

Veeam Explorers

Version 12

User Guide

June, 2023

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Contacting Veeam Software

At Veeam Software we value feedback from our customers. It is important not only to help you quickly with your technical issues, but it is our mission to listen to your input and build products that incorporate your suggestions.

Customer Support

Should you have a technical concern, suggestion or question, visit the Veeam Customer Support Portal to open a case, search our knowledge base, reference documentation, manage your license or obtain the latest product release.

Company Contacts

For the most up-to-date information about company contacts and office locations, visit the Veeam Contacts Webpage.

Online Support

If you have any questions about Veeam products, you can use the following resources:

- Full documentation set: veeam.com/documentation-guides-datasheets.html
- Veeam R&D Forums: forums.veeam.com

About This Document

This guide provides information on how to use Veeam Explorers that come as part of Veeam Backup & Replication 12 or Veeam Backup for Microsoft 365 7.0 until it is replaced with a newer version of the product.

Intended Audience

This user guide is intended for IT administrators, consultants, analysts and other IT professionals using the product.

Veeam Explorers Overview

Veeam Explorers Suite extends the functionality of Veeam Backup for Microsoft 365 and Veeam Backup & Replication and allows you to restore or export your data from backup or replica files.

Veeam Explorers are distributed as part of Veeam Backup for Microsoft 365 and Veeam Backup & Replication, and you do not need to install them separately. You also do not need to purchase any additional license to use Veeam Explorers: the available feature set for each Veeam Explorer depends entirely on the installed edition of Veeam Backup for Microsoft 365 and Veeam Backup & Replication. For information about how to deploy Veeam products, see the following sections:

- Deployment section of the Veeam Backup for Microsoft 365 User Guide
- Deployment section of the Veeam Backup & Replication User Guide

The following table lists all Veeam Explorers that come as part of Veeam Backup & Replication and Veeam Backup for Microsoft 365.

| Veeam Explorer | Veeam Backup & Replication | Veeam Backup for Microsoft 365 |
|--|----------------------------|-----------------------------------|
| Veeam Explorer for Microsoft Exchange | ~ | ~ |
| Veeam Explorer for Microsoft SharePoint | ~ | ~ |
| Veeam Explorer for Microsoft OneDrive for Business | ~ | ~ |
| Veeam Explorer for Microsoft Teams | ~ | ~ |
| Veeam Explorer for Microsoft Active Directory | ~ | × |
| Veeam Explorer for Microsoft SQL Server | ~ | × |
| Veeam Explorer for Oracle | ~ | × |
| Veeam Explorer for PostgreSQL | ~ | × |

This document provides information on how to use Veeam Explorers that come as part of Veeam Backup & Replication. For information on Veeam Explorers available with Veeam Backup for Microsoft 365 only, see the Veeam Explorers User Guide for Veeam Backup for Microsoft 365.

Veeam Explorer for Microsoft Active Directory

Veeam Explorer for Microsoft Active Directory allows you to restore and export Active Directory objects and containers from backups created by Veeam Backup & Replication.

Planning and Preparation

Before you start using Veeam Explorer for Microsoft Active Directory, make sure your backup infrastructure meets the following requirements and limitations.

System Requirements

This section lists system requirements for Veeam Explorer for Microsoft Active Directory.

| Component | Requirement |
|--|---|
| Microsoft Active Directory Domain Services | For more information about supported operating systems, see the Supported Applications subsection of the Veeam Backup & Replication User Guide. |

Consider the following:

- Veeam Explorer for Microsoft Active Directory does not support Active Directory Lightweight Directory Services (AD LDS).
- Database files created by the domain controller can be opened for object recovery with Veeam Explorer for Microsoft Active Directory only if Veeam Explorer for Microsoft Active Directory is installed on a Windows machine with the same OS version or later than the version of the domain controller OS.
- To open database files, Veeam Explorer for Microsoft Active Directory uses a service dynamic link library (esent.dll) which is installed with Microsoft Active Directory Domain Services and can be found in the %SystemRoot% directory. The Esent.dll file on a machine with Veeam Explorer for Microsoft Active Directory must be of the same version as that of Microsoft Active Directory Domain Services that was used to create database files.

Ports

The following table lists network ports that must be opened to manage inbound and outbound traffic.

| From | То | Protocol | Port | Notes |
|---|---|----------|--|--|
| Backup server, Veeam Backup & Replication console | Microsoft Active Directory machine | ТСР | 135 | Manages communication between the domain controller and the backup server. |
| | | TCP, UDP | 389 | Utilized for LDAP connections. |
| | | ТСР | 636, 3268, 3269 | |
| | | ТСР | 49152 to 65535 (for Microsoft Windows 2008 or later) | The dynamic RPC range that is used by the runtime coordination process which is deployed on the Microsoft Active Directory machine for application-aware image processing (when working over the network, not over VIX API). For more information, see this Microsoft article. |

Permissions

The account used to restore Microsoft Active Directory data must be a member of the following groups:

- Domain Admins
- Exchange Organization Management

Membership in this group is required only for restore of Exchange attributes.

Assigning Role with PowerShell

To assign the **Organization Management** role using PowerShell, run the following cmdlet.

Add-RoleGroupMember "Organization Management" -Member "<user_name>"

Required Backup Job Settings

When you create a backup job, make sure to enable the **application-aware processing** option, as described in the Specify Guest Processing Settings section of the Veeam Backup & Replication User Guide.

Considerations and Limitations

This section lists considerations and known limitations of Veeam Explorer for Microsoft Active Directory.

General

• When Veeam Explorer for Microsoft Active Directory is installed on a server on which both Veeam Backup & Replication and Veeam Backup for Microsoft 365 are installed, the notification settings will be inherited from the Veeam Backup & Replication Global Notification settings.

Restore

- Veeam Explorer for Microsoft Active Directory does not support restore using PowerShell Direct, VIX API or vSphere Automation API.
- Data can only be restored back to the original domain. Cross-domain restore is not supported.
- Veeam Explorer for Microsoft Active Directory does not support recovery of the contents of the *Domain Controllers* container and most of the contents of the *System* container (in particular, the *Password Settings* container), as this may cause system stability issues on the target machine. Moreover, some of the contents of the *System* container, as well as the entire *Configuration Partition* container, the *Microsoft Exchange System Options* container, the *Integrated DNS* container and so on, can be recovered with Veeam Explorer for Microsoft Active Directory, but they are only visible in the **Advanced Features** view to prevent accidental errors during the recovery process. For more information, see the Browsing, Searching and Viewing Items section.
- Veeam Explorer for Microsoft Active Directory supports restore of both mailbox-enabled objects (including *hard-deleted items* and *Online Archives*), and *mail-enabled objects* for the following Microsoft Exchange versions: *Microsoft Exchange Server 2019, Microsoft Exchange Server 2016, Microsoft Exchange Server 2013* and *Microsoft Exchange Server 2010 SP1*. For other Microsoft Exchange versions, restore of *mailbox-enabled* objects is not supported (only *mail-enabled* objects can be restored).
- To restore passwords, Veeam Explorer for Microsoft Active Directory uses the registry database. To restore passwords, make sure the *System* registry hive is available. The default location of the hive is *%systemroot%|System32|Config.* When restoring an Active Directory database from the Active Directory backup using *Veeam file-level restore*, the registry hive will be located automatically. When restoring from an imported backup or from VeeamZIP backups, make sure that the system registry hive and the *.dit* file are located in the same directory.
- If you plan to restore database items from an *Active Directory Domain Services* server running *Microsoft Windows ReFS*, make sure that the backup server or Veeam Backup & Replication console is installed on a machine that runs Microsoft Windows Server 2012 or later.

To restore from a server running Microsoft Windows ReFS 3.x, the Veeam Backup & Replication console must be installed on a machine that runs Microsoft Windows Server 2016 or later, and the ReFS version must be supported on this machine.

- Restore of *Group Policy objects*, *AD-integrated DNS records* and objects from the *Configuration Partition* is supported in the *Enterprise* and *Enterprise Plus* editions only.
- Veeam Explorer for Microsoft Active Directory does not restore object attributes such as *objectSID* and *objectGUID* from the backup. To restore deleted Active Directory objects, Veeam Explorer for Microsoft Active Directory uses existing tombstone objects on the target Active Directory server or objects in the AD Recycle Bin. In this case, the restored object will have its original *objectSID* and *objectGUID*. If an object you want to restore does not exist in the tombstone container or recycle bin in the target domain, Active Directory will assign new *objectSID* and *objectGUID* attributes to the restored object.

- To restore business-critical objects for which the tombstone object is missing, you can perform authoritative restore of the entire domain from the old DC backups. For more information on tombstone objects, see this Microsoft article.
- Always use backups that are newer than the tombstone lifetime interval for the Active Directory forest. To determine a tombstone lifetime interval, you can use *ADSIEdit* or *Dsquery*. For more information, see this Microsoft article.
- When you move an object from one domain to another within a forest (for example, using the *Movetree.exe* utility or any other 3rd party tool), no tombstone for this object will remain in the source Active Directory; such an object cannot be fully recovered to the original domain.

Export

- Veeam uses *Lightweight Data Interchange Format* to save Active Directory objects and containers to *.ldf* files. You can make an *.ldf* file available to the Active Directory Domain Services server by importing it with the *ldifde* utility. For more information, see this Microsoft article.
- Veeam Explorer for Microsoft Active Directory does not support exporting passwords.

Launching Application and Exploring Backups

To open Veeam Explorer for Microsoft Active Directory and load backups, you can use any of the following methods:

• Use the **Restore application item** option to load backups created by Veeam Backup & Replication.

For more information, see the Application Items Restore section of the Veeam Backup & Replication User Guide.

• Go to **Start**, click **Veeam Explorer for Microsoft Active Directory** and manually open Active Directory databases, as described in the Adding Standalone Microsoft Active Directory Databases section.

When starting the application from the **Start** menu, specify the following:

- The domain name or IP address of the backup server to which you want to connect
- The port number
- User account credentials

Consider the following:

- To perform recovery operations, Veeam Explorer for Microsoft Active Directory must be run with elevated permissions. The user account must be a member of the local *Administrators* group on the machine where Veeam Explorers Suite is installed.
- $\circ~$ The account must have the Veeam Backup Administrator or Veeam Restore Operator role on the target backup server.

To use the account under which Veeam Explorer for Microsoft Active Directory is running, select **Use Windows session authentication**.

To save the connection shortcut to the desktop, click **Save shortcut** in the bottom-left corner.

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| for Microsoft Active Dir | |
| Type in a backup server name or IP a and user credentials to connect with. backup01.tech.local | |
| TECH\Administrator | |
| ••••• | |
| Use Windows session authenticat | ion |
| Save shortcut | Connect Close |

Getting to Know User Interface

Veeam Explorer for Microsoft Active Directory provides you with the convenient user interface that allows you to perform required operations in a user-friendly manner.

Main Menu

The main menu comprises the following:

- General Options. Allows you to configure general application settings.
- Help.
 - **Online help**. Opens the online help page.
 - About. Shows the additional information including build number.
- Exit. Closes the Veeam Explorer for Microsoft Active Directory window.

TIP

You can also open online help by pressing [F1] in any Veeam Explorer for Microsoft Active Directory wizard or window. You will then be redirected to the relevant section of the Veeam Explorers User Guide.

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| General Options | | | | |
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| Exit | About Shows additional information about this product e Description | | | ٩ |
| Active Directory | Le Description | | | |
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| Users and Computers | | | | |
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Main Application Window

The main application window can be divided into three categories:

- The ribbon menu, which contains general program commands organized into logical groups.
- The navigation pane, which allows you to browse through the hierarchy of your backup files.
- The preview pane, which shows you the details about objects you have selected in the navigation area.

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| | ▲ ■ Active Directory ▲ ⊕ as2016Dom.local | 🗋 Name | Туре | Item State | Description | | | | | |
| | ▶ Users and Computers ▶ [™] Group Policy Objects | | | | | | | | | |
| Navigation Pane | • | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Preview Pane | | | • | | | | | | | |
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Browsing, Searching and Viewing Items

This topic explains how to use Veeam Explorer for Microsoft Active Directory to:

- Browse backup content
- Search for objects in a backup file

Browsing

To view the contents of a backup file, use the navigation pane which shows you the database structure containing your active directory objects. After you select a container in the navigation pane, you can see its contents in the preview pane.

Right-click an object and select **View attributes** to view object attributes. To copy necessary attributes to the clipboard, select an attribute and press [Ctrl+C] on the keyboard. Multiple selection is also supported.

Veeam Explorer for Microsoft Active Directory does not display some objects and containers in the default view, such as the entire *Microsoft Exchange System Options*, *System*, *Integrated DNS*, *Configuration Partition* containers, as well as the objects stored in the *Domain Controllers* container. This behavior is intended to prevent accidental errors during the recovery process that may affect the system stability of the target machine.

You can view and recover some of this data if you open the **Home** tab and enable **Advanced Features**, but you must manually verify all recovery operations to ensure stable operation of the system.

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| Microsoft Exchange Security Groups Microsoft Exchange System Objects OU_GPO OU05 OU06 OU01 OU2 OU2 OU3 OU4 Program Data System Exters System Exters Group Policy Objects Microsoft DNS Configuration Partition | Restore objects to as2016Du Restore objects to Restore objects to Desktop Export objects to Export objects to Export object attributes View attributes | | | | | | |
| Load completed 1 objects found. | | | | | | vee | eam |

Searching

The search mechanism allows you to find items matching specified search criteria.

To search for the required items, do the following:

- 1. In the navigation pane, select an object in which you want to find your data.
- 2. Enter a search query in the search field at the top of the preview pane. Then press [Enter] or click the **Search** button to the right of the search field.

NOTE

To find the exact phrase, use double quotes. For example, "group policy".



Using LDAP Queries

To use the LDAP search query, do the following:

- 1. In the navigation pane, select a container.
- 2. On the ribbon menu, click **Use LDAP Filter**.
- 3. In the search field, enter an LDAP query. Then press [Enter] or click the **Search** button to the right of the search field.

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| ≡ • Home Objects | | | | | | |
| Database Features Active Directory View | Compare with Production Compare (name=guest) | Use LDAP Filter Search | | | | ~ |
| Active Directory Databases | | | _ | | | ~ |
| Active Directory | 🕒 Nam | e | Туре | Item State | Description | |
| as2016Dom.local | 🚨 Gues | t | user | | Built-in account f | for |
| Users and Computers Group Policy Objects 品 Integrated DNS 流 Configuration Partition | | | | | | |
| Search completed 1 objects found | i. | | | | \sim | 'eeam |

Enabling Extended Logging

Veeam Explorer for Microsoft Active Directory allows you to enable an extended logging mode to collect more detailed logs on specific operations. After you enable extended logging, you can go back to the application and perform the actions for which you want to collect additional information. Then you can collect the logs.

To configure extended logging mode, do the following:

- 1. Go to the main menu and click **General Options**.
- 2. On the Advanced tab, select the Enable extended logging check box and click OK.
- 3. Go back to the application, perform necessary actions and then review the logs to see the details.

| <u></u> | as2016D | Options 🗙 | Directory — | | × |
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| ■ • Home | | Advanced | | | |
| Add Remove Database Database Active Directory Databases | Compare with Production Com | Enable extended logging Use extended logging to collect additional information about product operations. | | | م |
| Active Directory Databases | | | Description | | |
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Standalone Databases Management

This section explains how to use Veeam Explorer for Microsoft Active Directory to add and remove standalone Microsoft Active Directory databases.

IMPORTANT

Make sure the database you are adding to the Veeam Explorer for Microsoft Active Directory scope was not locked by another process.

Adding Standalone Databases

To add a standalone Active Directory database manually, do the following:

1. Select the root **Active Directory** node in the navigation pane and click **Add Database** on the ribbon or rightclick the **Active Directory** node and select **Add database**.

| ila as2016 ≣ • Home | 6DC as of less than a day ago (4:17 PM Monday 2/6/202 | 23) - Veeam Explorer for Micros | oft Active Directory | | - | | × |
|---|---|---------------------------------|----------------------|-------------|---|-----|-----|
| Add Remove Database Database Active Directory | with Show Changed ion Objects Only Compare Search | | | | | | |
| Active Directory Databases | Active Directory | Туре | ltem State | Description | | | ٩ |
| ▲ Set Add database ▲ Users and Computers ▲ Group Policy Objects | | | | | | | |
| | | | | | | vee | AM. |

2. Specify the location of the Active Directory database file and folder that contains associated transaction log files (Edb.log and Edb.chk).

By default, the Active Directory database file (NTDS.DIT) is located in the <code>%SystemRoot%\NTDS</code> directory. Make sure that the system registry hive is located in the same place.

| | Add Database | × |
|----------------|--|--------|
| Select Activ | e Directory database (.dit) file location: | |
| Database file: | C:\MyActiveDirectoryDatabase\ntds.dit | Browse |
| Logs folder: | C:\MyActiveDirectoryDatabase | Browse |
| | Open | Cancel |

Removing Standalone Databases

To remove a database from the application scope, right-click a database in the navigation pane and select **Remove database**.

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|---|------------------------------|---------------------|---|------------------------------|------------------|-------------------|-----------------|----------------------|-------------|---|----|-----|
| ≡ • Home | | | | | | | | | | | | |
| Add Remove Database Database Active Directory | Advanced Features View | Compare Producti | with Show Changed on Objects Only Compare | Use LDAP Filter Search | | | | | | | | |
| Active Directory Da | | | as2016Dom.local | | | | | | | | | ٩ |
| Active Directory | y | e V | Name | 2 | | Туре | | Item State | Description | | | |
| | | | | | | | | | | | ve | BAM |

Data Restore

This section contains information about the available restore operations in Veeam Explorer for Microsoft Active Directory.

Before restoring data, read the Considerations and Limitations section.

Restoring Objects

To restore Active Directory objects, do the following:

- 1. Launch the Restore wizard.
- 2. Specify connection parameters.
- 3. Specify the restore location.
- 4. Specify password restore options.
- 5. Specify the account state.
- 6. Specify restore options.
- 7. Specify attributes to restore.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the preview pane, select an object.
- 2. On the **Objects** tab, select **Restore Objects** > **Restore objects to** or right-click an object and select **Restore objects to**.

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|--|---|--|-------------------------------|-----------------|-------------|-------|
| Home Objects Objects Objects Restore Export Objects × Restore Objects | Show Changed Objects Only Compare | Compare Object Attributes Use LDAP Filter Search | | | | |
| Active Directory Databases | 401 | | | | | |
| | | Name | Туре | Item State | Description | |
| Active Directory | ^ | IntellimirrorSCP-Display | displaySpecifier | | | |
| ▲ 💑 as2016Dom.local | | group-Display | displaySpecifier | | | |
| Users and Computers Group Policy Objects | | Contact-Display | displaySpecifier | | | |
| Integrated DNS | | 🗋 🔒 Restore objects to as2016DC.as2016Do | m.local Specifier | | | |
| A Configuration Partition | | Bestore objects to | Specifier | | | |
| DisplaySpecifiers | | | Specifier | | | |
| ▶ <u>6</u> 401 | | | Specifier | | | |
| ▶ ¹ 404 | | Export objects to | Specifier | | | |
| ♦ 📻 405 | | Compare object attributes | Specifier Specifier | | | |
| ▶ ¹ 406 | | View attributes | Specifier | | | |
| ▶ 📹 407 | | default-Display | displaySpecifier | | | |
| ► <u>100</u> | | siteLinkBridge-Display | displaySpecifier | | | |
| ▶ <u>100</u> 409 ▶ <u>100</u> 40B | | licensingSiteSettings-Display | displaySpecifier | | | |
| ▶ <u>408</u> ▶ <u>40</u> C | | nTFRSMember-Display | displaySpecifier | | | |
| ▶ <u>4</u> 0C | | nTFRSSubscriptions-Display | displaySpecifier | | | |
| ▶ 1 40E | | mSMQQueue-Display | displaySpecifier | | | |
| | ~ | mSMOEnterpriseSettings-Display | displavSpecifier | | | /eean |

Step 2. Specify Connection Parameters

At this step of the wizard, specify the following:

- A target production server to which you want to restore your data. Select the **Use SSL** check box to establish a secure SSL connection.
- User credentials to connect to the LDAP server.

| | Restore Wizard | × |
|---|---|--------|
| Specify serve | er connection parameters | |
| Server: as2016 | DC.as2016Dom.local | \$₽ |
| V Use | SSL | |
| Specify the acco | unt to be used to connect to LDAP server: | |
| Use current | account (TECH\michael.wells) | |
| Use the following the follo | wing account: | |
| Username: | dim\Administrator | |
| Password: | •••••• | |
| | | |
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| | | |
| | Next | Cancel |

Global Catalog Server

To specify a Global Catalog server, click the **Settings** button on the right side of the **Server** field and choose either of the following options:

- **Detect automatically** to automatically detect a server.
- Use the following server to choose a server from the list.

| Global Catalog Serv | er 🗙 |
|---|-----------|
| Specify global catalog server: Detect automatically Use the following server: | |
| as2016DC.as2016Dom.local | * |
| | OK Cancel |

Step 3. Specify Restore Location

At this step of the wizard, select a container to which you want to restore the objects.

You can select the following:

- **Restore to the original container** to restore data to the original container in your production environment.
- **Restore to the following container** to select a different container, as described in Browsing Container.

NOTE

If a container that is being restored was not found in the production environment, it will be restored anew.

| Restore Wizard | × |
|---|--------|
| Specify restore location | |
| | |
| Specify the container to restore to: | |
| Restore to the original container | |
| Restore to the following container: | |
| CN=Dfs-Configuration, CN=System, DC=as2016Dom, DC=local | Browse |
| | |
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| Back Next | Cancel |

Browsing Container

To select a different container, click **Browse** and choose a container you want to use.

| Select Container | × |
|---|-----|
| Select container to restore to: | |
| Program Data SearchUsers System AdminSDHolder ComPartitions ComPartitionSets | ~ |
| Default Domain Policy Dfs-Configuration | |
| DFSR-GlobalSettings DomainUpdates | |
| File Replication Service FileLinks FileSecurity | |
| Meetings | ~ |
| OK Can | cel |
Step 4. Specify Password Restore Options

At this step, select one of the following options:

- **Restore password**. To restore the password from the backup file.
- Set password to. To set a new password.
- **Do not restore password**. To skip restoring the password.

This option will not make any changes to the currently configured passwords in your environment.

Consider the following:

- When providing a new password, check that it complies with the password policy in your production environment.
- If you select **Restore password** or **Set password to** options, you may also request a user to change the password at next log on.

Keep in mind that this setting will not take effect if a user is not allowed to change the password due to security limitations.

- When restoring multiple accounts, a new password will be set for all the accounts altogether.
- To restore account passwords, Veeam Explorer for Microsoft Active Directory uses registry database. Make sure that the *System* registry hive is available.

The default location is %systemroot%\System32\Config.

• When restoring Active Directory database from an Active Directory backup file using Veeam file-level restore, the registry hive will be located automatically. Otherwise, make sure the system registry hive is located in the same folder as .DIT file.

| Restore Wizard | × |
|---|-----|
| Specify password restore options | |
| Password options: | |
| Restore password | |
| Set password to: | |
| ••••• | |
| O Do not restore password | |
| Account options: | |
| User must change password at next logon | |
| 🛕 This option will not be set if the 'User cannot change password' option is set for the restored object. | , |
| | |
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| | |
| Back Next Cane | cel |

Step 5. Specify Account State

At this step of the wizard, select one of the following options:

- Keep account state from backup to keep the account state as it is in the backup file.
- **Enable account** to change the account state to enabled.
- **Disable account** to change the account state to disabled.

| Restore Wizard | × |
|---------------------------------|----|
| | |
| Specify account restore options | |
| Account options: | |
| Keep account state from backup | |
| Enable account | |
| O Disable account | |
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| Back Next Cance | :1 |

Step 6. Specify Restore Options

At this step of the wizard, specify restore options.

You can select the following:

- Objects to process:
 - **Changed objects** to restore changed objects.
 - **Deleted objects** to restore deleted objects.
- Restore:
 - Entire objects to restore entire objects collection.
 - **Selected attributes only** to select particular attributes.

When selecting **Selected attributes only**, you will be offered to choose the attributes you want to restore in the next step.

This option is not applicable to restore of Group Policy Objects.

- Multi-valued attributes:
 - **Replace** to replace production data with that of a backup file.
 - **Merge** to merge existing data with that of a backup file.

By default, multi-valued attributes will be replaced, not merged.

NOTE

- When working with Active Directory 2016, this dialog will also include the **Restore expiration time** option, which allows you to restore expiration time for linked attributes.
- Users cannot change recovery settings for disabled attributes. Such attributes will be either restored or skipped according to the default configuration.

| | Restore Wizard | × |
|--|--------------------------|----|
| Specify restore options | | |
| speeny restore options | | |
| Objects to process: | Multi-valued attributes: | |
| Changed objects | Replace | |
| ✓ Deleted objects | O Merge | |
| Restore: | | |
| Entire objects | | |
| Selected attributes only | | |
| | | |
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| | | |
| | | |
| | Back Next Canc | el |

Step 7. Specify Attributes to Restore

At this step of the wizard, select attributes you want to restore.

This step is available only if you have chosen the **Selected attributes only** option at the previous step.

| | Restore Wizard | | × |
|-----------|-------------------------------|-------------|-------------------------|
| Select at | tributes to be restored | | |
| | Attribute | | * |
| ~ | adminContextMenu | | |
| ~ | adminDescription | | |
| ~ | adminDisplayName | | |
| | adminMultiselectPropertyPages | | |
| | adminPropertyPages | | |
| | attributeDisplayNames | | |
| | classDisplayName | | |
| | cn | | ~ |
| Select A | II Clear All | Sele | ect all mail attributes |
| | | Back Restor | e Cancel |

After the restore process is complete, review the results shown in the **Restore summary** window. You can filter notifications by their status: *Error*, *Warning* or *Success*.

| | Veeam Explorer for Microsoft Active Dire | ectory | × |
|--|--|-------------------------------------|---|
| Restore summary 1 object skipped. Restore succeeded. | | | |
| Name | Result | Path | |
| 🗋 contact-Display | Unchanged | cn=contact-Display,cn=401,cn=Displa | |
| ♥ Errors ♥ Warnings ♥ Succe | 255 | | |
| See less | | ОК | |

Restoring Containers

To restore Active Directory containers, do the following:

- 1. Launch the Restore wizard.
- 2. Specify connection parameters.
- 3. Specify the restore location.
- 4. Specify password restore options.
- 5. Specify the account state.
- 6. Specify restore options.
- 7. Specify attributes to restore.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the preview pane, select an object.
- 2. On the **Container** tab, select **Restore Container** > **Restore container to** or right-click a container and select **Restore container to**.

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| | | | pare Object Use L tributes Filt | | | | | | |
| Restore | - | ompare | Sea | | | | | | |
| | | 401 | | | | | | | Q |
| Active Directory Databa | ises | | | | | | | | |
| _ | | | Name | | Туре | Item State | Description | | _ |
| Active Directory | | | IntellimirrorSCP-D | isplay | displaySpecifier | | | | |
| as2016Dom.loca | | L R | group-Display | | displaySpecifier | | | | |
| Users and Co | | L R | contact-Display | | displaySpecifier | | | | |
| Group Policy | | | localPolicy-Display | v | displaySpecifier | | | | |
| Integrated D | | L R | serviceAdministrat | | displaySpecifier | | | | |
| Configuration | | ß | printQueue-Displa | 1.2 | displaySpecifier | | | | |
| DisplayS | pecifiers | R | server-Display | | displaySpecifier | | | | |
| ► == 401 | 🐖 Restore conta | ainer to as2016DC | .as2016Dom.local | | displaySpecifier | | | | |
| ► <u>404</u> | Restore conta | ainer to | N | | displaySpecifier | | | | |
| ▶ <u>405</u> ▶ <u>406</u> | | | 2 | | displaySpecifier | | | | |
| ▶ <mark>100</mark> 400 | | ner to Desktop | | | displaySpecifier | | | | |
| ► <u>407</u> ► <u>408</u> | 👍 Export contair | ner to | | | displaySpecifier | | | | |
| ► 4 08 | View attribute | es | | | displaySpecifier | | | | |
| ▶ 1 409 | | 5 | licensingSiteSettin | gs-Display | displaySpecifier | | | | |
| ↓ <u>400</u> | | | nTFRSMember-Dis | splay | displaySpecifier | | | | |
| ↓ 40C | | B | nTFRSSubscription | ns-Display | displaySpecifier | | | | |
| ► 4 0E | | B | mSMQQueue-Disp | olay | displaySpecifier | | | | |
| | ~ | - P | mSMOEnterpriseS | ettings-Display | displavSpecifier | | | | ~ |
| Load completed 56 of | bjects found. | | | | | | | vee | AM |

Step 2. Specify Connection Parameters

At this step of the wizard, specify the following:

- A target production server to which you want to restore your data. Select the **Use SSL** check box to establish a secure SSL connection.
- User credentials to connect to the LDAP server.

| | Restore Wizard | × |
|------------------------------------|---|--------|
| Specify serve | er connection parameters | |
| Server: as2016 | DC.as2016Dom.local | \$ |
| V Use | SSL | |
| Specify the acco | unt to be used to connect to LDAP server: | |
| Use current | account (TECH\michael.wells) | |
| Use the follow | wing account: | |
| Username: | dim\Administrator | |
| Password: | •••••• | |
| | | |
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| | Next | Cancel |

Global Catalog Server

To specify a Global Catalog server, click the **Settings** button on the right side of the **Server** field and choose either of the following options:

- **Detect automatically** to automatically detect a server.
- Use the following server to choose a server from the list.

| Global Catalog Server | × |
|--|--------|
| Specify global catalog server: Detect automatically Subset the following server: | |
| as2016DC.as2016Dom.local | * |
| ОК | Cancel |

Step 3. Specify Restore Location

At this step of the wizard, select a container to which you want to restore the objects.

You can select the following:

- **Restore to the original container** to restore data to the original container in your production environment.
- **Restore to the following container** to select a different container, as described in Browsing Container.

NOTE

If a container that is being restored was not found in the production environment, it will be restored anew.

| Restore Wizard | × |
|---|--------|
| Specify rectors location | |
| Specify restore location | |
| Specify the container to restore to: | |
| Restore to the original container | |
| Restore to the following container: | |
| CN=Dfs-Configuration, CN=System, DC=as2016Dom, DC=local | Browse |
| | |
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| | |
| Back | Cancel |
| Back Next | Cancel |

Browsing Container

To select a different container, click **Browse** and choose a container you want to use.

| Select Container | × |
|---|-----|
| Select container to restore to: | |
| Program Data SearchUsers System AdminSDHolder ComPartitions ComPartitionSets | ~ |
| Default Domain Policy Dfs-Configuration | |
| DFSR-GlobalSettings DomainUpdates | |
| File Replication Service FileLinks FileSecurity | |
| Meetings | ~ |
| OK Can | cel |

Step 4. Specify Password Restore Options

At this step, select one of the following options:

- **Restore password**. To restore the password from the backup file.
- Set password to. To set a new password.
- **Do not restore password**. To skip restoring the password.

This option will not make any changes to the currently configured passwords in your environment.

Consider the following:

- When providing a new password, check that it complies with the password policy in your production environment.
- If you select **Restore password** or **Set password to** options, you may also request a user to change the password at next log on.

Keep in mind that this setting will not take effect if a user is not allowed to change the password due to security limitations.

- When restoring multiple accounts, a new password will be set for all the accounts altogether.
- To restore account passwords, Veeam Explorer for Microsoft Active Directory uses registry database. Make sure that the *System* registry hive is available.

The default location is %systemroot%\System32\Config.

• When restoring Active Directory database from an Active Directory backup file using Veeam file-level restore, the registry hive will be located automatically. Otherwise, make sure the system registry hive is located in the same folder as .DIT file.

| Restore Wizard | × |
|---|---|
| Specify password restore options | |
| Password options: | |
| Restore password | |
| Set password to: | |
| ••••• | |
| O Do not restore password | |
| Account options: | |
| User must change password at next logon | |
| 🗼 This option will not be set if the 'User cannot change password' option is set for the restored object. | |
| | |
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| | |
| Back Next Cancel | |

Step 5. Specify Account State

At this step of the wizard, select one of the following options:

- Keep account state from backup to keep the account state as it is in the backup file.
- **Enable account** to change the account state to enabled.
- **Disable account** to change the account state to disabled.

| Restore Wizard | × |
|---------------------------------|---|
| Specify account restore entions | |
| Specify account restore options | |
| Account options: | |
| Keep account state from backup | |
| Enable account | |
| O Disable account | |
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| Back Next Cance | I |

Step 6. Specify Restore Options

At this step of the wizard, specify restore options.

You can select the following:

- Objects to process:
 - **Changed objects** to restore changed objects.
 - **Deleted objects** to restore deleted objects.
- Restore:
 - \circ Entire objects to restore entire objects collection.
 - **Selected attributes only** to select particular attributes.

When selecting **Selected attributes only**, you will be offered to choose the attributes you want to restore in the next step.

- Multi-valued attributes:
 - **Replace** to replace production data with that of a backup file.
 - **Merge** to merge existing data with that of a backup file.

By default, multi-valued attributes will be replaced, not merged.

NOTE

- When working with Active Directory 2016, this dialog will also include the **Restore expiration time** option which allows you to restore expiration time for linked attributes. If an attribute being restored expires during the restore session, the attribute will not be restored.
- Users cannot change recovery settings for disabled attributes. Such attributes will be either restored or skipped according to the default configuration.

| Restore Wizard | | | | |
|--|--------------------------|-------|--|--|
| Specify rectors options | | | | |
| Specify restore options | | | | |
| Objects to process: | Multi-valued attributes: | | | |
| Changed objects | Replace | | | |
| Deleted objects | O Merge | | | |
| Restore: | | | | |
| Entire objects | | | | |
| Selected attributes only | | | | |
| | | | | |
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| | Back Next Ca | ancel | | |

Step 7. Specify Attributes to Restore

At this step of the wizard, select attributes you want to restore.

This step is available only if you have chosen the **Selected attributes only** option at the previous step.

| | Restore Wizard | | × |
|-----------|-------------------------------|-----------|--------------------------|
| Select at | tributes to be restored | | |
| | Attribute | | ^ |
| ~ | adminContextMenu | | |
| ~ | adminDescription | | |
| ~ | adminDisplayName | | |
| | adminMultiselectPropertyPages | | |
| | adminPropertyPages | | |
| | attributeDisplayNames | | |
| | classDisplayName | | |
| | cn | | ~ |
| Select A | I Clear All | Se | lect all mail attributes |
| | | Back Rest | ore Cancel |

After the restore process is complete, review the results shown in the **Restore summary** window. You can filter notifications by their status: *Error*, *Warning* or *Success*.

| | Veeam Explorer for Microsoft Active Di | rectory | × |
|--|--|--|---|
| Restore summary 57 objects skipped. Restore succeeded. | | | |
| Name | Result | Path | |
| <u>401</u> | Unchanged | cn=401, cn=DisplaySpecifiers, cn=Confi | |
| DS-UI-Default-Settings | Unchanged | cn=DS-UI-Default-Settings,cn=401,cn | |
| 🗋 IntellimirrorGroup-Display | Unchanged | cn=IntellimirrorGroup-Display,cn=401, | |
| 🗋 IntellimirrorSCP-Display | Unchanged | cn=IntellimirrorSCP-Display,cn=401,cn | |
| 🗋 user-Display | Unchanged | cn=user-Display,cn=401,cn=DisplaySp | |
| 🗋 group-Display | Unchanged | cn=group-Display,cn=401,cn=DisplayS | |
| 🗋 domainDNS-Display | Unchanged | cn=domainDNS-Display,cn=401,cn=Di | |
| 🗋 contact-Display | Unchanged | cn=contact-Display,cn=401,cn=Displa | |
| 🗋 domainPolicy-Display | Unchanged | cn=domainPolicy-Display,cn=401,cn= | |
| 🗋 localPolicy-Display | Unchanged | cn=localPolicy-Display,cn=401,cn=Dis | |
| 🗅 volume-Display | Unchanged | cn=volume-Display,cn=401,cn=Displa | |
| 🖌 Errors 🔽 Warnings 🔽 Succ | ess | | |
| See less | | ОК | |

Using 1-Click Restore

The 1-Click Restore feature allows you to quickly recover Active Directory objects and containers back to the original domain in your production environment.

Consider the following:

- Both changed and deleted objects will be restored.
- All the attributes will be restored.
- Attribute values and security descriptors will be replaced with that of a backup file.

Restoring Containers

To restore a container, do the following:

- 1. In the navigation tree, select a container.
- 2. On the **Container** tab, select **Restore Container** > **Restore container to** *<server_name>* or right-click a container and select **Restore container to** *<server_name>*.

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| 🔥 🥻 | | | | | | |
| | production Objects Or | ged Compare Object Use LDAP dv Attributes Filter | | | | |
| Restore | Compa | | | | | |
| | 401 | | | | | Q |
| Active Directory Databa | ises | | | | | ~ |
| | | 🗅 Name | Туре | Item State | Description | |
| Active Directory Active Directory Sector 2016 | ^ | IntellimirrorSCP-Display | displaySpecifier | | | |
| Users and Co | | group-Display | displaySpecifier | | | |
| Group Policy | | Contact-Display | displaySpecifier | | | |
| Group Policy Integrated D | | localPolicy-Display | displaySpecifier | | | |
| Integrated biological distance Integrated biological distance Integrated biological distance | | serviceAdministrationPoint-Display | / displaySpecifier | | | |
| Configuration | | printQueue-Display | displaySpecifier | | | |
| ■ Displays | | Server-Display | displaySpecifier | | | |
| ▶ | 🐖 Restore container t | o as2016DC.as2016Dom.local | displaySpecifier | | | |
| ▶ | Restore container t | | displaySpecifier | | | |
| ↓ 405 ↓ 406 | Export container to | Desisten | displaySpecifier | | | |
| ↓ 400 ↓ 407 | | | displaySpecifier | | | |
| ▶ _ 408 | 💪 Export container to | | displaySpecifier | | | |
| ▶ _ 409 | View attributes | | displaySpecifier | | | |
| ▶ 1 40B | | licensingSiteSettings-Display | displaySpecifier | | | |
| ▶ 1 40C | | nTFRSMember-Display | displaySpecifier | | | |
| ▶ 1 40D | | nTFRSSubscriptions-Display | displaySpecifier | | | |
| ▶ 1 40E | | mSMQQueue-Display | displaySpecifier | | | |
| | ~ | mSMOEnterpriseSettings-Display | displavSpecifier | | | ~ |
| Load completed 56 of | bjects found. | | | | | VeeaM |

After the restore process is complete, review the results shown in the **Restore Summary** window. You can filter notifications by their status: *Error*, *Warning* or *Success*.

| | Veeam Explorer for Microsoft A | ctive Directory | × |
|--|--------------------------------|--|---|
| Restore summary 57 objects skipped. Restore succeeded. | | | |
| Name | Result | Path | |
| <u> </u> 401 | Unchanged | cn=401, cn=DisplaySpecifiers, cn=Confi | |
| DS-UI-Default-Settings | Unchanged | cn=DS-UI-Default-Settings,cn=401,cn | |
| 🗋 IntellimirrorGroup-Display | Unchanged | cn=IntellimirrorGroup-Display,cn=401, | |
| IntellimirrorSCP-Display | Unchanged | cn=IntellimirrorSCP-Display,cn=401,cn | |
| 🗋 user-Display | Unchanged | cn=user-Display,cn=401,cn=DisplaySp | |
| 🗋 group-Display | Unchanged | cn=group-Display,cn=401,cn=DisplayS | |
| 🗋 domainDNS-Display | Unchanged | cn=domainDNS-Display,cn=401,cn=Di | |
| 🗋 contact-Display | Unchanged | cn=contact-Display,cn=401,cn=Displa | |
| 🗋 domainPolicy-Display | Unchanged | cn=domainPolicy-Display,cn=401,cn= | |
| IocalPolicy-Display | Unchanged | cn=localPolicy-Display,cn=401,cn=Dis | |
| 🗅 volume-Display | Unchanged | cn=volume-Display,cn=401,cn=Displa | |
| 🗸 Errors 🔽 Warnings 🔽 Succ | ess | | |

Restoring Objects

To restore an object, do the following:

- 1. In the preview pane, select objects.
- On the Objects tab, select Restore Objects > Restore objects to <server_name> or right-click an object and select Restore objects to <server_name>.

| 1 | as2016DC as of less than a day ago (4:17 PM Monday 2/6/2023) - Veeam Explorer for Microsoft Active Directory 🗕 🗕 | | | | | × |
|---|--|---|--------------------------------------|------------|-------------|-------|
| ≡ • Home Objects | | | | | | |
| Restore Dijects • Objects • Restore Active Directory Databases | Show Changed Objects Only Compare 401 | Compare Object Attributes Use LDAP Filter Search | | | | ٩ |
| Active Directory | ~ | Name | Type displaySpecifier | Item State | Description | ^ |
| ▲ Second association and a second association associati association association association association associatio a | | group-Display C contact-Display | displaySpecifier displaySpecifier | | | |
| Group Policy Objects Integrated DNS Sconfiguration Partition | | IocalPolicy-Display Restore objects to as2016DC.as2016D | displaySpecifier | | | |
| Configuration and the first of the firs | | Restore objects to | Specifier Specifier | | | |
| ▲ 404 ▲ 405 | | Export objects to Desktop A Export objects to | Specifier Specifier | | | |
| ▶ <mark>=</mark> 406 ▶ <mark>=</mark> 407 | | Compare object attributes | Specifier Specifier | | | |
| ▶ <u>=</u> 408 ▶ <u>=</u> 409 | | SiteLinkBridge-Display | displaySpecifier | | | |
| ▶ 📻 40B ▶ 📻 40C | | IccensingSiteSettings-Display nTFRSMember-Display | displaySpecifier displaySpecifier | | | |
| ▶ 💼 40D ▶ 💼 40E | | nTFRSSubscriptions-Display mSMQQueue-Display | displaySpecifier displaySpecifier | | | |
| Load completed 56 objects found. | Ŧ | M mSMOEnterpriseSettings-Display | displavSpecifier | | N | /eeam |

After the restore process is complete, review the results shown in the **Restore Summary** window. You can filter notifications by their status: *Error*, *Warning* or *Success*.

| | Veeam Explorer for Microsoft Active Dire | ctory | × |
|--|--|-------------------------------------|---|
| Restore summary 1 object skipped. Restore succeeded. | | | |
| Name | Result | Path | |
| 🕒 contact-Display | Unchanged | cn=contact-Display,cn=401,cn=Displa | |
| | | | |
| 🖌 Errors 🖌 Warnings 🗸 Succ | ess | | |
| See less | | ОК | |

Data Export

This section contains information about the available export options for Active Directory objects and containers. Before exporting data, read the Considerations and Limitations section.

Exporting Objects

To export Active Directory objects, do the following:

- 1. In the preview pane, select an object.
- 2. On the **Objects** tab, select **Export Objects > Export objects to** or right-click an object and select **Export objects to**.
- 3. Specify the destination folder and click **Save**.

| 1 | as2016DC as of I | less than a day ago (4:17 PM Mor | nday 2/6/2023) - Veeam Explo | orer for Microsoft Active Di | irectory | - = | × |
|---|---|---|------------------------------|--|------------|-------------|-----|
| ≡ • Home Objects | | | | | | | |
| Restore Export Objects + Objects + Restore | Show Changed Objects Only Compare | Compare Object Attributes Use LDAP Filter Search | | | | | |
| Active Directory Databases | 401 | | | | | | ٩ |
| ▲ Active Directory ▲ Jac2016Dom.local ▶ ∃ Users and Computers ■ Group Policy Objects ▲ Integrated DNS | ^ | Name IntellimirrorSCP-Display group-Display contact-Display localPolicy-Display | disp disp disp | olaySpecifier olaySpecifier olaySpecifier olaySpecifier | Item State | Description | |
| Configuration Partition DisplaySpecifiers M01 | | Restore objects to | s2016DC.as2016Dom.local | Specifier Specifier Specifier | | | |
| ↓ 404 ↓ 405 ↓ 406 | | Image: Second system Image: Second system Image: Second | | Specifier Specifier Specifier Specifier | | | |
| ▶ <u>1</u> 407 ▶ <u>1</u> 408 ▶ <u>1</u> 409 ▶ <u>1</u> 408 | | View attributes siteLinkBridge-Display licensingSiteSettings-Disp | disp | JaySpecifier JaySpecifier | | | |
| ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ | | nTFRSMember-Display nTFRSSubscriptions-Display mSMQQueue-Display | ay disp disp | olaySpecifier olaySpecifier olaySpecifier | | | |
| Load completed 56 objects found. | | mSMOEnterpriseSettings- | Displav disp | olavSpecifier | | Ve | eam |

Exporting Containers

To export containers and their contents, do the following:

- 1. In the preview pane, select a container.
- 2. On the **Container** tab, select **Export Container** > **Export container to** or right-click a container and select **Export container to**.

| 4 | as2016DC | as of less than a day ago (4:17 PM | Monday 2/6/2023) - Vee | am Explorer for Microsoft A | ctive Directory | - 0 | × |
|-------------------------|---|------------------------------------|------------------------|-----------------------------|-----------------|-------------|-------|
| ≣ • Home Ob | jects | | | | | | |
| | empare with Production Show Char Objects O Compa | nly Attributes Filter | | | | | |
| Active Directory Databa | 401 | | | | | | ٩ |
| Active Directory | ~ | 🗅 Name | | Туре | Item State | Description | ^ |
| as2016Dom.loca | al | IntellimirrorSCP-Displ | ay | displaySpecifier | | | |
| 🕨 📃 Users and Co | omputers | group-Display | | displaySpecifier | | | |
| 👘 Group Policy | y Objects | Contact-Display | | displaySpecifier | | | _ |
| 🕨 🧂 Integrated D | INS | localPolicy-Display | | displaySpecifier | | | |
| 🔺 🌟 Configuratio | on Partition | serviceAdministration | Point-Display | displaySpecifier | | | |
| 🔺 📻 DisplayS | pecifiers | printQueue-Display | | displaySpecifier | | | |
| ▶ <u>1</u> 401 | | server-Display | 1 | displaySpecifier | | | |
| ► 104 | Restore container | to as2016DC.as2016Dom.local | | displaySpecifier | | | |
| 405 | Restore container | to | | displaySpecifier | | | |
| ▶ <u>10</u> 406 | 🙀 Export container to | Desktop | | displaySpecifier | | | |
| ► 107 | La Export container to | | | displaySpecifier | | | |
| 408 | | o 🔓 | | displaySpecifier | | | |
| 409 | View attributes | | | displaySpecifier | | | |
| ▶ <mark>10</mark> 40B | | licensingSiteSettings- | Display | displaySpecifier | | | |
| ▶ 1 40C | | nTFRSMember-Displa | У | displaySpecifier | | | |
| ▶ 1 40D | | nTFRSSubscriptions-E | Display | displaySpecifier | | | |
| ▶ 1 40E | | mSMQQueue-Display | r | displaySpecifier | | | |
| | ~ | mSMOEnterpriseSetti | nas-Displav | displavSpecifier | | | ~ |
| Load completed 56 o | bjects found. | | | | | | Veeam |

3. In the **Export Container** window, in the **Export to** field, specify the destination location.

To save only objects included in the selected container and meet specific filtering criteria, click **Show settings** to set the filter.

- [Optional] Select the Save only objects that suit the following filter check box and enter filtering criteria.
 If necessary, select the Use LDAP filter check box to switch to the LDAP filtering mode.
- 5. Click Export.

All the nested containers (if any) will be preserved during the export.

| | Export Container | × |
|-------------|---|--------|
| Specify ta | arget path and export settings | |
| Export to: | Browse | |
| Save on | ly objects that suit the following filter: (name=John) | |
| \sim | Use LDAP filter | |
| (A) Hide s | ettings | |
| | Export | Cancel |

Using 1-Click Export

To export a container or object to a default location, do the following:

- 1. Select a container or object.
- 2. On the **Container** tab, select **Export Container** > **Export Container to <target_folder>** or **Export Objects** > **Export Object to <target_folder>**. Alternatively, you can use the associated context menu command.

NOTE

The **<target_folder>** destination depends on the location you used during the last export operation.

| a ≣ • Home <mark>Ob</mark> i | as201 ects | 6DC as of less than a day ago (4:17 F | PM Monday 2/6/2023) - \ | /eeam Explorer for Microsoft A | ctive Directory | | × |
|--|--|--|-------------------------|--------------------------------|-----------------|-------------|---|
| Restore Export Co | mpare with Show of Object | Changed Compare Object Attributes ompare Sea | | | | | |
| Active Directory Databas | ses | 401 | | | | | 0 |
| - | | Name | | Туре | Item State | Description | |
| Active Directory | ^ | IntellimirrorSCP-D | isplay | displaySpecifier | | | |
| as2016Dom.loca | | group-Display | | displaySpecifier | | | |
| Users and Co | | Contact-Display | | displaySpecifier | | | |
| Group Policy | - | localPolicy-Display | v | displaySpecifier | | | |
| A Integrated DI A TO Configuratio | | serviceAdministrat | tionPoint-Display | displaySpecifier | | | |
| Configuration | | printQueue-Displa | y | displaySpecifier | | | |
| ▲ Displaysp | Jeciners | Server-Display | - | displaySpecifier | | | |
| ▶ 📫 404 | 🐖 Restore conta | iner to as2016DC.as2016Dom.local | | displaySpecifier | | | |
| ↓ 104 ↓ 105 | 🐖 Restore conta | iner to | | displaySpecifier | | | |
| ↓ 105 ↓ 105 | | aarta Daaltaa | | displaySpecifier | | | |
| | of the second se | 1 | | displaySpecifier | | | |
| ▶ | 🍐 Export contair | ner to | | displaySpecifier | | | |
| ▶ | View attribute | 5 | | displaySpecifier | | | |
| ▶ 1 05 | | licensingSiteSettin | gs-Display | displaySpecifier | | | |
| ▶ 1 00 | | nTFRSMember-Dis | splay | displaySpecifier | | | |
| ▶ <u>40D</u> | | nTFRSSubscription | ns-Display | displaySpecifier | | | |
| ▶ 10 40E | | mSMQQueue-Dis | play | displaySpecifier | | | |
| | × | mSMOEnterpriseS | ettings-Display | displavSpecifier | | | |

Data Compare

This section explains how to use Veeam Explorer for Microsoft Active Directory to compare data in a backup file with that of the production state.

Comparing Active Directory Containers

To compare Active Directory containers, do the following:

- 1. In the navigation pane, select a container.
- 2. On the **Home** tab, select **Compare with Production** to detect changed, moved or deleted objects since the last Active Directory backup.

| as2016DC as of less | than a day ago (4:17 PM Monday 2/6/ | 2023) - Veeam Explorer for I | Microsoft Active Direc | tory | - | | × |
|---|-------------------------------------|------------------------------|------------------------|-------------|---|-----|----|
| ■ • Home Container | | | | | | | |
| Restore Container + Container + Restore | Use LDAP Filter Search | | | | | | |
| Compare Active Directory objects with production Compares objects state from backup with original Active Dir | | | | | | | ٩ |
| Active Directory | Name | Type | Item State | Description | | | |
| as2016Dom.local | UserCU7 | user | | | | | |
| ✓ Users and Computers ► Computers | UserCU7_01 | user | Changed | | | | |
| Computers | UserCU7_02 | user | Changed | | | | |
| CUT | | | | | | | |
| ► CU8 | | | | | | | |
| Developers | | | | | | | |
| Domain Controllers | | | | | | | |
| ExchUsers | | | | | | | |
| ForeignSecurityPrincipals | | | | | | | |
| Managed Service Accounts | | | | | | | |
| 🕨 🗾 management | | | | | | | |
| Microsoft Exchange Security G | | | | | | | |
| Microsoft Exchange System OI | | | | | | | |
| ▶ 💼 OU_GPO | | | | | | | |
| ► CU05 | | | | | | | |
| < ● ○ □ 06 | | | | | | | |
| Load completed 4 objects found. | | | | | | vee | AM |

3. Click **Show Changed Objects Only** on the ribbon to view only those items that have been changed since the last backup.

The following figure shows user accounts the attributes of which have been changed since the last time they were backed up. Veeam can also combine item states to represent the most accurate state of an object. For example, if object attributes have been changed and the object was moved to a different location, the object status in this case will be shown as *Moved*, *Changed*.

| as2016DC as of les ≡ • Home Container | s than a day ago (4:17 PM Monday 2, | /6/2023) - Veeam Explorer for M | Microsoft Active Direct | ory | - | | × |
|---|-------------------------------------|---------------------------------|-------------------------|-------------|---|-----|----|
| Show changed Active Directory objects | Filter Search | | | | | | ٩ |
| Hides objects that are similar to objects in original Active D | irectory Name | Туре | Item State | Description | | | |
| Active Directory | UserCU7_01 | user | Changed | | | | |
| ▲ Source as a second as a | UserCU7_02 | user | Changed | | | | |
| | | | | | | | |
| Load completed 2 objects found. | | | | | | vee | AM |

Comparing Object Attributes

To compare Active Directory objects attributes, do the following:

- 1. In the navigation pane, select a container.
- 2. In the preview pane, select an object.
- 3. On the **Objects** tab, select **Compare object attributes** or right-click an object and select **Compare object attributes**.

| as2016DC as of le | ess than a day ago (4:17 PM Monday 2/6/2023) - \ | /eeam Explorer for Mic | rosoft Active Direc | tory | - | | × |
|---|--|------------------------|---------------------|-------------|---|-----|-----|
| ≣ • Home Objects | | | | | | | |
| Restore Dipiects * Objects * Restore | Compare Object Attributes Use LDAP Filter Search | | | | | | |
| Active Directory Databases CU7 | | | | | | | ٩ |
| | 🕒 Name | Туре | Item State | Description | | | |
| Active Directory Active Directory Active Directory | aa00 | user | | | | | |
| Users and Computers | 🚨 UserCU7 | user | | | | | |
| | LuserCU7_01 | user | | | | | |
| Computers | Restore objects to as2016DC.as2016 | Dom.local | | | | | |
| E CU7 | Restore objects to | | | | | | |
| CU8 Developers | 🚴 Export objects to Desktop | | | | | | |
| Developers Domain Controllers | 📔 Export objects to | | | | | | |
| ExchUsers | Compare object attributes | 6 | | | | | |
| ForeignSecurityPrincipals | View attributes | 13 | | | | | |
| Managed Service Accounts | | | | | | | |
| management Microsoft Exchange Security G | | | | | | | |
| E Microsoft Exchange Security G Microsoft Exchange System OI | | | | | | | |
| ► CU_GPO | | | | | | | |
| ▶ 📻 OU05 | | | | | | | |
| < | | | | | | | |
| Load completed 4 objects found. | | | | | _ | vee | 9AM |

4. Review changed attributes.

To show unchanged attributes, select **Show unchanged attributes** at the top-right corner. To show system properties, select **Show system attributes**.

To restore an attribute, select it and click **Restore**. Multiple selection is also supported.

| | Compare Attributes | | × |
|------------------------------------|--|--|------|
| ributes: | Show u | nchanged attributes 💌 Show system attr | ibut |
| Name | Backup Value | Production Value | - |
| accountExpires | 9223372036854775807 | 9223372036854775807 | |
| badPasswordTime | 0 | 0 | |
| badPwdCount | 0 | 0 | |
| cn | UserCU7_01 | UserCU7_01 | |
| codePage | 0 | 0 | |
| countryCode | 0 | 0 | |
| displayName | UserCU7_01 | UserCU7_01 | |
| distinguishedName | cn=UserCU7_01,ou=CU7,dc=as2016Do | CN=UserCU7_01,OU=CU7,DC=as | |
| dSCorePropagationData | <double-click compare="" to=""></double-click> | <double-click compare="" to=""></double-click> | |
| givenName | | Michael | |
| initials | | MV | |
| instanceType | 4 | 4 | |
| lastLogoff | 0 | 0 | |
| lastLogon | 131532244105498590 | 131532244105498590 | |
| lastLogonTimestamp | 131532244105498590 | 131532244105498590 | |
| legacyExchangeDN | /o=as2016 Organization/ou=Exchange | /o=as2016 Organization/ou=Exch | |
| logonCount | 1 | 1 | |
| msExchAddressBookFlags | 1 | 1 | |
| msExchBypassAudit | False | False | |
| msExchPreviousRecipientTypeDetails | 1 | 1 | |
| msExchProvisioningFlags | 0 | 0 | |
| | 0 | 0 | |

Veeam Explorer for Microsoft SQL Server

Veeam Explorer for Microsoft SQL Server allows you to restore and export Microsoft SQL Server databases and schema objects from backups created by Veeam Backup & Replication.

Planning and Preparation

Before you start using Veeam Explorer for Microsoft SQL Server, make sure your backup infrastructure meets the following requirements and limitations.

System Requirements

This section lists system requirements for Veeam Explorer for Microsoft SQL Server.

| Component | Requirement |
|-------------------------|--|
| Microsoft SQL Server | For more information about supported versions of Microsoft SQL Server, see the Supported Applications subsection of the Veeam Backup & Replication User Guide. |

NOTE

AlwaysOn Availability Groups are supported for Microsoft SQL Server 2012 and higher.

Consider the following:

• By default, the AUTO_CLOSE option for Microsoft SQL Server databases is set to False.

If AUTO_CLOSE is enabled, your databases may be skipped from processing.

- To restore database items from a Microsoft SQL Server that is running Microsoft Windows ReFS, the backup server or Veeam Backup & Replication console must be installed on a machine that runs Microsoft Windows Server 2012 or later.
- To restore data from a server that is running Microsoft Windows ReFS 3.x, the backup server or Veeam Backup & Replication console must be installed on a machine that runs Microsoft Windows Server 2016.
- Nodes participating in AlwaysOn Availability Groups are supported, but using *Availability Group Listeners* as staging servers is not recommended.

Staging SQL Server Requirements

Consider the following:

- Make sure that the staging Microsoft SQL Server has the same or later version as the original SQL Server.
- A SQL Server included in Microsoft SQL Server Failover Cluster cannot be used as a staging system.
- Configure domain trusts when planning to add databases to the Veeam Explorer for Microsoft SQL Server scope manually. For more information, see Configuring Staging SQL Server.
- The following *Microsoft SQL Server Express Editions* can be used as a staging system:
 - o Microsoft SQL Server 2012 Express Edition for Microsoft Windows 2008 R2 and Windows 7
 - *Microsoft SQL Server 2016 Express Edition* for other later versions

Both editions come as part of the Veeam Backup & Replication distribution package.

• A Microsoft SQL Server instance can be used as a staging system.

NOTE

Databases that exceed 10 GB cannot be attached to the Microsoft SQL Server Express Edition due to Express Edition limitations. For more information, see the Editions and supported features of SQL Server 2022 Microsoft article.

Ports

The following tables list network ports that must be opened to manage inbound and outbound traffic.

Backup

| From | То | Protocol | Port | Notes |
|--|---|----------|---|--|
| Backup server, guest interaction proxy | Source machine with Microsoft SQL Server | TCP, UDP | 135, 137 to 139, 445 | Ports used to deploy the runtime coordination process on the source machine. |
| (Enterprise and Enterprise Plus editions) | | ТСР | | Dynamic RPC range that is used by the runtime coordination process which is deployed on the source machine for application-aware processing. ¹ |
| | | ТСР | 6167 | For Microsoft SQL Server transaction logs shipping Port used by the runtime process on the source machine from which transaction logs are collected. |
| Source machine with Microsoft SQL Server | Backup server, guest interaction proxy (Enterprise and Enterprise Plus editions) | ТСР | 49152 to 65535 (for Microsoft Windows 2008 or later) | Dynamic RPC range used by the runtime coordination process that is deployed on the source machine for application-aware processing. ¹ For more information, see this Microsoft article. |
| | Log shipping server, backup repository | TCP | 2500 to 3300 | For Microsoft SQL Server transaction logs shipping Default range of ports used by the Veeam Data Mover Service for data transfer over the network. Log shipping server is used in case the direct connection to the backup repository is not possible. For more information, see Log Shipping Servers. |

¹ If you use default Microsoft Windows firewall settings, you do not need to configure dynamic RPC ports: during setup, Veeam Backup & Replication automatically creates a firewall rule for the runtime process. If you use firewall settings other than default ones or application-aware processing fails with the *RPC function call failed* error, you need to configure dynamic RPC ports. For more information, see this Microsoft KB article.

Restore

| From | То | Protocol | Port | Notes |
|---|--|---|--|---|
| Backup server, Veeam Backup & Replication console, mount server associated with the backup | Target machine with Microsoft | TCP, UDP | 135, 445 | Ports used to deploy the runtime coordination process on the target machine. |
| repository (only for Instant Recovery or restore from Enterprise Manager) | SQL Server, staging server | v or restore from Server, TCP 49 se Manager) staging (for server Mi Wi 20 | 49152 to 65535 (for Microsoft Windows 2008 or later) | Dynamic RPC range used by the runtime coordination process that is deployed on the target machine. ¹ For more information, see this Microsoft article. |
| | | ТСР | 6160 | Port used to communicate with the installer service. |
| | | ТСР | 1433, 1434 | Ports used to communicate with the Microsoft SQL Server installed on the target machine during application- item restore. For more information, see this Microsoft article. |
| | | UDP | 1434 | Port used by the Microsoft SQL Server Browser service. For more information, see this Microsoft article. |
| | | ТСР | 1025 to 1034 | Default RPC range for the runtime component installed on a target or staging Microsoft SQL Server machine to support restore. This port range is opened only during application item restore. Note: You must manually open these ports for Veeam.SQL.Service.exe in Microsoft Windows Firewall. |

| From | То | Protocol | Port | Notes |
|--|---|----------|-----------------|--|
| Target machine with Microsoft SQL Server, staging server | Mount server associated with the backup repository | ТСР | 3260 to 3270 | Port range opened by Veeam Backup & Replication to manage iSCSI traffic during restore to the target machine. This port range is opened only during application item restore. For more information, see Mount Operations. |

¹ If you use default Microsoft Windows Firewall settings, you do not need to configure dynamic RPC ports: during setup, Veeam Backup & Replication automatically creates a firewall rule for the runtime process. If you use firewall settings other than default ones or application-aware processing fails with the *RPC function call failed* error, you need to configure dynamic RPC ports. For more information on how to configure RPC dynamic port allocation to work with firewalls, see this Microsoft KB article.

Permissions

The following table lists the required permissions for user accounts to restore Microsoft SQL Server data.

| Operation | Required Roles and Permissions |
|--|--|
| Veeam Explorer for Microsoft SQL Server launch | The account used to run Veeam Explorer for Microsoft SQL Server must be a member of the local <i>Administrators</i> or <i>Users</i> group. |
| Restore, Publish, Instant Recovery | The account must be a member of the local <i>Administrators</i> group and must be granted the <i>sysadmin</i> role on the target Microsoft SQL Server. To learn more about Microsoft SQL Server roles, see this Microsoft article. The <i>sysadmin</i> role is required for connections with Microsoft SQL Server Virtual Device Interface (VDI) that Veeam Explorer for Microsoft SQL Server uses to perform recovery operations. For more information, see this Microsoft article. |
| Staging Microsoft SQL Server configuration | The account used to connect to the staging server must be a member of the <i>sysadmin</i> role on the Microsoft SQL Server. If you want to use a local Microsoft SQL Server as a staging server and Veeam Explorer for Microsoft SQL Server runs under an account that does not belong to the local <i>Administrators</i> group, you must specify the current account for connection to the staging server, or you will get an impersonation error. For more information on how to configure and use the staging Microsoft SQL Server, see Configuring Staging SQL Server. |

Required Backup Job Settings

When you create a backup job, make sure to enable the **application-aware processing** option, as described in the **Specify Guest Processing Settings** section of the Veeam Backup & Replication User Guide.

Configuring Transaction Logs

For more information about configuring transaction logs, see the Microsoft SQL Server Transaction Log Settings section of the Veeam Backup & Replication User Guide.

Recovery Model

NOTE

To be able to restore your data as of a point in time or as of a state before undesired transactions, make sure the recovery model for the database is set to **full** or **bulk-logged**.

The following table lists database logging models and applicable Veeam options.

| SQL DB Logging Model | Veeam Options | | |
|----------------------|---|---|--|
| | Truncate logs | Do not truncate logs | Backup logs periodically |
| Simple | Databases are skipped from processing. | Applicable option. | Databases are skipped from processing. Log files do not grow (and do not need to be backed up). |
| Full | Applicable option. Veeam performs "backup to NUL" for log files on guest. | Applicable but not recommended to use without native or 3rd party means of log truncation or backup – otherwise, logs will increase in size. | Applicable option. Log backup files (.BAK) are copied from the temporary folder on the Microsoft SQL Server to a Veeam repository. As soon as the data is copied to the target, BAK files are deleted from the source. |
| Bulk-logged | Applicable option. Veeam performs "backup to NUL" for log files on guest. | Applicable but not recommended to use without native or 3rd party means of log truncation or backup – otherwise, logs will increase in size. | Applicable option. Log backup files (.BAK) are copied from the temporary folder on the Microsoft SQL Server to a Veeam repository. As soon as the data is copied to the target, BAK files are deleted from the source. |

Considerations and Limitations

This section lists considerations and known limitations of Veeam Explorer for Microsoft SQL Server.

General

• When Veeam Explorer for Microsoft SQL Server is installed on a server on which both Veeam Backup & Replication and Veeam Backup for Microsoft 365 are installed, the notification settings will be inherited from the Veeam Backup & Replication Global Notification settings.

Restore

- Veeam Explorer for Microsoft SQL Server does not support restore using PowerShell Direct, VIX API or vSphere Automation API.
- Table-level recovery is supported only for database tables with no external dependencies. Tables with external dependencies are tables extended to Microsoft Azure using the Stretch Database functionality and so on.
- To restore an encrypted database, consider reading this Veeam Knowledge Base article.
- The Replace logic is not supported when restoring schema objects.
- To restore a database from the AlwaysOn availability group node as of the selected transaction state, the nodes of such a group must be in the same time zone.
- Databases located on VM disks excluded from backup are displayed in Veeam Explorer for Microsoft SQL Server with a question mark next to each database. It is not possible to restore data of such databases.

Publishing

• During publishing, Veeam Explorer for Microsoft SQL Server mounts VMs disks from the backup file to the target machine (under the *C:* |*VeeamFLR* directory), retrieves required database files and attaches associated databases directly to your Microsoft SQL Server instance so that you can perform required operations using Microsoft SQL tools such as Microsoft SQL Server Management Studio.

When publishing to a cluster, all VMs disks become part of the target cluster. Publishing to a cluster requires a free drive letter on all cluster nodes according to the number of clustered disks in the backup.

- You can publish the same database more than once.
- After you unpublish a database, Veeam Explorer for Microsoft SQL Server detaches such a database from the target Microsoft SQL Server but the restore point will continue to remain on the target machine for the next 15 minutes.
- If a Veeam Explorer for Microsoft SQL Server session has been terminated in any way other than by clicking **Exit** in the main menu (or by clicking the **X** button in the upper-right corner), then all the published databases will continue to remain attached to the target Microsoft SQL Server with the *Recovery pending* state.
- If published databases have been renamed manually using SQL tools (for example, *Microsoft SQL Management Studio*), Veeam Explorer for Microsoft SQL Server will not be able to unpublish such databases properly. In this case, all the renamed databases will continue to remain attached to the target Microsoft SQL Server and you will have to remove them manually using the SQL tools.
- Veeam Explorer for Microsoft SQL Server does not back up published databases.

• Upon closing the Veeam Explorer for Microsoft SQL Server console, all the published databases will be detached from the target Microsoft SQL Server instance automatically. Mount points will be also dismounted from under the C:\VeeamFLR directory.

Instant Recovery

- To restore an encrypted database, consider reading this Veeam Knowledge Base article.
- If you perform instant recovery of a database from the AlwaysOn availability group node, Veeam Explorer for Microsoft SQL Server restores it as a standalone database.
- For desktop versions of Microsoft Windows (7, 8, 8.1, 10), you must perform instant recovery of multiple databases one by one. The limitation occurs because desktop versions of Microsoft Windows OS do not allow more than 20 incoming concurrent TCP/IP connections. For details, see Microsoft Windows 10 License Terms.

As a workaround, you can perform instant recovery of multiple databases in parallel using the Restore-VESQLIRDatabase PowerShell cmdlet.

• Instant recovery to a SQL Server cluster requires free drive letters on all cluster nodes. The number of free drive letters on each cluster node must be twice the number of clustered disks in the backup.

Launching Application and Exploring Backups

To open Veeam Explorer for Microsoft SQL Server and load backups, you can use any of the following methods:

• The **Restore application item** option to load backups created by Veeam Backup & Replication.

For more information, see the Application Items Restore section of the Veeam Backup & Replication User Guide.

• Go to **Start**, click **Veeam Explorer for Microsoft SQL Server** and manually open Microsoft SQL databases, as described in the Adding Standalone Microsoft SQL Databases section.

If you open Veeam Explorer for Microsoft SQL Server from the **Start** menu on a machine that runs the Veeam Backup & Replication console and Veeam Explorers only, specify the following:

- The domain name or IP address of the backup server to which you want to connect
- The port number
- User account credentials

Consider the following:

- To perform recovery operations, Veeam Explorer for Microsoft SQL Server must be run with elevated permissions. The user account must be a member of the local *Administrators* group on the machine where Veeam Explorers Suite is installed.
- $\circ~$ The account must have the Veeam Backup Administrator or Veeam Restore Operator role on the target backup server.

To use the account under which Veeam Explorer for Microsoft SQL Server is running, select **Use Windows** session authentication.

To save the connection shortcut to the desktop, click **Save shortcut** in the bottom-left corner.

| | | | | × |
|--|-------------------|------|---------------------|---|
| Veeam Explore for Microsoft SQL Server | er | | | |
| Type in a backup server name or IP add and user credentials to connect with. backup01.tech.local | dress, backup ser | vice | port number 9392 | |
| TECH\Administrator | | | | |
| ••••• | | | | |
| Use Windows session authenticatio | n | | | |
| Save shortcut | Connect | | Close | |

Getting to Know User Interface

Veeam Explorer for Microsoft SQL Server provides you with a convenient user interface that allows you to perform the required operations in a user-friendly manner.

Main Menu

The main menu consists of the following:

- General Options. Allows you to configure general application settings.
- Help.
 - **Online help**. Opens the online help page.
 - About. Shows additional information, including build number.
- Exit. Closes the Veeam Explorer for Microsoft SQL Server window.

TIP

You can also open online help by pressing [F1] in any Veeam Explorer for Microsoft SQL Server wizard or window. You will then be redirected to the relevant section of the Veeam Explorers User Guide.

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|--------------------|---|---|-----|-----|
| E. | | | | |
| General Options | | | | 1 |
| Help 🕨 | Online help Opens online help web page in the default browser | | | |
| Exit | About Shows additional information | | | |
| dlsql01.tech.local | about this product | | | |
| | VM name: dlsql01 | | | |
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Main Application Window

The main application window can be divided into three categories:

- The ribbon menu, which contains general program commands organized into logical groups.
- The navigation pane, which allows you to browse through the hierarchy of your SQL databases.
- The preview pane, which shows you the details about objects you have selected in the navigation area.

| a disql01 as of less than a day ago (10:57 AM Tuesday 1/24/2023) - Veeam Explorer for Microsoft SQL Server | | × |
|--|----|-----|
| ≣ * Home Server | | |
| Ribbon Menu | | |
| Instant Restore Export Export Recovery Databases T Backup T Files T | | |
| Instant Recovery Restore Export | | |
| Databases Server Info | | |
| disql01.tech.local Name: disql01.tech.local | | |
| End Default Instance VM name: dlsql01 | | |
| | | |
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| <u>— п</u> | | |
| Sales | | |
| Navigation Pane | | |
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| Preview Pane | | |
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How Mounting Works

When restoring Microsoft SQL Server data, Veeam Explorer for Microsoft SQL Server requires an additional mount point to be created to display SQL Server transactions.

Mounting is performed by the *Veeam Mount Service* component which is deployed on a backup repository machine or any other machine you define in the backup repository settings. For more information, see the Mount Server section of the Veeam Backup & Replication User Guide.

During mounting, *Veeam Mount Service* retrieves a VM file system from the backup file, attaches it to the hard drive of the target machine and creates a mount point.

To mount a VM file system on to machines with the Microsoft Windows operating system, Veeam uses the iSCSI protocol. The original virtual machine or staging Microsoft SQL Server acts as an iSCSI initiator, and a mount server associated with the backup repository acts as an iSCSI target. The iSCSI mount point is non-persistent and only exists during the recovery process.

NOTE

When using fine-tune restore or point-in-time state restore, Veeam always uses a staging Microsoft SQL Server to mount the VM file system.

How Veeam SQL Restore Service Works

The *Veeam SQL Restore Service* runtime component is used to support restore activities on a VM guest operating system during the restore session. It checks the valid rights assignments required for database restore, gets information about the databases, and performs required file operations including database and transaction logs copy.

After the recovery session is ended, the service is stopped and removed from the guest operating system.

All service activities are logged to the <code>Veeam.SQL.Service_<timestamp>.log</code> file stored in the <code>Temp</code> folder which is located in the system directory.

The *Veeam SQL Restore Service* component requires the Local System account.

Inbound and outbound traffic management between Veeam Explorer for Microsoft SQL Server and the *Veeam SQL Restore Service* component is performed over the RPC protocol. For more information, see Ports.

NOTE

When restoring to the local server instance, the Veeam SQL Restore Service component is not installed on the Microsoft SQL Server machine.

Viewing Database Information

To get information about databases, select a database in the navigation pane and review database info in the preview pane.

| la l | dl | sql01 as of less than a day ago (10:57 AM Tuesday 1/24/2023) - Veeam Explorer for Microsoft SQL Server | - | | × |
|--|------------------|---|---|-----|-----|
| ≣ | atabase | | | | |
| Instant Recovery ▼ Instant Recovery | ase▼ Database▼ S | | | | |
| Databases | | Database Info | | | |
| disql01.tech.local Default Instanc db1 db2 HR IT Sales | | Name:db1Backup created:1/24/2023 10:56 AMRecovery model:FullRead-only:NoAvailable Restore Period1/24/2023 8:15:28 AM - 12:07:19 PM1/24/2023 8:15:28 AM - 12:07:19 PMDatabase FilesPrimary database file C:\Program Files\Microsoft SQL Server\MSSQLSERVER\MSSQL\DATA\db1.mdfSecondary database and log filesC:\Program Files\Microsoft SQL Server\MSSQLSERVER\MSSQL\DATA\db1_log.ldf | | | |
| | | | | Vee | BAM |

General Application Settings

This section explains how to configure the required application settings and components in Veeam Explorer for Microsoft SQL Server.

Configuring Staging SQL Server

A staging Microsoft SQL Server is required in the following cases:

- When exporting data, as described in Data Export.
- When using the fine-tune restore, as described in Data Restore and Data Publishing.
- When adding standalone Microsoft SQL Server databases to Veeam Explorer for Microsoft SQL Server, as described in Adding Standalone Databases.

A machine used as a staging Microsoft SQL Server for the data export, data restore and data publishing operations can reside in the same domain as the machine hosting Veeam Explorer for Microsoft SQL Server, as well as in a trusted domain or untrusted domain.

For the add standalone database operation, consider the following:

- A machine used as a staging SQL Server can reside in the same domain as the machine hosting Veeam Explorer for Microsoft SQL Server or in a trusted domain. You cannot use a staging server that belongs to an untrusted domain to add a standalone database to Veeam Explorer for Microsoft SQL Server.
- Both *Windows authentication* and *SQL Server authentication* methods are supported for the staging SQL Server. If you want to use *Windows authentication*, complete the following steps to configure delegation settings:
 - a. In Active Directory Users and Computers, select a staging SQL Server.
 - b. Open server properties and go to the **Delegation** tab.
 - c. Select the **Trust this computer for delegation to specified services only** and **Use any authentication protocol** options for the *cifs* service on a computer with Veeam Explorer for Microsoft SQL Server.
 - d. Restart the staging SQL Server VM.
 - e. Select a domain user account that you want to use when connecting to the staging SQL Server VM and make sure the **Account is sensitive and cannot be delegated** check box is not selected.

To configure a staging server, do the following:

- 1. In the Veeam Explorer for Microsoft SQL Server main menu, click General Options.
- 2. On the **Staging Server** tab, select the **Use this helper SQL Server for advanced recovery functionality** check box and do the following:
 - a. In the **SQL Server name** drop-down list, select a server that you want to use as your staging SQL Server.

You can click **Browse** to locate a server using the built-in browser, as described in Browsing for Servers.

- b. In the Specify user account to connect to Windows server section, select the following:
 - Use current account. To connect to the specified server using the current user account under which Veeam Explorer for Microsoft SQL Server running.
 - Use the following account. To connect to the specified server under a custom user account.

When using a custom account, in the **Username** field, specify a user name and in the **Password** field, provide the password.

c. In the Specify user account to connect to SQL Server instance section, select the following:

- Use the Windows server account specified above. To connect to the specified instance under the user account that you have specified in the Specify user account to connect to Windows server section.
- Use the following account. To connect to the specified instance under a custom user account.

When using a custom account, in the **Username** field, specify a user name and in the **Password** field, provide the password.

To use SQL Server authentication, select the **Use SQL Server authentication** check box.

| <u>ه</u> | dlsql01 | Options | × | rver | | × |
|--|--------------------------|---|------------------|------|-----|----|
| ≡ • Home Server | | Staging Server Advanced | | | | |
| Add Remove Database Database Databases | | W Use this helper SQL Server for advanced recovery functional SQL Server name: GAMMA\SQLEXPRESS | ality: Browse | | | |
| Databases | Serve Name: VM nat | Specify user account to connect to Windows server: Use current account (TECH\michael.wells) Use the following account: Username: michael.wells Password: •••••••• Specify user account to connect to SQL Server instance: Use the Windows server account specified above Use the following account: Username: sa Password: ••••••• User SQL Server authentication | | | | |
| | | OK Cancel | Apply | | vee | AM |

Browsing for Servers

To browse for a server, do either of the following:

- On the Local Servers tab, select a local SQL Server that is located on the machine with Veeam Explorer for Microsoft SQL Server.
- On the Network Servers tab, select a SQL Server over the network.

| | Browse fo | r Servers | × |
|------------------|-----------------|-----------|--------|
| Local Servers | Network Servers | | |
| Select SQL Serve | er instance: | | |
| LOCALHOST | /EEAMSQL2012 | | |
| LOCALHOST | /EEAMSQL2016 | | |
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| | | Callant | Consul |
| | | Select | Cancel |

Enabling Extended Logging

Veeam Explorer for Microsoft SQL Server allows you to enable an extended logging mode to collect logs that contain more details on specific operations. After you enable extended logging, you can go back to the application and perform the actions for which you want to collect additional information. Then you can collect the logs.

To enable extended logging, do the following:

- 1. In the Veeam Explorer for Microsoft SQL Server main menu, click General Options.
- 2. On the Advanced tab, select the Enable extended logging check box and click OK.

| <u>کم</u> | disqi01 | Options | × | rver | | × |
|---------------------------------|---------|---|---|------|-----|----|
| ≡ • Home Server | | Staging Server Advanced | | | | |
| | | Enable extended logging | | | | |
| Add Remove Database Database | | Use extended logging to collect additional information about product operations. | | | | |
| Databases | | operations | | | | |
| Databases | Serve | | | | | |
| llsql01.tech.local | Name: | | | | | |
| | VM nai | | | | | |
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| | | OK Cancel Appl | у | | 100 | |
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Standalone Databases Management

This section explains how to add and remove standalone Microsoft SQL Server databases.

Adding Standalone Databases

NOTE

Before you add a standalone Microsoft SQL database, you must configure a staging SQL Server. For more information, see Configuring Staging SQL Server.

To add a standalone Microsoft SQL database manually, do the following:

1. On the Home tab, click Add Database.

| 潏 | dlsql01 as of less than a day ago (10:57 AM Tuesday 1/24/2023) - Veeam Explorer for Microsoft SQL Server | - | | × |
|---|--|---|----|-----|
| ≡ • Home Server | | | | |
| Add Remove Database Databasese Add SQL Server database | | | | |
| Opens SQL Server database | Server Info | | | |
| dlsql01.tech.local Default Instance db1 db2 HR IT Sales | Name: dlsql01.tech.local VM name: dlsql01 | | | |
| | | | Ve | ÐAM |

2. Specify the location of a primary database file, a secondary database file and associated log files. If necessary, specify the BLOB store location.

