

HPE Gen10 服务器 S100i 阵列卡 Windows 系统下 SSACLI 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 Gen10 服务器 S100i 阵列卡 Windows 系统下使用 Smart Storage Administrator (SSA) CLI 工具配置阵列的方法，并以 DL380 Gen10 服务器为例进行配置步骤说明。
- 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 Smart Storage Administrator (SSA) CLI 工具

➤ Windows 下载链接：[Smart Storage Administrator \(SSA\) CLI for Windows 64-bit for Gen9/Gen10/Gen10 Plus Controllers | HPE Support](https://www.hpe.com/us/en/servers/storage/ssa.html)

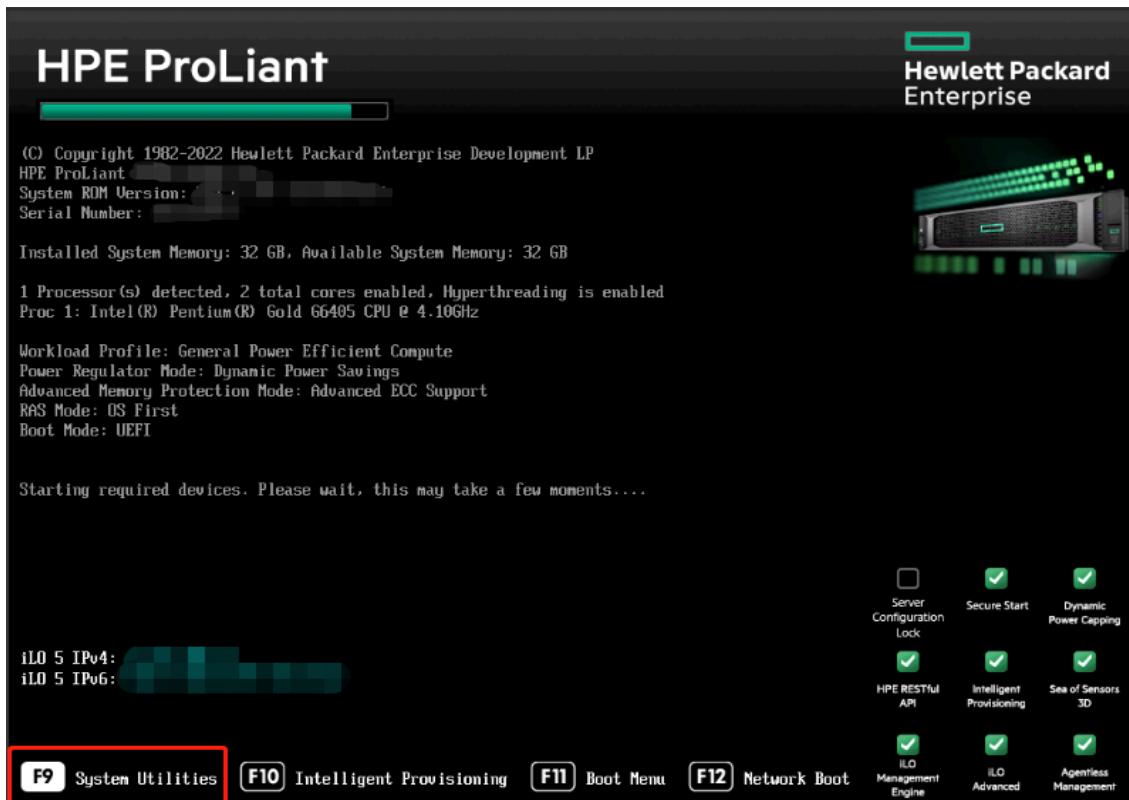
2. 连接 iLO 与启用远程控制台

具体方法请参考：<https://zhiliao.h3c.com/Theme/details/216337>

三. 配置步骤

1. 进入 BIOS 开启阵列卡 RAID 功能

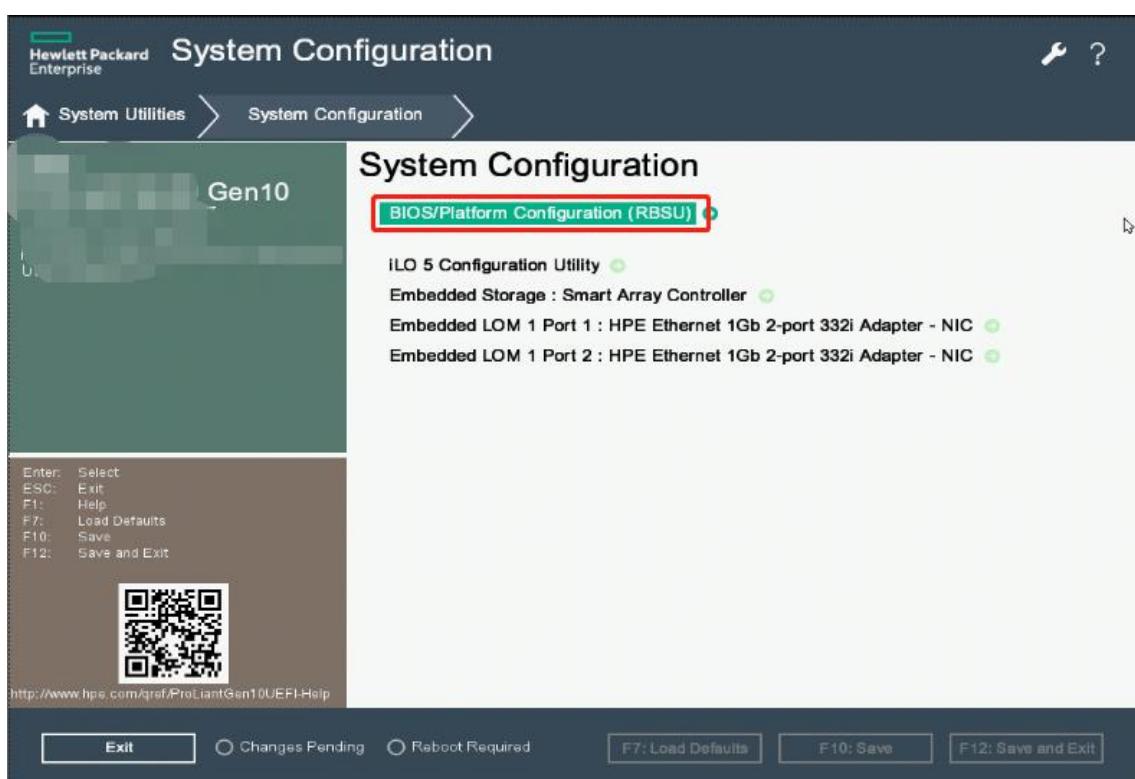
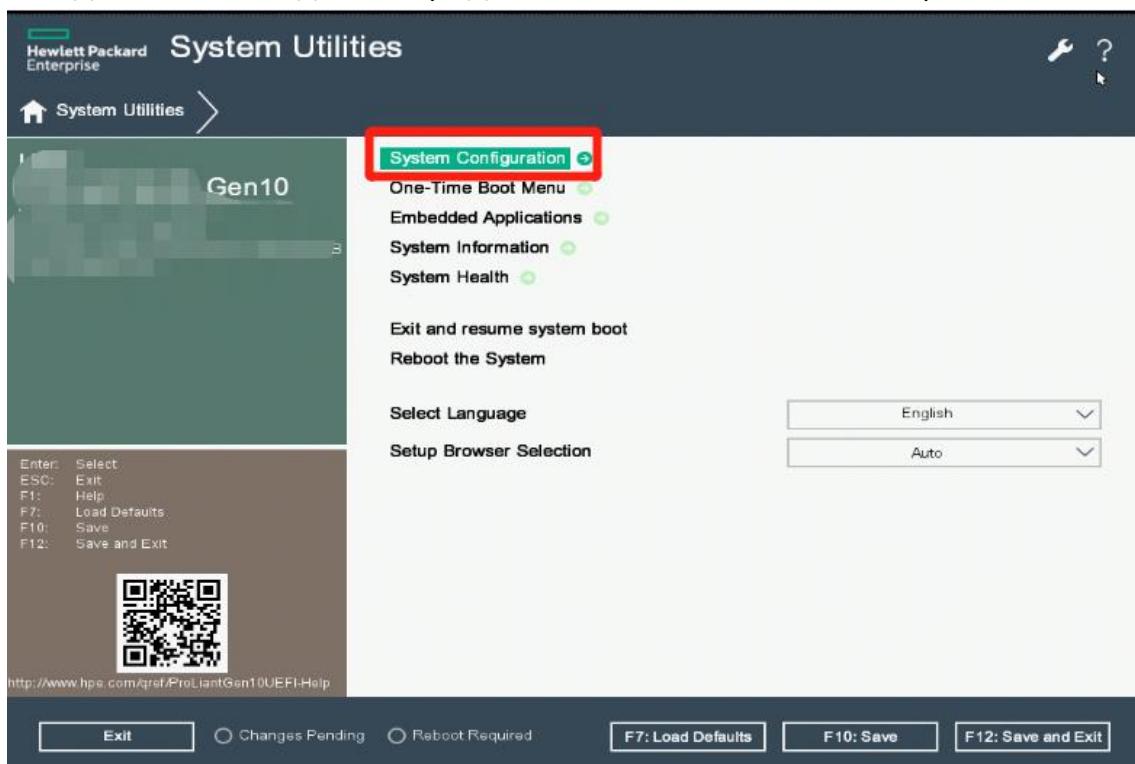
1) 自检界面按 F9 进入 BIOS。

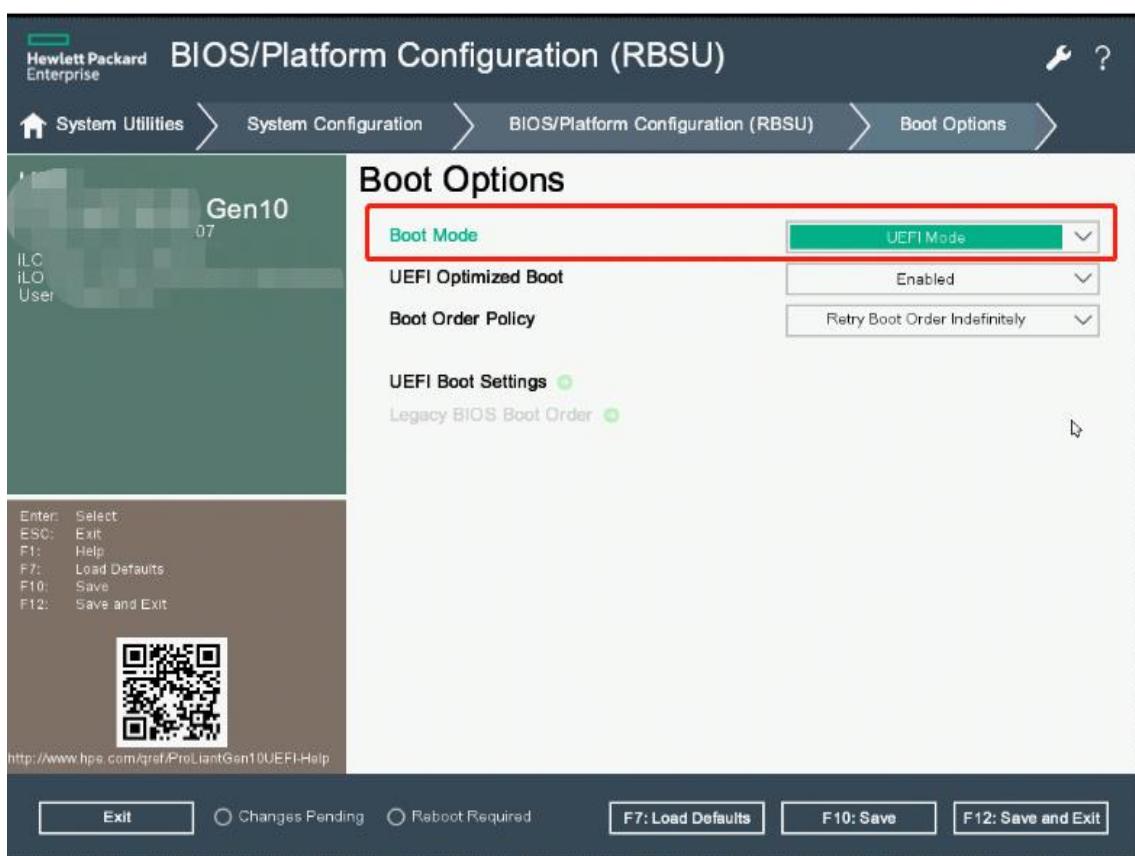
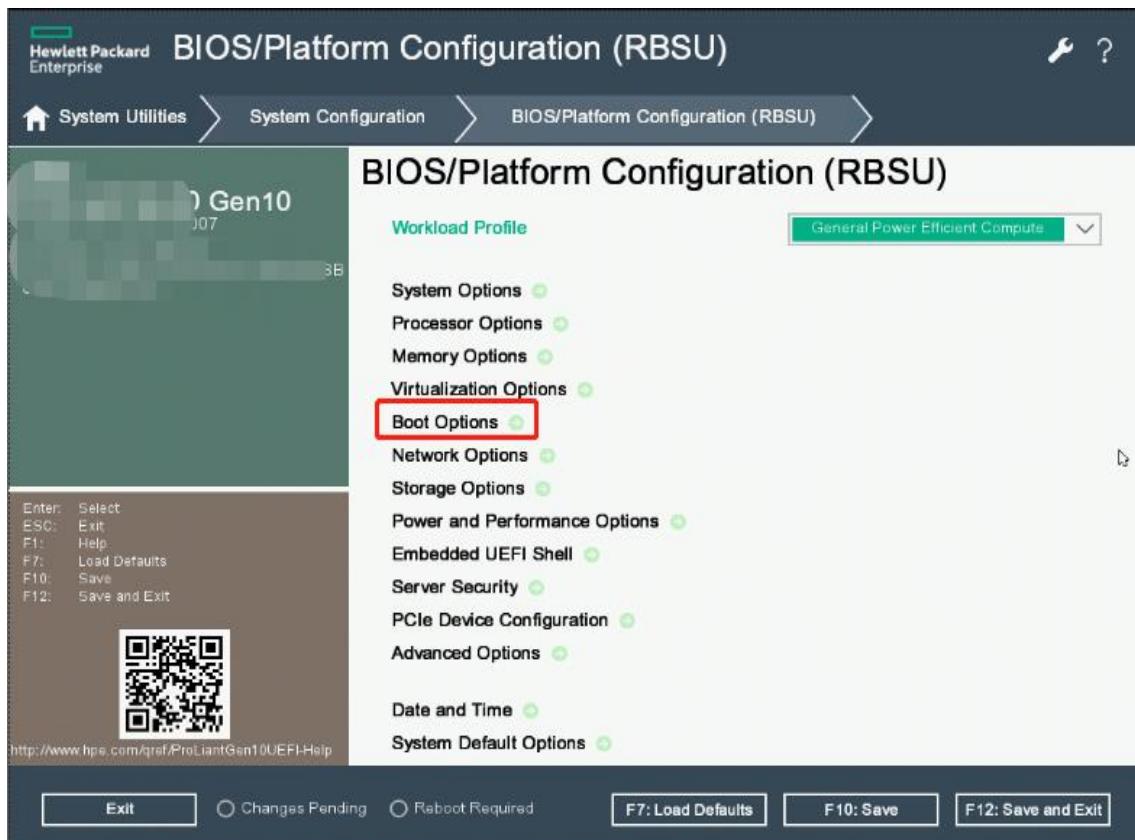


