

HPE Gen12 服务器

MR 系列阵列卡 Windows 系统下 MRSA 配置阵列

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一. 适用范围与注意事项

- 本文档旨在说明 HPE Gen12 系列服务器 MR 系列阵列卡 Windows 系统下使用 MegaRAID Storage Administrator 工具配置阵列的方法，并以 DL360 Gen12 服务器为例进行配置步骤说明。
MR 系列阵列卡包含如下型号：
 - HPE MR416i-p Gen12

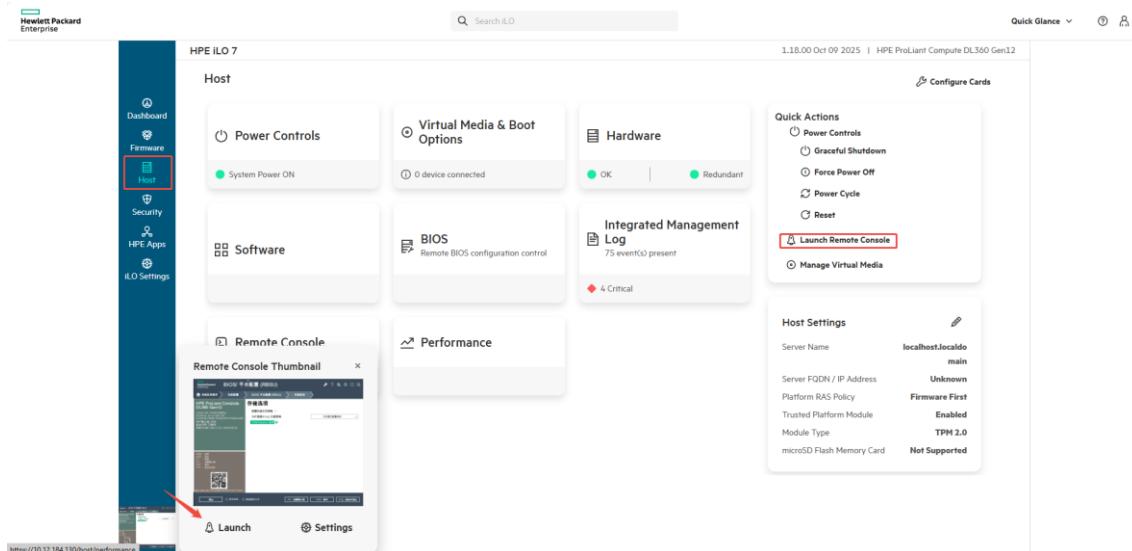
- HPE MR416i-o Gen12
 - HPE MR216i-p Gen12
 - HPE MR216i-o Gen12
 - HPE MR408i-o Gen12
 - HPE MR408i-p Gen12
- 实际情况是否适用本文档, 请通过下面导航链接进行确认:
<https://zhiliao.h3c.com/Theme/details/218271>
- 提示:
本文档中的信息 (包括产品, 软件版本和设置参数) 仅作参考示例, 具体操作与目标需求设置请以实际为准。
本文档不定期更新维护, 请以发布的最新版本为准。

二. 配置准备

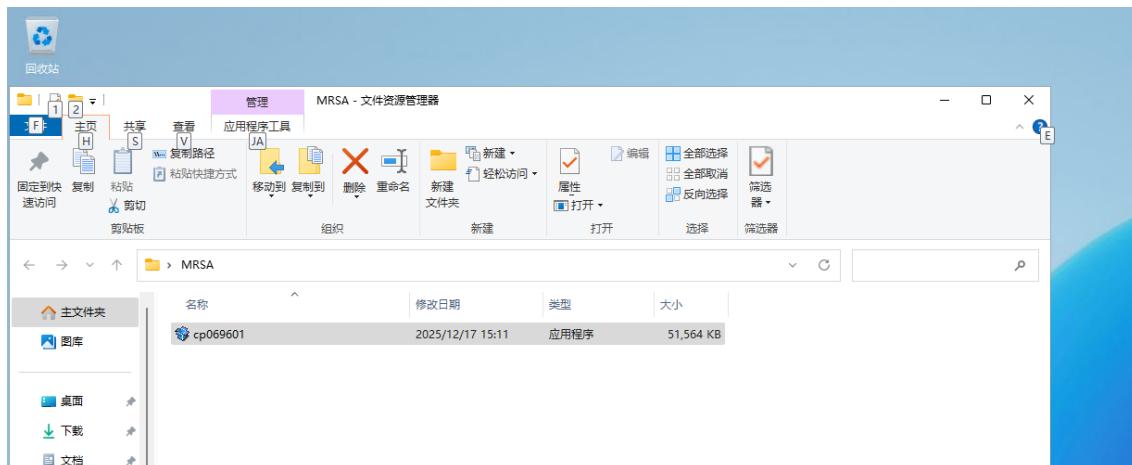
1. 下载 MegaRAID Storage Administrator 工具
 - Windows 下载链接: [HPE MegaRAID Storage Administrator for Windows 64-bit \(HPE MRSA for Gen10 Plus and Gen11 Controllers\) | HPE Support](https://www.hpe.com/us/en/storage/mega-raid/storage-administrator-software/hp-mega-raid-storage-administrator-for-windows-64-bit-hpe-mrsa-for-gen10-plus-and-gen11-controllers.html)
 - Linux 下载链接: [HPE MegaRAID Storage Administrator for Linux 64-bit \(HPE MRSA for Gen10 Plus and Gen11 Controllers\) | HPE Support](https://www.hpe.com/us/en/storage/mega-raid/storage-administrator-software/hp-mega-raid-storage-administrator-for-linux-64-bit-hpe-mrsa-for-gen10-plus-and-gen11-controllers.html)
2. 连接 iLO 与启用远程控制台
具体方法请参考: <https://zhiliao.h3c.com/theme/details/233627>

三. 配置步骤

1. 访问系统
 - 1.1 通过 iLO 启用远程控制台访问系统
通过 iLO7 页面 **Dashboard - Virtual Media & Remote Console** 选项, 或 **Host - Remote Console** 页面, 或页面左下方 Remote Console 选区可直接启用远程控制台; 也可在上方搜索栏, 直接搜索 Remote Console 进行选择。本文以 HTML5 远程控制台为例。