Manually added databases will be displayed in the navigation pane under the **Other SQL Server Databases** node.

| | | Add Database | | 1 |
|---|-------|--------------|--------|--------|
| Specify database files location | | | | |
| | | | | |
| Primary database file: C:\Users\michael.wells\Desktop\sql\tempdb.r | ndf | | | Browse |
| econdary database and log files: | | | | |
| File 1 | | Status | | |
| C:\Users\michael.wells\Desktop\sql\templo | a.ldf | ок | Browse | |
| | | | | |
| BLOB stores: | | | | Add |
| Folder 🕇 | State | 15 | | |
| | | | | |
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Removing Standalone Databases

To remove a database from the application scope, right-click a database in the navigation pane and select **Remove database** or select a database in the navigation pane and click **Remove Database** on the **Home** tab.

NOTE

You can only remove databases that have been added to the application scope manually.



Data Restore

This section contains information about the available restore operations in Veeam Explorer for Microsoft SQL Server.

Before restoring data, read the Considerations and Limitations section.

Restoring Single Database

You can restore a Microsoft SQL Server database by following one of these scenarios:

- Restoring Latest State
- Restoring Point-in-Time State
- Restoring To Another Server

Restoring Latest State

You can restore a Microsoft SQL Server database as of the latest state in your backup file.

The data will be restored in the following manner:

- Database files will be copied to the original location and then mounted to the original Microsoft SQL Server.
- If a database with the same name already exists on a target Microsoft SQL Server, it will be replaced with the database from a backup file.

To restore the latest available state of a Microsoft SQL Server database, do the following:

1. In the navigation pane, select a database.

You can select the root instance node to restore all the available databases at once.

2. On the **Database** tab, select **Restore Database > Restore latest state to <original_location>**.

Alternatively, you can right-click a database and select **Restore database** > **Restore latest state to** <original_location>.

NOTE

The name of the restore option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as Restore latest state to <original_location>.
- If you select any other restore point, the option name is displayed as Restore state of <point_in_time> to <original_location>.



Restoring Point-in-Time State

You can restore a Microsoft SQL Server database as of a point-in-time state in your backup file.

The data will be restored in the following manner:

- Database files will be copied to the original location and then mounted to the original Microsoft SQL Server.
- If a database with the same name already exists on a target Microsoft SQL Server, it will be replaced with the database from a backup file.

To restore SQL Server databases as of a point-in-time state, use the **Restore** wizard.

- 1. Launch the Restore wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the **Database** tab, select **Restore Database > Restore point-in-time state to** <server_name>\<instance_name>.

Alternatively, you can right-click a database and select **Restore database** > **Restore point-in-time state to** <server_name>\<instance_name>.

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|--|--|
| ≡ • Home Database | |
| Instant Recovery Publish Publish Restore Resto | |
| Databases | Database Info |
| dlsql01.tech.local En Default Instance | Name: db1 Backup created: 2/2/2023 5:52 PM |
| db1 | Recovery model: Full |
| 📒 📑 Instant recovery 🔸 | Read-only: No |
| 📕 督 Publish database 🔸 | |
| 🗧 🧢 Restore database 🔸 养 | Restore latest state to dlsql01.tech.local |
| 🔺 📆 Other S 🐖 Restore schema 🔸 👫 | 🖥 Restore point-in-time state to dlsql01.tech.local 🙀 |
| 🚡 terr 🔝 Export backup 🔹 🖡 | Restore to another server |
| 🕝 Export files 🕨 | Primary database file |
| 📴 Export schema 🔸 | C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1.mdf |
| | Secondary database and log files C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1_log.ldf |
| | Veeam |

Step 2. Specify Restore Point

At this step of the wizard, specify a state to which you want to restore your database:

- 1. In the **Specify point in time you want to restore the database to** section, select one of the following options:
 - **Restore to the point in time of the selected image-level backup**. Select this option to load database files as per date of the current restore point.
 - **Restore to a specific point in time**. Select this option to load database files as per selected point in time. Use the slider control to choose a point you need.

This option is available in case the following conditions are met:

- [For restore from a backup created by a backup job] The backup is created by a job that is set to back up transaction logs or process transaction logs in the copy only mode.
- [For restore from a backup created by a backup copy job] The backup is created by a job that is set to process transaction logs.
- The recovery model for the database is set to *full* or *bulk-logged*.
- 2. [Optional] Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions. If you select this option, you will be able to specify an exact transaction at the next step of the wizard.

This option requires a staging Microsoft SQL Server. For more information, see Configuring Staging SQL Server.

This option is unavailable when restoring multiple databases.

| Restore Wizard | × |
|---|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires transaction log backups) 4:10 PM 2/2/2023 | 5:52 PM 2/2/2023 |
| Thursday, February 2, 2023 5:35 PM | |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore the database to the moment in time right before the unwanted change. | 2 |
| Next | ancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to restore your database and click **Restore**.

Veeam Explorer for Microsoft SQL Server database operations are listed in the SQL Server Database Operation Selection section.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| ne-tune the restore | point | | | |
|---------------------------|----------------------------|--|-----------------|--------|
| | ponte | | | |
| lect the undesired operat | ion in the list below. The | database will be restored to the state r | prior to transa | action |
| olving the selected oper | | r | | |
| | | | | ~ |
| Time | Operation | Object | Туре | E. |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Deleted | Persons | Table | |
| 2/2/2023 5:32:24 PM | Created | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Row inserted | Persons | Table | |
| 2/2/2023 5:32:24 PM | Created | _WA_Sys_0000002_34C8D9D1 | Index | |
| 2/2/2023 5:32:24 PM | Truncated | Persons | Table | |
| 2/2/2023 5:32:24 PM | Row deleted | Persons | Table | ~ |
| | | | | > |

Restoring to Another Server

To restore a single Microsoft SQL Server database to another server, use the **Restore** wizard.

- 1. Launch the Restore wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Specify the target server.
- 5. Specify AlwaysOn restore options.
- 6. Specify files location.
- 7. Specify the recovery state.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the **Database** tab, select **Restore Database** > **Restore to another server**.

Alternatively, you can right-click a database and select **Restore database** > **Restore to another server**.

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|--|--|----|
| ≡ • Home Database | | |
| Instant Recovery * Publish Database * S Restore S Restor | | |
| Databases | Database Info | |
| disql01.tech.local | Name: db1 Backup created: 2/2/2023 5:52 PM | |
| db1 | Recovery model: Full | |
| Publish database | Read-only: No | |
| Restore database | Restore latest state to dlsql01.tech.local | |
| A 💀 Other S 💫 Restore schema 🔸 👫 | Restore point-in-time state to dlsql01.tech.local | |
| 🗟 tem 🔝 Export backup 🔹 👫 | Restore to another server | |
| 🕝 Export files 🔹 🕨 | Primary database file | |
| 📴 Export schema 🕨 | C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1.mdf | |
| | Secondary database and log files C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1_log.ldf | |
| | vee | MA |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging Microsoft SQL Server. For more information, see Configuring Staging SQL Server.

| Restore Wizard | × |
|---|---------------------|
| Specify restore point | |
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires transaction log backups) | |
| 4:10 PM 2/2/2023 | 5:52 PM 2/2/2023 |
| Thursday, February 2, 2023 5:35 PM | |
| | |
| | |
| | |
| | |
| Perform restore to the specific transaction | |
| Enables you to review major database transactions around the selected time, and restore | the |
| database to the moment in time right before the unwanted change. | |
| | |
| Next | Cancel |
| | |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to recover your database.

Veeam Explorer for Microsoft SQL Server database operations are listed in the SQL Server Database Operation Selection section.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| | | The database w | ill be restored | to the state prior to transacti | ion |
|---------------------------|---|----------------|-----------------|---------------------------------|-----|
| volving the selected oper | ation. | | | | |
| Time | Operation | Object | Type | Account | ^ |
| | 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - | | | | |
| 2/2/2023 5:39:30 PM | Row deleted | Persons | Table | S-1-5-21-1606235966-86 | |
| 2/2/2023 5:39:35 PM | Row inserted | Persons | Table | S-1-5-21-1606235966-86 | |
| 2/2/2023 5:39:35 PM | Truncated | Persons | Table | S-1-5-21-1606235966-86 | 1 |
| 2/2/2023 5:39:35 PM | Row deleted | Persons | Table | S-1-5-21-1606235966-86 | 1 |
| 2/2/2023 5:39:40 PM | Row inserted | Persons | Table | S-1-5-21-1606235966-86 | 1 |
| 2/2/2023 5:39:40 PM | Truncated | Persons | Table | S-1-5-21-1606235966-86 | 100 |
| 2/2/2023 5:39:40 PM | Row deleted | Persons | Table | S-1-5-21-1606235966-86 | 1 |
| 2/2/2023 5:39:45 PM | Row inserted | Persons | Table | S-1-5-21-1606235966-86 | - |
| 2/2/2023 5:39:45 PM | Truncated | Persons | Table | S-1-5-21-1606235966-86 | |
| 2/2/2023 5:39:45 PM | Row deleted | Persons | Table | S-1-5-21-1606235966-86 | - |
| 2/2/2023 5:39:50 PM | Row inserted | Persons | Table | S-1-5-21-1606235966-86 | |
| 2/2/2023 5:39:50 PM | Truncated | Persons | Table | S-1-5-21-1606235966-86 | ł |
| 2/2/2023 5:39:50 PM | Row deleted | Persons | Table | S-1-5-21-1606235966-86 | × |

Step 4. Specify Target Server

At this step of the wizard, do the following:

1. In the **Server name** field, specify the name of the Microsoft SQL Server machine or SQL Server instance to which you want to restore your database.

Use the *<server IP or FQDN>*|*<instance name>* format. You can select a server or instance from the dropdown list or use the **Browse** button, as described in Browsing for Servers.

If the SQL Server instance is assigned a custom port, and Microsoft SQL Browser is not running on the machine, specify the instance port in the following format: *<server IP or FQDN>, <port>*.

- 2. In the **Database name** filed, specify a name for the restored database.
- 3. In the **Specify user account to connect** section, select either of the following options:
 - **Use current account**. Select this option to connect to the specified server using the account under which Veeam Explorer for Microsoft SQL Server is running.

You cannot use this option if Veeam Explorer for Microsoft SQL Server and mount server are located on separate machines.

• Use the following account. Select this option to connect to the specified server using a custom user account. Then provide a user name and password for the account.

Make sure the account you are using has been granted the **sysadmin** role on the target SQL Server machine.

4. If you selected the **Use the following account** option and want to use Microsoft SQL Server authentication, select the **Use SQL Server authentication** check box. If you do not select the check box, Veeam Explorer for Microsoft SQL Server will use Windows authentication.

IMPORTANT

Make sure that the administrative share (for example, \\myserver\ADMIN\$) on the target machine is available. **Read** and **Write** are minimum required, **Full Control** is recommended.

| | Restore Wizard | × |
|------------------------------------|------------------------------------|--------|
| Specify targe | t SQL Server connection parameters | |
| Server name: | mssql02.tech.local 🗸 | Browse |
| Database name: | db1_restored | |
| Specify user acco | unt to connect: | |
| Use current a | ccount (TECH\michael.wells) | |
| Use the follow | ving account: | |
| Username: | sa | |
| Password: | ••••• | |
| • | Use SQL Server authentication | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next | Cancel |

If you select the **Use SQL Server authentication** check box and provide a Microsoft SQL Server account, you will be prompted to provide an account to connect to the target server at the next step of the wizard.

| | Restore Wizard | × |
|-------------------|---------------------------------|---|
| Specify targe | t server connection credentials | |
| Specify user acco | unt to connect: | |
| Use current a | ccount (TECH\michael.wells) | |
| Use the follow | wing account: | |
| Username: | alpha\Administrator | |
| Password: | •••••• | |
| | | |
| | | |
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| | | |
| | | |
| | | |
| | Back Next Cance | I |

Browsing for Servers

To browse for a server, do either of the following:

- On the Local Servers tab, select a local Microsoft SQL Server that is located on the machine with Veeam Explorer for Microsoft SQL Server.
- On the Network Servers tab, select a SQL Server over the network.

| | Browse for | r Servers | × |
|------------------|-----------------|-----------|--------|
| Local Servers | Network Servers | | |
| Select SQL Serve | er instance: | | |
| LOCALHOST\\ | /EEAMSQL2012 | | |
| LOCALHOST\\ | /EEAMSQL2016 | | |
| | | | |
| | | | |
| | | | |
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| | | | |
| | | Select | Cancel |
| | | | |

Step 5. Specify AlwaysOn Restore Options

If the specified target Microsoft SQL Server supports AlwaysOn Availability Groups, you will be offered to specify AlwaysOn restore options. To use the AlwaysOn capabilities for the restored database, do the following:

- 1. Select the **Add the database to the following Availability Group** check box and select an availability group from the drop-down list.
- 2. In the **The database will be replicated to the following nodes** list, review information about the primary and secondary nodes of the availability group.

During the restore process, Veeam Explorer for Microsoft SQL Server will restore the database to the primary server and then replicate it to secondary nodes.

If you do not plan to use the AlwaysOn capabilities when restoring a database, clear the **Add the database to the following Availability Group** check box.

| Restore Wizard | × |
|--|--------|
| Specify AlwaysOn restore parameters | |
| Add the database to the following Availability Group: ag1 | ~ |
| The database will be replicated to the following nodes: | |
| SQL19-04\NAMED (Primary) SQL19-03 (Secondary) | |
| | |
| | |
| Dest | Consul |
| Back Next | Cancel |

Step 6. Specify Files Location

At this step of the wizard, specify the following file locations.

- Primary database file
- Secondary database file and log files
- BLOB stores (if necessary)

NOTE

Make sure the account you are using has **Read** and **Write** permissions.

To specify a file location, do the following:

1. Click **Browse** next to the necessary database file type.

| Restore Wizard | × |
|--|--------|
| Specify database files target location | |
| Primary database file | |
| C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1.mdf | Browse |
| Secondary database and log files | |
| C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1_log.ldf | Browse |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Back Next | Cancel |

2. In the **Select File** dialog, choose a database file or folder for the restored database and click **Select**. To create a new folder, click **Create Folder**.

[For restore to another location] To prevent you from storing BLOBs from different databases in the same directory, Veeam Explorer for Microsoft SQL Server supports creating a BLOB stores folder using the **Restore** wizard only. If you select an already existing folder, Veeam Explorer for Microsoft SQL Server will display an error.

| | Select File | × |
|------------------|---|------|
| Select the file: | | |
| | rnet explorer rosoft | ^ |
| | rosoft Analysis Services rosoft SOL Server | |
| ▲ <u> </u> | - | |
| • | | |
| > 📹 > 📹 | | |
| • | | |
| > 📫 > 📫 | 90 Client SDK | |
| | MSSQL13.MSSQLSERVER | |
| 4 | MSSQL | |
| | | |
| | D db1.mdf | |
| | 🗋 db1_log.ldf | |
| ► | MSSQL13.SQLEXPRESS | ~ |
| Selected path: | C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\D | DATA |
| File types: | All files (*.*) | ~ |
| File name: | db1.mdf | |
| Create Folder | Select Canc | el . |

Step 7. Specify Recovery State

At this step of the wizard, select recovery state:

• Default (RECOVERY)

Rolls back (*undo*) any uncommitted changes.

NORECOVERY

Skips the undo phase so that uncommitted or incomplete transactions are held open.

This allows further restore stages to carry on from the restore point. When applying this option, the database will be in a *norecovery* state and inaccessible to users.

• STANDBY

The database will be in *standby* state and therefore available for read operations. You can also provide a standby file with uncommitted transactions.

For more information on recovery modes, see this Microsoft article.

NOTE

This step is unavailable if the **Add the database to the following group** check box is selected at the Specify AlwaysON Restore Options step.

| cannot be restored. | by rolling back uncommitted transactions. Ac nal and do not roll back uncommitted transa | - |
|--|---|---------------------------|
| Leave the database ready to use cannot be restored. | nal and do not roll back uncommitted transa | - |
| 0 | | ctions. Additional |
| transaction logs can be restored | | |
| ◯ STANDBY | | |
| Leave the database in read-only standby file so that recovery effe | mode. Undo uncommitted transactions but s cts can be reversed. | ave the undo actions in a |
| Standby file: C:\Program Files | Microsoft SQL Server\MSSQL13.SERVER2016\I | MSSQL\Bac Browse |
| | Back | Restore Cancel |

Restoring Multiple Databases

You can restore multiple Microsoft SQL Server databases by following one of these scenarios:

- Restoring Latest State
- Restoring Point-in-Time State
- Restoring To Another Server

Restoring Latest State

You can restore the latest available state of multiple Microsoft SQL Server databases. You can select databases from a specific server instance or across all instances on the machine.

To restore the latest available state of multiple databases, use the **Restore** wizard.

- 1. Launch the Restore wizard.
- 2. Select databases you want to restore.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select an instance or the server.
- 2. On the Instance (or Server) tab, select Restore Databases > Restore latest state to <original_location>.

Alternatively, you can right-click an instance or the server and select **Restore databases** > **Restore latest state to** <original_location>.

NOTE

The name of the restore option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Restore latest** state to <original_location>.
- If you select any other restore point, the option name is displayed as **Restore state of** cont_in_time> to <original_location>.



Step 2. Select Databases

At this step of the wizard, select the databases that you want to recover.

To quickly find the necessary databases, use the **Search** field or sort the databases by name. If the databases belong to multiple instances, you can also sort the databases by instance name.

| Rest | ore Wizard | × |
|---------------------------------------|------------------|--------|
| Select databases to restore | | |
| Type in a database name to search for | | ٩ |
| ✓ Name | Instance Name 🕇 | |
| 🗸 📒 db1 | Default Instance | |
| 🖌 📒 db2 | Default Instance | |
| 🖌 📒 HR | Default Instance | |
| 🕶 🧰 IT | Default Instance | |
| 🖌 📒 Sales | Default Instance | |
| 🖌 📒 db3 | INSTANCE_01 | |
| V 📒 HR | INSTANCE_01 | |
| 🗸 🥛 Sales | INSTANCE_01 | |
| | | |
| 8 databases selected out of 8 | | |
| | Restore | Cancel |

Restoring Point-in-Time State

When restoring multiple databases, consider that depending on the database recovery model the following cases are possible:

- Some databases may be restored as of the different time interval.
- Some databases cannot be restored if there are no transaction logs available for the specified period.

To restore Microsoft SQL Server databases as of the point-in-time state, use the **Restore** wizard.

- 1. Launch the Restore wizard.
- 2. Select databases you want to restore.
- 3. Specify a restore point.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select an instance or the server.
- 2. On the Instance (or Server) tab, select Restore Databases > Restore point-in-time state to <original_location>.

Alternatively, you can right-click an instance or the server and select **Restore databases** > **Restore point-in-time state to <original_location>**.

| 🚴 disc | ql02 as of less than a day ago (12:31 PM Thursday 3/2/2023) - Veeam Explorer for Microsoft SQL Server 🛛 🗕 🗙 | 1 |
|---|---|---|
| ≡ • Home Server | | |
| Instant Recovery • Instant Recovery Instant Recovery | ort es * | |
| Databases | Server Info | |
| dlsql02.tech.local | Name: dlsql02.tech.local | |
| Defa Instant recovery | VM name: dlsql02 | |
| Restore databases | | |
| 📻 temp 🚰 Export backup 🔹 🗖 | | |
| 🕜 Export files 🔹 🖡 | Restore to another server | |
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Step 2. Select Databases

At this step of the wizard, select the databases that you want to restore.

To quickly find the necessary databases, use the **Search** field or sort the databases by name. If the databases belong to multiple instances, you can also sort the databases by instance name.

| ٩ | | Select databases to restore |
|---|------------------|---------------------------------------|
| ۹ | | Type in a database name to search for |
| | | Type in a database nume to search for |
| | Instance Name 🕇 | Name |
| | Default Instance | 🖌 📒 db1 |
| | Default Instance | 🕶 📒 db2 |
| | Default Instance | 🖌 📒 HR |
| | Default Instance | 🔽 🃋 IT |
| | Default Instance | 🖌 📒 Sales |
| | INSTANCE_01 | 🖌 📒 db3 |
| | INSTANCE_01 | 🗌 📒 HR |
| | INSTANCE_01 | 🔄 📒 Sales |
| | INSTANCE_01 | |

Step 3. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to load database files as per specified point in time.

Use the slider control to choose a point you need.

| Restore Wizard | × |
|---|----------------------|
| Specify restore point | |
| Specify point in time you want to restore databases to: | |
| Restore to the point in time of the selected image-level backup Restore to a specific point in time (requires transaction log backups) | |
| 12:22 PM 3/2/2023 | 12:31 PM 3/2/2023 |
| Thursday, March 2, 2023 12:29 PM | |
| | |
| | |
| | |
| | |
| | |
| | |
| Back Restore | Cancel |

Restoring to Another Server

To restore multiple Microsoft SQL Server databases to another server, use the **Restore** wizard.

- 1. Launch the Restore wizard.
- 2. Select databases you want to restore.
- 3. Specify a restore point.
- 4. Specify the target server.
Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select an instance or server.
- 2. On the Instance (or Server) tab, select Restore Databases > Restore to another server.

Alternatively, you can right-click an instance or the server and select **Restore databases** > **Restore to another server**.

| la disc | ql02 as of less than a day ago (12:31 PM Thursday 3/2/2023) - Veeam Explorer for Microsoft SQL Server 🛛 🗕 🗙 |
|--|---|
| ≡ • Home Server | |
| Instant Recovery V Instant Recovery Databases | oort es * Server Info |
| | |
| dlsql02.tech.local | Name: dlsql02.tech.local |
| Defa Instant recovery | VM name: dlsql02 |
| INST Restore databases | |
| 🔚 temp 🖾 Export backup | |
| 🕜 Export files 🔹 🖡 | Restore to another server |
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| | Veeam |

Step 2. Select Databases

At this step of the wizard, select the databases that you want to restore.

To quickly find the necessary databases, use the **Search** field or sort the databases by name. If the databases belong to multiple instances, you can also sort the databases by instance name.

| or Q Instance Name 1 Default Instance Default Instance Default Instance Default Instance Default Instance Default Instance | | Restore Wizard | × |
|---|-------------------------------------|------------------|------------|
| Instance Name ↑ Default Instance Default Instance Default Instance Default Instance | Select databases to restore | | |
| Instance Name Default Instance Default Instance Default Instance Default Instance Default Instance | | | |
| Default Instance Default Instance Default Instance Default Instance | Type in a database name to search f | for | ٩ |
| Default Instance Default Instance Default Instance | Name | Instance Name 🕇 | |
| Default Instance Default Instance | 🖌 📒 db1 | Default Instance | |
| Default Instance | 🗸 📒 db2 | Default Instance | |
| | 🗸 📒 HR | Default Instance | |
| Default Instance | 🕶 🃒 IT | Default Instance | |
| | 🗸 📒 Sales | Default Instance | |
| INSTANCE_01 | ✔ 🃒 db3 | INSTANCE_01 | |
| INSTANCE_01 | 🗌 📒 HR | INSTANCE_01 | |
| INSTANCE_01 | 🔄 📒 Sales | INSTANCE_01 | |
| | | | |
| | 6 databases selected out of 8 | | |
| | | N | ext Cancel |

Step 3. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to load database files as per specified point in time.

Use the slider control to choose a point you need.

| Restore Wizard | × |
|---|---------------------------|
| Specify restore point Specify point in time you want to restore databases to: Restore to the point in time of the selected image-level backup Restore to a specific point in time (requires transaction log backups) 12:22 PM 3/2/2023 Thursday, March 2, 2023 12:29 PM | × 12:31 PM 3/2/2023 |
| Back Next | Cancel |

Step 4. Specify Target Server

At this step of the wizard, do the following:

1. In the **Server name** field, specify the name of the Microsoft SQL Server machine or SQL Server instance to which you want to restore your database.

Use the *server_name instance* format. You can select a server or instance from the drop-down list or use the **Browse** button, as described in Browsing for Servers.

When you restore multiple databases, Veeam Explorer for Microsoft SQL Server places database files to their default location specified in the properties of the target SQL Server instance.

- 2. In the Specify user account to connect section, select either of the following options:
 - Use current account. Select this option to connect to the specified server using the account under which Veeam Explorer for Microsoft SQL Server is running.

You cannot use this option if Veeam Explorer for Microsoft SQL Server and mount server are located on separate machines.

• Use the following account. Select this option to connect to the specified server using a custom user account. Then provide a user name and password for the account.

Make sure the account you are using has been granted the **sysadmin** role on the target SQL Server machine.

3. If you selected the **Use the following account** option and want to use Microsoft SQL Server authentication, select the **Use SQL Server authentication** check box. If you do not select the check box, Veeam Explorer for Microsoft SQL Server will use Windows authentication.

IMPORTANT

Make sure that the administrative share (for example, \\myserver\C\$) on the target machine is available. **Read** and **Write** are minimum required permissions, **Full Control** is recommended.

| | Restore Wizard | × |
|------------------------------------|-------------------------------------|------|
| Specify targe | et SQL Server connection parameters | |
| Server name: | mssql02.tech.local V Brov | vse |
| Specify user acc | ount to connect: | |
| Use current | account (TECH\michael.wells) | |
| Use the follow | owing account: | |
| Username: | sa | |
| Password: | ••••• | |
| | ✓ Use SQL Server authentication | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next Car | ncel |

If you select the **Use SQL Server authentication** check box and provide a SQL Server account, you will be prompted to provide an account to connect to the target server at the next step of the wizard.

| | Restore Wizard | × |
|------------------------------------|---------------------------------|---|
| Specify target | t server connection credentials | |
| Specify user acco | unt to connect: | |
| Use current a | ccount (TECH\michael.wells) | |
| Use the follow | | |
| Username: | alpha\Administrator | |
| Password: | •••••• | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next Cancel | |

Browsing for Servers

To browse for a server, do either of the following:

- On the Local Servers tab, select a local SQL Server that is located on the machine with Veeam Explorer for Microsoft SQL Server.
- On the **Network Servers** tab, select a SQL Server VM over the network.

| | Browse for | ^r Servers | × |
|------------------|------------------------------|----------------------|--------|
| Local Servers | Network Servers | | |
| Select SQL Serve | er instance: | | |
| | /EEAMSQL2012 /EEAMSQL2016 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | Select | Cancel |

Restoring Database Schema and Data

To restore database schema and data, do the following:

- 1. Launch the Restore wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Specify target SQL server settings.
- 5. Select database objects.
- 6. Specify names for restored objects.
- 7. Specify directory names for file tables.
- 8. Specify additional restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the Database tab, select Restore Schema > Restore database schema and data.

Alternatively, you can right-click a database in the navigation pane and select **Restore schema** > **Restore database schema and data**.

IMPORTANT

Consider the following:

- A staging SQL Server is required to perform a restore of database schema and data. For more information, see Configuring Staging SQL Server.
- FILESTREAM must be enabled on a staging SQL Server to restore file tables. For more information on enabling FILESTREAM, see this Microsoft article.



Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

| Restore Wizard | × |
|---|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires transaction log backups) 4:10 PM 2/2/2023 | 5:52 PM 2/2/2023 |
| Thursday, February 2, 2023 5:35 PM | |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore the database to the moment in time right before the unwanted change. | e |
| Next | Cancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to recover your database.

Veeam Explorer for Microsoft SQL Server database operations are listed in the SQL Server Database Operation Selection section.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| ne-tune the restore | point | | | | |
|-------------------------------|------------------------|----------------|-----------------|------------------------------|-------|
| | F | | | | |
| ect the undesired operat | ion in the list below. | The database w | ill be restored | to the state prior to transa | ction |
| olving the selected operation | ation. | | | | |
| | | | | | ~ |
| Time | Operation | Object | Туре | Account | |
| 2/2/2023 5:39:30 PM | Row deleted | Persons | Table | S-1-5-21-1606235966-8 | 6 |
| 2/2/2023 5:39:35 PM | Row inserted | Persons | Table | S-1-5-21-1606235966-8 | 6 |
| 2/2/2023 5:39:35 PM | Truncated | Persons | Table | S-1-5-21-1606235966-8 | 6 |
| 2/2/2023 5:39:35 PM | Row deleted | Persons | Table | S-1-5-21-1606235966-8 | 6 |
| 2/2/2023 5:39:40 PM | Row inserted | Persons | Table | S-1-5-21-1606235966-8 | 6 |
| 2/2/2023 5:39:40 PM | Truncated | Persons | Table | S-1-5-21-1606235966-8 | 6 |
| 2/2/2023 5:39:40 PM | Row deleted | Persons | Table | S-1-5-21-1606235966-8 | 6 |
| 2/2/2023 5:39:45 PM | Row inserted | Persons | Table | S-1-5-21-1606235966-8 | 6 |
| 2/2/2023 5:39:45 PM | Truncated | Persons | Table | S-1-5-21-1606235966-8 | 6 |
| 2/2/2023 5:39:45 PM | Row deleted | Persons | Table | S-1-5-21-1606235966-8 | 6 |
| 2/2/2023 5:39:50 PM | Row inserted | Persons | Table | S-1-5-21-1606235966-8 | 6 |
| 2/2/2023 5:39:50 PM | Truncated | Persons | Table | S-1-5-21-1606235966-8 | 6 |
| 2/2/2023 5:39:50 PM | Row deleted | Persons | Table | S-1-5-21-1606235966-8 | 6 |
| • | | | | | 2 |

Step 4. Specify Target SQL Server Settings

At this step of the wizard, specify the target SQL Server connection parameters:

1. In the **Server name** field, specify the target SQL Server instance to which you want to restore your database.

You can specify the instance name in the *server_name*|*instance* format. Also, you can select an instance from the drop-down list or use the **Browse** button, as described in Browsing for Servers.

- 2. In the **Specify user account to connect** section, select either of the following options:
 - Use current account. Select this option to connect to the specified server using the account under which Veeam Explorer for Microsoft SQL Server is running.

You cannot use this option if Veeam Explorer for Microsoft SQL Server and mount server are located on separate machines.

• Use the following account. Select this option to connect to the specified server using a custom user account. Then provide a user name and password for the account.

Make sure the account you are using has been granted the **sysadmin** role on the target SQL Server machine.

- 3. If you selected the **Use the following account** option and want to use SQL Server authentication, select the **Use SQL Server authentication** check box. If you do not select the check box, Veeam Explorer for Microsoft SQL Server will use Windows authentication.
- 4. In the **Database name** field, specify the target database name. Click **Browse** to select a database to which you want to restore the schema.

| | Restore Wizard | × |
|------------------------------------|----------------------------------|--------|
| Specify target | SQL Server connection parameters | |
| Server name: | mssql02.tech.local ~ | Browse |
| Specify user accou | int to connect: | |
| Use current ac | count (TECH\michael.wells) | |
| Use the follow | ing account: | |
| Username: | a | |
| Password: | | |
| ~ | Use SQL Server authentication | |
| Database name: | db1_restored | Browse |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next | Cancel |

Browsing for Servers

To browse for a server, do either of the following:

- On the Local Servers tab, select a local SQL Server that is located on the machine with Veeam Explorer for Microsoft SQL Server.
- On the **Network Servers** tab, select a SQL Server instance on another server. Veeam Explorer for Microsoft SQL Server displays servers from your network where Microsoft SQL Server is installed.

| | Browse for | Servers | × |
|--|---|---------|--------|
| | Network Servers | | |
| | r instance: /EEAMSQL2012 /EEAMSQL2016 | | |
| | | Select | Cancel |

Step 5. Select Database Objects

At this step of the wizard, specify database objects you want to restore.

Use the **Object** and **Data** check boxes to specify what database objects and data should be restored.

To display only specific objects, click **Filter** and select the object type.

| Restore Wizard | | | | | × |
|----------------|------------|-------|----------------------------|--------|--------|
| Select databas | se objects | | | | |
| Schema | Name | Туре | ✓ Object | ✓ Data | |
| dbo | Persons | Table | Object | 🗸 Data | |
| | | | | | |
| | | | | | Filter |
| | | | Back | Next | Cancel |

Step 6. Specify Names for Objects

At this step of the wizard, specify a new name for the object.

- To specify a new name, select a database and provide a new name.
- To assign a default name to the object that already exists, click **Auto**. In this case, the *_new* suffix will be added.

| | | | Restore Wizar | d | | × |
|---|--------------|---------------|---------------|------|-------|--------|
| 2 | Specify name | s for objects | | | | |
| | Schema | New Name | | | Туре | |
| | dbo | E Persons_new | | | Table | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| L | | | | | | Auto |
| | | | | | | Auto |
| | | | | Back | Next | Cancel |

Step 7. Specify Directory Names for File Tables

At this step of the wizard, specify directory names for file tables.

The following options are available:

• Preserve directory names if applicable (use autogenerated otherwise).

To use the original names.

If such names already exist on a target server, Veeam will add _*new* suffix to each name. For example, <*existing_name>_new*.

• Use the following directory names.

To provide a different name under the **Directory Name** column.

| | Re | store Wizard | | × |
|--|------------------|----------------------------|------|--------|
| Specify directory name | es for file tabl | es | | |
| Database directory name: | ample | | | |
| Preserve directory names Use the following director | | e autogenerated otherwise) | | |
| Name | Schema | Directory Name | | |
| BackupItems_new | dbo | BackupItems_new | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | Back | Next | Cancel |

Step 8. Specify Additional Restore Options

At this step of the wizard, specify additional restore options and click Restore.

- In the Filegroups section, select how filegroups should be restored for selected schema objects:
 - **Preserve filegroup if applicable** to preserve the file group state.
 - Use the following filegroup to select a file group on a target SQL Server instance.

For more information on filegroups, see Microsoft Docs.

- In the **Partitioned tables** section, select how partitioned tables should be restored:
 - **Preserve partition schema if applicable** to restore tables to the original partition schema.
 - Use the following partition schema to select a partition schema on a target SQL Server instance.
 - Use the following filegroup to select a file group on a target SQL Server instance.

| | Restore Wizard | × |
|---|---------------------------|-----|
| Specify additional restore options | 5 | |
| Filegroups: | | |
| O Preserve filegroup if applicable (use d | efault otherwise) | |
| Use the following filegroup: | PRIMARY | ~ |
| Partitioned tables: | | |
| Preserve partition schema if applicable | e (use default otherwise) | |
| Use the following partition schema: | | ~ |
| Use the following filegroup: | PRIMARY | ~ |
| | | |
| | | |
| | | |
| | | |
| | Back Restore Can | cel |

Data Publishing

Publishing a Microsoft SQL Server database allows you to temporarily attach the database to the target Microsoft SQL Server without launching restore. Publishing typically occurs faster than using standard restore features and could be convenient when, for example, your time to perform disaster-recovery operations is limited.

After you have launched a publishing operation to a Microsoft SQL Server, you can quickly republish the latest or point-in-time state of the database to the same server.

Before publishing data, read the Considerations and Limitations section.

Publishing to Specified Server

Publishing to the specified server allows you to select a target Microsoft SQL Server to which you can publish your databases.

To publish data, do the following:

- 1. Launch the Publish Database wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Specify the target server.

Step 1. Launch Publish Database Wizard

To launch the **Publish Database** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the **Database** tab, select **Publish Database** > **Publish to another server**.

Alternatively, you can right-click a database and select **Publish database** > **Publish to another server**.

| \$ | dlsql01 as of less than a day ago (5:53 PM Thursday 2/2/2023) - Veeam Explorer for Microsoft SQL Server – 🗖 🗙 |
|------------------------------------|---|
| ≡ • Home Database | |
| | Restore Schema * store Export Export store Export Export Export Export |
| Databases | Database Info |
| dlsql01.tech.local | Name: db1 |
| Default Instance | Backup created: 2/2/2023 5:52 PM |
| db1 | Recovery model: Full |
| Instant recovery | No |
| Publish database 🕨 | Publish to another server |
| 🧧 🚚 Restore database 🕨 | Available Restore Period |
| 🔺 ╦ Other S ᠷ 🛛 Restore schema 🔹 🕨 | 2/2/2023 4:10:44 PM - 5:52:31 PM |
| 🐔 tem 🔝 Export backup 🔹 🕨 | Database Files |
| 🕝 Export files 🕨 🕨 | Primary database file |
| 📴 Export schema 🕨 | C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1.mdf |
| | Secondary database and log files |
| | C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1_log.ldf |
| | |
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| | VeeAM |
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After you complete the wizard steps, a new **Published databases** node appears at the top of the navigation pane. Under this node, you can find the databases that have been published during the current session of Veeam Explorer for Microsoft SQL Server.

| Ĩã ≣ ▼ Home <mark>Publish</mark> | dlsql01 as of less than a day ago (5:5 | 3 PM Thursday 2/2/2023) - Veeam Explorer for Microsoft SQL Server | - | | × |
|--|--|--|-----------|-----|-----|
| Export Unpublish Backup Database Publish | | | | | |
| Databases | Database Info | | | | |
| Published databases (1) | SQL Server: | mssql02.tech.local | | | |
| db1_published | Original name: | db1 | | | |
| dlsql01.tech.local Default Instance | Attached as: | db1_published | | | |
| db1 | Backup created: | 2/2/2023 5:52 PM | | | |
| db2 | Recovery model: | Full | | | |
| i HR | Published point in time: | 2/2/2023 5:52 PM | | | |
| П П | Database Files | | | | |
| Sales Other SQL Server databases | | | | | |
| | Primary database file C:\VeeamFLR\dIsqI01_ed17510 | f\Volume1\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\ | db1.mdf | | |
| | Secondary database and log fil | es | | | |
| | C:\VeeamFLR\dlsql01_ed17510 | f\Volume1\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA | db1_log.l | df | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | vee | BAM |

To work with published databases, open a SQL tool you prefer, for example, *Microsoft SQL Management Studio* and locate your published databases.

The figure below demonstrates a published database (*db1_published*) available in the **Object Explorer** window of your *Microsoft SQL Server Management Studio* console. This database is also being referenced by Veeam Explorer for Microsoft SQL Server under its **Published databases** node.



Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to publish your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging SQL server. For more information, see Configuring Staging SQL Server.

| Publish Database Wizard | × |
|---|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: Restore to the point in time of the selected image-level ckup Restore to a specific point in time (requires transaction log backups) 4:10 PM 2/2/2023 | 5:52 PM 2/2/2023 |
| Thursday, February 2, 2023 5:27 PM | |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore the database to the moment in time right before the unwanted change. | ie |
| Next | Cancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to publish your database.

Veeam Explorer for Microsoft SQL Server database operations are listed in the SQL Server Database Operation Selection section.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| ne-tune the restore | point | | | |
|----------------------------|---------------------------|--|-----------------|-------|
| | | | | |
| lect the undesired operati | on in the list below. The | e database will be restored to the state p | prior to transa | ction |
| volving the selected opera | ation. | | | |
| | 0 | | - | ~ |
| Time | Operation | Object | Туре | E. |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Row inserted | Persons | Table | |
| 2/2/2023 5:32:24 PM | Created | _WA_Sys_0000002_34C8D9D1 | Index | |
| 2/2/2023 5:32:24 PM | Truncated | Persons | Table | |
| 2/2/2023 5:32:24 PM | Row deleted | Persons | Table | |
| 2/2/2023 5:32:29 PM | Row inserted | Persons | Table | |
| 2/2/2023 5:32:29 PM | Truncated | Persons | Table | |
| 2/2/2023 5:32:29 PM | Row deleted | Persons | Table | |
| 2/2/2023 5:32:34 PM | Row inserted | Persons | Table | |
| 2/2/2023 5:32:34 PM | Truncated | Persons | Table | |
| 2/2/2023 5:32:34 PM | Row deleted | Persons | Table | |
| 2/2/2023 5:32:39 PM | Row inserted | Persons | Table | |
| 2/2/2023 5:32:39 PM | Truncated | Persons | Table | ~ |
| C | | | | > |

Step 4. Specify Target Server

At this step of the wizard, do the following:

1. In the **Server name** field, specify a target SQL server name/SQL server instance/SQL cluster to which you want to publish the database.

Use the *server_name instance* format. You can select a server/instance/cluster from the drop-down list or use the **Browse** button on the left, as described in Browsing for Servers.

2. In the **Database name** filed, specify a new name under which you want to publish your database.

Consider that if you leave the original database name, Veeam Explorer for Microsoft SQL Server will overwrite the associated database on the target server.

- 3. In the Specify user account to connect section, select either of the following options:
 - **User current account**. Select this option to connect to the specified server using the account under which Veeam Explorer for Microsoft SQL Server is running.

You cannot use this option if Veeam Explorer for Microsoft SQL Server and mount server are located on separate machines.

• User the following account. Select this option to connect to the specified server using a custom user account. Then provide a user name and password for the account.

Make sure the account you are using has been granted the **sysadmin** role on the target SQL Server machine.

4. If you selected the **Use the following account** option and want to use SQL Server authentication, select the **Use SQL Server authentication** check box. If you do not select the check box, Veeam Explorer for Microsoft SQL Server will use Windows authentication.

NOTE

Make sure that the administrative share for example, \\myserver\ADMIN\$) on the target machine is available; **Read** and **Write** are minimum required, **Full Control** is recommended.

| | Publish Database Wizard | × |
|-------------------|------------------------------------|--------|
| Specify targe | t SQL Server connection parameters | |
| Server name: | mssql02.tech.local 🗸 | Browse |
| Database name: | db1_published | |
| Specify user acco | unt to connect: | |
| Use current a | ccount (TECH\michael.wells) | |
| Use the follow | wing account: | |
| Username: | sa | |
| Password: | ••••• | |
| | ✓ Use SQL Server authentication | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next | Cancel |

If you select the **Use SQL Server authentication** check box and provide a SQL Server account, you will be prompted to provide an account to connect to the target server at the next step of the wizard.

| | Publish Database Wizard | × |
|-----------------------------------|---------------------------------|---|
| Specifytarge | t server connection credentials | |
| specity targe | t server connection credentials | |
| Specify user acco | unt to connect: | |
| Use current a | ccount (TECH\michael.wells) | |
| Use the follow | wing account: | |
| Username: | alpha\Administrator | |
| Password: | ••••• | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Publish Cancel | |

Browsing for Servers

To browse for a server to which you want to restore your databases, do either of the following:

- On the Local Servers tab, select a local SQL server/instance/cluster that is located on a machine with Veeam Explorer for Microsoft SQL Server.
- On the **Network Servers** tab, select a SQL server/instance/cluster over the network.

| | Browse fo | r Servers | × |
|------------------|-----------------|-----------|--------|
| Local Servers | Network Servers | | |
| Select SQL Serve | er instance: | | |
| LOCALHOST | /EEAMSQL2012 | | |
| LOCALHOST | /EEAMSQL2016 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | Select | Cancel |

Publishing Latest or Point-in-Time State

After you have launched a publishing operation to a Microsoft SQL Server (as described in Publishing to Specified Server), you can quickly republish a state of the database to the same server.

You can republish either of the following states:

- The latest available state to publish data as of the latest state in the backup file.
- A point-in-time state to publish data as of the selected point-in-time state. This option is available only if backups of Microsoft SQL Server transaction logs exist. For more information, see Required Backup Job Settings.

When you unpublish a database, both options continue to remain until you close the application so that you can quickly republish a database if required.

Publishing Latest State

Veeam Explorer for Microsoft SQL Server allows you to republish an unpublished database. When republishing a database, it will be attached to the target SQL server as of the latest state.

To republish a database as of the latest available state, do the following:

- 1. In the navigation pane, select a database.
- 2. On the Database tab, select Publish Database > Publish latest state to <target_server>.

Alternatively, you can right-click a database and select **Publish database > Publish latest state to <target_server>**.

NOTE

The name of the publish option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as Publish latest state to <target_server>.
- If you select any other restore point, the option name is displayed as Publish state of <point_in_time> to <target_server>.

Once this process is completed, the database will be published with the same name as it was during the initial publishing session.



Publishing Point-in-Time State

Publishing a point-in-time state allows you to obtain a required database state and unroll specified transactions if needed.

To publish databases as of the point-in-time state, do the following:

- 1. Launch the Publish Database wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.

Step 1. Launch Publish Database Wizard

To launch the **Publish Database** wizard, do the following:

- 1. In the navigation pane, select a database.
- On the Database tab, select Publish Database > Publish point-in-time state to <server_name><instance_name>.

Alternatively, you can right-click a database and select **Publish database** > **Publish point-in-time state to** <server_name>\<instance_name>.

Once the publishing process is completed, the database will be published with the same name as it was during the initial publishing session.

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|--|--|-------|
| ≡ • Home Database | | |
| Instant Recovery • Instant Recovery | | |
| Databases | Database Info | |
| disql01.tech.local befault Instance instant recovery instant recovery Publish database Restore database Restore database instant recovery instant | Name: db1 Backup created: 2/2/2023 5:52 PM Recovery model: Full Publish latest state to mssql02.tech.local Publish point-in-time state to mssql02.tech.local Publish to another server Database Files Primary database file C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1.mdf Secondary database and log files C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1_log.ldf | |
| | | /eeam |
| | | |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to publish your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging SQL Server. For more information, see Configuring Staging SQL Server.

| Publish Database Wizard | × |
|---|---------------------|
| | |
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level ackup | |
| Restore to a specific point in time (requires transaction log backups) | |
| 4:10 PM 2/2/2023 | 5:52 PM 2/2/2023 |
| Thursday, February 2, 2023 5:27 PM | |
| | |
| | |
| | |
| | |
| _ | |
| Perform restore to the specific transaction | |
| Enables you to review major database transactions around the selected tin database to the moment in time right before the unwanted change. | ne, and restore the |
| , , , , , , , , , , , , , , , , , , , | |
| | |
| | Next Cancel |
| | |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to publish your database and click **Publish**.

Veeam Explorer for Microsoft SQL Server database operations are listed in the SQL Server Database Operation Selection section.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| ne-tune the restore | noint | | |
|---------------------------|---------------------------|--------------------------------|--------------------------------|
| | point | | |
| ect the undesired operati | ion in the list below. Th | e database will be restored to | the state prior to transaction |
| olving the selected opera | | | |
| | | | |
| Time | Operation | Object | Туре |
| 2/2/2023 5:32:24 PM | Row deleted | Persons | Table |
| 2/2/2023 5:32:29 PM | Row inserted | Persons | Table |
| 2/2/2023 5:32:29 PM | Truncated | Persons | Table |
| 2/2/2023 5:32:29 PM | Row deleted | Persons | Table |
| 2/2/2023 5:32:34 PM | Row inserted | Persons | Table |
| 2/2/2023 5:32:34 PM | Truncated | Persons | Table |
| 2/2/2023 5:32:34 PM | Row deleted | Persons | Table |
| 2/2/2023 5:32:39 PM | Row inserted | Persons | Table |
| 2/2/2023 5:32:39 PM | Truncated | Persons | Table |
| 2/2/2023 5:32:39 PM | Row deleted | Persons | Table |
| 2/2/2023 5:32:44 PM | Row inserted | Persons | Table |
| 2/2/2023 5:32:44 PM | Truncated | Persons | Table |
| 2/2/2023 5:32:44 PM | Row deleted | Persons | Table |
| | | | > |

Unpublishing Databases

Once you have finished working with published SQL databases, you may want to unpublish (detach) these databases from the target SQL server.

Detachment occurs in the following manner:

- Upon closing the Veeam Explorer for Microsoft SQL Server console, all published databases will be detached from the target SQL server automatically. Mount points will be also dismounted from under the C:\VeeamFLR directory.
- On manual unpublishing, databases will be detached at once but the restore point will remain mounted on the target machine for the next 15 minutes.

To unpublish a database manually, do the following:

- 1. In the navigation pane, under the **Published databases** node, select a published database.
- 2. On the **Publish** tab, select **Unpublish Database**.

Alternatively, in the navigation pane, right-click a published database and select Unpublish database.

To detach more than one published database simultaneously, right-click the root **Published databases** node and select **Unpublish databases** or select the root **Published databases** node and click **Unpublish Databases** on the **Publish** tab.

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|--|---|---|------------|-----|----|
| ≣ • Home Publish | | | | | |
| | | | | | |
| Export Unpublish Backup Database | | | | | |
| Publish | | | | | |
| Databases | Database Info | | | | |
| Published databases (1) | SQL Server: | mssql02.tech.local | | | |
| db1_published | Original name: | db1 | | | |
| ▲ 🗧 disql01 📸 Export backup | Attached as: | db1_published | | | |
| Def Unpublish database Other S | Backup created: | 2/2/2023 5:52 PM | | | |
| Refresh status | Recovery model: | Full | | | |
| | Published point in time: | 2/2/2023 5:52 PM | | | |
| | Database Files | | | | |
| | | | | | |
| | Primary database file C:\VeeamFLR\dlsql01_ed17510f\Volume1\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1.mdf | | | | |
| | Secondary database and log files | | | | |
| | C:\VeeamFLR\dlsql01_ed17510f\ | /olume1\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\c | db1_log.ld | f | |
| | | | | | |
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Exporting as BAK

To save changes that have been made while working with your published database to a local computer, you can use the export feature. This feature will export modified databases as BAK, preserving all the changes that have been done during the publishing session.

To export a published database, do the following:

- 1. In the navigation pane, under the **Published databases** node, select a published database.
- 2. On the **Publish** tab, select **Export backup** or you can right-click a database and select **Export backup**.

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|--|--|--|----|-----|--|
| ≡ • Home Publish | | | | | |
| Export Unpublish Backup Database Publish | | | | | |
| Databases | Database Info | | | | |
| Published databases (1) | SQL Server: | mssql02.tech.local | | | |
| 📋 db1_published | Original name: | db1 | | | |
| - 🚽 disql01 🕋 Export backup | Attached as: | db1_published | | | |
| Def Unpublish database Other S | Backup created: | 2/2/2023 5:52 PM | | | |
| Refresh status | Recovery model: | Full | | | |
| | Published point in time: | 2/2/2023 5:52 PM | | | |
| | Database Files Primary database file | | | | |
| | C:\VeeamFLR\dlsql01_ed17510f | C:\VeeamFLR\dlsql01_ed17510f\Volume1\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1.mdf | | | |
| | Secondary database and log files C:\VeeamFLR\dlsql01_ed17510f\Volume1\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1_log.ldf | | | | |
| | | | | | |
| | | | Ve | eam | |

3. In the **Export** wizard, click **Browse** next to the **Specify export path** field to specify the location where to export your data.

To compress data, select the **Enable compression** check box. Compression will be applied according to configuration of the SQL server to which the database is published.

NOTE

Compression is unavailable if the server to which the database is published runs Microsoft SQL Server 2005 or any Express Edition of Microsoft SQL Server.

| Export Wizard | × |
|---|----------|
| Specify database export location | |
| | |
| Specify export path: C:\Users\Administrator\Desktop\AccountSystem.bak | Browse |
| Specify whether to perform compression, overriding the server-level default: | |
| Enable compression | |
| Compression significantly reduces the output file size, but prevents its import into SQ Express server due to the edition limitations. | L Server |
| | |
| | |
| | |
| | |
| | |
| Back Export | Cancel |

Refreshing Database Status

While the databases are attached to the target SQL server, Veeam Explorer for Microsoft SQL Server synchronizes each published database state to verify its availability. By default, synchronization occurs every five seconds.

If something went wrong with any of the published databases, the question mark appears next to each of such databases indicating the database unavailability. In the **Database Info** section, you will also see the notification message describing the problem.

To refresh a published database state manually, in the navigation pane, under the **Published databases** node, right-click a published database and select **Refresh status**.

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|---|---|--|-------|-----|--|--|
| ≡ • Home Publish | | | | | | |
| Export Unpublish Backup Database Publish | | | | | | |
| Databases | Database Info | | | | | |
| Published databases (1) | SQL Server: | mssql02.tech.local | | | | |
| db1_published | Original name: | db1 | | | | |
| disql01 Export backup Def Unpublish database | Attached as: | db1_published | | | | |
| Other S | Backup created: | 2/2/2023 5:52 PM | | | | |
| Refresh status | Recovery model: | Full | | | | |
| | Published point in time: | 2/2/2023 5:52 PM | | | | |
| | Database Files | | | | | |
| | Primary database file | Primary database file | | | | |
| | C:\VeeamFLR\dlsql01_ed17510f\\ | C:\VeeamFLR\dlsql01_ed17510f\Volume1\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1.mdf | | | | |
| | | Secondary database and log files | | | | |
| | C:\VeeamFLR\dlsql01_ed1/510f\\ | /olume1\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1_lo | g.ldf | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | vee | BAM | | |

Instant Recovery

Instant recovery combines capabilities of the data restore and data publishing features. If you want databases to be online as quickly as possible, you can use the **Instant Recovery** option and restore databases in the background.

Before performing instant recovery, read the Considerations and Limitations section.

How It Works

To perform instant recovery, Veeam Explorer for Microsoft SQL Server uses the *Veeam Explorers Recovery Service.* The service is installed on the backup server and every mount server deployed in the backup infrastructure, and runs in the background. During instant recovery, Veeam Explorer for Microsoft SQL Server uses the service running on the mount server associated with the backup repository. This removes the necessity to keep Veeam Explorer for Microsoft SQL Server running during an entire instant recovery session. Once you have started an instant recovery session, you can close Veeam Explorer for Microsoft SQL Server and then launch it later when necessary.

When you start an instant recovery session in Veeam Explorer for Microsoft SQL Server, the following happens:

- 1. Veeam Explorer for Microsoft SQL Server uses backup files to start two iSCSI mount sessions in parallel:
 - The first mount is used to publish the database on the target production server and attach it to the target SQL Server instance.
 - The second mount is used to copy database files to the target server in the background.
- 2. While the published database is online, all changes in database files that occur after publishing are saved in cache on the mount server.

You can view and change the write cache location in the mount server settings. For more information, see the Specify Mount Server Settings section of the Veeam Backup & Replication User Guide.

- 3. After all database files are copied to the target server, Veeam Explorer for Microsoft SQL Server uses the cache to synchronize changes in database files.
- 4. After synchronization, you can switch over to the up-to-date copy of the database on the production server. Depending on the option you choose, switchover starts in one of the following ways:
 - \circ $\;$ Automatically, immediately after synchronization
 - o Automatically, according to a specified schedule
 - Manually

During switchover, Veeam Explorer for Microsoft SQL Server does the following:

- a. Stops the published database.
- b. Uses the cache to synchronize differences between the published database and the copied database files.
- c. Drops the published database.
- d. Starts the recovered database.

Instant recovery session is resilient to network disruption, backup server or mount server crash. If anything disrupts the restore process, the restore process stays in the waiting mode and performs 10 automatic retries every 5 minutes. If the retries fail, you can launch retry after the server or network is up.

Instant Recovery of Single Database

You can perform instant recovery of a Microsoft SQL Server database by following one of these scenarios:

- Instant Recovery of Latest State
- Instant Recovery of Point-in-Time State
- Instant Recovery to Another Server

Instant Recovery of Latest State

To perform instant recovery of a single database to the latest state, use the **Instant Recovery** wizard.

- 1. Launch the Instant Recovery wizard.
- 2. Specify switchover settings.
- 3. Finalize the Instant Recovery session.
Step 1. Launch Instant Recovery Wizard

To launch the Instant Recovery wizard, do the following:

- 1. In the navigation tree, select a database.
- 2. On the **Database** tab, select **Instant Recovery > Instant recovery of the latest state to <original_location>**.

Alternatively, you can right-click a database and select **Instant recovery > Instant recovery of the latest state to <original_location>**.

NOTE

The name of the instant recovery option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Instant** recovery of the latest state to <original_location>.
- If you select any other restore point, the option name is displayed as Instant recovery of the state of <point_in_time> to <original_location>.



Step 2. Specify Switchover Settings

At this step of the wizard, specify a database switchover type. During switchover, the mounted database is switched to its complete copy on the target server.

To select a switchover type and start an instant recovery session, do the following:

- 1. At the Specify switchover type field, select one of the following switchover options:
 - Auto: switchover is performed automatically after all database files are copied and synchronized.
 - **Manual**: switchover is started manually by user at any time after all database files are copied and synchronized.
 - **Scheduled**: switchover is performed at a specified date and time. Use the drop-down calendar to specify the date and time.
- 2. Click Recover.

After you click **Recover**, Veeam Explorer for Microsoft SQL Server starts publishing the database on the target server.

| | Instant Recovery Wizard | × |
|---|--|----|
| Specify database | switchover scheduling options | |
| Specify switchover type | e: | |
| Auto Switchover will be | performed automatically with minimal possible downtime once the database is read | у. |
| Manual Switchover can be | performed manually at any point in time after the database is ready. | |
| Scheduled at: | 3/3/2023 12:30 PM 👻 | |
| | Back Recover Cancel | |

Step 3. Finalize Instant Recovery Session

After you finish steps of the **Instant Recovery** wizard, Veeam Explorer for Microsoft SQL Server starts an instant recovery session.

In the **Instant Recovery** session view, you can see the progress of the recovery, edit switchover settings, cancel instant recovery, and start manual switchover (if you have selected the **Manual** switchover option in the **Instant Recovery** wizard).

Depending on the selected switchover option, switchover starts in one of the following ways:

- Automatically, immediately after synchronization
- Automatically, according to a specified schedule
- Manually

If you have selected the **Manual** switchover option, you must perform switchover manually as described in Starting Switchover Manually.



Instant Recovery of Point-in-Time State

To perform instant recovery of a database to a selected point-in-time state, use the **Instant Recovery** wizard.

- 1. Launch the Instant Recovery wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Specify switchover settings.
- 5. Finalize the Instant Recovery session.

Step 1. Launch Instant Recovery Wizard

To launch the Instant Recovery wizard, do the following:

- 1. In the navigation tree, select a database.
- 2. On the **Database** tab, select **Instant Recovery** > **Instant recovery of the point-in-time state to** <original_location>.

Alternatively, you can right-click a database and select **Instant recovery > Instant recovery of the point-in-time state to <original_location>**.

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|--|---|---|-----|----|
| ≡ • Home Database | | | | |
| Instant Recovery • Instant Recovery • Publish Database • Publish Database • Publish Batabase • Publish Database • | | | | |
| Databases | Database Info | | | |
| disql01.tech.local Default Instance db1 Instant recovery Publish database Restore database Restore schema tem Export backup | 4 | | | |
| ☑ Export files → ☑ Export schema → | Primary database file C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1.mdf Secondary database and log files C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1_log.ldf | | | |
| | | | vee | AM |

Step 2. Specify Restore Point

At this step of the **Instant Recovery** wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Note that this option is available only if archived log backups exist. For more information, see Required Backup Job Settings.
 - a. Use the slider to choose a required point in time.
 - b. If you want to load database files exactly as of the moment before undesired transactions, select the **Perform restore to the specific transaction** check box. Note that this option requires a staging server where Microsoft SQL Server is deployed. For more information, see Configuring Staging SQL Server.

| Instant Recovery Wizard | × |
|---|-------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| | :52 PM /2/2023 |
| Thuisuay, Pebluary 2, 2025 5:27 PM | |
| | |
| Perform restore to the specific transaction | |
| Enables you to review major database transactions around the selected time, and restore the database to the moment in time right before the unwanted change. | |
| Next Car | ncel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to restore the database.

Veeam Explorer for Microsoft SQL Server database operations are listed in the SQL Server Database Operation Selection section.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| ine-tune the restore | point | | |
|----------------------------|--------------|----------------------------------|-------------------------------|
| | | | |
| | | e database will be restored to t | he state prior to transaction |
| volving the selected opera | ation. | | |
| Time | Operation | Object | Туре |
| 2/2/2023 5:32:24 PM | Truncated | Persons | Table |
| 2/2/2023 5:32:24 PM | Row deleted | Persons | Table |
| 2/2/2023 5:32:29 PM | Row inserted | Persons | Table |
| 2/2/2023 5:32:29 PM | Truncated | Persons | Table |
| 2/2/2023 5:32:29 PM | Row deleted | Persons | Table |
| 2/2/2023 5:32:34 PM | Row inserted | Persons | Table |
| 2/2/2023 5:32:34 PM | Truncated | Persons | Table |
| 2/2/2023 5:32:34 PM | Row deleted | Persons | Table |
| 2/2/2023 5:32:39 PM | Row inserted | Persons | Table |
| 2/2/2023 5:32:39 PM | Truncated | Persons | Table |
| 2/2/2023 5:32:39 PM | Row deleted | Persons | Table |
| 2/2/2023 5:32:44 PM | Row inserted | Persons | Table |
| 2/2/2023 5:32:44 PM | Truncated | Persons | Table |

Step 4. Specify Switchover Settings

At this step of the wizard, specify a database switchover type. During switchover, the mounted database is switched to its complete copy on the target server.

To select a switchover type and start an instant recovery session, do the following:

- 1. At the Specify switchover type field, select one of the following switchover options:
 - Auto: switchover is performed automatically after all database files are copied and synchronized.
 - **Manual**: switchover is started manually by user at any time after all database files are copied and synchronized.
 - **Scheduled**: switchover is performed at a specified date and time. Use the drop-down calendar to specify the date and time.
- 2. Click Recover.

After you click **Recover**, Veeam Explorer for Microsoft SQL Server starts publishing the database on the target server.

| | Instant Recovery Wizard | × |
|--|---|----------|
| Specify database | switchover scheduling options | |
| Specify switchover typ | e: | |
| Auto Switchover will be | performed automatically with minimal possible downtime once the database is ready | <i>.</i> |
| O Manual Switchover can be | performed manually at any point in time after the database is ready. | |
| Scheduled at: | 3/3/2023 12:30 PM 💌 | |
| | Back Recover Cancel | |

Step 5. Finalize Instant Recovery Session

After you finish steps of the **Instant Recovery** wizard, Veeam Explorer for Microsoft SQL Server starts an instant recovery session.

In the **Instant Recovery** session view, you can see the progress of the recovery, edit switchover settings, cancel instant recovery, and start manual switchover (if you have selected the **Manual** switchover option in the **Instant Recovery** wizard).

Depending on the selected switchover option, switchover starts in one of the following ways:

- Automatically, immediately after synchronization
- Automatically, according to a specified schedule
- Manually

If you have selected the **Manual** switchover option, you must perform switchover manually as described in Starting Switchover Manually.



Instant Recovery to Another Server

To perform instant recovery of a database to another server, use the Instant Recovery wizard.

- 1. Launch the Instant Recovery wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Specify the target server.
- 5. Specify database files location.
- 6. Specify switchover settings.
- 7. Finalize the Instant Recovery session.

Step 1. Launch Instant Recovery Wizard

To launch the Instant Recovery wizard, do the following:

- 1. In the navigation tree, select a database.
- 2. On the **Database** tab, select **Instant Recovery > Instant recovery to another server**.

Alternatively, you can right-click a database and select **Instant recovery > Instant recovery to another server**.

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|---------------------|---------------------|--|-----|-----|
| ≣ * Home [| Database | | | |
| | base 🔻 🛛 Database 🔻 | Restore * Schema * estore Restore R | | |
| Databases | | Database Info | | |
| dlsql01.tech.local | | Name: db1 Backup created: 2/2/2023 5:52 PM | | |
| db1 | _ | | | |
| 🧧 📑 Inst | tant recovery 🔹 🕨 | Instant recovery of the latest state to dlsql01.tech.local | | |
| 🚪 🚰 Pub | blish database + | Instant recovery of the point-in-time state to dlsql01.tech.local | | |
| 🗧 🦂 Rest | store database 🔹 🖡 | instant recovery to another server | | |
| 🔺 🚮 Other S ᠷ Rest | store schema 🔹 🕨 | 2/2/2023 4:10:44 PM - 5:52:31 PM | | |
| 🔂 tem 🔝 Exp | ort backup 🔹 🕨 | Database Files | | |
| 🕝 Exp | ort files 🕨 | Primary database file | | |
| 📴 Exp | ort schema 🔹 🕨 | C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1.mdf | | |
| | | Secondary database and log files | | |
| | | C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1_log.ldf | | |
| | | | | |
| | | | | |
| | | | | |
| | | | Ve | eam |
| | | | | |

Step 2. Specify Restore Point

At this step of the **Instant Recovery** wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Note that this option is available only if archived log backups exist. For more information, see Required Backup Job Settings.
 - a. Use the slider to choose a required point in time.
 - b. If you want to load database files exactly as of the moment before undesired transactions, select the **Perform restore to the specific transaction** check box. Note that this option requires a staging server where Microsoft SQL Server is deployed. For more information, see Configuring Staging SQL Server.

| Instant Recovery Wizard | × |
|--|----|
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires transaction log backups) 4:10 PM 2/2/2023 1 2/2/2023 | |
| Thursday, February 2, 2023 5:27 PM | |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore the database to the moment in time right before the unwanted change. | |
| Next Cance | :1 |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to restore the database.

Veeam Explorer for Microsoft SQL Server database operations are listed in the SQL Server Database Operation Selection section.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| ine-tune the restore | point | | |
|----------------------------|--------------|----------------------------------|-------------------------------|
| | | | |
| | | e database will be restored to t | he state prior to transaction |
| volving the selected opera | ation. | | |
| Time | Operation | Object | Туре |
| 2/2/2023 5:32:24 PM | Truncated | Persons | Table |
| 2/2/2023 5:32:24 PM | Row deleted | Persons | Table |
| 2/2/2023 5:32:29 PM | Row inserted | Persons | Table |
| 2/2/2023 5:32:29 PM | Truncated | Persons | Table |
| 2/2/2023 5:32:29 PM | Row deleted | Persons | Table |
| 2/2/2023 5:32:34 PM | Row inserted | Persons | Table |
| 2/2/2023 5:32:34 PM | Truncated | Persons | Table |
| 2/2/2023 5:32:34 PM | Row deleted | Persons | Table |
| 2/2/2023 5:32:39 PM | Row inserted | Persons | Table |
| 2/2/2023 5:32:39 PM | Truncated | Persons | Table |
| 2/2/2023 5:32:39 PM | Row deleted | Persons | Table |
| 2/2/2023 5:32:44 PM | Row inserted | Persons | Table |
| 2/2/2023 5:32:44 PM | Truncated | Persons | Table |

Step 4. Specify Target Server

At this step of the wizard, specify credentials to access the target server.

1. In the **Server name** field, specify the target instance to which you want to restore the database. Use the server\instance or IP_address\instance format. You can select an instance from the drop-down list or use the **Browse** button on the right.

To browse for other servers and SQL Server instances:

- a. Click the **Browse** button.
- b. You can select a SQL Server instance residing on the local machine on the Local Servers tab or click the Network Servers tab and select an instance on another server. Veeam Explorer for Microsoft SQL Server display servers from your network where SQL Server is installed.

| | Browse for | Servers | × |
|------------------|-----------------|---------|--------|
| Local Servers | Network Servers | | |
| Select SQL Serve | er instance: | | |
| SRV10\VEEAM | SQL2016 | | ~ |
| SRV111\SQLEX | PRESS | | |
| SRV111\VEEAN | 1SQL2016 | | |
| SRV19\SQLEXP | RESS | | |
| SRV19\VEEAM | SQL2016 | | |
| SRV20\SQLEXP | RESS | | |
| SRV20\VEEAM | SQL2016 | | |
| SRV2049\VEEA | MSQL2016 | | |
| SRV24\SQLEXP | RESS | | |
| SRV24\VEEAM | SQL2016 | | |
| SRV25\SQLEXP | RESS | | |
| SRV25\VEEAM | SQL2016 | | |
| SRV26\SQLEXP | RESS | | |
| SRV26\VEEAM | SQL2016 | | ~ |
| | | Select | Cancel |

- 2. In the **Database name** field, specify a name for the restored database.
- 3. In the **Specify user account to connect** section, specify credentials which will be used to connect to the target SQL Server instance.
 - Select the Use SQL Server authentication check box to use SQL Server authentication. If not selected, Veeam Explorer for Microsoft SQL Server will use Windows authentication.
 - Make sure the account has been granted the sysadmin role privileges on a target SQL server.

• Make sure that the account has at least **Read** and **Write** permissions on the administrative share (for example, \\myserver\ADMIN\$) on the target server.

| | Instant Recovery Wizard | × |
|-------------------|------------------------------------|--------|
| Specify targe | t SQL Server connection parameters | |
| Server name: | mssql02.tech.local 🗸 | Browse |
| Database name: | db1 | |
| Specify user acco | unt to connect: | |
| Username: sa | | |
| Password: ••• | ••••• | |
| v U | Ise SQL Server authentication | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next | Cancel |

Step 5. Specify Database File Location

At this step of the wizard, specify the location for database files (control files, data files, log files and temp files).

To edit the path, click the path row and specify the location you want to use. If specified folders do not exist, Veeam Explorer for Microsoft SQL Server will create these folders.

| Instant Recovery Wizard | > |
|--|--------|
| Specify database files target location | |
| Primary database file | |
| C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1.mdf | Browse |
| Secondary database and log files | |
| C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1_log.ldf | Browse |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Back Next | Cancel |

Step 6. Specify Switchover Settings

At this step of the wizard, specify a database switchover type. During switchover, the mounted database is switched to its complete copy on the target server.

To select a switchover type and start an instant recovery session, do the following:

- 1. At the Specify switchover type field, select one of the following switchover options:
 - Auto: switchover is performed automatically after all database files are copied and synchronized.
 - **Manual**: switchover is started manually by user at any time after all database files are copied and synchronized.
 - **Scheduled**: switchover is performed at a specified date and time. Use the drop-down calendar to specify the date and time.
- 2. Click Recover.

After you click **Recover**, Veeam Explorer for Microsoft SQL Server starts publishing the database on the target server.

| | Instant Recovery Wizard | × |
|---|--|----|
| Specify database | switchover scheduling options | |
| Specify switchover type | e: | |
| Auto Switchover will be | performed automatically with minimal possible downtime once the database is read | у. |
| Manual Switchover can be | performed manually at any point in time after the database is ready. | |
| Scheduled at: | 3/3/2023 12:30 PM 👻 | |
| | Back Recover Cancel | |

Step 7. Finalize Instant Recovery Session

After you finish steps of the **Instant Recovery** wizard, Veeam Explorer for Microsoft SQL Server starts an instant recovery session.

In the **Instant Recovery** session view, you can see the progress of the recovery, edit switchover settings, cancel instant recovery, and start manual switchover (if you have selected the **Manual** switchover option in the **Instant Recovery** wizard).

Depending on the selected switchover option, switchover starts in one of the following ways:

- Automatically, immediately after synchronization
- Automatically, according to a specified schedule
- Manually

If you have selected the **Manual** switchover option, you must perform switchover manually as described in Starting Switchover Manually.

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|-------------------------------------|-----------------------------------|---|---|----------|-----|
| E • Home Instant Recovery | | | | | |
| Edit Switchover Retry Cancel Now | | | | | |
| Databases | Instant Recovery Infe | D | | | ^ |
| 🖌 📄 Instant Recovery (1) | Status | Publishing | | | |
| db1 | SQL Server: | mssql02.tech.local | | | |
| dlsql01.tech.local | Target name: | db1 | | | |
| Default Instance | Target point in time: | 2/2/2023 5:52 PM | | | |
| db2 | Restore point: | dlsql01 | | | |
| HR III | Switchover mode: | Manual | | | |
| 📒 ІТ | | | | | |
| 🧧 Sales | Database Files | | | | |
| ▲ Other SQL Server databases | Status | Background restore | | | |
| 🛜 tempdb | Primary database file | | | | |
| | C:\Program Files\Microsof | t SOL Server\MSSOL13.MSSOLSERVER\MSSOL\DATA\db1.mdf | | | ~ |
| | Action | | | Duration | |
| | 🤣 Instant Recovery start | ed at 2/3/2023 11:23:17 AM | | | |
| | Publishing database | | | 00:27 | |
| | Copying target files | | | 00:27 | |
| | | | | | |
| | | | | ve | eam |

Instant Recovery of Multiple Databases

You can perform instant recovery of multiple Microsoft SQL Server databases hosted on a server or a certain SQL Server instance. You can perform instant recovery to the original server or any other server in your network where SQL Server is installed.

To instantly recover Microsoft SQL Server databases, follow one of these scenarios:

- Instant Recovery of Latest State
- Instant Recovery of Point-in-Time State
- Instant Recovery to Another Server

Instant Recovery of Latest State

To perform instant recovery of multiple databases to the latest state, use the **Instant Recovery** wizard.

- 1. Launch the Instant Recovery wizard.
- 2. Select databases you want to recover.
- 3. Specify switchover settings.
- 4. Finalize the Instant Recovery session.

Step 1. Launch Instant Recovery Wizard

To launch the Instant Recovery wizard, do the following:

- 1. In the navigation tree, select an instance or the server.
- 2. On the **Instance** (or **Server**) tab, select **Instant Recovery** > **Instant recovery of the latest state to** <original_location>.

Alternatively, you can right-click an instance or the server and select **Instant recovery > Instant recovery of the latest state to <original_location>**.

NOTE

The name of the instant recovery option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Instant** recovery of the latest state to <original_location>.
- If you select any other restore point, the option name is displayed as **Instant recovery of the state of** cont_in_time> to <original_location>.



Step 2. Select Databases

At this step of the wizard, select the databases that you want to recover.

To quickly find the necessary databases, use the **Search** field or sort the databases by name. If the databases belong to multiple instances, you can also sort the databases by instance name.

| Instant R | ecovery Wizard | × |
|---------------------------------------|------------------|--------|
| Select databases to restore | | |
| Type in a database name to search for | | ٩ |
| Name | Instance Name 🕇 | |
| 🗸 📒 db1 | Default Instance | |
| 🖌 🧰 db2 | Default Instance | |
| 🖌 📒 HR | Default Instance | |
| 🗸 📒 П | Default Instance | |
| 🖌 📒 Sales | Default Instance | |
| 🧰 db3 | INSTANCE_01 | |
| 🗌 📒 HR | INSTANCE_01 | |
| 📄 🧧 Sales | INSTANCE_01 | |
| | | |
| 5 databases selected out of 8 | | |
| | Next | Cancel |

Step 3. Specify Switchover Settings

At this step of the wizard, specify a database switchover type. During switchover, the mounted database is switched to its complete copy on the target server.

To select a switchover type and start an instant recovery session, do the following:

- 1. At the **Specify switchover type** field, select one of the following switchover options:
 - Auto: switchover is performed automatically after all database files are copied and synchronized.
 - **Manual**: switchover is started manually by user at any time after all database files are copied and synchronized.
 - **Scheduled**: switchover is performed at a specified date and time. Use the drop-down calendar to specify the date and time.
- 2. Click Recover.

After you click **Recover**, Veeam Explorer for Microsoft SQL Server starts publishing the database on the target server.

| | Instant Recovery Wizard | × |
|--|---|----------|
| Specify database | switchover scheduling options | |
| Specify switchover typ | e: | |
| Auto Switchover will be | performed automatically with minimal possible downtime once the database is ready | <i>.</i> |
| O Manual Switchover can be | performed manually at any point in time after the database is ready. | |
| Scheduled at: | 3/3/2023 12:30 PM 💌 | |
| | Back Recover Cancel | |

Step 4. Finalize Instant Recovery Session

After you finish steps of the **Instant Recovery** wizard, Veeam Explorer for Microsoft SQL Server starts an instant recovery session.

In the **Instant Recovery** session view, you can see the progress of the recovery, edit switchover settings, cancel instant recovery, and start manual switchover (if you have selected the **Manual** switchover option in the **Instant Recovery** wizard).

Depending on the selected switchover option, switchover starts in one of the following ways:

- Automatically, immediately after synchronization
- Automatically, according to a specified schedule
- Manually

If you have selected the **Manual** switchover option, you must perform switchover manually as described in Starting Switchover Manually.



Instant Recovery of Point-in-Time State

To perform instant recovery of multiple databases to a selected point-in-time state, use the **Instant Recovery** wizard.

- 1. Launch the Instant Recovery wizard.
- 2. Select databases you want to recover.
- 3. Specify a restore point.
- 4. Specify switchover settings.
- 5. Finalize the Instant Recovery session.

Step 1. Launch Instant Recovery Wizard

To launch the **Instant Recovery** wizard, do the following:

- 1. In the navigation tree, select an instance or the server.
- 2. On the Instance (or Server) tab, select Instant Recovery > Instant recovery of the point-in-time state to <original_location>.

Alternatively, you can right-click an instance or the server and select **Instant recovery > Instant recovery of the point-in-time state to <original_location>**.

| à | q102 as of less than a day ago (12:31 PM Thursday 3/2/2023) - Veeam Explorer for Microsoft SQL Server 📃 🗕 | | | × |
|---|---|--|-----|----|
| ≡ • Home Server | | | | |
| Instant Recovery V Instant Recovery Restore | Export Files * | | | |
| Databases | Server Info | | | |
| dlsql02.tech.local | Name: dlsql02.tech.local | | | |
| | Instant recovery of the latest state to dlsql02.tech.local | | | |
| Restore databases | Instant recovery of the point-in-time state to dlsql02.tech.local | | | |
| Conter Sc The score databases | Instant recovery to another server | | | |
| | • · | | | |
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Step 2. Select Databases

At this step of the wizard, select the databases that you want to recover.

To quickly find the necessary databases, use the **Search** field or sort the databases by name. If the databases belong to multiple instances, you can also sort the databases by instance name.

| Instant R | ecovery Wizard | × |
|---------------------------------------|------------------|--------|
| Select databases to restore | | |
| Type in a database name to search for | | ٩ |
| Name | Instance Name 🕇 | |
| 🗸 📒 db1 | Default Instance | |
| 🖌 🧰 db2 | Default Instance | |
| 🖌 📒 HR | Default Instance | |
| 🗸 📒 П | Default Instance | |
| 🖌 📒 Sales | Default Instance | |
| 🧰 db3 | INSTANCE_01 | |
| 🗌 📒 HR | INSTANCE_01 | |
| 📄 🧧 Sales | INSTANCE_01 | |
| | | |
| 5 databases selected out of 8 | | |
| | Next | Cancel |

Step 3. Specify Restore Point

At this step of the **Instant Recovery** wizard, select a state as of which you want to recover databases:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Note that this option is available only if archived log backups exist. For more information, see Required Backup Job Settings.

Use the slider to choose a required point in time.

If some of the databases do not have transaction log backups for the specified time, they will be displayed below with their own time point.

| Instant Recovery Wizard | × |
|--|----------------------|
| Specify restore point | |
| Speeny restore point | |
| Specify point in time you want to restore databases to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires transaction log backups) | |
| 12:22 PM 3/2/2023 | 12:31 PM 3/2/2023 |
| Thursday, March 2, 2023 12:29 PM | |
| | |
| | |
| | |
| | |
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| | |
| | |
| Back Next | Cancel |

Step 4. Specify Switchover Settings

At this step of the wizard, specify a database switchover type. During switchover, the mounted database is switched to its complete copy on the target server.

To select a switchover type and start an instant recovery session, do the following:

- 1. At the Specify switchover type field, select one of the following switchover options:
 - Auto: switchover is performed automatically after all database files are copied and synchronized.
 - **Manual**: switchover is started manually by user at any time after all database files are copied and synchronized.
 - **Scheduled**: switchover is performed at a specified date and time. Use the drop-down calendar to specify the date and time.
- 2. Click Recover.

After you click **Recover**, Veeam Explorer for Microsoft SQL Server starts publishing the database on the target server.

| | Instant Recovery Wizard | × |
|---|--|----|
| Specify database | switchover scheduling options | |
| Specify switchover type | e: | |
| Auto Switchover will be | performed automatically with minimal possible downtime once the database is read | у. |
| Manual Switchover can be | performed manually at any point in time after the database is ready. | |
| Scheduled at: | 3/3/2023 12:30 PM 👻 | |
| | Back Recover Cancel | |

Step 5. Finalize Instant Recovery Session

After you finish steps of the **Instant Recovery** wizard, Veeam Explorer for Microsoft SQL Server starts an instant recovery session.

In the **Instant Recovery** session view, you can see the progress of the recovery, edit switchover settings, cancel instant recovery, and start manual switchover (if you have selected the **Manual** switchover option in the **Instant Recovery** wizard).

