IPSAN Series
Network Storage System
Quick Guide

Manual Version: P101-20140630

Notice

The information in this manual is subject to change without notice. Every effort has been made in the preparation of this manual to ensure accuracy of the contents, but all statements, information, and recommendations in this manual do not constitute the warranty of any kind, express or implied.

Environmental Protection

This product has been designed to comply with the environmental protection requirements. The storage, use, and disposal of this product must meet the applicable national laws and regulations.

Preface

Audience

This document is intended for:

- Administrators in charge of installing the system and configuring services
- Onsite technical support and maintenance personnel
- Users in charge of product service operations

Convention

Format	Description
NOTE !	Indicates special operations or information required for configuring the device successfully.
CAUTION !	Mind the operation precautions. Improper operations may cause data loss or device demage.

Safety and Compliance Information

Conventions Used Symbol

The symbols in this chapter are shown in the following table. They are used to remind the reader of the safety precautions during equipment installation and maintenance.

Safety Symbol	Description
	Generic alarm symbol: To suggest a general safety concern.
	ESD protection symbol: To suggest electrostatic-sensitive equipment.
	Electric shock symbol: To suggest a danger of high voltage.

Safety Information

WARNING!

Installation and removal of the unit and its accessories must be carried out by qualified personnel. You must read all of the Safety Instructions supplied with your equipment before installation and operation.

Warnings:

- If the product does not work properly, please contact your dealer or the nearest service center. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)
- To reduce the risk of fire or electrical shock, do not expose this product to rain or moisture.
- This installation should be made by a qualified service person and should conform to all the local codes.
- Please install blackouts equipment into the power supply circuit for convenient supply interruption.
- The separate earthing terminal must be permanently connected to earth.
- For AC supplied model: The plug-socket combination must be accessible at all times as it serves as the main disconnecting device.
- Before the power cable is installed or removed, the power must be turned off.
- To avoid heat accumulation, good ventilation is required for a proper operating environment.
- Improper use or replacement of the battery may result in hazard of explosion. Please use the manufacturer recommended battery type.

Caution: Fiber optic ports – optical safety.

Never look at the transmit laser while the power is on. Never look directly at the fiber ports and the fiber cable ends when they are powered on.

Caution: Use of controls or adjustments to the performance or procedures other than those specified herein may result in hazardous laser emissions.

Regulatory Compliance

FCC Part 15

This equipment has been tested and found to comply with the limits for digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

LVD/EMC Directive

This product complies with the European Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/EC.

WEEE Directive–2002/96/EC

The product this manual refers to is covered by the Waste Electrical & Electronic Equipment (WEEE) Directive and must be disposed of in a responsible manner.

Contents

1 Product Introduction

IPSAN Series storage hosts include four types of products: single control with 24 disk slots, single control with 16 disk slots, single control with 48 disk slots and dual control with 24 disk slots.

The storage product supports three types of DEUs: single control DEUs with 24 disk slots, single control DEUs with 48 disk slots and dual control DEUs with 24 disk slots.

For details about the supported DEUs, see the table below.

Table 1-1 Different products support different DEUs

Series	SCU disk slots	DEU disk slots
IPSAN Series	24 disk slots(single control)	24 disk slots(single control)
	16 disk slots(single control)	24 disk slots(single control)
	48 disk slots(single control)	24 disk slots and 48 disk slots(both single control)
	24 disk slots(dual control)	24 disk slots(dual control)

NOTE !

This manual takes the single control with 24 disk slots for example. For more details, see the Online Help which is released with the software. Method to check the Online Help: click<**Help**>button on the GUI.

The following illustrations are only for your reference. The latest version shall prevail in the actual situation.

2 Hardware Installation

Tool Reference

Environment Requirements

Temperature	Requirement
Operating temperature	0°C~40°C Recommended: 10°C~35°C
Storage temperature	Excluding battery modules: –20°C~+60°C Including battery modules: –15°C~+40°C (storage within 1 month); 10°C~35°C (storage over 1 month)
Humidity	**Requirement**
Operating humidity	20% to 80% (non-condensing)
Storage humidity	10% to 90% (non-condensing)

NOTE !

Corrosive gases and dust can cause damage to hard disks. For detailed requirements about the equipment room environment, please refer to Checking the Installation Environments section in Online Help shipped with the product.

Incorrect installation manner

CAUTION !

When installing a device, ensure that the device and the mark line on the square hole strip on the cabinet are properly aligned in 1U. Otherwise, you are not allowed to install the rack-mounting ear screws.

If the rack-mounting ear screws are forcibly installed without the aligning procedure, a gap exists between the device and the tray and the device is hanging over the square hole strip. Consequently, the device is unstable, thereby affecting stability of the hard disks. If the hard disks are running for a long time in such situation, many problems, such as a high read-and-write error rate and a high damage rate, will arise.

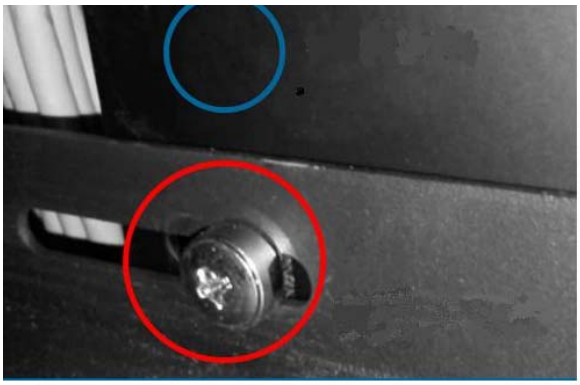


Figure 1

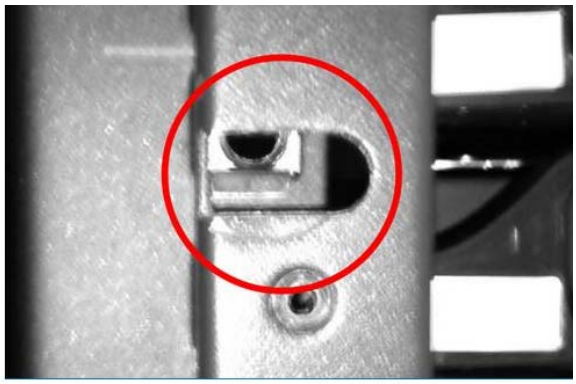


Figure 2

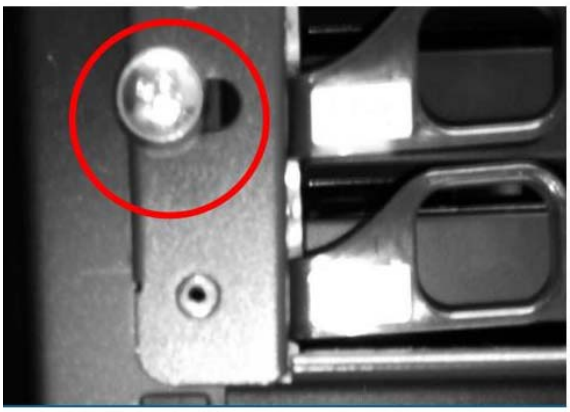


Figure 3

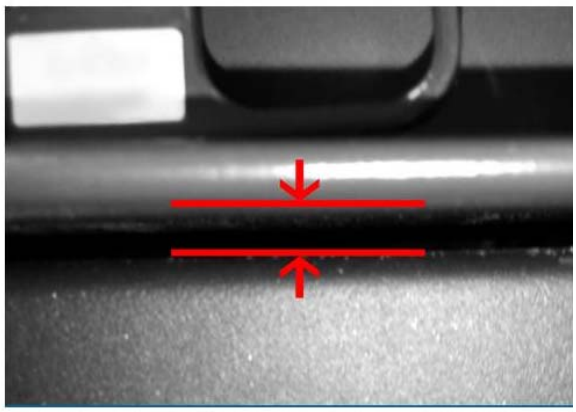


Figure 4

Figure 1: The tray is installed half-U downward.

Figure 2: The rack-mounting ear is not alligned properly.

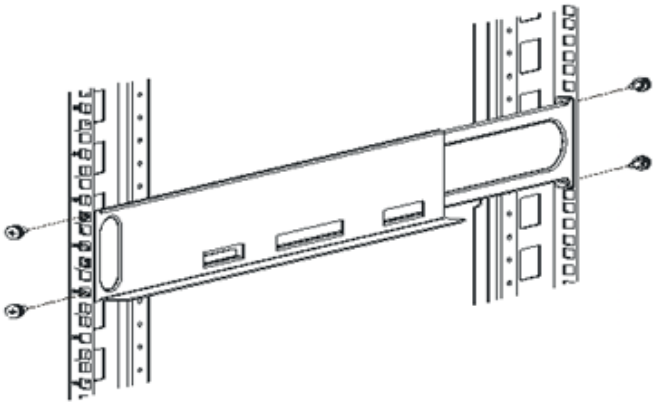
Figure 3: The device is not alligned in one U and is hanging over the rack-mounting ear after the screws are installed.

Figure 4: A gap exists between the device and the tray.

