Vembu Universal Explorer
User Guide

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Introduction

Vembu Universal Explorer is a utility used to perform granular level recovery of Microsoft applications which can be sourced from image backups of both physical(Physical Server Backup) and virtual environments(VMware and Hyper-V Backup).

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Backup Components

Vembu Universal Explorer is a single recovery tool that lets a user to granularly recover data from backup of various Microsoft applications such as: MS Exchange, MS SQL, MS SharePoint and MS Active Directory.

- o User can perform granular restore of emails/mailboxes/exchange stores from Microsoft Exchange.
- o User can perform granular restore of Microsoft SQL databases and tables.
- o Supports document level restore for Microsoft SharePoint.
- o Supports granular recovery for Microsoft Active Directory.

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System Requirements

- Vembu BDR Backup Server
- Vembu OffsiteDR Server
- Supported Platform

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Vembu BDR Backup Server

OS	
	• Windows Server 2019 Datacenter • Windows Server 2019 Standard • Windows Server 2019 Essential • Windows Server 2016 Datacenter • Windows Server 2016 Standard • Windows Server 2016 Essential • Windows Server 2012 R2 Datacenter • Windows Server 2012 R2 Standard • Windows Server 2012 R2 Essential • Windows Server 2012 Datacenter

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	• Windows Server 2012 Standard • Windows Server 2012 Essential • Windows Server 2008 R2 Datacenter • Windows Server 2008 R2 Standard • Windows Server 2008 R2 Enterprise • Windows 10 Enterprise • Windows 10 Pro • Ubuntu LTS 18.04 • Ubuntu LTS 16.04 • Ubuntu LTS 14.04 • Ubuntu LTS 12.04
RAM	8 GB (Minimum) and 16 GB (Recommended)
CPU	4 cores or 4 vCPUs (Minimum) and 8 cores or 8 vCPUs (Recommended) 64-bit Architecture
Network	1 Gbps & above. While replicating the on-site copy over WAN, 1 Mbps & above
Browsers	Internet Explorer 11 & above Mozilla Firefox 28 & above Google Chrome 34 & above

- The performance of the disk image backup depends on the RAM & CPU availability of the Vembu BDR backup server.

Normally, 4 GB RAM will be utilized to run the Vembu BDR backup server and database services.

- If only one backup job is active, then it will use the remaining memory (approx. 4 GB RAM).
- If two concurrent backups are active, then each backup job will use approx. 2 GB RAM.
- So, the memory utilization will be divided based on the active concurrent backup jobs.
- We recommend allocating approximately 500 MB RAM for each active backup job. If you want to run 8 concurrent backup jobs in your Vembu BDR backup server, you should assign 8 GB RAM (4 GB for Vembu BDR backup server and 4 GB to process the backup jobs).
- In order to avoid significant CPU usage during active backup progress, Vembu BDR backup server machine should be assigned with enough vCPUs or cores.
- Normally, one vCPU or core is enough to handle 8 concurrent backup jobs activity (such as read/write). However, we recommend assigning a minimum of 4 cores/vCPUs for hassle-free usage.

Note: The above mentioned memory and CPU utilization are same for the Vembu BDR backup server (Windows & Ubuntu) deployed in physical and virtual environments.

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Vembu OffsiteDR Server

OS	- Windows Server 2019 Datacenter - Windows Server 2019 Standard - Windows Server 2019 Essential - Windows Server 2016 Datacenter - Windows Server 2016 Standard - Windows Server 2016 Essential - Windows Server 2012 R2 Datacenter - Windows Server 2012 R2 Standard - Windows Server 2012 R2 Essential - Windows Server 2012 Datacenter - Windows Server 2012 Standard - Windows Server 2012 Essential - Windows Server 2008 R2 Datacenter - Windows Server 2008 R2 Standard - Windows Server 2008 R2 Enterprise - Windows 10 Enterprise - Windows 10 Pro - Ubuntu LTS 18.04 - Ubuntu LTS 16.04 - Ubuntu LTS 14.04 - Ubuntu LTS 12.04
RAM	8 GB (Minimum) and 16 GB (Recommended)
CPU	4 cores or 4 vCPUs (Minimum) and 8 cores or 8 vCPUs (Recommended) 64-bit Architecture
Network	1 Gbps & above. While replicating the on-site copy over WAN, 1 Mbps & above
Browsers	Internet Explorer 11 & above Mozilla Firefox 28 & above Google Chrome 34 & above

- The performance of backups depends on the RAM & CPU availability of the Vembu OffsiteDR Server.

Normally, 4 GB RAM will be utilized to run the Vembu OffsiteDR Server and database services.

- If only one backup job is active, then it will use the remaining memory (approx. 4 GB RAM).

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- If two concurrent backups are active, then each backup job will use approx. 2 GB RAM.

So, the memory utilization will be divided based on the active concurrent backup jobs. We recommend allocating approximately 500 MB RAM for each active backup job. If you want to run 8 concurrent backup jobs in your Vembu OffsiteDR Server, you should assign 8 GB RAM (4 GB for Vembu OffsiteDR Server and 4 GB to process the backup jobs).
To avoid significant CPU usage during active backup progress, Vembu OffsiteDR Server machine should be assigned with enough vCPUs or cores. Normally, one vCPU or core is enough to handle 8 concurrent backup jobs activity (such as read/write). However, we recommend assigning a minimum of 4 cores/vCPUs for hassle-free usage.

Note: The above-mentioned memory and CPU utilization are same for the Vembu OffsiteDR Server (Windows & Linux) deployed in physical and virtual environments.

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Supported Platforms

Application	Supported Versions
Microsoft Exchange Server	- Exchange Server 2016 - Exchange Server 2013 - Exchange Server 2010 - Exchange Server 2007
Microsoft SQL Server	- SQL Server 2014 - SQL Server 2012 - SQL Server 2008 R2 - SQL Server 2008 - SQL Server 2005
Microsoft Sharepoint Server	- SharePoint 2010 - SharePoint 2007
Microsoft Active Directory	- Windows Server 2012 R2 DC - Windows Server 2012 DC - Windows Server 2008 R2 STD

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Installing Vembu Universal Explorer

Step 1: Getting started with the installation

- Download the installer file for Vembu Universal Explorer from here - Download Vembu Universal Explorer and run the installer with administrator privilege. Begin installing Vembu Universal Explorer by selecting **Next** in the installation wizard.

