Quest® NetVault® Backup Plug-in *for NDMP* 12.2

Application Notes for Hitachi NAS, powered by BlueArc (firmware versions 7.x-10.x)

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 this document

This document provides information about using the Quest® NetVault® Backup Plug-in *for NDMP*
(Plug-in *for NDMP*) with a Hitachi NAS Server. It is intended as a supplement to the *Quest NetVault Backup Plug-in for NDMP User's Guide* that describes the common procedures for installing and configuring the plug-in.

Target audience

This document is intended for system administrators and others responsible for installing, configuring, and using the Plug-in *for NDMP*. An understanding of filer administration and the host platform is assumed.

Recommended additional reading

- NetVault Backup documentation

    - *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.

    - *Quest NetVault Backup Plug-in for NDMP User's Guide:* This guide describes the procedures for installing and configuring the Plug-in *for NDMP*.

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

- Administrator's guide for your Network Data Management Protocol (NDMP)-based network-attached storage (NAS) appliance

Installation and configuration prerequisites

- Installation prerequisites
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Installation prerequisites

In addition to the installation prerequisites covered in the *Quest NetVault Backup Plug-in for NDMP User's Guide*, verify that the following requirements are met:

- **Hardware requirements**: For information about Hitachi NAS (HNAS) Servers, see the Hitachi Data Systems website at: http://www.hds.com

- **Software requirements:** For information about software requirements and supported filer operating systems, see the *Quest NetVault Backup Compatibility Guide* available at:
  https://support.quest.com/technical-documents

ℹ️ | **NOTE:** The installation and configuration procedures are described in the *Quest NetVault Backup Plug-in for NDMP User's Guide.*

Configuration prerequisites

In addition to the configuration prerequisites covered in the *Quest NetVault Backup Plug-in for NDMP User's Guide*, verify that the following requirements are met:

- **Start the NDMP Service:** On the Hitachi NAS Server, configure the NDMP services to start at boot time.

- **Create a user account for NDMP backups and restores:** Create a user named **ndmp** on the filer using either the HNAS command line interface or web interface. Consult the relevant filer documentation for instructions on creating a user account. Log in with this user account when adding the NDMP Server or reconfiguring the plug-in authentication details.

- **Configure NDMP options on the Hitachi NAS filer:** Before adding the Hitachi NAS filer to the NetVault Backup Server, configure the following NDMP options on the filer.

  - Enable Reporting all Objects in the filesystem: `ndmp-option report_as_fs all`

  - Set SCSI Reserve/Release to "None": `ndmp-option reserve_devices none`

  - Set Mover Window Adjust to "None": `ndmp-option mover_window_adjust none`

- **Assign aliases to devices:** Before adding the Hitachi NAS filer to the NetVault Backup Server, assign aliases to devices.

To assign aliases to the devices:

1   Log in to the filer.

2   For each device, assign an alias for NetVault Backup access.

You can use the CLI command **ndmp-device-assigned-name-set** to assign aliases. Use the device node name, such as **mt_d0l1**. Do not use the subsystem or absolute path, such as **/dev/mt_d0l1**.

Example:

```
ndmp-device-assigned-name-set -s 1387409413 --override mt_d0l2

ndmp-device-assigned-list
```

Output:

```
There are 6 names assigned to NDMP devices:

mc_d0l0 FC Node WWN (hexadecimal):
   0x2000000d7709a3dc   Logical Unit Number: 0
ndmp-device-assigned-name-list   Serial number: test1:$
mt_d0l1                          Serial number: 1387409412
mt_d0l2                          Serial number: 1387409413
mt_d0l3                          Serial number: 1387409414
mt_d0l4                          Serial number: 1387409415
```

- **Configure the "NDMP Server Type" setting:** This setting is only applicable to filers running BlueArc OS or HNAS firmware 8.x and later. It is configured while adding the NDMP Server to specify the backup mode for the filer. The plug-in client offers the following selections in the NDMP Server Type list:

  ▪   BlueArc BOS 8.x NDMP Server using dump

  ▪   BlueArc BOS 8.x NDMP Server using image

  ▪   Hitachi HNAS 10.x NDMP Server using dump

  ▪   Hitachi HNAS 10.x NDMP Server using image

  ▪   Hitachi HNAS 11.x NDMP Server using dump

  ▪   Hitachi HNAS 11.x NDMP Server using image

  ▪   Hitachi HNAS 12.x NDMP Server using dump

  ▪   Hitachi HNAS 12.x NDMP Server using image

Verify that you select the correct backup mode for the filer. A server added in Dump Mode can only be selected for Dump Backups. Similarly, a server added in Image Mode can only be selected for Image Backups.

