Quest® NetVault® Backup
Plug-in *for VaultShare (ACSLS)* 11.4.5

User's Guide

Legend

■ **WARNING: A WARNING icon indicates a potential for property damage, personal injury, or death.**

! **CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.**

i **IMPORTANT NOTE**, **NOTE**, **TIP**, **MOBILE**, or **VIDEO:** An information icon indicates supporting information.

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About NetVault Backup Plug-in *for VaultShare (ACSLS)*

NetVault Backup Plug-in *for VaultShare (ACSLS)* (Plug-in *for VaultShare (ACSLS)*) provides a device integration solution, allowing you to add and use library resources controlled by Oracle StorageTek Automated Cartridge System Library Software (ACSLS) in a NetVault Backup Domain. Functioning as an ACSLS Client, the plug-in communicates with the ACSLS Server through the Client System Component (CSC) software to access the library resources for backups and restores of NetVault Backup Clients.

The Plug-in *for VaultShare (ACSLS)* is only designed to facilitate configuration of an ACSLS Library in a NetVault Backup Domain. After it is configured, the library can be used for backups and restores in the same manner as any other added storage device. There are no specific requirements to use this library for NetVault Backup operations. Backup and restore operations are controlled by the NetVault Backup Plug-ins. For details on these operations, see the relevant plug-in guide.

Target audience

This guide is intended for administrators and other technical personnel who are responsible for adding and managing backup devices in a NetVault Backup Domain. Familiarity with the deployment of an ACSLS tape library in the existing enterprise platform is assumed.

Recommended additional reading

The following documentation is also available:

- *Quest NetVault Backup Installation Guide*: This guide provides details on installing the NetVault Backup Server and Client software.

- *Quest NetVault Backup Administrator's Guide*: This guide explains how to use NetVault Backup and describes the functionality common to all plug-ins.

- *Quest NetVault Backup CLI Reference Guide*: This guide provides a description of the command-line utilities.

You can download these guides from https://support.quest.com/technical-documents.

Quest NetVault Backup Plug-in *for VaultShare (ACSLS)* 11.4.5 User's Guide
Introducing NetVault Backup Plug-in for VaultShare (ACSLS)

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i | **IMPORTANT:** Starting with 10.0.0, NetVault Backup provides a WebUI to configure, manage, and monitor your NetVault Backup system and installed plug-ins. The procedures described in the user's guide for this version of the plug-in are intended for the new WebUI. For procedures based on the NetVault Backup Console (user interface available with NetVault Backup 9.x), see the documentation for an earlier version of the plug-in.

Deploying the plug-in

ACSLS architecture

Oracle StorageTek ACSLS centralizes management of tape libraries in a heterogeneous environment, allowing you to share the library resources with any ACSLS-enabled application such as NetVault Backup, and control multiple libraries from a single point. An ACSLS system includes the following components.