Correct installation steps

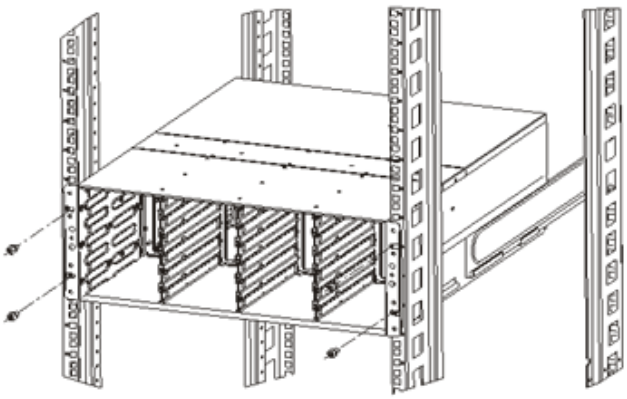
1 [Installing the guide rail on the cabinet](Optional)

Place the guide rail between the front and rear mounting holes of the cabinet, align the screw holes with holes on the cabinet, and tighten the thumb screws.



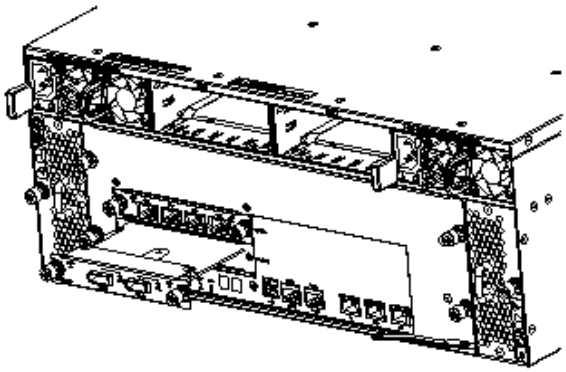
2 [Installing the chassis on the guide rail]

Slowly push the main cabinet along the guide rail until the suspension loop is onto the front mounting hole, and use screws to secure the suspension loop to the front mounting bar.



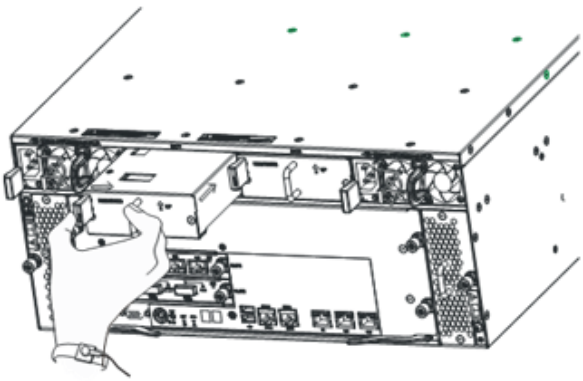
3 [Installing the expansion module]

Face silkscreen of the expansion board forward, hold the middle of the expansion board, slowly insert the expansion board, and tighten the captive screws.



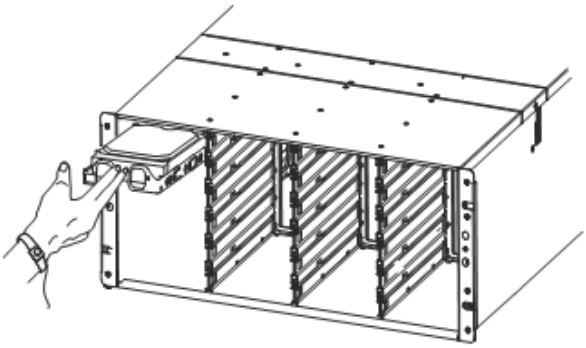
4 [Installing the battery module]

Determine the direction of the battery case, insert the battery case slowly along the guide rail, until the lock spring piece is buckled.



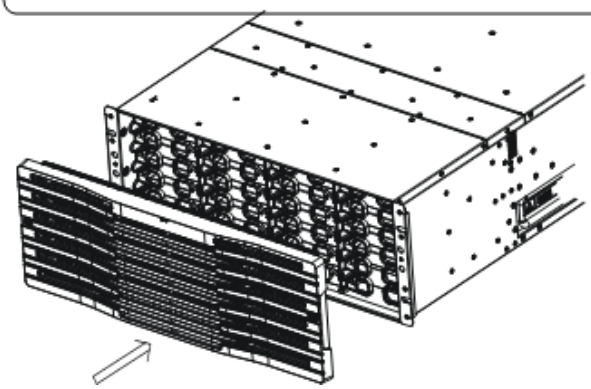
5 [Installing a disk]

Hold the middle of the disk, but do not hold the handle bar. Slowly push the disk into the slot, until a clatter sound is heard, indicating that the disk is installed in position.



6 [Installing the front panels]

Install the front panels of the storage controller and DEU1124, as shown in the following figure (DEU1124 is used as an example).