2) 确认当前引导模式。

选择 System Configuration -> BIOS/Platform Configuration(RBSU) -> Boot Option，确认

当前启动模式为 UEFI 启动模式 (此阵列卡 RAID 功能仅支持 UEFI 模式)。

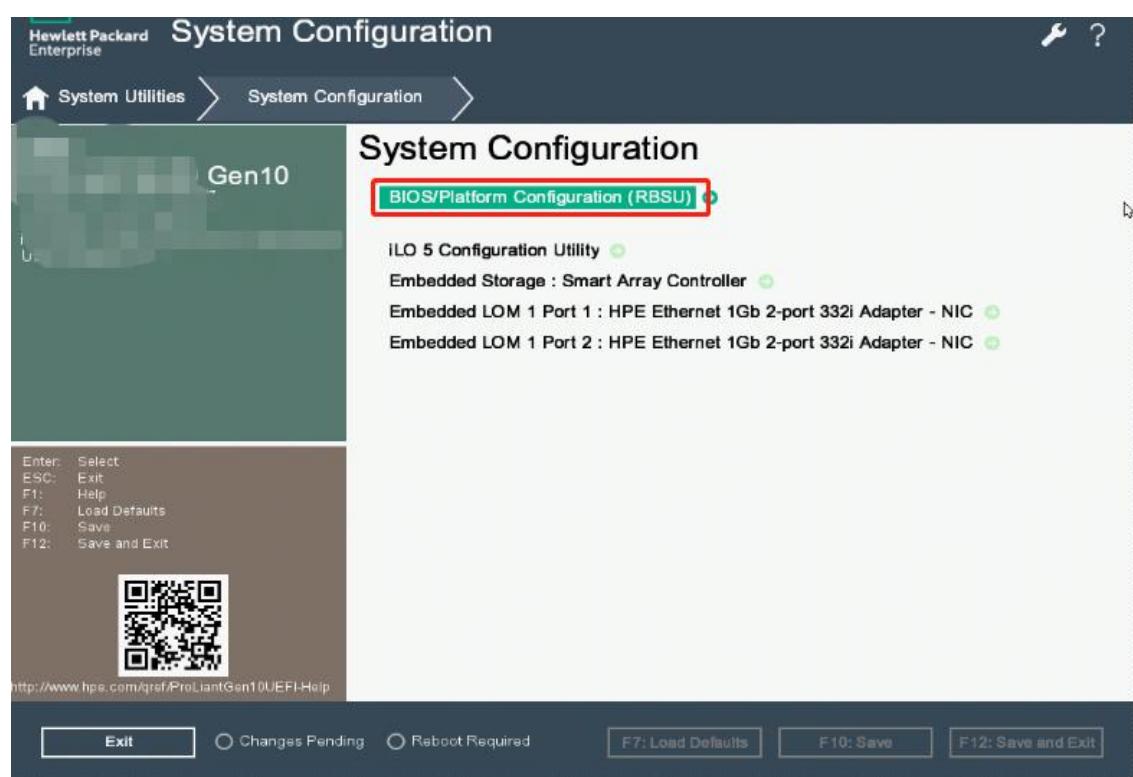
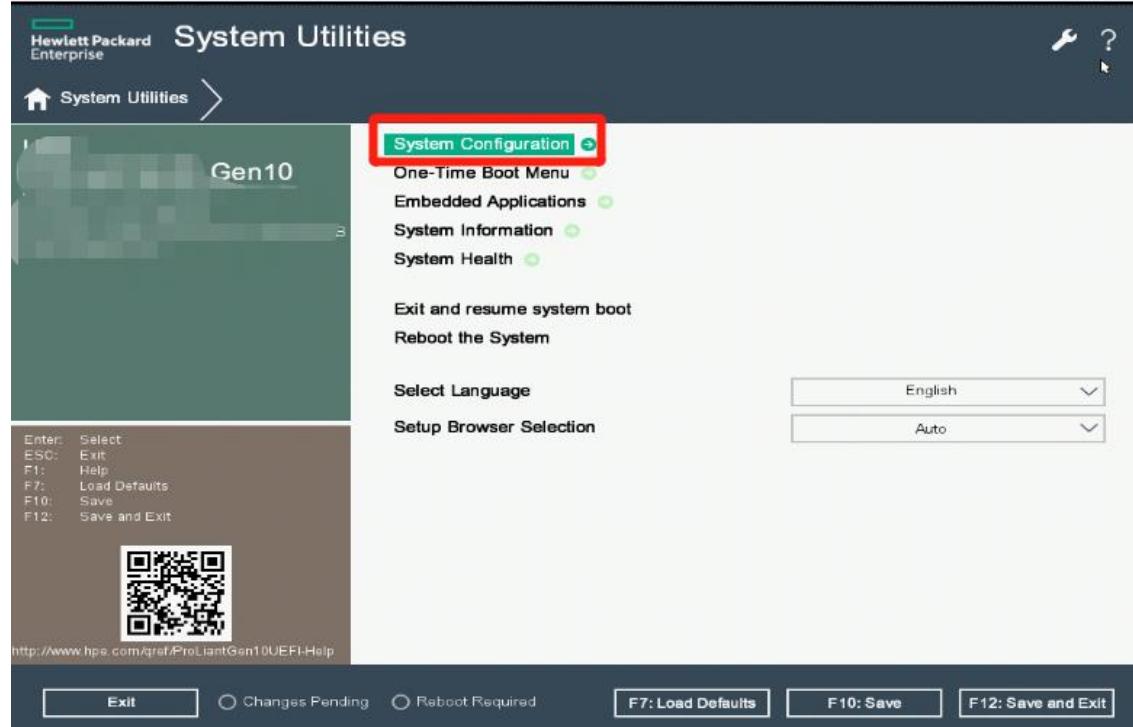