> **NOTE:** The Image Backups are also known as HNAS JetImage Backups.

- **Allocate the backup device to the Hitachi NAS Server:** After adding a device to the NetVault Backup Server, allocate this device to the Hitachi NAS Server. To complete this step, see the relevant filer documentation.

Assumptions

It is assumed that the users implementing the procedures described in this document have expertise in the following areas:

- NetVault Backup installation, configuration, and administration.

- Hitachi NAS Server configuration and administration.

- Intermediate networking expertise, including routing, name resolution, and TCP/IP.

- Intermediate NFS and CIFS Protocol setup and administration expertise.

- Intermediate Windows Authentication and Active Directory administration expertise.

Device handling guidelines

To use both Dump and Image Backup methods, you must add the server in the Dump Mode and the Image Mode. This configuration poses a challenge since each server displays a separate and distinct iteration of any given devices attached to the environment. The general guidelines are to use the device path that is either used most frequently based on the backup type or the device path that best serves the data set size and infrastructure performance capacity.

Alternatively, you can use the D2D licensing to dynamically switch between the server and the backup methods.

Backing up data

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- Backing up individual data paths using the Image Backup method

About Backup Dump levels

The Plug-in *for NDMP* supports both Full and Incremental Backups. The backup type is determined by the Dump Level that can be set to Level 0 for a Full Backup or Levels 1 through 9 for Incremental Backups:

- **Level 0 or Full Backup:** A Full Backup provides a backup of all the data in the selected path.

- **Level 1 through 9 or Incremental Backup:** The Incremental Backups base themselves on the most recent lower-level Incremental Backup, and include any data that has changed or is new since the last Full or Incremental Backup.

  Examples:

    - Level 1 Incremental Backup includes any data that has changed or is new since the last Level 0 or Full Backup.

    - Level 2 Incremental Backup includes any data that has changed or is new since the last Level 1 Incremental Backup, and so on, up to dump level 9.

Important notes

- If a directory is included in a dump level 0 backup, it is included in all future dumps even if no changes have occurred. In this instance, the directory is empty and does not contain content. However, it does not negatively affect the recovery of data.

- Only one dump level is maintained for each selected set of data. For example, after performing Level 1, Level 2, and Level 3 Incremental Backups, if you perform a Full Backup, the dump level is reset to 0. The next instance of the Incremental Backup is based on the Full Backup.

- If an Incremental Backup fails, the subsequent backup is based on the most recent backup of a lower level. For example, if dump level 1 is completed successfully, but dump level 2 fails, dump level 3 is based on dump level 1. The failure of an Incremental Backup is noted in the NetVault Backup logs.

Backing up data using the Dump Backup method

1 In the Navigation pane, click **Create Backup Job**.

   — or —

   In the Navigation pane, click **Guided Configuration**, and then on the **NetVault Configuration Wizard** page, click **Create Backup Jobs**.

2 In **Job Name**, specify a name for the job.

   Assign a descriptive name that lets you easily identify the job for monitoring its progress or restoring data. The job name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. There is no length restriction. However, a maximum of 40 characters is recommended on all platforms.

3 In the **Selections** list, select an existing Backup Selection Set, or complete the following steps to create a set.

   a Next to the **Selections** list, click **Create New**.

   b On the **NetVault Backup Selections** page, open the NetVault Backup Server, and then open **NDMP Client**.

   c To display the **Volumes** node, open the applicable filer in the list of added servers.

   d Select the data that you want to back up:

      ▫ **Back up all volumes:** Select the **Volumes** node.