Connect cables and perform verification

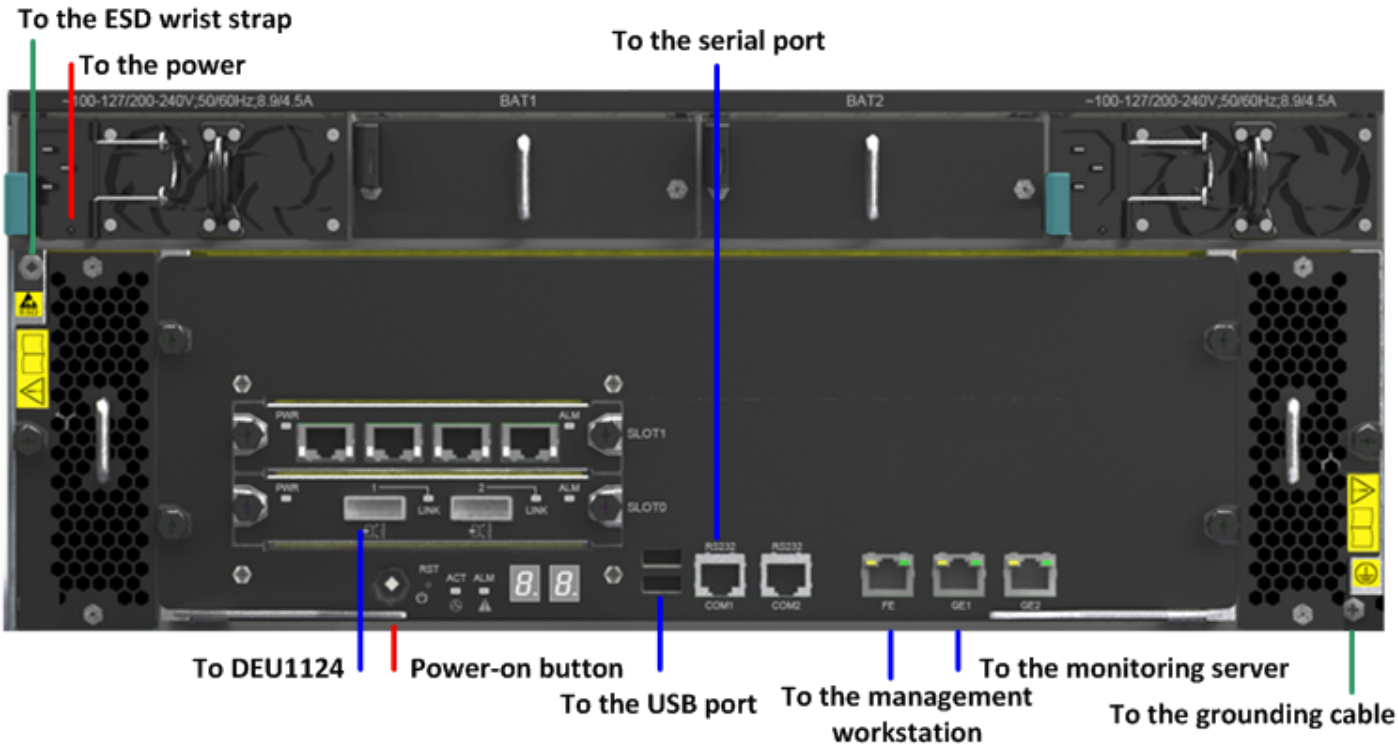
1

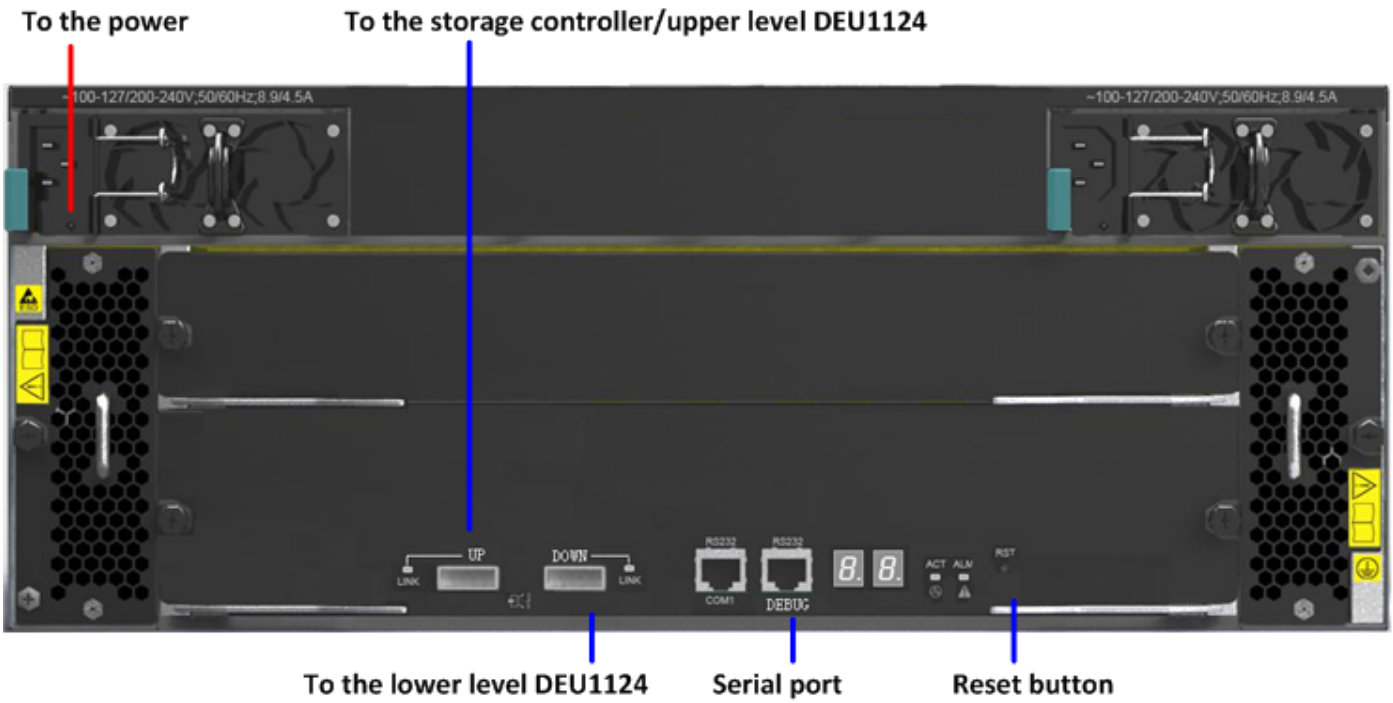
[Cable Connection]

(1) Connect cables for the storage controller and DEU1124, as shown in the following figure.

(2) Power on the storage controller and DEU1124.

(3) Switch on the storage controller.





2

[Check]

(1) Check the rear panel LED of the storage controller and DEU1124.

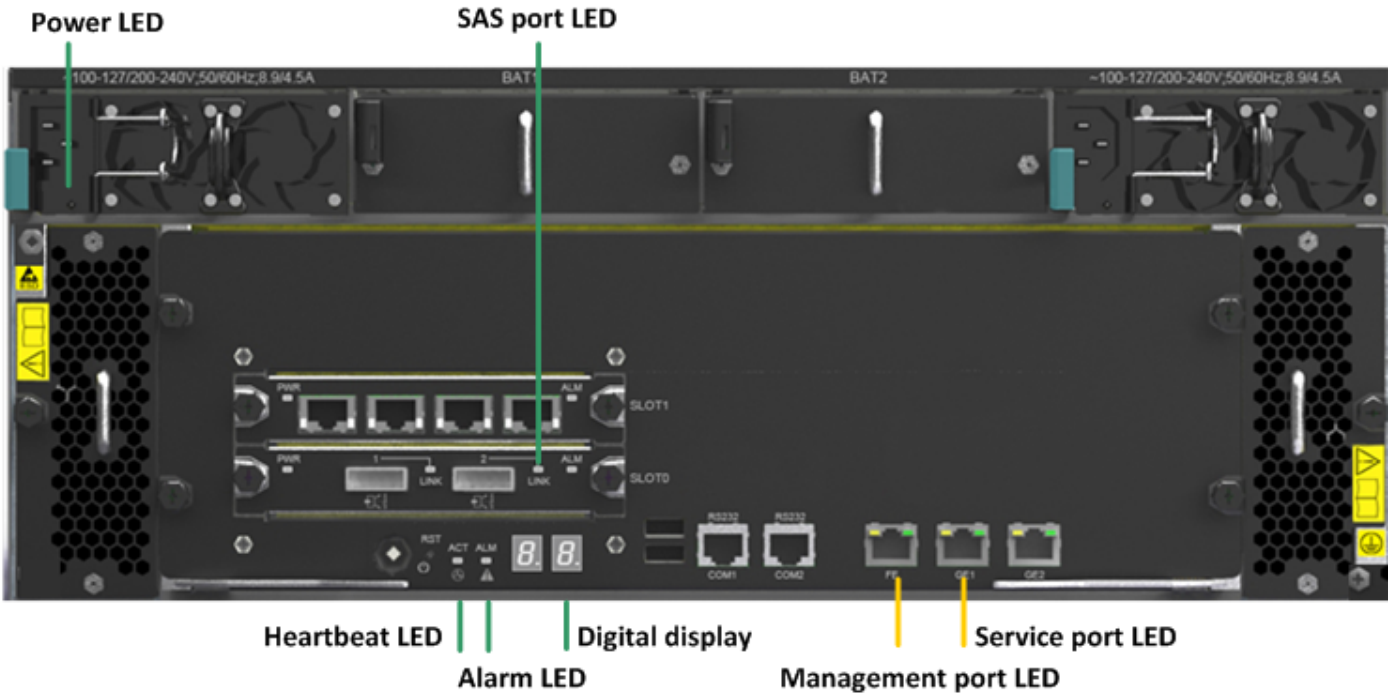
Management port LED: green on and yellow on

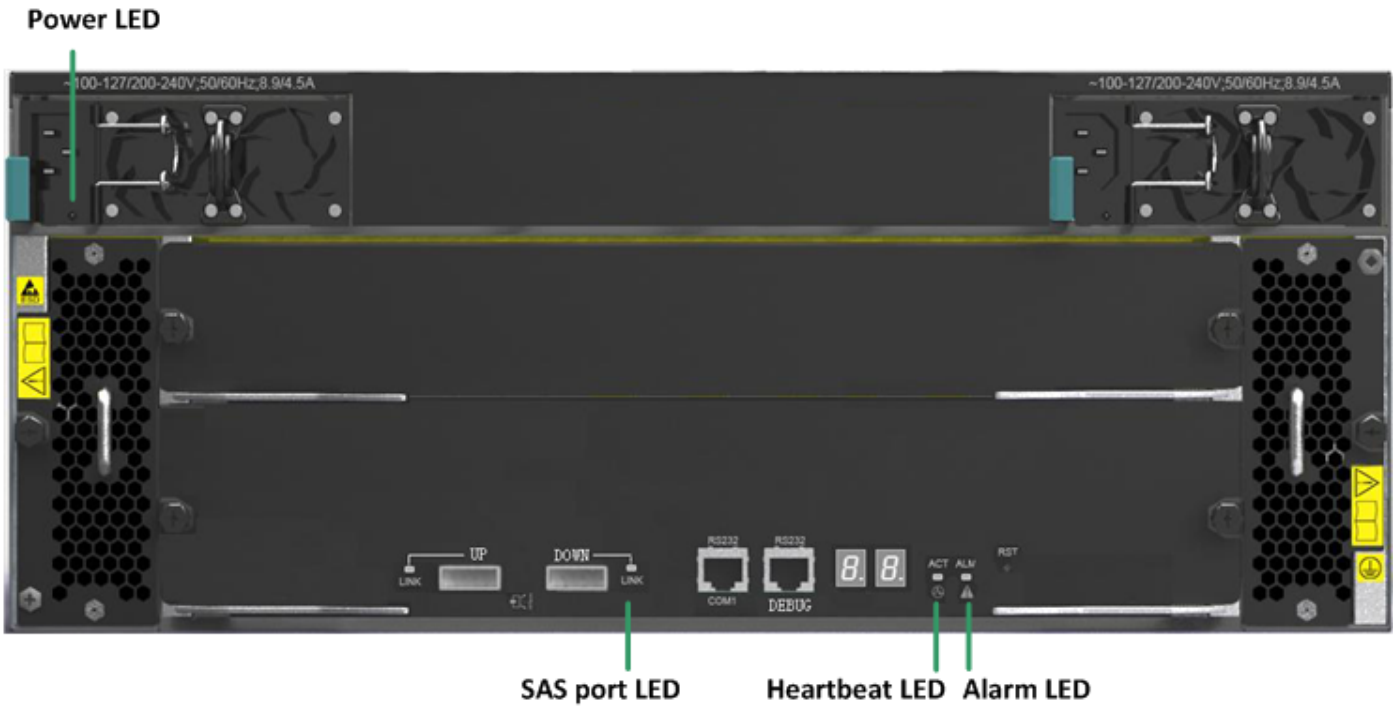
Service port LED: Green or yellow on

Alarm LED: off; Other LEDs: green

(2) Check the front panel LED of the storage controller and DEU1124 (the illustration is omitted).

Normally, the front panel LED is green.





