

Veeam Explorers Suite

Version 9.5 Update 4

User Guide

April, 2019

© 2019 Veeam Software.

All rights reserved. All trademarks are the property of their respective owners.

No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form by any means, without written permission from Veeam Software (Veeam). The information contained in this document represents the current view of Veeam on the issue discussed as of the date of publication and is subject to change without notice. Veeam shall not be liable for technical or editorial errors or omissions contained herein. Veeam makes no warranties, express or implied, in this document. Veeam may have patents, patent applications, trademark, copyright, or other intellectual property rights covering the subject matter of this document. All other trademarks mentioned herein are the property of their respective owners. Except as expressly provided in any written license agreement from Veeam, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.

NOTE:

Read the End User Software License Agreement before using the accompanying software programs. Using any part of the software indicates that you accept the terms of the End User Software License Agreement.

Contents

CONTACTING VEEAM SOFTWARE	8
ABOUT THIS DOCUMENT	9
VEEAM EXPLORERS OVERVIEW	10
VEEAM EXPLORER FOR MICROSOFT ACTIVE DIRECTORY	11
WHAT'S NEW	12
PLANNING AND PREPARATION	13
System Requirements.....	14
Used Ports	15
Required Permissions	16
Required Backup Job Settings	17
Considerations and Limitations.....	18
LAUNCHING APPLICATION AND EXPLORING BACKUPS	19
Understanding User Interface.....	20
Browsing, Searching and Viewing Items	22
STANDALONE DATABASES MANAGEMENT	25
Adding Standalone Databases	26
Removing Standalone Databases.....	27
DATA RESTORE	28
Restoring Objects.....	29
Restoring Containers	36
Using 1-Click Restore.....	43
DATA EXPORT	46
Exporting Objects.....	47
Exporting Containers.....	48
Using 1-Click Export	50
DATA COMPARE	51
Comparing Containers	52
Comparing Object Attributes.....	54
ENABLING EXTENDED LOGGING.....	56
VEEAM EXPLORER FOR MICROSOFT SQL SERVER	57
WHAT'S NEW	58
PLANNING AND PREPARATION	59
System Requirements.....	60
Used Ports	62
Required Permissions	64
Required Backup Job Settings	65
Considerations and Limitations.....	66

LAUNCHING APPLICATION AND EXPLORING BACKUPS	68
Understanding User Interface.....	69
Understanding Mounting	71
Understanding Veeam SQL Restore Service	72
Viewing Database Information	73
GENERAL APPLICATION SETTINGS	74
Configuring Staging SQL Server.....	75
Enabling Extended Logging	77
STANDALONE DATABASES MANAGEMENT	78
Adding Standalone Databases	79
Removing Standalone Databases.....	81
DATA RESTORE	82
Restoring Single Database.....	83
Restoring Multiple Databases.....	90
Restoring Database Schema and Data.....	94
Restoring Latest or Point-in-Time State	101
DATA PUBLISHING	106
Publishing to Specified Server	107
Publishing Latest or Point-in-Time State	113
Unpublishing Databases	117
Exporting as BAK.....	118
Refreshing Database Status.....	120
DATA EXPORT	121
Export as MDF.....	122
Export as BAK	132
Database Schema and Data Export	142
SQL DATABASE OPERATIONS.....	147
VEEAM EXPLORER FOR ORACLE	149
WHAT'S NEW	150
PLANNING AND PREPARATION.....	151
System Requirements.....	152
Used Ports	153
Required Permissions	155
Required Backup Job Settings	156
Considerations and Limitations.....	157
LAUNCHING APPLICATION AND EXPLORING BACKUPS	159
Understanding User Interface.....	160
Understanding Mounting	162
Understanding Veeam Oracle Restore Service	163
Viewing Database Information	164

GENERAL APPLICATION SETTINGS	166
Configuring Staging Oracle Server	167
Enabling Extended Logging	169
EXPLORING ORACLE BACKUPS.....	170
Exploring Application-Enabled Backups	171
Exploring non-Application Enabled Backups	172
Exploring RMAN Backups	175
DATA RESTORE	176
Restoring Database and Data Guard	177
Restoring Latest or Point-in-Time State	183
Restoring Oracle RMAN Backups	187
VEEAM EXPLORER FOR MICROSOFT EXCHANGE.....	192
WHAT'S NEW	193
PLANNING AND PREPARATION	194
System Requirements.....	195
Used Ports	196
Required Permissions	197
Required Backup Job Settings	199
Considerations and Limitations.....	200
LAUNCHING APPLICATION AND EXPLORING BACKUPS	201
Understanding User Interface.....	202
Browsing, Searching and Viewing Items	204
GENERAL APPLICATION SETTINGS	208
Configuring Extensible Storage Engine.....	209
Configuring SMTP Settings.....	211
Enabling Extended Logging	212
STANDALONE DATABASES MANAGEMENT	213
Adding Microsoft Exchange Stores	214
Adding Veeam Backup for Microsoft Office 365 Server.....	215
Adding Veeam Backup for Microsoft Office 365 Service Provider.....	216
Removing Standalone Databases.....	218
DATA RESTORE	219
Restoring Single Mailbox.....	220
Restoring Multiple Mailboxes.....	223
Restoring Folders and Items.....	227
Using 1-Click Restore.....	230
DATA EXPORT	231
Exporting to Custom Location	232
Using 1-Click Export	233
Receiving Export Reports	237

DATA COMPARE	239
Step 1. Specify Credentials	240
Step 2. Specify Target Mailbox Server	242
SAVING MICROSOFT EXCHANGE ITEMS	243
SENDING MICROSOFT EXCHANGE ITEMS	245
VEEAM EXPLORER FOR MICROSOFT SHAREPOINT	247
WHAT'S NEW	248
PLANNING AND PREPARATION	249
System Requirements.....	250
Used Ports	251
Required Permissions	252
Required Backup Job Settings	253
Staging SQL Server.....	254
Considerations and Limitations.....	255
LAUNCHING APPLICATION AND EXPLORING BACKUPS	259
Understanding User Interface.....	260
Browsing, Searching and Viewing Items	262
GENERAL APPLICATION SETTINGS	266
Configuring Staging SQL Server.....	267
Configuring Custom Lists	269
Configuring SMTP Settings.....	272
Enabling Extended Logging	273
STANDALONE DATABASES MANAGEMENT	274
Adding Microsoft SharePoint Databases	275
Adding Veeam Backup for Microsoft Office 365 Databases.....	276
Adding Veeam Backup for Microsoft Office 365 Server.....	277
Adding Veeam Backup for Microsoft Office 365 Service Provider.....	278
Removing Standalone Databases.....	280
DATA RESTORE	281
Restoring Microsoft SharePoint Document Libraries and Lists	282
Restoring Microsoft SharePoint Documents and List Items	286
Restoring Microsoft SharePoint Sites.....	290
DATA EXPORT	294
Exporting Microsoft SharePoint Data.....	295
Importing Microsoft SharePoint Data	296
SAVING MICROSOFT SHAREPOINT DOCUMENTS AND LIBRARIES	297
SENDING MICROSOFT SHAREPOINT DOCUMENTS AND LIBRARIES	298
VEEAM EXPLORER FOR MICROSOFT ONEDRIVE FOR BUSINESS	300
WHAT'S NEW	301
PLANNING AND PREPARATION	302

LAUNCHING APPLICATION AND EXPLORING BACKUPS	303
Understanding User Interface.....	304
Browsing, Searching and Viewing Items	306
GENERAL APPLICATION SETTINGS	310
Enabling Extended Logging	311
Configuring SMTP Settings.....	312
STANDALONE DATABASES MANAGEMENT	313
Adding Veeam Backup for Microsoft Office 365 Databases.....	314
Adding Veeam Backup for Microsoft Office 365 Server.....	315
Adding Veeam Backup for Microsoft Office 365 Service Provider.....	316
Removing Standalone Databases.....	318
RESTORING MICROSOFT ONEDRIVE DATA.....	319
COPYING MICROSOFT ONEDRIVE DATA.....	321
Step 1. Specify Credentials	322
Step 2. Specify Target User	323
Step 3. Specify Target Folder	324
Step 4. Specify Restore Options	325
SAVING MICROSOFT ONEDRIVES	326
SAVING MICROSOFT ONEDRIVE DOCUMENTS AND FOLDERS	328
SENDING MICROSOFT ONEDRIVE DOCUMENTS	329

Contacting Veeam Software

At Veeam Software we value the 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 at www.veeam.com/support.html 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 offices location, visit www.veeam.com/contacts.html.

Online Support

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

- Full documentation set: www.veeam.com/documentation-guides-datasheets.html
- Community forum at forums.veeam.com

About This Document

This document provides general information on how to use the Veeam Explorers suite consisting of the following applications:

- Veeam Explorer for Microsoft Active Directory
- Veeam Explorer for Microsoft SQL Server
- Veeam Explorer for Oracle
- Veeam Explorer for Microsoft Exchange
- Veeam Explorer for SharePoint
- Veeam Explorer for Microsoft OneDrive for Business

Information hereinafter is applicable to each of the above Veeam Explorer that comes as part of Veeam Backup & Replication Update 4 or Veeam Backup for Microsoft Office 365 until it is replaced with a newer version of the product.

Intended Audience

This user guide is intended for IT administrators, consultants, analysts and any other IT professionals.

Document Revision History

Revision #	Date	Change Summary
Revision 3	4/2/2019	Document adapted for Veeam Backup for Microsoft Office 365.
Revision 2	3/26/2019	Updated for Veeam Backup & Replication 9.5 Update 4a.
Revision 1	1/22/2019	Initial version of the document for Veeam Backup & Replication 9.5 Update 4.

Veeam Explorers Overview

Veeam Explorers suite extends the functionality of Veeam Backup & Replication and allows you to restore or export your application items from backup or replica files.

Veeam Explorers suite consists of the following applications:

- [Veeam Explorer for Microsoft Active Directory](#)
- [Veeam Explorer for Microsoft SQL](#)
- [Veeam Explorer for Oracle](#)
- [Veeam Explorer for Microsoft Exchange](#)
- [Veeam Explorer for Microsoft SharePoint](#)
- [Veeam Explorer for Microsoft OneDrive for Business](#)

Veeam Explorers are distributed as part of Veeam Backup & Replication and do not have to be installed separately, nor any of the above Explorers requires any additional license to be purchased, as the available feature set for each Veeam Explorer depends entirely upon the installed Veeam Backup & Replication edition.

To recover VMware VM data directly from storage snapshots, use Veeam Explorer for Storage Snapshots, as described in [Veeam Explorer for Storage Snapshots](#).

Veeam Explorer for Microsoft Active Directory

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

What's New

The following new features and enhancements have been implemented in Veeam Explorer for Active Directory that comes as part of Veeam Backup & Replication 9.5 Update 4:

- Support for CA certificate information restore, Microsoft Exchange System Objects restore and AD Sites sub-net items restore.
- Restore summary dialog that shows general information about restore and export session results.
- Performance and stability Improvements.

Planning and Preparation

Continue with this section to learn how to configure your environment before start using Veeam Explorer for Microsoft Active Directory.

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 VSS-Aware Applications subsection of the Veeam Backup & Replication User Guide.

IMPORTANT!

Consider the following:

- Database files created by the domain controller can be opened for object recovery with Veeam Explorer for Active Directory only if Veeam Explorer is installed on a Windows machine with the same OS version or higher than the version of that 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 must be of the same version as that of Microsoft Active Directory Domain Services that was used to create database files.

Used Ports

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

From	To	Protocol	Port	Notes
Veeam Backup Server / Standalone Console	Microsoft Active Directory VM Guest OS	TCP	135	Manages communication between the domain controller and Veeam backup server.
		TCP, UDP	389	Utilized for LDAP connections.
		TCP	636, 3268, 3269	
		TCP	1025 to 5000 (for Microsoft Windows 2003) 49152 to 65535 (for Microsoft Windows 2008 and newer)	The dynamic RPC range that is used by the runtime coordination process which is deployed on a VM guest OS for application-aware image processing (when working over the network, not over VIX API). For more information, see this Microsoft article .

Required Permissions

The following table lists required permissions for user accounts to back up and restore Microsoft Active Directory data.

Operation	Required Roles and Permissions
Backup	For more information, see the Required Permissions section of the Veeam Backup & Replication User Guide.
Restore	The account being used must be a member of the <i>Domain Admins</i> group and the <i>Exchange Organization Management</i> group.

Assigning Role via PowerShell

To assign the **Organization Management** role via 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 image processing** option, as described in the [Specify Guest Processing Settings](#) section of the Veeam Backup & Replication user guide.

Considerations and Limitations

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

- Recovery of Group Policy objects, AD-integrated DNS records and objects from the Configuration partition is supported in the Enterprise and Enterprise Plus editions only.
- If a tombstone object exists in target Active Directory, Veeam will use this object for recovery. This will allow you to recover security attribute values including *objectSID* and *objectGUID* for recovered objects, which is especially important for security principals (including *User*, *Computer*, *inetOrgPerson* and *Group* objects). To be able to restore from the tombstone objects, make sure that **AD Recycle Bin** feature is disabled in the target domain.
- If no tombstone objects exist in the target Active Directory, Veeam will create a new object during the recovery process and set all attributes to the same values as in the corresponding object in the backup. However, these attributes, including security will be considered new, which may result in losing access rights.

NOTE:

To restore business-critical objects for which a tombstone is missing, you can perform authoritative restore of the entire domain from the old DC backups. For more information on tombstone objects, see [Scenario Overview for Restoring Deleted Active Directory Objects](#).

- Always use backups that are newer than the tombstone lifetime interval for Active Directory forest.
- When you move an object from one domain to another within a forest (for example, using the **Movetree.exe** utility or any 3rd party tool), no tombstone for this object will remain in the source Active Directory. Thus, such an object cannot be fully recovered to the original domain.
- When Group Policy objects are restored from the backup, both Active Directory data (storing Group Policy Containers) and `%Sysvol%` data (storing Group Policy Templates) is involved. Therefore, for successful restore, data should be consistent in these two locations. Restore logic is implemented as follows: existing Group Policy objects are deleted from target while the new ones from the backup are going to be added.
- Veeam Explorer for Microsoft Active Directory does not support restore via PSDirect, VIX or Sphere API.

TIP:

To determine a tombstone lifetime interval, you can use **ADSIEdit** or **Dsquery**. For more information, see [Determine the tombstone lifetime for the forest](#).

Launching Application and Exploring Backups

You can launch Veeam Explorer for Microsoft Active Directory and explore the content of a backup file in any of the following ways:

- You can use the **Restore application item** option to explore backups created by Veeam Backup & Replication.

For more information, see the [Application Items Restore](#) section of the Veeam Backup & Replication User Guide.

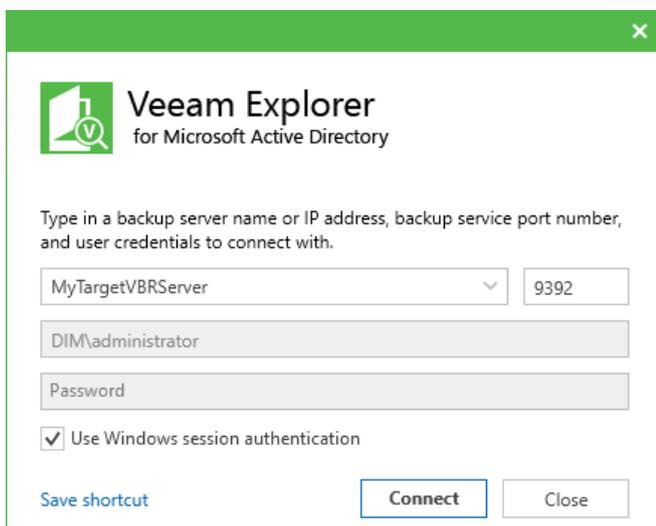
- You can go to **Start** and click **Veeam Explorer for Microsoft Active Directory** to launch the application as a standalone console. Then, add Active Directory databases manually, as described in the [Adding Standalone Microsoft Active Directory Databases](#) section.

When launching from the **Start** menu, specify the following parameters:

- Specify the name or IP-address of a Veeam Backup & Replication server to which you want to connect.
- Specify the port number.
- Specify user credentials to connect to the server.

The account must be a member of the **Local Administrator** group on a target server. To use your current account, select **Use Windows session authentication**.

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



The screenshot shows the Veeam Explorer for Microsoft Active Directory connection dialog box. It has a green title bar with a close button (X). The main area has a green header with the Veeam logo and the text "Veeam Explorer for Microsoft Active Directory". Below the header, there is a prompt: "Type in a backup server name or IP address, backup service port number, and user credentials to connect with." There are four input fields: a dropdown menu containing "MyTargetVBRServer", a text box containing "9392", a text box containing "DIM\administrator", and a password field labeled "Password". Below these fields is a checked checkbox labeled "Use Windows session authentication". At the bottom left is a "Save shortcut" link, and at the bottom right are "Connect" and "Close" buttons.

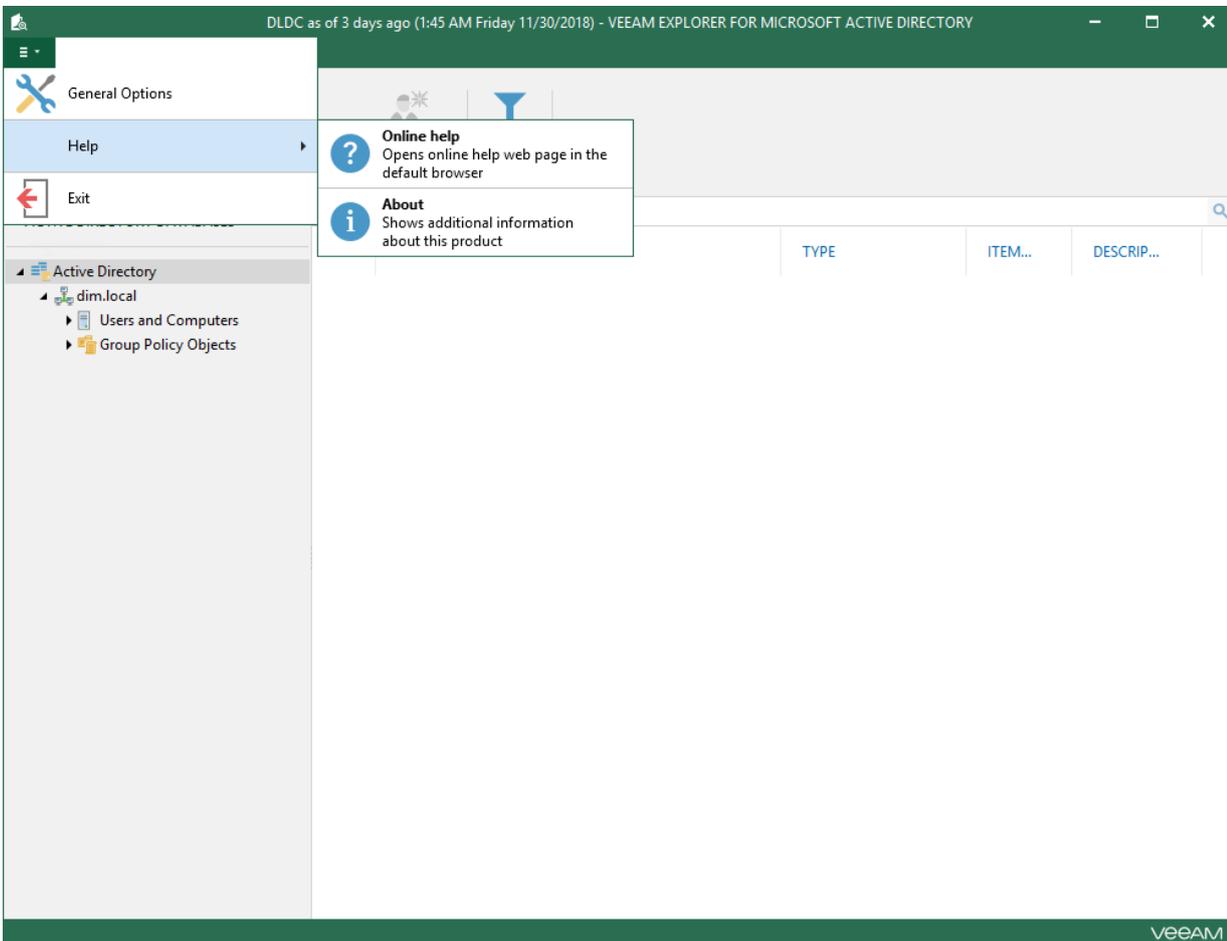
Understanding User Interface

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 features:

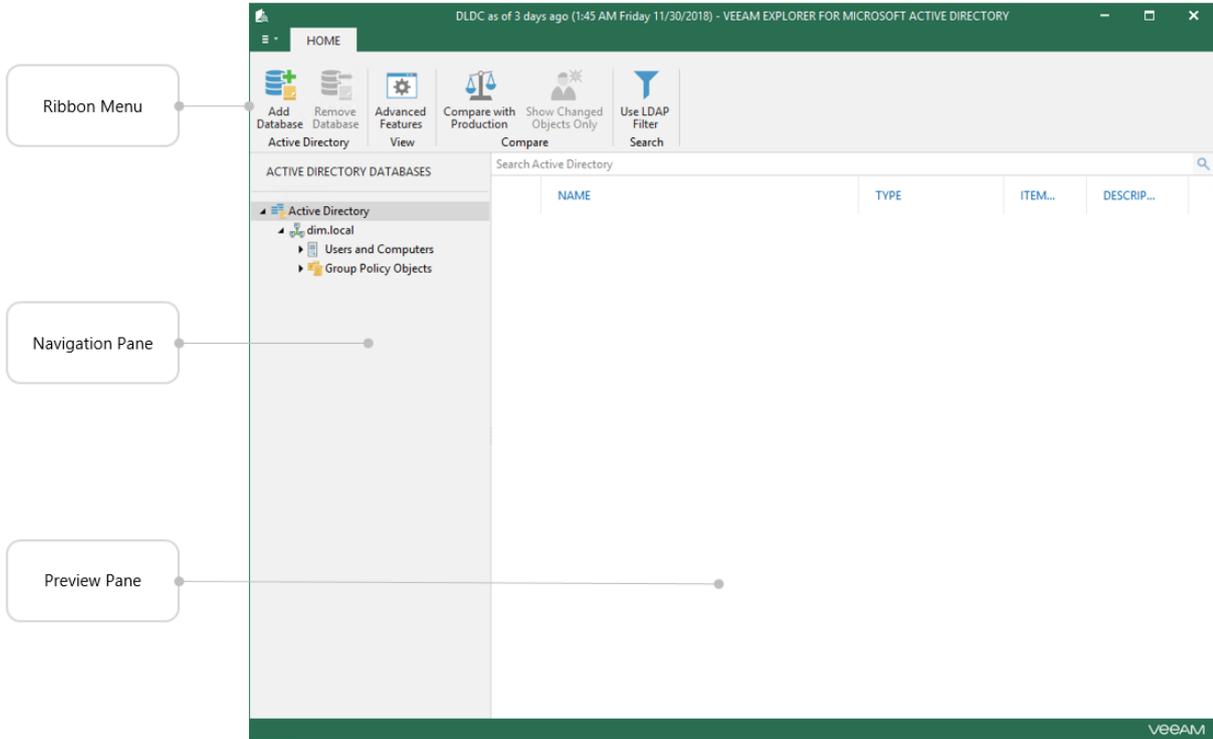
- **General Options.** Allows you to configure program options.
- **Help.**
 - **Online help.** Opens the online web help page.
 - **About.** Shows information about the product.
- **Exit.** Closes the program.



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.



Browsing, Searching and Viewing Items

Continue with this section to learn more about:

- [Browsing your backup content](#)
- [Searching for objects in a backup file](#)

Browsing

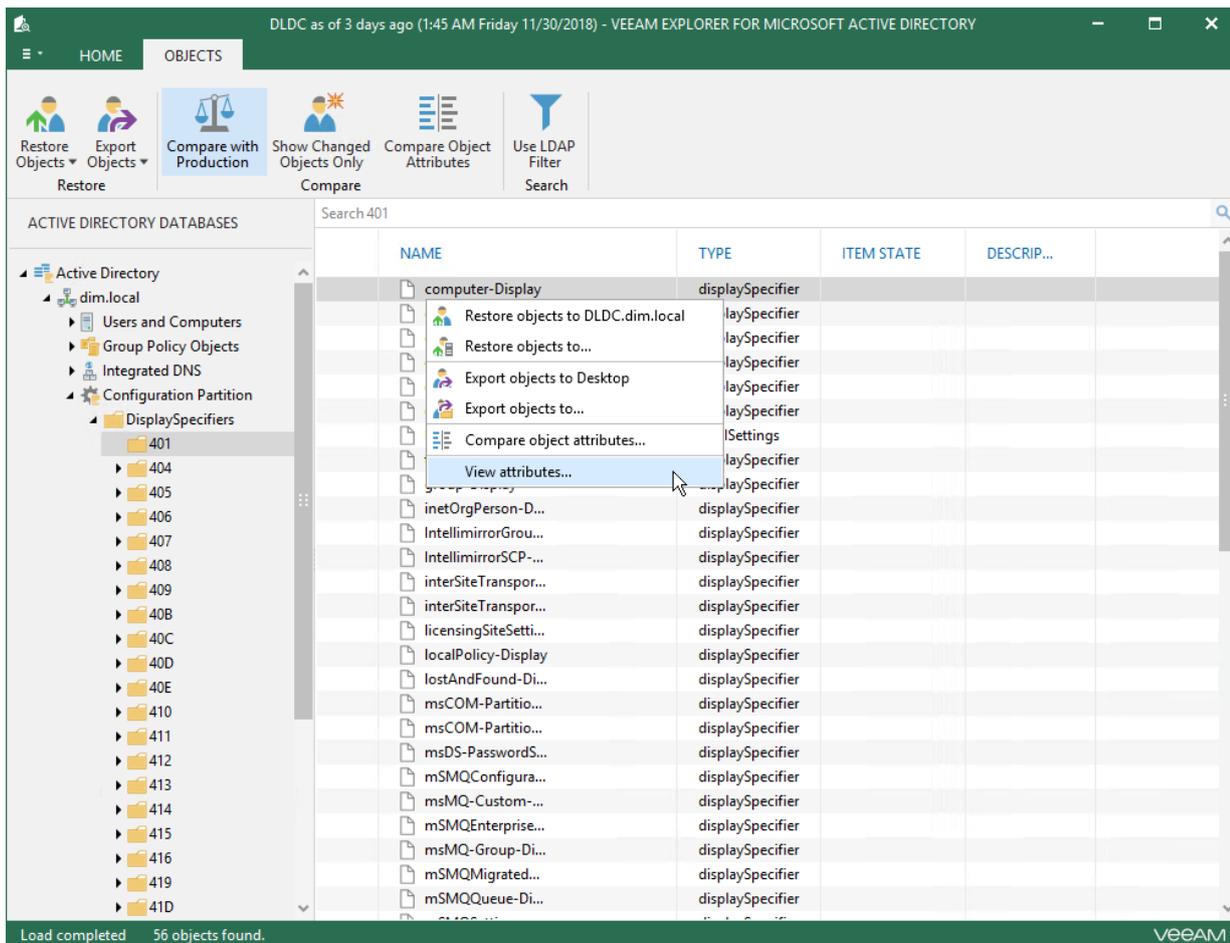
To view the content of a backup file, use the navigation pane which shows you the database structure containing your active directory objects.

After you select an object in the navigation pane, you can see its content in the preview pane.

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

NOTE:

Due to organizational and security purposes, recovery of *Domain Controllers* objects is not supported.



Searching

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. Type in a search query using the search field at the top of the preview pane.

NOTE:

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

The screenshot shows the Veeam Explorer for Microsoft Active Directory interface. The title bar indicates the session is for 'DLDC as of 3 days ago (1:45 AM Friday 11/30/2018)'. The 'OBJECTS' tab is active, and a search query 'group policy' is entered in the search field. The search results are displayed in a table with columns for NAME, TYPE, ITEM..., and DESCRIP... The results include 'Apply Group Policy' (controlAccessRight), 'Compliance Management' (group), 'Default Domain Controlle...' (groupPolicyContainer), 'Default Domain Policy' (groupPolicyContainer), 'Group Policy Creator Ow...' (group), and 'Records Management' (group). The 'Compliance Management' row is highlighted. The left navigation pane shows the tree structure under 'Active Directory' > 'dim.local' > 'Configuration Partition' > 'DisplaySpecifiers'.

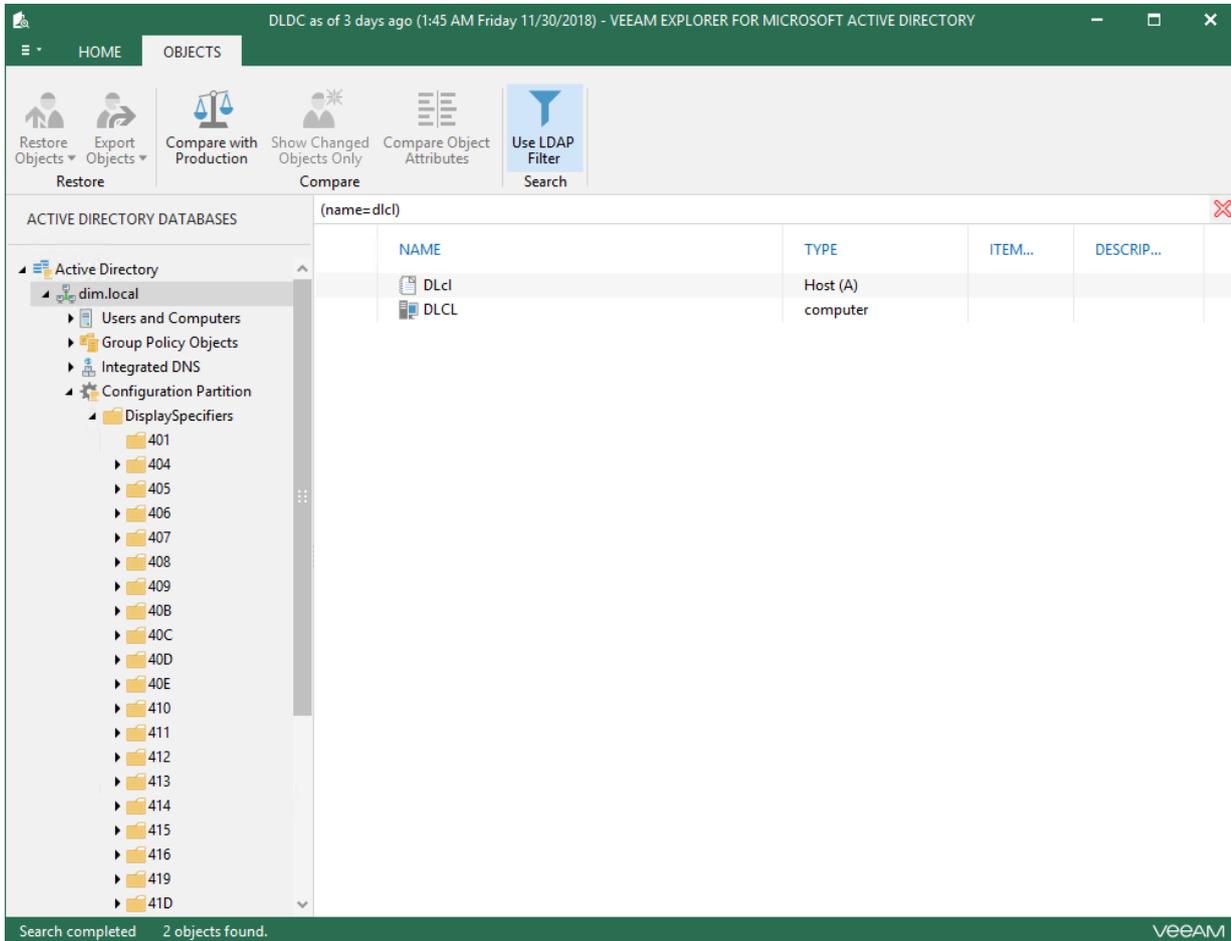
NAME	TYPE	ITEM...	DESCRIP...
Apply Group Policy	controlAccessRight		
Compliance Management	group		This role gr...
Default Domain Controlle...	groupPolicyContainer		
Default Domain Policy	groupPolicyContainer		
Group Policy Creator Ow...	group		Members i...
Records Management	group		Members o...

Search completed 6 objects found. VEEAM

Using LDAP Queries

To use the LDAP search query, do the following:

1. In the preview pane, select a container.
2. Go to the **Home** tab and click **Use LDAP Filter**.
3. In the search field, enter an LDAP query and click the search button.



Standalone Databases Management

Continue with this section to learn more about adding and removing Microsoft Active Directory databases.

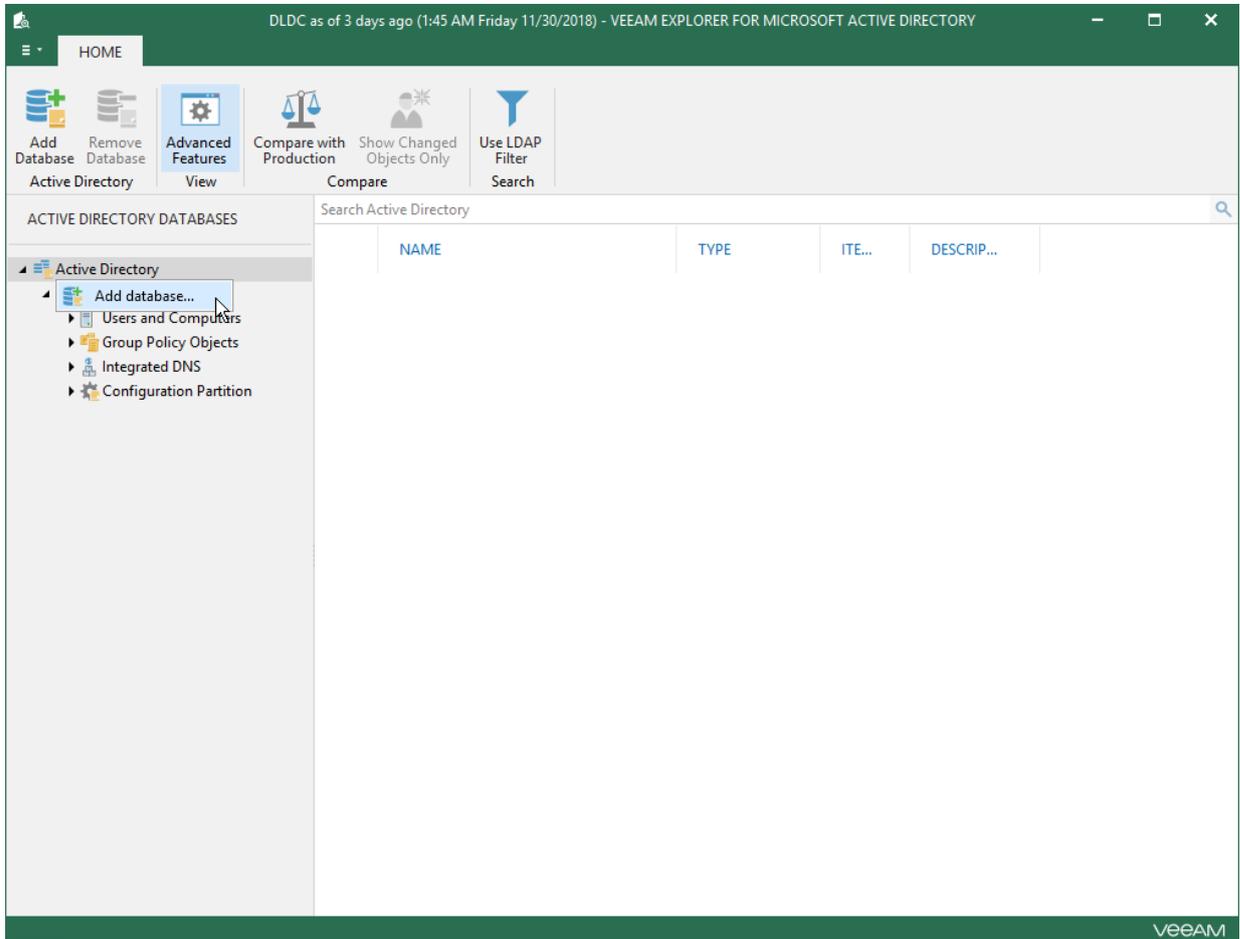
IMPORTANT!

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

Adding Standalone Databases

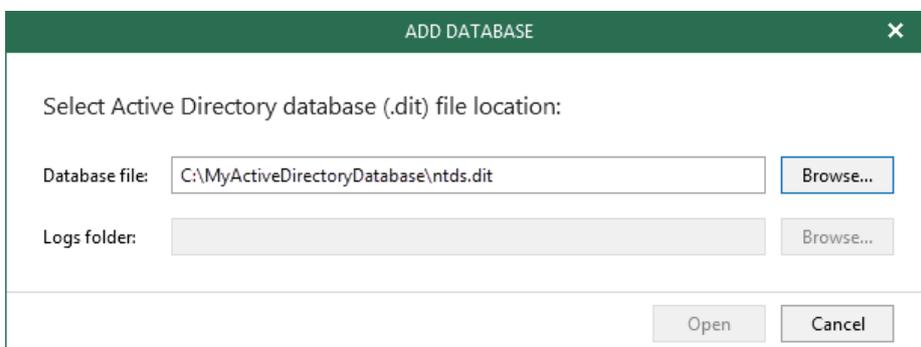
To add a standalone Active Directory database manually, do the following:

1. Right-click the root **Active Directory** node and select **Add database** or switch to the **Home** tab and click **Add Database** on the toolbar.



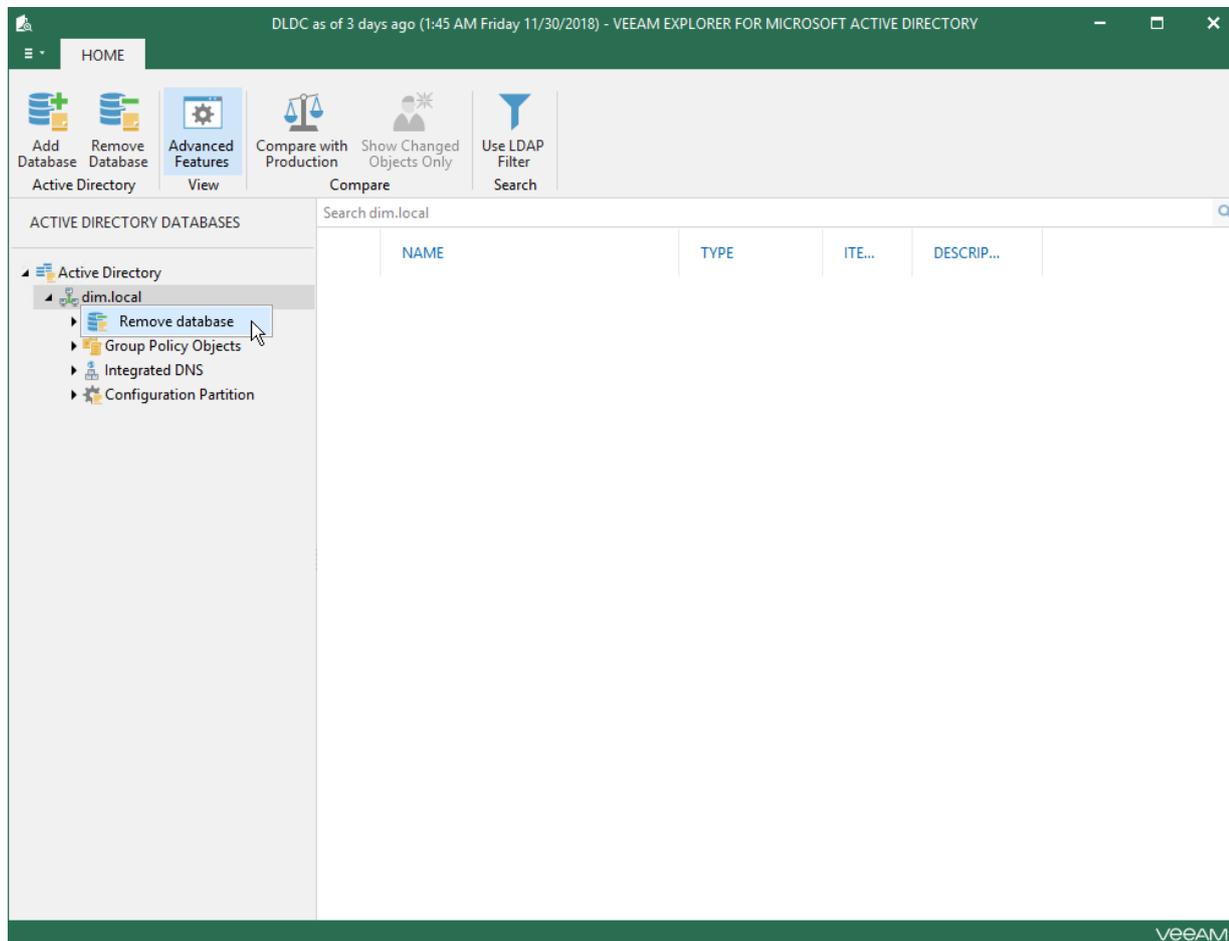
2. Specify the location of the Active Directory database file and folder that contains associated transaction log files (*Edb.log* and *Edb.chk*).

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



Removing Standalone Databases

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



Data Restore

Continue with this section to learn more about restoring Active Directory objects and containers.

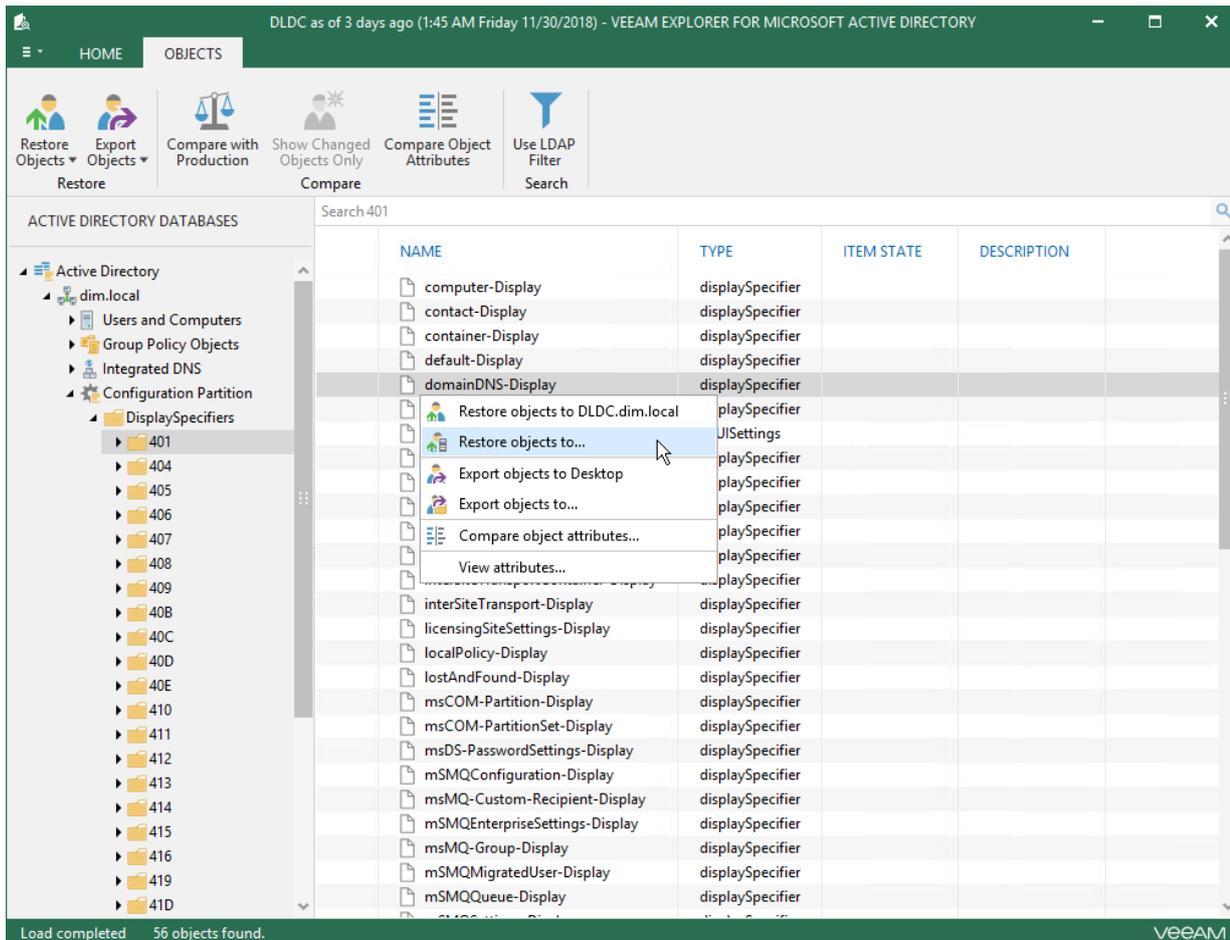
Consider the following:

- Veeam Explorer is capable of restoring relationships between Active Directory objects and corresponding mailboxes. If an object (a user or a group) was removed from the production Active Directory server, Veeam Explorer will be able to restore such an object from the Active Directory backup. Make sure to reconnect Exchange mailbox and restore mailbox security role for that object.
- 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, Microsoft Exchange Server 2010 SP1 and higher. 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. If you plan to restore passwords, make sure *System registry hive* is available. The default location of the hive is *%systemroot%\System32\Config*. If you restore an Active Directory database from the Active Directory backup using Veeam file-level restore, the registry hive will be located automatically. If you restore from an imported backup or from a VeeamZIP backups, make sure the system registry hive is located in the same directory as a *.DIT* file.
- If you plan to restore database items from an Active Directory Domain Services server running Microsoft Windows ReFS, consider that a Veeam backup server or a management console must be installed on Microsoft Windows Server 2012 or higher.
- To restore from a server running Microsoft Windows ReFS 3.x, a Veeam backup server or a management console must be installed on Microsoft Windows Server 2016.

Restoring Objects

To restore Active Directory objects, do the following:

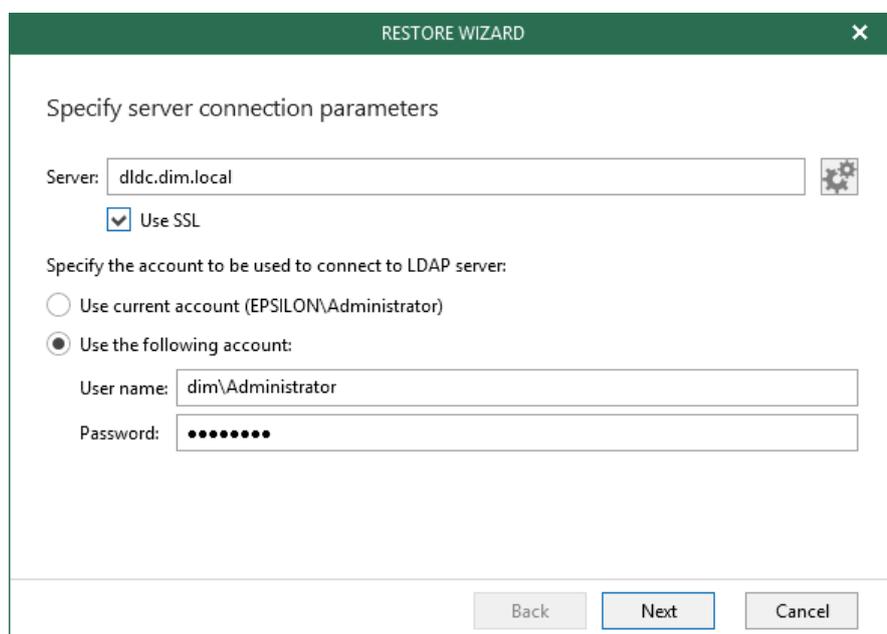
1. In the preview pane, select an object.
2. On the **Objects** tab, select **Restore Objects > Restore objects to <server_name>** or right-click an object and select **Restore objects to <server_name>**.
3. Proceed to [Specify Connection Parameters](#).



Step 1. 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** checkbox to establish a secure SSL connection.
- User credentials to connect to the LDAP server.

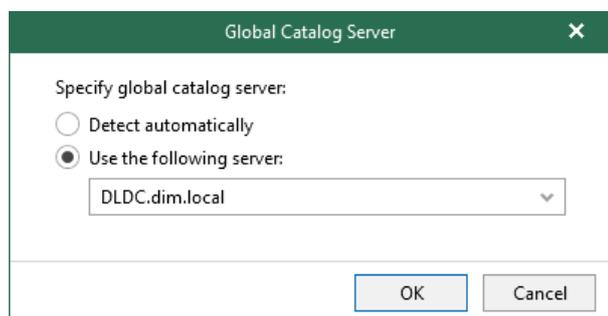


The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify server connection parameters". Below this, there is a "Server:" label followed by a text input field containing "dlldc.dim.local" and a small gear icon to its right. Underneath, the "Use SSL" checkbox is checked. The next section is "Specify the account to be used to connect to LDAP server:", with two radio button options: "Use current account (EPSILON\Administrator)" (unselected) and "Use the following account:" (selected). Below the selected option are two text input fields: "User name:" containing "dim\Administrator" and "Password:" containing a series of dots. At the bottom of the dialog are three buttons: "Back", "Next", and "Cancel".

Global Catalog Server

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

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



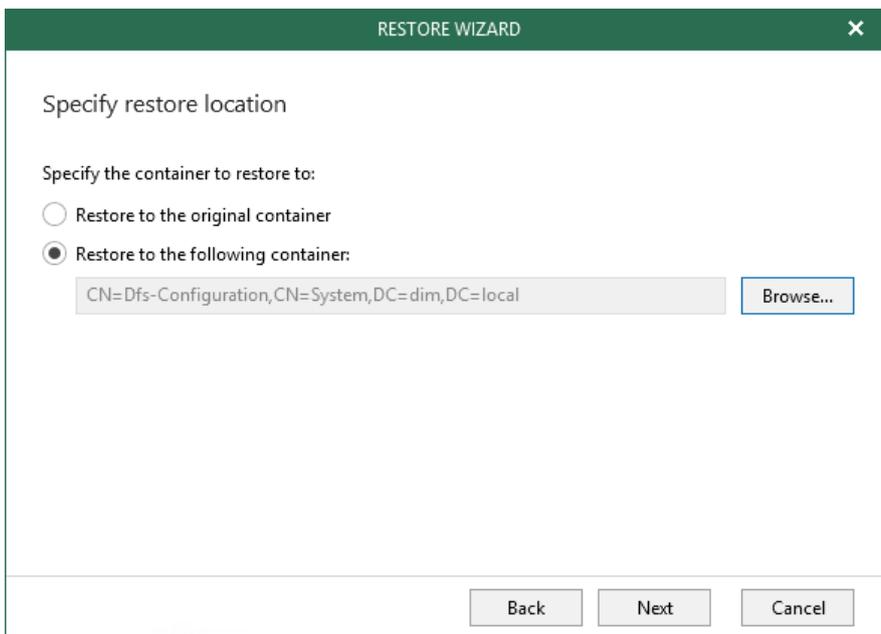
The screenshot shows a dialog box titled "Global Catalog Server" with a close button (X) in the top right corner. The main heading is "Specify global catalog server:". Below this are two radio button options: "Detect automatically" (unselected) and "Use the following server:" (selected). Under the selected option is a dropdown menu with "DLDC.dim.local" selected. At the bottom of the dialog are two buttons: "OK" and "Cancel".

Step 2. 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](#).



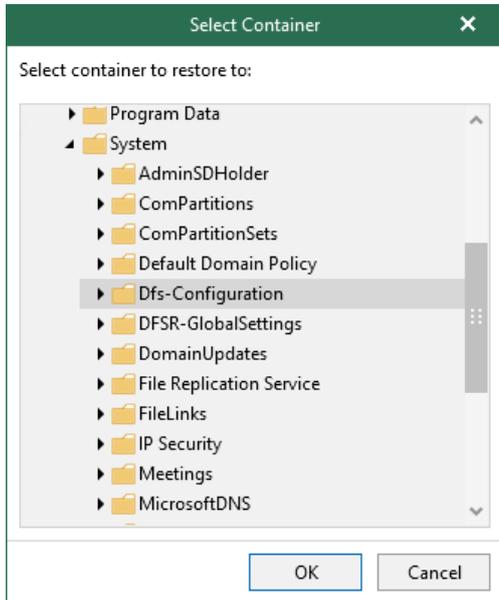
The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify restore location". Below this, the instruction "Specify the container to restore to:" is followed by two radio button options: "Restore to the original container" (which is unselected) and "Restore to the following container:" (which is selected). Under the selected option, there is a text input field containing the LDAP path "CN=Dfs-Configuration,CN=System,DC=dim,DC=local" and a "Browse..." button to its right. At the bottom of the dialog, there are three buttons: "Back", "Next", and "Cancel".

TIP:

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

Browsing Container

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



Step 3. Specify Password Restore Options

At this step, specify the manner in which you want your passwords to be restored.

Consider the following when restoring passwords:

- When providing a new password for the account that is being restored, 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.
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:

.....

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.

Back Next Cancel

Step 4. Specify Account State

At this step of the wizard, specify whether you want to keep the account state as it is in the backup file or select **Enabled** or **Disabled** to assign a state you need.

RESTORE WIZARD

Specify account restore options

Account options:

Keep account state from backup

Enable account

Disable account

Back Next Cancel

Step 5. Specify Restore Options

At this step of the wizard, specify restore options.

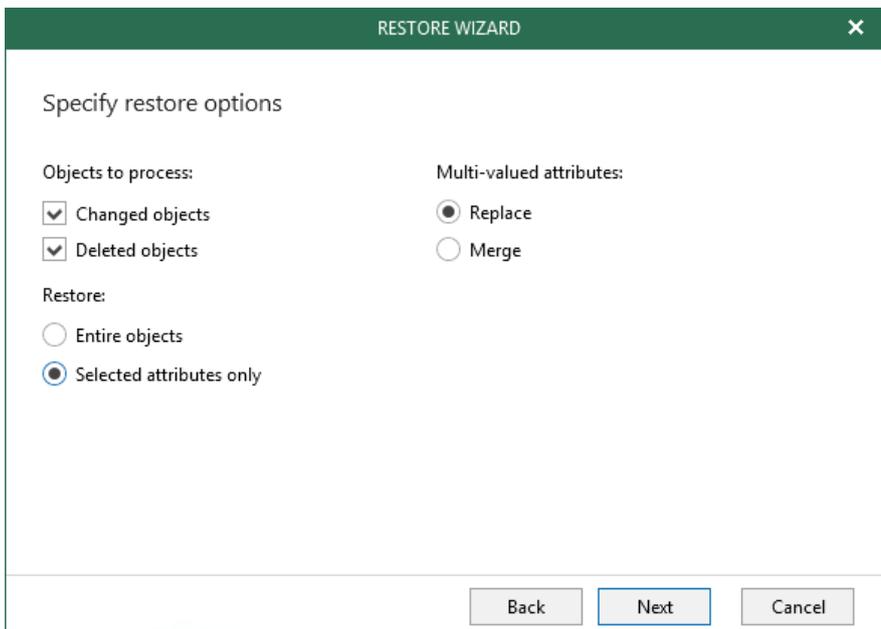
You can select the following:

- **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 at 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.
- Users cannot change recovery settings for disabled attributes. Such attributes will be either restored or skipped according to the default configuration.



The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify restore options".

Under "Objects to process:", there are two checked checkboxes: "Changed objects" and "Deleted objects".

Under "Multi-valued attributes:", there are two radio buttons: "Replace" (which is selected) and "Merge".

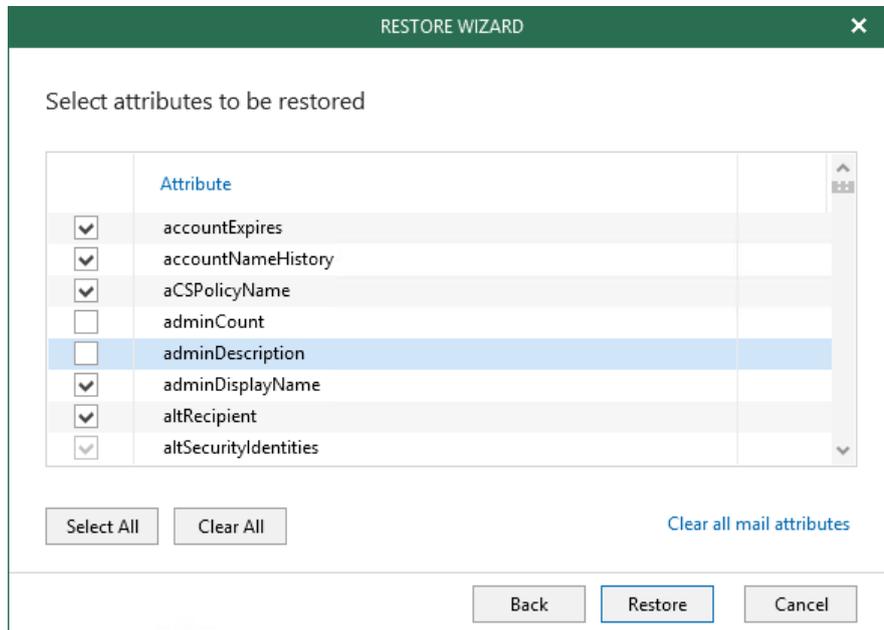
Under "Restore:", there are two radio buttons: "Entire objects" and "Selected attributes only" (which is selected).

At the bottom of the dialog, there are three buttons: "Back", "Next" (which is highlighted with a blue border), and "Cancel".

Step 6. Specify Attributes to Restore

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

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

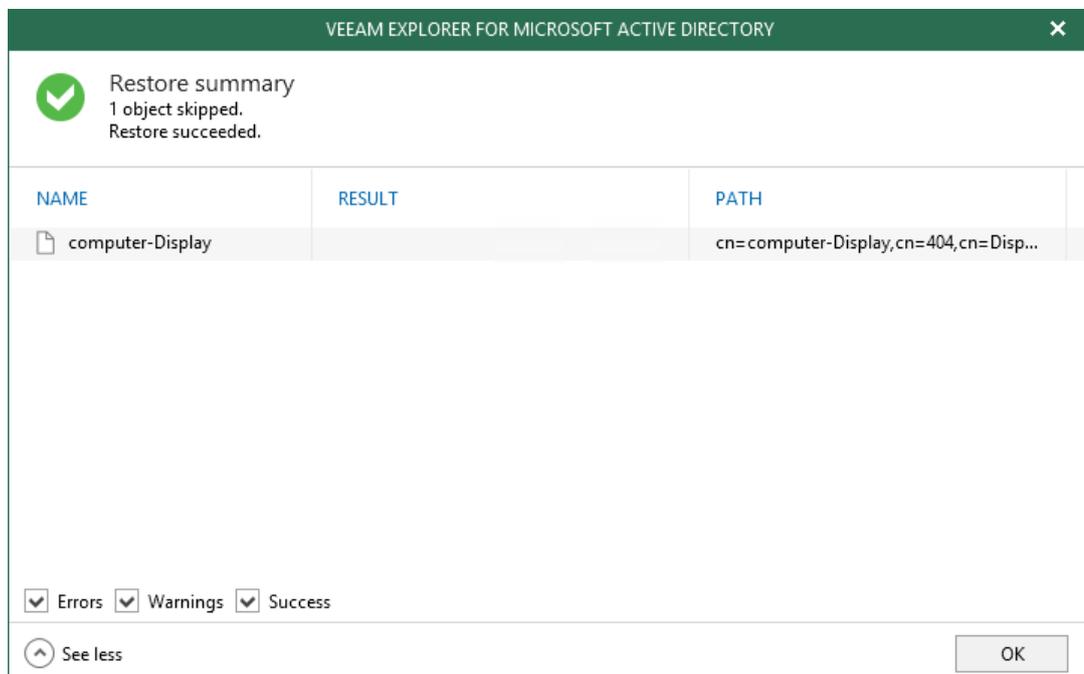


The screenshot shows the 'RESTORE WIZARD' dialog box with the title 'Select attributes to be restored'. It contains a list of attributes with checkboxes for selection. The 'adminDescription' attribute is currently selected and highlighted in blue. Below the list are buttons for 'Select All', 'Clear All', and a link for 'Clear all mail attributes'. At the bottom are 'Back', 'Restore', and 'Cancel' buttons.

	Attribute
<input checked="" type="checkbox"/>	accountExpires
<input checked="" type="checkbox"/>	accountNameHistory
<input checked="" type="checkbox"/>	aCSPolicyName
<input type="checkbox"/>	adminCount
<input checked="" type="checkbox"/>	adminDescription
<input checked="" type="checkbox"/>	adminDisplayName
<input checked="" type="checkbox"/>	altRecipient
<input checked="" type="checkbox"/>	altSecurityIdentities

Once restore is complete, review the results shown in the **Restore Summary** dialog.

You can select whether to display all types of notifications or only those you need by selecting/deselecting the corresponding checkboxes at the lower-left corner of the dialog.



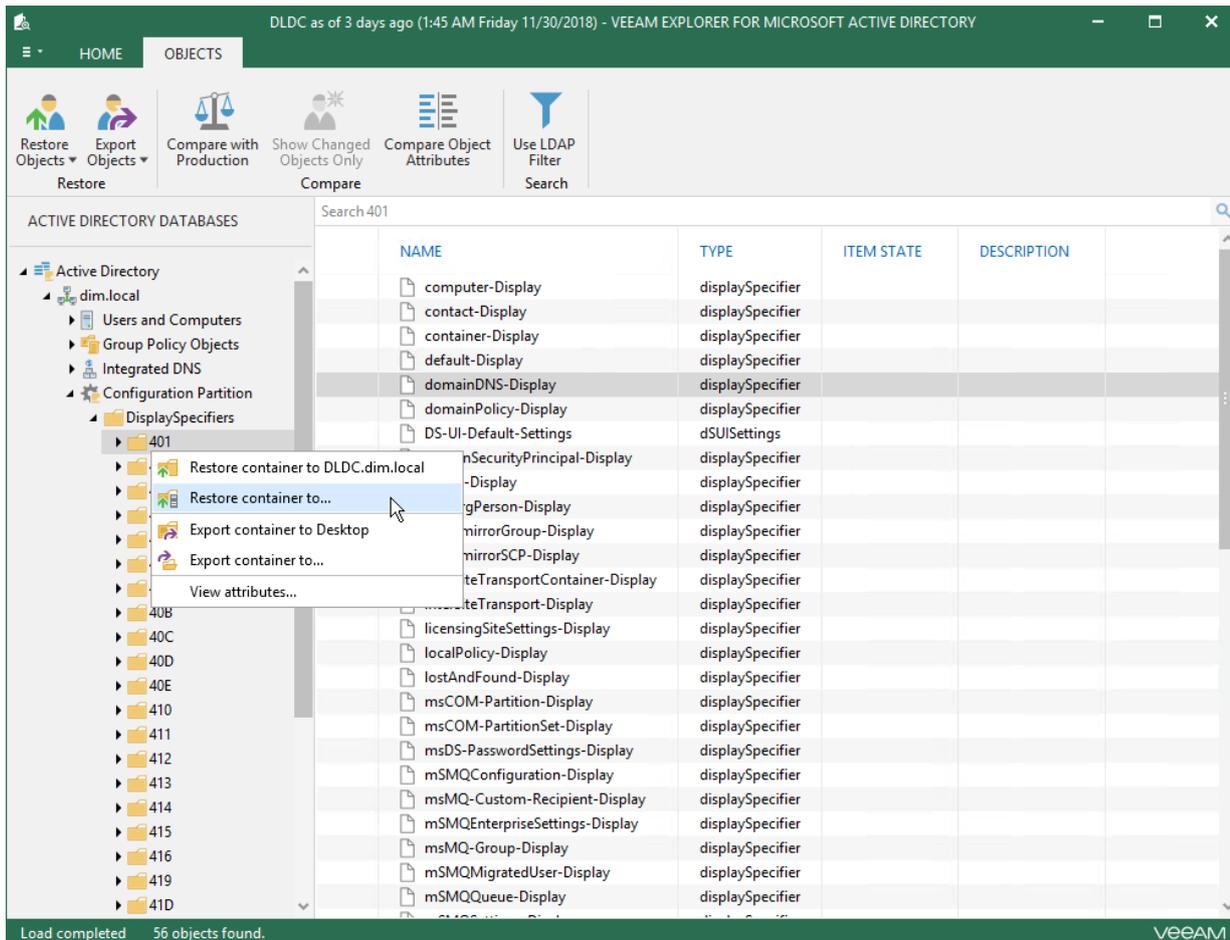
The screenshot shows the 'VEEAM EXPLORER FOR MICROSOFT ACTIVE DIRECTORY' dialog box with the title 'Restore summary'. It displays a green checkmark icon and the text '1 object skipped. Restore succeeded.'. Below this is a table with columns for NAME, RESULT, and PATH. The table contains one row for 'computer-Display'. At the bottom, there are checkboxes for 'Errors', 'Warnings', and 'Success', all of which are checked. There is also a 'See less' button and an 'OK' button.

NAME	RESULT	PATH
computer-Display		cn=computer-Display,cn=404,cn=Disp...

Restoring Containers

To restore Active Directory containers, do the following:

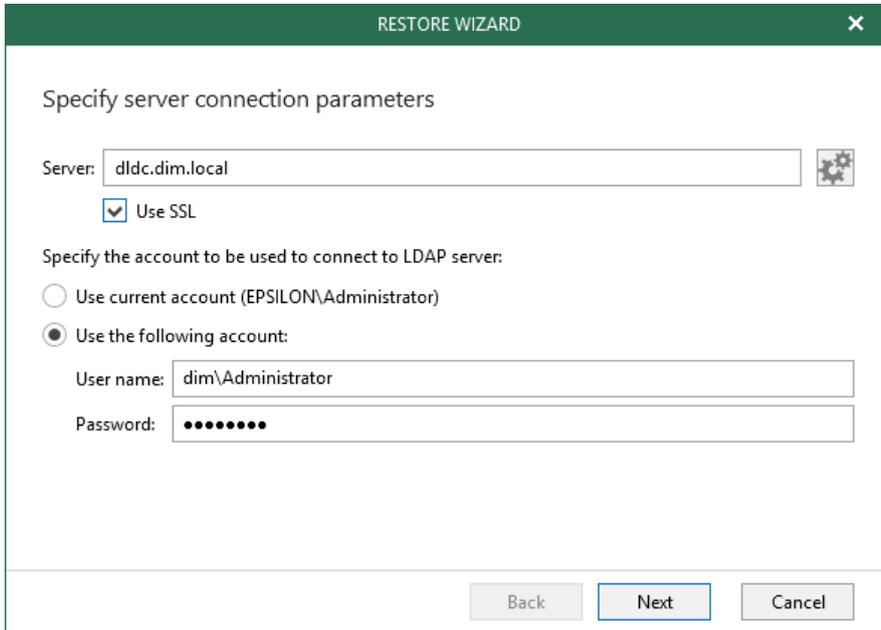
1. In the navigation pane, select a container.
2. On the **Container** tab, select **Restore Container** > **Restore container to** or right-click a container and select **Restore container to**.
3. Proceed to [Specify Connection Parameters](#).



Step 1. 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** checkbox to establish a secure SSL connection.
- User credentials to connect to the LDAP server.

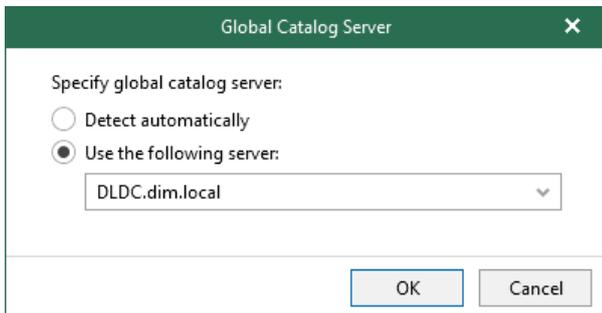


The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify server connection parameters". Below this, there is a "Server:" label followed by a text input field containing "dldc.dim.local" and a gear icon to its right. Underneath, the "Use SSL" checkbox is checked. The next section is "Specify the account to be used to connect to LDAP server:", with two radio button options: "Use current account (EPSILON\Administrator)" (unselected) and "Use the following account:" (selected). Below the selected option, there are two text input fields: "User name:" containing "dim\Administrator" and "Password:" containing a series of dots. At the bottom of the dialog, there are three buttons: "Back", "Next" (highlighted in blue), and "Cancel".

Global Catalog Server

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

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



The screenshot shows a dialog box titled "Global Catalog Server" with a close button (X) in the top right corner. The main heading is "Specify global catalog server:". Below this, there are two radio button options: "Detect automatically" (unselected) and "Use the following server:" (selected). Under the selected option, there is a dropdown menu showing "DLDC.dim.local". At the bottom of the dialog, there are two buttons: "OK" (highlighted in blue) and "Cancel".

Step 2. Specify Restore Location

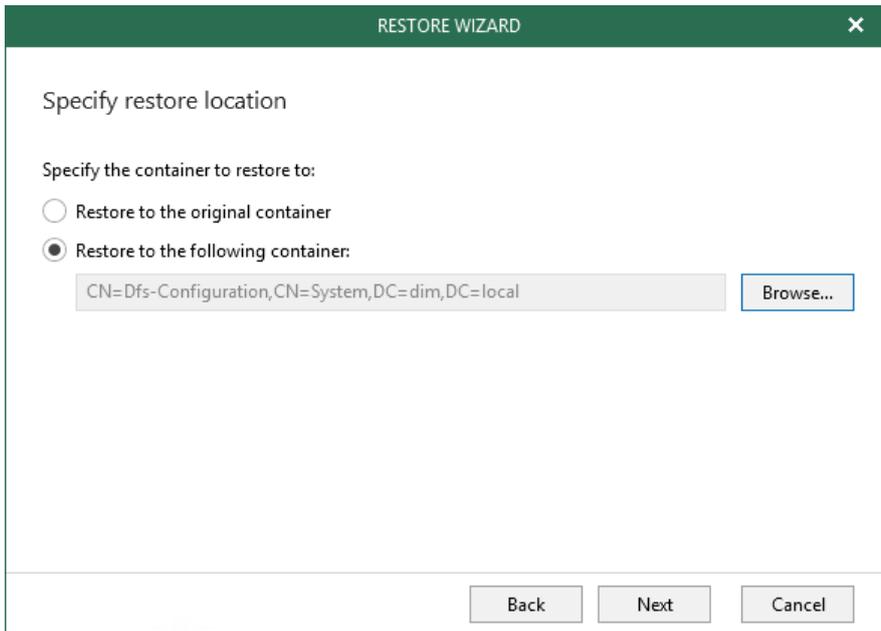
At this step of the wizard, select a container to which you want to restore the objects.

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](#).

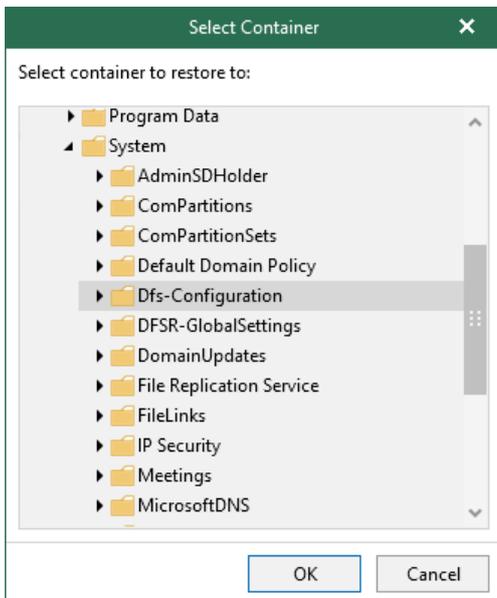


TIP:

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

Browsing Container

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



Step 3. Specify Password Restore Options

At this step, specify the manner in which you want your passwords to be restored.

Consider the following when restoring passwords:

- When providing a new password for the account that is being restored, 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.
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.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify password restore options".

Password options:

- Restore password
- Set password to:
A text input field containing six dots (••••••).
- Do not restore password

Account options:

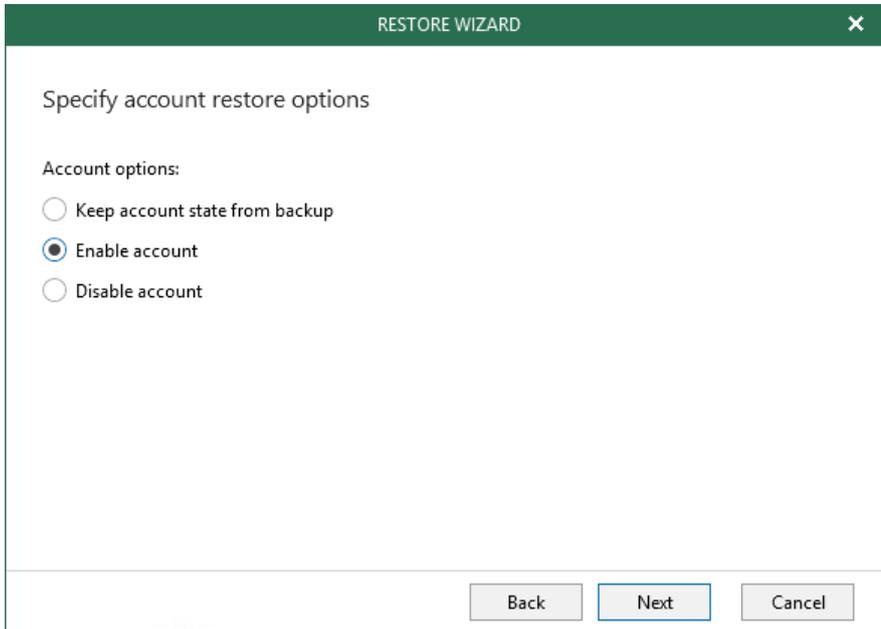
- User must change password at next logon

⚠ This option will not be set if the 'User cannot change password' option is set for the restored object.

At the bottom, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

Step 4. Specify Account State

At this step of the wizard, specify whether you want to keep the account state as it is in the backup file or select **Enabled** or **Disabled** to assign a state you need.



The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main content area is titled "Specify account restore options". Under the heading "Account options:", there are three radio button options: "Keep account state from backup", "Enable account" (which is selected), and "Disable account". At the bottom of the dialog box, there are three buttons: "Back", "Next" (which is highlighted with a blue border), and "Cancel".

Step 5. Specify Restore Options

At this step of the wizard, specify restore options.

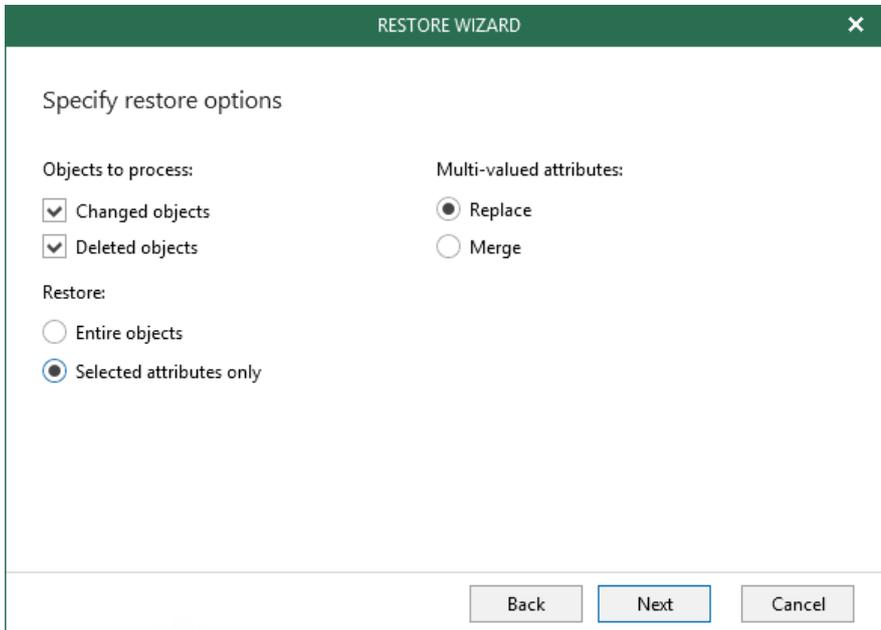
You can select the following:

- **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 at 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:

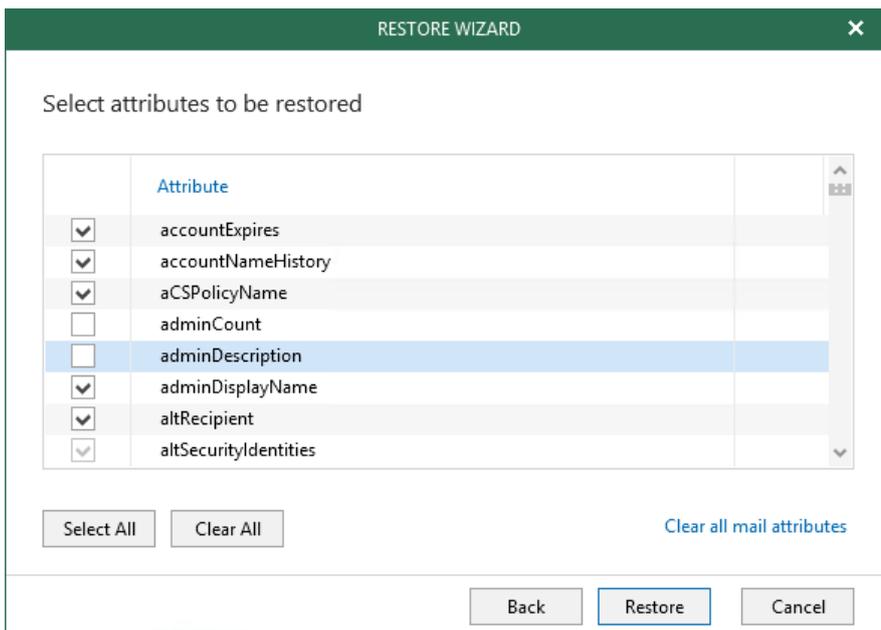
- When working with Active Directory 2016, this dialog will also include the Restore expiration time option which allows you to restore expiration time for linked attributes. If an attribute being restored expires during the restore session, then such an attribute will not be restored.
- Users cannot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



Step 6. Specify Attributes to Restore

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

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



Once restore is complete, review the results shown in the **Restore Summary** dialog.

You can select whether to display all types of notifications or only those you need by selecting/deselecting the corresponding checkboxes at the lower-left corner of the dialog.

VEEAM EXPLORER FOR MICROSOFT ACTIVE DIRECTORY

 Restore summary
57 objects skipped.
Restore succeeded.

NAME	RESULT	PATH
 401		cn=401,cn=DisplaySpecifiers,cn=Conf...
 DS-UI-Default-Settings		cn=DS-UI-Default-Settings,cn=401,cn...
 IntellimirrorGroup-Display		cn=IntellimirrorGroup-Display,cn=401,...
 IntellimirrorSCP-Display		cn=IntellimirrorSCP-Display,cn=401,cn...
 user-Display		cn=user-Display,cn=401,cn=DisplaySp...
 group-Display		cn=group-Display,cn=401,cn=DisplayS...
 domainDNS-Display		cn=domainDNS-Display,cn=401,cn=Di...
 contact-Display		cn=contact-Display,cn=401,cn=Displa...
 domainPolicy-Display		cn=domainPolicy-Display,cn=401,cn=...
 localPolicy-Display		cn=localPolicy-Display,cn=401,cn=Dis...
 volume-Display		cn=volume-Display,cn=401,cn=Displa...

Errors Warnings Success

 See less OK

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.

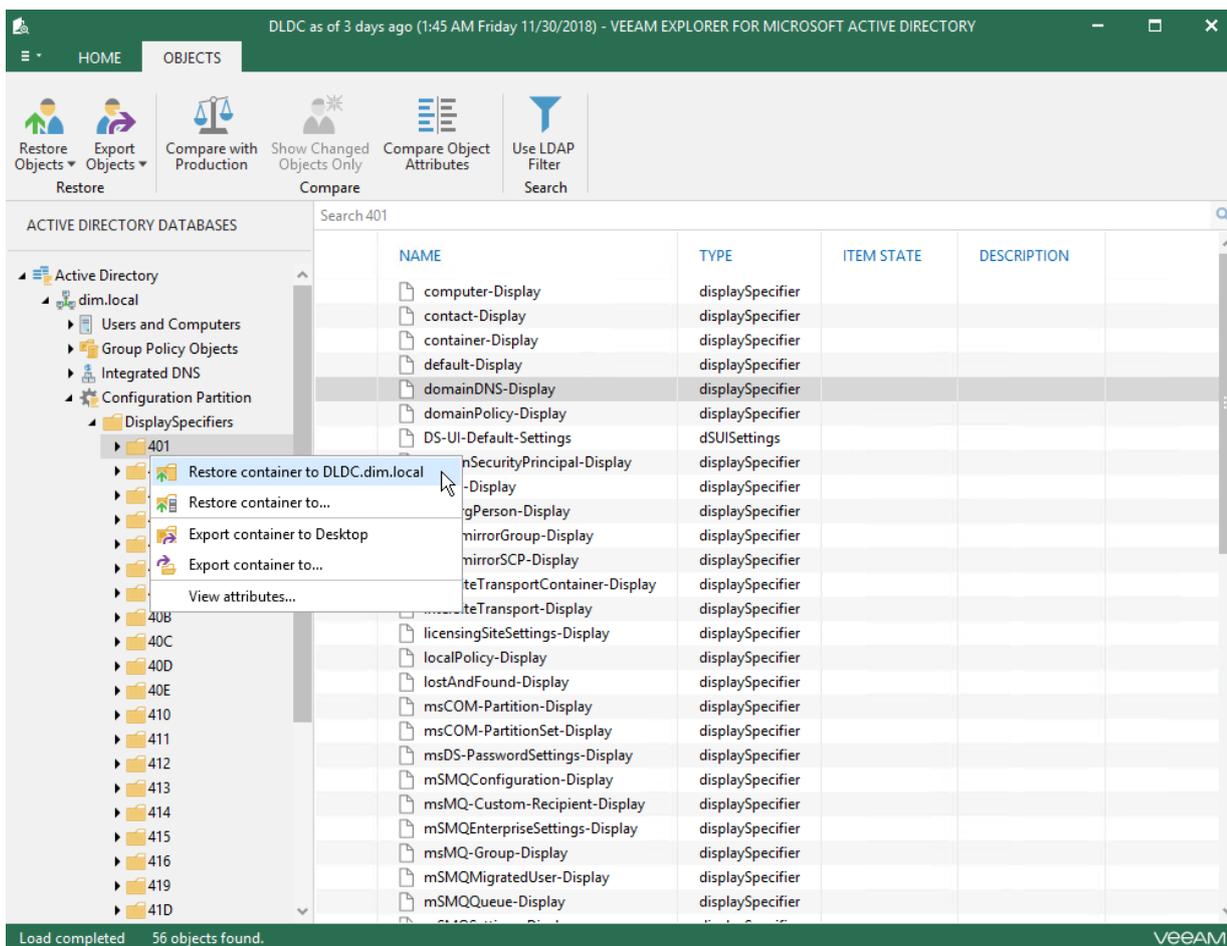
Consider the following:

- 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>**.



Once restore is complete, review the results shown in the **Restore Summary** dialog.

You can select whether to display all types of notifications or only those you need by selecting/deselecting the corresponding checkboxes at the lower-left corner of the dialog.

VEEAM EXPLORER FOR MICROSOFT ACTIVE DIRECTORY

 Restore summary
57 objects skipped.
Restore succeeded.

NAME	RESULT	PATH
401		cn=401,cn=DisplaySpecifiers,cn=Confi...
DS-UI-Default-Settings		cn=DS-UI-Default-Settings,cn=401,cn...
IntellimirrorGroup-Display		cn=IntellimirrorGroup-Display,cn=401,...
IntellimirrorSCP-Display		cn=IntellimirrorSCP-Display,cn=401,cn...
user-Display		cn=user-Display,cn=401,cn=DisplaySp...
group-Display		cn=group-Display,cn=401,cn=DisplayS...
domainDNS-Display		cn=domainDNS-Display,cn=401,cn=Di...
contact-Display		cn=contact-Display,cn=401,cn=Displa...
domainPolicy-Display		cn=domainPolicy-Display,cn=401,cn=...
localPolicy-Display		cn=localPolicy-Display,cn=401,cn=Dis...
volume-Display		cn=volume-Display,cn=401,cn=Displa...

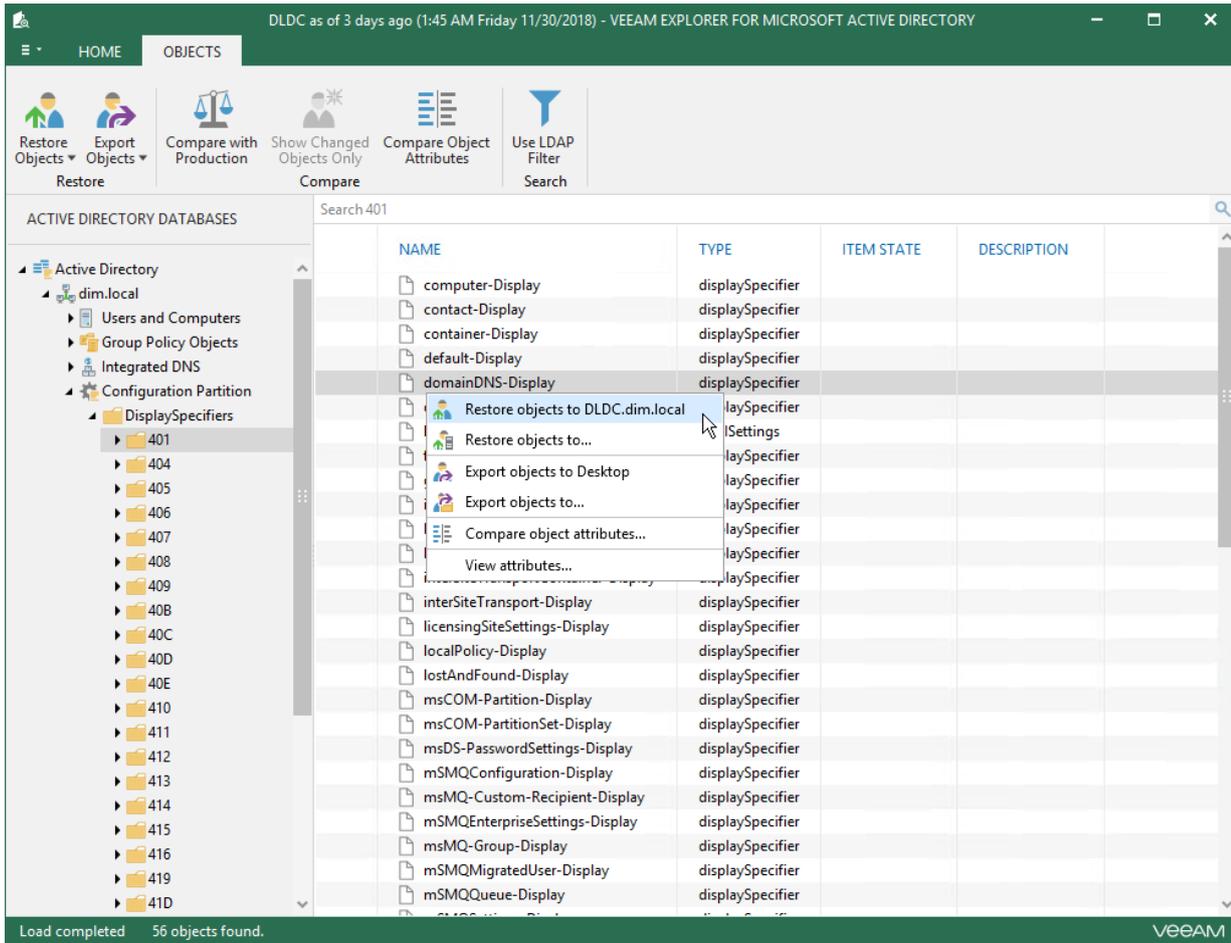
Errors Warnings Success

 See less OK

Restoring Objects

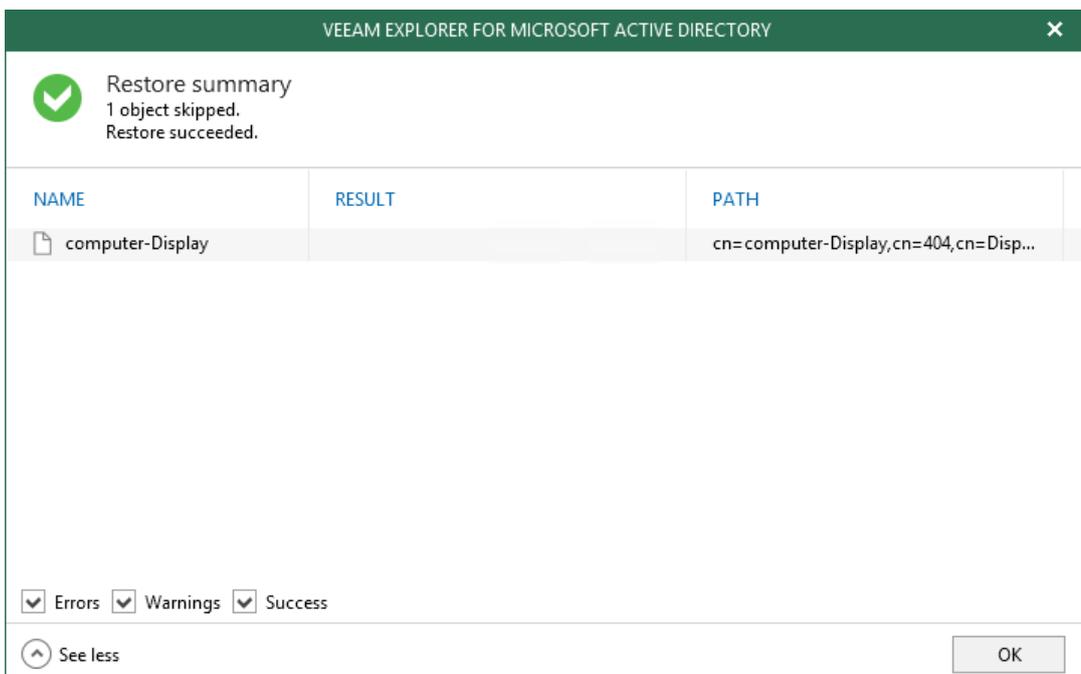
To restore an object, do the following:

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



Once restore is complete, review the results shown in the **Restore Summary** dialog.

