Quest® NetVault® Plug-in *for Nutanix AHV* 14.0

User's Guide

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

NetVault Plug-in *for Nutanix AHV* User's Guide
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Introducing NetVault Plug-in *for Nutanix AHV*

- NetVault Plug-in for Nutanix AHV: at a glance
- Key benefits
- Feature summary
- Supported Versions and Platforms
- Target audience
- Recommended additional reading

NetVault Plug-in *for Nutanix AHV*: at a glance

Quest® NetVault® Backup Plug-in *for Nutanix AHV* (Plug-in *for Nutanix AHV*) uses a web-based user interface (WebUI) and automated workflow process to support a centralized way for configuring backup and restore policies for virtual environments. The plug-in offers a detailed level of control that minimizes downtime by letting you restore complete virtual machine (VM) images or individual disks. Through integration with a range of backup devices, your data is protected and stored offsite to meet your disaster-recovery and business-continuity goals.

Key benefits

- **Increase confidence when deploying the plug-in**: Plug-in *for Nutanix AHV* is flexible enough to account for many recovery scenarios. By relying on the plug-in to implement your backup policies, you can focus on more critical tasks without risking your ability to recover what is needed if a failure occurs.
  Plug-in *for Nutanix AHV* also empowers you to create a comprehensive and flexible backup policy and reduces the need for scripting, which may increase the risk of syntax or human errors.
- **Reduce risk with flexible backup and recovery options**: Plug-in *for Nutanix AHV* equips administrators with a powerful set of tools to simplify backup and recovery of business-critical VMs. Crash-consistent snapshots protect VMs with file-level consistency. Application-consistent snapshots protect VMs with application-level consistency. Full image-level backups protect the VM from failures while also providing flexibility to support test environments and disaster recoveries. Individual-disk recovery supports the attachment of a disk to an applicable VM, which provides the flexibility of restoring a disk instead of a complete VM. Plug-in *for Nutanix AHV* offers the choice to restore a complete VM image or individual disks.
- **Shorten backup windows and improve device usage:** Plug-in *for Nutanix AHV* speeds VM image-level backups with high-performance Incremental and Differential Backups for data stored in VMs. The plug-in uses the Change Regions API from Nutanix to track changed data, thereby backing up only changed data.
- **Maximize information technology (IT) efficiency**: Plug-in *for Nutanix AHV* reduces administrator involvement in the recovery process while delivering faster and more reliable recoveries. Less-experienced

personnel can initiate restores, thus reducing downtime and improving business continuity and freeing administrators from being available 24x7. Less-experienced personnel can also perform routine administrative options, thus empowering administrators to create comprehensive backup policies with a reduced need to understand Plug-in *for Nutanix AHV* internals. The plug-in uses an automated workflow with point-and-click options for tasks such as defining backups and submitting job scheduling.

- **Ensure business continuity**: With offsite backups being an important part of the data-protection plan for business-critical applications, the plug-in takes advantage of NetVault's integration with a range of backup devices. Plug-in *for Nutanix AHV* gives you the confidence that your virtualized environments are protected and stored offsite for disaster-recovery purposes.

Feature summary

- Native CBT Backup Support: Full, Incremental, and Differential backups using native Changed Block Tracking (CBT) snapshots (V3) or Recovery Points (V4).
- Crash-consistent and application-consistent (VSS-based) snapshots.
- Wildcard-based VM include/exclude filtering with auto-discovery.
- Full VM restore and disk-only restore with cross-container relocation.
- Power-on after restore, delete original VM, and disk attachment.
- Restartable backup with checkpoint-based resume.
- Parallel backup streams (configurable).
- Nutanix V4 Unified API support with automatic fallback to V4/V3/V2**.** By default, the plugin uses V4 first and auto-falls back to V3 on failure. If a V4 API call fails, the router automatically retries with V3. V2 is used as additional fallback for specific operations not available in V3 (disk attach/detach, power state changes).

Supported Versions and Platforms

The following table lists the supported software versions and platform requirements:

Component	Supported versions
Nutanix AOS	6.5, 6.8, 7.5.1, 7.6
NetVault Backup Server (Windows)	Windows Server 2016, 2019, 2022, 2025
Minimum NetVault version	14.0.0.19

NOTE: NetVault AHV Plug-in runs only on Windows-based NetVault backup servers. V4 API requires AOS 5.20 or later, older clusters automatically use V3.