Depending on the selected switchover option, switchover starts in one of the following ways:

- Automatically, immediately after synchronization
- Automatically, according to a specified schedule
- Manually

If you have selected the **Manual** switchover option, you must perform switchover manually as described in Starting Switchover Manually.



Instant Recovery to Another Server

To perform instant recovery of multiple databases to another server, use the **Instant Recovery** wizard.

- 1. Launch the Instant Recovery wizard.
- 2. Select databases you want to recover.
- 3. Specify restore point.
- 4. Specify target server.
- 5. Specify switchover settings.
- 6. Finalize the Instant Recovery session.

Step 1. Launch Instant Recovery Wizard

To launch the Instant Recovery wizard, do the following:

- 1. In the navigation tree, select an instance or the server.
- 2. On the **Instance** (or **Server**) tab, select **Instant Recovery** > **Instant recovery to another server**.

Alternatively, you can right-click an instance or the server and select **Instant recovery > Instant recovery to another server**.

| à | dlsql02 as of less than a day ago (12:31 PM Thursday 3/2/2023) - Veeam Explorer for Microsoft SQL Server 🛛 🗖 🗙 |
|--|--|
| ≡ • Home Server | |
| Instant Recovery * Instant Recovery Databases | |
| | Server Info |
| dlsql02.tech.local | Name: dlsql02.tech.local |
| Defa Instant recovery | 🖡 Instant recovery of the latest state to disql02.tech.local |
| Restore databases | 贏 Instant recovery of the point-in-time state to dlsql02.tech.local |
| Conter SC Export backup | 🗊 Instant recovery to another server |
| 🕜 Export files 🕨 🕨 | |
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| | Veeam |

Step 2. Select Databases

At this step of the wizard, select the databases that you want to recover.

To quickly find the necessary databases, use the **Search** field or sort the databases by name. If the databases belong to multiple instances, you can also sort the databases by instance name.

| Instant R | ecovery Wizard | × |
|---------------------------------------|------------------|--------|
| Select databases to restore | | |
| Type in a database name to search for | | ٩ |
| Name | Instance Name 🕇 | |
| 🗸 📒 db1 | Default Instance | |
| 🖌 🧰 db2 | Default Instance | |
| 🖌 📒 HR | Default Instance | |
| 🗸 📒 П | Default Instance | |
| 🖌 📒 Sales | Default Instance | |
| 🧰 db3 | INSTANCE_01 | |
| 🗌 📒 HR | INSTANCE_01 | |
| 📄 🧧 Sales | INSTANCE_01 | |
| | | |
| 5 databases selected out of 8 | | |
| | Next | Cancel |

Step 3. Specify Restore Point

At this step of the **Instant Recovery** wizard, select a state as of which you want to recover databases:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Note that this option is available only if archived log backups exist. For more information, see Required Backup Job Settings.

Use the slider to choose a required point in time.

If some of the databases do not have transaction log backups for the specified time, they will be displayed below with their own time point.

| Instant Recovery Wizard | × |
|--|----------|
| | |
| Specify restore point | |
| Specify point in time you want to restore databases to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires transaction log backups) | |
| 12:22 PM | 12:31 PM |
| 3/2/2023 | 3/2/2023 |
| Thursday, March 2, 2023 12:29 PM | |
| | |
| | |
| | |
| | |
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| | |
| | |
| Back Next | Cancel |

Step 4. Specify Target Server

At this step of the wizard, specify credentials to access the target server.

1. In the Server name field, specify the target instance to which you want to restore the database. Use the server\instance or IP_address\instance format. You can select an instance from the drop-down list or use the Browse button on the right.

To browse for another servers and SQL Server instances:

- a. Click the **Browse** button.
- b. You can select a SQL Server instance residing on the local machine on the Local Servers tab or click the Network Servers tab and select an instance on another server. Veeam Explorer for Microsoft SQL Server displays servers from your network where SQL Server is installed.

| | Browse for | Servers | × |
|------------------|--------------------|---------|--------|
| Local Servers | Network Servers | | |
| Select SQL Serve | er instance: | | |
| SRV10\VEEAM: | SQL2016 | | ^ |
| SRV111\SQLEX | PRESS | | |
| SRV111\VEEAN | 4SQL2016 | | |
| SRV19\SQLEXP | RESS | | |
| SRV19\VEEAM: | SQL2016 | | |
| SRV20\SQLEXP | RESS | | |
| SRV20\VEEAM: | SRV20\VEEAMSQL2016 | | |
| SRV2049\VEEA | MSQL2016 | | |
| SRV24\SQLEXP | RESS | | 31 - C |
| SRV24\VEEAM: | SQL2016 | | |
| SRV25\SQLEXP | RESS | | |
| SRV25\VEEAM: | SQL2016 | | |
| SRV26\SQLEXP | RESS | | |
| SRV26\VEEAM: | SQL2016 | | ~ |
| | | Select | Cancel |

- 2. In the **Specify user account to connect** section, specify credentials which will be used to connect to the target SQL Server instance.
 - Select the Use SQL Server authentication check box to use SQL Server authentication. If not selected, Veeam Explorer for Microsoft SQL Server will use Windows authentication.
 - Make sure the account has been granted the sysadmin role privileges on a target SQL server.

• Make sure that the account has at least *Read* and *Write* permissions on the administrative share (for example, \\myserver\ADMIN\$) on the target server.

| | Instant Recovery Wizard | × |
|--------------|--|--------|
| Specify ta | arget SQL Server connection parameters | |
| Server name | e: mssql02.tech.local 🗸 | Browse |
| Specify user | account to connect: | |
| Username: | Sa | |
| Password: | ••••• | |
| | ✓ Use SQL Server authentication | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next | Cancel |
Step 5. Specify Switchover Settings

At this step of the wizard, specify a database switchover type. During switchover, the mounted database is switched to its complete copy on the target server.

To select a switchover type and start an instant recovery session, do the following:

- 1. At the Specify switchover type field, select one of the following switchover options:
 - Auto: switchover is performed automatically after all database files are copied and synchronized.
 - **Manual**: switchover is started manually by user at any time after all database files are copied and synchronized.
 - **Scheduled**: switchover is performed at a specified date and time. Use the drop-down calendar to specify the date and time.
- 2. Click Recover.

After you click **Recover**, Veeam Explorer for Microsoft SQL Server starts publishing the database on the target server.

| | Instant Recovery Wizard | × |
|---|--|----|
| Specify database | switchover scheduling options | |
| Specify switchover type | 2. | |
| Auto Switchover will be | performed automatically with minimal possible downtime once the database is read | у. |
| Manual Switchover can be | performed manually at any point in time after the database is ready. | |
| Scheduled at: | 3/3/2023 12:30 PM 👻 | |
| | Back Recover Cancel | |

Step 6. Finalize Instant Recovery Session

After you finish steps of the **Instant Recovery** wizard, Veeam Explorer for Microsoft SQL Server starts an instant recovery session.

In the **Instant Recovery** session view, you can see the progress of the recovery, edit switchover settings, cancel instant recovery, and start manual switchover (if you have selected the **Manual** switchover option in the **Instant Recovery** wizard).

Depending on the selected switchover option, switchover starts in one of the following ways:

- Automatically, immediately after synchronization
- Automatically, according to a specified schedule
- Manually

If you have selected the **Manual** switchover option, you must perform switchover manually as described in Starting Switchover Manually.



Switchover

The switchover option becomes available after all the database files are copied to the target server and all database files are synchronized. During switchover, the published mount is detached from the target SQL Server instance and the copied database is attached to this instance. Note that if you have selected to restore to the original server, the restored database will replace the original database.

Depending on the option you choose in the **Instant Recovery** wizard, switchover starts in one of the following ways:

- Automatically, immediately after synchronization
- Automatically, according to a specified schedule
- Manually

During switchover, Veeam Explorer for Microsoft SQL Server performs the following operations:

- 1. Detaches the published database from the SQL Server instance.
- 2. Uses the cache to synchronize changes between the published database and the copied database files.
- 3. Drops the published database.
- 4. Attaches the recovered database to the SQL Server instance.

Note that the database will be offline between steps 1-4.

Auto Switchover

The Auto switchover option ensures minimal period of downtime.

As soon as database files are copied from the mount server, Veeam Explorer for Microsoft SQL Server checks the size of the cache that contains changes that have been made to the database since the publishing. Depending on the cache size, the following happens:

- If the cache size is smaller than 100 MB, Veeam Explorer for Microsoft SQL Server starts the switchover process.
- If the cache size is larger than 100 MB, Veeam Explorer for Microsoft SQL Server uses the cache to synchronize changes and checks the cache size once again. If the cache size is smaller than 100 MB, Veeam Explorer for Microsoft SQL Server starts the switchover process. If the cache size is larger than 100 MB again, another cycle of synchronization is performed. Synchronization is relaunched until the cache size is smaller than 100 MB.

Manual Switchover

After database files are copied from the mount server, Veeam Explorer for Microsoft SQL Server checks the size of the cache that contains changes that have been made to the database since the publishing. The cache size is checked every minute. If the cache size is larger than 100 MB or it has been 5 minutes since the last synchronization, Veeam Explorer for Microsoft SQL Server starts to synchronize the changes between the published database and the copied database files.

After synchronization is finished, you can launch switchover manually. For details, see Starting Switchover Manually.

If you launch switchover during the synchronization process, switchover starts only after the synchronization is finished.

Scheduled Switchover

After database files are copied from the mount server, Veeam Explorer for Microsoft SQL Server checks the size of the cache that contains changes that have been made to the database since the publishing. The cache size is checked every minute. If the cache size is larger than 100 MB or it has been 5 minutes since the last synchronization, Veeam Explorer for Microsoft SQL Server starts to synchronize the changes between the published database and the copied database files.

After synchronization is finished, Veeam Explorer for Microsoft SQL Server waits for the scheduled date and time to start switchover.

If the switchover scheduled period starts during the synchronization process, switchover starts only after the synchronization is finished.

Starting Switchover Manually

If you have selected the *Manual* switchover option in the **Instant Recovery** wizard, you can start the switchover process at any time if the database is in the *Ready to switchover* state.

To start switchover manually, do the following:

- 1. In the navigation pane, under the **Instant Recovery** node, select a published database.
- 2. On the Instant Recovery tab, select Switchover Now.

Alternatively, you can right-click the database and select **Switchover now**.

| à | dlsql01 as of less than a day ago (5: | 53 PM Thursday 2/2/2023) - Veeam Explorer for Microsoft SQL Server | - | | × |
|--|---|--|---------|-----|-----|
| Home Instant Recovery | | | | | |
| Edit Switchover Now Instant Recovery | | | | | |
| Databases | Instant Recovery Info | | | | ^ |
| Instant Recovery (1) | Status | Online (published) | | | |
| db1 | SQL Server: | mssql02.tech.local | | | |
| 🕨 🖶 dlsql01.tech 🥕 Edit | Target name: | db1 | | | |
| 🕨 🚓 Other SQL S 🤣 Switchover now | Target point in time: | 2/2/2023 5:52 PM | | | |
| C ¹ Retry | Restore point: | disql01 | | | |
| 🗙 Cancel | Switchover mode: | Manual | | | |
| | Database Files | | | | |
| | Status | Ready for switchover | | | |
| | Primary database file C:\Program Files\Microsoft St | DL Server\MSSOL13.MSSOLSERVER\MSSOL\DATA\db1.mdf | | | ~ |
| | Action | | Duratio | n | ^ |
| | Copying target files | | 00:38 | | |
| | Ø Database published at 2/ | 3/2023 1:26:44 PM | | | |
| | Synchronizing files Ready for switchover | | 00:01 | | |
| | V Ready for switchover | | | | ~ |
| | | | | vee | 9AM |

Managing Instant Recovery Session

After you finish steps of the **Instant Recovery** wizard, Veeam Explorer for Microsoft SQL Server starts an instant recovery session which shows the progress of the recovery process.

Depending on the option you choose in the **Instant Recovery** wizard, switchover starts in one of the following ways:

- Automatically, immediately after synchronization
- Automatically, according to a specified schedule
- Manually

If you have selected the **Manual** switchover option, you must perform switchover manually as described in Starting Switchover Manually.

Also, in the Instant Recovery session view, you can do the following:

- Edit switchover settings.
- Retry instant recovery (in case instant recovery session fails for any reason).
- Cancel instant recovery.

NOTE

The instant recovery session closes automatically after switchover.

| Ĩa ≣ • Home Instant Recovery | disql01 as of less than a day ago | (5:52 PM Tuesday 1/31/2023) - Veeam Explorer for Microsoft SQL Server | | × |
|---|---|--|------------|------|
| Edit Switchover Retry Cancel Now | | | | |
| Databases | Instant Recovery Info |) | | ^ |
| Instant Recovery (1) db1 dlsql01.tech.local E Default Instance Other SQL Server databases | Status SQL Server: Target name: Target point in time: Restore point: Switchover mode: Database Files Status Primary database file | Online (published) mssql02.tech.local db1 1/31/2023 4:48 PM dlsql01 Manual Ready for switchover : SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1.mdf | | |
| | | | D (| ~ |
| | Action | | Duration | _ |
| | Copying target files | | 00:37 | |
| | O Database published at Sumahase ining files | 2/1/2023 2:24:20 PM | 00:01 | _ |
| | Synchronizing files Ready for switchover | | 00:01 | |
| | C | | | ~ |
| | | | Ve | 96AM |

Editing Instant Recovery Settings

If you have started an instant recovery session and want to change switchover settings, you can edit the instant recovery settings.

To change the switchover settings of an instant recovery session, do the following:

- 1. In the navigation pane, under the **Instant Recovery** node, select a published database.
- 2. On the **Instant Recovery** tab, select **Edit** or right-click the database or instance and select **Edit**.

| ゐ | dlsql01 as of less than a day ago (5:53 F | PM Thursday 2/2/2023) - Veeam Explorer for Microsoft SQL Server | _ | | × |
|--|---|---|----------|-----|-----|
| ■ • Home Instant Recovery | | | | | |
| Edit Switchover Now Instant Recovery | | | | | |
| Databases | Instant Recovery Info | | | | ^ |
| ▲ 📑 Instant Recovery (1) | Status | Online (published) | | | |
| 📋 db1 | SQL Server: | mssql02.tech.local | | | |
| disql01.tech Edit | Target name: | db1 | | | |
| • 🔂 Other SQL S 🤹 Switchover now | Target point in time: | 2/2/2023 5:52 PM | | | |
| C ^{al} Retry | Restore point: | disql01 | | | |
| 🗙 Cancel | Switchover mode: | Manual | | | |
| | Database Files | | | | |
| | Status | Ready for switchover | | | |
| | Primary database file | | | | ~ |
| | | Server\MSSOL13.MSSOLSERVER\MSSOL\DATA\db1.mdf | | | ~ |
| | Action | | Duration | | |
| | Copying target files | | 00:38 | | |
| | Database published at 2/3/2 | 023 1:26:44 PM | 00.01 | | |
| | Synchronizing files Ready for switchover | | 00:01 | | |
| | When the switch over | | | | ~ |
| | | | | vee | AN/ |

3. Change the switchover option and click **Apply**.

| | Instant Recovery Wizard | × |
|---|---|-------|
| Specify database s | witchover scheduling options | |
| Specify switchover type | | |
| Auto Switchover will be p | erformed automatically with minimal possible downtime once the database is re | eady. |
| Manual Switchover can be p | performed manually at any point in time after the database is ready. | |
| Scheduled at: | 3/15/2023 11:17 AM | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Apply Cance | el |

Recovery Retry

If anything disrupts the restore process (the target or mount server crashes or the network is down), the restore process stays in the waiting mode and performs 10 automatic retries every 5 minutes. If the retries fail, you can launch the retry manually after the server or network is up.

To start the retry process manually, do the following:

- 1. In the navigation pane, under the **Instant Recovery** node, select the database.
- 2. On the **Instant Recovery** tab, click **Retry**.

Alternatively, you can right-click the database and select **Retry**.

| à | dlsql01 as of less than a day ago (5:53 | PM Thursday 2/2/2023) - Veeam Explorer for Microsoft SQL Server | - | | × |
|---|---|---|----------|-----|----|
| ■ Home Instant Recovery | | | | | |
| Edit Switchover Now Retry Cancel Instant Recovery | | | | | |
| Databases | Instant Recovery Info | | | | ^ |
| Instant Recovery (1) | Status | Failed | | | |
| 🔂 db1 | SQL Server: | mssql02.tech.local | | | |
| 🕨 🗧 dlsql01.tech 🥕 Edit | Target name: | db1 | | | |
| • 🔂 Other SQL S | Target point in time: | 2/2/2023 5:52 PM | | | |
| C' Retry | Restore point: | dlsql01 | | | |
| 🗙 Cancel | Switchover mode: | Manual | | | |
| | Database Files | | | | |
| | Status | Failed | | | |
| | Primary database file | | | | |
| | C:\Program Files\Microsoft SO | L Server\MSSOL13.MSSOLSERVER\MSSOL\DATA\db1.mdf | | | ~ |
| | Action | | Duration | ו | |
| | Instant Recovery started at | | | | |
| | | Failed to get SQL service account name. The connection is broken and recove | 00:38 | | |
| | Copying target files failed: Waiting 5 minutes for the | SQL Server service has been paused. No new connections will be allowed. To re | 01:09 | | |
| | waiting 5 minutes for the | | 01:09 | | ~ |
| | | | | vee | AM |

Canceling Instant Recovery

If you have finished working with the published database and you do not want to switchover, you can cancel the instant recovery session.

You can do this by canceling instant recovery in either Veeam Explorer for Microsoft SQL Server or the Veeam Backup & Replication console.

NOTE

Consider the following:

- Closing either the Veeam Explorer for Microsoft SQL Server window or the Veeam Backup & Replication console does not cancel the instant recovery session.
- You do not need to cancel the instant recovery session if switchover is already performed. The session closes automatically after switchover.

Canceling Instant Recovery in Veeam Explorer for Microsoft SQL Server

To cancel the instant recovery session in Veeam Explorer for Microsoft SQL Server, do the following:

- 1. In the navigation pane, under the **Instant Recovery** node, select a published database.
- 2. On the Instant Recovery tab, select Cancel.

Alternatively, you can right-click the database and select **Cancel**.

| à | dlsql01 as of less than a day ago (5 | :53 PM Thursday 2/2/2023) - Veeam Explorer for Microsoft SQL Server | - | □ × |
|--|---|---|----------|-------|
| ■ Home Instant Recovery | | | | |
| Edit Switchover Retry Cancel Now Instant Recovery | | | | |
| Databases | Instant Recovery Info | | | ^ |
| 🖌 📑 Instant Recovery (1) | Status | Online (published) | | |
| db1 | SQL Server: | mssql02.tech.local | | |
| 🕨 📄 dlsql01.tech 🥕 Edit | Target name: | db1 | | |
| Other SQL S Switchover now | Target point in time: | 2/2/2023 5:52 PM | | |
| C ^a Retry | Restore point: | dlsql01 | | |
| 🗙 Cancel 🙀 | Switchover mode: | Manual | | |
| | Database Files | | | _ |
| | Status | Ready for switchover | | |
| | Primary database file | | | |
| | C:\Program Files\Microsoft S | SOL Server\MSSOL13.MSSOLSERVER\MSSOL\DATA\db1.mdf | | ~ |
| | Action | | Duration | ~ |
| | Copying target files | | 00:38 | |
| | Oatabase published at 2 | /3/2023 1:26:44 PM | | |
| | Synchronizing files Ready for switchover | | 00:01 | _ |
| | Keady for switchover | | | ~ |
| | | | | VeeaM |

Canceling Instant Recovery in Veeam Backup & Replication Console

To cancel the instant recovery session in the Veeam Backup & Replication console, do the following:

- 1. In the Veeam Backup & Replication console, open the **Home** view.
- 2. In the navigation pane, select Instant Database Recovery.
- In the preview pane, select the session and in the Instant Database Recovery tab click Stop Publishing.
 Alternatively, you can right-click the session and click Stop publishing.

| 문 Home Instant Database Recover | ny | | Ve | eam Backup and Repli | cation | | | - □ × |
|--|------------|---------------------|--------------------|----------------------|--------------------|-------------------------|--------------------------|-----------|
| Stop Publishing Actions | | | | | | | | |
| Home | Database 🕇 | Server | Status | Backup Name | | Restore Point | Delta Size | |
| Instant Database Recovery (1) | db1 | disql01.tech.local | Online (published) | MS SQL Backup - dl | sql01 | 2/2/2023 5:5 | | |
| a ‱ Jobs ₩ Backups ₩ Disk ■ Beckups ₩ Disk ■ Beckups ₩ Active (1) ₩ Active (1) ₩ Active (1) ₩ Active (1) ₩ Active (1) ₩ Success ₩ Waning ► Failed | | 🕻 Stop publishing 🔔 | | | | | | |
| A Home | | | | | | | | |
| Inventory | | | | | | | | |
| Backup Infrastructure | | | | | | | | |
| Storage Infrastructure | | | | | | | | |
| Tape Infrastructure | | | | | | | | |
| 🕵 Cloud Connect | | | | | | | | |
| 🗅 🕼 🕏 | | | | | | | | |
| 1 object selected | | | Con | nected to: localhost | Build: 12.0.0.1420 | Enterprise Plus Edition | License expires: 76 days | remaining |

Data Export

This section contains information about the available export options for Microsoft SQL Server databases.

Exporting as MDF

This section explains how to use Veeam Explorer for Microsoft SQL Server to export database files in the MDF format.

Exporting Single Database

You can export a single Microsoft SQL Server database by following one of these scenarios:

- Exporting Latest State
- Exporting Point-in-Time State
- Exporting to Different Location

Exporting Latest State

To export data as of the latest available state, do the following:

- 1. In the navigation pane, select a database.
- 2. On the Database tab, select Export Files > Export latest state to Desktop\<db_name>.

Alternatively, right-click a database and select **Export files** > **Export latest state to Desktop\<db_name>**.

NOTE

The name of the export option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Export latest** state to Desktop\<db_name>.
- If you select any other restore point, the option name is displayed as Export state of <point_in_time> to Desktop\<db_name>.



Exporting Point-in-Time State

To export data as of a point-in-time state, use the **Export** wizard.

- 1. Launch the Export wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the **Database** tab, select **Export Files** > **Export point-in-time state to Desktop\<db_name>**.

Alternatively, you can right-click a database and select **Export files** > **Export point-in-time state to Desktop\<db_name>**.

| à | dlsql01 as of less than a day ago (5:53 PM Thursday 2/2/2023) - Veeam Explorer for Microsoft SQL Server 🛛 🗖 🗙 |
|--------------------------------------|---|
| ≡ • Home Database | |
| Instant Recovery Instant Recovery | Restore Schema * tore |
| Databases | Database Info |
| disql01.tech.local | Name: db1 |
| Default Instance | Backup created: 2/2/2023 5:52 PM |
| Instant recovery | Recovery model: Full |
| | Read-only: No |
| | Available Restore Period |
| 🥛 ቭ Restore database 🔸 | |
| 🔺 📸 Other S ᠷ Restore schema 🕨 | 2/2/2023 4:10:44 PM - 5:52:31 PM |
| 🗟 tem 🕋 Export backup 🔹 🕨 | Database Files |
| 🕜 Export files 🔹 🕨 | Export latest state to Desktop\db1 |
| 📴 Export schema 🔸 | Export point-in-time state to Desktop\db1 3.MSSQLSERVER\MSSQL\DATA\db1.mdf |
| | 😰 Export to a different location |
| | C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1_log.ldf |
| | |
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Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging SQL server. For more information, see Configuring Staging SQL Server.

| Export Wizard | × |
|---|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: Restore to the point in time of the selected image-level backup Restore to a specific point in time (requires transaction log backups) 4:10 PM 2/2/2023 | 5:52 PM 2/2/2023 |
| Thursday, February 2, 2023 5:27 PM | |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore t database to the moment in time right before the unwanted change. | he |
| Next | Cancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to export your database and click **Export**.

Veeam Explorer for Microsoft SQL Server database operations are listed in the SQL Server Database Operation Selection section.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| ne-tune the restore | point | | | |
|----------------------------|----------------------------|--------------------------------|---------------------------|--------|
| | F | | | |
| lect the undesired operati | ion in the list below. The | database will be restored to t | the state prior to transa | action |
| volving the selected opera | | | | |
| | | | | ~ |
| Time | Operation | Object | Туре | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Deleted | Persons | Table | |
| 2/2/2023 5:32:24 PM | Created | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Row inserted | Persons | Table | ~ |
| | | | | > |

Exporting to Different Location

To export a single Microsoft SQL Server database to a custom location, use the **Export** wizard.

- 1. Launch the Export wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Specify files location.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the **Database** tab, select **Export Files** > **Export to a different location**.

Alternatively, you can right-click a database and select **Export files** > **Export to a different location**.

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|--|---|-----|---|
| ≡ • Home Database | | | |
| Instant Recovery * Publish Publish Publish Restore Res | | | |
| Databases | Database Info | | |
| disql01.tech.local Default Instance db1 Instant recovery + Publish database + Restore database + Restore database + Cother S Restore schema + Export backup + Export schema + Export schema + | 3.MSSQLSERVER\MSSQL\DATA\db1.mdf | | |
| | | Vee | |
| · · · · · · · · · · · · · · · · · · · | | | |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging SQL server. For more information, see Configuring Staging SQL Server.

| Export Wizard | × |
|---|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: Restore to the point in time of the selected image-level backup Restore to a specific point in time (requires transaction log backups) 4:10 PM 2/2/2023 | 5:52 PM 2/2/2023 |
| Thursday, February 2, 2023 5:27 PM | |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore t database to the moment in time right before the unwanted change. | he |
| Next | Cancel |

Step 3. Fine-Tune Restore Point

To fine-tune the restore point, select an operation prior to which you want to export your database.

Veeam Explorer for Microsoft SQL Server database operations are listed in the SQL Server Database Operation Selection section.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| ine-tune the restore | point | | | |
|-----------------------------|----------------------------|------------------------------|---------------------------|-------|
| | point | | | |
| elect the undesired operati | ion in the list below. The | database will be restored to | the state prior to transa | ction |
| volving the selected opera | | | | |
| | | | | ~ |
| Time | Operation | Object | Туре | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Deleted | Persons | Table | |
| 2/2/2023 5:32:24 PM | Created | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Row inserted | Persons | Table | ~ |
| < | | | | > |

Step 4. Specify Files Location

At this step of the wizard, specify a path to the directory where you want to export database files.

Click **Browse** to specify the path manually.

NOTE

The account you are using must have a sufficient permission level to access the selected directory (Read and Write as minimum recommended).

| | Export Wiz | tard | | × |
|--|--|------|--------------|--------|
| pecify export path: C:\Users\michael.wells\Desktop\db1 Browse Primary database file C:\Users\michael.wells\Desktop\db1\db1.mdf Secondary database and log files | Specify database files location | | | |
| C:\Users\michael.wells\Desktop\db1 Browse Primary database file C:\Users\michael.wells\Desktop\db1\db1.mdf Secondary database and log files | Speeny database mes location | | | |
| Primary database file C:\Users\michael.wells\Desktop\db1\db1.mdf Secondary database and log files | Specify export path: | | | |
| C:\Users\michael.wells\Desktop\db1\db1.mdf Secondary database and log files | C:\Users\michael.wells\Desktop\db1 | | Browse | |
| C:\Users\michael.wells\Desktop\db1\db1.mdf Secondary database and log files | | | | |
| C:\Users\michael.wells\Desktop\db1\db1.mdf Secondary database and log files | Primary database file | | | ^ |
| | | | | |
| C:\Users\michael.wells\Desktop\db1\db1_log.ldf | Secondary database and log files | | | |
| | C:\Users\michael.wells\Desktop\db1\db1_log.ldf | | | |
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| Back Export Cancel | | Back | Export Cance | J |

Exporting Multiple Databases

You can export multiple Microsoft SQL Server databases by following one of these scenarios:

- Exporting Latest State
- Exporting Point-in-Time State
- Exporting to Different Location

Exporting Latest State

To export data as of the latest available state, use the **Export** wizard.

- 1. Launch the Export wizard.
- 2. Select databases you want to export.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select an instance or the server.
- 2. On the Instance (or Server) tab, select Export Files > Export latest state to Desktop\<server_name>.

Alternatively, you can right-click an instance or the server and select **Export files** > **Export latest state to Desktop<server_name**>.

NOTE

The name of the export option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Export latest** state to Desktop\<server_name>.
- If you select any other restore point, the option name is displayed as Export state of <point_in_time> to Desktop<server_name>.



Step 2. Select Databases

At this step of the wizard, select the databases that you want to export.

To quickly find the necessary databases, use the **Search** field or sort the databases by name. If the databases belong to multiple instances, you can also sort the databases by instance name.

| Type in a database name to search fo | | ٩ |
|--------------------------------------|------------------|---|
| ✓ Name | Instance Name 🕇 | |
| 🖌 📒 db1 | Default Instance | |
| 🖌 📒 db2 | Default Instance | |
| 🖌 📒 HR | Default Instance | |
| 🗸 📒 IT | Default Instance | |
| 🗸 📒 Sales | Default Instance | |
| 🖌 📒 db3 | INSTANCE_01 | |
| 🖌 📒 HR | INSTANCE_01 | |
| 🗸 📒 Sales | INSTANCE_01 | |
| 8 databases selected out of 8 | | |

Exporting Point-in-Time State

To export data as of a point-in-time state, use the **Export** wizard.

- 1. Launch the Export wizard.
- 2. Select databases you want to export.
- 3. Specify a restore point.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select an instance or the server.
- 2. On the Instance (or Server) tab, select Export Files > Export point-in-time state to Desktop\<db_name>.

Alternatively, you can right-click an instance or the server and select **Export files** > **Export point-in-time state to Desktop\<db_name>**.

| 🚴 🛛 🗧 🗖 📩 disql02 as of less than a day ago (12:31 PM Thursday 3/2/2023) - Veeam Explorer for Microsoft SQL Server | |
|--|--|
| ≡ • Home Server | |
| Instant Recovery V Instant Recovery Restore | |
| Databases S | Server Info |
| disql02.tech.local | Name: dlsql02.tech.local |
| | /M name: dlsql02 |
| Restore databases | |
| temp 🚰 Export backup | |
| 🕜 Export files 🔹 💕 Ex | Export latest state to Desktop\dlsql02.tech.local |
| | Export point-in-time state to Desktop\dlsql02.tech.local |
| 📔 Б | Export to a different location |
| | |
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Step 2. Select Databases

At this step of the wizard, select the databases that you want to export.

To quickly find the necessary databases, use the **Search** field or sort the databases by name. If the databases belong to multiple instances, you can also sort the databases by instance name.

| Ехр | ort Wizard | × |
|---------------------------------------|------------------|--------|
| Select databases to restore | | 0 |
| Type in a database name to search for | | ٩ |
| Name | Instance Name 🕇 | |
| 🖌 📒 db1 | Default Instance | |
| 🗸 📒 db2 | Default Instance | |
| 🗸 📒 HR | Default Instance | |
| 🕶 藚 ІТ | Default Instance | |
| 🗸 🃒 Sales | Default Instance | |
| 🖌 📒 db3 | INSTANCE_01 | |
| 🗌 🛑 HR | INSTANCE_01 | |
| Sales | INSTANCE_01 | |
| | | |
| | | |
| 6 databases selected out of 8 | | |
| | Next | Cancel |

Step 3. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per moment when the current restore point of a VM was created by the backup or replication job.
- Select the **Restore to a specific point in time** option to load database files as per specified point in time. Use the slider control to choose a point you need.

NOTE

The **Perform restore to the specific transaction** option is unavailable when exporting multiple databases.

| Export Wizard | × |
|--|----------------------|
| Specify restore point | |
| Specify point in time you want to restore databases to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires transaction log backups) | |
| 12:22 PM 3/2/2023 | 12:31 PM 3/2/2023 |
| Thursday, March 2, 2023 12:29 PM | |
| | |
| | |
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| | |
| | |
| | |
| Back Export | Cancel |

Exporting to Different Location

To export multiple Microsoft SQL Server databases to a custom location, use the **Export** wizard.

- 1. Launch the Export wizard.
- 2. Select databases you want to export.
- 3. Specify a restore point.
- 4. Specify database files location.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select an instance or the server..
- 2. On the Instance (or Server) tab, select Export Files > Export to a different location.

Alternatively, you can right-click an instance or the server and select **Export files** > **Export to a different location**.

| à d | llsql02 as of less than a day ago (12:31 PM Thursday 3/2/2023) - Veeam Explorer for Microsoft SQL Server 🛛 🗖 🗙 |
|--|--|
| ≡ • Home Server | |
| Instant Recovery V | xport |
| Recovery V Databases Backup F Instant Recovery Restore Export | |
| Databases | Server Info |
| dlsql02.tech.local | Name: dlsql02.tech.local |
| Defa Instant recovery | VM name: dlsql02 |
| INST. Restore databases | |
| temp 🖾 Export backup | |
| 🕜 Export files 🔹 🕨 | 🕝 Export latest state to Desktop\dlsql02.tech.local |
| | Export point-in-time state to Desktop\dlsql02.tech.local |
| | 😰 Export to a different location |
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| | VEEAM |

Step 2. Select Databases

At this step of the wizard, select the databases that you want to export.

To quickly find the necessary databases, use the **Search** field or sort the databases by name. If the databases belong to multiple instances, you can also sort the databases by instance name.

| | Export Wizard | × |
|-----------------------------------|------------------|--------|
| Select databases to restore | | |
| | | |
| Type in a database name to search | for | ٩ |
| Name | Instance Name 🕇 | |
| ✔ 📒 db1 | Default Instance | |
| 🗸 📒 db2 | Default Instance | |
| 🗸 📒 HR | Default Instance | |
| 🗸 📒 IT | Default Instance | |
| 🗸 📒 Sales | Default Instance | |
| 🖌 📒 db3 | INSTANCE_01 | |
| 🗌 📒 HR | INSTANCE_01 | |
| 🔄 📒 Sales | INSTANCE_01 | |
| | | |
| | | |
| | | |
| δ databases selected out of 8 | | |
| | Next | Cancel |

Step 3. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per moment when the current restore point of a VM was created by the backup or replication job.
- Select the **Restore to a specific point in time** option to load database files as per specified point in time. Use the slider control to choose a point you need.

NOTE

The **Perform restore to the specific transaction** option is unavailable when exporting multiple databases.

| Export Wizard | × |
|--|----------|
| | |
| Specify restore point | |
| Specify point in time you want to restore databases to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires transaction log backups) | |
| 12:22 PM | 12:31 PM |
| 3/2/2023 | 3/2/2023 |
| Thursday, March 2, 2023 12:29 PM | |
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| | |
| | |
| Back Next | Cancel |

Step 4. Specify Database Files Location

At this step of the wizard, specify a path to the directory where you want to export database files.

| Export Wizard | × |
|---------------------------------|--------|
| Specify database files legation | |
| Specify database files location | |
| Export folder: | |
| C:\Users\michael.wells\Desktop | Browse |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Back Export | Cancel |

Exporting as BAK

This section explains how to use Veeam Explorer for Microsoft SQL Server to export database files in the BAK file format.

IMPORTANT

To export database files as BAK, make sure to configure a staging SQL server, as described in Configuring Staging SQL Server.
Exporting Single Database

You can export a single Microsoft SQL Server database by following one of these scenarios:

- Exporting Latest State
- Exporting Point-in-Time State
- Exporting to Different Location

Exporting Latest State

To export data as of the latest available state, do the following:

- 1. In the navigation pane, select a database.
- 2. On the **Database** tab, select **Export Backup** > **Export latest state to Desktop\<db_name>.bak**.

Alternatively, you can right-click a database and select **Export backup** > **Export latest state to Desktop\<db_name>.bak**.

NOTE

The name of the export option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Export latest** state to Desktop\<db_name>.bak.
- If you select any other restore point, the option name is displayed as Export state of <point_in_time> to Desktop\<db_name>.bak.



Exporting Point-in-Time State

To export data as of a point-in-time state, do the following:

- 1. Launch the Export wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the **Database** tab, select **Export Backup** > **Export point-in-time state to Desktop\<db_name>.bak**.

Alternatively, you can right-click a database and select **Export backup** > **Export point-in-time state to Desktop\<db_name>**.

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|---------------------------------------|--|
| ≡ • Home Database | |
| · · · · · · · · · · · · · · · · · · · | Restore Schema v store Restore Export Expo |
| Databases | Database Info |
| dlsql01.tech.local | Name: db1 |
| Default Instance | Backup created: 2/2/2023 5:52 PM |
| db1 | Recovery model: Full |
| Instant recovery | Read-only: No |
| Publish database 🕨 | Available Restore Period |
| 🧧 🦰 Restore database 🔸 | |
| 🔺 📸 Other S ᠷ 🦷 Restore schema 🔹 🕨 | 2/2/2023 4:10:44 PM - 5:52:31 PM |
| 🗟 tem 🔝 Export backup 🔹 🕨 | 🕍 Export latest state to Desktop\db1.bak |
| 🕝 Export files 🔹 🕨 | 👔 Export point-in-time state to Desktop\db1.bak 🔉 |
| 📴 Export schema 🔸 | Export to a different location SSQLSERVER\MSSQL\DATA\db1.mdf |
| | Secondary database and log files C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1_log.ldf |
| | Veeam |
| | |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your data:

- Select the **Restore to the point in time of the selected image-level backup** option to load data as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load data as per selected point in time.

Use the slider control to choose a point you need.

• Select the **Perform restore to the specific transaction** check box to load data exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging SQL server. For more information, see Configuring Staging SQL Server.

| Export Wizard | × |
|---|---------------------|
| | |
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires transaction log backups) | |
| 4:10 PM | 5:52 PM 2/2/2023 |
| Thursday, February 2, 2023 5:27 PM | |
| | |
| | |
| | |
| | |
| | |
| Perform restore to the specific transaction | |
| Enables you to review major database transactions around the selected time, and resto database to the moment in time right before the unwanted change. | ore the |
| | |
| | |
| Next | Cancel |
| | |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to export your database and click **Export**.

Veeam Explorer for Microsoft SQL Server database operations are listed in the SQL Server Database Operation Selection section.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| ine-tune the restore | point | | | |
|-----------------------------|---------------------------|------------------------------|---------------------------|--------|
| | point | | | |
| elect the undesired operati | on in the list below. The | database will be restored to | the state prior to transa | action |
| volving the selected opera | | | | |
| | | | | ~ |
| Time | Operation | Object | Туре | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Deleted | Persons | Table | |
| 2/2/2023 5:32:24 PM | Created | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Row inserted | Persons | Table | ~ |
| C | | | | > |

Exporting to Different Location

To export a single SQL database to a custom location, use the **Export** wizard.

- 1. Launch the Export wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Specify the database export location.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the **Database** tab, select **Export Backup** > **Export to a different location**.

Alternatively, you can right-click a database and select **Export backup** > **Export to a different location**.

| 2 | dlsql01 as of less than a day ago (5:53 PM Thursday 2/2/2023) - Veeam Explorer for Microsoft SQL Server – 🗖 🗙 |
|---|---|
| ≡ • Home Database | |
| Instant Recovery • Instant Recovery • Publish Database • Publish Database • Restore Database • Restore Restore Restore | Restore Schema * tore |
| Databases | Database Info |
| disql01.tech.local Default Instance db1 instant recovery iPublish database Restore database Restore schema tern Restore schema | Name: db1 Backup created: 2/2/2023 5:52 PM Recovery model: Full Read-only: No Available Restore Period 2/2/2023 4:10:44 PM - 5:52:31 PM Export latest state to Desktop\db1.bak |
| Image: Construction Image: Construction Image: Construction Image: Construction Image: Construction Image: Construction | Export point-in-time state to Desktop\db1.bak Export to a different location Secondary database and log files C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\DATA\db1_log.ldf |
| | VEEAM |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your data:

- Select the **Restore to the point in time of the selected image-level backup** option to load data as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load data as per selected point in time.

Use the slider control to choose a point you need.

• Select the **Perform restore to the specific transaction** check box to load data exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging SQL server. For more information, see Configuring Staging SQL Server.

| Export Wizard | × |
|---|---------------------|
| | |
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires transaction log backups) | |
| 4:10 PM | 5:52 PM 2/2/2023 |
| Thursday, February 2, 2023 5:27 PM | |
| | |
| | |
| | |
| | |
| | |
| Perform restore to the specific transaction | |
| Enables you to review major database transactions around the selected time, and resto database to the moment in time right before the unwanted change. | ore the |
| | |
| | |
| Next | Cancel |
| | |

Step 3. Fine-Tune Restore Point

To fine-tune the restore point, select an operation prior to which you want to export your database.

Veeam Explorer for Microsoft SQL Server database operations are listed in the SQL Server Database Operation Selection section.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| ne-tune the restore | point | | | |
|---------------------------|---------------------------|--------------------------------|---------------------------|--------|
| | point | | | |
| ect the undesired operati | on in the list below. The | database will be restored to f | the state prior to transa | actior |
| olving the selected opera | | | 1 | |
| | | | | ~ |
| Time | Operation | Object | Туре | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Deleted | Persons | Table | |
| 2/2/2023 5:32:24 PM | Created | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Row inserted | Persons | Table | ~ |
| | | | | > |

Step 4. Specify Database Export Location

At this step of the wizard, specify the path to the destination directory.

You can select **Enable compression** check box to reduce the output file size.

NOTE

Compression is unavailable if the staging SQL server runs Microsoft SQL Server 2005 or any Express Edition of Microsoft SQL Server.

| Export Wizard | × |
|---|------------|
| Specify database export location | |
| Specify export path: | |
| C:\Users\Administrator\Desktop\AccountSystem.bak | Browse |
| Specify whether to perform compression, overriding the server-level default: Finable compression Compression significantly reduces the output file size, but prevents its import into Express server due to the edition limitations. | SQL Server |
| Back Export | Cancel |

Exporting Multiple Databases

You can export multiple Microsoft SQL Server database by following one of these scenarios:

- Exporting Latest State
- Exporting Point-in-Time State
- Exporting to Different Location

Exporting Latest State

To export data as of a point-in-time state, use the **Export** wizard.

- 1. Launch the Export wizard.
- 2. Select databases you want to export.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select an instance or the server.
- 2. On the Instance (or Server) tab, select Export Backup > Export latest state to Desktop\<db_name>.

Alternatively, you can right-click an instance or the server and select **Export backup** > **Export latest state to Desktop\<db_name>**.

| à | dlsql02 as of less than a day ago (12:31 PM Thursday 3/2/2023) - Veeam Explorer for Microsoft SQL Server 🛛 🗖 💈 | × |
|-----------------------------|--|--------------|
| ≡ • Home Server | | |
| Instant Recovery * | Export | |
| Recovery | | |
| Databases | Server Info | |
| dlsql02.tech.local | Name: disql02.tech.local | |
| Defa Instant recovery | VM name: disql02 | |
| Restore databases | | |
| Cother SC Export backup | C Export latest state to Desktop\dlsql02.tech.local | |
| 🕜 Export files 🔹 🕨 | 👔 Export point-in-time state to Desktop\dlsql02.tech.local | |
| | 😰 Export to a different location | |
| | | |
| | | |
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| | | |
| | Vea | \mathbf{M} |

Step 2. Select Databases

At this step of the wizard, select the databases that you want to export.

To quickly find the necessary databases, use the **Search** field or sort the databases by name. If the databases belong to multiple instances, you can also sort the databases by instance name.

| Select databases to restore | for | Q |
|--|--------------------------------------|---|
| Name | Instance Name | ~ |
| | | |
| ✓ i db1 ✓ i db2 | Default Instance Default Instance | |
| | Default Instance | |
| | Default Instance | |
| Sales | Default Instance | |
| 🗸 🧧 db3 | INSTANCE_01 | |
| 🖌 📒 HR | INSTANCE_01 | |
| 🗸 📒 Sales | INSTANCE_01 | |
| 8 databases selected out of 8 | | |
| | | |

Exporting Point-in-Time State

To export data as of a point-in-time state, use the **Export** wizard.

- 1. Launch the Export wizard.
- 2. Select databases you want to export.
- 3. Specify a restore point.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select an instance or the server.
- 2. On the Instance (or Server) tab, select Export Backup > Export point-in-time state to Desktop\<db_name>.

Alternatively, you can right-click an instance or the server and select **Export backup** > **Export point-in-time state to Desktop\<db_name>**.

| 🔏 disc | dlsql02 as of less than a day ago (12:31 PM Thursday 3/2/2023) - Veeam Explorer for Microsoft SQL Server 🛛 🗕 🗙 | |
|---|--|--|
| ≡ • Home Server | | |
| Instant Recovery • Instant Recovery | ort s • | |
| Databases | Server Info | |
| dlsql02.tech.local | Name: dlsql02.tech.local | |
| Defa Instant recovery | VM name: dlsql02 | |
| INST Restore databases | | |
| 💦 temp 🔀 Export backup 🔹 👫 | | |
| 🕜 Export files 🔸 🕻 | 20 | |
| | Export to a different location | |
| | | |
| | | |
| | | |
| | | |
| | | |
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| | | |
| | | |
| | VEEAM | |

Step 2. Select Databases

At this step of the wizard, select the databases that you want to export.

To quickly find the necessary databases, use the **Search** field or sort the databases by name. If the databases belong to multiple instances, you can also sort the databases by instance name.

| | Export Wizard | × |
|-------------------------------------|------------------|--------|
| Select databases to restore | | |
| | | |
| Type in a database name to search f | or | ٩ |
| Name | Instance Name 🕇 | |
| 🖌 📒 db1 | Default Instance | |
| 🗸 📒 db2 | Default Instance | |
| 🗸 📒 HR | Default Instance | |
| 🕶 📋 IT | Default Instance | |
| 🗸 📒 Sales | Default Instance | |
| ✔ 📒 db3 | INSTANCE_01 | |
| 🗌 📒 HR | INSTANCE_01 | |
| 🗌 📒 Sales | INSTANCE_01 | |
| | | |
| | | |
| | | |
| 6 databases selected out of 8 | | |
| | Next | Cancel |

Step 3. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per moment when the current restore point of a VM was created by the backup or replication job.
- Select the **Restore to a specific point in time** option to load database files as per specified point in time. Use the slider control to choose a point you need.

NOTE

The **Perform restore to the specific transaction** option is unavailable when exporting multiple databases.

| Export Wizard | × |
|--|----------|
| | |
| Specify restore point | |
| Specify point in time you want to restore databases to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires transaction log backups) | |
| 12:22 PM | 12:31 PM |
| 3/2/2023 | 3/2/2023 |
| Thursday, March 2, 2023 12:29 PM | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Back Export | Cancel |

Exporting to Different Location

To export multiple Microsoft SQL Server databases as BAK to a custom location, use the **Export** wizard.

- 1. Launch the Export wizard.
- 2. Select databases you want to export.
- 3. Specify a restore point.
- 4. Specify the database export location.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select an instance or the server.
- 2. On the **Instance** (or **Server**) tab, select **Export Backup** > **Export to a different location**.

Alternatively, you can right-click an instance or the server and select **Export backup** > **Export to a different location**.

| 🔏 dlsq | lsql02 as of less than a day ago (12:31 PM Thursday 3/2/2023) - Veeam Explorer for Microsoft SQL Server 🛛 🗖 🗖 | | |
|---|---|--|--|
| ≡ • Home Server | | | |
| Instant Recovery * Instant Recovery | | | |
| Databases | Server Info | | |
| dlsql02.tech.local | Name: dlsql02.tech.local | | |
| Defa Instant recovery | VM name: dlsql02 | | |
| Restore databases | | | |
| 🔁 temp 🚰 Export backup 🔹 🖬 | | | |
| 🕜 Export files 🔹 🕻 | | | |
| | Export to a different location | | |
| | | | |
| | | | |
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| | | | |
| | | | |
| | Veeam | | |

Step 2. Select Databases

At this step of the wizard, select the databases that you want to export.

To quickly find the necessary databases, use the **Search** field or sort the databases by name. If the databases belong to multiple instances, you can also sort the databases by instance name.

| Export Wizard | | | | | |
|-------------------------------------|------------------|--------|--|--|--|
| Select databases to restore | | | | | |
| | | | | | |
| Type in a database name to search f | or | ٩ | | | |
| Name | Instance Name 🕇 | | | | |
| 🖌 📒 db1 | Default Instance | | | | |
| 🗸 📒 db2 | Default Instance | | | | |
| 🗸 📒 HR | Default Instance | | | | |
| 🕶 📋 IT | Default Instance | | | | |
| 🗸 📒 Sales | Default Instance | | | | |
| ✔ 📒 db3 | INSTANCE_01 | | | | |
| 🗌 📒 HR | INSTANCE_01 | | | | |
| 🗌 📒 Sales | INSTANCE_01 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 6 databases selected out of 8 | | | | | |
| | Next | Cancel | | | |

Step 3. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per moment when the current restore point of a VM was created by the backup or replication job.
- Select the **Restore to a specific point in time** option to load database files as per specified point in time. Use the slider control to choose a point you need.

NOTE

The **Perform restore to the specific transaction** option is unavailable when exporting multiple databases.

| Export Wizard | × |
|---|----------------------|
| Specify restore point Specify point in time you want to restore databases to: Restore to the point in time of the selected image-level backup Restore to a specific point in time (requires transaction log backups) | |
| 12:22 PM 3/2/2023 Thursday, March 2, 2023 12:29 PM | 12:31 PM 3/2/2023 |
| Back Next | Cancel |

Step 4. Specify Database Export Location

At this step of the wizard, specify the path to the destination directory.

You can select **Enable compression** check box to reduce the file size.

NOTE

Compression is unavailable if the staging SQL server runs Microsoft SQL Server 2005 or any Express Edition of Microsoft SQL Server.

| Export Wizard | × |
|--|---------------|
| Specify database export location | |
| Specify export path: | |
| C:\Users\Administrator\Desktop | Browse |
| Specify whether to perform compression, overriding the server-level default: Enable compression Compression significantly reduces the output file size, but prevents its import in Express server due to the edition limitations. | to SQL Server |
| Back Export | Cancel |

Exporting Database Schema and Data

This section explains how to use Veeam Explorer for Microsoft SQL Server to export your database schema and data.

NOTE

Export of schema and data for multiple databases is not supported.

Using 1-Click Export

Veeam Explorer for Microsoft SQL Server allows you to quickly export database schema state as of the current restore point

To export database schema to the default location, do the following:

- 1. In the navigation pane, select a database.
- 2. On the Database tab, select Export Schema > Export database schema latest state to Desktop\<db_name>.

Alternatively, you can right-click a database and select **Export schema > Export database schema latest state to Desktop\<db_name>**.

NOTE

The name of the export option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as Export database schema latest state to Desktop\<db_name>.
- If you select any other restore point, the option name is displayed as **Export database schema state** of <point_in_time> to Desktop\<db_name>.



Exporting to Custom Location

To export database schema and data, do the following:

- 1. Launch the Export wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Select database objects.
- 5. Specify names for objects.
- 6. Specify the destination folder.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the Database (or Server/Instance) tab, select Export Schema > Export database schema and data.

Alternatively, you can right-click a database and select **Export schema > Export database schema and data**.

TIP

To import data tables, use the standard SQL server **bcp.exe** utility. For more information, see this Microsoft article.



Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging SQL server. For more information, see Configuring Staging SQL Server.

| Export Wizard | × |
|--|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires transaction log backups) 4:10 PM 2/2/2023 | 5:52 PM 2/2/2023 |
| Thursday, February 2, 2023 5:27 PM | |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore to database to the moment in time right before the unwanted change. | he |
| Next | Cancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to export your database.

Veeam Explorer for Microsoft SQL Server database operations are listed in the SQL Server Database Operation Selection section.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| ne-tune the restore | noint | | | |
|---------------------------|----------------------------|------------------------------|--------------------------|--------|
| | point | | | |
| ect the undesired operati | ion in the list below. The | database will be restored to | the state prior to trans | action |
| olving the selected opera | | | the state prior to danse | rector |
| | | | | |
| Time | Operation | Object | Туре | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column removed | Persons | Table | |
| 2/2/2023 5:32:24 PM | Deleted | Persons | Table | |
| 2/2/2023 5:32:24 PM | Created | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Column added | Persons | Table | |
| 2/2/2023 5:32:24 PM | Row inserted | Persons | Table | ~ |
| | | | | > |

Step 4. Select Database Objects

At this step of the wizard, select database objects to restore.

To display only specific objects, click **Filter** and select an object type you want to be shown in the list.

| Export Wizard | | | × | | |
|----------------|------------|-------|----------|--------|--------|
| Select databas | se objects | | | | |
| Schema | Name | Туре | Script | ✔ Data | |
| dbo | 📰 Persons | Table | 🖌 Script | 🖌 Data | |
| | | | | | |
| | | | | | Filter |
| | | | Back | Next | Cancel |

Step 5. Specify Names for Objects

At this step of the wizard, specify the name to be assigned to the object.

- To specify a new name, select a database and provide a new name.
- To assign a default name with the _*new* suffix, click **Auto**.

| | | | Export Wizard | I | | × | |
|---|--------------|---------------|---------------|------|---------|--------|--|
| : | Specify name | s for objects | | | | | |
| | Schema | New Name | | | Туре | | |
| | dbo | E Persons | | | Table | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | Default | Auto | |
| | | | | Back | Next | Cancel | |

Step 6. Specify Destination Folder

Specify the destination folder to which you want to export selected database schema objects.

| Export Wizard | × |
|--------------------------------|--------|
| | |
| Specify destination folder | |
| Export folder: | |
| C:\Users\michael.wells\Desktop | Browse |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Back Export | Cancel |

SQL Server Database Operations

The following table lists SQL Server database operations and their display names that appear in the fine-tune dialog.

| Entity | Operation | Display Format | Constraints |
|--------|-------------|---|---|
| | CREATE | <date_time> Created[/Modified] <table_name> Table <initiator></initiator></table_name></date_time> | _ |
| | DROP | <date_time> Deleted <table_name> Table <initiator></initiator></table_name></date_time> | _ |
| | ALTER | <date_time> Column added <table_name> Table <initiator></initiator></table_name></date_time> | _ |
| | INSERT INTO | <date_time> Inserted row <table_name>[/table_ID] Table <initiator></initiator></table_name></date_time> | Table name will not be displayed for deleted table, only table ID will be shown. |
| Table | DELETE FROM | <date_time> Deleted row <table_name>[/table_ID] Table <initiator></initiator></table_name></date_time> | Table name will not be displayed for deleted table, only table ID will be shown. |
| | UPDATE | <date_time> Modified <table_name>>[/table_ID] Table <initiator></initiator></table_name></date_time> | Table name will not be displayed for deleted table, only table ID will be shown. |
| | TRUNCATE | <date_time> Truncated Table <initiator></initiator></date_time> | Table name and ID will not be displayed for deleted table. |
| | BULK INSERT | <date_time> Inserted row <table_name>[/table_ID] Table <initiator></initiator></table_name></date_time> | _ |
| | CREATE | <date_time> Created <view_name> View <initiator></initiator></view_name></date_time> | _ |
| View | DROP | <date_time> Deleted <view_name> Table <initiator></initiator></view_name></date_time> | _ |

| Entity | Operation | Display Format | Constraints |
|-----------|-----------|--|----------------------------|
| | ALTER | <date_time> Modified <view_name> View <initiator></initiator></view_name></date_time> | _ |
| | CREATE | <date_time> Created <index_name> Index <initiator></initiator></index_name></date_time> | _ |
| Index | DROP | <date_time> Deleted <index_name> Index <initiator></initiator></index_name></date_time> | _ |
| | ALTER | <date_time> Modified <index_name> Index <initiator></initiator></index_name></date_time> | _ |
| | CREATE | <date_time> Created <procedure_name> Procedure <initiator></initiator></procedure_name></date_time> | _ |
| Procedure | DROP | <date_time> Deleted <procedure_name> Table <initiator></initiator></procedure_name></date_time> | _ |
| | ALTER | <date_time> Modified <procedure_name> Procedure <initiator></initiator></procedure_name></date_time> | _ |
| | CREATE | <date_time> Created <function_name> Function <initiator></initiator></function_name></date_time> | - |
| Function | DROP | <date_time> Deleted <function_name> Table <initiator></initiator></function_name></date_time> | _ |
| | ALTER | <date_time> Modified <function_name> Function <initiator></initiator></function_name></date_time> | _ |
| | CREATE | <date_time> Created <schema_name> Schema <initiator></initiator></schema_name></date_time> | _ |
| Schema | DROP | <date_time> Deleted <schema_name> Schema <initiator></initiator></schema_name></date_time> | _ |
| | ALTER | <date_time> Modified <schema_name> Schema <initiator></initiator></schema_name></date_time> | Schema cannot be detected. |
| User | CREATE | <date_time> Created <user_name> User <initiator></initiator></user_name></date_time> | _ |

| Entity | Operation | Display Format | Constraints |
|---------|-----------|--|-------------|
| | DROP | <date_time> Deleted <user_name> User <initiator></initiator></user_name></date_time> | _ |
| | ALTER | <date_time> Modified <user_name> User <initiator></initiator></user_name></date_time> | _ |
| Trigger | CREATE | <date_time> Created <trigger_name> Trigger <initiator></initiator></trigger_name></date_time> | _ |
| | DROP | <date_time> Deleted <trigger_name> Trigger <initiator></initiator></trigger_name></date_time> | - |
| | ALTER | <date_time> Modified <trigger_name> Trigger <initiator></initiator></trigger_name></date_time> | _ |
Veeam Explorer for Oracle

Veeam Explorer for Oracle allows you to restore and export Oracle databases and Data Guard from backups created by Veeam Backup & Replication or Veeam Plug-in for Oracle RMAN.

Planning and Preparation

Before you start using Veeam Explorer for Oracle, make sure your backup infrastructure meets the following requirements and limitations.

System Requirements

This section lists system requirements for Veeam Explorer for Oracle.

| Component | Requirement |
|---|--|
| Oracle on Windows OS / Oracle on Linux OS | For more information on supported versions of Oracle Database, see the Supported Applications subsection of the Veeam Backup & Replication User Guide. |

Ports

The following tables list network ports that must be opened to manage inbound and outbound traffic.

Backup

Oracle on Windows

| From | То | Protocol | Port | Notes |
|----------------------------------|---|----------|---|--|
| Backup server | Source machine with Oracle | TCP, UDP | 135, 137 to 139, 445 | Ports used to deploy the runtime coordination process on the source machine. |
| | | ТСР | 49152 to 65535 (for Microsoft Windows 2008 or later) | Dynamic RPC range used by the runtime coordination process that is deployed on the source machine for application-aware processing. ¹ For more information, see this Microsoft article. |
| | | ТСР | 6167 | For archived logs shipping Port used by the runtime coordination process on the source machine from which archived logs are collected. |
| Source machine with Oracle | Backup server | ТСР | 49152 to 65535 (for Microsoft Windows 2008 or later) | Dynamic RPC range used by the runtime coordination process that is deployed on the source machine for application-aware processing. ¹ |
| | Log shipping server, backup repository | ТСР | 2500 to 3300 | For archived logs shipping Default range of ports used for data transfer over the network. Log shipping server is used in case the direct connection to the backup repository is not possible. For more information, see Log Shipping Servers. |

¹ If you use default Microsoft Windows firewall settings, you do not need to configure dynamic RPC ports: during setup, Veeam Backup & Replication automatically creates a firewall rule for the runtime process. If you use firewall settings other than default ones or application-aware processing fails with the *RPC function call failed* error, you need to configure dynamic RPC ports. For more information on how to configure RPC dynamic port allocation to work with firewalls, see this Microsoft KB article.

Oracle on Linux

| From | То | Protocol | Port | Notes |
|----------------------------------|---|----------|-----------------|---|
| Backup server | Source machine with Oracle | ТСР | 6162 | Default port used by Linux Management Agent. |
| | | ТСР | 22 | Default SSH port used as a control channel (without Linux Management Agent). |
| | | ТСР | 2500 to 3300 | For archived logs shipping Default range of ports used for managing data transfer over the network. Log shipping server is used in case the direct connection to the backup repository is not possible. For more information, see Log Shipping Servers. |
| | | ТСР | 6167 | For archived logs shipping Port used by the runtime process on the source machine from which archived logs are collected. |
| Source machine with Oracle | Log shipping server, backup repository | ТСР | 2500 to 3300 | For archived logs shipping Default range of ports used for managing data transfer over the network. Log shipping server is used in case the direct connection to the backup repository is not possible. For more information, see Log Shipping Servers. |

Restore

| From | То | Protocol | Port | Notes |
|---|---|----------|-------------------|---|
| Backup server, Veeam Backup & Replication console, mount server associated with the backup repository (only for Instant Recovery or restore from | Target Windows machine with Oracle | ТСР | 49152 to 65535 | Recommended dynamic RPC port range for Microsoft Windows 2008 or later. For more information, see this Microsoft article. |
| Enterprise Manager) | | ТСР | 1025 to 1075 | Default range of ports for the runtime component installed on the target machine to support restore operations. Port is opened only during application item restore. Note: You must manually open these ports for Veeam.Oracle.Service.exe in Microsoft Windows Firewall. |
| | | ТСР | 6160, 11731 | Ports used by the Veeam Installer Service for connections to the target Windows machine with Oracle. |
| | Target Linux machine with Oracle | ТСР | 22 | Default SSH port used as a control channel. |
| Backup repository | Target Linux machine with Oracle | ТСР | 2500 to 3300 | Default range of ports used for managing data transfer during restore to the original (remote) machine or another Linux machine with Oracle. |
| Target Linux machine with Oracle | Backup repository | ТСР | 2500 to 3300 | Default range of ports used for managing data transfer during restore to the original (remote) machine or another Linux machine with Oracle. |
| Target Windows machine with Oracle, staging server | Mount server associated with the backup repository | ТСР | 3260 to 3270 | Range of ports opened by Veeam Backup & Replication to manage iSCSI traffic during restore to the target machine. This port range is opened only during application item restore. |

Permissions

The following table lists the required permissions for user accounts to restore Oracle data.

| Operation | Required Roles and Permissions |
|---------------------------------------|---|
| Veeam Explorer for Oracle launch | The account used to run Veeam Explorer for Oracle must be a member of the local <i>Administrators</i> or <i>Users</i> group. |
| Restore / Accessing Staging Server | To restore data, make sure to configure user accounts as follows: When restoring to a Windows-based machine, the account must be a member of the local <i>Administrators</i> group on the target machine. In addition, if <i>ASM</i> is used, then such an account must be a member of the <i>ORA_ASMADMIN</i> group (for Oracle 12 and higher). When restoring to a Linux-based machine, the account must be a Linux user with <i>root</i> permissions on the target machine and have membership in the following groups: <i>OSASM</i> [if <i>ASM</i> is used] (typically <i>asmadmin</i>), <i>OSDBA</i> (typically dba), <i>Oracle Inventory group</i> (typically <i>oinstall</i>). Keep in mind that for restore from RMAN backups, the <i>root</i> privileges for the user account are not required. |
| Export as database files | The account under which Veeam Explorer for Oracle runs must be a member of the local <i>Administrators</i> group. |

Required Backup Job Settings

When you create a backup job, make sure to enable the **application-aware image processing** option, as described in the Specify Guest Processing Settings section of the Veeam Backup & Replication user guide.

If your backups were created without application-aware image processing, you can still explore them, as described in Exploring non-Application Enabled Backups.

The application-specific information is retrieved according to the following:

- If the **application-aware image processing** option is enabled, Veeam Explorer for Oracle obtains application-specific Oracle database information from the Oracle VM backup metadata located in the backup server configuration database.
- If the **application-aware image processing** option is disabled, Veeam Explorer for Oracle requires a staging Oracle server to mount a selected image-level Oracle VM backup (with databases and redo logs) and collect required information using the guest scan and Oracle infrastructure analysis.

IMPORTANT

Make sure to have your database in the **OPEN** state during backup. Otherwise, the following warning message will appear in the backup job session: *Oracle database instance state is not valid for property collection*. Whether the backup job completes or fails depends on the selected backup job settings. For more information, see the Application-Aware Processing section of the Veeam Backup & Replication User Guide.

Considerations and Limitations

This section lists considerations and known limitations of Veeam Explorer for Oracle.

General

- When Veeam Explorer for Oracle is installed on a server on which both Veeam Backup & Replication and Veeam Backup for Microsoft 365 are installed, the notification settings will be inherited from the Veeam Backup & Replication Global Notification settings.
- [Restore to Linux server] You can restore data over SSH only, restore using Linux Management Agent is not supported.
- [Restore to Linux server] Restore with Veeam Explorer for Oracle is not supported if the SQL*Plus environment on the target Oracle server is configured to use glogin.sql or login.sql profile files. For details, see the Configuring SQL*Plus section of the SQL*Plus User's Guide.
- [Restore to Linux server] Restore of databases that resided in an encrypted file system on the original server is not supported. In particular, encrypted LVM volumes are not supported.
- [For refreshable PDB] Data restore, data publishing and instant recovery are not supported for refreshable PDBs.
- [Restore from VM backups] Mount of Btrfs disks will fail if you want to perform instant recovery, data restore or data publish to the original server. The issue occurs due to restriction for mounting 2 Btrfs disks with identical IDs to the same machine.

Note that Btrfs volumes on the backed-up Veeam Agent machine must have identifiers in the UUID format in the fstab configuration file.

- Mount operations with FUSE are not supported on kernel versions 4.0.0 4.1.33. Make sure to upgrade the kernel to version 4.1.37 or later.
- [For restore to Oracle ASM] You cannot specify paths and file names for restored database files. During restore, Oracle ASM will automatically create and name the necessary files in the specified disk group using the OMF (Oracle Managed Files) feature.

Restore from Image-Level Backups

- Veeam Explorer for Oracle does not support restore using PowerShell Direct, VIX API or vSphere Automation API.
- 1-Click restore to the original location from storage snapshots is not supported.
- A point in time restore is not supported for replicas and backups stored in the DR site by backup copy jobs, nor it is supported for backups stored in a cloud repository. Such repositories cannot be used as a destination location for archived logs.
- Restore of databases from the current restore point is only supported for backups created by Veeam backup job, replication job, VeeamZIP and for imported backup and storage snapshots.
- If OS authentication on a target Oracle server is disabled, the restore of databases with enabled ASM will not be possible.
- If OS authentication on a staging Oracle server is disabled, the restore of databases with enabled ASM as of the selected transaction state will not be possible.

- Make sure that both the backed-up Oracle machine and the target server to which you are restoring have the same OS patch version.
- Oracle Automatic Storage Management Filter Driver (Oracle ASMFD) is not supported.

Restore from RMAN Backups

IMPORTANT

Restore from RMAN backups is not possible if OS authentication is disabled on the target Oracle server.

Restore of Oracle Real Application Clusters (RAC)

To restore RAC databases from RMAN backups, make sure you apply the following restore settings. Otherwise, the databases will be restored as standalone databases.

- **Restore to original server**: You must perform the restore with original name and settings.
- Restore to another server:
 - \circ You must perform the restore with original name and settings.
 - \circ $\,$ The Oracle home and Oracle directory structure must remain the same.
 - You must copy the original control file to the target server or recovery catalog of the database which is running in the duplicated cluster. Such a control file must contain information about backups from which the restore is being performed.
 - For Oracle ASM, the file system structure of the restored database must remain the same.

Restore of Data Guard Databases

Data restore with Veeam Explorer for Oracle from backups of Data Guard databases created by Veeam Plug-in for Oracle RMAN has experimental support. You can restore Data Guard databases from Veeam Plug-in backups with the following limitations:

• Restore to original server

- You can restore Data Guard primary databases as primary databases only to the original location with the original name and settings.
- You can restore Data Guard standby databases as standby databases only to the original location with the original name and settings.

A restore with different settings will fail due to Data Guard limitations.

• Restore to another server

- \circ Make sure that the copy of the original cluster already exists in the duplicated environment.
- You must copy the original control file to the target server or recovery catalog of the database which is running in the duplicated cluster. Such a control file must contain information about backups from which the restore is being performed.
- You can restore Data Guard primary databases as primary databases only with the original name and settings.

- You can restore Data Guard standby databases as standby databases only to the original location with original name and settings.
 - A restore with different settings will fail due to Data Guard limitations.

Restore of Oracle Databases

- When restoring to another server with the original name and settings, consider the following:
 - \circ $\,$ The Oracle home and Oracle directory structure must remain the same.
 - You must copy the original control file to the target server or recovery catalog of the database which is running in the duplicated cluster. Such a control file must contain information about backups from which the restore is being performed.
 - For Oracle ASM, the file system structure of the restored database must remain the same.
- To restore a database with different name and settings, the database must use SPFILE (server parameter file).

Publishing from Image-Level Backups

- Make sure that the target Oracle server to which you publish your databases is of the same version as the database in the backup.
- If the database that you publish is part of the ASM group, make sure that the target Oracle server also has an ASM group properly configured.

Instant Recovery

- For Oracle Database 12c, instant recovery is supported starting from version 12.2.0.1.0.211019.
- Instant recovery is supported for image-level backups only. You cannot perform instant recovery from RMAN backups.
- Make sure that both the backed-up Oracle machine and the target server to which you are restoring have the same OS patch version.
- Instant recovery of the entire Oracle Data Guard is not supported. However, you can restore individual Data Guard databases.
- Instant recovery of SAP on Oracle is not supported.
- During the instant recovery process, Veeam Explorer for Oracle requires 512 MB of RAM for each database.
- If you add a new pluggable database to the container during an instant recovery process, the instant recovery session fails.

Launching Application and Exploring Backups

To open Veeam Explorer for Oracle and load backups, you can use any of the following methods:

• The Restore application item option to load backups created by Veeam Backup & Replication.

For more information, see the Application Items Restore section of the Veeam Backup & Replication User Guide.

• Go to Start and click Veeam Explorer for Oracle.

If you open Veeam Explorer for Oracle from the **Start** menu on a machine that runs the Veeam Backup & Replication console and Veeam Explorers only, specify the following:

- The domain name or IP address of the backup server to which you want to connect
- The port number
- User account credentials

Consider the following:

- To perform recovery operations, Veeam Explorer for Oracle must be run with elevated permissions. The user account must be a member of the local *Administrators* group on the machine where Veeam Explorers Suite is installed.
- The account must have the Veeam Backup Administrator or Veeam Restore Operator role on the target backup server.

To use the account under which Veeam Explorer for Oracle is running, select **Use Windows session authentication**.

To save the connection shortcut to the desktop, click Save shortcut in the bottom-left corner.

| | | × |
|---|-----------------------|----------------------|
| Veeam Explor | er | |
| Type in a backup server name or IP ad and user credentials to connect with. backup01.tech.local | dress, backup service | port number, 9392 |
| TECH\Administrator | | |
| ••••• | | |
| Use Windows session authentication | n | |
| Save shortcut | Connect | Close |

Getting to Know User Interface

Veeam Explorer for Oracle provides you with the convenient user interface that allows you to perform required operations in a user-friendly manner.

Main Menu

The main menu comprises the following:

- General Options. Allows you to configure general application settings.
- Help.
 - **Online help**. Opens the online help page.
 - $\circ~$ About. Shows the additional information including build number.
- Exit. Closes the Veeam Explorer for Oracle window.

TIP

You can also open online help by pressing [F1] in any Veeam Explorer for Oracle wizard or window. You will then be redirected to the relevant section of the Veeam Explorers User Guide.

| Ę | winorcl01 as of less than a day ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle – | - 🗆 | × |
|--------------------------|---|--------|------|
| = - | | | |
| General Options | | | |
| Help 🔓 🕻 | Online help Opens online help web page in the default browser | | |
| Exit | About Shows additional information about this product | | |
| ▲ 🗧 winorcl01.tech.local | rame: winorcior.tecnaocal | | |
| ▶ 📷 OraDB19Home1 | OS version: Microsoft Windows Server 2019 (1809, 64-bit) | | |
| | Machine name: winorcl01 | | |
| winorcl01.tech.local | | \vee | eeam |

Main Application Window

The main application window can be divided into three categories:

- The ribbon menu, which contains general program commands organized into logical groups.
- The navigation pane, which allows you to browse through the hierarchy of your backup files.
- The preview pane, which shows you the details about objects you have selected in the navigation area.



How Mounting Works

When restoring your data, Veeam Explorer for Oracle requires an additional mount point to be created to display the list of available transactions.

Mounting is performed by the *Veeam Mount Service* component which is deployed on a backup repository machine or any other machine you define in the backup repository settings. For more information on configuring mount server settings, see the Mount Server section of the Veeam Backup & Replication User Guide.

During mounting, *Veeam Mount Service* retrieves a VM file system from the backup file, attaches it to the hard drive of a target machine and creates a mount point.

Mounting is done as follows:

• To mount a VM file system on machines with the Microsoft Windows operating system, Veeam uses the iSCSI protocol.

The original virtual machine or the staging server acts as an iSCSI initiator and the mount server that is associated with the backup repository acts as an iSCSI target. The iSCSI mount point is non-persistent and only exists during the recovery process.

• To mount a VM file system on machines with Linux, Veeam uses FUSE.

NOTE

When using fine-tune restore, Veeam requires a staging Oracle server to mount the VM file system.

Viewing Database Information

To view Oracle database information, select a database or Data Guard in the navigation pane and review its properties in the preview pane.

Viewing Oracle Database Information

The following figure shows the standalone database information view.

If the current restore point was created with Oracle Automatic Storage Management (ASM), file paths will be displayed with the '+' prefix.

| ≓a | winorcl01 as of less than a day ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - 1 | | × |
|---|--|-----|-----|----|
| ≡ • Database | | | | |
| | | | | |
| Instant Publish Restore Recovery V Database V Database V | Export as Export RMAN backup T Database Files T | | | |
| Instant Recovery Publish Restore | Export | | | |
| Databases | Database Info | | | ^ |
| ▲ 🗧 winorcl01.tech.local | Name: orcl | | | |
| OraDB19Home1 | Unique name: orcl | | | |
| i orcl | Oracle SID: ORCL | | | |
| | Log mode: ARCHIVELOG | | | |
| | Backup time: 3/9/2023 5:40 PM | | | |
| | Local listener: LISTENER_ORCL | | | |
| | | | | |
| | Available Restore Period | | | |
| | 3/7/2023 7:56:18 PM - 3/9/2023 5:40:23 PM | | | |
| | Database Files | | | |
| | Control files C:\APP\ADMINISTRATOR\ORADATA\ORCL\CONTROL01.CTL C:\APP\ADMINISTRATOR\FAST_RECOVERY_AREA\ORCL\CONTROL02.CTL | | | |
| | Data files C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF | | | ~ |
| orcl | | | vee | AМ |

Viewing Oracle Data Guard Information

The following figure shows the Data Guard information view.

| = | | | DG1.Windows-12.2 as of 4 c | ays ago (12:32 Friday 9/11/2022) - Veeam Explorer for Oracle | - | | × |
|---|----------------------------------|----------------------------------|--|--|---|----|-----|
| ■ • Databa | ise | | | | | | |
| Instant Recovery • Instant Recovery | Publish Database 🕶 Publish | Restore Database • Restore | Export as RMAN backup + Database Fil Export | 25 💌 | | | |
| Databases | | | Database Info | | | | ^ |
| 🔺 📒 DG1-Primy | /-Stany | | Name: | primdb | | | |
| 🔺 🔜 OraDB | - | | Oracle SID: | PRIMSID | | | |
| D prin | | | Log mode: | ARCHIVELOG | | | |
| The prin | mdb (standb) | | Backup time: | 9/11/2022 12:32 AM | | | |
| | | | Oracle Data Guard Ir Data Guard name: | ifo primdb | | | |
| | | | Unique name: | primdb | | | |
| | | | Role: | Primary | | | |
| | | | Restore period: | 9/10/2022 4:17:57 PM - 9/11/2022 12:32:32 AM | | | |
| | | | Available Restore Pe 9/10/2022 4:17:57 PM - 9/1 | | | | |
| | | | Database Files | | | | |
| | | | Control files | | | | ~ |
| primdb | | | | | | ve | BAM |

Viewing Oracle RMAN Database Information

The following figure shows the RMAN database information view.



General Application Settings

This section explains how to configure the required application settings and components of Veeam Explorer for Oracle.

Configuring Staging Oracle Server

This section explains how to configure a staging Oracle server.

A staging Oracle server is required in the following cases:

- If you use the *point-in-time state* option of databases for restore, export, publishing and instant recovery operations.
- To explore backups created without application-aware image processing. For more information, see Exploring Oracle Backups.

Consider the following:

- A staging server must be of the same Oracle version as both the source and target Oracle servers.
- If you plan to restore databases with *Automatic Storage Management* enabled, both staging and target servers must have ASM enabled.
- Oracle Database Express Edition cannot be used as a staging system.

For Windows-based VM

To configure a staging server for Windows-based machines, do the following:

- 1. Go to the main menu and click General Options.
- 2. On the **Staging Server** tab, select the **Use this helper Oracle server for advanced recovery functionality** check box and do the following:
 - a. In the Server name field, specify the name of the Oracle server to which you want to restore data.
 - b. In the **Specify user account to connect** section, select the following:
 - Use current account. To connect to the specified server using the current user account under which Veeam Explorer for Oracle running.
 - Use the following account. To connect to the specified server under a custom user account.

When using a custom account, in the **Username** field, specify a user name and in the **Password** field, provide the password.

3. Specify the path to Oracle home.

Click Browse to browse for Oracle home.

| | Options | × | | | | | |
|---------------------------------------|--|-------|--|--|--|--|--|
| Staging Server Ad | vanced | | | | | | |
| Use this helper (| Use this helper Oracle server for advanced recovery functionality: | | | | | | |
| Server name: | srv99.tech.local | | | | | | |
| Specify user acc | ount to connect: | | | | | | |
| Use current | account (TECH\michael.wells) | | | | | | |
| Use the following | owing account: | | | | | | |
| Username: | srv99\Administrator | | | | | | |
| Password: | ••••• | | | | | | |
| Specify Oracle h | ome: | | | | | | |
| C:\app\Admin | istrator\product\19.3.0\dbhome Brow | /se | | | | | |
| | , | | | | | | |
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| | | | | | | | |
| | | | | | | | |
| | OK Cancel | Apply | | | | | |
| | | 779 | | | | | |

For Linux-based VM

To configure a staging server for Linux-based machines, do the following:

- 1. Go to the main menu and click **General Options**.
- 2. On the **Oracle** tab, select the **Use this helper Oracle server for advanced recovery functionality** check box and do the following:
 - a. In the Server field, specify the name of the Oracle server to which you want to restore data.
 - b. In the **SSH-port** field, specify the port number.
 - c. In the **Account** field, specify a user account under which to connect to the specified server.
 - d. In the **Password** field, specify the password.
 - e. If the private key is required to connect to the selected server, do the following:
 - i. Select the **Private key is required for this connection** check box.
 - ii. In the **Private key** filed, specify a key. To select a key, click **Browse** and select a key.
 - iii. In the **Passphrase** field, enter the passphrase.

3. Specify the path to Oracle home.

| | | | | Options | | | × |
|--------|--------------|---------|--------------|-----------------|-----------------|----------|------|
| Oracle | Advar | nced | | | | | |
| 🗸 Use | this hel | per Or | acle server | for advanced | recovery functi | onality: | |
| Spe | cify Linu | ux serv | er connect | ion settings: | | | |
| Serv | /er: | orac | le.tech.loca | al | SSH port: | 22 | ~ |
| Acc | ount: | oracl | e | | | Advanc | ed |
| Pas | sword: | •••• | ••••• | | | | |
| | Private | key is | required fo | or this connect | tion | | |
| | Private | key: | | | | Brows | e |
| | Passph | rase: | | | | | |
| Spe | cify Ora | cle ho | me: | | | | |
| /u | - 01/app/ | oracle | /product/1 | 9.0.0/dbhome | <u>-</u> 1 | Brows | e |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | _ | _ | |
| | | | | OK | Cancel | A | pply |

- 4. If you specify data for a non-root account that does not have root permissions on a Linux server, click **Advanced** to grant sudo rights to this account.
 - a. To provide a non-root user with root account privileges, select the **Elevate specified account to root** check box.
 - b. To add the user account to the sudoers file, select the **Add account to the sudoers file automatically** check box. In the **Root password** field, enter the password for the root account.

If you do not enable this option, you will have to manually add the user account to the sudoers file.

c. When registering a Linux-based VM, you have an option to failover to using the su command for distros where the sudo command is not available.