You can select whether to display all types of notifications or only those you need by selecting/deselecting the corresponding checkboxes at the lower-left corner of the dialog.



Data Export

Continue with this section to learn more about exporting Active Directory objects and containers.

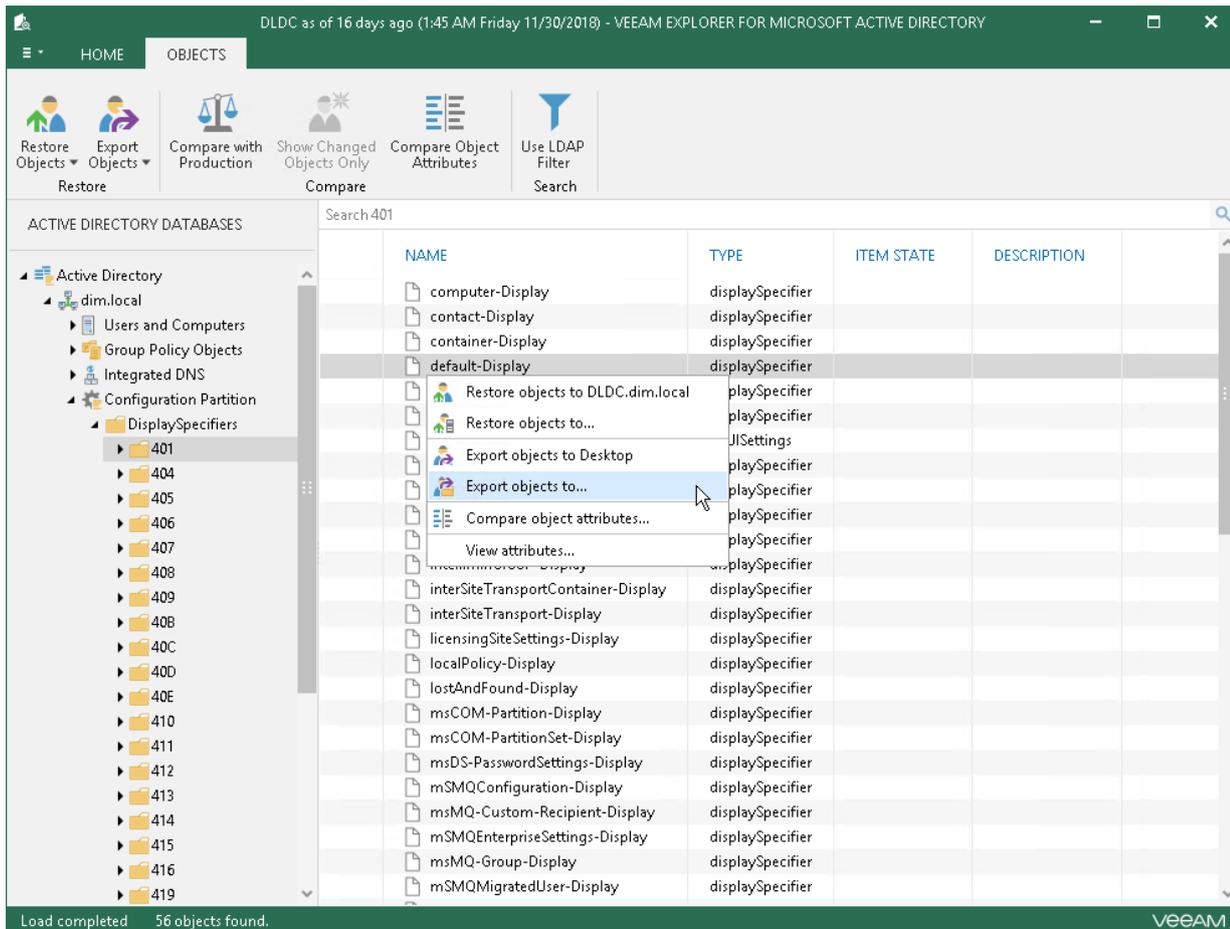
NOTE:

Veeam uses Lightweight Data Interchange Format to save Active Directory objects and containers into `.LDF` files. You can make a `.LDF` file available to the Active Directory Domain Services server by importing it with the `ldifde` utility. For more information, see [Import or Export Directory Objects Using Ldifde](#).

Exporting Objects

To export Active Directory objects, do the following:

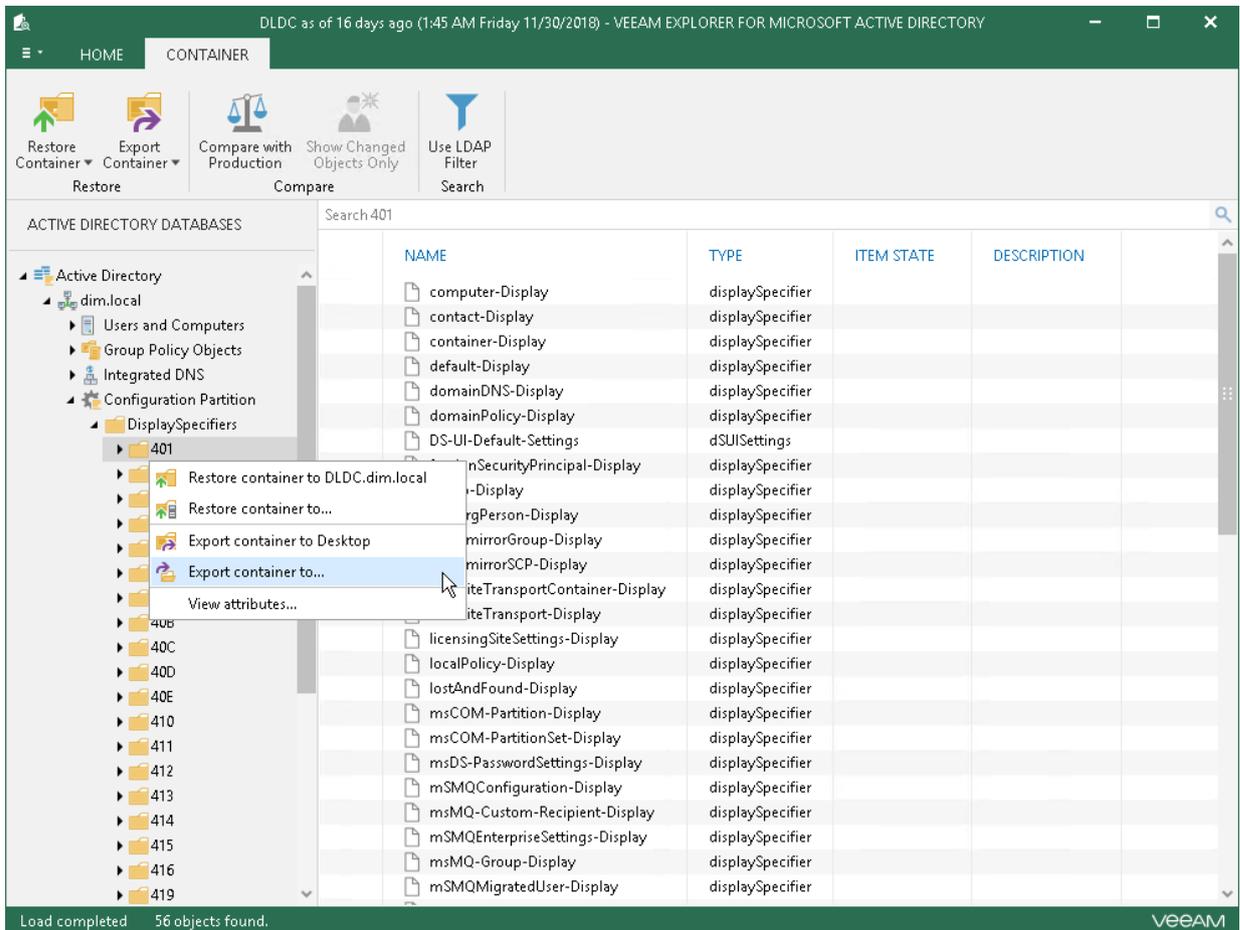
1. In the preview pane, select an object.
2. On the **Objects** tab, select **Export Objects > Export objects to** or right-click an object and select **Export objects to**.
3. Specify the destination folder and click **Save**.



Exporting Containers

To export containers and its content, 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**.



3. 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.

4. (Optionally) Select the **Save only objects that suit the following filter** checkbox and enter filtering criteria.

If necessary, select the **Use LDAP filter** checkbox to switch to the corresponding filtering mode.

5. Click **Export**.

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

Export Container ✕

Specify target path and export settings

Export to:

Save only objects that suit the following filter:

Use LDAP filter

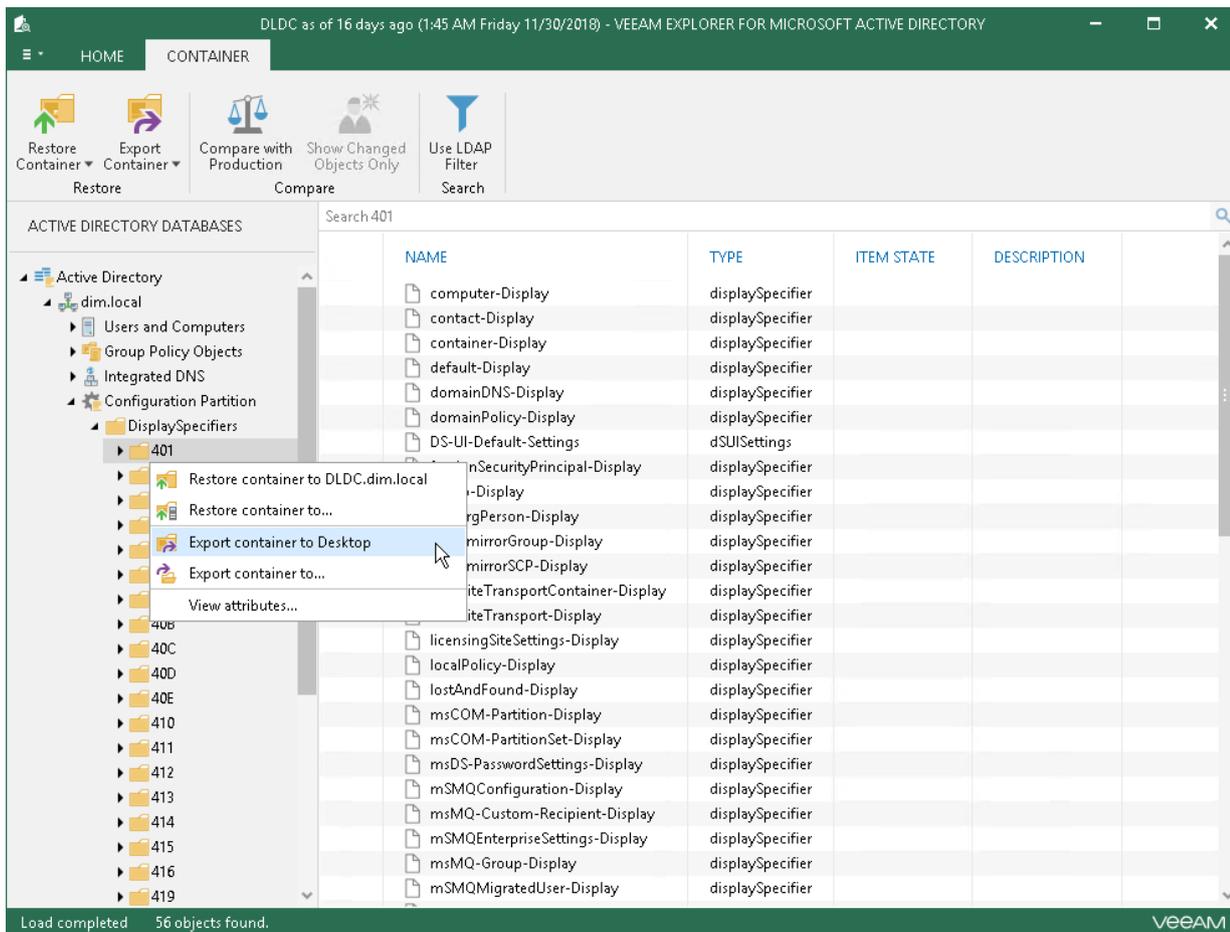
Using 1-Click Export

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>** respectively or use the associated context menu command.

NOTE:

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



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.

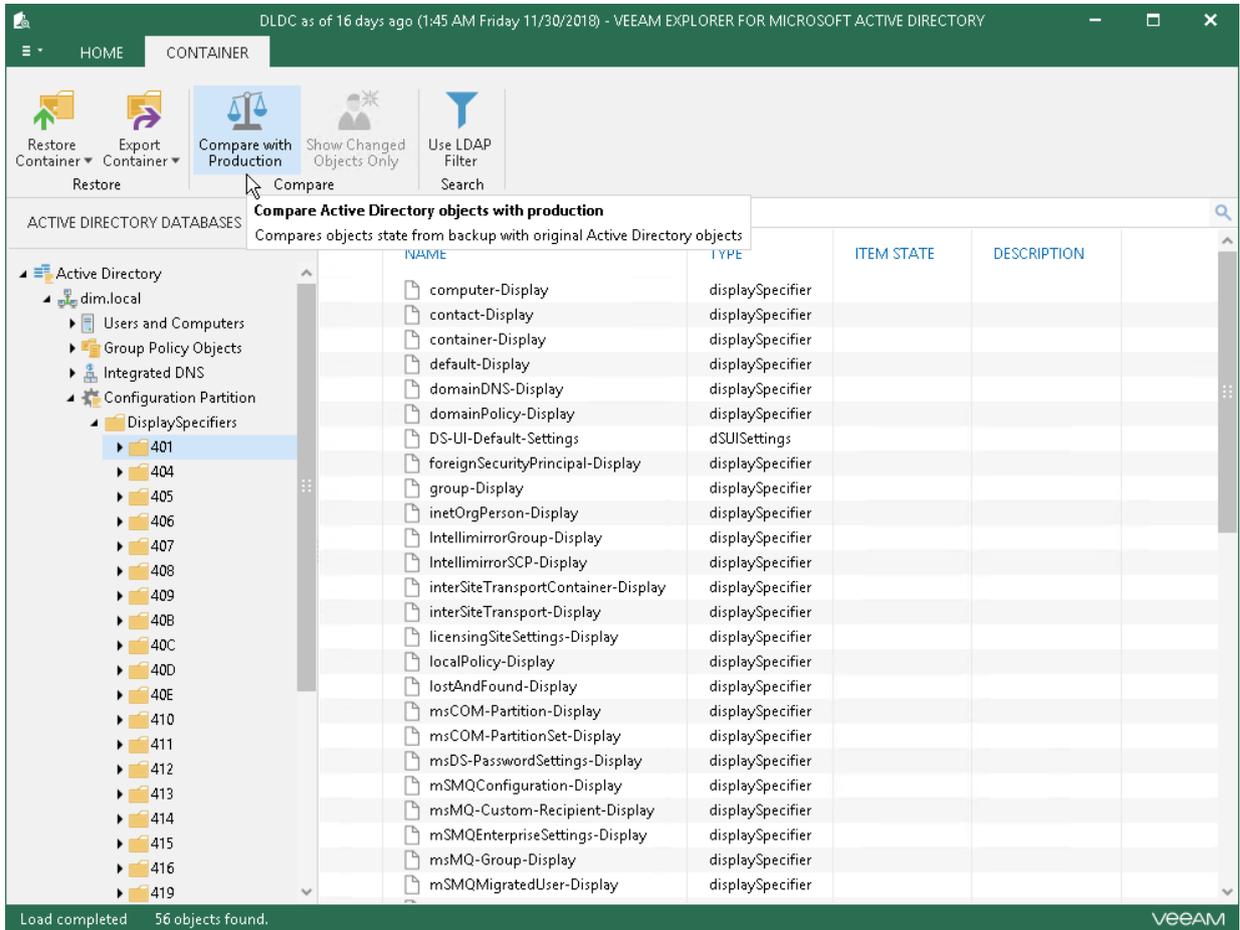
IMPORTANT!

To compare objects, make sure the account you are using has access to your production Active Directory.

Comparing 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.



3. Click **Show Changed Items Only** on the toolbar 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*.

DLDC as of 3 days ago (1:45 AM Friday 11/30/2018) - VEEAM EXPLORER FOR MICROSOFT ACTIVE DIRECTORY

HOME CONTAINER

Restore Container Export Container Compare with Production Show Changed Objects Only Use LDAP Filter Search

ACTIVE DIRECTORY DATABASES

- Active Directory
 - dim.Local
 - Users and Computers
 - Group Policy Objects
 - Integrated DNS
 - Configuration Partition
 - DisplaySpecifiers
 - Extended-Rights
 - ForestUpdates
 - Physical Locations
 - Services
 - Sites
 - WellKnown Security Principa

Search DisplaySpecifiers

NAME	TYPE	ITEM STATE	DESCRIP...
computer-Display	displaySpecifier	Changed	
contact-Display	displaySpecifier	Changed	

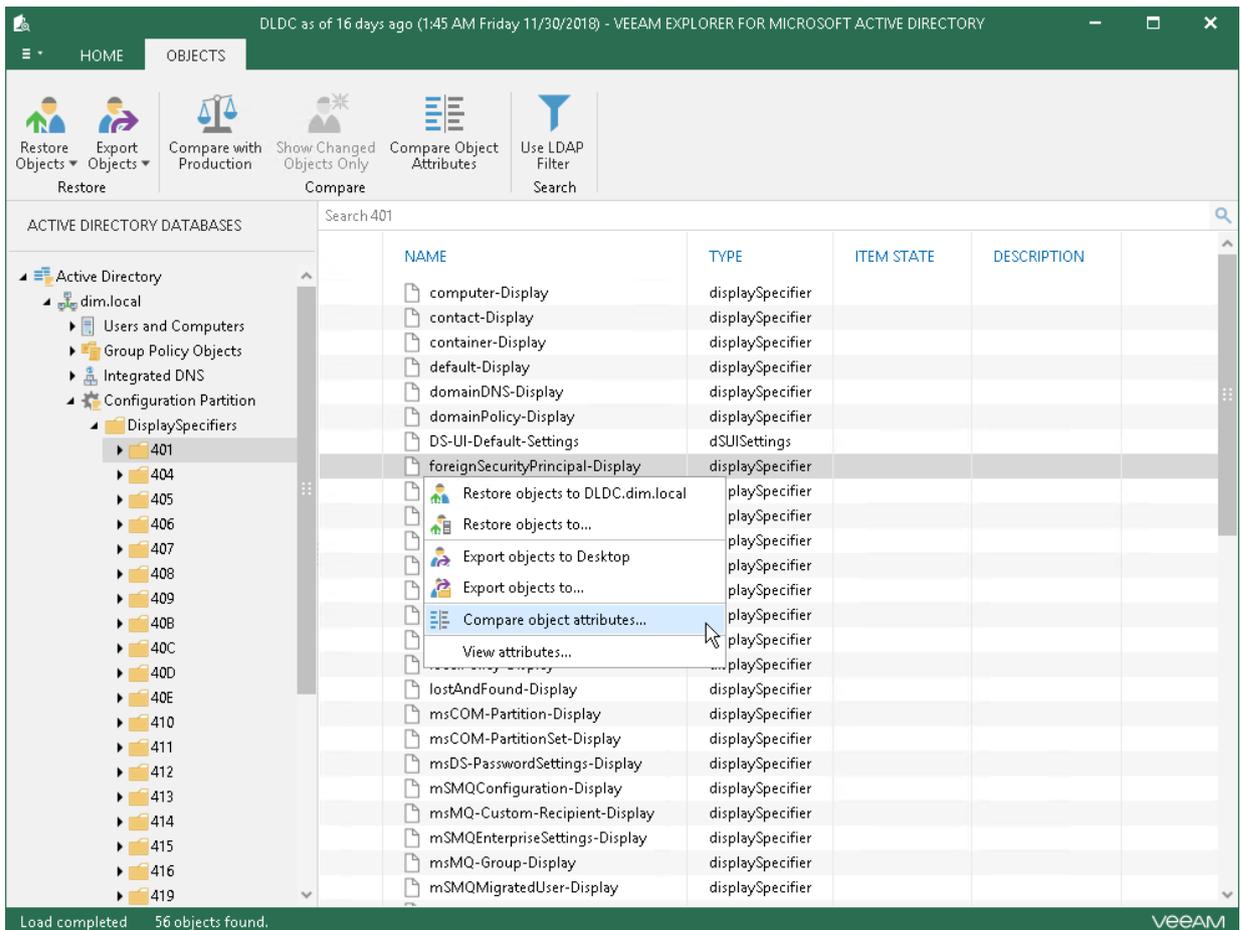
Load completed 0 objects found.

VEEAM

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**.



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



Attributes:

Show unchanged attributes Show system attributes

NAME	BACKUP VALUE	PRODUCTION VALUE
adminContextMenu	1,{08eb4fa6-6ffd-11d1-b0e0-00c04fd8d...	1,{08eb4fa6-6ffd-11d1-b0e0-00c04fd8d...
adminPropertyPages	< double-click to compare >	< double-click to compare >
attributeDisplayNames	< double-click to compare >	< double-click to compare >
classDisplayName	外部安全性主體	外部安全性主體
cn	foreignSecurityPrincipal-Display	foreignSecurityPrincipal-Display
distinguishedName	cn=foreignSecurityPrincipal-Display,cn...	CN=foreignSecurityPrincipal-Display,C...
dSCorePropagationData	12/31/1600 4:00:00 PM	12/31/1600 4:00:00 PM
instanceType	4	4
name	foreignSecurityPrincipal-Display	foreignSecurityPrincipal-Display
nTSecurityDescriptor	O:S-1-5-21-2974619981-2203748758-41...	O:S-1-5-21-2974619981-2203748758-41...
objectCategory	cn=Display-Specifier,cn=Schema,cn=...	CN=Display-Specifier,CN=Schema,CN...
objectClass	< double-click to compare >	< double-click to compare >
objectGUID	16da1a12-0a66-4567-9874-35a87c60c51d	16da1a12-0a66-4567-9874-35a87c60c51d
replPropertyMetaData	AQAAAAAAAAAMAAAAAAAAAAAAA...	
showInAdvancedViewOnly	True	True
uSNChanged	5625	5625
uSNCreated	5625	5625
whenChanged	10/5/2016 6:44:20 AM	10/5/2016 6:44:20 AM
whenCreated	10/5/2016 6:44:20 AM	10/5/2016 6:44:20 AM

Use Ctrl and Shift keys to select one or more attributes and click Restore to restore them into production environment.

Restore

Close

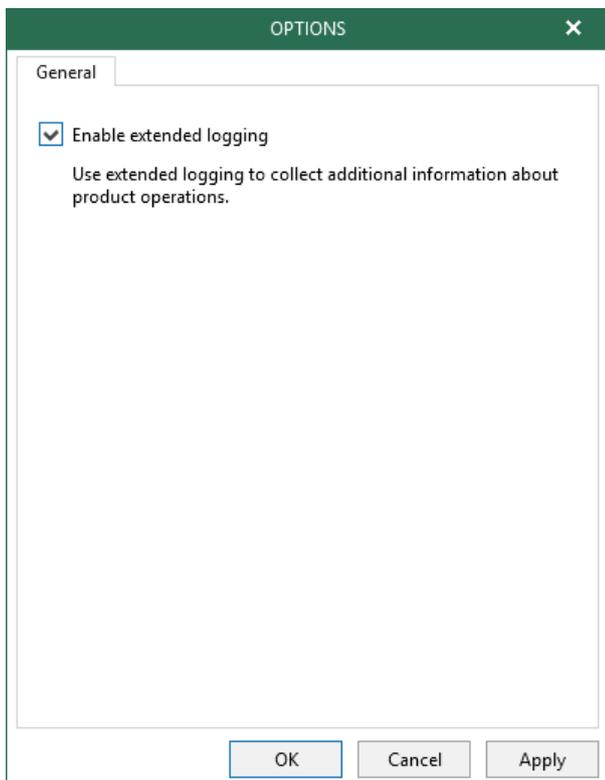
Enabling Extended Logging

Log files are used to troubleshoot a variety of different situations when certain processes may have gotten unexpected results while being executed.

By default, logs are collected in the default mode. In certain cases, you may need to enable the extended logging mode to collect logs that contain more details on specific operations.

To configure extended logging mode, do the following:

1. Go to the main menu and click the **General Options**.
2. On the **General** tab, select the **Enable Extended logging** checkbox.
3. Go back to the application, perform necessary actions and then review the logs to see the details.



Veeam Explorer for Microsoft SQL Server

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

What's New

The following new features and enhancements have been implemented in Veeam Explorer for Microsoft SQL Server that comes as part of Veeam Backup & Replication 9.5 Update 4:

- Support for exporting database files as BAK.
- Support for RECOVERY, NORECOVERY, STANDBY options selection during restore.
- Support for publishing SQL databases to target SQL servers.
- Performance and stability Improvements.

Planning and Preparation

Continue with this section to learn how to configure your environment before start using Veeam Explorer for Microsoft SQL Server.

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 VSS-Aware 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 SQL server databases is set to **False**.
If **AUTO_CLOSE** is enabled, your databases might be skipped from processing.
- To restore database items from a SQL server VM that is running Microsoft Windows ReFS, the Veeam backup server or a management console must be installed on Microsoft Windows Server 2012 or higher.
- To restore data from a server that is running Microsoft Windows ReFS 3.x, the Veeam backup server or a management console must be installed on 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:

- Ensure that the staging 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.
- Mind domain trusts configuration when planning to add databases to the Veeam Explorer scope manually. For more information, see [Configuring Staging SQL Server](#).
- The following *Microsoft SQL Server Express Editions* can be used as a staging system:
 - *Microsoft SQL Server 2012 Express Edition*.
For Microsoft Windows 2008 R2 and Windows 7.
 - *Microsoft SQL Server 2016 Express Edition*.
For other higher versions.Both editions come as part of the Veeam Backup & Replication distribution package.
- A SQL server instance can be used as a staging system.

NOTE:

Databases that exceed 10 GB cannot be attached to the Microsoft SQL Server 2012/2016 Express Edition due to Express Edition limitations. For more information, see the following Microsoft articles:

- [For Microsoft SQL Server 2012 Express Edition.](#)
- [For Microsoft SQL Server 2016 Express Edition](#)

Used Ports

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

Backup

From	To	Protocol	Port	Notes
Veeam Backup Server / Guest Interaction Proxy (Enterprise and Enterprise Plus editions)	Microsoft SQL Server VM Guest OS	TCP, UDP	135, 137-139, 445	To deploy the runtime coordination process on a VM guest OS.
		TCP	49152 to 65535. For Microsoft Windows 2008 and higher.	The dynamic RPC range that is used by the runtime coordination process which is deployed on a VM guest OS for application-aware processing.
		TCP	6167	For Microsoft SQL Server transaction logs shipping Utilized by the runtime process on a VM guest OS from which transaction logs are being collected.
Microsoft SQL Server VM Guest OS	Veeam Backup Server / Guest Interaction Proxy (Enterprise and Enterprise Plus editions)	TCP	49152 to 65535. For Microsoft Windows 2008 and higher	The dynamic RPC range that is used by the runtime coordination process which is deployed on a VM guest OS for application-aware processing
	Log Shipping Server	TCP	2500 to 5000	For Microsoft SQL Server transaction logs shipping The default port range used by the Veeam data mover service for data transfer over the network.

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, ensure configuring dynamic RPC ports manually. For more information, see [this Microsoft article](#).

Restore

From	To	Protocol	Port	Notes
Veeam Backup Server / Standalone Console	Target Server / Staging Server	TCP, UDP	135, 445	To deploy the runtime coordination process on a target guest OS.
		TCP	49152-65535. For Microsoft Windows 2008 and higher.	The dynamic RPC range that is used by the runtime coordination process which is deployed on a target guest OS. For more information, see this Microsoft article .
	Microsoft SQL Server VM Guest OS	TCP	1433,1434	To communicate with the Microsoft SQL server that is installed on a VM during the application-item restore. For more information, see this Microsoft article .
		UDP	1434	Utilized by the Microsoft SQL Server Browser service. For more information, see this Microsoft article .
		TCP	1025 - 1034	The default RPC range for the runtime component that is installed on a target or staging SQL server guest OS to support restore. Such a port range is only opened while application item restore is being performed.
	Target Server / Staging Server	Mount server associated with the backup repository	TCP	3260 - 3270

Required Permissions

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

Operation	Required Roles and Permissions
Backup	For more information, see the Required Permissions section of the Veeam Backup & Replication User Guide.
Restore	The account being used must be a member of the <i>Local Administrator</i> group and must be granted the <i>sysadmin</i> role on a target Microsoft SQL Server. For more information about Microsoft SQL Server roles, see this Microsoft article .

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.

Configuring Transaction Logs

For more information about configuring transaction logs, see the [Transaction Log Settings: Microsoft SQL Server](#) 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 SQL Server to Veeam repository. As soon as data is copied to target, BAK files are deleted from 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 SQL Server to Veeam repository. As soon as data is copied to target, BAK files are deleted from source.

Considerations and Limitations

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

General

- When using the SQL Server Express edition as a staging system, consider that databases that exceed 10 GB cannot be attached to this SQL Server due to Express edition limitations. For more information, see [Features Supported by the Editions of SQL Server 2012](#).
- SQL Server included in Microsoft SQL Server Failover Cluster cannot be used as a staging system.

Backup

- By default, system databases (**master**, **model**, **msdb**) are skipped from transaction log processing. These databases can be restored using file-level restore, as described in the Veeam Backup & Replication User Guide. If you want to exclude other databases from the transaction log processing, please refer to the [How to exclude MS SQL Databases from SQL Log backup](#) knowledge base article.
- Transaction log backup is not supported for Windows Server 2008 or earlier guests on Hyper-V 2012 R2.
- Transaction log backup requires at least one image-level backup of SQL Server. This means that the transaction log backup will not function after the full SQL Server restore is performed or for the newly appeared databases, until the first image-level VM backup is performed.
- If both Microsoft SQL Server and Oracle Server are installed on the same VM, which processed by a job with the log backup enabled for both applications, Veeam Backup & Replication will back up only Oracle transaction logs. Microsoft SQL Server transaction logs will not be processed.
- For the truncation of database transaction logs, make sure that **Deny log on locally** and **Deny log on through Terminal Services** are turned **OFF** for the account used for VM guest processing (these settings can be turned on, in particular, due to group policy).
- Currently, point-in-time restore and restore to the state before selected transaction is not supported for replica VMs and for restore points created by backup copy job.

Restore

- Veeam Explorer for Microsoft SQL Server does not support restore via PSDirect, VIX or Sphere API.
- Table-level recovery is supported only for database tables with no external dependencies.
- If you plan to restore an encrypted database using Veeam Explorer for Microsoft SQL Server, consider information provided in [this Veeam Knowledge Base article](#).
- If you plan to restore database schema objects, consider that 'Replace' logic is not supported - that is, if an object with the same name exists in the production database and in the backup, then a backup object will not replace the existing one, but an object with a different name will be created instead, as described in the [Restoring Database Schema and Data](#). Also, consider that when objects are renamed, relationships between them are not renamed.

Support for AlwaysOn Availability Groups

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

- If you want to restore database from the AlwaysOn availability group node to the state prior to the selected transaction, all nodes of the group should be located in the same time zone.

Launching Application and Exploring Backups

You can launch Veeam Explorer for Microsoft SQL Server and explore the content of a backup file in any of the following ways:

- You can use the **Restore application item** option to explore backups created by Veeam Backup & Replication.

For more information, see the [Application Items Restore](#) section of the Veeam Backup & Replication User Guide.

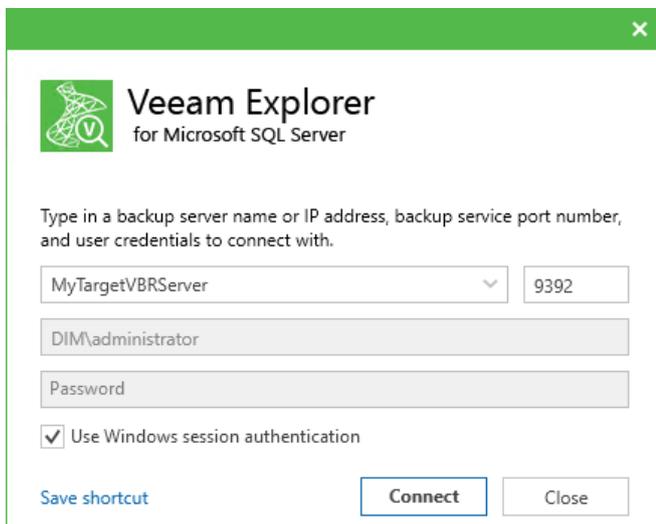
- You can go to **Start** and click **Veeam Explorer for Microsoft SQL Server** to launch the application as a standalone console. Then, add Microsoft SQL databases manually, as described in the [Adding Standalone Microsoft SQL Databases](#) section.

When launching from the **Start** menu, specify the following parameters:

- Specify the name or IP-address of a Veeam Backup & Replication server to which you want to connect.
- Specify the port number.
- Specify user credentials to connect to the server.

The account must be a member of the **Local Administrator** group on a target server. To use your current account, select **Use Windows session authentication**.

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



The screenshot shows the Veeam Explorer for Microsoft SQL Server connection dialog box. It has a green title bar with a close button (X) in the top right corner. The main area contains the Veeam logo and the text "Veeam Explorer for Microsoft SQL Server". Below this, there is a prompt: "Type in a backup server name or IP address, backup service port number, and user credentials to connect with." There are four input fields: a dropdown menu containing "MyTargetVBRServer", a text box containing "9392", a text box containing "DIM\administrator", and a text box containing "Password". Below these fields is a checkbox labeled "Use Windows session authentication" which is checked. At the bottom left is a link "Save shortcut", and at the bottom right are two buttons: "Connect" and "Close".

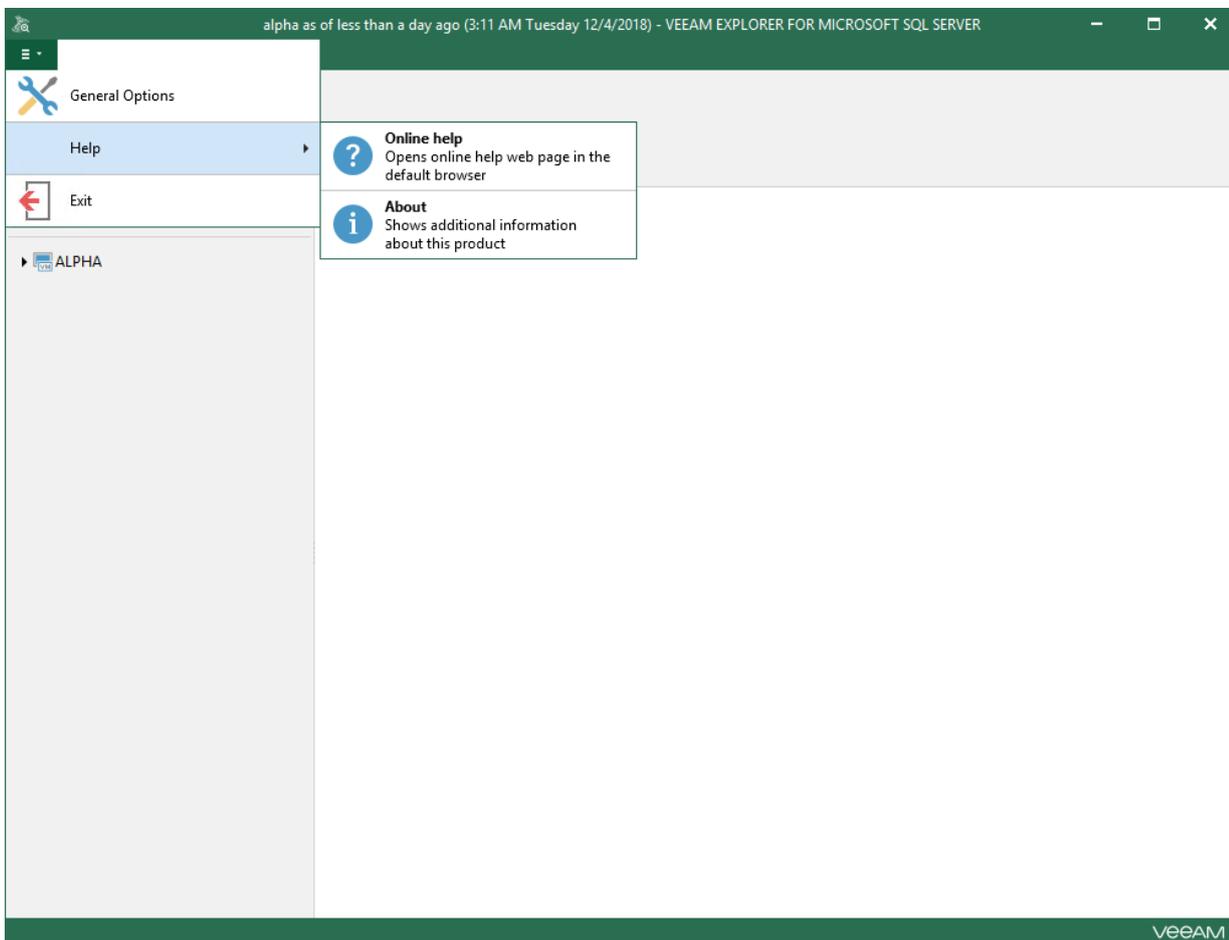
Understanding User Interface

Veeam Explorer for Microsoft SQL Server 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 features:

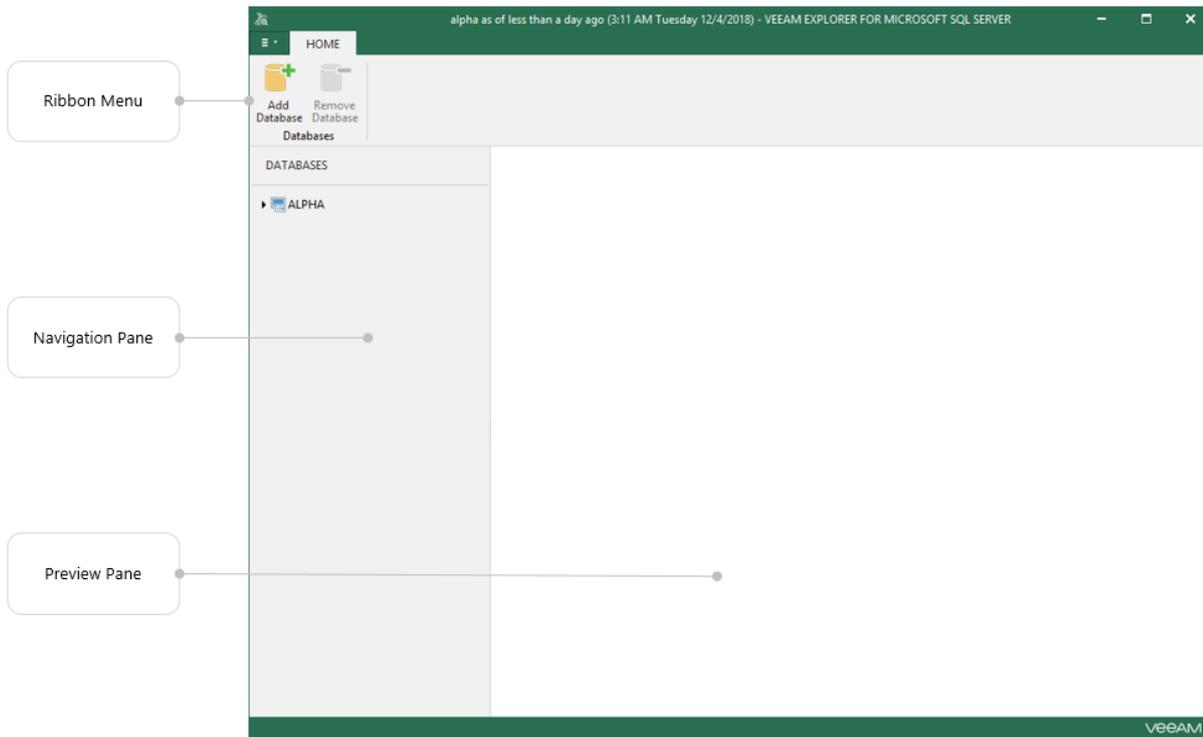
- **General Options.** Allows you to configure program options.
- **Help.**
 - **Online help.** Opens the online web help page.
 - **About.** Shows information about the product.
- **Exit.** Closes the program.



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.



Understanding Mounting

When restoring your data, Veeam Explorer 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 job configuration settings.

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 on to machines with the Microsoft Windows operating system, Veeam uses the iSCSI protocol. The original virtual machine or staging SQL server acts as an iSCSI initiator and a 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.

NOTE:

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

Understanding Veeam SQL Restore Service

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 `Veeam.SQL.Service_<timestamp>.log` file stored in the `Temp` folder which is located in the system directory.

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

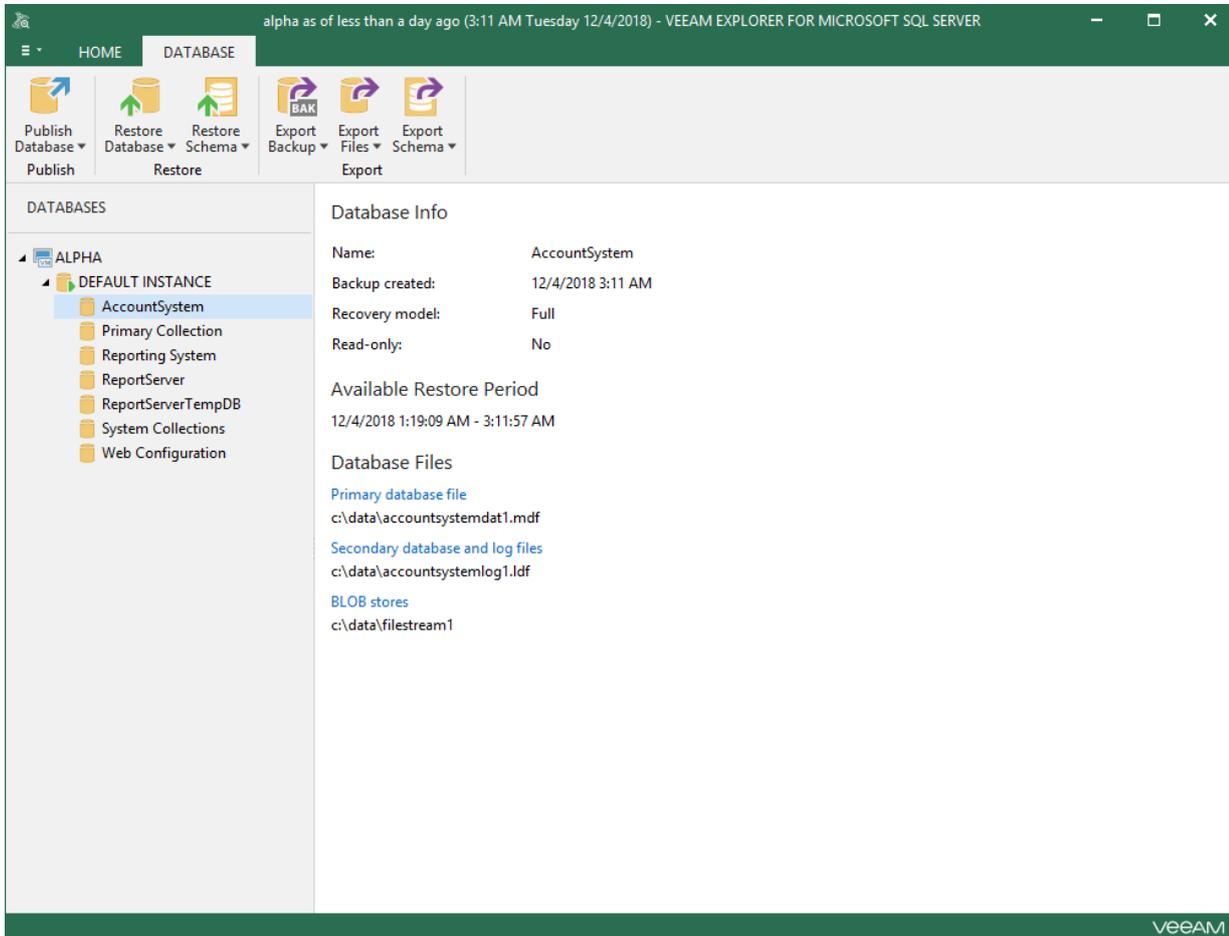
Inbound\outbound traffic management between Veeam Explorer for Microsoft SQL Server and the *Veeam SQL Restore Service* component is performed via the RPC protocol. For more information, see [Used Ports](#).

NOTE:

When restoring to the local server instance, *Veeam SQL Restore Service* component is not installed on the SQL server guest operating system.

Viewing Database Information

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



General Application Settings

Continue with this section to learn more about configuring required application settings and components.

Configuring Staging SQL Server

A staging SQL server is required in the following cases:

- When exporting data.
- When using the fine-tune feature.

For more information about requirements for a staging server, see [Staging SQL Server Requirements](#)

Consider the following:

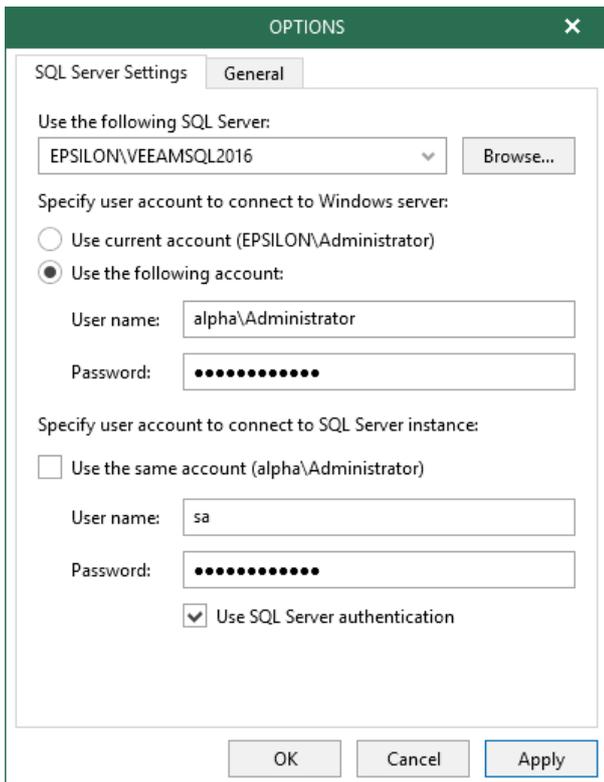
- You cannot access a staging server that belongs to an untrusted domain.
- If a staging SQL server belongs to a trusted domain, only the SQL server authentication method is possible.
- If both a staging SQL server and machine hosting Veeam Explorer belong to the same domain, then both *Windows* and *SQL Server authentication* methods are possible.

To use Windows authentication, make sure to configure delegation settings as follows:

- a) In **Active Directory Users and Computers**, select a staging SQL Server.
- b) Open server's properties and go to the **Delegation** tab.
- c) 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.
- d) Restart the staging SQL server.
- e) Select a domain user account you want to use when connecting to the staging SQL server, open its properties, go to the **Account** tab and make sure the **Account is sensitive and cannot be delegated** checkbox is not selected.

To configure a staging server, do the following:

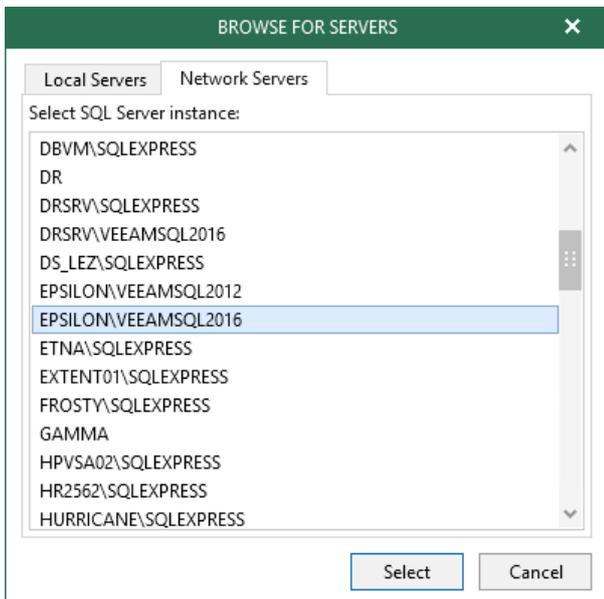
1. Go to the main menu and click **General Options**.
2. Go to the **SQL Server Settings** tab.
3. Specify a SQL server you want to use as a staging system.
Click **Browse** to select a server, as described in [Browsing For Servers](#).
4. Specify the account to access the selected server.
5. Specify the account to access a SQL server instance.



Browsing for Servers

To browse for a server, do the following:

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



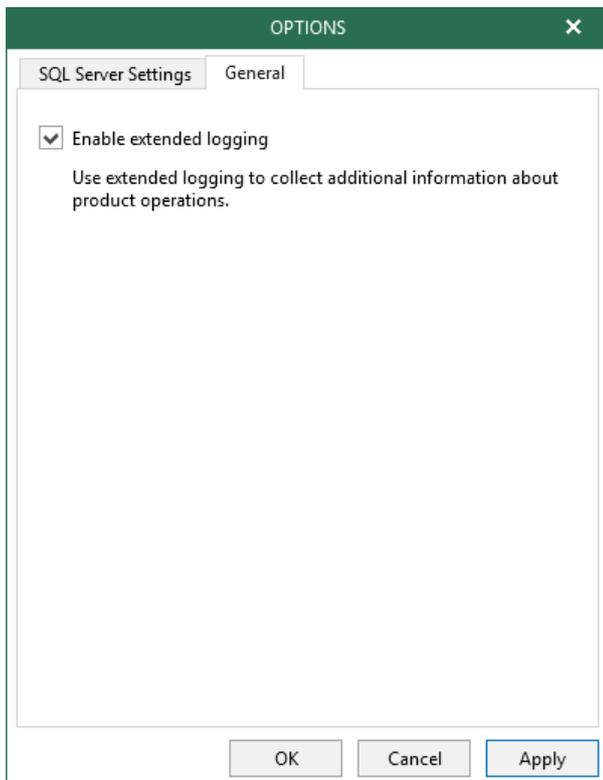
Enabling Extended Logging

Log files are used to troubleshoot a variety of different situations when certain processes may have gotten unexpected results while being executed.

By default, logs are collected in the default mode. In certain cases, you may need to enable the extended logging mode to collect logs that contain more details on specific operations.

To configure extended logging mode, do the following:

1. Go to the main menu and click the **General Options**.
2. On the **General** tab, select the **Enable Extended logging** checkbox.
3. Go back to the application, perform necessary actions and then review the logs to see the details.



Standalone Databases Management

Continue with this section to learn more about adding and removing Microsoft SQL databases.

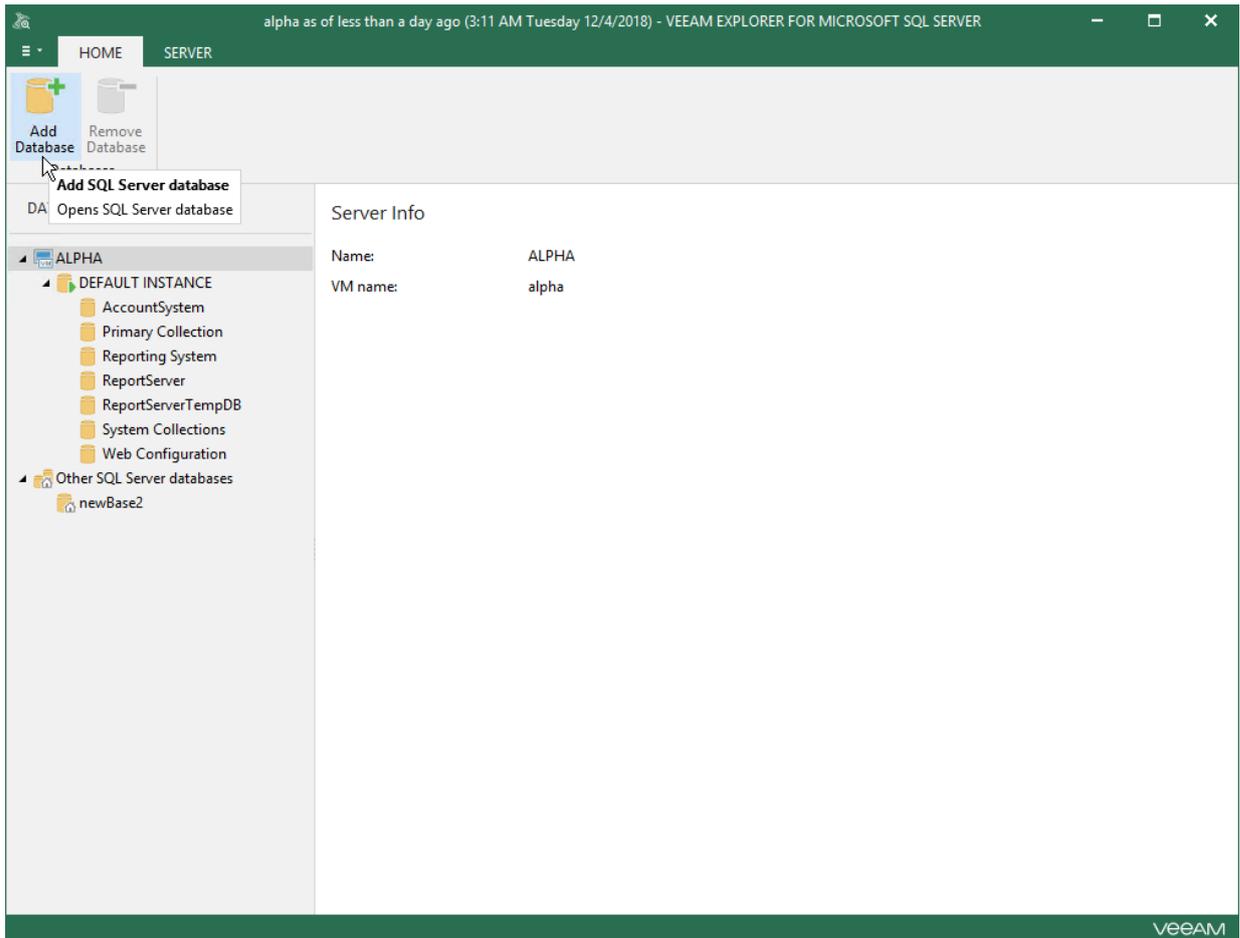
Adding Standalone Databases

NOTE:

The addition of standalone SQL databases requires a staging SQL server to be configured upfront. For more information, see [Configuring Staging SQL Server](#).

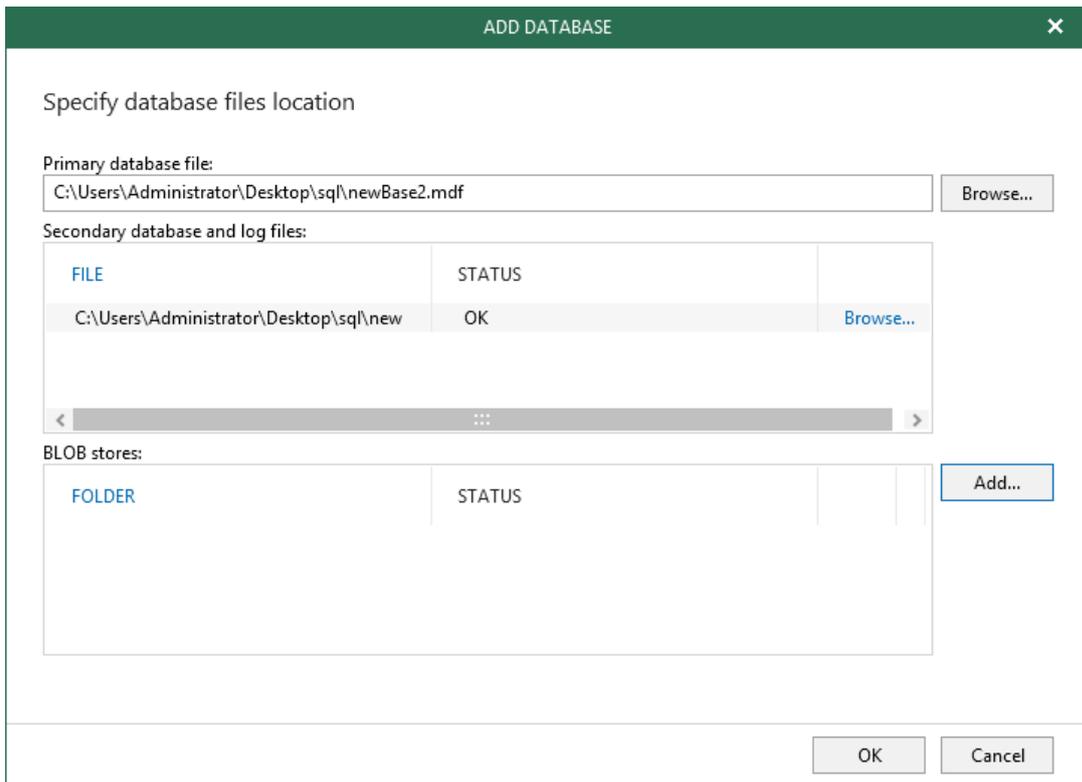
To add a standalone Microsoft SQL database manually, do the following:

1. On the **Home** tab, click **Add Database**.



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.

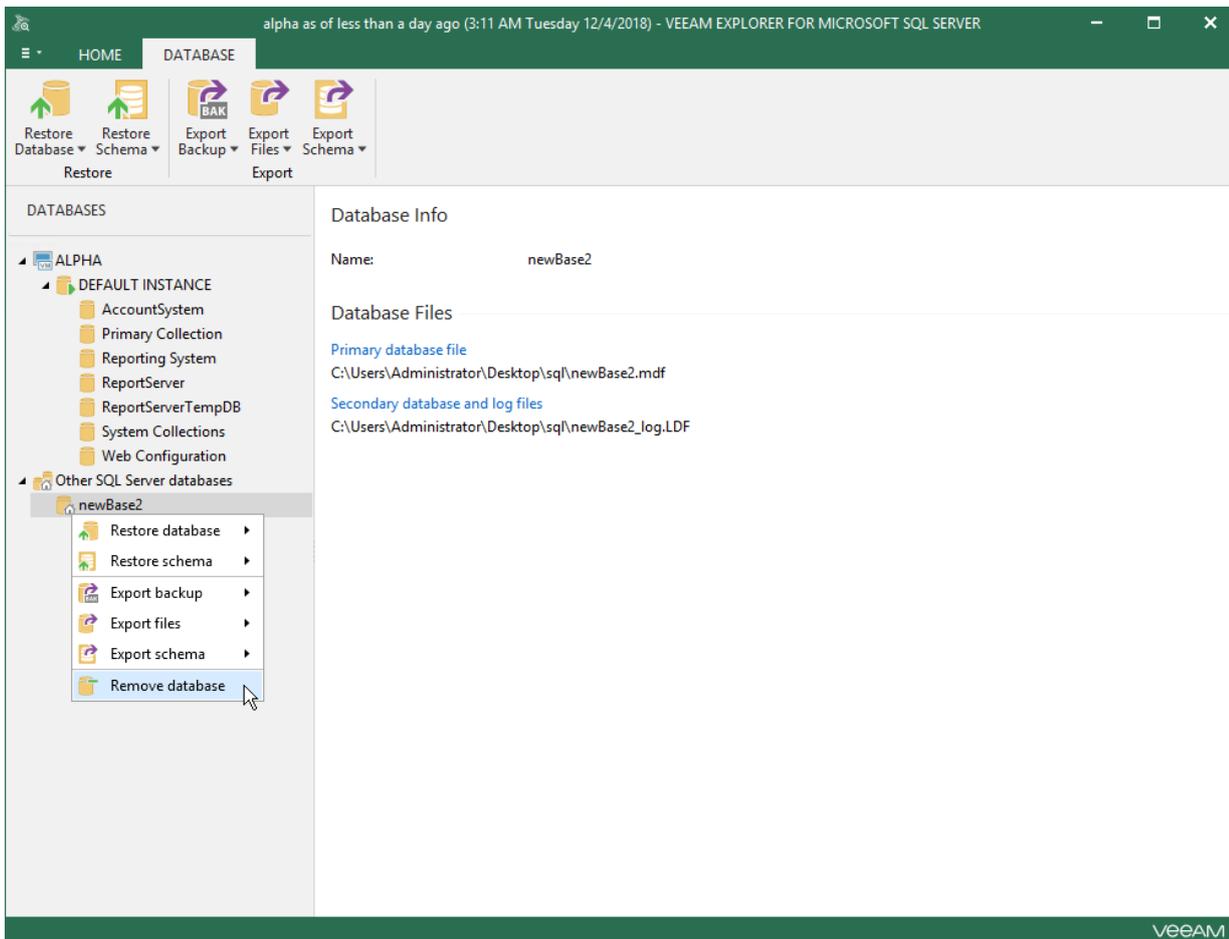


Removing Standalone Databases

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

NOTE:

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



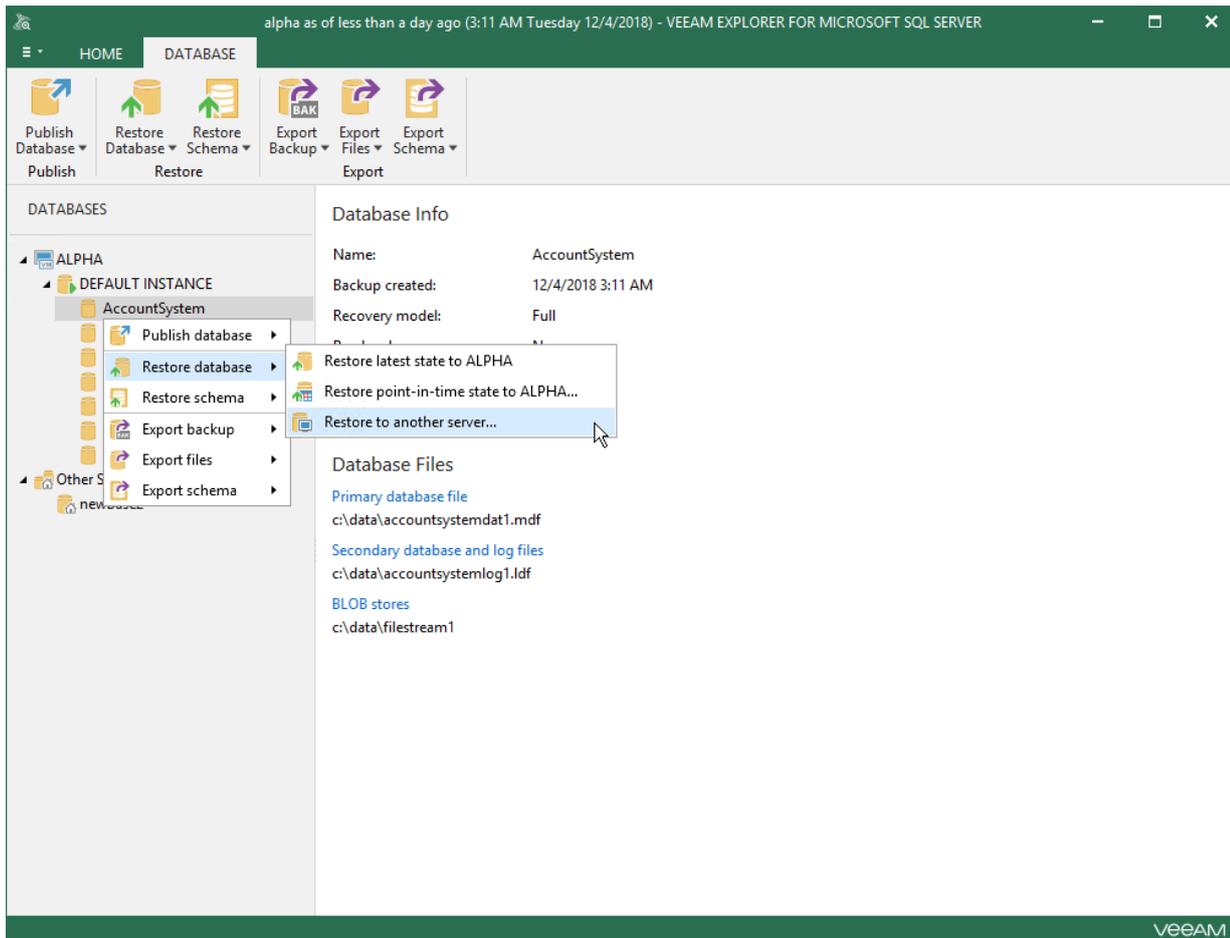
Data Restore

Continue with this section to learn more about restoring Microsoft SQL databases.

Restoring Single Database

To restore a database, do the following:

1. In the navigation pane, select a database.
2. On the **Database** tab, select **Restore Database > Restore to another server** or right-click a database and select **Restore Database > Restore to another server**.
3. Proceed to [Specify Restore Point](#).



Step 1. 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 obtain 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 obtain database files as per specified point in time.
Use the slider control to choose a point you need.
- Select the **Perform restore to specific transaction** checkbox to obtain database files exactly as of the moment before undesired transactions.

IMPORTANT!

The **Perform restore to specific transaction** option requires a staging SQL server. For more information, see [Configuring Staging SQL Server](#).

The screenshot shows the 'RESTORE WIZARD' dialog box with the title 'Specify restore point'. It contains two radio button options: 'Restore to the point in time of the selected image-level backup' (unselected) and 'Restore to a specific point in time (requires transaction log backups)' (selected). Below the second option is a horizontal timeline slider for 'Tuesday, December 4, 2018 2:15 AM', with markers at 1:19 AM 12/4/2018 and 3:11 AM 12/4/2018. A checkbox labeled 'Perform restore to the specific transaction' is checked, with a descriptive text below it. At the bottom are 'Back', 'Next', and 'Cancel' buttons.

Step 2. Fine-tune Restore Point

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

NOTE:

This step is only available if you have selected the **Perform restore to specific transaction** checkbox at the previous step.

The screenshot shows the 'RESTORE WIZARD' dialog box with the title 'Fine-tune the restore point'. It contains the instruction: 'Select the undesired operation in the list below. The database will be restored to the state prior to transaction involving the selected operation.' Below this is a table with the following data:

TIME	OPERATION	OBJECT	TYPE	ACCOUNT
12/4/2018 4:28 AM	Column added	PrimaryTable	Table	S-1-5-21-3905
12/4/2018 4:30 AM	Column added	PrimaryTable	Table	S-1-5-21-3905

At the bottom are 'Back', 'Next', and 'Cancel' buttons.

TIP:

Veeam Explorer for Microsoft SQL Server database operations are listed in the [SQL Server Database Operation Selection](#) section.

Step 3. Specify Target SQL Server

At this step of the wizard, specify the following:

- A production SQL server name and/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 on the left, as described in [Browsing for Servers](#).
- A name for the database that is being restored.
- The user account to connect to the target SQL server.

Select the **Use SQL Server authentication** checkbox to use SQL authentication. If not selected, Veeam will use Windows authentication.

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

IMPORTANT!

Ensure that the administrative share (i.e., `\\myserver\ADMIN$`) on a target machine is available. **Read** and **Write** are minimum required, **Full Control** is recommended.

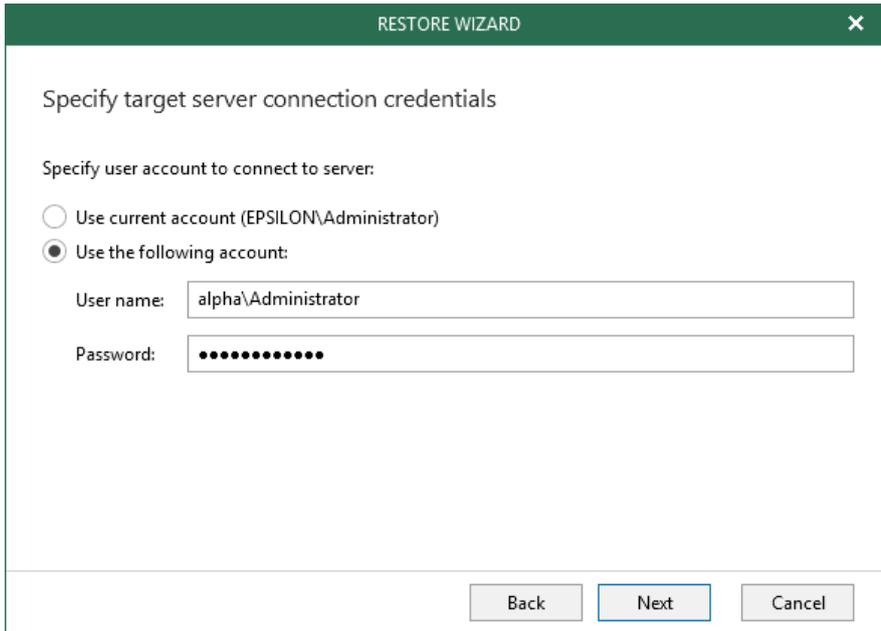
The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify target SQL Server connection parameters".

Fields and controls include:

- Server name:** A dropdown menu showing "ALPHA" and a "Browse..." button to its right.
- Database name:** A text input field containing "System Collections_restored".
- Specify user account to connect to server:** Two radio buttons:
 - Use current account (EPSILON\Administrator)
 - Use the following account:
- User name:** A text input field containing "sa".
- Password:** A password input field with masked characters (dots).
- Use SQL Server authentication

At the bottom, there are three buttons: "Back", "Next", and "Cancel".

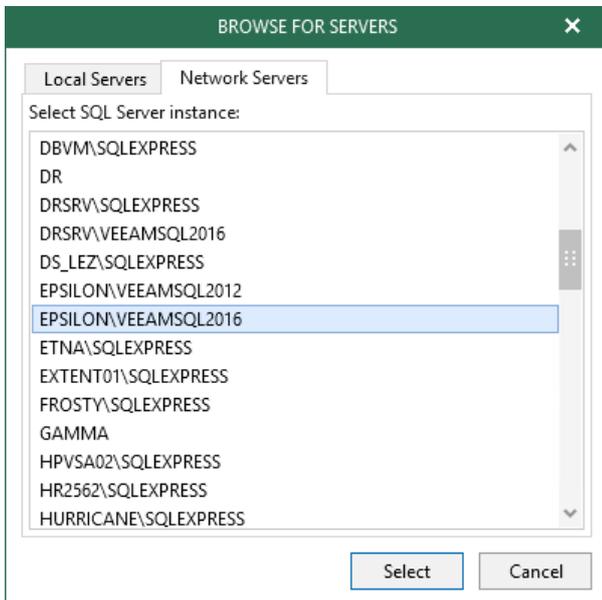
When selecting the **Use SQL Server authentication** checkbox and providing your SQL server account, you will be asked to provide a target production server account at the next step, as shown below.



Browsing for Servers

To browse for a server, do the following:

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



Step 4. Specify AlwaysON Restore Options

If the specified target SQL server supports AlwaysOn Availability Groups, you will be offered to specify AlwaysOn restore options.

- To use the AlwaysOn capabilities for databases, select the **Add the database to the following group** checkbox and choose an availability group from the list. Databases will be restored to the primary server and then replicated to secondary nodes.
- If you do not plan to use the AlwaysOn capabilities when restoring databases, clear the **Add the database to the following group** checkbox.

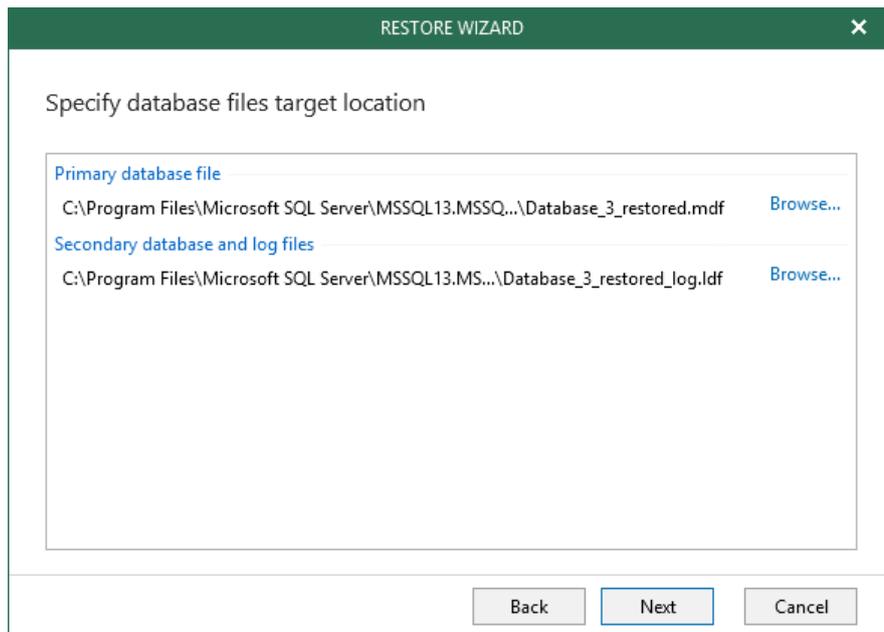
Step 5. Specify Files Location

At this step of the wizard, specify database files location.

Click **Browse** to specify the path for the primary database file, secondary database and log files, as described in [Selecting Files](#).

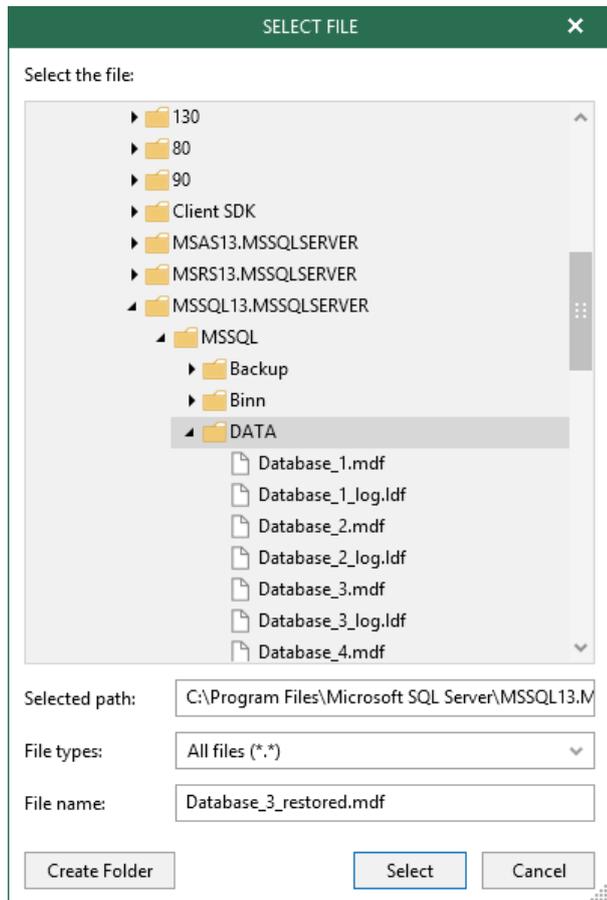
NOTE:

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



Selecting Files

In the **Select File** dialog, select a database file or folder for the database being restored and click **OK**.



Step 6. Specify the Recovery State

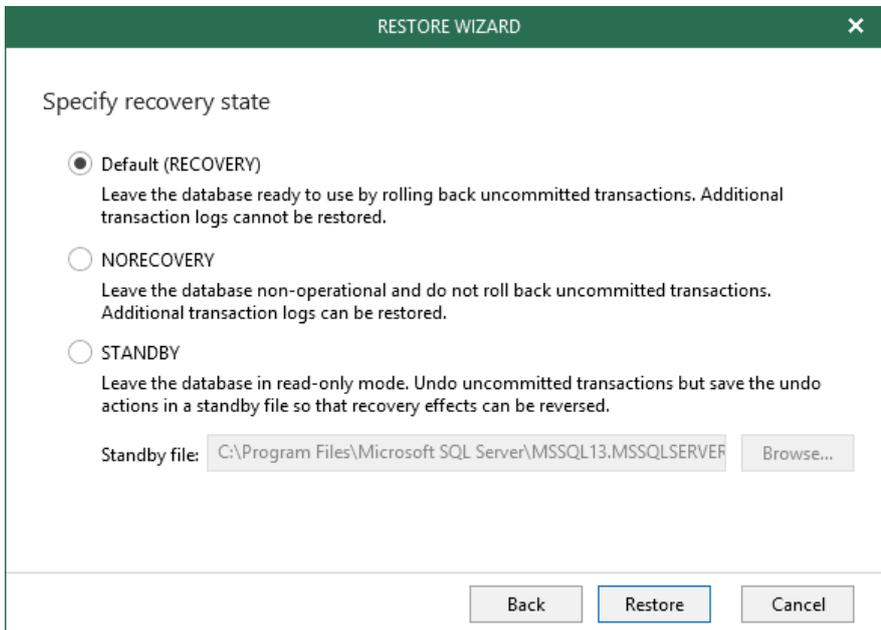
At this step of the wizard, select recovery state:

- **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:

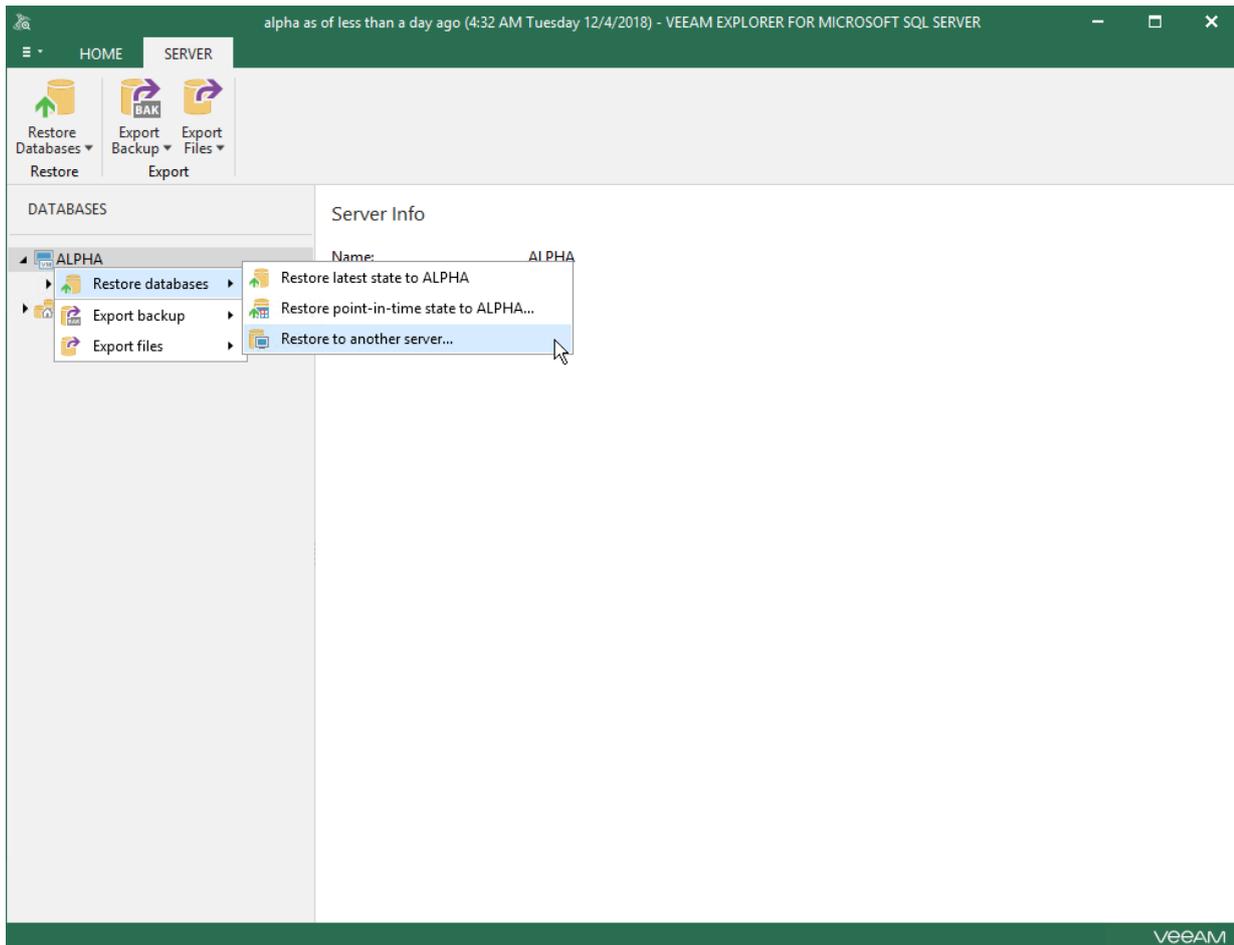
This step is unavailable if the **Add the database to the following group** checkbox is selected at the [Specify AlwaysON Restore Options](#) step.



Restoring Multiple Databases

To restore multiple databases, do the following:

1. In the navigation pane, select an instance or server.
2. On the **Server/Instance** tab, select **Restore Database > Restore to another server** or right-click a database and select **Restore Database > Restore to another server**.
3. Proceed to [Specify Restore Point](#).

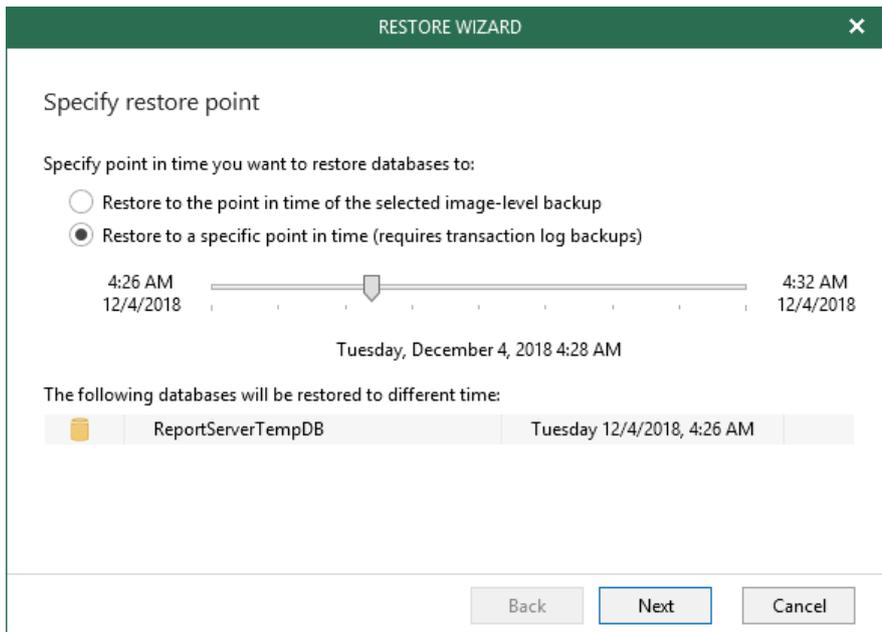


Step 1. Specify Restore Point

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 obtain 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 obtain database files as per specified point in time.

Use the slider control to choose a point you need.



Step 2. Specify Target SQL Server

At this step of the wizard, specify the following:

- A production SQL server name and/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 on the left, as described in [Browsing for Servers](#).
- The user account to connect to the target SQL server. Select the **Use SQL Server authentication** checkbox to use SQL authentication. If not selected, Veeam will use Windows authentication. Make sure the account you are using has been granted the **sysadmin** role on a target SQL server.

IMPORTANT!

Ensure that the administrative share (i.e., `\\myserver\C$`) on a target machine is available. **Read** and **Write** are minimum required permissions, **Full Control** is recommended.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify target SQL Server connection parameters". Below this, there is a "Server name:" label followed by a text box containing "ALPHA" and a dropdown arrow, and a "Browse..." button to its right. Underneath, the text "Specify user account to connect to server:" is followed by two radio button options: "Use current account (EPSILON\Administrator)" and "Use the following account:". The second option is selected. Below these are two text boxes: "User name:" containing "sa" and "Password:" containing a series of dots. A checkbox labeled "Use SQL Server authentication" is checked. At the bottom, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

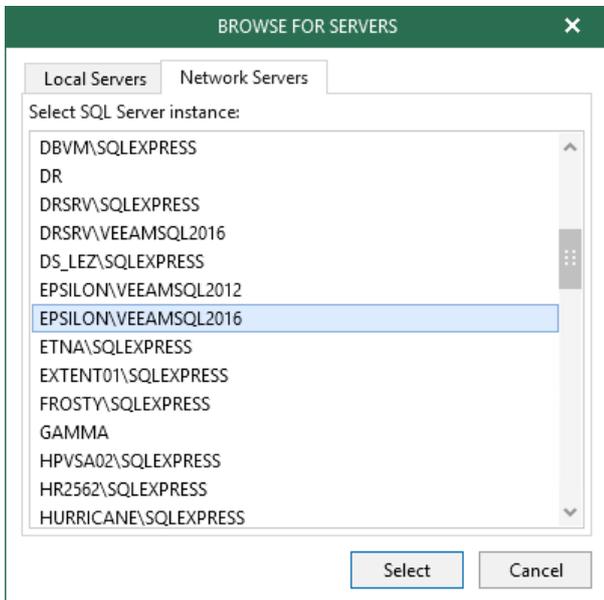
When selecting the **Use SQL Server authentication** checkbox and providing your SQL server account, you will be asked to provide a target production server account at the next step, as shown below.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify target server connection credentials". Below this, the text "Specify user account to connect to server:" is followed by two radio button options: "Use current account (EPSILON\Administrator)" and "Use the following account:". The second option is selected. Below these are two text boxes: "User name:" containing "alpha\Administrator" and "Password:" containing a series of dots. At the bottom, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

Browsing for Servers

To browse for a server, do the following:

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



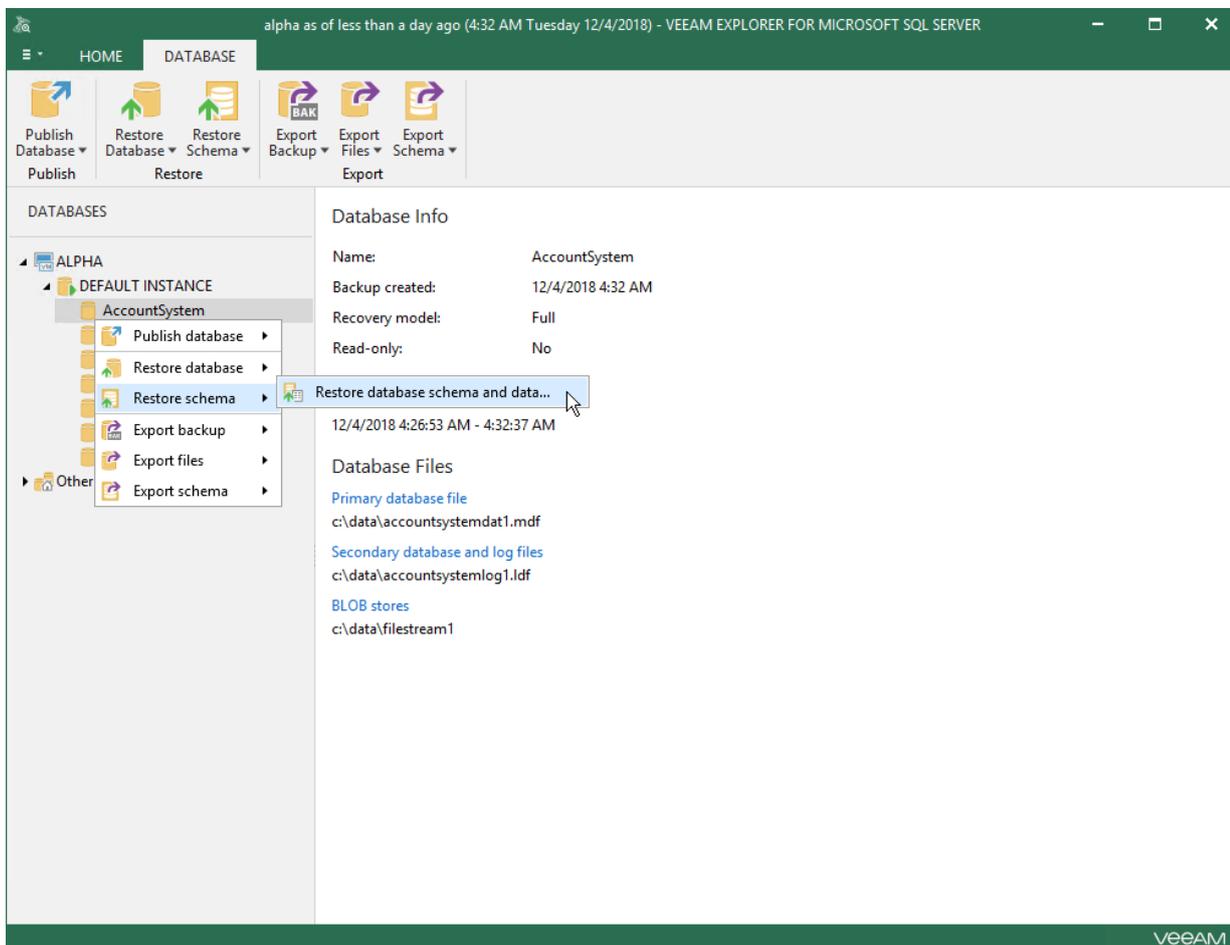
Restoring Database Schema and Data

To restore database schema and data, do the following:

1. In the navigation pane, select a database.
2. On the **Database** tab, select **Restore Schema > Restore database schema and data** or right-click a database and select **Restore schema > Restore database schema and data**.
3. Proceed to [Specify Restore Point](#).