Step 2: Prerequisites and License Agreement

- The next window will check for the prerequisites for the installation in your machine and lists them along with download link for applications that are uninstalled.
- You can download them right away, or check the **I will install prerequisites later** check-box and install them later. Click **Next** to continue.
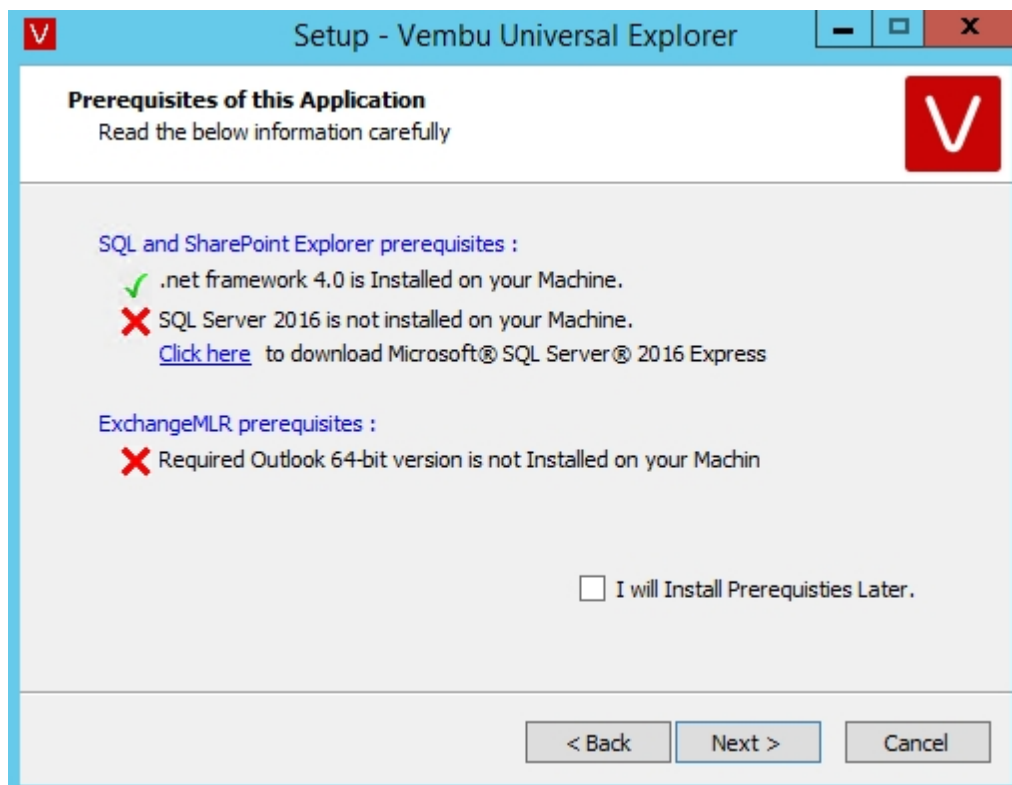
- Read and agree to Vembu Software License Agreement. Click **Next** to continue.
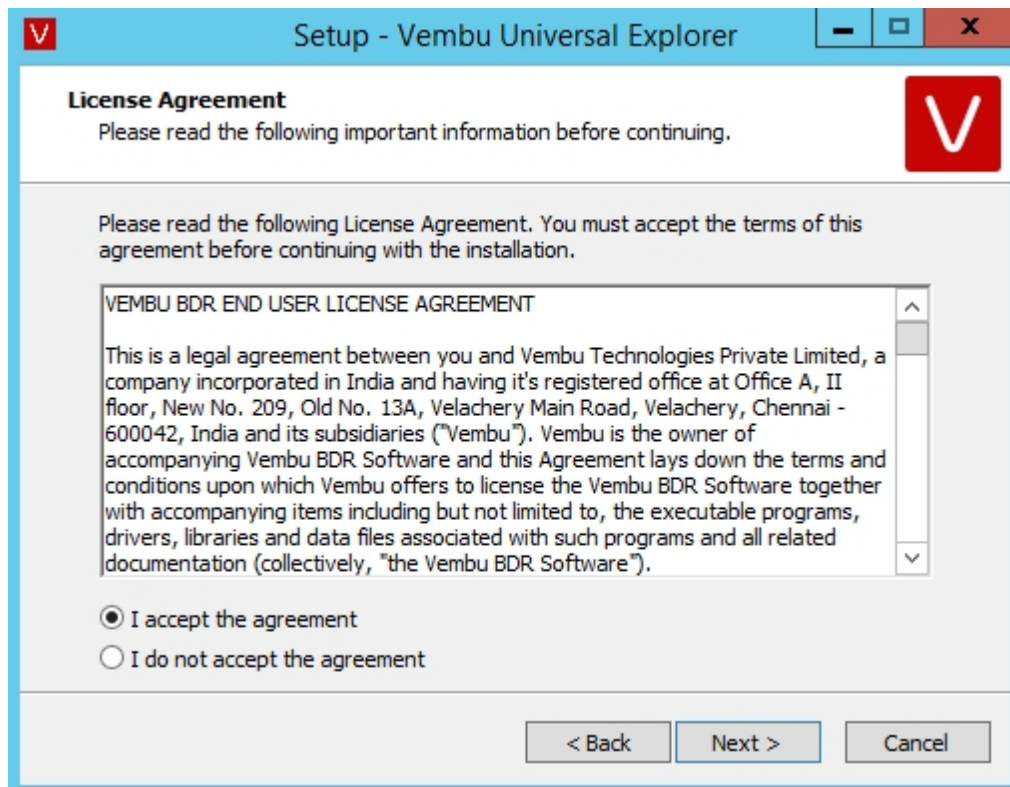
Step 3: Configure shortcut location