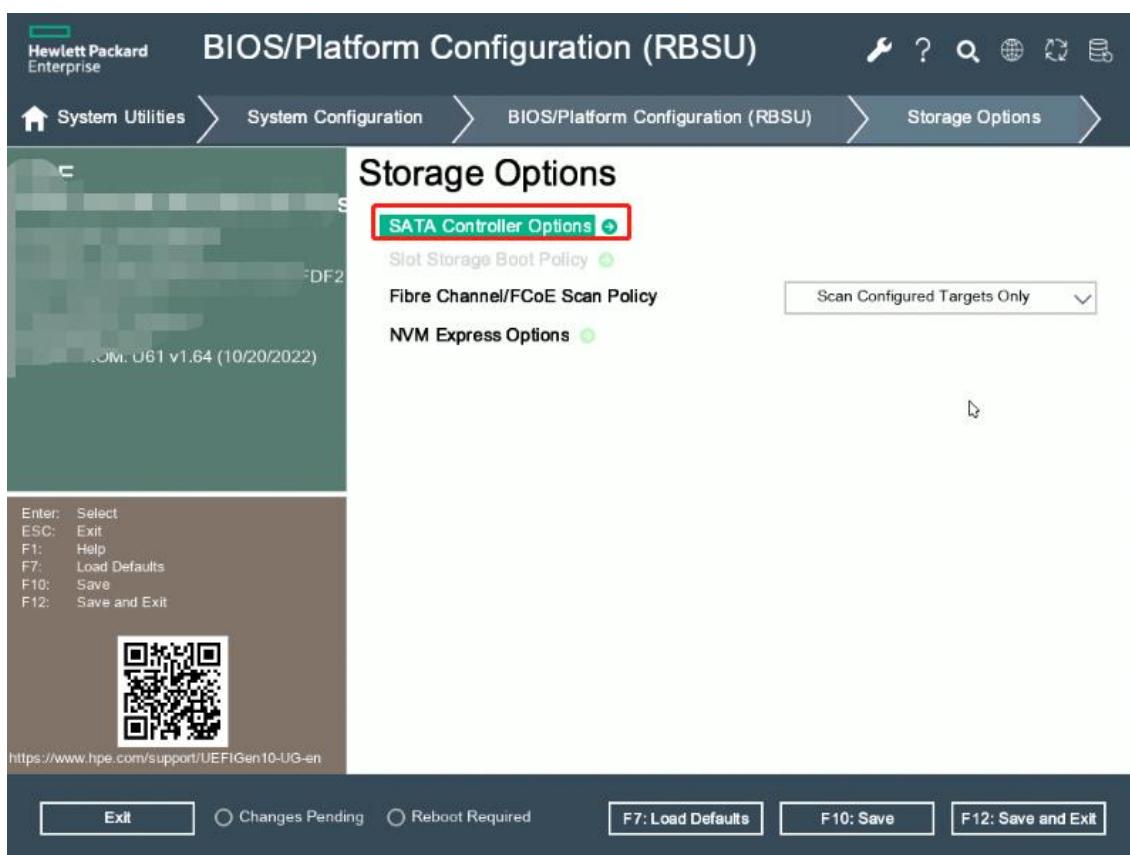
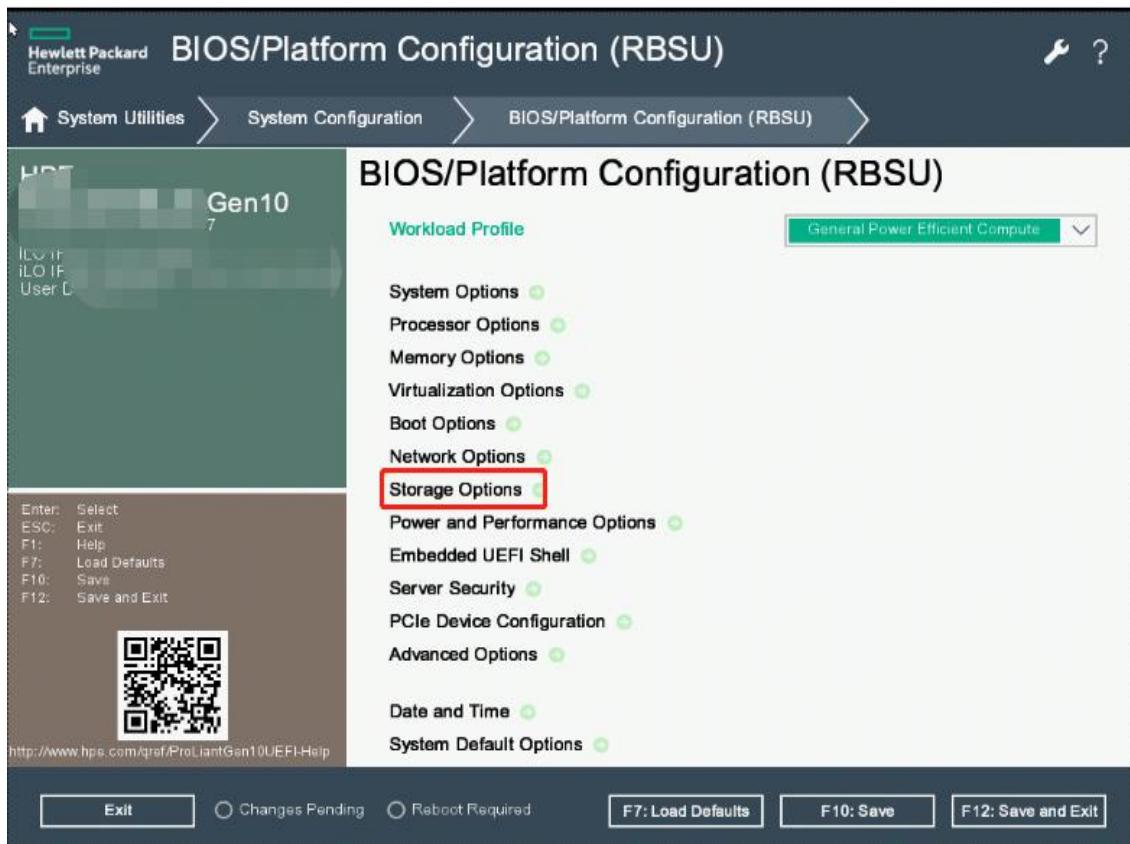