IMPORTANT!

FILESTREAM must be enabled on a staging SQL server to restore file tables. For more information on enabling FILESTREAM, see [this Microsoft article](#).



Step 1. Specify Restore Point

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

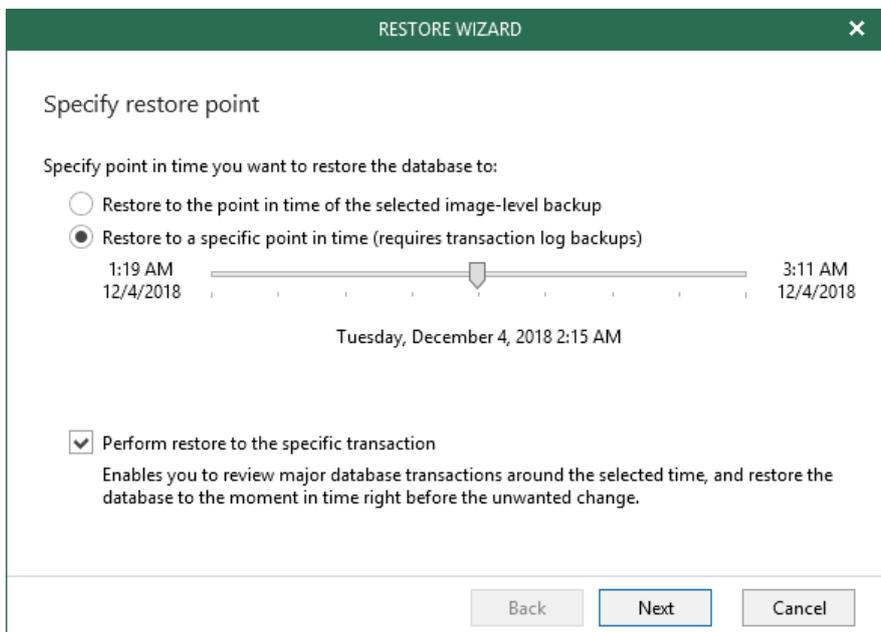
- Select the **Restore to the point in time of the selected image-level backup** option to obtain database files as per moment when the current restore point of a VM was created by the backup or replication job.
- Select the **Restore to a specific point in time** option to obtain database files as per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

Use the slider control to choose a point you need.

- Select the **Perform restore to specific transaction** checkbox to obtain database files exactly as of the moment before undesired transactions.

IMPORTANT!

The **Perform restore to specific transaction** option requires a staging SQL server. For more information, see [Configuring Staging SQL Server](#).

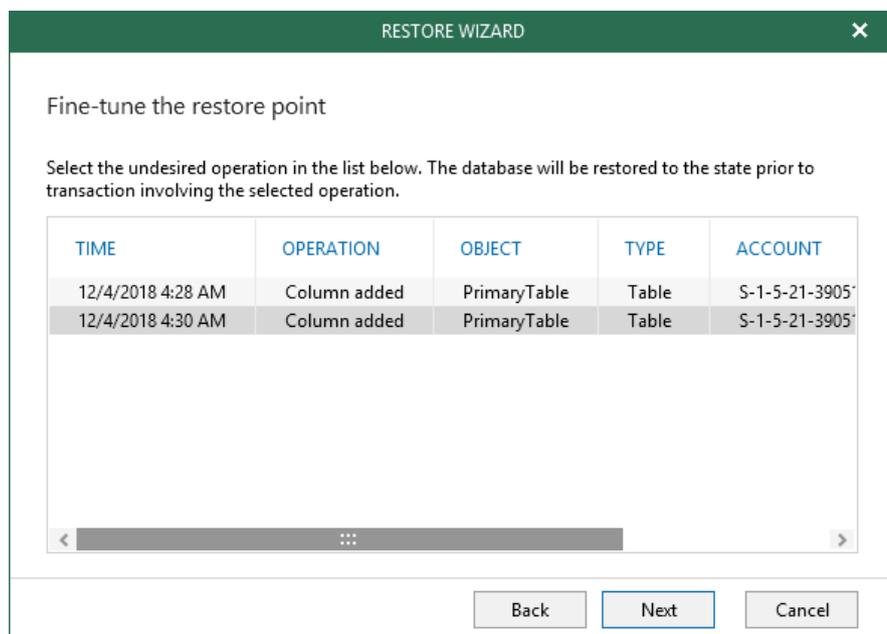


Step 2. Fine-Tune Restore Point

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

NOTE:

This step is only available if you have selected the **Perform restore to specific transaction** checkbox at the previous step.



TIP:

Veeam Explorer for Microsoft SQL Server database operations are listed in the [SQL Server Database Operation Selection](#) section.

Step 3. Specify Target SQL Server Settings

At this step of the wizard, specify the following:

- A production SQL server name and/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 on the left, as described in [Browsing for Servers](#).
- The user account to connect to the target SQL server. Select the **Use SQL Server authentication** checkbox to use SQL authentication. If not selected, Veeam will use Windows authentication. Make sure the account you are using has been granted the **sysadmin** role on a target SQL server.
- Click **Browse** to select a database to which you want to restore schema.

RESTORE WIZARD

Specify target SQL Server connection parameters

Server name: ALPHA Browse...

Specify user account to connect to server:

Use current account (EPSILON\Administrator)

Use the following account:

User name: sa

Password: ●●●●●●●●

Use SQL Server authentication

Database name: AccountSystem Browse...

Back
Next
Cancel

Browsing for Servers

To browse for a server, do the following:

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

BROWSE FOR SERVERS

Local Servers Network Servers

Select SQL Server instance:

- DBVM\SQLEXPRESS
- DR
- DRSRV\SQLEXPRESS
- DRSRV\VEEAMSQL2016
- DS_LEZ\SQLEXPRESS
- EPSILON\VEEAMSQL2012
- EPSILON\VEEAMSQL2016
- ETNA\SQLEXPRESS
- EXTENT01\SQLEXPRESS
- FROSTY\SQLEXPRESS
- GAMMA
- HPVSA02\SQLEXPRESS
- HR2562\SQLEXPRESS
- HURRICANE\SQLEXPRESS

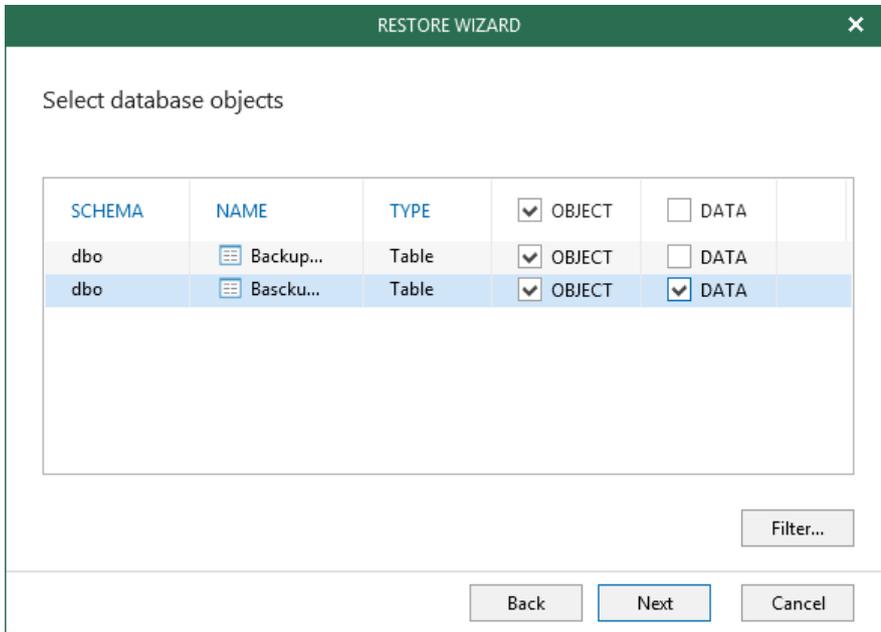
Select
Cancel

Step 4. Select Database Objects

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

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

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

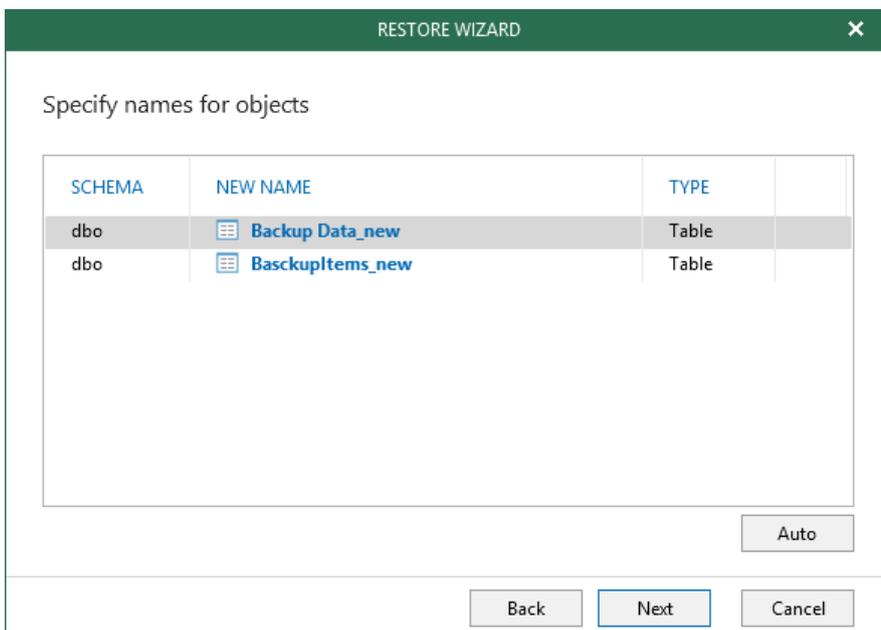


Step 5. Specify Names for Objects

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.



Step 6. 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.

The screenshot shows a dialog box titled 'RESTORE WIZARD' with a close button (X) in the top right corner. The main title is 'Specify directory names for file tables'. Below the title, there is a text box labeled 'Database directory name:' containing the text 'Example'. There are two radio button options: 'Preserve directory names if applicable (use autogenerated otherwise)' which is unselected, and 'Use the following directory names:' which is selected. Below the radio buttons is a table with three columns: 'NAME', 'SCHEMA', and 'DIRECTORY NAME'. The table contains one row with the following data: 'Baskcupltems_new' (with a small icon to the left), 'dbo', and 'Baskcupltems_new'. At the bottom of the dialog box, there are three buttons: 'Back', 'Next', and 'Cancel'.

NAME	SCHEMA	DIRECTORY NAME
 Baskcupltems_new	dbo	Baskcupltems_new

Step 7. Specify Additional Restore Options

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

- Select how the file groups should be restored for selected schema objects:
 - **Preserve filegroup**
To preserve the file group state.
 - **Use the following filegroup**
To select a file group on a target SQL server.
- Select how partitioned tables should be restored:
 - **Preserve partition schema**
To restore tables to the original partition schema.
 - **Use the following partition schema**
To select a partition schema on a target SQL server.

- **Use the following filegroup**

To select a file group on a target SQL server.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify additional restore options".

Filegroups:

- Preserve filegroup if applicable (use default otherwise)
- Use the following filegroup: PRIMARY

Partitioned tables:

- Preserve partition schema if applicable (use default otherwise)
- Use the following partition schema: [Empty dropdown]
- Use the following filegroup: PRIMARY

At the bottom of the dialog, there are three buttons: "Back", "Restore", and "Cancel". The "Restore" button is highlighted with a blue border.

Restoring Latest or Point-in-Time State

This section explains how to select a state as of which you want to restore your databases.

You can select either of the following states:

- *The latest available state*
To restore your data as of the latest state in your backup file.
- *The point-in-time state*
To restore your data as of the selected point-in-time state (requires log backup).

The data will be restored in the following manner:

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

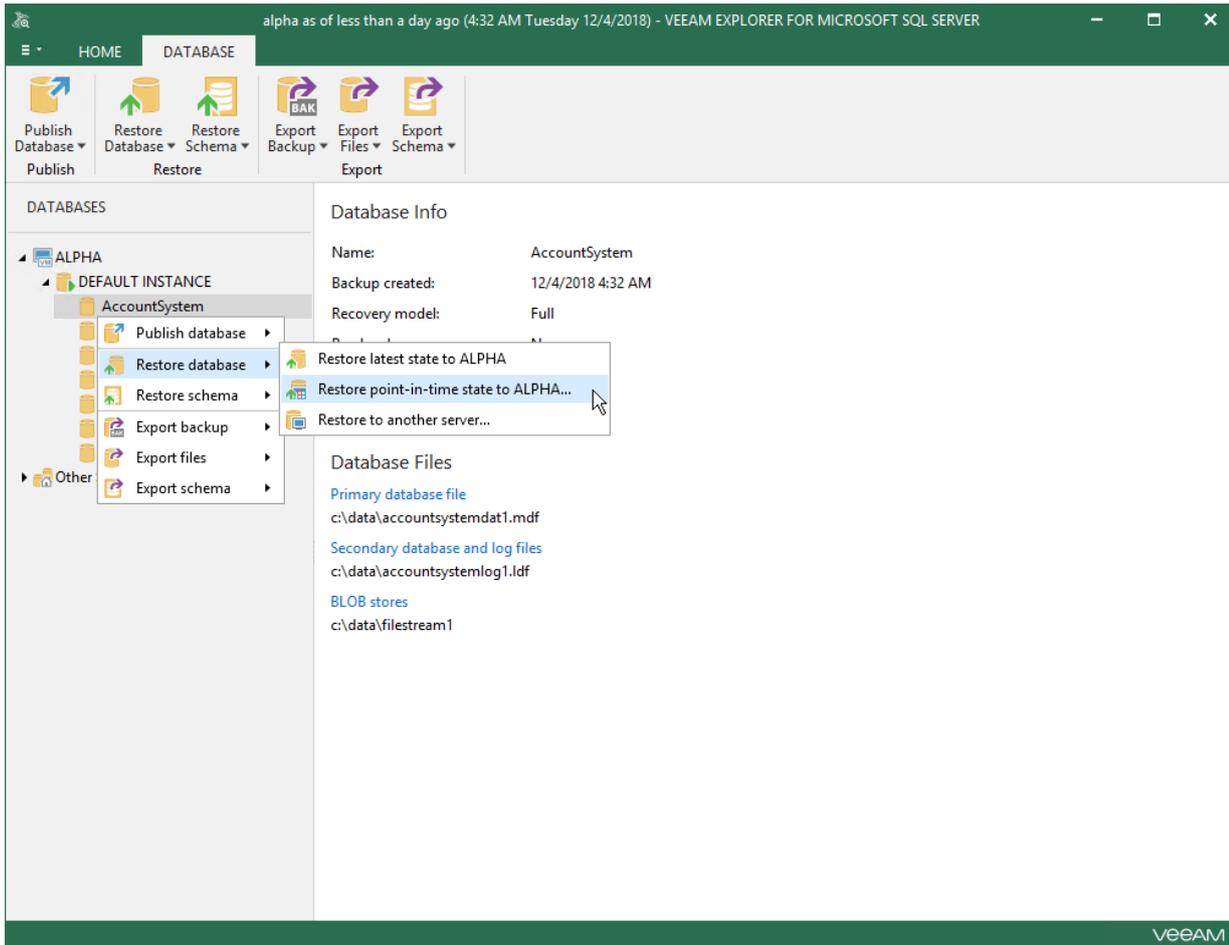
Restore Point-in-Time State

To restore your data as of the particular point-in-time state, do the following:

1. In the navigation pane, select a database, instance or a SQL server.
You can select the root instance node to restore all the available databases at once.
2. On the **Database** tab, select **Restore Database > Restore point-in-time state to <server_name>|<instance_name>** or right-click a database and select **Restore Database > Restore point-in-time state to <server_name>|<instance_name>**.
3. Proceed to [Specify Restore Point](#).

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

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



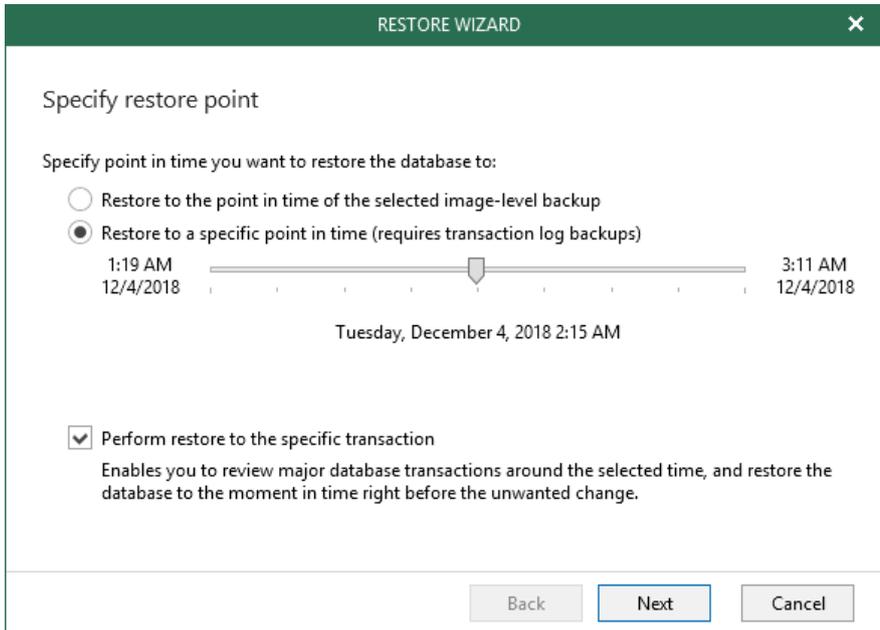
Step 1. Specify Restore Point

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 obtain 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 obtain database files as per specified point in time.
Use the slider control to choose a point you need.
- Select the **Perform restore to specific transaction** checkbox to obtain database files exactly as of the moment before undesired transactions.

NOTE:

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



IMPORTANT!

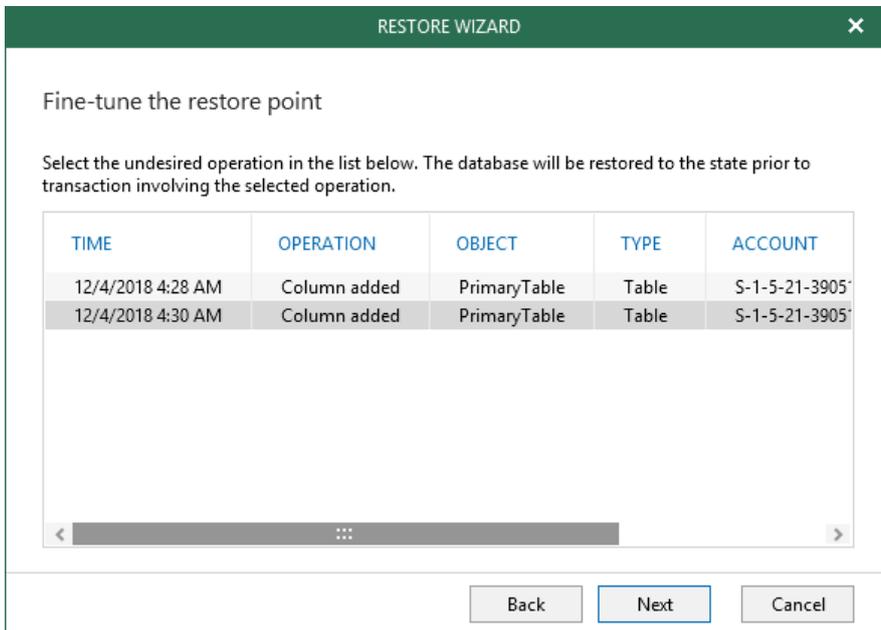
The **Perform restore to specific transaction** option requires a staging SQL server. For more information, see [Configuring Staging SQL Server](#).

Step 2. Fine-tune Restore Point

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

NOTE:

This step is only available if you have selected the **Perform restore to specific transaction** checkbox at the previous step.



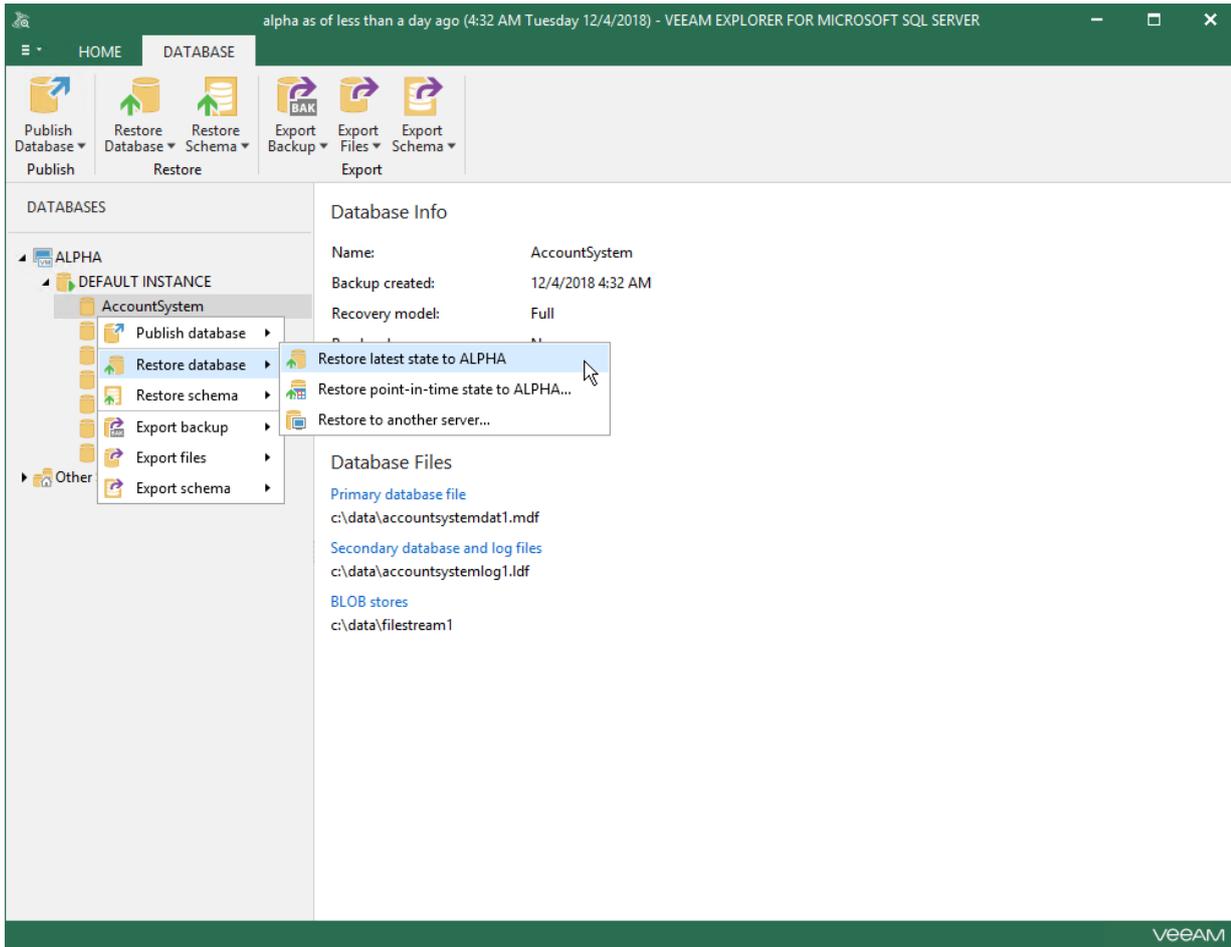
TIP:

Veeam Explorer for Microsoft SQL Server database operations are listed in the [SQL Server Database Operation Selection](#) section.

Restore Latest State

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

1. In the navigation pane, select a database, instance or a SQL server.
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 <server_name>\<instance_name>** or right-click a database and select **Restore Database > Restore latest state to <server_name>\<instance_name>**.



Data Publishing

Publishing databases allows you to temporarily attach large SQL databases to the target Microsoft SQL server without having to actually restore them.

Publishing databases typically occurs faster than using standard restore features and might be convenient in certain cases, for example, when your time to perform disaster-recovery operations is limited.

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

Consider the following:

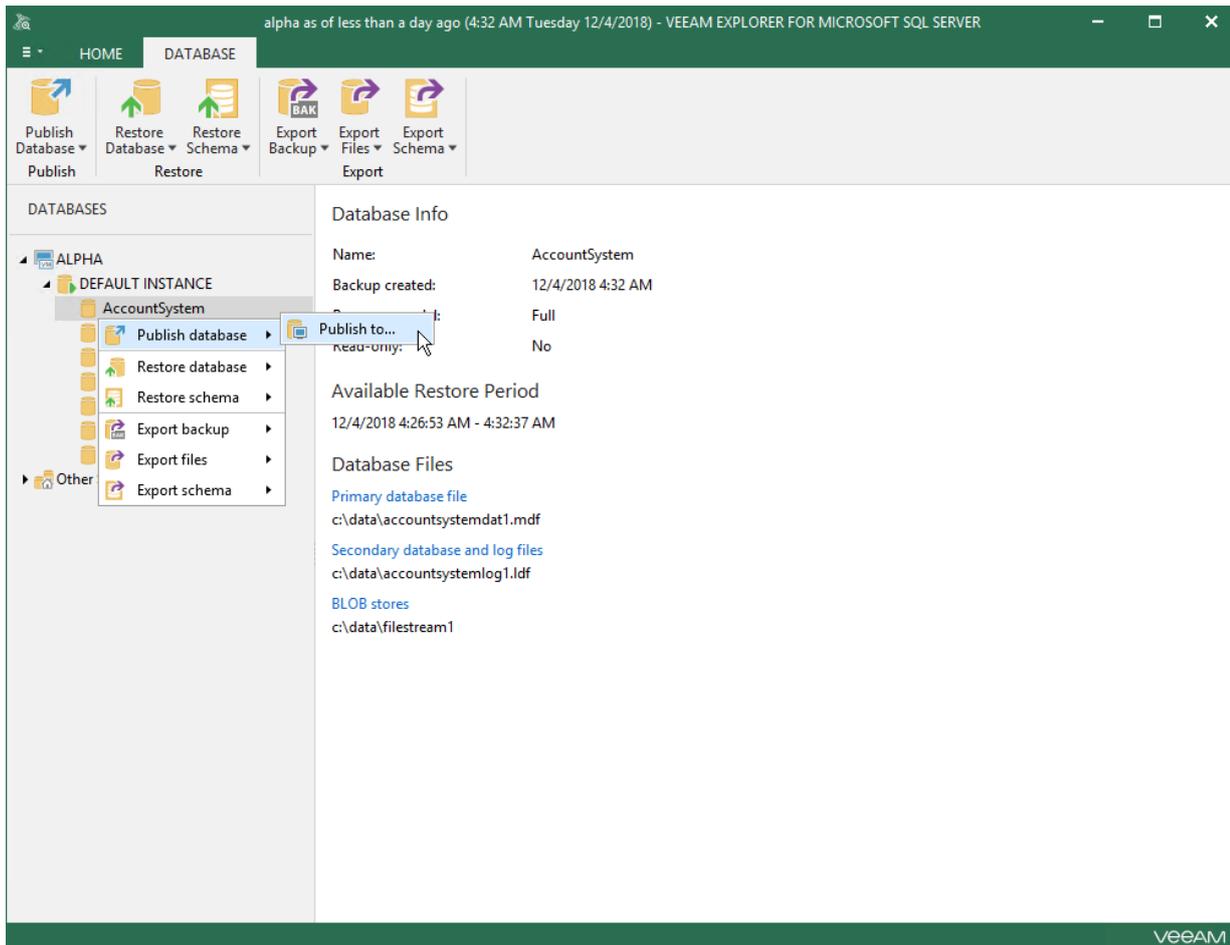
- Publishing multiple databases at the same time is not supported.
- You can publish the same database more than once.

Mind that when a database that is already published is being republished with the same name, then all the changes that have been made to this database will be lost on a target SQL server, as it will be published anew.
- After you unpublish a database, Veeam Explorer detaches such a database from the target SQL server but the restore point will continue to remain on the target machine for the next 15 minutes.
- If a Veeam Explorer 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 SQL server having the *Recovery pending* state.
- If published databases have been manually renamed via SQL tools (for example, in *Microsoft SQL Management Studio*), then Veeam will not be able to unpublish such databases properly. In this case, all the renamed databases will continue to remain attached to the target SQL server and you will have to remove them manually using the SQL tools.
- Databases cannot be published to a SQL cluster.
- Published databases are ignored during backup.
- Upon closing the Veeam Explorer console, all the published databases will be detached from the target SQL server automatically. The corresponding mount points will also be dismounted from under the *C:\VeeamFLR* directory.

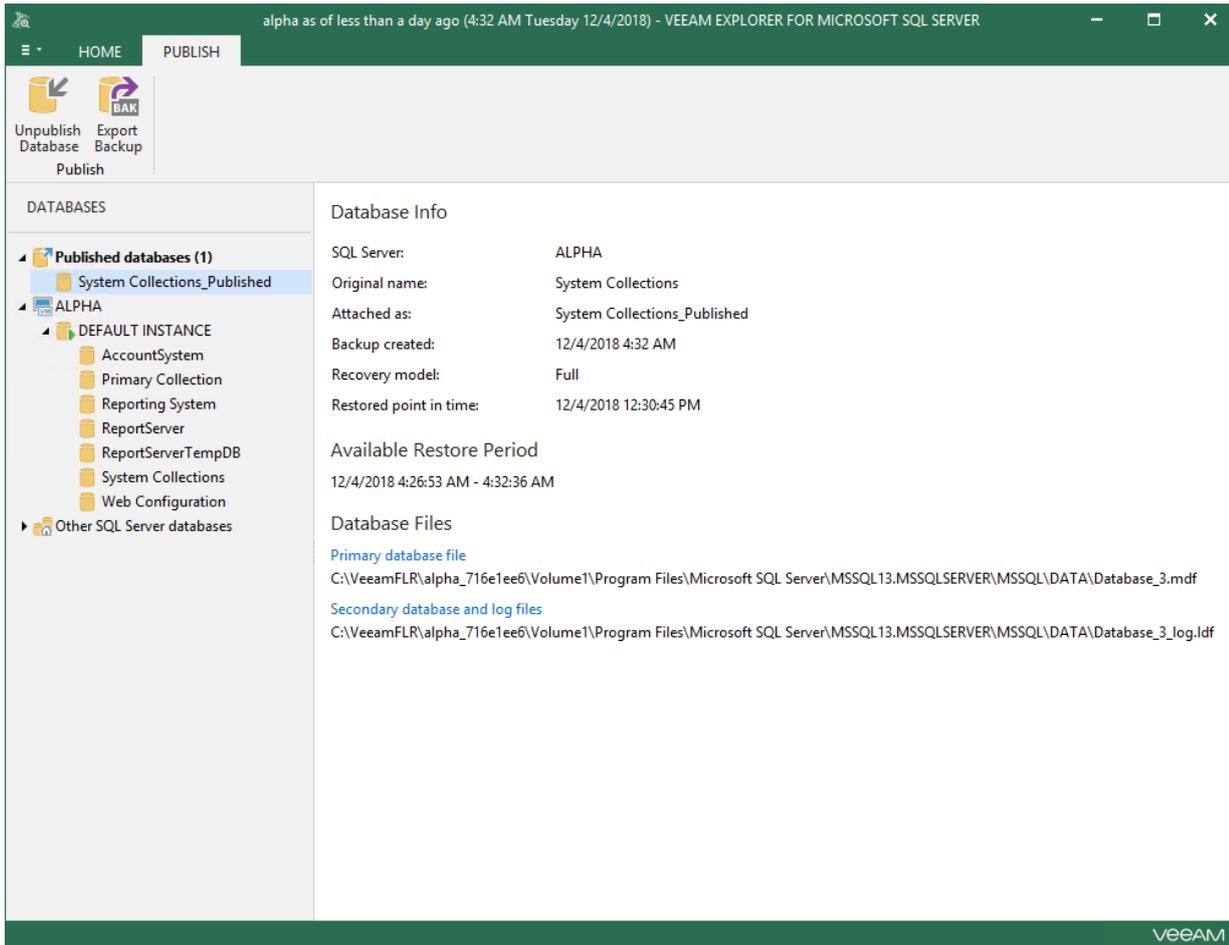
Publishing to Specified Server

To publish a database to a specified server, do the following:

1. In the navigation pane, select a database.
2. On the **Database** tab, select **Publish database > Publish to** or right-click a database and select **Publish database > Publish to**.
3. Proceed to [Specify Restore Point](#).

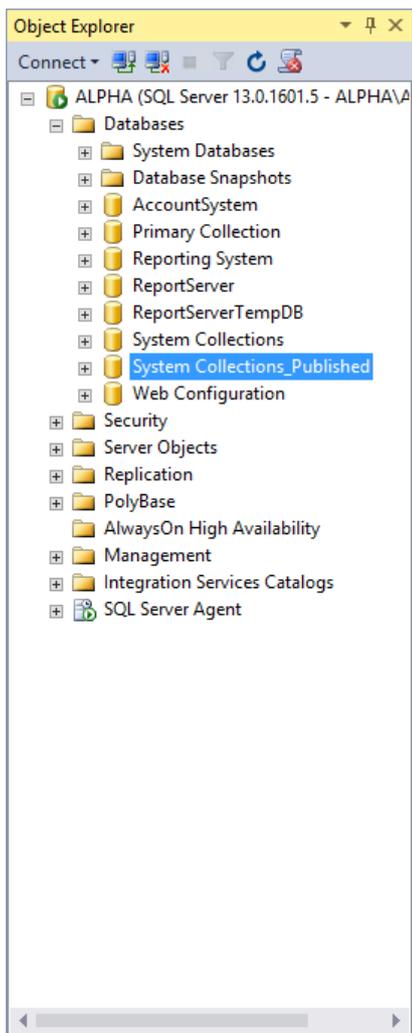


Once you complete the wizard steps, Veeam will create a new node, called **Published databases**, under which you can find all the databases that have been published during the current session of Veeam Explorer.



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 (*System_Collection_Published*) available in the *Object Explorer* window of your *Microsoft SQL Management Studio* console. This database is also being referenced by Veeam Explorer under its **Published databases** node.



Step 1. 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 obtain 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 obtain database files as per specified point in time.
Use the slider control to choose a point you need.
- Select the **Perform restore to specific transaction** checkbox to obtain database files exactly as of the moment before undesired transactions.

IMPORTANT!

The **Perform restore to specific transaction** option requires a staging SQL server. For more information, see [Configuring Staging SQL Server](#).

The screenshot shows the 'PUBLISH DATABASE WIZARD' dialog box with the title bar 'PUBLISH DATABASE WIZARD' and a close button. The main heading is 'Specify restore point'. Below it, the instruction reads 'Specify point in time you want to restore the database to:'. There are two radio button options: 'Restore to the point in time of the selected image-level backup' (unselected) and 'Restore to a specific point in time (requires transaction log backups)' (selected). Below the second option is a horizontal timeline slider with a vertical arrow pointing to a specific time. The timeline is labeled with '4:26 AM 12/4/2018' on the left and '4:32 AM 12/4/2018' on the right. Below the slider, the text reads 'Tuesday, December 4, 2018 4:30 AM'. Below the timeline, there is a checked checkbox labeled 'Perform restore to the specific transaction' with a descriptive text: '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.' At the bottom of the dialog are three buttons: 'Back', 'Next', and 'Cancel'.

Step 2. 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 only available if you have selected the **Perform restore to specific transaction** checkbox at the previous step.

The screenshot shows the 'PUBLISH DATABASE WIZARD' dialog box with the title bar 'PUBLISH DATABASE WIZARD' and a close button. The main heading is 'Fine-tune the restore point'. Below it, the instruction reads 'Select the undesired operation in the list below. The database will be restored to the state prior to transaction involving the selected operation.' Below the instruction is a table with the following data:

TIME	OPERATION	OBJECT	TYPE	ACCOUNT
12/4/2018 4:28 AM	Column added	PrimaryTable	Table	ALPHA\Adminir
12/4/2018 4:30 AM	Column added	PrimaryTable	Table	ALPHA\Adminir

Below the table is a horizontal scrollbar. At the bottom of the dialog are three buttons: 'Back', 'Next', and 'Cancel'.

TIP:

Veeam Explorer for Microsoft SQL Server database operations are listed in the [SQL Server Database Operation Selection](#) section.

Step 3. Specify Target SQL Server

At this step of the wizard, specify the following:

- A target SQL server name and/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 on the left, as described in [Browsing for Servers](#).
- A new name for the database that is being published.
- The user account to connect to the target SQL server.

Select the **Use SQL Server authentication** checkbox to use SQL authentication. If not selected, Veeam Explorer will use Windows authentication.

Make sure the account you are using has been granted the **sysadmin** role on a target server.

IMPORTANT!

Ensure that the administrative share (i.e., `\\myserver\ADMIN$`) on a target machine is available. **Read** and **Write** are minimum required, **Full Control** is recommended.

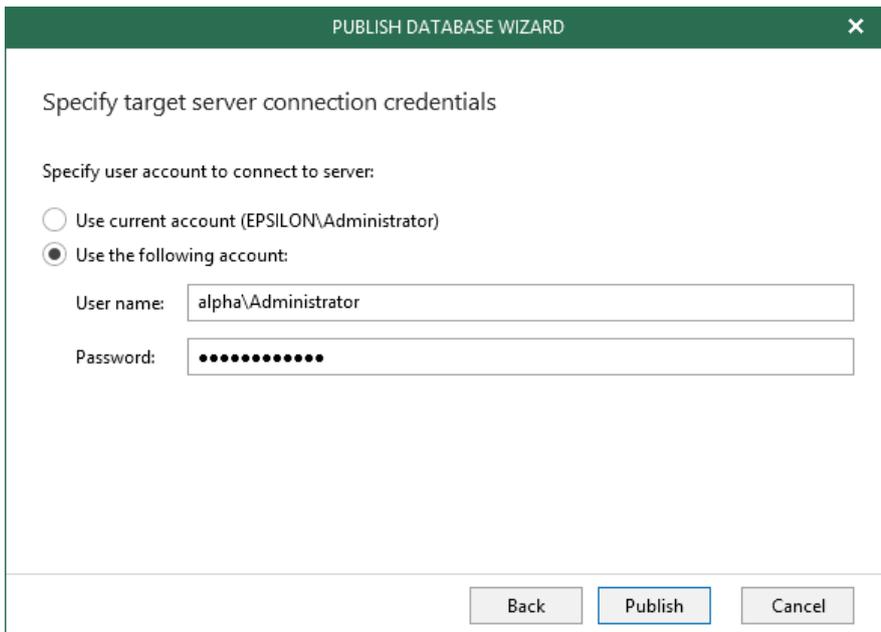
The screenshot shows a dialog box titled "PUBLISH DATABASE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify target SQL Server connection parameters".

Fields and controls include:

- Server name:** A dropdown menu showing "ALPHA" and a "Browse..." button to its right.
- Database name:** A text input field containing "System Collections_Published".
- Specify user account to connect to server:** Two radio button options:
 - Use current account (EPSILON\Administrator)
 - Use the following account:
- User name:** A text input field containing "sa".
- Password:** A text input field with masked characters (dots).
- Use SQL Server authentication

At the bottom of the dialog are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

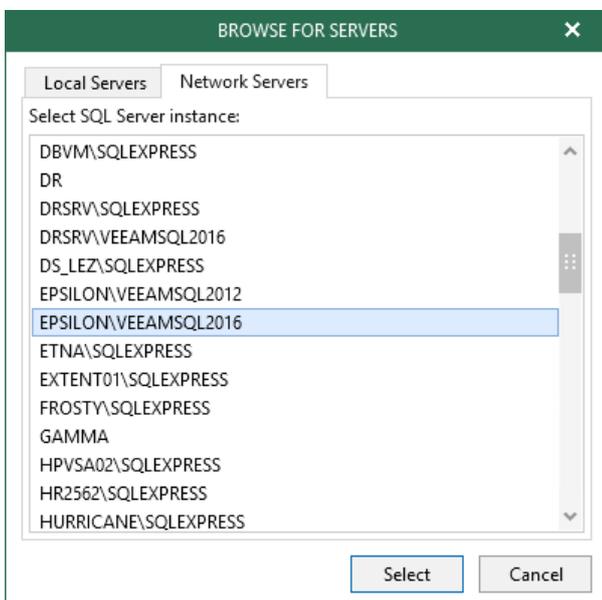
When selecting the **Use SQL Server authentication** checkbox and providing your SQL server account, you will be asked to provide a target server account at the next step, as shown below.



Browsing for Servers

To browse for a server, do the following:

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



Publishing Latest or Point-in-Time State

This section explains how to select a state as of which you want to publish your databases.

You can select either of the following states:

- **The latest available state**
To publish your data as of the latest state that is available in your backup file.
- **The point-in-time state**
To publish your data as of particular point-in-time state that will allow you to revert the database to a state before an undesired transaction or before any point of failure. This feature requires a log backup.

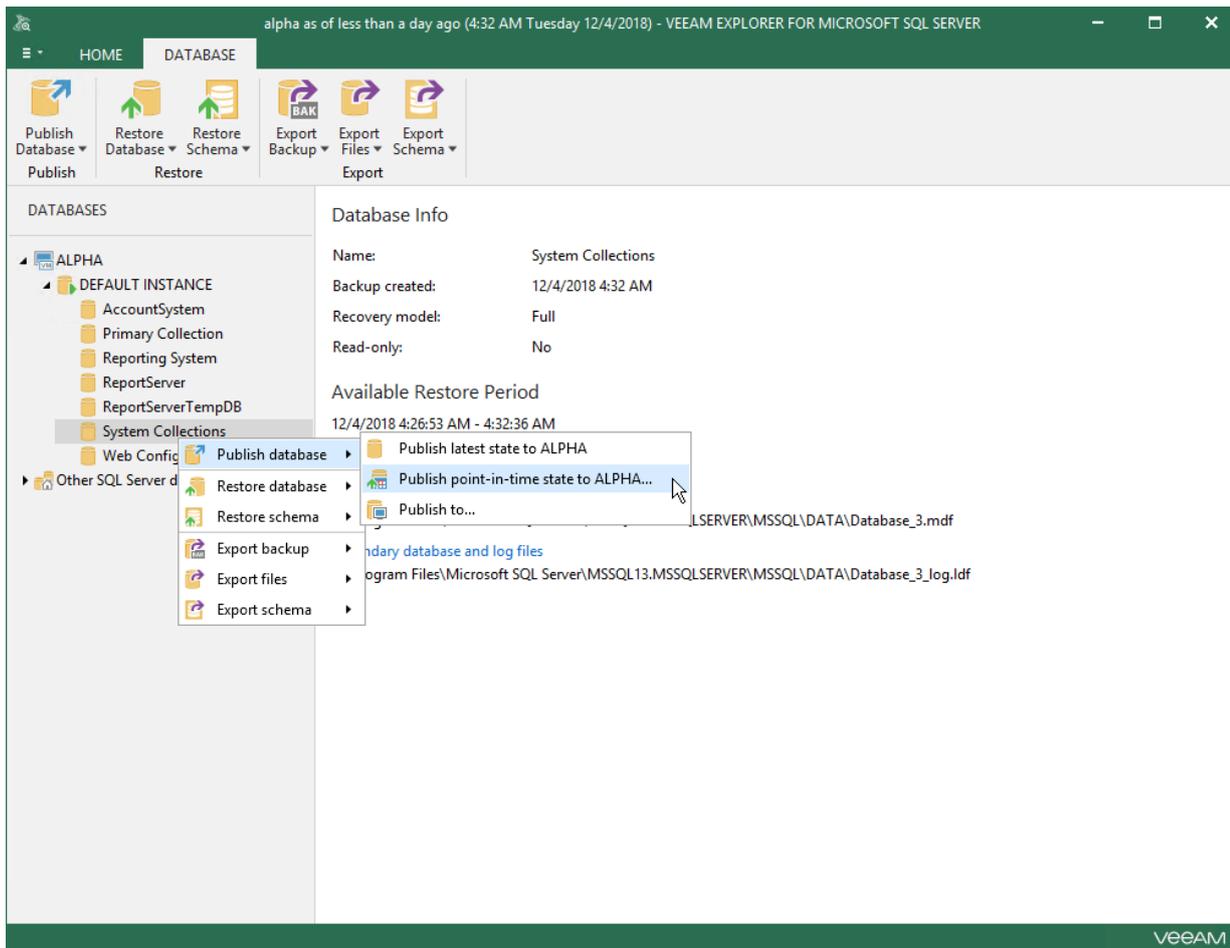
Publishing Point-in-Time State

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

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

1. In the navigation pane, right-click a database.
2. On the **Database** tab, select **Publish database > Publish point-in-time state to <server_name>\<instance_name>** or right-click a database and select **Publish database > Publish point-in-time state to <server_name>\<instance_name>**.
3. Proceed to [Specify Restore Point](#).

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



Step 1. 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 obtain 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 obtain database files as per specified point in time.
Use the slider control to choose a point you need.
- Select the **Perform restore to specific transaction** checkbox to obtain database files exactly as of the moment before undesired transactions.

IMPORTANT!

The **Perform restore to specific transaction** option requires a staging SQL server. For more information, see [Configuring Staging SQL Server](#).

The screenshot shows the 'Specify restore point' step of the 'PUBLISH DATABASE WIZARD'. It offers two options for specifying the restore point: 'Restore to the point in time of the selected image-level backup' (unselected) and 'Restore to a specific point in time (requires transaction log backups)' (selected). A timeline slider is set to 'Tuesday, December 4, 2018 4:30 AM', with markers at 4:26 AM and 4:32 AM on 12/4/2018. A checkbox 'Perform restore to the specific transaction' is checked, with a description: '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.' Navigation buttons 'Back', 'Next', and 'Cancel' are at the bottom.

Step 2. 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 only available if you have selected the **Perform restore to specific transaction** checkbox at the previous step.

The screenshot shows the 'Fine-tune the restore point' step of the 'PUBLISH DATABASE WIZARD'. It instructs the user to 'Select the undesired operation in the list below. The database will be restored to the state prior to transaction involving the selected operation.' A table lists transactions:

TIME	OPERATION	OBJECT	TYPE	ACCOUNT
12/4/2018 4:28 AM	Column added	PrimaryTable	Table	ALPHA\Adminir
12/4/2018 4:30 AM	Column added	PrimaryTable	Table	ALPHA\Adminir

Navigation buttons 'Back', 'Next', and 'Cancel' are at the bottom.

TIP:

Veeam Explorer for Microsoft SQL Server database operations are listed in the [SQL Server Database Operation Selection](#) section.

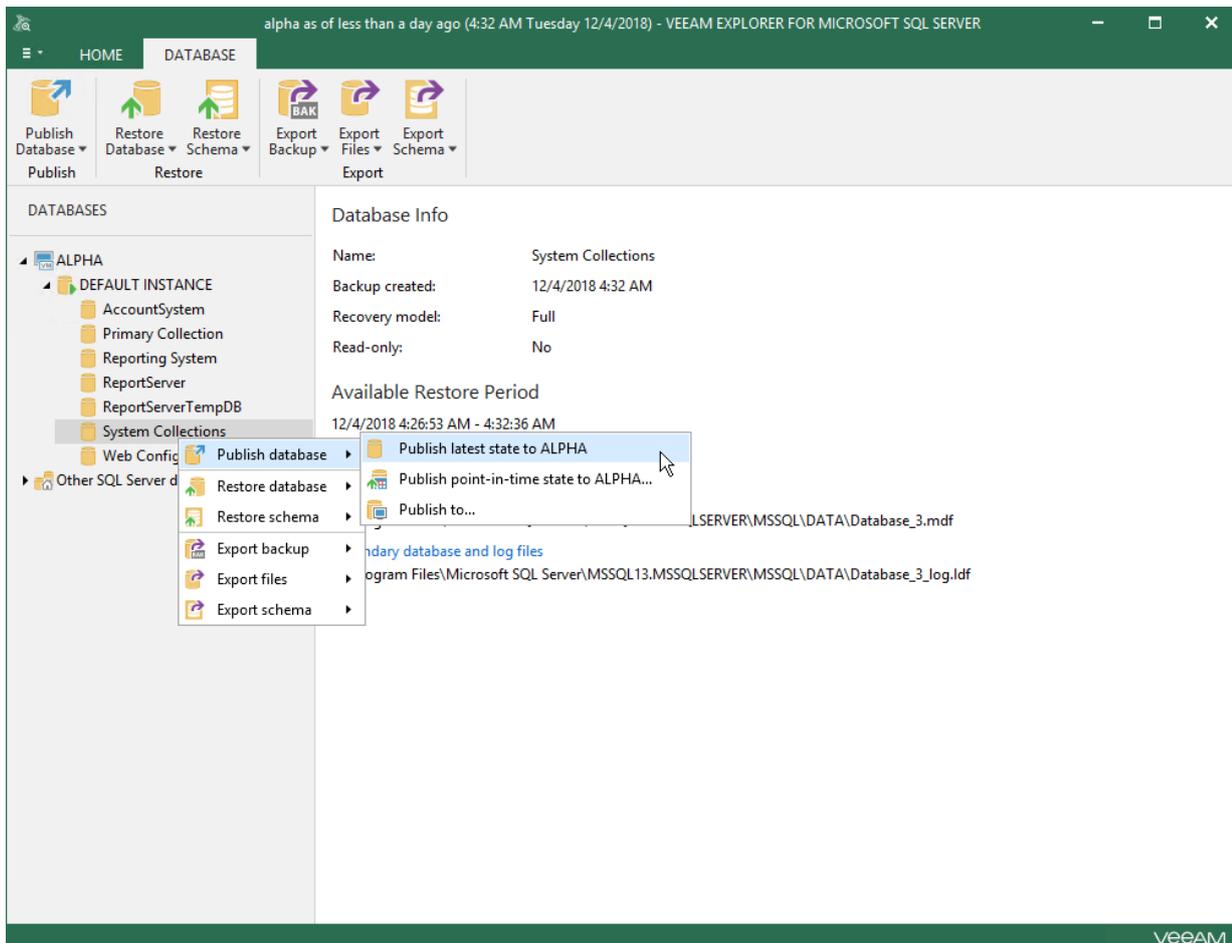
Publishing Latest State

During the current session of Veeam Explorer, you can republish the same database more than once. The database will be published as of the latest available state in a backup file.

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

1. In the navigation pane, right-click a database.
2. On the **Database** tab, select **Publish database > Publish latest state to <server_name>\<instance_name>** or right-click a database and select **Publish database > Publish latest state to <server_name>\<instance_name>**.

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



Unpublishing Databases

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

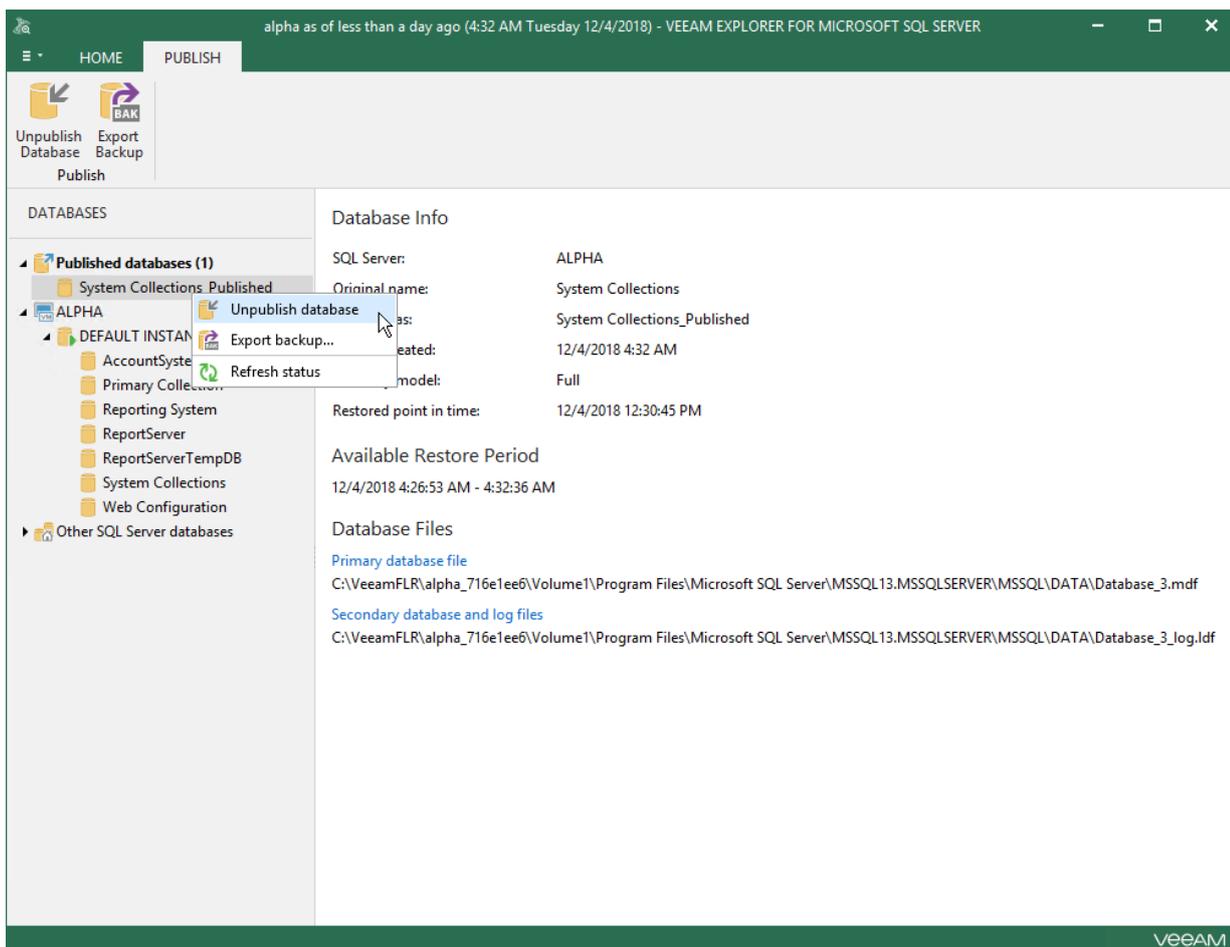
Detachment occurs in the following manner:

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

To unpublish databases 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** or right-click a database and select **Unpublish database**.

You can detach a single published database or all databases altogether by right-clicking the root **Published databases** node and selecting **Unpublish databases** or by using the **Unpublish Databases** command on the **Publish** tab.

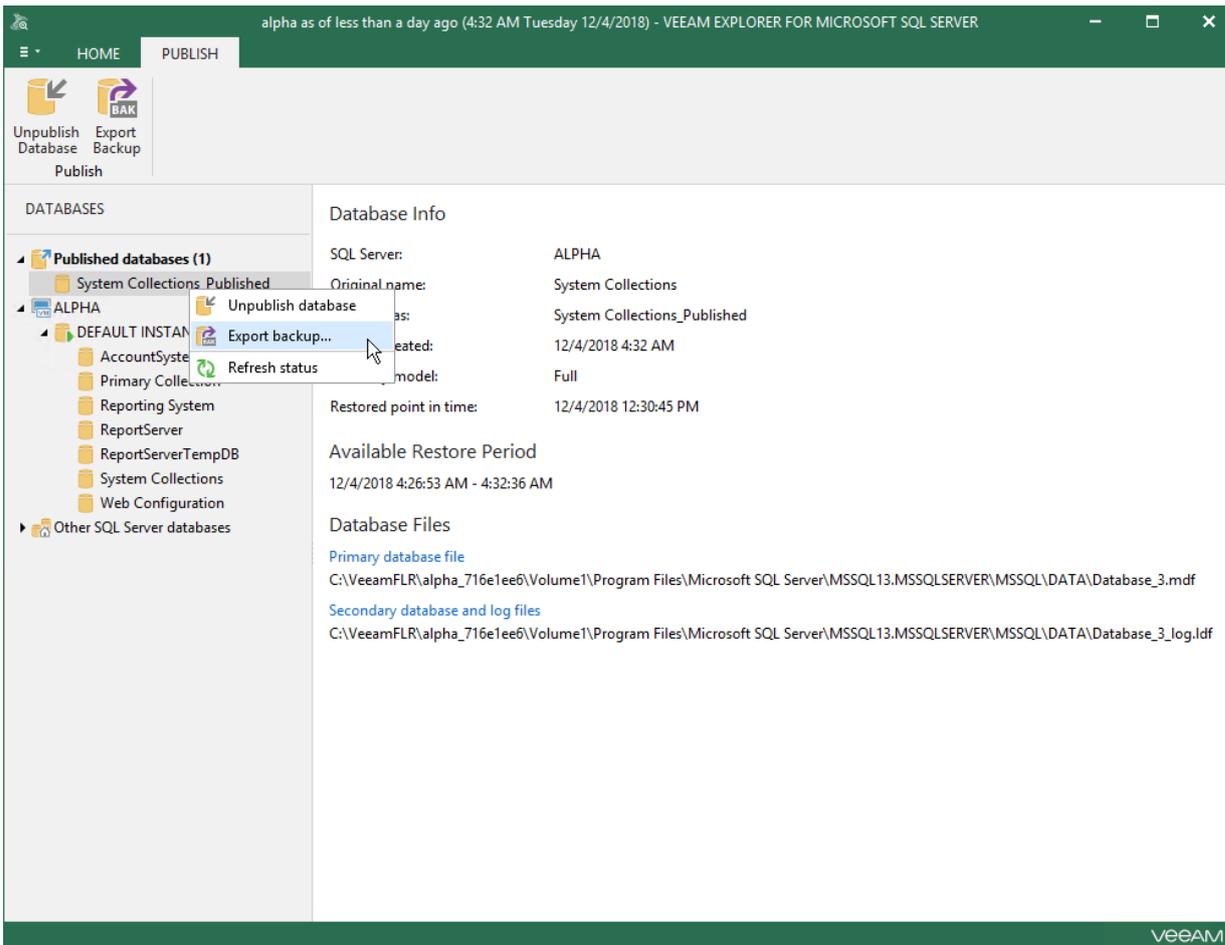


Exporting as BAK

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 right-click a database and select **Export backup**.

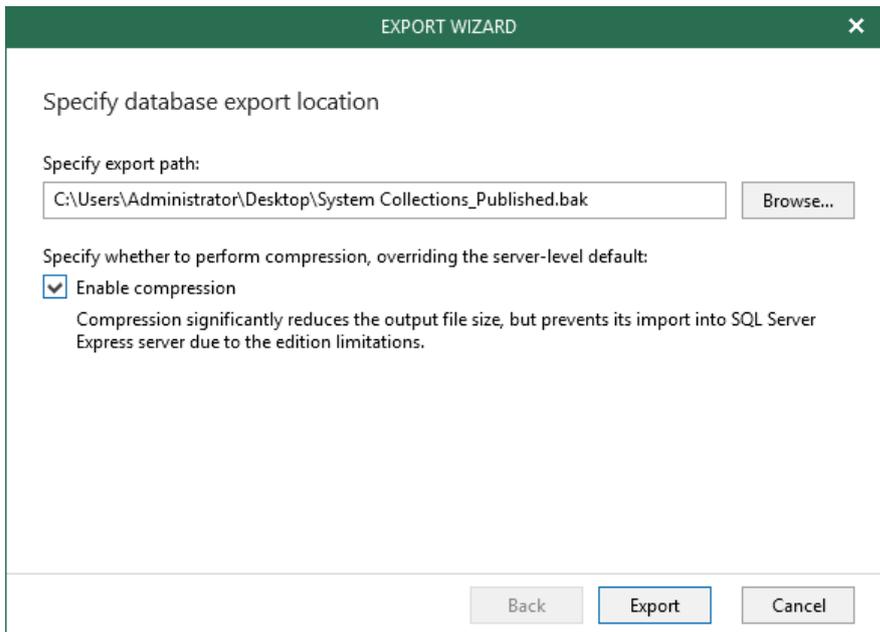


2. Click **Browse** to specify the location to export your data.

To compress data, select the **Enable compression** checkbox. Compression will be applied according to your SQL server configuration.

NOTE:

Compression is unavailable for Microsoft SQL Server 2005 and all Express Editions of Microsoft SQL Server.

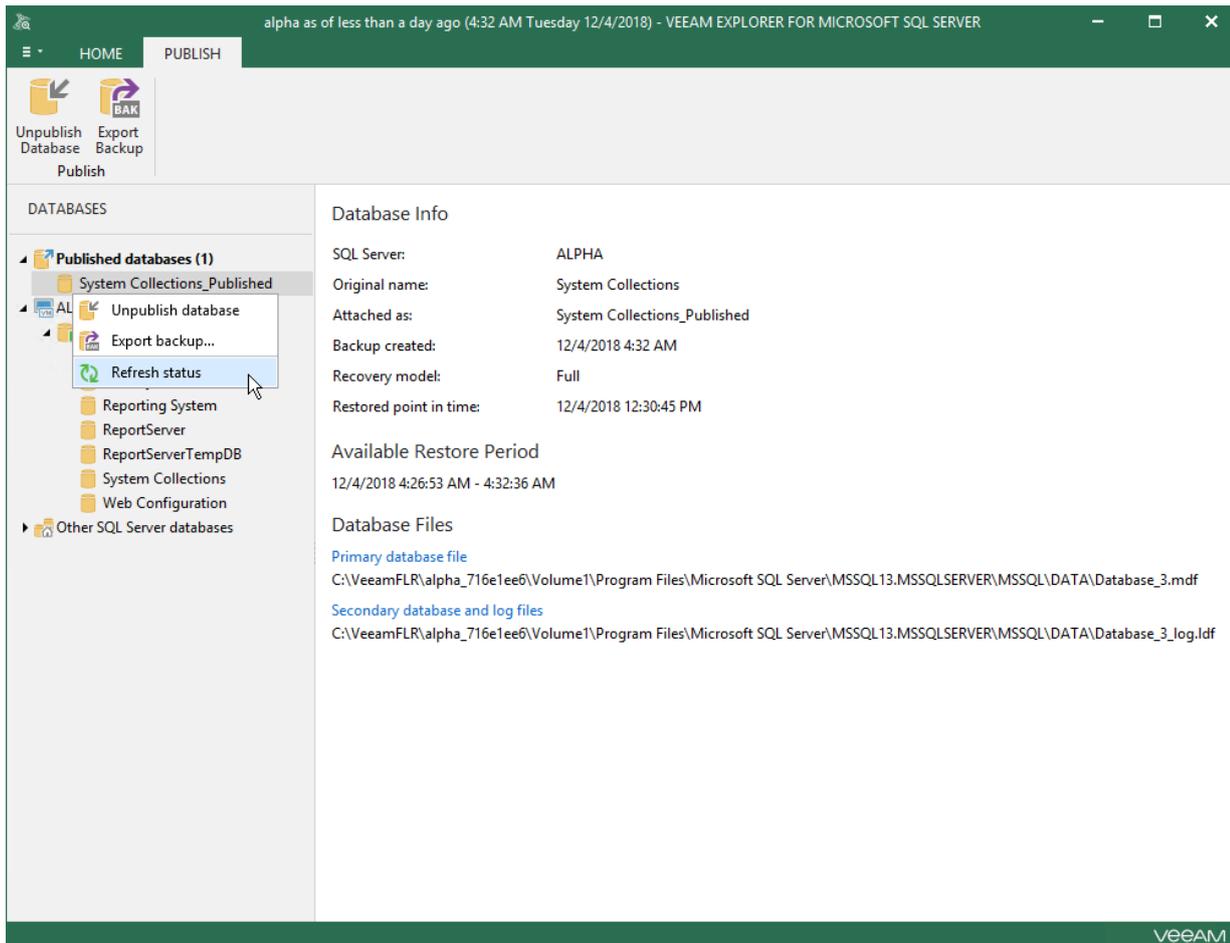


Refreshing Database Status

While your databases are attached to a SQL server, Veeam Explorer synchronizes each published database state to verify databases availability. By default, synchronization occurs every five seconds.

If something went wrong with published databases, the question mark will appear next to each of such databases, indicating the database unavailability or incorrect state. In the **Database Info** section, you will also see a 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**.



Data Export

Continue with this section to learn more about exporting Microsoft SQL databases.

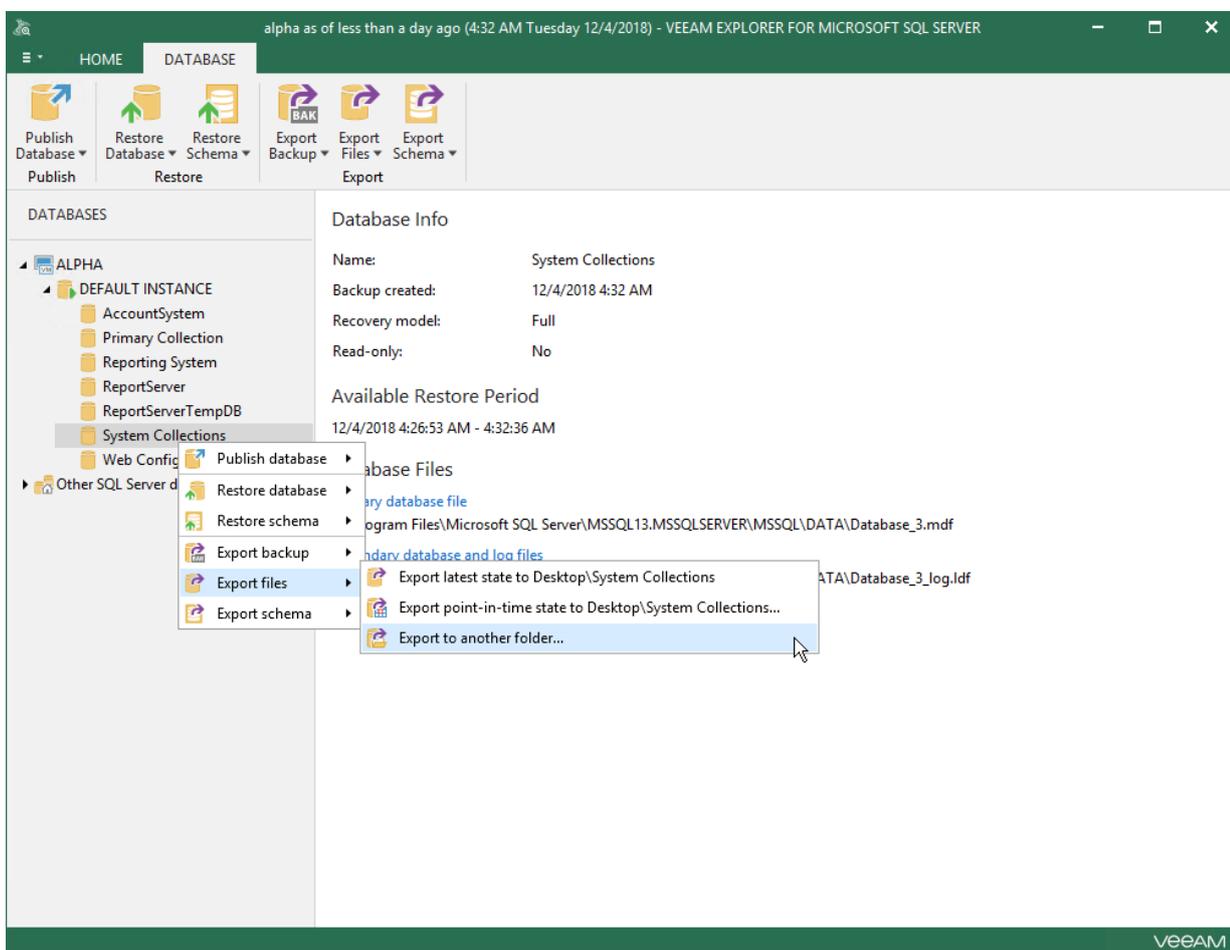
Export as MDF

Continue with this section to learn more about exporting databases files as MDF.

Exporting Single Database

To export a single database to a custom location, do the following:

1. In the navigation pane, select a database.
2. On the **Database** (or **Server/Instance**) tab, select **Export Database Files** > **Export to another folder** or right-click a database and select **Export Database Files** > **Export to another folder**.
3. Proceed to [Specify Restore Point](#).



Step 1. Specify Restore Point

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

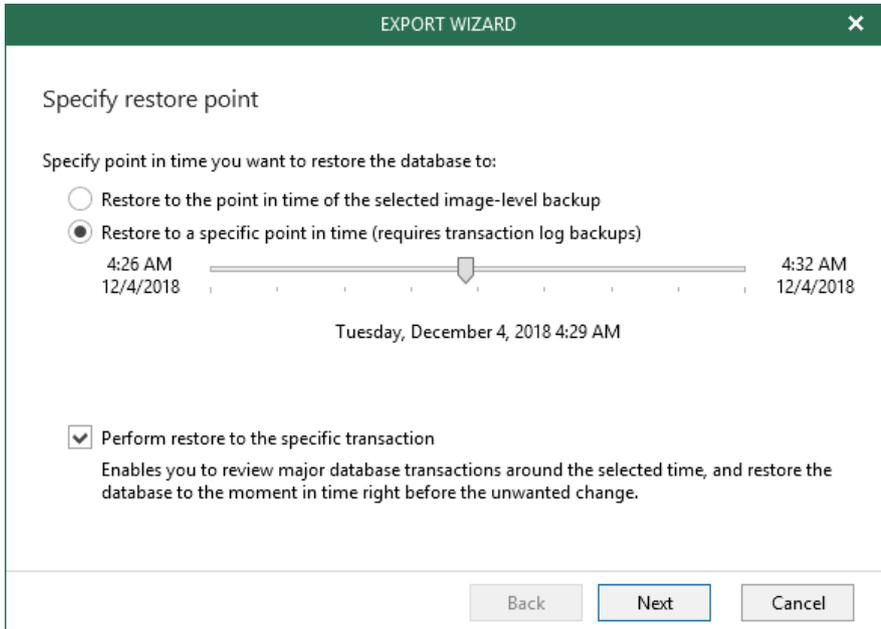
- Select the **Restore to the point in time of the selected image-level backup** option to obtain database files as per moment when the current restore point of a VM was created by the backup or replication job.
- Select the **Restore to a specific point in time** option to obtain database files as per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

Use the slider control to choose a point you need.

- Select the **Perform restore to specific transaction** checkbox to obtain database files exactly as of the moment before undesired transactions.

IMPORTANT!

The **Perform restore to specific transaction** option requires a staging SQL server. For more information, see [Configuring Staging SQL Server](#).

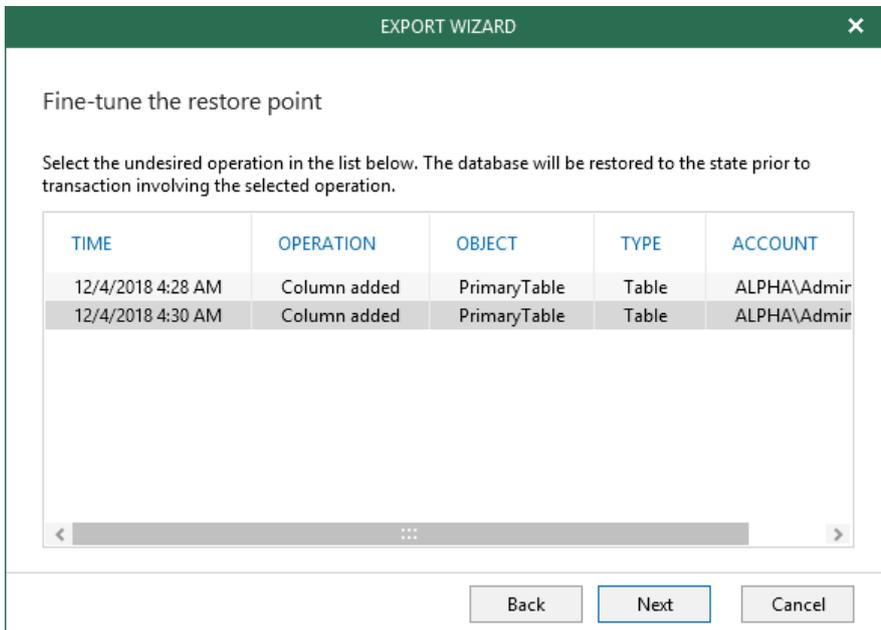


Step 2. Fine-tune Restore Point

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

NOTE:

This step is only available if you have selected the **Perform restore to specific transaction** checkbox at the previous step.



TIP:

Veeam Explorer for Microsoft SQL Server database operations are listed in the [SQL Server Database Operation Selection](#) section.

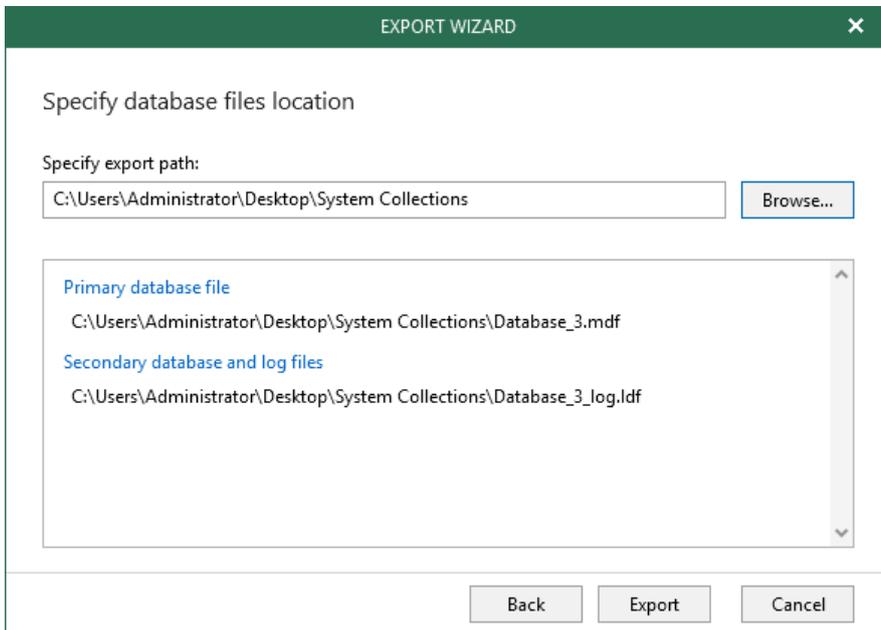
Step 3. Specify Files Location

At this step of the wizard, specify the destination directory paths for files being restored.

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

NOTE:

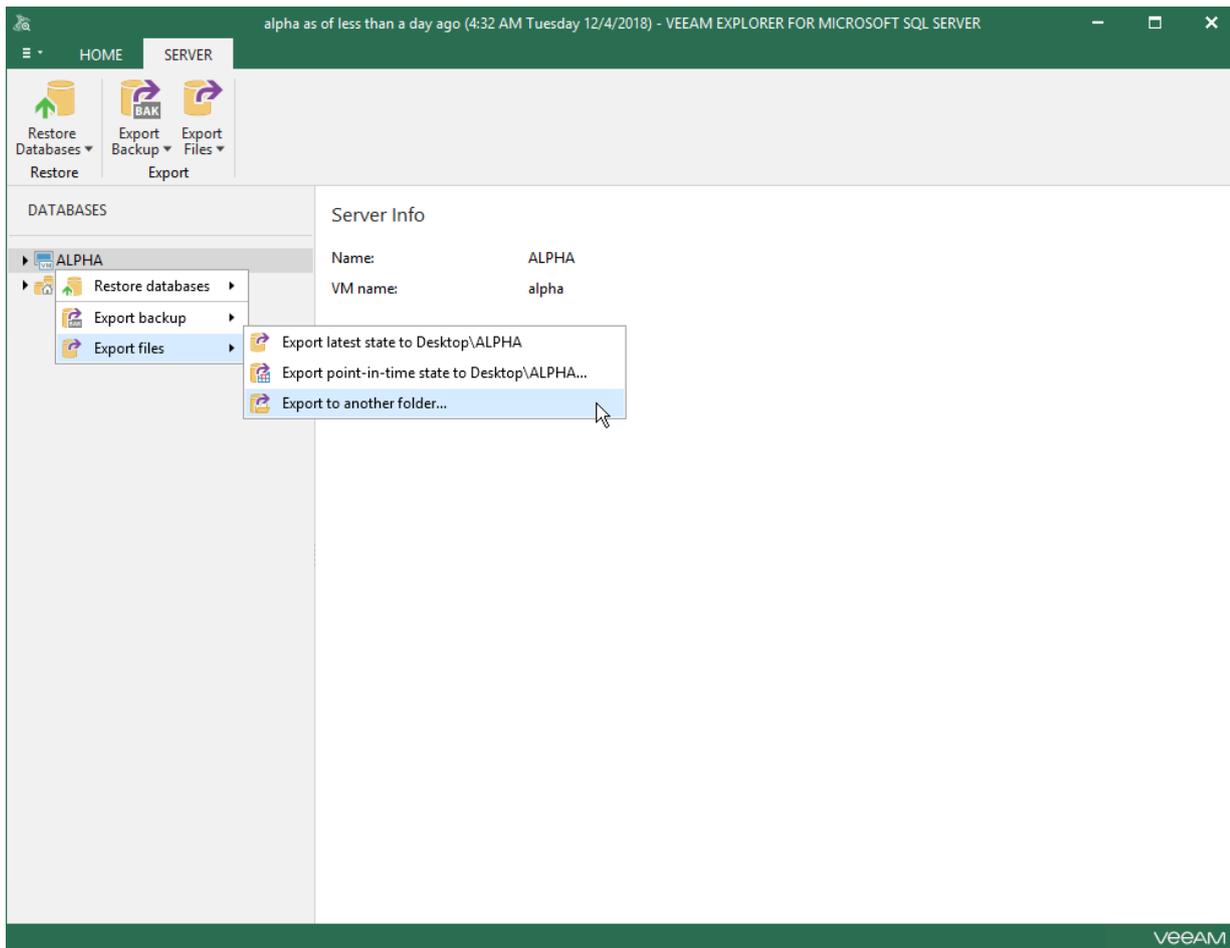
The account you are using must have sufficient permission level to access the selected directory (**Read** and **Write** as minimum recommended).



Exporting Multiple Databases

To export all the databases to a custom location, do the following:

1. In the navigation pane, select a server or instance.
2. On the **Server/Instance** tab, select **Export Files > Export to another folder** or right-click a database and select **Export Files > Export to another folder**.
3. Proceed to [Specify Restore Point](#).



Step 1. Specify Restore Point

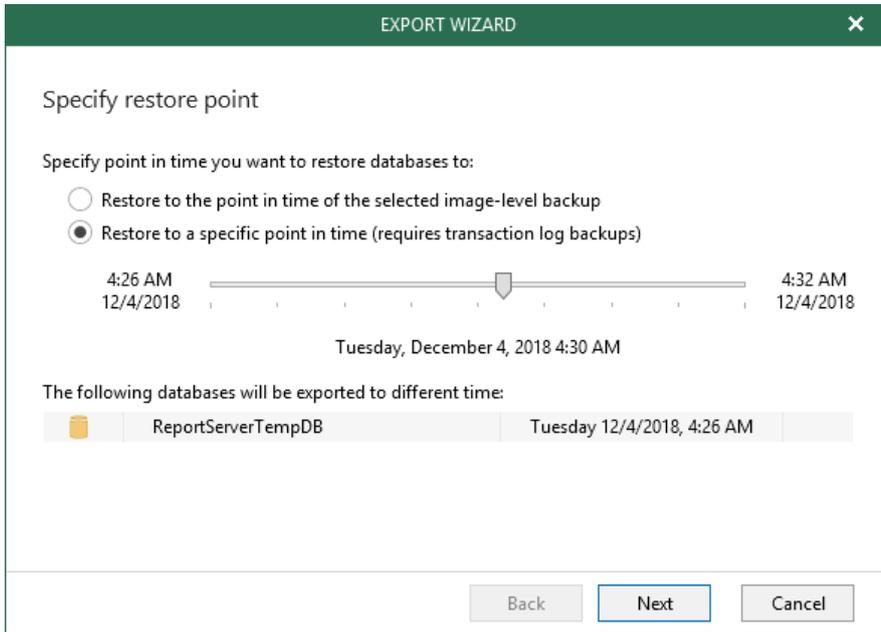
At this step of the wizard, select a state, as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to obtain 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 obtain database files as per specified point in time.

Use the slider control to choose a point you need.

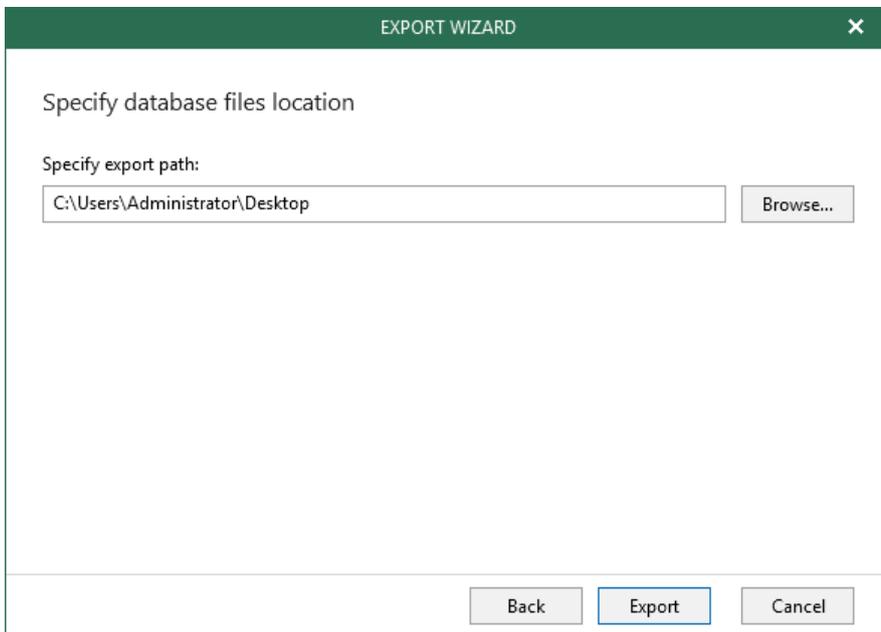
NOTE:

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



Step 2. Specify Database Files Location

At this step of the wizard, specify the path to the destination directory to which you want your files to be exported.



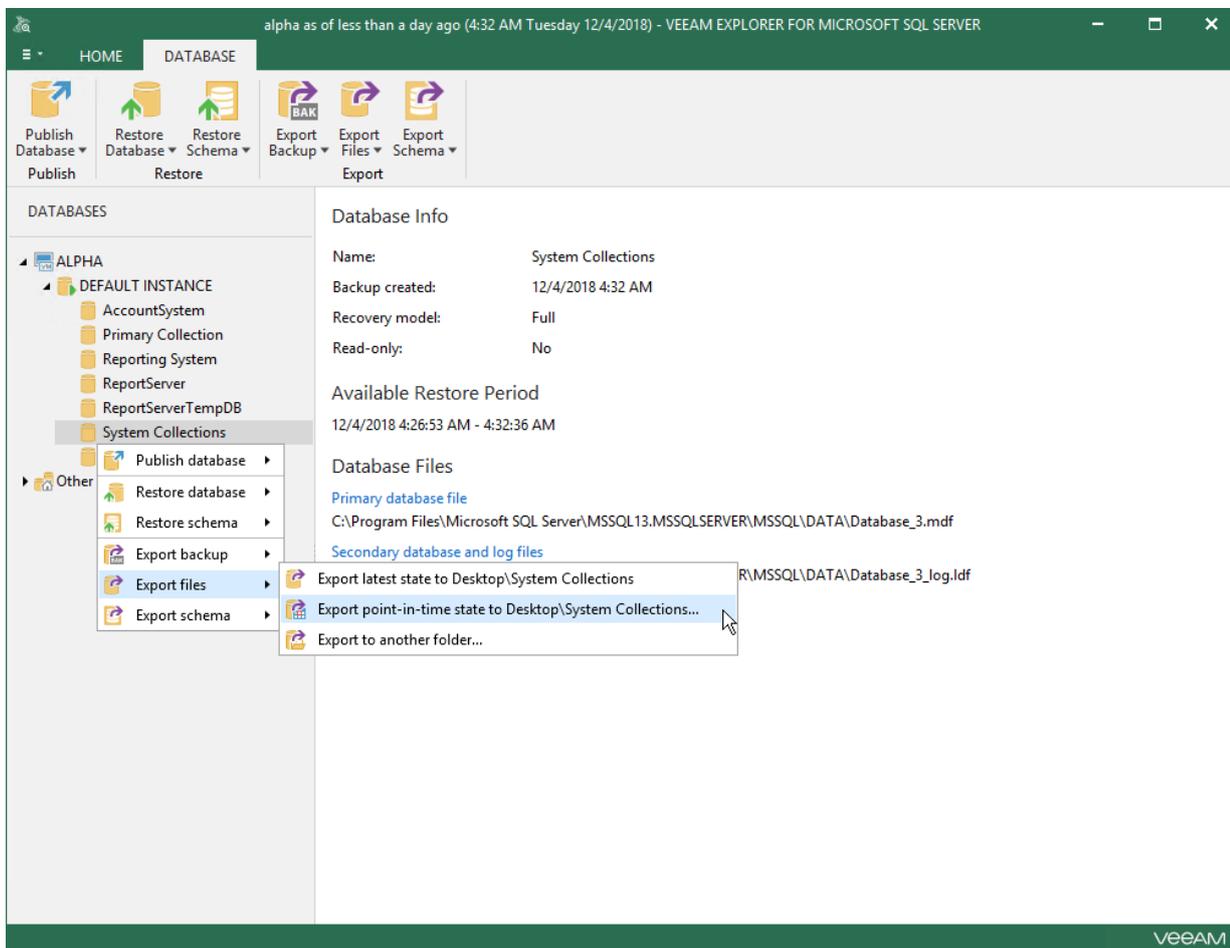
Exporting Latest or Point-in-Time State

Continue with this section to learn more about exporting your data as of a latest or point-in-time state.