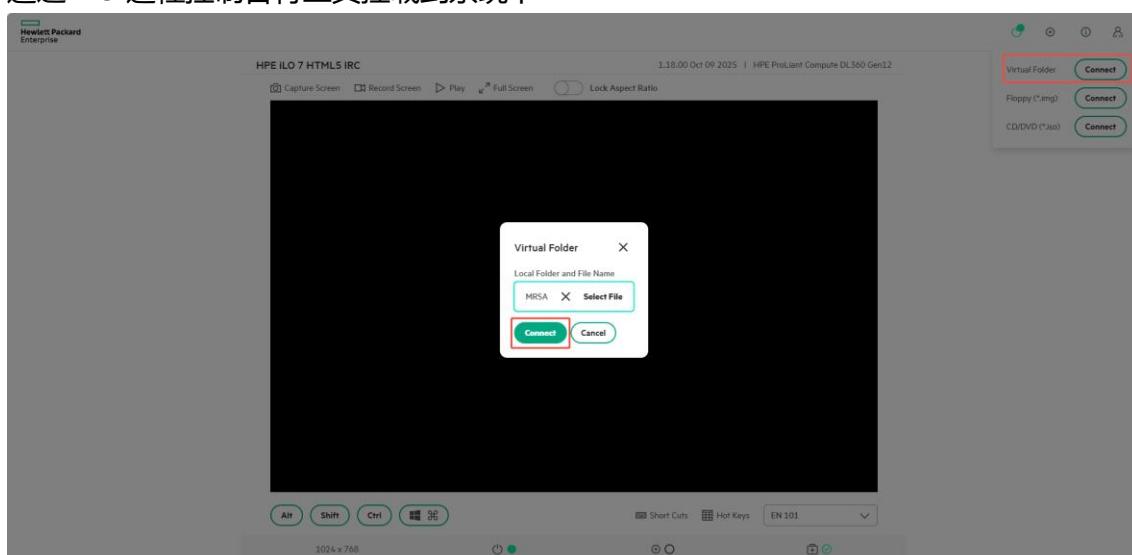


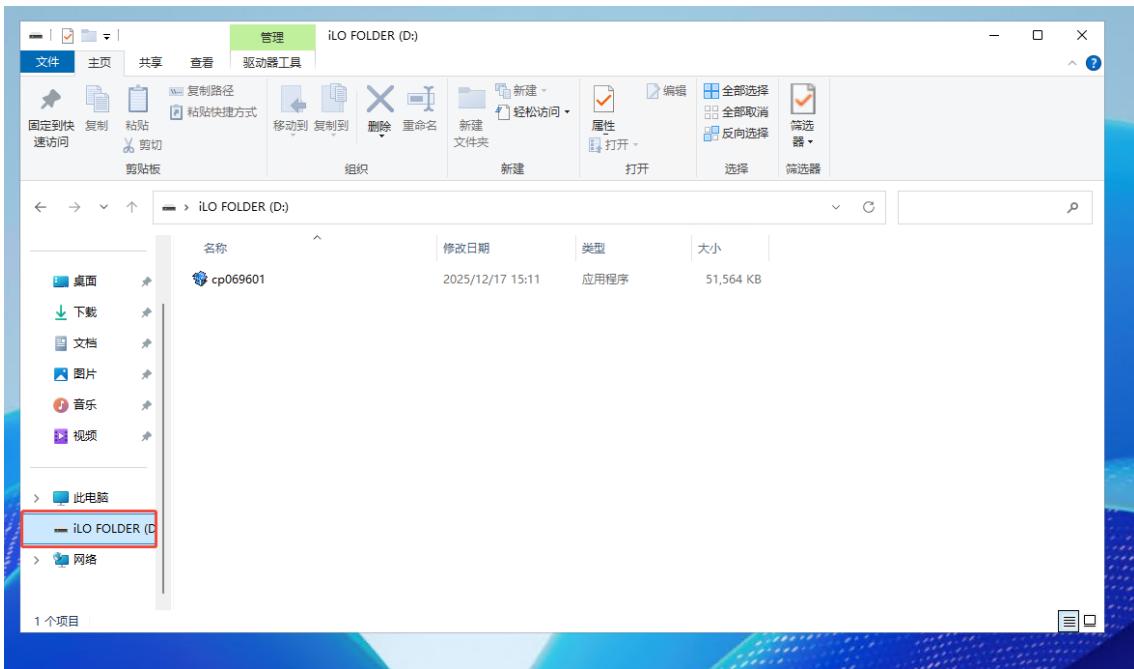
1.2 通过远程桌面或第三方 RDP 工具访问系统



2. 将 MegaRAID Storage Administrator 工具保存到系统下

2.1 通过 iLO 远程控制台将工具挂载到系统下



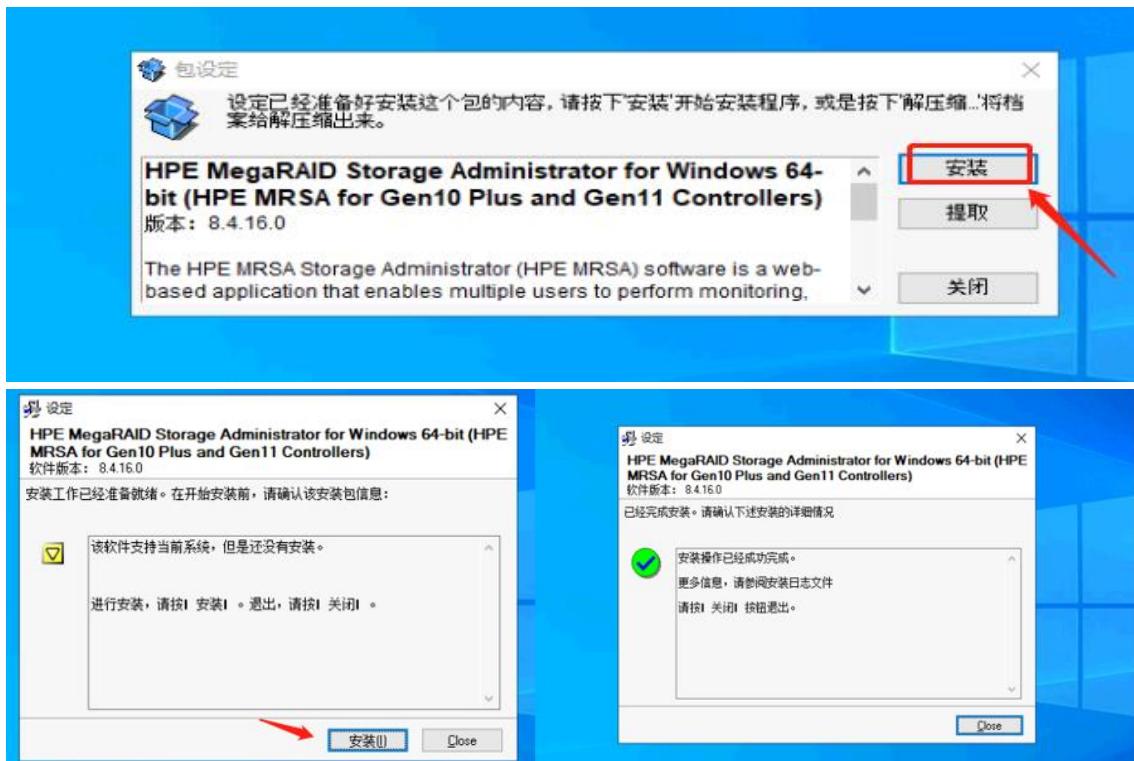


2.2 通过 U 盘将工具挂载到系统下

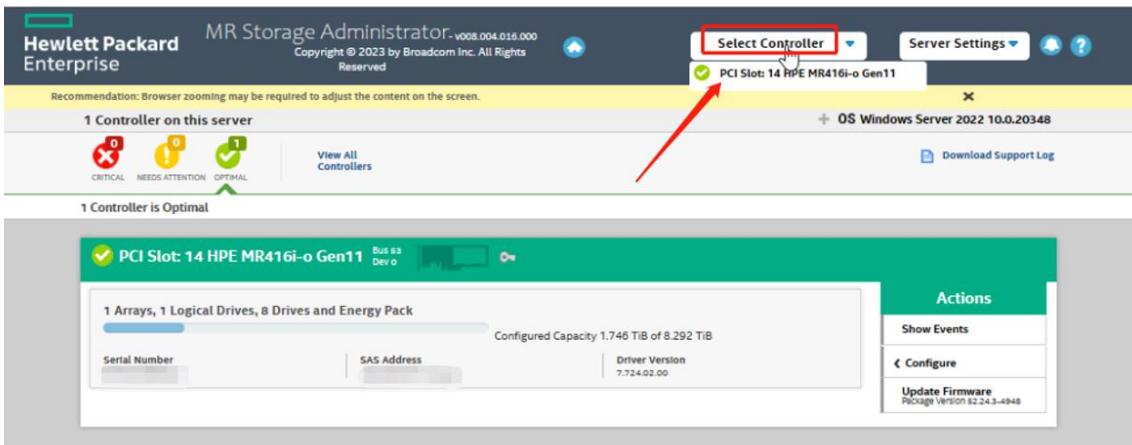
U 盘接入服务器后，在系统下直接访问挂载点。

3. 安装并启用 MegaRAID Storage Administrator

1) 双击安装文件点击安装。



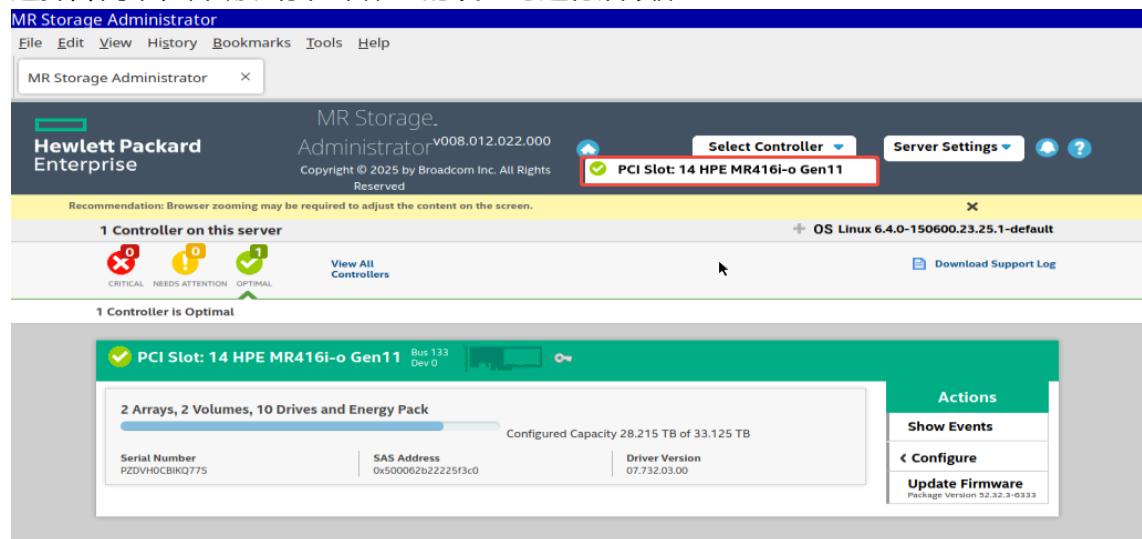
2) 安装完成后, 找到 MRS工具打开。点击 **Select Controller**, 选择阵列卡进行配置。