3 Software Configuration

Basic Concepts

Basic Concept	Description
Console	Indicates the Graphical User Port (GUI) used in configuration and management.
Server	Indicates IPSAN series in the console.
Management workstation	Indicates the PC where the console is installed.
RAID Group	Indicates a logical entity consists of multiple physical hard disks. In addition, the logical entity possesses RAID level features. RAID indicates redundant array of independent disks. The logical entity is used to form the RAID of a specified level and provide physical resources for RAID Logical Unit Numbers (LUNs).
RAID LUN	Compared with a LUN, a RAID LUN indicates a smaller logical entity created in a RAID group. After a RAID LUN is created in a RAID group, the RAID LUN directly inherits the RAID level of the RAID group.
Logical resource	Indicates a logical entity that is created on a RAID LUN for direct access from a client. A client can access a logical resource after it is created on basis of a RAID LUN and assigned to a target.
Initiator	Indicates an entity that initiates an Internet Small Computer System Port (iSCSI) request.
Target	Indicates an entity that responds to an iSCSI request. An initiator can initiate a request to a target only after it is associated with the target.
Management network port	Configures and administrates devices, 100 Mbit/s.
Service port	Transfers data, 1000 Mbit/s.

Configuration Workflow

To complete most basic configurations, perform the following operations on the storage software GUI:

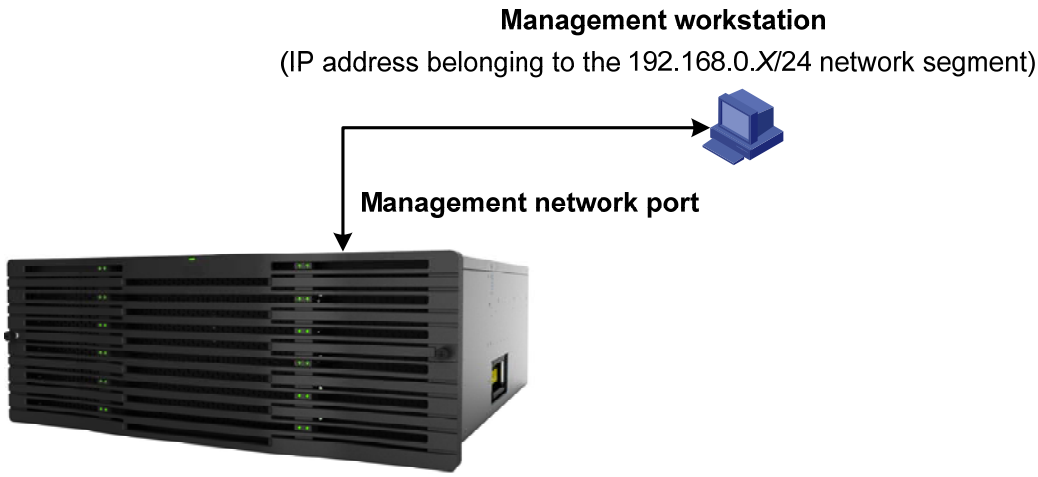
1. Log in to the device through the management network port.
2. Set the IP address of the service port.
3. Create a RAID group.
4. Create a RAID LUN.
5. Create logical resources.

6. Create a target and add an initiator.
7. Assign Storage Area Network (SAN) resources.
8. Configure the initiator (with Windows client as an example).
9. View disks assigned (with Windows XP as an example)

Log in to the device through the management network port

Enter **http://192.168.0.1** in the browser address bar of the management workstation, download the console, and log in to the console. By default, the user name is **admin**, the password is **password**, and the server IP address **192.168.0.1.**

Figure 3-1



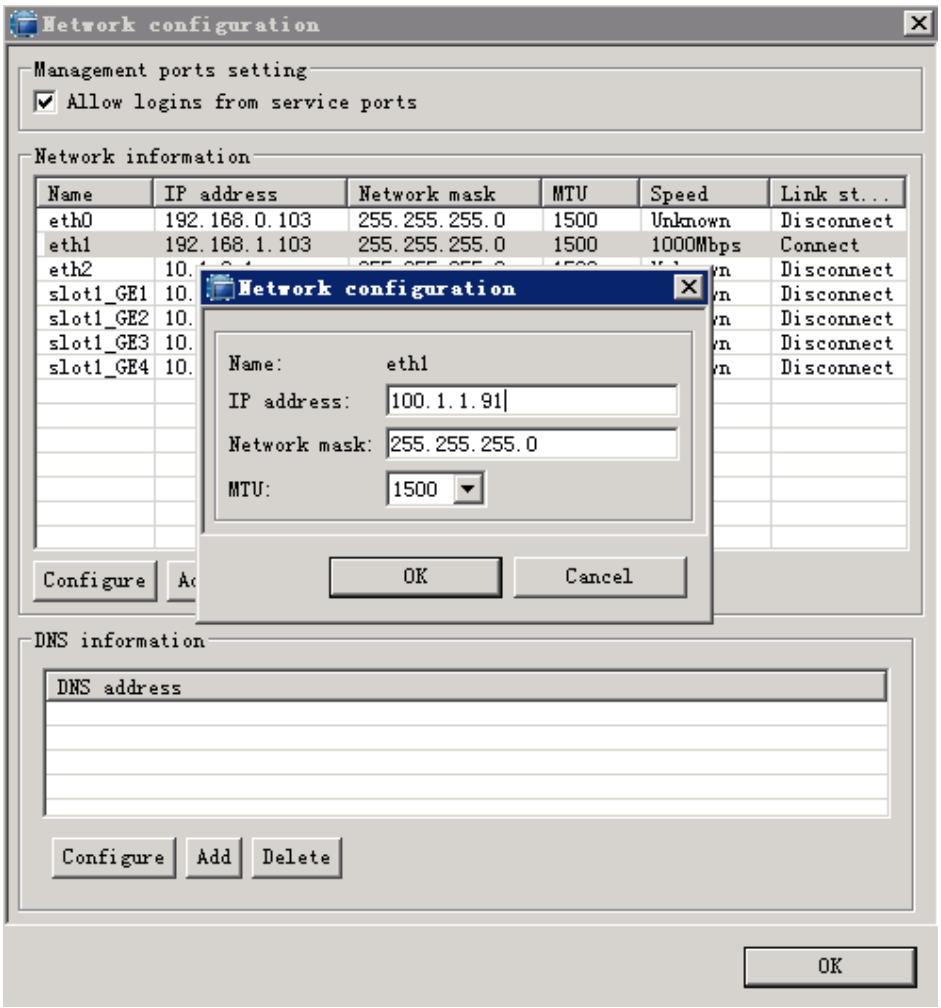
Set the IP address of the service port

1. Choose **Server Maintenance > Configure Network**.
2. Change the IP address of the service port.

The default IP addresses of the service ports are 10.1.1.1 and 10.1.2.1.

If expansion boards are inserted, the corresponding default IP addresses are 10.1.3.1, 10.1.4.1, 10.1.5.1 and 10.1.6.1.

Figure 3-2 Change the IP address



3. Click<**OK**>.

Create a RAID group

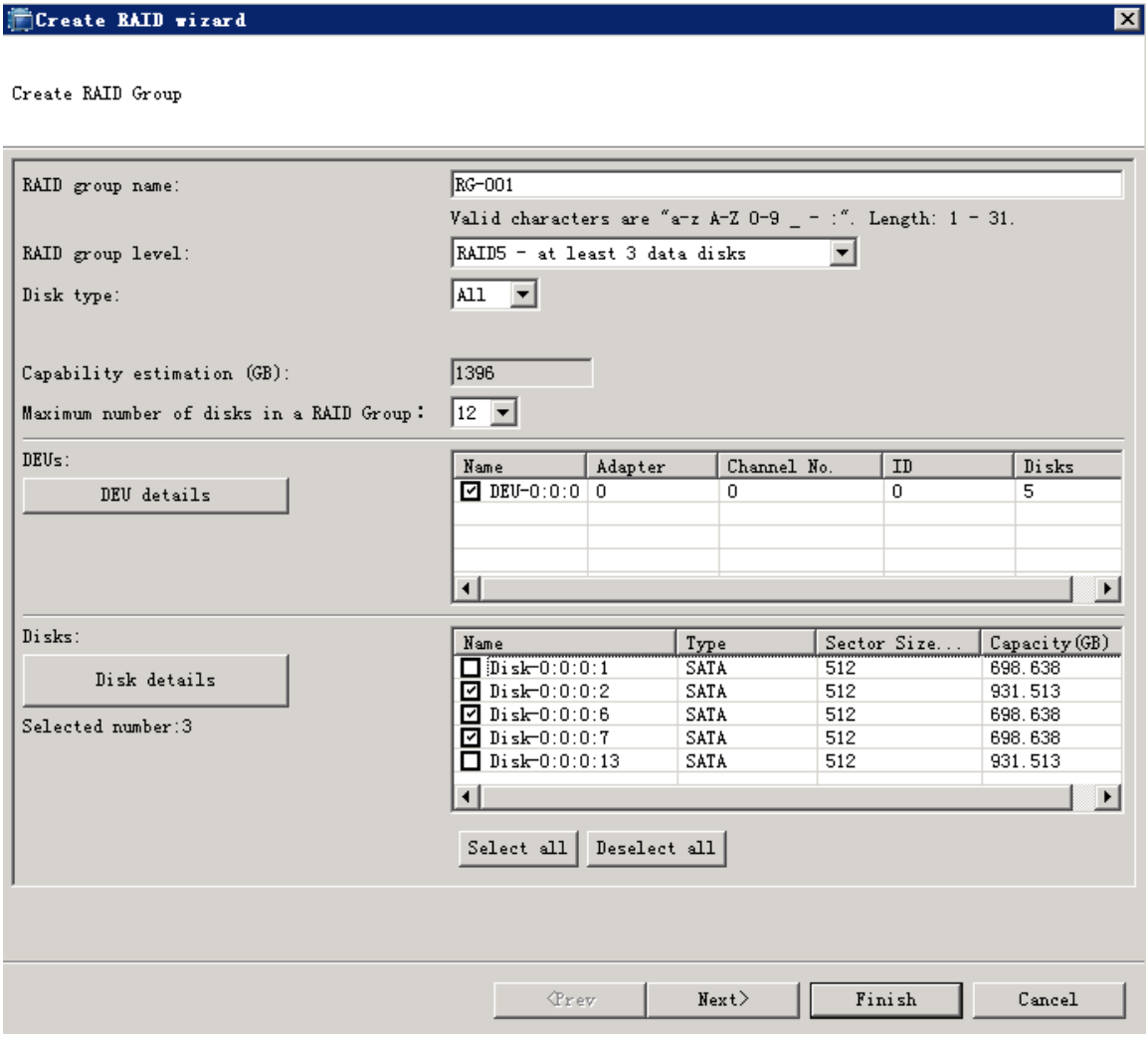
1. Choose **RAID Group Resources > Local RAID Group > Create**.
2. Create a RAID group.