Export Point-in-time State

To export the data as of a point-in-time state, do the following:

1. In the navigation pane, select a database, server or instance.
You can select the root instance node to export all the available databases at once.
2. On the **Database** (or **Server/Instance**) tab, select **Export Files > Export point-in-time state to Desktop\<db_name>** or right-click a database and select **Export Files > Export point-in-time state to Desktop\<db_name>**.
3. Proceed to [Specify Restore Point](#).



Step 1. 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 obtain 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 obtain database files as per specified point in

time.

Use the slider control to choose a point you need.

- Select the **Perform restore to specific transaction** checkbox to obtain database files exactly as of the moment before undesired transactions.

IMPORTANT!

The **Perform restore to specific transaction** option requires a staging SQL server. For more information, see [Configuring Staging SQL Server](#).

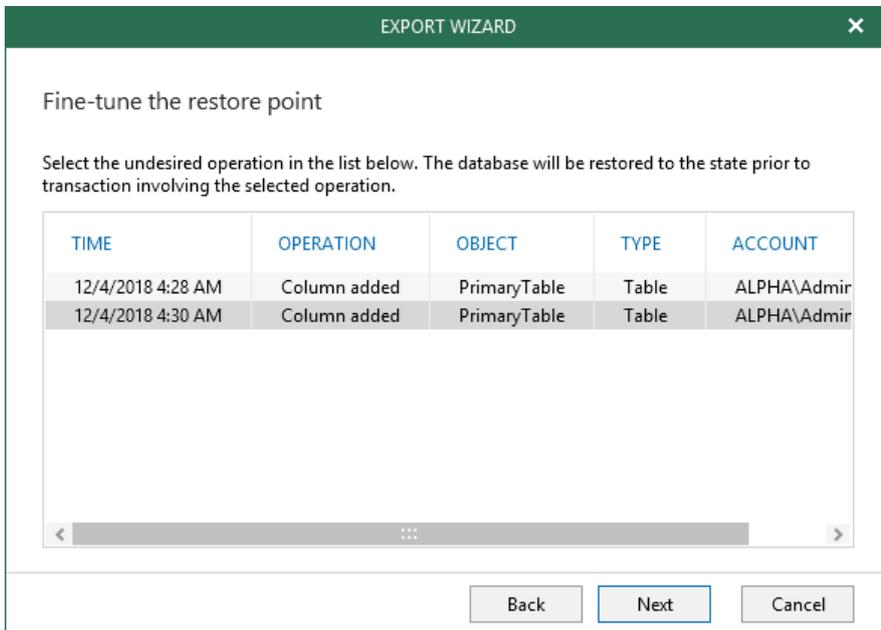
The screenshot shows a dialog box titled "EXPORT WIZARD" with a close button (X) in the top right corner. The main heading is "Specify restore point". Below this, the instruction reads "Specify point in time you want to restore the database to:". There are two radio button options: "Restore to the point in time of the selected image-level backup" (unselected) and "Restore to a specific point in time (requires transaction log backups)" (selected). Below the second option is a horizontal slider control. The left end of the slider is labeled "4:26 AM 12/4/2018" and the right end is labeled "4:32 AM 12/4/2018". A vertical arrow points to a position on the slider, with the text "Tuesday, December 4, 2018 4:29 AM" centered below it. Below the slider is a checked checkbox labeled "Perform restore to the specific transaction". Underneath this checkbox is a descriptive text: "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." At the bottom of the dialog box are three buttons: "Back", "Next", and "Cancel".

Step 2. Fine-tune Restore Point

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

NOTE:

This step is only available if you have selected the **Perform restore to specific transaction** checkbox at the previous step.



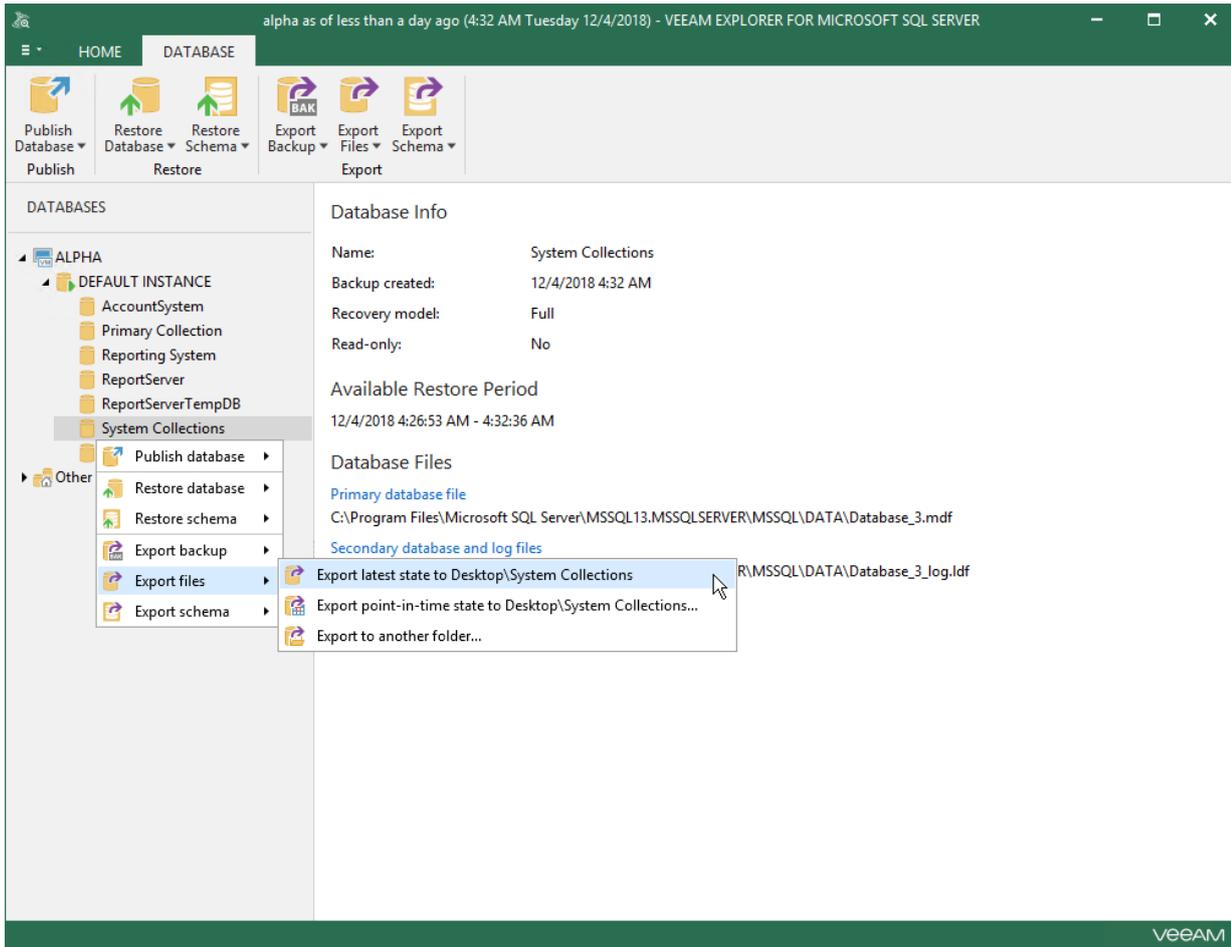
TIP:

Veeam Explorer for Microsoft SQL Server database operations are listed in the [SQL Server Database Operation Selection](#) section.

Export Latest State

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

1. In the navigation pane, select a database or instance.
You can select the root instance node to export all the available databases at once.
2. On the **Database** (or **Server/Instance**) tab, select **Export Files > Export latest state to Desktop\<db_name>** or right-click a database and select **Export Files > Export latest state to Desktop\<db_name>**.



Export as BAK

Continue with this section to learn more about exporting databases files as BAK.

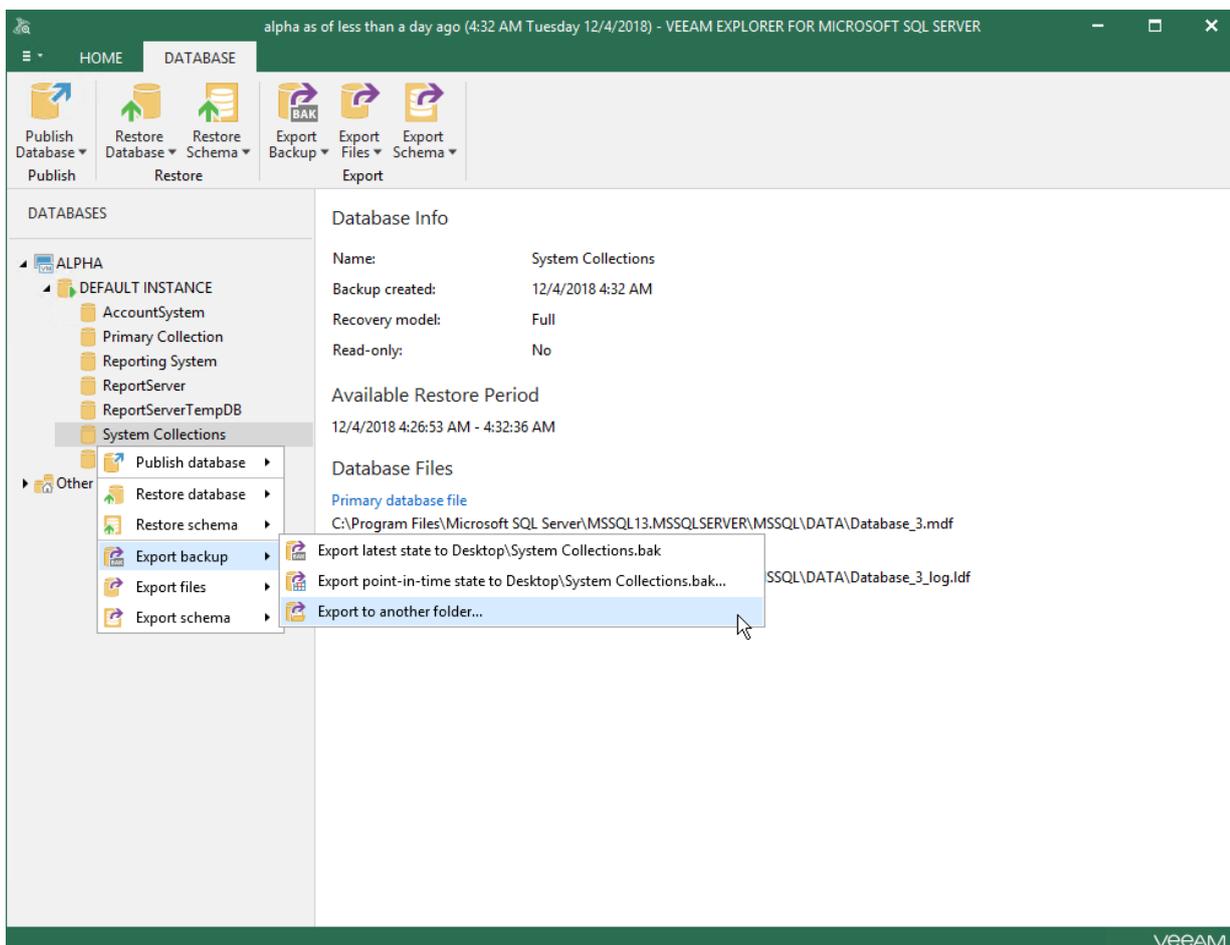
IMPORTANT!

To export database files as BAK, make sure to configure a staging SQL server, as described in [Configuring Staging SQL Server](#).

Exporting Single Database

To export a single database, do the following:

1. In the navigation pane, select a database.
2. On the **Database** (or **Server/Instance**) tab, select **Export Backup** > **Export to another folder** or right-click a database and select **Export Backup** > **Export to another folder**.
3. Proceed to [Specify Restore Point](#).



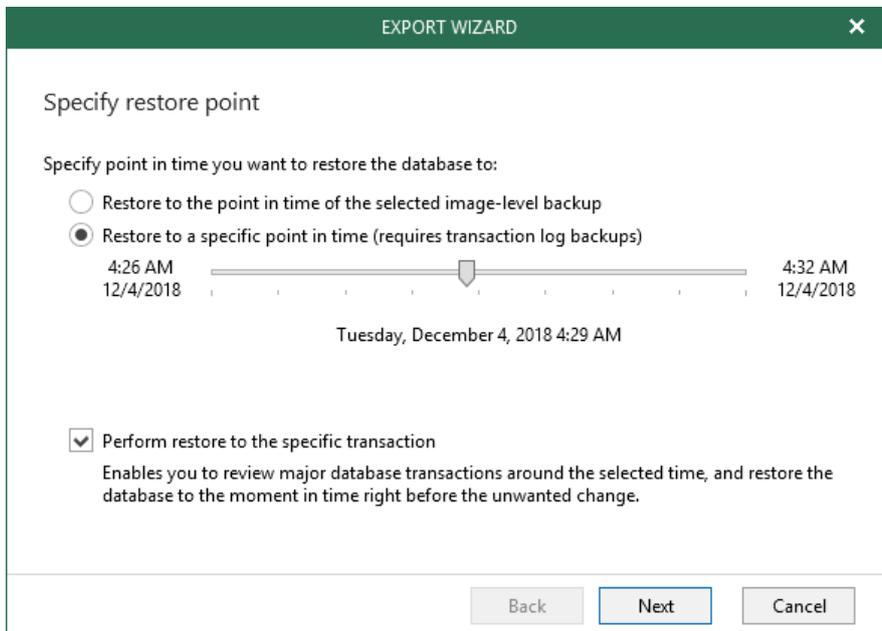
Step 1. Specify Restore Point

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 obtain 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 obtain database files as per specified point in time.
Use the slider control to choose a point you need.
- Select the **Perform restore to specific transaction** checkbox to obtain database files exactly as of the moment before undesired transactions.

IMPORTANT!

The **Perform restore to specific transaction** option requires a staging SQL server. For more information, see [Configuring Staging SQL Server](#).



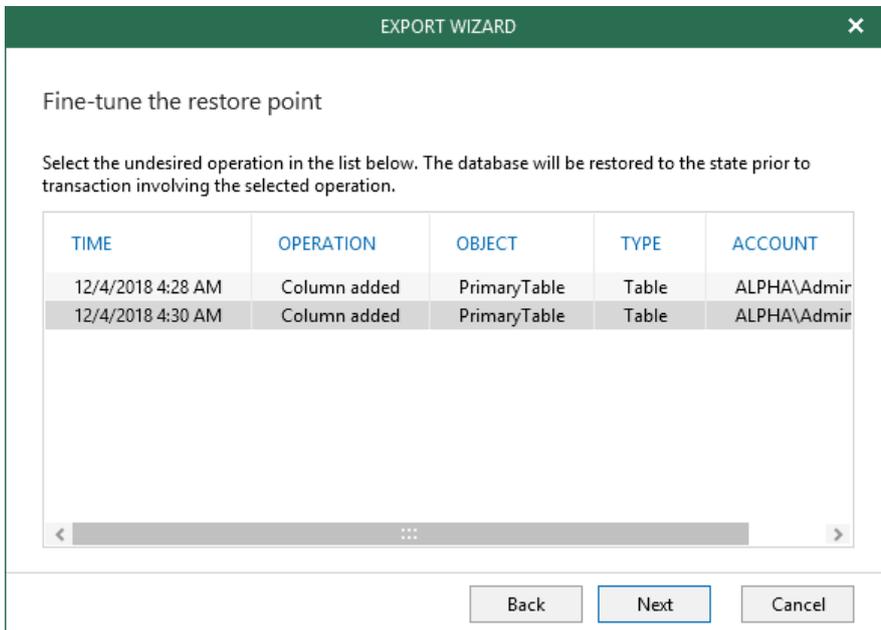
The screenshot shows a dialog box titled "EXPORT WIZARD" with a close button (X) in the top right corner. The main heading is "Specify restore point". Below this, the instruction reads "Specify point in time you want to restore the database to:". There are two radio button options: "Restore to the point in time of the selected image-level backup" (unselected) and "Restore to a specific point in time (requires transaction log backups)" (selected). Below the second option is a horizontal slider control. The left end of the slider is labeled "4:26 AM 12/4/2018" and the right end is labeled "4:32 AM 12/4/2018". A vertical marker on the slider indicates the selected time, which is "Tuesday, December 4, 2018 4:29 AM". Below the slider is a checked checkbox labeled "Perform restore to the specific transaction". Underneath this checkbox is a descriptive text: "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." At the bottom of the dialog box, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

Step 2. Fine-tune Restore Point

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

NOTE:

This step is only available if you have selected the **Perform restore to specific transaction** checkbox at the previous step.



TIP:

Veeam Explorer for Microsoft SQL Server database operations are listed in the [SQL Server Database Operation Selection](#) section.

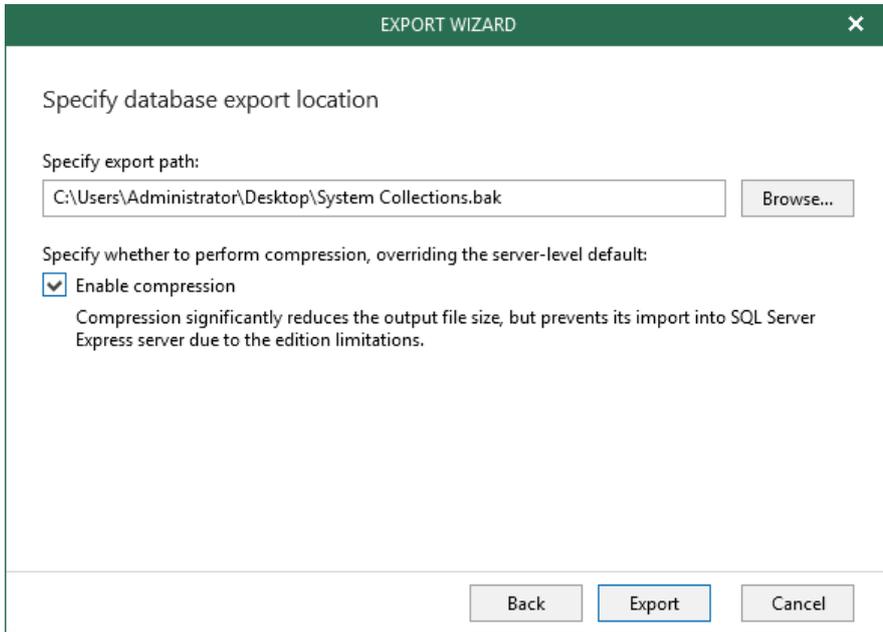
Step 3. Specify Database Export Location

At this step of the wizard, specify the path to the destination directory.

You can select **Enable Compression** checkbox to reduce the output file size.

NOTE:

Compression is unavailable for Microsoft SQL Server 2005 and all Express Editions of Microsoft SQL Server.

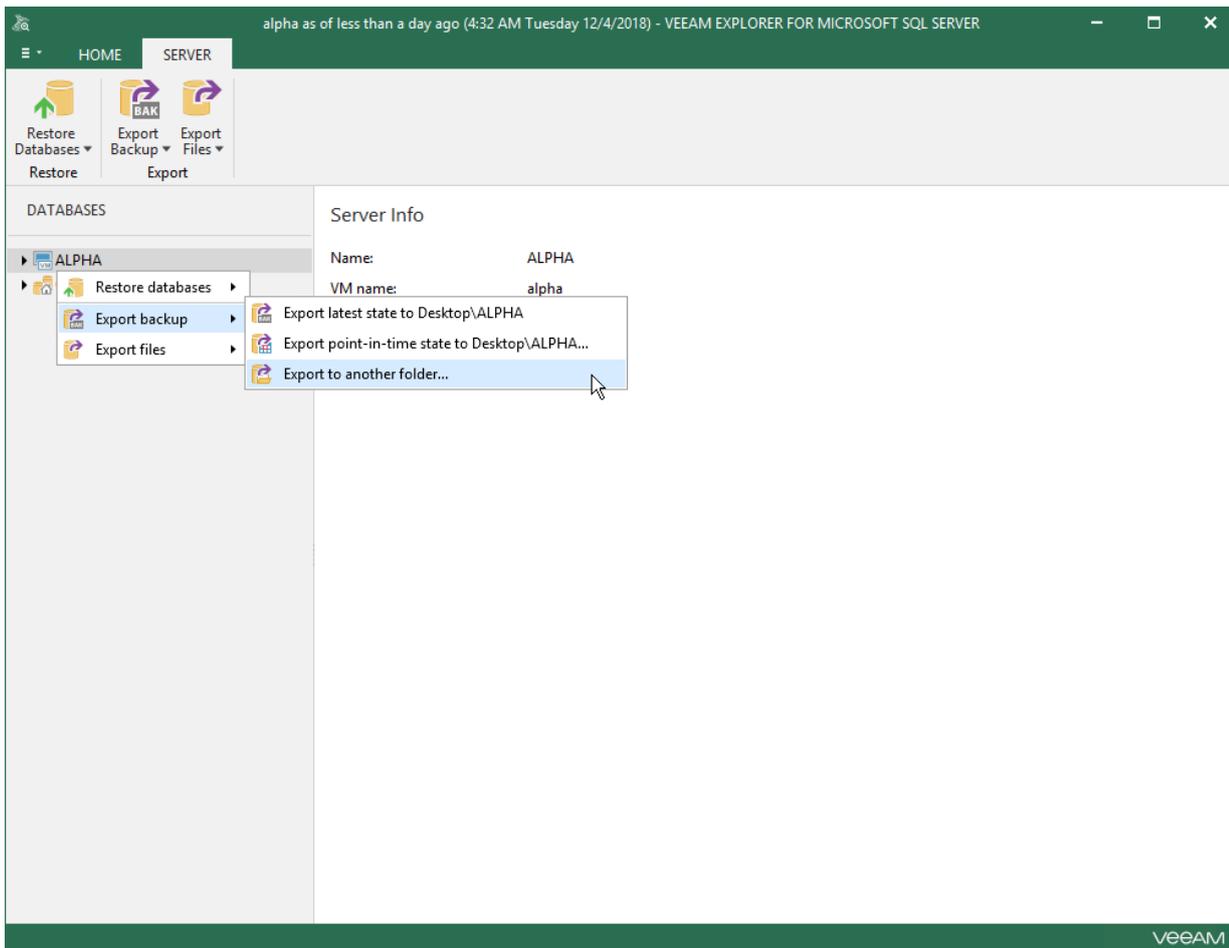


The screenshot shows a dialog box titled "EXPORT WIZARD" with a close button (X) in the top right corner. The main heading is "Specify database export location". Below this, there is a section "Specify export path:" with a text input field containing "C:\Users\Administrator\Desktop\System Collections.bak" and a "Browse..." button to its right. Underneath, there is a section "Specify whether to perform compression, overriding the server-level default:" with a checked checkbox labeled "Enable compression". Below the checkbox is a note: "Compression significantly reduces the output file size, but prevents its import into SQL Server Express server due to the edition limitations." At the bottom of the dialog, there are three buttons: "Back", "Export", and "Cancel".

Exporting Multiple Databases

To export all the databases, do the following:

1. In the navigation pane, select a server or instance.
2. On the **Server/Instance** tab, select **Export Backup > Export to another folder** or right-click a database and select **Export Backup > Export to another folder**.
3. Proceed to [Specify Restore Point](#).



Step 1. Specify Restore Point

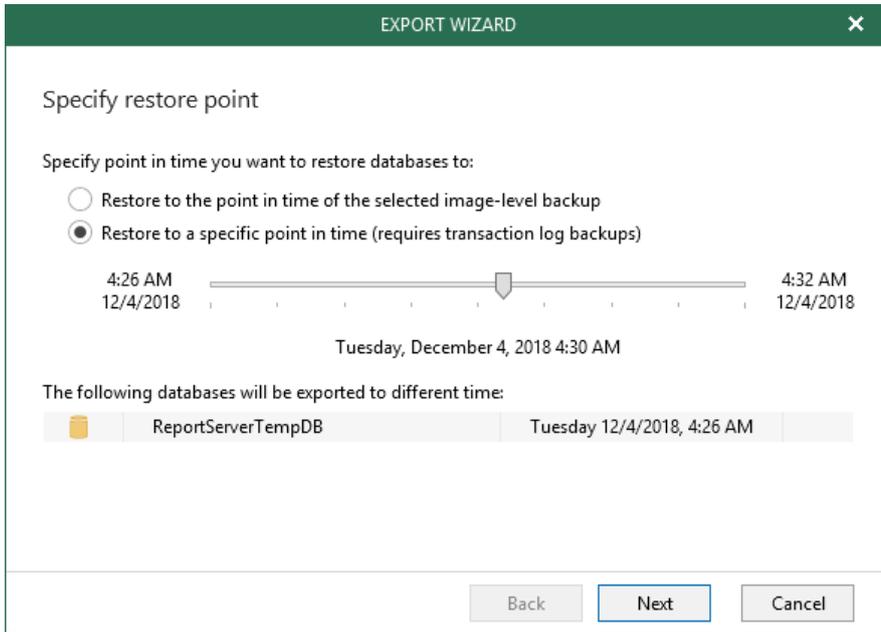
At this step of the wizard, select a state, as of which you want to restore your database:

- Select the **Restore to the point in time of the selected image-level backup** option to obtain 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 obtain 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.



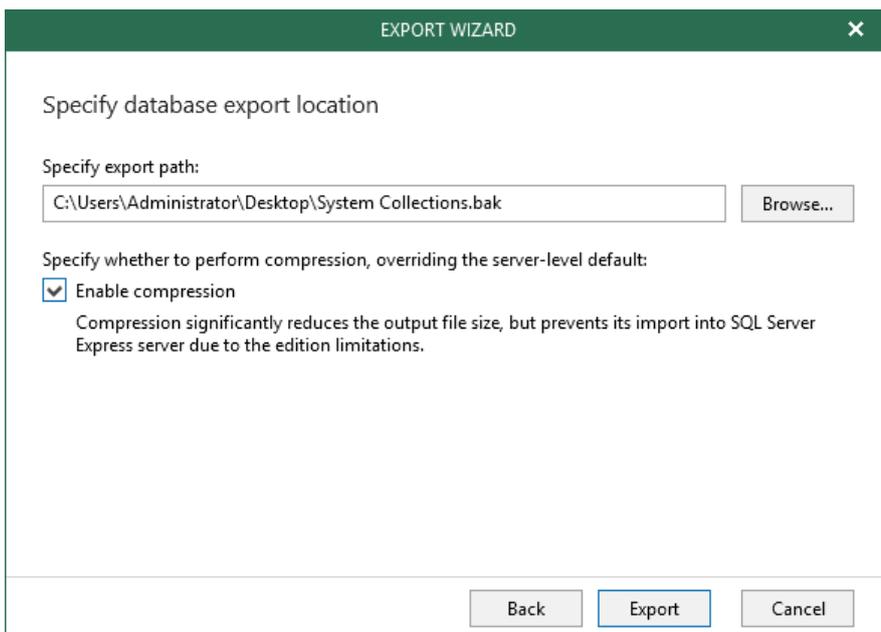
Step 2. Specify Database Export Location

At this step of the wizard, specify the path to the destination directory.

You can select **Enable Compression** checkbox to reduce the file size.

NOTE:

Compression is unavailable for Microsoft SQL Server 2005 and all Express Editions of Microsoft SQL Server.



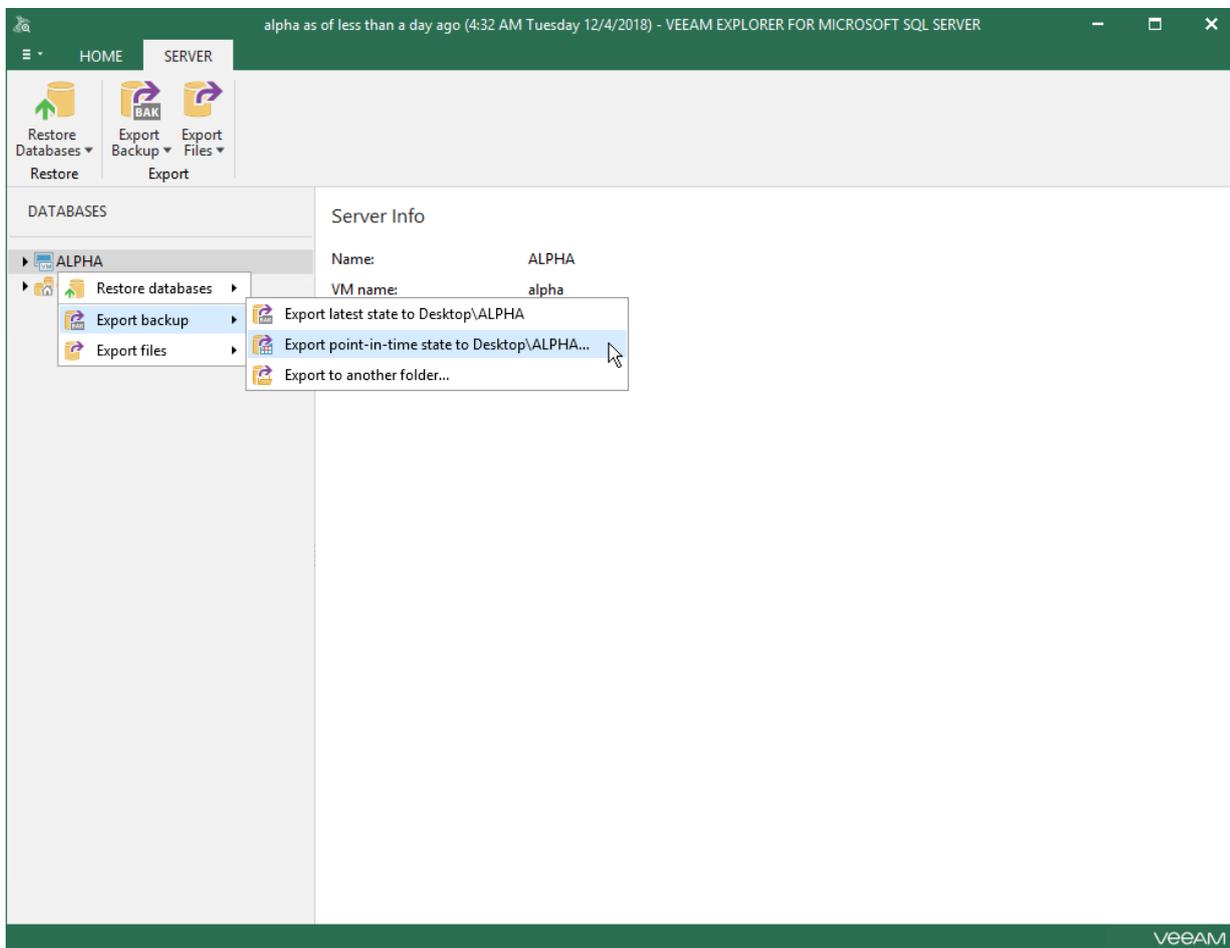
Exporting Latest or Point-in-Time

Continue with this section to learn more about exporting your data as of a latest or point-in-time state.

Exporting Point-in-time State

To export the data as of a point-in-time state, do the following:

1. In the navigation pane, select a database, server or instance.
You can select the root instance node to export all the available databases at once.
2. On the **Database (or Server/Instance)** tab, select **Export Backup > Export point-in-time state to Desktop\<db_name>** or right-click a database and select **Export Backup > Export point-in-time state to Desktop\<db_name>**.
3. Proceed to [Specify Restore Point](#).



Step 1. 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 obtain 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 obtain database files as per specified point in

time.

Use the slider control to choose a point you need.

- Select the **Perform restore to specific transaction** checkbox to obtain database files exactly as of the moment before undesired transactions.

IMPORTANT!

The **Perform restore to specific transaction** option requires a staging SQL server. For more information, see [Configuring Staging SQL Server](#).

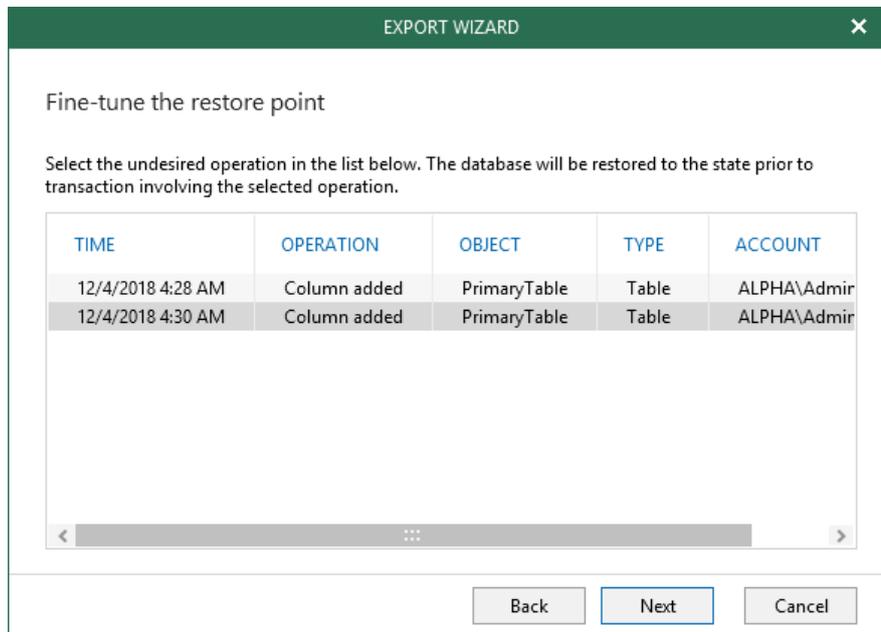
The screenshot shows a dialog box titled "EXPORT WIZARD" with a close button (X) in the top right corner. The main heading is "Specify restore point". Below this, the instruction reads "Specify point in time you want to restore the database to:". There are two radio button options: "Restore to the point in time of the selected image-level backup" (unselected) and "Restore to a specific point in time (requires transaction log backups)" (selected). Under the selected option, there is a horizontal slider control. The left end of the slider is labeled "4:26 AM 12/4/2018" and the right end is labeled "4:32 AM 12/4/2018". A vertical arrow points to a position on the slider, with the text "Tuesday, December 4, 2018 4:29 AM" centered below it. Below the slider, there is a checked checkbox labeled "Perform restore to the specific transaction". Underneath this checkbox, a descriptive text reads: "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." At the bottom of the dialog, there are three buttons: "Back", "Next", and "Cancel".

Step 2. Fine-tune Restore Point

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

NOTE:

This step is only available if you have selected the **Perform restore to specific transaction** checkbox at the previous step.



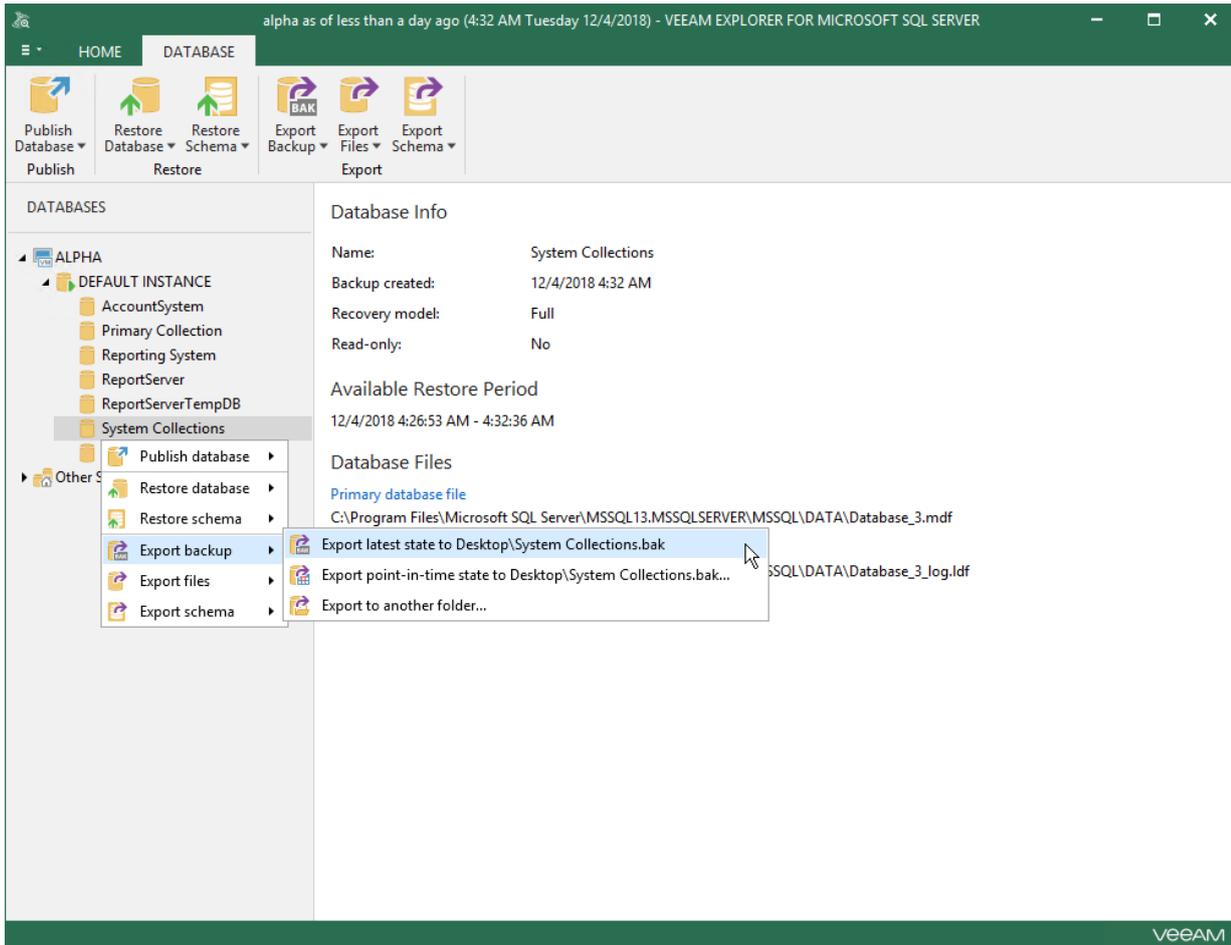
TIP:

Veeam Explorer for Microsoft SQL Server database operations are listed in the [SQL Server Database Operation Selection](#) section.

Export Latest State

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

1. In the navigation pane, select a database or instance.
You can select the root instance node to export all the available databases at once.
2. On the **Database** (or **Server/Instance**) tab, select **Export Backup > Export latest state to Desktop\<db_name>** or right-click a database and select **Export Backup > Export latest state to Desktop\<db_name>**.



Database Schema and Data Export

Topics in this section provide information on how to export your database schema and data using the Veeam Explorer for Microsoft SQL Server abilities.

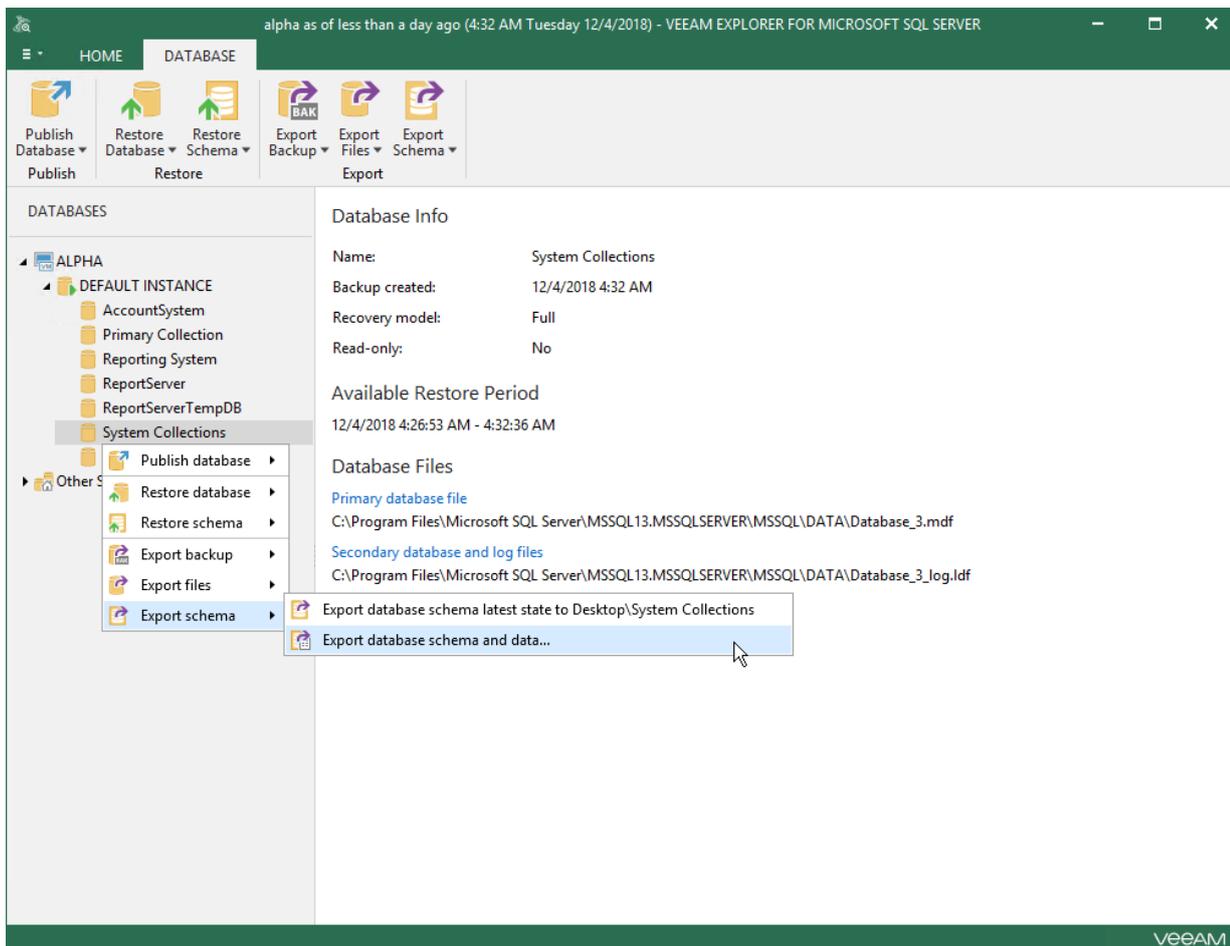
NOTE:

Exporting multiple databases schema and data is not supported.

Exporting to Custom Location

To export database schema and data, 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** or right-click a database and select **Export Schema > Export database schema and data**.
3. Proceed to [Specify Restore Point](#).



TIP:

To import data tables, use the standard SQL server **bcp.exe** utility. For more information, see [this Microsoft article](#).

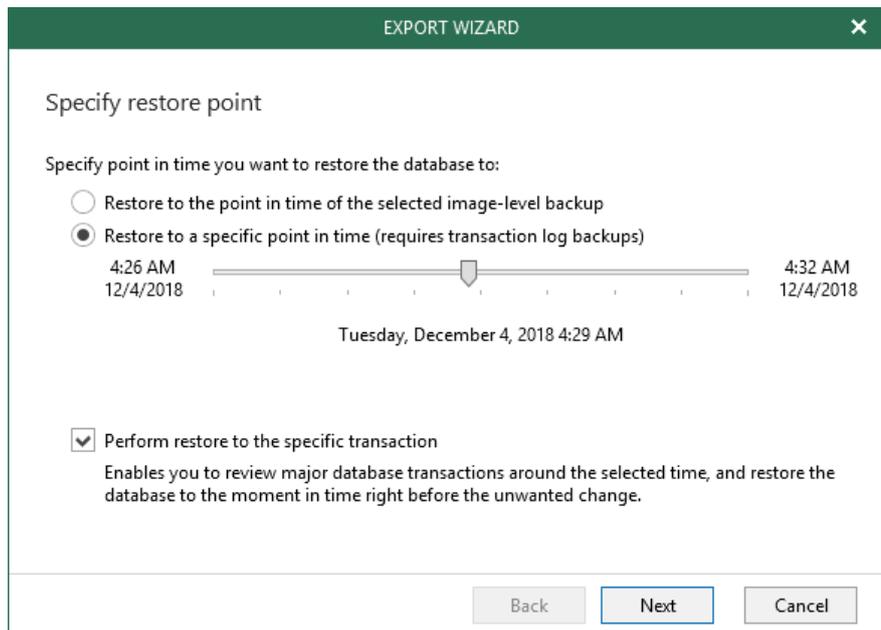
Step 1. Specify Restore Point

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 obtain 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 obtain database files as per specified point in time.
Use the slider control to choose a point you need.
- Select the **Perform restore to specific transaction** checkbox to obtain database files exactly as of the moment before undesired transactions.

IMPORTANT!

The **Perform restore to specific transaction** option requires a staging SQL server. For more information, see [Configuring Staging SQL Server](#).



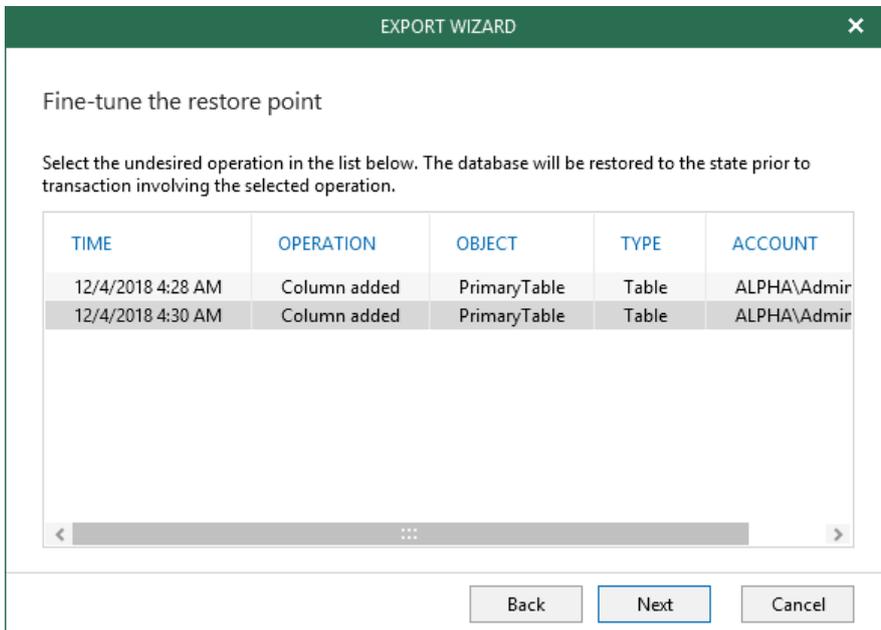
The screenshot shows a dialog box titled "EXPORT WIZARD" with a close button (X) in the top right corner. The main heading is "Specify restore point". Below it, the instruction reads "Specify point in time you want to restore the database to:". There are two radio button options: "Restore to the point in time of the selected image-level backup" (which is unselected) and "Restore to a specific point in time (requires transaction log backups)" (which is selected). Below the second option is a horizontal slider control. The left end of the slider is labeled "4:26 AM 12/4/2018" and the right end is labeled "4:32 AM 12/4/2018". A vertical arrow points to a position on the slider, and below it, the text "Tuesday, December 4, 2018 4:29 AM" is displayed. Below the slider is a checked checkbox labeled "Perform restore to the specific transaction". Underneath this checkbox, a note states: "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." At the bottom of the dialog box, there are three buttons: "Back", "Next", and "Cancel".

Step 2. Fine-tune Restore Point

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

NOTE:

This step is only available if you have selected the **Perform restore to specific transaction** checkbox at the previous step.



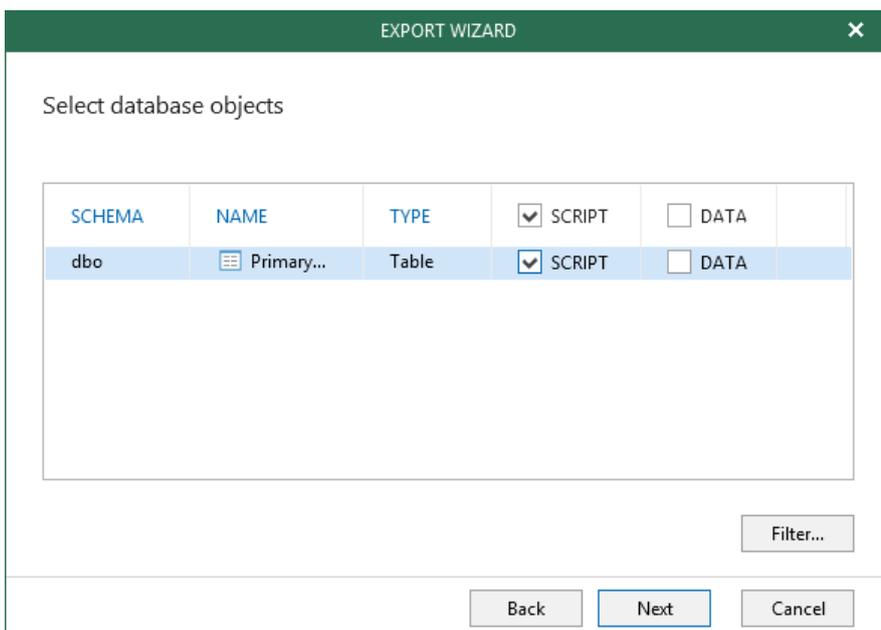
TIP:

Veeam Explorer for Microsoft SQL Server database operations are listed in the [SQL Server Database Operation Selection](#) section.

Step 3. 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.

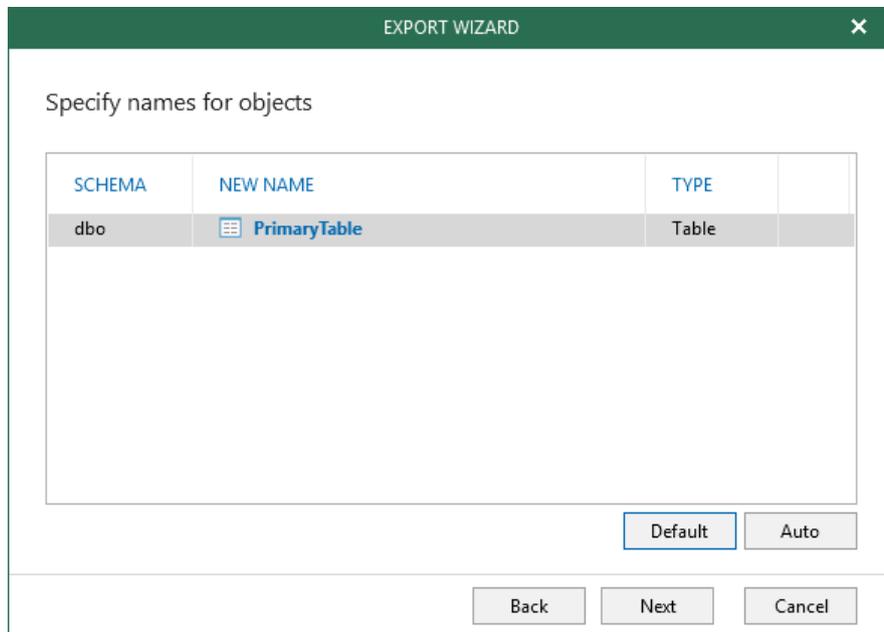


Step 4. Specify Names for Objects

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**.



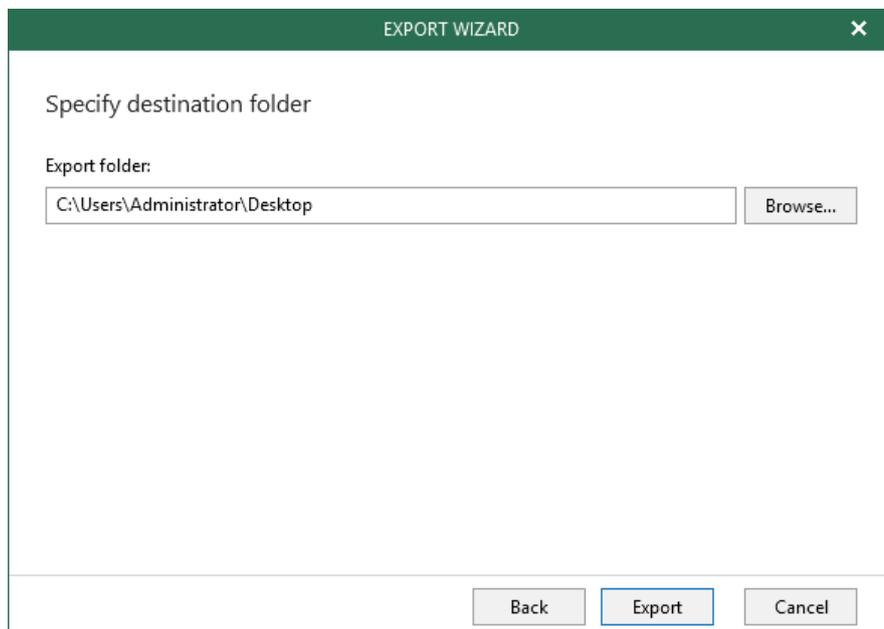
The screenshot shows the 'EXPORT WIZARD' dialog box with the title 'Specify names for objects'. It contains a table with the following data:

SCHEMA	NEW NAME	TYPE	
dbo	 PrimaryTable	Table	

Below the table are two buttons: 'Default' and 'Auto'. At the bottom of the dialog are three buttons: 'Back', 'Next', and 'Cancel'.

Step 5. Specify Destination Folder

Specify the destination folder to which you want to export selected database schema objects.



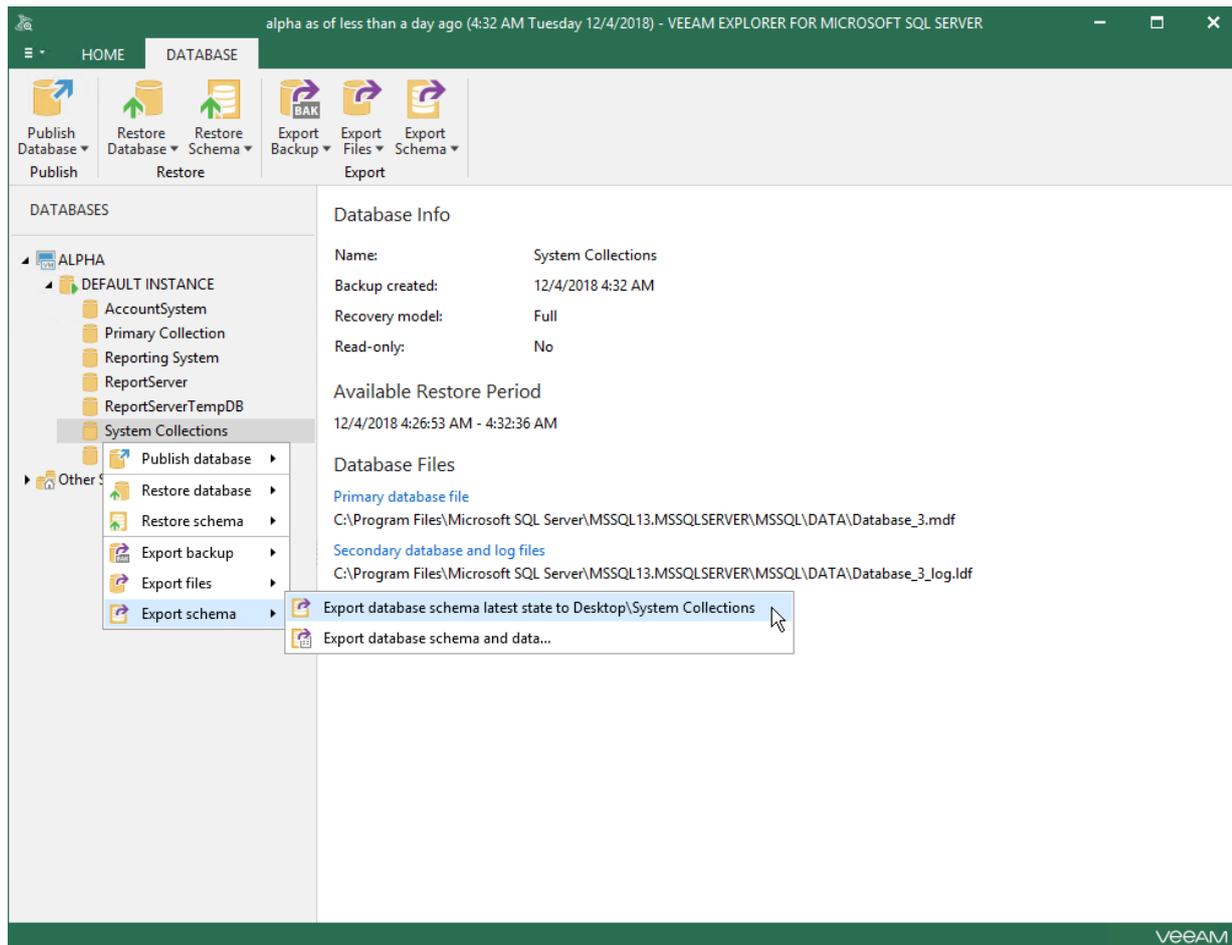
The screenshot shows the 'EXPORT WIZARD' dialog box with the title 'Specify destination folder'. It contains a text input field labeled 'Export folder:' with the value 'C:\Users\Administrator\Desktop'. To the right of the input field is a 'Browse...' button. At the bottom of the dialog are three buttons: 'Back', 'Export', and 'Cancel'.

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 state of <date_time> to Desktop\<db_name>** or right-click a database and select **Export Schema > Export database schema state of <date_time> to Desktop\<db_name>**.



SQL Database Operations

The following table lists SQL server database operations and their corresponding display names that appear in the fine-tune dialog.

Entity	Operation	Display Format	Constraints
Table	CREATE	<date_time> Created[/Modified] <table_name> Table <table ID> <initiator>	
	DROP	<date_time> Deleted <table_name> Table <table ID> <initiator>	
	ALTER	<date_time> Column added <table_name> Table <table ID> <initiator>	
	INSERT INTO	<date_time> Inserted row <table_name>[/table_ID] Table <initiator>	Table name will not be displayed for deleted table, only table ID will be shown.
	DELETE FROM	<date_time> Deleted row <table_name>[/table_ID] Table <initiator>	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>	Table name will not be displayed for deleted table, only table ID will be shown.
	TRUNCATE	<date_time> Truncated Table <initiator>	Table name and ID will not be displayed for deleted table.
	BULK INSERT	<date_time> Inserted row <table_name>[/table_ID] Table <initiator>	
View	CREATE	<date_time> Created <view_name> View <initiator>	
	DROP	<date_time> Deleted <view_name> Table <initiator>	
	ALTER	<date_time> Modified <view_name> View <initiator>	
Index	CREATE	<date_time> Created <index_name> Index <initiator>	
	DROP	<date_time> Deleted <index_name> Index <initiator>	

	ALTER	<date_time> Modified <index_name> Index <initiator>	
Procedure	CREATE	<date_time> Created <procedure_name> Procedure <initiator>	
	DROP	<date_time> Deleted <procedure_name> Table <initiator>	
	ALTER	<date_time> Modified <procedure_name> Procedure <initiator>	
Function	CREATE	<date_time> Created <function_name> Function <initiator>	
	DROP	<date_time> Deleted <function_name> Table <initiator>	
	ALTER	<date_time> Modified <function_name> Function <initiator>	
Schema	CREATE	<date_time> Created <schema_name> Schema <initiator>	
	DROP	<date_time> Deleted <schema_name> Schema <initiator>	
	ALTER	<date_time> Modified <schema_name> Schema <initiator>	Schema cannot be detected.
User	CREATE	<date_time> Created <user_name> User <initiator>	
	DROP	<date_time> Deleted <user_name> User <initiator>	
	ALTER	<date_time> Modified <user_name> User <initiator>	
Trigger	CREATE	<date_time> Created <trigger_name> Trigger <initiator>	
	DROP	<date_time> Deleted <trigger_name> Trigger <initiator>	
	ALTER	<date_time> Modified <trigger_name> Trigger <initiator>	

Veeam Explorer for Oracle

Veeam Explorer for Oracle allows you to restore Oracle databases and Data Guard from backups created by Veeam Backup & Replication.

What's New

The following new features and enhancements have been implemented in Veeam Explorer for Oracle that comes as part of Veeam Backup & Replication 9.5 Update 4:

- Support for Oracle Data Guard restore.
- Support for restore of backups created with the RMAN plug-in.
- Support for restore of backups created with the RMAN plug-in directly to RAC.
- Support for non-application enabled backups restore as of specified point in time.
- Performance and stability Improvements.

Planning and Preparation

Continue with this section to learn how to configure your environment before start using Veeam Explorer for Oracle.

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 operating systems, see the VSS-Aware Applications subsection of the Veeam Backup & Replication User Guide.

Used Ports

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

Backup

Oracle on Windows

From	To	Protocol	Port	Notes
Veeam Backup Server	Oracle Server Guest OS	TCP, UDP	135, 137-139, 445	To deploy the runtime coordination process on a VM guest OS.
		TCP	49152 to 65535 (for Microsoft Windows 2008 and higher)	The dynamic RPC range that is used by the runtime coordination process which is deployed on a VM guest OS for application-aware processing. For more information, see this Microsoft article .
		TCP	6167	[For archived logs shipping.] Used by the runtime coordination process on a VM guest OS from which archived logs are collected.
Oracle Server VM Guest OS	Veeam Backup Server	TCP	49152 to 65535 (for Microsoft Windows 2008 and higher)	Dynamic RPC port range that is used by the runtime coordination process which is deployed on a VM guest OS for application-aware processing.
	Log Shipping Server	TCP	2500 to 5000	[For archived logs shipping.] Utilized for data transfer over the network.

NOTE:

Configuring dynamic RPC range is not required when using default Microsoft Windows firewall settings. When using custom firewall settings or if application-aware processing fails with the *RPC function call failed* error, make sure to configuring dynamic RPC ports manually. For more information, see [this Microsoft article](#).

Oracle on Linux

From	To	Protocol	Port	Notes
Veeam Backup Server	Oracle on Linux Server Guest OS	TCP	22	The default SSH port that is used as a control channel.
		TCP	2500 - 5000	The default port range for managing data transmission.
		TCP	6167	[For archived logs shipping.] Used by the runtime process on the VM guest OS from which archived logs are collected.
Oracle Server VM Guest OS	Log Shipping Server	TCP	2500 - 5000	[For archived logs shipping.] The default range of ports used for managing data transfer over the network.

Restore

From	To	Protocol	Port	Notes
Veeam Backup Server / Standalone Console	Oracle on Windows Server	TCP	49152-65535	Recommended dynamic RPC port range for Microsoft Windows 2008 and higher. For more information, see this Microsoft article .
		TCP	1025 - 1034	The default port range for the runtime component installed on VM guest to support restore operations. Port is opened only during application item restore.
	Oracle on Linux Server	TCP	22	The default SSH port used as a control channel.
Backup Repository Server	Oracle on Linux Server	TCP	2500 - 5000	The default port range for managing data transfer during restore to the original (remote) VM on the target Oracle on Linux server.

Make sure to open the following ports when using a staging Oracle server.

From	To	Protocol	Port	Notes
A Target VM or Staging Oracle Server	Veeam Explorer for Oracle	TCP	3260 - 3270	The port range that is opened by Veeam Backup & Replication to manage the iSCSI traffic during restore to the target VM. Such a port range is only opened while application item restore is being performed.

Required Permissions

The following table lists required permissions for user accounts to back up and restore Oracle data.

Operation	Required Roles and Permissions
Backup	For more information, see the Required Permissions section of the Veeam Backup & Replication User Guide.
Restore / Accessing Staging Server	To restore data, make sure to configure user accounts as follows: <ul style="list-style-type: none">▪ When restoring to a Windows-based VM, the account must be a member of the <i>Local Administrator</i> group. 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 VM, the account must be a Linux user and have membership in the following groups: <i>OSASM</i> [if <i>ASM</i> is used] (typically <i>asmadmin</i>), <i>OSDBA</i> (typically <i>dba</i>), <i>Oracle Inventory group</i> (typically <i>oinstall</i>).

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 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 obtains application-specific Oracle database information from the Oracle VM backup metadata located in the Veeam backup server configuration database.
- If the **application-aware image processing** option is disabled, Veeam Explorer 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*".

Considerations and Limitations

This section covers considerations and known limitations of Veeam Explorer for Oracle.

General

- 32-bit Oracle running on 64-bit operating systems is not supported.
- Oracle XE on Linux is not supported.
- Oracle Real Application Clusters (RAC) is only supported for backups created with the RMAN plug-in.
- Veeam Explorer for Oracle operation in the standalone mode is not supported: it can be installed and launched only with Veeam backup server or with Veeam backup standalone console.

Backup

- When backing up Oracle on Linux server, application-aware processing operations may appear with Success status in the job session data, though the process of detecting Oracle on Linux system had failed (for example, due to the failure of connection to server via SSH).

Mount

- If planning to restore Oracle on Linux, consider that mount using *fuse* is not supported on kernel versions 4.0.0 - 4.1.33 due to its known issue. To work around this limitation, upgrade the kernel to version 4.1.37 or higher.
- If a Windows 2003 server is used for mount operations (for example, as a staging system), it requires Microsoft iSCSI Initiator service to be installed; if this service is not found, an error message like the following will be displayed:
"ExplorerManagementService: Failed to wait for OIB mounted. MountID <ID>, Timeout <timeout> (sessionID <ID>). Microsoft sCSI Initiator service is not installed."

Restore

- Veeam Explorer for Oracle does not support restore via PSDirect, VIX or Sphere API.
- 1-Click restore to the original Oracle server from the storage snapshots is not supported, as the original server may not be detected properly in that case. So, the corresponding menu command will be unavailable for such database backup. As a work-around, you can use the **Restore to another server** command to start the Restore Wizard and specify the necessary target directly at its step 3.
- Restore to selected point in time and to selected transaction is not supported for replicas and backups stored to DR site by backup copy job, as well as for backups stored to cloud repository, as such repositories cannot be used as a destination for archived logs backup in current version of Veeam Backup & Replication.
- Database restore to current restore point is supported for restore points created by Veeam backup job, replication job, for VeeamZIP, as well as for imported backup and storage snapshot.
- If OS authentication on Oracle server is disabled on target, then databases with enabled ASM cannot be restored.
If OS authentication on Oracle server is disabled on staging system, user will be unable to view the list of transaction and perform restore to selected transaction in case of database with enabled ASM.

- Database restore may fail if backed up Oracle server version and target server version have different patch levels.

Launching Application and Exploring Backups

For more information on how to launch Veeam Explorer for Oracle, see [Exploring Oracle Backups](#) section.

NOTE:

Consider that Veeam Explorer for Oracle does not support the standalone mode and cannot be launched from the **Start** menu.

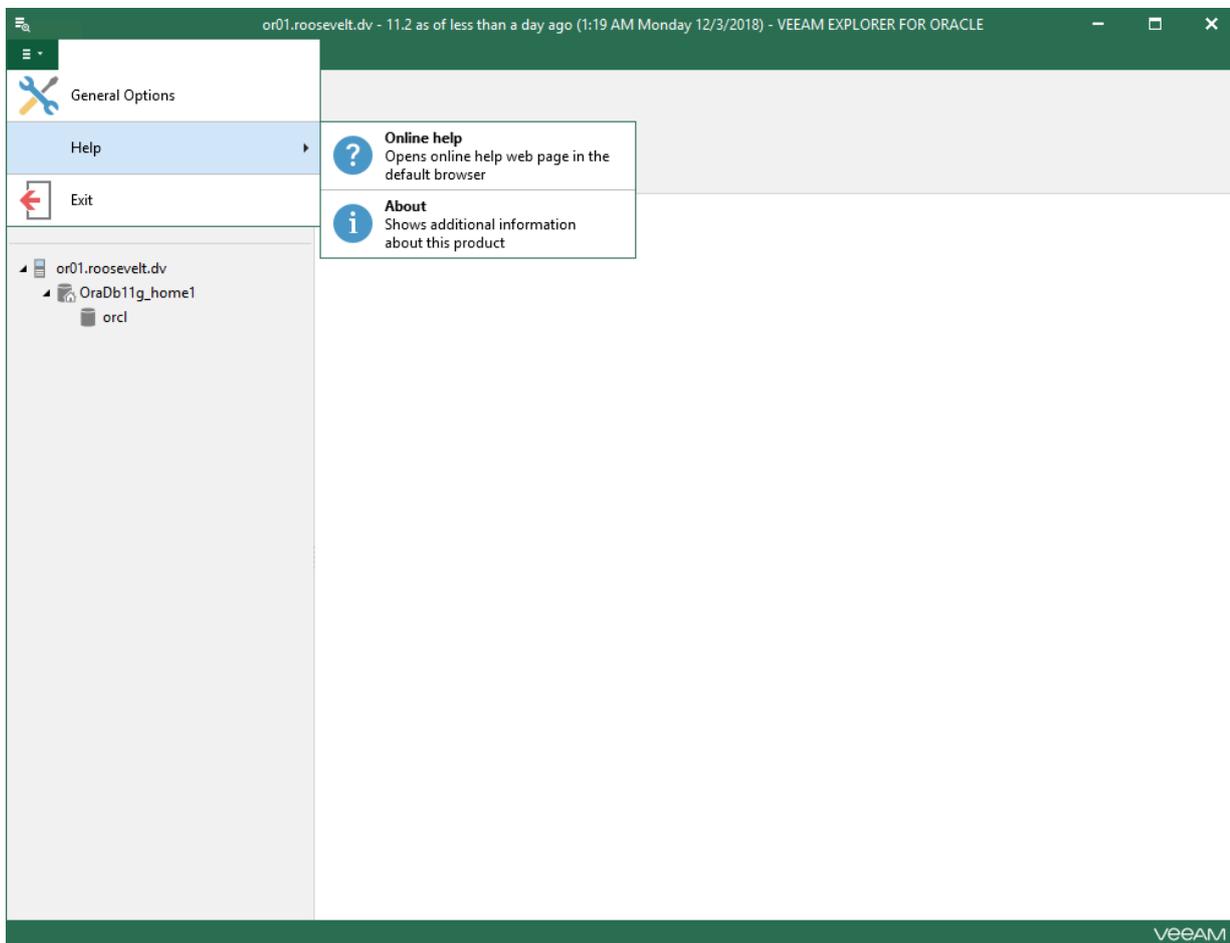
Understanding User Interface

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 features:

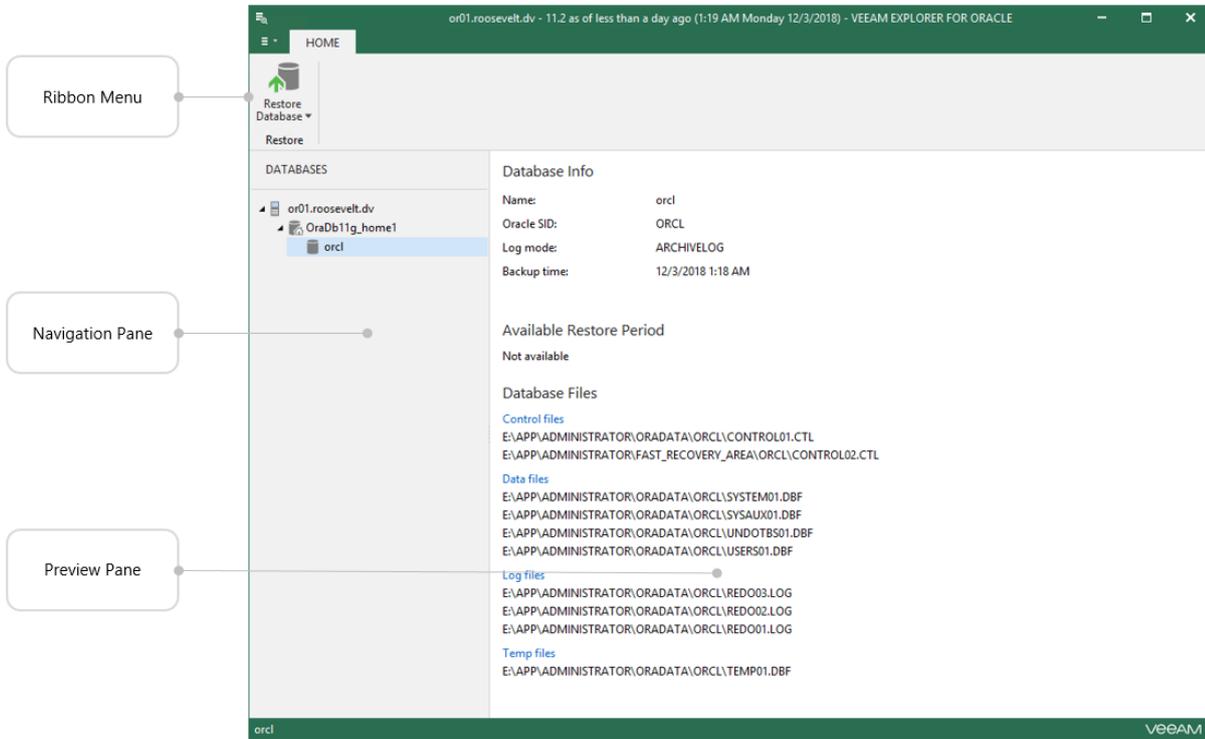
- **General Options.** Allows you to configure program options.
- **Help.**
 - **Online help.** Opens the online web help page.
 - **About.** Shows information about the product.
- **Exit.** Closes the program.



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.



Understanding Mounting

When restoring your data, Veeam Explorer 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 job configuration settings. For more information on configuring mount server settings, see the [Mount Server Settings](#) 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 always uses a staging Oracle server to mount the VM file system.

Understanding Veeam Oracle Restore Service

The *Veeam Oracle 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 `Veeam.Oracle.Service_<timestamp>.log` file stored in the `Temp` folder, which is located in the system directory. If you have enabled extended logging mode, as described in [this knowledge base article](#), the log data will be stored in the Veeam Oracle Explorer log.

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

Inbound\outbound traffic management between Veeam Explorer for Oracle and the *Veeam Oracle Restore Service* component is performed via the RPC protocol.

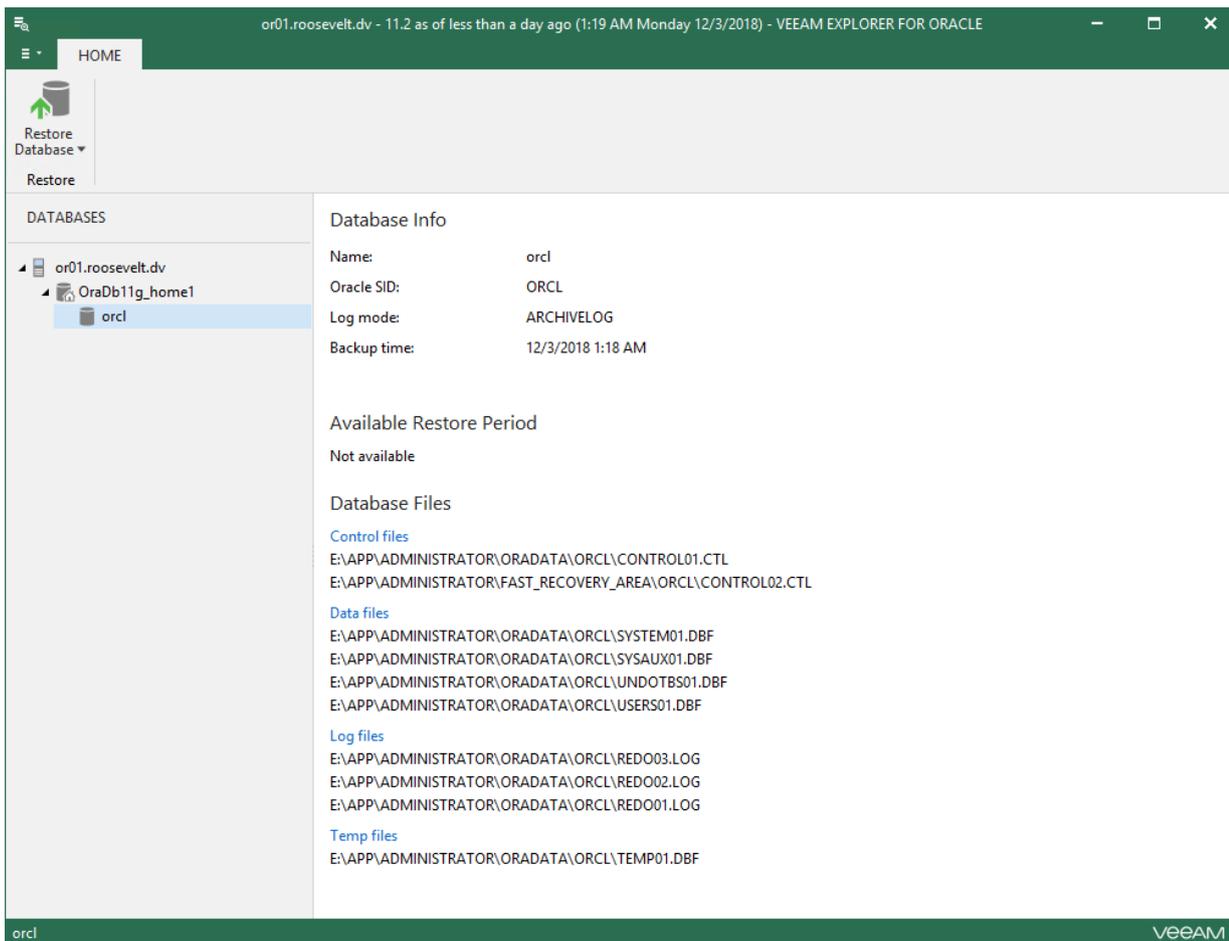
Viewing Database Information

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 demonstrates 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.

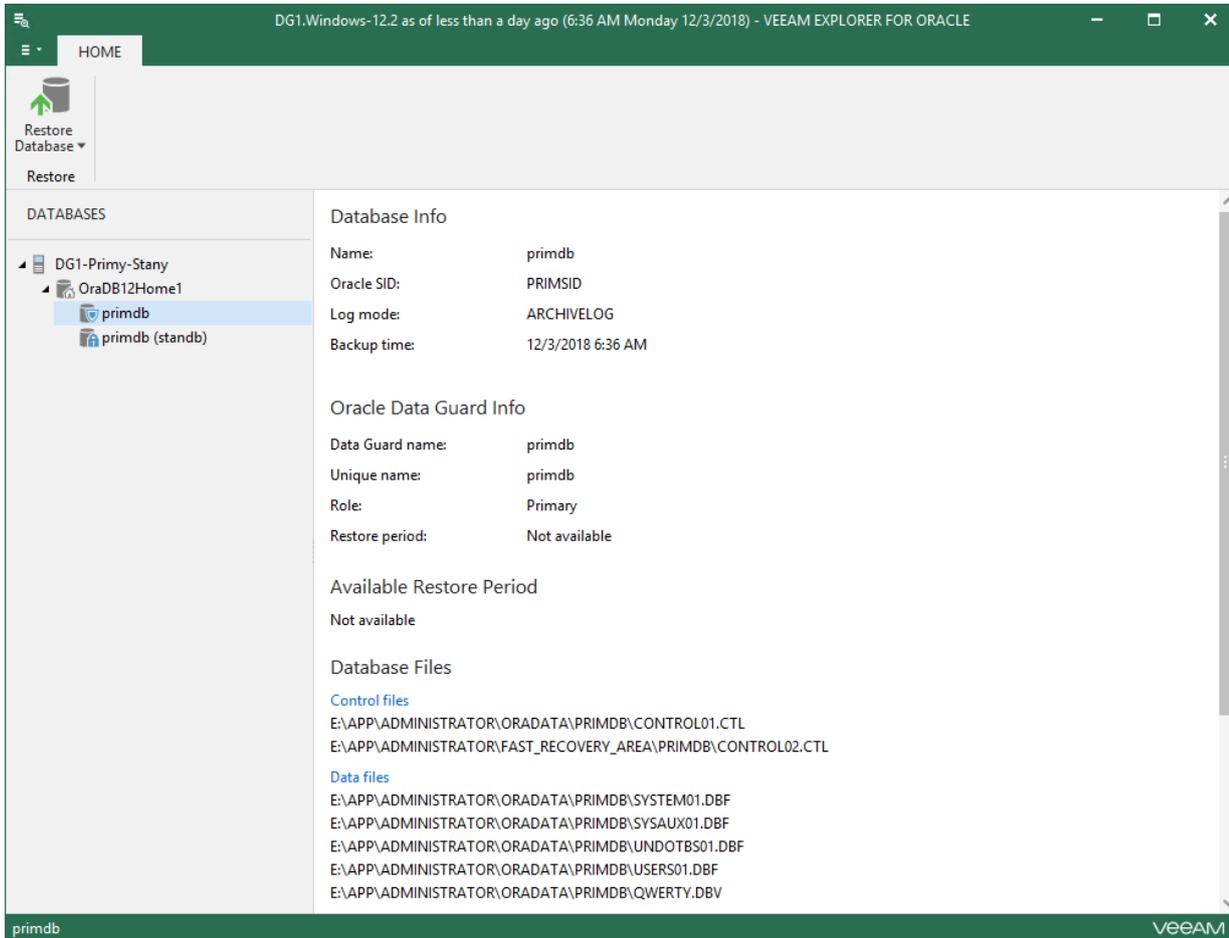


Viewing Oracle Data Guard Information

The following figure demonstrates the Data Guard information view.

NOTE:

Both standalone Oracle databases and Oracle Data Guard might have different available restore periods or do not have them at all.



The screenshot displays the Veeam Explorer for Oracle interface. The left pane shows a tree view of databases under 'DG1-Primy-Stany', with 'primdb' selected. The right pane shows the 'Database Info' and 'Oracle Data Guard Info' sections. The 'Database Info' section lists: Name: primdb, Oracle SID: PRIMSID, Log mode: ARCHIVELOG, and Backup time: 12/3/2018 6:36 AM. The 'Oracle Data Guard Info' section lists: Data Guard name: primdb, Unique name: primdb, Role: Primary, and Restore period: Not available. The 'Available Restore Period' section also shows 'Not available'. The 'Database Files' section lists control files and data files.

Database Info	
Name:	primdb
Oracle SID:	PRIMSID
Log mode:	ARCHIVELOG
Backup time:	12/3/2018 6:36 AM

Oracle Data Guard Info	
Data Guard name:	primdb
Unique name:	primdb
Role:	Primary
Restore period:	Not available

Available Restore Period	
Available Restore Period:	Not available

Database Files	
Control files	
E:\APP\ADMINISTRATOR\ORADATA\PRIMDB\CONTROL01.CTL	
E:\APP\ADMINISTRATOR\FAST_RECOVERY_AREA\PRIMDB\CONTROL02.CTL	
Data files	
E:\APP\ADMINISTRATOR\ORADATA\PRIMDB\SYSTEM01.DBF	
E:\APP\ADMINISTRATOR\ORADATA\PRIMDB\SYSAUX01.DBF	
E:\APP\ADMINISTRATOR\ORADATA\PRIMDB\UNDOTBS01.DBF	
E:\APP\ADMINISTRATOR\ORADATA\PRIMDB\USERS01.DBF	
E:\APP\ADMINISTRATOR\ORADATA\PRIMDB\QWERTY.DBV	

General Application Settings

Continue with this section to learn more about configuring required application settings and components.

Configuring Staging Oracle Server

This section explains how to configure a staging Oracle server which is required if you want to use a point-in-time restore to revert the database to a state before an undesired transaction or before a point of failure.

A staging server is also required when exploring backups created without application-aware image processing. For more information, see [Exploring Oracle Backups](#).

Consider the following:

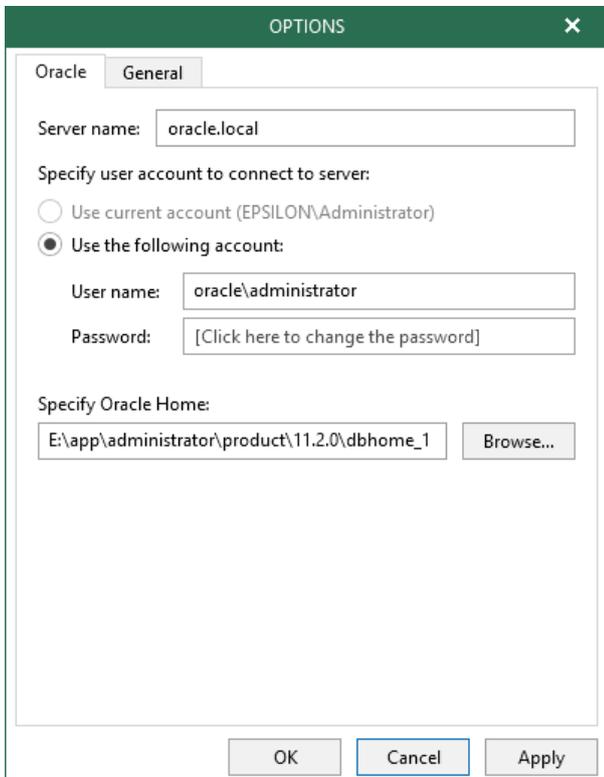
- A staging server must have the same Oracle version as both the source and target Oracle servers.
- If you plan to restore databases with Automatic Storage Management enabled, both staging and target servers must have ASM enabled.
- Oracle Database Express Edition cannot be used as a staging system.

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. Go to the **Oracle** tab and specify the server name to which you want to connect.
3. Specify a user account to connect to the Oracle server that you want to use as a staging system.
4. Specify the path to the **Oracle Home** folder.

Click **Browse** to find the associated folder automatically.



The screenshot shows a dialog box titled "OPTIONS" with a close button (X) in the top right corner. The "Oracle" tab is selected, and the "General" sub-tab is active. The "Server name" field contains "oracle.local". Under "Specify user account to connect to server:", the "Use the following account:" radio button is selected. The "User name" field contains "oracle\administrator" and the "Password" field contains "[Click here to change the password]". Under "Specify Oracle Home:", the field contains "E:\app\administrator\product\11.2.0\dbhome_1" and a "Browse..." button is to its right. At the bottom of the dialog are three buttons: "OK", "Cancel", and "Apply".

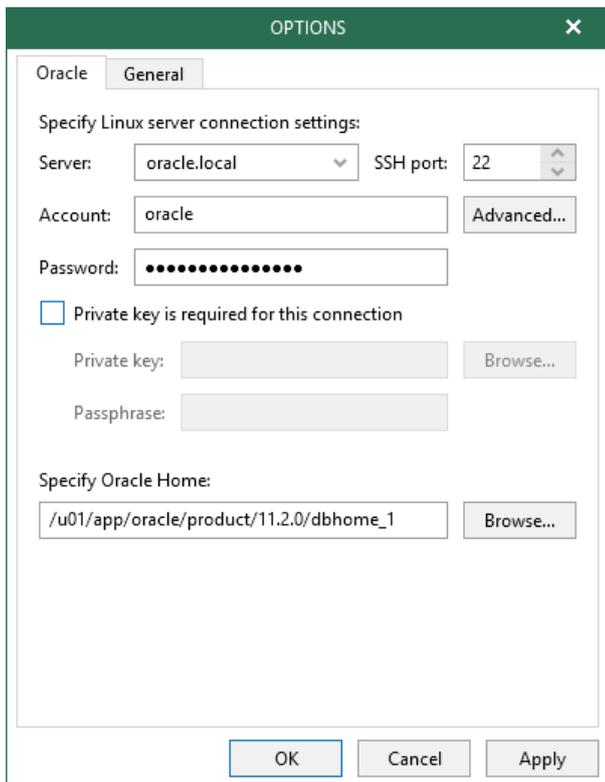
For Linux-based VM

To configure a staging server for Linux-based machines, do the following:

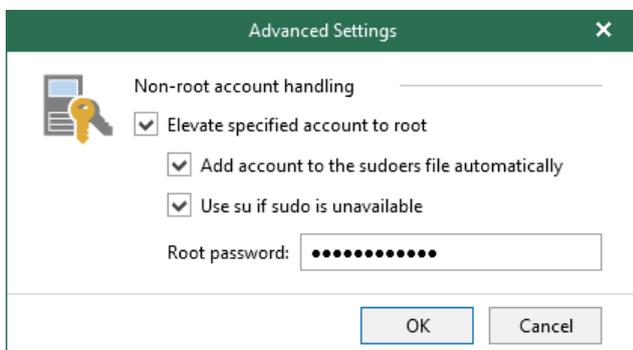
1. Go to the main menu and click **General Options**.
2. Go to the **Oracle** tab and specify the server name and SSH port.
3. Specify a user account to connect to the Oracle server that you want to use as a staging system. The account must be a member of the **dba** group.

To use a private key, select the **Private key is required for this connection** checkbox and click **Browse** to specify the key.