Figure 1. ACSLS Architecture Overview

- NetVault Backup Server Software
- NetVault Backup Client Software with SmartClient License
- Plug-in for ACSLS
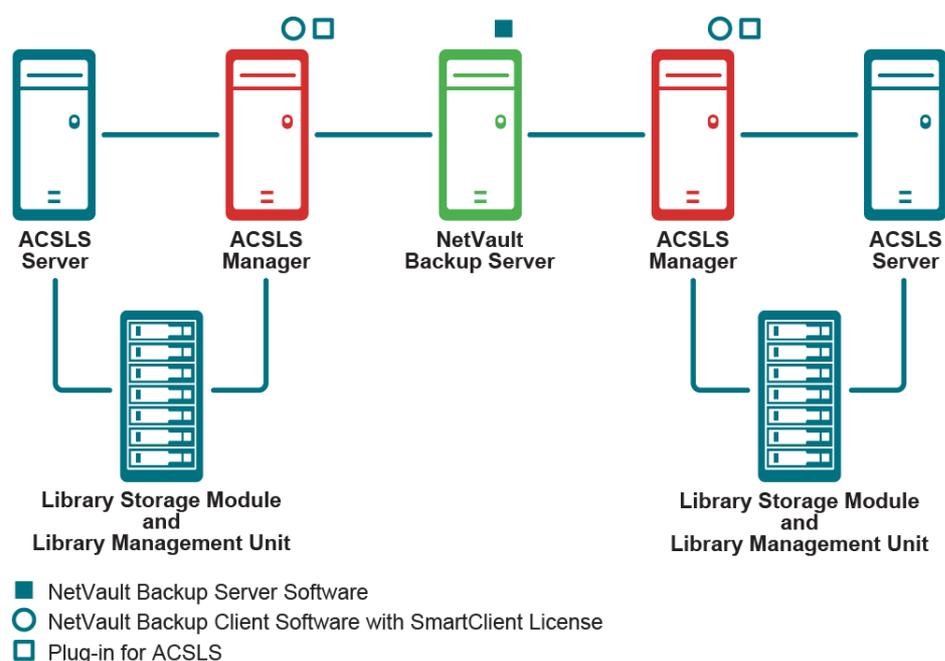
- **ACSLS Server:** The ACSLS Server consists of the library management software and the ACSLS database. The ACSLS Server manages the physical aspects of tape cartridge storage and retrieval. It receives the robotic requests from NetVault Backup and uses the Library Management Unit (LMU) to find, and mount or unmount the correct tape cartridge on media management requests. The ACSLS Server is connected to the Automated Control System (ACS) through a SCSI, Fiber Channel, or Ethernet connection.

- **ACSLS Client:** The ACSLS Client can be a NetVault Backup Server or Client which is connected to the ACSLS Server and the ACS. It is called the ACSLS Manager and consists of the following components:

  - **NetVault Backup Server or Client software**

  - **Plug-in** *for VaultShare (ACSLS)*

- **Client System Component:** The CSC software acts as an interface between NetVault Backup and ACSLS.

The ACSLS Manager sends media requests to the ACSLS Server through the Control Path. The ACSLS Server reads these requests and provides access to the required resource. The ACSLS Manager then reads and writes data on tape cartridges by interacting directly with tape drives through the data path.

- **Automated Control System (ACS):** An ACS consists of the following components:
  - **Library Management Unit:** LMU is the software component of the ACS, which manages Library Storage Modules (LSM), allocates their resources and communicates with the ACSLS.
  - **Library Storage Module:** The hardware component containing the media, drives, and the robotic arm.

Deployment overview

NetVault Backup can be configured to control a single ACSLS System or multiple ACSLS Systems. These deployments allow you to control multiple libraries, and manage media and job requests from a single point of control. Following are some example deployments of NetVault Backup in an ACSLS environment.

Single ACSLS System

In a Single ACSLS System environment, the plug-in is installed on the NetVault Backup Server or a NetVault Backup SmartClient. The NetVault Backup Heterogeneous Client software is installed on the machines being protected. During backups, the data flows along the ACSLS Data Path from the NetVault Backup Client to the NetVault Backup Server, and then to the Library Management Unit.