- The installation wizard will ask for folder name under which the setup will add program icons to the folder. In the next page, choose whether you need the shortcut and quick launch icons for the program and proceed. Click **Next** to proceed with the Vembu Universal Explorer installation process.
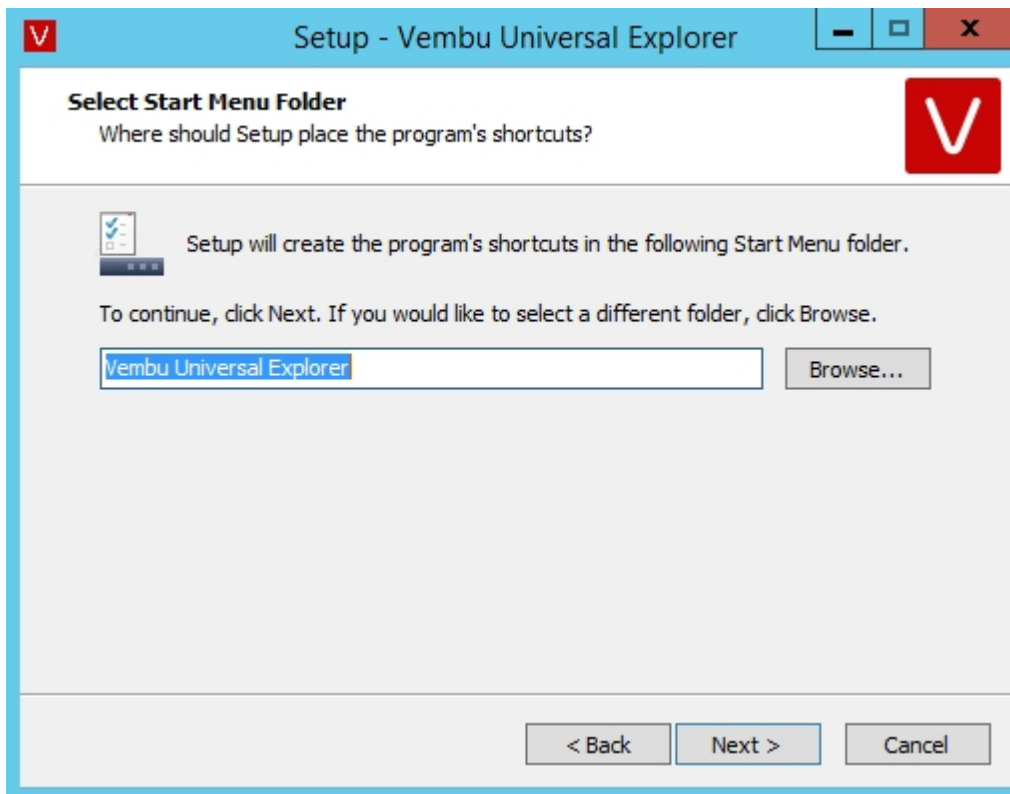
Step 4: Review Selections

- The installation wizard will give a brief summary of the provided details, you can review it and proceed to install Vembu Universal Explorer by selecting the **Install** option.
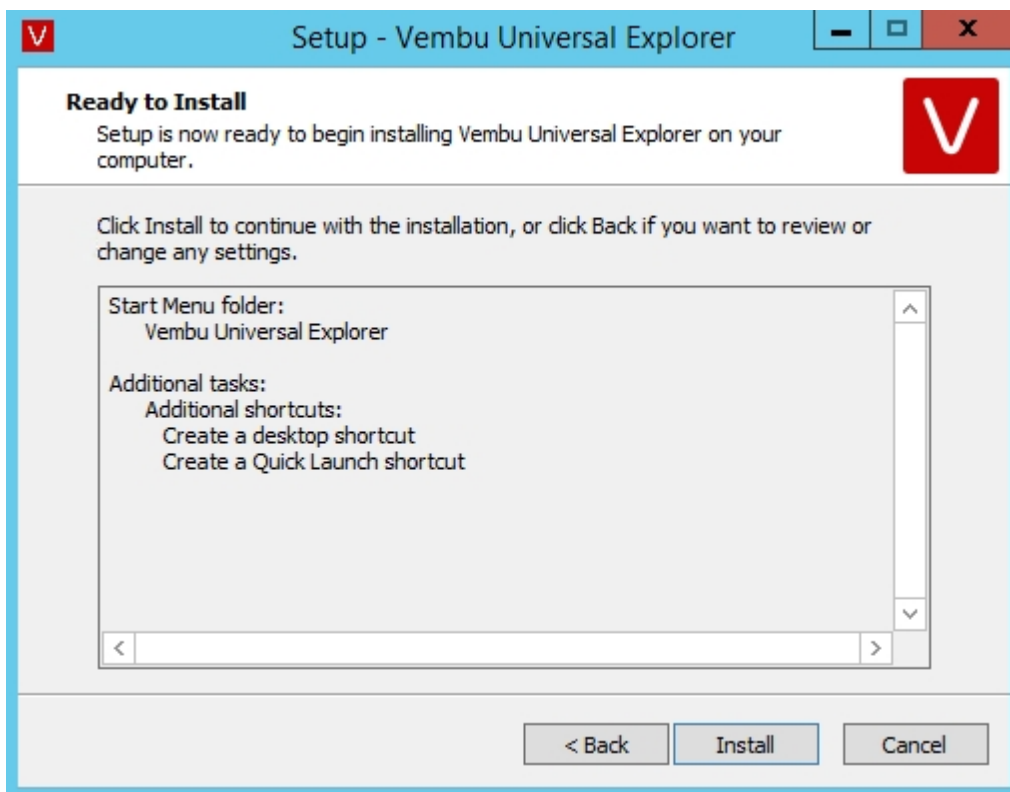
Step 5: Completing Vembu Universal Explorer Installation

- Vembu Universal Explorer is installed successfully. If you want to start Vembu Universal Explorer Application after the setup closes, select the **Start Vembu Universal Explorer Application** check-box and click **Finish.**

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Getting Started with Recovery

- [Microsoft Exchange Server](#)
- [Microsoft SQL Server](#)
- [Microsoft SharePoint Server](#)
- [Microsoft Active Directory](#)

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Microsoft Exchange Server

Vembu Universal Explorer is used to perform individual email level restore with the help of .edb file from the source VHD and to restore entire mailbox to a live Microsoft Exchange Server.
Also users can view the Exchange mailbox contents instantly from Vembu Universal Explorer.

- Live restore can be performed to the target MS Exchange Server.
- Used to export the selected mailboxes or individual emails into .pst format.
- Perform mail level restore from exchange database.
- View the exchange email contents directly from Vembu Universal Explorer UI.

Requirements

- To open database files, Vembu Universal Explorer requires a service dynamic link library (ese.dll) which is installed together with Microsoft Exchange.
- For Exchange Server 2007 EDB and for Exchange Server 2010/2013/2016 EDB , we can configure the ese.dll by navigating to the **File** and click **Settings**. Now browse and select the location of ese.dll.
- Vembu Universal Explorer only supports database files (.edb) created with the 64-bit version of Microsoft Exchange Server 2007, 2010,2013 and 2016.
- If you are planning to export mailbox items as Personal Folder Files (.pst) or restore to Exchange Server, it is necessary to have the 64-bit version of Microsoft Outlook 2010 installed in the system.
- The mailbox which is used for creating the MAPI profile should have administrator privileges, and we need to run our exe from that user only.
- .NET framework 4.0 or 4.5 have to be installed in the machine to perform Save EML message.