4. Specify the path to the **Oracle Home** folder.



To elevate your account to **root** and to add it to **sudoers**, click **Advanced** and select the option you need; if necessary, enter the root password and click **OK**.



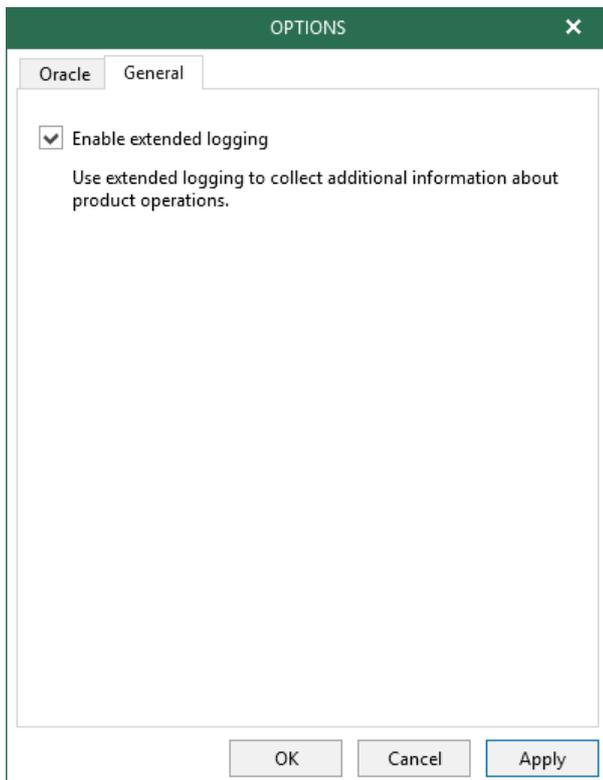
Enabling Extended Logging

Log files are used to troubleshoot a variety of different situations when certain processes may have gotten unexpected results while being executed.

By default, logs are collected in the default mode. In certain cases, you may need to enable the extended logging mode to collect logs that contain more details on specific operations.

To configure extended logging mode, do the following:

1. Go to the main menu and click the **General Options**.
2. On the **General** tab, select the **Enable Extended logging** checkbox.
3. Go back to the application, perform necessary actions and then review the logs to see the details.



Exploring Oracle Backups

Continue with the section to learn more about:

- [Exploring Application-Enabled Backups](#)
- [Exploring non-Application Enabled Backups](#)
- [Exploring RMAN Backups](#)

Exploring Application-Enabled Backups

For more information about exploring backups created with application-aware image processing, see the [Restoring Application Items](#) section of the Veeam Backup & Replication user guide.

Exploring non-Application Enabled Backups

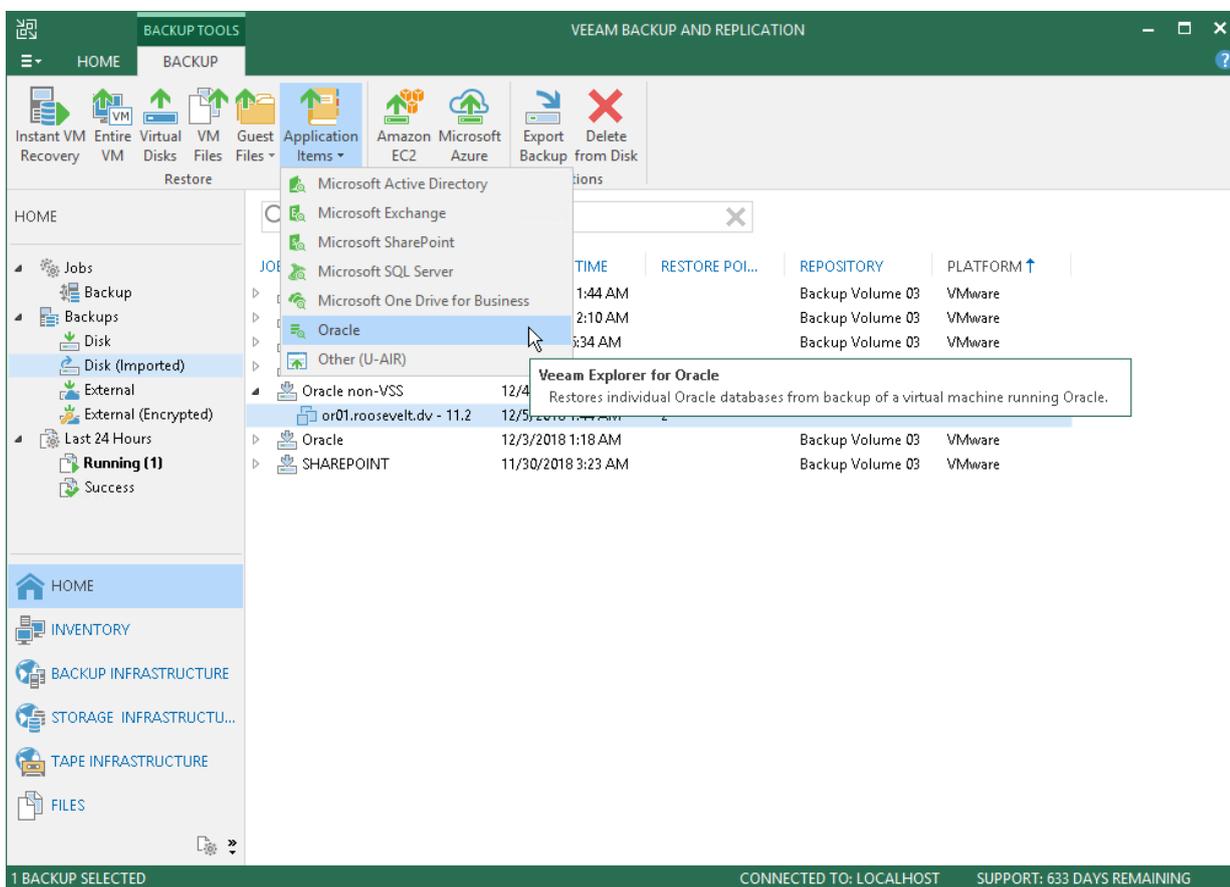
If a backup file you are exploring was created without application-aware image processing, the heuristic analysis must be performed to mount required restore points and find existing Oracle databases in these points.

IMPORTANT!

The heuristic analysis requires a staging Oracle server to be configured up front. For more information, see [Configuring Staging Oracle Server](#).

To explore backups created without application-aware image processing, do the following:

1. Open the Veeam Backup & Replication console, go to the **Home** tab, select **Application Item > Oracle** (or **Windows**) and go through the **Restore** wizard steps.
2. Select a restore point to explore and finalize subsequent steps of the wizard.
3. Proceed to [Specify Target Server](#).



Step 1. Specify Target Server

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

Windows-Based Oracle Server

For a Windows-based Oracle server, specify the following:

- The production Oracle server name.
- A user account under which you want to connect to your production Oracle server.

The user account must be a member of the **local Administrator** group and have **sysdba** rights. Make sure this account is granted appropriate permissions to access Oracle databases. **Read** and **Write** are minimum required, **Full Control** is recommended.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify target Windows server connection credentials". Below this, there is a text input field for "Server name:" containing the text "Target_Server". Underneath, it says "Specify user account to connect to server:" followed by two radio button options: "Use current account (EPSILON\Administrator)" and "Use the following account:". The second option is selected. Below these are two text input fields: "User name:" containing "Administrator" and "Password:" containing a series of black dots. At the bottom of the dialog, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

Linux-Based Oracle Server

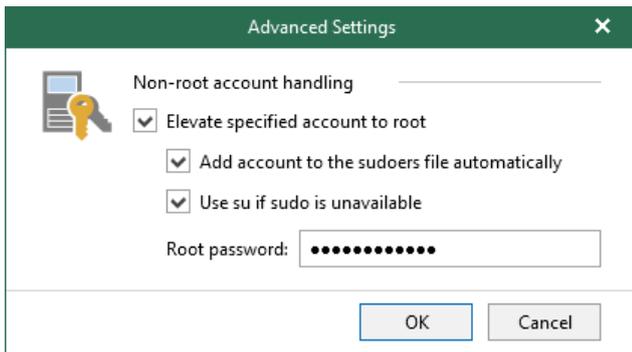
- The production Oracle server name and the port number.
- A user account under which you want to connect to your production Oracle server.

The user account must be a member of the **dba** group.

To use a private key, select the **Private key is required for this connection** checkbox and click **Browse** to specify the key.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify target Linux server connection credentials". Below this, there are several fields: "Server:" is a dropdown menu showing "oracle-linux"; "SSH port:" is a spinner box showing "22"; "Account:" is a text input field showing "oracle" with an "Advanced..." button to its right; "Password:" is a text input field containing black dots. Below these is a checkbox labeled "Private key is required for this connection" which is currently unchecked. Underneath the checkbox are three text input fields: "Private key:" (with a "Browse..." button to its right), "Passphrase:", and another empty field. At the bottom of the dialog, there are three buttons: "Back", "Next", and "Cancel".

You can use the native Veeam Explorer abilities to elevate your account to **root** and add it to the **sudoers** file. To do this, click **Advanced** and select corresponding checkboxes.



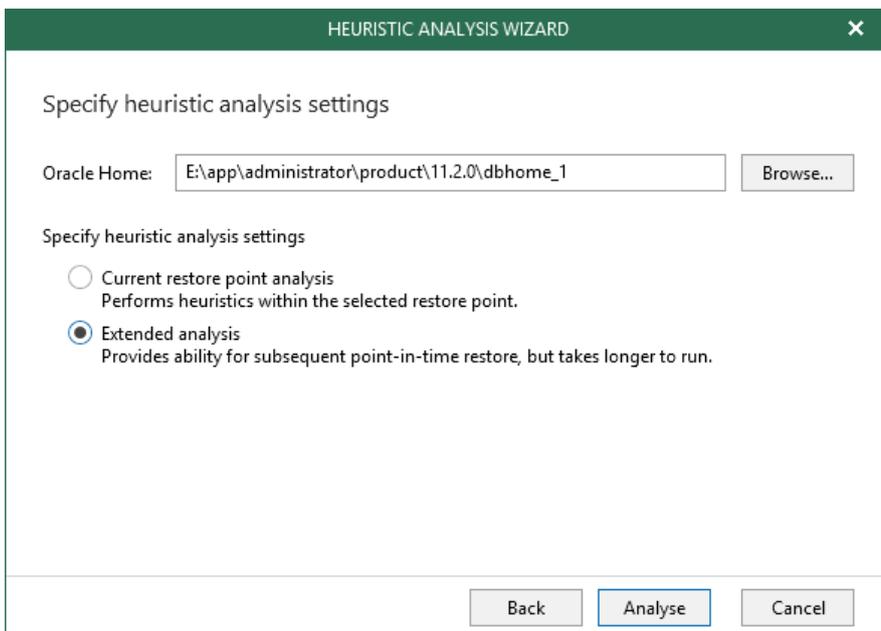
Step 2. Specify Heuristic Settings

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 scans three restore points; the current restore point, which you select when opening Veeam Explorer, and two other restore points that come before and after the current restore point.

Once analysis is complete, Veeam will load available Oracle databases to the program scope automatically.



Exploring RMAN Backups

For more information about exploring backups created with Veeam Plug-in for Oracle RMAN, see the [Restore with Veeam Backup & Replication Console](#) section of the Veeam Plug-ins for Enterprise Applications user guide.

Data Restore

Continue with this section to learn more about restoring Oracle databases and Data Guard.

IMPORTANT!

To restore Oracle databases, ensure you have a bash shell installed on a target Oracle server.

Restoring Database and Data Guard

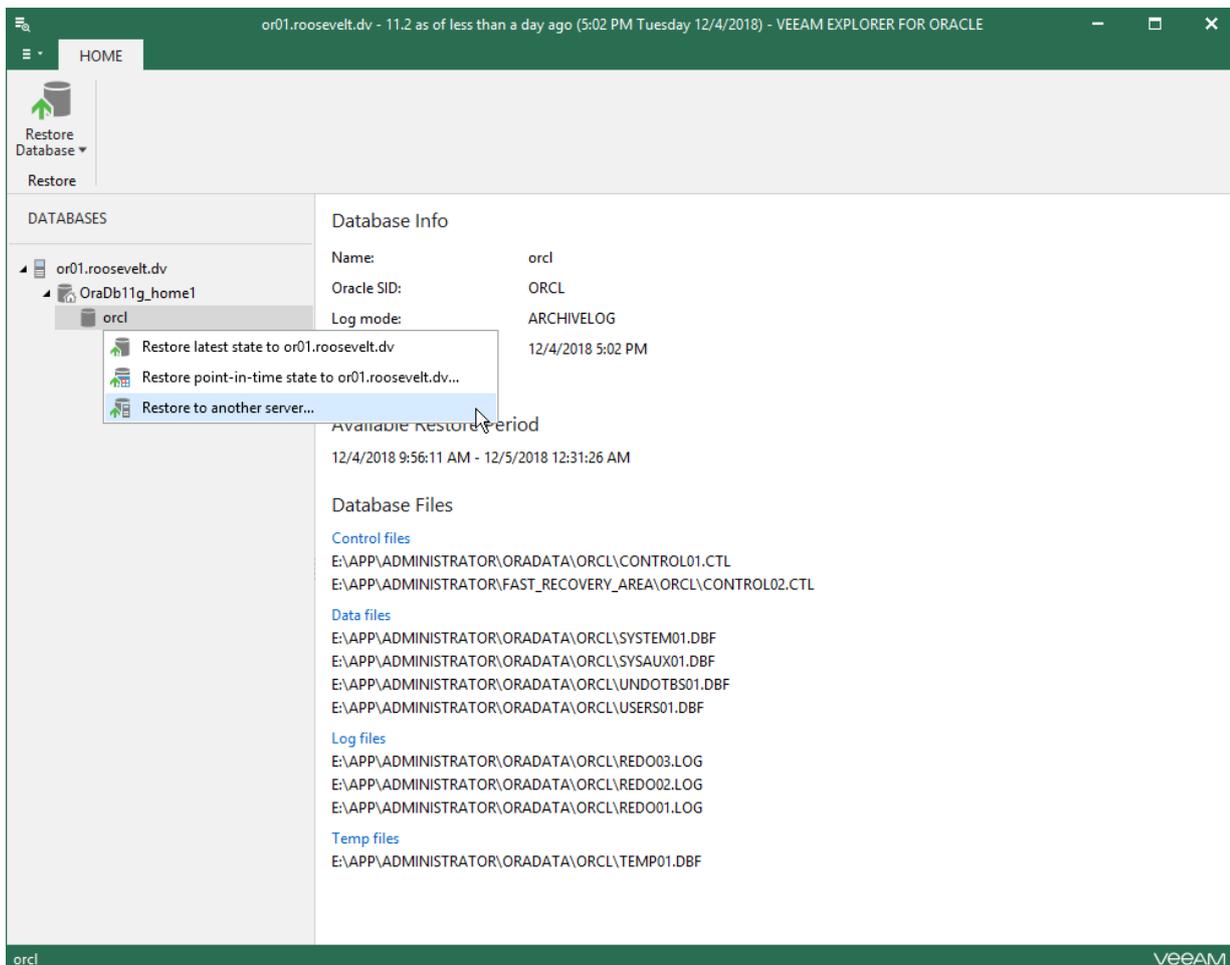
This section explains how to restore Oracle databases and Oracle Data Guard back to the production environment.

IMPORTANT!

When restoring Data Guard to another server using the feature described in this section, the database from Data Guard will be recovered as a standalone Oracle database preserving no Data Guard infrastructure. To restore Data Guard infrastructure as a whole, use either a latest state restore, or point-in-time restore. For more information, see [Restoring Latest State](#) and [Restoring Point-in-Time State](#) respectively.

To restore your data, do the following:

1. In the navigation tree, select a database or Data Guard.
2. On the **Home** tab, select **Restore Database > Restore to another server** or right-click a database or Data Guard and select **Restore to another server**.
3. Proceed to [Specify Restore Point](#).



Step 1. 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 obtain 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 obtain database files as per specified point in time.

Use the slider control to choose a point you need.

- Select the **Perform restore to specific transaction** checkbox to obtain database files exactly as of the moment before undesired transactions.

IMPORTANT!

- The **Restore to a specific point in time** option is only available 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)

9:56 AM 12/4/2018 12:31 AM 12/5/2018

Tuesday, December 4, 2018 5:02 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.

Back Next Cancel

Step 2. Fine-tune Restore Point

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

Time	Operation	Object	Type
12/4/2018 11:02 AM	Truncate	SYS.ORA_TEMP_1_DS_430067	Table
12/4/2018 11:02 AM	Drop	SYS.ORA_TEMP_1_DS_430067	Table
12/4/2018 1:01 PM	Create	FROM	Unknown
12/4/2018 1:01 PM	Alter	BEGIN	Database
12/4/2018 1:01 PM	Alter	END	Database
12/4/2018 5:02 PM	Create	FROM	Unknown
12/4/2018 5:02 PM	Alter	BEGIN	Database
12/4/2018 5:02 PM	Alter	END	Database

Step 3. Specify Target Server

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

Windows-Based Oracle Server

For a Windows-based Oracle server, specify the following:

- The production Oracle server name.
- A user account under which you want to connect to the target Oracle server.

The user account must be a member of the **local Administrator** group and have **sysdba** privileges.

Make sure this account is granted appropriate permissions to access Oracle databases; **Read** and **Write** are minimum required, **Full Control** is recommended.

RESTORE WIZARD

Specify target Windows server connection credentials

Server name:

Specify user account to connect to server:

Use current account (EPSILON\Administrator)

Use the following account:

User name:

Password:

Back Next Cancel

NOTE:

To be able to copy archived logs to the target server, the account should be granted sufficient permissions to access the administrative share.

Linux-Based Oracle Server

For a Linux-based Oracle server, specify the following:

- The production Oracle server name and the port number.
- A user account under which you want to connect to your production Oracle server.

The user account must be a member of the **dba** group.

To use a private key, select the **Private key is required for this connection** checkbox and click **Browse** to specify the key.

RESTORE WIZARD

Specify target Linux server connection credentials

Server: SSH port:

Account:

Password:

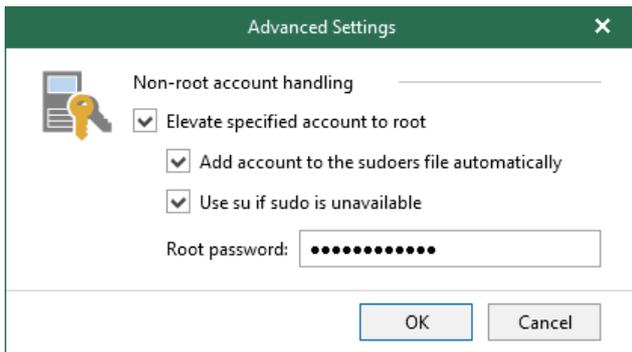
Private key is required for this connection

Private key:

Passphrase:

Back Next Cancel

You can use the native Veeam Explorer abilities to elevate your account to **root** and add it to the **sudoers** file. To do this, click **Advanced** and select corresponding checkboxes.



The 'Advanced Settings' dialog box has a green title bar with a close button. It contains a 'Non-root account handling' section with a key icon. Three checkboxes are checked: 'Elevate specified account to root', 'Add account to the sudoers file automatically', and 'Use su if sudo is unavailable'. Below these is a 'Root password:' field with masked characters. At the bottom are 'OK' and 'Cancel' buttons.

Step 4. Specify Oracle Settings

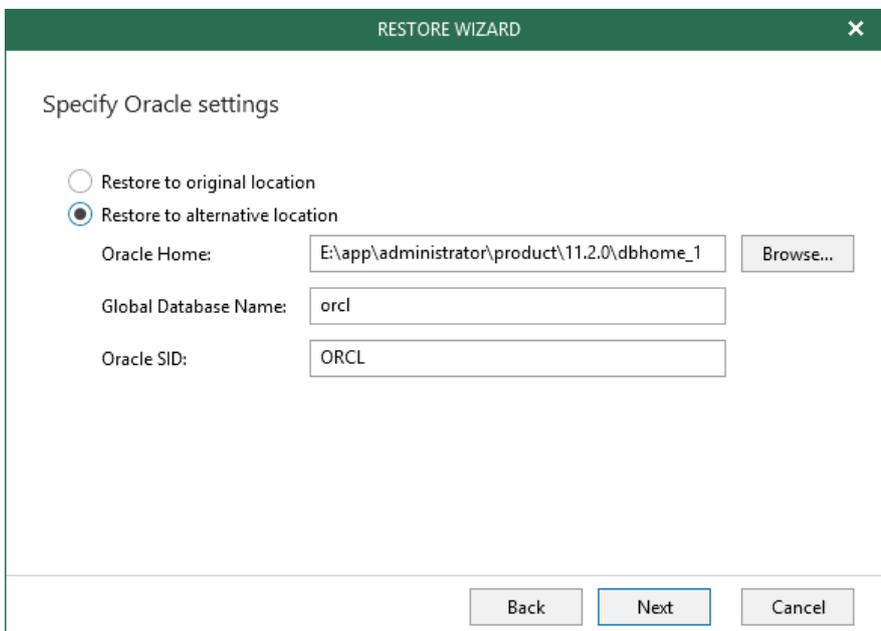
At this step of the wizard, choose the location to restore your database:

- **Restore to the original location.** To restore a database back to the original location.
- **Restore to alternative location.** To restore a database to a custom location

Specify **Oracle Home**, **Global Database Name** and **Oracle SID**. To locate Oracle Home folder, click **Browse** and select a folder you want to use.

NOTE:

You will be asked to provide a password to access target Oracle Home folder if required. Applicable to Oracle 12c and higher.

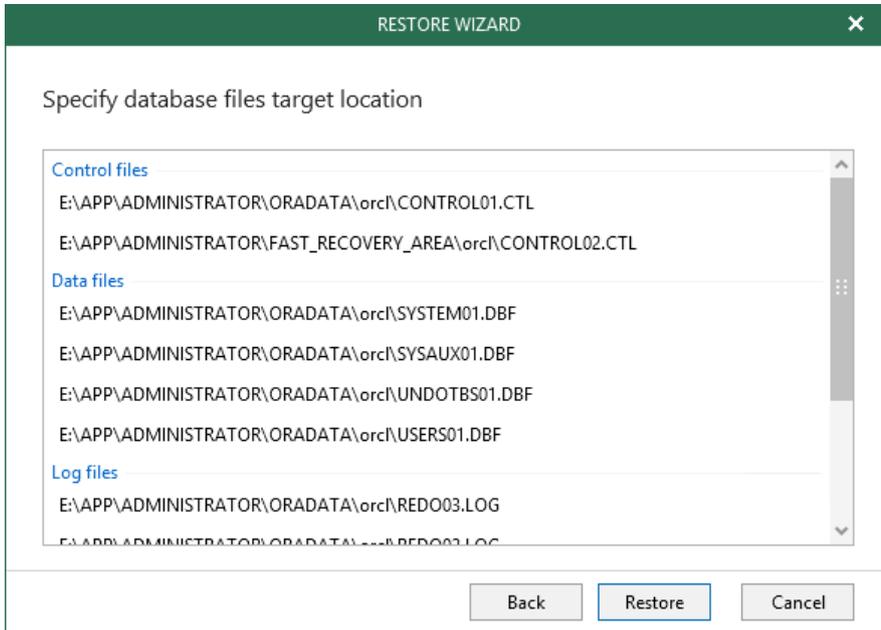


The 'RESTORE WIZARD' dialog box has a green title bar with a close button. It is titled 'Specify Oracle settings'. There are two radio buttons: 'Restore to original location' (unselected) and 'Restore to alternative location' (selected). Below are three input fields: 'Oracle Home:' with the value 'E:\app\administrator\product\11.2.0\dbhome_1' and a 'Browse...' button; 'Global Database Name:' with the value 'orcl'; and 'Oracle SID:' with the value 'ORCL'. At the bottom are 'Back', 'Next', and 'Cancel' buttons.

Step 5. Specify Database Files Location

At this step of the wizard, specify database file location.

To edit the path, click the path row and provide the location you want to use.



Restoring Latest or Point-in-Time State

This section explains how to select a state which is going to be applied when restoring 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 a primary node. Once a primary node is restored, Veeam will use it to restore all the standby nodes from Data Guard.
- 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 the existing databases on a target server will be replaced with that of the backup file.

IMPORTANT!

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 to start the restore wizard and specify the target server explicitly.

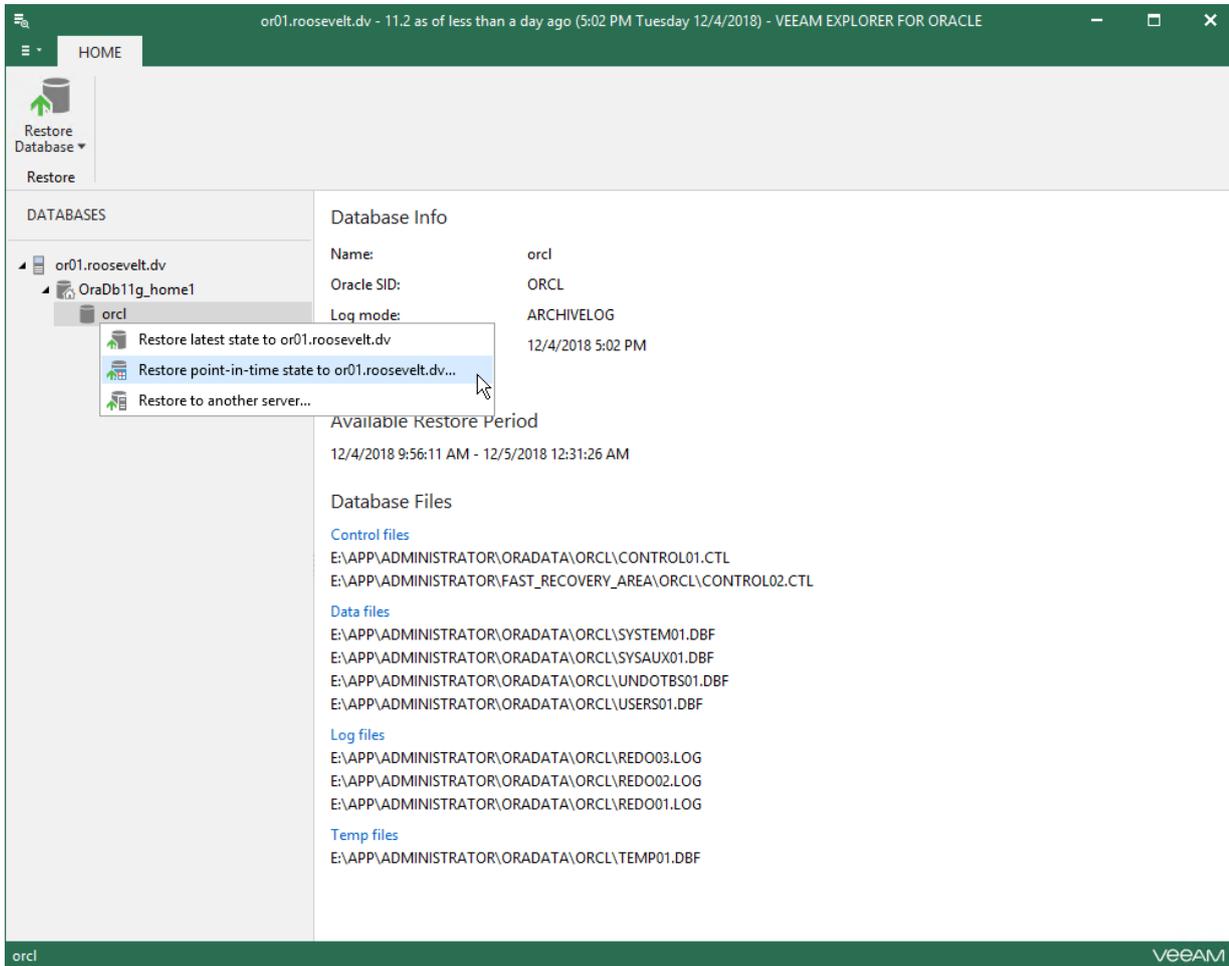
Restoring Point-in-Time State

To restore your Oracle databases or Data Guard as of the point-in-time state, do the following:

1. In the navigation pane, select a database or Data Guard.
2. On the **Home** tab, select **Restore Database > Restore point-in-time state to <server_name>** or right-click a database or Data Guard and select **Restore point-in-time state to <server_name>**.
3. Proceed to [Specify Restore Point](#).

IMPORTANT!

When restoring to point-in-time, make sure that **ARCHIVELOG** mode is enabled.



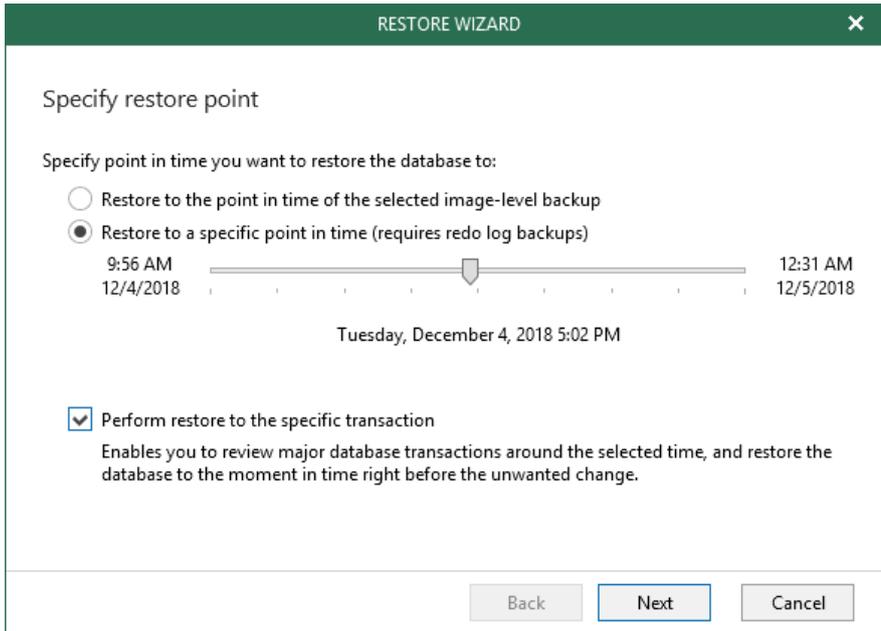
Step 1. Specify Restore Point

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 obtain 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 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 specific transaction** checkbox to obtain database files exactly as of the moment before undesired transactions.

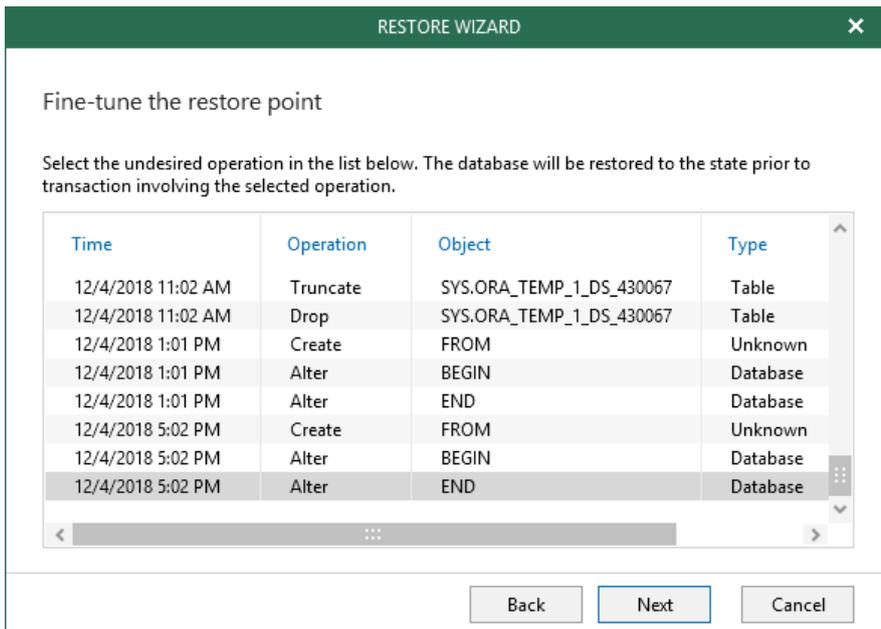
IMPORTANT!

- The **Restore to a specific point in time** option is only available 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](#).



Step 2. Fine-tune Restore Point

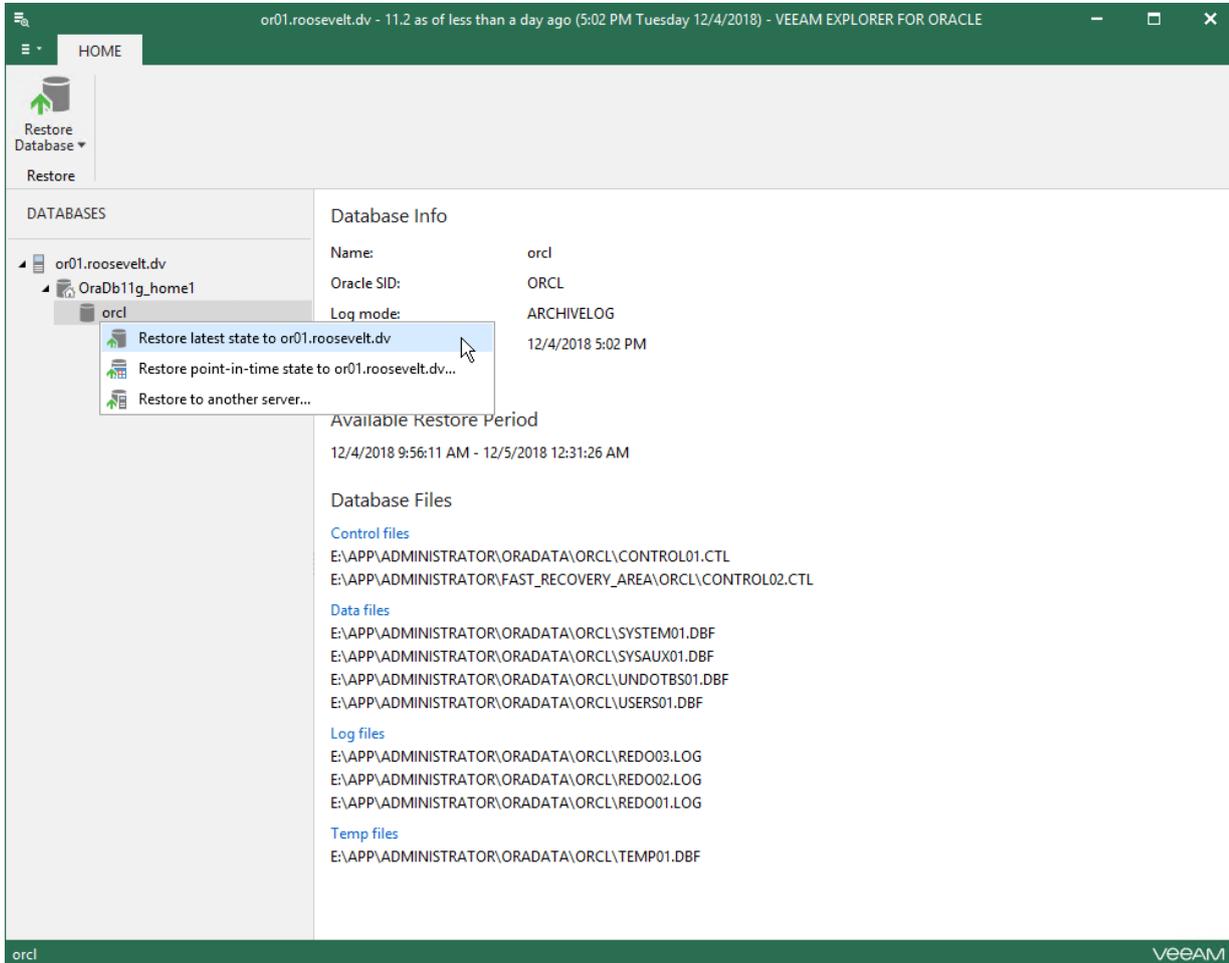
At this step of the wizard, select an operation prior to which you want to recover your database.



Restoring Latest State

To restore Oracle databases or Data Guard and apply the latest available state, do the following:

1. In the navigation pane, select a database or Data Guard.
2. On the **Home** tab, select **Restore Database > Restore latest state to <server_name>** or right-click a database and select **Restore latest state to <server_name>**.

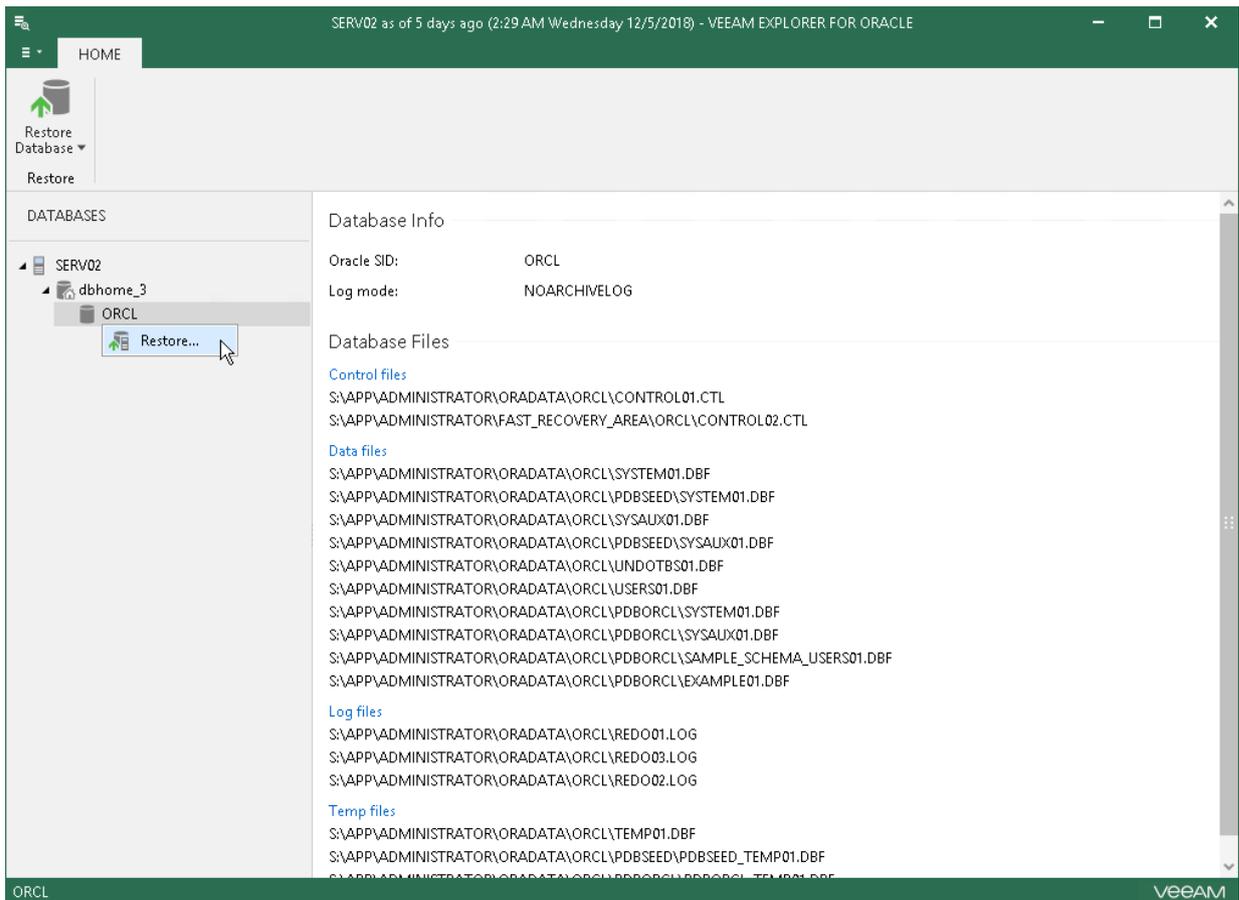


Restoring Oracle RMAN Backups

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 Oracle RMAN backups, do the following:

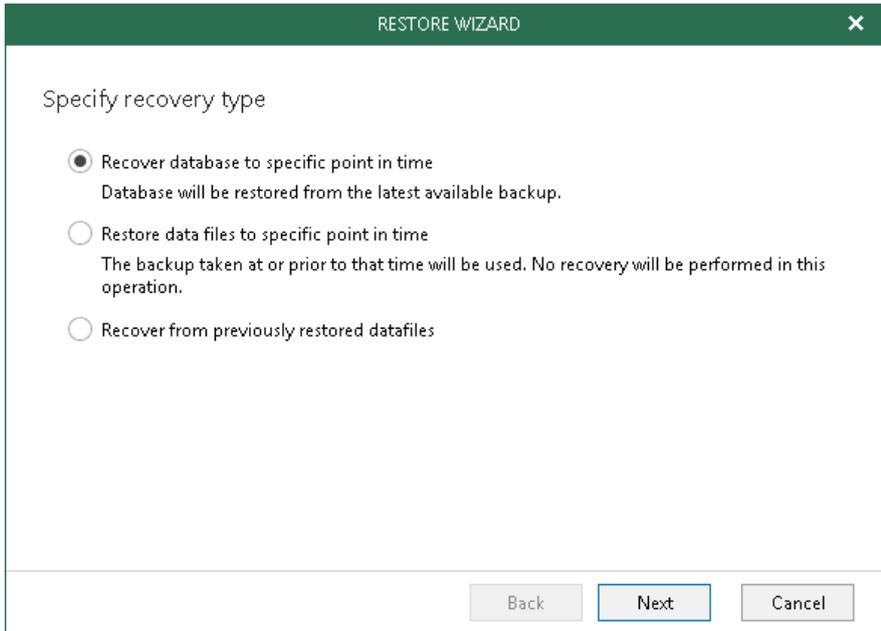
1. In the navigation tree, select a database.
2. On the **Home** tab, select **Restore Database > Restore** or right-click a database and select **Restore**.
3. Proceed to [Specify Recovery Type](#).



Step 1. Specify Recovery Type

At this step of the wizard, select a recovery type:

- **Recover database to specific point in time**
To restore databases as of the latest available state.
- **Restore data files to specific point in time**
To restore only datafiles as of the specific point-in-time state without applying log files.
- **Recover from previously restored datafiles**
To apply log files to restored datafiles.



Step 2. Specify Target Server

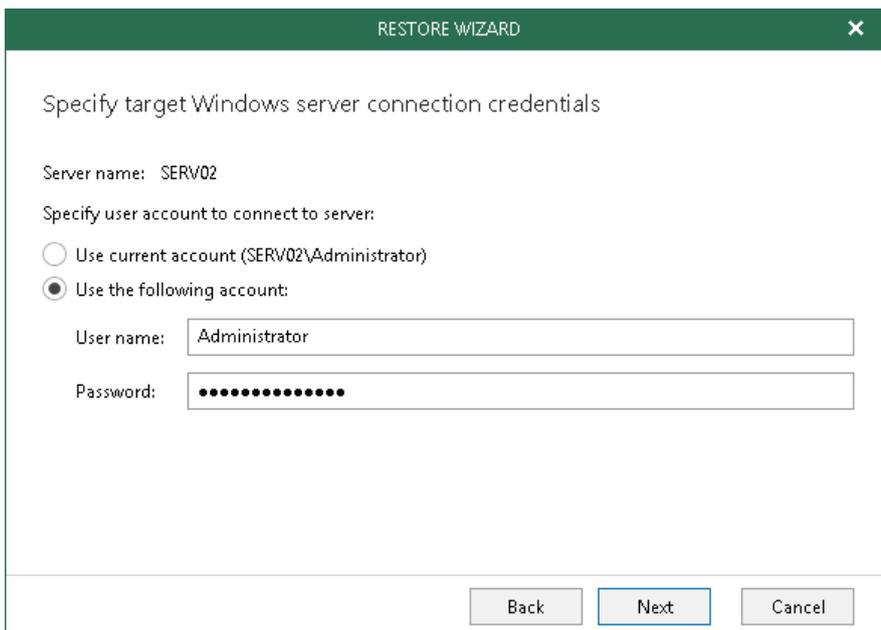
At this step of the wizard, specify valid user credentials to access the target Oracle server.

Windows-Based Oracle Server

Specify a user account under which you want to connect to the target Oracle server.

The user account must be a member of the **local Administrator** group and have **sysdba** privileges.

Make sure the account is granted appropriate permissions to access Oracle databases; **Read** and **Write** are minimum required, **Full Control** is recommended.



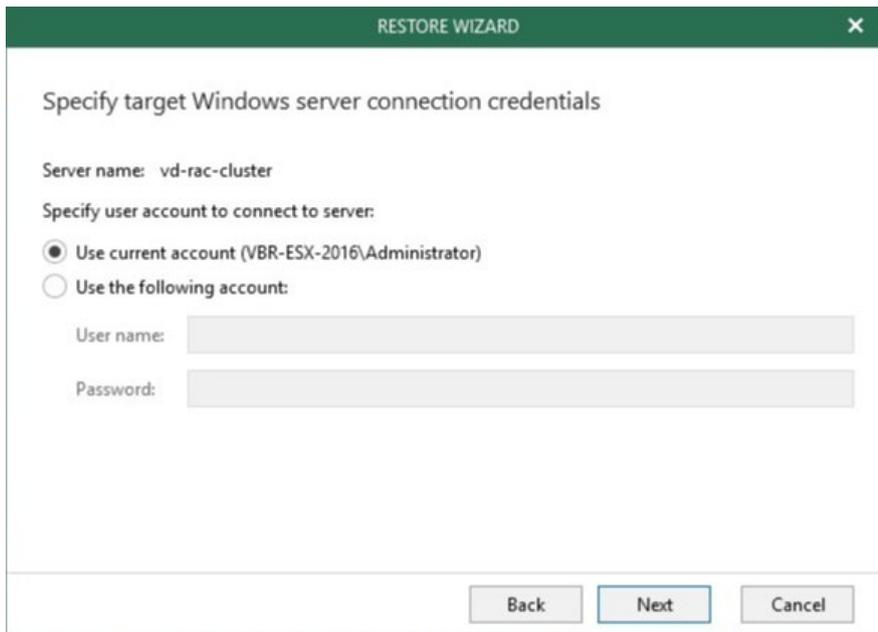
Linux-Based Oracle Server

For a Linux-based Oracle server, specify the following:

- The production Oracle server port number.
- Valid user credentials to access your production Oracle server.

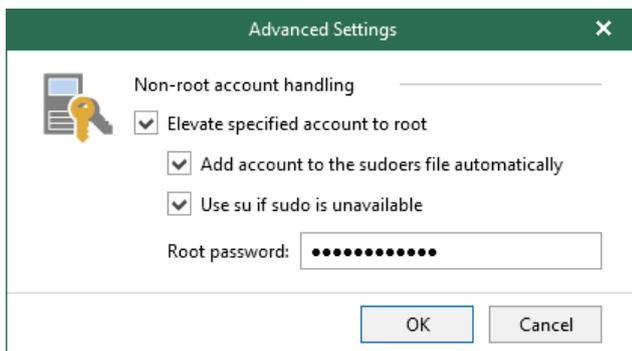
The user account must be a member of the **dba** group.

To use a private key, select the **Private key** option and click **Browse** to specify your key.



The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify target Windows server connection credentials". Below this, the "Server name" is set to "vd-rac-cluster". The section "Specify user account to connect to server:" has two radio button options: "Use current account (VBR-ESX-2016\Administrator)" which is selected, and "Use the following account:". Under the second option, there are two text input fields: "User name:" and "Password:". At the bottom of the dialog, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

You can use the native Veeam Explorer abilities to elevate your account to **root** and add it to the **sudoers** file. To do this, click **Advanced** and select corresponding checkboxes.



The screenshot shows a dialog box titled "Advanced Settings" with a close button (X) in the top right corner. The section "Non-root account handling" is expanded, showing three checked checkboxes: "Elevate specified account to root", "Add account to the sudoers file automatically", and "Use su if sudo is unavailable". Below these checkboxes is a "Root password:" label followed by a text input field containing ten black dots. At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Step 3. Specify Point-in-Time

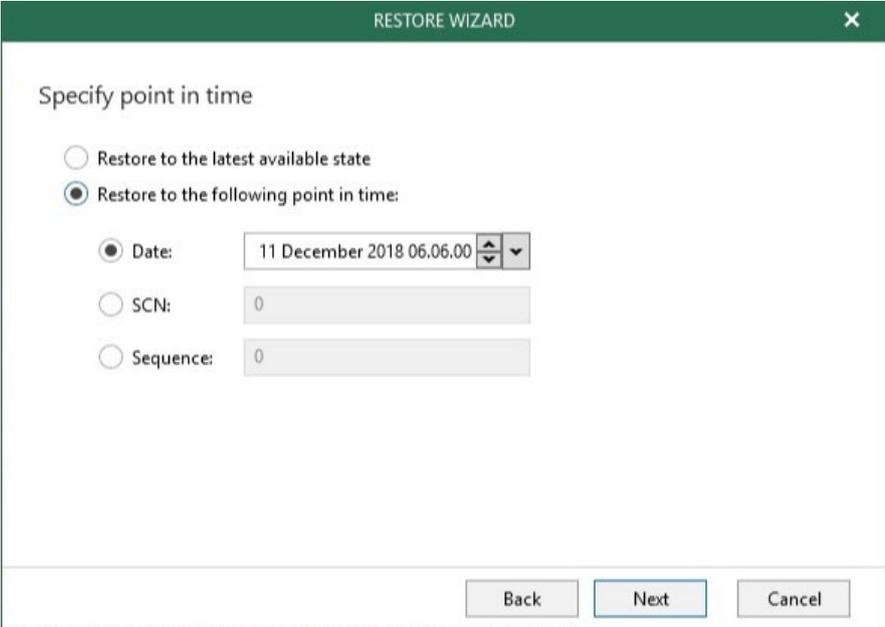
At this step of the wizard, select a point-in-time state as of which you want to restore your data.

The following options are available:

- **Recover to the current point in time.** To restore data as of the latest available point-in-time state.
- **Recover to the following point in time:**
 - **Date.** Select a date as of which you want to restore the data.
 - **SCN.** Specify SCN (System Change Number).
 - **Sequence.** Specify the sequence.

TIP:

Consider reading [this Oracle article](#) to learn more.



The screenshot shows a window titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify point in time". There are two radio button options: "Restore to the latest available state" (unselected) and "Restore to the following point in time:" (selected). Under the selected option, there are three sub-options: "Date:" (selected), "SCN:", and "Sequence:". The "Date:" field is a date picker showing "11 December 2018 06.06.00". The "SCN:" and "Sequence:" fields are text boxes containing the number "0". At the bottom of the window, there are three buttons: "Back", "Next", and "Cancel".

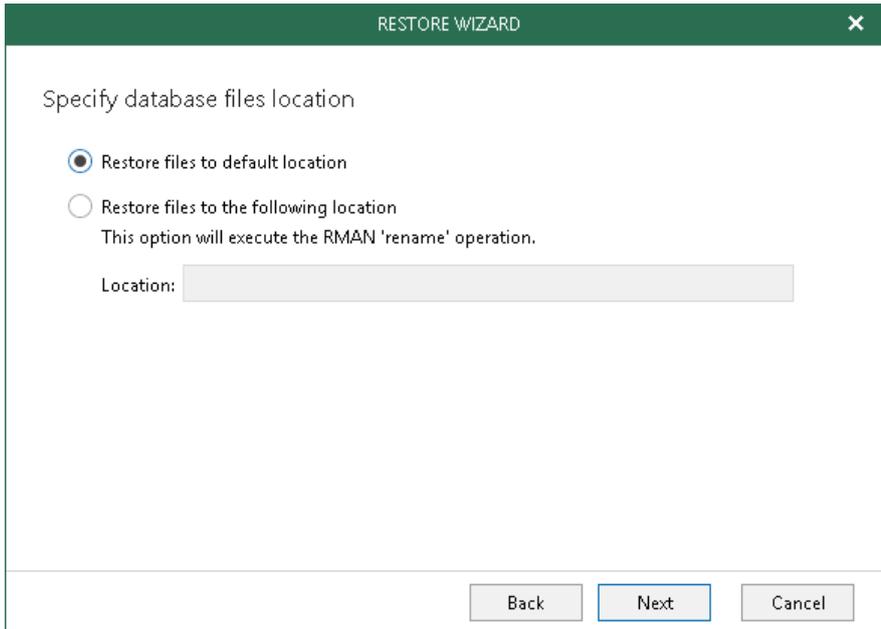
Step 4. Specify Database Files Location

At this step of the wizard, specify the location to which you want to restore your data.

The following options are available:

- **Restore files to default location.** To restore database files to the default location that is taken from a backup file.
- **Restore files to the following location.** To restore database files to a custom location.

Specify a folder to which you want to recover your data. If the specified folder does not exist, it will be created.



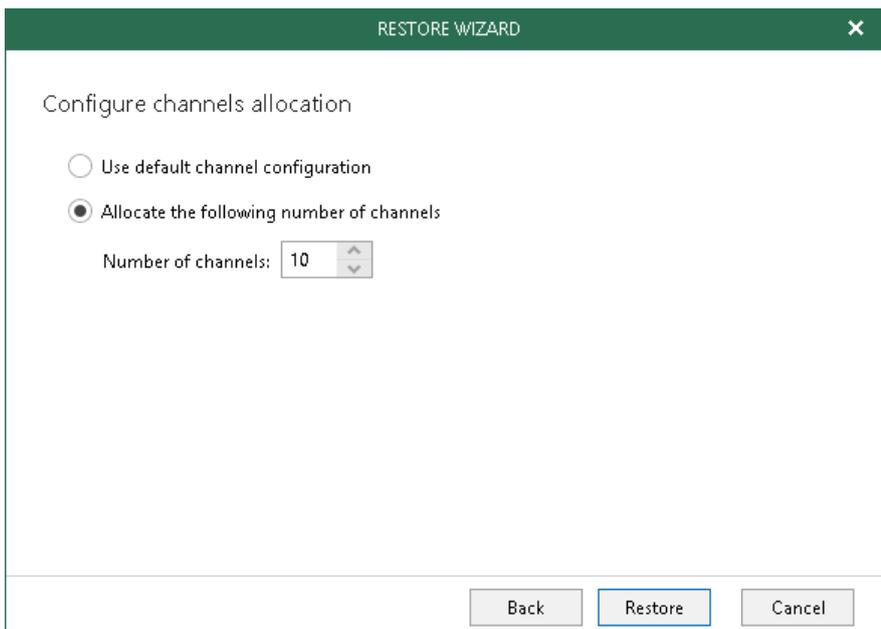
Step 5. Configure Channel Allocation

At this step of the wizard, specify channels allocation.

Channels are used to restore data in multiple threads per session. Using multiple threads allows to reduce the amount of time needed to complete restore sessions. For more information about allocating channels, see [this Oracle article](#).

The following options are available:

- **Use the default channel configuration.** To use the default channel configuration, which is defined in the RMAN plug-in settings.
- **Allocate the following number of channels.** To specify the number of channels to be used when restoring your data.



Veeam Explorer for Microsoft Exchange

Veeam Explorer for Microsoft Exchange allows you to restore or export Microsoft Exchange objects from backups created by Veeam Backup & Replication and Veeam Backup for Microsoft Office 365.

What's New

The following new features and enhancements have been implemented in Veeam Explorer for Microsoft Exchange that comes as part of Veeam Backup & Replication 9.5 Update 4 and Veeam Backup for Microsoft Office 365 3.0:

- Support for Microsoft Exchange items compare.
- Restore summary dialog that shows summary information about restore and export session results.
- Support for browse and restore of items from the *Versions* sub-folder of the *Recoverable Items* folder.
- Performance and stability Improvements.

Planning and Preparation

Continue with this section to learn how to configure your environment before start using Veeam Explorer for Microsoft Exchange.

System Requirements

This section lists system requirements for Veeam Explorer for Microsoft Exchange.

Component	Requirement
Microsoft Exchange	<p>For more information about supported versions of Microsoft Exchange, see:</p> <ul style="list-style-type: none">▪ The VSS-Aware Applications subsection of the Veeam Backup & Replication User Guide.▪ The System Requirements section of the Veeam Backup for Microsoft Office 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 Microsoft Exchange in which database files were created.
- To restore mailbox items from a server running Microsoft Windows ReFS, the Veeam backup server or a management console must be installed on the Microsoft Windows Server 2012 or higher.
- To restore mailbox items 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.
- To restore data that was backed up by Veeam Backup for Microsoft Office 365 v1.5 via PowerShell, make sure to install Windows PowerShell 2.0 or higher.
- Restore of mailbox datastore from backups created by Veeam Agent for Microsoft Windows 2.0 (and higher) requires integration with Veeam Backup & Replication to be set up, as described in the [Using with Veeam Backup & Replication](#) section of the Veeam Agent for Microsoft Windows User Guide.
- A server that hosts Veeam Explorer for Microsoft Exchange must be a member of the same domain, as the source Exchange server.

Used Ports

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

Backup

From	To	Protocol	Port	Notes
Veeam Backup Server / Guest Interaction Proxy (Enterprise and Enterprise Plus editions)	Exchange Server VM Guest OS	TCP, UDP	135, 137 to 139, 445	To deploy the runtime coordination process on a VM guest OS.
		TCP	6005 to 65535	The dynamic RPC range that is used by the runtime coordination process which is deployed on a VM guest OS for application-aware processing (when working over the network). Note that Exchange 2010 or higher (in particular, Client Access) expands standard Windows dynamic RPC port range to provide a better scalability. For more information, see this Microsoft article .
Exchange Server VM Guest OS	Veeam Backup Server / Guest Interaction Proxy (Enterprise and Enterprise Plus editions)			

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, ensure configuring dynamic RPC ports manually. For more information, see [this Microsoft article](#).

Restore

From	To	Protocol	Port	Notes
Veeam Backup Server / Standalone Console	Microsoft Exchange 2003/2007 CAS Server	TCP	80, 443	WebDAV connections
	Microsoft Exchange 2010/2013/2016 CAS Server	TCP	443	Microsoft Exchange web services connections

Required Permissions

The following table lists required permissions for user accounts to back up and restore Microsoft Exchange data.

Operation	Required Roles and Permissions
Backup	For more information, see: <ul style="list-style-type: none">▪ The Required Permissions section of the Veeam Backup & Replication User Guide.▪ The Required Permissions section of the Veeam Backup for Microsoft Office 365.
Restore to Microsoft Office 365 and on-premises Microsoft Exchange from backups created by Veeam Backup & Replication and Veeam Backup for Microsoft Office 365	To restore data to Microsoft Office 365 and on-premises Microsoft Exchange, make sure to configure user accounts as follows: Restore to a Public Folder <ul style="list-style-type: none">▪ The account being used must own a mailbox on a target Microsoft Exchange server.▪ The account must be assigned the <i>Organization Management</i> role on a target Microsoft Exchange server. See Assigning Organization Management Role.▪ To restore <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 a Mailbox <ul style="list-style-type: none">▪ 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.

Examples

Assigning Organization Management Role

To assign the *Organization Management* role, use the following cmdlet.

```
Add-RoleGroupMember "Organization Management" -Member "<user_account>"
```

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>" -  
AccessRights FullAccess -InheritanceType All
```

To grant *Full Access* to the account that do not own a mailbox (i.e. through impersonation), use the following cmdlet.

```
New-ManagementRoleAssignment -Name "<role_name>" -Role ApplicationImpersonation -User
"<user_account>" [-CustomRecipientScope "<scope>"]
```

Recalling Given Permissions

To recall given access level, run either of the following cmdlet.