Target audience

This guide is intended for users who are responsible for the backup and recovery of VMs. Familiarity with the Windows operating system (OS) under which Plug-in *for Nutanix AHV* is running is assumed. Advanced knowledge of VMs is useful for defining an efficient backup-and-recovery strategy.

Recommended additional reading

Quest recommends that you have the following documentation available for reference while setting up and using this plug-in.

- *Quest NetVault Installation Guide*: This guide provides details on installing the NetVault Server and Client software.
- *Quest NetVault Administrator's Guide*: This guide explains how to use NetVault and describes the functionality common to all plug-ins.
- *Quest NetVault 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.

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Installing or removing the plug-in

- Deploying the plug-in
- Prerequisites for installing the plug-in
- Installing or upgrading the plug-in
- Licensing the plug-in
- Removing the plug-in

Deploying the plug-in

You should install the plug-in on the VM that is running in the Nutanix AHV cluster. Throughout this document, this VM is referred to as the Backup Proxy. The Nutanix cluster is the collection of physical nodes that hosts the VMs—the plug-in is ***not*** installed on each of the protected VMs. One plug-in is enough to manage a multi-node cluster.

Prerequisites for installing the plug-in

Before installing the plug-in, verify that the following prerequisites are met on the Backup Proxy.

- **Network and Firewall:** Ensure TCP/HTTPS port 9440 is open from NetVault to Prism to allow communication with the Prism Element and Prism Central REST APIs (V2/V3/V4). Verify connectivity before adding the cluster: **curl -k https://<prism-ip>:9440/api/nutanix/v3/clusters/list**
- **Nutanix Service Account:** Create a dedicated Nutanix service account with the minimum required roles. Backup Admin at Prism Central scope and Cluster Admin at Prism Element scope (for legacy PE-only clusters and V4 changed-region operations).
- **NetVault License:** Verify the NetVault license before use. In the NetVault WebUI, go to Settings → Licenses. Ensure to check hat the Plug-in for Nutanix AHV license is present and shows a valid expiration date.
- **Prism Central is required:** The plugin must be configured with Prism Central credentials. Prism Element-only configurations are not supported. Configuration rejects PE credentials, restore operations fail if PE is detected.
- **Ensure that Backup Proxy is part of the Nutanix AHV cluster that you intend to protect:** Before you install the NetVault components, create the Windows VM on the Nutanix AHV cluster, make sure that network settings are complete, and that the Backup Proxy has an IP address.
- **Install NetVault Server and Client software:** At a minimum, the NetVault Client software must be installed on the Backup Proxy. For instructions on installing the NetVault Client software and adding the Nutanix Server as a Heterogeneous Client, see the *Quest NetVault Installation Guide*.

Installing or upgrading the plug-in

The following topic describes the process for installing the plug-in on a single client or upgrading an existing one. If you have multiple clients of the same type, you can use the NetVault Configuration Wizard to install the plug-in on multiple clients at the same time. For more information on using push installation to update multiple clients at the same time, see the *Quest NetVault Administrator's Guide.*

1. In the Navigation pane, click **Manage Clients**.
2. On the **Manage Clients** page, select the machine that contains the Nutanix Server, and click **Manage**.
3. On the **View Client** page, click the **Install Plugin** button ( ).
4. Click **Choose Plug-in File**, and navigate to the location of the **".npk"** installation file for the plug-in—on the installation CD or the directory to which the file was downloaded from the website.

   Based on the OS in use, the path for this software may vary on the installation CD.
5. Select the file entitled **"nu-x-x-x-x-x.npk,"** where **xxxxx** represents the version number and platform, and click **Open**.
6. To begin installation, click **Install Plugin**. After the plug-in is successfully installed, a message is displayed.
7. When upgrading Nutanix plugin from 13.x to 14.0, open Configure Plugin for each registered Nutanix cluster and revalidate connectivity/authentication (Prism endpoint, port, and service account), then save to refresh discovery. API version handling is auto-detected by default, to force a specific version, edit nutanix.cfg and set APIVersion.

Licensing the plug-in

Apply the license to the Backup Proxy. For information about the licensing process, including how to obtain the proper license keys, see the *Quest NetVault Installation Guide*.