Check whether the number of disks under "**Physical Resources**" is consistent with the actual number.

Recommend number of disks:11 (RAID5) + 1 (hot standby) + 11 (RAID5) + 1 (hot standby)

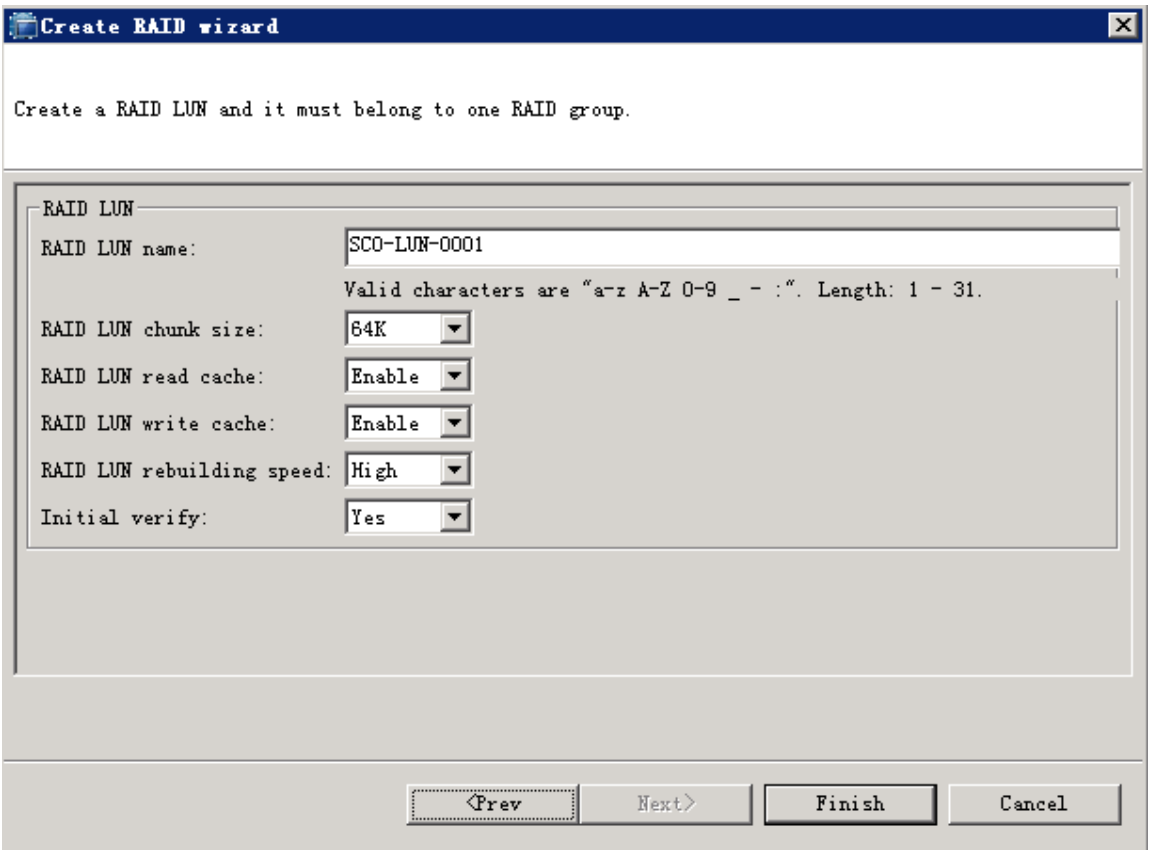
Or: 11 (RAID5) + 12 (RAID5) + 1 (hot standby).

Figure 3-3 Create a RAID Group



3. (Optional) Click<**Next**>.Confirm the information of the RAID Group.

Figure 3-4 The information of the RAID LUN



4. Click<**Finish**>.

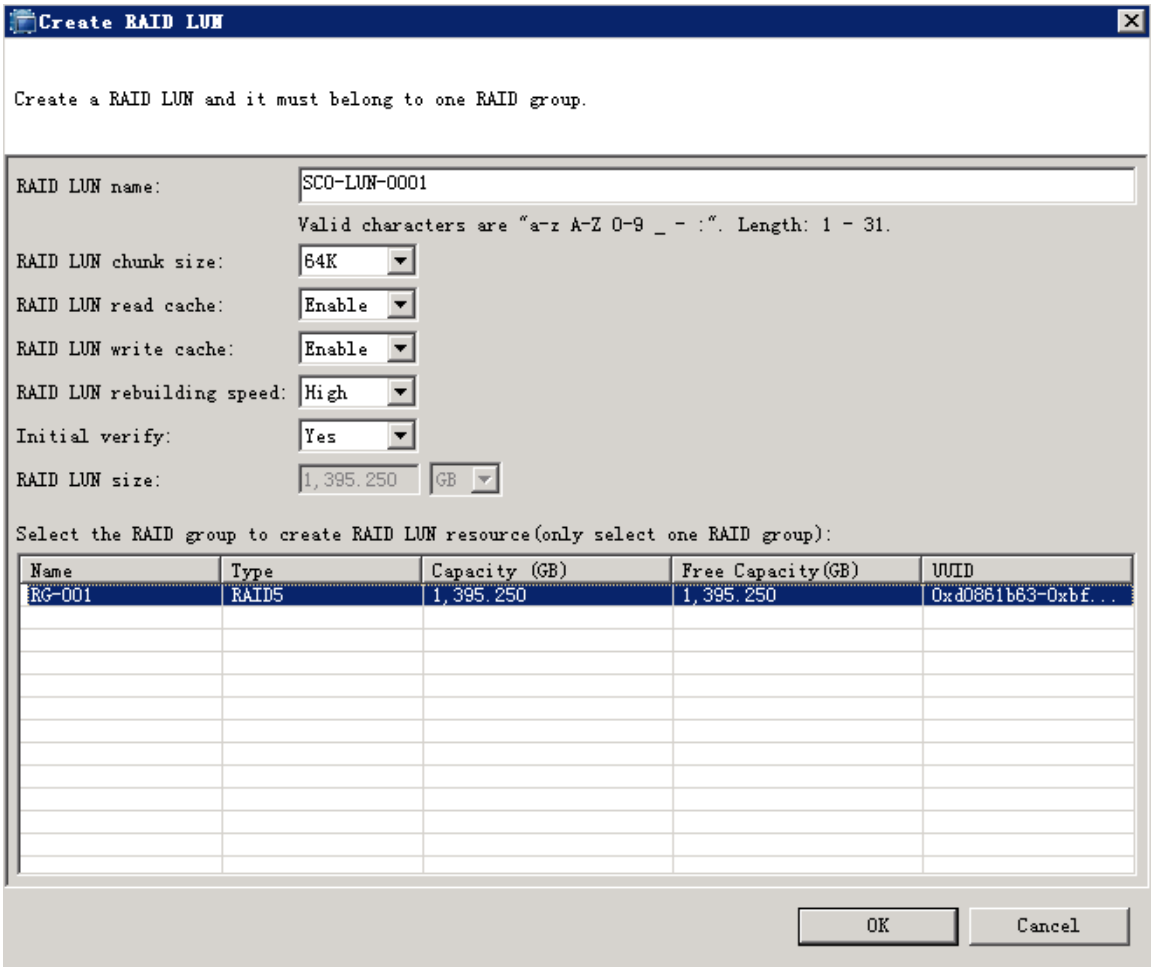
Create a RAID LUN

If no RAID LUN has been created when you start to create a RAID Group, follow these steps to create one.

1. Choose **RAID LUN Resources > Local RAID LUNs > Create**.
2. Enter the **name**. Select the corresponding RAID group.

Size of RAID group is displayed automatically.