To enable the failover, select the **Use su if sudo is unavailable** check box and in the **Root password** field, enter the password for the root account.

| | Advanced Settings | × |
|----------|--|-----|
| F | Non-root account handling Elevate specified account to root Add account to the sudoers file automatically Use su if sudo is unavailable Root password: | |
| | OK Car | cel |

Enabling Extended Logging

Veeam Explorer for Oracle allows you to enable an extended logging mode to collect logs that contain more details on specific operations. After you enable extended logging, you can go back to the application and perform the actions for which you want to collect additional information. Then you can collect the logs.

To enable extended logging, do the following:

- 1. Go to the main menu and click **General Options**.
- 2. On the Advanced tab, select the Enable extended logging check box and click OK.

| ⁼ | wino | Options | × | racle | - | | × |
|---|-------|---|-----------------------------|-------|---|-----|----|
| ≡ • Server | | Staging Server Advanced | | | | | |
| Instant Recovery * Instant Recovery Instant Recovery | | Enable extended logging Use extended logging to collect additional operations. | I information about product | | | | |
| Databases | Sen | | | | | | |
| ▲ 🗧 winorcl02.tech.local | Nam | | | | | | |
| CraDB19Home1 orcl | OS vi | | | | | | |
| | Macł | OK | Cancel Apply | | | | |
| winorcl02.tech.local | | | | | | vee | AM |

Exploring Oracle Backups

This section contains information about exploring different kinds of Oracle backups.

Exploring Application-Enabled Backups

For more information about exploring backups created with application-aware image processing, see the Application Item Restore section of the Veeam Backup & Replication User Guide.

Exploring Non-Application Enabled Backups

If a backup file you are exploring has been created without application-aware image processing, you need to perform the heuristic analysis to mount the required restore points and find existing Oracle databases in these points.

NOTE

The heuristic analysis requires a staging Oracle server to be configured in advance. For more information, see Configuring Staging Oracle Server.

To explore backups created without application-aware image processing, do the following:

- 1. Launch the Heuristic Analysis wizard.
- 2. Specify the target server.
- 3. Specify heuristic settings.

Step 1. Launch Heuristic Analysis Wizard

To launch the **Heuristic Analysis** wizard, do the following:

- In the Veeam Backup & Replication console, select the necessary backup and click Application Items > Oracle (or Windows) on the ribbon.
- 2. At the **Restore Point** step of the **Oracle Database Restore** wizard, select a restore point to explore.
- 3. Complete subsequent steps of the wizard and click Browse.

Veeam Backup & Replication will launch Veeam Explorer for Oracle and display the Heuristic Analysis wizard.

| Backup Tools | Veeam Backup and Replication | – 🗆 × |
|--|--|----------------------|
| ∃• Home Backup | | 2 |
| Instant Instant Disk Entire Virtual Expo Recovery Recovery VM Disks Disk Restore | Image: Splication splication splication Image: Splication splica | |
| Home | Q Type in 🗟 Microsoft Exchange | |
| ⊿ 🐐 Jobs ﷺ Backup | Job Name Microsoft SharePoint At Name Creation Time Restore Points Repository A 2016/2023 12:33 PM Default Backup Repository | Platform VMware |
| A Backups | Image: Witcrosoft Uneuweror business 3/10/2023 1:10 PM 5 | VMware |
| ✓ Disk ▲ 🗊 Replicas | ▷ ﷺ MS Si = Oracle 3/1/2023 6:34 PM Default Backup Repository | VMware |
| Cartine (1) Last 24 Hours Running (2) Success | MS Si PostgreSQL MS Si Other (U-AIR) Vecam Explorer for Oracle Restores individual Oracle databases from backup of a virtual machine running Oracle. | VMware VMware |
| A Home | | |
| Inventory | | |
| Backup Infrastructure | | |
| Storage Infrastructure | | |
| Cape Infrastructure | | |
| 🕵 Cloud Connect | | |
| j (* 1 | 2 | > |
| 1 backup selected | Connected to: localhost Build: 12.0.0.1420 Enterprise Plus Edition License expire | s: 79 days remaining |

Step 2. Specify Target Server

At this step of the **Heuristic Analysis** wizard, specify connection settings required to access the target Oracle server. The set of connection settings depends on the OS type of the target server: Windows or Linux.

Windows-Based Oracle Server

For a Windows-based Oracle server, do the following:

- 1. In the Server name field, specify a server name to which you want to restore data.
- 2. In the **Specify user account to connect to server** section, select one of the following:
 - **Use current account**. To connect to the specified server using the current user account under which Veeam Explorer for Oracle is running.
 - **Use the following account**. To connect to the specified server under a custom user account.

Consider the following:

- The user account must be a member of the local Administrators group and have sysdba privileges.
- The user account must be granted appropriate permissions to access Oracle databases; **Read** and **Write** are minimum required, **Full Control** is recommended.

| | Heuristic Analysis Wizard | × |
|----------------|---|--------|
| Specify targe | et Windows server connection credentials | |
| Server name: | | |
| winorcl01.tech | local | ~ |
| | ount to connect: account (TECH\michael.wells) wing account: | |
| Username: | winorcl01\Administrator | |
| Password: | ••••• | |
| | | |
| | | |
| | | |
| | Next | Cancel |

Linux-Based Oracle Server

For a Linux-based Oracle server, do the following:

- 3. In the **Server** drop-down list, specify a target Oracle server. You can select an Oracle server from the list or enter a DNS name of the target Oracle server.
- 4. In the SSH port field, specify the port number of the selected Oracle server.
- 5. In the **Account** filed, specify an account under which to connect to the specified server.

- 6. In the **Password** field, enter the password.
- 7. If you have specified a non-root account that does not have root permissions on the target server, click **Advanced** to grant sudo rights to this account.
 - a. To provide a non-root user with root account privileges, select the **Elevate specified account to root** check box.
 - b. To add the user account to the sudoers file, select the Add account to the sudoers file automatically check box. In the Root password field, enter the password for the root account.

If you do not enable this option, you will have to manually add the user account to the sudoers file.

c. If the sudo command is not available or may fail on the target Linux server, you have an option to use the su command instead. To enable the su command, select the Use su if sudo is unavailable check box and enter the password for the root account in the Root password field.

| Advanced Settings | × |
|--|---|
| Non-root account handling Elevate specified account to root Add account to the sudoers file automatically Use su if sudo is unavailable Root password: | |
| OK Cancel | |

- 8. If a private key is required to connect to the selected server, do the following:
 - a. Select the **Private key is required for this connection** check box.
 - b. In the **Private key** filed, specify a key.

To select a key, click **Browse** and select a key.

c. In the **Passphrase** field, enter the passphrase.

Consider that the user account must be a member of the **dba** group.

| | Heuristic Analysis Wizard | | × |
|-----------|---|--------------|--------|
| Specify t | arget Linux server connection credentials | | |
| Server: | linorcl01 | SSH port: 22 | * * |
| Account: | oracle | Adv | anced |
| Password: | ••••• | | |
| Private | key is required for this connection | | |
| Private | key: | Bro | owse |
| Passph | rase: | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | Next C | ancel |

Step 3. Specify Heuristic Settings

At this step of the wizard, specify the following:

- **Oracle home**. To attach a database, apply log files (if required) and make a consistency check of the database.
- Heuristic analysis settings:
 - **Current restore point analysis.** To search for available Oracle databases within the selected restore point only.
 - Extended analysis. To search for available Oracle databases within multiple restore points.

Typically, Veeam Explorer for Oracle scans three restore points; the current restore point that you select when opening Veeam Explorer for Oracle, and two other restore points that come before and after the current restore point.

Once analysis is complete, Veeam Explorer for Oracle will load available Oracle databases to the program scope automatically.

| | Heuristic Analysis Wizard | × |
|-------------------|---|--------|
| Specify heur | ristic analysis settings | |
| Oracle home: | /u01/app/oracle/product/19.0.0/dbhome_1 | Browse |
| Specify heuristic | c analysis settings | |
| | restore point analysis s heuristics within the selected restore point. | |
| Extended | • | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Analyse | Cancel |

Exploring RMAN Backups

This section explains how to explore backups created with the Oracle RMAN Plug-in. For more information, see Veeam Plug-in for Oracle RMAN.

To load RMAN backups, do the following:

- 1. In the Veeam Backup & Replication console, open the **Home** view.
- 2. Go to the **Backups** > **Disk** node.
- 3. Right-click an RMAN backup and select **Restore from Oracle RMAN backup**.

| Backup Tools | Veeam Backup and Replication | – 🗆 × |
|--|--|---------------------------|
| ∃• Home Backup | | ? |
| Oracle Database Restore | | |
| Home | Q. Type in an object name to search for | |
| Jobs Backups Disk | Job name T Creation time Restore points Repository Platform b 📂 SAP HANA 4 🎬 Oracle RMAN | |
| Disk (Copy) Disk (Orphaned) Disk (Imported) Last 24 Hours | Image: SERV02 Restore from Oracle RMAN backup Image: SERV45 Image: SERV45 Image: SER | |
| A Home | | |
| Inventory | | |
| Backup Infrastructure | | |
| 📬 Storage Infrastructure | | |
| Files | | |
| History | | |
| * | | |
| 1 backup selected | Connected to: localhost Build: 12.0.0.1420 Enterprise Plus Edition License e | xpires: 79 days remaining |

Data Restore

This section contains information about the available restore operations in Veeam Explorer for Oracle.

Before restoring data, read the Considerations and Limitations section.

IMPORTANT

Make sure to install a bash shell on a target Oracle server to perform a restore.

Restoring Single Database and Data Guard

This section explains how to restore Oracle databases and Oracle Data Guard back to the production environment.

Consider that when restoring Data Guard to another server as described in this section, databases from Data Guard will be restored as standalone Oracle databases preserving no Data Guard infrastructure. To restore Data Guard infrastructure altogether, use either a latest state restore, or point-in-time restore. For more information, see Restoring Latest State and Restoring Point-in-Time State.

To restore data, take the following steps:

- 1. Launch the Restore wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Specify the target server.
- 5. Specify Oracle settings.
- 6. Specify database files location.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation tree, select a database or Data Guard.
- 2. On the **Database** tab, select **Restore Database** > **Restore to another server**.

Alternatively, you can right-click a database or Data Guard and select **Restore database** > **Restore to another server**.

| ≣⊲ | winorcl01 as of less than a day ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - | | × |
|--|---|---|-----|----|
| ≡ • Database | | | | |
| Instant Recovery • Instant Recovery • Ublish Restore | Export as Export RMAN backup v Database Files v Export | | | |
| Databases | Database Info | | | ^ |
| winorcl01.tech.local GraDB19Home1 orcl Instant recovery Publish database | Name: orcl Unique name: orcl Oracle SID: ORCL Log mode: ARCHIVELOG Delettic Delettic | | | |
| | Restore latest state to winorcl01.tech.local Restore point-in-time state to winorcl01.tech.local | | | |
| Export database files | Restore to another server Available: Kestore Period 3/7/2023 7:56:18 PM - 3/9/2023 5:40:23 PM Database Files Control files C:\APP\ADMINISTRATOR\ORADATA\ORCL\CONTROL01.CTL C:\APP\ADMINISTRATOR\FAST_RECOVERY_AREA\ORCL\CONTROL02.CTL Data files C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF | | | ~ |
| orcl | | | vee | AM |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

Consider the following:

- The **Restore to a specific point in time** option is available only if archived log backups exist. For more information, see Required Backup Job Settings.
- The **Perform restore to the specific transaction** option requires a staging Oracle server. For more information, see Configuring Staging Oracle Server.

| Restore Wizard | × |
|---|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires redo log backups) | |
| 7:56 PM 3/7/2023 | 5:40 PM 3/9/2023 |
| Thursday, March 9, 2023 8:38 AM | |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore the of the moment in time right before the unwanted change. | latabase to |
| Next | Cancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to restore your database.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| ine-tune the restore | point | | |
|-----------------------------|-----------------------|---|---------------------------|
| elect the undesired operat | ion in the list belov | v. The database will be restored to the : | state prior to transactio |
| nvolving the selected opera | ation. | | |
| Time | Operation | Object | Туре |
| 3/9/2023 8:15:12 AM | Update | EXP_STAT\$ | Table |
| 3/9/2023 8:15:12 AM | Update | EXP_STAT\$ | Table |
| 3/9/2023 8:15:12 AM | Update | EXP_STAT\$ | Table |
| 3/9/2023 8:15:12 AM | Update | EXP_STAT\$ | Table |
| 3/9/2023 9:00:14 AM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 9:00:14 AM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 9:00:14 AM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 9:00:14 AM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 9:00:14 AM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 9:00:14 AM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 9:00:14 AM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| < 1/0/2022 0.00 14 AM | | OBTETAT CNARCUOT? | |
| | | | , |

Step 4. Specify Target Server

At this step of the wizard, specify connection settings required to access the target Oracle server. The set of connection settings depends on the OS type of the target server: Windows or Linux.

Windows-Based Oracle Server

For a Windows-based Oracle server, do the following:

- 1. In the Server name field, specify the name of the target Oracle server.
- 2. In the **Specify user account to connect** section, select either of the following options:
 - **Use current account**. Select this option to connect to the specified server using the account under which Veeam Explorer for Oracle is running.

You cannot use this option if Veeam Explorer for Oracle and mount server are located on separate machines.

• **Use the following account**. Select this option to connect to the specified server using a custom user account. Then provide a user name and password for the account.

Consider the following:

- The user account must be a member of the local Administrators group and have **sysdba** privileges.
- The user account must be granted appropriate permissions to access Oracle databases; **Read** and **Write** are minimum required, **Full Control** is recommended.
- To copy archived logs to the specified server, the user account must be granted sufficient permissions to access the administrative share.

| | Restore Wizard | × |
|------------------|--|---|
| Specify targe | et Windows server connection credentials | |
| Server name: | | |
| winorcl02.tech | local | |
| Specify user acc | ount to connect: | |
| Use current | account (TECH\michael.wells) | |
| Use the follow | owing account: | |
| Username: | Administrator | |
| Password: | ••••• | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next Cancel | |
Linux-Based Oracle Server

For a Linux-based Oracle server, do the following:

- 1. In the **Server** drop-down list, specify a target Oracle server. You can select an Oracle server from the list or enter a DNS name of the target Oracle server.
- 2. In the **SSH port** field, specify the port number of the selected Oracle server.
- 3. In the **Account** filed, specify an account under which to connect to the specified server.
- 4. In the **Password** field, enter the password.
- 5. If you have specified a non-root account that does not have root permissions on the target server, click **Advanced** to grant sudo rights to this account.
 - a. To provide a non-root user with root account privileges, select the **Elevate specified account to root** check box.
 - b. To add the user account to the sudoers file, select the Add account to the sudoers file automatically check box. In the Root password field, enter the password for the root account.

If you do not enable this option, you will have to manually add the user account to the sudoers file.

c. If the sudo command is not available or may fail on the target Linux server, you have an option to use the su command instead. To enable the su command, select the **Use su if sudo is unavailable** check box and enter the password for the root account in the **Root password** field.

| | Advanced Settings | × |
|---|---|---|
| R | Non-root account handling Elevate specified account to root Add account to the sudoers file automatically Use su if sudo is unavailable | |
| | Root password: | |
| | OK Cancel | |

- 6. If a private key is required to connect to the selected server, do the following:
 - a. Select the **Private key is required for this connection** check box.
 - b. In the **Private key** filed, specify a key.

To select a key, click **Browse** and select a key.

c. In the **Passphrase** field, enter the passphrase.

Consider that the user account must be a member of the **dba** group.

| | Instant Recovery Wizard | × |
|-----------|---|----------|
| Specify t | arget Linux server connection credentials | |
| Server: | linorcl01 SSH port: | 22 ^ |
| Account: | oracle | Advanced |
| Password: | ••••• | |
| Private | key is required for this connection | |
| Private | key: | Browse |
| Passph | rase: | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next | Cancel |

Step 5. Specify Oracle Settings

At this step of the wizard, specify the location to which you want to restore the database.

- Select **Restore to the original location** to restore the database back to the original location.
- Select **Restore to a different location** to restore the database to a custom location.
 - a. In the **Oracle home field**, specify the Oracle home directory. To locate the Oracle home directory, click **Browse** and select the folder you want to use.
 - b. In the **Global database name** field, specify the global database name as *DB_NAME.DB_DOMAIN*, where:
 - DB_NAME is the database name. Oracle limits the length of the database name to 8 characters. If the database name you specify exceeds this limit, Veeam Explorer for Oracle will automatically shorten the database name, and hence the global database name, during the restore process.

The value you specify is also used for the unique database name (*DB_UNIQUE_NAME*). The unique database name can contain up to 30 characters.

 DB_DOMAIN is the domain name of the database. It does not count towards any character limits and Veeam Explorer for Oracle does not shorten it during the restore process.

For example, if you specify the global database name as *orcl_restored.tech.local*, Veeam Explorer for Oracle will shorten it to *orcl_res.tech.local*. The database name will be *orcl_res*, while the unique database name will be *orcl_restored*.

c. In the **Oracle SID** field, specify the database system identifier. The **Oracle SID** field is automatically filled with the value entered in the **Global database name** field, but you can also assign a different value.

The maximum length of the Oracle SID is 12 characters and it can only contain alphanumeric characters (a-z, A-Z and O-9).

NOTE

If the account specified in the previous step is not the Oracle home user, you will be asked to provide a password to access the target Oracle home. Applicable to Oracle 12c and later versions.

| | Restore Wizard | × |
|-------------------------------|--|--------|
| Specify Oracle setting | s | |
| Restore to the original local | cation | |
| Restore to a different loc | ation: | |
| Oracle home: | C:\app\Administrator\product\19.3.0\dbhome | Browse |
| Global database name: | orcl_restored.tech.local | |
| Oracle SID: | orclres | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next | Cancel |

Step 6. Specify Database Files Location

At this step of the wizard, specify the location for database files.

To edit the path, click the path row and provide the location you want to use.

| Restore Wizard | × |
|--|-----|
| Specify database files target location | |
| Control files | ^ |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\FAST_RECOVER\CONTROL02.CTL | |
| Data files | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl\UNDOTBS01.DBF | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl_r\SYSTEM01.DBF | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl_r\SYSAUX01.DBF | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl_res\USERS01.DBF | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl\UNDOTBS01.DBF | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl_r\SYSTEM01.DBF | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | ~ |
| Back Restore Can | cel |

Restoring Latest or Point-in-Time State

This section explains how to select a state as of which to restore Oracle databases or Data Guard, including a point-in-time restore — to revert the database to a state before an undesired transaction or before a point of failure.

The behavior in case of a latest or point-in-time state restore is as follows:

- Data Guard will be restored starting from the primary node. Once the primary node is restored, Veeam Explorer for Oracle will use it to restore standby nodes.
- Database files will be copied to the original location and then mounted to the original Oracle home.
- Databases from the backed-up ASM group will be restored back to the original ASM group.
- All existing databases on the target Oracle server will be replaced with databases from the backup files.

Consider that restoring a latest or point-in-time state to the original Oracle server from storage snapshots is not supported. Use the **Restore to another server** command, as described in **Restoring Database and Data Guard**.

Restoring Latest State

To restore Oracle databases or Data Guard as of the latest available state, do the following:

- 1. In the navigation pane, select a database or Data Guard.
- 2. On the **Database** tab, select **Restore Database** > **Restore latest state to <original_location>**.

Alternatively, you can right-click a database or Data Guard and select **Restore database > Restore latest state to <original_location>**.

NOTE

The name of the restore option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Restore latest** state to <original_location>.
- If you select any other restore point, the option name is displayed as **Restore state of** cont_in_time> to <original_location>.

| = ₀ | winorcl01 as of less than a day ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - | | × |
|--|--|---|-----|----|
| ≡ • Database | | | | |
| Instant Publish Restore | Export as Export | | | |
| Recovery Database Database Database Database Restore | RMAN backup * Database Files * Export | | | |
| Databases | Database Info | | | ^ |
| A 🐻 OraDB19Home1 | Unique name: orcl | | | |
| i orcl | Oracle SID: ORCL | | | |
| Instant recovery | Log mode: ARCHIVELOG | | | |
| Publish database 🕨 | | | | |
| 🚚 Restore database 🔹 🕨 | Restore latest state to winorcl01.tech.local | | | |
| and and an and an an an an an an an an | Restore point-in-time state to winorcl01.tech.local | | | |
| 😰 Export database files 🔹 🕨 | Restore to another server | | | |
| | 3/7/2023 7:56:18 PM - 3/9/2023 5:40:23 PM | | | |
| | Database Files | | | |
| | Control files C:\APP\ADMINISTRATOR\ORADATA\ORCL\CONTROL01.CTL C:\APP\ADMINISTRATOR\FAST_RECOVERY_AREA\ORCL\CONTROL02.CTL | | | |
| | Data files C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF | | | ~ |
| orcl | | | vee | AM |

Restoring Point-in-Time State

To restore Oracle databases or Data Guard as of the selected point-in-time state, do the following:

- 1. Launch Restore Wizard.
- 2. Specify Restore Point.
- 3. Fine-tune Restore Point.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a database or Data Guard.
- 2. On the **Database** tab, select **Restore Database** > **Restore point-in-time state**.

Alternatively, you can right-click a database or Data Guard and select **Restore database** > **Restore point-in-time state**.

IMPORTANT

A point in time restore is only possible if the *ARCHIVELOG* mode is enabled.



Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to obtain selected database files as per selected time interval of the current restore point. Use the slider control to choose a time interval you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

Consider the following:

- The **Restore to a specific point in time** option is available only if archived log backups exist. For more information, see Required Backup Job Settings.
- The **Perform restore to the specific transaction** option requires a staging Oracle server. For more information, see Configuring Staging Oracle Server.

| Restore Wizard | × |
|---|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires redo log backups) | |
| 7:56 PM 3/7/2023 | 5:40 PM 3/9/2023 |
| Thursday, March 9, 2023 8:38 AM | |
| | |
| Perform restore to the specific transaction | |
| Enables you to review major database transactions around the selected time, and restore the date the moment in time right before the unwanted change. | atabase to |
| Next | Cancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to restore your database and click **Restore**.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| | point | | |
|------------------------------|-----------------------|---|---------------------------|
| elect the undesired operatio | on in the list below. | The database will be restored to the st | tate prior to transaction |
| nvolving the selected operat | | | · |
| Time | Operation | Object | Туре |
| 3/8/2023 11:01:00 PM | Insert Into | WRH\$_RSRC_METRIC | Table |
| 3/8/2023 11:01:00 PM | Insert Into | WRH\$_RSRC_METRIC | Table |
| 3/8/2023 11:01:00 PM | Insert Into | WRH\$_RSRC_METRIC | Table |
| 3/8/2023 11:01:00 PM | Insert Into | WRH\$_RSRC_METRIC | Table |
| 3/8/2023 11:01:00 PM | Insert Into | WRH\$_RSRC_METRIC | Table |
| 3/8/2023 11:01:00 PM | Insert Into | WRH\$_RSRC_METRIC | Table |
| 3/8/2023 11:01:00 PM | Truncate | WRI\$_ADV_ADDM_PDBS | Table |
| 3/8/2023 11:14:51 PM | Update | EXP_STAT\$ | Table |
| 3/8/2023 11:14:51 PM | Update | EXP_STAT\$ | Table |
| 3/8/2023 11:14:51 PM | Update | EXP_STAT\$ | Table |
| 3/8/2023 11:14:51 PM | Update | EXP_STAT\$ | Table |
| 2/0/2022 11 14 F1 DM | | EVD CTATE | |
| | | | / |

Restoring Multiple Databases

With Veeam Explorer for Oracle, you can restore multiple databases of the Oracle home or the server to the original server or to another server with different settings. For instructions, see:

- Restoring Databases to Latest or Point-in-Time State
- Restoring Databases to Another Server

Restoring Databases to Latest or Point-in-Time State

With Veeam Explorer for Oracle, you can restore the latest or point-in-time state of multiple Oracle databases. In this scenario, all selected databases on the original Oracle server will be replaced with databases from the latest or earlier backup files.

Consider the following:

- Data Guard will be restored starting from the primary node. Once the primary node is restored, Veeam Explorer for Oracle will use it to restore standby nodes.
- Database files will be copied to the original location and then mounted to the original Oracle home.
- Databases from the backed-up ASM group will be restored back to the original ASM group.

Consider that restoring a latest or point-in-time state to the original Oracle server from storage snapshots is not supported. Use the **Restore to another server** command, as described in **Restoring Databases to Another Server**.

For instructions, see the following sections:

- Restoring Databases to Latest State
- Restoring Databases to Point-in-Time State

Restoring Databases to Latest State

To restore multiple databases to the latest state to the original server, do the following:

- 1. In the navigation pane, select the Oracle server or Oracle home.
- 2. On the Server or Oracle Home tab, select Restore Database > Restore latest state to <original_location>.

Alternatively, you can right-click the Oracle server or Oracle home and select **Restore databases** > **Restore latest state to <original_location>**.

NOTE

The name of the restore option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Restore latest** state to <original_location>.
- If you select any other restore point, the option name is displayed as **Restore state of** cont_in_time> to <original_location>.

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|--------------------------------|----------------------|--|---|---|-----|----|
| ■ • Oracle Home | e | | | | | |
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| Instant Res Recovery V Data | store abases ▼ | | | | | |
| Instant Recovery Re | estore | | | | | |
| Databases | | Oracle Home Info | | | | |
| 🖌 📒 winorcl01.tech.lo | ocal | Name: OraDB19Home1 | | | | |
| OraDB19Hor | me1 | Version: 19.0.0.0 | | | | |
| 🖺 In | nstant recovery | Dathy Cilorada | | | | |
| 🔏 R | estore databases 🔹 🧍 | Restore latest state to winorcl01.tech.local | N | | | |
| | 4 | Restore point-in-time state to winorcl01.tech.local | | | | |
| | 4 | Restore to another server | | | | |
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| OraDB19Home1 | | | | | Vee | AM |

Restoring Databases to Point-in-Time State

To restore multiple databases to a point-in-time state to original server, do the following:

- 1. In the navigation pane, select the Oracle server or Oracle home.
- 2. On the Server or Oracle Home tab, select Restore Database > Restore state of <point_in_time> or rightclick a database and select Restore databases > Restore point-in-time state.



- 3. At this step of the **Restore** wizard, select a state as of which you want to restore the databases:
 - Select the **Restore to the point in time** of the selected image-level backup option to load database files as per date when the current restore point was created.

 Select the Restore to a specific point in time option to load database files as per selected point in time. Note that this option is available only if archived log backups exist. For more information, see Required Backup Job Settings.

Use the slider to choose a necessary point in time.

| Restore Wizard | × |
|---|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires redo log backups) | |
| 7:56 PM 3/7/2023 | 5:40 PM 3/9/2023 |
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| Restore | Cancel |

Restoring Databases to Another Server

To restore multiple Oracle databases, do the following:

- 1. Launch the Restore wizard.
- 2. Specify a restore point.
- 3. Specify a target server.
- 4. Specify Oracle settings.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation tree, select an Oracle server or Oracle home.
- 2. On the Server or Oracle Home tab, select Restore Databases > Restore to another server.

Alternatively, you can right-click the Oracle server or Oracle home and select **Restore databases** > **Restore to another server**.

| ₹ | winorcl01 as of 4 days ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | | × |
|--|---|---------|----|
| ■ • Oracle Home | | | |
| Instant Recovery V Instant Recovery Instant Recovery Restore | | | |
| Databases | Oracle Home Info | | |
| | Name: OraDB19Home1 Version: 19.0.0.0 Dath. Choracle Restore latest state to winorcl01.tech.local Restore point-in-time state to winorcl01.tech.local Restore to another server Choracle | | |
| OraDB19Home1 | | vee | AM |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore the databases:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Note that this option is available only if archived log backups exist. For more information, see Required Backup Job Settings.

Use the slider to choose a necessary point in time.

| | Restore Wizard | × |
|--------------------------------|--|---------------------|
| Specify rest | tore point | |
| | | |
| | n time you want to restore the database to: | |
| Restore to | the point in time of the selected image-level backup | |
| Restore to | a specific point in time (requires redo log backups) | |
| 7:56 PM 3/7/2023 | · · · · · · · · · · · | 5:40 PM 3/9/2023 |
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| | Next | Cancel |

Step 3. Specify Target Server

At this step of the wizard, specify connection settings required to access the target Oracle server. The set of connection settings depends on the OS type of the target server: Windows or Linux.

Windows-Based Oracle Server

For a Windows-based Oracle server, do the following:

- 1. In the Server name field, specify the name of the target Oracle server.
- 2. In the **Specify user account to connect** section, select either of the following options:
 - **Use current account**. Select this option to connect to the specified server using the account under which Veeam Explorer for Oracle is running.

You cannot use this option if Veeam Explorer for Oracle and mount server are located on separate machines.

• **Use the following account**. Select this option to connect to the specified server using a custom user account. Then provide a user name and password for the account.

Consider the following:

- The user account must be a member of the local Administrators group and have **sysdba** privileges.
- The user account must be granted appropriate permissions to access Oracle databases; **Read** and **Write** are minimum required, **Full Control** is recommended.
- To copy archived logs to the specified server, the user account must be granted sufficient permissions to access the administrative share.

| | Restore Wizard | × |
|---|--|---|
| Specify targe | et Windows server connection credentials | |
| Server name: | | |
| winorcl02.tech | local | |
| Specify user acc | ount to connect: | |
| Use current | account (TECH\michael.wells) | |
| Use the following the follo | owing account: | |
| Username: | Administrator | |
| Password: | ••••• | |
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| | Back Next Cancel | |

Linux-Based Oracle Server

For a Linux-based Oracle server, do the following:

- 1. In the **Server** drop-down list, specify a target Oracle server. You can select an Oracle server from the list or enter a DNS name of the target Oracle server.
- 2. In the **SSH port** field, specify the port number of the selected Oracle server.
- 3. In the **Account** filed, specify an account under which to connect to the specified server.
- 4. In the **Password** field, enter the password.
- 5. If you have specified a non-root account that does not have root permissions on the target server, click **Advanced** to grant sudo rights to this account.
 - a. To provide a non-root user with root account privileges, select the **Elevate specified account to root** check box.
 - b. To add the user account to the sudoers file, select the Add account to the sudoers file automatically check box. In the Root password field, enter the password for the root account.

If you do not enable this option, you will have to manually add the user account to the sudoers file.

c. If the sudo command is not available or may fail on the target Linux server, you have an option to use the su command instead. To enable the su command, select the Use su if sudo is unavailable check box and enter the password for the root account in the Root password field.

| | Advanced Settings | × |
|---|--|---|
| R | Non-root account handling Image: Second to cont to cont Image: Add account to the sudoers file automatically Image: Use su if sudo is unavailable | |
| | Root password: | |
| | OK Cancel | |

- 6. If a private key is required to connect to the selected server, do the following:
 - a. Select the **Private key is required for this connection** check box.
 - b. In the **Private key** filed, specify a key.

To select a key, click **Browse** and select a key.

c. In the **Passphrase** field, enter the passphrase.

Consider that the user account must be a member of the **dba** group.

| | Instant Recovery Wizard | × |
|-----------|---|----------|
| Specify t | arget Linux server connection credentials | |
| Server: | linorcl01 SSH port: | 22 ^ |
| Account: | oracle | Advanced |
| Password: | ••••• | |
| Private | key is required for this connection | |
| Private | key: | Browse |
| Passph | rase: | |
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| | Back Next | Cancel |

Step 4. Specify Oracle Settings

At this step of the wizard, select a location to which you want to restore databases and launch the restore.

- 1. At the **Specify Oracle settings** field, select one of the following:
 - Restore to the original location: Veeam Explorer for Oracle checks if there are suitable Oracle home directories. If yes, the databases are restored to these home directories. If no, the databases are not restored, and Veeam Explorer for Oracle issues an error that suitable home directories have not been found.
 - **Restore to a different location**: Veeam Explorer for Oracle restores all databases to the custom location. To specify the Oracle home directory, click **Browse** and select a folder that you want to use.
- 2. Click Restore.

NOTE

If the account specified in the previous step is not an Oracle home user, you will be asked to provide a password to access the target Oracle home. Applicable to Oracle 12c and later versions.

| Restore Wizard | × |
|--|--------|
| | |
| Specify Oracle settings | |
| Restore to the original location | |
| Restore to a different location: | |
| C:\app\Administrator\product\19.3.0\dbhome | Browse |
| | |
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| | |
| Back Restore | Cancel |

Restoring RMAN Backups

This section explains how to restore backups created with Veeam Plug-in for Oracle RMAN. For more information, see the Veeam Plug-in for Oracle RMAN section of the Veeam Plug-ins for Enterprise Applications User Guide.

To restore RMAN backups, do the following:

- 1. Launch the Restore wizard.
- 2. Specify the recovery type.
- 3. Specify the target server.
- 4. Specify Oracle settings.
- 5. Specify home user password.
- 6. Specify point in time.
- 7. Specify database files location.
- 8. Configure channel allocation.

Before You Begin

If you want to restore Oracle Real Application Clusters (RAC) or Data Guard databases, consider the following limitations.

Restore of Oracle RAC

To restore RAC databases from RMAN backups, make sure you apply the following restore settings. Otherwise, the databases will be restored as standalone databases.

- **Restore to original server**: You must perform the restore with original name and settings.
- Restore to another server:
 - You must perform the restore with original name and settings.
 - Oracle home and Oracle directory structure must remain the same.
 - \circ $\,$ You must copy the original control file to the target server.
 - For Oracle ASM, the file system structure of the restored database must remain the same.

Restore of Data Guard Databases

In Veeam Backup & Replication 10, Veeam Plug-in for Oracle RMAN has experimental support of Data Guard databases. You can restore Data Guard databases from Veeam Plug-in backups with the following limitations.

• You can restore Data Guard primary databases as primary databases only to original location.

If you restore primary databases to another server, they will be restored as standalone databases. To convert the standalone database to Data Guard primary database, you can the configuration manually.

• You can restore Data Guard standby databases as standby databases only to original location.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. Open an RMAN backup, as described in Exploring RMAN Backups.
- 2. In the navigation pane, select a database.
- 3. On the **Database** tab, select **Restore Database** > **Restore** or right-click a database and select **Restore**.

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|----------------------------------|--|---|-----|----|
| ≡ • Database | | | | |
| Restore Database • Restore | | | | |
| Databases | Database Info | | | ^ |
| WINORCL02 | Oracle SID: ORCL | | | |
| oracle ORCL | Log mode: ARCHIVELOG | | | |
| Restore | Database Files | | | |
| k | Control files | | | |
| | C:\APP\ADMINISTRATOR\ORADATA\ORCL\CONTROL01.CTL | | | |
| | C:\APP\ADMINISTRATOR\FAST_RECOVERY_AREA\ORCL\CONTROL02.CTL | | | |
| | Data files | | | |
| | C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF | | | |
| | C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSAUX01.DBF C:\APP\ADMINISTRATOR\ORADATA\ORCL\UNDOTBS01.DBF | | | |
| | C:\APP\ADMINISTRATOR\ORADATA\ORCL\PDBSEED\SYSTEM01.DBF | | | |
| | C:\APP\ADMINISTRATOR\ORADATA\ORCL\PDBSEED\SYSAUX01.DBF | | | |
| | C:\APP\ADMINISTRATOR\ORADATA\ORCL\USERS01.DBF | | | |
| | C:\APP\ADMINISTRATOR\ORADATA\ORCL\PDBSEED\UNDOTBS01.DBF | | | |
| | C:\APP\ADMINISTRATOR\ORADATA\ORCL\PDB1\SYSTEM01.DBF | | | |
| | C:\APP\ADMINISTRATOR\ORADATA\ORCL\PDB1\SYSAUX01.DBF | | | |
| | C:\APP\ADMINISTRATOR\ORADATA\ORCL\PDB1\UNDOTBS01.DBF C:\APP\ADMINISTRATOR\ORADATA\ORCL\PDB1\USERS01.DBF | | | ~ |
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Step 2. Specify Recovery Type

At this step of the wizard, select a recovery type:

- Recover database to specific point in time Select this option to restore databases as of the latest available state.
- Restore data files to specific point in time

Select this option to restore only datafiles as of the specific point-in-time state without applying log files.

• Recover from previously restored datafiles

Select this option to apply log files to restored datafiles.

| Restore Wizard | × |
|--|---|
| Specify recovery type | |
| Recover database to specific point in time Database will be restored from the latest available backup. | |
| Restore data files to specific point in time The backup taken at or prior to that time will be used. No recovery will be performed in this operation. | |
| Recover from previously restored datafiles | |
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| Next Cancel | |

Step 3. Specify Target Server

At this step of the wizard, specify connection settings required to access the target Oracle server. The set of connection settings depends on the OS type of the target server: Windows or Linux.

Windows-Based Oracle Server

For a Windows-based Oracle server, do the following:

- 1. In the Server name field, specify the name of the Oracle server to which you want to restore data.
- 2. In the Specify user account to connect to server section, select either of the following options:
 - Use current account

Select this option to connect to the specified server using the current user account under which Veeam Explorer for Oracle is running.

• Use the following account

Select this option to connect to the specified server using a custom user account.

Consider the following:

- The user account must be a member of the local Administrators group and have sysdba privileges.
- The user account must be granted appropriate permissions to access Oracle databases; **Read** and **Write** are minimum required, **Full Control** is recommended.

| | Restore Wizard | × |
|-------------------|---|--------|
| Specify targe | t Windows server connection credentials | |
| Server name: | | |
| srv99.tech.loca | | ~ |
| Specify user acco | ount to connect: | |
| Use current a | account (TECH\michael.wells) | |
| Use the follo | wing account: | |
| Username: | srv99\Administrator | |
| Password: | ••••• | |
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| | Back Next | Cancel |

Linux-Based Oracle Server

For a Linux-based Oracle server, do the following:

- 1. In the **Server** drop-down list, specify a target Oracle server. You can select an Oracle server from the list or enter a DNS name of the target Oracle server.
- 2. In the **SSH port** field, specify the port number of the selected Oracle server.
- 3. In the **Account** filed, specify an account under which to connect to the specified server.
- 4. In the **Password** field, enter the password.
- 5. If you have specified a non-root account that does not have root permissions on the target server, click **Advanced** to grant sudo rights to this account.
 - c. To provide a non-root user with root account privileges, select the **Elevate specified account to root** check box.
 - d. To add the user account to the sudoers file, select the Add account to the sudoers file automatically check box. In the Root password field, enter the password for the root account.

If you do not enable this option, you will have to manually add the user account to the sudoers file.

e. If the sudo command is not available or may fail on the target Linux server, you have an option to use the su command instead. To enable the su command, select the Use su if sudo is unavailable check box and enter the password for the root account in the Root password field.

| Advanced Settings | × |
|--|---|
| Non-root account handling Image: Second s | _ |
| Root password: ••••••• OK Cancel | |

- 6. If a private key is required to connect to the selected server, do the following:
 - a. Select the **Private key is required for this connection** check box.
 - b. In the **Private key** filed, specify a key.

To select a key, click **Browse** and select a key.

c. In the **Passphrase** field, enter the passphrase.

Consider that the user account must be a member of the **dba** group.

| | Instant Recovery Wizard | × |
|-----------|---|----------|
| Specify t | arget Linux server connection credentials | |
| Server: | linorcl01 SSH port: | 22 ^ |
| Account: | oracle | Advanced |
| Password: | ••••• | |
| Private | key is required for this connection | |
| Private | key: | Browse |
| Passph | rase: | |
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| | Back Next | Cancel |

Step 4. Specify Oracle Settings

At this step of the wizard, specify the location to which you want to restore the database.

- Select **Restore with the original name and settings** to restore data using the original name and settings.
- Select **Restore with different name and settings** to choose custom settings:
 - a. In the **Oracle home** field, specify the Oracle home directory.

You can click **Browse** to select a folder.

- b. In the **Global database name** field, specify the global database name as *DB_NAME.DB_DOMAIN*, where:
 - *DB_NAME* is the database name. Oracle limits the length of the database name to 8 characters. If the database name you specify exceeds this limit, Veeam Explorer for Oracle will automatically shorten the database name, and hence the global database name, during the restore process.

The value you specify is also used for the unique database name (*DB_UNIQUE_NAME*). The unique database name can contain up to 30 characters.

 DB_DOMAIN is the domain name of the database. It does not count towards any character limits and Veeam Explorer for Oracle does not shorten it during the restore process.

For example, if you specify the global database name as *orcl_restored.tech.local*, Veeam Explorer for Oracle will shorten it to *orcl_res.tech.local*. The database name will be *orcl_res*, while the unique database name will be *orcl_restored*.

The **Global database name** field is available only if you have selected the **Recover database to specific point in time** option at the **Specify Recovery Type** step.

c. In the Oracle SID field, specify the database system identifier. The Oracle SID field is automatically filled with the value entered in the Global database name field, but you can also assign a different value.

The maximum length of the Oracle SID is 12 characters and it can only contain alphanumeric characters (a-z, A-Z and O-9).

NOTE

Consider the following:

- To use the **Restore with different name and settings** option, make sure that *Controlfile Autobackup* is enabled. For more information, see the Oracle Environment Planning section of the Veeam Plug-in for Oracle RMAN User Guide.
- An existing Oracle SID (if any) will be replaced with that from the backup when selecting the **Restore with different name and settings** option.

| | Restore Wizard | × |
|--|--|--------|
| Specify Oracle setting | S | |
| Restore with the original At least an empty databat | name and settings ase with the same name and DBID must exist on the specified serve | er. |
| Restore with different na | me and settings: | |
| Oracle home: | C:\app\Administrator\product\19.3.0\dbhome | Browse |
| Global database name: | orcl_restored.tech.local | |
| Oracle SID: | orclres | |
| | | |
| | | |
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| | | |
| | Back Next | Cancel |

Step 5. Specify Home User Password

This step of the wizard is available if the account specified in Specify Target Server is not the Oracle home user.

At this step of the wizard, specify the password for the *Oracle home* user.

| Restore Wizard | × |
|--|----|
| Specify Oracle Home User password | |
| Please specify password for the account that was used to install Oracle Home: homeadmin. | |
| Password: | |
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| Back Next Cano | el |

Step 6. Specify Point in Time

At this step of the wizard, do the following:

- Select the **Restore to the latest available** option to restore data as of the latest available state.
- Select the **Restore to the following point in time** option to select a state as of which you want to restore data:
 - **Date**. Select a date as of which you want to restore data.
 - **SCN**. Specify SCN (System Change Number).
 - Sequence. Specify the sequence.
- Select the Generate new DBID check box to generate a new DBID in addition to the new database name.

This check box is available only when using the **Restore with different name and settings** option at the Specify Oracle Settings step.

• Select the **Suppress RESETLOG command and do not bring the database online** check box to skip the OPEN RESETLOGS operation if it was required by the database. The database in this case remains in the *mount* state.

This check box is available only when using the **Restore with the original name and settings** option at the Specify Oracle Settings step.

TIP

For more information, see the Oracle documentation.

| | Restore Wizard | × |
|------------------------|--|---|
| Specify point in | time | |
| specify point in | i une | |
| Restore to the la | atest available state | |
| Restore to the feature | ollowing point in time: | |
| 🔵 Date: | 27 March 2023 10.11.20 💌 🛩 | |
| • SCN: | 2 | |
| O Sequence: | 0 | |
| Generate new D | | |
| Suppress RESET | LOG command and do not bring the database online | |
| | Back Next Cancel | |

Step 7. Specify Database Files Location

At this step of the wizard, specify the location to which you want to restore data files.

Consider the following:

- When restoring with the **Restore with the original name and settings** option, only the location for *Data files* will be available for editing.
- When restoring with the **Restore with different name and settings** option, the location for the following files will be available for editing:
 - o Control files
 - o Data files
 - o Log files
 - o Temp files

To change the location, click the path row and specify the path.

| Restore Wizard | × |
|---|---|
| Specify database files target location | |
| Control files | ^ |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl\CONTROL01.CTL | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\FAST_RECOVER\CONTROL02.CTL | |
| Data files | |
| $C:\label{eq:c:app} Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl_restored\SYSTEM01.DBF$ | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl_r\SYSAUX01.DBF | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl_res\USERS01.DBF | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl\UNDOTBS01.DBF | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl_r\SYSTEM01.DBF | |
| $C:\lapp\dministrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl_r\SYSAUX01.DBF$ | ~ |
| Back Next Cance | I |

Step 8. Configure Channel Allocation

At this step of the wizard, specify channels allocation.

Channels are used to restore data in multiple threads per session. Using multiple threads allows Veeam Explorer for Oracle to reduce the amount of time needed to complete restore sessions. For more information about allocating channels, see the Oracle documentation.

The following options are available:

• Use default channel configuration

Select this option to use the default channel configuration defined in the RMAN plug-in settings.

• Allocate the following number of channels

Select this option to specify the number of channels to be used when restoring your data.

| Restore Wizard | × |
|---|---|
| Configure channels allocation | |
| Use default channel configuration | |
| Allocate the following number of channels | |
| Number of channels: 10 🗘 | |
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| Back Restore Cancel | |

Data Publishing

Publishing an Oracle database allows you to temporarily attach the databases to the target Oracle server without launching restore. Publishing typically occurs faster than using standard restore features and could be convenient when, for example, your time to perform disaster-recovery operations is limited.

After you have launched a publishing operation to an Oracle server, you can quickly republish the latest or point-in-time state of the database to the same server.

During publishing, Veeam Explorer for Oracle takes the following actions:

1. Mounts VM disks from the backup file to the target Oracle server.

Mounting is done to the C: $\forall eeamFLR$ directory for Windows-based servers and the /tmp directory for Linux-based servers.

- 2. Retrieves required database files.
- 3. Attaches associated databases directly to the target Oracle server so that you can perform required operations using Oracle tools.

Before publishing data, read the Considerations and Limitations section.

Publishing to Specified Server

To publish a database to the specified Oracle server, do the following:

- 1. Launch the Publish wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Specify the target Oracle server.
- 5. Specify Oracle settings.
Step 1. Launch Publish Wizard

To launch the **Publish** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the **Database** tab, select **Publish Database** > **Publish to another server**.

Alternatively, you can right-click a database and select **Publish database** > **Publish to another server**.



Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to publish your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging Oracle server. For more information, see Configuring Staging Oracle Server.

| Publish Wizard | × |
|---|---------------------|
| Specify restore point | |
| | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires redo log backups) | |
| 7:56 PM 3/7/2023 | 5:40 PM 3/9/2023 |
| Thursday, March 9, 2023 11:57 AM | |
| | |
| | |
| | |
| | |
| | |
| Perform restore to the specific transaction | |
| Enables you to review major database transactions around the selected time, and restore the d the moment in time right before the unwanted change. | atabase to |
| | |
| | |
| Next | Cancel |
| | |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to publish your database.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| elect the undesired operati wolving the selected opera | | . The database will be restored to t | the state prior to | transaction |
|---|-------------|--------------------------------------|--------------------|-------------|
| ivolving the selected opera | tion. | | | |
| Time | Operation | Object | Туре | Accc |
| 3/9/2023 11:15:18 AM | Update | EXP STAT\$ | Table | UNK |
| 3/9/2023 11:15:18 AM | Update | EXP STAT\$ | Table | UNK |
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| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
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| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
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| 2 (0 (2022 12 00 10 PM | | OBTOTAT CHARGUOT | T 11 | 11612 |
| 2 | | | | > |

Step 4. Specify Target Oracle Server

At this step of the wizard, specify connection settings required to access the target Oracle server. The set of connection settings depends on the OS type of the target server: Windows or Linux.

Windows-Based Oracle Server

For a Windows-based Oracle server, do the following:

- 1. In the Server name field, specify the name of the target Oracle server.
- 2. In the **Specify user account to connect** section, select either of the following options:
 - **Use current account**. Select this option to connect to the specified server using the account under which Veeam Explorer for Oracle is running.

You cannot use this option if Veeam Explorer for Oracle and mount server are located on separate machines.

• Use the following account. Select this option to connect to the specified server using a custom user account. Then provide a user name and password for the account.

Consider the following:

- The user account must be a member of the local Administrators group and have **sysdba** privileges.
- The user account must be granted appropriate permissions to access Oracle databases; **Read** and **Write** are minimum required, **Full Control** is recommended.
- To copy archived logs to the specified server, the user account must be granted sufficient permissions to access the administrative share.

| | Publish Wizard | × |
|------------------|--|---|
| Specify targe | et Windows server connection credentials | |
| Server name: | | |
| winorcl02.tech | local | |
| Specify user acc | ount to connect: | |
| Use current | account (TECH\michael.wells) | |
| Use the follow | owing account: | |
| Username: | winorcl02\Administrator | |
| Password: | ••••• | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next Cancel | |

Linux-Based Oracle Server

For a Linux-based Oracle server, do the following:

- 1. In the **Server** drop-down list, specify a target Oracle server. You can select an Oracle server from the list or enter a DNS name of the target Oracle server.
- 2. In the **SSH port** field, specify the port number of the selected Oracle server.
- 3. In the **Account** filed, specify an account under which to connect to the specified server.
- 4. In the **Password** field, enter the password.
- 5. If you have specified a non-root account that does not have root permissions on the target server, click **Advanced** to grant sudo rights to this account.
 - a. To provide a non-root user with root account privileges, select the **Elevate specified account to root** check box.
 - b. To add the user account to the sudoers file, select the Add account to the sudoers file automatically check box. In the Root password field, enter the password for the root account.

If you do not enable this option, you will have to manually add the user account to the sudoers file.

c. If the sudo command is not available or may fail on the target Linux server, you have an option to use the su command instead. To enable the su command, select the Use su if sudo is unavailable check box and enter the password for the root account in the Root password field.

| | Advanced Settings | × |
|---|---|---|
| R | Non-root account handling Elevate specified account to root Add account to the sudoers file automatically Use su if sudo is unavailable | |
| | Root password: | |
| | OK Cancel | |

- 6. If a private key is required to connect to the selected server, do the following:
 - a. Select the **Private key is required for this connection** check box.
 - b. In the **Private key** filed, specify a key.

To select a key, click **Browse** and select a key.

c. In the **Passphrase** field, enter the passphrase.

Consider that the user account must be a member of the **dba** group.

| | Publish Wizard | × |
|-----------|---|----------|
| Specify t | arget Linux server connection credentials | |
| Server: | linorcl01 SSH port: | 22 |
| Account: | oracle | Advanced |
| Password: | ••••• | |
| Private | key is required for this connection | |
| Private | key: | Browse |
| Passph | rase: | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next | Cancel |

Step 5. Specify Oracle Settings

At this step of the wizard, specify the location to which you want to restore the database.

- Select **Restore to the original location** to publish the database to the original location.
- Select **Restore to a different location** to publish the database to a custom location.
 - a. In the Oracle home field, specify the Oracle home directory. To locate the Oracle home directory, click Browse and select the folder you want to use.
 - b. In the **Global database name** field, specify the global database name as *DB_NAME.DB_DOMAIN*, where:
 - *DB_NAME* is the database name. Oracle limits the length of the database name to 8 characters. If the database name you specify exceeds this limit, Veeam Explorer for Oracle will automatically shorten the database name, and hence the global database name, during the publishing process.

The value you specify is also used for the unique database name (*DB_UNIQUE_NAME*) of the published database. The unique database name can contain up to 30 characters.

• *DB_DOMAIN* is the domain name of the database. It does not count towards any character limits and Veeam Explorer for Oracle does not shorten it during the publishing process.

For example, if you specify the global database name as *orcl_published.tech.local*, Veeam Explorer for Oracle will shorten it to *orcl_pub.tech.local*. The database name of the published database will be *orcl_pub*, while the unique database name of the published database will be *orcl_published*.

c. In the **Oracle SID** field, specify the database system identifier. The **Oracle SID** field is automatically filled with the value entered in the **Global database name** field, but you can also assign a different value.

The maximum length of the Oracle SID is 12 characters and it can only contain alphanumeric characters (a-z, A-Z and O-9).

After you complete this step, a new **Published databases** node appears at the top of the navigation pane in Veeam Explorer for Oracle. Under this node you can find the databases that have been published during the current session.

NOTE

If the account specified in Specify Target Oracle Server is not the Oracle home user, you will be asked to provide a password to access the target Oracle home. Applicable to Oracle 12c and later versions.

| | Publish Wizard | × |
|--|--|--------|
| Specify Oracle setting | S | |
| Restore to the original lo | cation | |
| Restore to a different loc | ation: | |
| Oracle home: | C:\app\Administrator\product\19.3.0\dbhome | Browse |
| Global database name: | orcl_published.tech.local | |
| Oracle SID: | orclpub | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Publish | Cancel |

Publishing Latest or Point-in-Time State

After you have launched a publishing operation to an Oracle server (as described in Publishing to Specified Server), you can quickly republish a state of the Oracle database to the same server.

You can republish either of the following states:

- The latest available state to publish data as of the latest state in the backup file.
- A point-in-time state to publish data as of the selected point-in-time state. This option is available only if backups of Oracle archive logs exist. For more information, see Required Backup Job Settings.

When you unpublish a database, both options continue to remain until you close the application so that you can quickly republish a database if required.

Publishing Latest State

Veeam Explorer for Oracle allows you to republish an unpublished database anew. When republishing a database, it will be attached to the target Oracle server as of the latest available state.

To republish a database as of the latest state, do the following:

- 1. In the navigation pane, select a database.
- 2. On the Database tab, select Publish Database > Publish latest state to <target_server>.

Alternatively, you can right-click a database and select **Publish database** > **Publish latest state to** <**target_server>**.

NOTE

The name of the publish option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as Publish latest state to <target_server>.
- If you select any other restore point, the option name is displayed as Publish state of <point_in_time> to <target_server>.

Once completed, the database will be published with the same name as it was during the initial publishing session.



Publishing Point-in-Time State

Publishing a point-in-time state allows you to load a required database state and unroll specified transactions if needed.

To publish a database as of the point-in-time state, do the following:

- 1. Launch the Publish wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.

Step 1. Launch Publish Wizard

To launch the **Publish** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the Database tab, select Publish Database > Publish point-in-time state to <server_name>.

Alternatively, you can right-click a database and select **Publish database** > **Publish point-in-time state to** <**server_name**>.

Once completed, the database will be published with the same name as it was during the initial publishing session.

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|---|--|---|-----|-------|
| E ▼ Database | | | | |
| | | | | |
| Instant Publish Restore Recovery V Database V Database V | Export as Export RMAN backup * Database Files * | | | |
| Instant Recovery Publish Restore | Export | | | |
| Databases | Database Info | | | ^ |
| 🖌 🖶 winorcl01.tech.local | Name: orcl | | | |
| GraDB19Home1 | Unique name: orcl | | | |
| instant recovery | Oracle SID: ORCL | | | |
| Instant recovery Publish database | Publish latest state to srv99.tech.local | | | |
| - | Publish point-in-time state to srv99.tech.local | | | |
| **** | Publish to another server | | | |
| Export as RMAN backup Export database files | Available Restore Period 3/7/2023 7:56:18 PM - 3/9/2023 5:40:23 PM | | | |
| | | | | |
| | Database Files | | | |
| | Control files C:\APP\ADMINISTRATOR\ORADATA\ORCL\CONTROL01.CTL C:\APP\ADMINISTRATOR\FAST_RECOVERY_AREA\ORCL\CONTROL02.CTL | | | |
| | Data files C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF | | | ~ |
| orcl | | | vee | eam - |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to publish your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging Oracle server. For more information, see Configuring Staging Oracle Server.

| Publish Wizard | × |
|--|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires redo log backups) | |
| 7:56 PM 3/7/2023 | 5:40 PM 3/9/2023 |
| Thursday, March 9, 2023 11:57 AM | |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore the data the moment in time right before the unwanted change. | stabase to |
| Next | Cancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to publish your database and click **Publish**.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| lect the undesired operation volving the selected operation of the selected operation operation of the selected operation operation of the selected operation o | | . The database will be restored to t | he state prior to | transactio |
|--|-------------|--------------------------------------|-------------------|------------|
| Time | Operation | Object | Туре | Accc |
| 3/9/2023 11:15:18 AM | Update | EXP STATS | Table | UNK |
| 3/9/2023 11:15:18 AM | Update | EXP STATS | Table | UNK |
| 3/9/2023 11:15:18 AM | Update | EXP STATS | Table | UNK |
| 3/9/2023 11:15:18 AM | Update | EXP STAT\$ | Table | UNK |
| 3/9/2023 11:15:18 AM | Update | EXP STATS | Table | UNK |
| 3/9/2023 11:15:18 AM | Update | EXP STAT\$ | Table | UNK |
| 3/9/2023 11:15:18 AM | Update | EXP_STAT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 1/0/2022 12:00 10 DM | | OBTOTAT CHIADOLIOTS | T 11 | 116.12 |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |

Unpublishing Databases

Once you are finished working with published databases, you may want to unpublish (detach) these databases from the target Oracle server.

Detachment occurs in the following manner:

- Upon closing the Veeam Explorer for Oracle console, all published databases will be detached from the target Oracle server automatically. Mount points will be also dismounted from under the C:\VeeamFLR directory for Windows-based servers and the /tmp directory for Linux-based servers.
- On manual unpublishing, databases will be detached at once but the restore point will remain mounted on the target server for the next 15 minutes.

To unpublish a database manually, do the following:

- 1. In the navigation pane, under the **Published databases** node, select a published database.
- 2. On the **Publish** tab, select **Unpublish Database**.

Alternatively, in the navigation pane, right-click a published database and select Unpublish.

To detach more than one published database simultaneously, right-click the root **Published databases** node and select **Unpublish databases** or select the root **Published databases** node and click **Unpublish Databases** on the **Publish** tab.

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|-----------------------------------|---------------------------|--|---|-----|-----|
| ≡ • Publish | | | | | |
| Export as RMAN backup Database | | | | | |
| Publish | | | | | ~ |
| Databases | Database Info | | | | |
| ▲ ざ Published databases (1) | Server: | winorcl02.tech.local | | | |
| i orcl_pub | Original name: | orcl | | | |
| Export as RMAN backup | Attached as: | orcl_pub | | | |
| 💕 Unpublish | Original Oracle SID: | ORCL | | | |
| Refresh status | Attached Oracle SID: | orclpub | | | |
| | Log mode: | ARCHIVELOG | | | |
| | Backup time: | 3/9/2023 5:40 PM | | | |
| | Published point in time: | 3/9/2023 5:40 PM | | | |
| | Database Files | | | | |
| | _ | b7c22\Volume1\APP\ADMINISTRATOR\ORADATA\ORCL\CONTROL01.CTL b7c22\Volume1\APP\ADMINISTRATOR\FAST_RECOVERY_AREA\ORCL\CONTROL02.CTL | | | |
| | C:\VeeamFLR\winorcl01_837 | b7c22\Volume1\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF b7c22\Volume1\APP\ADMINISTRATOR\ORADATA\ORCL\SYSAUX01.DBF b7c22\Volume1\APP\ADMINISTRATOR\ORADATA\ORCL\UNDOTBS01.DBF | | | ~ |
| orcl_pub | | | | vee | eam |

Exporting as RMAN Backup

Once published, the database can be exported as an RMAN backup so that you can save the changes you may have made on the target server. For example, after publishing a database, you may have added a column or alter some values. To save these modifications before you unpublish the database, you can use the export feature.

To export a database, do the following:

- 1. In the navigation pane, under the **Published databases** node, select a published database.
- 2. On the **Publish** tab, select **Export as RMAN backup** or right-click a published database and select **Export as RMAN backup**.
- 3. In the **Export** wizard, in the **Export path** field, specify the location to which you want to export database files.

If the folder you are specifying does not exist, it will be created.

4. In the **File name format** field, specify the format according to which your files will be named after the export.

For more information, see this Oracle article.

- 5. In the **Tag to label output file with** field, specify a new tag name.
- 6. To compress files using native Oracle compression, select the **Enable native compression** check box.
- 7. In the **Channels number** numeric field, specify the number of channels to be used when retrieving Oracle databases from the backup.
- 8. Click Export.

| Export Wizard | × |
|--|---------|
| Specify database export location | |
| Export path: | |
| C:\Users\michael.wells\Desktop\orcl | Browse |
| File name format: | |
| _%I_%d_%T_%U | |
| Tag to label output file with: | |
| exported_db | |
| Enable native compression (increases Oracle server CPU consumption) Channels number: | |
| Larger values improve export performance at the cost of increased Oracle server CPU consum | nption. |
| | |
| | |
| | |
| Back Export | Cancel |

Refreshing Database Status

While databases are attached to the target Oracle server, Veeam Explorer for Oracle synchronizes each published database state to verify its availability. By default, synchronization occurs every five seconds.

If something went wrong with any of the published databases, the question mark appears next to each of such databases indicating the database unavailability. In the **Database Info** section, you will also see the notification message describing the problem.

To refresh a published database state manually, in the navigation pane, under the **Published databases** node, right-click a published database and select **Refresh status**.



Instant Recovery

Instant recovery combines capabilities of the data restore and data publishing features. If you want the database to be online as quickly as possible, you can use the **Instant Recovery** option and restore it in the background.

Before performing instant recovery, read the Considerations and Limitations section.

How It Works

To perform instant recovery, Veeam Explorer for Oracle uses the *Veeam Explorers Recovery Service*. The service is installed on the backup server and every mount server deployed in the backup infrastructure, and runs in the background. During instant recovery, Veeam Explorer for Oracle uses the service running on the mount server associated with the backup repository. This removes the necessity to keep Veeam Explorer for Oracle running during an entire instant recovery session. Once you have started an instant recovery session, you can close Veeam Explorer for Oracle and then launch it later when necessary.

When you start the instant recovery session in Veeam Explorer for Oracle, the following happens:

- 1. Veeam Explorer for Oracle uses backup files to publish the database on the target production server directly from backup.
- 2. While the published database is online, Veeam Explorer for Oracle starts to create a copy of the database on the target Oracle server.
- 3. All changes in database files that occur after publishing are saved in cache.

[For Windows-Based Oracle server] The instant recovery write cache is stored on the mount server. You can view and change the write cache location in the mount server settings. For more information, see the Specify Mount Server Settings section of the Veeam Backup & Replication User Guide.

[For Linux-Based Oracle server] The instant recovery write cache is stored on the target server.

- 4. After all database files are copied to the target server, Veeam Explorer for Oracle uses archived redo logs to synchronize changes in database files.
- 5. After synchronization, you can switch over to the up-to-date copy of the database on the production server. Depending on the option you choose, switchover starts in one of the following ways:
 - Automatically, immediately after synchronization
 - o Automatically, according to a specified schedule
 - o Manually

During switchover, Veeam Explorer for Oracle does the following:

- a. Stops the published database.
- b. Uses redo logs to synchronize differences between the published database and the copied database files.
- c. Drops the published database.
- d. Starts the recovered database.

Instant recovery session is resilient to network disruption, backup server or mount server crash. If anything disrupts the restore process, the restore process stays in the waiting mode and performs 10 automatic retries every 5 minutes. If the retries fail, you can launch retry after the server or network is up.

Instant Recovery of Multiple Databases

You can you Veeam Explorer for Oracle to perform instant recovery of multiple databases hosted on a server or a certain Oracle server. You can perform instant recovery to the original server or to any other server in your network where Oracle Database is installed.

To perform instant recovery of multiple databases, do the following:

- 1. Launch the Instant Recovery wizard.
- 2. Specify a restore point.
- 3. Specify the target server.
- 4. Specify Oracle settings.
- 5. Specify switchover settings.
- 6. Finalize the Instant Recovery session.

Step 1. Launch Instant Recovery Wizard

To perform instant recovery of multiple databases, do the following:

- 1. In the navigation tree of Veeam Explorer for Oracle, select a server or Oracle home.
- 2. On the Server or the Oracle Home tab, select one of the following options:
 - Instant Recovery > Instant Recovery of the latest state to *<original server>* or right-click the server or Oracle home and select Instant recovery > Instant recovery of the latest state to *<original server>*.
 - Instant Recovery > Instant Recovery of the point-in-time state to <original server> or right-click a server or Oracle home and select Instant recovery > Instant recovery of the point-in-time state to <original server>.
 - Instant Recovery > Instant Recovery to another server or right-click a server or Oracle home and select Instant recovery > Instant recovery to another server.

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|-----------------------|--|---|-----|----|
| ■ * Server | | | | |
| Instant Recovery * | | | | |
| Databases | Server Info | | | |
| winorcl01.tech.local | Name: winorcl01.tech.local | | | |
| OraD Instant recovery | | | | |
| | Instant recovery of the point-in-time state to winorcl01.tech.local | | | |
| | Instant recovery to another server | | | |
| | | | | |
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| | | | | |
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| | | | | |
| winorcl01.tech.local | | | vee | AM |

Step 2. Specify Restore Point

At this step of the **Instant Recovery** wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Note that this option is available only if archived log backups exist. For more information, see Required Backup Job Settings.

Use the slider to choose a required point in time.

NOTE

If you have selected to perform instant recovery of databases latest state to original server, skip this step and go to Specify Switchover Settings.

| Instant Recovery Wizard | × |
|---|----------|
| | |
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires redo log backups) | |
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| | |
| | |
| | |
| Next | Cancel |

Step 3. Specify Target Server

The **Specify Target Server** step of the wizard is available if you select the instant recovery to another server option.

At this step, specify connection settings required to access the target Oracle server. The set of connection settings depends on the OS type of the target server: Windows or Linux.

Windows-Based Oracle Server

For a Windows-based Oracle server, do the following:

- 1. In the **Server name** field, specify the name of the target Oracle server.
- 2. In the **Specify user account to connect** section, enter credentials to connect to the target Oracle server.

Consider the following:

- The user account must be a member of the local Administrators group and have **sysdba** privileges.
- The user account must be granted appropriate permissions to access Oracle databases; **Read** and **Write** are minimum required, **Full Control** is recommended.
- To copy archived logs to the specified server, the user account must be granted sufficient permissions to access the administrative share.

| | Instant Recovery Wizard | × |
|-------------|---|--------|
| Specifyt | arget Windows server connection credentials | |
| Specify a | aget windows server connection credentials | |
| Server name | 2 | |
| winorcl02. | tech.local | |
| Specify use | account to connect: | |
| Username: | winorcl02\Administrator | |
| Password: | ••••• | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next | Cancel |

Linux-Based Oracle Server

For a Linux-based Oracle server, do the following:

- 3. In the **Server** drop-down list, specify a target Oracle server. You can select an Oracle server from the list or enter a DNS name of the target Oracle server.
- 4. In the **SSH port** field, specify the port number of the selected Oracle server.
- 5. In the **Account** filed, specify an account under which to connect to the specified server.

- 6. In the **Password** field, enter the password.
- 7. If you have specified a non-root account that does not have root permissions on the target server, click **Advanced** to grant sudo rights to this account.
 - a. To provide a non-root user with root account privileges, select the **Elevate specified account to root** check box.
 - b. To add the user account to the sudoers file, select the Add account to the sudoers file automatically check box. In the Root password field, enter the password for the root account.

If you do not enable this option, you will have to manually add the user account to the sudoers file.

c. If the sudo command is not available or may fail on the target Linux server, you have an option to use the su command instead. To enable the su command, select the Use su if sudo is unavailable check box and enter the password for the root account in the Root password field.

| | Advanced Settings | × |
|----------|--|---|
| F | Non-root account handling Elevate specified account to root Add account to the sudoers file automatically Use su if sudo is unavailable Root password: | |
| | OK Cancel | |

- 8. If a private key is required to connect to the selected server, do the following:
 - a. Select the **Private key is required for this connection** check box.
 - b. In the **Private key** filed, specify a key.

To select a key, click **Browse** and select a key.

c. In the **Passphrase** field, enter the passphrase.

Consider that the user account must be a member of the **dba** group.

| | Instant Recovery Wizard | | × |
|-----------|---|-----------|----------|
| Specify t | arget Linux server connection credentials | | |
| Server: | linorcl01 | SSH port: | 22 |
| Account: | oracle | | Advanced |
| Password: | ••••• | | |
| Private | key is required for this connection | | |
| Private | key: | | Browse |
| Passph | rase: | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Back | Next | Cancel |

Step 4. Specify Oracle Settings

The **Specify Oracle settings** step of the wizard is available if you select the instant recovery to another server option.

At this step of the wizard, select a location to which you want to restore databases:

- **Restore to the original location** to restore databases back to the original location.
- **Restore to a different location** to restore databases to a custom location. To locate an Oracle home directory for restored databases, click Browse and select a folder you want to use.

NOTE

If the account specified in Specify Target Server is not the Oracle home user, you will be asked to provide a password to access the target Oracle home. Applicable to Oracle 12c and later versions.

| Instant Recovery Wizard | × |
|--|--------|
| Specify Oracle actions | |
| Specify Oracle settings | |
| Restore to the original location | |
| Restore to a different location: | |
| C:\app\Administrator\product\19.3.0\dbhome | Browse |
| ·, | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Back Next | Cancel |

Step 5. Specify Switchover Settings

At this step of the wizard, specify database switchover options.

To select a switchover option and start the instant recovery session, do the following:

- 1. At the **Specify switchover type** field, select one of the following switchover options:
 - Auto: switchover is performed automatically after all database files are copied and synchronized.
 - **Manual**: switchover is started manually by user at any time after all database files are copied and synchronized.
 - **Scheduled**: switchover is performed at a specified date and time. Use the drop-down calendar to specify the date and time.
- 2. Click Recover.

After you click **Recover**, Veeam Explorer for Oracle starts publishing the database on the target server.

| | Instant Recovery Wizard | × |
|---|--|----------|
| Specify database s | witchover scheduling options | |
| Specify switchover type: | | |
| Auto Switchover will be p | erformed automatically with minimal possible downtime once the database is ready | <i>.</i> |
| Manual Switchover can be p | erformed manually at any point in time after the database is ready. | |
| Scheduled at: | 3/14/2023 12:30 PM 💌 | |
| | Back Recover Cancel |] |

Step 6. Finalize Instant Recovery Session

Depending on the option you choose in the **Instant Recovery** wizard, switchover starts in one of the following ways:

- Automatically, immediately after synchronization
- Automatically, according to a specified schedule
- Manually

If you have selected the **Manual** switchover option, you must perform switchover manually as described in Starting Switchover Manually.

Instant Recovery of Latest State

To perform instant recovery of a single database to the latest state, do the following:

- 1. In the navigation tree, select a database.
- On the Database tab, select Instant Recovery > Instant Recovery of the latest state to <original_location>, or you can right-click a database and select Instant Recovery > Instant recovery of the latest state to <original_location>.

NOTE

The name of the instant recovery option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Instant** recovery of the latest state to <original_location>.
- If you select any other restore point, the option name is displayed as **Instant recovery of the state of** cont_in_time> to <original_location>.



- 3. In the Instant Recovery wizard, select one of the following switchover options:
 - Auto: switchover is performed automatically after all database files are copied and synchronized.
 - **Manual**: switchover is started manually by user at any time after all database files are copied and synchronized.

• **Scheduled**: switchover is performed at a specified date and time. Use the drop-down calendar to specify the date and time.

| | Instant Recovery Wizard | × |
|--|--|----------|
| Specify database sv | witchover scheduling options | |
| Specify switchover type: | | |
| Auto Switchover will be per | erformed automatically with minimal possible downtime once the database is ready | <i>.</i> |
| Manual Switchover can be performed. | erformed manually at any point in time after the database is ready. | |
| Scheduled at: | 3/14/2023 12:30 PM 💌 | |
| | Back Recover Cancel | |

4. Click Recover.

After you click **Recover**, Veeam Explorer for Oracle starts publishing the database on the target server.

- 5. Depending on the option you choose in the Instant Recovery wizard, switchover starts in one of the following ways:
 - \circ Automatically, immediately after synchronization
 - \circ $\;$ Automatically, according to a specified schedule $\;$

• Manually

If you have selected the **Manual** switchover option, you must perform switchover manually as described in Starting Switchover Manually.

| · | winorcl01 as of less the | an a day ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - = | × |
|--|---|--|---------------------------|----|
| Instant Recovery | | | | |
| dit Switchover Retry Cancel Now | | | | |
| Databases | Adding or removing of | f pluggable databases is not supported unless the published container database orcl is swi | itched over to productior | n. |
| Instant Recovery (1) | Instant Recovery In | fo | | |
| i orcl | Status: | Publishing | | |
| winorcl01.tech.local | Server: | winorcl01.tech.local | | |
| CraDB19Home1 orcl | Oracle home: | C:\oracle | | |
| l orci | Name: | orcl | | |
| | Unique name: | orcl | | |
| | Oracle SID: | ORCL | | |
| | Target point in time: | 3/9/2023 5:40 PM | | |
| | < | | | 2 |
| | Action | | Duration | |
| | Session started at 3/ | 14/2023 9:15:45 AM | 00:04 | |
| | Publishing database | | 00:13 | |
| | Publishing database | files | 00:12 | |
| | | | | |
| | | | | |
| | | | vee | |

Instant Recovery of Point-in-Time State

To perform instant recovery of a database to a selected point-in-time state, perform the following steps:

- 1. Launch the Instant Recovery wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Specify switchover settings.
- 5. Finalize the Instant Recovery session.

Step 1. Launch Instant Recovery Wizard

To launch the **Instant Recovery** wizard, do the following:

- 1. In the navigation tree, select a database.
- On the Database tab, select Instant Recovery > Instant recovery of point-in-time state to <original server >.

Alternatively, you can right-click a database and select **Instant recovery** > **Instant recovery of point-in-time state to <original server>**.

| Fa, | winorcl01 as of less than a day ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - | | × |
|---|---|---|-----|----|
| ∃ • Database | | | | |
| | | | | |
| Instant Publish Restore Recovery V Database V Database V | Export as Export RMAN backup 🔻 Database Files 👻 | | | |
| Instant Recovery Publish Restore | Export | | | |
| Databases | Database Info | | | ^ |
| ▲ 🗧 winorcl01.tech.local | Name: orcl | | | |
| OraDB19Home1 orcl | Unique name: orcl | | | |
| | Instant recovery of the latest state to winorcl01.tech.local | | | 8 |
| Publish database | Instant recovery of the point-in-time state to winorcl01.tech.local | | | |
| 🝶 Restore database 🔹 🕨 | Instant recovery to another server Local listener: LISTENER_OKCL | | | |
| 👔 Export as RMAN backup 🔸 | | | | |
| 😰 Export database files 🔹 🕨 | Available Restore Period | | | |
| | 3/7/2023 7:56:18 PM - 3/9/2023 5:40:23 PM | | | |
| | Database Files | | | |
| | Control files | | | |
| | C:\APP\ADMINISTRATOR\ORADATA\ORCL\CONTROL01.CTL C:\APP\ADMINISTRATOR\FAST_RECOVERY_AREA\ORCL\CONTROL02.CTL | | | |
| | Data files C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF | | | ~ |
| orcl | | | vee | AM |

Step 2. Specify Restore Point

At this step of the **Instant Recovery** wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. This option is available only if archived log backups exist. For more information, see Required Backup Job Settings.
 - a. Use the slider to choose a required point in time.
 - b. If you want to load database files exactly as of the moment before undesired transactions, select the **Perform restore to the specific transaction** check box. Note that this option requires a staging Oracle server. For more information, see Configuring Staging Oracle Server.

| Instant Recovery Wizard 🗙 |
|--|
| Specify restore point |
| -F) F |
| Specify point in time you want to restore the database to: |
| Restore to the point in time of the selected image-level backup |
| Restore to a specific point in time (requires redo log backups) |
| 7:56 PM 3/7/2023 5:40 PM 3/9/2023 |
| Thursday, March 9, 2023 11:57 AM |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore the database to the moment in time right before the unwanted change. |
| Next Cancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to restore the database.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| elect the undesired operation of the selected operation operat | | . The database will be restored to t | he state prior to | transaction |
|--|-------------|--------------------------------------|-------------------|-------------|
| Time | Operation | Object | Туре | Accc |
| Time | operation | Object | type | Acce |
| 3/9/2023 11:15:18 AM | Update | EXP_STAT\$ | Table | UNK |
| 3/9/2023 11:15:18 AM | Update | EXP_STAT\$ | Table | UNK |
| 3/9/2023 11:15:18 AM | Update | EXP_STAT\$ | Table | UNK |
| 3/9/2023 11:15:18 AM | Update | EXP_STAT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK 🚬 |
| 2 (0 (2022 12 00 10 DM | | OBTOTAT CHIADOLIOTS | T 11 | TINIZ |
| (10/2022 12 00 10 DM | | | Ŧ 11 | > |

Step 4. Specify Switchover Settings

At this step of the wizard, specify database switchover options.

To select a switchover option and start the instant recovery session, do the following:

- 1. At the **Specify switchover type** field, select one of the following switchover options:
 - Auto: switchover is performed automatically after all database files are copied and synchronized.
 - **Manual**: switchover is started manually by user at any time after all database files are copied and synchronized.
 - Scheduled: switchover is performed at a specified date and time. Use the drop-down calendar to specify the date and time.
- 2. Click Recover.

After you click **Recover**, Veeam Explorer for Oracle starts publishing the database on the target server.

| | Instant Recovery Wizard | × |
|---|---|----|
| Specify database s | witchover scheduling options | |
| Specify switchover type: | | |
| Auto Switchover will be p | erformed automatically with minimal possible downtime once the database is read | у. |
| Manual Switchover can be p | erformed manually at any point in time after the database is ready. | |
| Scheduled at: | 3/14/2023 12:30 PM 💌 | |
| | Back Recover Cancel | |

Step 5. Finalize Instant Recovery Session

Depending on the option you choose in the **Instant Recovery** wizard, switchover starts in one of the following ways:

- Automatically, immediately after synchronization
- Automatically, according to a specified schedule
- Manually

If you have selected the **Manual** switchover option, you must perform switchover manually as described in Starting Switchover Manually.

| =a | winorcl01 as of less than a day ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | | | | × |
|--|--|----------------------|-------|-----------|-------|
| ■ Instant Recovery | | | | | |
| Edit Switchover Retry Cancel Now | | | | | |
| Databases | () Adding or removing of pluggable databases is not supported unless the published container database orcl is swit | | | oroductio | on. ^ |
| 🔺 💼 Instant Recovery (1) | Instant Recovery Info | | | | |
| i orcl | Status: | Publishing | | | |
| winorcl01.tech.local CraDB19Home1 orcl | Server: | winorcl01.tech.local | | | |
| | Oracle home: | C:\oracle | | | |
| | Name: | orcl | | | |
| | Unique name: | orcl | | | |
| | Oracle SID: | ORCL | | | |
| | Target point in time: | 3/9/2023 5:40 PM | | | ~ |
| | < | | | | > |
| | Action | | Durat | ion | |
| | Session started at 3/14/2023 9:15:45 AM | | 00:04 | | |
| | Publishing database | | 00:13 | | |
| | Publishing database files | | 00:12 | | |
| | | | | | |
| | | | | | |
| orcl Ve | | | | | AM |
| | | | | | |
Instant Recovery to Another Server

To perform instant recovery of a database to another server, perform the following steps:

- 1. Launch the Instant Recovery wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Specify the target Oracle server.
- 5. Specify Oracle settings.
- 6. Specify database files location.
- 7. Specify switchover settings.
- 8. Finalize the Instant Recovery session.

Step 1. Launch Instant Recovery Wizard

To launch the Instant Recovery wizard, do the following:

- 1. In the navigation tree, select a database.
- 2. On the **Database** tab, select **Instant Recovery > Instant Recovery to another server**.

Alternatively, you can right-click a database and select Instant recovery > Instant recovery to another server.