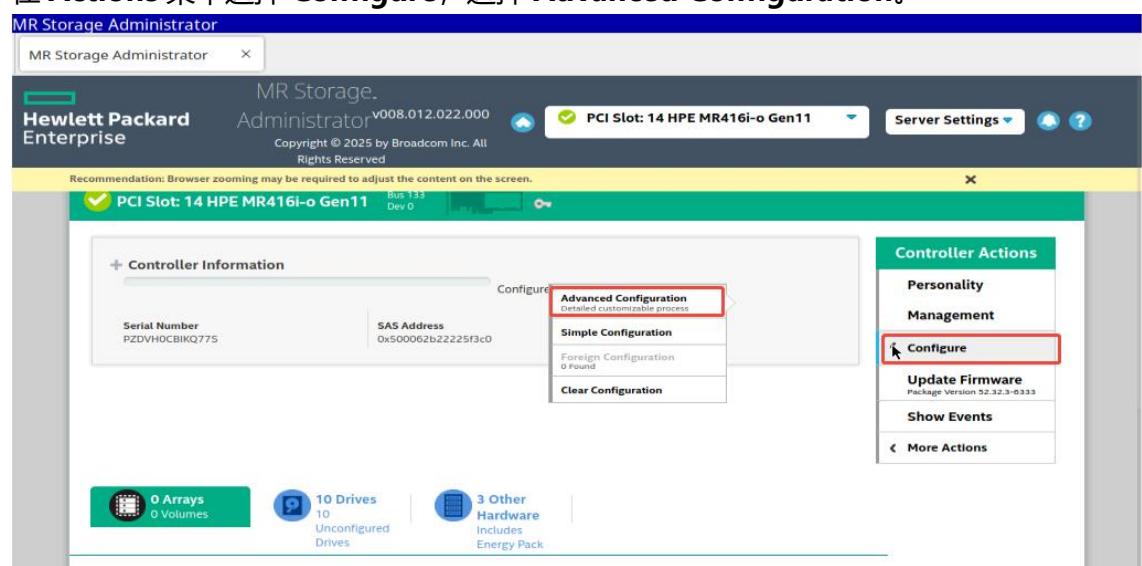
4. 创建与删除阵列

4.1 创建阵列

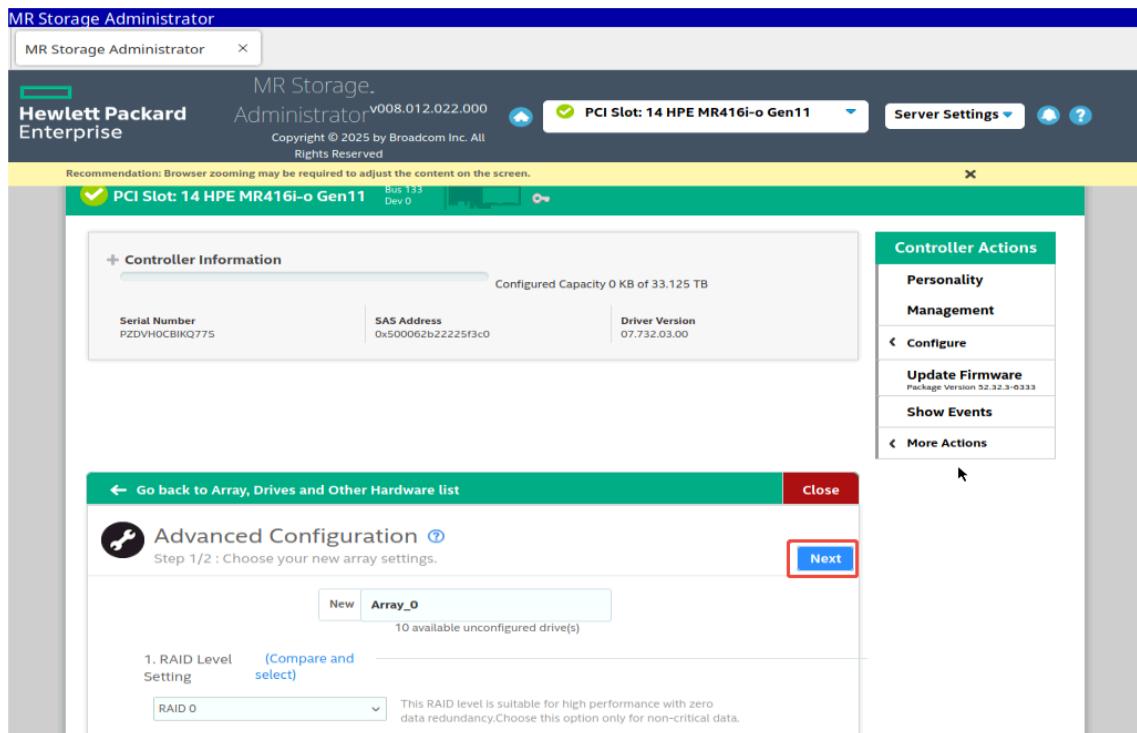
1) 选择阵列卡，并确认存在未配置的硬盘可进行后续配置。



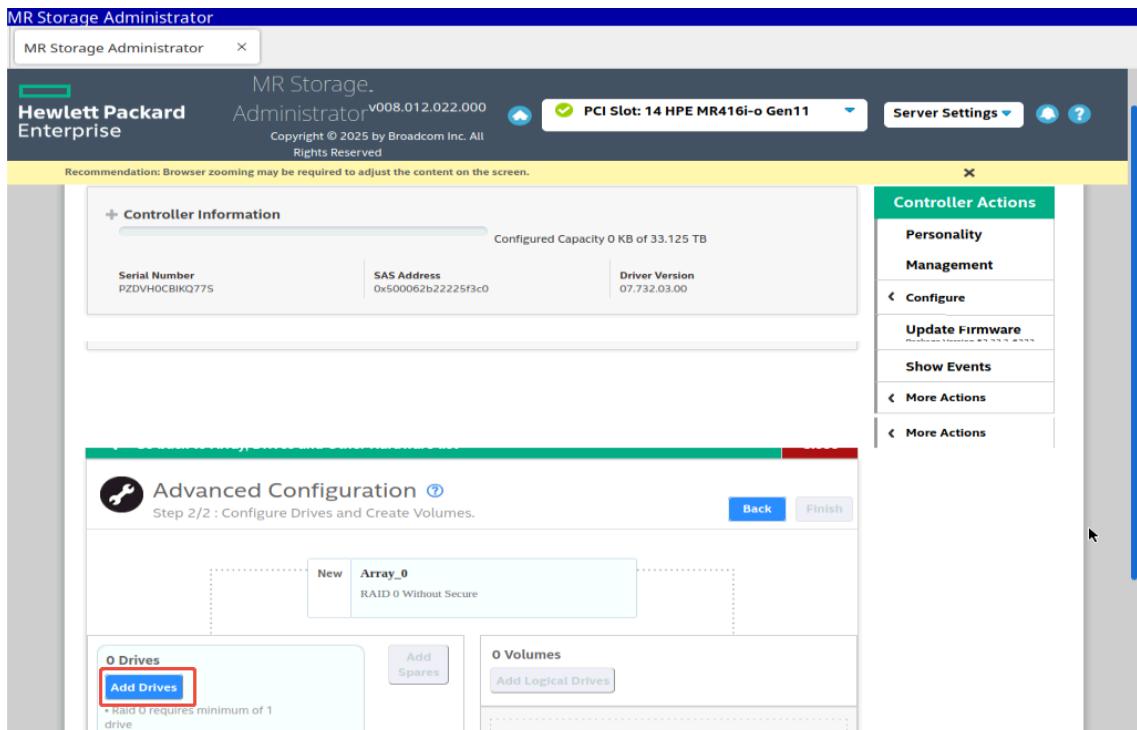
2) 在 Actions 菜单选择 Configure，选择 Advanced Configuration。



3) 选择要创建的阵列级别, 点击 **Next**。



4) 点击 **Add Drives** 添加硬盘。



5) 选择好硬盘后点击 **Add Drives**。

10 Available Unconfigured Drive(s)

Add a minimum of 1 drive(s) as required by RAID 0 Level.

Type **ALL**

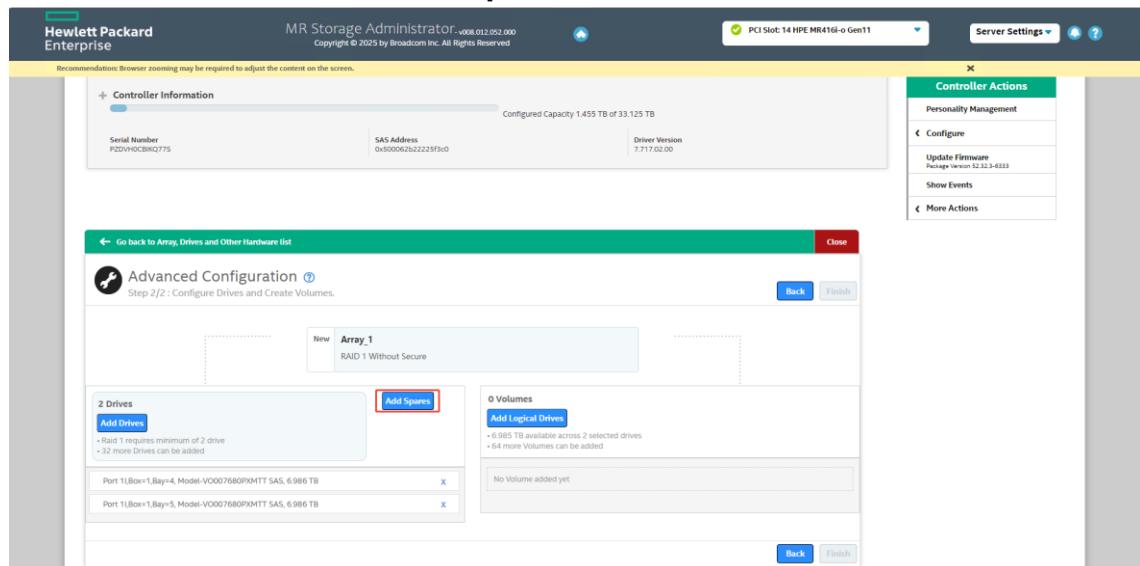
<input type="checkbox"/>	▲ Port,Box,Bay	Device/Persistent ID	Media	Interface	Capacity	Sector Size	Model
<input type="checkbox"/>	Port 11,Box=1,Bay=1	0	HDD	SAS	279.396GB	512B	EG000300JWSJP
<input type="checkbox"/>	Port 21,Box=2,Bay=1	10	SSD	SAS	6.986TB	512B	VO007680PXMOTT
<input type="checkbox"/>	Port 11,Box=1,Bay=2	2	HDD	SAS	279.396GB	512B	EG000300JWSJP
<input checked="" type="checkbox"/>	Port 21,Box=2,Bay=2	5	SSD	NVMe	1.455TB	512B	MO001600KYDMU
<input type="checkbox"/>	Port 11,Box=1,Bay=3	1	HDD	SAS	279.396GB	512B	EG000300JWSJP
<input type="checkbox"/>	Port 11,Box=1,Bay=4	8	SSD	SAS	6.986TB	512B	VO007680PXMOTT
<input type="checkbox"/>	Port 11,Box=1,Bay=5	11	SSD	SAS	6.986TB	512B	VO007680PXMOTT
<input type="checkbox"/>	Port 11,Box=1,Bay=6	9	SSD	SAS	6.986TB	512B	VO007680PXMOTT