Figure 3-5 Create a RAID LUN

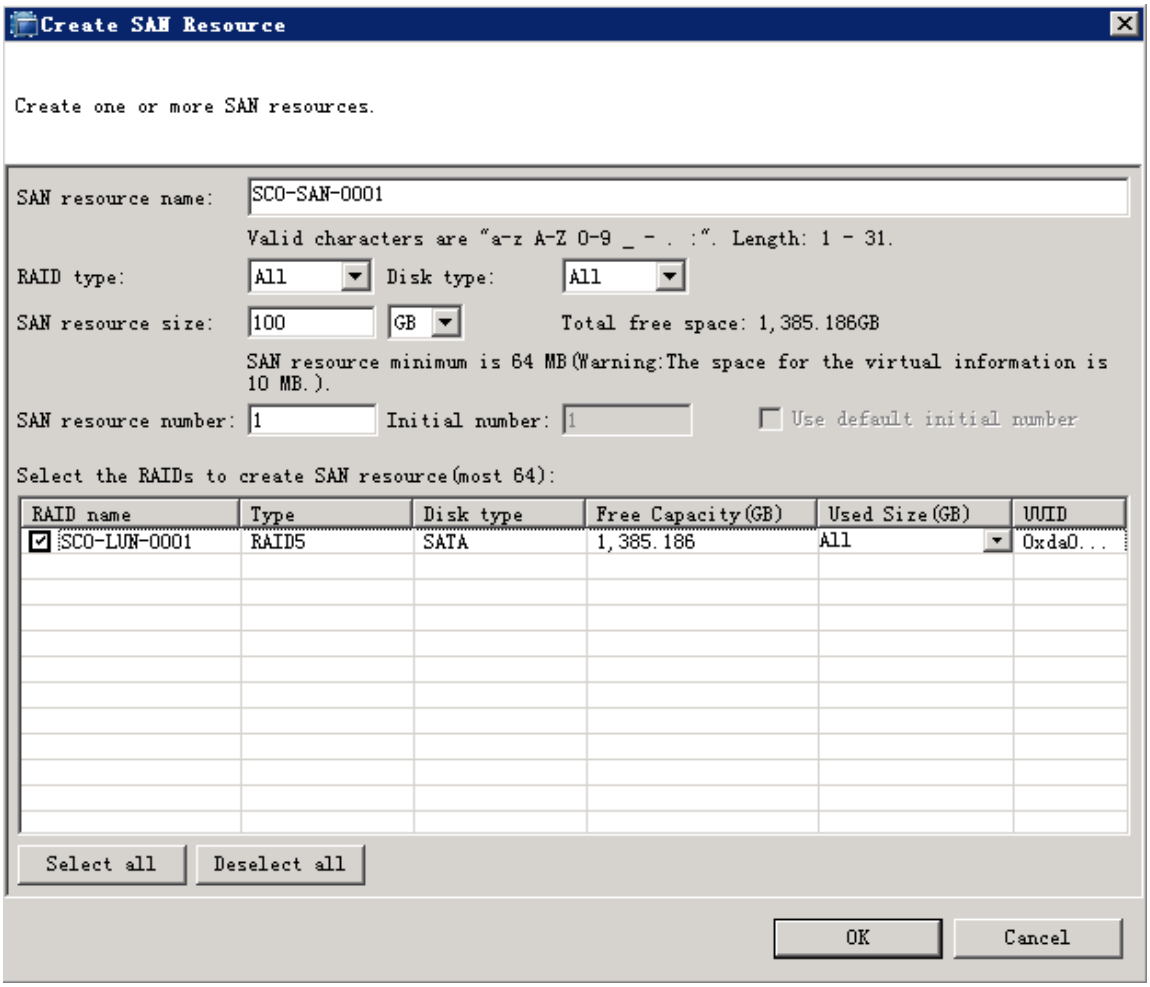


3. Click<**OK**>.

Create logical resources

1. Choose **Logical Resources > SAN Resources > Create**.
2. Set the SAN resource name and size, and select its RAID LUN.

Figure 3-6 Create the SAN Resource

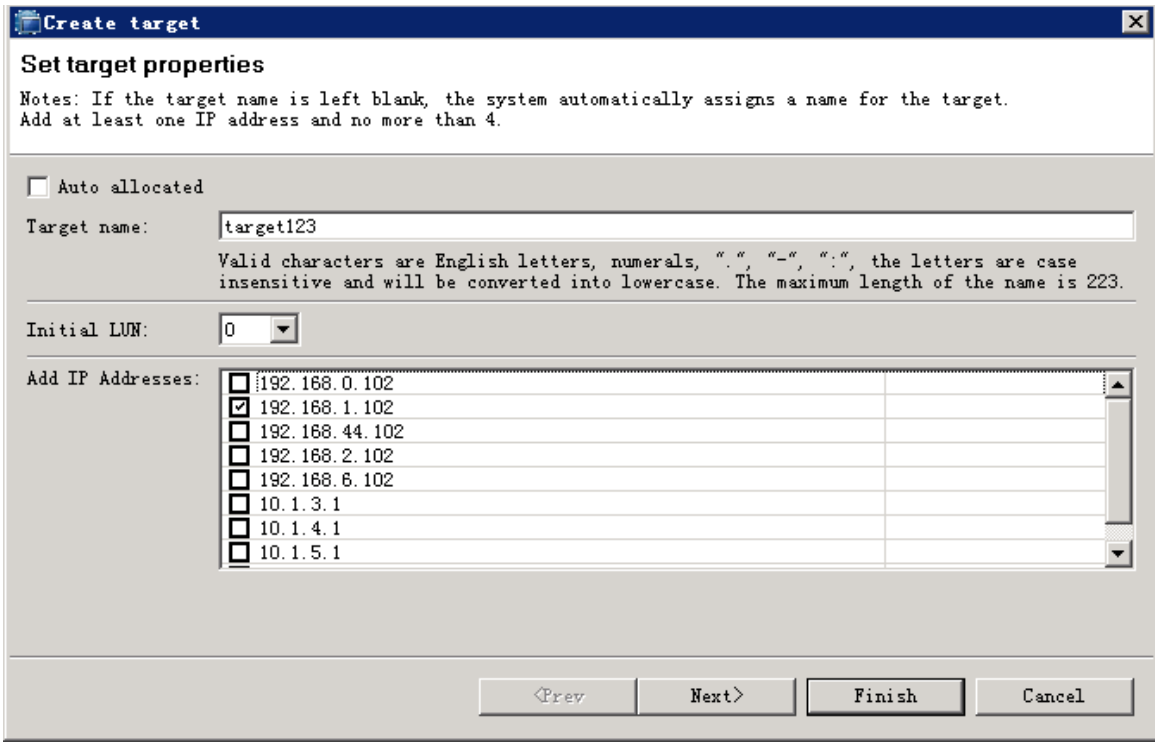


3. Set the SAN resource name and size, and select its RAID LUN, then Click<**OK**>.

Create a target and add an initiator

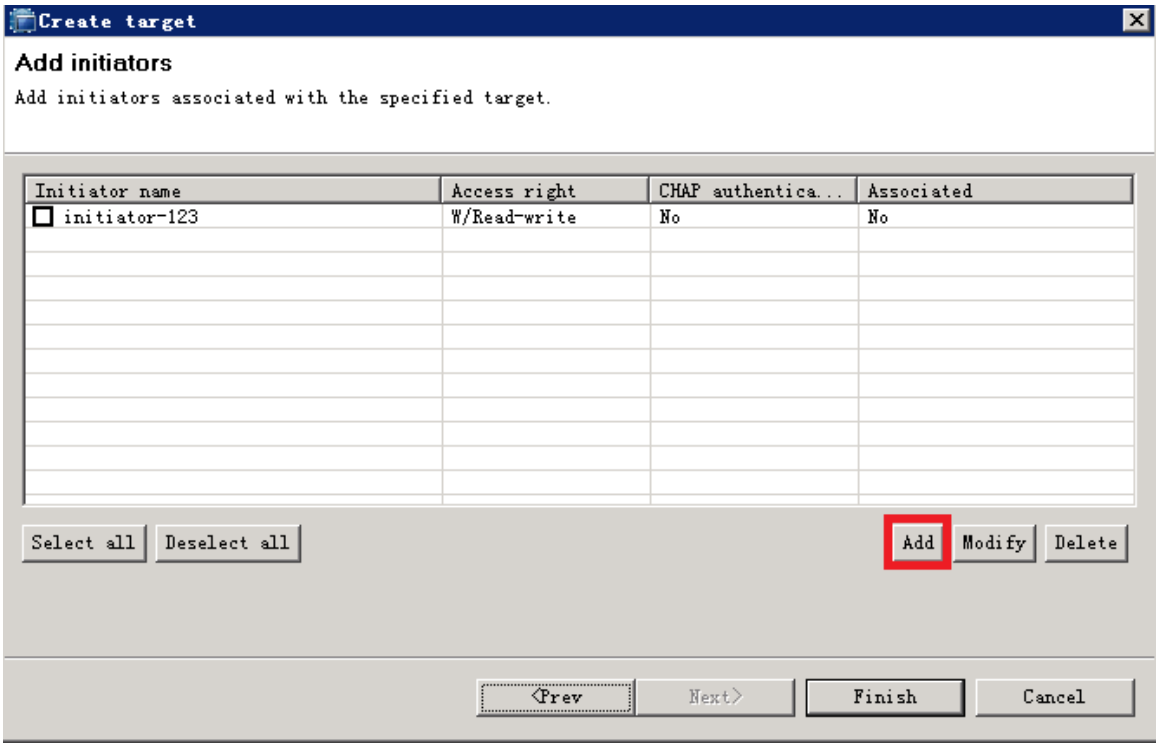
1. Choose **Target Resources > Create**.
2. Deselect **Auto Allocated**, and customize the name. Select the IP address of the target, then click<**Next**>.