```
Remove-ManagementRoleAssignment "<role_name>"
```

```
Remove-ManagementRoleAssignment -Identity <role_name>
```

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.

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 covers considerations and known limitations of Veeam Explorer for Microsoft Exchange.

General

For Microsoft Outlook 2016 the preliminary releases, like Insider releases or releases provided through Monthly Channel Updates are not supported; Veeam supports only RTM/GA versions of the product. For more information, see [this Microsoft article](#).

NOTE:

Opening databases created with Exchange Server 2016 CU5 or higher on a machine running Windows 2008 might fail when using the corresponding version of the `ese.dll` file. To solve this, do any of the following:

- Install Veeam Backup & Replication (either a server or console) on the machine with any Windows OS higher than Windows 2008 and run Veeam Explorer.
- Alternatively, configure Veeam Explorer to use `ese.dll` version as of Exchange 2016 CU4 or earlier and obtain database files manually using file-level restore and Veeam Backup Browser.

Restore

- Veeam Explorer for Microsoft Exchange does not support restore via PSDirect, VIX or Sphere API.
- Sending objects that exceed 3MB in size may fail. To fix this issue, install [this Microsoft update](#).
- Multiple restore is not supported for public folders. Use usual (per-object) restore instead.
- If you want 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](#).

Launching Application and Exploring Backups

You can launch Veeam Explorer for Microsoft Exchange and explore the content of a backup file in any of the following ways:

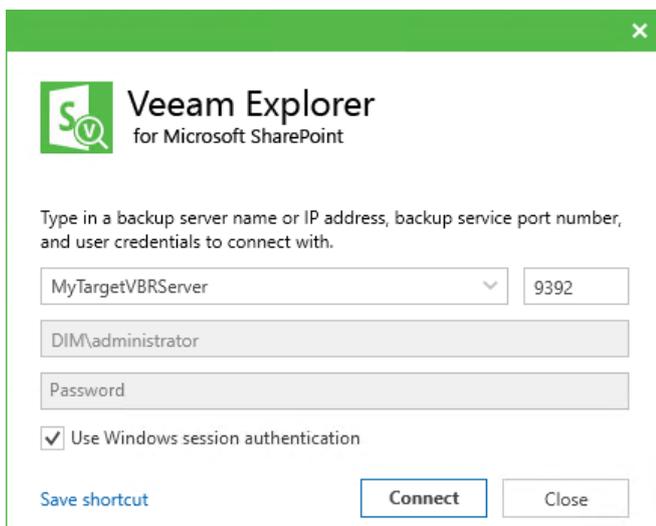
- You can use the **Restore application item** option to explore backups created by Veeam Backup & Replication.
For more information, see the [Application Items Restore](#) section of the Veeam Backup & Replication User Guide.
- You can use the **Explore** option to explore backups created by Veeam Backup for Microsoft Office 365.
For more information, see the [Data Restore](#) section of the Veeam Backup for Microsoft Office 365 user guide.
- You can go to **Start** and click **Veeam Explorer for Microsoft Exchange** to launch the application as a standalone console. Then, add Microsoft Exchange databases manually, as described in the [Standalone Databases Management](#) section.

When launching from the **Start** menu, specify the following parameters:

- Specify the name or IP-address of a Veeam Backup & Replication server to which you want to connect.
- Specify the port number.
- Specify user credentials to connect to the server.

The account must be a member of the **Local Administrator** group on a target server. To use your current account, select **Use Windows session authentication**.

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



The screenshot shows a dialog box titled "Veeam Explorer for Microsoft SharePoint". It contains the following fields and controls:

- A dropdown menu with the text "MyTargetVBRServer" and a downward arrow.
- A text input field containing "9392".
- A text input field containing "DIM\administrator".
- A text input field containing "Password".
- A checked checkbox labeled "Use Windows session authentication".
- A "Save shortcut" link in the bottom-left corner.
- "Connect" and "Close" buttons in the bottom-right corner.

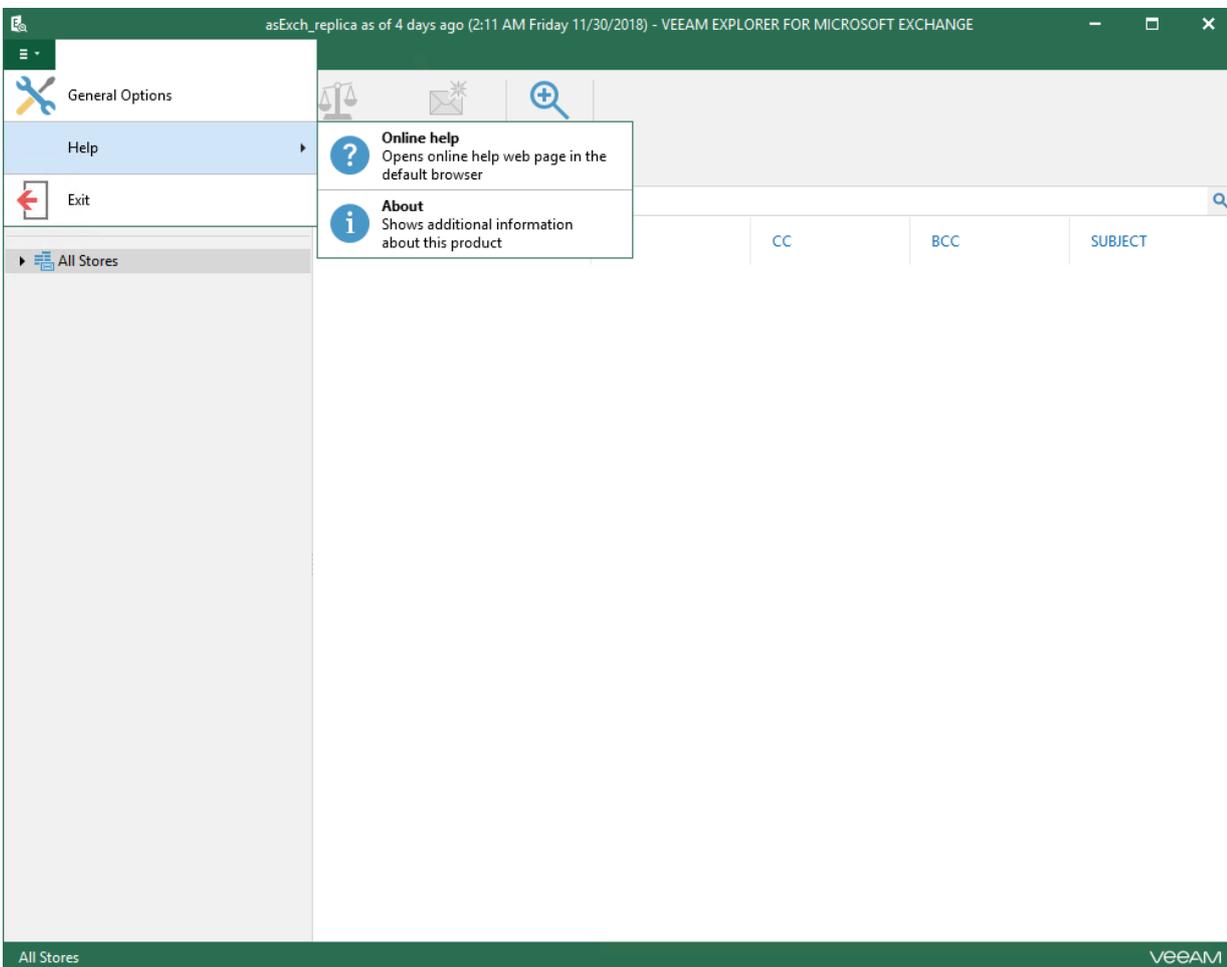
Understanding User Interface

Veeam Explorer for Microsoft Exchange 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 features:

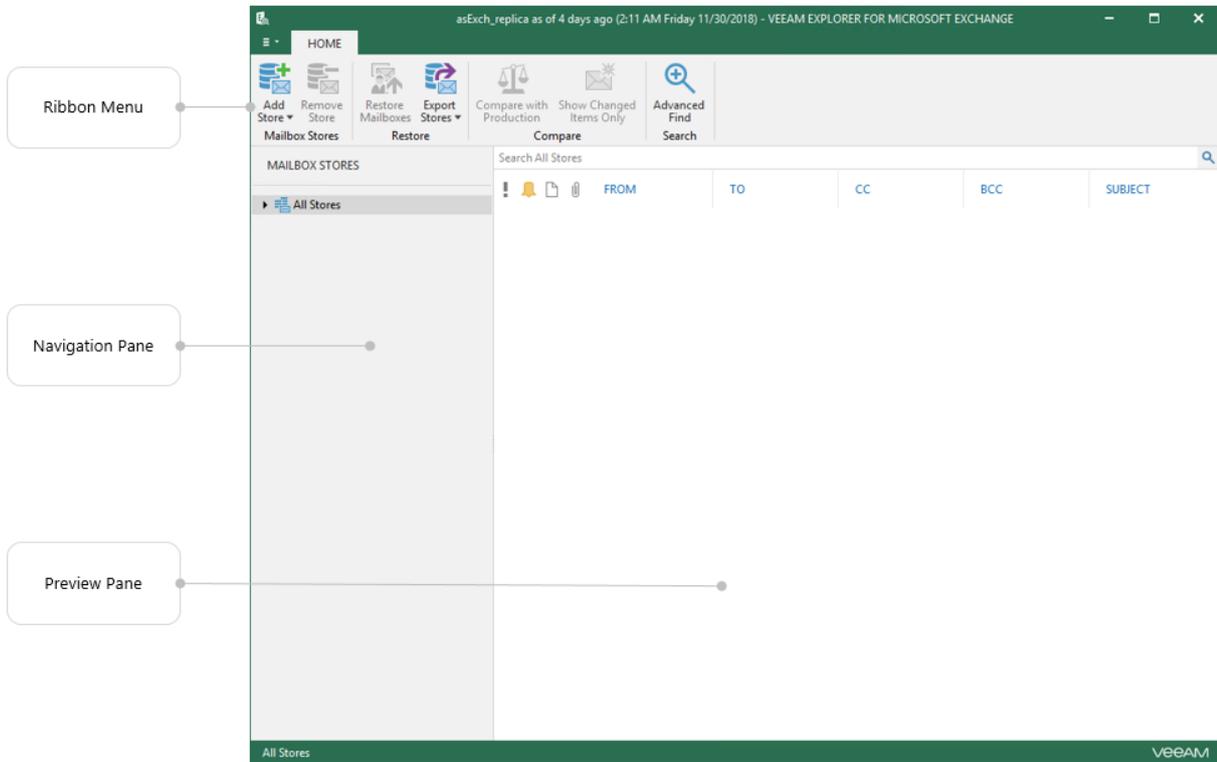
- **General Options.** Allows you to configure program options.
- **Help.**
 - **Online help.** Opens the online web help page.
 - **About.** Shows information about the product.
- **Exit.** Closes the program.



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.



Browsing, Searching and Viewing Items

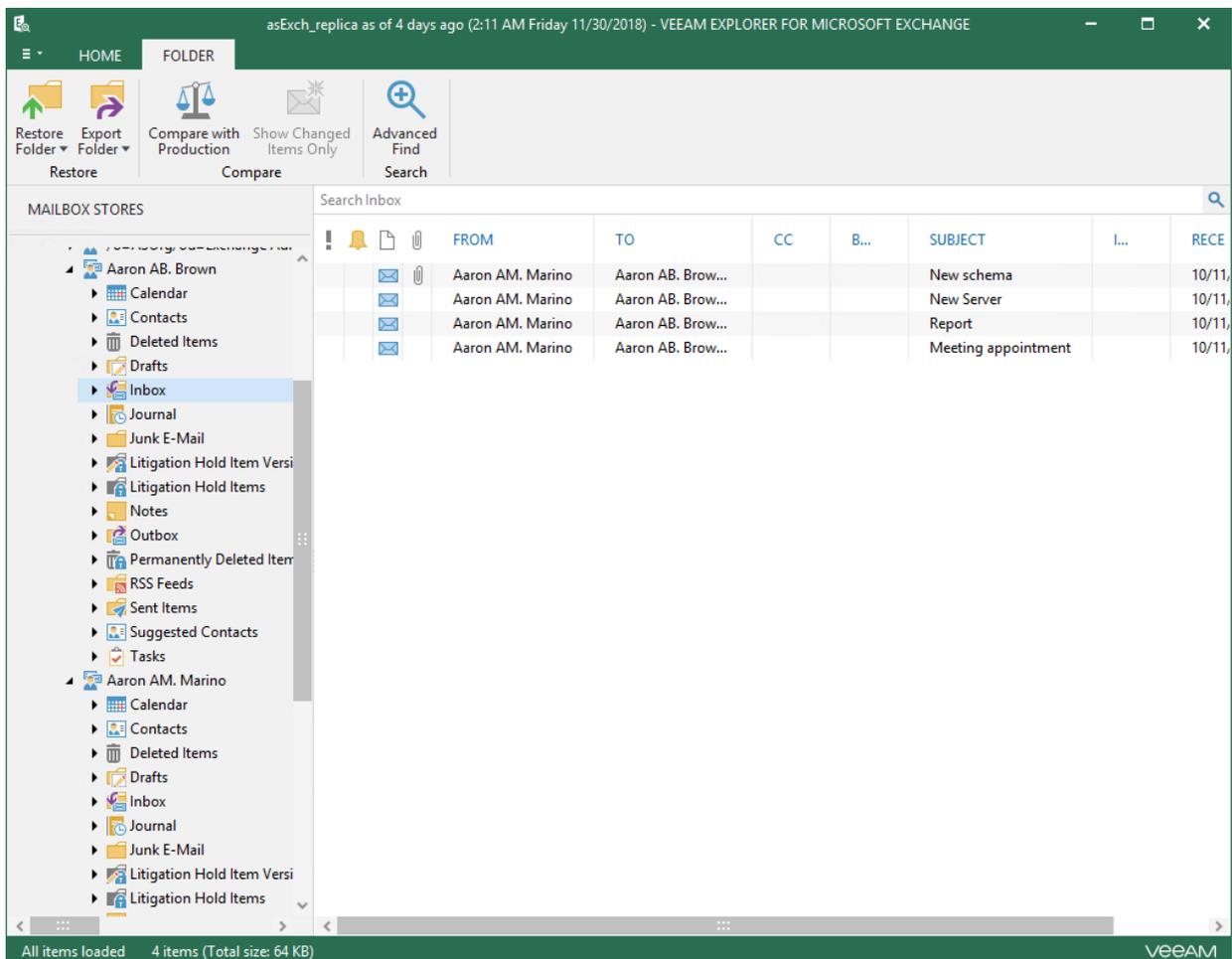
Continue with this section to learn more about:

- [Browsing your backup content](#)
- [Opening Messages](#)
- [Searching for objects in a backup file](#)
- [Using advance search](#)

Browsing

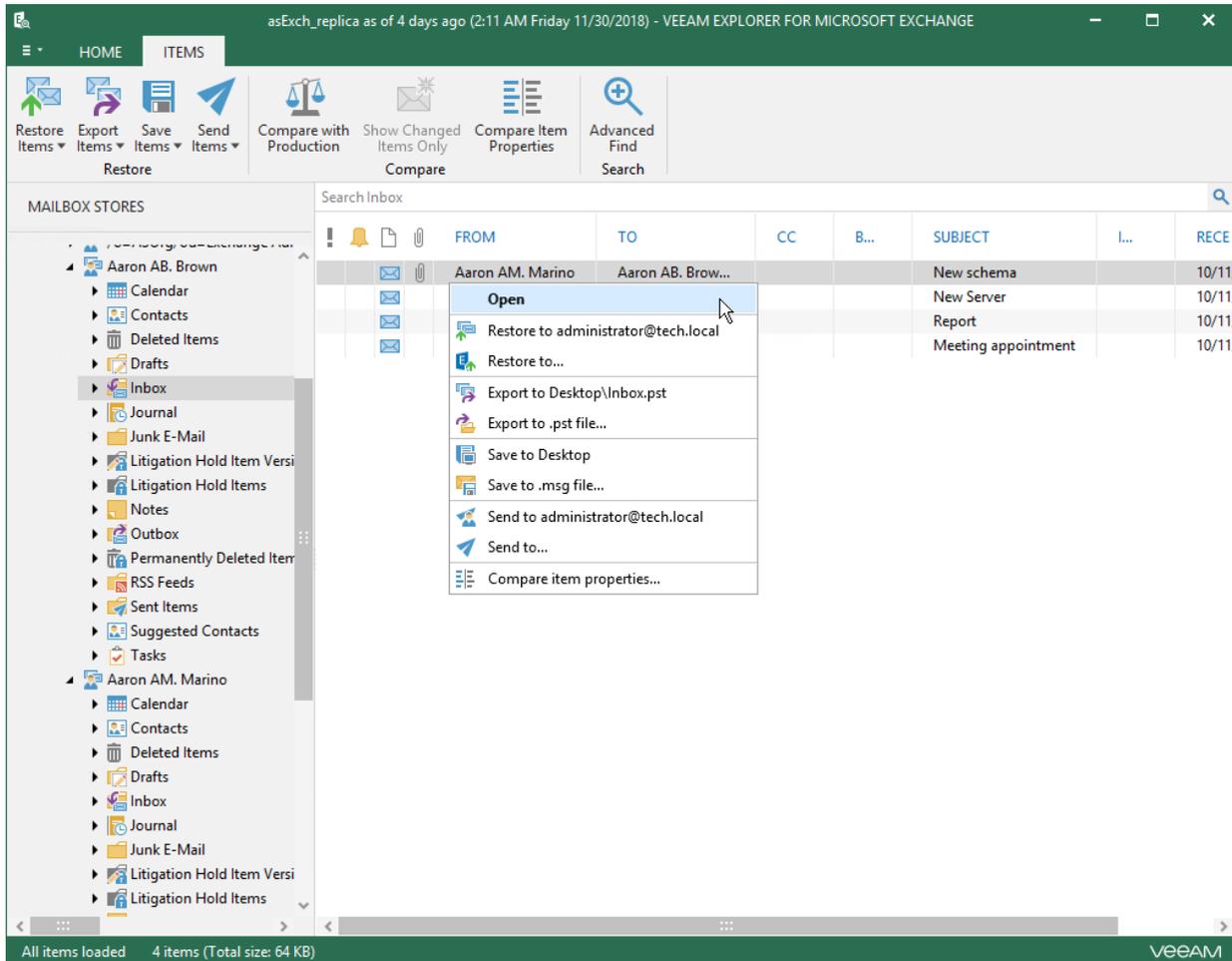
To view the content of a backup file, you use the navigation pane which shows you the database structure containing your Exchange objects.

After you select an object in the navigation pane, you can see its content in the preview pane.



Opening Messages

To open a message, right-click a message in the preview pane and select **Open**.



Searching

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

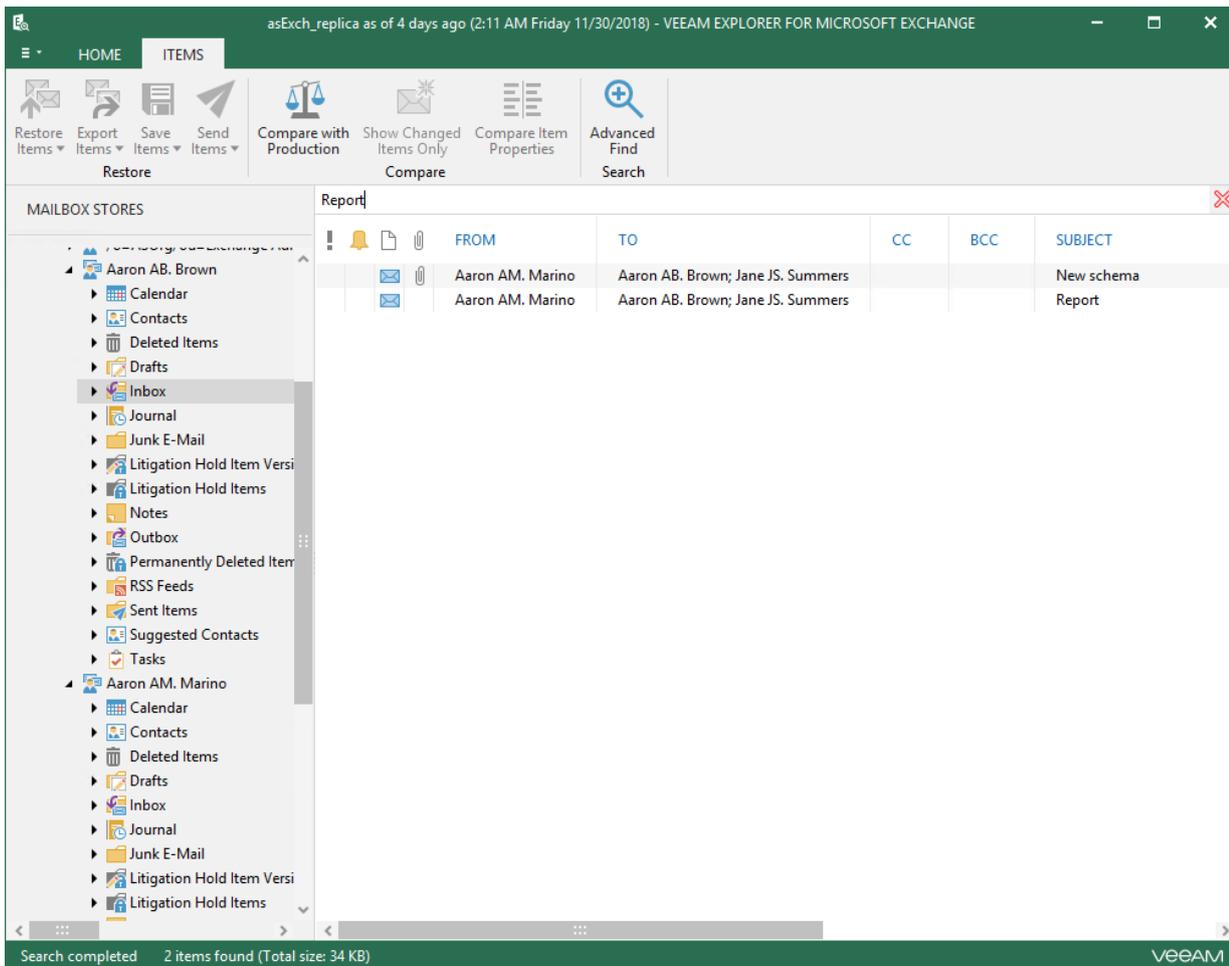
To search for required items, do the following:

1. In the navigation pane, select an object in which you want to find your data.
2. Type in a search query using the search field at the top of the preview pane.

NOTE:

To find the exact phrase, use double quotes. For example, "Office 365".

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 *?*.



Using Advanced Find Capabilities

The **Advanced Find** mechanism allows you to define your search criteria more precisely.

For example, to find messages, the subject of which is *Report*, do the following:

1. In the preview pane, select a node and click **Advanced Find**.
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 **Start**.

To remove a filter, click the cross mark on the left. To remove all configured filters, click **Reset**.

asExch_replica as of 4 days ago (2:11 AM Friday 11/30/2018) - VEEAM EXPLORER FOR MICROSOFT EXCHANGE

HOME ITEMS

Restore Items Export Items Save Items Send Items Compare with Production Show Changed Items Only Compare Item Properties Advanced Find Search

MAILBOX STORES

- root\org\exch\exchange...
- Aaron AB. Brown
 - Calendar
 - Contacts
 - Deleted Items
 - Drafts
 - Inbox
 - Journal
 - Junk E-Mail
 - Litigation Hold Item Versi
 - Litigation Hold Items
 - Notes
 - Outbox
 - Permanently Deleted Item
 - RSS Feeds
 - Sent Items
 - Suggested Contacts
 - Tasks
- Aaron AM. Marino
 - Calendar
 - Contacts
 - Deleted Items
 - Drafts
 - Inbox
 - Journal
 - Junk E-Mail
 - Litigation Hold Item Versi
 - Litigation Hold Items

Find items that match these criteria:

Subject contains Report

Start Reset

Define search criteria

Category: All Fields Field: Assistant's name

Condition: is exactly Value:

Add To List

	FROM	TO	CC	BCC	SUBJECT
	Aaron AM. Marino	Aaron AB. Brown; Jane JS. Summers			Report

Search completed 1 items found (Total size: 14 KB)

VEEAM

General Application Settings

Continue with this section to learn more about configuring required application settings and components.

Configuring Extensible Storage Engine

To work with database files, Veeam Explorer for Microsoft Exchange requires a special dynamic link library `ese.dll`, which is shipped with Microsoft Exchange.

The `ese.dll` file must be of the same version as the Microsoft Exchange application with which your database files have been created.

NOTE:

When restoring a VM that was backed up with application-aware image processing, the `ese.dll` file will be located automatically.

The following versions of Microsoft Exchange are supported:

- Microsoft Exchange 2019
- Microsoft Exchange 2016
- Microsoft Exchange 2013
- Microsoft Exchange 2010 SP1, SP2 and SP3

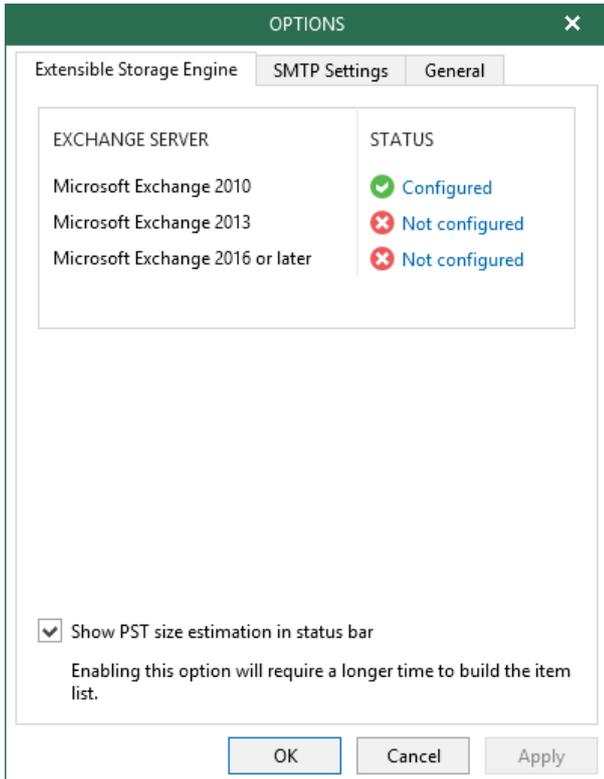
To specify the path to the `ese.dll` file, do the following:

1. Go to the main menu and click the **General Options**.
2. Got to the **Extensible Storage Engine** tab.
3. Click the link next to the Microsoft Exchange version and specify the path to the `ese.dll` file.

The file can be found on the Microsoft Exchange Server distribution CD at

`X:\Setup\ServerRoles\Common\ese.dll` or, in the installation directory of the Microsoft Exchange server.

To see estimated size of the Outlook database file, select the **Show size estimation in status bar** checkbox.

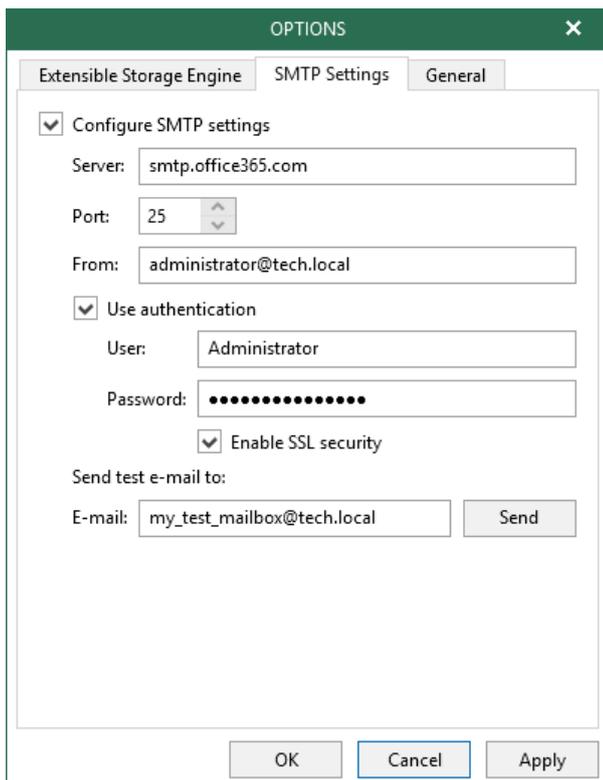


Configuring SMTP Settings

To send Microsoft Exchange items as attachments, you must configure SMTP server settings.

To configure SMTP settings, do the following:

1. Go to the main menu and click **General Options**.
2. Got to the **SMTP Settings** tab, select the **Configure SMTP settings** checkbox and specify the following:
 - A DNS name or IP address of the mail server.
 - The SMTP port.
 - A sender email address. This address will appear in the **From** field when sending Exchange items.
 - Select the **Use authentication** checkbox If your SMTP server requires SMTP authentication for outgoing traffic and provide valid credentials.
 - Select the **Enable SSL security** checkbox to enable SSL data encryption.
3. Click **Send** to send a test email message.
4. Click **Apply**.



The screenshot shows a dialog box titled "OPTIONS" with a close button (X) in the top right corner. The dialog has three tabs: "Extensible Storage Engine", "SMTP Settings", and "General". The "SMTP Settings" tab is active. Inside the dialog, there is a section for "Configure SMTP settings" which is checked. Below this, there are several fields and checkboxes:

- Server:** A text box containing "smtp.office365.com".
- Port:** A spinner box set to "25".
- From:** A text box containing "administrator@tech.local".
- Use authentication:** A checked checkbox.
- User:** A text box containing "Administrator".
- Password:** A text box filled with 12 black dots.
- Enable SSL security:** A checked checkbox.
- Send test e-mail to:** A section with a text box containing "my_test_mailbox@tech.local" and a "Send" button.

At the bottom of the dialog, there are three buttons: "OK", "Cancel", and "Apply".

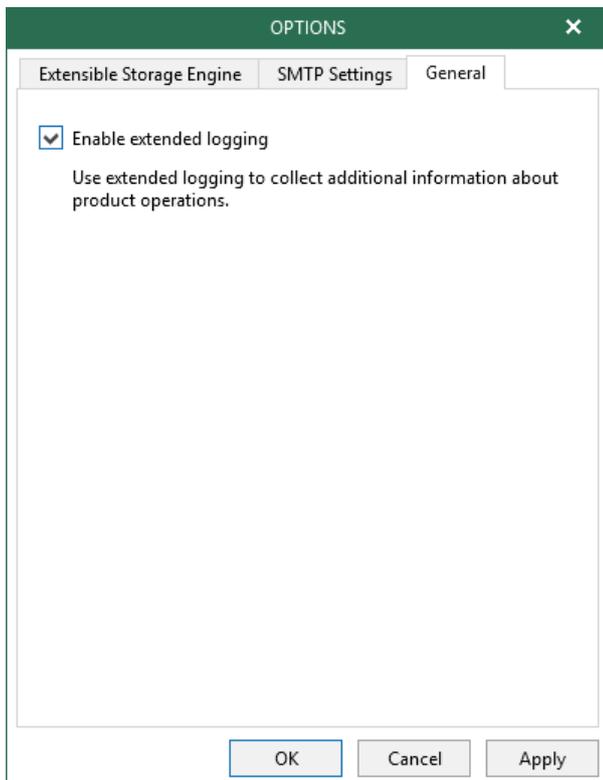
Enabling Extended Logging

Log files are used to troubleshoot a variety of different situations when certain processes may have gotten unexpected results while being executed.

By default, logs are collected in the default mode. In certain cases, you may need to enable the extended logging mode to collect logs that contain more details on specific operations.

To configure extended logging mode, do the following:

1. Go to the main menu and click the **General Options**.
2. On the **General** tab, select the **Enable Extended logging** checkbox.
3. Go back to the application, perform necessary actions and then review the logs to see the details.



Standalone Databases Management

Continue with this section to learn more about adding and removing Microsoft Exchange databases.

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
- Microsoft Exchange Server 2010 SP1, SP2 or SP3

Adding Microsoft Exchange Stores

This section explains how to add Microsoft Exchange Databases manually.

IMPORTANT!

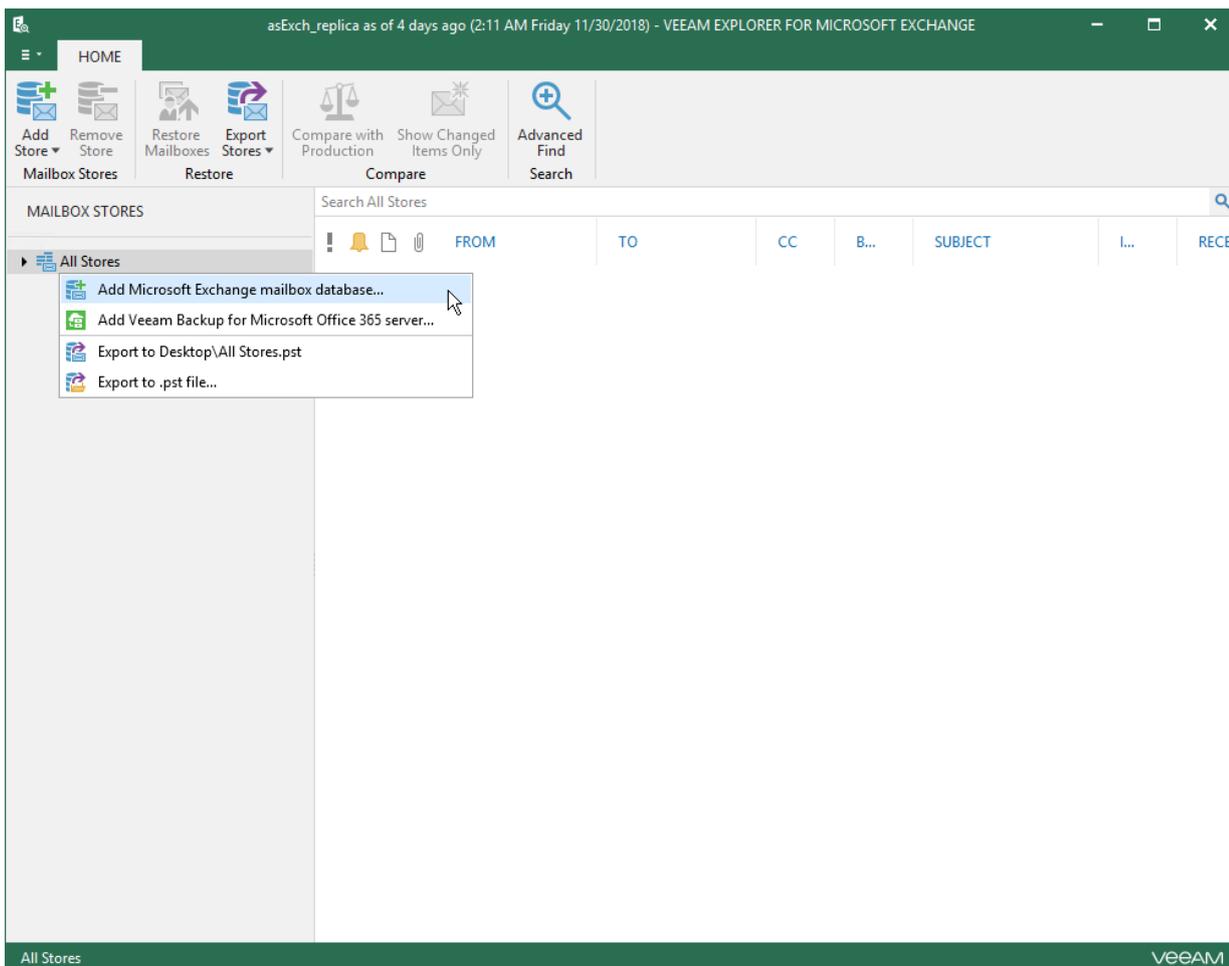
Before adding databases, ensure that Veeam Explorer for Microsoft Exchange has access to the `ese.dll` file. For more information, see [Configuring Extensible Storage Engine](#).

To manually add a Microsoft Exchange database file (`.edb`) to the application scope, do the following:

1. On the **Home** tab, click **Add Store > Microsoft Exchange mailbox database** or right-click the **All Stores** node and select **Microsoft Exchange mailbox database**.
2. Click **Browse** to specify the path to the `.edb` file and Exchange logs folder.

NOTE:

Consider that if a database is in *Dirty State*, you will have to recover it by applying log files. Click **Recover** and wait until log files are applied, then re-add the database. Ensure that the **Write** permission is granted to the account being used.

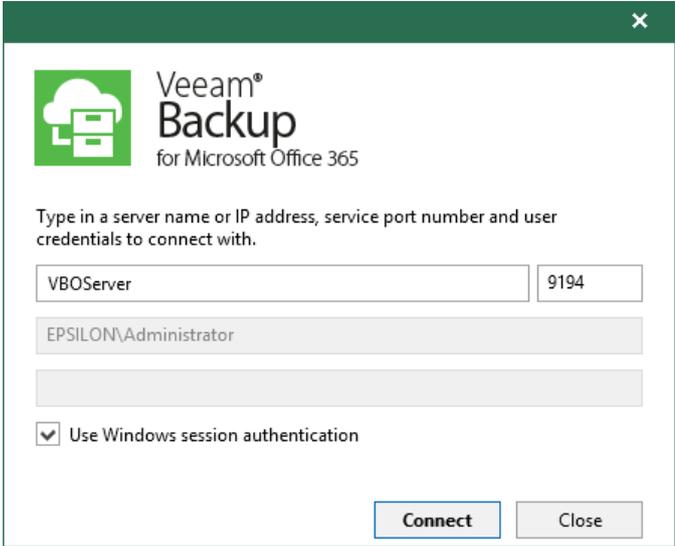


Adding Veeam Backup for Microsoft Office 365 Server

You can use the built-in Veeam Explorer abilities to connect to another Veeam Backup for Microsoft Office 365 server and add its databases to the Veeam Explorer for Microsoft Exchange scope.

To connect to the Veeam Backup for Office 365 server that stores Microsoft Office 365 organization data, do the following:

1. On the **Home** tab, click **Add Store > Veeam Backup for Office 365 server** or right-click the **All Stores** node in the navigation pane and select **Add Veeam Backup for Office 365 server**.
2. Specify connection settings under which to connect to the Veeam Backup for Microsoft Office 365 server and click **Connect**.



The screenshot shows a dialog box titled "Veeam Backup for Microsoft Office 365". It contains the following fields and controls:

- Instruction: "Type in a server name or IP address, service port number and user credentials to connect with."
- Server name field: "VBOServer"
- Service port number field: "9194"
- User credentials field: "EPSILON\Administrator"
- Authentication checkbox: "Use Windows session authentication"
- Buttons: "Connect" and "Close"

Adding Veeam Backup for Microsoft Office 365 Service Provider

Veeam Explorer for Microsoft Exchange allows you to add Microsoft Office 365 organization backups located on server providers servers.

IMPORTANT!

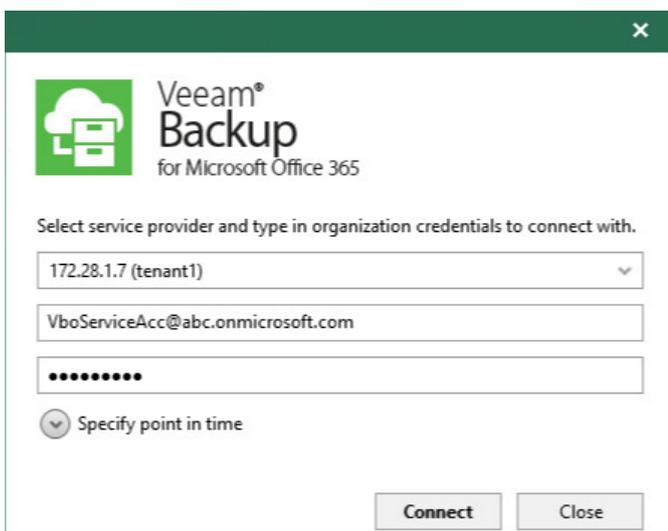
Consider the following:

- Both Veeam Explorer for Microsoft Exchange and Veeam Backup and Replication must be installed on the same machine.
- At least one service provider must be added to Veeam Backup and Replication, as described in [Connecting to Service Providers](#).

To add Office 365 databases, do the following:

1. From the **Start** menu, launch Veeam Explorer for Microsoft Exchange.
2. On the toolbar, click **Add Store > Veeam Backup for Microsoft Office 365 Service Provider** or use the corresponding context menu command.
3. In the drop-down menu, select a tenant account to which you want to connect.
The list of available tenants depends on added service providers.
4. Provide your Microsoft Office 365 organization credentials.
5. Click **Connect**.

You can also select a point-in-time state as of which you want to load an organization database. For more information, see [Specifying Point in Time](#).



The screenshot shows a dialog box titled "Veeam Backup for Microsoft Office 365". It contains the following fields and controls:

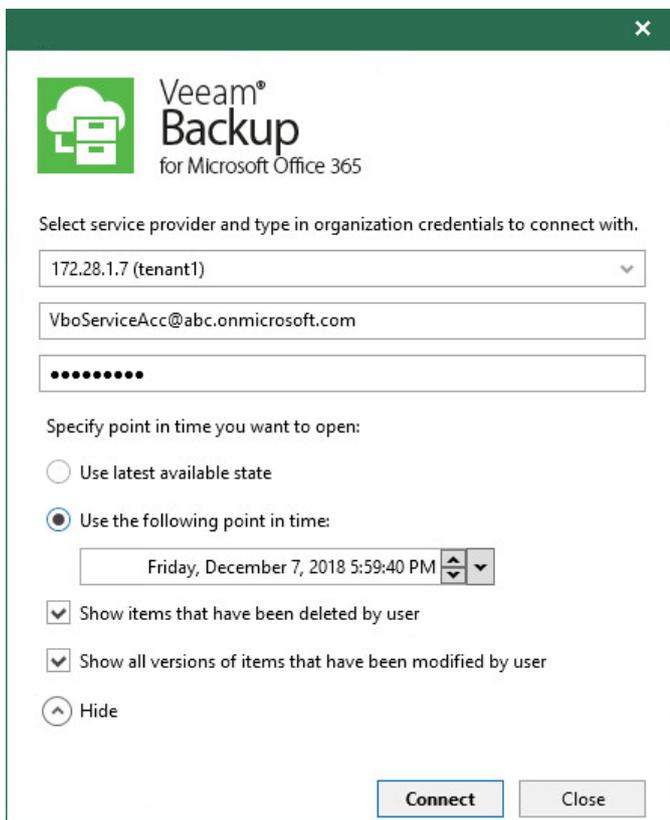
- A dropdown menu for "Select service provider and type in organization credentials to connect with." showing "172.28.1.7 (tenant1)".
- A text input field containing "VboServiceAcc@abc.onmicrosoft.com".
- A password input field with masked characters ".....".
- A checkbox labeled "Specify point in time" which is currently unchecked.
- Two buttons at the bottom: "Connect" and "Close".

Specifying Point in Time

When you connect to the service provider server, you may want to select a particular state as of which to add an organization database to the Veeam Explorer for Microsoft Exchange scope.

To select a state, do the following:

1. After you select **Veeam Backup for Microsoft Office 365 Service Provider** and provide required credentials, click **Specify point in time**.
2. Specify a point in time state:
 - **Use latest available state.** To load data as of the latest backup state.
 - **Use the following point in time.** To load data as of the selected point in time.
To select a state, use the calendar control.
3. To load items that have been deleted by the user, select **Show items that have been deleted by user**.
4. To load all versions of items that have been modified by the user, select **Show all versions of items that have been modified by user**.



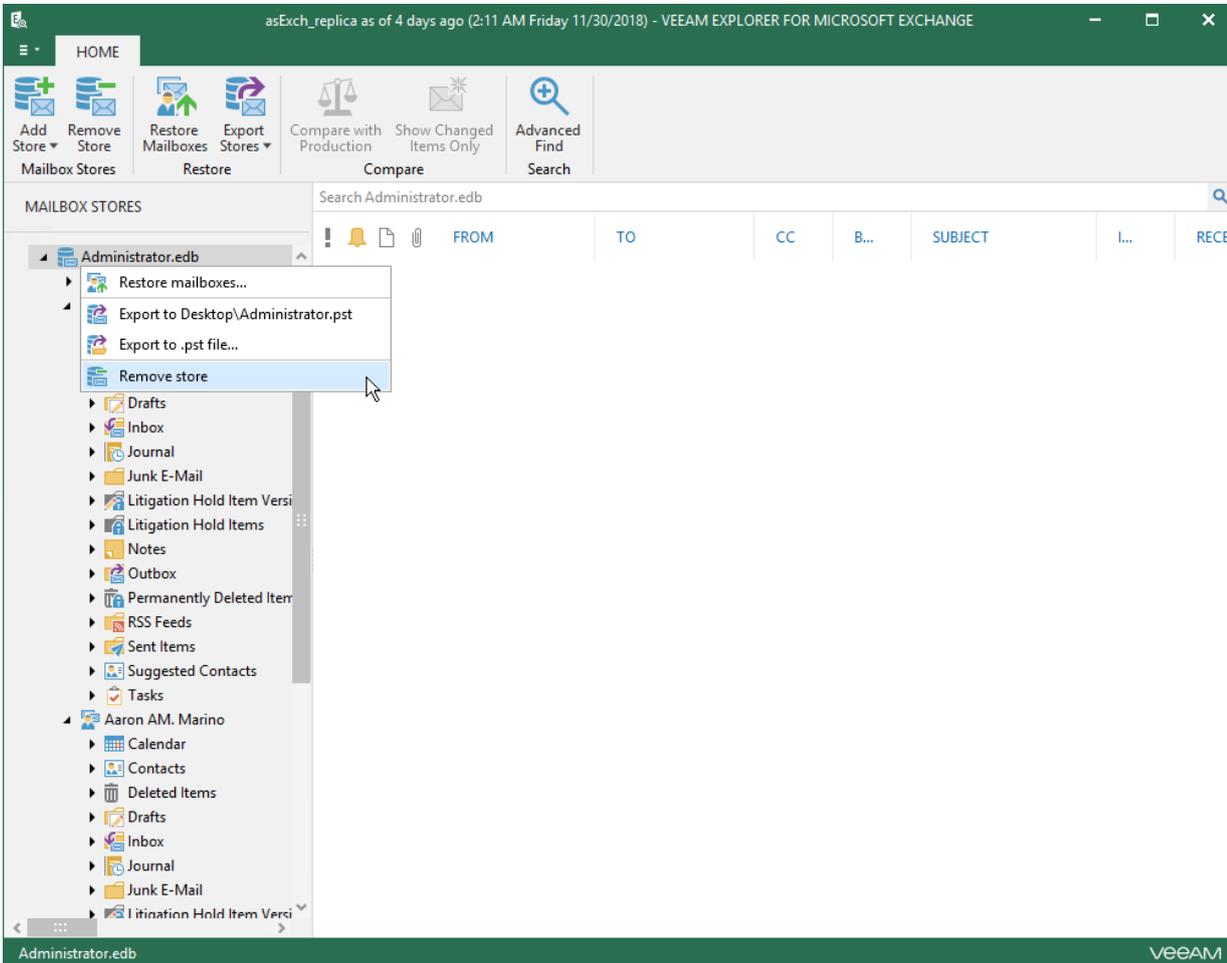
The screenshot shows a dialog box titled "Veeam Backup for Microsoft Office 365". It contains the following elements:

- Logo and title: Veeam Backup for Microsoft Office 365.
- Text: "Select service provider and type in organization credentials to connect with."
- Service provider dropdown: "172.28.1.7 (tenant1)".
- Organization name text box: "VboServiceAcc@abc.onmicrosoft.com".
- Password text box: Masked with "••••••••".
- Text: "Specify point in time you want to open:"
- Radio buttons for point in time selection:
 - Use latest available state
 - Use the following point in time:
- Calendar control: "Friday, December 7, 2018 5:59:40 PM".
- Checkboxes for display options:
 - Show items that have been deleted by user
 - Show all versions of items that have been modified by user
 - Hide
- Buttons: "Connect" and "Close".

Removing Standalone Databases

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

Continue with this section to learn more about restoring Microsoft Exchange data.

NOTE:

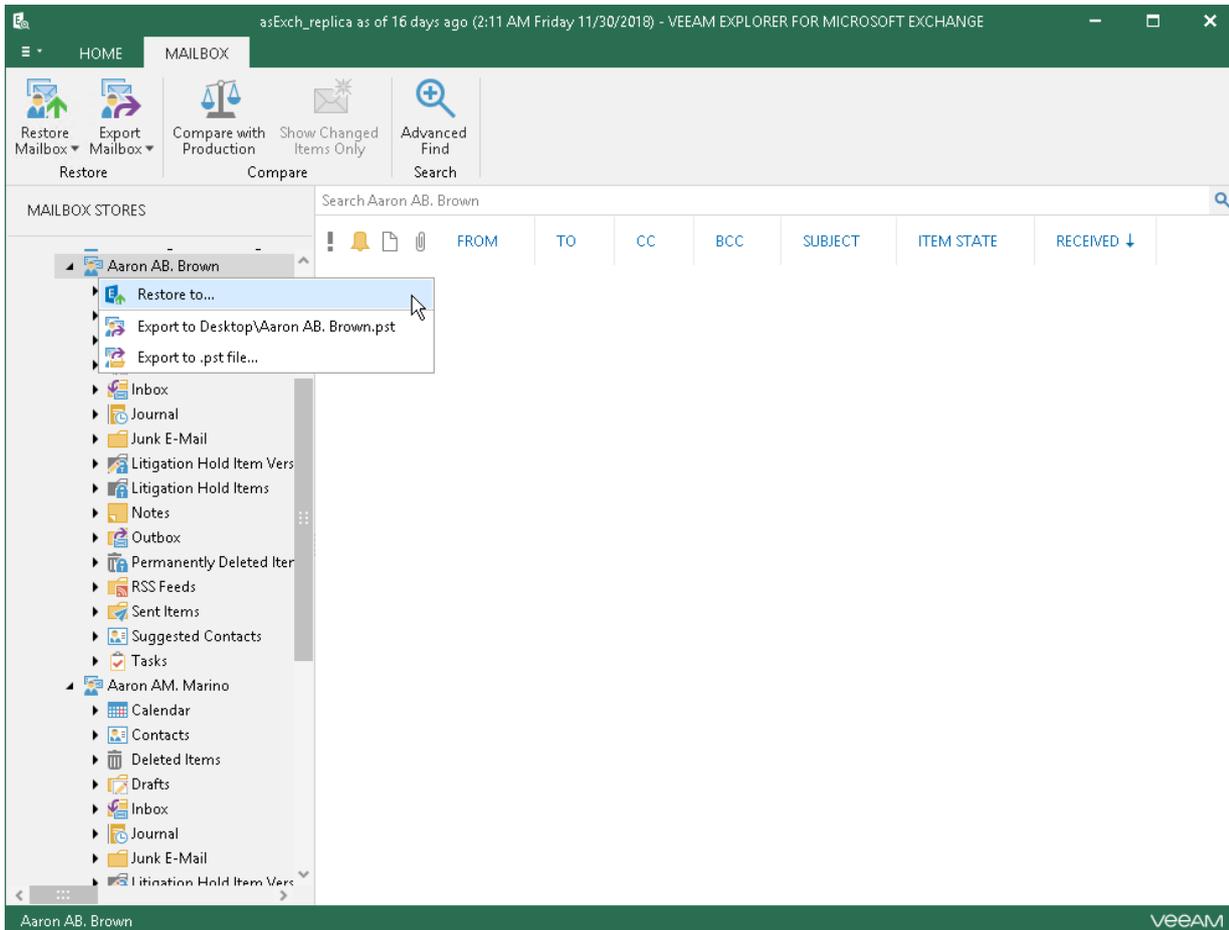
To use an internet proxy server to restore backups created by Veeam Backup for Microsoft Office 365, make sure to provide appropriate proxy server address and the port number. For that, go to the **Control Panel > Internet Options Connections** tab, click **LAN Settings**, select the **Use a proxy server for your LAN** checkbox 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 Veeam Backup for Microsoft Office 365 distribution package.

Restoring Single Mailbox

To restore a mailbox, do the following:

1. In the navigation pane, select a mailbox.
2. On the **Mailbox** tab, select **Restore Mailbox > Restore to** or right-click a mailbox and select **Restore to**.
3. Proceed to [Specify Target Mailbox and Domain Account](#).



Step 1. Specify Target Mailbox and Domain Account

At this step of the wizard, specify the account to connect to the target Exchange server.

You can use your current account or provide another account using either of the following formats:

- For On-Premises Exchange, use the *domain\username* format.
- For Exchange Online, use the *<username>@<organization>.onmicrosoft.com* format.

RESTORE WIZARD

Specify target mailbox and domain account

Mailbox:
aaron.brown@asdomain.com

Specify user account to connect to Exchange service:

Use current account (EPSILON\Administrator)

Use the following account:

Username: asDomain\administrator

Password: ●●●●●●●●

i To connect with an account enabled for multi-factor authentication (MFA), use an app password instead of a user password.

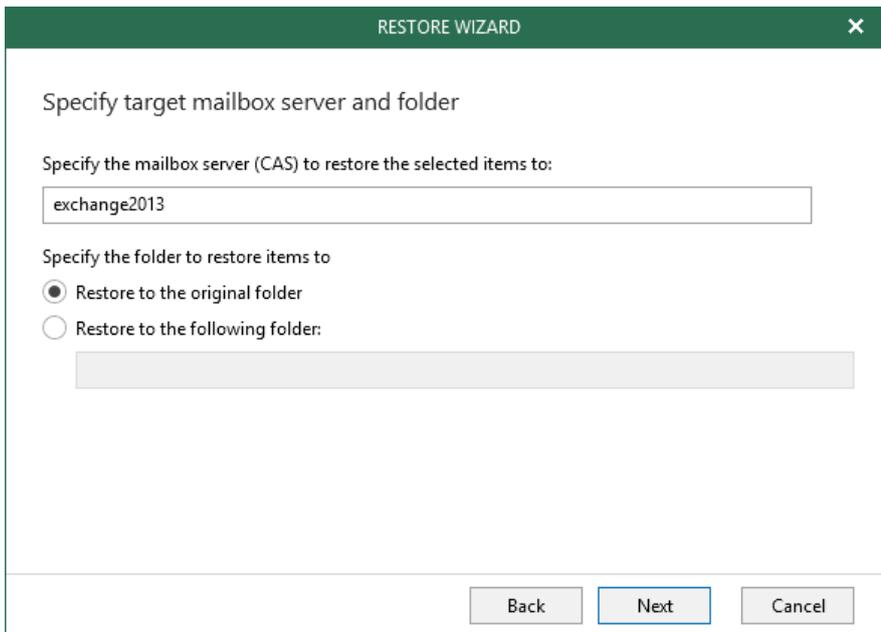
Back Next Cancel

Step 2. Specify Target Mailbox Server and Folder

At this step of the wizard, specify the target mailbox server and a folder to which you want to recover your data.

Consider the following when restoring folders and items:

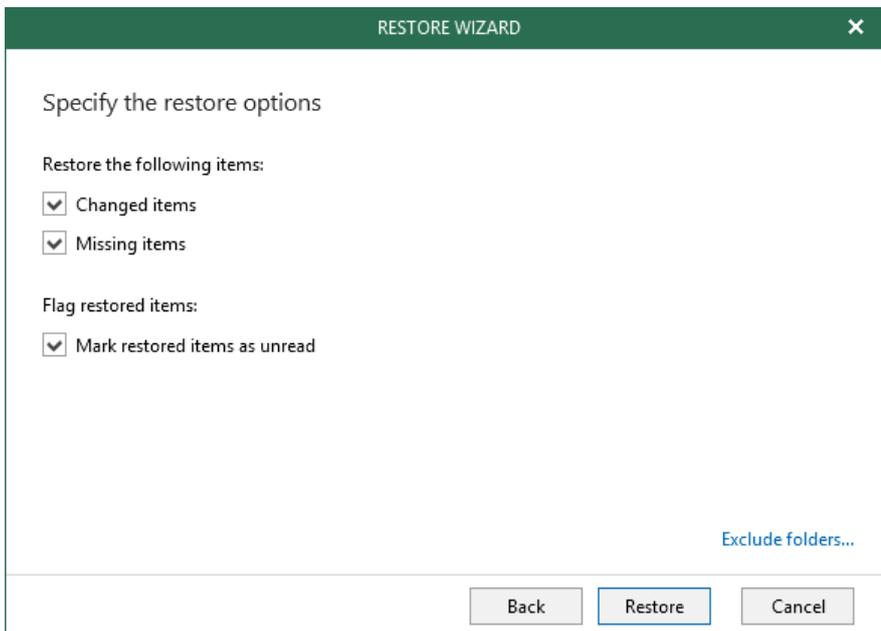
- If the specified folder does not exist on a target server, it will be created under the root mailbox node which is being restored. When restoring public folders, security permissions will be restored to their original settings.
- Hard deleted items from public folders will be restored to the original location.
- Hard deleted items from the mailbox (shown in the **Permanently Deleted Items** folder) by default, will be restored to the original location. You can also specify a different location – if it does not exist, it will be created.
- To restore *Online Archive* mailbox items, make sure the corresponding *Online Archive* mailbox is configured on a target server. *Online Archive* mailbox items can be restored to the original folder (for example, *Online Archive - User1 > Drafts*) or to a different folder – if it does not exist on target, it will be created.



Step 3. Specify Restore Options

At this step of the wizard, specify restore options.

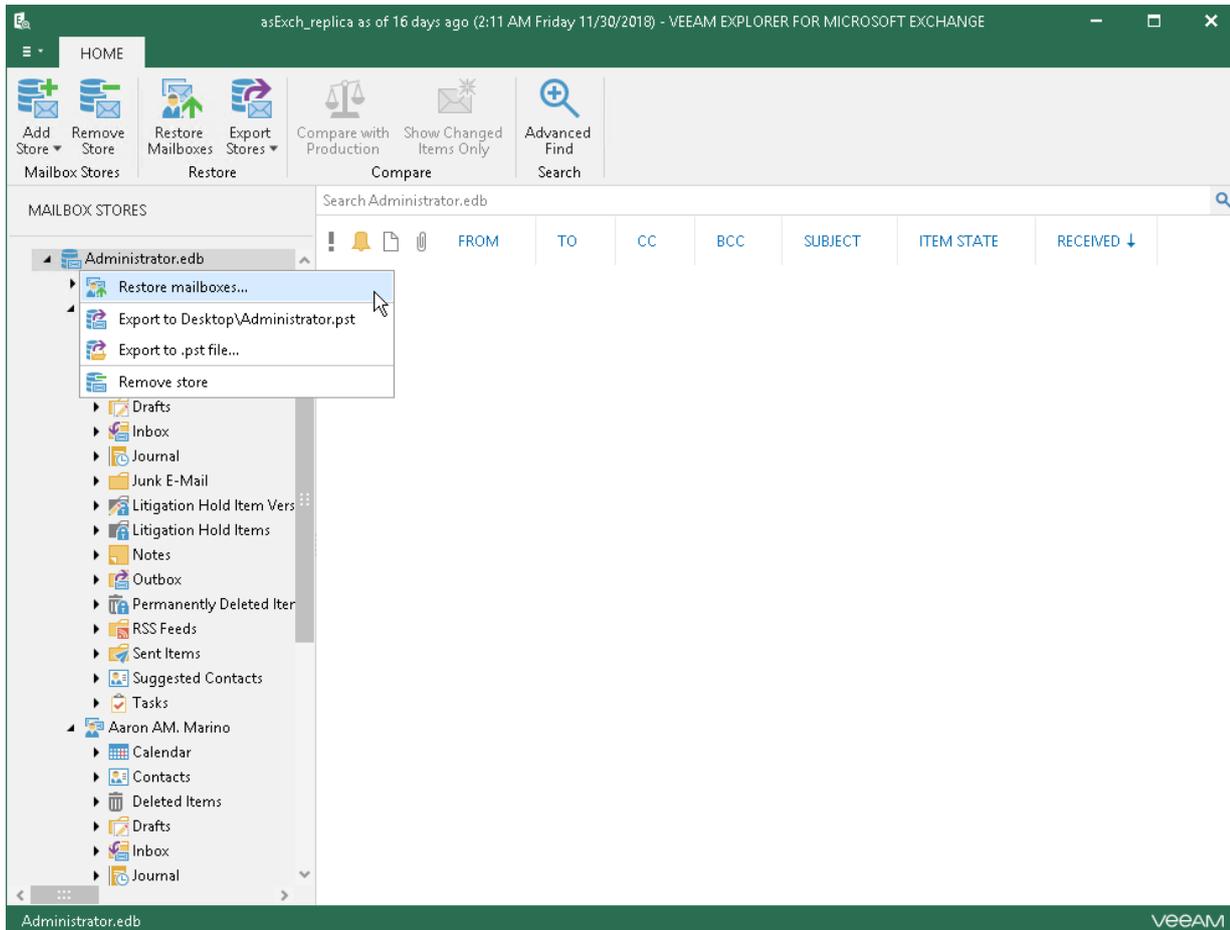
To prevent certain folders from being recovered, click the **Exclude folders** link and select folders to exclude.



Restoring Multiple Mailboxes

To recover multiple mailboxes, do the following:

1. In the navigation pane, select a mailbox store.
2. On the **Home** tab, select **Restore Mailboxes** or right-click a container and select **Restore mailboxes**.
3. Proceed to [Specify Connection Settings for the Target](#).



Step 1. Specify Connection Settings for the Target

Depending on the organization type, the first step of the credentials dialog may differ:

- [For On-Premises Exchange](#)
- [For Exchange Online](#)

For On-Premises Exchange

When restoring to *On-Premises Exchange* server, specify a *Global Catalog* server and authentication credentials.

You can use your current account or specify another one in the *domain\username* format. For more information on required permissions, see [Required Permissions](#).

For Exchange Online

When restoring to *Exchange Online*, specify authentication credentials to connect to the target Exchange server.

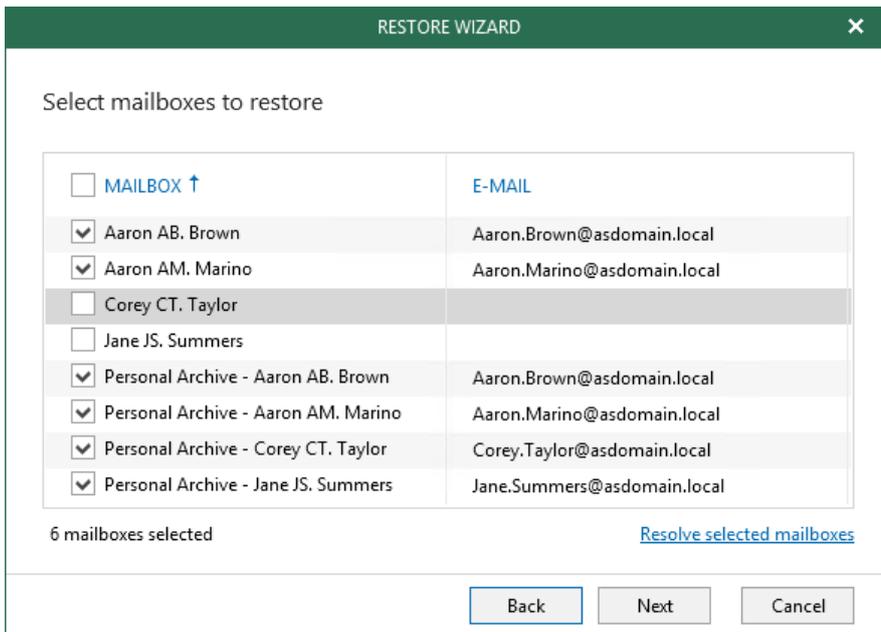
You can use your current account or another account in the *username>@<organization>.onmicrosoft.com* format.

Step 2. Select Mailboxes to Restore

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

To see the corresponding email addresses for each selected mailbox in the list, click **Resolve selected mailboxes**.

To access Active Directory, the account you are using must be included to the domain *Administrators* or *Organization Management* group.



NOTE:

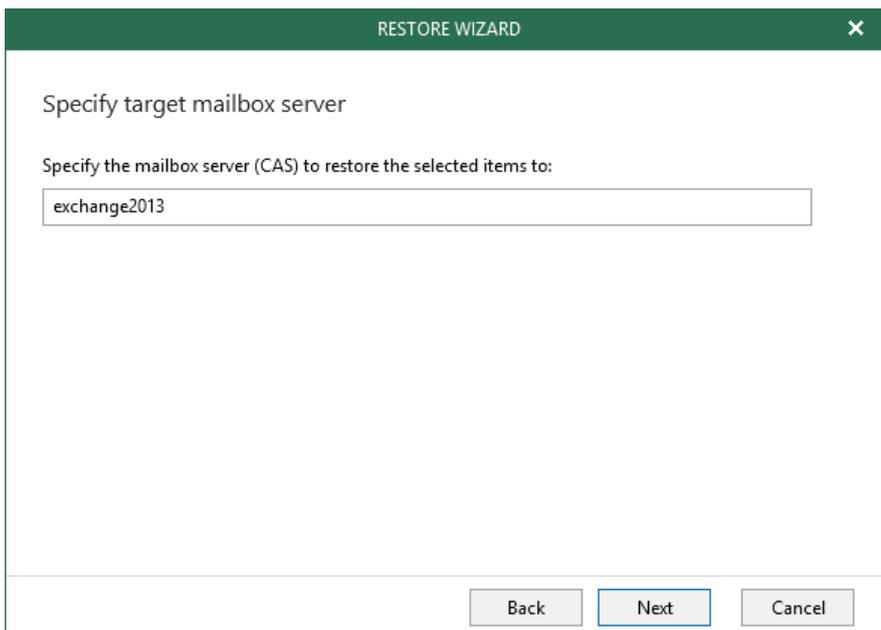
If the account you are using is a member of the *Authenticated Users* group but the *Read* permission has not been granted, then such an account will not be able to properly handle Exchange system mailboxes restore.

Step 3. Specify Target Mailbox Server

At this step of the wizard, specify a target mailbox server to which you want to recover your data.

NOTE:

This step is only available when restoring data back to on-premises organizations.

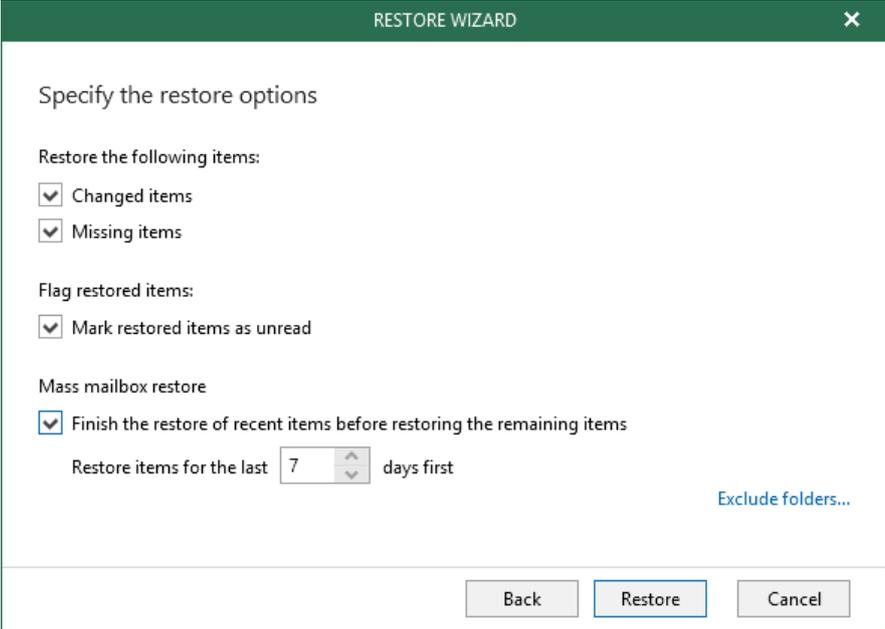


Step 4. Select Restore Options

At this step of the wizard, specify the restore options.

When restoring multiple mailboxes, select the **Finish the restore of recent items before restoring the remaining items** checkbox and set the value in the **Restore items for the last <N> days first** field – to restore multiple mailboxes in “chunks”, when most recent items in the backup will be processed first.

To prevent certain folders from being recovered, click the **Exclude folders** link and select folders to exclude.



The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify the restore options". Below this, there are three sections of 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

Under the "Mass mailbox restore" section, there is a text field "Restore items for the last" followed by a spinner box containing the number "7", and the text "days first". To the right of this field is a blue link labeled "Exclude folders...".

At the bottom of the dialog box, there are three buttons: "Back", "Restore", and "Cancel". The "Restore" button is highlighted with a blue border.

Restoring Folders and Items

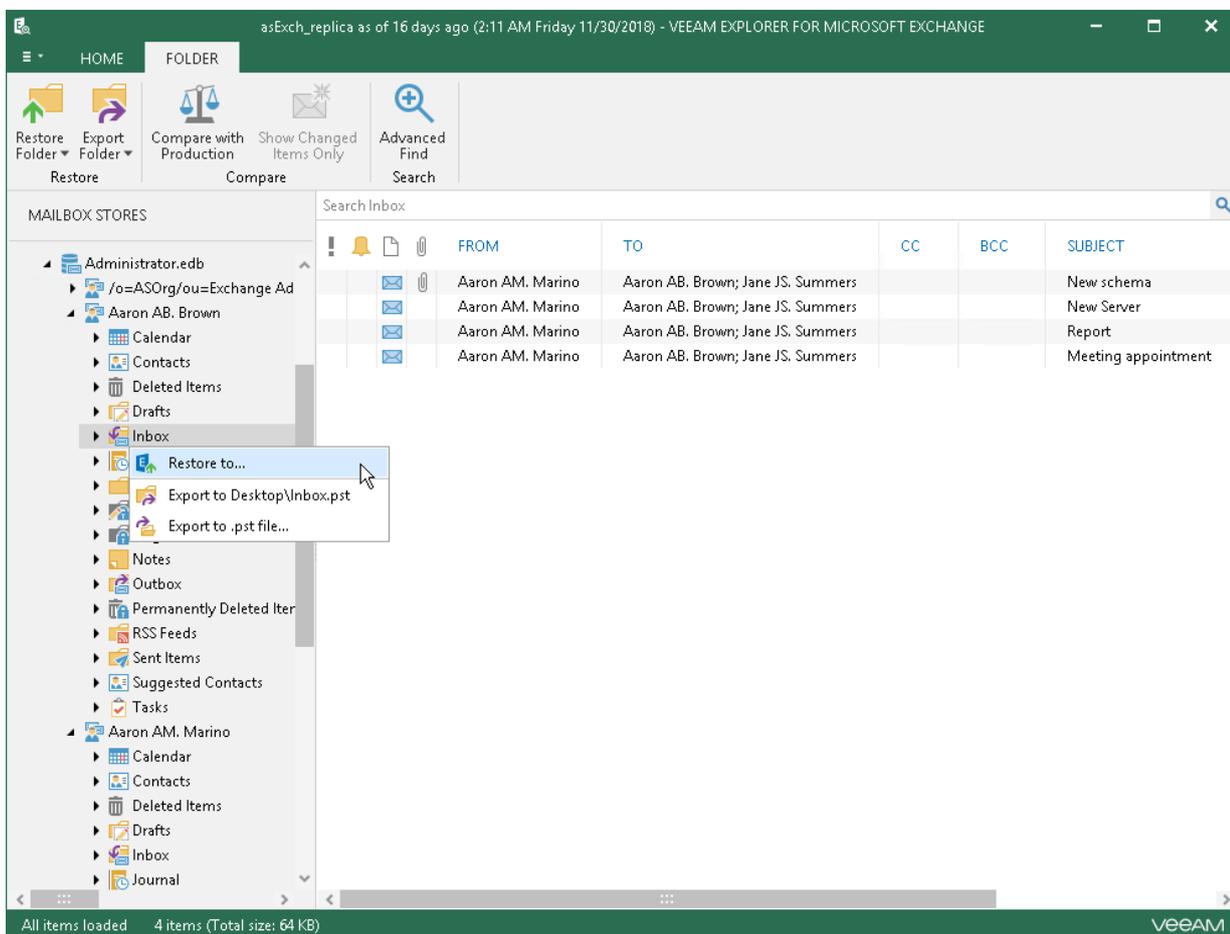
This section explains how to restore folders and items back to the production environment.

Consider the following when restoring *In-Place Hold Items* and *Litigation Hold Items* to the original mailbox system folders:

- Restore of In-Place Hold Items is not supported for Exchange Server 2013 due to Exchange limitations.
- *In-Place Hold Items* of Exchange 2016 mailboxes must have *In-Place Hold* enabled and applied at least once with the *DiscoveryHolds* folder creation. For more information, see [this Microsoft article](#).

To restore a folder or mailbox item, do the following:

1. In the navigation pane, select a folder or mailbox item.
2. On the **Folder/Items** tab, select **Restore Folder/Item > Restore to** or right-click a folder/item and select **Restore to**.
3. Proceed to [Specify Target Mailbox and Domain Account](#).

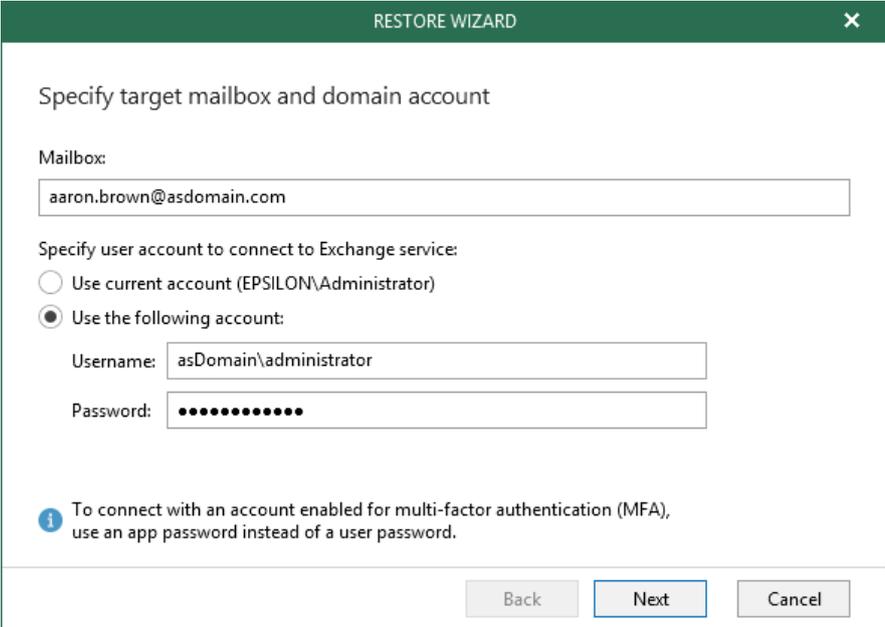


Step 1. Specify Target Mailbox and Domain Account

At this step of the wizard, specify the account to connect to the target Exchange server.

You can use your current account or provide another account using either of the following formats:

- For On-Premises Exchange, use the *domain\username* format.
- For Exchange Online, use the *<username>@<organization>.onmicrosoft.com* format.



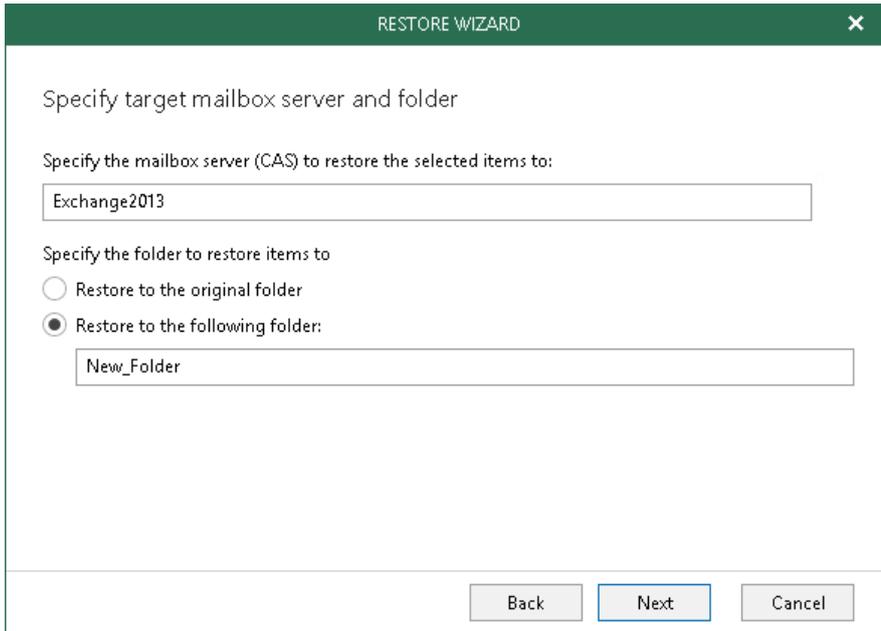
The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify target mailbox and domain account". Below this, there is a "Mailbox:" label followed by a text input field containing "aaron.brown@asdomain.com". Underneath, the text "Specify user account to connect to Exchange service:" is followed by two radio button options. The first option is "Use current account (EPSILON\Administrator)" and is unselected. The second option is "Use the following account:" and is selected. Below the second option, there are two text input fields: "Username:" containing "asDomain\administrator" and "Password:" containing a series of dots. At the bottom left, there is an information icon (i) and a note: "To connect with an account enabled for multi-factor authentication (MFA), use an app password instead of a user password." At the bottom right, there are three buttons: "Back", "Next", and "Cancel".

Step 2. Specify Target Mailbox Server and Folder

At this step of the wizard, specify the target mailbox server and a folder to which you want to recover your data.

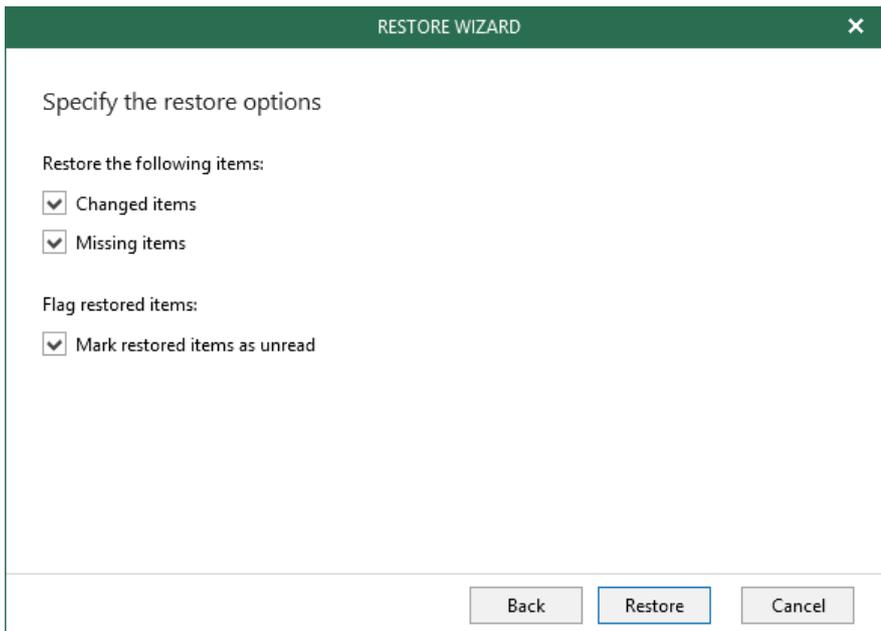
Consider the following when restoring folders and items:

- If the specified folder does not exist on a target server, it will be created under the root mailbox node which is being restored. When restoring public folders, security permissions will be restored to their original settings.
- Hard deleted items from public folders will be restored to their original location.
- Hard deleted items from the mailbox (shown in the **Permanently Deleted Items** folder) by default, will be restored to the original location. You can also specify a different location – if it does not exist on target, it will be created.
- To restore Online Archive mailbox items, make sure the corresponding Online Archive mailbox is configured on a target server. Online Archive mailbox items can be restored to the original folder (for example, Online Archive > User1 > Drafts) or to a different folder – if it does not exist on target, it will be created.



Step 3. Specify Restore Options

At this step of the wizard, specify restore options.



Using 1-Click Restore

Use the 1-Click Restore feature to quickly recover users mailboxes back to the production environment:

1. In the navigation pane, select a mailbox.
2. On the **Mailbox** tab, select **Restore to <original_mailbox_name>** or right-click a folder/item and select **Restore to <original_mailbox_name>**.

When using the 1-Click Restore feature, Veeam Explorer for Microsoft Exchange recovers objects according to the following:

- Original Exchange server, original folder and original mailbox name will be restored.
- Both changed and missing items will be restored.
- Restored items will be marked as unread.
- No folders will be excluded.

NOTE:

1-Click restore feature is only available when you run Veeam Explorer for Microsoft Exchange on a computer within the same forest to which a backup of the Microsoft Exchange database belongs.

Data Export

Continue with this section to learn more about exporting Microsoft Exchange data.

IMPORTANT!

Consider the following:

- Export is only available if you have a 64-bit version of Microsoft Outlook 2019, Microsoft Outlook 2016, Microsoft Outlook 2013 or Microsoft Outlook 2010 installed on a computer running Veeam Explorer for Microsoft Exchange.
- 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.

Exporting to Custom Location

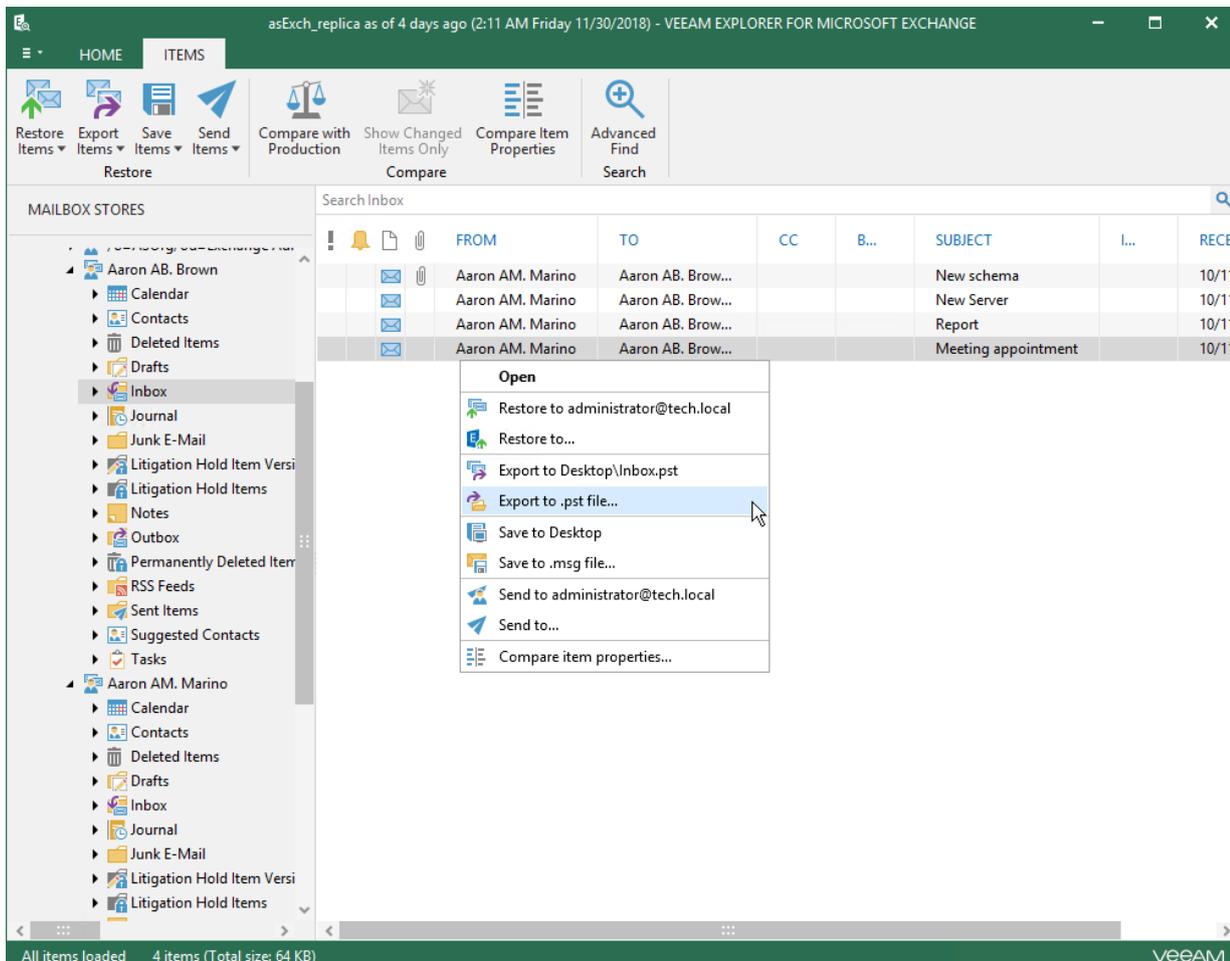
To export objects to the custom location, do the following:

1. In the navigation pane, select a folder or in the preview pane, select an item.
2. On the **Folder/Items** tab, select **Export Folder/Item > Export to .pst file** or right-click a folder/item and select **Export to .pst file**.
3. Specify the name and location for the new *.pst* file.
4. Select the **Save only items containing keywords** checkbox and enter keywords to export only those items that match specified criteria.

Veeam Explorer for Microsoft Exchange will check for specified keywords in all message fields – that is, **From, To, Subject and Body**.

NOTE:

The **Save only items containing keywords** feature is unavailable when exporting items.



Using 1-Click Export

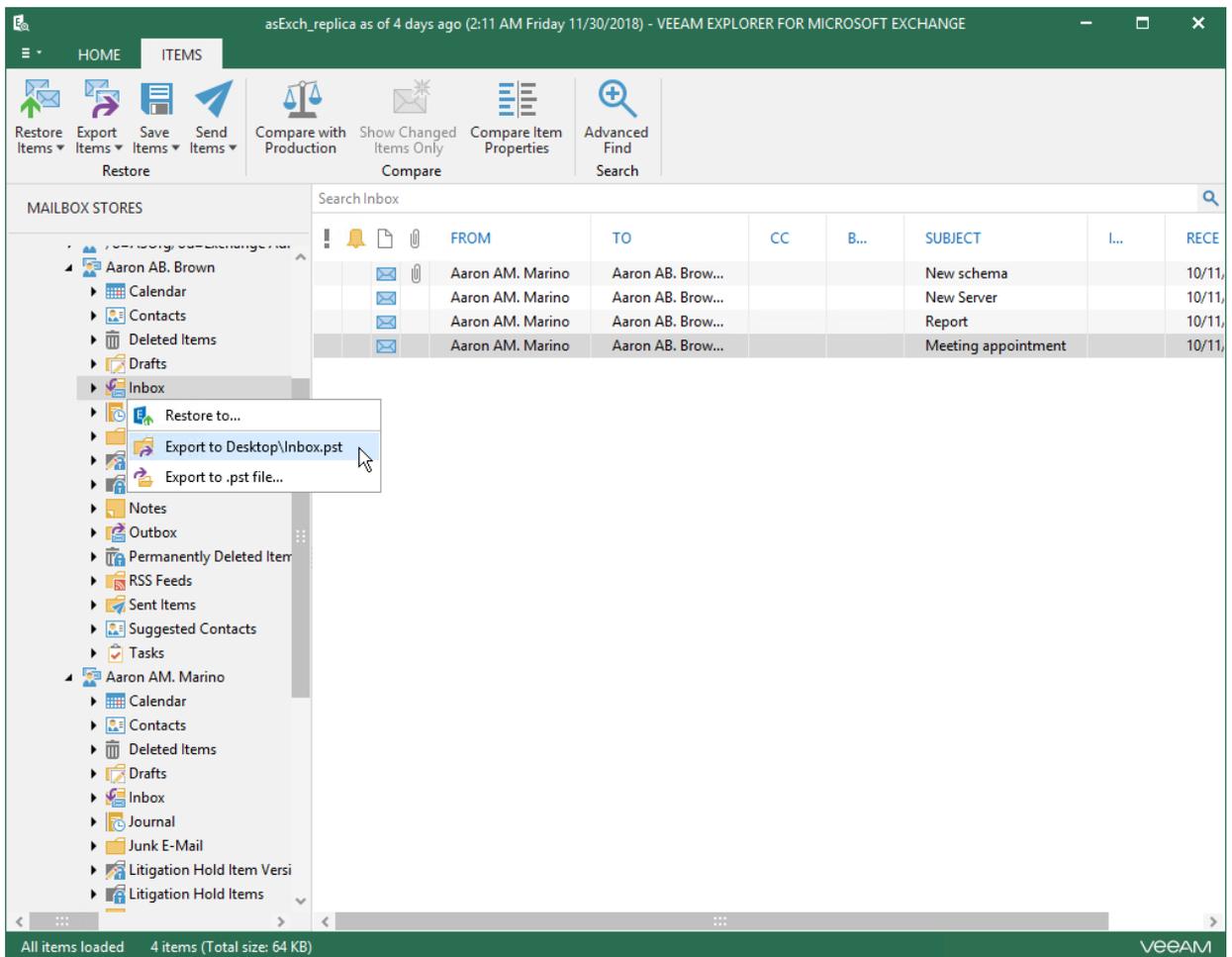
Veeam Explorer for Microsoft Exchange allows you to quickly export mailbox store data as *.pst* files.

NOTE:

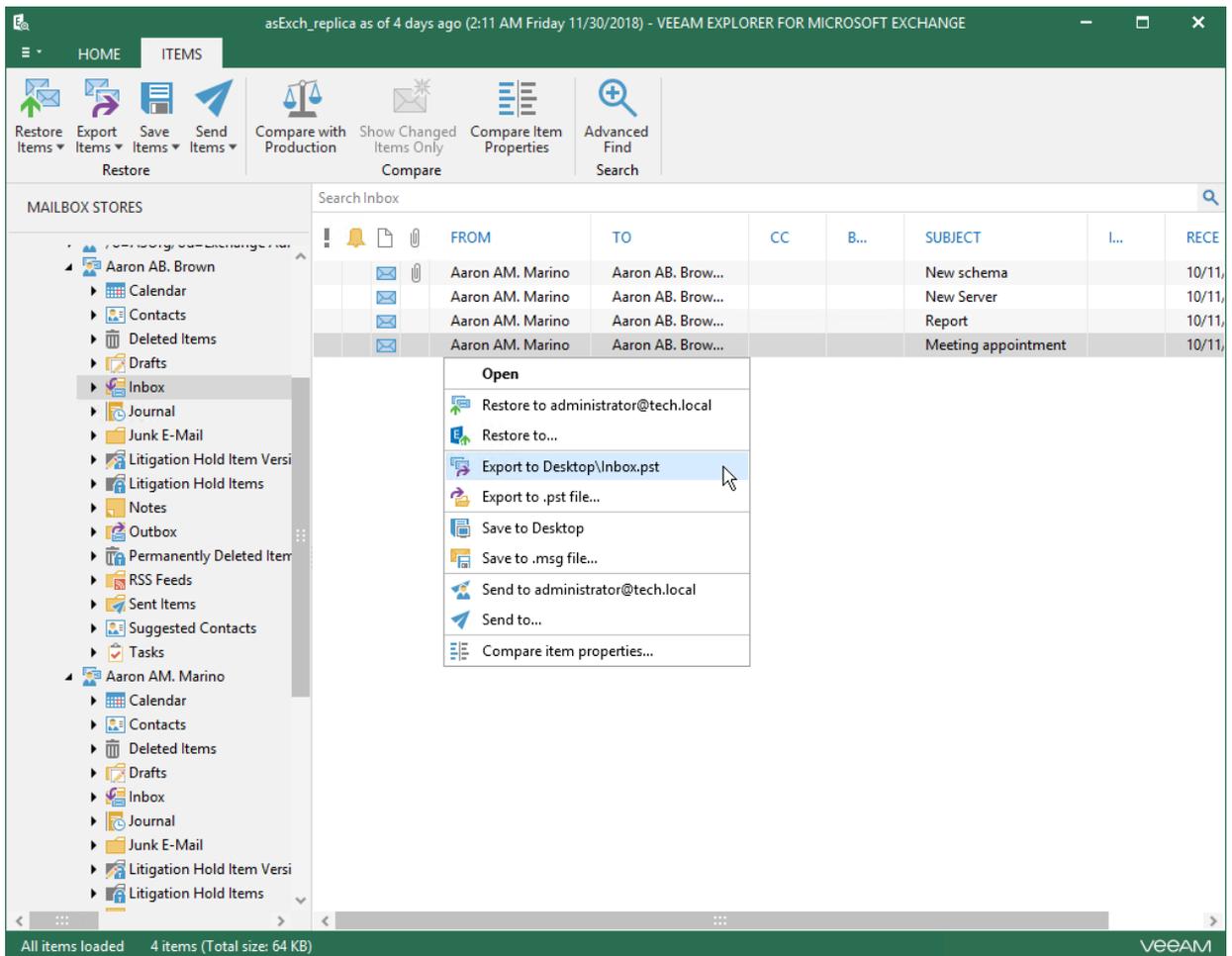
Export operations require Microsoft Outlook to be installed on a computer running Veeam Explorer for Microsoft Exchange.

Depending on the object type you want to export, do the following:

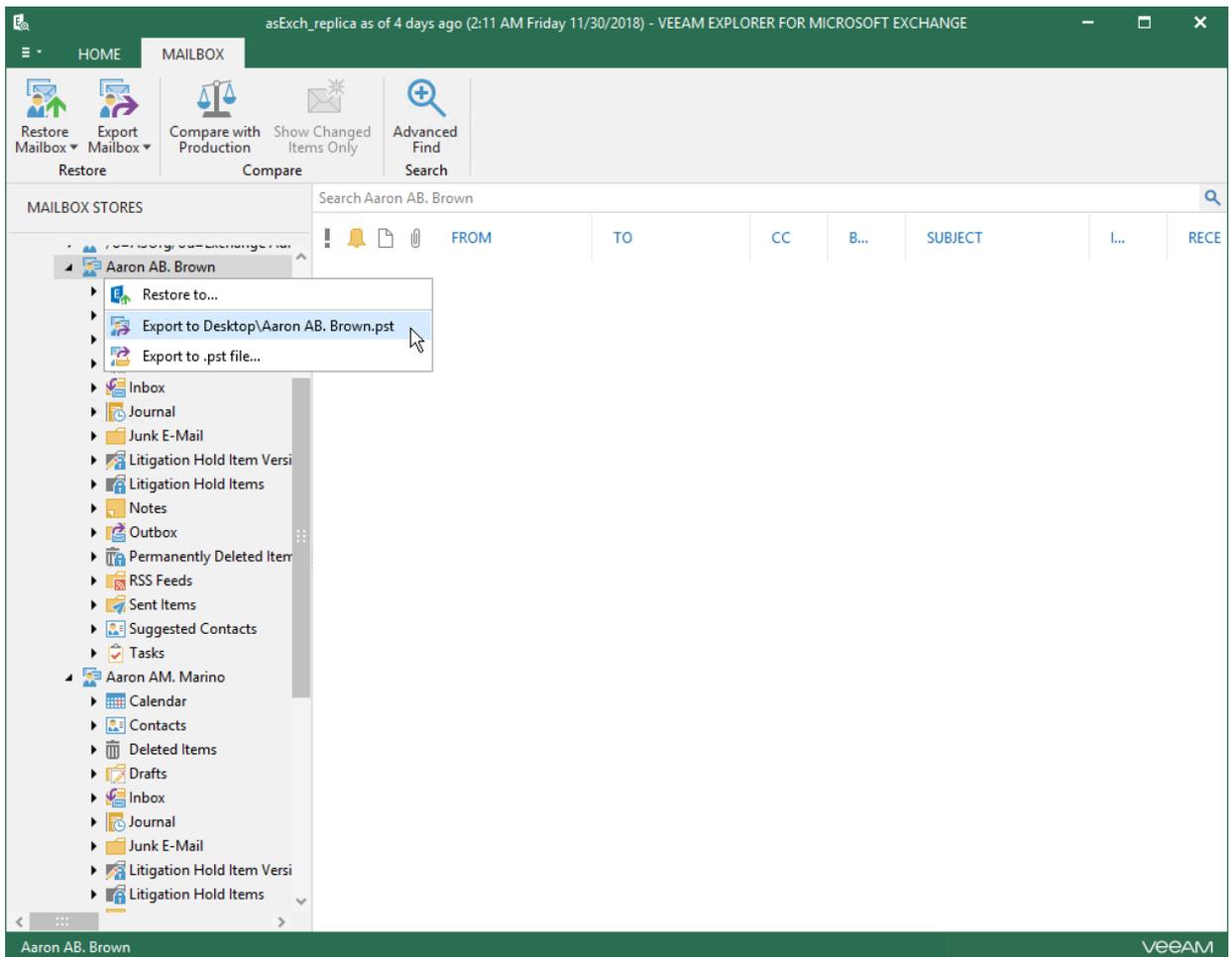
- To export a folder, select it in the navigation pane and on the **Folder** tab, click **Export Folder > Export to <default_location>\<original_folder_name>.pst** or use the corresponding context menu command.



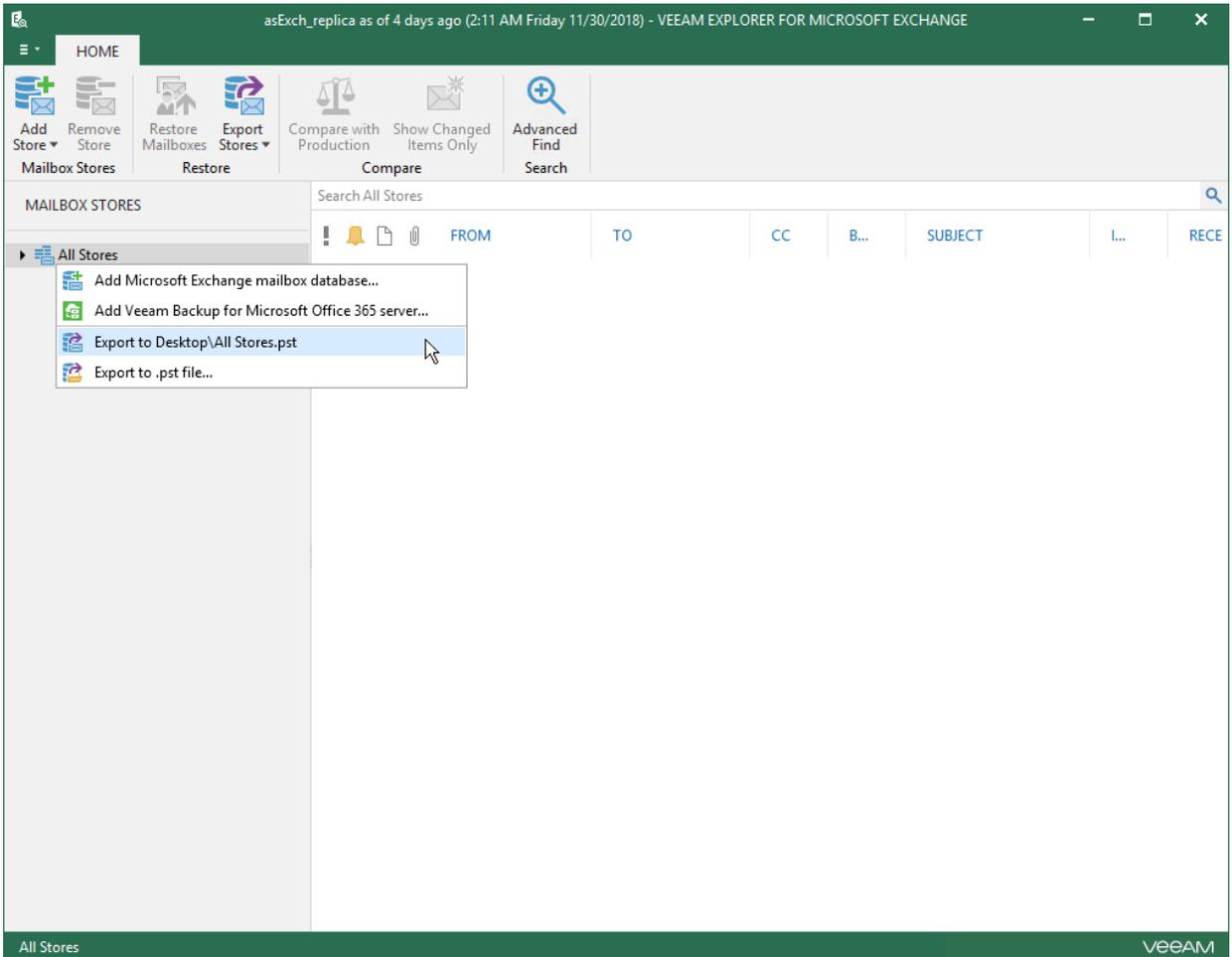
- To export an item, select it in the navigation pane and on the **Items** tab, click **Export Items > Export to <default_location>\<original_folder_name>.pst** or use the corresponding context menu command.



- To export a mailbox, select it in the navigation pane and on the **Mailbox** tab, click **Export mailbox > Export to <default_location>\<original_mailbox_name>.pst** or use the corresponding context menu command.



- To export a mailbox store or all stores added to the scope, select a store or select the **All Stores** node and click **Export** on the **Home** tab.



Receiving Export Reports

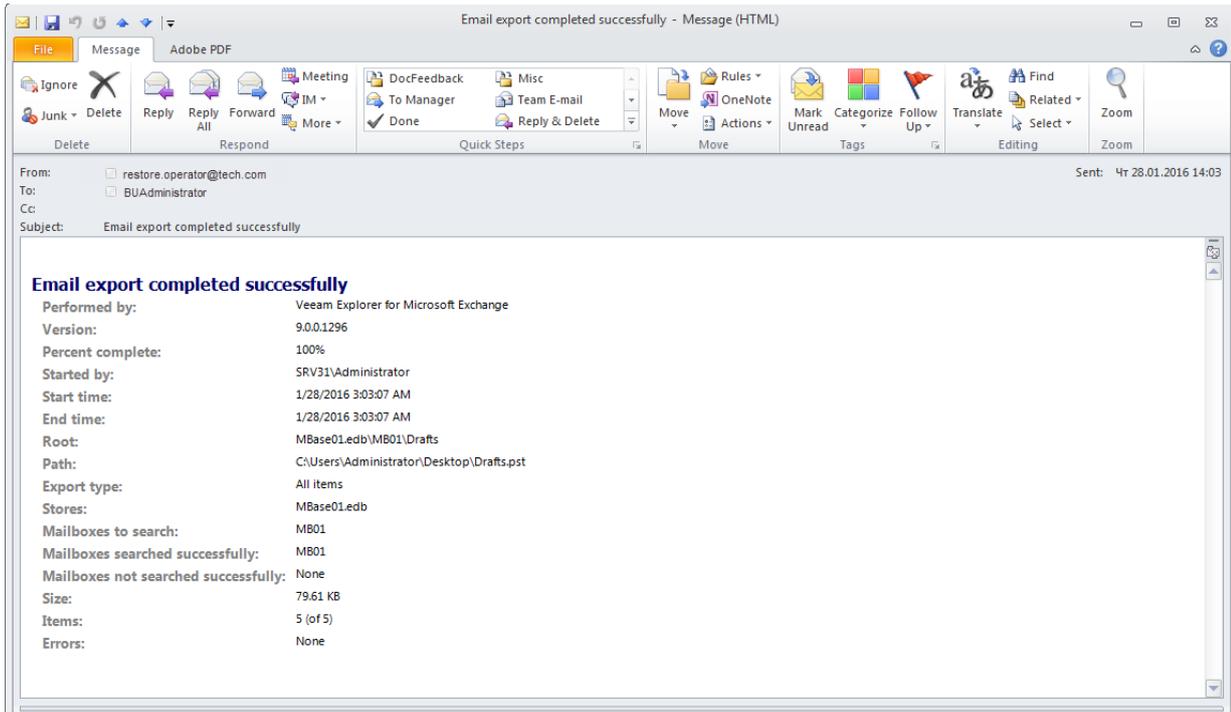
Veeam Explorer for Microsoft Exchange can deliver detailed reports on export results.

The following table lists fields of an export report.

Field	Description
Performed by	Shows by which component a report has been generated.
Version	Veeam Explorer for Microsoft Exchange build number.
Percent complete	Total number of items included in the <i>.pst</i> file in per cents.
Started by	Shows by which user account a report has been generated.
Start time, End time	Report creation time.
Root	The relative path to the object within the mail database.
Path	The path to the database file.
Export type	Shows the export type.
Stores	A datastore that contains exported items.
Mailboxes to search	A mailbox that contains exported items.
Mailboxes searched successfully, Mailboxes not searched successfully	Results for Mailboxes to search.
Size	Total size of exported items.
Items	Shows the number of exported items.
Errors	Shows how many error have occurred during the export.

When exporting only search results, consider the following:

- The title of a report will be shown as **Email export completed partially**.
- The **Percent complete** field shows how many items from the search scope matched the specified search keywords.
- The **Keyword hits** field show:
 - **Keyword**. A search criteria.
 - **Hits**. The number of exported items that matched the specified search keywords.
 - **Mailboxes**. The number of mailboxes comprising the search scope.



Data Compare

This section explains how to compare data in a backup file with that of the production state.

To compare data, do the following:

1. In the navigation pane, select an object and click **Compare with Production** on the toolbar.
2. Proceed to [Specify Credentials](#) to authorize yourself in the production environment.
Authorization is only required when the account you are using does not have sufficient privileges to access the production environment.
3. After the authorization process is complete (if required), click **Show Changed Items Only** on the toolbar 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**.

NAME	BACKUP	PRODUCTION
Attachments (No changes)		
▲ Recipients		
▶ To	Aaron.Brown@asdomain.local	Aaron.Brown@asdomain.local
▶ To	Jane.Summers@asdomain.local	Jane.Summers@asdomain.local
▶ Properties		
Body	<double click to open>	<double click to open>

Step 1. Specify Credentials

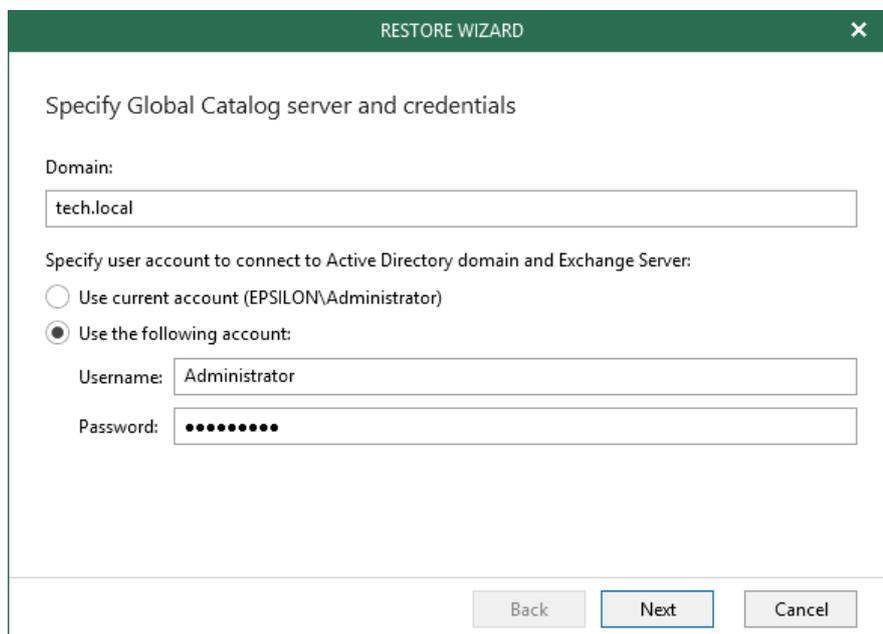
Depending on the organization type, the first step of the credentials dialog will be different:

- [For On-Premises Exchange](#)
- [For Exchange Online](#)

For On-Premises Exchange

When comparing data with On-Premises Exchange organization, specify a Global Catalog server and valid access credentials.

You can use your current account or specify another one in the *domain|username* format. For more information on required permissions, see [Required Permissions](#).



The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify Global Catalog server and credentials". Below this, there is a "Domain:" label followed by a text input field containing "tech.local". Underneath, the instruction "Specify user account to connect to Active Directory domain and Exchange Server:" is followed by two radio button options: "Use current account (EPSILON\Administrator)" and "Use the following account:". The second option is selected. Below the selected option, there are two text input fields: "Username:" containing "Administrator" and "Password:" containing a series of dots. At the bottom of the dialog, there are three buttons: "Back", "Next" (which is highlighted with a blue border), and "Cancel".

For Exchange Online

When comparing with Exchange Online organizations, specify the account to connect to the target Exchange server.

You can use your current account or provide another one in the *<username>@<organization>.onmicrosoft.com* format.

RESTORE WIZARD

Specify Exchange Server credentials

Specify user account to connect to Exchange Server:

Use current account (GAMMA\Administrator)

The following account

User name: Administrator@abc.onmicrosoft.com

Password: ●●●●●●●●

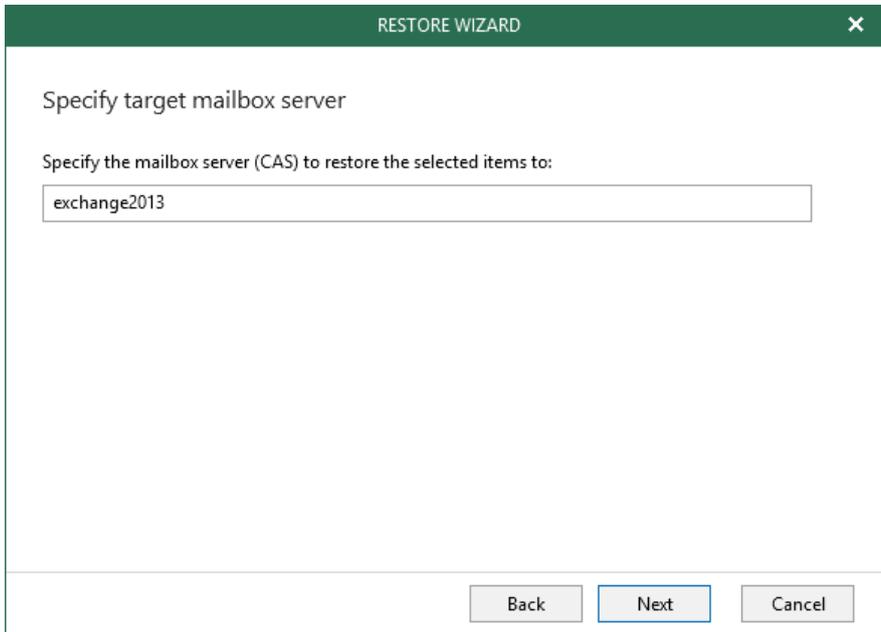
Back Next Cancel

Step 2. Specify Target Mailbox Server

At this step of the wizard, specify the target mailbox server.

NOTE:

This step is only available when comparing data with On-Premises organizations.



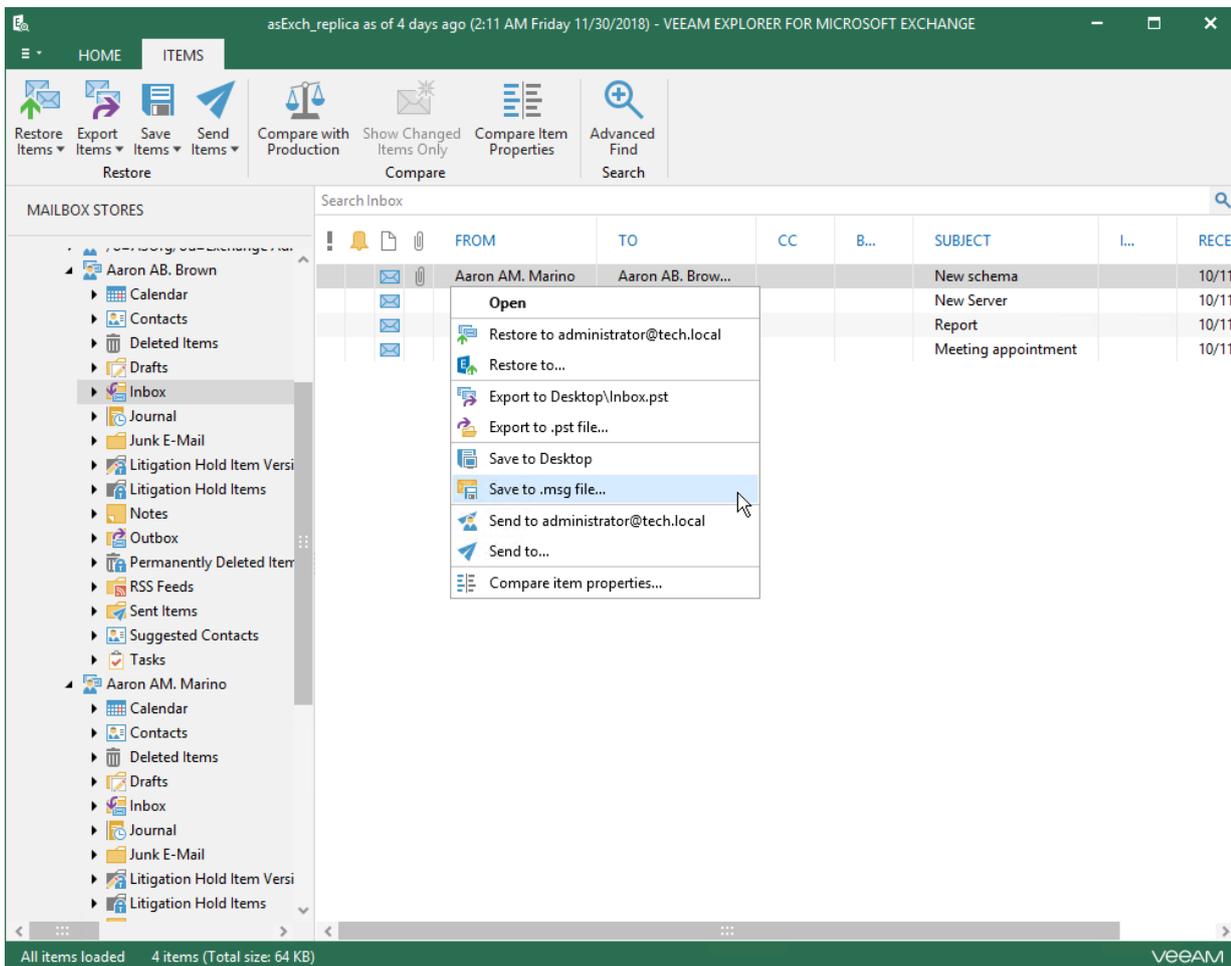
Saving Microsoft Exchange Items

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 an item.
2. On the **Items** tab, select **Save Items > Save to .msg file** or right-click a folder/item and select **Save to .msg file**.

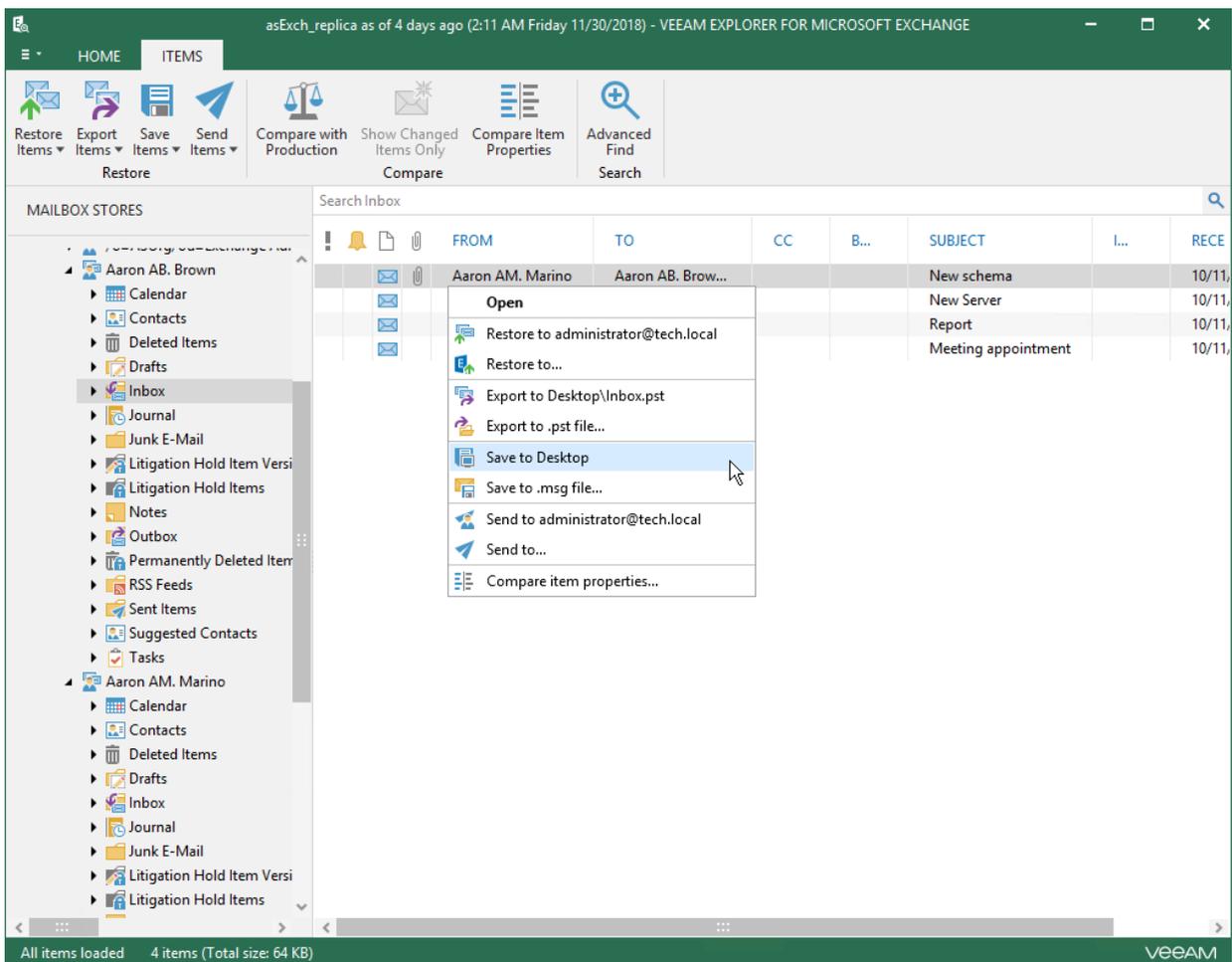


1-Click Save

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.
Use the **Search** field to find particular items.
3. On the **Items** tab, select **Save Items > Save to <folder_name>** or right-click a folder/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

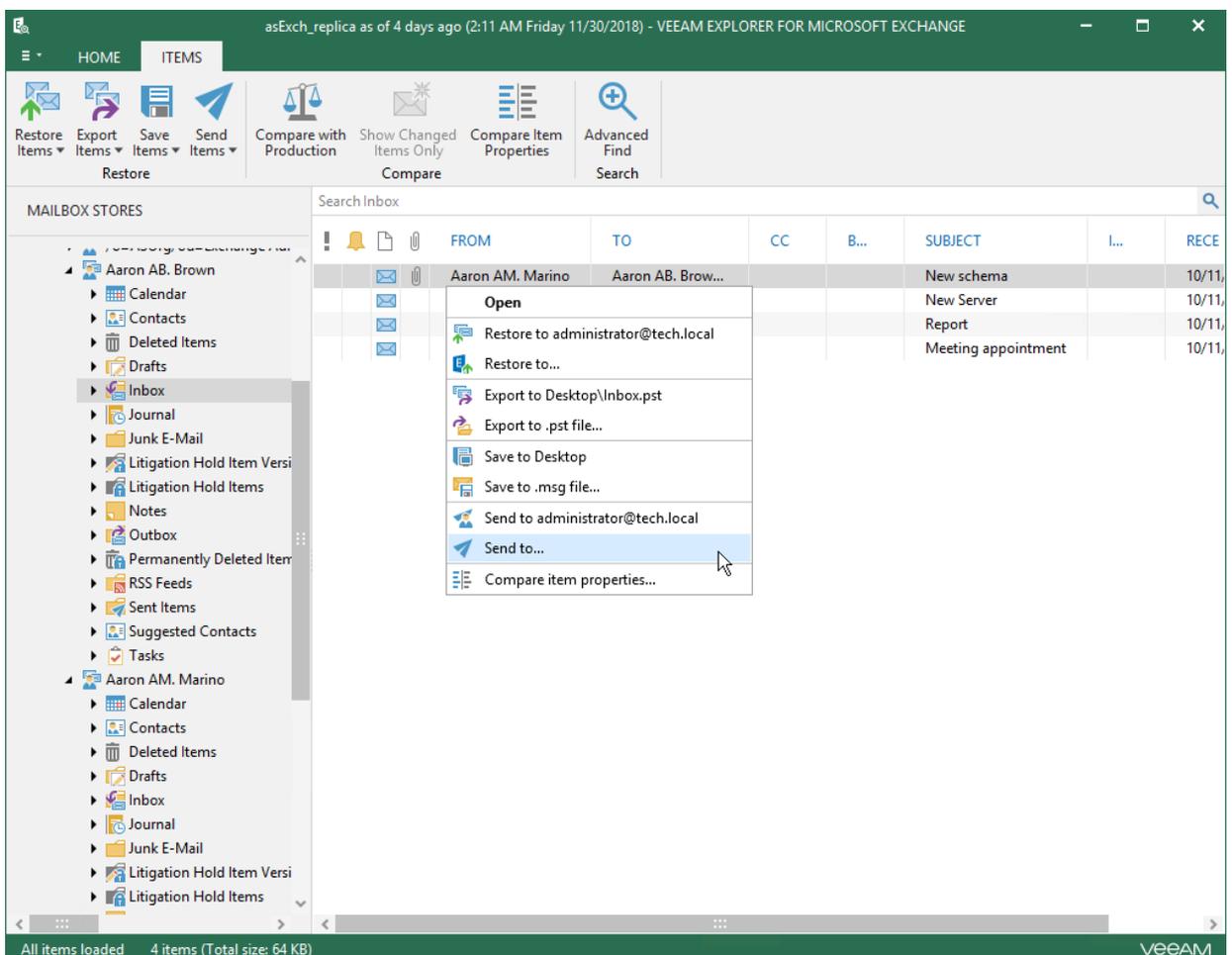
Veeam Explorer for Microsoft Exchange allows you to send Exchange items to specified recipients via email.

TIP:

Before sending documents, make sure to configure SMTP settings, as described in [Configuring SMTP Settings](#). The amount of data you can send at a time depends on your SMTP server configuration.

To send items, do the following:

1. In the navigation pane select a folder.
2. In the preview pane, select items to send.
Use the **Search** field to find particular items.
3. On the **Items** tab, select **Send Items > Send to** or right-click a folder/item and select **Send to**.



4. Provide a recipient address.

The **From** field is filled automatically based on the address you have provided when configuring SMTP settings. To edit the message body, click **More Details**.

SEND TO ✕

 Send	From:	administrator@tech.local
	To:	Aaron.Brown@asdomain.local
	Subject:	Mail Items Recovery

 New schema

Sent by Veeam Explorer for Microsoft Exchange

 Fewer details

Veeam Explorer for Microsoft SharePoint

Veeam Explorer for Microsoft SharePoint allows you to restore or export Microsoft SharePoint objects from backups created by Veeam Backup & Replication and Veeam Backup for Microsoft Office 365.

What's New

The following new features and enhancements have been implemented in Veeam Explorer for Microsoft SharePoint that comes as part of Veeam Backup & Replication 9.5 Update 4 and Veeam Backup for Microsoft Office 365 3.0:

- Support for farm solution.
- Support for custom lists templates.
- Support for list view restore.
- Performance and stability Improvements.

Planning and Preparation

Continue with this section to learn how to configure your environment before start using Veeam Explorer for Microsoft SharePoint:

System Requirements

This section lists system requirements for Veeam Explorer for Microsoft SharePoint.

Component	Requirement
Microsoft SharePoint	For more information about supported versions of Microsoft SharePoint, see: <ul style="list-style-type: none"><li data-bbox="448 483 1362 546">▪ The VSS-Aware Applications subsection of the Veeam Backup & Replication User Guide.<li data-bbox="448 555 1418 618">▪ The System Requirements section of the Veeam Backup for Microsoft Office 365 User Guide.

NOTE:

Consider the following:

- To restore SharePoint content database items from a server running Microsoft Windows ReFS, the Veeam backup server or a management 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.

Used Ports

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

General

From	To	Protocol	Port	Notes
Veeam Explorer for Microsoft SharePoint	SQL Server	TCP	1433,1434 and other	To communicate with Microsoft SQL servers hosting content databases. Exact port numbers depend on the configuration of a Microsoft SQL server. For more information, see this Microsoft article .
	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 .

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	To	Protocol	Port	Notes
Target Server / Staging Server	Veeam Backup Server / Standalone Console	TCP	3260 - 3270	Used by iSCSI initiator to connect to the iSCSI target.

Required Permissions

The following table lists required permissions for user accounts to back up and restore Microsoft SharePoint data.

Operation	Required Roles and Permissions
Backup	For more information, see: <ul style="list-style-type: none">▪ The Required Permissions section of the Veeam Backup & Replication User Guide.▪ The Required Permissions section of the Veeam Backup for Microsoft Office 365. User Guide.
Restore to on-premises Microsoft SharePoint from backups created by Veeam Backup & Replication and Veeam Backup for Microsoft Office 365	To restore data to on-premises SharePoint, make sure to configure user accounts as follows: <ul style="list-style-type: none">▪ 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>.
Restore to Microsoft Office 365 from backups created by Veeam Backup for Microsoft Office 365	To restore data to SharePoint Online, make sure to configure user accounts as follows: <ul style="list-style-type: none">▪ The account must be granted the <i>SharePoint Administrator</i> role.▪ The account must be granted the <i>Site Collection Administrator</i> role.

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 you current account or provide another account.
 - When using *Forms Authentication*, the current account cannot be used.

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.

Staging SQL Server

To perform Microsoft SharePoint items recovery, Veeam Explorer requires a Microsoft SQL server to be used as a staging system.

The server you are going to use as a staging system must conform to the following:

- 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, using Availability Group Listeners as staging servers is not recommended.

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 10GB. For more information, see [this Microsoft article](#).

Remote BLOB Stores Support

A BLOB store must either be 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 manual discovery).

IMPORTANT!

Third-party RBS providers are not supported in the current version.

Make sure the staging SQL Server configuration meets the following requirements:

1. **FILESTREAM** must be enabled on a database server, as described in 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 2008R2, see [this Microsoft article](#)
2. **RBS Client Library** must be 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 corresponding Microsoft SQL Server Remote Blob Store installation package (**RBS.msi**) available at the Microsoft website:
 - For SQL Server 2012, see [this Microsoft article](#)
 - For SQL Server 2008R2, see [this Microsoft article](#)

Considerations and Limitations

This section covers considerations and known limitations of Veeam Explorer for Microsoft SharePoint.

Status Recovery Limitations

Consider the following when planning documents/list items recovery:

- If a document/item was in *Check Out* state when the backup was created, item's last version 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 corresponding 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

Restoring Documents, Libraries and Lists

- 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.
- *Modified By* field of restored documents is updated with the account performing restore.
- Some *Rating Settings* of *Discussion* lists values are not restored.
- Restore via PSDirect, VIX or Sphere API is not supported.

Restoring List Items

Consider that when restoring a list item, Veeam Explorer works in the following way:

- Deletes an existing item
- Creates item's latest version 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.
- Restore via PSDirect, VIX or Sphere API is not supported.

This logic leads to several peculiarities of list item restore, as described below.

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 corresponding 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, it is recommended to turn off enforced relationship behavior. As a work-around, you can roll-back the SharePoint database using Veeam Explorer for Microsoft SQL Server (as described in the

[corresponding section](#) of this guide) 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 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, site's "Welcome" page), consider that restore process will recover all versions of the item sequentially without deletions, adding them to *Version History*.
- *Restored Issue* list items are assigned new Issue ID.
- Restore of *Time Card* list is not supported.

Restoring List Items with Links (Attachments)

Consider the following when planning for the recovery 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 via PSDirect, VIX or Sphere API is not supported.

Restoring Surveys

Consider the following limitations when planning for the recovery of surveys, survey questions and responses:

- Survey item(s) 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 recovered 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 via PSDirect, VIX or Sphere API is not supported.

Restoring Sites

- If you plan to restore SharePoint site pages, consider that Veeam Explorer does not support recovery 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/or 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.*"
- Web features restore is not supported for SharePoint 2010 sites.

Export and Import

- 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.

Data Type Limitations

Consider the column (field) data type when planning for the recovery 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 recover 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 item(s) originally belonging to a list with no content approval required, to another list. If you try to restore such item(s) to a list that requires content approval, item version and status will be modified in the following way:

- a. 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*.
- b. 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 as follows:
 - 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 recovery of list items (with or without content approval originally required):

- a. 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 recovery item status will be set to *Pending*.

- b. 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 recovery item status in the content approval workflow will be also restored, except for the states listed (see "Status Recovery Limitations" above).

Launching Application and Exploring Backups

You can launch Veeam Explorer for Microsoft SharePoint and explore the content of a backup file in any of the following ways:

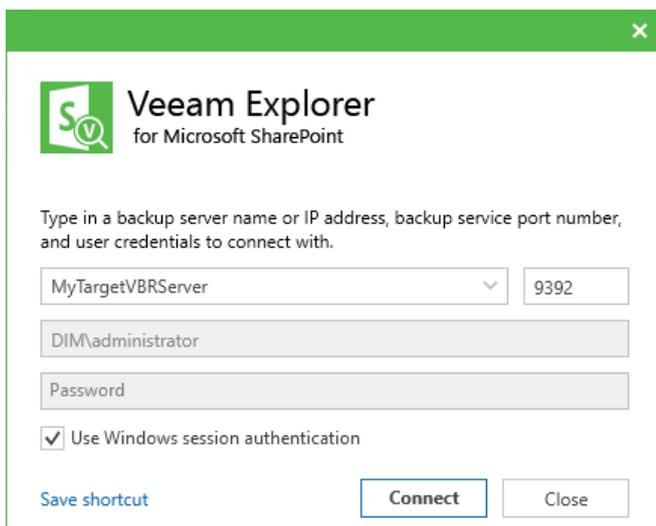
- You can use the **Restore application item** option to explore backups created by Veeam Backup & Replication.
For more information, see the [Application Items Restore](#) section of the Veeam Backup & Replication User Guide.
- You can use the **Explore** option to explore backups created by Veeam Backup for Microsoft Office 365.
For more information, see the [Data Restore](#) section of the Veeam Backup for Microsoft Office 365 user guide.
- You can go to **Start** and click **Veeam Explorer for SharePoint** to launch the application as a standalone console. Then, add Microsoft SharePoint databases manually, as described in the [Standalone Databases Management](#) section.

When launching from the **Start** menu, specify the following parameters:

- Specify the name or IP-address of a Veeam Backup & Replication server to which you want to connect.
- Specify the port number.
- Specify user credentials to connect to the server.

The account must be a member of the **Local Administrator** group on a target server. To use your current account, select **Use Windows session authentication**.

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



The screenshot shows a dialog box titled "Veeam Explorer for Microsoft SharePoint". It contains the following fields and controls:

- A dropdown menu with the text "MyTargetVBRServer" and a downward arrow.
- A text input field containing "9392".
- A text input field containing "DIM\administrator".
- A text input field containing "Password".
- A checked checkbox labeled "Use Windows session authentication".
- A "Save shortcut" link in the bottom-left corner.
- A "Connect" button in the bottom-center.
- A "Close" button in the bottom-right corner.

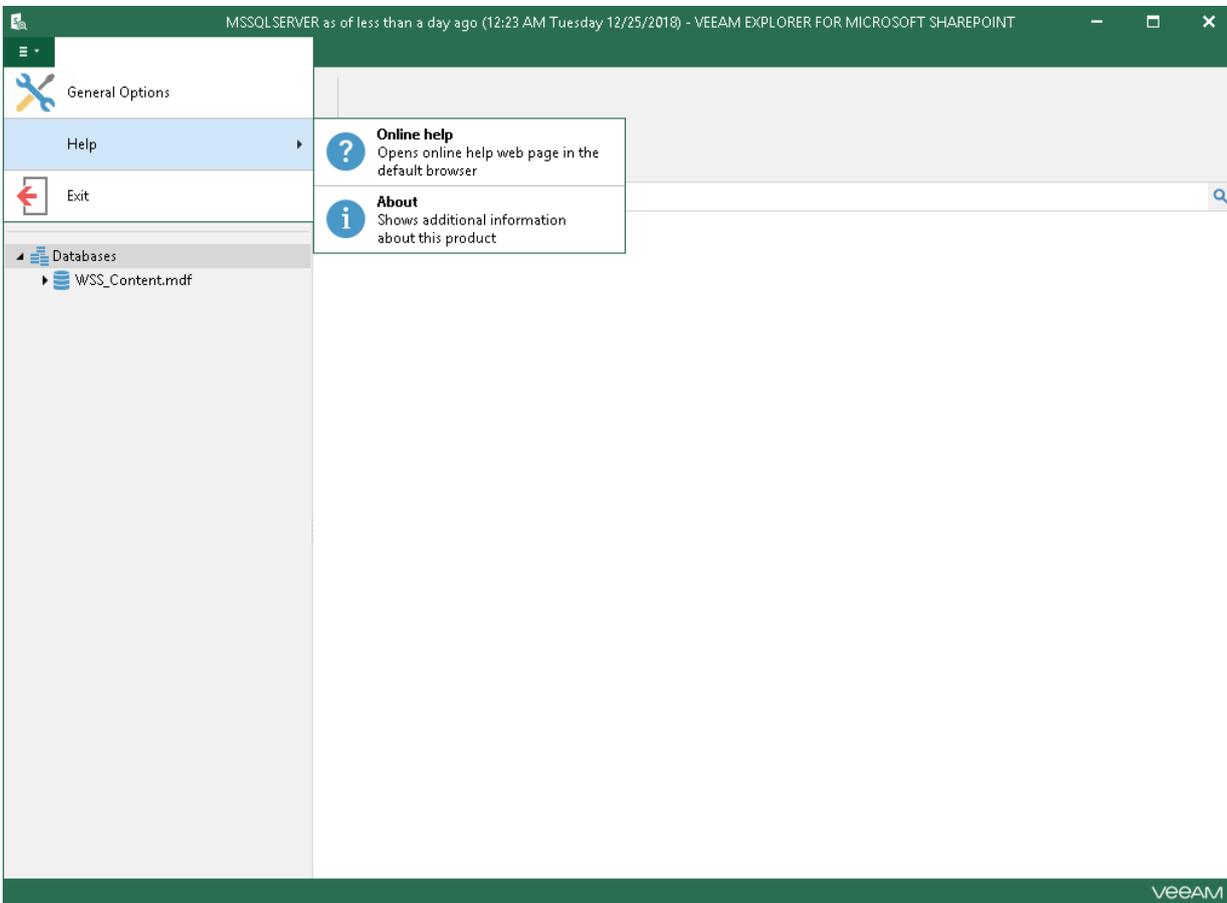
Understanding User Interface

Veeam Explorer for SharePoint 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 features:

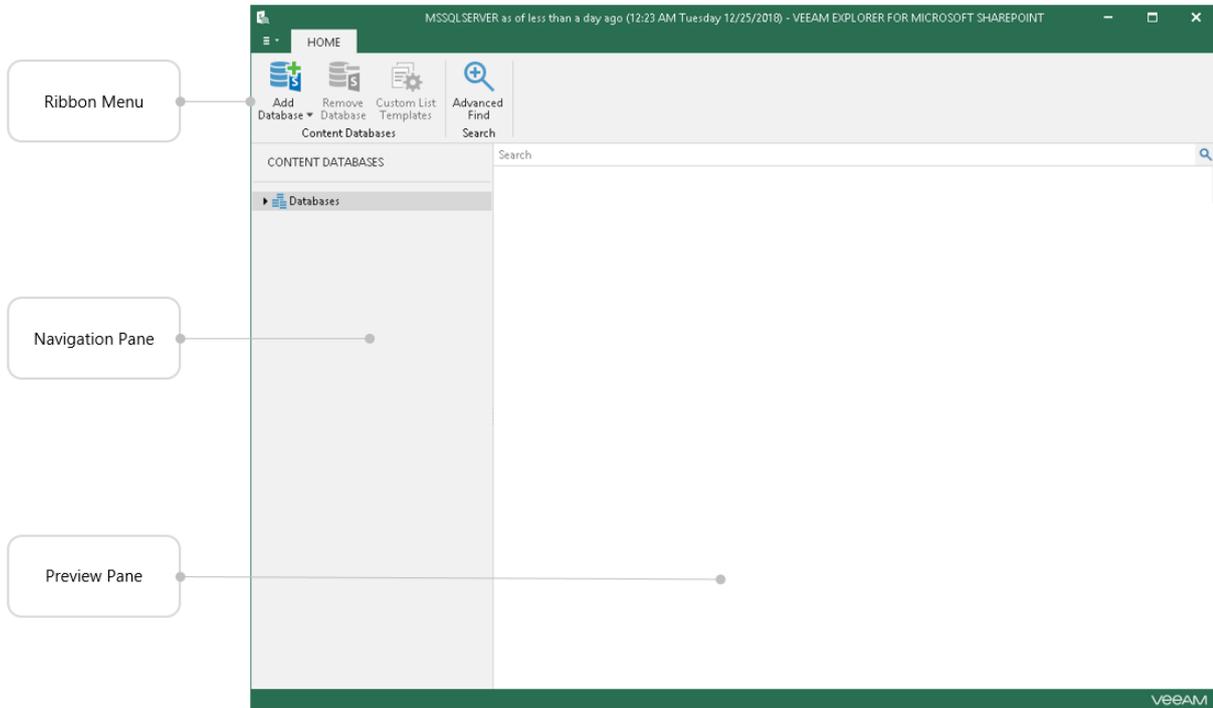
- **General Options.** Allows you to configure program options.
- **Help.**
 - **Online help.** Opens the online web help page.
 - **About.** Shows information about the product.
- **Exit.** Closes the program.



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.



Browsing, Searching and Viewing Items

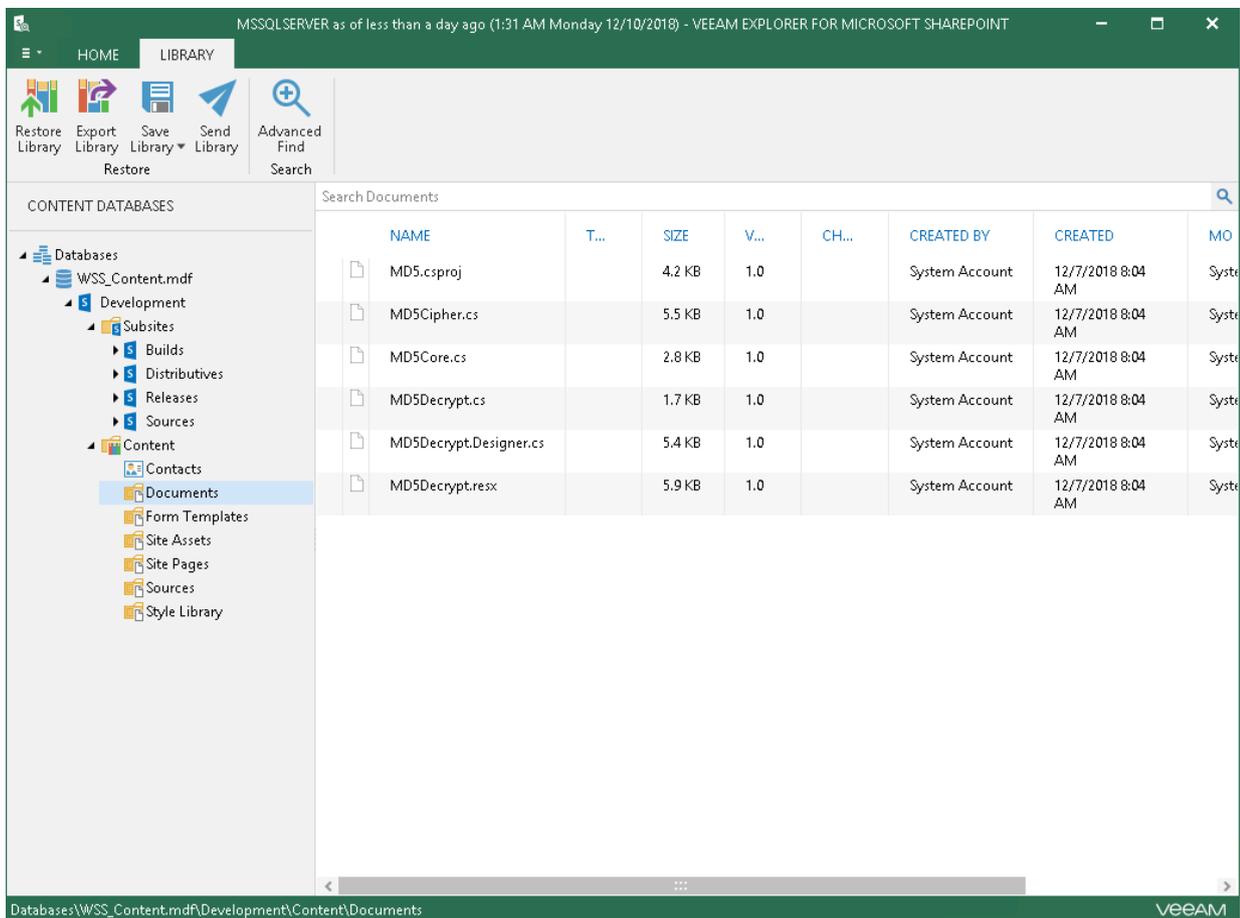
Continue with this section to learn more about:

- [Browsing your backup content](#)
- [Viewing objects properties and open files](#)
- [Searching for objects in a backup file](#)
- [Using the advance search capabilities](#)

Browsing

To view the content of a backup file, you use the navigation pane which shows you the database structure containing your site items such as libraries and subsites.

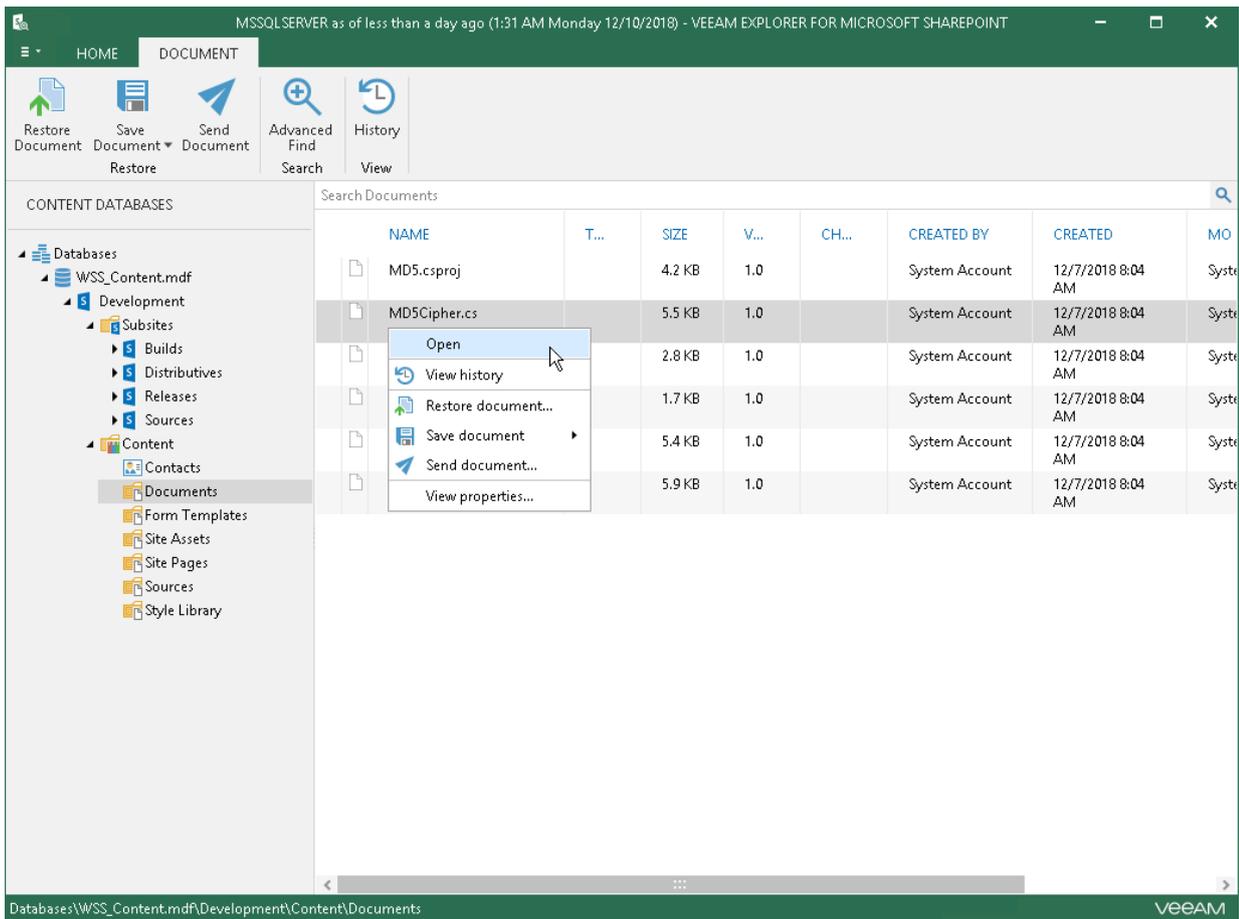
After you select an object in the navigation pane, you can see its content in the preview pane.



Viewing 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**.



Searching

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. Type in a search query using the search field at the top of the preview pane.

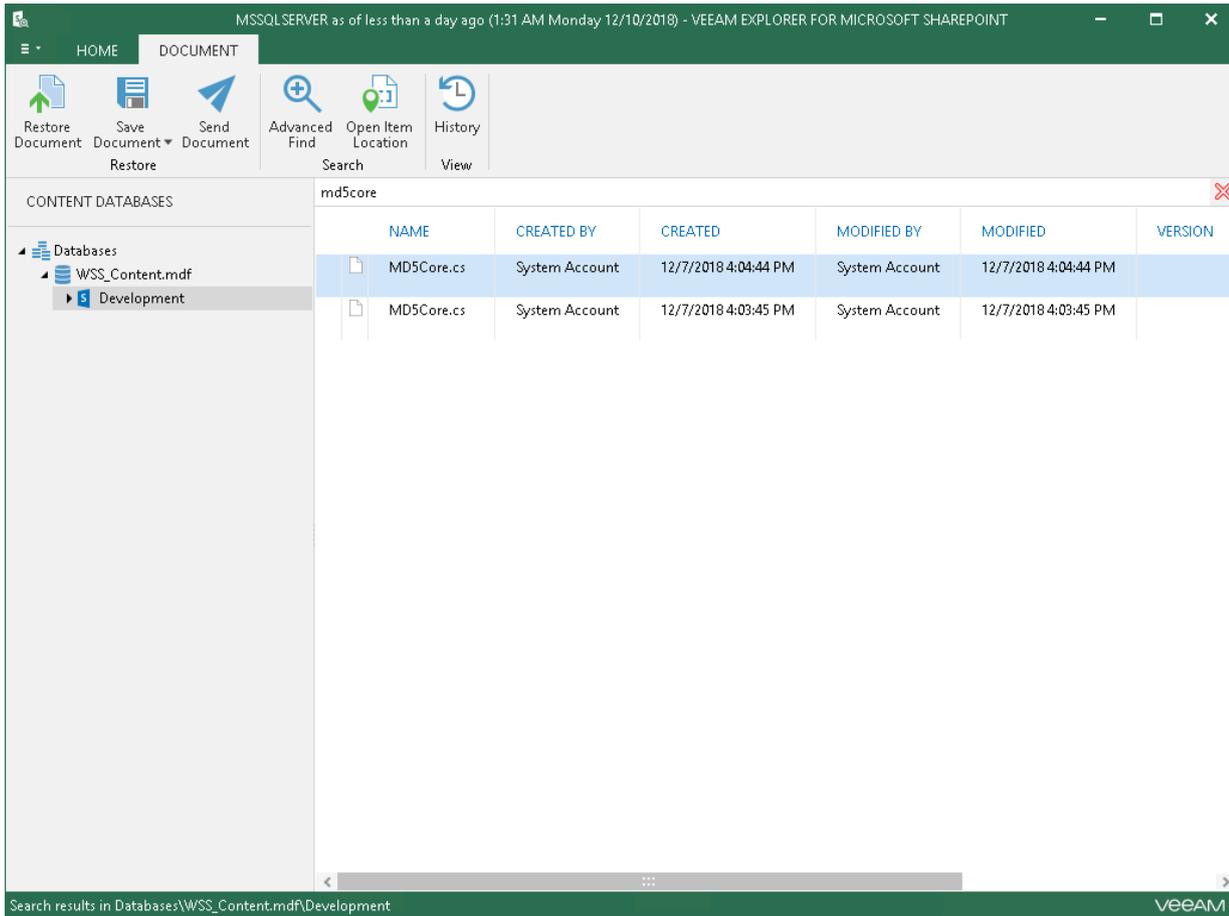
NOTE:

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, to find all items that require approval in the list of decisions, you can use the following search query: *status:pending approval*.

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 Capabilities

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 content node and click **Advanced Find**.
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 **Start**.

To remove a filter, click the cross mark next to it. To remove all configured filters, click **Reset**.

MSSQLSERVER as of less than a day ago (1:31 AM Monday 12/10/2018) - VEEAM EXPLORER FOR MICROSOFT SHAREPOINT

HOME DOCUMENT

Restore Document Save Document Send Document Advanced Find History

Restore Search View

CONTENT DATABASES

- Databases
 - WSS_Content.mdf
 - Development
 - Subsites
 - Builds
 - Distributives
 - Releases
 - Sources
 - Content
 - Contacts
 - Documents
 - Form Templates
 - Site Assets
 - Site Pages
 - Sources
 - Style Library

Find items that match these criteria:

File Name starts with md5c Start Reset

Define search criteria

Category: Frequently-used fields Field: Anniversary

Condition: between Value: Monday, December 10, 2018 Monday, December 10, 2018 Add To List

NAME	CREATED BY	CREATED	MODIFIED BY	MODIFIED	VERSION
MD5Cipher.cs	System Account	12/7/2018 4:04:44 PM	System Account	12/7/2018 4:04:44 PM	
MD5Cipher.cs	System Account	12/7/2018 4:03:43 PM	System Account	12/7/2018 4:03:43 PM	
MD5Core.cs	System Account	12/7/2018 4:04:44 PM	System Account	12/7/2018 4:04:44 PM	
MD5Core.cs	System Account	12/7/2018 4:03:45 PM	System Account	12/7/2018 4:03:45 PM	

Search results in Databases\WSS_Content.mdf\Development

VEEAM

General Application Settings

Continue with this section to learn more about configuring required application settings and components.

Configuring Staging SQL Server

To perform Microsoft SharePoint items recovery, Veeam Explorer requires a Microsoft SQL server to be used as a staging system.

Consider the following when configuring a staging SQL server:

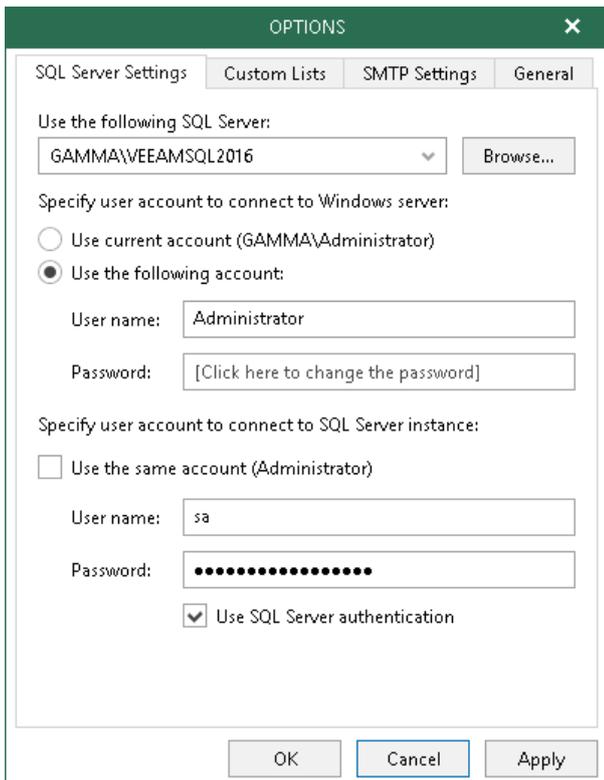
- If a SQL server belongs to an untrusted domain, connection will not be possible.
- If a SQL server belongs to a trusted domain, only the *SQL Server authentication* method is available.
- If both a SQL server and the machine running Veeam Explorer belong to the same domain, then both *Windows* and *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 its 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.
- 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** checkbox is cleared.

To configure a staging server, do the following:

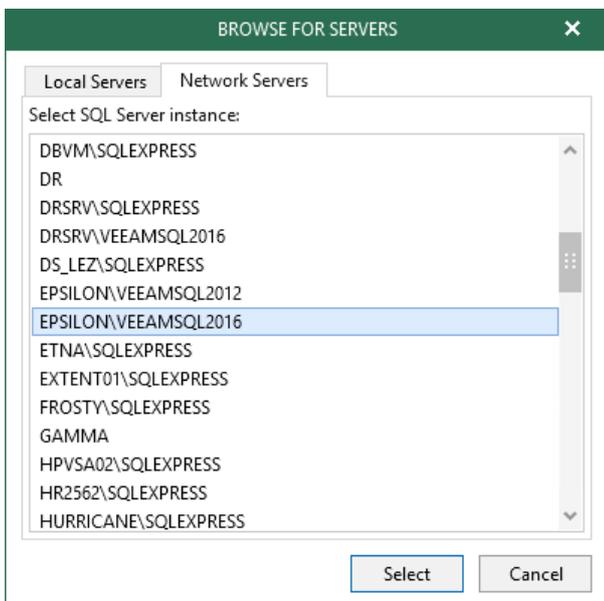
1. Go to the main menu and click **General Options**.
2. Go to the **SQL Server Settings** tab.
3. Specify a SQL server you want to use as a staging system.
Click **Browse** to select a server, as described in [Browsing For Servers](#).
4. Specify the account to access the selected SQL server.
5. Specify the account to access a SQL server instance.



Browsing for Servers

To browse for a server, do the following:

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



Configuring Custom Lists

Veeam Explorer for Microsoft SharePoint supports obtaining custom list templates from backups created by Veeam Backup & Replication.

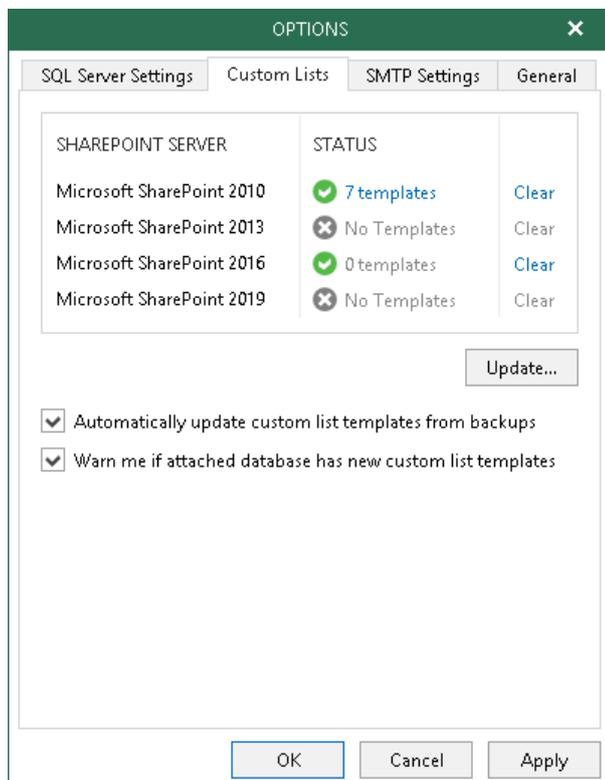
The actual information about templates is stored directly in a backup file and obtained automatically so that you can view the custom list data without having to perform any additional operations.

NOTE:

Configuring custom lists is not required when working with backups created by Veeam Backup for Microsoft Office 365.

To see templates with their corresponding names and features, go to the main menu > **General Options** and click the link under the **STATUS** column which also comprises the total number of available templates.

You can select **Automatically update custom list templates from backups** to automatically update existing templates. Also, you can select **Warn me if attached database has new custom list templates** to be notified if the database contains new templates other than those you already have.



See the figure below 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. Go to the main menu, select **General Options > Custom Lists** and click **Update**.
2. 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 Extension <input type="button" value="Browse..."/>
Language:	<input type="text"/>
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

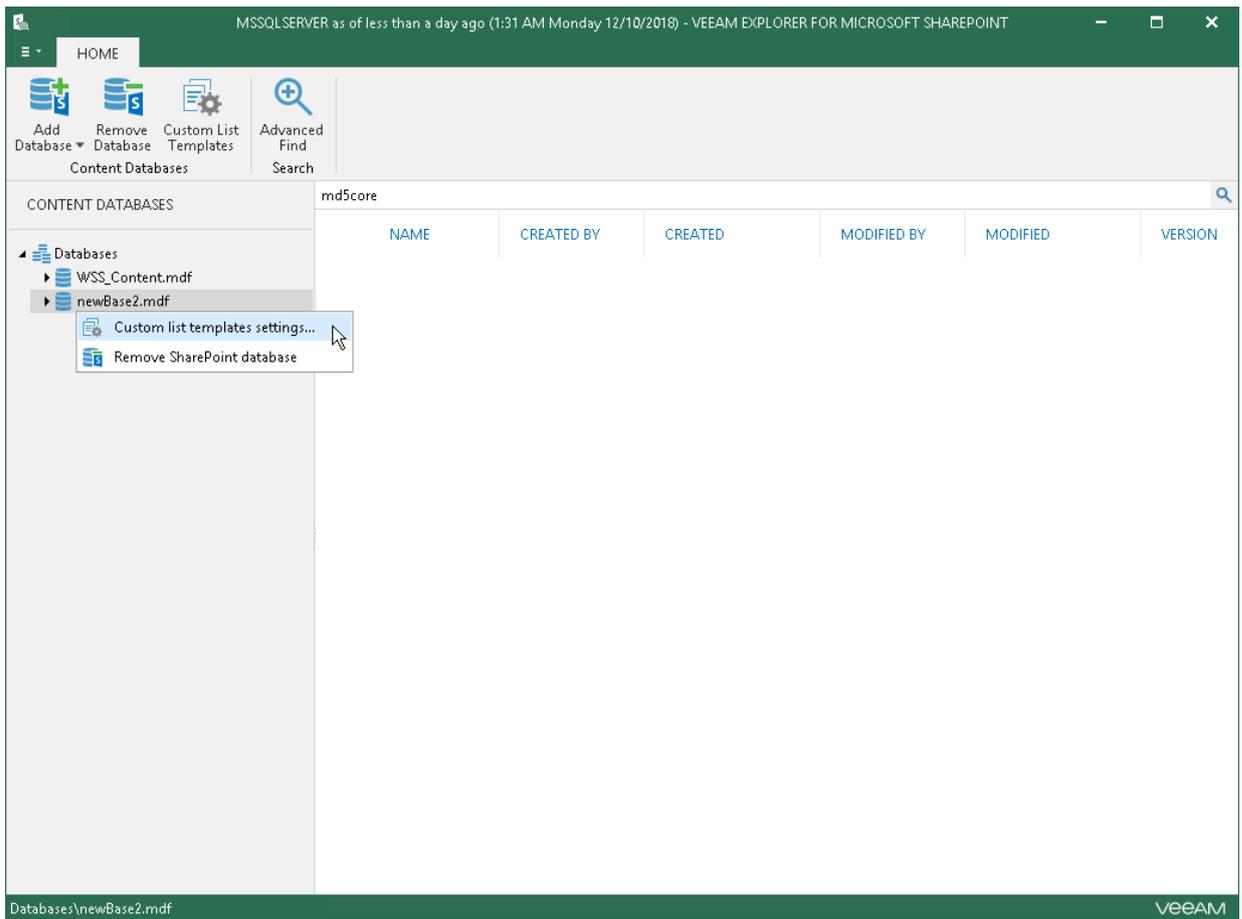
Importing Templates Using Ribbon Menu

NOTE:

Available only for Microsoft SQL Server databases and requires a staging SQL server. For more information on configuring a staging server, see [Configuring SQL Server Settings](#).

To import existing templates from the Microsoft SharePoint server using the ribbon menu, do the following:

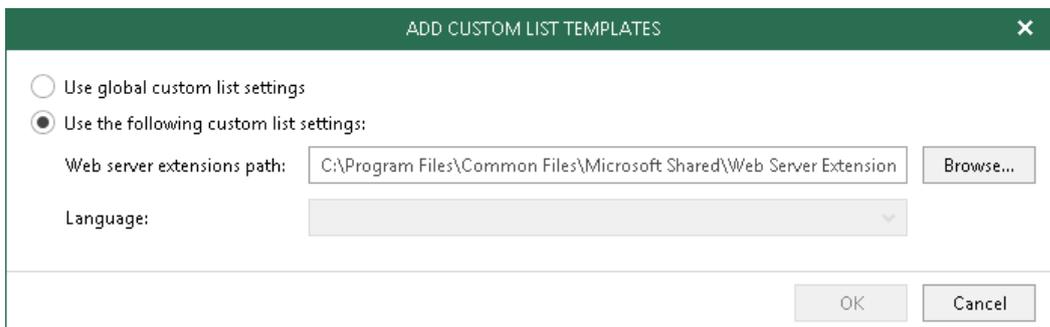
1. In the navigation pane, select a SQL database.
2. Click **Custom List Template** on the ribbon menu or right-click a SQL database and select **Custom list templates settings**.



3. Choose how you want your templates to be applied:

- a) Select **Use global custom list settings** to apply global list templates to the select database.
- b) 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.

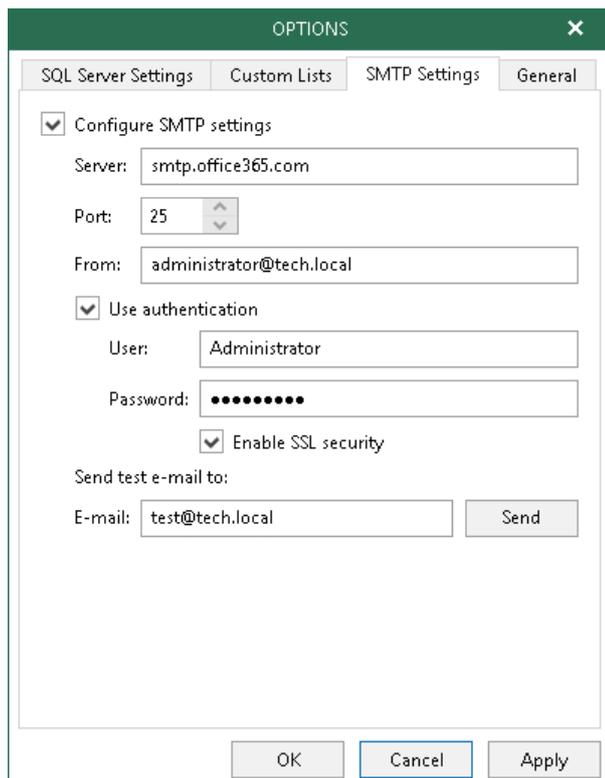


Configuring SMTP Settings

To send Microsoft SharePoint items as attachments, you must configure SMTP server settings.

To configure SMTP settings, do the following:

1. Go to the main menu and click **General Options**.
2. On the **SMTP Settings** tab, select the **Configure SMTP settings** checkbox and specify the following:
 - DNS name or IP address of the mail server.
 - SMTP communication port.
 - The sender email address. This address will appear in the **From** field when sending SharePoint items.
 - Select **Use authentication** checkbox If your SMTP server requires SMTP authentication for outgoing mail and provide valid credentials.
 - Select **Enable SSL security** checkbox to enable SSL data encryption.
3. Click **Send** to send a test email message.
4. Click **Apply**.



The screenshot shows a dialog box titled "OPTIONS" with a close button (X) in the top right corner. The dialog has four tabs: "SQL Server Settings", "Custom Lists", "SMTP Settings", and "General". The "SMTP Settings" tab is selected. Inside the dialog, there is a section for "Configure SMTP settings" which is checked. Below this, there are several fields and checkboxes:

- Server:** A text box containing "smtp.office365.com".
- Port:** A spinner box set to "25".
- From:** A text box containing "administrator@tech.local".
- Use authentication:** A checked checkbox. Below it are two text boxes: "User:" containing "Administrator" and "Password:" containing "••••••••".
- Enable SSL security:** A checked checkbox.
- Send test e-mail to:** A section with a text box containing "test@tech.local" and a "Send" button.

At the bottom of the dialog, there are three buttons: "OK", "Cancel", and "Apply".

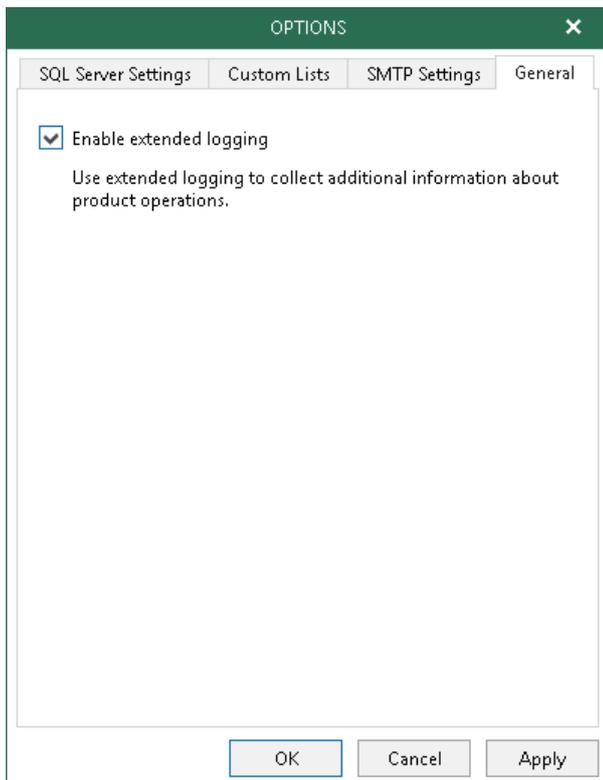
Enabling Extended Logging

Log files are used to troubleshoot a variety of different situations when certain processes may have gotten unexpected results while being executed.

By default, logs are collected in the default mode. In certain cases, you may need to enable the extended logging mode to collect logs that contain more details on specific operations.

To configure extended logging mode, do the following:

1. Go to the main menu and click the **General Options**.
2. On the **General** tab, select the **Enable Extended logging** checkbox.
3. Go back to the application, perform necessary actions and then review the logs to see the details.



Standalone Databases Management

Continue with this section to learn more about adding and removing Microsoft SharePoint databases.

Adding Microsoft SharePoint Databases

Continue with this section to learn more about the addition of Microsoft SharePoint databases to the application scope manually.

When you add standalone Microsoft SharePoint databases to the application scope, Veeam attaches such a database to the staging SQL server, creating a temporary Microsoft SharePoint content database from which you can recover your items.

To manually add new Microsoft SharePoint databases to the application scope, do the following:

1. Click **Add Database > Microsoft SharePoint Databases** on the toolbar or right-click the root **Database** 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.

To add remote BLOB stores, click **Add** next to the **Remote BLOB Stores** section.

3. Click **OK**.

ADD DATABASE

Specify content database files location

Primary database file:

C:\sharepoint\newBase2.mdf Browse...

Secondary database and log files:

FILE		STATUS	
C:\sharepoint\newBase2_log.LDF		OK	Browse...

Remote BLOB Stores:

FOLDER	STATUS	
		Add...

OK Cancel

Adding Veeam Backup for Microsoft Office 365 Databases

To manually add databases that store Microsoft Office 365 organization data, do the following:

1. Click **Add Database > Veeam Backup for Microsoft Office 365 Databases** or right-click the root **Database** node and select **Veeam Backup for Microsoft Office 365 databases**.
2. Specify the database file location and log directory.
3. Click **Open**.

NOTE:

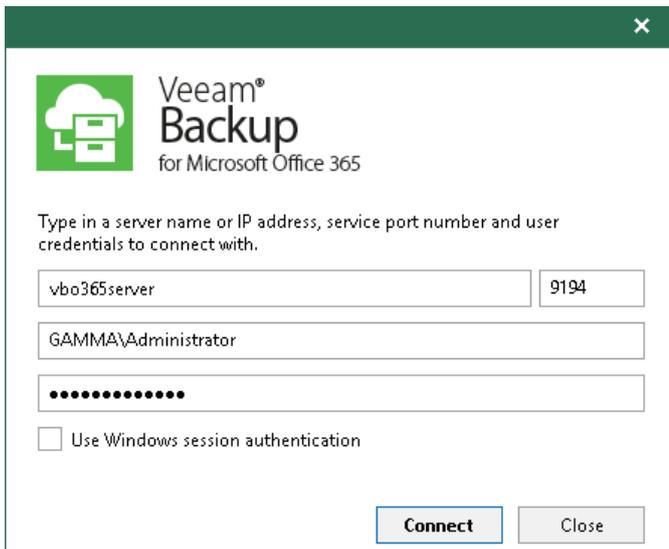
Make sure you have disabled the **Veeam Backup Proxy for Microsoft Office 365** service when adding local databases. You can stop this service by using the `services.msc` console. If you try to add a database having this service still in progress, you will receive an error message and will not be able to access the database due to database lock.

Adding Veeam Backup for Microsoft Office 365 Server

You can use the built-in Veeam Explorer abilities to connect to another Veeam Backup for Microsoft Office 365 server and add its databases to the Veeam Explorer for Microsoft SharePoint scope.

To connect to another Veeam Backup for Microsoft Office 365 server remotely, do the following:

1. Click **Add Database > Veeam Backup for Microsoft Office 365 Server** on the ribbon menu or use the corresponding context menu command.
2. Specify connection settings under which to connect to the Veeam Backup for Microsoft Office 365 server and click **Connect**.



The screenshot shows a dialog box titled "Veeam Backup for Microsoft Office 365". It contains the following fields and controls:

- A text input field for the server name or IP address, containing "vbo365server".
- A text input field for the service port number, containing "9194".
- A text input field for the user name, containing "GAMMA\Administrator".
- A password input field with masked characters (dots).
- A checkbox labeled "Use Windows session authentication", which is currently unchecked.
- Two buttons at the bottom: "Connect" (highlighted in blue) and "Close".

Adding Veeam Backup for Microsoft Office 365 Service Provider

Veeam Explorer for Microsoft SharePoint allows you to add Microsoft Office 365 organization backups located on server providers servers.

IMPORTANT!

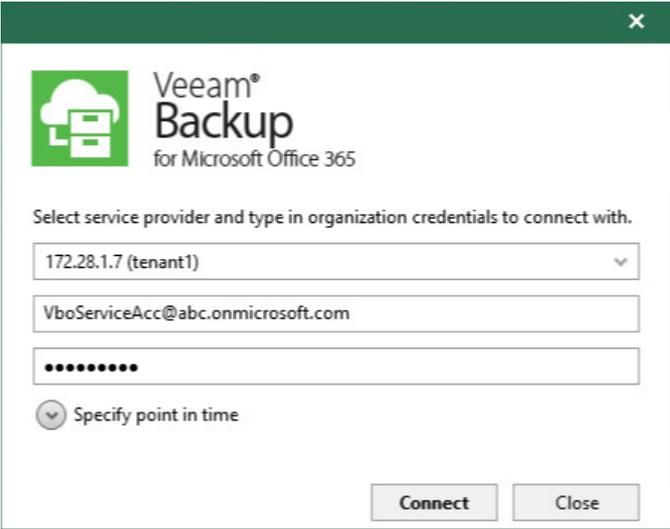
Consider the following:

- Both Veeam Explorer for Microsoft SharePoint and Veeam Backup and Replication must be installed on the same machine.
- At least one service provider must be added to Veeam Backup and Replication, as described in [Connecting to Service Providers](#).

To add Office 365 databases, do the following:

1. From the **Start** menu, launch Veeam Explorer for Microsoft SharePoint.
2. On the toolbar, click **Add Database > Veeam Backup for Microsoft Office 365 Service Provider** or use the corresponding context menu command.
3. In the drop-down menu, select a tenant account to which you want to connect.
The list of available tenants depends on added service providers.
4. Provide your Microsoft Office 365 Organization credentials.
5. Click **Connect**.

You can also select a point-in-time state as of which you want to load an organization database. For more information, see [Specifying Point in Time](#).



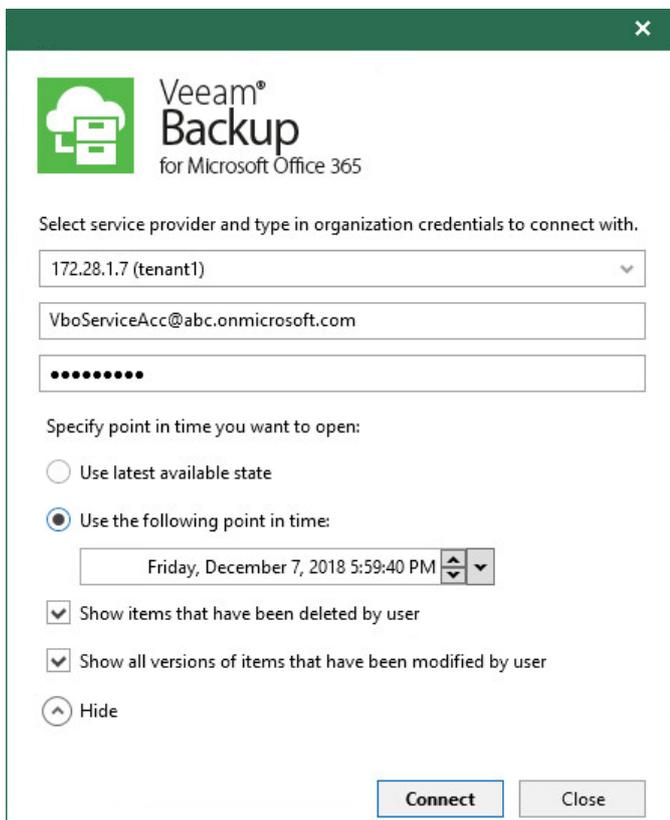
The screenshot shows a dialog box titled "Veeam Backup for Microsoft Office 365". The dialog has a green header bar with a close button (X) in the top right corner. Below the header, there is a logo on the left and the text "Veeam Backup for Microsoft Office 365" on the right. The main area of the dialog contains the instruction "Select service provider and type in organization credentials to connect with." followed by three input fields: a dropdown menu showing "172.28.1.7 (tenant1)", a text box containing "VboServiceAcc@abc.onmicrosoft.com", and a password field with masked characters. At the bottom left, there is a checkbox labeled "Specify point in time" which is currently unchecked. At the bottom right, there are two buttons: "Connect" and "Close".

Specifying Point in Time

When you connect to the service provider server, you may want to select a particular state as of which to add an organization database to the Veeam Explorer for Microsoft SharePoint scope.

To select a state, do the following:

1. After you select **Veeam Backup for Microsoft Office 365 Service Provider** and provide required credentials, click **Specify point in time**.
2. Specify a point in time state:
 - **Use latest available state.** To load data as of the latest backup state.
 - **Use the following point in time.** To load data as of the selected point in time.
To select a state, use the calendar control.
3. To load items that have been deleted by the user, select **Show items that have been deleted by user**.
4. To load all versions of items that have been modified by the user, select **Show all versions of items that have been modified by user**.



The screenshot shows a dialog box titled "Veeam Backup for Microsoft Office 365". It contains the following elements:

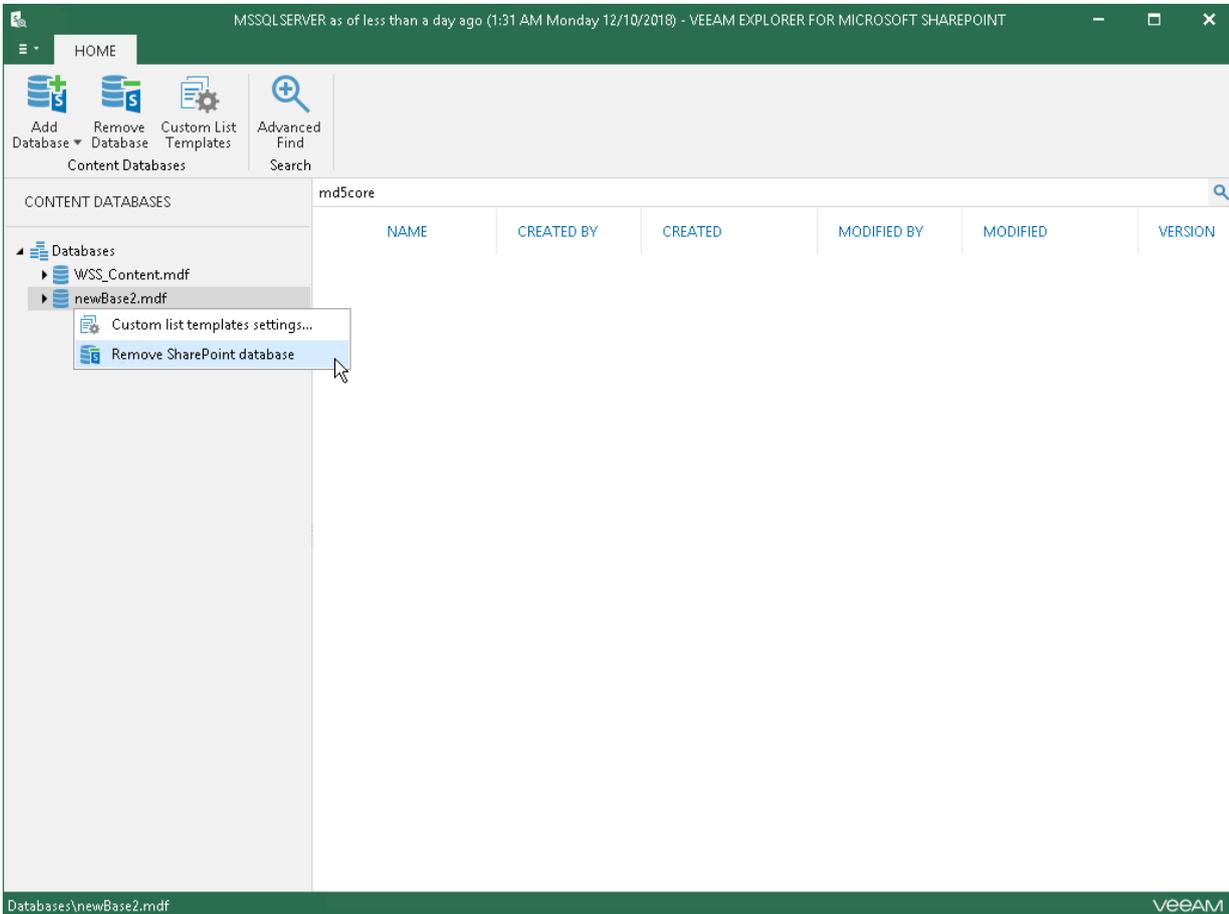
- Service Provider Selection:** A dropdown menu showing "172.28.1.7 (tenant1)".
- Organization Credentials:** A text field containing "VboServiceAcc@abc.onmicrosoft.com" and a password field with masked characters.
- Specify point in time you want to open:**
 - Use latest available state
 - Use the following point in time:
 - A date and time selector showing "Friday, December 7, 2018 5:59:40 PM".
- Show items that have been deleted by user
- Show all versions of items that have been modified by user
- Hide

At the bottom, there are two buttons: "Connect" and "Close".

Removing Standalone 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 SharePoint database**.



Data Restore

Continue with this section to learn more about restoring Microsoft SharePoint data.

NOTE:

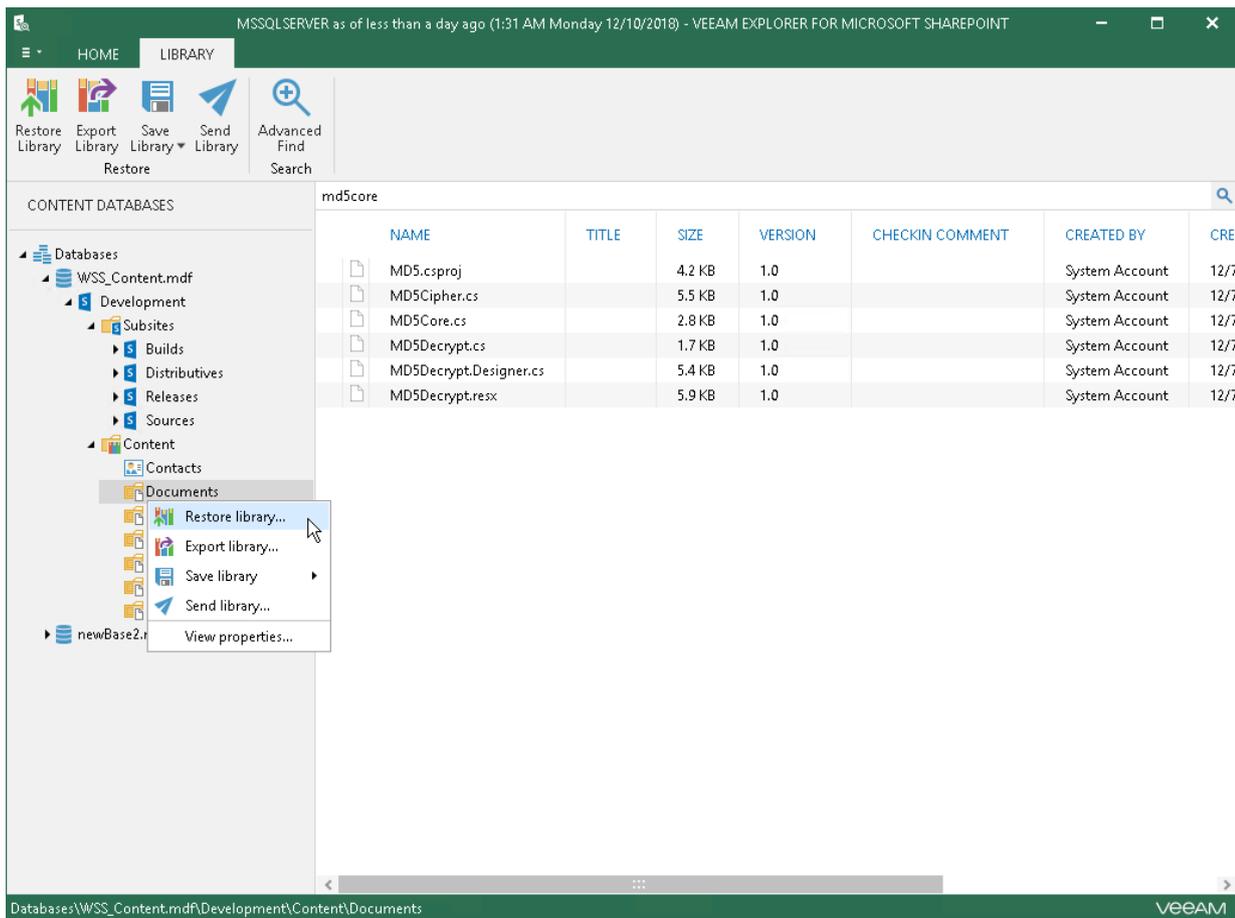
To use an internet proxy server to restore backups created by Veeam Backup for Microsoft Office 365, make sure to provide appropriate proxy server address and the port number. For that, go to the **Control Panel > Internet Options Connections** tab, click **LAN Settings**, select the **Use a proxy server for your LAN** checkbox 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 Veeam Backup for Microsoft Office 365 distribution package.

Restoring Microsoft SharePoint Document Libraries and Lists

To restore document libraries and lists, do the following:

1. In the navigation pane, select a library or list.
2. On the **Library** tab, select **Restore Library/Restore List** or right-click an object and select **Restore Library/Restore List**.
3. Proceed to [Specify Target SharePoint](#).



Step 1. Specify Credentials

At this step of the wizard, specify target server credentials. The credentials dialog might be different and depends upon the organization type you are restoring from.

Specifying Credentials for Office 365 Organizations

Specify authentication credentials to access your Microsoft Office 365 organization and click **Next**.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify Office 365 credentials". There are two radio button options: "Use connection credentials" (which is unselected) and "Use the following credentials:" (which is selected). Below the selected option, there are two text input fields. The "Account:" field contains the text "administrator@abc.onmicrosoft.com". The "Password:" field contains a series of 12 black dots. At the bottom of the dialog, there are three buttons: "Back", "Next" (which is highlighted with a blue border), and "Cancel".

Specifying Credentials for SharePoint Organizations

Specify authentication credentials to access your on-premises SharePoint organization and click **Next**.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify on-premises organization credentials". There are two radio button options: "Use connection credentials" (which is unselected) and "Use the following credentials:" (which is selected). Below the selected option, there are two text input fields. The "Account:" field contains the text "administrator@abc.com". The "Password:" field contains a series of 12 black dots. At the bottom of the dialog, there are three buttons: "Back", "Next" (which is highlighted with a blue border), and "Cancel".

Restoring from Microsoft SQL Database

When restoring from a Microsoft SQL database, provide the following:

- The site URL to which you want to recover your site.
- Authentication credentials.

NOTE:

When recovering Microsoft SharePoint sites from a Microsoft SQL database, you will be taken directly to the [Specify Restore Options](#) step.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify target SharePoint site and domain account to be used". Below this, there is a text input field for "Site URL:" containing the text "http://beta/". Underneath, the text "Specify user account to connect to SharePoint Server:" is followed by two radio button options. The first option is "Use current account (GAMMA\Administrator)" and is unselected. The second option is "Use the following account:" and is selected. Below the second option, there are two text input fields: "User name:" containing "tech\administrator" and "Password:" containing a series of dots. At the bottom of the dialog, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

Step 2. Specify Target List

At this step of the wizard, specify whether to restore items to the original list or choose another one. If a document library or list that is being restored does not exist, Veeam will create it automatically.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify target list". Below this, the text "Specify the list to restore items to:" is followed by two radio button options. The first option is "Restore to the original list (Documents)" and is unselected. The second option is "Restore to the following list:" and is selected. Below the second option, there is a text input field containing the text "my_new_list". At the bottom of the dialog, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

Step 3. Specify Restore Options

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

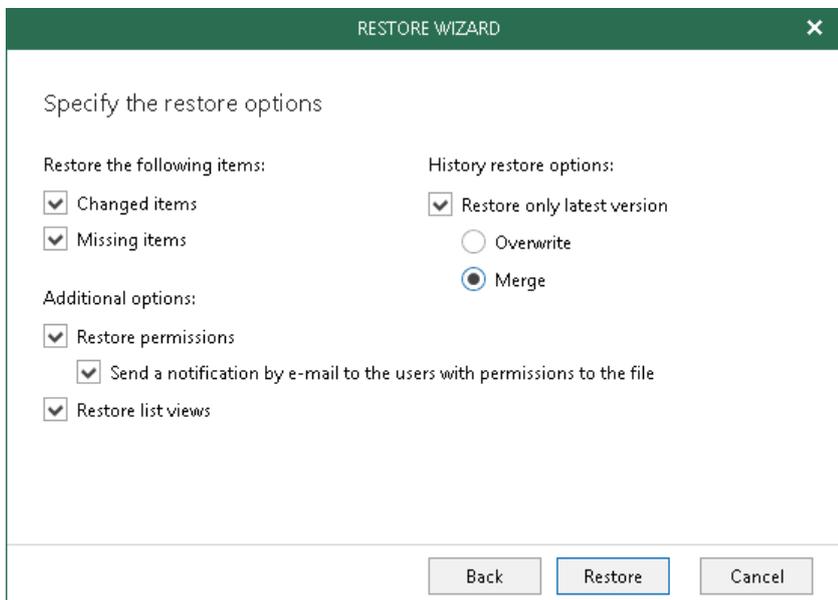
The restore options are as follows:

- **Changed items.** Allows you to recover data that has been modified in your production environment.
- **Missed items.** Allows you to recover missed items.
- **Restore permissions.** Allows you to recover permissions. If not selected, the permissions for the recovered document library or list will be set as follows:
 - 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.
- **Restore list view.** Allows you to recover your list views.
- **History restore options.** Allows you to select a version:
 - **Overwrite.** To overwrite data in the production environment by recovering only the latest version of the document from the backup.
 - **Merge.** To merge an existing version of the document with that of a backup version.

If not selected, all the versions in the production environment will be replaced with the corresponding data from the backup file.

NOTE:

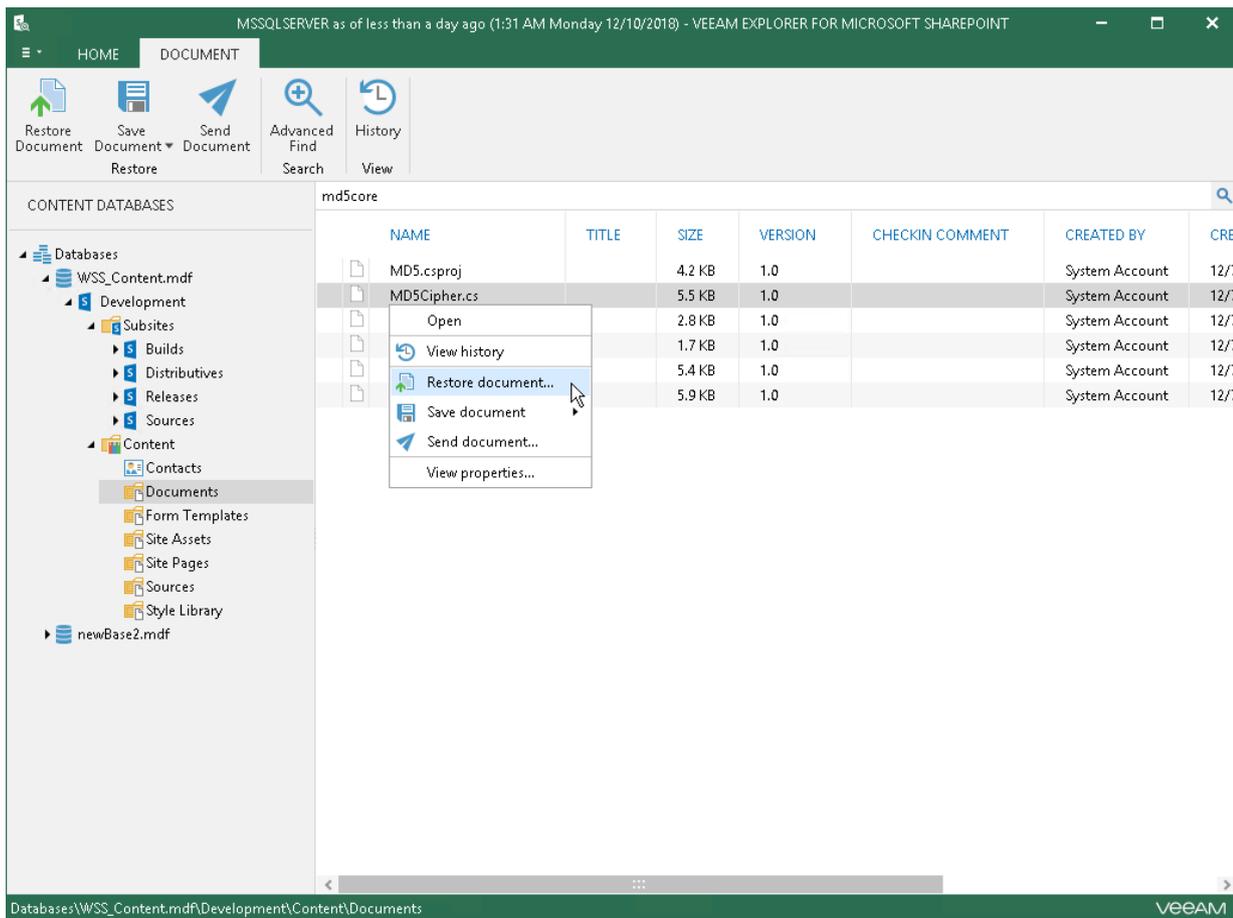
The **Send a notification by e-mail to the users with permission to the file** checkbox is only available when restoring data from backups created by Veeam Backup for Microsoft Office 365 for Microsoft Online organizations.



Restoring Microsoft SharePoint Documents and List Items

To restore documents and list items, do the following:

1. In the navigation pane, select a document or list item.
2. On the **Document** tab, select **Restore Document/Restore Item** or right-click an object and select **Restore Document/Restore Item**.
3. Proceed to [Specify Target SharePoint](#).



Step 1. Specify Credentials

At this step of the wizard, specify target server credentials. The credentials dialog might be different and depends upon the organization type you are restoring from.

Specifying Credentials for Office 365 Organizations

Specify authentication credentials to access your Microsoft Office 365 organization and click **Next**.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify Office 365 credentials". There are two radio button options: "Use connection credentials" (unselected) and "Use the following credentials:" (selected). Below the selected option, there are two text input fields: "Account:" containing "administrator@abc.onmicrosoft.com" and "Password:" containing a series of black dots. At the bottom of the dialog, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

Specifying Credentials for SharePoint Organizations

Specify authentication credentials to access your On-Premises SharePoint organization and click **Next**.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify on-premises organization credentials". There are two radio button options: "Use connection credentials" (unselected) and "Use the following credentials:" (selected). Below the selected option, there are two text input fields: "Account:" containing "administrator@abc.com" and "Password:" containing a series of black dots. At the bottom of the dialog, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

Restoring from Microsoft SQL Database

When restoring from a Microsoft SQL database, provide the following:

- The site URL to which you want to recover your site.
- Authentication credentials.

NOTE:

When recovering Microsoft SharePoint sites from a Microsoft SQL database, you will be taken directly to the [Specify Restore Options](#) step.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify target SharePoint site and domain account to be used". Below this, there is a text input field for "Site URL:" containing the text "http://beta/". Underneath, the instruction "Specify user account to connect to SharePoint Server:" is followed by two radio button options. The first option is "Use current account (GAMMA\Administrator)" and is unselected. The second option is "Use the following account:" and is selected. Below the second option, there are two text input fields: "User name:" containing "tech\administrator" and "Password:" containing a series of black dots. At the bottom of the dialog, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

Step 2. Specify Target Location

At this step of the wizard, specify whether to restore items to the original list or choose another one.

NOTE:

When restoring documents or lists, both must be presented in your production environment.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify target list". Below this, the instruction "Specify the list to restore items to:" is followed by two radio button options. The first option is "Restore to the original list (Documents)" and is unselected. The second option is "Restore to the following list:" and is selected. Below the second option, there is a text input field containing the text "my_new_list". At the bottom of the dialog, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

Step 3. Specify Restore Options

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

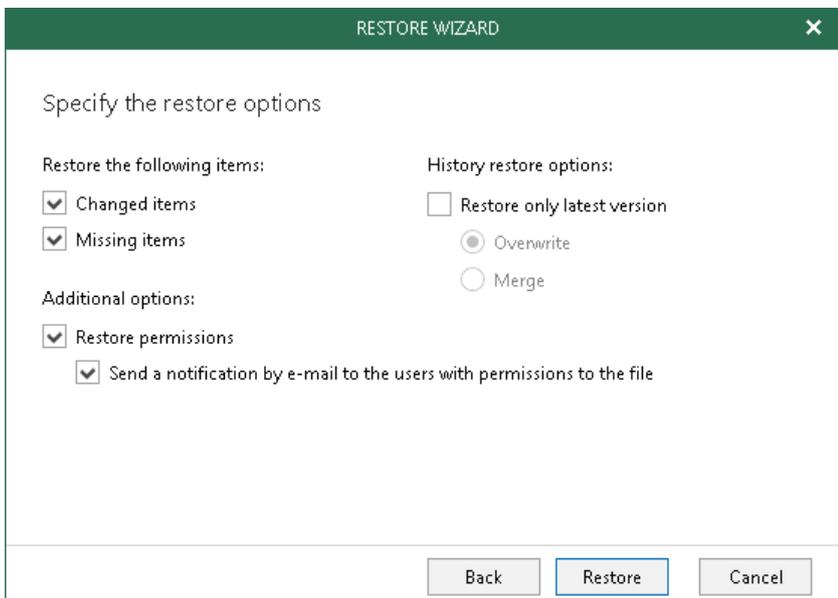
The restore options are as follows:

- **Changed items.** Allows you to recover data that has been modified in your production environment.
- **Missed items.** Allows you to recover missed items.
- **Restore permissions.** Allows you to recover permissions. If not selected, permissions for the recovered document library or list will be set as follows:
 - 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.
- **History restore options.** Allows you to select a version:
 - **Overwrite.** To overwrite data in the production environment by recovering only the latest version of the document from the backup.
 - **Merge.** To merge an existing version of the document with that of a backup version.

If not selected, all the versions in the production environment will be replaced with the corresponding data from the backup file.

NOTE:

The **Send a notification by e-mail to the users with permission to the file** checkbox is only available when restoring data from backups created by Veeam Backup for Microsoft Office 365 for Microsoft Online organizations.



The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main content area is titled "Specify the restore options" and is divided into three sections:

- Restore the following items:** Contains two checked checkboxes: "Changed items" and "Missing items".
- History restore options:** Contains a checkbox "Restore only latest version" which is unchecked, and two radio buttons: "Overwrite" (which is selected) and "Merge" (which is unselected).
- Additional options:** Contains two checked checkboxes: "Restore permissions" and "Send a notification by e-mail to the users with permissions to the file".

At the bottom of the dialog box, there are three buttons: "Back", "Restore" (which is highlighted with a blue border), and "Cancel".

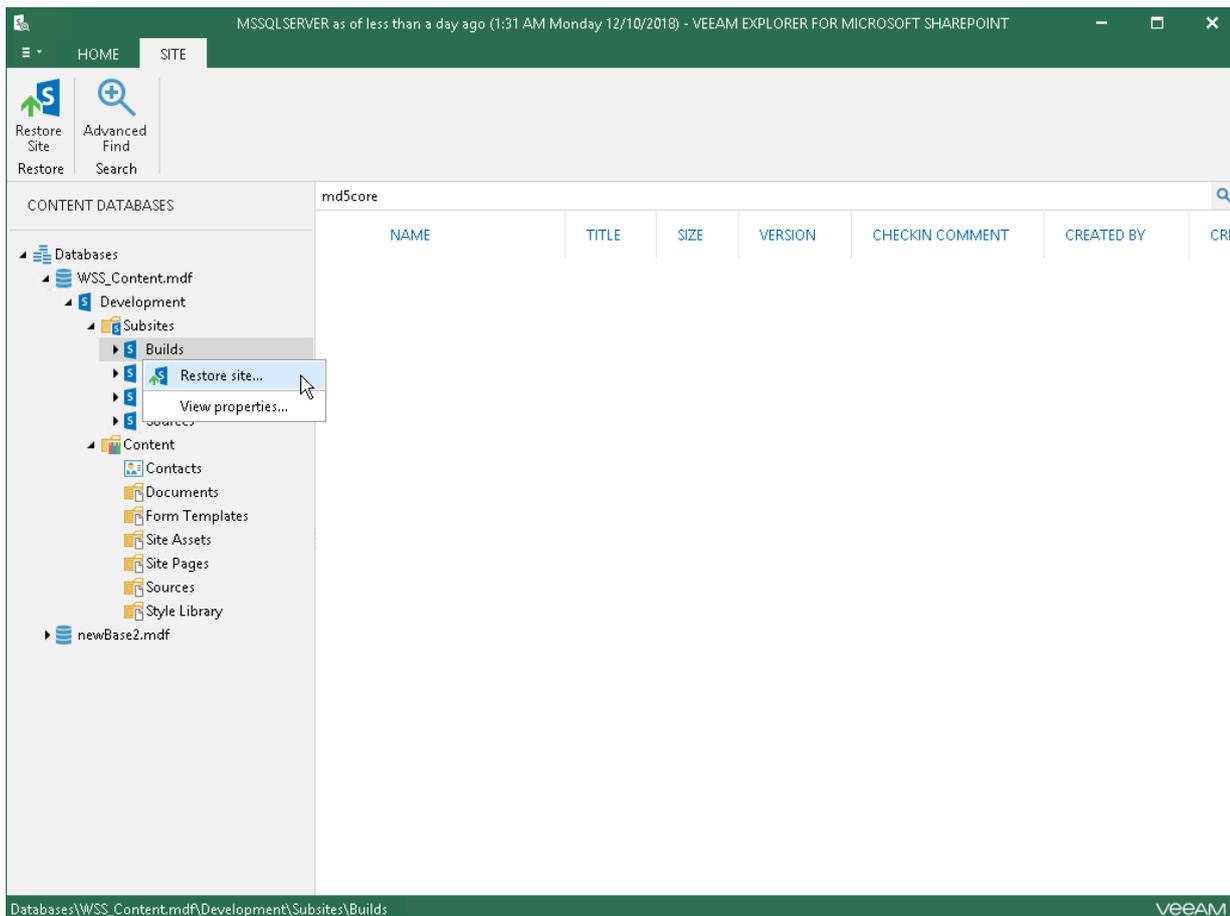
Restoring Microsoft SharePoint Sites

To restore sites, do the following:

1. In the navigation pane, select a site.
2. On the **Site** tab, select **Restore Site** or right-click an object and select **Restore Site**.
3. Proceed to [Specify Credentials](#).

NOTE:

Sites can only be restored to the existing site collection. Creating a new collection is not supported.



Step 1. Specify Credentials

At this step of the wizard, specify target server credentials. The credentials dialog might be different and depends upon the organization type you are restoring from.

Specifying Credentials for Office 365 Organizations

Specify authentication credentials to access your Microsoft Office 365 organization and click **Next**.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify Office 365 credentials". There are two radio button options: "Use connection credentials" (unselected) and "Use the following credentials:" (selected). Below the selected option, there are two text input fields: "Account:" containing "administrator@abc.onmicrosoft.com" and "Password:" containing a series of black dots. At the bottom, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

Specifying Credentials for SharePoint Organizations

Specify authentication credentials to access your On-Premises SharePoint organization and click **Next**.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify on-premises organization credentials". There are two radio button options: "Use connection credentials" (unselected) and "Use the following credentials:" (selected). Below the selected option, there are two text input fields: "Account:" containing "administrator@abc.com" and "Password:" containing a series of black dots. At the bottom, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

Restoring from Microsoft SQL Database

When restoring from a Microsoft SQL database, provide the following:

- The site URL to which you want to recover your site.
- Authentication credentials.

NOTE:

When recovering Microsoft SharePoint sites from a Microsoft SQL database, you will be taken directly to the [Specify Restore Options](#) step.

RESTORE WIZARD

Specify target SharePoint site and domain account to be used

Site URL:

Specify user account to connect to SharePoint Server:

Use current account (GAMMA\Administrator)

Use the following account:

User name:

Password:

Step 2. Specify Target Site

At this step of the wizard, specify whether to restore the site back to the original location or choose a site alias you want to use.

NOTE:

This step is unavailable when recovering Microsoft SharePoint sites from a Microsoft SQL database.

Step 3. Specify Restore Options

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

The restore options are as follows:

- **Changed items.** Allows you to recover data that has been modified in your production environment.
- **Missed items.** Allows you to recover missed items.
- **Restore permissions.** Allows you to recover permissions. If not selected, permissions will be inherited from the parent site.
- **Restore subsites.** Allows you to recover subsites. If not selected, sites that are being restored, will contain only document libraries and lists.
- **History restore options.** Allows you to select a version:
 - **Overwrite.** To overwrite data in the production environment by recovering only the latest version of the document from the backup.
 - **Merge.** To merge an existing version of the document with that of a backup version.

If not selected, all the versions in the production environment will be replaced with the corresponding data from the backup file.

NOTE:

The **Send a notification by e-mail to the users with permission to the file** checkbox is only available when restoring data from backups created by Veeam Backup for Microsoft Office 365 for Microsoft Online organizations.

The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main content area is titled "Specify the restore options" and is divided into three sections:

- Restore the following items:**
 - Changed items
 - Missing items
- History restore options:**
 - Restore only latest version
 - Overwrite
 - Merge
- Additional options:**
 - Restore permissions
 - Send a notification by e-mail to the users with permissions to the file
 - Restore list views
 - Restore subsites

At the bottom of the dialog box, there are three buttons: "Back", "Restore" (which is highlighted with a blue border), and "Cancel".

Data Export

Continue with this section to learn more about exporting and importing Microsoft SharePoint data.

NOTE:

Export is unavailable when restoring data from backups created by Veeam Backup for Microsoft Office 365.

Exporting Microsoft SharePoint Data

Veeam Explorer for SharePoint allows you to export SharePoint document libraries and lists.

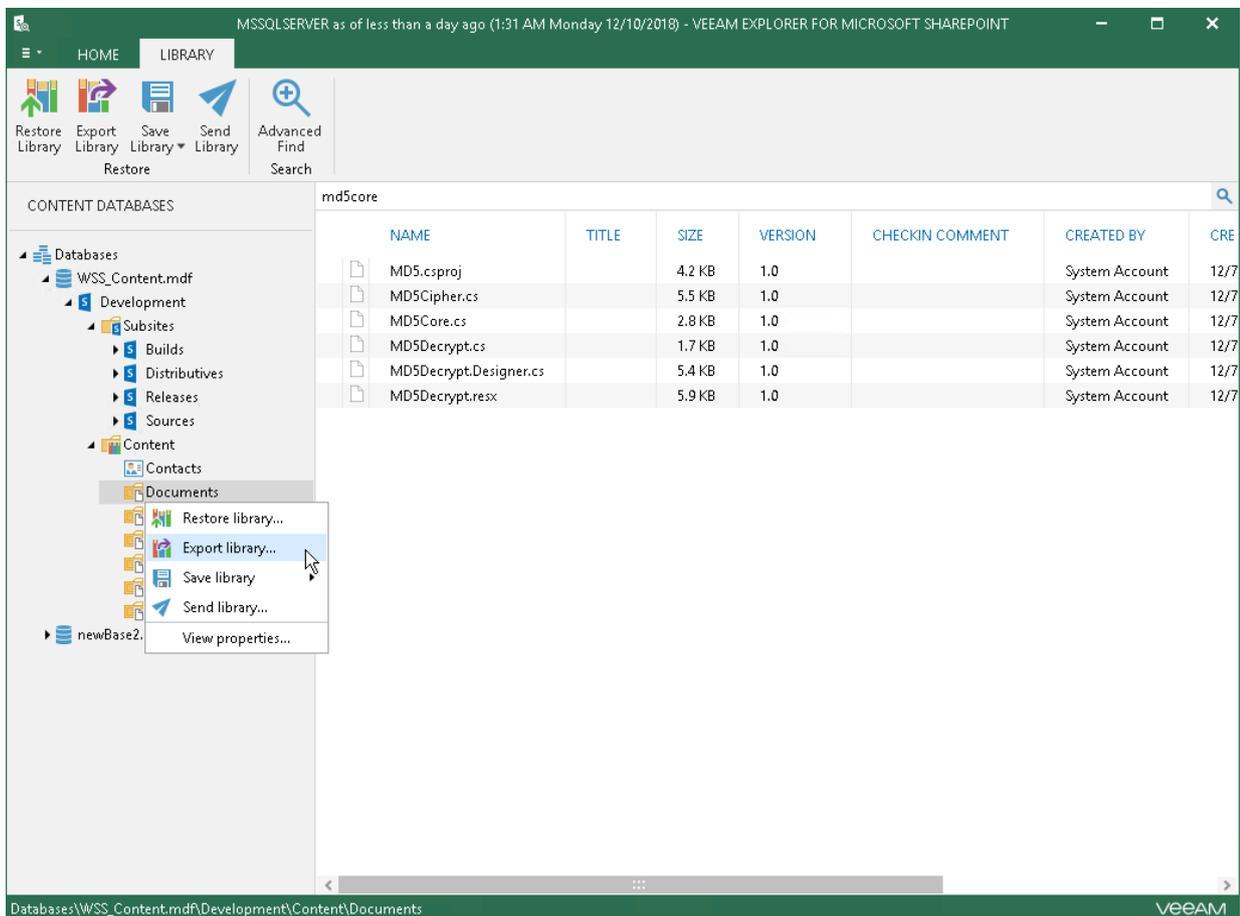
The exported content will be saved as a set of XML files and can be imported to another SharePoint database using PowerShell cmdlets, as described in [Importing Microsoft SharePoint Data](#).

To export SharePoint data, do the following:

1. In the navigation pane, select a library or list.
2. On the **Library** tab, select **Export Library/Export List** or right-click an object and select **Export Library/Export List**.
3. Specify the output directory and click **OK**.

NOTE:

Export of items is not supported in the current version.



Importing Microsoft SharePoint Data

To import document library or list, use either 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 web site;
- *<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
```