Removing the plug-in

For details on removing the Plug-in *for Nutanix AHV* in a clustered environment, see the applicable topic on working with client clusters in the *Quest NetVault Administrator's Guide*.

1. In the Navigation pane, click **Manage Clients**.
2. On the **Manage Clients** page, select the applicable client, and click **Manage**.
3. In the **Installed Software** table on the **View Client** page, select **Plug-in *for Nutanix AHV***, and click the **Remove Plugin** button ( ).
4. In the **Confirm** dialog box, click **Remove**.

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Configuring the plug-in

1 In the Navigation Pane, click **Create Backup Job**, and click + next to the **Selections** list.

2 In the selection tree, open the applicable client node.

3 Click **Nutanix Plugin**, and select **Configure** from the context menu.

4 Enter the following information:

- **Cluster IP/FQDN:** Enter the IP address or fully qualified domain name (FQDN) of the cluster.
- **Port No:** Enter the port number used by the cluster.
- **Username:** Enter the account name that has the permission and privileges required for administering the cluster and Nutanix; that is, a domain-administrator account.
- **Password:** Enter the password associated with the user specified in the preceding field.

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

NOTE: The plugin validates that the configured endpoint is a Prism Central instance. If Prism Element credentials are entered, configuration will be rejected. This is a common reason for configuration to fail.

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Backing up data

- Backing up data: an overview
- Adding patterns to use for inclusion and exclusion of VMs
- Performing backups
- Using backup policies
- Restarting a backup job

Backing up data: an overview

Plug-in *for Nutanix AHV* supports image-level backups and restores. An image-level backup includes all disk and configuration information of a given VM, enabling restoration of the entire VM. You can use this type of backup if hardware fails or VM disks are deleted.

Important considerations

- When using V4 API (default), the plugin contacts Prism Element directly for Changed Block Tracking operations using JWT authentication obtained via Prism Central. This requires network connectivity between the Backup Proxy and all PE nodes.
- Backups cannot be performed if the Nutanix cluster is inaccessible.
- Nutanix guest tools are not restored.
- The plug-in supports application-consistent backups, which is useful for taking the consistent state of the applications running inside the VM. The plug-in also supports crash-consistent backups.

  IMPORTANT: For application-consistent snapshots, the protected VM must have Nutanix guest tools (NGT) installed. If NGT is not installed, application-consistent backups are converted to crash-consistent.

- In addition to supporting the use of spaces within the name of a VM, the following characters are also supported: A–Z, a–z, 0–9, ! # % ^ ( ) - _ + = . { } ;

  Be aware of the following guidelines and exceptions:

  - Names are case-sensitive.
  - Due to a Nutanix REST API restriction, the plug-in does not support names that exceed 64-characters.
  - The inclusion and exclusion features do not support the use of spaces at the beginning or end of a VM name pattern.
  - The behavior of unsupported characters is unpredictable.

Adding patterns to use for inclusion and exclusion of VMs

In addition to selecting VMs from the backup selection tree, you can create and store patterns of VM names for inclusion and exclusion from backup jobs. When you specify VM name patterns to include or exclude, or both, the plug-in stores them with a Backup Selection Set. When you submit a backup job, you can select the set with the stored patterns. The plug-in then populates the backup list with VMs whose names match the specified pattern or patterns.

IMPORTANT: During a backup job, the plug-in applies the inclusion and exclusion feature only to the machines specified in the backup selection set.

To add patterns:

1. In the Navigation pane, click **Create Backup Job**.
2. Next to the **Selections** list, click ✚.
3. In the list of plug-ins on the **NetVault Selections** page, open **Nutanix Plugin** and select the ***<clusterIP>*** or ***<clusterFQDN>*** nodes that you want to back up.

   Below the ***<clusterIP>*** or ***<clusterFQDN>*** node, the plug-in displays two additional items, **Specify Inclusions** and **Specify Exclusions**. Clicking **Specify Inclusions** displays additional options, such as **Show include patterns** and **Add include pattern**. After you have selected **Show include patterns**, the option changes to **Hide include pattern**. Clicking **Specify Exclusion** displays additional options, such as **Show exclude patterns** and **Add exclude pattern**. After you have selected **Show exclude patterns**, the option changes to **Hide exclude pattern**. As you add patterns, the plug-in displays an informational node for each saved pattern.
4. To add a pattern that you want to include in a backup, click **Add include pattern**.
5. In the **Enter include pattern** dialog box, type the pattern that you want the plug-in to search for.