      ▫ **Back up individual volumes:** Open the **Volumes** node, and select the volumes that you want to back up.

   e Click **Save**, and in the **Create New Set** dialog box, type a name for the set.

      ℹ **NOTE:** A set name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. On Linux OS, the names can have a maximum of 200 characters. On Windows OS, there is no length restriction. However, a maximum of 40 characters is recommended on all platforms.

   f To close the dialog box, click **Save**.

4 In the **Plugin Options** list, select an existing Backup Options Set, or complete the following steps to create a set.

   a Next to the **Plugin Options** list, click **Create New**.

   b Under **NDMP Backup Options**, configure the following settings.

Table 1. NDMP Backup Options

Option	Description
Dump Level	Select the type of backup that you want to perform. For a Full Backup, type or select 0. For an Incremental Backup, type or select any level from 1 to 9, based on the previous dump level.
Update /etc/dumpdates	The file **"/etc/dumpdates"** keeps a record of the backup, including the backup name, backup level, and snapshot time. Leave this check box selected if your backup strategy includes Incremental Backups. The information in this file is used to determine what data must be included in an Incremental Backup.

Table 1. NDMP Backup Options

Option	Description
Save File Information	This option allows you to browse individual files and directories while selecting data during restore. You cannot restore individual files and directories if you clear this check box. Quest recommends that you leave this check box selected.
File History Character Set	If the names of files or directories contain non-ASCII characters, specify the character set encoding to allow correct display of the names on the NetVault Backup WebUI. The plug-in supports UTF-8 and ISO8859 character sets.
Exclude	Use this option to specify files and directories that you want to exclude from the backup. Type the complete file path, starting with a forward slash ("/"). If the full path is not provided, the plug-in excludes any item that matches the entry. To separate multiple items, use a comma. You can use up to two wildcard characters per file. Wildcard characters can only be used at the first or the last place in the filename. For example, if you enter **"/dir1/tmp*, *.o"** in **Exclude**, the plug-in excludes the following items: • Files and directories starting with the letters **"tmp"** in the directory **/dir1**. • All files and directories with the extension ".o". Filenames are case-sensitive for NFS shares and case-insensitive for CIFS shares.

   c   Under **Sub Jobs**, configure the following settings.

Table 2. Sub Jobs

Option	Description
Number of backups to run in parallel	Type or select the number of jobs that can run concurrently. The default value is zero. With the default setting, all jobs in parallel, limited only by the availability of drives, network bandwidth, and other resources. To achieve the required result, set the same value for each job.
Delete auto generated backup jobs on completion	The plug-in creates individual subjobs for each volume included in a backup. If this check box is not selected, all subjobs are listed on the **Job Status** page. This display can create confusion when you try to view the details of the parent job. To include only a single entry for the parent job, leave this check box selected.

   d   Click **Save**, and in the **Create New Set** dialog box, type a name for the set.

   e   To close the dialog box, click **Save**.

5   Select or create the Schedule Set, Target Set, and Advanced Options Set.

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

6   To submit the job for scheduling, click **Save & Submit**.

   You can monitor the job progress from the **Job Status** page and view the logs from the **View Logs** page.

   To save the job definition without scheduling it, click **Save**. You can view, edit, or run this job from the **Manage Job Definitions** page. This job is not displayed on the **Job Status** page until you submit it.

   For more information about **Job Status**, **View Logs**, and **Manage Job Definitions**, see the *Quest NetVault Backup Administrator's Guide*.

Backing up data using the Image Backup method

1   In the Navigation pane, click **Create Backup Job**.

   — or —

   In the Navigation pane, click **Guided Configuration**, and then on the **NetVault Configuration Wizard** page, click **Create Backup Jobs**.

2   In **Job Name**, specify a name for the job.

   Assign a descriptive name that lets you easily identify the job for monitoring its progress or restoring data. The job name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. There is no length restriction. However, a maximum of 40 characters is recommended on all platforms.

3   In the **Selections** list, select an existing Backup Selection Set, or complete the following steps to create a set.

   a   Next to the **Selections** list, click **Create New**.

   b   On the **NetVault Backup Selections** page, open the NetVault Backup Server, and then open **NDMP Client**.

   c   To display the **Volumes** node, open the applicable filer in the list of added servers.

   d   Select the data that you want to back up.