Add Drives

1 drive(s) selected.

注：配置 RAID10，不需要手动选择 Span，会自动生成，配置阵列操作均一致。

6) 如要进行热备盘添加，可点击 **Add Spares** 选项。



The screenshot shows the 'Advanced Configuration' step of the RAID setup. The 'Add Spares' button is highlighted with a red box. The interface displays two drives selected for the array: 'Port 11,Box=1,Bay=4' and 'Port 11,Box=1,Bay=5'. The array is labeled 'Array_1' with a capacity of 'RAID: 1 Without Secure'.

2 Available Unconfigured Drive(s)

Add at least one drive with minimum 6.986 TB capacity

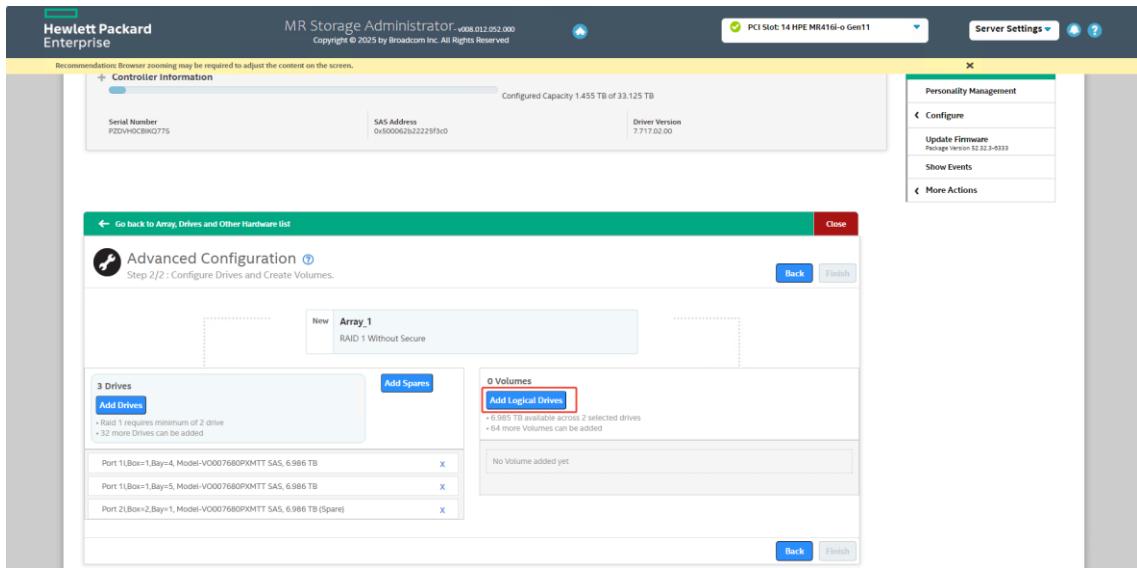
Filter

<input type="checkbox"/>	▲ Port,Box,Bay	Device/Persistent ID	Media	Interface	Capacity	Sector Size	Model
<input checked="" type="checkbox"/>	Port 21,Box=2,Bay=1	10	SSD	SAS	6.986TB	512B	VO007680PXMOTT
<input type="checkbox"/>	Port 11,Box=1,Bay=6	9	SSD	SAS	6.986TB	512B	VO007680PXMOTT