   Use the regex pattern to include VMs that conform to the specified pattern. For example, if you want the plug-in to include all VMs that start with SQL, type: (SQL).*
6. To save the pattern, click **OK**.
7. Repeat Step 4 through Step 6 for each pattern that you want to add for inclusion.
8. To add a pattern that you want to exclude from a backup, click **Add exclude pattern**.
9. In the **Enter exclude pattern** dialog box, type the pattern that you want the plug-in to search for using the same guidelines described previously for include patterns, and then click **OK**.

   Continuing with the previous example, if you want the plug-in to locate all VMs that start with **SQL** but exclude specific versions of the SQL Server VMs, type the complete name of the VM that you want to exclude, such as **SQLQATest1**.
10. Repeat Step 8 and Step 9 for each pattern that you want to add for exclusion.
11. When you are finished, select all required VMs under the ***<clusterIP>*** or ***<clusterFQDN>*** node, and select the applicable inclusion and exclusion patterns.
12. Click **Save**, enter a name in the **Create New Set** dialog box, and click **Save**.

    The name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. On Windows, there is no length restriction. However, a maximum of 40 characters is recommended on all the platforms.

Performing backups

The procedure for performing image-level backups includes the steps outlined in the following topics.

- Selecting data for a backup
- Setting backup options
- Recovery Point Management
- Finalizing and submitting the job
- Known Limitations

Selecting data for a backup

You must use sets—Backup Selection Set, Backup Options Set, Schedule Set, Target Set, and Advanced Options Set—to create a backup job.

TIP: To use an existing set, click **Create Backup Job**, and select the set from the **Selections** list.

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

   You can also start the wizard from the Guided Configuration link. In the Navigation pane, click **Guided Configuration**. 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 when monitoring its progress or restoring data. The job name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. On Windows, there is no length restriction. However, a maximum of 40 characters is recommended.

3. Next to the **Selections** list, click ✚.
4. In the list of plug-ins on the **NetVault Selections** page, open **Nutanix AHV**, and expand the ***<clusterIP>*** or ***<clusterFQDN>*** node to display the list of VM and Host nodes.

   TIP: The plug-in supports two types of inventory view for browsing: Host View and VM View. To change the inventory view, click the Nutanix cluster node.

5. Choose one of the following:
   - Select the ***<clusterIP>*** or ***<clusterFQDN>*** node to include every VM that exists at the time of backup.
   - Select the applicable ***<host>*** nodes to include every VM that resides on the selected host nodes.
   - Select individual VMs to back up a specific set of VMs.

   IMPORTANT: If VMs are explicitly selected with a green check mark, only the selected VMs are included in the backup, even if new VMs have been added to the Nutanix Server since the last backup.

   If you are performing an Incremental or Differential Backup, select the Backup Selection Set of the last Full Backup.

6. Click **Save**, enter a name in the **Create New Set** dialog box, and click **Save**.

   The 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.

Setting backup options

The next step involves creating the Backup Options Set or selecting an existing one.

TIP: To use an existing set, in the **Plugin Options** list, select the set that you want to use.

To select the backup options:

1. Next to the **Plugin Options** list, click ✚.
2. In the **Backup Type** section, select **Full**, **Incremental**, or **Differential**, whichever is applicable.

   A Full Backup performs a complete backup of the set of items that have been selected. A Full Backup does not depend on any other backup and can be restored in a single step. An Incremental Backup backs up the set of items that have changed since the last backup. A Differential Backup backs up the set of items that have changed since the last Full Backup.
3. In the **Maximum Number of Parallel Streams** box, enter the applicable number. The default is **4.** You can enter up to 32 to improve load balancing or performance, or both. However, if you are using tape drives, the number of parallel backup streams selected *must* be equal to or less than the number of available drives.
4. **In the Snapshot Type section, select the applicable option.**
   - Crash Consistent: To capture all the data on the VM at the same time, select this option.
   - Application Consistent: To capture all the data on the VM at the same time and to capture all data in memory as well as any transactions that are in process, select this option. This option is selected by default.