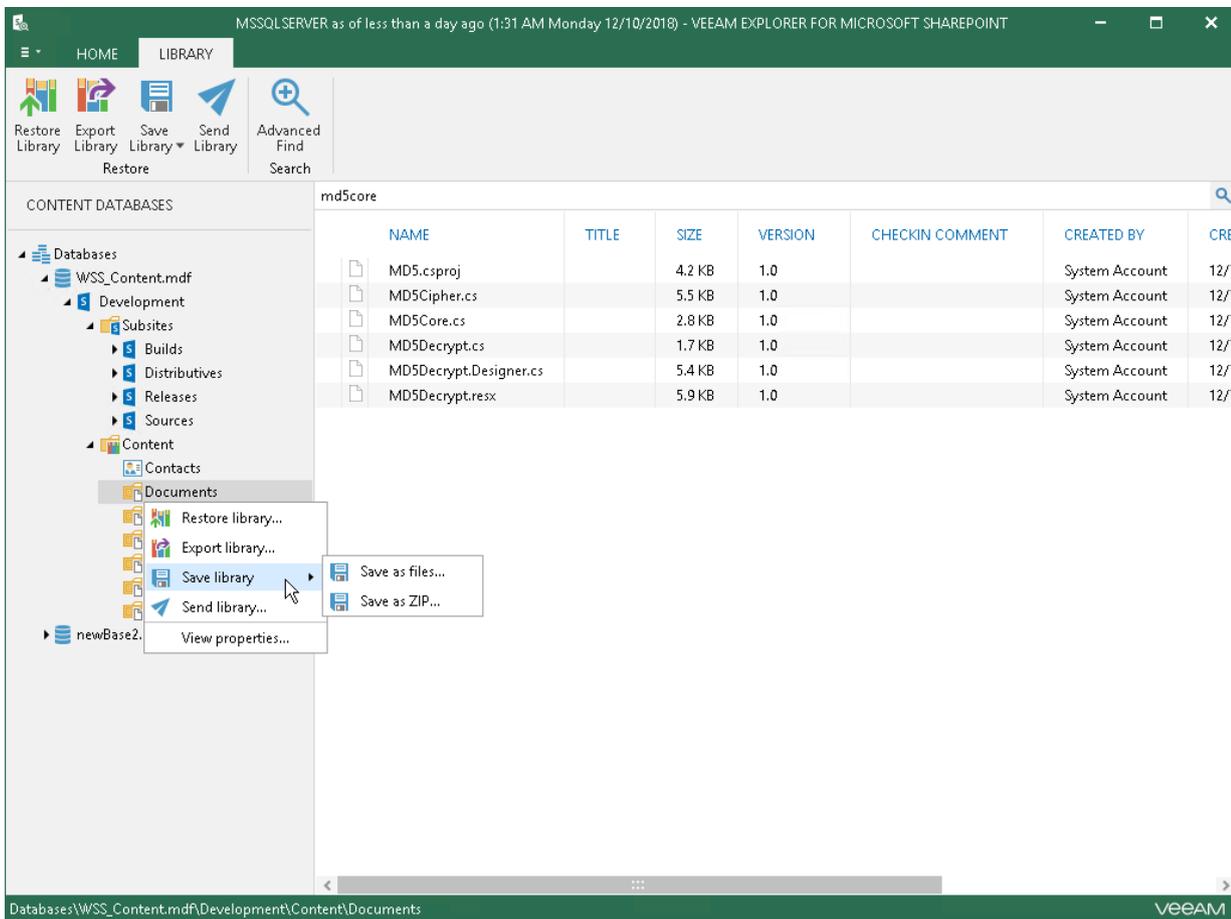
Saving Microsoft SharePoint Documents and Libraries

Veeam Explorer for Microsoft SharePoint allows you to save your libraries and library documents to a specified location.