Figure 2. Single ACSLS System
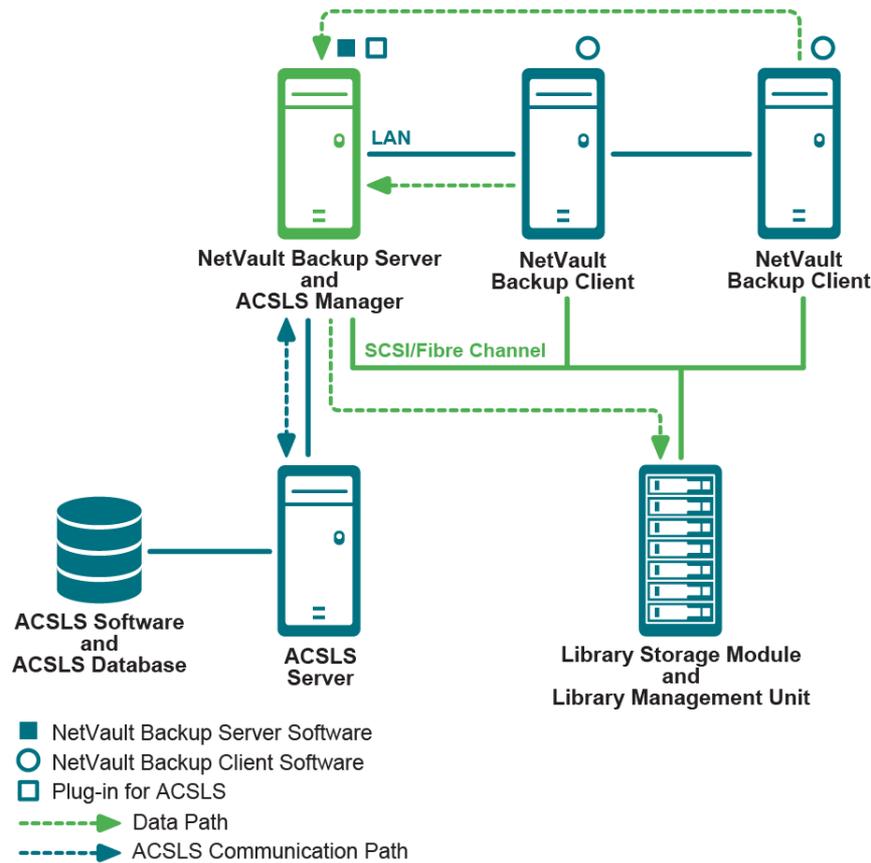
To control a single ACSLS System from the NetVault Backup Server:

1   Install NetVault Backup Server Software on the machine designated as the NetVault Backup Server and ACSLS Manager.

2   Install CSC software on the NetVault Backup Server.

3   Install Plug-in *for VaultShare (ACSLS)* on the NetVault Backup Server.

4   Add ACSLS Device from the NetVault Backup WebUI.

Single ACSLS System with NetVault Backup Clients

In a Single ACSLS System environment with NetVault Backup Clients, the plug-in is installed on the NetVault Backup Server. The NetVault Backup Client software with SmartClient license is installed on the machines being protected. During backups, the data flows directly from the NetVault Backup Client to the Library Management Unit.

Figure 3. Single ACSLS System deployment with NetVault Backup Clients

- ■ NetVault Backup Server Software
- ● NetVault Backup Client Software with SmartClient License
- □ Plug-in for ACSLS
- ------▶ Data Path
- ------▶ ACSLS Communication Path

To control a single ACSLS System from the NetVault Backup Server but have the data flow directly from the NetVault Backup Clients to the Library Management Unit, perform the following steps:

1   Install NetVault Backup Server Software on the machine designated as NetVault Backup Server and ACSLS Manager.

2   Install CSC software on the NetVault Backup Server.

3   Install Plug-in *for VaultShare (ACSLS)* on the NetVault Backup Server.

4   Install NetVault Backup Client software on the machines being protected. Ensure NetVault Backup Clients are licensed as SmartClients.

5   Add ACSLS Device from the NetVault Backup **Device Management** window.

> **ⓘ** | **IMPORTANT:** Each NetVault Backup Client requires a SmartClient license and each drive that is shared among the clients requires one NetVault Backup Dynamically Shared Device license.

Multiple ACSLS Systems

NetVault Backup can be configured to control multiple ACSLS Systems. This configuration is done by adding multiple NetVault Backup ACSLS Mangers to the NetVault Backup Server.