     NOTE: If the default, **Application Consistent**, is used and the snapshot cannot be completed by the plug-in, the plug-in automatically creates a **Crash Consistent** snapshot.
5. In the Other Options section, optionally click **Enable restartable backups**. If a restartable backup completes with some failed virtual machines, you can restart those backups. For more information, see Restarting a backup job.
6. In **Set Name**, specify a name for the set, and click **Save**. The name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. On Windows, there is no length restriction; however, a maximum of 40 characters is recommended.

   NOTE: **RecoveryPointExpiryDays** in nutanix.cfg controls Recovery Point retention in days. Default value is 30 days, valid range is 0-180 days. Recovery points older than this value are eligible for expiry for plug-in managed expiry or cleanup.

Recovery Point Management

With V4 API (AOS 5.20+), the NetVault Nutanix plugin creates Recovery Points instead of legacy V3 VM snapshots. These Recovery Points follow a clear three-level hierarchy — Recovery Point → VM Recovery Point → Disk Recovery Point—identified by recoveryPointExtId, vmRecoveryPointExtId, and diskRecoveryPointExtId. This three-tier model enables granular per-disk CBT and restore operations without impacting other VMs or disks in the same backup set.

Finalizing and submitting the job

1. Use the **Schedule**, **Target Storage**, and **Advanced Options** lists to configure any additional required options.
2. Click **Save** or **Save & Submit**, whichever is applicable.

TIP: To run a job that you have already created and saved, select **Manage Job Definitions** in the Navigation pane, select the applicable job, and click **Run Now**.

You can monitor progress on the **Job Status** page and view the logs on the **View Logs** page. For more information, see the *Quest NetVault Administrator's Guide*.

NOTE: If you add a VM to the Backup Selection Set after the initial Full Backup or any subsequent Incremental or Differential Backup, the plug-in does the following:

- Creates a Full Backup of the new VM if you run an Incremental or Differential Backup.
- For subsequent Differential Backups, runs a Full Backup of the new VM.
- For subsequent Incremental Backups, runs an Incremental Backup of the new VM.

Example:

1. Select any VM, for example, MyVM1, and create a Backup Selection Set, for example, MySelectionSet.
2. Run a Full Backup using MySelectionSet.
3. Modify MySelectionSet, and add a VM, for example, MyVM2.
4. Run an Incremental or Differential Backup using MySelectionSet.
5. Run another Incremental Backup or Differential using MySelectionSet.

As a result, when you select **Incremental Backup** for the **Backup Type**, the plug-in creates a Full Backup of MyVM2 in Step 4 and an Incremental of that VM in Step 5. When you select Differential Backup for the Backup Type, the plug-in creates a Full Backup of MyVM2 in Step 4 and Step 5.

Using backup policies

You can use policies to submit one or more jobs that target one or more similar clients. The following procedure outlines the basic process. For more information, see the *Quest NetVault Administrator's Guide*.

1. In the Navigation pane, click **Manage Policies**.
2. On the **Manage Policies** page, click the browse button, and select **Add**.
3. Enter a **Policy Name**, and click **Add job**.
4. On the **Create Policy Job** page, complete the applicable sections, and click **Save**.

   TIP: You can use the inclusion- and exclusion-pattern feature to select which VMs to back up. For more information, see Adding patterns to use for inclusion and exclusion of VMs.

5. Click **Add Clients**, and select the applicable Nutanix clients.
6. To save the policy definition, click **Save Policy**.

Restarting a backup job

If you opted to enable restartable backups, you can restart the backup of any virtual machine whose previous backup may have failed.

1. In the Navigation pane, click **Job Status**.
2. In the list of jobs, select the job for the failed virtual machine and click **Restart**.

   The restarted job backs up only the virtual machine that previously failed.

Known Limitations

- **Backup Failure on SB-Win 2022 (Older AOS versions):** Nutanix storage system Prism Element enforces an automatic snapshot disk attachment timeout of approximately 60 seconds on legacy AOS versions. Backup operations on VMs with smaller disk capacity or superior I/O throughput capabilities complete data transfer within this window. However, VMs with large disk capacity or bandwidth-constrained hardware exceed the attachment duration threshold, causing premature snapshot disk detachment and consequent backup job termination mid-transfer.

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Restoring data

- Restoring image-level backups
- Performing disk-level recovery
- Using other restore procedures
- Nutanix Restore and Conflict handing Scenarios
- Troubleshooting

Restoring image-level backups

You can perform an image-level recovery, which restores the entire VM. The process restores files either to their original location or to a location specified by you when you create a selection set and enter information in the Rename/Relocate dialog box.