   The volume names are displayed in the following format:

   `/__VOLUME__/xxxx`

   Example:

   `/__VOLUME__/FS01`

   e   Click **Save**, and in the **Create New Set** dialog box, type a name for the set.

   > **i** | **NOTE:** A set name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. On Linux OS, the names can have a maximum of 200 characters. On Windows OS, there is no length restriction. However, a maximum of 40 characters is recommended on all platforms.

   f   To close the dialog box, click **Save**.

4   In the **Plugin Options** list, select an existing Backup Options Set, or complete the following steps to create a set.

   a   Next to the **Plugin Options** list, click **Create New**.

   b   Configure the **Sub Jobs** settings.

   For more information, see Sub Jobs.

   c   Click **Save**, and in the **Create New Set** dialog box, type a name for the set.

   d   To close the dialog box, click **Save**.

5   Select or create the Schedule Set, Target Set, and Advanced Options Set.

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

6   To submit the job for scheduling, click **Save & Submit**.

   You can monitor the job progress from the **Job Status** page and view the logs from the **View Logs** page.

   To save the job definition without scheduling it, click **Save**. You can view, edit, or run this job from the **Manage Job Definitions** page. This job is not displayed on the **Job Status** page until you submit it.

For more information about **Job Status**, **View Logs**, and **Manage Job Definitions**, see the *Quest NetVault Backup Administrator's Guide*.

Backing up individual data paths using the Dump Backup method

1   In the Navigation pane, click **Create Backup Job**.

— or —

In the Navigation pane, click **Guided Configuration**, and then on the **NetVault Configuration Wizard** page, click **Create Backup Jobs**.

2   In **Job Name**, specify a name for the job.

Assign a descriptive name that lets you easily identify the job for monitoring its progress or restoring data. The job name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. There is no length restriction. However, a maximum of 40 characters is recommended on all platforms.

3   Next to the **Selections** list, click **Create New**.

4   On the **NetVault Backup Selections** page, open the NetVault Backup Server, and then open **NDMP Client**.

5   Click the applicable filer, and select **Enter Backup Path** from the context menu.

6   In the **NDMP Backup Request** dialog box, configure the **Directory** option.

Specify the volume or the complete path to the directory that you want to back up. Use the following format to specify the backup path:

`/<file system>/<parentDirectory>/<subdirectory>`

Example:

`FS08/testdata_fs08/data`

7   Set the **Dump Level** and the remaining backup options.

For more information, see NDMP Backup Options.

8   To save the settings, click **Ok**.

9   Complete Step 5 and Step 6 in Backing up data using the Dump Backup method.

Backing up individual data paths using the Image Backup method

1   In the Navigation pane, click **Create Backup Job**.

— or —

In the Navigation pane, click **Guided Configuration**, and then on the **NetVault Configuration Wizard** page, click **Create Backup Jobs**.

2   In **Job Name**, specify a name for the job.

Assign a descriptive name that lets you easily identify the job for monitoring its progress or restoring data. The job name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin

characters. There is no length restriction. However, a maximum of 40 characters is recommended on all platforms.

3   Next to the **Selections** list, click **Create New**.

4   On the **NetVault Backup Selections** page, open the NetVault Backup Server, and then open **NDMP Client**.

5   Click the applicable filer, and select **Enter Backup Path** from the context menu.

6   In the **NDMP Backup Request** dialog box, specify the backup path in the **Directory** box.

Specify the file system-level backup path in the following format:

`/__VOLUME__/<file system>`

Example:

`/__VOLUME__/FS08`

> **i** | **NOTE:** This method cannot be used to back up individual files and directories.

7   To save the settings, click **OK**.

8   Complete Step 5 and Step 6 in Backing up data using the Image Backup method.

Restoring data

- Restoring Dump Backups using the plug-in
- Restoring Incremental Backups
- Renaming or relocating data
- Restoring data to an alternate filer
- Restoring Image Backups using the plug-in
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Restoring Dump Backups using the plug-in

1   In the Navigation pane, click **Create Restore Job**.

On the **Create Restore Job — Choose Saveset** page, the saveset table provides a list of available savesets.