Figure 3-7 Create a target



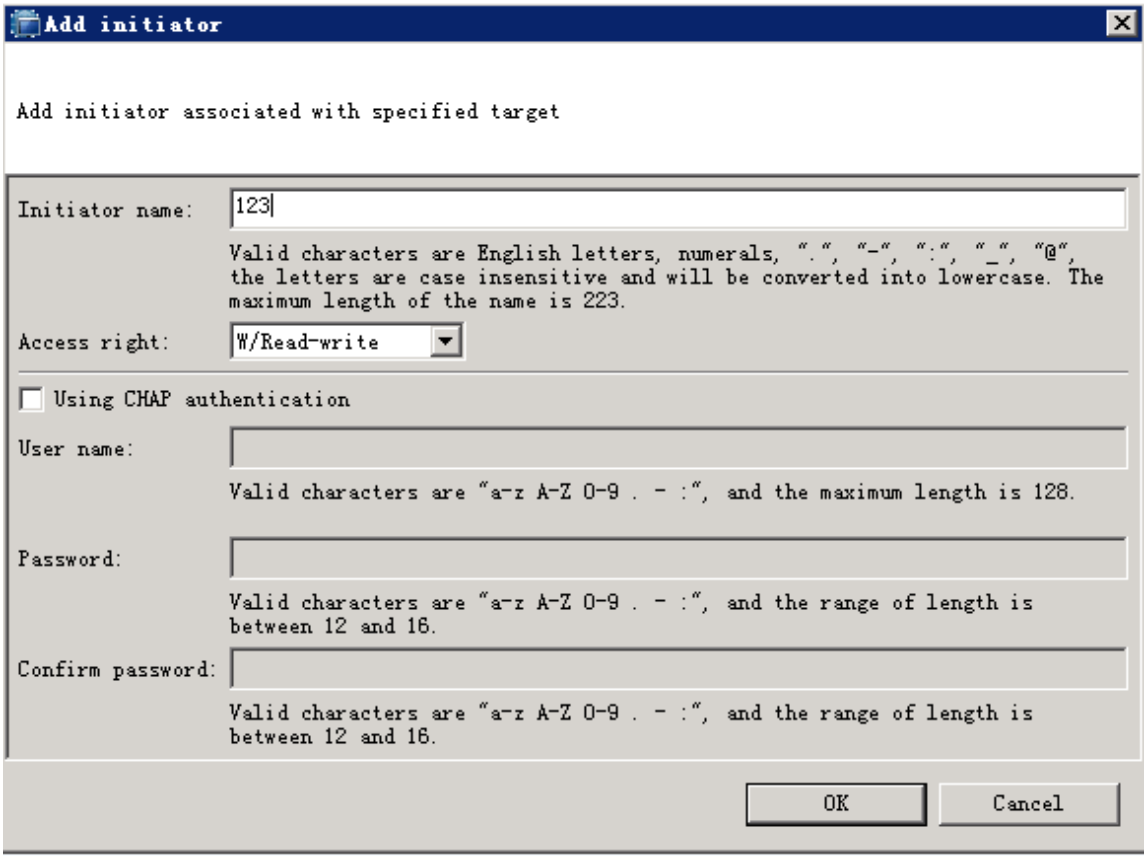
3. Click<**Add**> to add an initiator.

Figure 3-8 Add an initiator



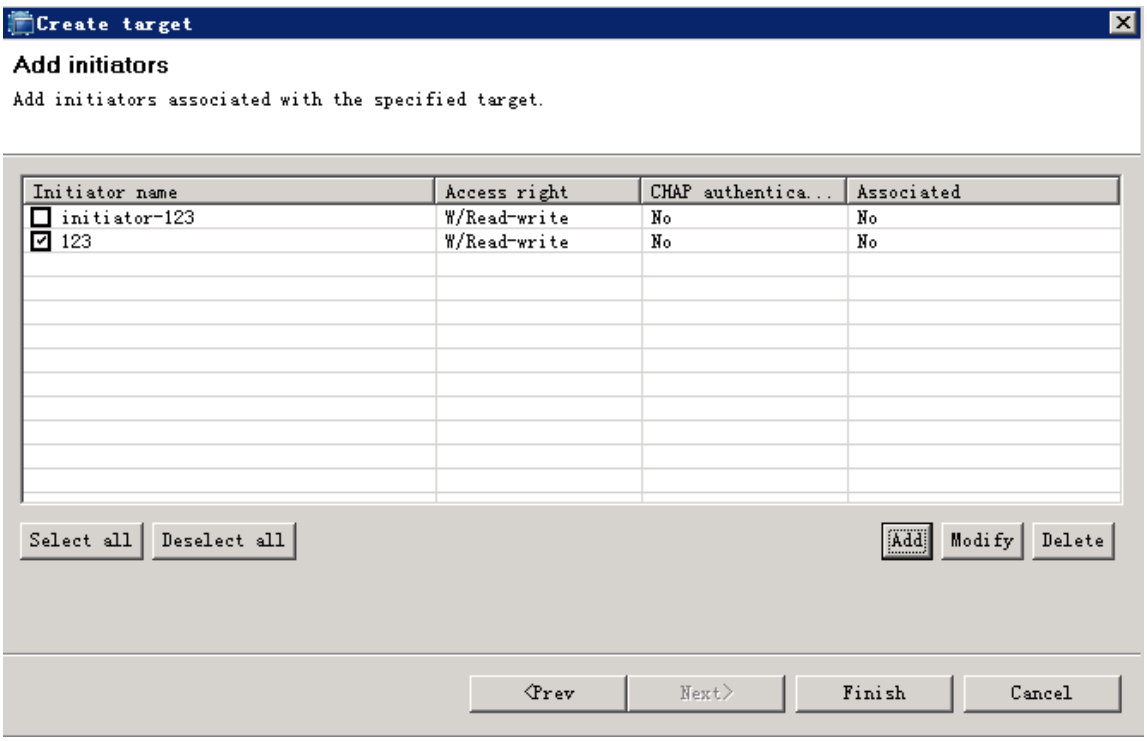
4. Set the name of the initiator, then to click<**OK**>.

Figure 3-9 Set the name of the initiator



5. Confirm the result, then to click<**Finish**>.

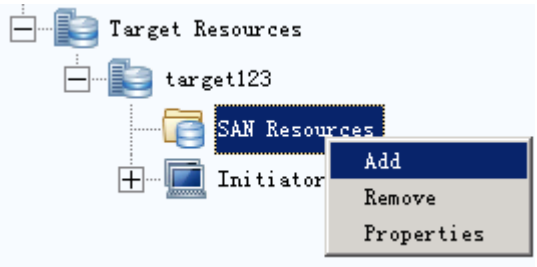
Figure 3-10 Confirm



Assign SAN resources

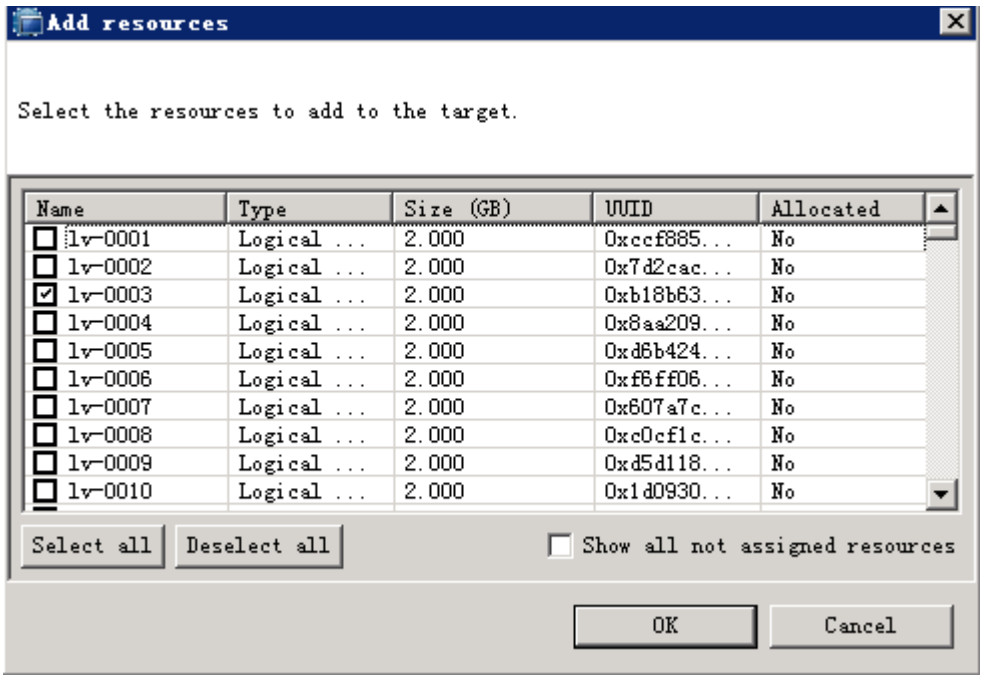
1. Choose **SAN Resources > Add**.