IMPORTANT: Nutanix guest tools (NGT) are not restored as part of the recovery process.

This process includes the steps outlined in the following topics:

- Prerequisites for image-level restore
- Selecting data for an image-level restore
- Setting image-level restore options
- Finalizing and submitting an image-level restore job

Prerequisites for image-level restore

Verify that the following prerequisites are met:

- The **Rename** feature supports a maximum of 64 characters for the VM names.
- Use the **Relocate** feature to move all the disks of the VM to an applicable storage container.

Selecting data for an image-level restore

1. In the Navigation pane, click **Create Restore Job**.
2. To filter the items displayed in the saveset table, click **Filter** .

   The table displays the saveset name (job title and saveset ID), creation date and time, size, and catalog status. By default, the list is sorted by creation date.
3. In the saveset table, select the applicable saveset.

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

4 Select one of the following options:

- **Restore All Using Defaults:** To restore using the prepopulated defaults, click this button, and proceed to Setting image-level restore options.
- **Restore:** To use the **Create Selection Set** page to select the items that you want to restore, click this button and proceed to the next step.

5 On the **Create Selection Set** page, select the ***<clusterIP>*** or ***<clusterFQDN>*** node to display the VMs, and then select one or more VMs to restore.

> **NOTE:** If you select an Incremental or Differential Backup, the plug-in automatically restores all savesets in the backup sequence up to the selected saveset.

Setting image-level restore options

If you are restoring a backup that was created using an earlier version of the plug-in, complete the steps outlined in the user's guide for the corresponding version; this section only applies to the current version of the plug-in.

1 On the **Create Selection Set** page, click .

2 Select the applicable option, **Recover entire VM to a cluster** or **Recover Disks Only**.

3 If you selected **Recover entire VM to a cluster**, select the following options, if applicable:

- If you want the recovered VM to be restarted automatically, select the **Power-on VM after recovery** option.
- If you want the original VM deleted after a successful recovery, select the **Delete Original VM after recovery** option.

4 **Delete Original VM after recovery:** When this option is enabled, the plugin automatically removes the original VM after a successful recovery, helping avoid duplicate VM entries and reducing post-restore cleanup effort.

5 **Target Storage Container:** This option allows you to restore a VM to a different Nutanix storage container than the source, giving you greater flexibility for capacity management, performance planning, and recovery workflows. Select the target container based on your storage policy and available resources to ensure optimal placement after restore.option for cross-container placement.

6 **Attach Recovered Disks to VM:** Supports Attach Recovered Disks to VM, allowing recovered disks to be mounted to a selected virtual machine instead of performing a full VM restore. This provides a flexible recovery option for item-level access, data validation, or partial recovery scenarios where only specific disks are needed. Use this feature to speed up recovery workflows and reduce overhead when complete VM recovery is not required**.**

Finalizing and submitting an image-level restore job

The final steps include setting additional options on the Schedule, Source Options, and Advanced Options pages, submitting the job, and monitoring the progress through the Job Status and View Logs pages. These pages and options are common to all NetVault Plug-ins. For more information, see the *Quest NetVault Administrator's Guide*.

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

2 In **Job Name**, specify a name for the job if you do not want to use the default setting.

Specify a detailed title that lets you easily identify the job when 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.

3 In the **Target Client** list, select the machine on which you want to restore the data.

> **TIP:** You can also click **Choose**, and then locate and select the applicable client in the **Choose the Target Client** dialog box.

4 Use the **Schedule**, **Source Options**, and **Advanced Options** lists to configure any additional required options.

5 Click **Save** or **Save & Submit**, whichever is applicable.

You can monitor progress on the **Job Status** page and view the logs on the **View Logs** page. For more information, see the *Quest NetVault Administrator's Guide*.

Performing disk-level recovery

You can restore individual disks from an image-level backup. The process includes the steps outlined in the following topics:

- Selecting data for a disk-level restore
- Setting disk-level restore options
- Finalizing and submitting a disk-level restore job

> **IMPORTANT:** You can select multiple disks from different VMs for a disk-level restore job.
> Nutanix guest tools (NGT) are not restore as part of the recovery process.