The table shows the saveset name (Job Title and Saveset ID), creation date and time, saveset size, and saveset status. The saveset status is indicated using the following icons.

Icon	Description
🟢	Saveset is online (all segments are online).
🟠	Saveset is partially online (some segments are online).
🔴	Saveset is offline (all segments are offline).

The saveset list is sorted by creation date (newest to oldest). You can sort the list by one or more columns, as required. The arrowhead next to the column name indicates the sort order.

2   To filter the saveset list, use the following filter options.

Filter	Description
Client	Displays savesets created for particular clients. The default selection is **Any**.
	1 To use this filter, click the **Client** box.
	2 In the **Choose Client** dialog box, select the clients.
	3 To close the dialog box, click **OK**.
Plugin Type	Displays savesets created using a particular plug-in. The default selection is **Any**.
	1 To use this filter, click the **Plugin Type** box.
	2 In the list, select the plug-in.

Filter	Description
Date	Displays savesets created during a specified period. The default selection is **Any**. 1 To use this filter, click the **Date** box. 2 In the list, select the option that you want to use. The available options are Last 24 hours, Last Week, Last Month, Last 6 Months, Last Year, and Any.
Job	Displays savesets created for particular jobs. The default selection is **Any**. 1 To use this filter, click the **Job** box. 2 In the **Choose Job** dialog box, select the jobs. 3 To close the dialog box, click **OK**.

3   Select the saveset that you want to use, and click **Next**.

When you select a saveset, the following details are displayed in the **Saveset Information** area: job ID number, job title, tag, server name, client name, plug-in name, saveset date and time, retirement setting, Incremental Backup or not, archive or not, and saveset size.

4   On the **Create Selection Set** page, select the data that you want to restore:

- **Restore entire saveset:** Select the root node.

- **Restore individual files and directories**: Select the target files and directories in the selections tree. The selections tree can only be browsed if the **Save File Information** option was selected during backup.

> **i** | **NOTE:** If you omit child-level items after selecting the parent node, the job fails. To perform selective restores, open the parent node, and select each item that you want to restore.

5   Click **Edit Plugin Options**, and configure the following settings.

Table 3. Restore options

Option	Description
NDMP Server	This option specifies the target filer name. It is only required when you want to restore data to an alternate filer. By default, it is set to the name of the original filer from which the data was backed up. Do not change the NDMP Server while restoring data to the same filer.
Direct Access Restore Mode	Select the appropriate Direct Access Restore (DAR) mode from the following: • **Use Direct Access Restore if Possible:** To perform a direct-access restore if the backup was direct and the mover and data server can complete a direct-access restore, select this option. If these conditions are not met, a nondirect-access restore is performed. • **Use Direct Access Restore by Recovering Individual Files:** To restore a directory and its file contents, select this option. When you use this option, empty directories in the saveset are ignored. You must select this option if any item was omitted during data selection; otherwise, the restore job fails. • **Only Do Direct Access Restore:** To force a direct-access restore, select this option. It can be only used if the backup was direct and the mover and data server can complete a direct-access restore; otherwise the restore job fails. • **Never Do Direct Access Restore**: To perform a standard nondirect-access restore, select this option.

> **IMPORTANT:**
> - When individual files are selected for DAR, their parent-level directory permissions are not restored.
> - When running DAR, NetVault Backup organizes the restore requests into groups of 1024 files at a time. When a restore job consists of more than 1024 total files, multiple restore requests are issued. So, multiple log entries are displayed for the job.

6 To save the settings, click **OK**, and then click **Next**.

7 In **Job Name**, specify a name for the job.

Assign a descriptive name that lets you easily identify the job for monitoring its progress. The job name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. There is no length restriction. However, a maximum of 40 characters is recommended on all platforms

In the **Target Client** list, the client from which data was backed up is selected by default. Do *not* change this setting.

8 Select or create the Schedule Set, Restore Source Set, and Advanced Options Set.

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

9 To submit the job for scheduling, click **Submit**.

You can monitor the job progress from the **Job Status** page and view the logs from the **View Logs** page. For more information about these functions, see the *Quest NetVault Backup Administrator's Guide*.