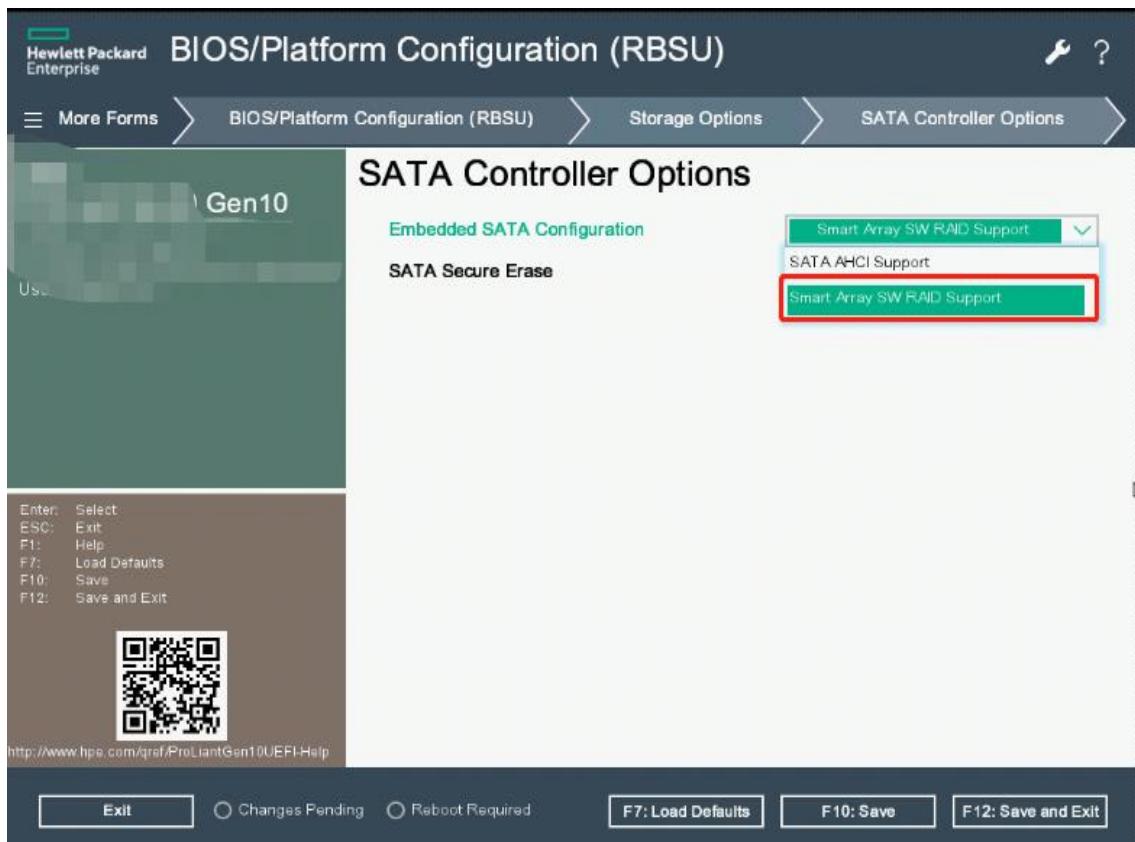
3) 开启 S100i 的阵列功能。

将 S100i 控制器的模式修改成 Smart Array SW RAID Support, 然后按 **F12** 保存并退出。

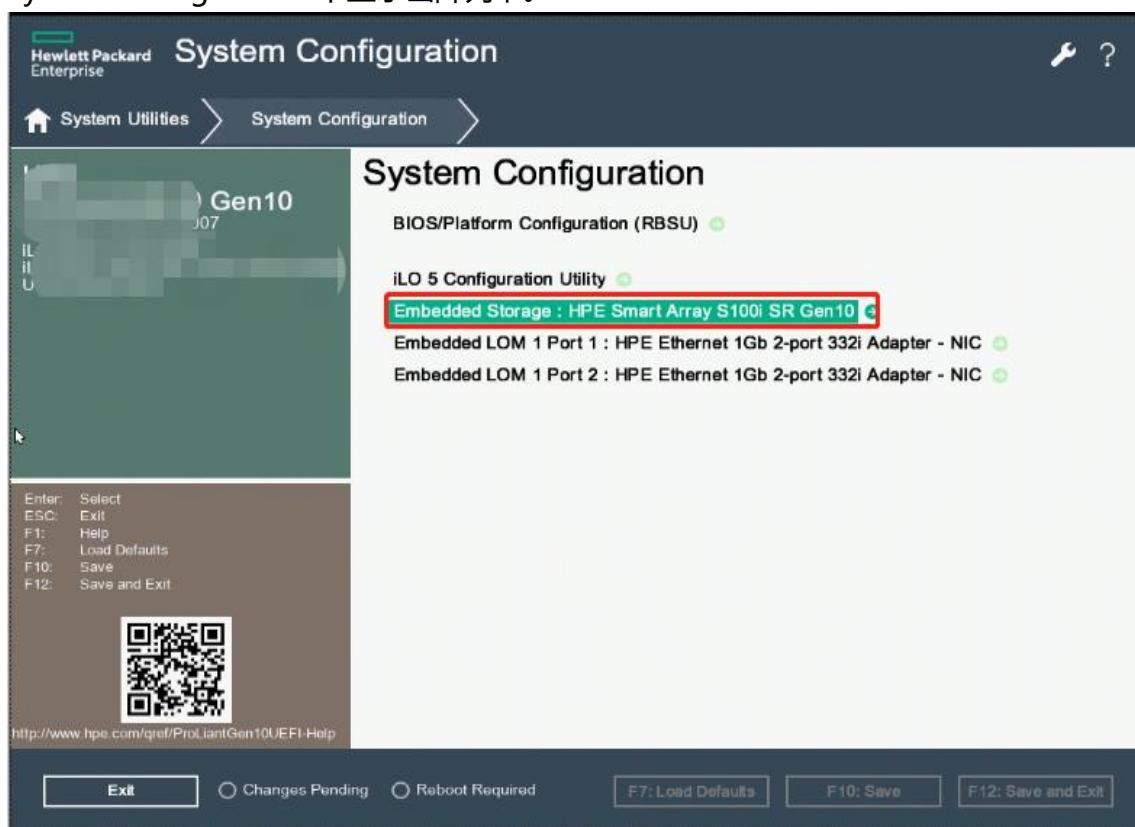
System Configuration -> BIOS/Platform Configuration(RBSU) -> Storage Option
-> SATA Controller Options -> Embedded SATA Configuration