Step 2. Specify Restore Point

At this step of the **Instant Recovery** wizard, select a state as of which you want to restore the database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Note that this option is available only if archived log backups exist. For more information, see Required Backup Job Settings.
 - a. Use the slider to choose a required point in time.
 - b. If you want to load database files exactly as of the moment before undesired transactions, select the **Perform restore to the specific transaction** check box. Note that this option requires a staging Oracle server. For more information, see Configuring Staging Oracle Server.

| Instant Recovery Wizard 🗙 |
|--|
| Specify restore point |
| Specify restore point |
| Specify point in time you want to restore the database to: |
| Restore to the point in time of the selected image-level backup |
| Restore to a specific point in time (requires redo log backups) |
| 7:56 PM 3/7/2023 5:40 PM 3/9/2023 |
| Thursday, March 9, 2023 11:57 AM |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore the database to the moment in time right before the unwanted change. |
| Next Cancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to restore the database.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| elect the undesired operation volving the selected operation of the selected operation operation of the selected operation operat | | The database will be restored to t | he state prior to | transaction |
|--|-------------|------------------------------------|-------------------|-------------|
| wowing the selected operation | | | | ^ |
| Time | Operation | Object | Туре | Accc |
| 3/9/2023 11:15:18 AM | Update | EXP STAT\$ | Table | UNK |
| 3/9/2023 11:15:18 AM | Update | EXP STAT\$ | Table | UNK |
| 3/9/2023 11:15:18 AM | Update | EXP_STAT\$ | Table | UNK |
| 3/9/2023 11:15:18 AM | Update | EXP_STAT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| 3/9/2023 12:00:19 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | UNK |
| C 2/0/2022 12:00 10 PM | | OBTOTAT CNIABOLIOTS | T 11 | 11412 |
| | | - | | |

Step 4. Specify Target Oracle Server

At this step of the wizard, specify connection settings required to access the target Oracle server. The set of connection settings depends on the OS type of the target server: Windows or Linux.

Windows-Based Oracle Server

For a Windows-based Oracle server, do the following:

- 1. In the Server name field, specify the name of the target Oracle server.
- 2. In the Specify user account to connect section, enter credentials to connect to the target Oracle server.

Consider the following:

- The user account must be a member of the local Administrators group and have **sysdba** privileges.
- The user account must be granted appropriate permissions to access Oracle databases; **Read** and **Write** are minimum required, **Full Control** is recommended.
- To copy archived logs to the specified server, the user account must be granted sufficient permissions to access the administrative share.

| | Instant Recovery Wizard | × |
|--------------|---|---|
| Specify ta | arget Windows server connection credentials | |
| Server name | e | |
| winorcl02. | tech.local | |
| Specify user | r account to connect: | |
| Username: | winorcl02\Administrator | |
| Password: | ••••• | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next Cancel | |

Linux-Based Oracle Server

For a Linux-based Oracle server, do the following:

- 3. In the **Server** drop-down list, specify a target Oracle server. You can select an Oracle server from the list or enter a DNS name of the target Oracle server.
- 4. In the SSH port field, specify the port number of the selected Oracle server.
- 5. In the Account filed, specify an account under which to connect to the specified server.
- 6. In the **Password** field, enter the password.

- 7. If you have specified a non-root account that does not have root permissions on the target server, click **Advanced** to grant sudo rights to this account.
 - a. To provide a non-root user with root account privileges, select the **Elevate specified account to root** check box.
 - b. To add the user account to the sudoers file, select the Add account to the sudoers file automatically check box. In the **Root password** field, enter the password for the root account.

If you do not enable this option, you will have to manually add the user account to the sudoers file.

c. If the sudo command is not available or may fail on the target Linux server, you have an option to use the su command instead. To enable the su command, select the **Use su if sudo is unavailable** check box and enter the password for the root account in the **Root password** field.

| | Advanced Settings | × |
|---|--|---|
| R | Non-root account handling Elevate specified account to root Add account to the sudoers file automatically Use su if sudo is unavailable Root password: | |
| | OK Cancel | |

- 8. If a private key is required to connect to the selected server, do the following:
 - a. Select the **Private key is required for this connection** check box.
 - b. In the **Private key** filed, specify a key.

To select a key, click **Browse** and select a key.

c. In the **Passphrase** field, enter the passphrase.

Consider that the user account must be a member of the **dba** group.

| | Instant Recovery Wizard | × |
|-----------|---|----------|
| Specify t | arget Linux server connection credentials | |
| Server: | linorcl01 SSH port | : 22 ^ |
| Account: | oracle | Advanced |
| Password: | ••••• |] |
| Private | key is required for this connection | |
| Private | key: | Browse |
| Passph | rase: | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next | Cancel |

Step 5. Specify Oracle Settings

At this step of the wizard, specify the location to which you want to restore the database.

- Select **Restore to the original location** to restore the database back to the original location.
- Select **Restore to a different location** to restore the database to a custom location.
 - a. In the **Oracle home** field, specify the Oracle home directory. To locate the Oracle home directory, click **Browse** and select the folder you want to use.
 - b. In the **Global database name** field, specify the global database name as *DB_NAME.DB_DOMAIN*, where:
 - DB_NAME is the database name. Oracle limits the length of the database name to 8 characters. If the database name you specify exceeds this limit, Veeam Explorer for Oracle will automatically shorten the database name, and hence the global database name, during the publishing process.

The value you specify is also used for the unique database name (*DB_UNIQUE_NAME*) of the published database. The unique database name can contain up to 30 characters.

• *DB_DOMAIN* is the domain name of the database. It does not count towards any character limits and Veeam Explorer for Oracle does not shorten it during the publishing process.

For example, if you specify the global database name as *orcl_published.tech.local*, Veeam Explorer for Oracle will shorten it to *orcl_pub.tech.local*. The database name of the published database will be *orcl_pub*, while the unique database name of the published database will be *orcl_published*.

c. In the **Oracle SID** field, specify the database system identifier. The **Oracle SID** field is automatically filled with the value entered in the **Global database name** field, but you can also assign a different value.

The maximum length of the Oracle SID is 12 characters and it can only contain alphanumeric characters (a-z, A-Z and O-9).

NOTE

If the account specified in Specify Target Oracle Server is not the Oracle home user, you will be asked to provide a password to access the target Oracle home. Applicable to Oracle 12c and later versions.

| | Instant Recovery Wizard | × |
|--|--|--------|
| Specify Oracle setting | S | |
| Restore to the original lo | cation | |
| Restore to a different loc | ation: | |
| Oracle home: | C:\app\Administrator\product\19.3.0\dbhome | Browse |
| Global database name: | orcl_published.tech.local | |
| Oracle SID: | orclpub | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next | Cancel |

Step 6. Specify Database File Location

At this step of the wizard, specify the location for database files (control files, data files, log files and temp files).

To edit the path, click the path row and provide the location you want to use. If specified folders do not exist, Veeam Explorer for Oracle will create these folders.

| Instant Recovery Wizard | × |
|---|-----|
| Specify database files target location | |
| | |
| Control files | ^ |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl\CONTROL01.CTL | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\FAST_RECOVER\CONTROL02.CTL | |
| Data files | |
| C:\app\Administrator\product\19.3.0\APP\ADMINISTRATOR\ORADATA\orcl_p\SYSTEM01.DBF | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | |
| $\label{eq:c:app} C:\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | ~ |
| | |
| Back Next Can | cel |

Step 7. Specify Switchover Settings

At this step of the wizard, specify database switchover options.

To select a switchover option and start the instant recovery session, do the following:

- 1. At the **Specify switchover type** field, select one of the following switchover options:
 - Auto: switchover is performed automatically after all database files are copied and synchronized.
 - **Manual**: switchover is started manually by user at any time after all database files are copied and synchronized.
 - **Scheduled**: switchover is performed at a specified date and time. Use the drop-down calendar to specify the date and time.
- 2. Click Recover.

After you click **Recover**, Veeam Explorer for Oracle starts publishing the database on the target server.

| | Instant Recovery Wizard | × |
|---|--|----------|
| Specify database s | witchover scheduling options | |
| Specify switchover type: | | |
| Auto Switchover will be p | erformed automatically with minimal possible downtime once the database is ready | <i>.</i> |
| Manual Switchover can be p | erformed manually at any point in time after the database is ready. | |
| Scheduled at: | 3/14/2023 12:30 PM 💌 | |
| | Back Recover Cancel |] |

Step 8. Finalize Instant Recovery Session

Depending on the option you choose in the **Instant Recovery** wizard, switchover starts in one of the following ways:

- Automatically, immediately after synchronization
- Automatically, according to a specified schedule
- Manually

If you have selected the **Manual** switchover option, you must perform switchover manually as described in Starting Switchover Manually.

| F a | winorcl01 as of less th | an a day ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - | | × |
|--|--------------------------|---|-------------|-----------|-----|
| ■ Instant Recovery | | | | | |
| Edit Switchover Retry Cancel Now | | | | | |
| Databases | Adding or removing of p | luggable databases is not supported unless the published container database orcl_pub is switche | d over to r | productic | ^ |
| Databases | Adding of removing of p | uggable databases is not supported unless the published container database orci_publis switche | overto | productic | Jn. |
| ▲ 📑 Instant Recovery (1) | Instant Recovery Info | | | | |
| i orcl_pub | Status: | Publishing | | | |
| ▲ 📄 winorcl01.tech.local | Server: | winorcl02.tech.local | | | |
| GraDB19Home1 orcl | Oracle home: | C:\app\Administrator\product\19.3.0\dbhome | | | |
| orci | Name: | orcl_pub | | | |
| | Unique name: | orcl_published | | | |
| | Oracle SID: | orcl_pub | | | |
| | Target point in time: | 3/9/2023 5:40 PM | | | |
| | < | | | | > |
| | | | _ | | |
| | Action | | Durati | ion | |
| | Session started at 3/14/ | 2023 9:15:45 AM | 00:04 | | |
| | Publishing database | | 00:29 | | |
| | Publishing database file | S | 00:28 | | |
| | | | | | |
| | | | | | |
| Loading | | | | vee | ٩M |

Switchover

The switchover option becomes available after all the database files are copied to the target server. During switchover, the mounted database is switched to its complete copy on the target server. Note that if you have selected to restore to the original server, the restored database will replace the original database.

Depending on the option you choose in the **Instant Recovery** wizard, switchover starts in on of the following ways:

- Automatically, immediately after synchronization
- Automatically, according to a specified schedule
- Manually

During switchover, Veeam Explorer for Oracle performs the following operations:

- 1. Detaches the published database from the Oracle server.
- 2. Uses archived redo logs to synchronize changes between the published database and the copied database files.
- 3. Drops the published database.
- 4. Attaches the recovered database to the Oracle server.

Note that the database will be offline between the steps 1-4.

Auto Switchover

The Auto switchover option ensures minimal period of downtime.

As soon as database files are copied from backup files, Veeam Explorer for Oracle uses archived redo logs to find differences between the published database and the recovered database. Depending on the size of differences in archived redo logs, the following happens:

- If the size of differences in archived redo logs is smaller than 10 MB, Veeam Explorer for Oracle starts the switchover process. In this case, the databases are synchronized during switchover.
- If the size of differences in archived redo logs is larger than 10 MB, Veeam Explorer for Oracle uses redo logs to synchronize the changes.

After synchronizations, checks the size of differences in archived redo logs once again. If the size is smaller than 10 MB, Veeam Explorer for Oracle starts the switchover process. If the size is larger than 10 MB again, another cycle of synchronization is performed. Synchronization is relaunched until the size of differences in logs is smaller than 10 MB.

Scheduled Switchover

After database files are copied from backup files, Veeam Explorer for Oracle uses archived redo logs to find differences between the published database and the recovered database. Veeam Explorer for Oracle checks the size of differences every minute. If the size is larger than 10 MB or it has been 5 minutes since the last synchronization, Veeam Explorer for Oracle starts to synchronize the changes between the published database and the copied database files.

After synchronization is finished, Veeam Explorer for Oracle waits for the scheduled date and time to start switchover.

If the switchover scheduled period starts during the synchronization process, switchover starts only after the synchronization is finished.

Manual Switchover

After database files are copied from backup files, Veeam Explorer for Oracle uses archived redo logs to find differences between the published database and the recovered database. Veeam Explorer for Oracle checks the size of differences every minute. If the size is larger than 10 MB or it has been 5 minutes since the last synchronization, Veeam Explorer for Oracle starts to synchronize the changes between the published database and the copied database files.

After synchronization is finished, you can launch switchover manually. For details, see Starting Switchover Manually.

If you launch switchover during the synchronization process, switchover starts only after the synchronization is finished.

Starting Switchover Manually

If you have selected the *Manual* switchover option in the **Instant Recovery** wizard, you can start the switchover process at any time if the database is in the *Ready to switchover* state.

To start switchover manually, do the following:

- 1. In the navigation pane, under the **Instant Recovery** node, select a published database.
- 2. On the Instant Recovery tab, select Switchover Now.

Alternatively, you can right-click the database and select **Switchover now**.

| Fo | winorcl01 as of 4 days ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - | | × |
|--|---|-----------|------------|---------|
| Edit Switchover Retry Cancel Instant Recovery | | | | |
| Databases | 1 Adding or removing of pluggable databases is not supported unless the published container database orcl is swit | ched over | to product | tion. ^ |
| ▲ 💼 Instant Recovery (1) | Instant Recovery Info | | | |
| i orcl | Status: Online (published) | | | |
| 🔺 🖶 winorcl01 🥕 Edit | Server: winorcl01.tech.local | | | |
| Switchover now | Oracle home: C:\oracle | | | |
| C Retry | Name: orcl | | | |
| 🗙 Cancel | Unique name: orcl | | | |
| | Oracle SID: ORCL | | | |
| | Target point in time: 3/9/2023 5:40 PM | | | |
| | | | | > |
| | Action | Duratio | | ^ |
| | | | | _ |
| | O Database files successfully prepared for switchover | 05:00 | | |
| | Database files successfully synchronized | 00:03 | | _ |
| | Database files successfully prepared for switchover | 05:00 | | - |
| | Database files successfully synchronized | 00:03 | | |
| | Database files are synchronized | 01:06 | | 24 |
| orcl | | | vee | AM |

Managing Instant Recovery Session

After you finish steps of the **Instant Recovery** wizard, Veeam Explorer for Oracle starts an instant recovery session which shows the progress of the recovery process.

Depending on the option you choose in the **Instant Recovery** wizard, switchover starts in one of the following ways:

- Automatically, immediately after synchronization
- Automatically, according to a specified schedule
- Manually

If you have selected the **Manual** switchover option, you must perform switchover manually as described in Starting Switchover Manually.

Also, in the Instant Recovery session view, you can do the following:

- Edit switchover settings.
- Retry instant recovery (in case instant recovery session fails for any reason).
- Cancel instant recovery.

NOTE

The instant recovery session closes automatically after switchover.

| ≡ू ≡ * Instant Recovery | winorcl01 as of 4 days | ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - | | × |
|--|--------------------------|--|----------------|------------|--------|
| Edit Switchover Retry Cancel Instant Recovery | | | | | |
| Databases | () Adding or removing of | pluggable databases is not supported unless the published container database orcl is s | vitched over f | to product | ion. ^ |
| 🔺 💼 Instant Recovery (1) | Instant Recovery Info |) | | | |
| i orcl | Status: | Publishing | | | |
| ▲ 🗧 winorcl01.tech.local | Server: | winorcl01.tech.local | | | |
| OraDB19Home1 orcl | Oracle home: | C:\oracle | | | |
| orci | Name: | orcl | | | |
| | Unique name: | orcl | | | |
| | Oracle SID: | ORCL | | | |
| | Target point in time: | 3/9/2023 5:40 PM | | | |
| | 4 | | | | > |
| | | | | | |
| | Action | | Dura | ation | |
| | Session started at 3/15 | | 00:03 | | |
| | Publishing database | | 00:22 | | |
| | Publishing database fi | les | 00:22 | 2 | |
| | | | | | |
| | | | | | |
| orcl | · | | | vee | AM |

Editing Instant Recovery Settings

If you have started an instant recovery session and want to change switchover settings, you can edit instant recovery settings.

To change switchover settings of an instant recovery session, do the following:

- 1. In the navigation pane, under the **Instant Recovery** node, select a published database.
- 2. On the **Instant Recovery** tab, select **Edit** or right-click the database or instance and select **Edit**.

| ≡₀ | winorcl01 as of 4 days a | igo (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - | | × |
|-------------------------------------|--------------------------|--|-----------|-----------|---------|
| ■ Instant Recovery | | | | | |
| Edit Switchover Retry Cancel Now | | | | | |
| Databases | Adding or removing of p | luggable databases is not supported unless the published container database orcl is swit | ched over | to produc | tion. ^ |
| 🖌 💼 Instant Recovery (1) | Instant Recovery Info | | | | |
| i orcl | Status: | Publishing | | | |
| ▲ 🖶 winorcl01 🦯 Edit | Server: | winorcl01.tech.local | | | |
| OraDB OraCk Switchover now | Oracle home: | C:\oracle | | | |
| C Retry | Name: | orcl | | | |
| 🗙 Cancel | Unique name: | orcl | | | |
| | Oracle SID: | ORCL | | | |
| | Target point in time: | 3/9/2023 5:40 PM | | | |
| | < | | | | > |
| | Action | | Dura | ation | |
| | Session started at 3/15/ | 2023 11:28:44 AM | 00:0 | 13 | |
| | Publishing database | | 00:4 | | |
| | Publishing database file | S | 00:4 | 0 | |
| | | | | | |
| | | | | | |
| orcl | | | | vee | AM |

3. Change the switchover option and click **Apply**.

| | Instant Recovery Wizard | × |
|--|--|-----|
| Specify database | switchover scheduling options | |
| Specify switchover type | e: | |
| Auto Switchover will be | performed automatically with minimal possible downtime once the database is read | dy. |
| O Manual Switchover can be | performed manually at any point in time after the database is ready. | |
| Scheduled at: | 3/15/2023 11:17 AM | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Apply Cancel | |

Recovery Retry

If anything disrupts the restore process (the target or mount server crashes or the network is down), the restore process stays in the waiting mode and performs 10 automatic retries every 5 minutes. If the retries fail, you can launch the retry manually after the server or network is up.

To start the retry process manually, do the following:

- 1. In the navigation pane, under the **Instant Recovery** node, select the database.
- 2. On the Instant Recovery tab, click Retry.

Alternatively, you can right-click the database and select **Retry**.

| Fa | winorcl01 as of 4 days a | ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - | | × |
|---|----------------------------|--|------------|---------|--------|
| Instant Recovery | | | | | |
| Edit Switchover Now Retry Cancel | | | | | |
| Databases | Adding or removing of p | luggable databases is not supported unless the published container database orcl is switch | ed over to | product | ion. ^ |
| 🖌 🗻 Instant Recovery (1) | Instant Recovery Info | | | | |
| 🛼 orcl | Status: | Failed | | | |
| 🖌 🖶 winorcl01 🥕 Edit | Server: | winorcl01.tech.local | | | |
| GraDE G | Oracle home: | C:\oracle | | | |
| err C Retry | Name: | orcl | | | |
| × Cancel | Unique name: | orcl | | | |
| | Oracle SID: | ORCL | | | |
| | Target point in time: | 3/9/2023 5:40 PM | | | |
| | | | | | > |
| | × | | | | / |
| | Action | | Durati | ion | |
| | Session started at 3/15/ | 2023 12:28:28 PM | 00:03 | | |
| | S Failed to publish databa | ase | 03:30 | | |
| | 😵 Failed to publish databa | ase files. | 03:30 | | |
| | 😣 Instant Recovery failed: | ExplorerManagementService: Failed to get mount result for mount d794d95e-5732-44 | | | |
| | Waiting 5 minutes for t | he next automatic retry | 01:07 | | |
| | | | | | |
| orcl | | | | vee | ΔM |

Canceling Instant Recovery

If you have finished working with the published database and you do not want to switchover, you can cancel the instant recovery session.

You can do this by canceling instant recovery in either Veeam Explorer for Oracle or the Veeam Backup & Replication console.

NOTE

Consider the following:

- Closing either the Veeam Explorer for Oracle window or the Veeam Backup & Replication console does not cancel the instant recovery session.
- You do not need to cancel the instant recovery session if switchover is already performed. The session closes automatically after switchover.

Canceling Instant Recovery in Veeam Explorer for Oracle

To cancel the instant recovery session in Veeam Explorer for Oracle, do the following:

- 1. In the navigation pane, under the **Instant Recovery** node, select a published database.
- 2. On the Instant Recovery tab, select Cancel.

Alternatively, you can right-click the database and select **Cancel**.

| هی winorcl01 as of 4 days ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle • ≡ • Instant Recovery | - 🗖 | × |
|--|--------------|-----------|
| Edit Switchover Retry Cancel Now Instant Recovery | | |
| Databases 1 Adding or removing of pluggable databases is not supported unless the published container database orcl is switched | over to prod | uction. ^ |
| Instant Recovery (1) | | |
| 👕 orcl Status: Publishing | | |
| ▲ 🖶 winorcl01 🥕 Edit Server: winorcl01.tech.local | | |
| C:\oracle | | |
| eriore and eriore erior | | |
| Cancel Vigue name: orcl | | |
| Unique name: orcl Oracle SID: ORCL | | |
| Target point in time: 3/9/2023 5:40 PM | | |
| ······································ | | ~ |
| | | > |
| Action | Duration | |
| Session started at 3/15/2023 11:28:44 AM | 00:03 | |
| Publishing database | 00:57 | |
| Publishing database files | 00:57 | |
| | | |
| orcl | Ve | eam |

Canceling Instant Recovery in Veeam Backup & Replication Console

To cancel the instant recovery session in the Veeam Backup & Replication console, do the following:

- 1. In the Veeam Backup & Replication console, open the **Home** view.
- 2. In the navigation pane, select Instant Database Recovery.
- In the preview pane, select the session and in the Instant Database Recovery tab click Stop Publishing.
 Alternatively, you can right-click the session and click Stop publishing.

| 원회 Recovery Tools ≡▼ Home Instant Database Recove | ry | | Ve | eam Backup and Replic | cation | | | - 🗆 × |
|--|------------|----------------------|--------------------|-----------------------|--------------------|-------------------------|--------------------------|-----------|
| Stop Publishing Actions | | | | | | | | |
| Home | Database 🕇 | Server | Status | Backup Name | | Restore Point | Delta Size | |
| Instant Database Recovery (1) | i orcl | winorcl01.tech.local | Online (published) | Oracle Backup - win | iorcl01 | 3/9/2023 5:41 | | |
| Stobs Backups Disk Replicas Active (1) Lat 24 Hours Running (3) Success Failed | X | Stop publishing | | | | | | |
| A Home | | | | | | | | |
| Inventory | | | | | | | | |
| Backup Infrastructure | | | | | | | | |
| Storage Infrastructure | | | | | | | | |
| Tape Infrastructure | | | | | | | | |
| 🕵 Cloud Connect | | | | | | | | |
| 🖧 🖓 🖓 | | | | | | | | |
| 1 object selected | | | Con | nected to: localhost | Build: 12.0.0.1420 | Enterprise Plus Edition | License expires: 78 days | remaining |

Data Export

This section explains how to export Oracle data using Veeam Explorer for Oracle.

Export as RMAN Backup

In Veeam Explorer for Oracle, you can export Oracle databases as RMAN backups.

During the export, Veeam Explorer for Oracle does the following:

• Uses native Oracle RMAN to retrieve Oracle databases from the backup that is being explored.

The retrieved databases are then saved onto a staging server as RMAN backups.

When exporting published databases, then such databases are saved directly to the server onto which they are published.

• Copies the saved RMAN backups to the target location.

Exporting Latest State

To export data as of the latest available state, do the following:

- 1. In the navigation pane, select a database.
- 2. On the Database tab, select Export as RMAN backup > Export latest state to Desktop\<db_name>.

Alternatively, you can right-click a database and select **Export as RMAN backup** > **Export latest state to Desktop\<db_name>**.

NOTE

The name of the export option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Export latest** state to Desktop\<db_name>.
- If you select any other restore point, the option name is displayed as **Export state of <point_in_time>** to Desktop\<db_name>.

Consider that Veeam Explorer for Oracle exports files in the following format: _%I_%d_%T_%U. For more information, see this Oracle article. To set a different export format, use Exporting to Custom Location.



Exporting Point-in-Time State

To export data as of the point-in-time state, do the following:

- 1. Launch the Export wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the Database tab, select Export as RMAN backup > Export point-in-time state to Desktop\<db_name>.

Alternatively, you can right-click a database and select **Export as RMAN back**up > **Export point-in-time state to Desktop\<db_name>**.

Consider that Veeam Explorer for Oracle exports files in the following format: _%I_%d_%T_%U. For more information, see this Oracle article. To set a different export format, use Exporting to Custom Location.

| ≣⊲ | | | winorcl01 as of less than a day ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - | | × |
|-----------------------|-----------------------|-----------------------|---|---|-----|---|
| ≡ • Data | abase | | | | | |
| Ĩ, | | | | | | |
| Instant Recovery 🔻 | Publish Database 🔻 | Restore Database 🔻 | Export as Export RMAN backup Tatabase Files T | | | |
| Instant Recove | ry Publish | Restore | Export | | | |
| Databases | | | Database Info | | | ^ |
| 🔺 📄 winorcl | 01.tech.local | | Name: orcl | | | |
| 400 | DB19Home1 | | Unique name: orcl | | | |
| | orcl | | Oracle SID: ORCL | | | |
| | Instant recovery | • | Log mode: ARCHIVELOG | | | |
| 3 | Publish database | • • | Backup time: 3/9/2023 5:40 PM | | | |
| ~ | Restore database | | | | | |
| R | Export as RMAN | backup 🔸 | Export latest state to Desktop\orcl | | | |
| TP | Export database | files 🕨 | 😭 Export point-in-time state to Desktop\orcl 🔓 | | | |
| | | | Export to a different location 3/7/2023 7:56:18 PMI - 3/9/2023 3:40:23 PM | | | |
| | | | Database Files | | | |
| | | | Control files | | | |
| | | | C:\APP\ADMINISTRATOR\ORADATA\ORCL\CONTROL01.CTL C:\APP\ADMINISTRATOR\FAST_RECOVERY_AREA\ORCL\CONTROL02.CTL | | | |
| | | | Data files C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF | | | |
| ord | | | | | vee | ~ |
| orcl | | | | | vee | |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging Oracle server. For more information, see Configuring Staging Oracle Server.

| Export Wizard | × |
|---|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires redo log backups) | |
| 7:56 PM 3/7/2023 | 5:40 PM 3/9/2023 |
| Thursday, March 9, 2023 11:57 AM | |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore the da the moment in time right before the unwanted change. | itabase to |
| Next | Cancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to export data and click **Export**.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| | point | | | |
|-----------------------------|----------------------|---|----------------------|------|
| elect the undesired operati | on in the list below | . The database will be restored to the st | ate prior to transac | tion |
| volving the selected opera | | | | |
| Time | Operation | Object | Туре | ^ |
| 3/9/2023 12:15:19 PM | Update | EXP_STAT\$ | Table | |
| 3/9/2023 12:15:19 PM | Update | EXP_STAT\$ | Table | |
| 3/9/2023 12:15:19 PM | Update | EXP_STAT\$ | Table | |
| 3/9/2023 12:15:19 PM | Update | EXP_STAT\$ | Table | |
| 3/9/2023 12:15:19 PM | Update | EXP_STAT\$ | Table | |
| 3/9/2023 12:15:19 PM | Update | EXP_STAT\$ | Table | |
| 3/9/2023 1:00:21 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | |
| 3/9/2023 1:00:21 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | |
| 3/9/2023 1:00:21 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | |
| 3/9/2023 1:00:21 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | |
| 3/9/2023 1:00:21 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | |
| 3 (0 (2022 4 00 24 DK4 | | OBTITAT CHARGUOT | | |
| | | | | |

Exporting to Custom Location

To export a database to a custom location, do the following:

- 1. Launch the Export wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Specify the target location.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the **Database** tab, select **Export as RMAN backup** > **Export to a different location**.

Alternatively, you can right-click a database and select **Export as RMAN backup** > **Export to a different location**.

| ≡₀ | winorcl01 as of less than a day ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - | | × |
|---|--|---|-----|----------|
| ≡ • Database | | | | |
| Instant Recovery • Instant Recovery | Export as RMAN backup + Database Files + Export | | | |
| Databases | Database Info | | | ^ |
| | Name: orcl Unique name: orcl Oracle SID: ORCL Log mode: ARCHIVELOG Backup time: 3/9/2023 5:40 PM Lost Uttors UCTNIER_ORCL Export latest state to Desktop\orcl Export point-in-time state to Desktop\orcl | | | |
| | Export to a different location 3/7/2025 7:30:18 PM - 3/9/2025 3:40:23 PM Database Files Control files C:\APP\ADMINISTRATOR\ORADATA\ORCL\CONTROL01.CTL C:\APP\ADMINISTRATOR\FAST_RECOVERY_AREA\ORCL\CONTROL02.CTL Data files C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF C:\APP\ADMINISTRATOR\SYTEM01.DBF C:\APP\ADMINIST | | | ₩ PAM |
| orcl | | | vee | #AIVI |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging Oracle server. For more information, see Configuring Staging Oracle Server.

| Export Wizard | × |
|--|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires redo log backups) | |
| 7:56 PM 3/7/2023 | 5:40 PM 3/9/2023 |
| Thursday, March 9, 2023 11:57 AM | |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore the database the moment in time right before the unwanted change. | atabase to |
| Next | Cancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to export data.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| elect the undesired operativolving the selected oper | | . The database will be restored to the st | ate prior to transactio |
|--|-------------|---|-------------------------|
| Time | Operation | Object | Туре |
| 3/9/2023 1:15:21 PM | Update | EXP_STAT\$ | Table |
| 3/9/2023 1:15:21 PM | Update | EXP_STAT\$ | Table |
| 3/9/2023 1:15:21 PM | Update | EXP_STAT\$ | Table |
| 3/9/2023 1:15:21 PM | Update | EXP_STAT\$ | Table |
| 3/9/2023 1:15:21 PM | Update | EXP_STAT\$ | Table |
| 3/9/2023 2:00:22 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 2:00:22 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 2:00:22 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 2:00:22 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 2:00:22 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 2:00:22 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 2/0/2022 2:00 22 PM | | OBTETAT CHARCUOT | |
| | | | / |

Step 4. Specify Target Location

At this step of the wizard, do the following:

1. In the **Export path** field, specify the location to which you want to export database files.

If the folder you are specifying does not exist, it will be created.

2. In the **File name format** field, specify the format according to which your files will be named after the export.

For more information, see this Oracle article.

- 3. In the Tag to label output file with field, specify a new tag name.
- 4. To compress files using native Oracle compression, select the **Enable native compression** check box.
- 5. In the **Channels number** numeric field, specify the number of channels to be used when retrieving Oracle databases from the backup.
- 6. Click **Export**.

| Export Wizard | × |
|--|---|
| Specify database export location | |
| Export path: | |
| C:\Users\michael.wells\Desktop\orcl Browse | |
| File name format: | |
| _%I_%d_%T_%U | |
| Tag to label output file with: | |
| exported_db | |
| Enable native compression (increases Oracle server CPU consumption) Channels number: Image: Image: Im | |
| | |
| Back Export Cancel | |

Export Database Files

This section contains information about the available export options for Oracle databases.

Exporting Latest State

To export data as of the latest available state, do the following:

- 1. In the navigation pane, select a database.
- 2. On the Database tab, select Export Database Files > Export latest state to Desktop\<db_name>.

Alternatively, you can right-click a database and select **Export database files** > **Export latest state to Desktop\<db_name>**.

NOTE

The name of the export option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Export latest** state to Desktop\<db_name>.
- If you select any other restore point, the option name is displayed as Export state of <point_in_time> to Desktop\<db_name>.



Exporting Point-in-Time State

This section explains how to export data as of a point-in-time state.

To export data as of a point-in-time state, do the following:

- 1. Launch the Export wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the **Database** tab, select **Export Database Files** > **Export point-in-time state to Desktop\<db_name>**.

Alternatively, you can right-click a database and select **Export database files** > **Export point-in-time state to Desktop\<db_name>**.

| = | winorcl01 as of less than a day ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - | | × |
|---|---|---|-----|----|
| ≡ * Database | | | | |
| Instant Recovery Publish Restore | Export as Export EXPORT Export Export | | | |
| Databases | Database Info | | | ^ |
| winorcl01.tech.local OraDB19Home1 orcl Instant recovery Publish database Restore database Export as RMAN backup | Name: orcl Unique name: orcl Oracle SID: ORCL Log mode: ARCHIVELOG Backup time: 3/9/2023 5:40 PM Local listener: LISTENER_ORCL | | | п |
| 😰 Export database files 🔸 🖡 | Export latest state to Desktop\orcl Export point-in-time state to Desktop\orcl Export to a different location Database Files Control files C:\APP\ADMINISTRATOR\ORADATA\ORCL\CONTROL01.CTL C:\APP\ADMINISTRATOR\FAST_RECOVERY_AREA\ORCL\CONTROL02.CTL Data files C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF C:\APP\ADMINISTRATOR\FAST_RECOVERY_AFFA\ORCL\SYSTEM01.DBF C:\APP\ADMINISTRATOR\FAST_RECOVERY_AFFA\ORCL\SYSTEM01.DBF C:\APP\ADMINISTRATOR\FAST_COVERY_AFFA\ORCL\SYSTEM01.DBF C:\APP\A | | | ~ |
| orcl | | | vee | AM |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging Oracle server. For more information, see Configuring Staging Oracle Server.

| Export Wizard | × |
|---|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: Restore to the point in time of the selected image-level backup | |
| Restore to the point in time of the selected image-level backup Restore to a specific point in time (requires redo log backups) | |
| 7:56 PM 3/7/2023 | 5:40 PM 3/9/2023 |
| Thursday, March 9, 2023 11:57 AM | |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore the da the moment in time right before the unwanted change. | itabase to |
| Next | Cancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to export data and click **Export**.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| | point | | | |
|-----------------------------|----------------------|---|----------------------|------|
| elect the underired operati | on in the list helow | . The database will be restored to the st | ate prior to transac | tion |
| volving the selected opera | | . The database will be restored to the st | | lion |
| Time | Operation | Object | Туре | ^ |
| 3/9/2023 12:15:19 PM | Update | EXP_STAT\$ | Table | |
| 3/9/2023 12:15:19 PM | Update | EXP_STAT\$ | Table | |
| 3/9/2023 12:15:19 PM | Update | EXP_STAT\$ | Table | |
| 3/9/2023 12:15:19 PM | Update | EXP_STAT\$ | Table | |
| 3/9/2023 12:15:19 PM | Update | EXP_STAT\$ | Table | |
| 3/9/2023 12:15:19 PM | Update | EXP_STAT\$ | Table | |
| 3/9/2023 1:00:21 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | |
| 3/9/2023 1:00:21 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | |
| 3/9/2023 1:00:21 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | |
| 3/9/2023 1:00:21 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | |
| 3/9/2023 1:00:21 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table | |
| < 1/0/2022 4 00 24 DM | | OBTOTAT CHARGUOT? | | > |
| | | | | |
Exporting to Custom Location

This section explains how to export a database to a custom location.

To export a database to a custom location, do the following:

- 1. Launch the Export wizard.
- 2. Specify a restore point.
- 3. Fine-tune the restore point.
- 4. Specify the target location.

Step 1. Launch Export Wizard

To launch the **Export** wizard, do the following:

- 1. In the navigation pane, select a database.
- 2. On the **Database** tab, select **Export Database Files** > **Export to a different location**.

Alternatively, you can right-click a database and select **Export database files** > **Export to a different location**.

| ≓a | winorcl01 as of less than a day ago (5:41 PM Thursday 3/9/2023) - Veeam Explorer for Oracle | - | | × |
|---|---|---|-----|----|
| ≡ • Database | | | | |
| Instant Recovery Instant Recovery | Export as RMAN backup + Database Files + Export | | | |
| Databases | Database Info | | | ^ |
| winorcl01.tech.local OraDB19Home1 orcl Instant recovery Publish database Restore database Export as RMAN backup | Name:orclUnique name:orclOracle SID:ORCLLog mode:ARCHIVELOGBackup time:3/9/2023 5:40 PMLocal listener:LISTENER_ORCL | | | 8 |
| Export database files | Export latest state to Desktop/orcl Export point-in-time state to Desktop/orcl Export to a different location Database Files Control files C:\APP\ADMINISTRATOR\ORADATA\ORCL\CONTROL01.CTL C:\APP\ADMINISTRATOR\FAST_RECOVERY_AREA\ORCL\CONTROL02.CTL Data files C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF C:\APP\ADMINISTRATOR\ORADATA\ORCL\SYSTEM01.DBF | | | ~ |
| orcl | | | vee | AM |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to load database files as per date of the current restore point.
- Select the **Restore to a specific point in time** option to load database files as per selected point in time. Use the slider control to choose a point you need.
- Select the **Perform restore to the specific transaction** check box to load database files exactly as of the moment before undesired transactions.

NOTE

The **Perform restore to the specific transaction** option requires a staging Oracle server. For more information, see Configuring Staging Oracle Server.

| Export Wizard | × |
|---|---------------------|
| Specify restore point | |
| Specify point in time you want to restore the database to: Restore to the point in time of the selected image-level backup | |
| Restore to the point in time of the selected image-level backup Restore to a specific point in time (requires redo log backups) | |
| 7:56 PM 3/7/2023 | 5:40 PM 3/9/2023 |
| Thursday, March 9, 2023 11:57 AM | |
| Perform restore to the specific transaction Enables you to review major database transactions around the selected time, and restore the da the moment in time right before the unwanted change. | itabase to |
| Next | Cancel |

Step 3. Fine-Tune Restore Point

At this step of the wizard, select an operation prior to which you want to export data.

NOTE

This step is available only if you have selected the **Perform restore to the specific transaction** check box at the **Specify Restore Point** step of the wizard.

| elect the undesired operativolving the selected oper | | . The database will be restored to the st | ate prior to transactio |
|--|-------------|---|-------------------------|
| Time | Operation | Object | Туре |
| 3/9/2023 1:15:21 PM | Update | EXP_STAT\$ | Table |
| 3/9/2023 1:15:21 PM | Update | EXP_STAT\$ | Table |
| 3/9/2023 1:15:21 PM | Update | EXP_STAT\$ | Table |
| 3/9/2023 1:15:21 PM | Update | EXP_STAT\$ | Table |
| 3/9/2023 1:15:21 PM | Update | EXP_STAT\$ | Table |
| 3/9/2023 2:00:22 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 2:00:22 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 2:00:22 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 2:00:22 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 2:00:22 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 3/9/2023 2:00:22 PM | Insert Into | OPTSTAT_SNAPSHOT\$ | Table |
| 2/0/2022 2:00 22 PM | | OBTETAT CHARCUOT | |
| | | | / |

Step 4. Specify Target Location

At this step of the wizard, in the **Export path** field, specify the location to export data.

| Export Wizard | × |
|-------------------------------------|--------|
| Specify database export location | |
| Export path: | |
| C:\Users\michael.wells\Desktop\orcl | Browse |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Back Export | Cancel |

Veeam Explorer for PostgreSQL

Veeam Explorer for PostgreSQL allows you to restore and publish PostgreSQL instances from backups created by Veeam Backup & Replication.

Planning and Preparation

Before you start using Veeam Explorer for PostgreSQL, make sure your backup infrastructure meets the following requirements and limitations.

System Requirements

This section lists system requirements for Veeam Explorer for PostgreSQL.

| Component | Requirement |
|------------------------|---|
| PostgreSQL on Linux | For more information on supported versions of PostgreSQL, see the Supported Applications subsection of the Veeam Backup & Replication User Guide. |

Ports

The following tables list network ports that must be opened to manage inbound and outbound traffic.

Backup

| From | То | Protocol | Port | Notes |
|--|---|----------|-----------------|--|
| Backup server | Source Linux machine with PostgreSQL | ТСР | 6162 | Default port used by Linux Management Agent. |
| | | ТСР | 22 | Default SSH port used as a control channel (without Linux Management Agent). |
| | | | 2500 to 3300 | For archive logs shipping Default range of ports used for managing data transfer over the network. Log shipping server is used in case the direct connection to the backup repository is not possible. For more information, see Log Shipping Servers. |
| Source Linux machine with PostgreSQL | Log shipping server, backup repository | ТСР | 2500 to 3300 | For archive logs shipping Default range of ports used for managing data transfer over the network. Log shipping server is used in case the direct connection to the backup repository is not possible. For more information, see Log Shipping Servers. |

Restore

| From | То | Protocol | Port | Notes |
|---|--|----------|-----------------|--|
| Backup server, Veeam Backup & Replication console | Mount server | ТСР | 6170 | Port used for connections to the mount service. |
| Backup repository | Target Linux machine with PostgreSQL | ТСР | 2500 to 3300 | Default range of ports used for managing data transfer during restore to the original (remote) machine or another Linux machine with PostgreSQL. |
| Target Linux machine with PostgreSQL | Backup repository | ТСР | 2500 to 3300 | Default range of ports used for managing data transfer during restore to the original (remote) machine or another Linux machine with PostgreSQL. |
| Mount server | Target Linux machine with PostgreSQL | ТСР | 22 | Default SSH port used as a control channel. |

Permissions

The following table lists the required permissions for user accounts to restore PostgreSQL data.

| Operation | Required Roles and Permissions |
|---|---|
| Veeam Explorer for PostgreSQL launch | The account used to run Veeam Explorer for PostgreSQL must be a member of the local <i>Administrators</i> or <i>Users</i> group. |
| Restore | The account used for PostgreSQL data recovery must be a Linux user with root privileges on the target machine. Root privileges are required to mount the backed-up file system to the target server and to communicate with PostgreSQL. |

Required Backup Job Settings

This requirement applies to backup jobs created by Veeam Backup & Replication.

When you create a backup job, make sure to enable the **application-aware image processing** option. For more information, see the Specify Guest Processing Settings section of the Veeam Backup & Replication User Guide.

Considerations and Limitations

This section lists considerations and known limitations of Veeam Explorer for PostgreSQL.

- With Veeam Explorer for PostgreSQL, you can restore and publish entire PostgreSQL instances; restore and publishing of individual databases is not supported.
- Veeam Explorer for PostgreSQL does not support restore over VIX API or vSphere Automation API.
- High availability cluster configurations and replication setups of PostgreSQL servers are not supported.
- Restore of databases that reside in an encrypted file system on the source machine is not supported. In particular, encrypted LVM volumes are not supported.
- You can restore a PostgreSQL instance over SSH only, restore using Linux Management Agent is not supported.
- If you specify another data directory for the restored PostgreSQL instance, services will not be created automatically (including systemd).
- Mount of Btrfs disks will fail if you perform data restore or data publish to the original server. The issue occurs due to restriction for mounting 2 Btrfs disks with identical IDs to the same machine.
- Before you restore a PostgreSQL instance to another server, make sure PostgreSQL is installed on the target machine.
- Veeam Explorer for PostgreSQL does not support configuration sub-files (include files such as include_if_exist, include_dir and so on). All PostgreSQL configurations, instance ports in particular, must be specified in a single postgresql.conf file.
- PostgreSQL on the target machine must be of the same major version as PostgreSQL on the original machine. For example, you can restore a PostgreSQL instance based on PostgreSQL 14.1 to a machine with PostgreSQL 14.3.
- The account that you use to connect to the target server must have root privileges to mount the backedup file system to the target server and to communicate with PostgreSQL.
- To restore or publish a specific point-in-time state of a PostgreSQL instance, backups of PostgreSQL WAL archive logs must exist. To enable PostgreSQL WAL log archiving, PostgreSQL instances must have the *replica* WAL logging level or higher. The *minimal* logging level does not write information about database transactions and it allows you to create a crash-consistent backup only.
- [For Debian] When you restore a PostgreSQL instance to a new data directory, Veeam Explorer for PostgreSQL saves PostgreSQL configuration files to the specified data directory (not to the /etc/postgresql directory). In this case, you will not be able to discover the recovered PostgreSQL instance with the pg_lsclusters utility.

Launching Application

To open Veeam Explorer for PostgreSQL, you can use any of the following methods:

• The **Restore application item** option to load backups created by Veeam Backup & Replication.

For more information, see the Application Items Restore section of the Veeam Backup & Replication User Guide.

• Go to Start and select Veeam Explorer for PostgreSQL.

If you open Veeam Explorer for PostgreSQL on a machine that is not a backup server but runs the Veeam Backup & Replication console and Veeam Explorers only, specify the following settings for connection to the backup server:

- \circ $\,$ Domain name or IP address of the backup server to which you want to connect
- Port number
- User account credentials

To use the account under which Veeam Explorer for PostgreSQL is running, select **Use Windows** session authentication.

Consider the following:

- To perform recovery operations, run Veeam Explorer for PostgreSQL with elevated permissions. The user account must be a member of the local Administrators group on the machine where Veeam Explorers are installed.
- The account must have the Veeam Backup Administrator or Veeam Restore Operator role on the target backup server.

To save the connection shortcut to the desktop, click **Save shortcut** in the bottom-left corner.

| | | × |
|--|----------------------|----------------|
| Veeam Explor | er | |
| Type in a backup server name or IP ad and user credentials to connect with. | dress, backup servic | e port number, |
| enterprise05.tech.local | ~ | 9392 |
| tech\sheila.d.cory | | |
| ••••• | | |
| Use Windows session authentication | on | |
| Save shortcut | Connect | Close |

Getting to Know User Interface

The user interface of Veeam Explorer for PostgreSQL is designed to let you quickly find commands that you need to restore PostgreSQL instances from backups.

Main Menu

The main menu comprises the following:

- General Options. Allows you to enable extended logging. For more information, see Enabling Extended Logging.
- Help.
 - **Online help**. Opens the online help page.
 - About. Shows the additional information including build number.
- Exit. Closes the Veeam Explorer for PostgreSQL window.

TIP

You can also open online help by pressing [F1] in any Veeam Explorer for PostgreSQL wizard or window. You will then be redirected to the relevant section of the Veeam Explorers User Guide.

| ¶ ₀ ≣ • | rhel01 as of less than a day ago (11:01 PM Thursday 3/9/2023) - Veeam Explorer for PostgreSQL — 🗖 🗖 | × |
|-----------------------|---|-------|
| General Options | | |
| Help 🕨 | Online help Opens online help web page in the default browser | |
| Exit | About Shows additional information about this product | |
| | OS version: rhel7_64Guest Machine name: rhel01 | |
| ▶ ြ_a Completed (1) | | |
| rhel01 | | /eeam |

Main Application Window

The main application window can be divided into three categories:

- The ribbon that contains operation commands organized into logical groups represented as tabs. The ribbon is displayed at the top of the main application window.
- The navigation pane that allows you to browse through the hierarchy of folders with backed-up data.
- The preview pane that allows you to view details about items that are contained in a folder you have selected in the navigation pane.

| | ¶® _© ≣ ∗ Server | rhel01 as of less than a day a | ogo (11:01 PM Thursday 3/9/2023) - Veeam Explorer for PostgreSQL | - | | × |
|-----------------|-----------------------------------|--------------------------------|--|---|----|-----|
| Ribbon Menu | Restore Instances • Restore | | | | | |
| | Databases | Server Info | | | | |
| | ▶ 🗧 rhel01 | Name: | rhel01 | | | |
| Navigation Pane | <u>.</u> | OS version: Machine name: | rhel7_64Guest rhel01 | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Preview Pane | | • | | | | |
| | • 🕞 Completed (1) | | | | | |
| | | | | | | |
| | | | | | | |
| | rhel01 | | | | ve | eam |

How Mounting Works

When restoring your data, Veeam Explorer for PostgreSQL requires an additional mount point to be created to display the list of available transactions.

Mounting is performed by the *Veeam Mount Service* component which is deployed on a backup repository machine or any other machine you define in the backup repository settings. For more information on configuring mount server settings, see the Mount Server section of the Veeam Backup & Replication User Guide.

During mounting, *Veeam Mount Service* retrieves a VM file system from the backup file, attaches it to the hard drive of a target machine and creates a mount point. To mount a VM file system to the target VM, Veeam Backup & Replication uses FUSE.

Viewing Instance Information

To view PostgreSQL instance information, select an instance in the navigation pane and review its properties in the preview pane.

| ® ≣ ▼ Instance | rhel01 as of 1 day ago (10:00 PM Wednesday 5/11/2022) - Veeam Explorer for PostgreSQL — 🗖 🗘 |
|----------------------------------|--|
| Restore Instance • Restore | |
| Databases | Instance Info |
| 🖌 📄 rhel01 | Name: rhel01:5432 |
| ▲ 📑 rhel01:5432 | Version: PostgreSQL 13.3 on x86_64-pc-linux-gnu, compiled by gcc (GCC) 4.8.5 20150623 (Red Hat 4.8.5-44), 64-bit |
| postgres | Data directory: /var/lib/pgsql/13/data |
| database_1 template1 | Archive mode: True |
| template0 | Backup time: 5/11/2022 10:00 PM |
| rhel01:5433 | |
| postgres | Available Restore Period |
| template1 template0 | 5/10/2022 10:00:40 PM - 5/12/2022 10:45:44 AM |
| rhel01:5434 | |
| postgres | Configuration Files |
| 📄 template1 | /var/lib/pgsql/13/data/postgresql.conf |
| iemplate0 | /var/lib/pgsql/13/data/pg_ident.conf /var/lib/pgsql/13/data/pg_hba.conf |
| | Tablespaces |
| | sales |
| | /var/lib/pgsql/tblspace |
| | docs |
| | /var/lib/pgsql/tblspace2 |
| | backup /var/lib/pgsql/tblspace3 |
| | · · · · · · · · · · · · · · · · · · · |
| el01:5432 | Vecal |

Enabling Extended Logging

Veeam Explorer for PostgreSQL allows you to enable an extended logging mode to collect logs that contain more details on specific operations. After you enable extended logging, you can go back to the application and perform the actions for which you want to collect additional information. Then you can collect the logs.

To enable extended logging, do the following:

- 1. In the main menu, click **General Options**.
- 2. On the Advanced tab, select the Enable extended logging check box and click OK.

| · | rl | Options | × | . – – × |
|---|------|---|---|----------------|
| E ▼ Server | | Advanced | | |
| Restore Instances • Restore | | Enable extended logging Use extended logging to collect additional information about product operations. | | |
| Databases | Sen | | | |
| 🔺 🗧 rhel01 | Nam | | | |
| ⊿ 🔚 rhel01:5433 | OS v | | | |
| postgres template1 template0 rhel01:5434 postgres template1 template0 rhel01:5435 postgres database_1 template1 template1 template1 | Maci | | | |
| rhel01 | | OK Cancel Apply | у | VEEAM |
| | | | | 000F101 |

Data Restore

You can restore a single PostgreSQL instance or multiple PostgreSQL instances at a time.

Before restoring data, read the Considerations and Limitations section.

Restoring Single Instance

You can restore a PostgreSQL instance by following one of the scenarios:

- Restoring Latest State
- Restoring Point-in-Time State
- Restoring to Another Server

Restoring Latest State

To restore the latest state of a PostgreSQL instance, do the following:

- 1. In the navigation pane, select a PostgreSQL instance you want to restore.
- 2. On the Instance tab, select Restore Instance > Restore latest state to <original_location>.

Alternatively, you can right-click an instance and select **Restore instance** > **Restore latest state to** <original_location>.

NOTE

The name of the restore option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Restore latest** state to <original_location>.
- If you select any other restore point, the option name is displayed as **Restore state of** cont_in_time> to <original_location>.



Restoring Point-in-Time State

To restore a point-in-time state of a PostgreSQL instance, use the **Restore** wizard.

- 1. Launch the Restore wizard.
- 2. Specify a restore point.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a PostgreSQL instance you want to restore.
- 2. On the Instance tab, select Restore Instance > Restore point-in-time state to <server_name>.

Alternatively, you can right-click an instance and select **Restore Instance** > **Restore point-in-time state to** <**server_name**>.



Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your data:

- Select the **Restore to the point in time of the selected image-level backup** option to load instance files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to obtain instance files as per selected time interval of the current restore point. Use the slider control to choose a time interval you need.

The **Restore to a specific point in time** option is available only if backups of PostgreSQL archive logs exist. For more information, see Required Backup Job Settings.

| Restore Wizard | × |
|--|----------------------|
| Specify restore point | |
| specify restore point | |
| Specify point in time you want to restore the instance to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires WAL log backups) | |
| 11:00 PM 3/8/2023 | 7:01 AM 3/10/2023 |
| Thursday, March 9, 2023 11:01:05 PM | |
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| | |
| Restore | Cancel |

Restoring to Another Server

You can restore a PostgreSQL instance to another server or to the same server but with different settings.

To restore a PostgreSQL instance, use the **Restore** wizard.

- 1. Launch the Restore wizard.
- 2. Specify a restore point.
- 3. Specify a target server.
- 4. Specify PostgreSQL settings.
- 5. Specify tablespaces.
- 6. Specify a post-restore action.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a PostgreSQL instance you want to restore.
- 2. On the Instance tab, select Restore Instance > Restore to another server.

Alternatively, you can right-click an instance and select **Restore Instance** > **Restore to another server**.



Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your data:

- Select the **Restore to the point in time of the selected image-level backup** option to load instance files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to obtain instance files as per selected time interval of the current restore point. Use the slider control to choose a time interval you need.

The **Restore to a specific point in time** option is available only if backups of PostgreSQL archive logs exist. For more information, see Required Backup Job Settings.

| Restore Wizard | × |
|--|----------------------|
| Specify restore point | |
| | |
| Specify point in time you want to restore the instance to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires WAL log backups) | |
| 11:00 PM 3/8/2023 | 7:01 AM 3/10/2023 |
| Thursday, March 9, 2023 11:01:05 PM | |
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| | |
| Next | Cancel |

Step 3. Specify Target Server

At this step of the wizard, specify credentials to access the target PostgreSQL server.

- 1. In the Server field, enter a DNS name or IP address of the target server.
- 2. In the **SSH port** field, specify an SSH port (by default, port 22 is used).
- 3. In the **Account** filed, specify a Linux system account name under which to connect to the specified server.
- 4. If you have specified a non-root account that does not have root privileges on the target server, click **Advanced**:
 - a. Select the **Elevate specified account to root** check box.

The account must have root privileges to mount the backed-up file system to the target server and to communicate with PostgreSQL.

b. To add the user account to the sudoers file, select the Add account to the sudoers file automatically check box. In the Root password field, enter the password for the root account.

If you do not enable this option, you will have to manually add the user account to the sudcers file.

c. If you plan to use the account to connect to Linux servers where the sudo command is not available or may fail, you have an option to use the su command instead. To enable the su command, select the Use su if sudo is unavailable check box and in the Root password field, enter the password for the root account.

Veeam Backup & Replication will first try to use the sudo command. If the attempt fails, Veeam Backup & Replication will use the su command.

| Advanced Settings | × |
|---|------|
| Non-root account handling Elevate specified account to root | |
| Add account to the sudoers file automatically Use su if sudo is unavailable | |
| Root password: | |
| OK Cance | el l |

- 5. In the **Password** field, enter the account password.
- 6. If a private key is required to connect to the server, do the following:
 - b. Select the **Private key is required for this connection** check box.
 - c. In the Private key filed, specify a file that contains a private key.
 To locate a file, click Browse and select a key.

d. In the **Passphrase** field, enter the passphrase used to decrypt the private key.

| | Restore Wizard | × |
|-----------|---|----------|
| Specify t | arget Linux server connection credentials | |
| Server: | fd00:ac18:0:1810:0:87eb:1696:6325 | 22 |
| Account: | postgres | Advanced |
| Password: | ••••• | |
| Private | key is required for this connection | |
| Private | key: | Browse |
| Passph | rase: | |
| | | |
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| | | |
| | Back Next | Cancel |

Step 4. Specify PostgreSQL Settings

At this step of the wizard, specify the following PostgreSQL settings:

- 1. Specify a location to which you want to restore the PostgreSQL instance:
 - Select Restore to the original location to restore the PostgreSQL instance to the original data directory.
 - Select Restore to a different location and specify a path in the Data directory path field to restore the PostgreSQL instance to another directory. To locate a new directory, click Browse and select a folder you want to use.
- 2. In the **Instance port** field, specify an instance port, which will also serve as an instance identifier. The port must be free. If the specified port is occupied, the recovered PostgreSQL will be shut down.

To start the PostgreSQL instance manually, do the following:

- a. Change the port number in the <code>postgresql.conf</code> file.
- b. Launch the PostgreSQL instance with the pg ctl command:

\$ pg ctl start -D <data directory>

where <data directory> is a data directory of the PostgreSQL instance.

For example:

\$ pg ctl start -D /var/lib/pgsql/13/data

| | Restore Wizard | × |
|--|------------------------|--------|
| Specify PostgreSQI | settings | |
| Specify Tostgreset | 2 settings | |
| Restore to the original | al location | |
| Restore to a different | t location: | |
| Data directory path: | /var/lib/pgsql/13/data | Browse |
| Instance port: | 5432 🗘 | |
| | | |
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| | Back Next | Cancel |

Step 5. Specify Tablespaces

At this step of the wizard, specify paths of directories where database tables will be stored.

| Restore Wizard | × |
|-------------------------------------|--------|
| Specify tablespaces target location | |
| sales | |
| /var/lib/pgsql/tblspace | ~ |
| docs /var/lib/pgsql/tblspace2 | ~ |
| backup /var/lib/pgsql/tblspace3 | ~ |
| Back Next | Cancel |

Step 6. Specify Post-Restore Action

This step is available only if you have selected the **Restore to a specific point in time option** at the Specify restore point step of the wizard.

At this step of the wizard, select one of the following post-restore actions that the PostgreSQL instance must take after the instance is restored:

- Select **Promote the PostgreSQL server to accept connections once recovery is finished** to make the PostgreSQL instance available for connections.
- Select **Pause recovery process and keep the PostgreSQL server in recovery mode** to make the PostgreSQL instance run but not accepting incoming remote TCP connections.

To resume the paused state, use the pg wal replay resume () command:

```
psql -p <port> -c "SELECT pg_wal_replay_resume();"
```

where <port> is a port number of the PostgreSQL instance.

Select Shut down the PostgreSQL server once recovery process is completed to make the PostgreSQL instance stop upon recovery.

In this case, you will need to start the PostgreSQL instance manually:

- a. Change or remove the recovery.signal configuration file.
- b. Launch the PostgreSQL instance with the pg ctl command:

\$ pg_ctl start -D <data_directory>

where <data directory> is a data directory of the PostgreSQL instance.

For example:

\$ pg_ctl start -D /var/lib/pgsql/13/data

| Restore Wizard | × |
|---|--------|
| Specify post-restore action | |
| Post restore actions: | |
| Promote the PostgreSQL server to accept connections once recovery is finished | |
| O Pause recovery process and keep the PostgreSQL server in recovery mode | |
| Shut down the PostgreSQL server once recovery process is completed | |
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| Back Restore | Cancel |

Restoring Multiple Instances

You can restore multiple PostgreSQL instances by following one of the scenarios:

- Restoring Latest State
- Restoring Point-in-Time State
- Restoring to Another Server

Restoring Latest State

To restore the latest state of the PostgreSQL server, do the following:

- 1. In the navigation pane, select the PostgreSQL server.
- 2. On the Server tab, select Restore Instances > Restore latest state to <original_location>.

Alternatively, you can right-click the server and select **Restore instances** > **Restore latest state to** <original_location>.

NOTE

The name of the restore option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Restore latest** state to <original_location>.
- If you select any other restore point, the option name is displayed as **Restore state of** cont_in_time> to <original_location>.

| ۳ | rhel01 as of less than a day ago (11:01 PM Thursday 3/9/2023) - Veeam Explorer for PostgreSQL | | × |
|--|---|-----|----|
| ≡ • Server | | | |
| Restore Instances • Restore | | | |
| Databases | Server Info | | |
| rhel01 rhel01:5433 rhel01:5433 rhel01:5434 template1 template0 rhel01:5434 postgres template1 template0 | Restore state of Thursday 3/9/2023, 11:01 PM to rhel01 | | |
| rhel01 | | vee | AM |
| | | | |

Restoring Point-in-Time State

To restore a point-in-time state of the PostgreSQL server, use the **Restore** wizard.

- 1. Launch the Restore wizard.
- 2. Specify a restore point.
Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a PostgreSQL instance you want to restore.
- 2. On the Server tab, select Restore Instances > Restore point-in-time state to <server_name>.

Alternatively, you can right-click an instance and select **Restore Instances** > **Restore point-in-time state to** <**server_name**>.

| Server Restore Restore Databases Detabases Detabases Server Info Pathel01:5433 Restore instances Pathel01:5433 Restore contribution time state to rhel01 Restore point-in-time state to rhel01 Restore to another server Restore to another server | •• <u>•</u> | rhel01 as of less than a day ago (11:01 PM Thursday 3/9/2023) - Veeam Explorer for PostgreSQL | - | | × |
|---|---|---|---|-----|----|
| Instances * Restore Databases Server Info TheIO1 Restore instances Restore state of Thursday 3/9/2023, 11:01 PM to rheIO1 Restore point-in-time state to rheIO1 Restore point-in-time state to rheIO1 Restore to another server Restore to an | ≡ • Server | | | | |
| Thel01:5433 Thel01:5433 Thel01:5434 Thel01:5434 Thel01:5434 Thel01:5435 Thel01:5 | Instances 🔻 | | | | |
| Indextore state of Hursday 3/9/2025, Hur PM to metor postgres template0 Indextore state of Hursday 3/9/2025, Hur PM to metor template0 Indextore state of Hursday 3/9/2025, Hur PM to metor template0 Indextore state of Hursday 3/9/2025, Hur PM to metor Restore point-in-time state to rhel01 Restore to another server Restore to another server | Databases | Server Info | | | |
| | Frel01:543 Postgres template1 template0 rhel01:5434 postgres template1 template1 template1 template2 rhel01:5435 postgres database_1 template1 | and Restore point-in-time state to rhel01 | | | |
| rhel01 VeeA | rhel01 | | | vee | AM |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your data:

- Select the **Restore to the point in time of the selected image-level backup** option to load instance files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to obtain instance files as per selected time interval of the current restore point. Use the slider control to choose a time interval you need.

The **Restore to a specific point in time** option is available only if backups of PostgreSQL archive logs exist. For more information, see Required Backup Job Settings.

| Restore Wizard | × |
|--|----------------------|
| Specify restore point | |
| specify restore point | |
| Specify point in time you want to restore the instance to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires WAL log backups) | |
| 11:00 PM 3/8/2023 | 7:01 AM 3/10/2023 |
| Thursday, March 9, 2023 11:01:05 PM | |
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| | |
| Restore | Cancel |

Restoring to Another Server

You can restore multiple PostgreSQL instances to another server or to the same server but with different settings.

To restore PostgreSQL instances, use the **Restore** wizard.

- 1. Launch the Restore wizard.
- 2. Specify a restore point.
- 3. Specify a target server.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select the PostgreSQL server.
- 2. On the Server tab, select Restore Instances > Restore to another server.

Alternatively, you can right-click an instance and select **Restore Instances** > **Restore to another server**.

| প্ | rhel01 as of less than a day ago (11:01 PM Thursday 3/9/2023) - Veeam Explorer for PostgreSQL | - | | × |
|--|--|---|-----|-----|
| ≡ • Server | | | | |
| Restore Instances * Restore | | | | |
| Databases | Server Info | | | |
| thel01 thel01:5433 postgres template1 template0 template1 template1 template1 template3 template1 template2 | Restore state of Thursday 3/9/2023, 11:01 PM to rhel01 Restore point-in-time state to rhel01 Restore to another server | | | |
| rhel01 | | | Vee | PAM |

Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore your data:

- Select the **Restore to the point in time of the selected image-level backup** option to load instance files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to obtain instance files as per selected time interval of the current restore point. Use the slider control to choose a time interval you need.

The **Restore to a specific point in time** option is available only if backups of PostgreSQL archive logs exist. For more information, see Required Backup Job Settings.

| Restore Wizard | × |
|--|----------------------|
| Specific restore point | |
| Specify restore point | |
| Specify point in time you want to restore the instance to: | |
| Restore to the point in time of the selected image-level backup | |
| Restore to a specific point in time (requires WAL log backups) | |
| 11:00 PM 3/8/2023 | 7:01 AM 3/10/2023 |
| Thursday, March 9, 2023 11:01:05 PM | |
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| | |
| Next | Cancel |

Step 3. Specify Target Server

At this step of the wizard, specify credentials to access the target PostgreSQL server.

- 1. In the Server field, enter a DNS name or IP address of the target server.
- 2. In the **SSH port** field, specify an SSH port (by default, port 22 is used).
- 3. In the **Account** filed, specify a Linux system account name under which to connect to the specified server.
- 4. If you have specified a non-root account that does not have root privileges on the target server, click **Advanced**:
 - a. Select the **Elevate specified account to root** check box.

The account must have root privileges to mount the backed-up file system to the target server and to communicate with PostgreSQL.

b. To add the user account to the sudoers file, select the Add account to the sudoers file automatically check box. In the Root password field, enter the password for the root account.

If you do not enable this option, you will have to manually add the user account to the sudcers file.

c. If you plan to use the account to connect to Linux servers where the sudo command is not available or may fail, you have an option to use the su command instead. To enable the su command, select the Use su if sudo is unavailable check box and in the Root password field, enter the password for the root account.

Veeam Backup & Replication will first try to use the sudo command. If the attempt fails, Veeam Backup & Replication will use the su command.

| Advanced Settings | × |
|---|---|
| Non-root account handling Elevate specified account to root Add account to the sudoers file automatically | |
| Use su if sudo is unavailable | |
| OK Cancel | |

- 5. In the **Password** field, enter the account password.
- 6. If a private key is required to connect to the server, do the following:
 - b. Select the **Private key is required for this connection** check box.
 - c. In the **Private key** filed, specify a file that contains a private key.

To locate a file, click **Browse** and select a key.

d. In the **Passphrase** field, enter the passphrase used to decrypt the private key.

| | Restore Wizard | × |
|-----------|---|----------|
| Specify t | arget Linux server connection credentials | |
| Server: | rhel02 SSH port: | 22 ^ |
| Account: | root | Advanced |
| Password: | ••••• | |
| Private | key is required for this connection | |
| Private | key: | Browse |
| Passph | rase: | |
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| | Back Restore | Cancel |

Data Publishing

Publishing a PostgreSQL instance allows you to temporarily attach the instance to the target PostgreSQL server without launching restore. Publishing typically occurs faster than using standard restore features and could be convenient when, for example, your time to perform disaster-recovery operations is limited.

After you have launched a publishing operation to a PostgreSQL server, you can quickly republish the latest or point-in-time state of the PostgreSQL instance to the same server.

During publishing, Veeam Explorer for PostgreSQL takes the following actions:

- 1. Mounts VM disks from the backup file to the /tmp directory on the target PostgreSQL machine.
- 2. Retrieves required instance files.
- 3. Attaches the associated instance directly to the target PostgreSQL server so that you can perform required operations using PostgreSQL tools.

The publishing session is resilient to network disruption, backup server or mount server crash. All changes in database files that occur after publishing are saved in the publishing write cache, which is stored on the target server. If anything disrupts the publishing process (the target or mount server crashes, or the network is down), you can launch the retry manually after the server or network is up.

Before publishing an instance, read the Considerations and Limitations section.

Publishing to Specified Server

To publish a PostgreSQL instance to the specified PostgreSQL server, use the **Publish** wizard.

- 1. Launch the Publish wizard.
- 2. Specify a restore point.
- 3. Specify the target PostgreSQL server.
- 4. Specify PostgreSQL settings.

Step 1. Launch Publish Wizard

To launch the **Publish** wizard, do the following:

- 1. In the navigation pane, select a PostgreSQL instance you want to publish.
- 2. On the Instance tab, select Publish Instance > Publish to another server.

Alternatively, you can right-click an instance and select **Publish Instance > Publish to another server**.



Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore the PostgreSQL instance:

- Select the **Restore to the point in time of the selected image-level backup** option to load instance files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to obtain instance files as per selected time interval of the current restore point. Use the slider control to choose a time interval you need.

The **Restore to a specific point in time** option is available only if backups of PostgreSQL archive logs exist. For more information, see Required Backup Job Settings.

| Publish Wizard | × |
|---|----------------------|
| Specify restore point Specify point in time you want to restore the instance to: Restore to the point in time of the selected image-level backup Restore to a specific point in time (requires WAL log backups) 11:00 PM 3/8/2023 Thursday, March 9, 2023 11:01:05 PM | 7:01 AM 3/10/2023 |
| Next | Cancel |

Step 3. Specify Target Server

At this step of the wizard, specify credentials to access the target PostgreSQL server.

- 1. In the Server field, enter a DNS name or IP address of the target server.
- 2. In the **SSH port** field, specify an SSH port (by default, port 22 is used).
- 3. In the Account filed, specify a Linux system account name under which to connect to the specified server.
- 4. If you have specified a non-root account that does not have root privileges on the target server, click **Advanced**:
 - a. Select the Elevate specified account to root check box.

The account must have root privileges to mount the backed-up file system to the target server and to communicate with PostgreSQL.

b. To add the user account to the sudoers file, select the Add account to the sudoers file automatically check box. In the Root password field, enter the password for the root account.

If you do not enable this option, you will have to manually add the user account to the sudoers file.

c. If you plan to use the account to connect to Linux servers where the sudo command is not available or may fail, you have an option to use the su command instead. To enable the su command, select the Use su if sudo is unavailable check box and in the Root password field, enter the password for the root account.

Veeam Backup & Replication will first try to use the sudo command. If the attempt fails, Veeam Backup & Replication will use the su command.

| | Advanced Settings | × |
|---|---|---|
| R | Non-root account handling Elevate specified account to root Add account to the sudoers file automatically Use su if sudo is unavailable | |
| | Root password: | |
| | OK Cancel | |

- 5. In the **Password** field, enter the account password.
- 6. If a private key is required to connect to the server, do the following:
 - b. Select the **Private key is required for this connection** check box.
 - c. In the **Private key** filed, specify a file that contains a private key.

To locate a file, click **Browse** and select a key.

d. In the **Passphrase** field, enter the passphrase used to decrypt the private key.

| | Publish Wizard | × |
|-----------|--|----------|
| Specify t | arget Linux server connection credentials | |
| Server: | fd00:ac18:0:1810:0:87eb:1696:6325 SSH port | 22 |
| Account: | root | Advanced |
| Password: | ••••• |] |
| Private | key is required for this connection | |
| Private | key: | Browse |
| Passph | rase: | |
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| | | |
| | Back Next | Cancel |

Step 4. Specify PostgreSQL Settings

At this step of the wizard, specify a free PostgreSQL instance port in the **Instance port** field.

The specified port must be free. If the port is occupied, Veeam Explorer for PostgreSQL will display an error.

| | Publish Wizard | × |
|---------------------|-----------------------------------|---|
| Specify Postg | reSQL settings | |
| Specify port for th | ne published PostgreSQL instance: | |
| Server: | fd00:ac18:0:1810:0:87eb:1696:6325 | |
| Instance port: | 5436 | |
| | | |
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| | Back Publish Cancel | |

Publishing Latest or Point-in-Time State

After you have launched a publishing operation to a PostgreSQL instance (as described in Publishing to Specified Server), you can quickly republish a state of the PostgreSQL instance to the same server.

You can republish either of the following states:

- The latest available state to publish data as of the latest state in the backup file.
- A point-in-time state to publish data as of the selected point-in-time state. This option is available only if backups of PostgreSQL archive logs exist. For more information, see Required Backup Job Settings.

When you unpublish an instance, both options continue to remain until you close the application so that you can quickly republish a database if required.

Publishing Latest State

You can republish an unpublished instance anew. When republishing an instance, it will be attached to the target PostgreSQL server as of the latest available state.

To republish an instance as of the latest state, do the following:

- 1. In the navigation pane, select a PostgreSQL instance you want to republish.
- 2. On the Instance tab, select Publish Instance > Publish latest state to <target_server>.

Alternatively, you can right-click an instance and select **Publish instance** > **Publish latest state to** <**target_server>**.

NOTE

The name of the publish option depends on the restore point you select during the application item restore process in the Veeam Backup & Replication console.

- If you select the most recent available restore point, the option name is displayed as **Publish latest** state to <target_server>.
- If you select any other restore point, the option name is displayed as **Publish state of** cpoint_in_time> to <target_server>.

Once completed, the instance will be published with the same settings as you specified during the initial publishing session.

| R | rhel01 as of less than a day ago (11:01 PM Thursday 3/9/2023) - Veeam Explorer for PostgreSQL 🛛 🚽 🗖 🗙 |
|---|--|
| ≡ • Instance | |
| Restore Instance • Restore | |
| Databases | Instance Info |
| postgres template1 template0 postgres template1 template1 template0 mel01:5435 postgres database_1 template1 template1 template1 template0 | Name: rhel01:5433 Version: PostgreSQL 13.3 on x86_64-pc-linux-gnu, compiled by gcc (GCC) 4.8.5 20150623 (Red Hat 4.8.5-44), 64-bit Data directory: /var/lib/pgsql/13/data2 re instance True sh instance Publish state of Thursday 3/9/2023, 11:01 PM to fd00:ac18:0:1810:0:87eb:1696:6325 Available Publish the point-in-time state to fd00:ac18:0:1810:0:87eb:1696:6325 Available Publish to another server 3/8/2023 11:00:50 PM - 3/10/2023 7:01:37 AM Configuration Files /var/lib/pgsql/13/data2/pg_ident.conf /var/lib/pgsql/13/data2/pg_hba.conf |
| < > rhel01:5433 | Veeam |

Publishing Point-in-Time State

After you have launched a publishing operation to a PostgreSQL server (as described in Publishing to Specified Server), you can quickly publish another point-in-time state of the PostgreSQL instance to the same server.

To publish a PostgreSQL instance as of the point-in-time state, use the **Publish** wizard.

- 1. Launch the Publish wizard.
- 2. Specify a restore point.

Step 1. Launch Publish Wizard

To launch the **Publish** wizard, do the following:

- 1. In the navigation pane, select a PostgreSQL instance you want to republish.
- 2. On the Instance tab, select Publish Instance > Publish point-in-time state to <server_name>.

Alternatively, you can right-click an instance and select **Publish Instance** > **Publish point-in-time state to** <**server_name**>.



Step 2. Specify Restore Point

At this step of the wizard, select a state as of which you want to restore PostgreSQL instance:

- Select the **Restore to the point in time of the selected image-level backup** option to load instance files as per date when the current restore point was created.
- Select the **Restore to a specific point in time** option to obtain instance files as per selected time interval of the current restore point. Use the slider control to choose a time interval you need.

| Publish Wizard | | × |
|---|---------|---------------------------|
| Specify restore point Specify point in time you want to restore the instance to: Restore to the point in time of the selected image-level backup Restore to a specific point in time (requires WAL log backups) 11:00 PM 3/8/2023 Friday, March 10, 2023 7:01:37 AM | | × 7:01 AM 3/10/2023 |
| | Publish | Cancel |

Unpublishing Instances

Once you have finished working with published instances, you may want to unpublish (detach) these instances from the target server.

Detachment occurs in the following manner:

- Upon closing the Veeam Explorer for PostgreSQL console, all published instances will be detached from target servers automatically. Mount points will be also dismounted from under the /tmp directory.
- On manual unpublishing, instances will be detached at once but the restore point will remain mounted on the target server for the next 15 minutes.

To unpublish an instance manually, do the following:

- 1. In the navigation pane, under the **Published instances** node, select a published instance.
- 2. On the **Publish** tab, select **Cancel**.

Alternatively, in the navigation pane, right-click a published database and select Cancel.

To detach more than one published instance simultaneously, right-click the root **Published instances** node and select **Cancel** or select the root **Published instances** node and click **Cancel** on the **Publish** tab.

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Veeam Explorer for Microsoft Exchange

Veeam Explorer for Microsoft Exchange allows you to restore and export Microsoft Exchange data from backups created by Veeam Backup for Microsoft 365 and Veeam Backup & Replication.

Planning and Preparation

You can configure your environment before you start using Veeam Explorer for Microsoft Exchange.

System Requirements

This section lists system requirements for Veeam Explorer for Microsoft Exchange.

| Component | Requirement |
|--------------------|---|
| Microsoft Exchange | For more information about supported versions of Microsoft Exchange, see: The Supported Applications subsection of the Veeam Backup & Replication User Guide. The System Requirements section of the Veeam Backup for Microsoft 365 User Guide. |

Consider the following:

- To work with database files, Veeam Explorer for Microsoft Exchange requires a dynamic link library *ese.dll* supplied with Microsoft Exchange. The *ese.dll* file must be of the same version as that of Microsoft Exchange in which database files were created.
- To restore mailbox items from a server running Microsoft Windows ReFS, the backup server or Veeam Backup & Replication console must be installed on a machine that runs Microsoft Windows Server 2012 or later.
- To restore mailbox items from a server running Microsoft Windows ReFS 3.x, the backup server or Veeam Backup & Replication console must be installed on a machine that runs Microsoft Windows Server 2016 or later, and the ReFS version must be supported on this machine.
- To restore data that was backed up by Veeam Backup for Microsoft 365 v1.5 using PowerShell, make sure to install Windows PowerShell 2.0 or later.
- Restore of mailbox datastore from backups created by Veeam Agent for Microsoft Windows 2.0 or later requires integration with Veeam Backup & Replication to be set up. For more information, see the Using with Veeam Backup & Replication section of the Veeam Agent for Microsoft Windows User Guide.

Ports

The following tables list network ports that must be opened to manage inbound and outbound traffic.

Backup

| From | То | Protocol | Port | Notes |
|--|---|----------|-------------------------|---|
| Backup server, guest interaction proxy | Source Windows machine with Microsoft | TCP, UDP | 135, 137 to 139, 445 | Ports used to deploy the runtime coordination process on the source machine. |
| (Enterprise and Enterprise Plus editions) | Exchange | ТСР | 6005 to 65535 | The dynamic RPC range that is used by the runtime coordination process which is deployed on the source machine for application-aware processing (when working over the network). Note: Microsoft Exchange (in particular, Client Access) expands standard Windows dynamic RPC port range to provide better scalability. For more information, see this Microsoft article. |
| Source Windows machine with Microsoft Exchange | Backup server, guest interaction proxy (Enterprise and Enterprise Plus editions) | ТСР | 6005 to 65535 | The dynamic RPC range that is used by the runtime coordination process which is deployed on the source machine for application-aware processing (when working over the network). Note: Microsoft Exchange (in particular, Client Access) expands standard Windows dynamic RPC port range to provide better scalability. For more information, see this Microsoft article. |

NOTE

Configuring dynamic RPC range is not required when using default Microsoft Windows firewall settings as Veeam Backup & Replication automatically creates an associated firewall rule for the runtime process during installation. When using custom firewall settings or if application-aware processing fails with the *RPC function call failed* error, make sure to configure dynamic RPC ports manually. For more information, see this Microsoft article.

Restore

| From | То | Protocol | Port | Notes |
|---|--|----------|------|--|
| Backup server, Veeam Backup & Replication console | Target Microsoft Exchange 2013/2016/2019 CAS server | ТСР | 443 | Port used for Microsoft Exchange web services connections. |

Permissions

The following table lists required permissions for data restore and data compare.

| Operation | Required Roles and Permissions |
|---|--|
| Restore to Microsoft 365 and on-premises Microsoft Exchange | To restore data to Microsoft 365 and on-premises Microsoft Exchange organizations, you must grant the following roles and permissions to user accounts: |
| | Restore to Public Folder Using Basic Authentication Method |
| | The account must own a mailbox on a target Microsoft Exchange server. |
| | The account must be a member of the <i>Organization Management</i> role group on a target Microsoft Exchange server. See Adding User Account to Organization Management Role Group. [For restore of <i>In-Place Hold Items</i> to the original location] If the <i>In-Place Hold Items</i> folder already exists, make sure the account being used can create, modify and delete items. If the <i>In-Place Hold Items</i> folder does not exist, the account being used must be able to create folders under the <i>All Public Folders</i> root node. |
| | Restore to Mailbox Using Basic Authentication Method |
| | If the account owns a mailbox, make sure it has <i>Full Access</i>. If the account does not own a mailbox, then access must be granted through impersonation. See Granting Full Access. |
| | Restore Using Modern Authentication Method |
| | The account used to log in to Microsoft 365 must be assigned the following roles: |
| | ApplicationImpersonation role. For more information, see this Microsoft article. Clobal Administrator or Exchange Administrator role. |
| | • <i>Global Administrator</i> or <i>Exchange Administrator</i> role. |
| | Also make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide. |
| Compare Data with Production Environment | The Veeam Backup account must have a valid Exchange Online license and an active mailbox within the Microsoft 365 organization. |

Examples

Adding User Account to Organization Management Role Group

To add user account to the Organization Management role group, use the following cmdlet:

Add-RoleGroupMember "Organization Management" -Member "<user account>"

For more information about the Add-RoleGroupMember cmdlet, see this Microsoft article.