Restoring Incremental Backups

The incremental restores build on each other. To restore an Incremental Backup, you must have all the backups from Level-0 through the last backup in the backup sequence that you want to restore.

1 Restore the Full or Level 0 Backup.

For more information, see Restoring Dump Backups using the plug-in.

2 Restore each Incremental Backup in the backup sequence, starting with the lowest-level backup and going to the last backup that you want to restore (that is, in the same order in which they were created).

For each dump level, follow the steps outlined in Restoring Dump Backups using the plug-in.

> **IMPORTANT:** All NDMP backups are effectively snapshots of the volume. When you restore a dump backup in an increment series, it restores all the data in the saveset. At the same time, it deletes the files present on the filer, but not available in that saveset. Thus, it reconstructs the subtree as it was at the time of backup.

Renaming or relocating data

When restoring a backup, you can rename the directories to create a copy of the data instead of overwriting of the existing versions. You can also relocate the data to a different volume. This procedure can be useful if the original volume is down or if you are dealing with limited bandwidth or capacity.

> **NOTE:** This feature is only available to savesets that were created with the **Save File Information** option.

To rename or relocate data during restore:

1 Complete Step 1 through Step 4 in Restoring Dump Backups using the plug-in

2 Click the volume that you want to rename, and select **Rename** from the context menu.

3 In the **Restore Rename** dialog box, provide the following information.

- To rename a file or directory, type the new name.

- To relocate the item to a different volume, type the volume name. You can also rename while relocating by specifying a new path. The volume to which you are relocating must exist on the filer.

Click **OK** to close the dialog box.

After you close the dialog box, the plug-in updates the corresponding node in the selections tree to display the new name and location for the file or directory.

4 Complete Step 5 through Step 9 in Restoring Dump Backups using the plug-in.

Restoring data to an alternate filer

To relocate a backup to an alternate filer, use the following procedure. This procedure can be useful during a server migration or disaster recovery operation.

Prerequisites

Before you start the restore procedure, add the target filer to the plug-in. For more information, see the *Quest NetVault Backup Plug-in for NDMP User's Guide*.

Restore procedure

1 Complete Step 1 through Step 4 in Restoring Dump Backups using the plug-in.

2 To rename or relocate data during restore, complete Step 2 and Step 3 in Renaming or relocating data.

3 Click **Edit Plugin Options**, and in the **NDMP Server box**, type the name of the target filer.

4 Select the appropriate DAR method.

   For more information about the available options, see Restore options.

5 Complete Step 6 through Step 9 in Restoring Dump Backups using the plug-in.

Restoring Image Backups using the plug-in

ℹ️ | **IMPORTANT:** All command-line references are illustrated as examples only. For more information, see the Hitachi NAS Support resources.

1 Unmount the target file system before submitting the restore job.

   Example:

   ```
   unmount <file system>
   ```

2 Prepare the target file system for full image recovery.

   This step deletes all data on the file system. In this mode, the file system cannot be accessed by network clients (CIFS/NFS).

   Example:

   ```
   Filesystem-prepare-for-ndmp-image-recovery --full --confirm <file system>
   ```

3 Mount the file system so that file system can be accessed for restore.

   Example:

   ```
   mount <file system>
   ```

4 On the NetVault Backup Server, start the WebUI.

5 In the Navigation pane, click **Create Restore Job**.

6 In the saveset table, select the applicable item, and click **Next**.

7 On the **Create Selection Set** page, select the data that you want to restore. Click **Next**.

8 In **Job Name**, specify a name for the job.

   Assign a descriptive name that lets you easily identify the job for monitoring its progress. The job name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. There is no length restriction. However, a maximum of 40 characters is recommended on all platforms

   In the **Target Client** list, the client from which data was backed up is selected by default. Do *not* change this setting.

9 Select or create the Schedule Set, Restore Source Set, and Advanced Options Set.

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

10 To submit the job for scheduling, click **Submit**.

   You can monitor the job progress from the **Job Status** page and view the logs from the **View Logs** page. For more information about these functions, see the *Quest NetVault Backup Administrator's Guide*.

