Creating Data Reduction Pools

When you are using IBM® FlashCore Modules with IBM FlashSystem® 9100, for most use cases the best practice is to use Data Reduction Pools with fully allocated volumes. This sheet guides you through the process to create these volumes. Other specific cases might benefit from another set of options, and these are described in the following website:

IBM FlashSystem 9100 Best Practices and Performance Guidelines

To create volumes, complete the following steps:

1. Create a storage pool by selecting Pools → Pools, as shown in Figure 1.

2. Click Create to open the Create Pool wizard, as shown in Figure 2 on page 4. We provide the name DRP-pool.

3. Select the Data reduction checkbox to create the Data Reduction Pool. Leaving it clear creates a standard storage pool. If an encryption license is installed and enabled, you can additionally select whether the storage pool is encrypted.
For more information, see the following IBM Redbooks® publication (SG24-8448):
IBM FlashSystem 9100 Best Practices and Performance Guidelines

Figure 2 shows the Create Pool wizard.

4. Click **Create** to create the new data reduction pool. Figure 3 shows the storage Pools view with the newly created data reduction pool.

5. Initiate the Assign Storage wizard. You either right-click the storage pool or click **Actions → Add Storage**, as shown in Figure 4.
6. Figure 5 shows the Assign Storage to pool window. Click **Internal Custom** and **Assign** in the Advanced section.

![Figure 5 Assign storage](image)

7. Select Drive Class, number of drives, and DRAID-6, and shown in Figure 6.

![Figure 6 Drive assignment](image)
8. Click **Assign** to create the new MDisk. You will see the Pools window after adding the array, as shown in Figure 7.

![Figure 7 Capacity added](image)

### Creating volumes in Data Reduction Pools

To create the volumes in pools, complete the following steps:

1. Go to **Volumes → Volumes**. Figure 8 shows the view before adding volumes into Data Reduction Pools.

![Figure 8 Volumes view](image)

2. Figure 9 on page 7 shows the Create Volume wizard. Select your Quantity, Capacity, and Name.

3. Under the menu Capacity Savings we select **None** and leave Deduplicated cleared. If you are trying to take advantage of other capacity savings, see the following Redbooks publication:
   
   IBM FlashSystem 9100 Best Practices and Performance Guidelines
Figure 9  Create volume

Figure 10 shows the Volumes window.

Figure 10  Volumes window
Creating hosts

To create a host, complete the following steps:

1. Open the host configuration window by clicking **Hosts** (Figure 11 on page 8).

![host window](image)

**Figure 11** host window

2. To create a host, click **Add Host**.

3. Select **Fibre Channel**. The Fibre Channel host configuration window opens (Figure 12).

![Fibre Channel host configuration](image)

**Figure 12** Fibre Channel host configuration
4. Enter a name for your host and click the **Host Port (WWPN)** menu to get a list of all discovered WWPNs (Figure 13).

![Add Host](image)

**Figure 13**   Available WWPNs

5. Select one or more WWPNs for your host. IBM Spectrum® Virtualize should have the host port WWPNs available if the host is prepared, as described in IBM Knowledge Center for Host Attachment. If they do not display in the list, scan for new disks as required on the respective operating system and click the **Rescan** icon in the WWPN box. If they still do not display, check the SAN zoning and repeat the scanning.
6. If you want to add more ports to your Host, click the Plus sign (+) to add all ports that belong to the specific host, as shown in Figure 14.

![Add Host](image)

**Figure 14  Host type selection**

7. Click **Add** to create the host object.

8. Click **Close** to return to the host window. Repeat these steps for all of your Fibre Channel hosts. Figure 15 shows the Add Host window after creating a host.

![Hosts view](image)

**Figure 15  Hosts view after creating a host**
Mapping a volume to a host

To make a volume available to a host or cluster of hosts, it has to be mapped.

To map a volume to a host or cluster, complete the following steps:

1. In the **Volumes** view (Figure 16) select the volume for which you want to create a mapping, and then select **Actions** from the menu bar.

![Figure 16  Volume list](image1)

2. From the **Actions** menu, select the **Map to Host or Host Cluster** option as shown in Figure 17.

![Figure 17  Map to Host or Host Cluster](image2)
3. This action opens a Create Mapping window. In the example shown in Figure 18, a single volume is mapped to a host, and the system assigns the SCSI LUN IDs.

![Create Mapping window](image)

**Figure 18** Mapping a volume to a host
4. A summary window shows the volume to be mapped along with existing volumes already mapped to the host or host cluster, as shown in Figure 19. Click **Map Volumes**.

![Figure 19 Map volume to host cluster summary](image)

5. The confirmation window shows the result of the volume mapping task, as shown in Figure 20.

![Figure 20 Confirmation of volume to host mapping](image)
6. After the task completes, the wizard returns to the Volumes window. You can list volumes mapped to the given host by navigating to **Hosts → Mappings**, as shown in Figure 21.

![Figure 21: Accessing the Hosts Mapping menu](image)

The host is now able to access the mapped volume.

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