To save a Microsoft SharePoint library or library documents, do the following:

1. In the navigation pane, select a library.
2. On the **Library** tab, select **Save Library > Save files** or **Save Library > Save as ZIP** or right-click an object and select **Save Library > Save files** or **Save Library > Save as ZIP**.

To save documents from a library, select a document in the preview pane and click **Save Document > Save files** or **Save Document > Save as ZIP**.



Sending Microsoft SharePoint Documents and Libraries

Veeam Explorer for Microsoft SharePoint allows you to send libraries or library documents to the specified recipients via email.

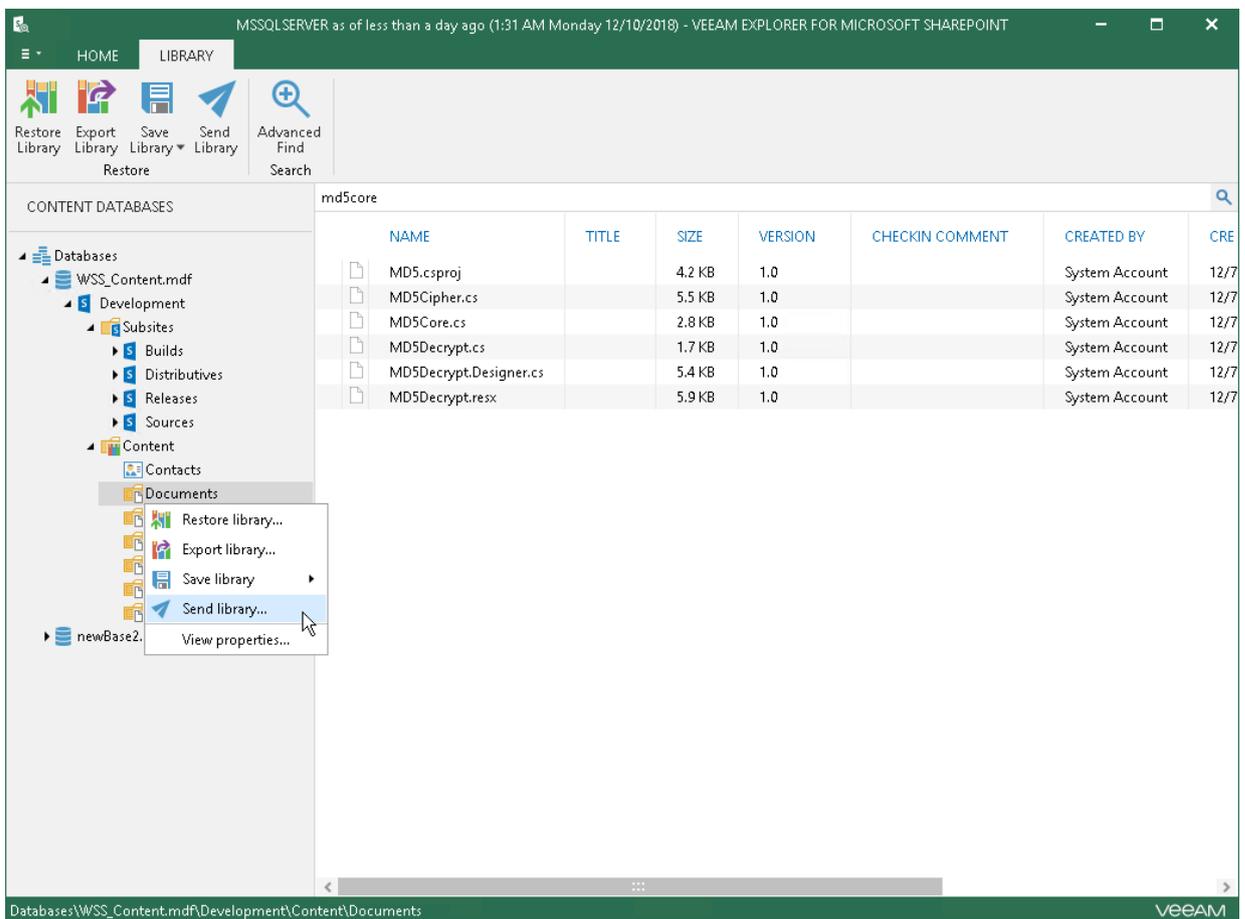
TIP:

Before sending documents, make sure to configure SMTP settings, as described in [Configuring SMTP Settings](#). The amount of data you can send at a time depends on your SMTP server configuration.

To send Microsoft SharePoint library or library documents, do the following:

1. In the navigation pane, select a library to send.
2. On the **Library** tab, select **Send Library** or right-click an object and select **Send Library**.

To send documents from a library, select a document in the preview pane and click **Send Document**.



3. Provide a recipient address.

The **From** field is filled automatically based on the address you have provided when configuring SMTP settings. To edit the message body, click **More Details**.

SEND ITEMS ✕

 Send

From: administrator@tech.local

To:

Subject: SharePoint Documents Recovery

 MD5Core.cs 2.8 KB  MD5Decrypt.cs 1.7 KB  MD5Decrypt.resx 5.9 KB  MD5.csproj 4.2 KB

 MD5Cipher.cs 5.5 KB  MD5Decrypt.Designer.cs 5.4 KB

^

⌵

^ Fewer details

by Veeam Explorer for Microsoft SharePoint.

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 Office 365.

What's New

The following new features and enhancements have been implemented in Veeam Explorer for Microsoft OneDrive for Business that comes as part of Veeam Backup & Replication 9.5 Update 4 and Veeam Backup for Microsoft Office 365 3.0:

- Support for shared links.
- Performance and stability Improvements.

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](#).

Launching Application and Exploring Backups

You can launch Veeam Explorer for Microsoft OneDrive for Business and explore the content of a backup file in any of the following ways:

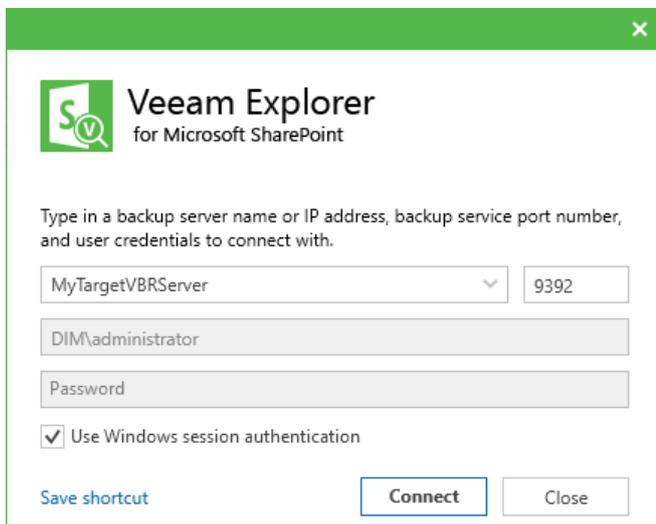
- You can use the **Explore** option to explore backups created by Veeam Backup for Microsoft Office 365. For more information, see the [Data Restore](#) section of the Veeam Backup for Microsoft Office 365 user guide.
- You can go to **Start** and click **Veeam Explorer for Microsoft OneDrive for Business** to launch the application as a standalone console. Then, add Microsoft OneDrive databases manually, as described in the [Standalone Databases Management](#) section.

When launching from the **Start** menu, specify the following parameters:

- Specify the name or IP-address of a Veeam Backup for Microsoft Office 365 server to which you want to connect.
- Specify the port number.
- Specify user credentials to connect to the server.

The account must be a member of the **Local Administrator** group on a target server. To use your current account, select **Use Windows session authentication**.

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



The screenshot shows a window titled "Veeam Explorer for Microsoft SharePoint". The window has a green header bar with a close button (X) in the top right corner. Below the title bar, there is a logo on the left and the text "Veeam Explorer for Microsoft SharePoint" on the right. The main area contains the following elements:

- A text prompt: "Type in a backup server name or IP address, backup service port number, and user credentials to connect with."
- A dropdown menu containing "MyTargetVBRServer" and a small downward arrow.
- A text input field containing "9392".
- A text input field containing "DIM\administrator".
- A text input field containing "Password".
- A checked checkbox labeled "Use Windows session authentication".
- At the bottom left, a blue link labeled "Save shortcut".
- At the bottom center, a button labeled "Connect".
- At the bottom right, a button labeled "Close".

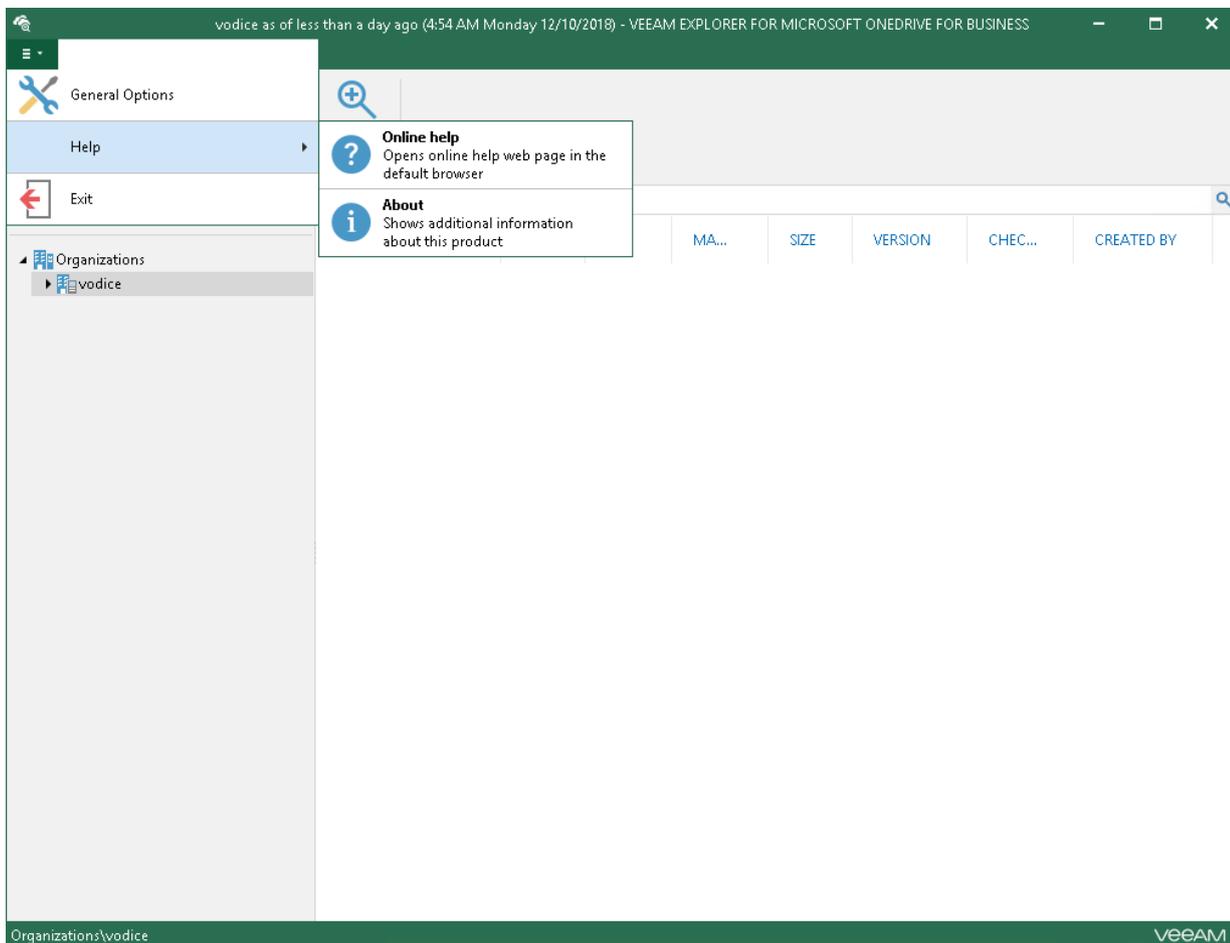
Understanding User Interface

Veeam Explorer for Microsoft OneDrive for Business 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 features:

- **General Options.** Allows you to configure program options. See [Performing Initial Configuration Settings](#).
- **Help.**
 - **Online help.** Opens the online web help page.
 - **About.** Shows current product information.
- **Exit.** Closes the program.

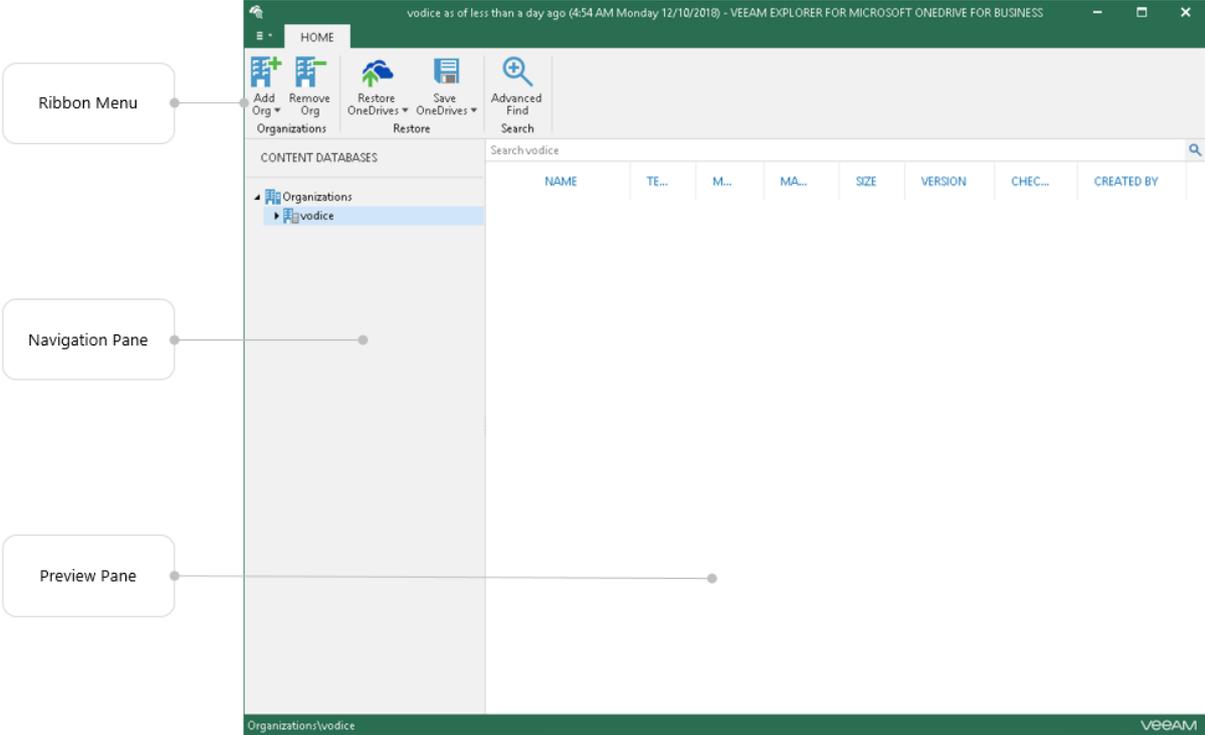


Main Application Window

The main application window might be divided into three categories:

1. The ribbon menu, which contains general program commands organized into logical groups.
2. The navigation area, which allows you to browse through the hierarchy of your backup files.

3. The preview pane, which shows you the details about objects you have selected in the navigation area.



Browsing, Searching and Viewing Items

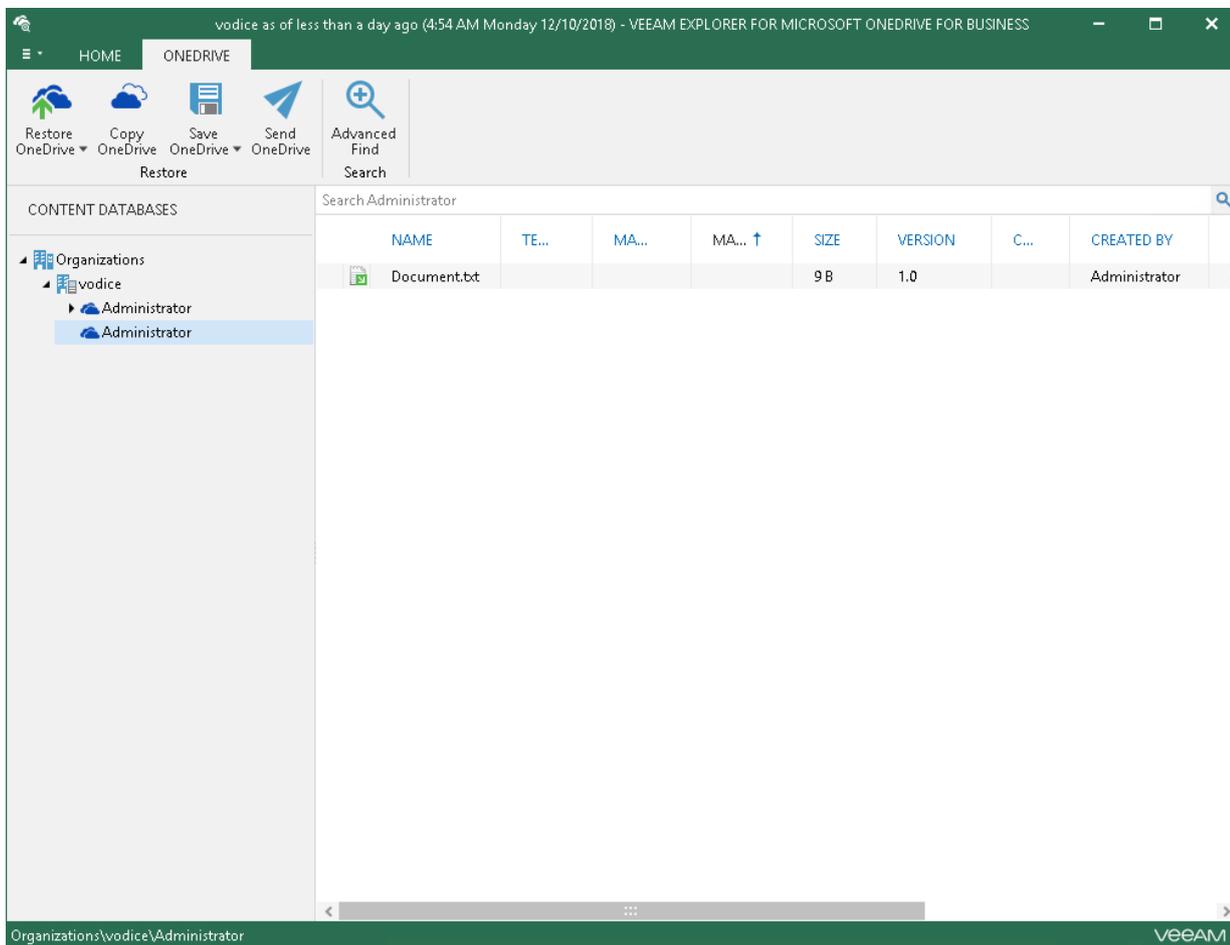
Continue with this section to learn more about:

- [Browsing your backup content](#)
- [Viewing objects properties and open files](#)
- [Searching for objects in a backup file](#)
- [Using the advance search capabilities](#)

Browsing

To view the content of a backup file, you use the navigation pane which shows you the database structure containing your OneDrive documents.

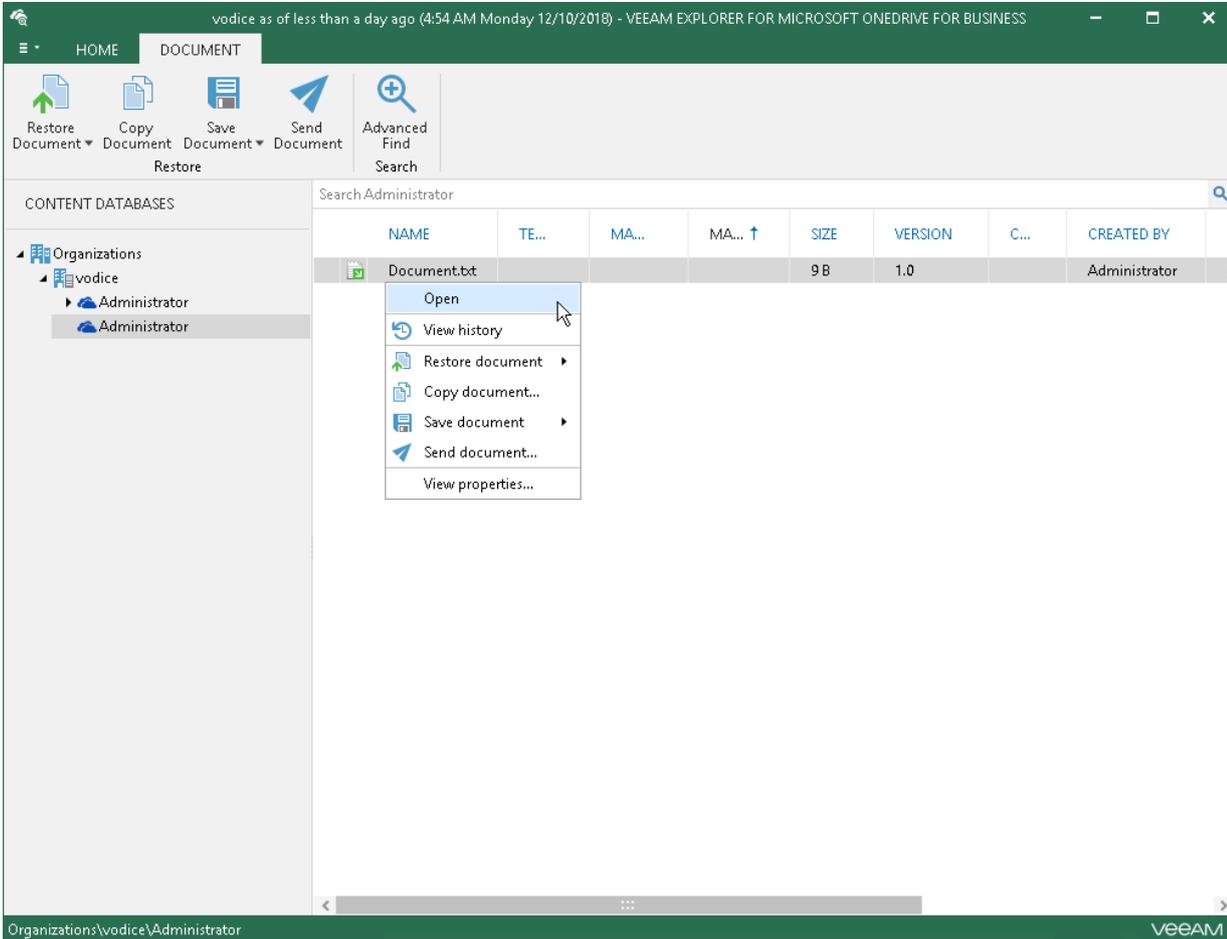
After you select an object in the navigation pane, you can see its content in the preview pane.



Viewing 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**.



Searching

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

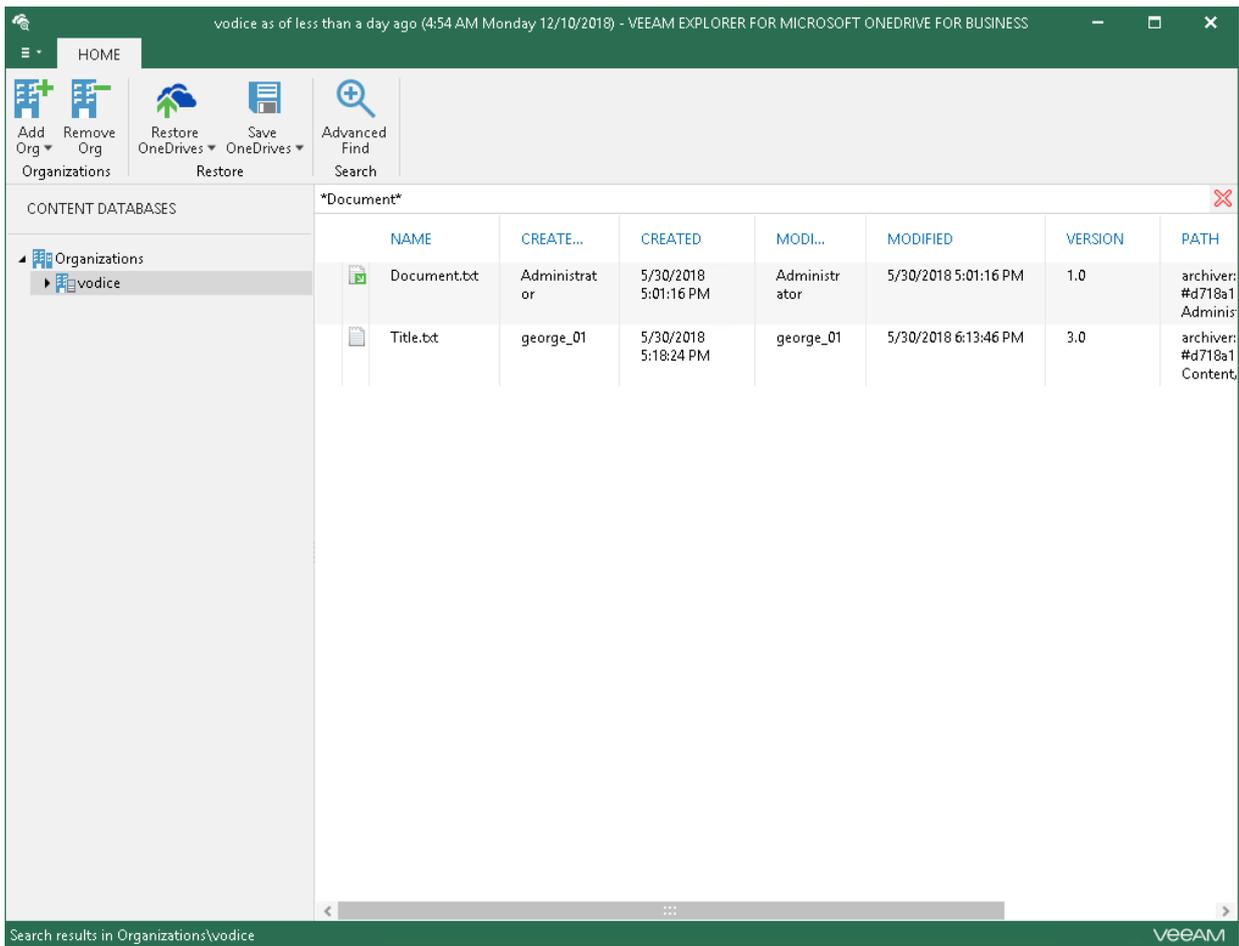
To search for required items, do the following:

1. In the navigation pane, select an object in which you want to find your data.
2. Type in a search query using 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 *?*.



Using Advanced Find Capabilities

The **Advanced Find** mechanism allows you to define your search criteria more precisely.

For example, to find an object that starts with the word *Attachme*, do the following:

1. In the preview pane, select a content node and click **Advanced Find**.
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 **Start**.

To remove a filter, click the cross mark next to it. To remove all configured filters, click **Reset**.

vodice as of less than a day ago (4:54 AM Monday 12/10/2018) - VEEAM EXPLORER FOR MICROSOFT ONEDRIVE FOR BUSINESS

HOME

Add Org Remove Org Restore OneDrives Save OneDrives Advanced Find Search

CONTENT DATABASES

Organizations vodice

Find items that match these criteria:

File Name starts with document Start Reset

Define search criteria

Category: Frequently-used fields Field: Anniversary

Condition: between Value: Monday, December 10, 2018 Monday, December 10, 2018 Add To List

NAME	CREATED BY	CREATED	MODIFIED BY	MODIFIED	VERSION
Document.txt	Administrator	5/30/2018 5:01:16 PM	Administrator	5/30/2018 5:01:16 PM	1.0
Title.txt	george_01	5/30/2018 5:18:24 PM	george_01	5/30/2018 6:13:46 PM	3.0

Search results in Organizations\vodice

VEEAM

General Application Settings

Continue with this section to learn more about configuring required application settings and components.

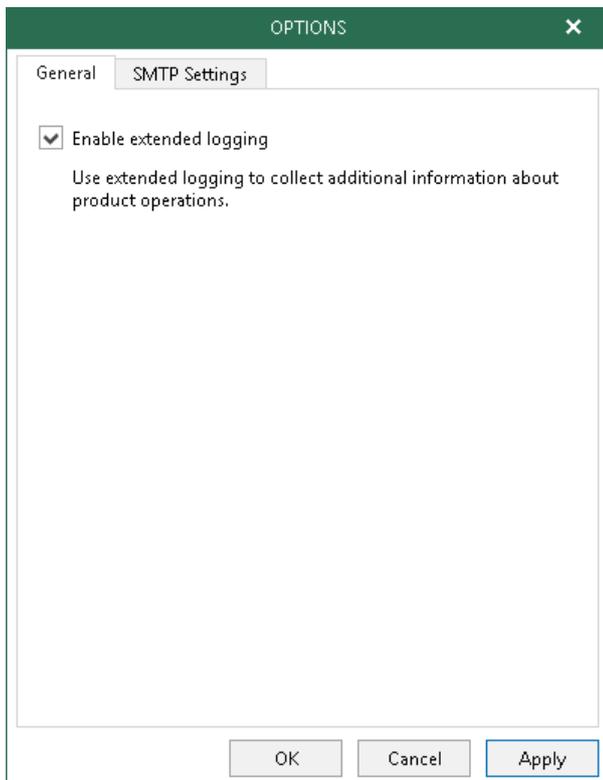
Enabling Extended Logging

Log files are used to troubleshoot a variety of different situations when certain processes may have gotten the unexpected results while being executed.

By default, logs are collected in the default mode. In certain cases, you may need to enable the extended logging mode to collect logs that contain more details on specific operations.

To configure extended logging mode, do the following:

1. Go to the main menu and click the **General Options**.
2. On the **General** tab, select the **Enable Extended logging** checkbox.
3. Go back to the application, perform necessary actions and then review the logs to see the details.

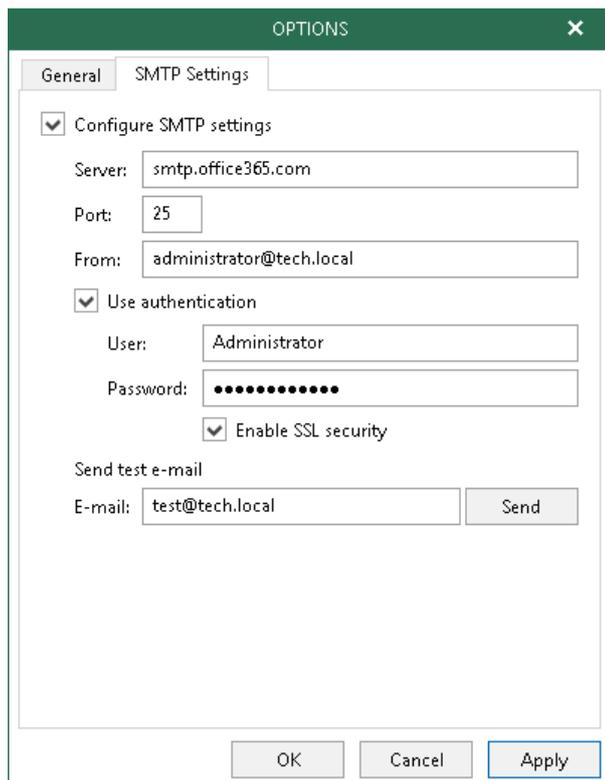


Configuring SMTP Settings

To send Microsoft OneDrive items as attachments, you must configure SMTP server settings.

To configure SMTP settings, do the following:

1. Go to the main menu and click **General Options**.
2. On the **SMTP Settings** tab, select the **Configure SMTP settings** checkbox and specify the following:
 - DNS name or IP address of the mail server.
 - SMTP communication port.
 - The sender email address. This address will appear in the **From** field when sending OneDrive items. See [Sending Microsoft OneDrive Documents](#).
 - Select **Use authentication** checkbox If your SMTP server requires SMTP authentication for outgoing mail and provide valid credentials.
 - Select **Enable SSL security** checkbox to enable SSL data encryption.
3. Click **Send** to send a test email message.
4. Click **Apply**.



The screenshot shows the 'OPTIONS' dialog box with the 'SMTP Settings' tab selected. The 'Configure SMTP settings' checkbox is checked. The 'Server' field contains 'smtp.office365.com', the 'Port' field contains '25', and the 'From' field contains 'administrator@tech.local'. The 'Use authentication' checkbox is also checked, with the 'User' field containing 'Administrator' and the 'Password' field masked with dots. The 'Enable SSL security' checkbox is checked. At the bottom, there is a 'Send test e-mail' section with an 'E-mail' field containing 'test@tech.local' and a 'Send' button. The dialog box has 'OK', 'Cancel', and 'Apply' buttons at the bottom.

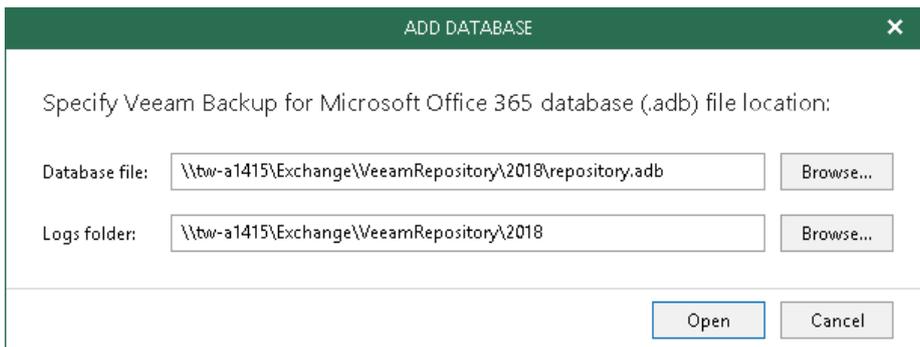
Standalone Databases Management

Continue with this section to learn more about adding and removing OneDrive for Business databases.

Adding Veeam Backup for Microsoft Office 365 Databases

To manually add databases that store Microsoft Office 365 organization data, do the following:

1. Click **Add Org > Veeam Backup for Microsoft Office 365 Databases** on the ribbon menu or use the corresponding context menu command.
2. Specify the database file location and log directory.
3. Click **Open**.



ADD DATABASE

Specify Veeam Backup for Microsoft Office 365 database (.adb) file location:

Database file:

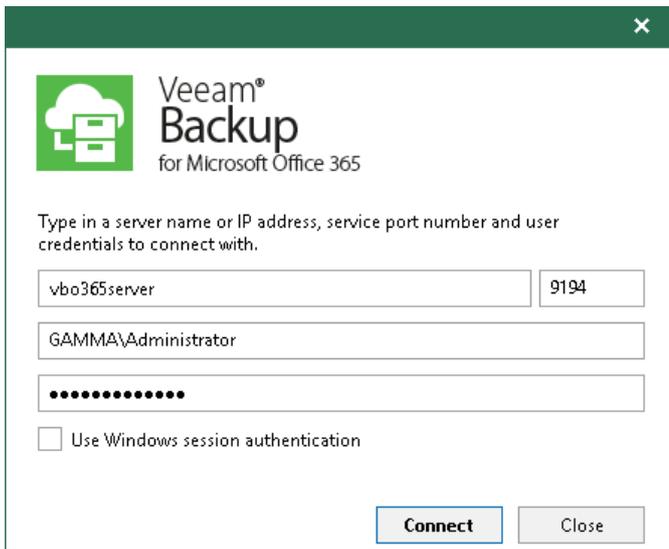
Logs folder:

Adding Veeam Backup for Microsoft Office 365 Server

You can use the built-in Veeam Explorer abilities to connect to another Veeam Backup for Microsoft Office 365 server and add its databases to the Veeam Explorer for Microsoft OneDrive for Business scope.

To connect to another Veeam Backup for Microsoft Office 365 server, do the following:

1. Click **Add Org > Veeam Backup for Microsoft Office 365 Server** on the toolbar or use the corresponding context menu command.
2. Specify connection settings under which to connect to the Veeam Backup for Microsoft Office 365 server and click **Connect**.



The screenshot shows a dialog box titled "Veeam® Backup for Microsoft Office 365". The dialog box has a green header bar with a close button (X) in the top right corner. Below the header, there is a logo on the left and the text "Veeam® Backup for Microsoft Office 365" on the right. The main area of the dialog box contains the following elements:

- A text prompt: "Type in a server name or IP address, service port number and user credentials to connect with."
- Two input fields for server name and port number. The server name field contains "vbo365server" and the port number field contains "9194".
- A text input field for the username, containing "GAMMA\Administrator".
- A password input field with masked characters (dots).
- A checkbox labeled "Use Windows session authentication", which is currently unchecked.
- Two buttons at the bottom: "Connect" (highlighted in blue) and "Close".

Adding Veeam Backup for Microsoft Office 365 Service Provider

Veeam Explorer for Microsoft OneDrive for Business allows you to add Microsoft Office 365 organization backups located on service providers servers.

IMPORTANT!

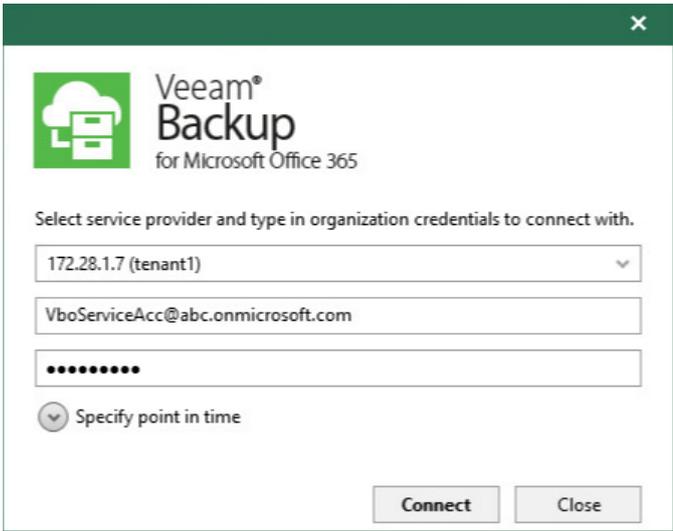
Consider the following:

- Both Veeam Explorer for Microsoft OneDrive for Business and Veeam Backup and Replication must be installed on the same machine.
- At least one service provider must be added to Veeam Backup and Replication, as described in [Connecting to Service Providers](#).

To add Office 365 databases, do the following:

1. From the **Start** menu, launch Veeam Explorer for Microsoft OneDrive for Business.
2. On the toolbar, click **Add Org > Veeam Backup for Microsoft Office 365 Service Provider** or use the corresponding context menu command.
3. In the drop-down menu, select a tenant account to which you want to connect.
The list of available tenants depends on added service providers.
4. Provide your Microsoft Office 365 organization credentials.
5. Click **Connect**.

You can also select a point-in-time state as of which you want to load an organization database. For more information, see [Specifying Point in Time](#).



The screenshot shows a dialog box titled "Veeam Backup for Microsoft Office 365". The dialog has a green header bar with a close button (X) in the top right corner. Below the header is the Veeam logo and the text "Veeam Backup for Microsoft Office 365". The main area contains the instruction "Select service provider and type in organization credentials to connect with." followed by three input fields: a dropdown menu showing "172.28.1.7 (tenant1)", a text box containing "VboServiceAcc@abc.onmicrosoft.com", and a password field with masked characters. At the bottom left, there is a checkbox labeled "Specify point in time" which is currently unchecked. At the bottom right, there are two buttons: "Connect" and "Close".

Specifying Point in Time

When you connect to the service provider server, you may want to select a particular state as of which to add an organization database to the Veeam Explorer for Microsoft OneDrive for Business scope.

To select a state, do the following:

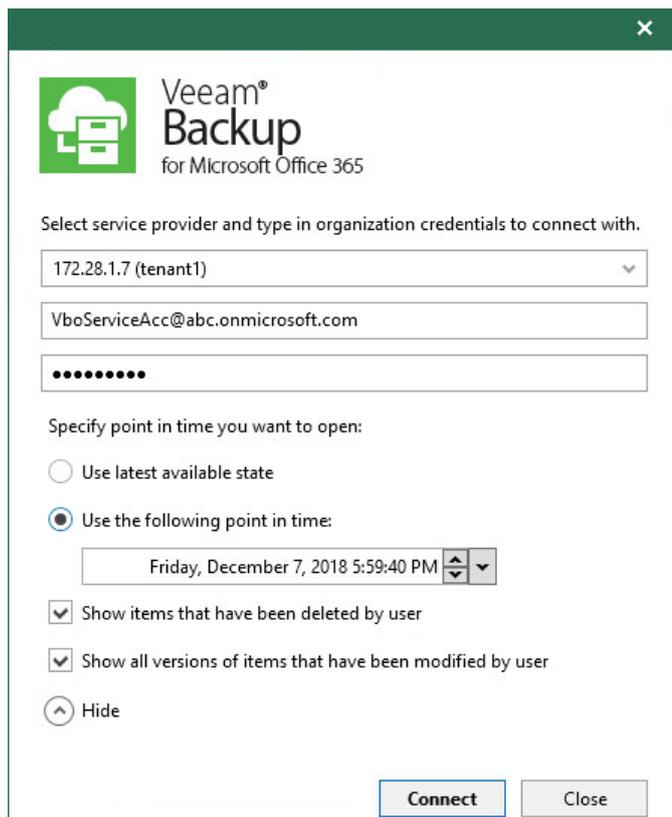
1. After you select **Veeam Backup for Microsoft Office 365 Service Provider** and provide required credentials, click **Specify point in time**.
2. Specify a point in time state you want to open.

The following options are available:

- **Use latest available state.** Select this option to load the latest backup state.
- **Use the following point in time.** Select this option if you want to load a particular state of your database. For example, as of a month ago.

To select a state, use the calendar control.

3. To load items that have been deleted by the user, select **Show items that have been deleted by user**.
4. To load all versions of items that have been modified by the user, select **Show all versions of items that have been modified by user**.



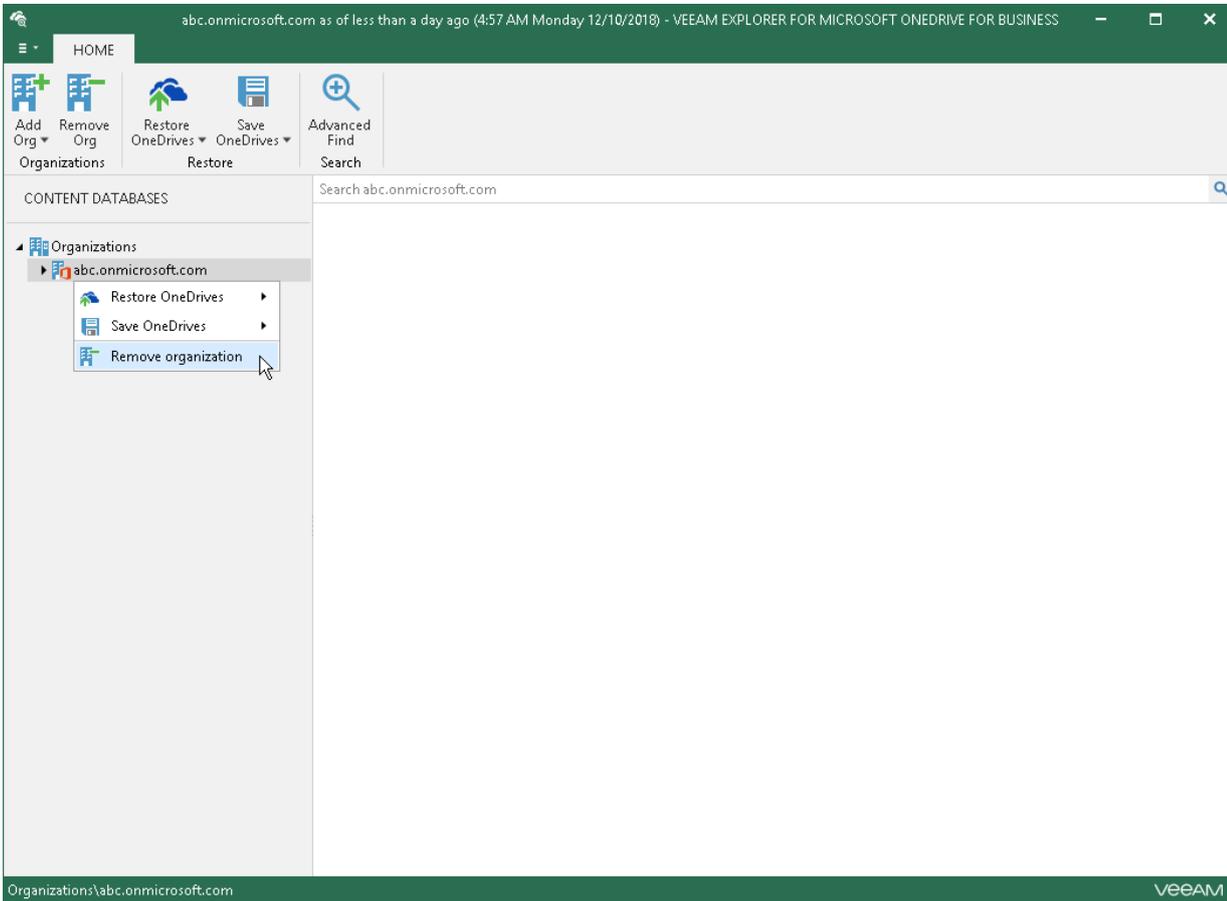
The screenshot shows a dialog box titled "Veeam Backup for Microsoft Office 365". It contains the following elements:

- Logo and title: Veeam Backup for Microsoft Office 365.
- Instruction: "Select service provider and type in organization credentials to connect with."
- Fields for credentials: A dropdown menu showing "172.28.1.7 (tenant1)", a text box with "VboServiceAcc@abc.onmicrosoft.com", and a password field with masked characters.
- Section: "Specify point in time you want to open:"
- Radio buttons: "Use latest available state" (unselected) and "Use the following point in time:" (selected).
- Calendar control: A date and time picker showing "Friday, December 7, 2018 5:59:40 PM".
- Checkboxes: "Show items that have been deleted by user" (checked) and "Show all versions of items that have been modified by user" (checked).
- Radio button: "Hide" (unselected).
- Buttons: "Connect" and "Close".

Removing Standalone Databases

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**.



Restoring Microsoft OneDrive Data

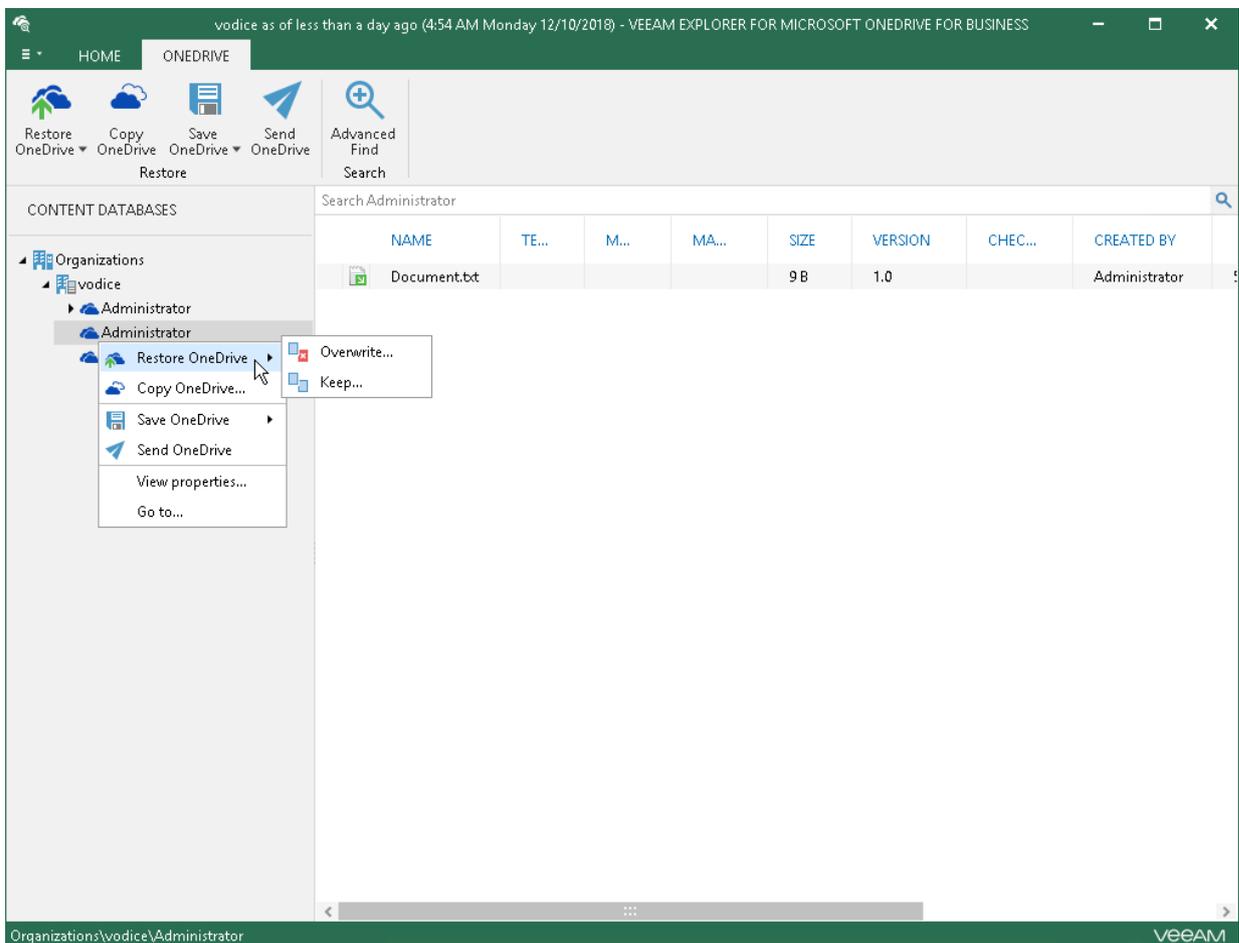
Veeam Explorer for Microsoft OneDrive for Business allows you to restore users OneDrives or certain documents and/or folders of the selected OneDrive.

NOTE:

To use an internet proxy server to restore backups, make sure to provide appropriate proxy server address and the port number. For that, go to the **Control Panel > Internet Options Connections** tab, click **LAN Settings**, select the **Use a proxy server for your LAN** checkbox 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.

To restore data, do the following:

1. Select an object.
2. On the ribbon menu or using the corresponding context menu command, click **Restore OneDrive** or **Restore Document/Folder** when restoring documents/folders and **Restore OneDrives** when restoring OneDrives of the selected organization or group.
3. Select either:
 - **Overwrite** – to completely overwrite existing OneDrive data.
 - **Keep** – to preserve existing data and recover items with the **RESTORED** prefix (**RESTORED-`<file_name>.ext`**).



4. Specify Office 365 credentials to access the target server and click **Restore**.

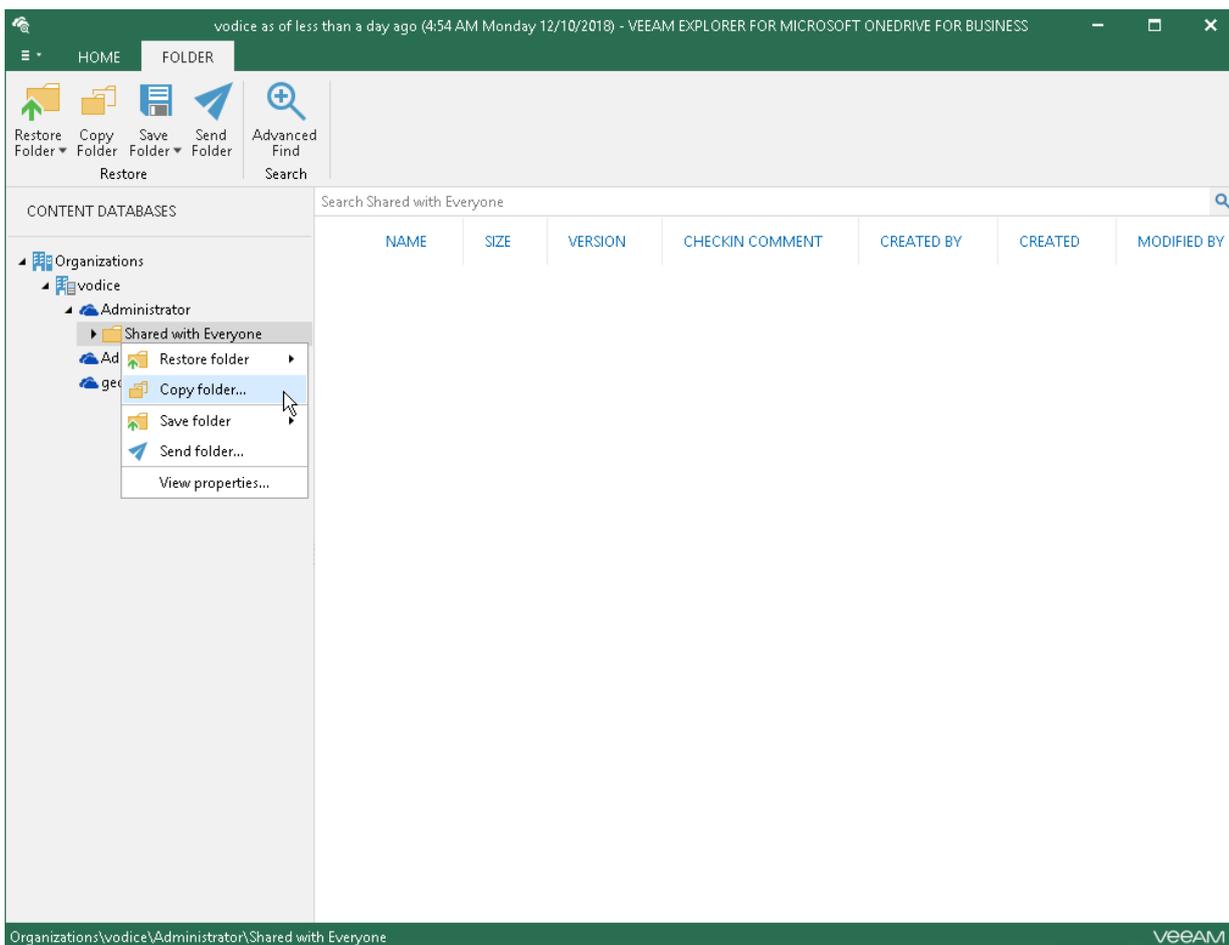
The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify Office 365 credentials". There are two radio button options: "Use connection credentials" (which is unselected) and "Use the following credentials:" (which is selected). Below the selected option, there are two text input fields. The first is labeled "Account:" and contains the text "administrator@abc.onmicrosoft.com". The second is labeled "Password:" and contains a series of black dots. At the bottom of the dialog, there are three buttons: "Back", "Next" (which is highlighted with a blue border), and "Cancel".

Copying Microsoft OneDrive Data

Veeam Explorer for Microsoft OneDrive for Business allows you to copy OneDrive data to the same or different user.

To copy OneDrive data, do the following:

1. Select an object.
2. On the **Folder** tab, select **Copy OneDrive/Copy Folder/Copy Document** or right-click an object and select **Copy OneDrive/Copy Folder/Copy Document**.
3. Proceed to [Specify Credentials](#).

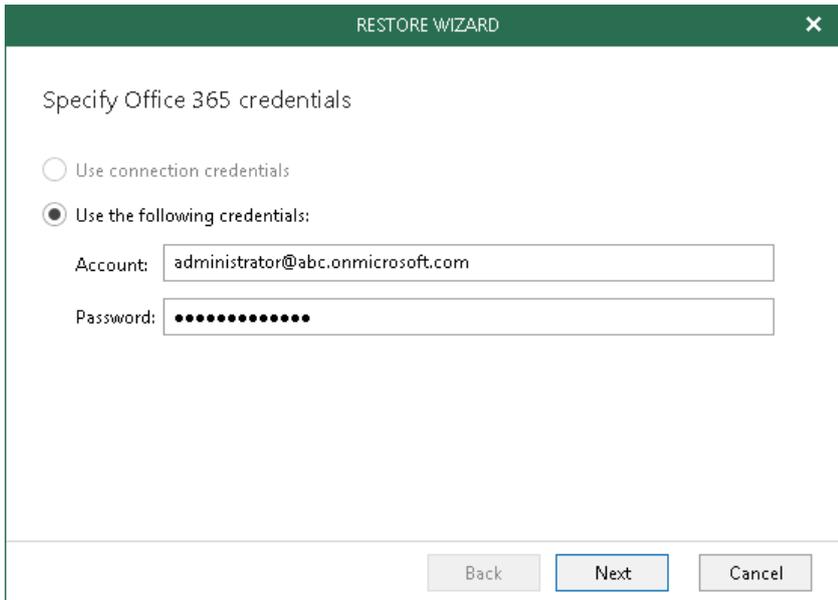


Step 1. Specify Credentials

At this step of the wizard, specify target server credentials. The credentials dialog might be different and depends upon the organization type you are restoring from.

Specifying Credentials for Office 365 Organizations

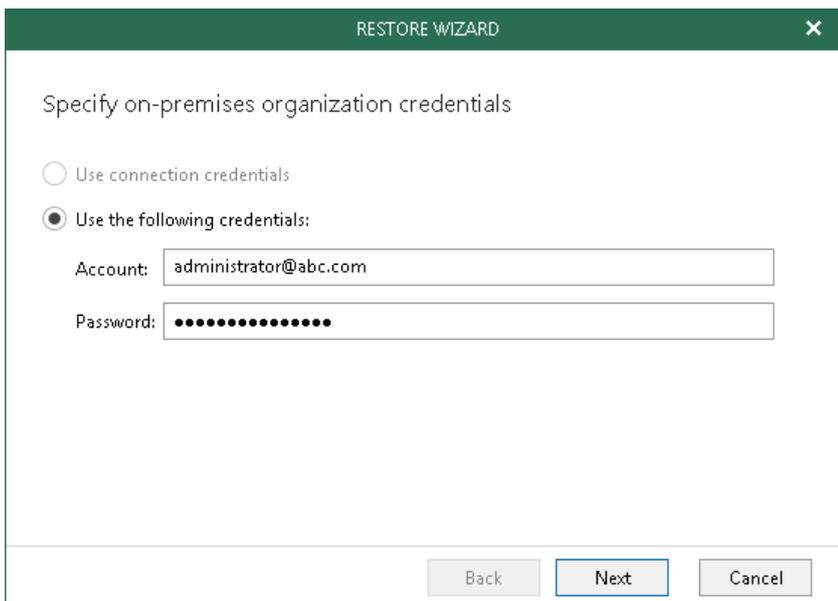
Specify valid credentials to access your Microsoft Office 365 organization and click **Next**.



The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify Office 365 credentials". There are two radio button options: "Use connection credentials" (unselected) and "Use the following credentials:" (selected). Below the selected option, there are two text input fields: "Account:" containing "administrator@abc.onmicrosoft.com" and "Password:" containing a series of dots. At the bottom, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

Specifying Credentials for SharePoint Organizations

Specify valid credentials to access your On-Premises SharePoint organization and click **Next**.



The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify on-premises organization credentials". There are two radio button options: "Use connection credentials" (unselected) and "Use the following credentials:" (selected). Below the selected option, there are two text input fields: "Account:" containing "administrator@abc.com" and "Password:" containing a series of dots. At the bottom, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel".

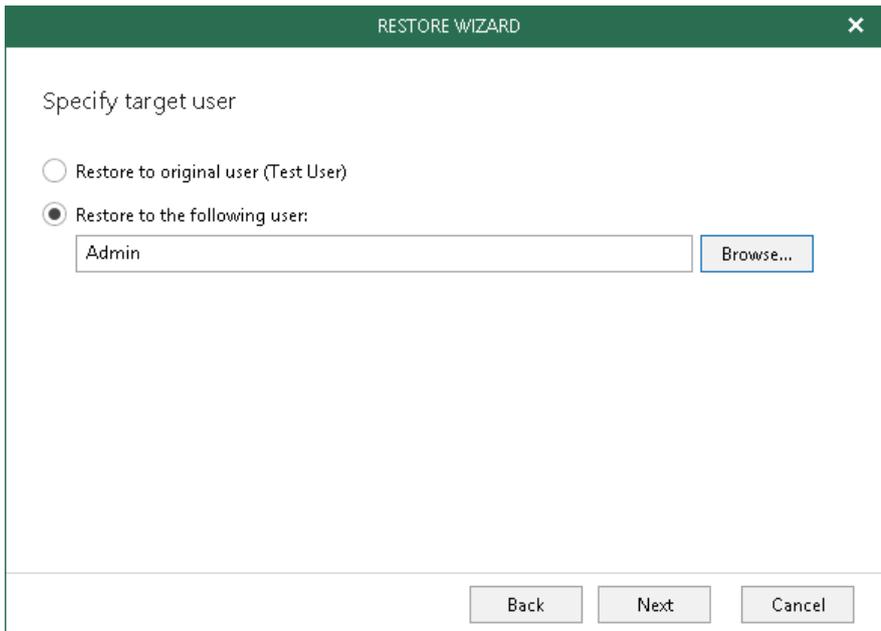
Step 2. Specify Target User

At this step of the wizard, specify the destination user to which you want to copy your data.

You can select either of the following options:

- **Restore to original user.** To restore data back to the original user.
- **Restore to the following user.** To restore data to a custom user.

To select a user, click **Browse**.



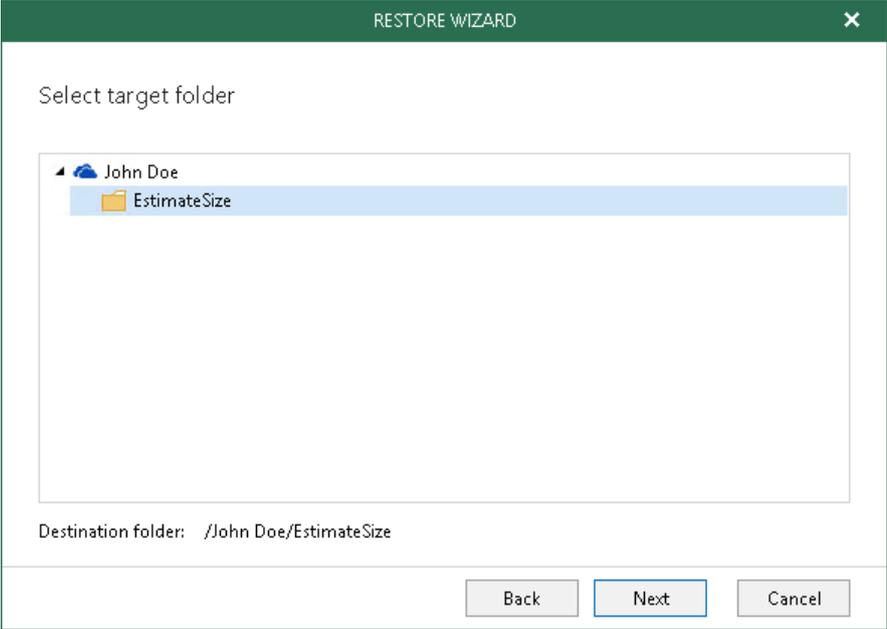
The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main content area is titled "Specify target user" and contains two radio button options:

- Restore to original user (Test User)
- Restore to the following user:

Below the second option is a text input field containing the text "Admin" and a "Browse..." button to its right. At the bottom of the dialog box, there are three buttons: "Back", "Next", and "Cancel".

Step 3. Specify Target Folder

At this step of the wizard, specify the target directory to which you want to copy your data.



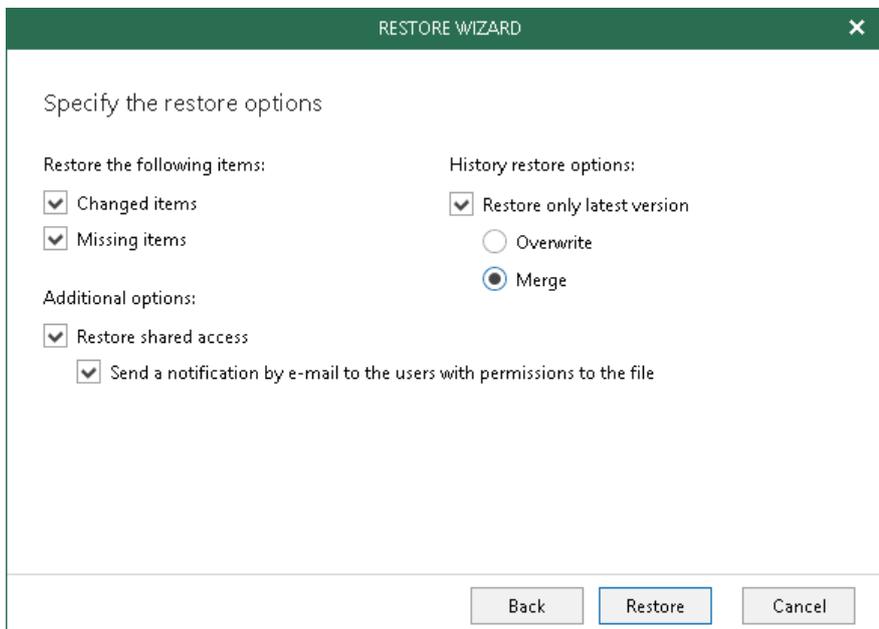
Step 4. Specify Restore Options

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

The restore options are as follows:

- **Changed items.** Allows you to restore data that has been modified in your production environment.
- **Missed items.** Allows you to restore missed items.
- **Restore shared access.** Allows you to restore shared access.
- **History restore options.** Allows you to select a version:
 - **Overwrite.** To overwrite data in the production environment by recovering only the latest version of the document from the backup.
 - **Merge.** To merge an existing version of the document with that of a backup version.

If not selected, all the versions in the production environment will be replaced with the corresponding data from the backup file.



The screenshot shows a dialog box titled "RESTORE WIZARD" with a close button (X) in the top right corner. The main heading is "Specify the restore options".

Under "Restore the following items:", there are two checked checkboxes: "Changed items" and "Missing items".

Under "Additional options:", there are two checked checkboxes: "Restore shared access" and "Send a notification by e-mail to the users with permissions to the file".

Under "History restore options:", there are two options: "Restore only latest version" (checked) and "Merge" (selected with a radio button). The "Overwrite" option is unselected.

At the bottom of the dialog, there are three buttons: "Back", "Restore" (highlighted with a blue border), and "Cancel".

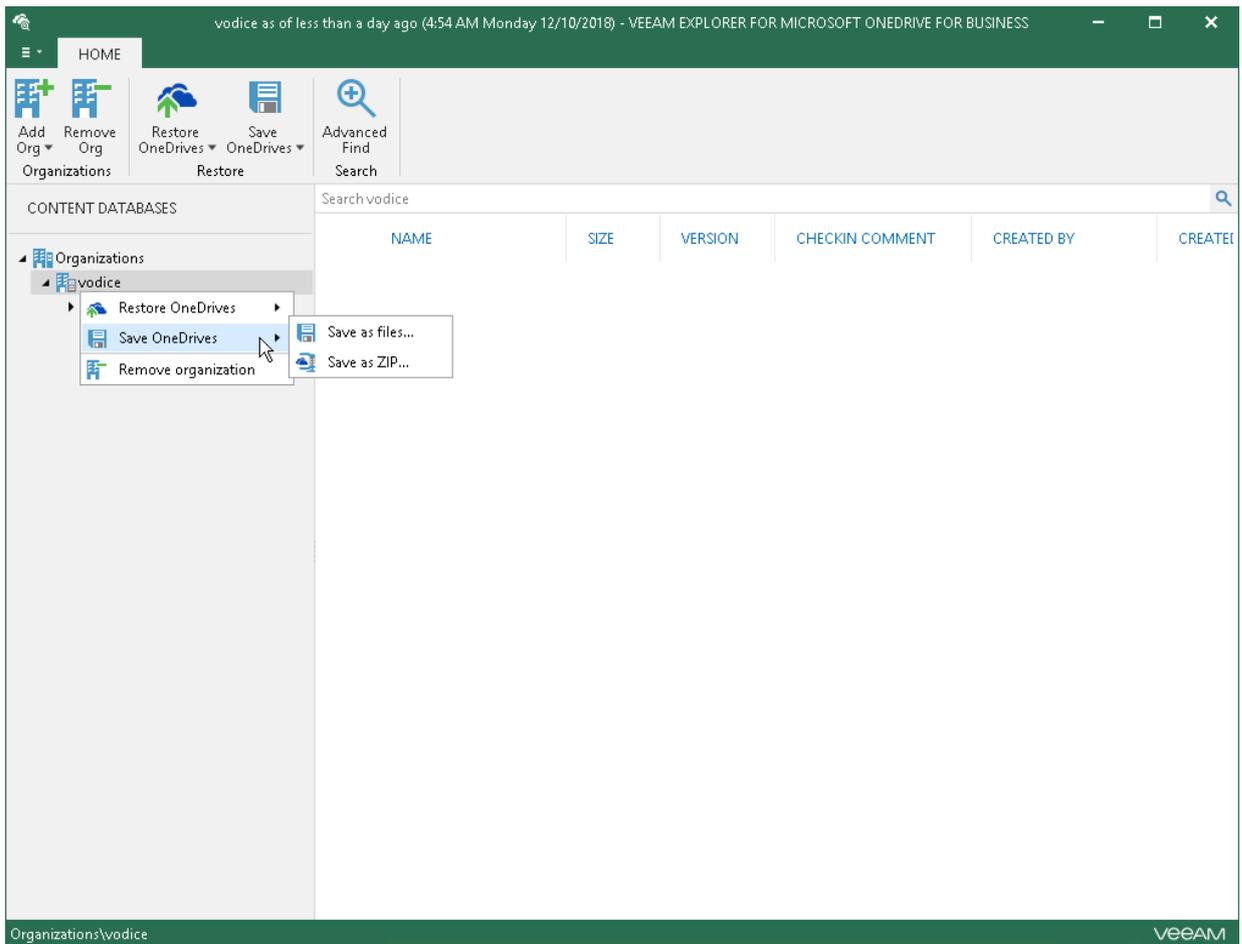
Saving Microsoft OneDrives

Veeam Explorer for Microsoft OneDrive for Business allows you to save OneDrive content to the specified location.

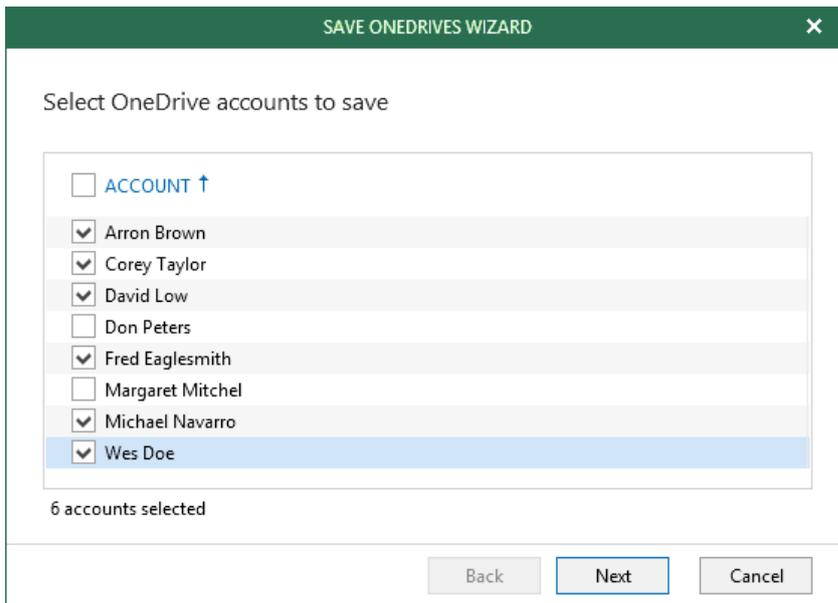
To save data, do the following:

1. Select OneDrive.
2. On the **Home** tab, select **Save OneDrives > Save files/Save OneDrive > Save files** or right-click an object and select **Save OneDrives > Save files/Save OneDrive > Save files**.

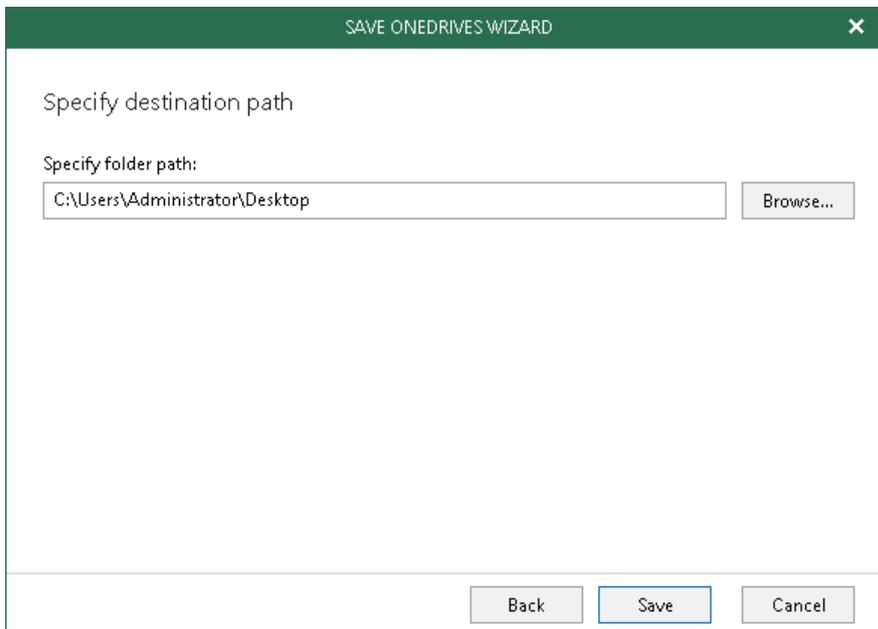
Select **Save as ZIP** to save OneDrive documents and/or folders as ZIP.



3. Select OneDrive accounts to save.



4. Specify a directory to save OneDrive data and click **Finish**.



Saving Microsoft OneDrive Documents and Folders

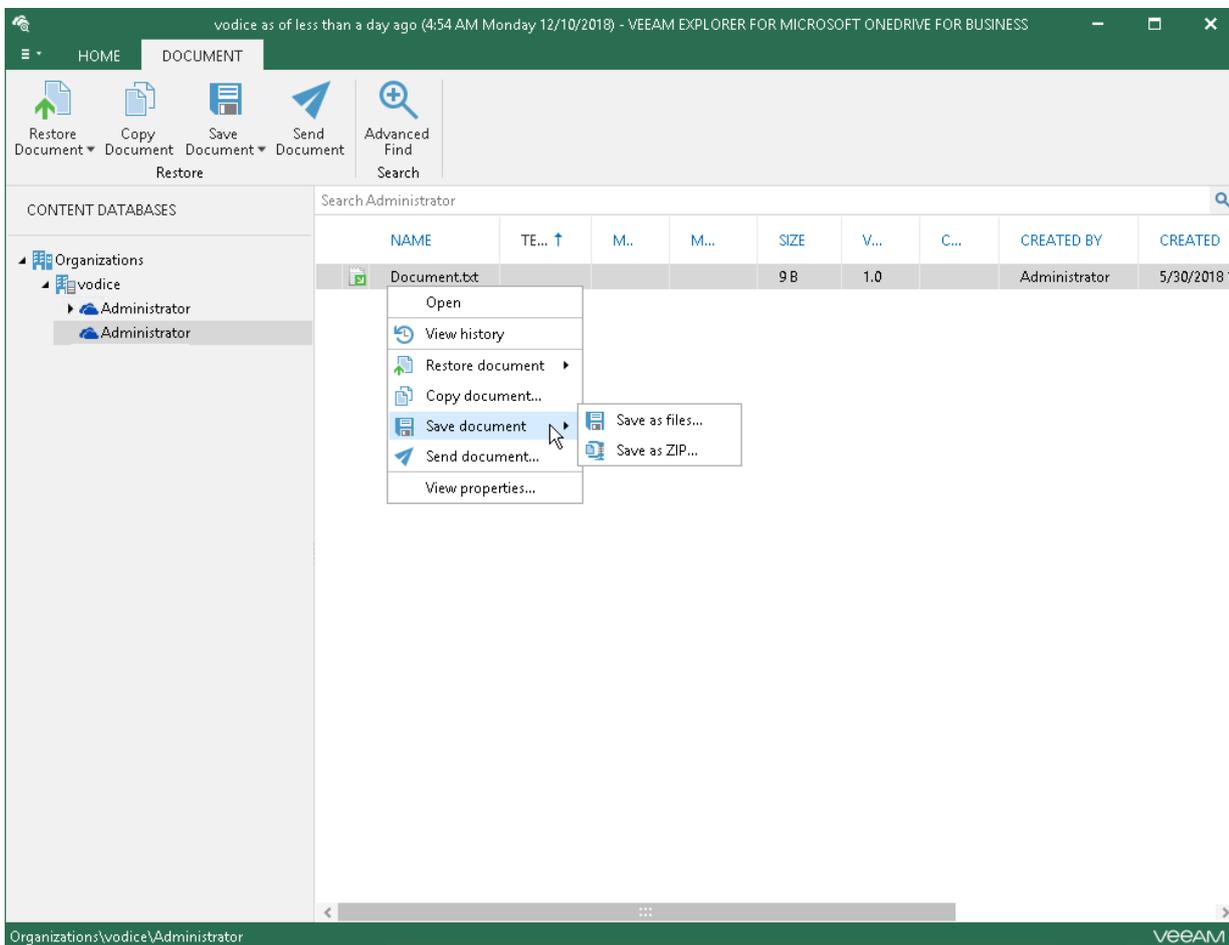
Veeam Explorer for Microsoft OneDrive for Business allows you to save your documents and folders located on users OneDrives to a specified location.

To save a document or folder, do the following:

1. Select a folder or document.
2. On the **Home** tab, select **Save Document > Save files/Save Folder > Save files** or right-click an object and select **Save Document > Save files/Save Folder > Save files**.

Select **Save as ZIP** to save OneDrive documents and/or folders as ZIP.

3. Specify the destination folder and click **Select Folder**.



Sending Microsoft OneDrive Documents

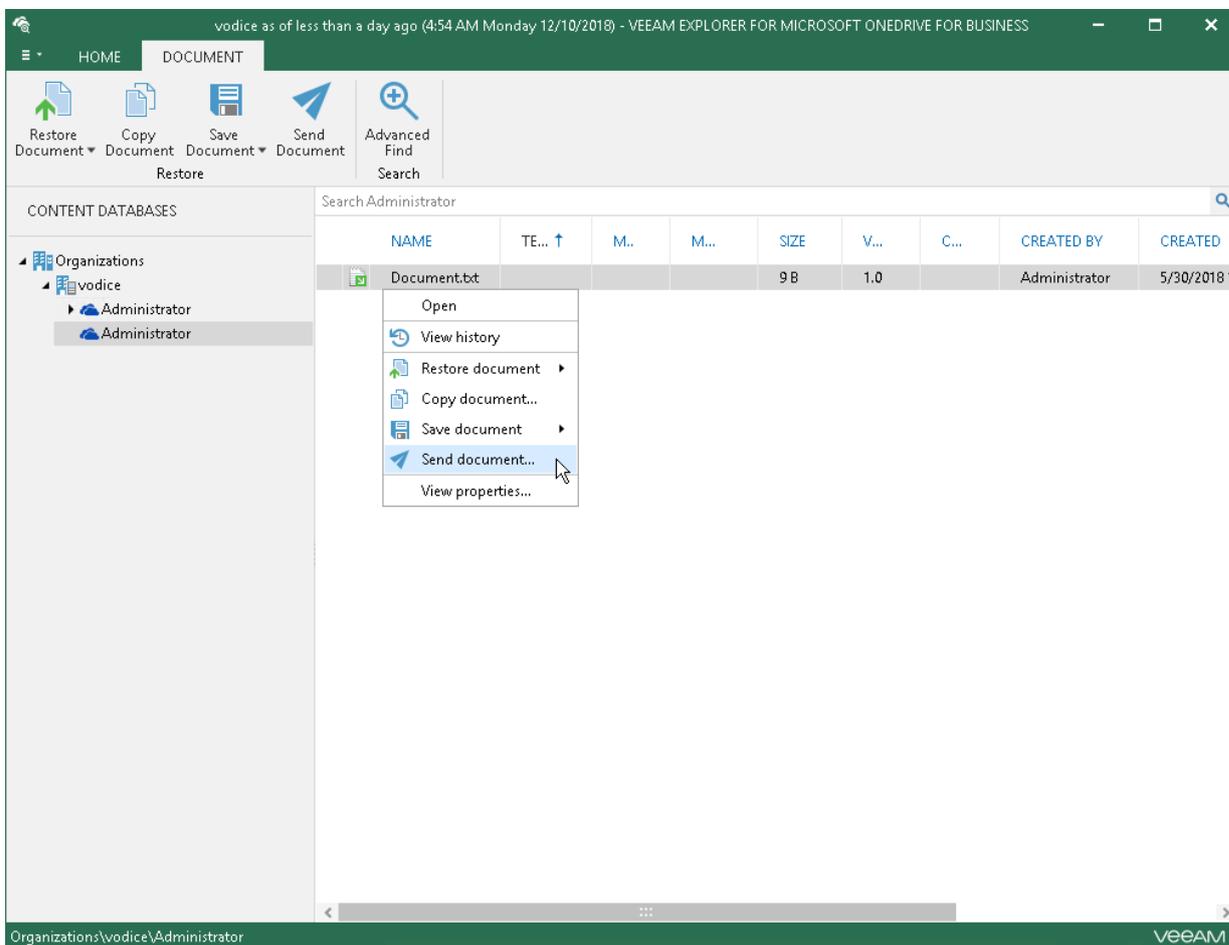
Veeam Explorer for Microsoft OneDrive for Business allows you to send OneDrive documents to specified recipients via email.

TIP:

Before sending documents, make sure to configure SMTP settings, as described in [Configuring SMTP Settings](#). The amount of data you can send at a time depends on your SMTP server configuration.

To send OneDrive documents via email, do the following:

1. Select OneDrive or a document.
2. On the **Document** tab, select **Send OneDrive/Send Document** or right-click an object and select **Send OneDrive/Send Document**.



3. Provide a recipient address.

The **From** field is filled automatically based on the address you have provided when configuring SMTP settings. To edit the message body, click **More Details**.