Figure 4. Multiple ACSLS Systems

- ■ NetVault Backup Server Software
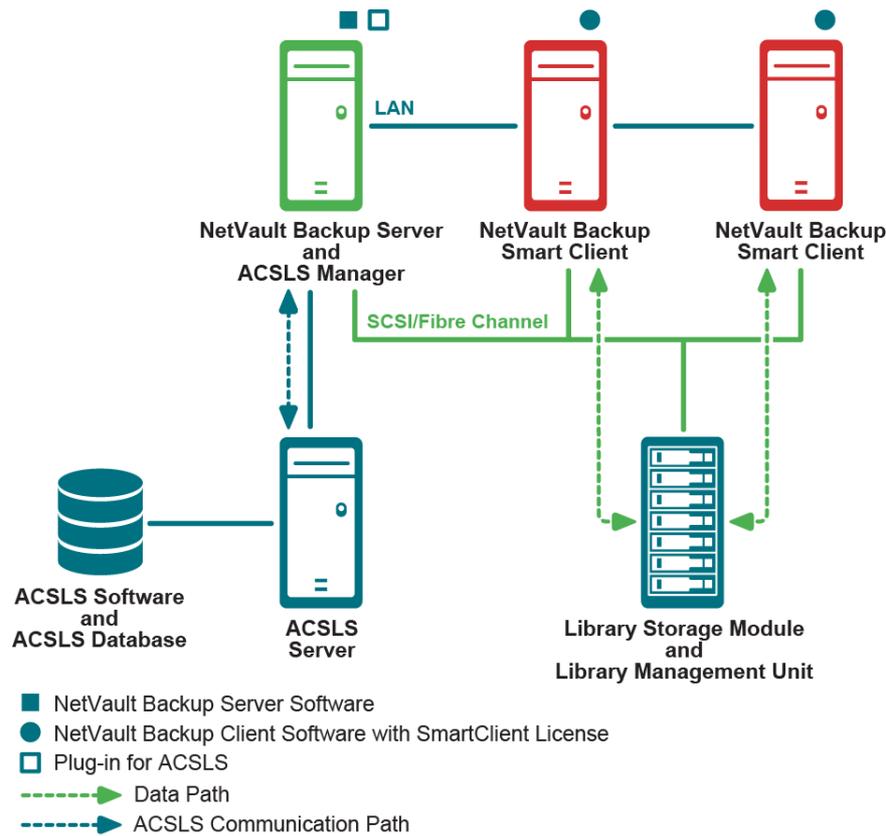- ○ NetVault Backup Client Software with SmartClient License
- □ Plug-in for ACSLS
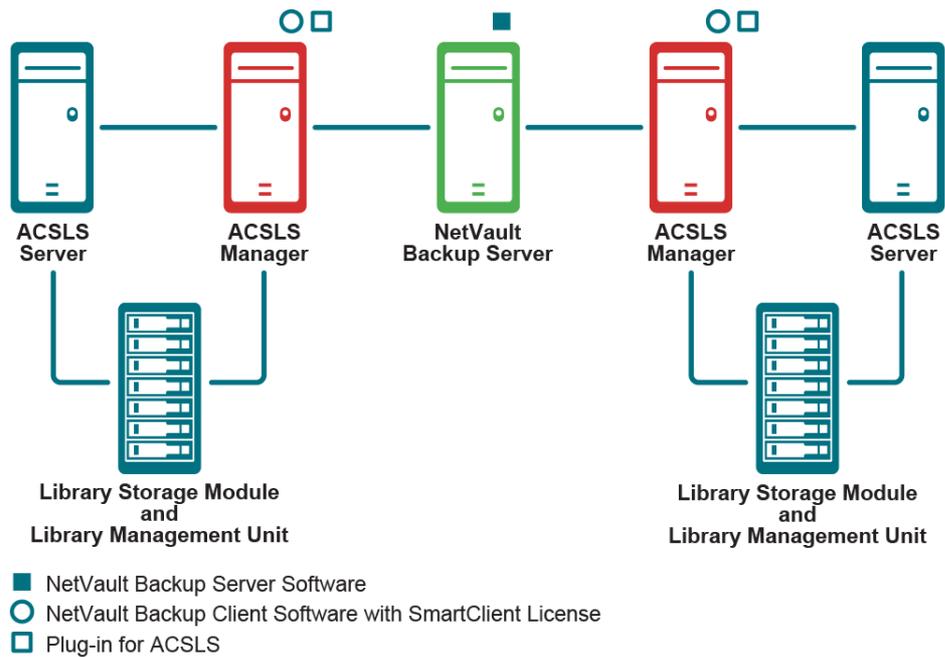
To control multiple ACSLS Systems from a single NetVault Backup Server:

1   Install NetVault Backup Client software on the machines designated as ACSLS Managers.

2   Add ACSLS Managers to the NetVault Backup Server.

3   Install CSC software on ACSLS Managers.

4   Install Plug-in *for VaultShare (ACSLS)* on ACSLS Managers.

5   Add ACSLS Devices from the NetVault Backup **Device Management** window. Make sure to select the corresponding ACSLS Manager when adding the ACSLS Devices.