1. To restore mails, calendar and contacts to the Exchange Server by using EDB files:

- Start Vembu Explorer to restore emails from Exchange Mail server.

- Go to home tab and click **Open EDB file** and Select Source File. Browse EDB files and click **OK**.
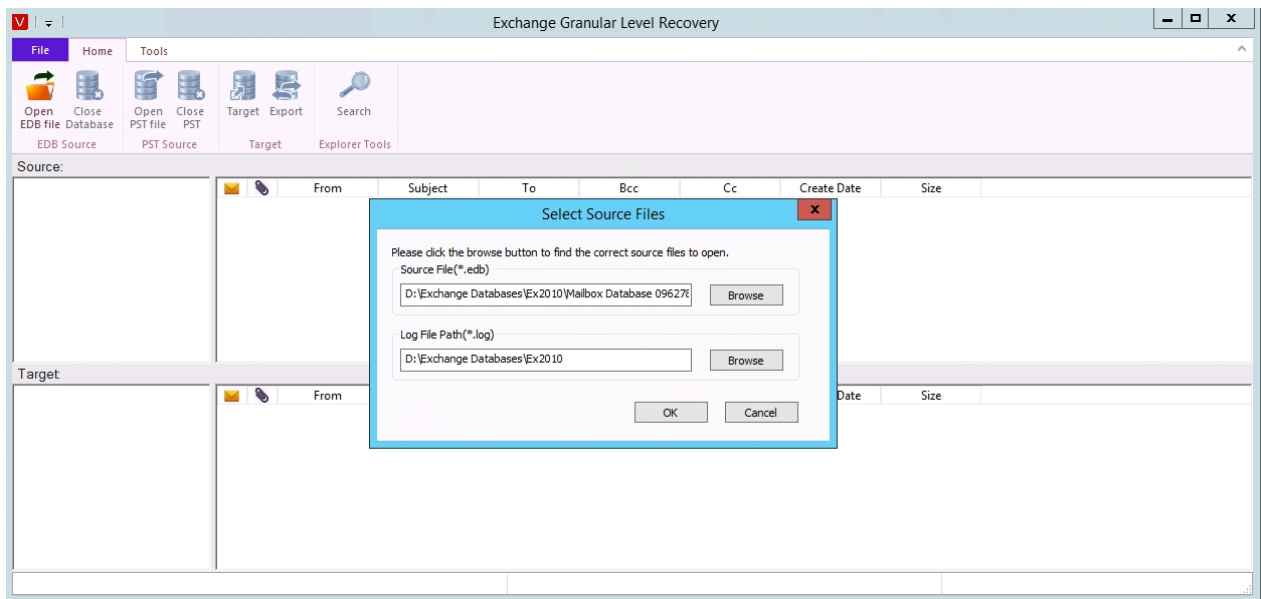
- You can view all the mailbox items in the Source section.
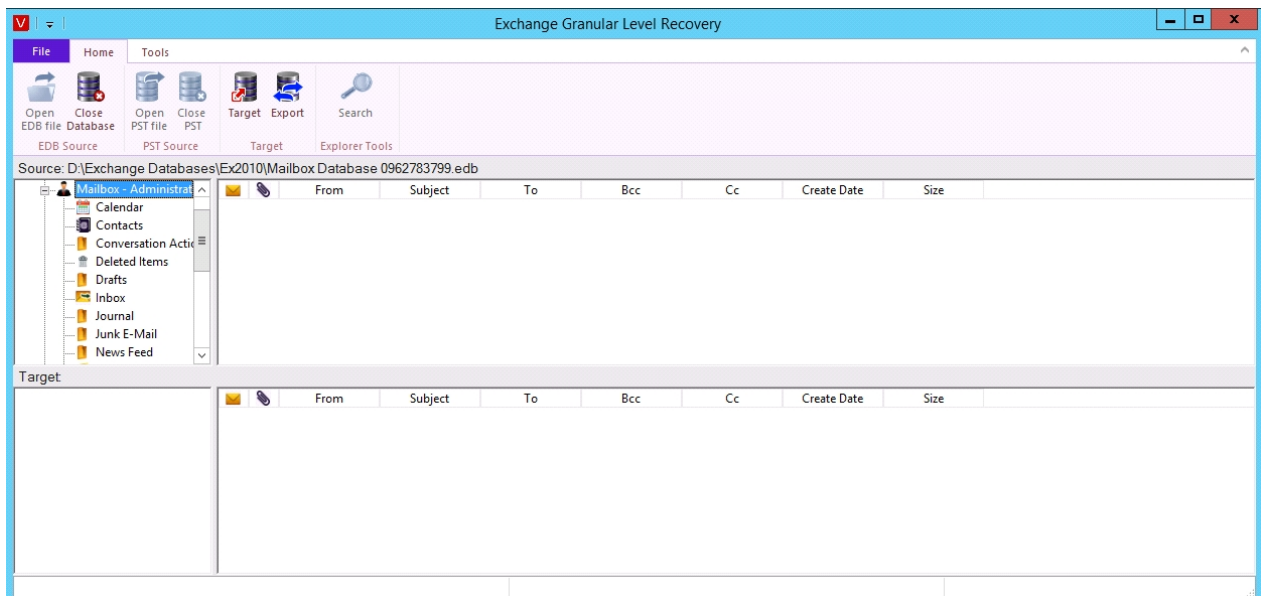
- Click the **Mailbox** and open the inbox.
- Go to home and click target option to open target Exchange Server. Once you select the target Exchange Server option, it will prompt a pop-up box where you will be asked to enter the destination server Name and Mailbox Name. Once required information is provided, Click **OK** to proceed further.
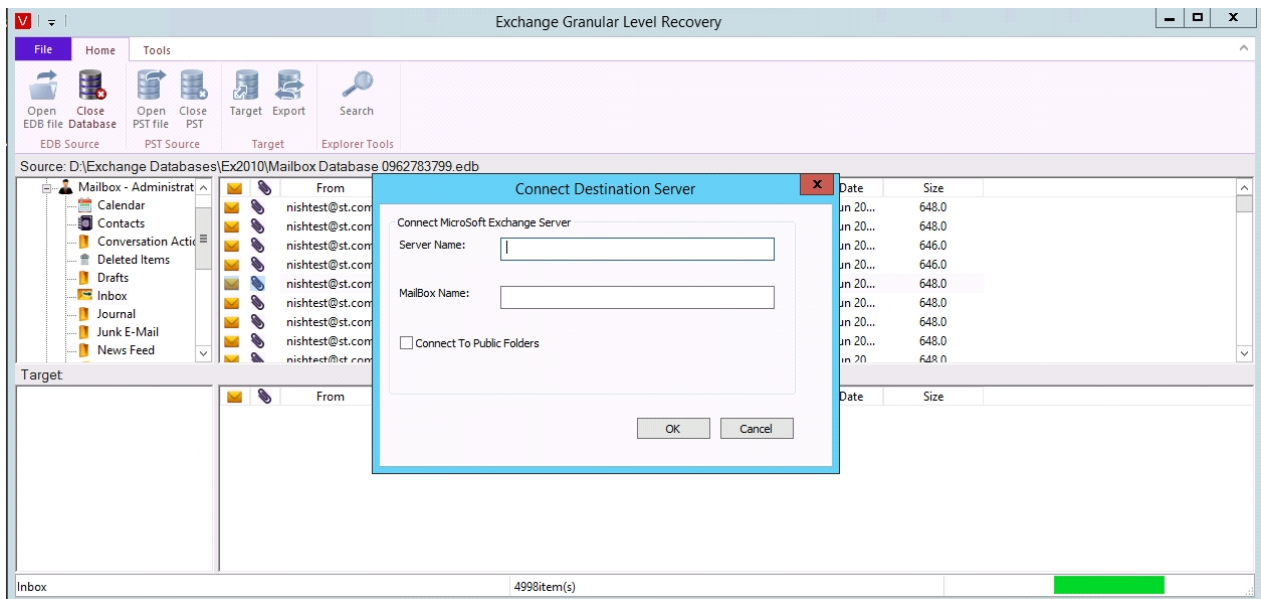
- You can view all emails in the target of a connected Exchange Server.
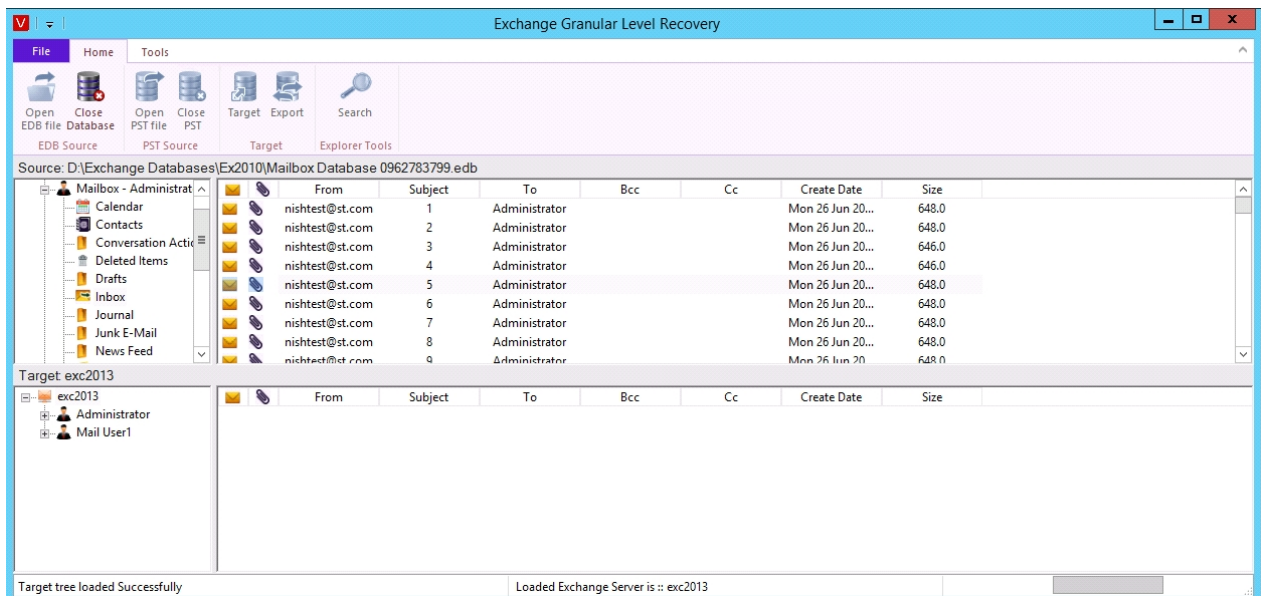
- Right click the mail and select **Send to Exchange Server Mailbox** to copy the mails to the target database.