Granting Full Access

To grant *Full Access* to the account that owns a mailbox, use the following cmdlet:

```
Add-MailboxPermission -Identity "<target_mailbox>" -User "<user_account>" -Acce
ssRights FullAccess -InheritanceType All
```

For more information about the *Add-MailboxPermission* cmdlet, see this Microsoft article.

To grant *Full Access* to the account that does not own a mailbox (in particular, through impersonation), use the following cmdlet:

```
New-ManagementRoleAssignment -Name "<role_name>" -Role ApplicationImpersonation
-User "<user_account>"
```

For more information about the *New-ManagementRoleAssignment* cmdlet, see this Microsoft article.

Recalling Given Permissions

To recall given access level, run one of the following cmdlets:

Remove-ManagementRoleAssignment "<role_name>"

Remove-ManagementRoleAssignment -Identity "<role name>"

Required Backup Job Settings

This requirement applies to backup jobs created by Veeam Backup & Replication.

When you create a backup job, make sure to enable the **application-aware image processing** option. For more information, see the Specify Guest Processing Settings section of the Veeam Backup & Replication User Guide.

NOTE

By default, Exchange transaction logs will be truncated upon successful backup. To keep transaction logs for further processing by a third-party application, select the Exchange server VM from the list, click **Edit** and on the **General** tab select **Perform copy only**.

Support for Database Availability Groups (DAG)

Veeam Backup & Replication supports any configuration of DAGs. In particular, having all the databases active on a single node or with the active databases on each node. Transaction logs will be truncated on all DAG members.

For more information and recommendations, see the following articles:

- How to virtualize and protect Exchange 2016
- Veeam Knowledge Base article

Considerations and Limitations

This section lists considerations and limitations of Veeam Explorer for Microsoft Exchange.

General

When Veeam Explorer for Microsoft Exchange is installed on a server on which both Veeam Backup & Replication and Veeam Backup for Microsoft 365 are installed, the notification settings will be inherited from the Veeam Backup & Replication Global Notification settings.

Restore

- Veeam Explorer for Microsoft Exchange does not support restore using PowerShell Direct, VIX API or vSphere Automation API.
- Sending objects that exceed 3 MB in size may fail. To fix this issue, install this Microsoft update.
- Bulk restore (restore of multiple objects) is not supported for public folder mailboxes. Use the regular per-object restore instead.
- Mailboxes can be restored only to mailboxes of the same type. For example, a user mailbox to a user mailbox, an archive mailbox to an archive mailbox.
- To restore *In-Place Hold Items* or *Litigation Hold Items* to the original location, consider the following:
 - In-Place Hold Items restore is not supported for On-Premises Exchange Server 2013 due to EWS limitations.
 - To restore *In-Place Hold Items* of Exchange 2016 mailboxes, these mailboxes must have *In-Place Hold* enabled and applied at least once with *DiscoveryHolds* system folder creation. Otherwise, restore will fail with the following error:

"Failed to restore In-Place Hold Items. Restore of In-Place Hold Items into Exchange 2013 is not supported".

For information on enabling *In-Place Hold* and *Litigation Hold*, see this Microsoft article.

• [For Veeam Explorer for Microsoft Exchange that comes with Veeam Backup & Replication] Restore of an entire mailbox or selected mailbox items to the original location is available with Veeam Universal License. When using a legacy socket-based license, the *Enterprise* or *Enterprise Plus* editions of Veeam Backup & Replication is required.

NOTE

To use an internet proxy server to restore backups created by Veeam Backup for Microsoft 365, make sure to provide appropriate proxy server address and the port number. To do this,go to the **Control Panel** > **Internet Options Connections** tab, click **LAN Settings**, select the **Use a proxy server for your LAN** check box and specify a proxy server you want to use. Credentials for such a proxy (if needed) will be taken from the **Control Panel** > **Credential Manager** > **Windows Credentials** console.

Consider that this functionality is only available in Veeam Explorer for Microsoft Exchange that comes as part of the Veeam Backup for Microsoft 365 installation package.

Export

• Export is available if you have a 64-bit version of Microsoft Outlook 2010 or later installed on a computer with Veeam Explorer for Microsoft Exchange.

NOTE

For Outlook for Microsoft 365, only the *Semi-Annual Enterprise Channel* is supported. For more information, see this Microsoft article.

• To avoid conflicts during export, make sure to exclude PST files from the indexing scope. Oftentimes conflicts may occur due to a file you are exporting is being indexed at the same time. When exporting to shared folders, exclude Outlook files or disable Windows search on the destination computer.

Launching Application and Exploring Backups

To open Veeam Explorer for Microsoft Exchange and load backups, you can use any of the following methods:

• The **Explore** option to load backups created by Veeam Backup for Microsoft 365. For more information, see the Data Restore section of the Veeam Backup for Microsoft 365 User Guide.

When loading backups located in object storage, Veeam Explorer for Microsoft Exchange will notify you about the location of these backups. You can select the **Don't show this message again** check box to unsubscribe from such notifications. To disable these notifications, clear the **Show pop-up notifications on startup** check box. For more information, see Advanced Settings.

• The **Restore application item** option to load backups created by Veeam Backup & Replication.

For more information, see the Application Items Restore section of the Veeam Backup & Replication User Guide.

• Go to **Start**, click **Veeam Explorer for Microsoft Exchange** and manually open Microsoft Exchange databases. For more information, see **Standalone Databases and External Servers**.

When you open Veeam Explorer for Microsoft Exchange from the **Start** menu, all backed-up databases will be loaded automatically.

If you open Veeam Explorer for Microsoft Exchange from the **Start** menu on a machine that runs the Veeam Backup & Replication console and Veeam Explorers only, specify the following:

- The domain name or IP address of a server to which you want to connect.
- The port number.
- User account credentials.

Consider the following:

- To perform restore operations, Veeam Explorer for Microsoft Exchange must be run with elevated permissions. The user account must be a member of the local *Administrators* group on the machine where Veeam Explorer for Microsoft Exchange is installed.
- $\circ~$ The account must have the Veeam Backup Administrator or Veeam Restore Operator role on the target backup server.

To use the account under which Veeam Explorer for Microsoft Exchange is running, select **Use Windows** session authentication.

To save the connection shortcut to the desktop, click **Save shortcut** in the bottom-left corner.

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| ••••• | |
| Use Windows session authenticat | ion |
| Save shortcut | Connect Close |

Getting to Know User Interface

The user interface of Veeam Explorer for Microsoft Exchange is designed to let you quickly find commands that you need to restore and export Microsoft Exchange data from backups created by Veeam Backup for Microsoft 365 and Veeam Backup & Replication.

Main Menu

The main menu comprises the following:

- **General Options**. Allows you to configure general application settings. For more information, see General Application Settings.
- Help.
 - Online help. Opens the online help page.
 - About. Shows the additional information including build number.
- Exit. Closes the Veeam Explorer for Microsoft Exchange window.

TIP

You can also open online help by pressing [F1] in any Veeam Explorer for Microsoft Exchange wizard or window. You will then be redirected to the relevant section of the Veeam Explorers User Guide.

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Main Application Window

The main application window can be divided into three categories:

- The ribbon that contains operation commands organized into logical groups represented as tabs. The ribbon is displayed at the top of the main application window.
- The navigation pane that allows you to browse through the hierarchy of folders with backed-up data. Also, it allows you to search for mailboxes using keywords.
- The preview pane that provides search capabilities and allows you to view details about items that are contained in a folder you have selected in the navigation pane.



Browsing, Searching and Viewing Items

You can use Veeam Explorer for Microsoft Exchange to view the contents of a backup file, open messages, search for mailboxes and for items in a backup file as well as customize criteria of your search.

Searching for Mailboxes

You can use keywords to search for mailboxes in the database structure containing your Exchange objects. To do this, enter a search query in the search field at the top of the navigation pane.

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To remove a keyword, click the cross mark.

Browsing Backup Content

To view the contents of a backup file, you use the navigation pane which shows you the database structure containing your Exchange objects.

After you select an object in the navigation pane, you can see its content in the preview pane.

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Opening Messages

To open a message, right-click a message in the preview pane and select **Open**. You can also double-click a message:

- To show message headers, click **Show message headers**.
- To open attachments, double-click an attachment.
- To save attachments, right-click an attachment and select Save as.

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Searching for Objects in Backup File

The search mechanism allows you to find items matching specified search criteria.

To search for required items, do the following:

- 1. In the navigation pane, select an object in which you want to find data.
- 2. Enter a search query in the search field at the top of the preview pane.

NOTE

To find the exact phrase, use double quotes. For example, "Microsoft 365".
You can narrow search results by specifying various search criteria using the *criteria:value* format. You can also use logical upper-cased operators such as *AND*, *OR* and *NOT* along with wildcard characters such as * and ?.

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Using Advanced Find

The **Advanced Find** mechanism allows you to define your search criteria more precisely.

For example, to find messages with the subject *Report*, do the following:

- 1. In the preview pane, select a node and click **Advanced Find** on the ribbon.
- 2. In the **Define search criteria** section, select **Category > All fields**.
- 3. In the Field list, select Subject.
- 4. In the **Condition** list, select **contains**.
- 5. In the **Value** field, specify a substring to look for.
- 6. Click Add to List and then click Start.

To remove a filter, click the cross mark on the left. To remove all configured filters, click Reset.

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General Application Settings

You can configure general settings for Veeam Explorer for Microsoft Exchange.

Extensible Storage Engine

To work with database files, Veeam Explorer for Microsoft Exchange requires a dynamic link library ese.dll which is distributed with Microsoft Exchange.

The ese.dll file must be of the same version as the Microsoft Exchange application that was used to create a database. When restoring a VM that was backed up with application-aware image processing, the ese.dll file will be located automatically.

To specify the path to the ese.dll file, do the following:

- 1. In the main menu, click **General Options**.
- 2. Open the Extensible Storage Engine tab.
- 3. Click the link next to the Microsoft Exchange version and specify the path to the ese.dll file.

This file can be found on the Microsoft Exchange server distribution CD in the *X:*|*Setup*|*ServerRoles*|*Common*|*ese.dll* directory or in the installation directory of the Microsoft Exchange server.

4. Click OK.



SMTP Settings

Veeam Explorer for Microsoft Exchange allows you to send Exchange items that are located in a backup through email and deliver export reports. To do this, you must configure an SMTP server which you want to use for sending emails.

To configure SMTP settings, do the following:

- 1. In the main menu, click General Options.
- 2. Open the SMTP Settings tab.
- 3. Select the **Configure SMTP settings** check box and do the following:
 - a. In the Server field, specify a DNS name or IP address of the SMTP server.
 - b. In the **Port** field, specify a port number of the specified SMTP server.

The default port number is 25. If you want to use SSL data encryption, specify port 587.

- c. In the **From** field, specify the sender email address.
- d. If the specified SMTP server requires an authentication for outgoing mail, select the **Use authentication** check box and provide valid credentials.
- e. Select the Enable SSL security check box to enable SSL data encryption.
- 4. Click **Send** to send a test email message.
- 5. Click OK.

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Advanced Settings

Veeam Explorer for Microsoft Exchange allows you to configure advanced settings such as extended logging mode, pop-up notifications and PST size availability.

To configure advanced settings, do the following:

- 1. In the main menu, click General Options.
- 2. Open the **Advanced** tab.
- 3. If you want to see the estimated size of the Outlook database file in the status bar, select the **Show PST** size estimation in status bar check box.
- 4. If you want to enable extended logging mode to collect logs that contain additional information on specific operations, select the **Enable extended logging** check box.

After enabling extended logging mode, you can go back to the application and perform actions for which you want to collect additional information. Then you can collect logs.

- 5. By default, Veeam Explorer for Microsoft Exchange displays notifications when loading backups created by Veeam Backup for Microsoft 365 from object storage. If you want to disable these notifications, clear the **Show pop-up notifications on startup** check box.
- 6. Click OK.



Standalone Databases and External Servers

You can add standalone databases to the Veeam Explorer for Microsoft Exchange scope as well as connect to a Veeam Backup for Microsoft 365 server or service provider server to view backups located on these servers.

Veeam Explorer for Microsoft Exchange supports adding databases created with the following Microsoft Exchange versions:

- Microsoft Exchange Server 2019
- Microsoft Exchange Server 2016
- Microsoft Exchange Server 2013

Adding Microsoft Exchange Databases

You can add Microsoft Exchange databases to the application scope manually.

Veeam Explorer for Microsoft Exchange supports adding databases created with the following Microsoft Exchange versions:

- Microsoft Exchange Server 2019
- Microsoft Exchange Server 2016
- Microsoft Exchange Server 2013

NOTE

Consider the following:

- Before adding databases, make sure that Veeam Explorer for Microsoft Exchange has access to the ese.dll file. For more information, see Extensible Storage Engine.
- If a database is in *Dirty State*, you will need to recover it by applying log files. Click **Recover** and wait until log files are applied, then re-add the database. Make sure that the **Write** permission is granted to the account being used.
- Make sure you have disabled the *Veeam Backup Proxy for Microsoft Office 365* service when adding local databases. You can stop this service by using the services.msc console. If you try to add a database having this service still in progress, you will receive an error message and will not be able to access the database due to database lock.

To manually add a Microsoft Exchange database, do the following:

- 1. Do one of the following:
 - On the Home tab, click Add Store > Microsoft Exchange mailbox database on the ribbon.
 - Right-click the **All Stores** node and select **Add Microsoft Exchange mailbox database**.
- 2. Click Browse to specify the path to the .edb or .adb file and Exchange logs folder.

| 🔩 All organizations as of less than a day ago (1:14 PM Tuesday 2/7/2023) - Veeam Explorer for Microsoft Exchange | | × |
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| Type in an object name to search for | Item State | |
| ▲ Ald Microsoft Exchange mailbox database | | |
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Adding Veeam Backup for Microsoft 365 Server

In Veeam Explorer for Microsoft Exchange, you can connect to a Veeam Backup for Microsoft 365 server to view backups located on this server.

To connect to a Veeam Backup for Microsoft 365 server, do the following:

- 1. Do one of the following:
 - On the Home tab, click Add Store > Veeam Backup for Microsoft 365 server on the ribbon.
 - Right-click the All Stores node and select Add Veeam Backup for Microsoft 365 server.
- 2. Specify a server name or IP address and enter credentials to access the specified server.

Select the **Use Windows session authentication** check box to connect with the user account under which you are currently logged in.

3. Click Connect.

| | × |
|--|---|
| Veeam Backup | |
| Type in a server name or IP address, service port number and user credentials to connect with. VBM365Server 9194 | |
| TECH\Administrator | |
| •••••• | |
| Use Windows session authentication | |
| Connect Close | |

Adding Veeam Backup for Microsoft 365 Service Provider

In Veeam Explorer for Microsoft Exchange, you can connect to a service provider server to add its backups to the application scope and perform a restore directly from such backups.

NOTE

Make sure that both Veeam Explorer for Microsoft Exchange and Veeam Backup & Replication are installed on the same server and at least one service provider is added to Veeam Backup & Replication. For more information, see the Connecting to Service Providers section of the Veeam Cloud Connect Guide.

To add Veeam Backup for Microsoft 365 service providers, do the following:

- 1. Do one of the following:
 - On the Home tab, click Add Store > Veeam Backup for Microsoft 365 service provider on the ribbon.
 - Right-click the All Stores node and select Add Veeam Backup for Microsoft 365 service provider.
- 2. From the **Select service provider and authentication method** drop-down list, select a service provider that you want to add and select an authentication method that can be either *Modern authentication* or *Basic authentication*.
- 3. [For *Modern authentication*] Select a region to which a Microsoft 365 organization of the selected service provider belongs.
- 4. [For *Modern authentication*] Copy the device code and use it to sign in to Azure Active Directory.

For *Basic authentication*, you must enter a user name and password to connect to the service provider server.

NOTE

You cannot use *Basic authentication* to load backups if a Microsoft 365 organization has been added to the service provider infrastructure using *Modern authentication*.

5. Select a point-in-time state as of which you want to load Microsoft 365 backups.

To select a point in time, use the calendar control.

- 6. Select the **Show items that have been deleted by user** check box to see all the items that were removed.
- 7. Select the **Show all versions of items that have been modified by user** check box if you want to load modified versions.

8. Click Connect.



Removing Stores

Veeam Explorer for Microsoft Exchange allows you to remove an Exchange store from the application scope when you no longer need it.

To remove a store from the application scope, right-click a store in the navigation pane and select **Remove store**.



Data Restore

You can use Veeam Explorer for Microsoft Exchange to restore data to Microsoft 365 organizations and onpremises Microsoft organizations.

Veeam Explorer for Microsoft Exchange allows you to perform granular restore of Microsoft Exchange data. You can restore data of mailboxes and mailbox folders as well as specific emails, calendar items, contacts, tasks, notes, journal items, and so on.

Before restoring data, read the Considerations and Limitations section.

Restore to Microsoft 365 Organizations

You can restore data to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and security defaults.

When you perform a restore, you can specify a target mailbox, select an authentication method that you want to use for data restore, specify a target folder to which you want to restore data and configure restore options.

You can also use 1-Click Restore if you do not want to configure a restore session and prefer to use the default settings during a restore.

Restoring Single Mailbox, Folder or Item

To restore a single mailbox, folder or item, do the following:

- 1. Launch the Restore wizard.
- 2. Specify a target mailbox.
- 3. Select an authentication method.
- 4. Log in to Microsoft 365.
- 5. Specify a CAS server.
- 6. Specify a target folder.
- 7. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a mailbox, folder or item that you want to restore.
- 2. Do one of the following:
 - On the Mailbox/Folder/Items tab, click Restore Mailbox/Restore Folder/Restore Item > Restore to on the ribbon.
 - Right-click a mailbox, folder or an item and select **Restore to**.

| E. | All organizations as of less than | a day ago (5:40 PM Tues | day 2/7/2023) - Veeam B | Explorer for Microsoft Exi | hange | – 🗆 × |
|--|-----------------------------------|-------------------------|-------------------------|----------------------------|---------|------------|
| ■ • Home Mailbox | | | | | | |
| Restore Export Mailbox + Mailbox + Mailbox + Mailbox + Mailbox + Mailbox + Changed + Production terms Only Restore Compare with Show Changed + Advant Production terms Only Compare - Compare - Comp | red i h | | | | | |
| Mailbox Stores | Search Administrator | | | | | ۹ |
| Type in an object name to search for | I 📮 🗅 🗍 From | То | Cc | Bcc | Subject | Item State |
| All Stores | | | | | | |
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| Administrator | | | | | | Veeam |

Step 2. Specify Target Mailbox

At this step of the wizard, specify the target mailbox and mailbox location.

To specify mailbox settings, do the following:

1. In the **Mailbox** field, enter a mailbox name to which you want to restore data.

You can specify any name that you want. You can also restore a mailbox to a different organization. For example, you have backed up a mailbox *administrator@abc.onmicrosoft.com*. To restore such a mailbox to a different organization, you can specify, for example, *administrator@xyz.onmicrosoft.com* to restore a mailbox to the *xyz.onmicrosoft.com* organization.

2. Select **Microsoft 365** to restore the specified mailbox to an Exchange Online organization with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

You can also perform a restore of backups created for Exchange Online organizations to on-premises Microsoft Exchange servers and vice versa. For more information, see Restore to On-Premises Microsoft Servers.

| Restore Wizard | × |
|---------------------------------------|-------------|
| | |
| Target mailbox | |
| Mailbox | |
| administrator@abc.onmicrosoft.com | |
| Specify target mailbox location: | |
| Microsoft 365 | |
| On-premises Microsoft Exchange Server | |
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| | Next Cancel |
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Step 3. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Specify authentication method drop-down list, select *Modern authentication*.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified mailbox back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

- 2. From the **Region** drop-down list, select a region to which your Exchange Online organization belongs.
- 3. In the **Organization name** field, enter a name of your Exchange Online organization.

Make sure that the organization name matches the name specified at the previous step of the wizard.

4. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft Exchange populates this field with an identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| Restore Wizard | × |
|---|------|
| | |
| Microsoft 365 connection settings | |
| Specify authentication method: | |
| Modern authentication | ~ |
| Specify region, organization name and Azure AD application to connect with: | |
| Region: | |
| Default | ~ |
| Organization name: | |
| abc.onmicrosoft.com | |
| Application ID: | |
| e7268d27-0165-4778-9db6-5cfcb80a7636 | |
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Basic Authentication

To use basic authentication, do the following:

- 1. From the **Specify authentication method** drop-down list, select *Basic authentication*.
- 2. Enter credentials to connect to the Exchange organization.

Make sure that the account that you use has both the *Exchange Administrator* and the *Global Administrator* roles.

| | Restore Wizard | × |
|------------------|--|--------|
| | | |
| Microsoft 3 | 65 connection settings | |
| Specify authent | ication method: | |
| Basic authenti | cation | ~ |
| Specify user acc | ount to connect with: | |
| | account (SRV0101\Administrator) | |
| 💿 Use the foll | owing account: | |
| Username: | administrator@abc.onmicrosoft.com | |
| Password: | ••••• | |
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| | t with an account enabled for multi-factor authentication (MFA), , password instead of a user password. | |
| | Back Next | Cancel |

Step 4. Log In to Microsoft 365

This step is only available if you have selected the *Modern Authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the Restore Wizard window and click Next.

| Restore Wizard | × |
|---|--------|
| Log in to Missocit 265 | |
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
| C24BZPDB3 🖏 🔂 Copy code | |
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| | |
| 🥑 You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
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| Back Next | Cancel |

Step 5. Specify CAS Server and Target Folder

This step is only available if you have selected the *Basic Authentication* option at the Select Authentication Method step.

At this step of the wizard, specify a CAS server and provide a folder to which you want to restore data. You can perform a restore to the original folder or specify a custom folder.

To provide a CAS server and target folder, do the following:

1. Specify a CAS server name or IP address.

This field is populated automatically with the CAS server address from your domain. You can also enter a CAS server manually.

2. Select a folder to which you want to restore data. You can perform a restore to the original folder or specify a custom folder.

When you select to restore to a custom folder, Veeam Explorer for Microsoft Exchange checks if the specified folder exists, if not, it creates a folder automatically. For example, if you specify a path like *Folder1/Folder2/Folder3*, Veeam Explorer for Microsoft Exchange will restore your data to the *Folder3*. You can use both the slash ("/") and the backslash ("\") characters when specifying a path.

| Restore Wizard | × |
|--|---|
| | |
| Target mailbox server and folder | |
| Specify the mailbox server (CAS) to restore the selected items to: | |
| outlook.office365.com | |
| Specify the folder to restore items to: | |
| Restore to the original folder | |
| Restore to the following folder: | |
| Target Folder | |
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Step 6. Specify Target Folder

This step is only available if you have selected the *Modern Authentication* option at the Select Authentication Method step.

At this step of the wizard, select a target folder to which you want to restore the specified mailbox. You can perform a restore to the original folder or specify a custom folder.

When you select to restore to a custom folder, Veeam Explorer for Microsoft Exchange checks if the specified folder exists, if not, it creates a folder automatically. For example, if you specify a path like *Folder1/Folder2/Folder3*, Veeam Backup for Microsoft 365 will restore your data to the *Folder3*. You can use both the slash ("/") and the backslash ("\") characters when specifying a path.

| Restore Wizard | × |
|---|---|
| Target folder | |
| la get loidel | |
| Specify the folder to restore items to: | |
| Restore to the original folder | |
| Restore to the following folder: | |
| Target Folder | |
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| Back Next Cancel | |

Step 7. Specify Restore Options

At this step of the wizard, select restore options and click Restore.

You can select the following options:

• Changed items

Select this check box if you want to restore items that have been changed. When you select this option, Veeam Explorer for Microsoft Exchange overwrites existing items in your target location.

• Missing Items

Select this check box if you want to restore items that are missing in your target location. For example, some of the items were removed and you want to restore them from the backup.

• Mark restored items as unread

Select this check box if you want to mark each restored item as unread.

If you restore a mailbox, to prevent certain folders from being restored, click the **Exclude folders** link and select folders to exclude.

NOTE

The **Exclude folders** link is not available when restoring folders and items.

| Restore Wizard | 4 X |
|--|---------------------|
| Restore options | |
| Restore the following items: | |
| Changed items Missing items | |
| Flag restored items: | |
| Mark restored items as unread | |
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| | Exclude folders |
| | Exclude folders |
| | Back Restore Cancel |

Restoring Multiple Mailboxes

This scenario is only available for data restore from backups created by Veeam Backup for Microsoft 365.

To restore multiple Exchange mailboxes, do the following:

- 1. Launch the Restore wizard.
- 2. Select an authentication method.
- 3. Log in to Microsoft 365.
- 4. Select mailboxes to restore.
- 5. Select restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select an organization whose mailboxes you want to restore.
- 2. Do one of the following:
 - On the Home tab, click **Restore Mailboxes** on the ribbon.
 - Right-click a mailbox store and select **Restore mailboxes**.

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Step 2. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Specify authentication method drop-down list, select *Modern authentication*.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified mailbox back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults.

For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

2. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft Exchange populates this field with the identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| | Restore Wizard | × |
|-----------------|--------------------------------------|--------|
| Specify Micr | osoft 365 credentials | |
| Specify authent | cation method: | |
| Modern authe | ntication | * |
| Specify Azure A | O application to connect with: | |
| Application ID: | e7268d27-0165-4778-9db6-5cfcb80a7636 |] |
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| | Next | Cancel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the **Specify authentication method** drop-down list, select *Basic authentication*.
- 2. In the Username and Password fields, enter credentials to connect to the Exchange organization.

Make sure that the account that you use has both the *Exchange Administrator* and the *Global Administrator* roles.

| | Restore Wizard | × |
|-------------|-----------------------------------|--------|
| Specify N | /icrosoft 365 credentials | |
| Specify aut | nentication method: | |
| Basic auth | entication | ~ |
| Specify use | r account to connect with: | |
| Username: | administrator@abc.onmicrosoft.com |] |
| Password: | ••••• | |
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| | Next | Cancel |

Step 3. Log In to Microsoft 365

This step is only available if you have selected the *Modern Authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the Restore Wizard window and click Next.

| Restore Wizard | × |
|---|--------|
| | |
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
| C248ZPDB3 🖏 🔂 🗗 Copy code | |
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| | |
| 🤣 You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
| | |
| Back Next | Cancel |

Step 4. Select Mailboxes to Restore

At this step of the wizard, select mailboxes that you want to restore.

To see the full email address in the **Email** column, click **Resolve selected mailboxes**.

| Mailbox 1 | Email | , |
|-------------------|-------|---|
| ✓ Adele Vance | | _ |
| ✓ Administrator | | |
| Alex Wilber | | |
| 📃 Diego Siciliani | | |
| Grady Archie | | _ |
| Henrietta Mueller | | |
| Isaiah Langer | | |
| 🖌 Johanna Lorenz | | |
| 🖌 Joni Sherman | | |
| 🖌 Lee Gu | | |
| Lidia Holloway | | |

Step 5. Select Restore Options

At this step of the wizard, select restore options and click Restore.

You can select the following options:

• Changed items

Select this check box if you want to restore items that have been changed. When you select this option, Veeam Explorer for Microsoft Exchange overwrites existing items in your target location.

• Missing Items

Select this check box if you want to restore items that are missing in your target location. For example, some of the items were removed and you want to restore them from the backup.

• Mark restored items as unread

Select this check box if you want to mark each restored item as unread.

When restoring multiple mailboxes, select the **Finish the restore of recent items before restoring the remaining items** check box and set the value in the **Restore items for the last <N> days first** field to restore multiple mailboxes in "chunks", when the most recent items in the backup will be processed first.

To prevent certain folders from being restored, click the **Exclude folders** link and select folders to exclude.

| Restore Wizard | × |
|---|-----------------|
| Specify the restore options | |
| Restore the following items: Changed items | |
| Missing items | |
| Flag restored items: | |
| Mark restored items as unread | |
| Mass mailbox restore | |
| Finish the restore of recent items before restoring the remaining items Restore items for the last 7 days first | |
| · · · · · · · · · · · · · · · · · · · | Exclude folders |
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| Back Restore | Cancel |

Restore to On-Premises Microsoft Servers

You can restore data to on-premises Microsoft Exchange servers.

When you perform a restore, you can specify a target mailbox, select an authentication method that you want to use for data restore, specify a target folder to which you want to restore data and configure restore options.

You can also use 1-Click Restore if you do not want to configure a restore session and prefer to use the default settings during a restore.

Restoring Single Mailbox, Folder or Item

To restore a single mailbox, folder or item, do the following:

- 1. Launch the Restore wizard.
- 2. Specify a target mailbox.
- 3. Specify a user account.
- 4. Specify a CAS server and target folder.
- 5. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a mailbox, folder or item that you want to restore.
- 2. Do one of the following:
 - On the Mailbox/Folder/Items tab, click Restore Mailbox/Restore Folder/Restore Item > Restore to on the ribbon.
 - Right-click a mailbox, folder or an item and select **Restore to**.

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| ≣ • Home Mailbox | | | | | | |
| Restore Export Mailbox + Mailbox + Restore Restore Compare with Show Changed Compare with Show Changed Compare with Compare Compare | | | | | | |
| Mailbox Stores Se | arch Administrator | | | | | ٩ |
| Type in an object name to search for | 📮 🗅 🕴 From 🛛 To | c | Co | Bcc | Subject | Item State |
| 🔺 📲 All Stores 🔨 | | | | | | |
| abc.onmicrosoft.com (2/7/2023 5:40:58 PM) | | | | | | |
| Madele Vance Administrator | | | | | | |
| Administrator Archive | vbs.onmicrosoft.com | | | | | |
| Calendar Estore to | | | | | | |
| Contacts Export to Desktop\Administra | ator.pst | | | | | |
| Conversation Hist Export to prt file | | | | | | |
| Deleted Items CAPOTE CO. PSC ITEM F | | | | | | |
| Marts Marts | | | | | | |
| Journal | | | | | | |
| Notes | | | | | | |
| Outbox | | | | | | |
| Permanently Deleted Items | | | | | | |
| 🕨 🦪 Sent Items | | | | | | |
| Tasks | | | | | | |
| iiii TeamsMessagesData iiiiii Alex Wilber | | | | | | |
| Diego Siciliani | | | | | | |
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| 🕨 🚋 Henrietta Mueller | | | | | | |
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| 🕨 🚰 Joni Sherman 🛛 🗸 🗸 | | | | | | |
| Administrator | | | | | | VEEAM |

Step 2. Specify Target Mailbox

At this step of the wizard, specify the target mailbox and mailbox location.

To specify mailbox settings, do the following:

- 1. In the Mailbox field, enter a mailbox name to which you want to restore data.
- 2. Select **On-premises Microsoft Exchange Server** to restore the specified mailbox to an on-premises Microsoft Exchange organization. For more information, see the **On-Premises Microsoft Organizations** section of the Veeam Backup for Microsoft 365 User Guide.

You can also perform a restore of backups created for on-premises Microsoft Exchange organizations to Exchange Online organizations and vice versa. For more information, see Restore to Microsoft 365 Organizations.

| Restore Wizard | × |
|---------------------------------------|---|
| - · · · · | |
| Target mailbox | |
| Mailbox | |
| administrator@tech.com | |
| Specify target mailbox location: | |
| O Microsoft 365 | |
| On-premises Microsoft Exchange Server | |
| | |
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Step 3. Specify User Account

At this step of the wizard, specify an account that you want to use to connect to the Exchange server in your domain.

| | Restore Wizard | × |
|------------------|--------------------------------------|--------|
| On-Premise | s Microsoft Exchange Server settings | |
| Specify user acc | ount to connect with: | |
| 🔵 Use current | account (SRV0101\Administrator) | |
| 💿 Use the foll | owing account: | |
| Username: | TECH\Administrator | |
| Password: | ••••• | |
| | | |
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| | Back Next | Cancel |

Step 4. Specify CAS Server and Target Folder

At this step of the wizard, specify a CAS server and provide a folder to which you want to restore data. You can perform a restore to the original folder or specify a custom folder.

To provide a CAS server and target folder, do the following:

1. Specify a CAS server name or IP address.

This field is populated automatically with the CAS server address from your domain. You can also enter a CAS server manually.

2. Select a folder to which you want to restore data. You can perform a restore to the original folder or specify a custom folder.

When you select to restore to a custom folder, Veeam Explorer for Microsoft Exchange checks if the specified folder exists, if not, it creates a folder automatically. For example, if you specify a path like *Folder1/Folder2/Folder3*, Veeam Explorer for Microsoft Exchange will restore your data to the *Folder3*. You can use both the slash ("/") and the backslash ("\") characters when specifying a path.

| Restore Wizard | × |
|--|----|
| Target mailbox server and folder | |
| | |
| Specify the mailbox server (CAS) to restore the selected items to: | |
| exchange.tech.local | |
| Specify the folder to restore items to: | |
| Restore to the original folder | |
| Restore to the following folder: | |
| Target Folder | |
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Step 5. Specify Restore Options

At this step of the wizard, select restore options and click Restore.

You can select the following options:

• Changed items

Select this check box if you want to restore items that have been changed. When you select this option, Veeam Explorer for Microsoft Exchange overwrites existing items in your target location.

• Missing Items

Select this check box if you want to restore items that are missing in your target location. For example, some of the items were removed and you want to restore them from the backup.

• Mark restored items as unread

Select this check box if you want to mark each restored item as unread.

If you restore a mailbox, to prevent certain folders from being restored, click **Exclude folders** and select folders to exclude.

NOTE

The **Exclude folders** link is not available when restoring folders and items.

| Restore Wizard | × |
|-------------------------------|--------|
| Restore options | |
| Restore the following items: | |
| ✓ Changed items | |
| ✓ Missing items | |
| Flag restored items: | |
| Mark restored items as unread | |
| | |
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| | |
| | |
| Exclude f | olders |
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| Back Restore Ca | ncel |

Restoring Multiple Mailboxes

To restore multiple Exchange mailboxes, do the following:

- 1. Launch the Restore wizard.
- 2. Specify a domain and credentials.
- 3. Select mailboxes to restore.
- 4. Specify a target mailbox server.
- 5. Select restore options.
Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a mailbox store whose mailboxes you want to restore.
- 2. Do one of the following:
 - On the Home tab, click Restore Mailboxes on the ribbon.
 - Right-click a mailbox store and select **Restore mailboxes**.

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| ■ • Home | | | | | |
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| Add Remove Restore Export Store Tore Mailboxes Stores T | Compare with Show Changed Advanced Production Items Only Find | | | | |
| Mailbox Stores Restore | Compare Search | | | | |
| Mailbox Stores | Search abc.onmicrosoft.com (2/7/2) | | | | ۹ |
| Type in an object name to search for | 🔍 🖁 📮 🗅 🕕 From | To Cc | Bcc S | Subject | Item State |
| 🖌 📲 All Stores | | | | | |
| 4 📑 abc.onmicrosoft.com (2/7/202 | Restore mailboxes | | | | |
| Mathematical Addition of Addition of Additional Additiona Additional Additional Additiona Additional Additional Additio | ليك Export to Desktop\abc.onmicrosoft.com (272023 54058 Pi | d).pst | | | |
| Alex Wilber | Export to .pst file | | | | |
| 🕨 👼 Diego Siciliani | Remove store | | | | |
| 🕨 🚾 Grady Archie | | | | | |
| 🕨 🚰 Henrietta Mueller | | | | | |
| ▶ 🚰 Isaiah Langer ▶ 🗺 Johanna Lorenz | | | | | |
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| 🕨 👼 Lee Gu | | | | | |
| 🕨 🚋 Lidia Holloway | | | | | |
| 🕨 🚰 Lynne Robbins | | | | | |
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| abc.onmicrosoft.com (2/7/2023 5:40:58 | 0 | | | | VEEAM |

Step 2. Specify Domain and Credentials

At this step of the wizard, enter a domain name where your CAS server resides and provide credentials.

| | Restore Wizard | × |
|------------------|---|--------|
| Specify Glob | al Catalog server and credentials | |
| Domain: | | |
| tech.local | | |
| Specify user acc | ount to connect to Active Directory domain and Exchange Server: | |
| 🔵 Use current | account (SRV0101\Administrator) | |
| 🖲 Use the follo | wing account: | |
| Username: | domain\administrator | |
| Password: | ••••• | |
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| | | |
| | Next | Cancel |

Step 3. Select Mailboxes to Restore

At this step of the wizard, select mailboxes that you want to restore.

To see the full email address in the **Email** column, click **Resolve selected mailboxes**.

| Mailbox 1 | Email | , |
|-------------------|-------|---|
| ✓ Adele Vance | | _ |
| ✓ Administrator | | |
| Alex Wilber | | |
| 📃 Diego Siciliani | | |
| Grady Archie | | _ |
| Henrietta Mueller | | |
| Isaiah Langer | | |
| 🖌 Johanna Lorenz | | |
| 🖌 Joni Sherman | | |
| 🖌 Lee Gu | | |
| Lidia Holloway | | |

Step 4. Specify Target Mailbox Server

At this step of the wizard, specify a target server to which you want to restore mailboxes.

| Restore Wizard | × |
|--|--------|
| | |
| Specify target mailbox server | |
| Specify the mailbox server (CAS) to restore the selected items to: | |
| exchange2019 | |
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| | |
| | |
| Back Next | Cancel |

Step 5. Select Restore Options

At this step of the wizard, select restore options and click Restore.

You can select the following options:

• Changed items

Select this check box if you want to restore items that have been changed. When you select this option, Veeam Explorer for Microsoft Exchange overwrites existing items in your target location.

• Missing Items

Select this check box if you want to restore items that are missing in your target location. For example, some of the items were removed and you want to restore them from the backup.

• Mark restored items as unread

Select this check box if you want to mark each restored item as unread.

When restoring multiple mailboxes, select the **Finish the restore of recent items before restoring the remaining items** check box and set the value in the **Restore items for the last <N> days first** field to restore multiple mailboxes in "chunks", when the most recent items in the backup will be processed first.

To prevent certain folders from being restored, click the **Exclude folders** link and select folders to exclude.

| Restore Wizard | × |
|--|-----------------|
| Specify the restore options | |
| Restore the following items: | |
| Changed items | |
| ✓ Missing items | |
| Flag restored items: Image: Mark restored items as unread | |
| Mass mailbox restore Finish the restore of recent items before restoring the remaining items | |
| Restore items for the last 7 💝 days first | Exclude folders |
| | Exclude folders |
| | |
| | |
| | |
| Back | Cancel |

1-Click Restore

The *1-Click Restore* feature allows you to quickly restore Exchange mailboxes, folders and items according to the following:

- The original Exchange server, original folder and the original mailbox name are restored.
- Both changed and missing items are restored.
- Restored items are marked as unread.
- No folders are excluded.

You can use *1-Click Restore* when you do not want to configure a restore session and prefer to restore data with the default settings.

Restoring to Microsoft 365 Organizations

This scenario is only available for data restore from backups created by Veeam Backup for Microsoft 365.

To perform *1-Click Restore* to Microsoft 365 organizations, do the following:

- 1. Launch the Restore wizard.
- 2. Select an authentication method.
- 3. Log in to Microsoft 365.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a mailbox, folder or item that you want to restore.
- 2. Do one of the following:
 - On the Mailbox/Folder/Items tab, click Restore Mailbox/Restore Folder/Restore Item > Restore to <mailbox_name> on the ribbon.
 - Right-click a mailbox, folder or an item and select **Restore to <mailbox_name>**.



Step 2. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Specify authentication method drop-down list, select *Modern authentication*.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified mailbox back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

2. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft Exchange populates this field with the identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| | Restore Wizard | × |
|-----------------|--------------------------------------|-------------|
| Microsoft 2 | 55 connection settings | |
| WICE USULT 3 | 55 connection settings | |
| Specify authent | ication method: | |
| Modern authe | ntication | ~ |
| Specify Azure A | D application to connect with: | |
| Application ID: | e7268d27-0165-4778-9db6-5cfcb80a7636 | |
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| | | Next Cancel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the **Specify authentication method** drop-down list, select *Basic authentication*.
- 2. Enter credentials to connect to the Exchange organization and click **Restore**.

Make sure that the account that you use has both the *Exchange Administrator* and the *Global Administrator* roles.

| | Restore Wizard | × |
|-------------|---|--------|
| Microsof | t 365 connection settings | |
| Specify aut | nentication method: | |
| Basic auth | entication | ~ |
| Specify use | account to connect with: | |
| Username: | administrator@abc.onmicrosoft.com | |
| Password: | ••••• | |
| | | |
| | | |
| | | |
| | | |
| | nect with an account enabled for multi-factor authentication (MFA), app password instead of a user password. | |
| | Restore | Cancel |
| - | | |

Step 3. Log In to Microsoft 365

This step is only available if you have selected the *Modern Authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has both the *ApplicationImpersonation* and the *Exchange Administrator* roles. For more information, see this Microsoft article.

4. Return to the **Restore Wizard** window and click **Restore**.

| Restor | re Wizard | × |
|---|---|-------|
| Log in to Microsoft 365 | | |
| Provided account must have permissions to authentic | cate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | | |
| DG7NLKRLF | 🔁 🗇 Copy code | |
| | | |
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| | | |
| | | |
| | | |
| 🥑 You are authenticated to Microsoft 365 as admini | istrator@qwbs.onmicrosoft.com | |
| - | | |
| | Back Restore Ca | ancel |

Restoring to On-Premises Microsoft Servers

To perform *1-Click Restore* to on-premises Microsoft servers, do the following:

- 1. Launch the Restore wizard.
- 2. Specify a user account.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a mailbox, folder or item that you want to restore.
- 2. Do one of the following:
 - On the Mailbox/Folder/Items tab, click Restore Mailbox/Restore Folder/Restore Item > Restore to <mailbox_name> on the ribbon.
 - Right-click a mailbox, folder or an item and select **Restore to <mailbox_name>**.

Step 2. Specify User Account

At this step of the wizard, specify an account that you want to use to connect to the Exchange server.

| | Restore Wizard | × |
|-------------|---|---------|
| | | |
| On-Prem | ises Microsoft Exchange Server settings | |
| Specify use | account to connect with: | |
| Username: | tech\administrator | |
| Password: | ••••• | |
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| | | |
| | | |
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| | | |
| | | |
| | Restore | Cancel |
| | Restore | Caricel |

Data Export

You can use Veeam Explorer for Microsoft Exchange to export Microsoft Exchange data.

Before exporting data, read the Considerations and Limitations section.

Exporting to Custom Location

Veeam Explorer for Microsoft Exchange allows you to export mailbox store data to a custom location as PST files.

NOTE

Export operations require Microsoft Outlook to be installed on a computer running Veeam Explorer for Microsoft Exchange.

To export objects to a custom location, do the following:

- 1. Do one of the following:
 - In the navigation pane, select a folder, a mailbox, a mailbox store or all stores added to the scope.
 - In the preview pane, select an item.
- 2. Do one of the following:
 - On the Home/Mailbox/Folder/Items tab, click Export Stores/Export Mailbox/Export Folder/Export Items > Export to .pst file on the ribbon.
 - Right-click an object and select **Export to .pst file**.

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|--|--|--|--|---|
| Restore Export Save Send Restore Export Save Send Restore Mailbox Stores Mailbox Stores | | To Cc Bcc Open Restore to Administrator@qwbs.onmicrosoft.c | Suggestions Re: Meeting Notes | |
| | Administrator Microsoft Azure Sample Team Site | Restore to Export to Desktop \Inbox.pst Save to Desktop Save to Desktop Save to Administrator@qwbs.onmicrosoft.cor Send to Compare item properties | Azura AD Identity Protecti You've joined the Sample Tea | 2/7/2023 10:39 AM 2/7/2023 10:39 AM 1/29/2023 8:21 PM |
| All terms (added Sterms shown. | | | | Veeaim |

- 3. In the Export Folder/Export Mail Items window, do the following:
 - a. In the Export location field, specify the name and location for the new PST file.
 - b. Select the **Apply filter** check box and enter keywords to export only those items that match specified criteria. To provide multiple keywords, use the *OR* logical operator as the delimiter.

Veeam Explorer for Microsoft Exchange will check for the specified keywords in all fields such as **From, To, Subject** and **Body**.

The **Apply filter** option is only available when exporting folders and mailboxes, not items.

c. Select the Limit PST size to check box and specify the size of which to export PST files.

With this option, Veeam Explorer for Microsoft Exchange will create multiple PST files as of the specified size.

| | Export Folder | × |
|-----------------------------------|--|--------|
| Specify the targe | t path and optional settings: | |
| Export location: | C:\Users\Administrator\Desktop\Inbox.pst | Browse |
| Apply filter: | task | |
| ✓ Limit PST size to: | 49 GB (additional PST files will be created as needed) | |
| | Export | Cancel |

Using 1-Click Export

Veeam Explorer for Microsoft Exchange allows you to quickly export mailbox store data as PST files.

NOTE

Export operations require Microsoft Outlook to be installed on a computer running Veeam Explorer for Microsoft Exchange.

Depending on the object type you want to export, do the following:

- To export a folder, in the navigation pane, do one of the following:
 - Select a folder and on the Folder tab, click Export Folder > Export to <default_location>\<original_folder_name>.pst on the ribbon.
 - Right-click a folder and select **Export to <default_location>\<original_folder_name>.pst**.

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| store Epport Ider Folder Restore | | | | | | | | |
| Mailbox Stores | Search Inbo: | x | | | | | | |
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| Type in an object name to search for Q | | Adele Va | ance Administrator | | | Suggestions | | 2/7/2023 12:19 PM |
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| abc.onmicrosoft.com (2/7/2023 5:40:58 PM) | | Adminis | strator Lee Gu; Adele | Administrator | | Meeting Notes | | 2/7/2023 12:09 PM |
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| 🖡 Johanna Lorenz | | | | | | | | |

- To export an item, in the preview pane, do one of the following:
 - Select an item and on the Items tab, click Export Items > Export to <default_location>\<original_folder_name>.pst on the ribbon.

• Right-click an item and select **Export to <default_location>\<original_folder_name>.pst**.



- To export a mailbox, in the navigation pane, do one of the following:
 - Select a mailbox and on the Mailbox tab, click Export Mailbox > Export to <default_location>\<original_mailbox_name>.pst on the ribbon.
 - Right-click a mailbox and select **Export to <default_location>\<original_folder_name>.pst**.

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| ■ • Home Mailbox | | | | | | | |
| Restore Esport Mallbox+ Mallbox+ | | | | | | | |
| Mailbox Stores Search A | dministrator | | | | | | ۹ |
| Type in an object name to search for | 🗅 🕕 From | То | Cc | Bcc | Subject | Item State | Received 4 |
| All Stores | | | | | | | |
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| Mele Vance Administrator | | | | | | | |
| Archive Restore to Administrator@qwbs.onmicros | oft.com | | | | | | |
| 🕨 🥅 Calendar 🛛 🖳 Restore to | | | | | | | |
| Contacts 🥦 Export to Desktop\Administrator.pst | | | | | | | |
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| Journal | | | | | | | |
| Notes | | | | | | | |
| 🕨 🌠 Outbox | | | | | | | |
| Permanently Deleted Items | | | | | | | |
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| 🕨 🚰 Joni Sherman 🗸 🗸 🗸 | | | | | | | |
| Administrator | | | | | | | VeeaM |

- To export a mailbox store or all stores added to the scope, in the navigation pane, do one of the following:
 - Select a store or the All Stores node and on the Home tab, click Export Stores > Export to <default_location><<orginal_store_name>.pst on the ribbon.

Right-click a store or the All Stores node and select Export to <default_location>\<original_store_name>.pst.

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| Mailbox Stores | | | Search All Stores | | | | | | | | ۹ |
| Type in an object | name to search for | ٩ | 1 🚨 🗅 🖉 | From | То | Cc | Bcc | Subject | Item State | Received 🕹 | |
| All Stores | | ~ | | | | | | | | | |
| All stores | | soft Exchange mailbox da | | | | | | | | | |
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| | Export to U | lesktop\All Stores.pst | 5 | | | | | | | | |
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| | | | | | | | | | | | |
| All Stores | | | | | | | | | | ve | eam |

Receiving Export Reports

Veeam Explorer for Microsoft Exchange can deliver reports that show summary information about export operations.

Consider the following:

• If you want export reports to be delivered, make sure to configure an SMTP server in Veeam Explorer for Microsoft Exchange or Veeam Backup & Replication notification settings.

For more information, see the SMTP Settings section of this guide and the Configuring Global Email Notification Settings section of the Veeam Backup & Replication User Guide.

- A server with Veeam Explorer for Microsoft Exchange and Veeam Backup & Replication must be in a domain.
- Export reports are delivered automatically upon each export session.

You can use Exporting to Custom Location or Using 1-Click Export.

- Keep in mind the following when specifying recipients of the report:
 - The recipient is always the current user account under which Veeam Explorer for Microsoft Exchange is running when using only Veeam Explorer for Microsoft Exchange notification settings.
 - The recipient is always the user account provided in Veeam Backup & Replication notification settings when using only Veeam Backup & Replication settings.
 - If you have configured both Veeam Explorer for Microsoft Exchange and Veeam Backup & Replication notification settings, the report will be sent to both recipients.

NOTE

If you export Microsoft Exchange data using PowerShell cmdlets and you have a restore session started for Veeam Backup for Microsoft 365, the report will only be sent to the user account provided in Veeam Explorer for Microsoft Exchange notification settings.

The following table lists fields that are shown in the report.

| Report field | Description |
|----------------------|---|
| Performed by | Veeam Explorer for Microsoft Exchange |
| Version | Shows the Veeam Explorer for Microsoft Exchange build number. |
| Percent completed | Shows the number of items included in the PST file. |
| Started by | Shows the user account generated the report. |
| Start time, End time | Shows the creation time of a report. |
| Root folder | Shows the object path. |

| Report field | Description |
|---|---|
| Path | Shows the path to the database file. |
| Export type | Shows the export type. |
| Stores | Shows a datastore name from which items have been exported. |
| Mailboxes to search | Shows a mailbox name from which items have been exported. |
| Search completed successfully for, Search completed with errors for | Shows results for mailboxes to search. |
| Size | Shows the total size of exported items. |
| Items | Shows the number of exported items. |
| Errors | Shows errors that occurred during export. |

| | Email export completed successfully - Message (HTML) (Read-Only) | ⊞ - 0 × |
|--|--|---|
| File Message Help Acrob | : 🗘 Tell me what you want to do | |
| Ignore Image: Constraint of the second sec | y Forward Share to Sh | ^ |
| Email export completed su | cessfully | |
| uadm@evb.local To OAdministrator | | ← Reply ≪ Reply All → Forward (1+ 23.01.2023 17:20 |
| Email export completed succ | sefully | |
| | Clearn Explorer for Microsoft Exchange | |
| Version: | 2.0.2.2558 | |
| Percent completed: | 00% | |
| Started by: | VB)administrator | |
| Start time: | /23/2023 5:1933 AM | |
| End time: | /23/2023 5:19:36 AM | |
| Root folder: | Ala/box Database 1231646522xdb/Administrator/Sent Items | |
| Path: | 2.0.Users/administrator.EVB/Desktopi/Sent Items.pst | |
| Export type: | NI Berns | |
| Stores: | Alalbax Database 1231646522.edb | |
| Mailboxes to search: | dministrator | |
| Search completed successfully for: | kiministrator | |
| Search completed with errors for: | lone | |
| Size: | 65 K8 | |
| Items: | (of 2) | |
| Errors: | lone | |
| | | |
| | | |
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| | | |

Data Compare

You can use Veeam Explorer for Microsoft Exchange to compare data in a backup file with that of the production state.

NOTE

The Veeam Backup account you want to use for data compare, must have a valid Exchange Online license and an active mailbox within the Microsoft 365 organization. For more information about the required permissions, see Permissions.

To compare backed-up data with production environment, do the following:

- 1. In the navigation pane, select an object and click **Compare with Production** on the ribbon.
- 2. Proceed to either Compare to Microsoft 365 Organizations or Compare to On-Premises Microsoft Servers.
- 3. After the authorization process is complete, click **Show Changed Items Only** on the ribbon to view only those items that have been changed.

To view the details on what exactly has changed since the last backup, right-click an item and select **Compare item properties**. The discrepancies will be shown in the **Compare Message Properties** window. If both objects are equal, nothing will be displayed.

To show unchanged objects, select **Show unchanged properties** in the top-right corner. To show system properties, select **Show system properties**.

Double-click **Body** to see the body message.

To compare a single item, right-click an item and select **Compare item properties**.

| | Compare Message Properties | × |
|--|--|---|
| Properties: | 🖌 Show unch | anged properties 💌 Show system properties |
| Name | Backup | Production |
| Attachments (No changes) | | |
| Attachment 0 | PS.txt | PS.txt |
| Recipients (No changes) | | |
| ▶ To | Administrator@qwbs.onmicrosoft.com | Administrator@qwbs.onmicrosoft.com |
| Properties | | |
| Body | <double click="" open="" to=""></double> | <double click="" open="" to=""></double> |
| | | |
| | | Close |

Compare to Microsoft 365 Organizations

This scenario is only available for backups created by Veeam Backup for Microsoft 365.

To compare data with your production Microsoft 365 organizations, do the following:

- 1. Select an authentication method.
- 2. Log in to Microsoft 365.

Step 1. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Specify authentication method drop-down list, select *Modern authentication*.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified mailbox back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

2. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft Exchange populates this field with the identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| | Connection Wizard | × |
|-----------------|---|--------|
| Specify cred | entials for Exchange Online to compare with | |
| Specify authent | cation method: | |
| Modern authe | ntication | ~ |
| Specify Azure A |) application to connect with: | |
| Application ID: | e7268d27-0165-4778-9db6-5cfcb80a7636 | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Next | Cancel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the **Specify authentication method** drop-down list, select *Basic authentication*.
- 2. Enter credentials to connect to the Exchange organization and click **Connect**.

Make that the account that you use has both the *Exchange Administrator* and the *Global Administrator* roles.

| | Connection Wizard | × |
|-------------|---|--------|
| Specify c | redentials for Exchange Online to compare with | |
| Specify aut | entication method: | |
| Basic auth | entication | * |
| Specify use | account to connect with: | |
| Username: | administrator@abc.onmicrosoft.com | |
| Password: | •••••• | |
| | nect with an account enabled for multi-factor authentication (MFA), app password instead of a user password. | |
| | Connect | Cancel |

Step 2. Log In to Microsoft 365

This step is only available if you have selected the *Modern Authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has both the *ApplicationImpersonation* and the *Exchange Administrator* roles. For more information, see this Microsoft article.

4. Return to the **Connection Wizard** window and click **Connect**.

| Ci | onnection Wizard | × |
|--|--|--------|
| Log in to Microsoft 365 | | |
| Provided account must have permissions to au | uthenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at https://microsoft.com/devicelogin | ti | |
| DZ4AFDBBQ | 🍋 🗂 Copy code | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 🤣 You are authenticated to Microsoft 365 as a | administrator@qwbs.onmicrosoft.com | |
| | | |
| | Back Connect C | Cancel |

Compare to On-Premises Microsoft Servers

To compare data with your production on-premises Microsoft Exchange, do the following:

- 1. Specify a domain and credentials.
- 2. Specify a target mailbox server.

Step 1. Specify Domain and Credentials

At this step of the wizard, enter a domain name where your CAS server resides and provide credentials.

| | Connection Wizard | × |
|-----------------|--|---|
| Specify cred | entials for Exchange Server to compare with | |
| Domain: | | |
| tech.local | | |
| - | ount to connect to Active Directory domain and Exchange Server: account (SRV0101\Administrator) | |
| 💿 Use the follo | owing account: | |
| Username: | TECH\Administrator | |
| Password: | ••••• | |
| | | |
| | | |
| | | |
| | | |
| | Next Cance | Ι |

Step 2. Specify Target Mailbox Server

At this step of the wizard, specify a target server to which you want to restore mailboxes and click **Connect**.

| | Connection Wizard | × |
|--|--------------------------------------|------|
| Specify target mailbox s | erver | |
| | | |
| Specify the mailbox server (CAS target.tech.local | a) to restore the selected items to: | ٦ |
| langetteennoear | | |
| | | |
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| | | |
| | Back Connect Car | icel |

Saving Microsoft Exchange Items

Veeam Explorer for Microsoft Exchange allows you to save any item as *Microsoft Exchange Mail Document* (*.msg*) files.

Saving to Custom Location

To save items to a custom location, do the following:

- 1. In the navigation pane, select a folder and then in the preview pane, select an item.
- 2. Do one of the following:
 - On the Items tab, click Save Items > Save to .msg file on the ribbon.
 - Right-click an item and select **Save to .msg file**.

| Eq. (1) | All organizations as of less than a day ago (5:40 PM Tuesday 2/7/2023) - Veeam Explorer for Microsoft Exchange 📃 🗖 | | | | | | |
|---|--|---|-----|------------------------------------|------------|--|--|
| ≣ • Home Items | | | | | | | |
| Restore Export Save Send Restore Restore Network Netwo | Properties Find | | | | | | |
| Mailbox Stores | Search Inbox | | | | | ۹ | |
| Type in an object name to search for | I 📮 🗅 🕕 From | To Cc | Bcc | Subject | Item State | Received 4 | |
| | 🖂 🕕 🗛 Adele Vance | Open | | Suggestions | | 2/7/2023 12:19 PM | |
| All Stores | Lee Gu Marinistrato | Restore to Administrator@qwbs.onmicrosoft.com | | Re: Meeting Notes Meeting Notes | | 2/7/2023 12:16 PM 2/7/2023 12:09 PM | |
| | | Restore to | | Azure AD Identity Protecti | | 2/7/2023 10:39 AM | |
| A 🖗 Administrator | Sample Team | Kestore to | - | You've joined the Sample Tea | | 1/29/2023 8:21 PM | |
| Archive | | | | ion rejonica els campie ream | | | |
| Calendar | | 🚖 Export to .pst file | | | | | |
| Contacts | | 🐻 Save to Desktop | | | | | |
| Conversation History | | 🔓 Save to .msg file | | | | | |
| Deleted Items | | Send to Administrator@qwbs.onmicrosoft.com | | | | | |
| Drafts | | | | | | | |
| 🕨 🏀 Inbox | | 🛷 Send to | | | | | |
| Journal | | E Compare item properties | | | | | |
| Notes | | | | | | | |
| Cutbox | | | | | | | |
| manently Deleted Items | | | | | | | |
| Sent Items | | | | | | | |
| Tasks TeamsMessagesData | | | | | | | |
| Miler | | | | | | | |
| Diego Siciliani | | | | | | | |
| Grady Archie | | | | | | | |
| Tenrietta Mueller | | | | | | | |
| 🕨 📅 Isaiah Langer | | | | | | | |
| 🖡 Johanna Lorenz | | | | | | | |
| 🕨 🚋 Joni Sherman 🗸 🗸 🗸 | | | | | | | |
| All items loaded 5 items shown. | | | | | | Veeam | |

1-Click Save

To save your Exchange data, do the following:

- 1. In the navigation pane select a folder containing required items.
- 2. In the preview pane, select items that you want to save.
 - Use the **Search** field to find particular items.
- 3. Do one of the following:
 - On the Items tab, click Save Items > Save to <folder_name> on the ribbon.
 - Right-click an item and select **Save to <folder_name>**.

A <folder_name> name depends on the latest location that was used when saving items.



Sending Microsoft Exchange Items

Veeam Explorer for Microsoft Exchange allows you to send Exchange items through email.

TIP

Before sending documents, make sure to configure SMTP settings. The amount of data you can send at a time depends on your SMTP server configuration. For more information about configuring SMTP settings, see SMTP Settings.

To send items, do the following:

- 1. In the navigation pane select a folder containing required items.
- 2. In the preview pane, select items to send.

Use the Search field to find particular items.

- 3. Do one of the following:
 - On the **Items** tab, click **Send Items > Send to** on the ribbon.
 - Right-click an item and select **Send to**.

| I Hone Reno Retore See Suff Image: See Suff </th <th>Ea</th> <th>All organiza</th> <th>ations as of less tha</th> <th>an a day ago (5:40 PM Tu</th> <th>esday 2/7/2023) - Veeam E:</th> <th>xplorer for N</th> <th>licrosoft Exchange</th> <th></th> <th>– 🗆 ×</th> | Ea | All organiza | ations as of less tha | an a day ago (5:40 PM Tu | esday 2/7/2023) - Veeam E: | xplorer for N | licrosoft Exchange | | – 🗆 × |
|---|---|----------------------------------|-----------------------|--------------------------|----------------------------|---------------|------------------------------|------------|-------------------|
| Retore Egopt Save Send Retore Retore Retore Malibox Stores Saveth Malibox Stores Malibox Stores Saveth Malibox Stores Saveth Malibox Stores Malibox Malibox Malibo | ■ • Home Items | | | | | | | | |
| Molibox Stores Type in an object name to search for Image: Control in a object name to search for | Restore Export Save Send Items • Items • Items • Items • Production Items Only | ed Compare Item Ar Properties | dvanced Find | | | | | | |
| Type in an object name to search for Q • Mall Stores Suggestions 2/7/2023 12:19 PM • Mall Stores Open • Addel Vance Lee Gu • Addel Vance Addel Vance • Addel Vance Addel Vance • Matrinistrator Addel Vance • Matrinistrator Matrinistrator • Matrinistrator Restore to Administrator • Matrinistrator Sample Team • Matrinistrator Sample Team • Matrinistrator Sanot to matrinton | Mailbox Stores | Search Inbox | | | | | | | ٩ |
| | Type in an object name to search for | | | | Cc | Bcc | | Item State | |
| Microsoft Azur, ¹/² Refore to Auministrator@quebs.onmicrosoft.com ²/7/2023 10:39 AM ²/7/2023 10:39 AM ²/7/2023 10:39 AM ²/7/2023 20:39 AM ³/20 Contacts ⁴/20 Contact | ▲ 📲 All Stores | | | | | | | | |
| Image: Archive Imag | | | licrosoft Azure 🎘 | | r@qwbs.onmicrosoft.com | | | | |
| Eclendar Contacts Conversation History Deleted Items Contacts Contacts Soure to not not administrator@qubs.onmicrosoft.com Soure to not not administrator@qubs.onmicrosoft.com Soure to not not administrator@qubs.onmicrosoft.com Soure to not not not not not not not not not | | 🖂 Sa | inipie realitie | | | | You've joined the Sample Tea | | 1/29/2023 8:21 PM |
| Conversation History Deleted Items Conversation History Conversation History Save to Desktop Save to Desktop Save to Desktop Save to Administrato@qubis.onnicrosoft.com Son to Desktop Son to Administrato@qubis.onnicrosoft.com Son to Administrato@qubis.onnicrosoft. | | | 19 | | pst | | | | |
| Conversion History Deleted Items Conversion History Save to .msg file Save to .msg file Send to Administrator@qubs.onmicrosoft.com Soutoux Soutoux<!--</td--><td></td><td></td><td>6</td><td>Save to Desktop</td><td></td><td></td><td></td><td></td><td></td> | | | 6 | Save to Desktop | | | | | |
| Profis Index Ind | | | | Save to .msg file | | | | | |
| Inbox ∑ Journal ∑ Journal Quebox Quebox @ Compare item properties Gende Journal Grady Detect Items Tasks Tasks Grady Archie | | | | | awbs.onmicrosoft.com | | | | |
| > □ Journal > Notes > □ Outbox > □ □ Outbox > □ □ Permanently Deleted Items > □ □ Sentems > □ □ Tasks | | | | Condition | 1 | | | | |
| ↓ Votes ↓ Wotes ↓ Permanently Deleted Items ↓ ♥ Sent Items ↓ ♥ Tasks ↓ ♥ Tasks<td></td><td></td><td>*</td><td>3</td><td></td><td></td><td></td><td></td><td></td> | | | * | 3 | | | | | |
| manently Deletad Items Gant tems Tasks Tasks Toga Sature | | | | compare item propertie | 2 | | | | |
| ▶ ∰ Sent Items ▶ Tasks ▶ ∰ Tans/NessagesData ▶ ∰ Alex Wilher ▶ ∰ Diego Siciliani ▶ ∰ offod Archie | | | | | | | | | |
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| ▶ 🚰 Diego Siciliani ▶ 🚰 Grady Archie | | | | | | | | | |
| > 🔄 Grady Archie | 🕨 🔄 Alex Wilber | | | | | | | | |
| | | | | | | | | | |
| 🕨 🚾 Henrietta Mueller | | | | | | | | | |
| | | | | | | | | | |
| Isiah Langer | | | | | | | | | |
| > ∰ Johanna Lorenz > ∰ Joni Sherman v | | | | | | | | | |
| ▶ ≥ Join Serman Altitans loaded 5 terrs shown. V@AM | _ | | | | | | | | Veeam |

4. In the **Send Items** window, provide a recipient address.

The **From** field is filled automatically based on the address you have provided when configuring SMTP settings.

You can also edit the message subject and body. To edit the message body, click More details.

| | | Send Items | × |
|--------|----------------------|------------------------------------|---|
| | From: | administrator@tech.local | |
| 1 | To: | Administrator@qwbs.onmicrosoft.com | |
| Send | Subject: | Mail Items Recovery | |
| \sim | details Veeam Exp | lorer for Microsoft Exchange | |
| | | | |

Veeam Explorer for Microsoft SharePoint

Veeam Explorer for Microsoft SharePoint allows you to restore and export Microsoft SharePoint data from backups created by Veeam Backup for Microsoft 365 and Veeam Backup & Replication.

Planning and Preparation

You can configure your environment before you start using Veeam Explorer for Microsoft SharePoint.
System Requirements

This section lists system requirements for Veeam Explorer for Microsoft SharePoint.

| Component | Requirement |
|----------------------|--|
| | For more information about supported versions of Microsoft SharePoint, see: |
| Microsoft SharePoint | The Supported Applications subsection of the Veeam Backup & Replication User Guide. The System Requirements section of the Veeam Backup for Microsoft 365 User Guide. |

NOTE

Consider the following:

- To restore SharePoint content database items from a server running Microsoft Windows ReFS, the backup server or Veeam Backup & Replication console must be installed on the Microsoft Windows Server 2012 or later.
- To restore from a server running Microsoft Windows ReFS 3.x, Veeam backup server or a management console must be installed on the Microsoft Windows Server 2016.

Ports

The following tables list network ports that must be opened to manage inbound and outbound traffic.

General

| From | То | Protocol | Port | Notes |
|---|----------------------------------|-----------------------------------|---|--|
| Veeam Explorer for Microsoft SharePoint | SharePoint web application | As recommended by Microsoft | As recommended by Microsoft | For more information on recommended port numbers and protocols for SharePoint web application, see this Microsoft article. To discover ports currently used by your SharePoint web application, follow the steps described in this Microsoft article. |
| Backup server, Veeam Backup & Replication console, mount server associated with the backup repository | Staging server | TCP, UDP | 135, 445 | Ports used to deploy the runtime coordination process on the target machine. |
| | | ТСР | 49152 to 65535 (for Microsoft Windows 2008 or later) | Dynamic RPC range used by the runtime coordination process that is deployed on the target machine. ¹ For more information, see this Microsoft article. |
| | | ТСР | 6160 | Port used to communicate with the installer service. |
| Backup server, Veeam Backup & Replication console | Staging server | TCP | 1433, 1434 and other | Ports used to communicate with Microsoft SQL servers hosting content databases. Exact port numbers depend on the configuration of the Microsoft SQL server. For more information, see this Microsoft article. |

| From | То | Protocol | Port | Notes |
|------|----|----------|------|---|
| | | UDP | 1434 | Port used by the Microsoft SQL Server Browser service. For more information, see this Microsoft article. |

¹ If you use default Microsoft Windows firewall settings, you do not need to configure dynamic RPC ports: during setup, Veeam Backup & Replication automatically creates a firewall rule for the runtime process. If you use firewall settings other than default ones or application-aware processing fails with the *RPC function call failed* error, you need to configure dynamic RPC ports. For more information on how to configure RPC dynamic port allocation to work with firewalls, see this Microsoft KB article.

NOTE

To restore database items or lists to a server that is running in a DMZ, the SharePoint web application ports will be used.

iSCSI Traffic

| From | То | Protocol | Port | Notes |
|-------------------|--|----------|--------------|---|
| Staging server | Mount server associated with the backup repository | ТСР | 3260 to 3270 | Ports used by iSCSI initiator to connect to the iSCSI target. |

Permissions

The following table lists required permissions for data restore.

| Operation | Required Roles and Permissions |
|--|---|
| Restore to on-premises Microsoft SharePoint | To restore data to on-premises Microsoft SharePoint organizations, you must grant the following roles and permissions to user accounts: The account must be granted <i>Full Control</i> to connect to the target SharePoint server. The account must be assigned either the <i>Site Administrator</i> or <i>System Account</i> role to restore user permissions. If permissions of items being restored are inherited from the parent one, the account must be granted <i>Full Control</i>. If permissions of items being restored are not inherited from the parent one and items being restored replace the existing ones, the account must be granted <i>Contribute</i> and <i>Full Control</i>. |

| Operation | Required Roles and Permissions |
|-----------|---|
| Operation | Required Roles and Permissions To restore data to SharePoint Online organizations, you must grant the following roles and permissions to user accounts: Restore Using Basic Authentication Method The account used to log in to Microsoft Office 365 must have the <i>Global Administrator</i> or <i>SharePoint Administrator</i> role assigned. For restore of personal SharePoint sites, make sure to select the Allow users to run custom script on personal sites option in the SharePoint admin center. For more information, see this Microsoft article. During restore, Veeam Backup for Microsoft 365 automatically assigns the <i>Site Collection Administrator</i> role to the user account. Restore Using Modern Authentication Method The account used to log in to Microsoft Office 365 must have the <i>Global Administrator</i> or <i>SharePoint Administrator</i> role assigned. For restore of personal SharePoint sites, make sure to select the Allow users to run custom script on personal sites option in the SharePoint strator or <i>SharePoint Administrator</i> role assigned. For restore of personal SharePoint sites, make sure to select the Allow users to run custom script on personal sites option in the SharePoint admin center. For more information, see this Microsoft article. During restore, Veeam Backup for Microsoft 365 automatically assigns the <i>Site Collection Administrator</i> role to the user account. Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide. If you restore data with Azure AD applications using a certificate, make sure that your Azure AD application is granted the required permissions. For more information, see the Permissions for Modern App-Only Authentication section of the Veeam Backup for Microsoft |

Consider the following:

- The current account can only be used to access a *local* staging server. To connect to a *remote* server, use appropriate authentication credentials to access that server.
- The account requires the *sysadmin* fixed server role on a staging Microsoft SQL server.
- For ADFS as an authentication provider:
 - When using *Windows Authentication*, you can use both your current account or provide another account.
 - When using *Forms Authentication*, the current account cannot be used.

Required Backup Job Settings

This requirement applies to backup jobs created by Veeam Backup & Replication.

When you create a backup job, make sure to enable the **application-aware image processing** option. For more information, see the Specify Guest Processing Settings section of the Veeam Backup & Replication User Guide.

Staging SQL Server

To perform Microsoft SharePoint items restore, Veeam Explorer for Microsoft SharePoint requires a Microsoft SQL server to be used as a staging system.

The server you plan to use as a staging system must conform to the following requirements:

- A staging system must have the same or later version of Microsoft SQL Server that hosts restored Microsoft SharePoint databases.
- Microsoft SQL Server that is included in Microsoft SQL Server Failover Cluster cannot be used as a staging system.
- Nodes participating in AlwaysOn Availability Groups are supported. However, you should not use Availability Group Listeners as staging servers.

NOTE

You can use Microsoft SQL Server 2012/2016 Express editions which are shipped with the Veeam Backup & Replication distribution package. Consider that due to Express edition limitations, the maximum database size that can be attached is 10 GB. For more information, see this Microsoft article.

Remote BLOB Stores Support

A BLOB store must be either included in the SharePoint backup created by Veeam Backup & Replication or Veeam Agent for Microsoft Windows (for automated discovery) or stored on a local machine running Veeam Explorer for Microsoft SharePoint (for manual discovery).

IMPORTANT

RBS FILESTREAM is the only provider that is supported in the current version.

Make sure the staging Microsoft SQL Server configuration meets the following requirements:

- 1. FILESTREAM is enabled on a database server. For more information, see the following articles:
 - For SQL Server 2017 for Windows, see this Microsoft article.
 - For SQL Server 2016, see this Microsoft article.
 - For SQL Server 2014, see this Microsoft article.
 - For SQL Server 2012, see this Microsoft article.
 - For SQL Server 2008 R2, see this Microsoft article.
- 2. **RBS Client Library** is installed on the database server.

For Microsoft SQL Server 2014 and later, the Remote Blob Store setup is included in the installation media. For other versions, you can use the Microsoft SQL Server Remote Blob Store installation package. For more information on how to install the package, see this Microsoft article.

Considerations and Limitations

This section lists considerations and limitations of Veeam Explorer for Microsoft SharePoint.

General

Consider the following:

- When Veeam Explorer for Microsoft SharePoint is installed on a server on which both Veeam Backup & Replication and Veeam Backup for Microsoft 365 are installed, the notification settings will be inherited from the Veeam Backup & Replication Global Notification settings.
- Restore using PowerShell Direct, VIX API or vSphere Automation API is not supported.
- Restore of backed-up Microsoft SharePoint data to another Microsoft organization cannot be performed to a target Microsoft SharePoint organization whose version is earlier than the version of the restored backups.
- To use an internet proxy server to restore backups created by Veeam Backup for Microsoft 365, make sure to provide appropriate proxy server address and the port number. To do this, go to the Control Panel > Internet Options Connections tab, click LAN Settings, select the Use a proxy server for your LAN check box and specify a proxy server you want to use. Credentials for such a proxy (if needed) will be taken from the Control Panel > Credential Manager > Windows Credentials console.

Using an internet proxy server is only possible in Veeam Explorer for Microsoft SharePoint that comes as part of the Veeam Backup for Microsoft 365 distribution package.

• For VMs that run Microsoft SQL Server backed up by Veeam Agent for Microsoft Windows and Microsoft SharePoint backed up by Veeam Backup & Replication, to perform SharePoint item restore, you must start Veeam Explorer for Microsoft SharePoint from the Veeam Backup Browser. To do this, start File Level Recovery for the backup of the required SQL Server VM, and then launch Veeam Explorer for Microsoft SharePoint from the Veeam Backup Browser.

If you start item-level recovery directly for the backup of the SharePoint VM, mapping of a SharePoint site to a content database in the Restore wizard will fail, and Veeam Backup & Replication will display the following error: "*Unable to find SQL Server VM hosting the content database for the selected SharePoint site*".

Backup of the same VM by both Veeam Backup & Replication and Veeam Agent for Microsoft Windows may be required, for example, if Microsoft SQL Server running on the VM operates as part of a failover cluster.

Status Restore Limitations

Consider the following when planning documents/list items restore:

- If a document/item was in *Check Out* state when the backup was created, the last version of the item will not be restored to the target SharePoint and will be available for viewing only. Previous versions (if any) will be restored.
- If the *Declare this item as a record* action was originally applied to list item, the relevant status will not be preserved. Instead, the restored item status will be set in accordance with the target list/library content approval workflow.
- Original status *On Hold* will not be restored.

Restore of Documents, Libraries and Lists

Consider the following:

- Versioning settings of SharePoint lists are not preserved during restore.
- Restoring Generic List and Pages Library may fail with the "*No content type 'XXX' found in web YYY*" error.
- The *Created By* field of restored documents is updated with the account performing restore.
- Some *Rating Settings of Discussion* lists values are not restored.
- Make sure to view information about unsupported Microsoft SharePoint lists before restoring them. In particular, hidden lists are not displayed in Veeam Explorer for Microsoft SharePoint after a site backup. Thus, such lists cannot be exported. For more information, see Unsupported SharePoint Lists.

Restore of List Items

Consider that when restoring a list item, Veeam Explorer for Microsoft SharePoint works in the following way:

- Deletes an existing item.
- Creates the latest version of the item anew using data from the backup.
- Checks whether it is declared as a record.
- If the check is a success, the process finishes.
- If not, the created version is deleted and item versions are restored sequentially.

This logic leads to the following peculiarities of list item restore:

- If a list or list items column is used as a lookup column in the dependent list, consider that restoring an item from the source list causes the relevant items deletion in the dependent list.
- If a lookup column in the dependent list has the enforced relationship behavior set to **Cascade Delete**, then restoring an item from the source list may cause item deletion in the dependent list due to Microsoft implementation. For more information, see this Microsoft article.

To prevent this issue, you should turn off enforced relationship behavior. As a work-around, you can roll-back the SharePoint database using Veeam Explorer for Microsoft SQL Server (see this section) or roll-back the whole SharePoint server VM to the desired state using any Veeam Backup & Replication recovery option.

The following limitations should also be considered:

- If a lookup column in the dependent list has the enforced relationship behavior set to **Restrict Delete**, then item restore with Veeam Explorer for Microsoft SharePoint will fail.
- If an .ASPX page references an item using *ItemID*, this reference may fail to restore (as the item will be created anew with a different *ItemID*).
- If a list item cannot be deleted (for example, the *Welcome* page of the site), consider that restore process will restore all versions of the item sequentially without deletions, adding them to *Version History*.
- *Restored Issue* list items are assigned new *IssueID*.
- Restore of *Time Card* list is not supported.

Restore of List Items with Links (Attachments)

Consider the following when planning for the restore of list items with links (attachments):

- If the retention policy for target list/document library was configured to **Declare record** automatically, only the last version of the item will be restored to target list/library. Target retention policy settings will be applied to restored item (**Declare record**). However, links (attachments) will not be restored.
- Alternatively (with different retention policy settings), all versions of the original item will be restored to target list/library; item links (attachments) will be restored only if such item does not exist on target SharePoint.
- If *Declare this item as a record* action was originally applied to list item, such item will not be restored.

Restore of Items with Custom Content Type

For item restore, Veeam Explorer for Microsoft SharePoint uses content types that exist in the target library or list. If you restore an item with a custom content type, and the target location does not contain this content type, the restore process will fail with the following error: "*Cannot find corresponding Content-Type for: 15_.000. Original ContentTypeID: 'XXX*".

Restore of Surveys

Consider the following limitations when planning for the restore of surveys, survey questions and responses:

- Survey items can be restored to a new survey, created automatically by Veeam Explorer for Microsoft SharePoint in the specified destination instead of the previously deleted survey. However, if a new survey is created by user from scratch (not replacing a deleted one) items cannot be restored to such a survey.
- A survey can be restored to an existing target survey only if that target survey includes at least one item (question) same as survey questions stored in the content database.
- If a survey question was not answered completely in the source survey, after restore the response status in the target survey will be set to *Completed*, anyway.
- When restoring a single response to a survey, target response item with the same number will be deleted and restored item will be placed in the target survey after the last numbered response.

For example, if the target survey has responses #1-15 and you try to restore a response that used to be #6 on source – then target response #6 will be deleted and restored response will be assigned #16.

Restore of Sites

Consider the following:

- When restoring site collections, make sure that such collections exist in the target location; Veeam Explorer for Microsoft SharePoint does not create site collections.
- If you plan to restore SharePoint site pages, consider that Veeam Explorer for Microsoft SharePoint does not support restore of items which are not stored in the SharePoint content database (in particular, pages, page references and items based on default templates). Such items cannot be restored (neither by **Restore** nor by **Save** menu option), except for data from Wiki Content (text and images) which is stored in the database. Thus, site pages containing only text and images can be restored and displayed properly.

NOTE

Consider the following:

- In case you attempt to restore such items, the following error message will be logged: "*Item* <*item> is skipped: restoration of items based on SharePoint default template is not supported.*"
- In case you attempt to save such items, the following error message will be logged: "*Unable to save document <item>. Document content is not available*."

Export and Import

Consider the following:

- In on-premises Microsoft SharePoint organizations, importing exported Picture Library may result in IDs changed for some items.
- Importing exported Project Tasks list does not preserve column order.
- Importing exported SharePoint list does not preserve Validation Settings.
- Export is unavailable for backups created by Veeam Backup for Microsoft 365. The operation is available only for backups created by Veeam Backup & Replication.
- Make sure to view information about unsupported Microsoft SharePoint lists before exporting them. In particular, hidden lists are not displayed in Veeam Explorer for Microsoft SharePoint after a site backup. Thus, such lists cannot be exported. For more information, see Unsupported SharePoint Lists.
- Export of empty SharePoint folders is not supported.