> ℹ️ | **IMPORTANT:** Each NetVault Backup Client requires SmartClient license.

Installing and removing the plug-in

- Prerequisites

- Installing the plug-in

- Upgrading the plug-in

- Removing the plug-in

Prerequisites

Before you start the installation procedure, ensure that the following requirements are met:

- **Install ACSLS Server software:** Obtain and install the ACSLS Server software on the machine designated as the ACSLS Server. On an IBM or compatible mainframe machine, install the LibStation software. The library management software and license can be obtained from Oracle StorageTek. For instructions on installing the software, consult the relevant Oracle StorageTek documentation.

- **Install NetVault Backup Server or Client software:** On the system designated as the ACSLS Manager, install the NetVault Backup Server or Client software. With the NetVault Backup Client software, you require the additional SmartClient license. For details on installing the NetVault Backup software, see the *Quest NetVault Backup Installation Guide*.

- **Add NetVault Backup Client:** If you have installed the NetVault Backup Client software (with SmartClient license) on the ACSLS Manager, then add the client to the NetVault Backup Server. For details, see the *Quest NetVault Backup Administrator's Guide*.

- **Install CSC Software:** Install the CSC software on the ACSLS Manager. The CSC software enables communication between the ACSLS Manager (ACSLS Client) and the ACSLS Server. The CSC software is different for the Windows, Linux, and UNIX platforms:

  - **Windows-based client:** On a Windows machine, you require the **LibAttach Software**. LibAttach can be obtained from Oracle StorageTek. It must be installed on the ACSLS Manager before installing the Plug-in *for VaultShare (ACSLS)*. The ACSLS interactivity does not function without LibAttach. For detailed instructions on installing LibAttach, consult the relevant Oracle StorageTek documentation. Unless your network is properly configured for DNS name resolution, provide the IP Address for the NetVault Backup ACSLS Server when prompted for the Host Name during installation.

  - **Linux- or UNIX-based client:** On a Linux, Solaris, and MP RAS UNIX platforms, you require the **SSI Software**. SSI is bundled with the Plug-in *for VaultShare (ACSLS)*, and copied to the ACSLS Manager when you install the plug-in. More steps are required to install the SSI software, which is covered in Installing SSI on the ACSLS Manager.

Installing the plug-in

1   Access the **NetVault Configuration Wizard** or **Manage Clients** page.

> **i** | **NOTE:** If the selected clients are all the same type, you can use the configuration wizard to install the plug-in on multiple clients at the same time. When you select multiple clients, verify that the plug-in binary file is compatible with the OS and platforms of the target clients. From the **Manage Clients** page, you can only select one client for plug-in installation.

- To access the **NetVault Configuration Wizard** page:
  - a In the Navigation pane, click **Guided Configuration**.
  - b On the **NetVault Configuration Wizard** page, click **Install Plugins**.
  - c On the next page, select the applicable clients.

- To access the **Manage Clients** page:
  - a In the Navigation pane, click **Manage Clients**.
  - b On the **Manage Clients** page, select the machine that contains the DB2 database, and click **Manage**.
  - c On the **View Client** page, click the **Install Plugin** button ( ).

2 Click **Choose Plug-in File**, navigate to the location of the **".npk"** installation file for the plug-in, for example, on the installation CD or the directory to which the file was downloaded from the website.

Based on the operating system (OS) in use, the path for this software may vary on the installation CD.

3 Select the file entitled **"acs-x-x-x-x.npk,"** where **xxxxx** represents the version number and platform, and click **Open**.

4 To begin installation, click **Install Plugin**.

After the plug-in is successfully installed, a message is displayed.

> **i** | **NOTE:** On Windows, the message incorrectly states that the machine must be rebooted when the installation procedure completes. This step is not required. You only have to restart the NetVault Backup Service.