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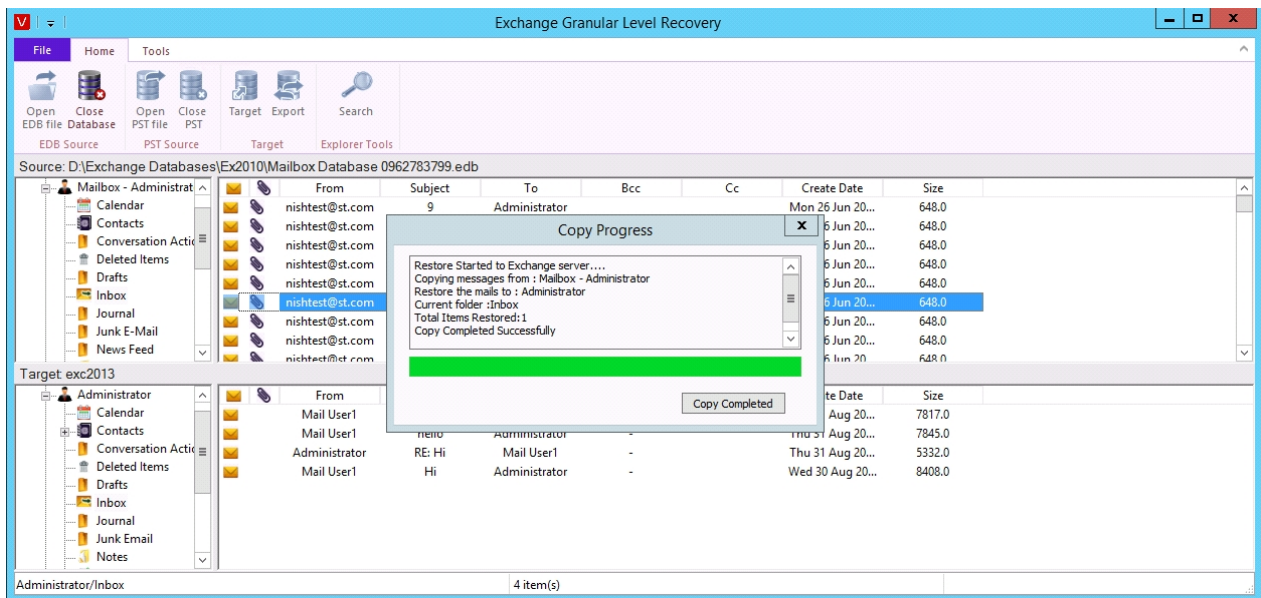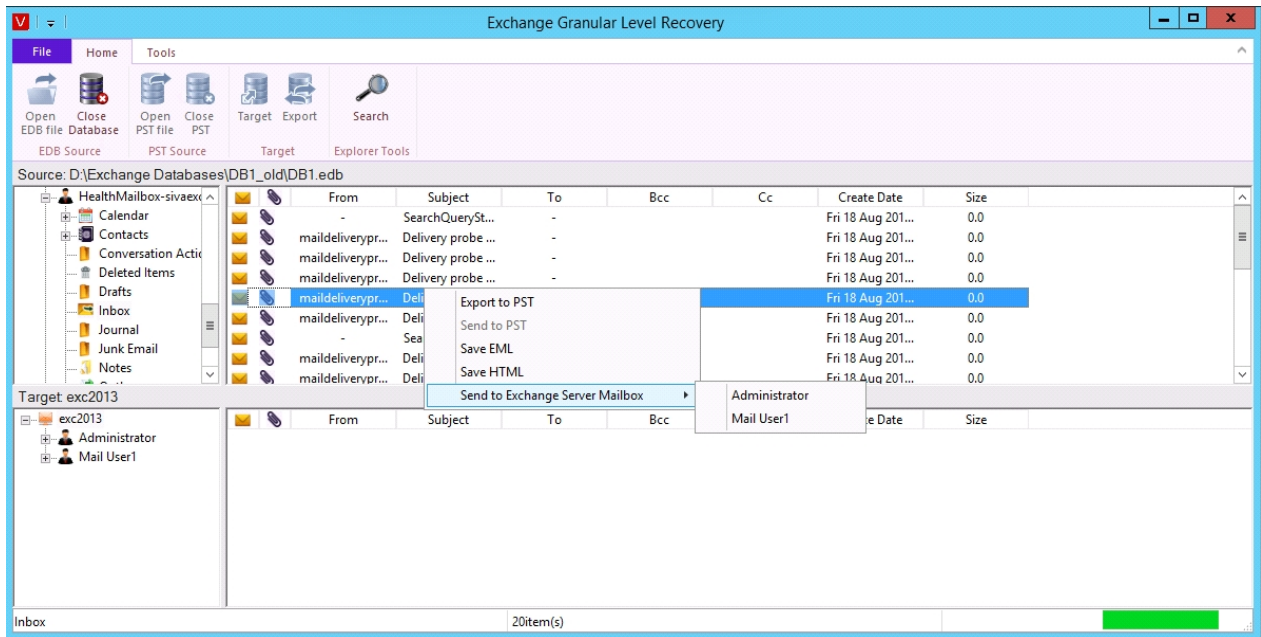
- When you open MS Outlook, you will see all your copied emails.