Data Type Limitations

Consider the column (field) data type when planning for the restore of your SharePoint libraries/lists:

- If source column (field) data type was set to *Lookup*, but the referenced list/library was deleted, such columns (fields) will not be restored even if you restore that referenced list. The reason is that if referenced list is deleted, the reference (link) to that list is no longer valid.
- If source column (field) data type was set to *Managed Metadata*, such columns (fields) will not be restored.

Workflow-Related Considerations

You may need to restore the items originally belonging to a list with no content approval required, to another list. If you try to restore such items to a list that requires content approval, item version and status will be modified in the following way:

- If a target list is configured to include major versions only, then all versions of restored item will become major (despite the original versioning); item status will be set to *Pending*.
- If a target list is configured to include both major and minor versions, then all versions of restored item will become minor (despite the original versioning); item status will be set in the following way:
 - \circ If the last version (original) was major status will be set to *Pending*.
 - If the last version was minor status will be set to *Draft*.

Also, consider the following when planning for the restore of list items (with or without content approval originally required):

- If the retention policy for target list/document library is configured to **Declare record** automatically, only the last version of the item will be restored to target list/library. Target retention policy settings will be applied to restored item (**Declare record**). Besides, if **Require content approval for submitted items** was enabled for the original list, then after restore item status will be set to *Pending*.
- Alternatively (with different retention policy settings), all versions of the original item will be restored to target list/library. Besides, if **Require content approval for submitted items** was enabled for the original list, then after restore item status in the content approval workflow will be also restored, except for the states listed. For more information, see Status Restore Limitations.

Unsupported SharePoint Lists

The following table contains all unsupported Microsoft SharePoint lists. Veeam Explorer for Microsoft SharePoint does not restore data from these lists.

Due to Veeam Explorer for Microsoft SharePoint that is distributed as a part of Veeam Backup & Replication does not process hidden lists, such lists are also included in the following table.

| List Template ID ¹ | List Name | Microsoft SharePoint Server Version |
|-------------------------------|--------------------------|-------------------------------------|
| 101 | SearchConfigListTemplate | 2013/2016/2019/SE |
| 110 | datasrcs | 2010/2013/2016/2019/SE |
| 111 | webtemp | 2010/2013/2016/2019/SE |
| 112 | users | 2010/2013/2016/2019/SE |
| 113 | wplib | 2010/2013/2016/2019/SE |
| 114 | listtemp | 2010/2013/2016/2019/SE |
| 116 | mplib | 2010 |
| 117 | nocodewf | 2010/2013/2016/2019/SE |
| 118 | workflowProcess | 2010/2013/2016/2019/SE |
| 121 | solutions | 2010/2013/2016/2019/SE |
| 122 | nocodepublicwf | 2010/2013/2016/2019/SE |
| 123 | themes | 2010/2013/2016/2019/SE |

| List Template ID ¹ | List Name | Microsoft SharePoint Server Version |
|-------------------------------|---------------------------|-------------------------------------|
| 124 | designs | 2013/2016/2019/SE |
| 125 | appdata | 2013/2016/2019/SE |
| 126 | appfiles | 2019/SE |
| 160 | accessrequests | 2013/2016/2019/SE |
| 175 | MaintenanceLogs | 2013/2016/2019/SE |
| 200 | meetings | 2010/2013/2016/2019/SE |
| 212 | wkspglib | 2010/2013/2016/2019/SE |
| 331 | ComponentManifests | 2019/SE |
| 334 | ClientSideAssets | 2019/SE |
| 335 | SiteCollectionAppCatalogs | 2019/SE |
| 336 | WebApiPermissionRequests | 2019/SE |
| 401 | fcgroups | 2010/2013/2016/2019/SE |
| 401 | MonitoredAppsList | 2013/2016/2019/SE |
| 420 | timecard | 2013/2016/2019/SE |
| 425 | whatsnew | 2010/2013/2016/2019/SE |
| 530 | ContentFollowingList | 2013/2016/2019/SE |
| 544 | MicroBlogList | 2013/2016/2019/SE |
| 550 | SocialDataStoreList | 2013/2016/2019/SE |
| 563 | AnnouncementTilesList | 2016/2019/SE |

| List Template ID ¹ | List Name | Microsoft SharePoint Server Version |
|-------------------------------|---------------------------|-------------------------------------|
| 600 | extlist | 2010/2013/2016/2019/SE |
| 880 | members | 2013/2016/2019/SE |
| 925 | abusereports | 2013/2016/2019/SE |
| 1221 | healthreports | 2010/2013/2016/2019/SE |
| 1305 | EDiscoverySources | 2016/2019/SE |
| 1306 | EDiscoverySourceInstances | 2013/2016/2019/SE |
| 1309 | DlpEDiscoveryQueries | 2016/2019/SE |
| 1310 | PreservationListTemplate | 2013/2016/2019/SE |
| 2000 | PNSubscribers | 2013/2016/2019/SE |
| 2001 | ExternalSubscriptions | 2013/2016/2019/SE |
| 3100 | AccSrvAddApp | 2013/2016/2019/SE |
| 3300 | SharingLinks | 2016/2019/SE |
| 3400 | HashtagStore | 2019/SE |
| 3401 | BlockedHashtags | 2019/SE |
| 3412 | HubSites | 2019/SE |
| 3415 | WebTemplateExtensions | 2019/SE |
| 3500 | IRCollection | 2019/SE |
| 3501 | IRReference | 2019/SE |
| 3502 | IRReferenceCollection | 2019/SE |

| List Template ID ¹ | List Name | Microsoft SharePoint Server Version |
|-------------------------------|------------------------|-------------------------------------|
| 4501 | wfsvc | 2013/2016/2019/SE |
| 10000 | Academic Library | N/A |
| 10001 | eduentity" | 2013/2016/2019/SE |
| 10007 | EduWorkItem | 2013/2016/2019/SE |
| 10008 | EduQuiz | 2013/2016/2019/SE |
| 10051 | eduentity | 2013/2016/2019/SE |
| 10060 | eduusersetting | 2013/2016/2019/SE |
| 10061 | eduexternalsyncsetting | 2013/2016/2019/SE |
| 10099 | AcquisitionHistoryList | 2013/2016/2019/SE |
| 10101 | edudocument | 2013/2016/2019/SE |
| 10102 | IWConvertedForms | 2010/2013/2016/2019/SE |
| 10401 | eduannouncement | 2013/2016/2019/SE |
| 10631 | educalendar | 2013/2016/2019/SE |

¹For more information, see this Microsoft article.

Launching Application and Exploring Backups

To open Veeam Explorer for Microsoft SharePoint and load backups, you can use any of the following methods:

• The **Explore** option to load backups created by Veeam Backup for Microsoft 365. For more information, see the Data Restore section of the Veeam Backup for Microsoft 365 User Guide.

When loading backups located in object storage, Veeam Explorer for Microsoft SharePoint will notify you about the location of these backups. You can select the **Don't show this message again** check box to unsubscribe from such notifications. To disable these notifications, clear the **Show pop-up notifications on startup** check box. For more information, see Advanced Settings.

• The **Restore application item** option to load backups created by Veeam Backup & Replication.

For more information, see the Application Items Restore section of the Veeam Backup & Replication User Guide.

• Go to **Start**, click **Veeam Explorer for Microsoft SharePoint** and manually open Microsoft SharePoint databases. For more information, see **Standalone Databases**.

When you open Veeam Explorer for Microsoft SharePoint from the **Start** menu, all backed-up databases will be loaded automatically.

If you open Veeam Explorer for Microsoft SharePoint from the **Start** menu on a machine that runs the Veeam Backup & Replication console and Veeam Explorers only, specify the following:

- The domain name or IP address of a server to which you want to connect.
- The port number.
- User account credentials.

Consider the following:

- To perform restore operations, Veeam Explorer for Microsoft SharePoint must be run with elevated permissions. The user account must be a member of the local *Administrators* group on the machine where Veeam Explorer for Microsoft SharePoint is installed.
- $\circ~$ The account must have the Veeam Backup Administrator or Veeam Restore Operator role on the target backup server.

To use the account under which Veeam Explorer for Microsoft SharePoint is running, select **Use Windows** session authentication.

To save the connection shortcut to the desktop, click **Save shortcut** in the bottom-left corner.

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| ••••• | | |
| Use Windows session authenticati | on | |
| Save shortcut | Connect Close | |

Getting to Know User Interface

The user interface of Veeam Explorer for Microsoft SharePoint is designed to let you quickly find commands that you need to restore and export Microsoft SharePoint data from backups created by Veeam Backup for Microsoft 365 and Veeam Backup & Replication.

Main Menu

The main menu comprises the following:

- **General Options**. Allows you to configure general application settings. For more information, see General Application Settings.
- Help.
 - Online help. Opens the online help page.
 - About. Shows the additional information including build number.
- Exit. Closes the Veeam Explorer for Microsoft SharePoint window.

TIP

You can also open online help by pressing [F1] in any Veeam Explorer for Microsoft SharePoint wizard or window. You will then be redirected to the relevant section of the Veeam Explorers User Guide.

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Main Application Window

The main application window can be divided into three categories:

- The ribbon that contains operation commands organized into logical groups represented as tabs. The ribbon is displayed at the top of the main application window.
- The navigation pane that allows you to browse through the hierarchy of folders with backed-up data. Also, it allows you to search for sites using keywords.
- The preview pane that provides search capabilities and allows you to view details about items that are contained in a folder you have selected in the navigation pane.

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Browsing, Searching and Viewing Items

You can use Veeam Explorer for Microsoft SharePoint to view the contents of a backup file, view object properties, open files, search for sites and for items in a backup file as well as customize criteria of your search.

Searching for Sites

You can use keywords to search for sites in the database structure containing your SharePoint objects. To do this, enter a search query in the search field at the top of the navigation pane.

To remove a keyword, click the cross mark.

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Browsing Backup Content

To view the contents of a backup file, you use the navigation pane which shows you the database structure containing your site items such as libraries and subsites.

After you select an object in the navigation pane, you can see its content in the preview pane.

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Viewing Objects Properties and Opening Files

To view object properties, right-click an object in the preview pane and select View properties.

To open a document using an associated application, right-click a document in the preview pane and select **Open**.

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Searching for Objects in Backup File

The search mechanism allows you to find items matching specified search criteria.

To search for required items, do the following:

- 1. In the navigation pane, select an object in which you want to find data.
- 2. Enter a search query in the search field at the top of the preview pane.

NOTE

To find the exact phrase, use double quotes. For example, "media player".

You can narrow your search results by specifying various search criteria using the criteria:value format.

For example, you can use *status:pending approval* to find all items that require approval in the list of decisions.

You can also use logical upper-cased operators such as *AND*, *OR* and *NOT* along with wildcard characters such as *and ?. The search criteria are similar to those used for searching in Microsoft SharePoint. For more information, see this Microsoft article.



Using Advanced Find

The Advanced Find mechanism allows you to define your search criteria more precisely.

For example, to find an object that starts with the word *Media*, do the following:

- 1. In the preview pane, select a node and click **Advanced Find** on the ribbon.
- 2. In the Define search criteria section, select Category > Document fields.
- 3. In the Field list, select File Name.
- 4. In the **Condition** list, select **starts with**.
- 5. In the **Value** field, specify a file name.
- 6. Click Add to List and then click Start.

To remove a filter, click the cross mark next to it. To remove all configured filters, click **Reset**.

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| 🕨 🧧 Patti Fernandez | | | | | | | | |
| Fradeep Gupta | | | | | | | | |
| Sales and Marketing Team | | | | | | | | |
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| Search results in Databases\abc.onmicrosoft.com (2/8/2023 2:06:26) | AM) | | | | | | | VeeaM |

General Application Settings

You can configure general settings for Veeam Explorer for Microsoft SharePoint.

Staging SQL Server

To perform Microsoft SharePoint items restore, Veeam Explorer for Microsoft SharePoint requires a Microsoft SQL server to be used as a staging system.

NOTE

Configuring the staging SQL server settings is only required to restore SharePoint data from the following sources:

- Backups created by Veeam Backup & Replication.
- Microsoft SharePoint databases manually added to the application scope. For more information, see Adding Microsoft SharePoint Databases.

Consider the following when configuring a staging SQL server:

- If an SQL server belongs to an untrusted domain, connection will not be possible.
- If an SQL server belongs to a trusted domain, only the *SQL Server authentication* method is available.
- If both an SQL server and the machine running Veeam Explorer for Microsoft SharePoint belong to the same domain, then both *Windows* and *SQL Server authentication* methods are possible.

To use *Windows authentication*, make sure to configure the following delegation settings:

- a. In Active Directory Users and Computers, select the necessary staging SQL server.
- b. Open the server properties and select the Delegation tab. Select Trust this computer for delegation to specified services only and Use any authentication protocol options for the cifs service on a computer with Veeam Explorer for Microsoft SharePoint.
- c. Restart the staging SQL Server.
- d. Select a user account to connect to the staging SQL server. Also, select its properties on the **Account** tab and make sure the **Account is sensitive and cannot be delegated** check box is cleared.

To configure a staging server, do the following:

- 1. In the main menu, click **General Options**.
- 2. Open the **Staging Server** tab.
- 3. Click **Browse** to specify an SQL server that you want to use as a staging system. Do one of the following:
 - On the Local Servers tab, select a local SQL server that is located on a machine with Veeam Explorer for Microsoft SharePoint.
 - o On the Network Server tab, select an SQL server over the network.
- 4. Specify the account to access the selected SQL server.
- 5. Specify the account to access a SQL server instance.

6. Click OK.

| Staging Server Custom Lists SMTP Settings Advanced SQL Server name: SRV13\VEEAMSQL2016 Browse Specify user account to connect to Windows server: Use current account (SRV0101\Administrator) Use the following account: Use the following account: Username: Administrator Password: •••••••• Specify user account to connect to SQL Server instance: Use the Windows server account specified above Use the following account: Use the following account: Use the SQL Server authentication | | | Options | | × |
|--|------------------|-------------------|--------------------|----------|--------|
| SRV13\VEEAMSQL2016 Browse Specify user account to connect to Windows server: Use current account (SRV0101\Administrator) Image: Use the following account: Username: Administrator Password: Password: •••••••• Specify user account to connect to SQL Server instance: Use the Windows server account specified above Image: Use the following account: Use the following account: Username: Administrator Password: •••••••• | Staging Server | Custom Lists | SMTP Settings | Advanced | |
| Specify user account to connect to Windows server: Use current account (SRV0101\Administrator) Image: Server account (SRV0101\Administrator) Image: Specify user account: Use the Windows server account specified above Image: Use the following account: Use the following account: Use the following account: Use the following account: Username: Administrator Password: | SQL Server name | e: | | | |
| Use current account (SRV0101\Administrator) Use the following account: Username: Administrator Password: ••••••• Specify user account to connect to SQL Server instance: Use the Windows server account specified above Use the following account: Use the following account: Username: Administrator Password: •••••••• | SRV13\VEEAM | SQL2016 | | * | Browse |
| Use the following account: Username: Administrator Password: Specify user account to connect to SQL Server instance: Use the Windows server account specified above Use the following account: Username: Administrator Password: exercement | Specify user acc | ount to connect | to Windows serve | r: | |
| Username: Administrator Password: Use the Windows server account specified above Use the following account: Username: Administrator Password: | 🔿 Use current | account (SRV010 | 1\Administrator) | | |
| Password: Password: Specify user account to connect to SQL Server instance: Use the Windows server account specified above Use the following account: Username: Administrator Password: | Use the follow | owing account: | | | |
| Specify user account to connect to SQL Server instance: Use the Windows server account specified above Use the following account: Username: Administrator Password: | Username: | Administrator | | | |
| Use the Windows server account specified above Use the following account: Username: Administrator Password: | Password: | ••••• | | | |
| Use the following account: Username: Administrator Password: ••••••• | Specify user acc | ount to connect | to SQL Server inst | ance: | |
| Username: Administrator Password: •••••• | 🔵 Use the Win | idows server acco | ount specified abo | ve | |
| Password: | Use the follow | owing account: | | | |
| | Username: | Administrator | | | |
| Use SQL Server authentication | Password: | ••••• | | | |
| | | 🔽 Use SQL Sen | ver authentication | | |
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| | | | | | |
| OK Cancel Apply | | | OK | Concol | 0 malu |

Custom Lists

Veeam Explorer for Microsoft SharePoint supports obtaining custom list templates from backups created by Veeam Backup & Replication. The actual information about templates is stored directly in a backup file and obtained automatically so that you can view the custom list data without having to perform any additional operations.

NOTE

Configuring custom lists is not required when working with backups created by Veeam Backup for Microsoft 365.

To see templates with their names and features, do the following:

- 1. In the main menu, click General Options.
- 2. Open the **Custom Lists** tab.
- 3. Click the link under the **Status** column which also comprises the total number of available templates.
- 4. If you want to automatically update existing templates, select the **Automatically update custom list templates from backups** check box.
- 5. If you want to be notified whether the database contains new templates other than those you already have, select the **Warn me if attached database has new custom list templates** check box.
- 6. Click OK.



See the next figure showing you what custom list templates are available.

| | Custom List Templates | : |
|----------------------------------|---------------------------------|-------|
| Name | Feature | |
| Project Detail Pages | Project Detail Pages | |
| Project Document Library | Project Site Document Libraries | |
| Maintenance Log Library Template | Maintenance Log Library | |
| Project Issues | Project Site Issues | |
| Project Risks | Project Site Risks | |
| Proposal proxy list | Project Proposal Workflow | |
| Project Deliverables | Project Site Commitments | |
| | | |
| | | Close |

To remove templates, click Clear.

Importing Templates Manually

To import existing templates from the Microsoft SharePoint server manually, do the following:

- 1. In the main menu, click **General Options**.
- 2. Open the Custom Lists tab.
- 3. Click Update.
- 4. Specify the path to Microsoft SharePoint templates, select the language and click **OK**. The language set in the drop-down list depends on the installed language packages on a SharePoint server.

| | Add Custom List Templates | × |
|-----------------------------|---|--------|
| Web server extensions path: | C:\Program Files\Common Files\Microsoft Shared\Web Server Extensior | Browse |
| Language: | | |
| | ОК | Cancel |

Importing Templates Using Ribbon Menu

NOTE

Available only for Microsoft SQL Server databases and requires a staging SQL server. For more information on configuring a staging server, see Staging SQL Server.

To import existing templates from the Microsoft SharePoint server using the ribbon menu, do the following:

- 1. In the navigation pane, select a SQL database.
- 2. Do one of the following:
 - Click **Custom List Templates** on the ribbon.
 - Right-click a SQL database and select **Custom list templates settings**.

| Ca ≣ • Home | 12 bda-s08 as of 23 days ago (10:18 PM Sunday 1/15/2023) - Veeam Explorer for Microsoft SharePoint — | □ × |
|--|--|-------|
| Add Remove Cutorn List Database Database Templates Content Databases | | |
| Content Databases Search WSS_C | ontent_3776.mdf | ٩ |
| Type in an object name to search for | | |
| ▲ 📑 Databases | | |
| WSS_Content_3776.mdf G Custom list templates settings Remove SharePoint database | | |
| Remove SharePoint database | | |
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| Databases\WSS_Content_3776.mdf | | Veeam |

- 3. Select how you want your templates to be applied:
 - Select **Use global custom list settings** to apply global list templates to the select database.
 - Select **Use the following custom list settings** to apply the templates to the selected database only.

When using the latter option, specify the path to the Microsoft SharePoint templates, select the language and click **OK**. The language set in the drop-down list depends on the installed language packages on a SharePoint server.

| | Add Custom List Templates | × |
|---------------------------------|---|--------|
| Use global custom list settings | | |
| Use the following custom list s | iettings: | |
| Web server extensions path: | C:\Program Files\Common Files\Microsoft Shared\Web Server Extension | Browse |
| Language: | | |
| | ОК | Cancel |

SMTP Settings

To send Microsoft SharePoint items as attachments, you must configure SMTP server settings.

To configure SMTP settings, do the following:

- 1. In the main menu, click **General Options**.
- 2. Open the SMTP Settings tab.
- 3. Select the **Configure SMTP settings** check box and do the following:
 - a. In the Server field, specify a DNS name or IP address of the SMTP server.
 - b. In the **Port** field, specify a port number of the specified SMTP server.

The default port number is 25. If you want to use SSL data encryption, specify port 587.

- c. In the **From** field, specify the sender email address. This address will appear in the **From** field when sending SharePoint items.
- d. If the specified SMTP server requires an authentication for outgoing mail, select the **Use authentication** check box and provide valid credentials.
- e. Select the Enable SSL security check box to enable SSL data encryption.
- 4. Click **Send** to send a test email message.
- 5. Click OK.

| | | | Options | | × |
|--------------|---------|----------------|-----------------|---------|-------|
| Staging Serv | er C | ustom Lists | SMTP Settings | Advance | :d |
| 🖌 Configu | re SMT | P settings | | | |
| Server: | smtp. | office365.con | n | | |
| Port: | 25 | × | | | |
| From: | admir | nistrator@tecl | n.local | | |
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| | | | ок | Cancel | Apply |

Advanced Settings

Veeam Explorer for Microsoft SharePoint allows you to configure advanced settings such as extended logging mode and pop-up notifications.

To configure advanced settings, do the following:

- 1. In the main menu, click General Options.
- 2. Open the **Advanced** tab.
- 3. If you want to enable extended logging mode to collect logs that contain additional information on specific operations, select the **Enable extended logging** check box.

After enabling extended logging mode, you can go back to the application and perform actions for which you want to collect additional information. Then you can collect logs.

- 4. By default, Veeam Explorer for Microsoft SharePoint displays notifications when loading backups created by Veeam Backup for Microsoft 365 from object storage. If you want to disable these notifications, clear the **Show pop-up notifications on startup** check box.
- 5. Click OK.



Standalone Databases

You can add standalone databases to the Veeam Explorer for Microsoft SharePoint scope and connect to a Veeam Backup for Microsoft 365 server and service provider server to view backups located on these servers.

Adding Microsoft SharePoint Databases

You can add Microsoft SharePoint databases to the application scope manually. For example, you may want to do this to restore items from a Microsoft SharePoint database exported earlier using Veeam Explorer for Microsoft SQL Server. For more information, see Export as MDF.

When you add standalone Microsoft SharePoint databases to the application scope, Veeam Explorer for Microsoft SharePoint attaches such a database to the staging SQL server, creating a temporary Microsoft SharePoint content database from which you can restore your items.

To manually add new Microsoft SharePoint databases to the application scope, do the following:

- 1. Do one of the following:
 - On the Home tab, click Add Database > Microsoft SharePoint database on the ribbon.
 - Right-click the **Databases** node and select **Add database**.
- 2. Specify the location of the Microsoft SharePoint primary content database file (.mdf). The secondary database and the transaction log file (.ldf) will be added as well. Keep in mind that shared folders and mapped network drives are not supported as a location for Microsoft SharePoint content database files.

To add remote BLOB stores, click Add next to the Remote BLOB Stores section.

3. Click OK.

| Add Database | | × |
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| | OK | ancel |
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Adding Veeam Backup for Microsoft 365 Databases

To manually add databases that store Microsoft 365 organization data, do the following:

- 1. Do one of the following:
 - On the Home tab, click Add Database > Veeam Backup for Microsoft 365 database on the ribbon.
 - Right-click the **Databases** node and select **Veeam Backup for Microsoft 365 database**.
- 2. Specify the database file location and log directory.
- 3. Click Open.

NOTE

Make sure you have disabled the *Veeam Backup Proxy for Microsoft 365 Service* when adding local databases. You can stop this service by using the services.msc console. If you try to add a database having this service still in progress, you will receive an error message and will not be able to access the database due to database lock.

Adding Veeam Backup for Microsoft 365 Server

You can use the built-in Veeam Explorer for Microsoft SharePoint abilities to connect to another Veeam Backup for Microsoft 365 server and add its databases to the Veeam Explorer for Microsoft SharePoint scope.

To connect to another Veeam Backup for Microsoft 365 server remotely, do the following:

- 1. Do one of the following:
 - On the Home tab, click Add Database > Veeam Backup for Microsoft 365 server on the ribbon.
 - o Right-click the Databases node and select Veeam Backup for Microsoft 365 server.
- 2. Specify a server name or IP address and enter credentials to access the specified server.

Select the **Use Windows session authentication** check box to connect with the user account under which you are currently logged in.

3. Click **Connect**.

| | × |
|--|---|
| Veeam Backup | |
| Type in a server name or IP address, service port number and user credentials to connect with. VBM365Server 9194 | |
| TECH\Administrator | |
| ••••• | |
| ✓ Use Windows session authentication | |
| Connect Close | |

Adding Veeam Backup for Microsoft 365 Service Provider

In Veeam Explorer for Microsoft SharePoint, you can connect to a service provider server to add its backups to the application scope and perform a restore directly from such backups.

NOTE

Make sure that both Veeam Explorer for Microsoft SharePoint and Veeam Backup & Replication are installed on the same server and at least one service provider is added to Veeam Backup & Replication. For more information, see the Connecting to Service Providers section of the Veeam Cloud Connect Guide.

To add Veeam Backup for Microsoft 365 service providers, do the following:

- 1. Do one of the following:
 - On the Home tab, click Add Database > Veeam Backup for Microsoft 365 service provider on the ribbon.
 - Right-click the **Databases** node and select **Veeam Backup for Microsoft 365 service provider**.
- 2. From the **Select service provider and authentication method** drop-down list, select a service provider that you want to add and select an authentication method that can be either *Modern authentication* or *Basic authentication*.
- 3. [For *Modern authentication*] Select a region to which a Microsoft 365 organization of the selected service provider belongs.
- 4. [For *Modern authentication*] Copy the device code and use it to sign in to Azure Active Directory.

For *Basic authentication*, you must enter a user name and password to connect to the service provider server.

NOTE

You cannot use *Basic authentication* to load backups if a Microsoft 365 organization has been added to the service provider infrastructure using *Modern authentication*.

5. Select a point-in-time state as of which you want to load Microsoft 365 backups.

To select a point in time, use the calendar control.

- 6. Select the **Show items that have been deleted by user** check box to see all the items that were removed.
- 7. Select the **Show all versions of items that have been modified by user** check box if you want to load modified versions.
8. Click Connect.



Removing Databases

Veeam Explorer for Microsoft SharePoint allows you to remove Microsoft SharePoint databases from the application scope when you no longer need it.

To remove a database from the application scope, right-click a database in the navigation pane and select **Remove database**.



Data Restore

You can use Veeam Explorer for Microsoft SharePoint to restore backed-up Microsoft SharePoint data to the original location or other Microsoft 365 organizations and on-premises Microsoft organizations.

Before restoring data, read the Considerations and Limitations section.

Restoring Sites

Veeam Explorer for Microsoft SharePoint allows you to restore Microsoft SharePoint sites to the original location or other Microsoft 365 organizations and on-premises Microsoft organizations.

Restoring Sites to Original Location

To restore Microsoft SharePoint sites to the original location, do the following:

- 1. Launch the Restore wizard.
- 2. Select an authentication method.
- 3. Log in to Microsoft 365.
- 4. Specify a target site alias.
- 5. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a site that you want to restore.
- 2. Do one of the following:
 - On the Site tab, click Restore Site > Restore site to <site_name> on the ribbon.
 - Right-click a site and select **Restore site** > **Restore site**.

NOTE

When restoring sites to site collections, make sure that such collections exist in the target location; Veeam Explorer for Microsoft SharePoint does not create site collections.

| R. | All organizations as of less than a day ago (2:08 AM Thursday 2/9/2023) - Veeam Explorer for Microsoft SharePoint 🛛 🗕 | | × |
|---|---|-----|----|
| ≡ • Home Site | | | |
| Restore Restore Restore Search | | | |
| Content Databases | earch Administrator | | ۹ |
| Type in an object name to search for Q | | | |
| 🔺 📑 Databases | | | |
| Roabc.onmicrosoft.com (2/9/2023 2:08:14 AM) | | | |
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| 🕨 💈 Alex Wilber 🛛 👫 Restore site 🔹 🗚 Restore | site D | | |
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| Databases\abc.onmicrosoft.com (2/9/2023 2:08:14 AM)\Administrator | | vee | AM |

Step 2. Select Authentication Method

At this step of the wizard, select either modern or basic authentication, or authenticate on an on-premises Microsoft SharePoint server, and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Authentication method drop-down list, select Modern authentication.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified object back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

2. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft SharePoint populates this field with the identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| | Restore Wizard | × |
|-----------------|--------------------------------------|--------|
| | | |
| Office 365 c | onnection settings | |
| Authentication | method: | |
| Modern authe | ntication | ~ |
| Azure AD applic | ation to connect with: | |
| Application ID: | e7268d27-0165-4778-9db6-5cfcb80a7636 | |
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| | | |
| | Next | Cancel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the Authentication method drop-down list, select *Basic authentication*.
- 2. In the **Username** and **Password** fields, enter credentials to connect to the SharePoint organization.

| | Restore Wizard | × |
|-------------|---|--------|
| Office 36 | 5 connection settings | |
| Authentical | ion method: | |
| Basic auth | entication | ~ |
| User accour | nt to connect with: | |
| Username: | administrator@abc.onmicrosoft.com | |
| Password: | ••••• | |
| | nect with an account enabled for multi-factor authentication (MFA), app password instead of a user password. | |
| | Next | Cancel |

On-Premises Organizations

To authenticate on an on-premises Microsoft SharePoint server, use an account that you are currently logged in to or provide a user name and password.

| | Restore Wizard | × |
|-------------------|--|--------|
| Specify targ | et Microsoft SharePoint Server credentials | |
| 🔵 Use current | account (EPSILON\Administrator) | |
| Use the following | owing account: | |
| Username: | tech\Administrator | |
| Password: | ••••• | |
| | | |
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| | | |
| | | |
| | Back Next | Cancel |

Restoring from Microsoft SQL Database

When restoring from a Microsoft SQL database, provide the following:

- The site URL to which you want to restore your site.
- Authentication credentials.

NOTE

When restoring Microsoft SharePoint sites from a Microsoft SQL database, you will proceed directly to the Specify Restore Options step of the wizard.

| | Restore Wizard | × |
|---------------------------------|---------------------------------------|---|
| Specify targ | et SharePoint site and domain account | |
| Restore to the f | ollowing site URL: | |
| http://new_site | 2/ | |
| Specify user acc | ount to connect to SharePoint Server: | |
| Use current | account (BDA\administrator) | |
| Use the foll | owing account: | |
| Username: | tech\administrator | |
| Password: | ••••• | |
| | | |
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| | | |
| | Next Cancel | |

Step 3. Log In to Microsoft 365

This step is only available for data restore from backups created by Veeam Backup for Microsoft 365 and if you have selected the *Modern Authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the Restore Wizard window and click Next.

| Restore Wizard | × |
|---|-----|
| | |
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
| CMJLEFRCK 🔃 Copy code | |
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| | |
| | |
| 🤣 You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
| | |
| Back Next Can | cel |

Step 4. Specify Target Site Alias

This step is only available if you restore subsites or site collections from backups created by Veeam Backup for Microsoft 365 with the *Group#O* or *SITEPAGEPUBLISHING#O* template. These are subsites, team sites with modern authentication or communication sites with modern authentication. For sites with different template, such as personal sites or other sites, this step is unavailable. You proceed to the Specify Restore Options step.

At this step of the wizard, specify a target site alias that you want to use for data restore.

NOTE

When restoring site collections other than site collections with the *Group#O* or *SITEPAGEPUBLISHING#O* template, make sure that such collections exist in the target location; Veeam Explorer for Microsoft SharePoint does not create site collections.

| Restore Wizard | × |
|---|------|
| Target site alias | |
| ů – | |
| Restore to the original site (Team) | |
| Restore to the following site alias: | |
| Team_site | |
| https://qwbs.sharepoint.com/sites/Team_site | |
| | |
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| Back Next Ca | ncel |

Step 5. Specify Restore Options

At this step of the wizard, select check boxes next to the restore options that you want to apply and click **Restore**.

You can select the following options:

- Changed items. Allows you to restore data that has been modified in your production environment.
- Missing items. Allows you to restore missing items.
- **Restore only latest version**. Allows you to restore only the latest version of items. If this check box is selected, you can select one of the following options:
 - **Overwrite**. To overwrite data in the production environment.
 - **Merge**. To merge an existing and a backup version of items.

If the **Restore only latest version** check box is not selected, all versions of items in the production environment will be replaced with the relevant data from the backup file.

- **Restore permissions**. Allows you to restore permissions. If not selected, the permissions for the restored document library or list will be set in the following way:
 - If the library (or list) does not exist on target, it will be created inheriting permissions from the parent object.
 - If the library (or list) already exists on target, permissions will be preserved.
- Send a notification by email to the users with permissions to the file. Select this check box if you want to notify users about items restore. Veeam Explorer for Microsoft SharePoint will notify users with whom items have been shared. You can select this check box only if the **Restore permissions** check box is selected.

NOTE

The **Send a notification by email to the users with permissions to the file** check box is only available when restoring data from backups created by Veeam Backup for Microsoft 365 for Microsoft 365 organizations.

• **Restore list views.** Allows you to restore your list views.

• **Restore subsites.** Allows you to restore your subsites.

| | Restore Wizard | × |
|---|------------------------------------|-------|
| Restore options | | |
| Restore the following items: | History restore options: | |
| Changed items | Restore only latest version | |
| Missing items | Overwrite | |
| | 🔿 Merge | |
| Additional options: | | |
| Restore permissions | | |
| Send a notification by email to the | users with permissions to the file | |
| Restore list views | | |
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Restoring Sites to Another Location

You can restore Microsoft SharePoint sites to other Microsoft 365 organizations and on-premises Microsoft organizations.

Restore to Microsoft 365 Organizations

You can restore backed-up data to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

To restore Microsoft SharePoint sites to another Microsoft 365 organization, do the following:

- 1. Launch the Restore wizard.
- 2. Select a target site location.
- 3. Select an authentication method.
- 4. Log in to Microsoft 365.
- 5. Specify a target site web address.
- 6. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a site that you want to restore.
- 2. Do one of the following:
 - On the **Site** tab, click **Restore Site** > **Restore site to** on the ribbon.
 - Right-click a site and select **Restore site > Restore site to.**

NOTE

When restoring sites to site collections, make sure that such collections exist in the target location; Veeam Explorer for Microsoft SharePoint does not create site collections.

| Ka ≡ • Home <mark>Site</mark> | All organizations as of less than a day ago (2:08 AM Thursday 2/9/2023) - Veeam Explorer for Microsoft SharePoint – 🗖 🗙 |
|---|---|
| Restore Restore Ster Ster Search | Search Administrator Q |
| Grady Archie | Restore site |
| 6 Henrietta Mueller 6 Johanna Lorenz 6 Johanna Lorenz 5 Joni Sherman 6 Lee Gu 6 Liefia Holloway 6 Lynne Robbins 6 Megan Bowen 5 Miniam Graham 6 Netori Wilke | |
| Q Patti Fernandez Q Pradeo gouta S Sales and Marketing Q Team Q Team Q Test | tor VBA9V |

Step 2. Select Target Site Location

At this step of the wizard, select **Microsoft 365** to restore the SharePoint site to a SharePoint Online organization with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

| Restore Wizard | × |
|---|---|
| | |
| Target site location | |
| Microsoft 365 | |
| On-premises Microsoft SharePoint Server | |
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Step 3. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Authentication method drop-down list, select Modern authentication.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified object back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

- 2. From the **Region** drop-down list, select a region to which your target SharePoint Online organization belongs.
- 3. In the Organization name field, enter a name of your target SharePoint Online organization.
- 4. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft SharePoint populates this field with an identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| Restore Wizard | × |
|---|------|
| | |
| Office 365 connection settings | |
| Authentication method: | |
| Modern authentication | ~ |
| Specify region, organization name, and Azure AD application to connect with: Region: | |
| Default | ~ |
| Organization name: | |
| org.onmicrosoft.com | |
| Application ID: | |
| e7268d27-0165-4778-9db6-5cfcb80a7636 | |
| | |
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| Back Next Ca | ncel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the Authentication method drop-down list, select *Basic authentication*.
- 2. From the **Region** drop-down list, select a region to which your target SharePoint Online organization belongs.
- 3. In the **Username** and **Password** fields, enter credentials to connect to the SharePoint organization.

| | Restore Wizard | × |
|-------------|---|--------|
| Office 36 | 5 connection settings | |
| Authenticat | ion method: | |
| Basic auth | entication | ~ |
| Region: | | |
| Default | | ~ |
| User accour | nt to connect with: | |
| Username: | administrator@org.onmicrosoft.com | |
| Password: | ••••• | |
| | nect with an account enabled for multi-factor authentication (MFA), app password instead of a user password. | |
| | Back Next | Cancel |

Step 4. Log In to Microsoft 365

This step is only available if you have selected the *Modern Authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the **Restore Wizard** window and click **Next**.

| Restore Wizard | × |
|---|--------|
| | |
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
| CMJLEFRCK 🔃 🔂 Copy code | |
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| • V | |
| You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
| | |
| Back Next | Cancel |

Step 5. Specify Target Site Web Address

At this step of the wizard, specify web address of a target SharePoint site.

NOTE

When restoring site collections, make sure that such collections exist in the target location; Veeam Explorer for Microsoft SharePoint does not create site collections.

| Restore Wizard | × |
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| | |
| Target site URL | |
| Restore to the following site URL: | |
| https://org.sharepoint.com/sites/Team_site | |
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| Back Next Cancel | |

Step 6. Specify Restore Options

At this step of the wizard, select check boxes next to the restore options that you want to apply and click **Restore**.

You can select the following options:

- Changed items. Allows you to restore data that has been modified in your production environment.
- Missing items. Allows you to restore missing items.
- **Restore only latest version**. Allows you to restore only the latest version of items:
 - **Overwrite**. To overwrite data in the production environment.
 - Merge. To merge an existing and a backup version of items.

If the **Restore only latest version** check box is not selected, all versions of items in the production environment will be replaced with the relevant data from the backup file.

- **Restore list views.** Allows you to restore your list views.
- Restore subsites. Allows you to restore your subsites.

| Restore Wizard | | | | | | |
|--|-------------------------------|--------|--|--|--|--|
| Destans anti- | | | | | | |
| Restore options | | | | | | |
| Restore the following items: | History restore options: | | | | | |
| Changed items | 🔽 Restore only latest version | | | | | |
| Missing items | Overwrite | | | | | |
| | 🔵 Merge | | | | | |
| Additional options: | | | | | | |
| Restore permissions | | | | | | |
| Send a notification by email to the users wi | th permissions to the file | | | | | |
| Restore list views | | | | | | |
| Restore subsites | | | | | | |
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Restore to On-Premises Microsoft Servers

You can restore backed-up data to on-premises Microsoft SharePoint servers. For more information, see the On-Premises Microsoft Organizations section of the Veeam Backup for Microsoft 365 User Guide.

To restore Microsoft SharePoint sites to an on-premises Microsoft SharePoint server, do the following:

- 1. Launch the Restore wizard.
- 2. Select a target site location.
- 3. Specify a target site web address and credentials.
- 4. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a site that you want to restore.
- 2. Do one of the following:
 - On the **Site** tab, click **Restore Site** > **Restore site to** on the ribbon.
 - Right-click a site and select **Restore site > Restore site to.**

NOTE

When restoring sites to site collections, make sure that such collections exist in the target location; Veeam Explorer for Microsoft SharePoint does not create site collections.

| Ka ≣ * Home <mark>Site</mark> | All organizations as of less than a day ago (2:08 AM Thursday 2/9/2023) - Véeam Explorer for Microsoft SharePoint — 🗖 | × |
|--|---|----|
| Restore Restore Restore | | |
| Content Databases Type in an object name to search for | Search Administrator | ۹ |
| ▲ Entabases ▲ Databases ▲ 10 abc.onmicrosoft.com (2/9/2023 2:08:14 AM) ◆ 5 Adele Vance ◆ 5 Adeministrator ◆ 6 Adem Withere ◆ 6 Restore site ◆ 6 Adem Withere | Restore site | |
| | Restore site to | |
| ▶ 5 Johanna Lorenz ▶ 5 Joni Sherman ▶ 5 Lee Gu ▶ 5 Lidia Holloway | | |
| S Lynne Robbins Megan Bowen Miriam Graham S Nestor Wilke S Postor Fernandez | | |
| S Patt Fernancez S Pradeep Gupta S Sales and Marketing S Team S Team S Test | | |
| DatabasesNabc.onmicrosoft.com (2/9/2023 2:08:14 AM)\Administra | itor Vee | AM |

Step 2. Select Target Site Location

At this step of the wizard, select **On-premises Microsoft SharePoint Server** to restore the SharePoint site to an on-premises Microsoft SharePoint organization. For more information, see the <u>On-Premises Microsoft</u> Organizations section of the Veeam Backup for Microsoft 365 User Guide.

| Restore Wizard | × |
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| | |
| Target site location | |
| O Microsoft 365 | |
| On-premises Microsoft SharePoint Server | |
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| Next Cancel | |

Step 3. Specify Target Site Web Address and Credentials

At this step of the wizard, specify web address of a target SharePoint site and provide credentials to connect to the Microsoft SharePoint server.

NOTE

Make sure that you restore to site collection that exists in the target location; Veeam Explorer for Microsoft SharePoint does not create site collections.

To specify web address of a target site and credentials to connect to SharePoint server, do the following:

- 1. In the **Restore to the following site URL** field, specify web address of a target site.
- 2. In the **Specify user account to connect to SharePoint Server** section, use an account that you are currently logged in to or provide a user name and password to connect to the on-premises Microsoft SharePoint server.

| | Restore Wizard | × |
|---------------------------------|--|---|
| Specify targ | et SharePoint site and domain account | |
| Restore to the f | ollowing site URL: | |
| http://srv01:12 | 345/sites/testcollection | |
| Specify user acc | ount to connect to SharePoint Server: | |
| 🔵 Use current | account (SRV0101\Administrator) | |
| 💿 Use the foll | owing account: | |
| Username: | srv01\Administrator | |
| Password: | ••••• | |
| Specify an | existing site collection URL to restore a site to on-premises SharePoint Server. | |
| | Back Next Cance | I |

Step 4. Specify Restore Options

At this step of the wizard, select check boxes next to the restore options that you want to apply and click **Restore**.

You can select the following options:

- Changed items. Allows you to restore data that has been modified in your production environment.
- Missing items. Allows you to restore missing items.
- **Restore only latest version**. Allows you to restore only the latest version of items:
 - **Overwrite**. To overwrite data in the production environment.
 - Merge. To merge an existing and a backup version of items.

If the **Restore only latest version** check box is not selected, all versions of items in the production environment will be replaced with the relevant data from the backup file.

- Restore list views. Allows you to restore your list views.
- Restore subsites. Allows you to restore your subsites.

| Restore Wizard | | | | | | |
|--|-------------------------------|--------|--|--|--|--|
| Destans anti- | | | | | | |
| Restore options | | | | | | |
| Restore the following items: | History restore options: | | | | | |
| Changed items | 🔽 Restore only latest version | | | | | |
| Missing items | Overwrite | | | | | |
| | 🔵 Merge | | | | | |
| Additional options: | | | | | | |
| Restore permissions | | | | | | |
| Send a notification by email to the users wi | th permissions to the file | | | | | |
| Restore list views | | | | | | |
| Restore subsites | | | | | | |
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| | Back Restore (| Cancel | | | | |
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Restoring Document Libraries and Lists

Veeam Explorer for Microsoft SharePoint allows you to restore Microsoft SharePoint document libraries and lists to the original location or other Microsoft 365 organizations and on-premises Microsoft organizations.

Restoring Document Libraries and Lists to Original Location

To restore Microsoft SharePoint document libraries and lists to the original location, do the following:

- 1. Launch the restore wizard.
- 2. Select an authentication method.
- 3. Log in to Microsoft 365.
- 4. Specify a target list.
- 5. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a document library or a list that you want to restore.
- 2. Do one of the following:
 - On the **Library** tab, click **Restore Library** > **Restore library to** <**library_name**> on the ribbon.
 - Right-click a library and select **Restore library** > **Restore library**.
 - On the **List** tab, click **Restore List** > **Restore list to <list_name>** on the ribbon.
 - Right-click a list and select **Restore list > Restore list**.

| & ≣• Home <mark>Library</mark> | abc.onmicrosoft. | com as of le | ss than a day ag | o (6:39 PM Thurso | lay 2/9/2023) - Veeam Explo | rer for Microsoft Share | Point | | - | | × |
|--|-----------------------|--------------|------------------|-------------------|------------------------------------|-------------------------|----------------------|-------------------|----------------------|--------|-----|
| Restore Save Send Icibrary Library Restore | | | | | | | | | | | |
| Content Databases | Search Site Pages | | | | | | | | | | Q |
| Type in an object name to search for | Name | Size | Version | Checki | Url | Created By | Created | Modified By | Modified 🕇 | Progld | |
| A Databases | Home.aspx | 1.6 KB | 1.0 | | sites/Test/SitePages/ Home.aspx | System Account | 1/20/2023 5:35 PM | System Account | 1/20/2023 5:35 PM | | |
| Robinson (Backup2) (2/9/2023 6:39:35 PM) Isometric for the second sec | News.aspx | 6.1 KB | 1.0 | | sites/Test/SitePages/ News.aspx | Administrator | 2/2/2023 3:12 PM | Administrator | 2/2/2023 3:12 PM | | |
| | lestore library 🍾 | | | | | | | | | | |
| atabases\abc.onmicrosoft.com (Backup2) (2/9/2023 6:39:35 PM)\Te | st\Content\Site Pages | | | | | | | | | ve | 9AM |

Step 2. Select Authentication Method

At this step of the wizard, select either modern or basic authentication, or authenticate on an on-premises Microsoft SharePoint server, and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Authentication method drop-down list, select Modern authentication.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified object back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

2. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft SharePoint populates this field with the identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| | Restore Wizard | × |
|-----------------|--------------------------------------|---------|
| | | |
| Office 365 c | onnection settings | |
| Authentication | method: | |
| Modern authe | ntication | ~ |
| Azure AD applic | ation to connect with: | |
| Application ID: | e7268d27-0165-4778-9db6-5cfcb80a7636 | |
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| | | Connect |
| | Next | Cancel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the Authentication method drop-down list, select *Basic authentication*.
- 2. In the **Username** and **Password** fields, enter credentials to connect to the SharePoint organization.

| | Restore Wizard | × |
|-------------|---|--------|
| Office 36 | 5 connection settings | |
| Authentical | ion method: | |
| Basic auth | entication | * |
| User accou | nt to connect with: | |
| Username: | administrator@abc.onmicrosoft.com | |
| Password: | ••••• | |
| | nect with an account enabled for multi-factor authentication (MFA), app password instead of a user password. | |
| | Next | Cancel |

On-Premises Organizations

To authenticate on an on-premises Microsoft SharePoint server, use an account that you are currently logged in to or provide a user name and password.

| | Restore Wizard | × |
|-------------------|--|--------|
| Specify targ | et Microsoft SharePoint Server credentials | |
| 🔵 Use current | account (EPSILON\Administrator) | |
| Use the following | owing account: | |
| Username: | tech\Administrator | |
| Password: | ••••• | |
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| | Back Next | Cancel |

Restoring from Microsoft SQL Database

When restoring from a Microsoft SQL database, provide the following:

- The site URL to which you want to restore your site.
- Authentication credentials.

NOTE

When restoring Microsoft SharePoint document libraries and lists from a Microsoft SQL database, you will proceed directly to the Specify Restore Options step of the wizard.

| | Restore Wizard | × |
|---------------------------------|--|---|
| | et SharePoint site and domain account | |
| http://new_site | ollowing site URL: | |
| | | |
| Specify user acc | count to connect to SharePoint Server: | |
| Use current | account (BDA\administrator) | |
| Use the foll | owing account | |
| Username: | tech\administrator | |
| Password: | ••••• | |
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| | Next Cancel | |

Step 3. Log In to Microsoft 365

This step is only available for data restore from backups created by Veeam Backup for Microsoft 365 and if you have selected the *Modern Authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the Restore Wizard window and click Next.

| Restore Wizard | × |
|---|--------|
| Logiste Mineres (1965 | |
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
| CMJLEFRCK 👌 🗗 Copy code | |
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| | |
| | |
| 🥏 You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
| | |
| Back Next | Cancel |
| | |

Step 4. Specify Target List

At this step of the wizard, select whether you want to restore backed-up data to the original list or specify a custom list.

You can select one of the following options:

- **Restore items to the original list**. To restore the document library or list back to the original list.
- **Restore items to the following list**. To restore the document library or list to the specified list.

If the specified list does not exist, Veeam Explorer for Microsoft SharePoint will create it automatically.

| Restore Wizard | × |
|---|---|
| T | |
| Target list | |
| Restore items to the original list (Site Pages) | |
| Restore items to the following list: | |
| Test Pages | |
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| Back Next Cancel | |

Step 5. Specify Restore Options

At this step of the wizard, select check boxes next to the restore options that you want to apply and click **Restore**.

You can select the following options:

- Changed items. Allows you to restore data that has been modified in your production environment.
- Missing items. Allows you to restore missing items.
- **Restore only latest version**. Allows you to restore only the latest version of items. If this check box is selected, you can select one of the following options:
 - **Overwrite**. To overwrite data in the production environment.
 - Merge. To merge an existing and a backup version of items.

If the **Restore only latest version** check box is not selected, all versions of items in the production environment will be replaced with the relevant data from the backup file.

- **Restore permissions**. Allows you to restore permissions. If not selected, the permissions for the restored document library or list will be set in the following way:
 - If the library (or list) does not exist on target, it will be created inheriting permissions from the parent object.
 - If the library (or list) already exists on target, permissions will be preserved.
- Send a notification by email to the users with permissions to the file. Select this check box if you want to notify users about items restore. Veeam Explorer for Microsoft SharePoint will notify users with whom items have been shared. You can select this check box only if the **Restore permissions** check box is selected.

NOTE

The **Send a notification by email to the users with permissions to the file** check box is only available when restoring data from backups created by Veeam Backup for Microsoft 365 for Microsoft 365 organizations.

• Restore list views. Allows you to restore your list views.

| | Restore Wizard | × |
|---|------------------------------------|--------|
| Restore options | | |
| Restore options | | |
| Restore the following items: | History restore options: | |
| Changed items | Restore only latest version | |
| Missing items | Overwrite | |
| | 🔵 Merge | |
| Additional options: | | |
| Restore permissions | | |
| Send a notification by email to the | users with permissions to the file | |
| Restore list views | | |
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| | Back Restore | Cancel |

Restoring Document Libraries and Lists to Another Location

You can restore Microsoft SharePoint document libraries and lists to other Microsoft 365 organizations and onpremises Microsoft organizations.
Restore to Microsoft 365 Organizations

You can restore backed-up data to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

To restore Microsoft SharePoint document libraries and lists to another Microsoft 365 organization, do the following:

- 1. Launch the Restore wizard.
- 2. Select a target site location.
- 3. Select an authentication method.
- 4. Log in to Microsoft 365.
- 5. Specify a target site web address and a target list.
- 6. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a document library or a list that you want to restore.
- 2. Do one of the following:
 - On the **Library** tab, click **Restore Library** > **Restore library to** on the ribbon.
 - Right-click a library and select **Restore library > Restore library to.**
 - On the List tab, click Restore List > Restore list to on the ribbon.
 - Right-click a list and select **Restore list > Restore list to**.

| ore Save Send Advanced | • Home Library | abc.onmicrosoft | .com as of le: | ss than a day ag | o (6:39 PM Thurse | lay 2/9/2023) - Veeam Explo | rer for Microsoft Shar | :Point | | - | | |
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| Name Size Version Checki Url Created By Created Modified By Modified P Progld Problem Problem sites/Test/SitePages/ Account 5:35 PM 1/20/2023 System System 1/20/2023 System 1/20/2023 System 1/20/2023 System 1/20/2023 System 1/20/2023 System 1/20/2023 System | ontent Databases | Search Site Pages | | | | | | | | | | |
| e in an object name to search for Patabases | | Name | Size | Version | Checki | Url | Created By | Created | Modified By | Modified 1 | Proald | |
| Bacconnicrosoft.com (Backup2) (2/9/2023 6:39:35 PM) News.aspx 6.1 KB 1.0 site:/To:USitePage:/ Administrator 2/2/2023 Administrator 2/2/2023 News.aspx 2:12 PM PM 2/2/2023 Administrator 2/2/2023 Administrator 2/2/2023 Administrator 2/2/2023 News.aspx 2:12 PM PM Contents Contents Solutions Solutions Administrator 2/2/2023 Administrator 2/2/2023 News.aspx Solutions | | | | | | sites/Test/SitePages/ | System | 1/20/2023 | System | 1/20/2023 | | |
| Subsites Content Contents Contents Events Step Pages Step Ibrary Restore Ibrary Sove Ibrary Restore Ibraryto Sove Ibrary | n (Backup2) (2/9/2023 6:39:35 PM) | News.aspx | 6.1 KB | 1.0 | | sites/Test/SitePages/ | Administrator | 2/2/2023 3:12 PM | Administrator | 2/2/2023 3:12 PM | | |
| | Cocuments Cocum | | | | | | | | | | | |

Step 2. Select Target Site Location

At this step of the wizard, select **Microsoft 365** to restore the document library or list to a SharePoint Online organization with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

| Restore Wizard | × |
|---|------|
| | |
| Target site location | |
| Microsoft 365 | |
| On-premises Microsoft SharePoint Server | |
| | |
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| Next Ca | ncel |
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Step 3. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Authentication method drop-down list, select Modern authentication.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified object back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

- 2. From the **Region** drop-down list, select a region to which your target SharePoint Online organization belongs.
- 3. In the Organization name field, enter a name of your target SharePoint Online organization.
- 4. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft SharePoint populates this field with an identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| Restore Wizard | × |
|---|------|
| | |
| Office 365 connection settings | |
| Authentication method: | |
| Modern authentication | ~ |
| Specify region, organization name, and Azure AD application to connect with: Region: | |
| Default | ~ |
| Organization name: | |
| org.onmicrosoft.com | |
| Application ID: | |
| e7268d27-0165-4778-9db6-5cfcb80a7636 | |
| | |
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| | |
| Back Next Ca | ncel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the Authentication method drop-down list, select *Basic authentication*.
- 2. From the **Region** drop-down list, select a region to which your target SharePoint Online organization belongs.
- 3. In the **Username** and **Password** fields, enter credentials to connect to the SharePoint organization.

| | Restore Wizard | × |
|-------------|---|--------|
| | | |
| Office 36 | 5 connection settings | |
| Authenticat | ion method: | |
| Basic auth | entication | ~ |
| Region: | | |
| Default | | * |
| User accou | nt to connect with: | |
| Username: | administrator@org.onmicrosoft.com | |
| Password: | ••••• | |
| | | |
| | | |
| | | |
| | nect with an account enabled for multi-factor authentication (MFA), app password instead of a user password. | |
| ase an | | |
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| | Back Next | Cancel |
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Step 4. Log In to Microsoft 365

This step is only available if you have selected the *Modern Authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the **Restore Wizard** window and click **Next**.

| Restore Wizard | × |
|---|-------|
| | |
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
| CMJLEFRCK 👌 🗗 Copy code | |
| | |
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| | |
| You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
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Step 5. Specify Target Site and List

At this step of the wizard, specify web address of a target SharePoint site and select whether you want to restore backed-up data to the original list or specify a custom list.

To specify web address of a target site and a list to restore backed-up data, do the following:

- 1. In the **Restore to the following site URL** field, specify web address of a target site.
- 2. In the **Target list** section, select one of the following options:
 - **Restore items to the original list**. To restore the document library or list back to the original list.
 - **Restore items to the following list**. To restore the document library or list to the specified list.

If the specified list does not exist, Veeam Explorer for Microsoft SharePoint will create it automatically.

| Restore Wizard | × |
|---|----|
| Target site and list | |
| · | |
| Restore to the following site URL: | |
| https://org.sharepoint.com/sites/Test_site | |
| Target list: | |
| Restore items to the original list (Site Pages) | |
| Restore items to the following list: | |
| Test Pages | |
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| Back Next Canc | el |

Step 6. Specify Restore Options

At this step of the wizard, select check boxes next to the restore options that you want to apply and click **Restore**.

You can select the following options:

- Changed items. Allows you to restore data that has been modified in your production environment.
- Missing items. Allows you to restore missing items.
- **Restore only latest version**. Allows you to restore only the latest version of items:
 - **Overwrite**. To overwrite data in the production environment.
 - Merge. To merge an existing and a backup version of items.

If the **Restore only latest version** check box is not selected, all versions of items in the production environment will be replaced with the relevant data from the backup file.

• Restore list views. Allows you to restore your list views.

| | Restore Wizard | × |
|--|------------------------------------|--------|
| Restore options | | |
| Restore the following items: | History restore options: | |
| Changed items | Restore only latest version | |
| Missing items | Overwrite | |
| | 🔵 Merge | |
| Additional options: | | |
| Restore permissions | | |
| Send a notification by email to the u | isers with permissions to the file | |
| Restore list views | | |
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| | Back Restore | Cancel |

Restore to On-Premises Microsoft Servers

You can restore backed-up data to on-premises Microsoft SharePoint servers. For more information, see the On-Premises Microsoft Organizations section of the Veeam Backup for Microsoft 365 User Guide.

To restore Microsoft SharePoint document libraries and lists to an on-premises Microsoft SharePoint server, do the following:

- 1. Launch the Restore wizard.
- 2. Select a target site location.
- 3. Specify a target site web address and credentials.
- 4. Specify a target list.
- 5. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select a document library or a list that you want to restore.
- 2. Do one of the following:
 - On the **Library** tab, click **Restore Library** > **Restore library to** on the ribbon.
 - Right-click a library and select **Restore library > Restore library to.**
 - On the List tab, click Restore List > Restore list to on the ribbon.
 - Right-click a list and select **Restore list > Restore list to.**

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| ontent Databases | Search Site Pa | iges | | | | | | | | | |
| ntent Databases | Na | me | Size | Version | Checki | Url | Created By | Created | Modified By | Modified † | Progld |
| e in an object name to search for Q | | | 1.6 KB | 1.0 | | sites/Test/SitePages/ Home.aspx | System Account | 1/20/2023 5:35 PM | System Account | 1/20/2023 5:35 PM | |
| Databases to abc.onmicrosoft.com (Backup2) (2/9/2023 6:39:35 PM) | Ne | ws.aspx | 6.1 KB | 1.0 | | sites/Test/SitePages/ News.aspx | Administrator | 2/2/2023 3:12 PM | Administrator | 2/2/2023 3:12 PM | |
| ✓ ■ Content | | | | | | | | | | | |

Step 2. Select Target Site Location

At this step of the wizard, select **On-premises Microsoft SharePoint Server** to restore the document library or list to an on-premises Microsoft SharePoint organization. For more information, see the **On-Premises Microsoft Organizations** section of the Veeam Backup for Microsoft 365 User Guide.

| Restore Wizard | × |
|---|---|
| | |
| Target site location | |
| O Microsoft 365 | |
| On-premises Microsoft SharePoint Server | |
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| Next Cancel | |

Step 3. Specify Target Site Web Address and Credentials

At this step of the wizard, specify web address of a target SharePoint site and provide credentials to connect to the Microsoft SharePoint server.

NOTE

Make sure that you restore to site collection that exists in the target location; Veeam Explorer for Microsoft SharePoint does not create site collections.

To specify web address of a target site and credentials to connect to SharePoint server, do the following:

- 1. In the **Restore to the following site URL** field, specify web address of a target site.
- 2. In the **Specify user account to connect to SharePoint Server** section, use an account that you are currently logged in to or provide a user name and password to connect to the on-premises Microsoft SharePoint server.

| | Restore Wizard | × |
|---|--|---|
| Specify targ | et SharePoint site and domain account | |
| Restore to the fo | ollowing site URL: | |
| http://srv01:12 | 345/sites/testcollection | |
| Specify user acc | ount to connect to SharePoint Server: | |
| 🔵 Use current | account (SRV0101\Administrator) | |
| Use the following the follo | owing account: | |
| Username: | srv01\Administrator | |
| Password: | ••••• | |
| Specify an i | existing site collection URL to restore a site to on-premises SharePoint Server. | |
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| | Back Next Cancel | |

Step 4. Specify Target List

At this step of the wizard, select whether you want to restore backed-up data to the original list or specify a custom list.

You can select one of the following options:

- **Restore items to the original list**. To restore the document library or list back to the original list.
- **Restore items to the following list**. To restore the document library or list to the specified list.

If the specified list does not exist, Veeam Explorer for Microsoft SharePoint will create it automatically.

| Restore Wizard | × |
|---|----|
| Target list | |
| Restore items to the original list (Site Pages) | |
| Restore items to the following list: | |
| Test Pages | |
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Step 5. Specify Restore Options

At this step of the wizard, select check boxes next to the restore options that you want to apply and click **Restore**.

You can select the following options:

- Changed items. Allows you to restore data that has been modified in your production environment.
- Missing items. Allows you to restore missing items.
- **Restore only latest version**. Allows you to restore only the latest version of items:
 - **Overwrite**. To overwrite data in the production environment.
 - Merge. To merge an existing and a backup version of items.

If the **Restore only latest version** check box is not selected, all versions of items in the production environment will be replaced with the relevant data from the backup file.

• Restore list views. Allows you to restore your list views.

| | Restore Wizard | × |
|--|------------------------------------|--------|
| Restore options | | |
| Restore the following items: | History restore options: | |
| Changed items | Restore only latest version | |
| Missing items | Overwrite | |
| | 🔵 Merge | |
| Additional options: | | |
| Restore permissions | | |
| Send a notification by email to the u | isers with permissions to the file | |
| Restore list views | | |
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| | Back Restore | Cancel |

Restoring Documents and List Items

Veeam Explorer for Microsoft SharePoint allows you to restore Microsoft SharePoint documents and list items to the original location or other Microsoft 365 organizations and on-premises Microsoft organizations.

Restoring Documents and List Items to Original Location

To restore Microsoft SharePoint documents and list items to the original location, do the following:

- 1. Launch the Restore wizard.
- 2. Select an authentication method.
- 3. Log in to Microsoft 365.
- 4. Specify a target list.
- 5. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the preview pane, select a document or a list item that you want to restore.
- 2. Do one of the following:
 - On the **Document** tab, click **Restore Document** > **Restore document to <library_name>** on the ribbon.
 - Right-click a document and select **Restore document > Restore document**.
 - On the Item tab, click Restore Item > Restore item to <list_name> on the ribbon.
 - Right-click a list item and select Restore item > Restore item.

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Step 2. Select Authentication Method

At this step of the wizard, select either modern or basic authentication, or authenticate on an on-premises Microsoft SharePoint server, and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Authentication method drop-down list, select Modern authentication.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified object back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

2. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft SharePoint populates this field with the identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| | Restore Wizard | × |
|-----------------|--------------------------------------|--------|
| | | |
| Office 365 c | onnection settings | |
| Authentication | method: | |
| Modern authe | ntication | ~ |
| Azure AD applic | ation to connect with: | |
| Application ID: | e7268d27-0165-4778-9db6-5cfcb80a7636 | |
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| | Next | Cancel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the Authentication method drop-down list, select *Basic authentication*.
- 2. In the **Username** and **Password** fields, enter credentials to connect to the SharePoint organization.

| | Restore Wizard | × |
|-------------|---|--------|
| Office 36 | 5 connection settings | |
| Authentical | ion method: | |
| Basic auth | entication | * |
| User accou | nt to connect with: | |
| Username: | administrator@abc.onmicrosoft.com | |
| Password: | ••••• | |
| | nect with an account enabled for multi-factor authentication (MFA), app password instead of a user password. | |
| | Next | Cancel |

On-Premises Organizations

To authenticate on an on-premises Microsoft SharePoint server, use an account that you are currently logged in to or provide a user name and password.

| | Restore Wizard | × |
|-------------------|--|--------|
| Specify targ | et Microsoft SharePoint Server credentials | |
| 🔵 Use current | account (EPSILON\Administrator) | |
| Use the following | owing account: | |
| Username: | tech\Administrator | |
| Password: | •••••• | |
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| | Back Next | Cancel |

Restoring from Microsoft SQL Database

When restoring from a Microsoft SQL database, provide the following:

- The site URL to which you want to restore your site.
- Authentication credentials.

NOTE

When restoring Microsoft SharePoint documents and list items from a Microsoft SQL database, you will proceed directly to the Specify Restore Options step of the wizard.

| | Restore Wizard | × |
|------------------|---------------------------------------|---|
| Specify targ | et SharePoint site and domain account | |
| Restore to the f | ollowing site URL: | |
| http://new_site | 1 | |
| Specify user acc | ount to connect to SharePoint Server: | |
| O Use current | account (BDA\administrator) | |
| Use the foll | owing account: | |
| Username: | tech\administrator | |
| Password: | ••••• | |
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| | Next Cancel | |

Step 3. Log In to Microsoft 365

This step is only available for data restore from backups created by Veeam Backup for Microsoft 365 and if you have selected the *Modern Authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the Restore Wizard window and click Next.

| Restore Wizard | × |
|---|-----|
| | |
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
| CMJLEFRCK 🔃 Copy code | |
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| 🤣 You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
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| Back Next Can | cel |

Step 4. Specify Target List

At this step of the wizard, select whether you want to restore backed-up data to the original list or specify a custom list.

You can select one of the following options:

- **Restore items to the original list**. To restore the document or list item back to the original list.
- Restore items to the following list. To restore the document or list item to the specified list.

Make sure to specify a list that exists in the original SharePoint site.

| Restore Wizard | × |
|--|---|
| T | |
| Target list | |
| Restore items to the original list (Documents) | |
| Restore items to the following list: | |
| Team Documents | |
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| Back Next Cancel | |

Step 5. Specify Restore Options

At this step of the wizard, select check boxes next to the restore options that you want to apply and click **Restore**.

You can select the following options:

- Changed items. Allows you to restore data that has been modified in your production environment.
- Missing items. Allows you to restore missing items.
- **Restore only latest version**. Allows you to restore only the latest version of items. If this check box is selected, you can select one of the following options:
 - **Overwrite**. To overwrite data in the production environment.
 - Merge. To merge an existing and a backup version of items.

If the **Restore only latest version** check box is not selected, all versions of items in the production environment will be replaced with the relevant data from the backup file.

- **Restore permissions**. Allows you to restore permissions. If not selected, the permissions for the restored document library or list will be set in the following way:
 - If the library (or list) does not exist on target, it will be created inheriting permissions from the parent object.
 - If the library (or list) already exists on target, permissions will be preserved.
- Send a notification by email to the users with permissions to the file. Select this check box if you want to notify users about items restore. Veeam Explorer for Microsoft SharePoint will notify users with whom items have been shared. You can select this check box only if the **Restore permissions** check box is selected.

NOTE

The **Send a notification by email to the users with permissions to the file** check box is only available when restoring data from backups created by Veeam Backup for Microsoft 365 for Microsoft 365 organizations.

| | Restore Wizard | × |
|---|---------------------------------------|---|
| Restore options | | |
| Restore the following items: | History restore options: | |
| Changed items | Restore only latest version | |
| Missing items | Ovenwrite | |
| | 🔵 Merge | |
| Additional options: | | |
| Restore permissions | | |
| Send a notification by email to the | ne users with permissions to the file | |
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Restoring Documents and List Items to Another Location

You can restore Microsoft SharePoint documents and list items to other Microsoft 365 organizations and onpremises Microsoft organizations.

Restore to Microsoft 365 Organizations

You can restore backed-up data to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

To restore Microsoft SharePoint documents and list items to another Microsoft 365 organization, do the following:

- 1. Launch the Restore wizard.
- 2. Select a target site location.
- 3. Select an authentication method.
- 4. Log in to Microsoft 365.
- 5. Specify a target site web address and a target list.
- 6. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the preview pane, select a document or a list item that you want to restore.
- 2. Do one of the following:
 - On the **Document** tab, click **Restore Document > Restore document to** on the ribbon.
 - Right-click a document and select **Restore document > Restore document to.**
 - On the **Item** tab, click **Restore Item** > **Restore item to** on the ribbon.
 - Right-click a list item and select **Restore item > Restore item to.**

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Step 2. Select Target Site Location

At this step of the wizard, select **Microsoft 365** to restore the document or list item to a SharePoint Online organization with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

| Restore Wizard | × |
|---|--------|
| | |
| Target site location | |
| Microsoft 365 | |
| On-premises Microsoft SharePoint Server | |
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| Next | Cancel |
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Step 3. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Authentication method drop-down list, select Modern authentication.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified object back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

- 2. From the **Region** drop-down list, select a region to which your target SharePoint Online organization belongs.
- 3. In the Organization name field, enter a name of your target SharePoint Online organization.
- 4. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft SharePoint populates this field with an identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| Restore Wizard | × |
|---|------|
| | |
| Office 365 connection settings | |
| Authentication method: | |
| Modern authentication | ~ |
| Specify region, organization name, and Azure AD application to connect with: Region: | |
| Default | ~ |
| Organization name: | |
| org.onmicrosoft.com | |
| Application ID: | |
| e7268d27-0165-4778-9db6-5cfcb80a7636 | |
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Basic Authentication

To use basic authentication, do the following:

- 1. From the Authentication method drop-down list, select *Basic authentication*.
- 2. From the **Region** drop-down list, select a region to which your target SharePoint Online organization belongs.
- 3. In the **Username** and **Password** fields, enter credentials to connect to the SharePoint organization.

| | Restore Wizard | × |
|-------------|--|--------|
| 06-026 | E connection actions | |
| Office 36 | 5 connection settings | |
| Authenticat | ion method: | |
| Basic auth | entication | ~ |
| Region: | | |
| Default | | ~ |
| User accour | nt to connect with: | |
| Username: | administrator@org.onmicrosoft.com | |
| Password: | ••••• | |
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| | | |
| | nect with an account enabled for multi-factor authentication (MFA), app password instead of a user password. | |
| | Back | Cancel |
| | | |

Step 4. Log In to Microsoft 365

This step is only available if you have selected the *Modern Authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the **Restore Wizard** window and click **Next**.

| Restore Wizard | × |
|---|--------|
| | |
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
| CMJLEFRCK 🔃 🔂 Copy code | |
| | |
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| • V | |
| You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
| | |
| Back Next | Cancel |

Step 5. Specify Target Site and List

At this step of the wizard, specify web address of a target SharePoint site and select whether you want to restore backed-up data to the original list or specify a custom list.

To specify web address of a target site and a list to restore backed-up data, do the following:

- 1. In the **Restore to the following site URL** field, specify web address of a target site.
- 2. In the **Target list** section, select one of the following options:
 - Restore items to the original list. To restore the document or list item back to the original list.
 - **Restore items to the following list**. To restore the document or list item to the specified list.

Keep in mind that if you restore documents and the specified list does not exist, Veeam Explorer for Microsoft SharePoint will create it automatically. If you restore list items, make sure to specify a list that exists in the original SharePoint site.

| Restore Wizard | × |
|--|---|
| Target site and list | |
| | |
| Restore to the following site URL: | |
| https://org.sharepoint.com/sites/Team_site | |
| Target list: | |
| Restore items to the original list (Documents) | |
| Restore items to the following list: | |
| Team Documents | |
| | |
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| | |
| Back Next Cancel | |

Step 6. Specify Restore Options

At this step of the wizard, select check boxes next to the restore options that you want to apply and click **Restore**.

You can select the following options:

- Changed items. Allows you to restore data that has been modified in your production environment.
- Missing items. Allows you to restore missing items.
- **Restore only latest version**. Allows you to restore only the latest version of items:
 - **Overwrite**. To overwrite data in the production environment.
 - Merge. To merge an existing and a backup version of items.

If the **Restore only latest version** check box is not selected, all versions of items in the production environment will be replaced with the relevant data from the backup file.

| | Restore Wizard | × |
|------------------------------------|--------------------------------------|--------|
| Restore options | | |
| Restore options | | |
| Restore the following items: | History restore options: | |
| Changed items | Restore only latest version | |
| Missing items | Overwrite | |
| | 🔿 Merge | |
| Additional options: | | |
| Restore permissions | | |
| Send a notification by email to th | e users with permissions to the file | |
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| | Back Restore | Cancel |

Restore to On-Premises Microsoft Servers

You can restore backed-up data to on-premises Microsoft SharePoint servers. For more information, see the On-Premises Microsoft Organizations section of the Veeam Backup for Microsoft 365 User Guide.

To restore Microsoft SharePoint documents and list items to an on-premises Microsoft SharePoint server, do the following:

- 1. Launch the Restore wizard.
- 2. Select a target site location.
- 3. Specify a target site web address and credentials.
- 4. Specify a target list.
- 5. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the preview pane, select a document or a list item that you want to restore.
- 2. Do one of the following:
 - On the **Document** tab, click **Restore Document > Restore document to** on the ribbon.
 - Right-click a document and select **Restore document > Restore document to.**
 - On the **Item** tab, click **Restore Item > Restore item to** on the ribbon.
 - Right-click a list item and select **Restore item > Restore item to.**

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| Restore Document * Document * Document * Save Restore | | | | | | | |
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| Databases\abc.onmicrosoft.com (Backup2) (2/9/2023 6:39:35 PM)\ | Team\Content\Documents | | | | | | VeeaM |

Step 2. Select Target Site Location

At this step of the wizard, select **On-premises Microsoft SharePoint Server** to restore the document or list item to an on-premises Microsoft SharePoint organization. For more information, see the **On-Premises Microsoft Organizations** section of the Veeam Backup for Microsoft 365 User Guide.

| Restore Wizard | × |
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| | |
| Target site location | |
| O Microsoft 365 | |
| On-premises Microsoft SharePoint Server | |
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Step 3. Specify Target Site Web Address and Credentials

At this step of the wizard, specify web address of a target SharePoint site and provide credentials to connect to the Microsoft SharePoint server.

NOTE

Make sure that you restore to site collection that exists in the target location; Veeam Explorer for Microsoft SharePoint does not create site collections.

To specify web address of a target site and credentials to connect to SharePoint server, do the following:

- 1. In the **Restore to the following site URL** field, specify web address of a target site.
- 2. In the **Specify user account to connect to SharePoint Server** section, use an account that you are currently logged in to or provide a user name and password to connect to the on-premises Microsoft SharePoint server.

| | Restore Wizard | × |
|------------------|--|----|
| Specify targ | et SharePoint site and domain account | |
| Restore to the f | ollowing site URL: | |
| http://srv01:12 | 345/sites/testcollection | |
| Specify user acc | ount to connect to SharePoint Server: | |
| 🔵 Use current | account (SRV0101\Administrator) | |
| 💿 Use the foll | owing account: | |
| Username: | srv01\Administrator | |
| Password: | ••••• | |
| 1 Specify an | existing site collection URL to restore a site to on-premises SharePoint Server. | |
| | Back Next Cance | :1 |
Step 4. Specify Target List

At this step of the wizard, select whether you want to restore backed-up data to the original list or specify a custom list.

You can select one of the following options:

- **Restore items to the original list**. To restore the document or list item back to the original list.
- Restore items to the following list. To restore the document or list item to the specified list.

Keep in mind that if you restore documents and the specified list does not exist, Veeam Explorer for Microsoft SharePoint will create it automatically. If you restore list items, make sure to specify a list that exists in the original SharePoint site.

| Restore Wizard | × |
|--|---|
| | |
| Target list | |
| Restore items to the original list (Documents) | |
| Restore items to the following list: | |
| Team Documents | |
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| Back Next Cancel | |

Step 5. Specify Restore Options

At this step of the wizard, select check boxes next to the restore options that you want to apply and click **Restore**.

You can select the following options:

- Changed items. Allows you to restore data that has been modified in your production environment.
- Missing items. Allows you to restore missing items.
- **Restore only latest version**. Allows you to restore only the latest version of items:
 - **Overwrite**. To overwrite data in the production environment.
 - Merge. To merge an existing and a backup version of items.

If the **Restore only latest version** check box is not selected, all versions of items in the production environment will be replaced with the relevant data from the backup file.

| | Restore Wizard | × |
|-------------------------------------|------------------------------------|--------|
| Restore options | | |
| | | |
| Restore the following items: | History restore options: | |
| Changed items | Restore only latest version | |
| Missing items | Overwrite | |
| | 🔵 Merge | |
| Additional options: | | |
| Restore permissions | | |
| Send a notification by email to the | users with permissions to the file | |
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| | Back Restore | Cancel |

Data Export

You can use Veeam Explorer for Microsoft SharePoint to export and import Microsoft SharePoint data.

Before exporting data, read the Considerations and Limitations section.

Exporting Microsoft SharePoint Data

Veeam Explorer for Microsoft SharePoint allows you to export SharePoint document libraries and lists from backups created by Veeam Backup & Replication.

The exported content will be saved as a set of XML files and can be imported to another SharePoint database using PowerShell cmdlets. For more information, see Importing Microsoft SharePoint Data.

To export SharePoint data, do the following:

- 1. In the navigation pane, select a library or a list that you want to export.
- 2. Do one of the following:
 - On the Library tab, click Export Library on the ribbon.
 - Right-click a library and select **Export library**.
 - On the List tab, click Export List on the ribbon.
 - Right-click a list and select **Export list**.
- 3. Specify the output directory and click **OK**.

NOTE

You cannot export an empty folder, an empty list and an individual list item.

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Importing Microsoft SharePoint Data

To import document library or list, use one of the following PowerShell cmdlets:

• For PowerShell snap-in, use the following command:

```
Add-PsSnapin Microsoft.SharePoint.PowerShell
Import-SPWeb -Identity "http://<web_server_name>/sites/<destination_site>"
-Path "C:\<export_folder>" -NoFileCompression -IncludeUserSecurity
```

• For SharePoint Management Shell, use the following command:

```
Import-SPWeb -Identity "http://<web_server_name>/sites/<destination_site>"
-Path "C:\<export folder>" -NoFileCompression -IncludeUserSecurity
```

where:

- <web server name> destination web server.
- <destination site> destination website.
- <export folder> source folder containing exported library/list content.

To get extended help on the Import-SPWeb command, use the following command:

Get-Help Import-SPWeb -full

Saving Microsoft SharePoint Documents and Libraries

Veeam Explorer for Microsoft SharePoint allows you to save your libraries and library documents to a specified location.

To save a Microsoft SharePoint library, do the following:

- 1. In the navigation pane, select a library that you want to save.
- 2. Do one of the following:
 - On the Library tab, click Save Library > Save as files or Save Library > Save as ZIP on the ribbon.
 - Right-click a library and select **Save library** > **Save as files** or **Save library** > **Save as ZIP**.
- 3. In the displayed window, browse to the necessary folder and click **Select Folder** or **Save**.

Keep in mind that if you select the **Save as ZIP** option, Veeam Explorer for Microsoft SharePoint will save a library to an archive with the *archive.zip* name.

To save a library document, do the following:

- 1. In the preview pane, select a document that you want to save.
- 2. Do one of the following:
 - On the Document tab, click Save Document > Save as files or Save Document > Save as ZIP on the ribbon.
 - Right-click a document and select **Save document** > **Save as files** or **Save document** > **Save as ZIP**.
- 3. In the displayed window, browse to the necessary folder and click Select Folder or Save.

Keep in mind that if you select the **Save as ZIP** option, Veeam Explorer for Microsoft SharePoint will save a library to an archive with the *archive.zip* name.

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Sending Microsoft SharePoint Documents and Libraries

Veeam Explorer for Microsoft SharePoint allows you to send libraries or library documents to the specified recipients through email.

TIP

Before sending documents, make sure to configure SMTP settings. The amount of data you can send at a time depends on your SMTP server configuration. For more information about configuring SMTP settings, see SMTP Settings.

To send libraries or library documents through email, do the following:

- 1. Select an object that you want to send through email:
 - \circ To send a Microsoft SharePoint library, select the necessary library in the navigation pane.
 - To send a library document, select a library that contains the document in the navigation pane and then select the document in the preview pane.
- 2. Do one of the following:
 - On the Library/Document tab, click Send Library/Send Document on the ribbon.
 - Right-click an object that you want to send and select Send library/Send document.

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3. In the **Send Items** window, provide a recipient address.

The **From** field is filled automatically based on the address you have provided when configuring SMTP settings.