4) System Configuration 下显示出阵列卡。



2. 访问系统

2.1 通过 iLO 启用远程控制台访问系统

iLO 5 页面 Information -> Overview 的 Remote Console 选项，或页面左下方 Remote Console 选区可直接启用远程控制台；也可在 Remote Console & Media - iLO Integrated Remote Console 页面进行选择。本文以.NET 远程控制台为例。

The screenshot shows the 'Information - iLO Overview' page. On the left, the navigation menu includes 'Information', 'Firmware & OS Software', 'iLO Federation', 'Remote Console & Media' (which is selected and highlighted), 'Power & Thermal', 'Performance', 'iLO Dedicated Network Port', 'iLO Shared Network Port', 'Remote Support', 'Administration', 'Security', 'Management', and 'Lifecycle Management'. The main content area has three sections: 'Server', 'iLO', and 'Status'. Under 'Server', there are fields for Product Name, Server Name, System ROM, System ROM Date, Redundant System ROM, Server Serial Number, Product ID, and UUID. Under 'iLO', there are fields for IP Address, Link-Local IPv6 Address, ILO Hostname, ILO Dedicated Network Port, ILO Shared Network Port, ILO Virtual NIC, License Type, ILO Firmware Version, and ILO Date/Time. Under 'Status', there are various health indicators with status icons and descriptions. A red box highlights the 'HTML5' and '.NET' options under 'Remote Console'.

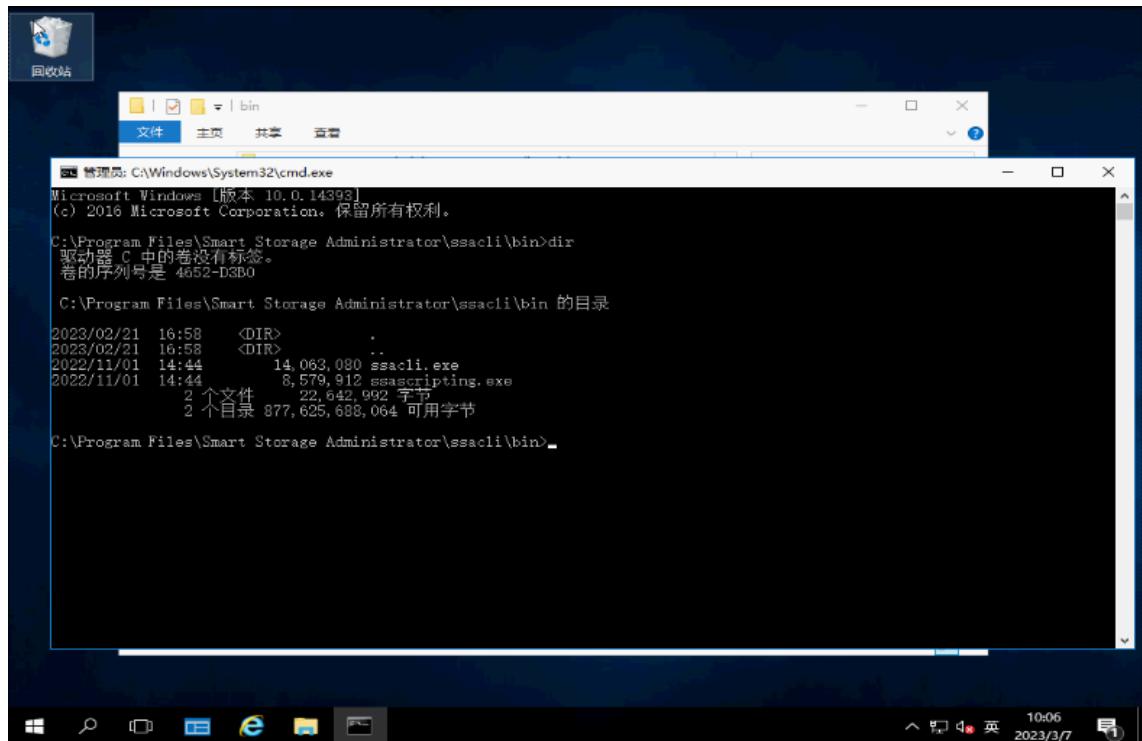
2.2 通过远程桌面或第三方 RDP 工具访问系统 (Windows Server)

The screenshot shows a Windows Server desktop session via a remote connection. The desktop environment includes the Start button, Task View, File Explorer, and Edge browser. The taskbar also displays icons for system notifications and connectivity.