Figure 3-11 Add

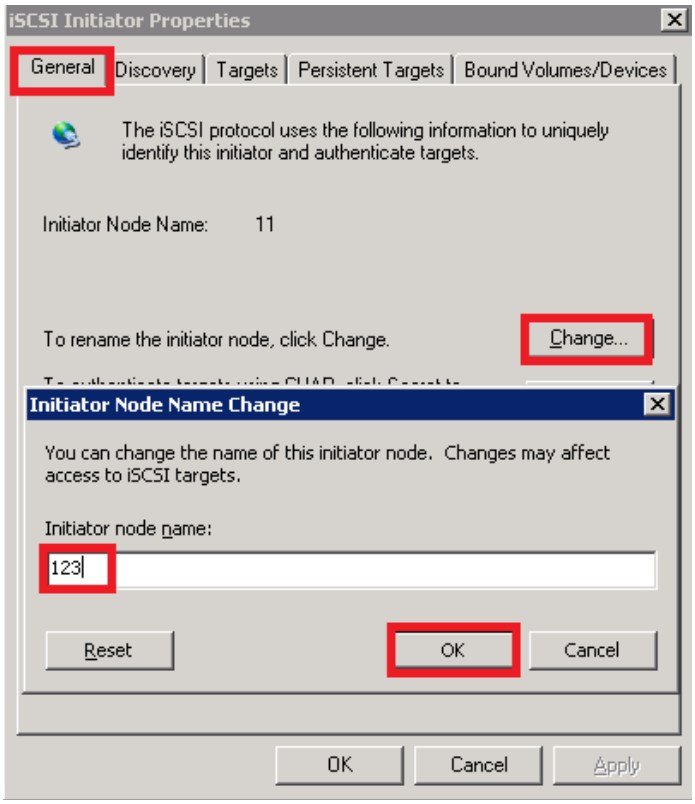


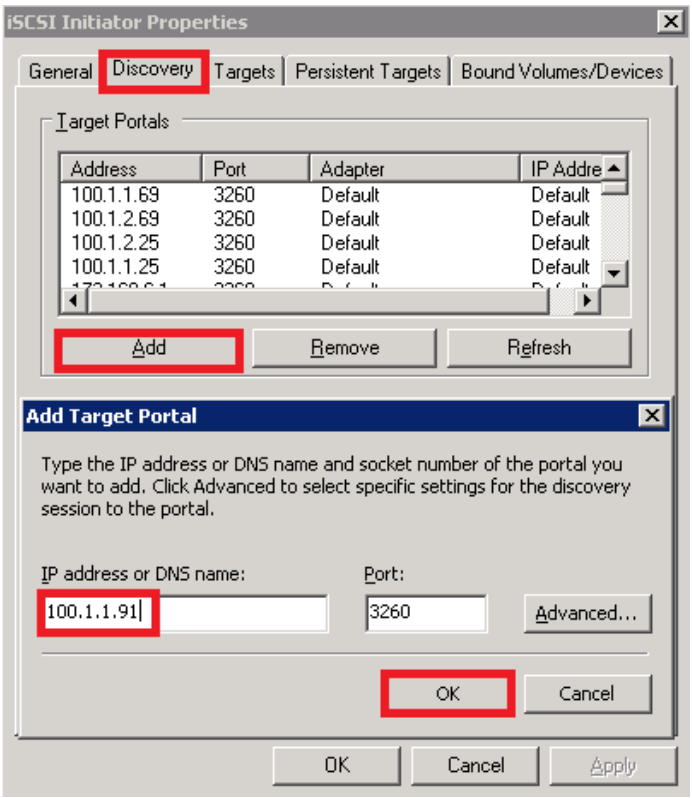
2. Select resources to be assigned to a target. Click<**OK**>.

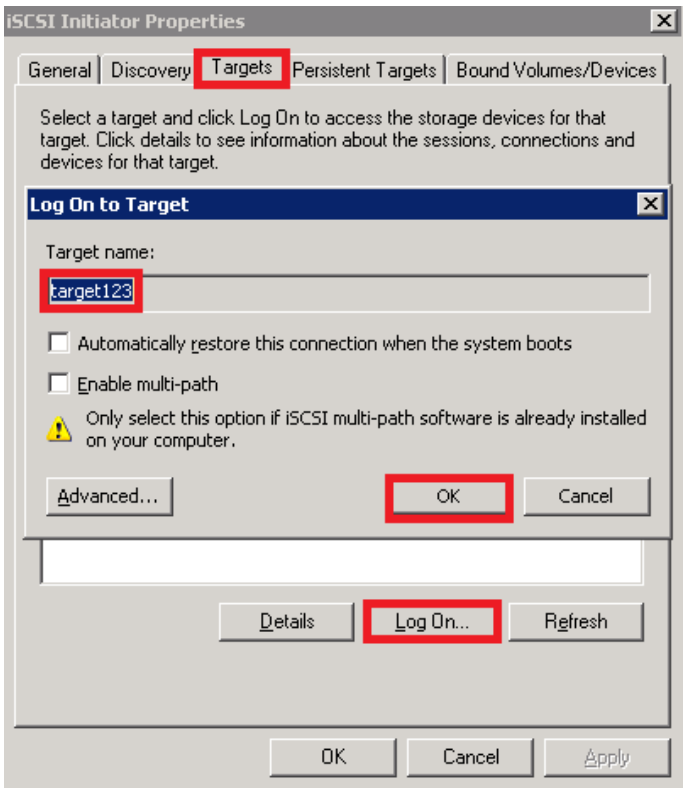
Figure 3-12 Add a resource

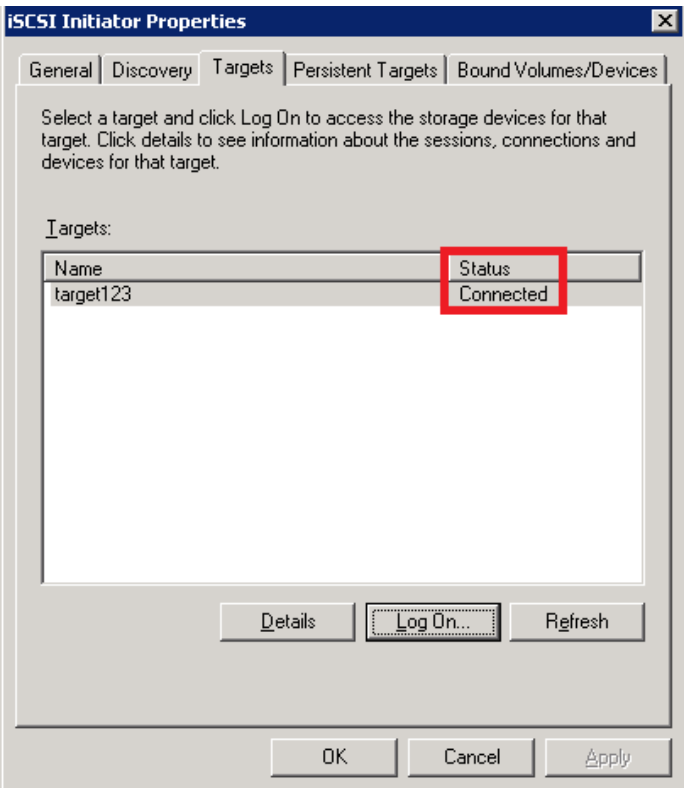


Configure the initiator (with Windows client as an example)



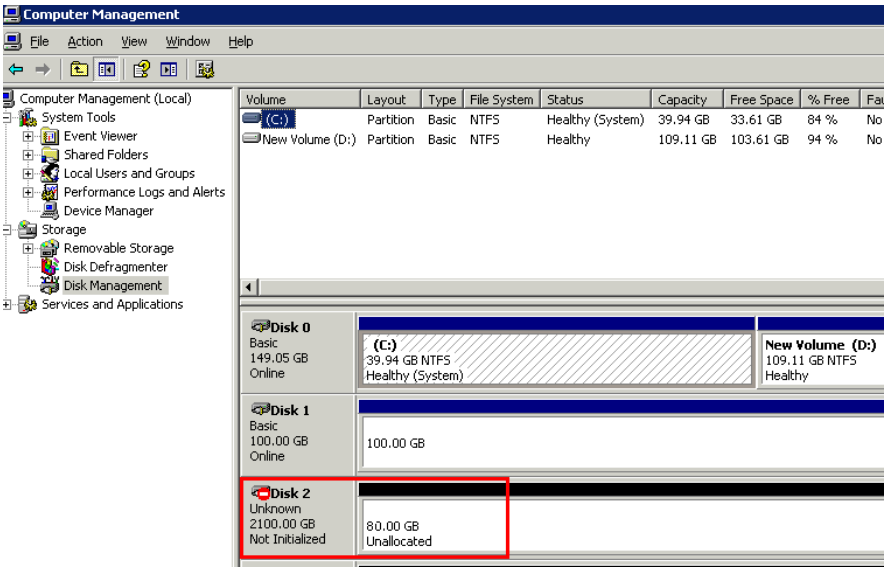






View disks assigned (with Windows XP as an example)

Right-click **My Computer**. Choose **Computer Management**. Check the added disk space.



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