5 Restart the NetVault Backup service.

6 On Linux, Solaris, and MP RAS systems, complete the steps in the section Installing SSI on the ACSLS Manager to install the SSI Software.

Installing SSI on the ACSLS Manager

To install SSI on a Linux- or UNIX-based system, use the following procedure.

1 Log on the ACSLS Manager as root.

2 Navigate to the following directory:

```
<NetVault Backup installation directory>/util/
```

3 Type the following command:

```
./installssi <IP Address/Host Name of the ACSLS Manager>
```

4 If your network is not properly configured for DNS name resolution, provide the IP Address for the NetVault Backup ACSLS Server.

The installation script creates a file named **S98SSI** in the **NV_HOME/etc** directory. It is linked to the startup scripts directory so that the SSI service starts automatically when you restart the machine.

5 To start SSI without restarting the machine, type the following command at the prompt:

```
$NV_HOME/etc/S98SSI start\
```

Upgrading the plug-in

1   Remove the ACSLS device from the NetVault Backup Server.

    For more information, see the *Quest NetVault Backup Administrator's Guide*.

2   Remove the existing version of the plug-in.

    For more information, see Removing the plug-in.

3   Install the new version of the plug-in.

    For more information, see Installing the plug-in.

4   Add and configure the ACSLS Device.

    For more information, see Configuring the plug-in.

Removing the plug-in

1   On Linux and UNIX platforms, remove the SSI software first.

    If you do not remove SSI before removing the plug-in, warnings messages are displayed when you reinstall the plug-in. For more information, see Removing SSI.

2   In the Navigation pane, click **Manage Clients**.

3   In the **NetVault Backup Clients** list, select the client on which the plug-in is installed, and click **Manage.**

4   In the **Installed Plugins** table, select **ACSLS**, and click the Remove Plugin button ( ).

5   In the confirmation dialog box, click **Remove**.

Removing SSI

1   Remove the ACSLS device from the NetVault Backup Server.

    For more information, see the *Quest NetVault Backup Administrator's Guide*.

2   Stop the NetVault Backup Service.

3   To stop the SSI Service, type the following command:

    `$NV_HOME/etc/S98SSI stop`

4   Next, type the following command to remove SSI:

    `$NV_HOME/util/uninstallssi`

5   Start the NetVault Backup Service.

Configuring the plug-in

- Adding an ACSLS library
- Configuring default settings
- Mapping individual drives
- Sending eject media requests

Adding an ACSLS library

To use an ACSLS library for NetVault Backup backups and restores, you must first add the device to the NetVault Backup Server and complete the device configuration procedure.

1   In the Navigation pane, click **Guided Configuration**, and then on the **NetVault Configuration Wizard** page, click **Add Storage Devices**.

– or

In the Navigation pane, click **Manage Devices**, and then click **Add Device**.

2   Select the **Tape library/media changer** option, and click **Next**.

3   In the list of NetVault Backup Clients, select the client that is physically connected to the target device.

If the device is connected to multiple clients, select the client that you want to designate as the library controller.

> **i** | **NOTE:** In NetVault Backup, a library changer is always controlled by a single machine. The drives can be shared among multiple clients.

4   To scan the selected client and list the attached devices, click **Next**.

5   In the **Choose library** table, select the device that you want to add, and click **Next**

After the tape drives are discovered and assigned to the appropriate storage bay, a message is displayed.

To use this default configuration, no further action is required. You can exit the configuration wizard.

6   To assign the drives to a different client or to share the drive with multiple clients, click **Add Drives Manually**, and complete the following steps:

> **i** | **NOTE:** Each drive shared by more than one client requires a Dynamically Shared Drive (DSD) license.

a   In the **Choose Machine** table, select the client to which the drive is attached.

b   If the device is connected to multiple clients, select any client, and click **Next** to scan the selected client and list the attached devices.

Alternatively, to skip this bay and configure the next bay, click **Leave bay empty**.

c   In the **Choose drive for bay** table, select the device that you want to add, and click **Next**.

If the device is connected to multiple clients, for example, in a SAN setup, all the host clients are listed in the **Choose Machines** table. This page is not displayed if the drive is connected to a single client.

d   To share the drive with multiple clients, select the additional clients in the **Choose Machines** table, and click **Next**.