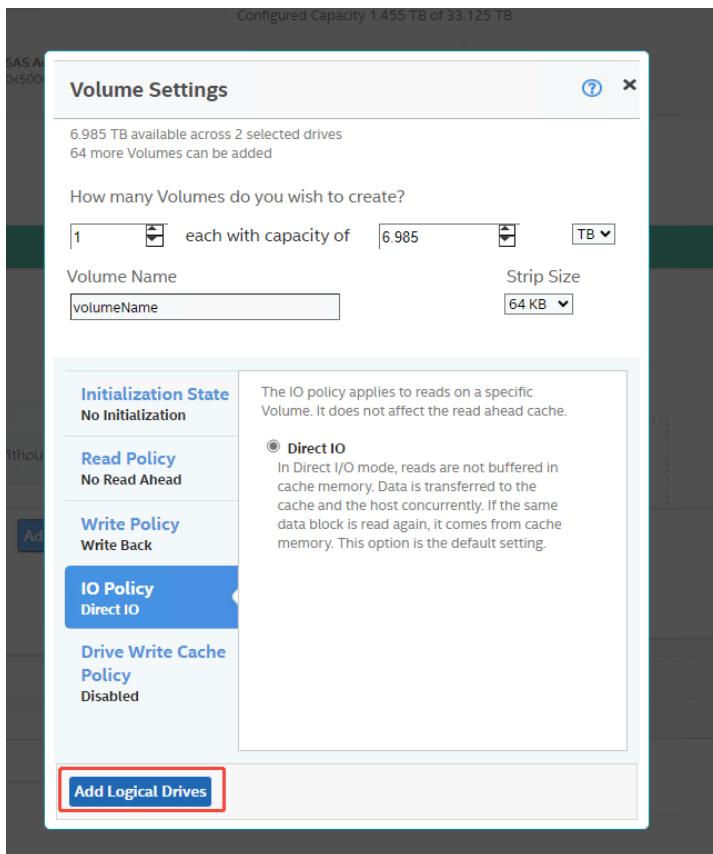
Add Spares

Add at least one drive with minimum 6.986 TB capacity

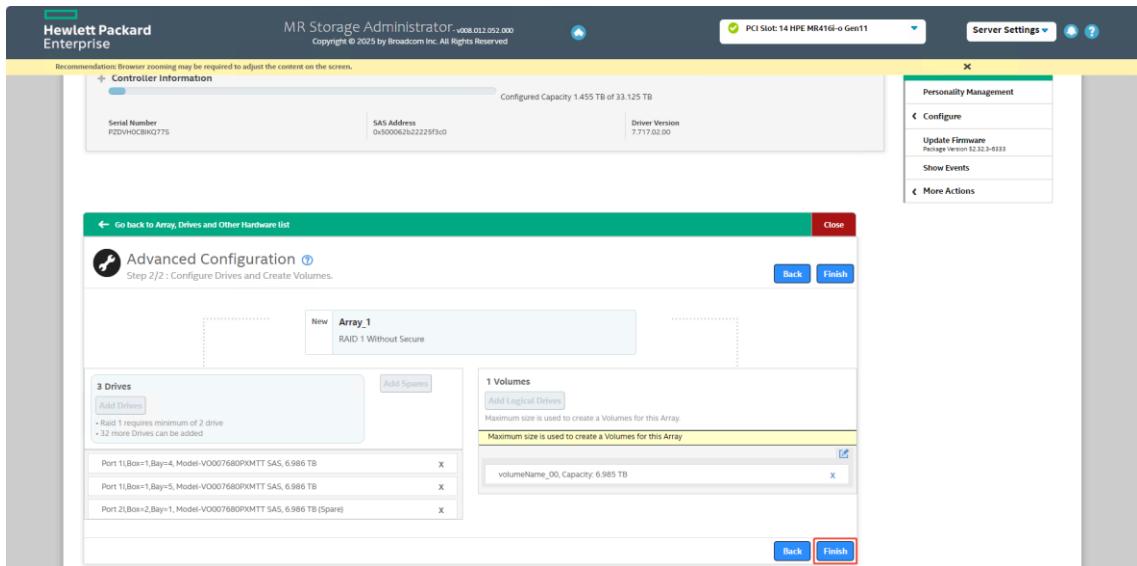
7) 设置完成后，点击 **Add Logical Drivers**。



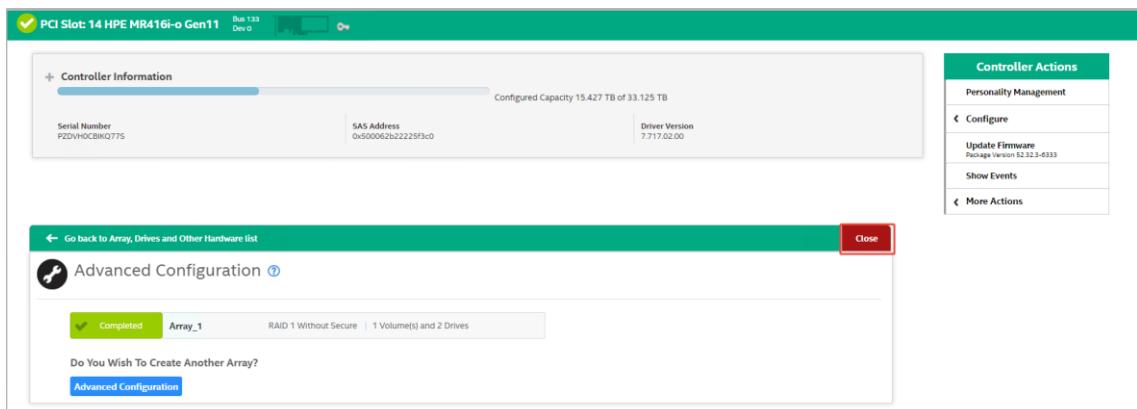
8) 设置逻辑卷名称, 容量大小, 读写策略等, 之后点击 **Add Logical Drivers** 创建阵列。