You can also edit the message subject and body. To edit the message body, click **More details**.

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Veeam Explorer for Microsoft OneDrive for Business

Veeam Explorer for Microsoft OneDrive for Business allows you to restore Microsoft OneDrive data from backups created by Veeam Backup for Microsoft 365.

Planning and Preparation

Veeam Explorer for Microsoft OneDrive for Business comes as part of the Veeam Explorer for Microsoft SharePoint installation package and has the same system requirements.

Consider that when Veeam Explorer for Microsoft SharePoint is installed on a server on which both Veeam Backup & Replication and Veeam Backup for Microsoft 365 are installed, the notification settings will be inherited from the Veeam Backup & Replication Global Notification settings.

Launching Application and Exploring Backups

To open Veeam Explorer for Microsoft OneDrive for Business and load backups, you can use any of the following methods:

• The **Explore** option to load backups created by Veeam Backup for Microsoft 365. For more information, see the Data Restore section of the Veeam Backup for Microsoft 365 User Guide.

When loading backups located in object storage, Veeam Explorer for Microsoft OneDrive for Business will notify you about the location of these backups. You can select the **Don't show this message again** check box to unsubscribe from such notifications. To disable these notifications, clear the **Show pop-up notifications on startup** check box. For more information, see Advanced Settings.

• Go to **Start**, click **Veeam Explorer for Microsoft OneDrive for Business** and manually open Microsoft OneDrive databases. For more information, see **Standalone Databases**.

When you open Veeam Explorer for Microsoft OneDrive for Business from the **Start** menu, all backed-up databases will be loaded automatically.

If you open Veeam Explorer for Microsoft OneDrive for Business from the **Start** menu on a machine that runs the Veeam Backup & Replication console and Veeam Explorers only, specify the following:

- The domain name or IP address of a server to which you want to connect.
- The port number.
- User account credentials.

Consider the following:

- To perform restore operations, Veeam Explorer for Microsoft OneDrive for Business must be run with elevated permissions. The user account must be a member of the local *Administrators* group on the machine where Veeam Explorer for Microsoft OneDrive for Business is installed.
- The account must have the Veeam Backup Administrator or Veeam Restore Operator role on the target backup server.

To use the account under which Veeam Explorer for Microsoft OneDrive for Business is running, select **Use Windows session authentication**.

To save the connection shortcut to the desktop, click **Save shortcut** in the bottom-left corner.

Getting to Know User Interface

The user interface of Veeam Explorer for Microsoft OneDrive for Business is designed to let you quickly find commands that you need to restore Microsoft OneDrive data from backups created by Veeam Backup for Microsoft 365.

Main Menu

The main menu comprises the following:

- **General Options**. Allows you to configure general application settings. For more information, see General Application Settings.
- Help.
 - Online help. Opens the online help page.
 - About. Shows the additional information including build number.
- Exit. Closes the Veeam Explorer for Microsoft OneDrive for Business window.

TIP

You can also open online help by pressing [F1] in any Veeam Explorer for Microsoft OneDrive for Business wizard or window. You will then be redirected to the relevant section of the Veeam Explorers User Guide.

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Main Application Window

The main application window can be divided into three categories:

- The ribbon that contains operation commands organized into logical groups represented as tabs. The ribbon is displayed at the top of the main application window.
- The navigation pane that allows you to browse through the hierarchy of folders with backed-up data. Also, it allows you to search for OneDrives using keywords.
- The preview pane that provides search capabilities and allows you to view details about items that are contained in a folder you have selected in the navigation pane.



Browsing, Searching and Viewing Items

You can use Veeam Explorer for Microsoft OneDrive for Business to view the contents of a backup file, view object properties, open files, search for OneDrives and for items in a backup file as well as customize criteria of your search.

Searching for OneDrives

You can use keywords to search for OneDrives in the database structure containing your OneDrive objects. To do this, enter a search query in the search field at the top of the navigation pane.

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To remove a keyword, click the cross mark.

Browsing Backup Content

To view the contents of a backup file, you use the navigation pane which shows you the database structure containing your OneDrive objects.

After you select an object in the navigation pane, you can see its content in the preview pane.

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Viewing Objects Properties and Opening Files

To view object properties, right-click an object in the preview pane and select **View properties**.

To open a document using an associated application, right-click a document in the preview pane and select **Open**.

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Searching for Objects in Backup File

The search mechanism allows you to find items matching specified search criteria.

To search for required items, do the following:

- 1. In the navigation pane, select an object in which you want to find your data.
- 2. Enter a search query in the search field at the top of the preview pane.

NOTE

To find the exact phrase, use double quotes. For example, "Attachments".

You can narrow your search results by specifying various search criteria using the *criteria:value* format. You can also use logical upper-cased operators such as *AND*, *OR* and *NOT* along with wildcard characters such as * and ?.

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Using Advanced Find

The Advanced Find mechanism allows you to define your search criteria more precisely.

For example, to find an object that starts with the word *Document*, do the following:

- 1. In the preview pane, select a node and click **Advanced Find** on the ribbon.
- 2. In the **Define search criteria** section, select **Category > Document fields**.
- 3. In the Field list, select File Name.
- 4. In the Condition list, select starts with.
- 5. In the Value field, specify a file name.
- 6. Click Add to List and then click Start.

To remove a filter, click the cross mark next to it. To remove all configured filters, click **Reset**.

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General Application Settings

You can configure general settings for Veeam Explorer for Microsoft OneDrive for Business.

SMTP Settings

To send Microsoft OneDrive items as attachments, you must configure SMTP server settings.

To configure SMTP settings, do the following:

- 1. In the main menu, click **General Options**.
- 2. Open the SMTP Settings tab.
- 3. Select the **Configure SMTP settings** check box and do the following:
 - a. In the Server field, specify a DNS name or IP address of the SMTP server.
 - b. In the **Port** field, specify a port number of the specified SMTP server.

The default port number is 25. If you want to use SSL data encryption, specify port 587.

- c. In the **From** field, specify the sender email address. This address will appear in the **From** field when sending OneDrive items. See Sending Microsoft OneDrive Documents.
- d. If the specified SMTP server requires an authentication for outgoing mail, select the **Use authentication** check box and provide valid credentials.
- e. Select the Enable SSL security check box to enable SSL data encryption.
- 4. Click **Send** to send a test email message.
- 5. Click OK.

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Advanced Settings

Veeam Explorer for Microsoft OneDrive for Business allows you to configure advanced settings such as extended logging mode and pop-up notifications.

To configure advanced settings, do the following:

- 1. In the main menu, click General Options.
- 2. Open the Advanced tab.
- 3. If you want to enable extended logging mode to collect logs that contain additional information on specific operations, select the **Enable extended logging** check box.

After enabling extended logging mode, you can go back to the application and perform actions for which you want to collect additional information. Then you can collect logs.

- 4. By default, Veeam Explorer for Microsoft OneDrive for Business displays notifications when loading backups created by Veeam Backup for Microsoft 365 from object storage. If you want to disable these notifications, clear the **Show pop-up notifications on startup** check box.
- 5. Click OK.

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Standalone Databases

You can add standalone databases to the Veeam Explorer for Microsoft OneDrive for Business scope and connect to a Veeam Backup for Microsoft 365 server and service provider server to view backups located on these servers.

Adding Veeam Backup for Microsoft 365 Databases

To manually add databases that store Microsoft 365 organization data, do the following:

- 1. Do one of the following:
 - On the Home tab, click Add Org > Veeam Backup for Microsoft 365 database on the ribbon.
 - Right-click the **Organizations** node and select **Veeam Backup for Microsoft 365 database**.
- 2. Specify the database file location and log directory.
- 3. Click Open.

| | Add Database | × |
|----------------|--|-----|
| Specify Vee | am Backup for Microsoft 365 database (.adb) file location: | |
| Database file: | C:\Users\Administrator\Desktop\VeeamRepository\2021\repository.adb | se |
| Logs folder: | C:\Users\Administrator\Desktop\VeeamRepository\2021 Brow | se |
| | Open Can | cel |

NOTE

Make sure you have disabled the *Veeam Backup Proxy for Microsoft 365 Service* when adding local databases. You can stop this service by using the services.msc console. If you try to add a database having this service still in progress, you will receive an error message and will not be able to access the database due to database lock.

Adding Veeam Backup for Microsoft 365 Server

You can use the built-in Veeam Explorer for Microsoft OneDrive for Business abilities to connect to another Veeam Backup for Microsoft 365 server and add its databases to the Veeam Explorer for Microsoft OneDrive for Business scope.

To connect to another Veeam Backup for Microsoft 365 server remotely, do the following:

- 1. Do one of the following:
 - On the Home tab, click Add Org > Veeam Backup for Microsoft 365 server on the ribbon.
 - Right-click the Organizations node and select Veeam Backup for Microsoft 365 server.
- 2. Specify a server name or IP address and enter credentials to access the specified server.

Select the **Use Windows session authentication** check box to connect with the user account under which you are currently logged in.

3. Click Connect.

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| ******* | |
| Use Windows session authentication | |
| Connect | e |

Adding Veeam Backup for Microsoft 365 Service Provider

In Veeam Explorer for Microsoft OneDrive for Business, you can connect to a service provider server to add its backups to the application scope and perform a restore directly from such backups.

NOTE

Make sure that both Veeam Explorer for Microsoft OneDrive for Business and Veeam Backup & Replication are installed on the same server and at least one service provider is added to Veeam Backup & Replication. For more information, see the Connecting to Service Providers section of the Veeam Cloud Connect Guide.

To add Veeam Backup for Microsoft 365 service providers, do the following:

- 1. Do one of the following:
 - On the Home tab, click Add Org > Veeam Backup for Microsoft 365 service provider on the ribbon.
 - Right-click the Organizations node and select Veeam Backup for Microsoft 365 service provider.
- 2. From the **Select service provider and authentication method** drop-down list, select a service provider that you want to add and select an authentication method that can be either *Modern authentication* or *Basic authentication*.
- 3. [For *Modern authentication*] Select a region to which a Microsoft 365 organization of the selected service provider belongs.
- 4. [For *Modern authentication*] Copy the device code and use it to sign in to Azure Active Directory.

For *Basic authentication*, you must enter a user name and password to connect to the service provider server.

NOTE

You cannot use *Basic authentication* to load backups if a Microsoft 365 organization has been added to the service provider infrastructure using *Modern authentication*.

5. Select a point-in-time state as of which you want to load Microsoft 365 backups.

To select a point in time, use the calendar control.

- 6. Select the **Show items that have been deleted by user** check box to see all the items that were removed.
- 7. Select the **Show all versions of items that have been modified by user** check box if you want to load modified versions.

8. Click Connect.



Removing Organizations

Veeam Explorer for Microsoft OneDrive for Business allows you to remove an organization from the application scope when you no longer need it.

To remove an organization from the application scope, right-click an organization in the navigation pane and select **Remove organization**.



Data Restore

You can use Veeam Explorer for Microsoft OneDrive for Business to restore data to Microsoft 365 organizations.

NOTE

By default, Veeam Explorer for Microsoft OneDrive for Business restores only the latest version of OneDrive items to their original location. If you want to restore all versions of OneDrive items and specify another location, you can copy your OneDrive data. For more information, see Data Copy.

Restoring Single OneDrive

To restore data of a single OneDrive, do the following:

- 1. Launch the Restore wizard.
- 2. Select an authentication method.
- 3. Log in to Microsoft 365.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. Select an object that you want to restore:
 - To restore OneDrive, select the necessary OneDrive in the navigation pane.
 - To restore a folder, select the necessary folder in the navigation pane.
 - To restore a document, select a folder that contains the document in the navigation pane and then select the document in the preview pane.
- 2. Do one of the following:
 - On the OneDrive/Folder/Document tab, click Restore OneDrive/Restore Folder/Restore Document on the ribbon and select one of the following options:
 - Overwrite to completely overwrite existing OneDrive data.
 - Keep to preserve existing data and restore items with the RESTORED prefix (RESTORED- <file name>.ext).
 - Right-click an object that you want to restore and select Restore OneDrive/Restore folder/Restore document > Overwrite or Restore OneDrive/Restore folder/Restore document > Keep.

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Step 2. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Authentication method drop-down list, select Modern authentication.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified object back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

2. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft OneDrive for Business populates this field with the identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| | Restore Wizard | × |
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| 0.0 | | |
| Office 365 c | onnection settings | |
| Authentication | method: | |
| Modern authe | ntication | ~ |
| Azure AD applic | ation to connect with: | |
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| | Next | Cancel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the Authentication method drop-down list, select *Basic authentication*.
- 2. In the **Username** and **Password** fields, enter credentials to connect to the SharePoint organization.

| | Restore Wizard | × |
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| Office 36 | 5 connection settings | |
| Authentical | ion method: | |
| Basic auth | entication | ~ |
| User accour | nt to connect with: | |
| Username: | administrator@abc.onmicrosoft.com | |
| Password: | ••••• | |
| | nect with an account enabled for multi-factor authentication (MFA), app password instead of a user password. | |
| | Next | Cancel |

Step 3. Log In to Microsoft 365

This step is only available if you have selected the *Modern authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For Veeam Explorer for Microsoft OneDrive for Business, required permissions are the same as for Veeam Explorer for Microsoft SharePoint. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the **Restore Wizard** window and click **Restore**.

| Restore Wizard | × |
|---|--------|
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
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| 🤣 You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
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| Back Restore | Cancel |

Restoring Multiple OneDrives

To restore multiple OneDrives, do the following:

- 1. Launch the Restore wizard.
- 2. Select an authentication method.
- 3. Log in to Microsoft 365.
- 4. Select OneDrives.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. In the navigation pane, select an organization with OneDrives.
- 2. Do one of the following:
 - On the **Home** tab, click **Restore OneDrives** on the ribbon and select one of the following options:
 - **Overwrite** to completely overwrite existing OneDrives.
 - Keep to preserve existing data and restore items with the RESTORED prefix (RESTORED-<file_name>.ext).
 - Right-click an organization with OneDrives and select Restore OneDrives > Overwrite or Restore OneDrives > Keep.

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|--|--|-----------------------------------|---|-----------------------|----------------------|----------------|--------------------------------|----------------------|---------|-------------|----------|--------|----|
| Add Remove Org Org Organizations | Restore Save OneDrives ▼ OneDrives ▼ Restore | (1) Advanced Find Search | | | | | | | | | | | |
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| ▲ 開 Organizati | ani microsoft.com (2/10/2023 1:33 | 🙈 Rest | ore OneDrives OneDrives iove organization | Overwrite Keep | | | | | | | | | |
| Organizations\ab | .onmicrosoft.com (2/10/2023 | 1:33:39 PM) | | | | | | | | | | vee | AM |

Step 2. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Authentication method drop-down list, select Modern authentication.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified object back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

2. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft OneDrive for Business populates this field with the identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| | Restore Wizard | × |
|-----------------|--------------------------------------|--------|
| 0.0 | | |
| Office 365 c | onnection settings | |
| Authentication | method: | |
| Modern authe | ntication | ~ |
| Azure AD applic | ation to connect with: | |
| Application ID: | e7268d27-0165-4778-9db6-5cfcb80a7636 | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Next | Cancel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the Authentication method drop-down list, select *Basic authentication*.
- 2. In the **Username** and **Password** fields, enter credentials to connect to the SharePoint organization.

| | Restore Wizard | × |
|------------|---|--------|
| Office 36 | 5 connection settings | |
| Authentica | ion method: | |
| Basic auth | entication | ~ |
| User accou | nt to connect with: | |
| Username: | administrator@abc.onmicrosoft.com | |
| Password: | ••••• | |
| | nect with an account enabled for multi-factor authentication (MFA), app password instead of a user password. | |
| | Next | Cancel |
Step 3. Log In to Microsoft 365

This step is only available if you have selected the *Modern authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For Veeam Explorer for Microsoft OneDrive for Business, required permissions are the same as for Veeam Explorer for Microsoft SharePoint. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the Restore Wizard window and click Next.

| Restore Wizard | × |
|---|--------|
| | |
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | . |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
| DNX9JV6ZY 🚺 Copy code | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
| | |
| Back Next | Cancel |

Step 4. Select OneDrives

At this step of the wizard, select OneDrives that you want to restore and click Restore.

If you want to check whether user accounts whose OneDrives you want to restore exist, click **Resolve selected** accounts.

| | Restore Wizard | | × |
|--------------------------------|----------------|------------------|----------|
| Select OneDrive accounts to re | store | | |
| Account 1 | Status | | ^ |
| ✓ Adele Vance | 🥑 User found | | |
| Administrator | 🤣 User found | | |
| Alex Wilber | | | |
| 📃 Diego Siciliani | | | |
| Grady Archie | | | |
| Henrietta Mueller | | | |
| 📃 Isaiah Langer | | | |
| Johanna Lorenz | | | |
| Joni Sherman | | | |
| ✔ Lee Gu | 🤣 User found | | |
| Lidia Holloway | | | ~ |
| 9 accounts selected | | Resolve selected | accounts |
| | Back | Restore | Cancel |

Data Copy

You can use Veeam Explorer for Microsoft OneDrive for Business to copy OneDrive data to a different location. To copy OneDrive data to the same or different user, do the following:

- 1. Launch the Restore wizard.
- 2. Select an authentication method.
- 3. Log in to Microsoft 365.
- 4. Specify a target user.
- 5. Specify a target folder.
- 6. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- 1. Select an object that you want to copy:
 - To copy OneDrive, select the necessary OneDrive in the navigation pane.
 - \circ $\,$ To copy a folder, select the necessary folder in the navigation pane.
 - To copy a document, select a folder that contains the document in the navigation pane and then select the document in the preview pane.
- 2. Do one of the following:
 - On the OneDrive/Folder/Document tab, click Copy OneDrive/Copy Folder/Copy Document on the ribbon.
 - Right-click an object that you want to copy and select Copy OneDrive/Copy folder/Copy document.



Step 2. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Authentication method drop-down list, select Modern authentication.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified object back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

2. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft OneDrive for Business populates this field with the identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| | Restore Wizard | × |
|-----------------|--------------------------------------|--------|
| | | |
| Office 365 c | onnection settings | |
| Authentication | method: | |
| Modern authe | ntication | ~ |
| Azure AD applic | ation to connect with: | |
| Application ID: | e7268d27-0165-4778-9db6-5cfcb80a7636 |] |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Next | Cancel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the Authentication method drop-down list, select *Basic authentication*.
- 2. In the **Username** and **Password** fields, enter credentials to connect to the SharePoint organization.

| | Restore Wizard | × |
|------------|---|--------|
| Office 36 | 55 connection settings | |
| Authentica | ion method: | |
| Basic auth | entication | ~ |
| User accou | nt to connect with: | |
| Username: | administrator@abc.onmicrosoft.com | |
| Password: | ••••• | |
| | nect with an account enabled for multi-factor authentication (MFA), app password instead of a user password. | |
| | Next | Cancel |

Step 3. Log In to Microsoft 365

This step is only available if you have selected the *Modern authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has the *SharePoint Administrator* role.

4. Return to the **Restore Wizard** window and click **Next**.

| | Restore Wizard | × |
|--|--|---|
| Login to Misson | - 1- 24F | |
| Log in to Microso | 511365 | |
| Provided account mu: | st have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticat https://microsoft.com | te with the below code at: ₁ /devicelogin | |
| DNX9JV6ZY | 💫 🔂 Copy code | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 🤣 You are authentic: | ated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
| | | |
| | Back Next Cancel | |
| | | _ |

Step 4. Specify Target User

At this step of the wizard, specify a target user where you want to copy data.

You can select one of the following options:

- **Restore to original user**. To copy OneDrive data back to the original user.
- Restore to the following user. To copy OneDrive data to the specified user.

To select a target user, do the following:

- 1. Click Browse.
- 2. In the Browse OneDrive Accounts window, select the necessary account and click Select.

| Restore Wizard | × |
|--|--------|
| | |
| Specify target user | |
| Restore to original user (Administrator) | |
| Restore to the following user: | |
| Adele Vance | Browse |
| | |
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| | |
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| | |
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| | |
| | |
| | |
| Back Next | Cancel |

Step 5. Specify Target Folder

At this step of the wizard, specify the target folder to which you want to copy data.

| Restore Wizard | × |
|--|---|
| Select target folder | |
| 🔺 📥 Adele Vance | |
| 🛁 Attachments | |
| | |
| | |
| | |
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| | |
| | |
| | |
| | |
| | |
| Destination folder: /Adele Vance/Attachments | |
| Back Next Cancel | |

Step 6. Specify Restore Options

At this step of the wizard, select check boxes next to the restore options that you want to apply and click **Restore**.

You can select the following options:

- Changed items. Allows you to restore data that has been modified in your production environment.
- Missing items. Allows you to restore missing items.
- **Restore only latest version**. Allows you to restore only the latest version of items. If this check box is selected, you can select one of the following options:
 - **Overwrite**. To overwrite data in the production environment.
 - Merge. To merge an existing and a backup version of items.

If the **Restore only latest version** check box is not selected, all versions of items in the production environment will be replaced with the relevant data from the backup file.

- Restore shared access. Allows you to restore shared access.
- Send a notification by email to the users with permissions to the file. Select this check box if you want to notify users about items restore. Veeam Explorer for Microsoft OneDrive for Business will notify users with whom items have been shared. You can select this check box only if the **Restore shared access** check box is selected.

NOTE

The **Send a notification by email to the users with permissions to the file** check box is only available when restoring data from backups created by Veeam Backup for Microsoft 365 for Microsoft 365 organizations.

| | Restore Wizard | × |
|---|----------------------------------|-----|
| Destava entiene | | |
| Restore options | | |
| Restore the following items: | History restore options: | |
| Changed items | Restore only latest version | |
| Missing items | Overwrite | |
| | 🔵 Merge | |
| Additional options: | | |
| Restore shared access | | |
| Send a notification by email to the use | ers with permissions to the file | |
| | | |
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| | | |
| | Back Restore Can | cel |
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Saving Microsoft OneDrives

Veeam Explorer for Microsoft OneDrive for Business allows you to save OneDrive content to the specified location.

Saving Multiple OneDrives

To save data of multiple OneDrives, do the following:

- 1. In the navigation pane, select an organization with OneDrives.
- 2. Do one of the following:
 - o On the Home tab, click Save OneDrives on the ribbon and select how you want to save data:
 - Save as files. Select this option if you want to save each file separately to a specified location.
 - Save as ZIP. Select this option if you want to add saved files to a ZIP archive and save the
 resulting archive to a specified location. Veeam Explorer for Microsoft OneDrive for Business will
 save files to an archive with the OneDrives_<timestamp>.zip name.
 - Right-click an organization with OneDrives and select Save OneDrives > Save as files or Save OneDrives > Save as ZIP.
- 3. In the Save OneDrives Wizard wizard, select OneDrive accounts to save.

| Save OneDrives Wizard | × |
|----------------------------------|--------|
| Select OneDrive accounts to save | |
| Account 1 | ^ |
| ✓ Adele Vance | |
| Administrator | |
| Alex Wilber | |
| Diego Siciliani | |
| Grady Archie | |
| Henrietta Mueller | |
| 🔄 Isaiah Langer | |
| 📃 Johanna Lorenz | |
| 🔄 Joni Sherman | |
| Lee Gu | |
| 🗌 Lidia Holloway | |
| Lynne Robbins | |
| Megan Bowen | ~ |
| 2 accounts selected | |
| Next | Cancel |

4. Specify a folder where to save OneDrive data and click **Save**.

| Save OneDrives Wizard | × |
|--------------------------------|--------|
| Specify destination path | |
| Specify desunation path | |
| Specify folder path: | |
| C:\Users\Administrator\Desktop | Browse |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Back Save | Cancel |

Saving Individual OneDrives

To save data of a specific OneDrive, do the following:

- 1. In the navigation pane, select OneDrive.
- 2. Do one of the following:
 - On the **OneDrive** tab, click **Save OneDrive** on the ribbon and select how you want to save data:
 - Save as files. Select this option if you want to save each file separately to a specified location. To specify a location, in the displayed window, browse to the necessary folder and click Select Folder.
 - Save as ZIP. Select this option if you want to add saved files to a ZIP archive and save the
 resulting archive to a specified location. To specify a location, in the displayed window, browse
 to the necessary folder and click Save. Veeam Explorer for Microsoft OneDrive for Business will
 save files to an archive with the <u style="color: blue;">user_name>.zip name in this folder.
 - Right-click OneDrive and select **Save OneDrive** > **Save as files** or **Save OneDrive** > **Save as ZIP**.

| store Copy Save Send BDrive OneDrive OneDrive OneDrive Send Restore Send Search Search | | | | | | | | | | | | |
|--|---|----------------|----------|---------|----|---|---------------|-------|---------------|--------|--------|--|
| Restore Copy Save Send Advanced OneDrive * OneDrive * OneDrive * OneDrive Find | | | | | | | | | | | | |
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| ▶ ▲ Administrator ▶ ▲ Alex Wilber ▶ ▲ Diego Siciliani ▲ Copy OneDrive | | | 10.3 MB | 1.0 | | administrator_qwbs_o nmicrosoft_com/ Documents/ | Administrator | | Administrator | | | |
| A Henrietta Muelle Send OneDrive Alsaiah Langer Alohanna Lorenz View properties | | migadex | 906.5 KB | 1.0 | | administrator_qwbs_o nmicrosoft_com/ Documents/PS | Administrator | | Administrator | 3 1:30 | | |
| ▶ 🐟 Lee Gu ▶ 🐟 Lidia Holloway ▶ 🗠 Lynne Robbins | | structure.pptx | 45.6 KB | 1.0 | | administrator_qwbs_o nmicrosoft_com/ Documents/ | Administrator | | Administrator | 3 1:30 | | |
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| | | | | | | | | | | | | |

Saving Microsoft OneDrive Documents and Folders

Veeam Explorer for Microsoft OneDrive for Business allows you to save documents and folders located in Microsoft OneDrive to a specified location.

To save a folder, do the following:

- 1. In the navigation pane, select a folder that you want to save.
- 2. Do one of the following:
 - On the Folder tab, click Save Folder > Save folder as files or Save Folder > Save folder as ZIP on the ribbon.
 - Right-click a folder and select **Save folder** > **Save folder** as **files** or **Save folder** > **Save folder** as **ZIP**.
- 3. In the displayed window, browse to the necessary folder and click Select Folder or Save.

Keep in mind that if you select the **Save as ZIP** option, Veeam Explorer for Microsoft OneDrive for Business will save a folder to an archive with the *archive.zip* name.

To save a document, do the following:

- 1. In the preview pane, select a document that you want to save.
- 2. Do one of the following:
 - On the Document tab, click Save Document > Save as files or Save Document > Save as ZIP on the ribbon.
 - Right-click a document and select **Save document** > **Save as files** or **Save document** > **Save as ZIP**.
- 3. In the displayed window, browse to the necessary folder and click Select Folder or Save.

Keep in mind that if you select the **Save as ZIP** option, Veeam Explorer for Microsoft OneDrive for Business will save a document to an archive with the *archive.zip* name.

| Restore Copy Restore Coursent * Document Restore |) History View | | | | | | | | | | |
|--|----------------------|---|---|-----|------------------------------|---|---------------|----------------------|---------------|----------------------|--------|
| Content Databases | Search E | locs | | | | | | | | | |
| ype in an object name to search for | | Name 🕇 | | Ver | c | UH | Created By | Created | Modified By | Modi | Progld |
| Organizations K abc.onmicrosoft.com (2/10/2023 1:33:39 PM) | | comparison.pdf | Open | 1.0 | | personal/ administrator_qwbs_onmi crosoft_com/Documents/ Docs/comparison.pdf | Administrator | 2/7/2023 12:10 PM | Administrator | 2/7/2023 12:10 PM | |
| | | PS.bat | | ۰ | | personal/ administrator_qwbs_onmi crosoft_com/Documents/ ocs/PS.txt | Administrator | 2/7/2023 12:11 PM | Administrator | 2/7/2023 12:11 PM | |
| ▶ ▲ Diego Siciliani ▶ ▲ Grady Archie ▶ ▲ Henrietta Mueller ▶ ▲ Isaiah Langer | | veeam_backup_n _7_0_user_guide. | Save document Send document View properties | | Save as files Save as ZIP | rsonal/ ministrator_qwbs_onmi psoft_com/Documents/ Docs/ veeam_backup_m365_7_0 _user_guide.docx | Administrator | 2/7/2023 12:10 PM | Administrator | 2/7/2023 12:10 PM | |
| ► A Johanna Lorenz ► A Joni Sherman ► A Lee Gu ► A Lidia Holloway ► A Lidia Holloway | | veeam_backup_m3t _7_0_user_guide.pdf | | 1.0 | | personal/ administrator_qwbs_onmi crosoft_com/Documents/ Docs/ veeam_backup_m365_7_0 _user_guide.pdf | Administrator | 2/7/2023 12:10 PM | Administrator | 2/7/2023 12:10 PM | |
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Sending Microsoft OneDrive Data

Veeam Explorer for Microsoft OneDrive for Business allows you to send OneDrive data to specified recipients through email.

TIP

Before sending documents, make sure to configure SMTP settings. The amount of data you can send at a time depends on your SMTP server configuration. For more information about configuring SMTP settings, see SMTP Settings.

To send OneDrive data through email, do the following:

- 1. Select an object that you want to send through email:
 - To send OneDrive, select the necessary OneDrive in the navigation pane.
 - \circ $\,$ To send a folder, select the necessary folder in the navigation pane.
 - To send a document, select a folder that contains the document in the navigation pane and then select the document in the preview pane.
- 2. Do one of the following:
 - On the **OneDrive/Folder/Document** tab, click **Send OneDrive/Send Folder/Send Document** on the ribbon.
 - Right-click an object that you want to send and select **Send OneDrive/Send folder/Send document**.

| estore ument * Document Document * Document * Send Restore |) History View | | | | | | | | | | |
|--|----------------------|--|---------|-----|---|--|---------------|----------------------|---------------|----------------------|--------|
| ontent Databases | Search E | | | | | | | | | | |
| rpe in an object name to search for | | Name 🕇 | Size | Ver | C | Url | Created By | Created | Modified By | Modi | Progld |
| Organizations Kathering (2/10/2023 1:33:39 PM) | | comparison.pdf Open | 10.3 MB | 1.0 | | personal/ administrator_qwbs_onmi crosoft_com/Documents/ Docs/comparison.pdf | Administrator | 2/7/2023 12:10 PM | Administrator | 2/7/2023 12:10 PM | |
| Adele Vance Administrator <u> for Coss Administrator <u> for Coss Adex Wilber Adex Wilber </u></u> | | PS.bd 🕲 View history 🔊 Restore docu n Copy docum | ument 🔸 | 1.0 | | personal/ administrator_qwbs_onmi crosoft_com/Documents/ Docs/PS.txt | Administrator | 2/7/2023 12:11 PM | Administrator | 2/7/2023 12:11 PM | |
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| A Johanna Lorenz A Joni Sherman A Lee Gu A Lidia Holloway A Lynne Robbins | | veeam_backup_m365 _7_0_user_guide.pdf | 5.0 MB | 1.0 | | personal/ administrator_qwbs_onmi crosoft_com/Documents/ Docs/ veeam_backup_m365_7_0 _user_quide.pdf | Administrator | 2/7/2023 12:10 PM | Administrator | 2/7/2023 12:10 PM | |
| ▲ Megan Bowen ▲ Mirism Graham ▲ Netor Wilke ▲ Patti Fernandez ▲ Pradeep Gupta | | | | | | | | | | | |

3. In the Send Items window, provide a recipient address.

The **From** field is filled automatically based on the address you have provided when configuring SMTP settings.

You can also edit the message subject and body. To edit the message body, click **More details**.

| | | Send Items | × |
|---------|-------------|--------------------------------------|---|
| | From: | administrator@tech.local | |
| | To: | administrator@abc.onmicrosoft.com | |
| Send | Subject: | OneDrive Documents Recovery | |
| com | parison.pdf | 10.3 MB | |
| 🔥 Less | details | | |
| by Veea | m Explorer | for Microsoft OneDrive for Business. | |
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Veeam Explorer for Microsoft Teams

Veeam Explorer for Microsoft Teams allows you to restore and export Microsoft Teams data from backups created by Veeam Backup for Microsoft 365.

Planning and Preparation

You can configure your environment before you start using Veeam Explorer for Microsoft Teams.

Ports

For restore of Microsoft Teams data, you must open the same ports that are required for restore of Microsoft Exchange and Microsoft SharePoint data. For more information, see Veeam Explorer for Microsoft Exchange: Ports and Veeam Explorer for Microsoft SharePoint: Ports.

Permissions

The following table lists required permissions for data restore.

| Operation | Required Roles and Permissions |
|--------------------------|---|
| Restore to Microsoft 365 | To restore Microsoft Teams data, you must grant the following roles and permissions to user accounts: |
| | Restore Using Basic Authentication Method |
| | The user account must have a Microsoft 365 license that permits access to Microsoft Teams API. The minimum sufficient license is Microsoft Teams Exploratory experience. For more information about the Microsoft Teams Exploratory experience, see this Microsoft article. To restore Microsoft Teams data, the user account must have the <i>Teams Administrator</i> role. |
| | Restore Using Modern Authentication Method |
| | The user account must have a Microsoft 365 license that permits access to Microsoft Teams API. The minimum sufficient license is Microsoft Teams Exploratory experience. To restore Microsoft Teams data, the user account must have the <i>Teams Administrator</i> role. Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the |
| | Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide. If you restore data with Azure AD applications using a certificate, make sure that your Azure AD application is granted the required |
| | make sure that your Azure AD application is granted the required permissions. For more information, see the Permissions for Modern App-Only Authentication section of the Veeam Backup for Microsoft 365 User Guide. |

Considerations and Limitations

This section lists considerations and limitations of Veeam Explorer for Microsoft Teams.

Data Restore

Consider the following when planning to restore Microsoft Teams data:

- Use of modern authentication with legacy protocols allowed is not supported for data restore with Veeam Explorer for Microsoft Teams.
- You can restore Microsoft Teams data to the original organization only.
- Veeam Explorer for Microsoft Teams does not change roles for team owners during restore. For example, you create a backup of your organization, and then change role for a team member from *Member* to *Owner*. In this case, if you restore this team member from the backup, Veeam Explorer for Microsoft Teams will not set their role to *Member*.
- Restore of OneNote notebooks from backups of Microsoft Teams data for organizations with modern apponly authentication is not supported.
- When restoring a channel tab, Veeam Explorer for Microsoft Teams does not preserve relation between the link to a file published on the tab and the file itself. You will need to link the tab to the file manually after restore. This limitation does not apply to the scenario where you restore an entire team.
- Veeam Explorer for Microsoft Teams does not restore posts to their original location in the team channel. Instead, Veeam Explorer for Microsoft Teams exports posts to a file of the HTML format, creates a separate tab in the original channel and attaches the HTML file to this tab.
- If a user never opened the *Files* tab of a team channel in Microsoft Teams before data backup, files from this tab are not displayed in Veeam Explorer for Microsoft Teams.
- Before restoring posts, make sure that Website App is unblocked both for your organization and the user account that you use to restore Microsoft Teams data.
- When restoring a channel, Veeam Explorer for Microsoft Teams cannot rename this channel.
- Before restoring team data for a tenant organization with modern app-only authentication, make sure that a user account used for authorization has access to the root SharePoint site of this tenant organization.

Launching Application and Exploring Backups

To open Veeam Explorer for Microsoft Teams and load backups, you can use any of the following methods:

• The **Explore** option to load backups created by Veeam Backup for Microsoft 365. For more information, see the Data Restore section of the Veeam Backup for Microsoft 365 User Guide.

When loading backups located in object storage, Veeam Explorer for Microsoft Teams will notify you about the location of these backups. You can select the **Don't show this message again** check box to unsubscribe from such notifications. To disable these notifications, clear the **Show pop-up notifications on startup** check box. For more information, see Advanced Settings.

• Go to **Start**, click **Veeam Explorer for Microsoft Teams** and manually open Microsoft Teams databases. For more information, see **Standalone Databases**.

When you open Veeam Explorer for Microsoft Teams from the **Start** menu, all backed-up databases will be loaded automatically.

If you open Veeam Explorer for Microsoft Teams from the **Start** menu on a machine that runs the Veeam Backup & Replication console and Veeam Explorers only, specify the following:

- The domain name or IP address of a server to which you want to connect.
- The port number.
- User account credentials.

Consider the following:

- To perform restore operations, Veeam Explorer for Microsoft Teams must be run with elevated permissions. The user account must be a member of the local *Administrators* group on the machine where Veeam Explorer for Microsoft Teams is installed.
- The account must have the Veeam Backup Administrator or Veeam Restore Operator role on the target backup server.

To use the account under which Veeam Explorer for Microsoft Teams is running, select **Use Windows** session authentication.

To save the connection shortcut to the desktop, click **Save shortcut** in the bottom-left corner.

Getting to Know User Interface

The user interface of Veeam Explorer for Microsoft Teams is designed to let you quickly find commands that you need to restore and export Microsoft Teams data from backups created by Veeam Backup for Microsoft 365.

Main Menu

The main menu comprises the following:

- **General Options**. Allows you to configure general application settings. For more information, see General Application Settings.
- Help.
 - **Online help**. Opens the online help page.
 - About. Shows the additional information including build number.
- Exit. Closes the Veeam Explorer for Microsoft Teams window.

TIP

You can also open online help by pressing [F1] in any Veeam Explorer for Microsoft Teams wizard or window. You will then be redirected to the relevant section of the Veeam Explorers User Guide.

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| General Options | | | | |
| Help + | Online help Opens online help web page in the default browser | | | |
| Exit | About Shows additional information | | 🔍 📳 Posts | ~ |
| Type in an object name to search for | about this product | | | |
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Main Application Window

The main application window can be divided into three categories:

- The ribbon that contains operation commands organized into logical groups represented as tabs. The ribbon is displayed at the top of the main application window.
- The navigation pane that allows you to browse through the hierarchy of folders with backed-up data. Also, it allows you to search for teams using keywords.
- The preview pane that provides search capabilities and allows you to view details about items that are contained in a folder you have selected in the navigation pane.



Browsing, Searching and Viewing Items

You can use Veeam Explorer for Microsoft Teams to view the contents of a backup file, view team properties, open posts and files, search for teams and for items in a backup file as well as customize criteria of your search.

Searching for Teams

You can use keywords to search for teams in the database structure containing your Microsoft Teams objects. To do this, enter a search query in the search field at the top of the navigation pane.

To remove a keyword, click the cross mark.

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Browsing Backup Content

To view the contents of a backup file, you use the navigation pane which displays the database structure containing your Microsoft Teams objects: teams, channels and channel tabs. Veeam Explorer for Microsoft Teams groups channel tabs in the following nodes of the navigation pane:

- **Posts**. Contains the *Posts* tab of the channel.
- Files. Contains the *Files* tab of the channel.
- **Other tabs**. Contains other tabs of the channel that link to sites, documents, applications, and and other objects.

After you select an object in the navigation pane, you can see its content in the preview pane.

| Èå ≣ • Home <mark>Posts</mark> | All organizations as of less than | a day ago (4:47 PM Friday 2/10/2023) - \ | leeam Explorer for Microsof | t Teams | - = | × |
|---|-----------------------------------|--|-----------------------------|-------------------|-----------|-----|
| Restore Export Save Send Posts Posts + Posts & Advanced Find Restore Search | | | | | | |
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| Type in an object name to search for | Author | Subject | Created 🕹 | Last Modified | | |
| | Adele Vance | | 2/10/2023 4:43 PM | 2/10/2023 4:43 PM | | |
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| Posts 2 items shown. | | | | | Ve | BAM |
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Viewing Team Properties

You can view properties of a backed-up team. This may be useful, for example, in case you want to decide whether to restore team properties during restore of a team.

To view team properties, in the navigation pane, right-click a necessary team and select **View properties**.

| | All organizations as of less than a day ago (447 PM Friday 2/10/2023) - Veeam Explorer for Microsoft Teams | | × |
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| E Home Team Restore Advanced Restore Search | | | |
| Organizations Type in an object name to search for | Search Team | Q Posts | ~ |
| Team | | vee | AM |

Opening Posts and Files

You can use Veeam Explorer for Microsoft Teams to open backed-up posts and files.

To open a post or file, do the following:

- 1. In the navigation pane, browse to the channel whose post or file you want to open and click the necessary node: **Posts** or **Files**.
- 2. In the preview pane, right-click a post or file and select **Open**.

| 88 ≡• Home Files | All organization: | ; as of less than a day ago (4:47 | PM Friday 2/10/2023) - Veea | m Explorer for Microsoft Tea | ams | - 🗆 × |
|---|-------------------|-----------------------------------|-----------------------------|------------------------------|---------------|---------------|
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Searching for Objects in Backup File

The search mechanism allows you to find items (posts, files and tabs) matching specified search criteria.

To search for required items, do the following:

- 1. In the navigation pane, do one of the following:
 - Select a node that contains an item you want to find: Posts, Files or Other tabs.
 - Select a team or channel whose items you want to find. Then, from the drop-down list next to the search field, select what type of items you want to find: *Files, Posts* or *Other tabs*.
- 2. Enter a search query in the search field.

NOTE

To find the exact phrase, use double quotes. For example, "Document".

You can narrow your search results by specifying various search criteria using the *criteria:value* format. You can also use logical upper-cased operators such as *AND*, *OR* and *NOT* along with wildcard characters such as * and ?.

| ∎ • Home <mark>Posts</mark> | All organizations as | of less than a day ago (4:47 PM Friday 2/10/ | 2023) - Veeam Explorer for Micro: | oft Teams | - 🗆 | > |
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| port Save Send Ists * Ports * Ports Restore Search | | | | | | |
| Organizations | Administrator | | | > | 🕻 📳 Posts | |
| Type in an object name to search for | Author | Subject Created ↓ 2/7/2023 12:27 PM | Last Modified 2/7/2023 12:27 PM | Path abc.onmicrosoft.com (2/10/2023 4:47:47 PM)\Team\General | | |
| I Organizations | Administrator | 2/7/2023 12:27 PM | | abc.onmicrosoft.com (2/10/2023 4:47:47 PM)\Team\General | | |
| A 10 abc.onmicrosoft.com (2/10/2023 4:47:47 PM) | Administrator | 2/2/2023 3:33 PM | 2/2/2023 3:33 PM | abc.onmicrosoft.com (2/10/2023 4:47:47 PM)\Team\General | | |
| ₽ Ports Piles ■ Team News ♥ Ports Piles ● Other tabs | | | | | | |
| arch results in Team 3 items shown. | | | | | vee | eΑ |

Using Advanced Find

The Advanced Find mechanism allows you to define your search criteria more precisely.

NOTE

The **Advanced Find** mechanism is supported for posts and files only. The mechanism is not supported for tabs.

For example, to find a file whose name starts with *"word"*, do the following:

- 1. In the preview pane, select a node and click **Advanced Find** on the ribbon.
- 2. In the **Define search criteria** section, select **Category** > **File fields**.
- 3. In the Field list, select Name.
- 4. In the **Condition** list, select **starts with**.
- 5. In the **Value** field, specify a file name.
- 6. Click Add to List and then click Start.

To remove a filter, click the cross mark next to it. To remove all configured filters, click **Reset**.

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|---|---------------------------|-------------------|-------------|--------------------|-----------------|----------|----------------------|-------------|---|---|----------------|
| Restore File Files Save Send File Files Search View | | | | | | | | | | | |
| Organizations | Find items that match the | se criteria: | | | | | | | | | |
| Type in an object name to search for Q | 🗙 Name | starts v | vith | compariso | n | | | | | | Start Reset |
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| Kales and Marketing | Category: | Fiel | d: | | | | Condition: | | Value: | | |
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| E Posts | Name 🕇 | Size | V | Modi | Mo | Cre | Cre | Path | | | |
| 🕒 Files 🔺 🚍 Team News | Comparison.pdf | 10.3 | 1.0 | 2/7/202 | Admi | 2/7/2. | Admi | abc.onmicro | soft.com (2/10/2023 4:47:47 PM)\Team\General\ | | |
| Search results in Team 1 items shown. | | | | | | | | | | | VEEAM |

General Application Settings

You can configure general settings for Veeam Explorer for Microsoft Teams.

SMTP Settings

To send Microsoft Teams items as attachments, you must configure SMTP server settings.

To configure SMTP settings, do the following:

- 1. In the main menu, click **General Options**.
- 2. Open the SMTP Settings tab.
- 3. Select the **Configure SMTP settings** check box and do the following:
 - a. In the Server field, specify a DNS name or IP address of the SMTP server.
 - b. In the **Port** field, specify a port number of the specified SMTP server.

The default port number is 25. If you want to use SSL data encryption, specify port 587.

- c. In the **From** field, specify the sender email address. This address will appear in the **From** field when sending Microsoft Teams posts or files. For more information, see Sending Posts and Files.
- d. If the specified SMTP server requires an authentication for outgoing mail, select the **Use authentication** check box and provide valid credentials.
- e. Select the **Enable SSL security** check box to enable SSL data encryption.
- 4. Click **Send** to send a test email message.
- 5. Click OK.

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| SMTP Setting | gs A | dvanced | | | |
| 🖌 Configu | re SMT | P settings | | | |
| Server: | smtp. | office365.com | ı | | |
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Advanced Settings

Veeam Explorer for Microsoft Teams allows you to configure advanced settings such as extended logging mode and pop-up notifications.

To configure advanced settings, do the following:

- 1. In the main menu, click General Options.
- 2. Open the **Advanced** tab.
- 3. If you want to enable extended logging mode to collect logs that contain additional information on specific operations, select the **Enable extended logging** check box.

After enabling extended logging mode, you can go back to the application and perform actions for which you want to collect additional information. Then you can collect logs.

- 4. By default, Veeam Explorer for Microsoft Teams displays notifications when loading backups created by Veeam Backup for Microsoft 365 from object storage. If you want to disable these notifications, clear the **Show pop-up notifications on startup** check box.
- 5. Click OK.



Standalone Databases

You can add standalone databases to the Veeam Explorer for Microsoft Teams scope and connect to a Veeam Backup for Microsoft 365 server and service provider server to view backups located on these servers.

Adding Veeam Backup for Microsoft 365 Databases

To manually add databases that store Microsoft 365 organization data, do the following:

- 1. Do one of the following:
 - On the Home tab, click Add Org > Veeam Backup for Microsoft 365 database on the ribbon.
 - Right-click the **Organizations** node and select **Veeam Backup for Microsoft 365 database**.
- 2. Specify the database file location and log directory.
- 3. Click Open.

| | Add Database | × |
|----------------|--|----|
| Specify Vee | am Backup for Microsoft 365 database (.adb) file location: | |
| Database file: | C:\Users\Administrator\Desktop\VeeamRepository\2021\repository.adb Brow: | ie |
| Logs folder: | C:\Users\Administrator\Desktop\VeeamRepository\2021 Brows | e |
| | Open Can | el |

NOTE

Make sure you have disabled the *Veeam Backup Proxy for Microsoft 365 Service* when adding local databases. You can stop this service by using the services.msc console. If you try to add a database having this service still in progress, you will receive an error message and will not be able to access the database due to database lock.

Adding Veeam Backup for Microsoft 365 Server

You can use Veeam Explorer for Microsoft Teams to connect to another Veeam Backup for Microsoft 365 server and add its databases to the Veeam Explorer for Microsoft Teams scope.

To connect to another Veeam Backup for Microsoft 365 server remotely, do the following:

- 1. Do one of the following:
 - On the Home tab, click Add Org > Veeam Backup for Microsoft 365 server on the ribbon.
 - o Right-click the Organizations node and select Veeam Backup for Microsoft 365 server.
- 2. Specify a server name or IP address and enter credentials to access the specified server.

Select the **Use Windows session authentication** check box to connect with the user account under which you are currently logged in.

3. Click Connect.

| | × |
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| Veeam Backup | |
| Type in a server name or IP address, service port number and user credentials to connect with. VBM365Server 9194 | |
| TECH\Administrator | |
| ••••• | |
| ✓ Use Windows session authentication | |
| Connect Close | |

Adding Veeam Backup for Microsoft 365 Service Provider

In Veeam Explorer for Microsoft Teams, you can connect to a service provider server to add its backups to the application scope and perform a restore directly from such backups.

NOTE

Make sure that both Veeam Explorer for Microsoft Teams and Veeam Backup & Replication are installed on the same server and at least one service provider is added to Veeam Backup & Replication. For more information, see the Connecting to Service Providers section of the Veeam Cloud Connect Guide.

To add Veeam Backup for Microsoft 365 service providers, do the following:

- 1. Do one of the following:
 - On the Home tab, click Add Org > Veeam Backup for Microsoft 365 service provider on the ribbon.
 - Right-click the Organizations node and select Veeam Backup for Microsoft 365 service provider.
- 2. From the **Select service provider and authentication method** drop-down list, select a service provider that you want to add and select an authentication method that can be either *Modern authentication* or *Basic authentication*.
- 3. [For *Modern authentication*] Select a region to which a Microsoft 365 organization of the selected service provider belongs.
- 4. [For *Modern authentication*] Copy the device code and use it to sign in to Azure Active Directory.

For *Basic authentication*, you must enter a user name and password to connect to the service provider server.

NOTE

You cannot use *Basic authentication* to load backups if a Microsoft 365 organization has been added to the service provider infrastructure using *Modern authentication*.

5. Select a point-in-time state as of which you want to load Microsoft 365 backups.

To select a point in time, use the calendar control.

- 6. Select the **Show items that have been deleted by user** check box to see all the items that were removed.
- 7. Select the **Show all versions of items that have been modified by user** check box if you want to load modified versions.
8. Click Connect.



Removing Organizations

Veeam Explorer for Microsoft Teams allows you to remove an organization from the application scope when you no longer need it.

To remove an organization from the application scope, right-click an organization in the navigation pane and select **Remove organization**.



Data Restore

You can use Veeam Explorer for Microsoft Teams to restore Microsoft Teams data to Microsoft 365 organizations.

Restoring Teams

You can use Veeam Explorer for Microsoft Teams to restore all teams of a Microsoft 365 organization or a specific team of an organization.

Before restoring data, read the Considerations and Limitations section.

To restore teams, do the following:

- 1. Launch the Restore wizard.
- 2. Select an authentication method.
- 3. Log in to Microsoft 365.
- 4. Select teams to restore.
- 5. Specify restore options.
- 6. Select team members to restore.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- If you want to restore multiple teams of a Microsoft 365 organization, in the navigation pane, do one of the following:
 - Select an organization whose teams you want to restore and on the Home tab, click Restore Teams on the ribbon.
 - Right-click an organization whose teams you want to restore and select **Restore teams**.

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|--|---|-----------|------|
| Add Remove Org * Org Restore Database | | | |
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| abc.onmicrosoft.com (2/10/2023 4/47/47 PM) | | Ve | BEAM |

- If you want to restore a specific team, in the navigation pane, do one of the following:
 - Select a team that you want to restore and on the **Team** tab, click **Restore Team** on the ribbon.
 - Right-click a team that you want to restore and select **Restore team**.

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|--|---|-----------|------|
| Restore Team Restore Search | | | |
| Organizations | Search Team | 🔍 🗋 Files | ~ |
| Type in an object name to search for | | | |
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| Sales and Marketing | | | |
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| Team | | V | eeam |

Step 2. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Authentication method drop-down list, select Modern authentication.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified team back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

2. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft Teams populates this field with the identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| | Restore Wizard | × |
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| h di ava a a ft 27 | E connection acting | |
| MICLOSOIL 3 | 5 connection settings | |
| Authentication | nethod: | |
| Modern authe | ntication | ~ |
| Azure AD applic | ation to connect with: | |
| Application ID: | e7268d27-0165-4778-9db6-5cfcb80a7636 | |
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| | Next | Cancel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the Authentication method drop-down list, select *Basic authentication*.
- 2. In the **Username** and **Password** fields, enter credentials to connect to the Microsoft 365 organization.

| | Restore Wizard | × |
|------------|-----------------------------------|--------|
| h. 41 | | |
| Microso | t 365 connection settings | |
| Authentica | tion method: | |
| Basic auth | entication | * |
| User accou | nt to connect with: | |
| Username: | administrator@abc.onmicrosoft.com | |
| Password: | ••••• | |
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| | Next | Cancel |

Step 3. Log In to Microsoft 365

This step is only available if you have selected the *Modern authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the Restore Wizard window and click Next.

| Restore Wizard | × |
|---|------|
| | |
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
| DNX9JV6ZY 🚺 Copy code | |
| | |
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| | |
| | |
| You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
| Back Next Ca | ncel |

Step 4. Select Teams

This step is only available if you launched the **Restore** wizard to restore multiple teams.

At this step of the wizard, select check boxes next to the teams that you want to restore.

| Restore Wizard | | |
|-------------------------|------------------------------------|---|
| Select teams to restore | | |
| Team T | Description | |
| Sales and Marketing | Description of Sales and Marketing | |
| 🗸 Team | Team | |
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| | | |
| 1 team selected | | |
| | Back Next Cance | I |

Step 5. Specify Restore Options

At this step of the wizard, specify data restore options:

- 1. Select the **Changed items** check box if you want to restore items that have changed since the time when the backup was created. When you select this option, Veeam Explorer for Microsoft Teams overwrites existing items in the original team.
- 2. Select the **Missing items** check box if you want to restore items that are missing in the original team. For example, some of the items were removed and you want to restore them from the backup.
- 3. Select the **Restore team settings** check box if you want to replace the current team settings with team settings from the backup. For information on how to view team settings in the backup, see Viewing Team Properties.

Keep in mind that you cannot select this check box if both the **Changed items** and **Missing items** check boxes are cleared.

- 4. If you want to restore information about team members and their roles from the backup, make sure that the **Restore membership and their permissions** check box is selected.
 - If you launched the **Restore** wizard to restore a specific team, you will be able to review team members at the next step of the wizard. Click **Next**.
 - If you launched the **Restore** wizard to restore multiple teams, you cannot review team members. Click **Restore** to start the restore operation.

You cannot proceed to the next step or start the restore operation, if you clear both the **Changed items** and **Missing items** check boxes.

TIP

If you clear the **Restore membership and their permissions** check box, you can start the restore operation immediately. To do this, click **Restore**.

| Restore Wizard | × |
|---|--------|
| | |
| Specify the restore options | |
| Restore the following items: | |
| Changed items | |
| Missing items | |
| Additional options: | |
| 💌 Restore team settings (guest permissions, @mentions, fun stuff) | |
| Restore membership and their permissions | |
| | |
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| | |
| Back Restore | Cancel |

Step 6. Review Team Members

This step is only available if you launched the **Restore** wizard to restore a specific team and selected the **Restore membership and their permissions** check box at the **previous step** of the wizard.

At this step of the wizard, review the list of users whose membership and roles in the team will be restored and click **Restore**.

To quickly find the necessary team members, use the search field at the top of the wizard window.

NOTE

Veeam Explorer for Microsoft Teams does not change roles for team owners during restore. For example, you create a backup of your organization, and then change role for a team member from *Member* to *Owner*. In this case, if you choose to restore this team member from the backup, Veeam Explorer for Microsoft Teams will not set their role to *Member*.

In the opposite case, if a team member role was changed from *Owner* to *Member* after the backup was created, and you choose to restore team membership from the backup, Veeam Explorer for Microsoft Teams will elevate the role to *Owner* during restore.

| Restore Wizard | | | | | | | |
|---------------------------------------|------------------------------------|----------------|--|--|--|--|--|
| Members to restore | 2 | | | | | | |
| [Type in an object name | to search for] | | | | | | |
| Name 🕇 | Email | Role | | | | | |
| Adele Vance | AdeleV@qwbs.onmicrosoft.com | Member | | | | | |
| Administrator | Administrator@qwbs.onmicrosoft.com | Owner | | | | | |
| Diego Siciliani | DiegoS@qwbs.onmicrosoft.com | Member | | | | | |
| Isaiah Langer | IsaiahL@qwbs.onmicrosoft.com | Member | | | | | |
| Johanna Lorenz | JohannaL@qwbs.onmicrosoft.com | Member | | | | | |
| Lee Gu Lee Guques innecessorie Member | | | | | | | |
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| | Back | Restore Cancel | | | | | |
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Restoring Channels and Tabs

You can use Veeam Explorer for Microsoft Teams to restore individual channels of a team. You can restore an entire channel or specific tabs of a channel.

To restore channels and tabs, do the following:

- 1. Launch the Restore wizard.
- 2. Select an authentication method.
- 3. Log in to Microsoft 365.
- 4. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- If you want to restore a channel, in the navigation pane, do one of the following:
 - Select a channel that you want to restore and on the **Channel** tab, click **Restore Channel** on the ribbon.
 - Right-click a channel that you want to restore and select **Restore channel**.

| i ta | All organizations as of less than a day ago (4:47 PM Friday 2/10/2023) - Veeam Explorer for Microsoft Teams | – 🗆 × |
|--|---|---------------|
| ■ • Home Channel | | |
| Restore Channel Find Find Search | | |
| Organizations | Search Team News | 🔍 🗋 Files 🔍 🗸 |
| organizations | | |
| Type in an object name to search for Q | | |
| Organizations | | |
| 4 🍋 abc.onmicrosoft.com (2/10/2023 4:47:47 PM) | | |
| iii Sales and Marketing iiii Team | | |
| General | | |
| E Team News Restore channel | | |
| A Revolution 2 | | |
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| Team News | | VEEAM |

- If you want to restore all tabs of a channel, in the navigation pane, do one of the following:
 - Expand a channel whose tabs you want to restore, select Other tabs and on the Tabs tab, click Restore Tabs on the ribbon.
 - Expand a channel whose tabs you want to restore, right-click **Other tabs** and select **Restore tabs**.

| All organizations as of less than a day ago (447 PM Friday 2/10/2023) - Veeam Explorer for Microsoft Teams — 🗖 🗙 🗉 + Home Tabs | | | | | | | × | |
|--|-------|--------------|---------|---|--|---------------|---------|----|
| Restore Tabs Restore Search | | | | | | | | |
| Organizations | Searc | h Other tabs | | | | Q 🕂 Ot | hertabs | ~ |
| Type in an object name to search for | | Name 🕇 | Туре | Content URL | | | | |
| | 0 | New Notebook | OneNote | https://www.onenote.com/teams/TabContent?notebookSource=N | | | | |
| ■ (Quanizations) ■ Soles and Marketing ■ Soles and Marketing ■ Team ■ General ■ Team News ■ Posts ■ Files ■ Other tabs | | | | | | | | |
| Other tabs 1 items shown. | | | | | | | vee | АM |

- If you want to restore individual tabs of a channel, do the following:
 - a. In the navigation pane, expand a channel whose tabs you want to restore and select **Other tabs**.
 - b. In the preview pane, select a necessary tab and click **Restore Tabs** on the ribbon or right-click a tab and select **Restore tabs**.

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To select more than one tab in the preview pane, press and hold the **[CTRL]** key and select the necessary tabs.

| 🛃 🗉 Home Tabs | All organizations as of le: | is than a day ago (4:47 PM Fri | day 2/10/2023) - Veeam Explorer for Microsoft Teams | - 🗆 X |
|--|-----------------------------|--------------------------------|---|--------------------|
| Restore Tabs Restore Search | | | | |
| Organizations | Search Other tabs | | | 🔍 💾 Other tabs 🗸 🗸 |
| Type in an object name to search for | Name 🕇 | Туре | Content URL | |
| Organizations | 🔲 New Notebook 👫 Resta | re tabs | https://www.onenote.com/teams/TabContent?notebookSource=N | |
| Resonanticrosoft.com (2/10/2023 447A7 PM) Sales and Marketing Senaral General General General Files General Gene | | μ ² | | |
| Other tabs 1 items shown. | | | | VEEAM |

Step 2. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Authentication method drop-down list, select Modern authentication.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified team back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

2. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft Teams populates this field with the identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| | Restore Wizard | × |
|--------------------|--------------------------------------|--------|
| h di ava a a ft 27 | E connection acting | |
| MICLOSOIL 3 | 5 connection settings | |
| Authentication | nethod: | |
| Modern authe | ntication | ~ |
| Azure AD applic | ation to connect with: | |
| Application ID: | e7268d27-0165-4778-9db6-5cfcb80a7636 | |
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| | | |
| | | |
| | Next | Cancel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the Authentication method drop-down list, select *Basic authentication*.
- 2. In the Username and Password fields, enter credentials to connect to the Microsoft 365 organization.

| | Restore Wizard | × |
|------------|-----------------------------------|--------|
| h. 41 | | |
| IVIICTOSO | t 365 connection settings | |
| Authentica | tion method: | |
| Basic auth | entication | * |
| User accou | nt to connect with: | |
| Username: | administrator@abc.onmicrosoft.com | |
| Password: | ••••• | |
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| | Next | Cancel |

Step 3. Log In to Microsoft 365

This step is only available if you have selected the *Modern authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the Restore Wizard window and click Next.

| Restore Wizard | × |
|---|---------|
| | |
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
| DNX9JV6ZY 🚺 Copy code | |
| | |
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| | |
| | |
| 🤣 You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
| | |
| Back | Cancel |
| Back INext | Carriel |

Step 4. Specify Restore Options

At this step of the wizard, specify data restore options and start the restore operation:

- 1. Select the **Changed items** check box if you want to restore items that have changed since the time when the backup was created. When you select this option, Veeam Explorer for Microsoft Teams overwrites existing items in your target location.
- 2. Select the **Missing items** check box if you want to restore items that are missing in the target location. For example, some of the items were removed and you want to restore them from the backup.
- 3. Click Restore.

NOTE

During restore of a tab, Veeam Explorer for Microsoft Teams restores the name of the tab and a link to an object published on the tab. The object itself, for example, a SharePoint site or document, is not restored from the backup in this scenario. To restore such objects along with tabs, consider restoring an entire team. For more information, see Restoring Teams.

| Restore Wizard | × |
|------------------------------|-------|
| Specify the restore options | |
| | |
| Restore the following items: | |
| Changed items | |
| Missing items | |
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Restoring Posts

You can use Veeam Explorer for Microsoft Teams to restore posts of a team channel. When you restore posts, you can choose to restore all posts of a channel or restore posts published within a specified time period.

NOTE

Veeam Backup for Microsoft 365 does not restore posts to their original location in the team channel. Instead, Veeam Backup for Microsoft 365 creates a new tab in the original channel and restores posts to this tab. If you want to restore posts to another channel, use the export operation. For more information, see Data Export.

To restore posts, do the following:

- 1. Launch the Restore wizard.
- 2. Select an authentication method.
- 3. Log in to Microsoft 365.
- 4. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, in the navigation pane, do one of the following:

- Expand a channel whose posts you want to restore, select **Posts** and on the **Posts** tab, click **Restore Posts** on the ribbon.
- Expand a channel whose posts you want to restore, right-click Posts and select Restore posts.



Step 2. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Authentication method drop-down list, select Modern authentication.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified team back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

2. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft Teams populates this field with the identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| | Restore Wizard | × |
|-----------------|--------------------------------------|--------|
| 16 6.2 | | |
| MICROSOFT 38 | 55 connection settings | |
| Authentication | method: | |
| Modern authe | ntication | ~ |
| Azure AD applic | ation to connect with: | |
| Application ID: | e7268d27-0165-4778-9db6-5cfcb80a7636 | |
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| | | |
| | Next | Cancel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the Authentication method drop-down list, select *Basic authentication*.
- 2. In the Username and Password fields, enter credentials to connect to the Microsoft 365 organization.

| | Restore Wizard | × |
|------------|-----------------------------------|--------|
| Microsof | t 365 connection settings | |
| | ion method: | |
| Basic auth | entication | ~ |
| User accou | nt to connect with: | |
| Username: | administrator@abc.onmicrosoft.com | |
| Password: | •••••• | |
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| | Next | Cancel |
| | | |

Step 3. Log In to Microsoft 365

This step is only available if you have selected the *Modern authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the Restore Wizard window and click Next.

| Restore Wizard | × |
|---|------|
| | |
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
| DNX9JV6ZY 🚺 Copy code | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
| Back Next Ca | ncel |

Step 4. Specify Restore Options

At this step of the wizard, select restore options and click **Restore**.

You can select one of the following options:

• Restore all posts

Select this option if you want to restore all posts published in the channel.

• Restore posts for the specified time period

Select this option if you want to restore posts published in the channel during the specified time period.

If you select this option, in the **From** and **To** fields, specify the dates that define the start and end of the desired time period. Veeam Explorer for Microsoft Teams will restore posts whose last modification date belongs to the specified period.

When you restore posts, Veeam Backup for Microsoft 365 will create a separate tab in the original team channel and restore posts to this tab.

| | Restore Wizard | × |
|------------------|--|--------|
| _ | the specified time period | |
| From: | To: | |
| Friday, February | 3, 2023 🛗 Friday, February 10, 2023 | |
| | February 2023 | |
| | Su Mo Tu We Th Fr Sa | |
| | 29 30 31 1 2 3 4 | |
| | 5 6 7 8 9 10 11 | |
| | 12 13 14 15 16 17 18 19 20 21 22 23 24 25 | |
| | 26 27 28 1 2 3 4 | |
| | 5 6 7 8 9 10 11 | |
| | | |
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| | | |
| | | |
| | Back Restore | Cancel |

Restoring Files

You can use Veeam Explorer for Microsoft Teams to restore files of a team channel.

To restore files, do the following:

- 1. Launch the Restore wizard.
- 2. Select an authentication method.
- 3. Log in to Microsoft 365.
- 4. Specify restore options.

Step 1. Launch Restore Wizard

To launch the **Restore** wizard, do the following:

- If you want to restore all files of a channel, in the navigation pane, do one of the following:
 - Expand a channel whose files you want to restore, select Files and on the Files tab, click Restore File on the ribbon.
 - Right-click a channel whose files you want to restore, right-click **Files** and select **Restore files**.



- If you want to restore individual files, do the following:
 - a. In the navigation pane, expand a channel whose files you want to restore and select Files.
 - b. In the preview pane, select a necessary file and click **Restore File** on the ribbon or right-click a file and select **Restore file**.

TIP

To select more than one file in the preview pane, press and hold the **[CTRL]** key and select the necessary files.



Step 2. Select Authentication Method

At this step of the wizard, select either modern or basic authentication and specify authentication settings.

Modern Authentication

To use modern authentication, do the following:

1. From the Authentication method drop-down list, select Modern authentication.

This will allow Veeam Backup for Microsoft 365 to use an Azure AD application for data restore. Such an application is used to restore the specified team back to Microsoft 365 organizations with enabled multi-factor authentication (MFA) and enabled or disabled security defaults. For more information, see the Microsoft 365 Organizations section of the Veeam Backup for Microsoft 365 User Guide.

2. In the **Application ID** field, enter an identification number of the Azure AD application that you want to use for data restore.

By default, Veeam Explorer for Microsoft Teams populates this field with the identification number of the application that was used during a backup session. If you want to use another application, make sure to grant this application required permissions. For more information, see the Azure AD Application Permissions section of the Veeam Backup for Microsoft 365 User Guide.

| | Restore Wizard | × |
|--------------------|--------------------------------------|--------|
| h di ava a a ft 27 | E connection acting | |
| MICLOSOIL 3 | 5 connection settings | |
| Authentication | nethod: | |
| Modern authe | ntication | ~ |
| Azure AD applic | ation to connect with: | |
| Application ID: | e7268d27-0165-4778-9db6-5cfcb80a7636 | |
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| | Next | Cancel |

Basic Authentication

To use basic authentication, do the following:

- 1. From the Authentication method drop-down list, select *Basic authentication*.
- 2. In the Username and Password fields, enter credentials to connect to the Microsoft 365 organization.

| | Restore Wizard | × |
|------------|-----------------------------------|--------|
| h. 41 | | |
| Microso | t 365 connection settings | |
| Authentica | tion method: | |
| Basic auth | entication | * |
| User accou | nt to connect with: | |
| Username: | administrator@abc.onmicrosoft.com | |
| Password: | ••••• | |
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| | | |
| | Next | Cancel |

Step 3. Log In to Microsoft 365

This step is only available if you have selected the *Modern authentication* option at the previous step of the wizard.

At this step of the wizard, log in to your Microsoft 365 organization.

To log in to the Microsoft 365 organization, do the following:

1. Click **Copy code** to copy an authentication code.

Keep in mind that a code is valid for 15 minutes. You can click **Refresh** to request a new code from Microsoft.

2. Click the Microsoft authentication portal link.

A web browser window opens.

3. On the **Sign in to your account** webpage, paste the code that you have copied and sign in to Microsoft Azure.

Make sure to log in with the user account that has required permissions assigned. For more information, see Permissions.

Make sure that the required settings are specified for the Azure AD application used for restore. For more information, see the Configuring Azure AD Application Settings section of the Veeam Backup for Microsoft 365 User Guide.

4. Return to the Restore Wizard window and click Next.

| Restore Wizard | × |
|---|------|
| | |
| Log in to Microsoft 365 | |
| Provided account must have permissions to authenticate to the Microsoft 365 organization. | |
| To sign in, authenticate with the below code at: https://microsoft.com/devicelogin | |
| DNX9JV6ZY 🚺 Copy code | |
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| | |
| | |
| You are authenticated to Microsoft 365 as administrator@qwbs.onmicrosoft.com | |
| Back Next Ca | ncel |

Step 4. Specify Restore Options

At this step of the wizard, specify data restore options and start the restore operation:

- 1. Select the **Changed items** check box if you want to restore items that have changed since the time when the backup was created.
- 2. Select the **Missing items** check box if you want to restore items that are missing in the target location. For example, some of the items were removed and you want to restore them from the backup.
- 3. By default, Veeam Explorer for Microsoft Teams restores all versions of backed-up files from the backup. If you want to restore only the latest version of a file, select the **Restore only the latest version** check box. If you select this option, Veeam Explorer for Microsoft Teams will merge original files in the production environment with the latest version of the files in the backup.
- 4. Click Restore.

| | Restore Wizard | × |
|-----------------------------------|---------------------------------|-------|
| Specify the restore options | | |
| Restore the following items: | History restore options: | |
| Changed items | Restore only the latest version | |
| Missing items | | |
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| | Back Restore C | ancel |

Data Export

You can use Veeam Explorer for Microsoft Teams to export posts published in a team channel to a file of the HTML format. You can export all posts of a channel, export posts created during a specified time period or export individual posts.

The export operation can be useful, for example, if you want to restore posts of a team channel to another channel. To do this, you can export posts to an HTML file, publish this file in Microsoft SharePoint and publish a link to this file in a custom tab of the necessary channel.

Before exporting data, read the Considerations and Limitations section.

Exporting Multiple Posts

To export posts of a channel, do the following:

- 1. In the navigation pane, expand a channel whose posts you want to export and select **Posts**.
- 2. Do one of the following:
 - On the **Posts** tab, click **Export Posts** on the ribbon and select how you want to export posts:
 - **Export to Desktop**. Select this option if you want to perform the *1-Click Export* operation. Veeam Explorer for Microsoft Teams will immediately export all posts of the channel to the *Desktop* folder.
 - **Export to**. Select this option if you want to specify what posts to export and where to export posts.
 - Right-click **Posts** and select **Export posts** > **Export to Desktop** or **Export posts** > **Export to**.

| til ≣ * Home Posts | All organizations as of less than : | a day ago (4:47 PM Friday 2/10/2023) - | - Veeam Explorer for Microso | ft Teams | - = × |
|---|-------------------------------------|--|------------------------------|-------------------|---------------|
| Retore Export Save Send Posts Posts * Posts * Posts Retore Export Save Send Posts Posts * Posts * Posts Retore Search | | | | | |
| Organizations | Search Posts | | | | 🔍 💽 Posts 🗸 🗸 |
| Type in an object name to search for | 1 Ú Author | Subject | Created 🕹 | Last Modified | |
| | Adele Vance | | 2/10/2023 4:43 PM | 2/10/2023 4:43 PM | |
| Concentrations Concentrations Sales and Marketing Sales and Marketing Concertain Concertain Concertain Fram News Posts Posts Concertains Concertains Save posts Concertains Save posts Concertains Save posts Concertains Save posts Concertains <li< td=""><td>Addel Vance</td><td></td><td>2/10/2023 4:36 PM</td><td>2/10/2023 4:36 PM</td><td></td></li<> | Addel Vance | | 2/10/2023 4:36 PM | 2/10/2023 4:36 PM | |
| Posts 2 items shown. | | | | | VEEAM |

- 3. If you selected the **Export to** option at the step 2, in the **Export** wizard, do the following:
 - a. Specify what posts you want to export. You can select from the following options:
 - **Export all posts**. If you select this option, Veeam Explorer for Microsoft Teams will export all posts published in the channel to an HTML file.
 - Export posts for the specified time period. If you select this option, you can define a time period when posts that you want to export were created. To do this, specify the start date and end date of the period in the From and To fields. Veeam Explorer for Microsoft Teams will export posts whose last modification date belongs to the specified period.
 - b. In the Save as field, click Browse and browse to a folder where you want to save an HTML file with exported posts. By default, Veeam Explorer for Microsoft Teams exports posts to a file with the following name: <<u>Channel_name>_<date_and_time>.html</u>. For example: *Team News_2023_02_10_18_51_38.html*.
 - c. Select the **Open file after export** check box if you want to open the resulting HTML file right after the export operation is completed.

d. Click Export.

| Export Wizard | × |
|---|--------|
| Specify the export options | |
| Export all posts | |
| Export posts for the specified time period | |
| From: To: | |
| Friday, February 3, 2023 🔛 Friday, February 10, 2023 | |
| C:\Users\Administrator\Documents\Team News_2023_02_10_18_51_38.html | Browse |
| · · · · · · · · · · · · · · · · · · · | |
| Export | Cancel |

Exporting Individual Posts

To export a specific post of a channel, do the following:

- 1. In the navigation pane, expand a channel whose post you want to export and select Posts.
- 2. In the preview pane, do one of the following:
 - Select a necessary post and on the Posts tab, click Export Posts on the ribbon and select how you
 want to export the post:
 - **Export to Desktop**. Select this option if you want to perform the *1-Click Export* operation. Veeam Explorer for Microsoft Teams will immediately export the post to the *Desktop* folder.
 - **Export to**. Select this option if you want to export the post to a custom location.
 - Right-click a necessary post and select **Export to Desktop** or **Export to**.

TIP

To select more than one post in the preview pane, press and hold the **[CTRL]** key and select the necessary posts.

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- 3. If you selected the **Export to** option at the step 2, in the **Export** wizard, do the following:
 - a. In the Save as field, click Browse and browse to a folder where you want to save an HTML file with exported posts. By default, Veeam Explorer for Microsoft Teams exports posts to a file with the following name: <<u>Channel_name>_<date_and_time>.html</u>. For example: <u>Team</u> <u>News_2023_02_10_18_57_05.html</u>.
 - b. Select the **Open file after export** check box if you want to open the resulting HTML file right after the export operation is completed.

c. Click Export.

| Export Wizard | × |
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| Specify the export options | |
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Saving Posts

You can use Veeam Explorer for Microsoft Teams to save posts published in a team channel as *Microsoft Exchange Mail Document* (*.msg*) files. You can save all posts of a channel or specific posts. Veeam Explorer for Microsoft Teams saves each post to a separate *.msg* file in the specified location.

Saving All Posts of Channel

To save posts published in a team channel, do the following:

- 1. In the navigation pane, expand a channel whose posts you want to save and select **Posts**.
- 2. Do one of the following:
 - On the **Posts** tab, click **Save Posts** on the ribbon and select where you want to save posts:
 - Save to <folder_name>. Select this option if you want to perform the 1-Click Save operation. Veeam Explorer for Microsoft Teams will save posts to the latest location that was used when saving posts. If you have not saved posts yet, Veeam Explorer for Microsoft Teams save posts to the Desktop folder.
 - Save to .msg file. Select this option if you want to save posts to a custom location. To specify a location, in the displayed window, browse to the necessary folder and click Select Folder.
 - Right-click **Posts** and select **Save posts** > **Save to <folder_name>** or **Save posts** > **Save to .msg file**.

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Saving Individual Posts

To save a specific post published in a team channel, do the following:

- 1. In the navigation pane, expand a channel whose post you want to save and select **Posts**.
- 2. In the preview pane, do one of the following:
 - Select a necessary post and on the **Posts** tab, click **Save Posts** on the ribbon and select where you want to save posts:

- Save to <folder_name>. Select this option if you want to perform the 1-Click Save operation. Veeam Explorer for Microsoft Teams will save posts to the latest location that was used when saving posts. If you have not saved posts yet, Veeam Explorer for Microsoft Teams save posts to the *Desktop* folder.
- Save to .msg file. Select this option if you want to save posts to a custom location. To specify a location, in the displayed window, browse to the necessary folder and click Select Folder.
- Right-click a necessary post and select **Save to <folder_name>** or **Save to .msg file**.

TIP

To select more than one post in the preview pane, press and hold the **[CTRL]** key and select the necessary posts.

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Saving Files

You can use Veeam Explorer for Microsoft Teams to save files published in a team channel to a specified location. You can save all files of a channel or specific posts.

Saving All Files of Channel

To save files published in a team channel, do the following:

- 1. In the navigation pane, expand a channel whose files you want to save and select Files.
- 2. Do one of the following:
 - o On the Files tab, click Save File on the ribbon and select how you want to save files:
 - Save as files. Select this option if you want to save each file separately to a specified location. To specify a location, in the displayed window, browse to the necessary folder and click Select Folder.
 - Save as ZIP. Select this option if you want to add saved files to a ZIP archive and save the
 resulting archive to a specified location. To specify a location, in the displayed window, browse
 to the necessary folder and click Save. Veeam Explorer for Microsoft Teams will save files to an
 archive with the <channel_name>.zip name.
 - Right-click Files and select Save files > Save as files or Save files > Save as ZIP.

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Saving Individual Files

To save a specific file published in a team channel, do the following:

- 1. In the navigation pane, expand a channel whose files you want to save and select Files.
- 2. In the preview pane, do one of the following:
 - Select a necessary file and on the Files tab, click Save File on the ribbon and select how you want to save files:

- Save as files. Select this option if you want to save each file separately to a specified location. To specify a location, in the displayed window, browse to the necessary folder and click Select Folder.
- Save as ZIP. Select this option if you want to add saved files to a ZIP archive and save the resulting archive to a specified location. To specify a location, in the displayed window, browse to the necessary folder and click **Save**. Veeam Explorer for Microsoft Teams will save files to an archive with the *archive.zip* name.
- Right-click a necessary file and select **Save file > Save as files** or **Save file > Save as ZIP**.

TIP

To select more than one file in the preview pane, press and hold the **[CTRL]** key and select the necessary files.

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Sending Posts and Files

You can use Veeam Explorer for Microsoft Teams to send posts and files published in a team channel to specified recipients through email. You can send all posts or files of a channel or send individual posts or files.

TIP

Before sending documents, make sure to configure SMTP settings. The amount of data you can send at a time depends on your SMTP server configuration. For more information about configuring SMTP settings, see SMTP Settings.

Sending All Posts or Files of Channel

To send all posts or files of a team channel through email, do the following:

- 1. In the navigation pane, expand a channel whose posts or files you want to send and select **Posts** or **Files**.
- 2. Do one of the following:
 - On the **Posts/Files** tab, click **Send Posts/Send File** on the ribbon.
 - Right-click **Posts** or **Files** and select **Send to**.

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- 3. In case the size of the message with files exceeds the size allowed by your SMTP server configuration, Veeam Explorer for Microsoft Teams will prompt whether you want to send files. In the notification window, click **Yes**.
- 4. In the Send Items window, provide a recipient address.

The **From** field is filled automatically based on the address you have provided when configuring SMTP settings.

You can also edit the message subject and body. To edit the message body, click **More details**.

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Sending Individual Posts or Files

To send a specific post or file of a team channel through email, do the following:

- 1. In the navigation pane, expand a channel whose post or file you want to send and select **Posts** or **Files**.
- 2. In the preview pane, do one of the following:
 - Select a necessary post or file and on the **Posts/Files** tab, click **Send Posts/Send File** on the ribbon.
 - Right-click a necessary post or file and select **Send to**.

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3. In the Send Items window, provide a recipient address.

The **From** field is filled automatically based on the address you have provided when configuring SMTP settings.

You can also edit the message subject and body. To edit the message body, click **More details**.

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