After the drive is successfully assigned to the selected clients, a message is displayed.

e   To assign more drives for the library manually, click **Add more devices**.

Alternatively, exit the configuration wizard and open another page

Configuring default settings

To configure an ACSLS library, use the following procedure.

1   In the Navigation pane, click **Change Settings**.

2   On the **Configuration** page, click **Server Settings**, and then click **Plugin Options**.

3   Under **ACSLS Connections**, configure the following settings.

Option	Description
ACSLS User ID 1	When one ACSLS server supports two logical libraries on a single IP address, you must configure a separate ACSLS User ID (Access ID) for each library.
	In ACSLS User ID 1, specify the user account for library 1.
	The user ID can contain a maximum of 64 characters. It is stored in the ACS library configuration file. Each user ID is associated with the NVACSLSMGR process that runs for the library; it is added to the ACS message header of each request to the ACSLS Server.
ACSLS User ID 2	Specify the user account for library 2.
Scan Using Each User ID	By default, scanning is performed without using the User IDs.
	To perform scanning using the specified ACSLS user IDs, select this check box.
Log Setting Of User ID	To add the user ID to the ACS message header, select this check box.

4   To save the settings and close the dialog box, click **Apply**.

Mapping individual drives

After adding library, it is necessary to map the individual drives. The drives remain offline and unavailable until you map them. Mapping a drive involves configuring the ACS, LSM, Panel, and Drive number for each drive. These four parameters are essential to access a drive in an ACSLS system.

To obtain the ACS, LSM, Panel, and Drive details:

1   Log in to the ACSLS system as **acssa** user.

2   Type the following command:

```
query drive all
```

To map the individual drives:

1   In the Navigation pane, click **Manage Devices**.

2   In the list of devices, open the library, and then click the applicable drive or the corresponding **Manage Device** icon.

3   On the **Tape Drive Management** page, click **Map**.

4   In the **Map Device** dialog box, configure the following settings.

Option	Description
ACS	This option specifies the ACS number of the library that contains the drive. It is a read-only setting.
LSM	Type or select the LSM Number of the robotic unit that controls the drive. The default value is zero. You can retain the default value if only a single library resides in your ACSLS system.
Panel	Type or select the identification number of the panel where the drive is located. The default value is zero. You can retain the default value if only a single library resides in your ACSLS System.
Drive	Type or select the physical number of the drive
Name	Specify a name for the drive for its identification.
Drive Type	Type or select the type of media that are loaded in the drive.

5   To save the settings and close the dialog box, click **OK**.

6   Repeat Step 1 through Step 5 for each drive.

     When all drives are mapped, the device status changes to online.

Allocating media

The final step involves allocating media to the added library. When allocating media to an ACSLS Library, you can specify a single volume, a range of volumes, or a specific number of volumes. The volumes are identified using barcodes. Before proceeding, note the following:

•   The allocated media are selected for exclusive NetVault Backup use. Be sure to allocate only media intended for NetVault Backup.

•   This procedure cannot be used for allocating Cleaning Media.

•   NetVault Backup cannot identify a new media item until you complete the media allocation procedure.

To allocate media to an ACSLS Library:

1   In the Navigation pane, click **Manage Devices**.

2   In the list of devices, open the library, and then click the applicable drive or the corresponding Manage Device icon.

3   On the **Tape Drive Management** page, click **Allocate Media**.

4   In the **Allocate Media** dialog box, specify the volume using one of the following methods:

      ▪   **Allocating a Single Volume:** Click **Single**, and type the barcode of applicable volume in the **First Volume**.

      ▪   **Allocating a Range of Volumes:** To allocate a range of volumes, click **Last Volume**, and configure the following options:

          ▫   **First Volume:** Type the barcode of the first volume in the range.

          ▫   **Last Volume:** Type the barcode of the last volume in the range.

      ▪   **Allocating a Specific Number of Volumes:** To allocate a specific number of volumes, click **Count**, and configure the following options:

          ▫   **First Volume:** Type the barcode of the first volume in the range.