9) 点击 **Finish** 完成。

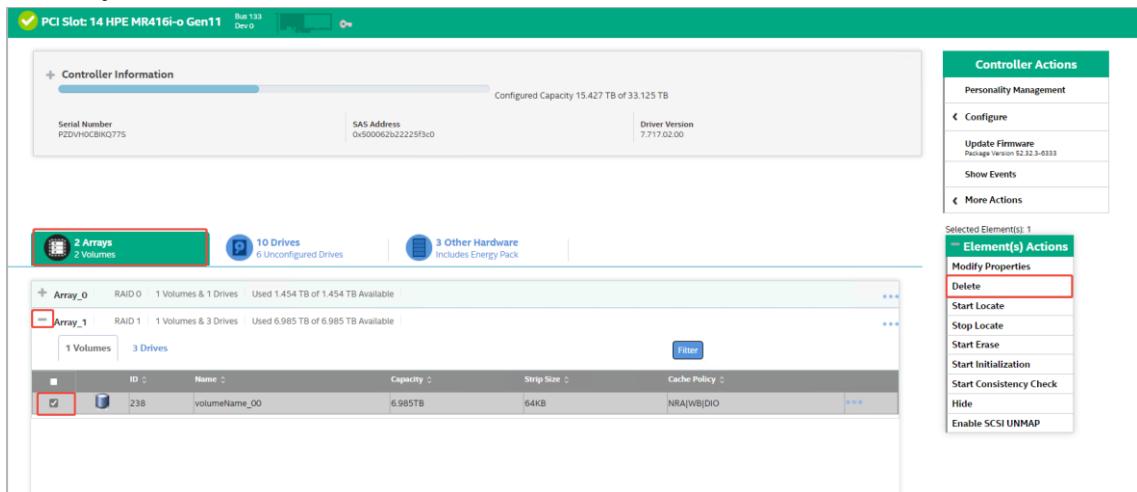


10) 点击 **Close**, 可以看到阵列已创建成功。

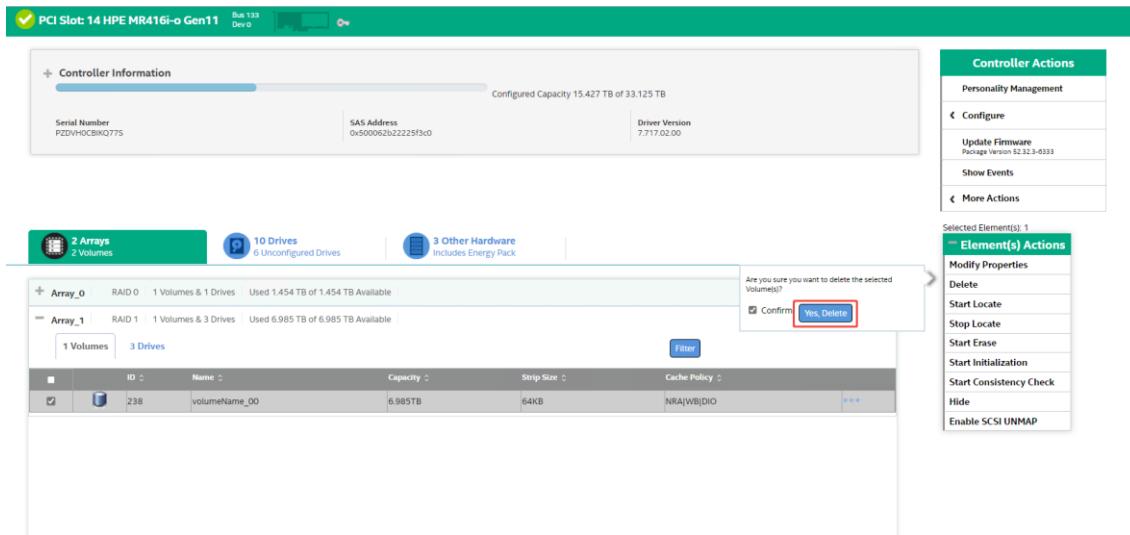


4.2 删除阵列

1) 在 Arrays 下选择要删除的阵列, 右侧选项栏点击 **Delete**。



2) 勾选 **Confirm**, 点击 **Yes**, **Delete** 即可删除。



5. 创建与删除热备

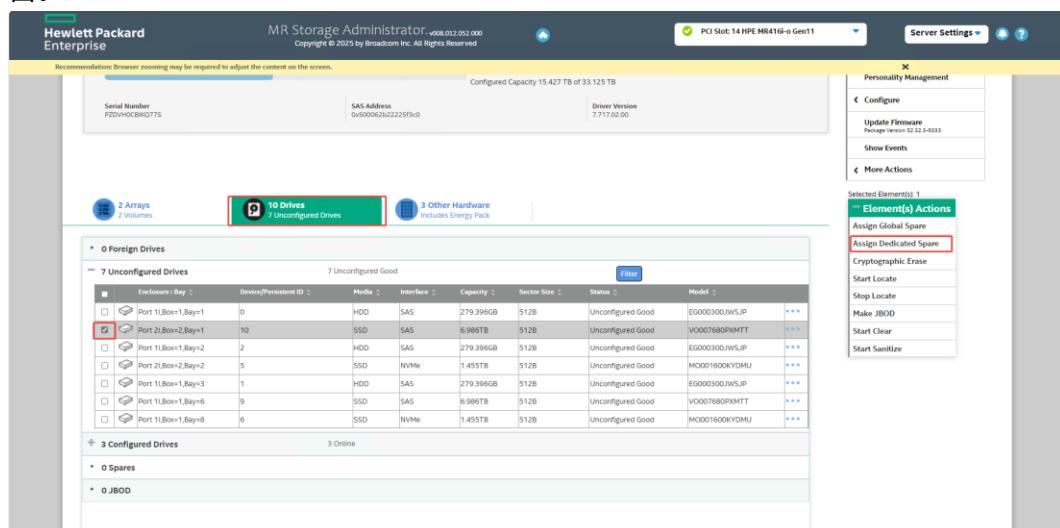
热备盘类型：

- ✓ 全局热备：热备盘为存储控制卡下所有符合要求的逻辑盘所共有，当任一逻辑盘的成员盘发生故障时，全局热备盘均可自动替代该故障盘，更换故障盘后，热备盘中的数据会回拷至新的物理盘，全局热备盘会恢复热备状态。
- ✓ 专属热备：热备盘专用于存储控制卡下的某一个逻辑盘。当存储控制卡下的逻辑盘的成员盘发生故障时，专属热备盘会自动替代该故障盘，更换故障盘后，热备盘中的数据会回拷至新的物理盘，专属热备盘会恢复热备状态。

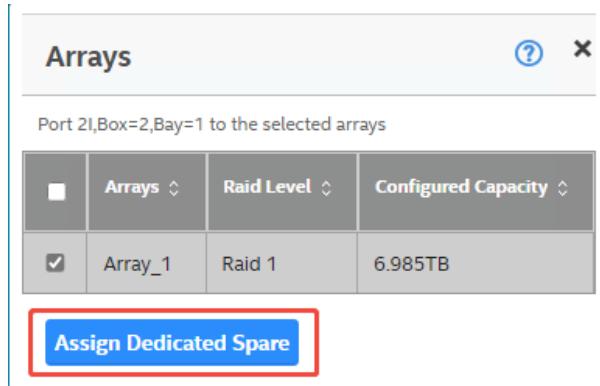
5.1 创建热备

5.1.1 创建专用热备

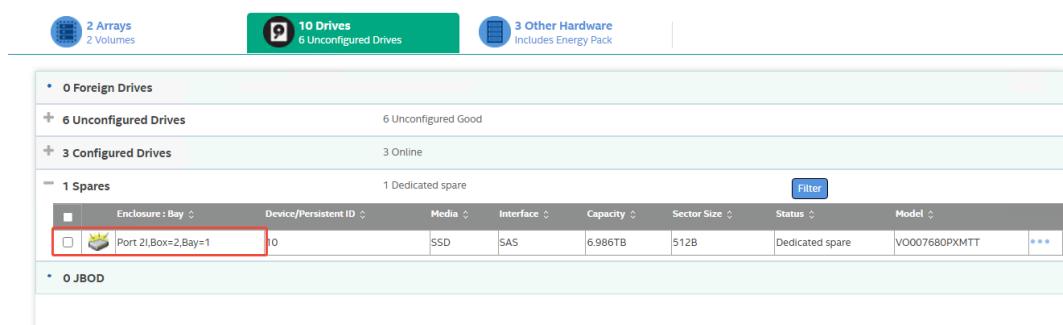
- 1) 在 Drives 下找到 Unconfigured Drives 未配置的硬盘，勾选要配置成热备的硬盘，再点击右侧的 **Element(s) Actions**，选择 **Assign Dedicated Spare** 创建专用热备。



2) 选择需要配置热备盘的阵列，点击 **Assign Dedicated Spare**。

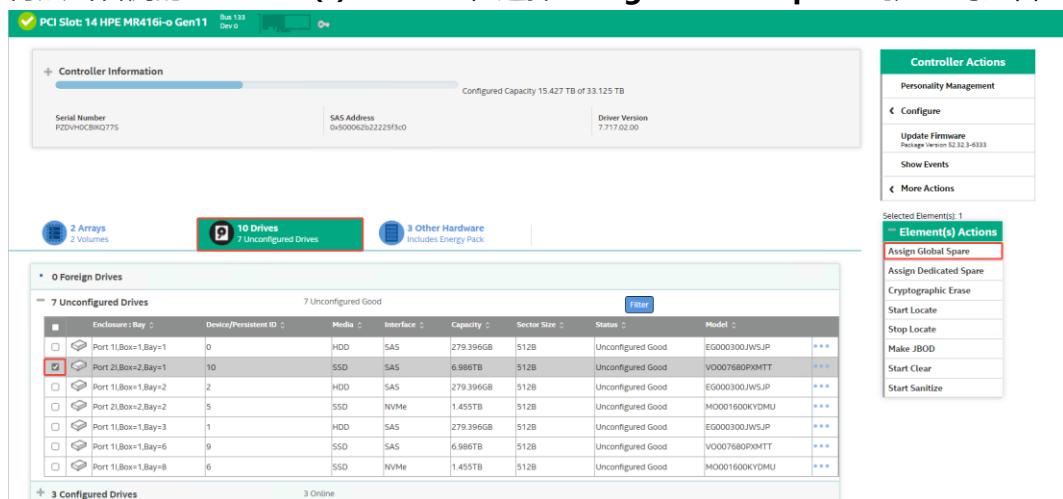


3) 配置完成后在硬盘下和逻辑卷下都可以看到热备盘状态。



5.1.2 创建全局热备

1) 在 Drives 下找到 Unconfigured Drives 未配置的硬盘，勾选要配置成热备的硬盘，再点击右侧的 **Element(s) Actions**，选择 **Assign Global Spare** 创建全局热备。