11 When the data recovery completes, unmount the file system.

   Example:

   ```
   unmount <file system>
   ```

12 Revert the file system to a working system.

   The file system is now accessible to all network clients (CIFS/NFS).

   Example:

   ```
   Filesystem-revert-after-ndmp-image-recovery <file system>
   ```

13 Mount the file system.

   Example:

   ```
   mount <file system>
   ```

Searching for files in savesets

The **Search** option on the **Create Restore Job — Choose Saveset** page allows you to find specific files or data items without opening any savesets or browsing through their contents. You can use filenames or regular expressions to find the data items that you want to restore.

1 On the **Create Restore Job — Choose Saveset** page, click **Search**.

2 In the **Search for files in savesets** dialog box, configure the following options:

   ▪ **Search String:** Type the search string.

   ▪ **Regular expression search:** To use POSIX (Portable Operating System Interface for Unix) regular expressions in the **Search String** box, select this check box.

   ▪ **Case sensitive:** To perform a case-sensitive search, select this check box.

3 Click **Search**.

   On the **Search Results** page, you can view the savesets that contain the specified files or data items.

4 Select the items you want to restore, and click **Next**.

You can only restore items from one saveset.

5 Complete Step 5 through Step 9 in Restoring Dump Backups using the plug-in.

Viewing media list

The **Media List** option on the **Create Restore Job — Choose Saveset** page lets you view information about the media items used to store a backup. You can view details about the data segments and index segments for a backup.

1 On the **Create Restore Job — Choose Saveset** page, select the applicable saveset.

2 In the **Saveset Information** area, click **Media List**.

In the dialog box that is displayed, you can view the following details:

- **Backup size:** This area shows the total size of the saveset in number of bytes

- **Data segment table:** This table shows information about the media items that contain the data segments. You can view the following details: media label, media group label, stream ID, starting byte number, ending byte number, and media location

- **Index segment table:** This table shows information about the media items that contain the index segments. You can view the media label and media location.

3 To close the dialog box, click **Close**.

Troubleshooting

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Common errors

The following is a list of some common errors and their solution.

Table 4. Troubleshooting

Description	Symptom	Solution
The NetVault Backup Service fails to start on a Windows-based NetVault Backup Server.	Check the Windows Event Viewer for the following message: PDT FATAL: lock file "postmaster.pid" already exists	NetVault Backup cannot start if the PostgreSQL database that is used to store the system data does not start. To correct this issue, delete the **"postmaster.pid"** file from the location referenced in the log and restart the NetVault Backup Server.
After restarting the machine, the NetVault Backup Service sometimes fails to start on a Windows-based NetVault Backup Server.	Check the Windows Event Viewer for the following message: FATAL: could not create any TCP/IP sockets " for a PostgreSQL source	NetVault Backup cannot start if the PostgreSQL database that is used to store the system data does not start. To correct this issue, start the Task Manager, and click **Show processes from all users**. You can see multiple instances of **postgres32.exe** running on the system. To remove all instances of **postgres32.exe**, select any instance of this process, and click **End Process**. Start the NetVault Backup Service.
The NetVault Backup Service starts, and then stops immediately on a Linux-based machine.	No error messages are displayed.	This issue can occur if the Postgres service cannot resolve the host name **localhost**, and fails to start. Check the /etc/hosts file, and if the file does not contain an entry for **localhost**, add the entry.

About us

Quest provides software solutions for the rapidly-changing world of enterprise IT. We help simplify the challenges caused by data explosion, cloud expansion, hybrid datacenters, security threats, and regulatory requirements. We are a global provider to 130,000 companies across 100 countries, including 95% of the Fortune 500 and 90% of the Global 1000. Since 1987, we have built a portfolio of solutions that now includes database management, data protection, identity and access management, Microsoft platform management, and unified endpoint management. With Quest, organizations spend less time on IT administration and more time on business innovation. For more information, visit www.quest.com.

Technical support resources

Technical support is available to Quest customers with a valid maintenance contract and customers who have trial versions. You can access the Quest Support Portal at https://support.quest.com.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request.
- 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.