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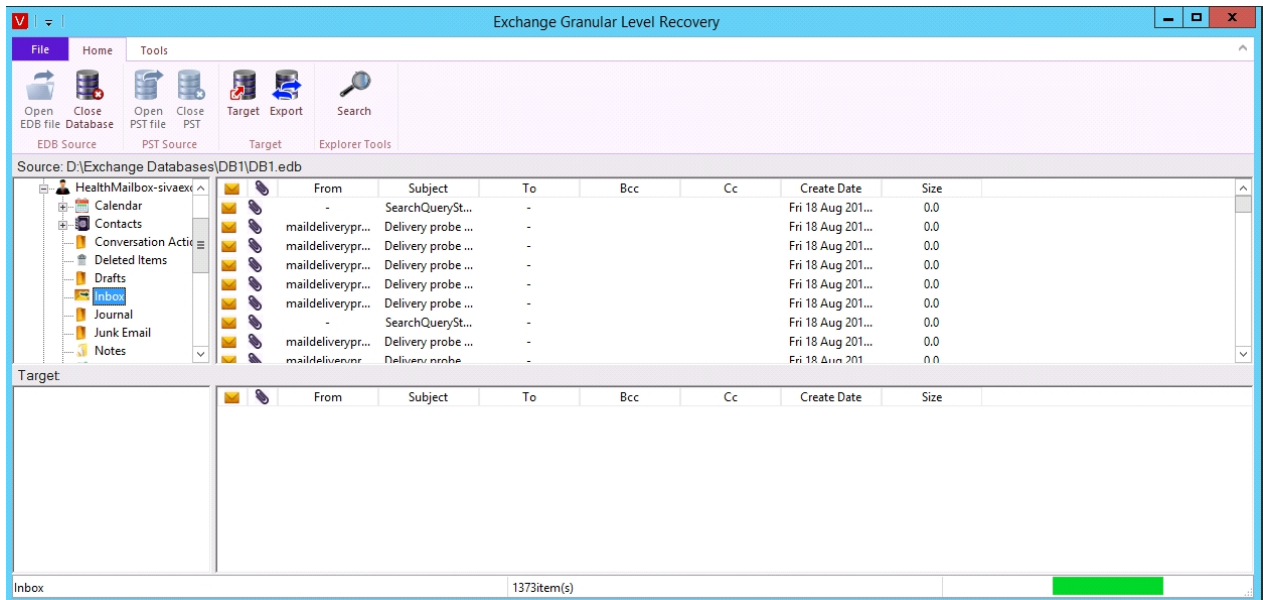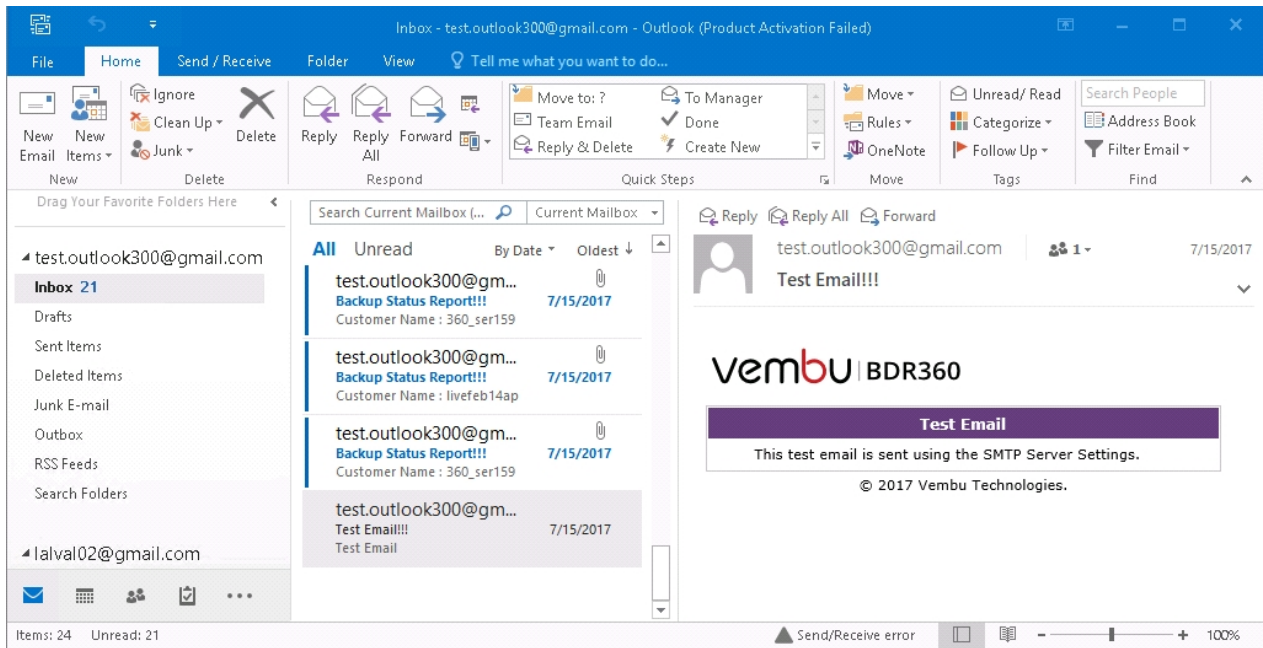
- Click **Close Database** icon from home, then click **Yes** to confirm it.