3. 将 Smart Storage Administrator (SSA) CLI 工具保存到系统下

3.1 Windows Server

3.1.1 通过 iLO 启用远程控制台将工具挂载到系统下



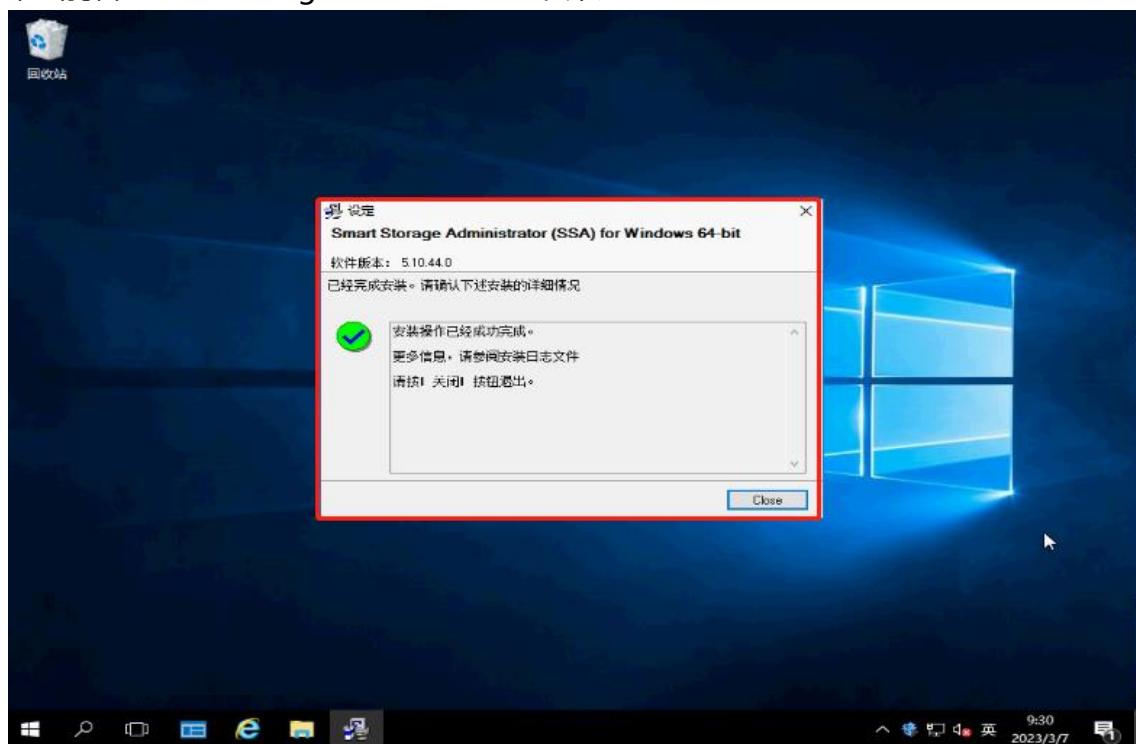
3.1.2 通过 U 盘将文件挂载到系统下

U 盘接入服务器后，在系统下直接访问挂载点。

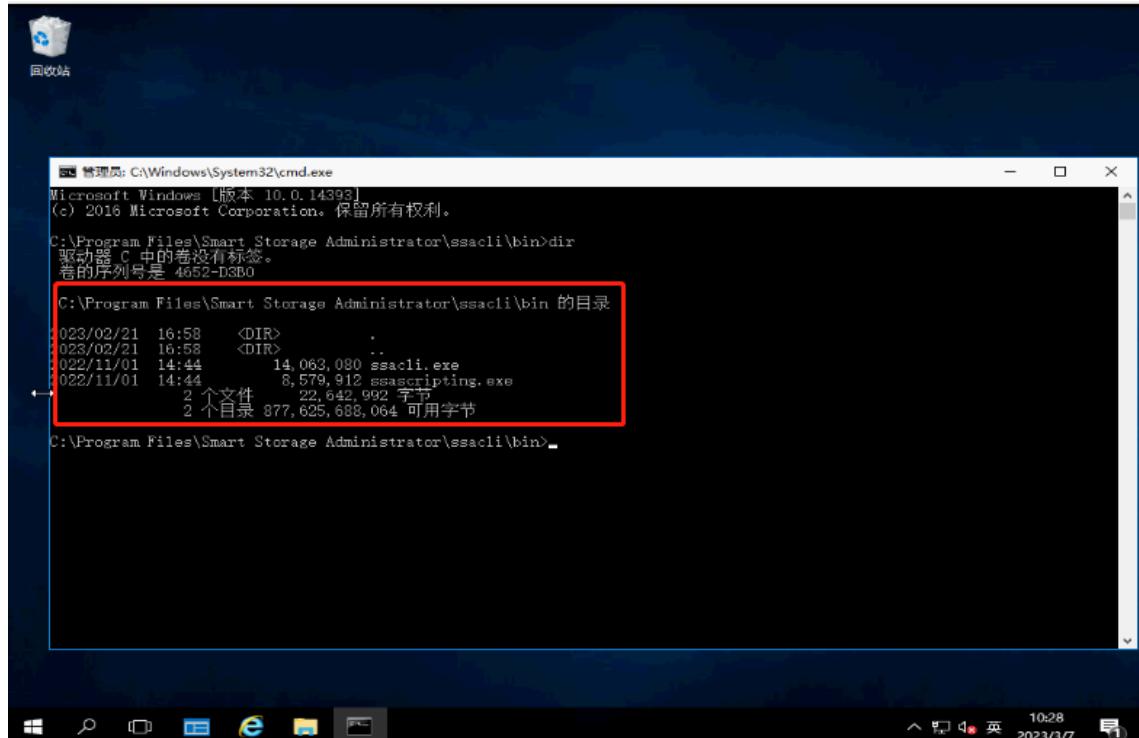
4. 安装 Smart Storage Administrator (SSA) CLI

4.1 Windows Server

- 1) 双击打开 Smart Storage Administrator 安装包。



- 2) 进入到默认安装路径: C:\Program Files\Smart Storage Administrator\ssacl\bin, 打开 Smart Storage Administrator CLI 工具。



5. 获取阵列卡编号、逻辑盘编号和物理盘编号（命令通用）

./ssacl ctrl all show status 查看服务器阵列卡信息
./ssacl ctrl slot=0 ld all show 查看服务器逻辑盘信息
./ssacl ctrl slot=0 pd all show 查看服务器物理驱动器的信息

```
C:\Program Files\Smart Storage Administrator\ssacli\bin>./ssacli ctrl all show status
HPE Smart Array S100i SR Gen10 in Slot 0b
Controller Status: OK

C:\Program Files\Smart Storage Administrator\ssacli\bin>./ssacli ctrl slot=0b 1d all show
HPE Smart Array S100i SR Gen10 in Slot 0b
Array A
logicaldrive 1 (931.48 GB, RAID 0, OK)

C:\Program Files\Smart Storage Administrator\ssacli\bin>./ssacli ctrl slot=0b pd all show
HPE Smart Array S100i SR Gen10 in Slot 0b
Array A
physicaldrive 1I:0:1 (port 1I:box 0:bay 1, SATA HDD, 1 TB, OK)
Unassigned
physicaldrive 1I:0:2 (port 1I:box 0:bay 2, SATA HDD, 1 TB, OK)
physicaldrive 1I:0:3 (port 1I:box 0:bay 3, SATA HDD, 1 TB, OK)

C:\Program Files\Smart Storage Administrator\ssacli\bin>
```