          ▫   **Number of Volumes:** Type the number of volumes that you want to allocate.

> **i** | **IMPORTANT:** While allocating a media range using the **Last Volume** or **Count** options,
> NetVault Backup does not notify you if any piece of media in the specified range is not
> available. When using the **Coun**t option, NetVault Backup does not account for the
> unavailable media pieces. For example, with the **Count** option, if 3 pieces out of 25 are not
> available, NetVault Backup does not try to locate any additional media items to account for the
> 3 unavailable pieces.

5 To save the settings and close the dialog box, click **OK**.

Sending eject media requests

To send eject media requests from the NetVault Backup WebUI, use the following procedure.

> **i** | **NOTE:** NetVault Backup does not allow you to import or export ACSLS media. Importing and exporting is
> considered an ACSLS administrative function, and therefore, must be performed from ACSLS.

1 In the Navigation pane, click **Manage Devices**.

2 In the list of devices, open the library, and then click the applicable drive or the corresponding Manage
   Device icon.

3 On the **Tape Drive Management** page, click **Eject Media**.

4 In the **Eject Media** dialog box, configure the following settings:

   ▪ **Volume(s) to be Ejected:** When ejecting media from an ACSLS Library, you can specify a single
     volume, a range of volumes, or a specific number of volumes:

      ▫ **Ejecting a Single Volume:** Click **Single**, and enter the barcode of the applicable volume in
        First Volume.

      ▫ **Ejecting a Range of Volumes:** To eject a range of volumes, click **Last Volume**, and
        configure the following parameters:

         - **First Volume:** Type the barcode of the first volume in the range.

         - **Last Volume:** Type the barcode of the last volume in the range.

      ▫ **Ejecting a Specific Number of Volumes:** To eject a specific number of volumes, click
        Count, and configure the following parameters:

         - **First Volume:** Type the barcode of the first volume in the range.

         - **Number of Volumes:** Type the number of volumes that you want eject from the
           library.

   ▪ **CAP:** To specify the CAP (Cartridge Access Port) from which the media volumes are to be ejected,
     configure the following parameters under **CAP**:

      ▫ **ACS:** Type the ACS Number of the library.

      ▫ **LSM:** Type the LSM Number of the robotic unit that controls the CAP.

      ▫ **CAP:** Type the physical number of the CAP.

5 To save the settings and close the dialog box, click **OK**.

   A message is sent to ACSSA to remove tape cartridges from the CAP, and the device status is updated on
   the **Manage Media** page to show **Ejecting Media** status. After removing the tape cartridges manually
   when the CAP door is closed for the final time, a message is sent to the plug-in. This message is recorded
   in the NetVault Backup logs and provides the overall status of the eject request and the status of the
   individual pieces of media.

   > **i** | **NOTE:** This procedure does not eject media items that are in a drive. For such media, a warning
   > message stating 91 'Volume in Drive' is recorded in the NetVault Backup logs.

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We are on a quest to make your information technology work harder for you. That is why we build community-driven software solutions that help you spend less time on IT administration and more time on business innovation. We help you modernize your data center, get you to the cloud quicker and provide the expertise, security and accessibility you need to grow your data-driven business. Combined with Quest's invitation to the global community to be a part of its innovation, and our firm commitment to ensuring customer satisfaction, we continue to deliver solutions that have a real impact on our customers today and leave a legacy we are proud of. We are challenging the status quo by transforming into a new software company. And as your partner, we work tirelessly to make sure your information technology is designed for you and by you. This is our mission, and we are in this together. Welcome to a new Quest. You are invited to Join the Innovation™.

Our brand, our vision. Together.

Our logo reflects our story: innovation, community and support. An important part of this story begins with the letter Q. It is a perfect circle, representing our commitment to technological precision and strength. The space in the Q itself symbolizes our need to add the missing piece—you—to the community, to the new Quest.

Contacting Quest

For sales or other inquiries, visit www.quest.com.

Technical support resources

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• View Knowledge Base articles.

• Sign up for product notifications.

• Download software and technical documentation.

• View how-to-videos.

• Engage in community discussions.

• Chat with support engineers online.

• View services to assist you with your product.