Selecting data for a disk-level restore

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

2 To filter the items displayed in the saveset table , click **Filter** .

The table displays the saveset name (job title and saveset ID), creation date and time, size, and catalog status. By default, the list is sorted by creation date.

3 In the saveset table, select the applicable saveset.

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

4 On the **Create Selection Set** page, expand the **VM** node to display the disks contained within, and then select one or more disks for the restore.

> **IMPORTANT:** Do *not* use the **Rename** option in the context menu. Although the option is displayed, the plug-in ignores the **Rename** field and the restore completes with warnings.

Setting disk-level restore options

1 On the **Create Selection Set** page, click .

2 Select the **Recover Disks Only** option.

3 In the **Attach Restored Disk to VM** box, enter the name of the VM to which the restored disks should be attached.

Finalizing and submitting a disk-level restore job

The final steps include setting additional options on the Schedule, Source Options, and Advanced Options pages, submitting the job, and monitoring the progress through the Job Status and View Logs pages. These pages and options are common to all NetVault Plug-ins. For more information, see the *Quest NetVault Administrator's Guide*.

1. To save the settings, click **OK**, and then click **Next**.
2. In **Job Name**, specify a name for the job if you do not want to use the default setting.

   Specify a detailed title that lets you easily identify the job when 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.
3. Use the **Schedule**, **Source Options**, and **Advanced Options** lists to configure any additional required options.
4. Click **Save** or **Save & Submit**, whichever is applicable.

   You can monitor progress on the **Job Status** page and view the logs on the **View Logs** page. For more information, see the *Quest NetVault Administrator's Guide*.

Using other restore procedures

This topic describes other restore operations that you can perform with the plug-in:

- Renaming and relocating a VM during image-level restore
- Restoring data to an alternate Nutanix Server

Renaming and relocating a VM during image-level restore

The plug-in lets you restore a VM to a different name and location. The renaming of a VM can be useful if you do not want to overwrite the existing version.

IMPORTANT: If your environment uses Windows Server 2008 R2 and you use the Rename feature, the recovery does *not* include network adapters that the VM backup included.

1. In the Navigation pane, click **Create Restore Job**, select **Plug-in *for Nutanix AHV*** from the **Plugin Type** list, select the applicable saveset, and click **Next**.
2. On the **Create Selection Set** page, select the ***<clusterIP>*** or ***<clusterFQDN>*** node to display the VMs, and then select the VM to restore.
3. With the VM selected on the **Create Selection Set** page, select **Rename** from the context menu.
4. In the **Rename/Relocate** dialog box, complete either or both fields:
   - **Rename:** Enter the new name. The name supports a maximum of 64 characters.
   - **Relocate:** Enter the name of the new storage container.
5. To apply your changes, click **OK**.

   The VM name is accompanied by the rename and relocate information in parentheses.
6. Continue with the restore procedure as explained in Restoring image-level backups.

7 If your environment uses Windows Server 2008 R2 and the original VM included network adapters, use Nutanix Manager to add the network adapters.

Restoring data to an alternate Nutanix Server

This functionality is useful during ***disaster recovery*** operations. You can restore a VM to a different Nutanix Server by using the steps provided in the following topic.

1 Verify that the following requirements are met on the new restore target before continuing this process.

- **Compatible version of Nutanix AHV cluster installed:** The Nutanix cluster version must be compatible with the version running on the existing server.
- **NetVault software and the Plug-in *for Nutanix AHV* installed:** The same version of NetVault software and the plug-in must be installed and configured on the new restore target.
- **Client added to the NetVault Server:** The target machine must be added to the NetVault Server by using the **Manage Clients** page of the NetVault WebUI.

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

3 To filter the items displayed in the saveset table, click **Filter** .

4 In the saveset table, select the applicable saveset.

5 Select the VM to be restored from the backup saveset.

6 In the saveset table, select the applicable saveset.

7 On the **Create Selection Set** page, click , and select the **Recover entire VM to host and/or cluster** option.

For information about other options available, see Setting image-level restore options.

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

9 In **Job Name**, specify a name for the job if you do not want to use the default setting.

Assign a descriptive name that lets you easily identify the job when monitoring its progress. The job name can contain alphanumeric and nonalphanumeric characters, but it cannot contain non-Latin characters. On Windows, there is no length restriction; however, a maximum of 40 characters is recommended.