6. 创建与删除阵列

6.1 创建阵列

1) 例如用 1I:0:2 硬盘创建 raid0。

```
./ssacli ctrl slot=0 create type=ld drives=1I:0:2 raid=0
```

```
C:\Program Files\Smart Storage Administrator\ssacli\bin>./ssacli ctrl slot=0b create type=ld drives=1I:0:2 raid=0
C:\Program Files\Smart Storage Administrator\ssacli\bin>./ssacli ctrl slot=0b pd all show
HPE Smart Array S100i SR Gen10 in Slot 0b
Array A
physicaldrive 1I:0:1 (port 1I:box 0:bay 1, SATA HDD, 1 TB, OK)
Array B
physicaldrive 1I:0:2 (port 1I:box 0:bay 2, SATA HDD, 1 TB, OK)
Unassigned
physicaldrive 1I:0:3 (port 1I:box 0:bay 3, SATA HDD, 1 TB, OK)
```

2) 创建 raid1 阵列。

```
./ssacli ctrl slot=0 create type=ld drives=1I:0:2,1I:0:3 raid=1
```

```
C:\Program Files\Smart Storage Administrator\ssacli\bin>./ssacli ctrl slot=0b create type=ld drives=1I:0:2,1I:0:3 raid=1
C:\Program Files\Smart Storage Administrator\ssacli\bin>./ssacli ctrl slot=0b pd all show
HPE Smart Array S100i SR Gen10 in Slot 0b
Array A
physicaldrive 1I:0:1 (port 1I:box 0:bay 1, SATA HDD, 1 TB, OK)
Array B
physicaldrive 1I:0:2 (port 1I:box 0:bay 2, SATA HDD, 1 TB, OK)
physicaldrive 1I:0:3 (port 1I:box 0:bay 3, SATA HDD, 1 TB, OK)

C:\Program Files\Smart Storage Administrator\ssacli\bin>
```

6.2 删除阵列

`./ssacli ctrl slot=0 array B delete forced` 命令删除阵列 B。

```
C:\Program Files\Smart Storage Administrator\ssacli\bin>.\ssacli.exe ctrl slot=0b array B delete forced
Warning: Deleting an array can cause other array letters to become renamed.
E.g. Deleting array A from arrays A,B,C will result in two remaining
arrays A,B ... not B,C

C:\Program Files\Smart Storage Administrator\ssacli\bin>.\ssacli.exe ctrl slot=0b pd all show
HPE Smart Array S100i SR Gen10 in Slot 0b
Array A
physicaldrive 1I:0:1 (port 1I:box 0:bay 1, SATA HDD, 1 TB, OK)
Unassigned
physicaldrive 1I:0:2 (port 1I:box 0:bay 2, SATA HDD, 1 TB, OK)
physicaldrive 1I:0:3 (port 1I:box 0:bay 3, SATA HDD, 1 TB, OK)

C:\Program Files\Smart Storage Administrator\ssacli\bin>
```

7. 创建与删除热备

- ✚ **Dedicated(专用)**: 当硬盘损坏时, 必须使用备用驱动器上的数据进行重建。在专用模式下, 一个备用驱动器可以专用于多个阵列。
- ✚ **Auto-Replace Drives(自动更换驱动器)**: 发生故障的数据驱动器的备用驱动器自动变为更换数据驱动器。当更换备用驱动器时, 数据驱动器不需要重建, 在自动更换模式下, 备用驱动器无法在阵列之间共享。
- ✚ **注意**: 给 RAID0 逻辑卷创建热备盘时, 需要使用`./ssacli ctrl slot=0 modify spareactivationmode=predictive` 命令调整热备盘替换的模式为“硬盘预损坏即替换”。

7.1 创建热备

7.1.1 创建专属热备

`./ssacli ctrl slot=0 Array A add spares=1I:0:2 sparetype= dedicated`

```
C:\Program Files\Smart Storage Administrator\ssacli\bin>.\ssacli.exe ctrl slot=0b array A add spares=1I:0:2 sparetype=d
e
dicated
C:\Program Files\Smart Storage Administrator\ssacli\bin>.\ssacli.exe ctrl slot=0b pd all show
HPE Smart Array S100i SR Gen10 in Slot 0b
Array A
physicaldrive 1I:0:1 (port 1I:box 0:bay 1, SATA HDD, 1 TB, OK)
physicaldrive 1I:0:2 (port 1I:box 0:bay 2, SATA HDD, 1 TB, OK, spare) →
Unassigned
physicaldrive 1I:0:3 (port 1I:box 0:bay 3, SATA HDD, 1 TB, OK)

C:\Program Files\Smart Storage Administrator\ssacli\bin>
```

7.1.2 创建自动替换热备

`./ssacli ctrl slot=0 Array A add spares=1I:0:2 sparetype= autoreplace`

```
C:\Program Files\Smart Storage Administrator\ssacli\bin>.\ssacli.exe ctrl slot=0b array A add spares=1I:0:2 sparetype=auto replace
Warning: Any existing spare drives of a different spare type will be removed.
Continue? (y/n)

C:\Program Files\Smart Storage Administrator\ssacli\bin>.\ssacli.exe ctrl slot=0b pd all show
HPE Smart Array S100i SR Gen10 in Slot 0b
    Array A
        physicaldrive 1I:0:1 (port 1I:box 0:bay 1, SATA HDD, 1 TB, OK)
        physicaldrive 1I:0:2 (port 1I:box 0:bay 2, SATA HDD, 1 TB, OK, auto replace spare)
    Unassigned
        physicaldrive 1I:0:3 (port 1I:box 0:bay 3, SATA HDD, 1 TB, OK)

C:\Program Files\Smart Storage Administrator\ssacli\bin>
```

7.2 删热备

`./ssacli ctrl slot=0 Array A remove spares=1I:0:2` 命令删除热备。

```
C:\Program Files\Smart Storage Administrator\ssacli\bin>.\ssacli.exe ctrl slot=0b array A remove spares=1I:0:2
C:\Program Files\Smart Storage Administrator\ssacli\bin>.\ssacli.exe ctrl slot=0b pd all show
HPE Smart Array S100i SR Gen10 in Slot 0b
    Array A
        physicaldrive 1I:0:1 (port 1I:box 0:bay 1, SATA HDD, 1 TB, OK)
    Unassigned
        physicaldrive 1I:0:2 (port 1I:box 0:bay 2, SATA HDD, 1 TB, OK)
        physicaldrive 1I:0:3 (port 1I:box 0:bay 3, SATA HDD, 1 TB, OK)

C:\Program Files\Smart Storage Administrator\ssacli\bin>
```