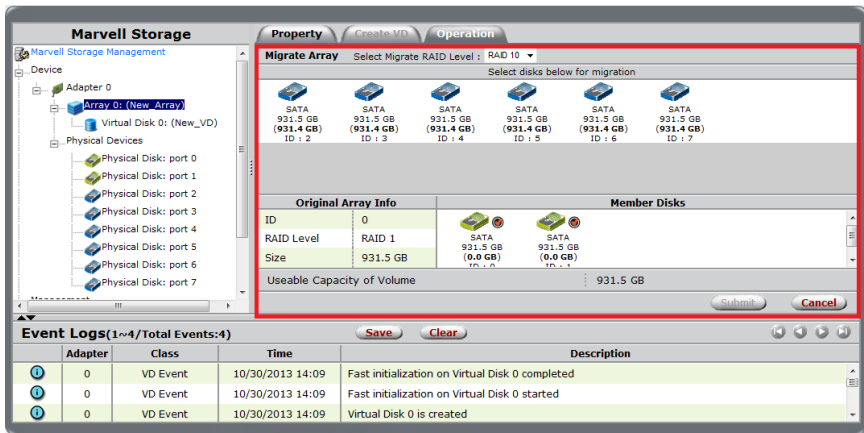
2. Roll-over the **Operation** tab in the **Properties** pane to select **Migrate**, as shown in Figure 3-1.

Figure 3-1 Migrate



The drop-down menu at the top displays the current RAID level for the array, as shown in Figure 3-2. Do not change the RAID level as you intend to increase capacity for the current level.

Figure 3-2 Migrate Array

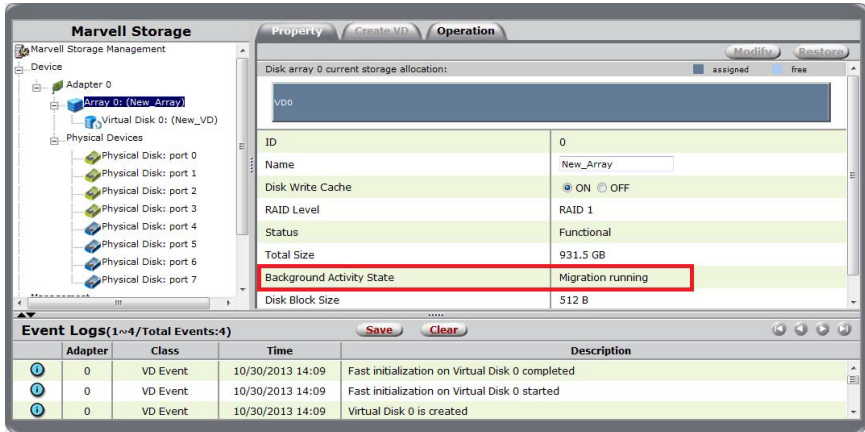


The available physical drives are displayed.

3. Select the drives you want added to the array.
4. Select **Submit**.

You are redirected to the array **Properties** tab where **Migration Status** is displayed, as shown in Figure3-3.

Figure 3-3 Migration Status



4. Deleting a Virtual Disk

You can delete a virtual disk and an array using the following methods:

- [Deleting a Virtual Disk](#)
- [Deleting an Array](#)

4.1 Deleting a Virtual Disk

The MSU enables you to delete your **Virtual Disk**.

Note: After deleting a virtual disk, the physical disks, comprising of the virtual disk, become available for use in other virtual disks or as a global spare drive.

To delete a virtual disk

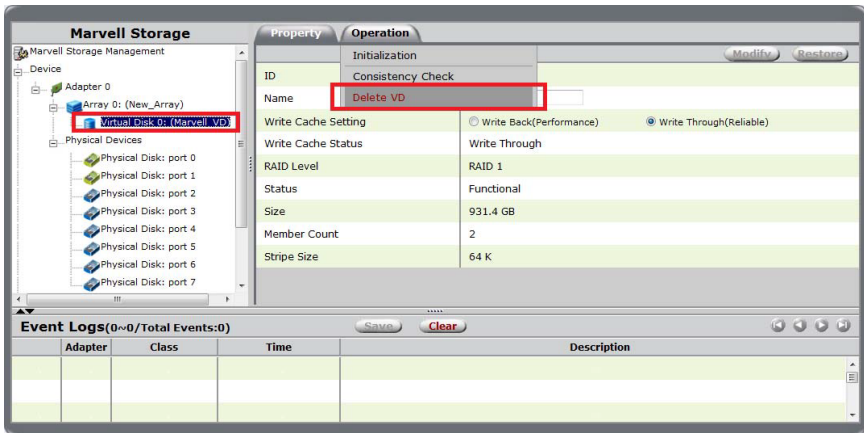


Deleting a virtual disk permanently erases all data on the virtual disk. However, you can choose to keep partitioned information on the virtual disk.

1. Select the **Virtual Disk** from the **Marvell Storage Management** pane.

The **Property** tab for the **Virtual Disk** appears.

2. Roll-over the **Operation** tab to select **Delete VD**, as shown in Figure 3-1.

Figure 3-1 Delete VD

Note: Figure 3-1 is an example for the RAID 1 virtual disk. Other RAID levels may present different delete options than those pictured.

The MSU displays the following message “Warning!!! All data on this virtual disk will be erased once it is deleted!”

3. Select **OK** to acknowledge the warning.

The MSU requests confirmation of deletion with the following pop-up message “Are you sure you want to delete this virtual disk?”

4. Select **OK** to confirm deletion.

The MSU displays the following pop-up question “Do you want to delete the partition information if this has one?”

5. Select **OK** to delete the partition information, or select **Cancel** to keep the partition information.

Note: When you delete a Virtual Disk a Marvell Event Message window appears at the bottom right screen.

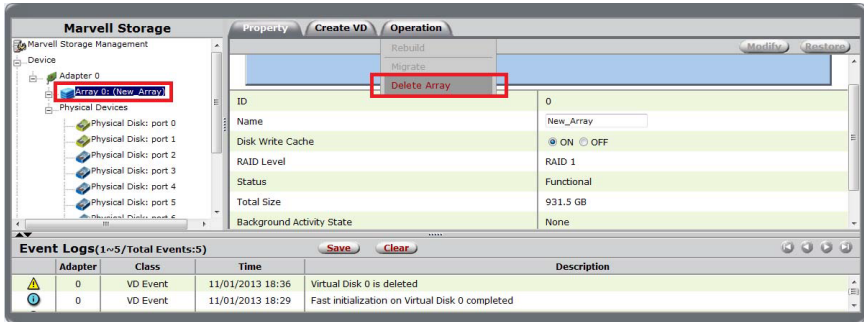
4.2 Deleting an Array

The MSU enables you to delete your **Array**.

To delete an Array

1. Follow steps one through five of deleting a virtual disk, as shown in section 3.1.
2. Select the **Array** in the **Marvell Storage Management** pane.

3. Roll-over the **Operation** tab to select **Delete Array**, as shown in Figure 3-2.

Figure 3-2 Delete Array

Note: Figure 3-2 is an example for the RAID 1 virtual disk. Other RAID levels may present different delete options than those pictured.

The MSU displays the message “Are you sure you want to delete this Array?”

4. Select **OK** to acknowledge the warning.



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