2) 选择需要配置热备盘的阵列，点击 **Assign Global Spare**。

PCI Slot: 14 HPE MR416i-o Gen11

Controller Actions

Selected Element(s): 1

Element(s) Actions

- Unassign Global Spare
- Assign Dedicated Spare
- Cryptographic Erase
- Start Locate
- Stop Locate
- Make JBOD
- Start Clear
- Start Sanitize

Action Successful

Controller Information

Configured Capacity 15.427 TB of 33.125 TB

Serial Number PZDVHOCBIKQ775

SAS Address 0x500062b22225f3c0

Driver Version 7.717.02.00

2 Arrays 2 Volumes

10 Drives 7 Unconfigured Drives

3 Other Hardware Includes Energy Pack

0 Foreign Drives

7 Unconfigured Drives

Enclosure : Bay :	Device/Persistent ID :	Media :	Interface :	Capacity :	Sector Size :	Status :	Model :
Port 1 Box=1,Bay=1	0	HDD	SAS	279.396GB	512B	Unconfigured Good	EG000300JWSJP
Port 2 Box=2,Bay=1	10	SSD	SAS	6.986TB	512B	Unconfigured Good	VO007680PXHTT
Port 2 Box=2,Bay=2	2	HDD	SAS	279.396GB	512B	Unconfigured Good	EG000300JWSJP
Port 2 Box=2,Bay=2	5	SSD	NVMe	1.455TB	512B	Unconfigured Good	MO001600KYDMU
Port 1 Box=1,Bay=3	1	HDD	SAS	279.396GB	512B	Unconfigured Good	EG000300JWSJP
Port 1 Box=1,Bay=6	9	SSD	SAS	6.986TB	512B	Unconfigured Good	VO007680PXHTT
Port 1 Box=1,Bay=8	6	SSD	NVMe	1.455TB	512B	Unconfigured Good	MO001600KYDMU

3 Configured Drives 3 Online

5.2 删除热备

- 1) 在 Drives 下展开 Spares, 取消勾选热备盘, 点击右侧的 **Unassign Dedicated Spare** 即可删除热备盘。

PCI Slot: 14 HPE MR416i-o Gen11

Controller Actions

Selected Element(s): 1

Element(s) Actions

- Unassign Global Spare
- Start Locate
- Stop Locate

Action Successful

Controller Information

Configured Capacity 15.427 TB of 33.125 TB

Serial Number PZDVHOCBIKQ775

SAS Address 0x500062b22225f3c0

Driver Version 7.717.02.00

2 Arrays 2 Volumes

10 Drives 6 Unconfigured Drives

3 Other Hardware Includes Energy Pack

0 Foreign Drives

6 Unconfigured Drives

3 Configured Drives

1 Spares

Enclosure : Bay :	Device/Persistent ID :	Media :	Interface :	Capacity :	Sector Size :	Status :	Model :
Port 2 Box=2,Bay=1	10	SSD	SAS	6.986TB	512B	Global spare	VO007680PXHTT

0 JBOD

- 2) 删除后会显示操作成功, Spares 数量变为 0。

PCI Slot: 14 HPE MR416i-o Gen11

Controller Actions

Selected Element(s): 0

Element(s) Actions

Select any Drive to view its actions

Action Successful

Controller Information

Configured Capacity 15.427 TB of 33.125 TB

Serial Number PZDVHOCBIKQ775

SAS Address 0x500062b22225f3c0

Driver Version 7.717.02.00

2 Arrays 2 Volumes

10 Drives 7 Unconfigured Drives

3 Other Hardware Includes Energy Pack

0 Foreign Drives

7 Unconfigured Drives

3 Configured Drives

0 Spares

0 JBOD

6. 设置与取消直通盘

1) 设置直通盘: 在 Drives 下找到 Unconfigured Drives 未配置的硬盘, 勾选要配置成 JBOD 的硬盘, 再点击右侧的 **Element(s) Actions**, 选择 **Make JBOD** 选项。

PCI Slot: 14 HPE MR416i-o Gen11 Bus 133 Dev 0

Controller Information

Configured Capacity 1.455 TB of 33.125 TB

Serial Number: P2DVH0CBKQ775

SAS Address: 0x500062b22225f3c0

Driver Version: 7.717.02.00

1 Arrays 1 Volumes

10 Drives 9 Unconfigured Drives 3 Other Hardware

0 Foreign Drives

9 Unconfigured Drives

Enclosure: Bay	Device/Persistent ID	Media	Interface	Capacity	Sector Size	Status	Model
Port 11.Box=1.Bay=1	0	HDD	SAS	279.396GB	512B	Unconfigured Good	EG000300JWSJP
Port 21.Box=2.Bay=1	10	SSD	SAS	6.986TB	512B	Unconfigured Good	VO007680PKMTT
Port 11.Box=1.Bay=2	2	HDD	SAS	279.396GB	512B	Unconfigured Good	EG000300JWSJP
Port 21.Box=2.Bay=2	5	SSD	NVMe	1.455TB	512B	Unconfigured Good	MO001600KYDMU
Port 11.Box=1.Bay=3	1	HDD	SAS	279.396GB	512B	Unconfigured Good	EG000300JWSJP
Port 11.Box=1.Bay=4	8	SSD	SAS	6.986TB	512B	Unconfigured Good	VO007680PKMTT
Port 11.Box=1.Bay=5	11	SSD	SAS	6.986TB	512B	Unconfigured Good	VO007680PKMTT
Port 11.Box=1.Bay=6	9	SSD	SAS	6.986TB	512B	Unconfigured Good	VO007680PKMTT

Controller Actions

- Personality Management
- Configure
- Update Firmware
- Show Events
- More Actions

Selected Element(s): 2

Element(s) Actions

- Assign Global Spare
- Start Drive Erase
- Start Locate
- Stop Locate
- Make JBOD
- Start Clear
- Start Sanitize

2) 取消直通盘: 在 Drives 下找到 JBOD 的硬盘, 勾选要取消 JBOD 的硬盘, 再点击右侧的 **Element(s) Actions**, 选择 **Make Unconfigured Good** 选项。

PCI Slot: 14 HPE MR416i-o Gen11 Bus 133 Dev 0

Controller Information

Configured Capacity 1.455 TB of 33.125 TB

Serial Number: P2DVH0CBKQ775

SAS Address: 0x500062b22225f3c0

Driver Version: 7.717.02.00

1 Arrays 1 Volumes

10 Drives 7 Unconfigured Drives 3 Other Hardware

0 Foreign Drives

7 Unconfigured Drives

1 Configured Drives

0 Spares

2 JBOD

Enclosure: Bay	Device/Persistent ID	Media	Interface	Capacity	Sector Size	Status	Model
Port 11.Box=1.Bay=1	0	HDD	SAS	279.396GB	512B	Online	EG000300JWSJP
Port 11.Box=1.Bay=2	2	HDD	SAS	279.396GB	512B	Online	EG000300JWSJP

Controller Actions

- Personality Management
- Configure
- Update Firmware
- Show Events
- More Actions

Selected Element(s): 2

Element(s) Actions

- Start Locate
- Stop Locate
- Make Unconfigured Good