10 In the **Target Client** list, select the alternate Nutanix Server.

11 Use the **Schedule**, **Source Options**, and **Advanced Options** lists to configure any additional required options.

12 Click **Save** or **Save & Submit**, whichever is applicable.

You can monitor progress on the **Job Status** page and view the logs on the **View Logs** page. For more information, see the *Quest NetVault Administrator's Guide*.

13 After the restore is finished, use Nutanix Manager to import the new VM.

NOTE: Cross Central Prism Restore A full backup (~2 TB) and restore to the same Prism Central (Prism Central A) can complete successfully, but restoring that same backup to a different Prism Central (Prism Central B) may fail. Also, if an attached recovered disk appears as Offline (for example, Disk 1 in Windows), this is expected behavior: Windows SAN policy automatically sets newly attached foreign disks to Offline to prevent accidental writes.

Nutanix Restore and Conflict handing Scenarios

Use these restore scenarios to define target placement for recovered VMs and determine how existing VM conflicts are resolved.

- **Same PE Cluster, Same Container (Default):** Restores the VM to its original cluster and storage container.

1 Navigate to Create Restore Job.
2 Select the backup saveset from the table → click Restore (or Restore All Using Defaults).
3 On the Create Selection Set page, select the VM(s) to restore.
4 Click the Edit Plugin Options icon.
5 Select Recover entire VM to a cluster: This is selected by default
6 Target Storage Container : Leave this field blank (plugin uses the original container).
7 Power-on VM after recovery: This is an Optional field.
8 Delete Original VM after recovery: This is an Optional field.
9 Click OK → Next → set Schedule/Source/Advanced options
10 Save & Submit

- **Same PE Cluster, Different Container:** Restores to the same cluster but writes data to a different container.

1 Navigate to Create Restore Job.
2 Select the backup saveset from the table, click Restore (or Restore All Using Defaults).
3 On the Create Selection Set page, select the VM(s) to restore.
4 Click the Edit Plugin Options icon.
5 Select Recover entire VM to a cluster (selected by default).
6 Target Storage Container: This is optional field. Enter the target container name (e.g., SSD-Container-01). This option allows you to restore a VM to a different Nutanix storage contain than the source, providing greater flexibility for capacity management, performance planning and recovery workflows. Select the targe container based on your storage policy and available resources to ensure optimal placement after the restore option for cross container placement.
7 Power-on VM after recovery: This is an Optional field.
8 Delete Original VM after recovery: This is an Optional field.
9 Click OK → Next → set Schedule/Source/Advanced options
10 Save and Submit

NOTE: If the container name exists on multiple clusters under the same Prism Central, the plugin prefers the container on the same cluster as the Backup Proxy. To force a specific cluster's container, type <cluster_name>/<container_name>

- **VM Name Collision Handling:** When a target VM name already exists, the plugin does not automatically block or resolve duplicates. If you restore without renaming and the original VM is still present, Nutanix may create a second VM with the same name.

Use one of the following methods to avoid collisions:

Option A — Delete the original VM after recovery

1 In Restore Options, enable Delete Original VM after recovery.
2 Run the restore job.
3 After a successful restore, the plugin deletes the original VM.

NOTE: Supported only for same-cluster restores. The original VM must not be the Backup Proxy VM.

Option B — Rename the restored VM

1 On the Create Selection Set page, right-click the VM and select Rename.

2 Rename: Enter a new VM name (up to 64 characters).
3 Relocate: It is optional, enter a different storage container name.
4 Click OK and continue the restore.

Option C — Rename + delete original

Use both options together when you want a clean replacement with a new VM name.

- **Cross PE cluster restore (same Prism Central)**

Cross-PE Cluster Restore (same Prism Central): Restores data to a different Prism Element cluster (for example, proxy on Cluster A restoring backups taken from Cluster B), as long as both clusters are managed under the same Prism Central.

Cross-PC Restore (different Target Client): Restores data to a target client associated with a different Prism Central environment, enabling recovery across separate PC domains for Nutanix AHV plug-in restores.

Troubleshooting

- **HTTP 428 errors during V4 restore operations:** If restore actions fail with HTTP 428 (Precondition Required) when using the V4 API, check for concurrent updates on the same target VM. V4 enforces ETag-based concurrency control, so simultaneous VM changes by other processes can invalidate the request and cause restore failures.

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