Note: You have to close the Source EDB files to browse other EDB files.
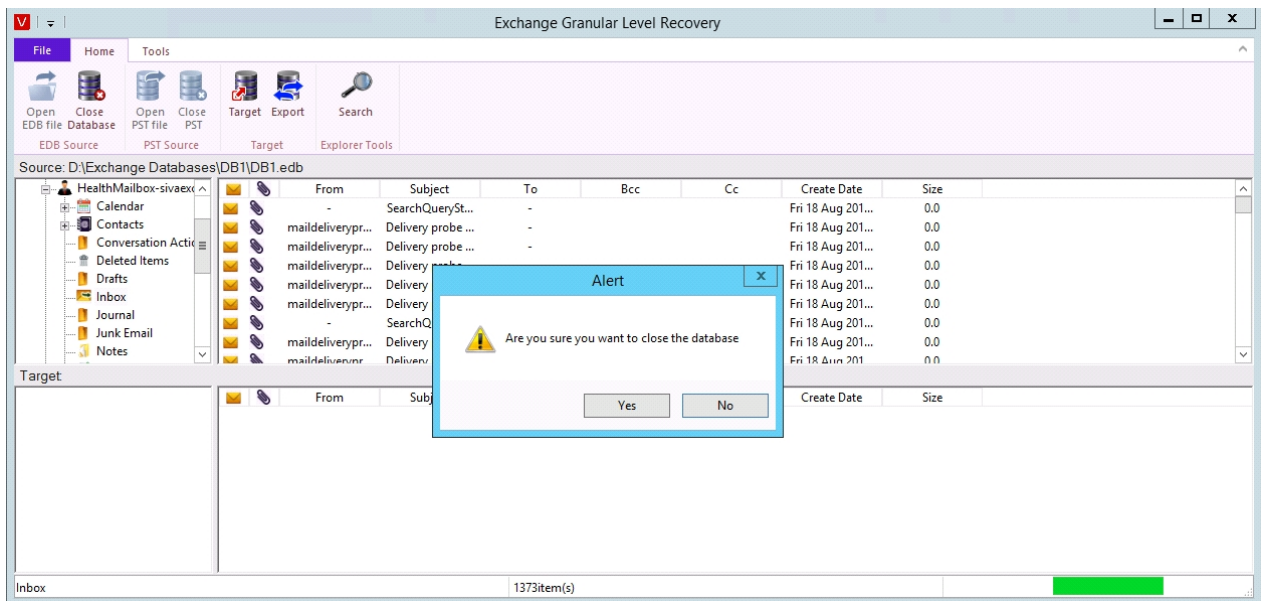
2. To Export Emails, Calendar and Contacts to the PST files using EDB files:

- Go to **Home** and click **Open EDB file icon** and choose **Select Source**.
- Browse the EDB files and click **OK**.
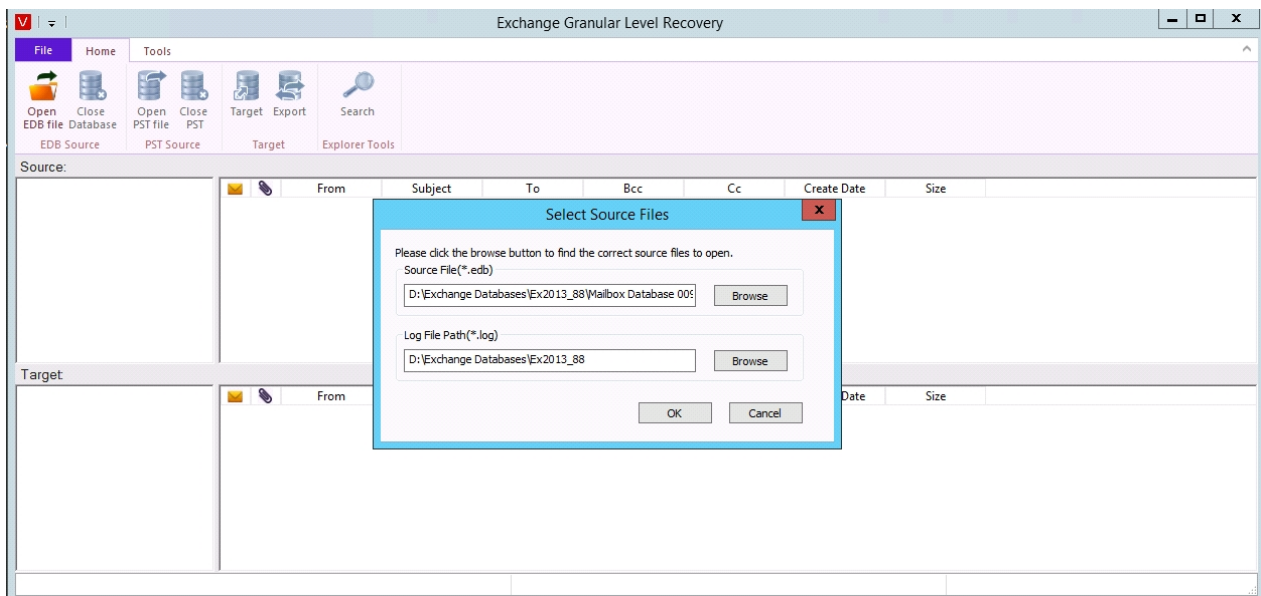
- You can view all the mailbox items in Source.
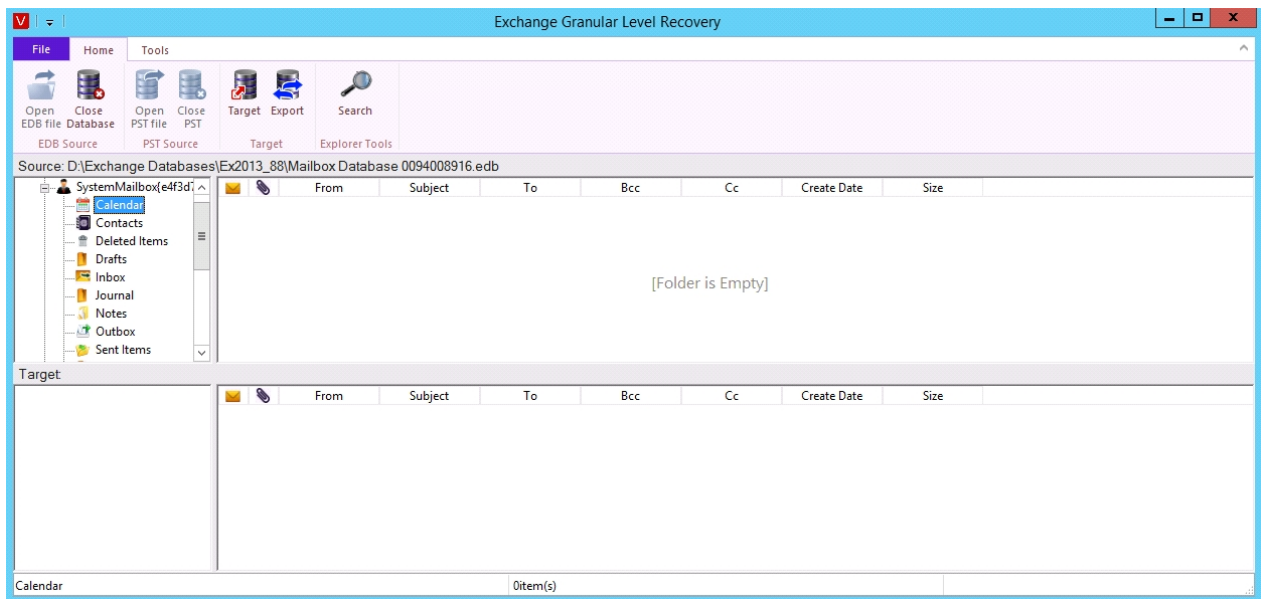
- Click **MailBox** and open the Inbox or Notes to view the mails.
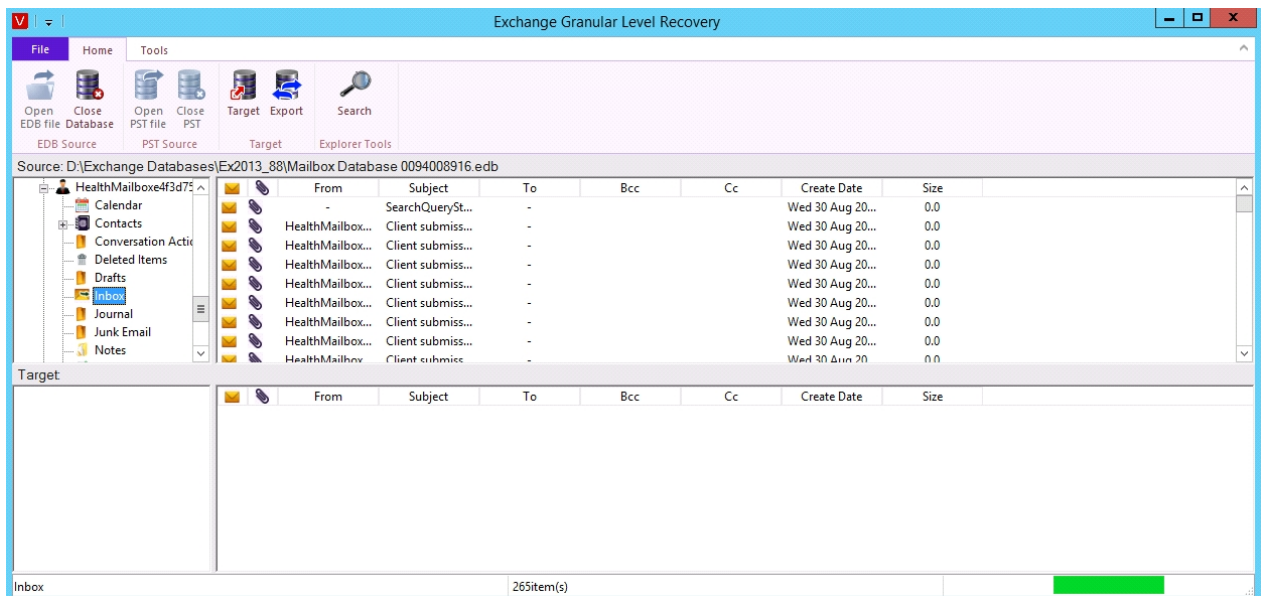
- Go to home and click the **Export** icon.
- Select the path where you want to restore PST files. Then enter filename. (You can create a new PST file with the given name)
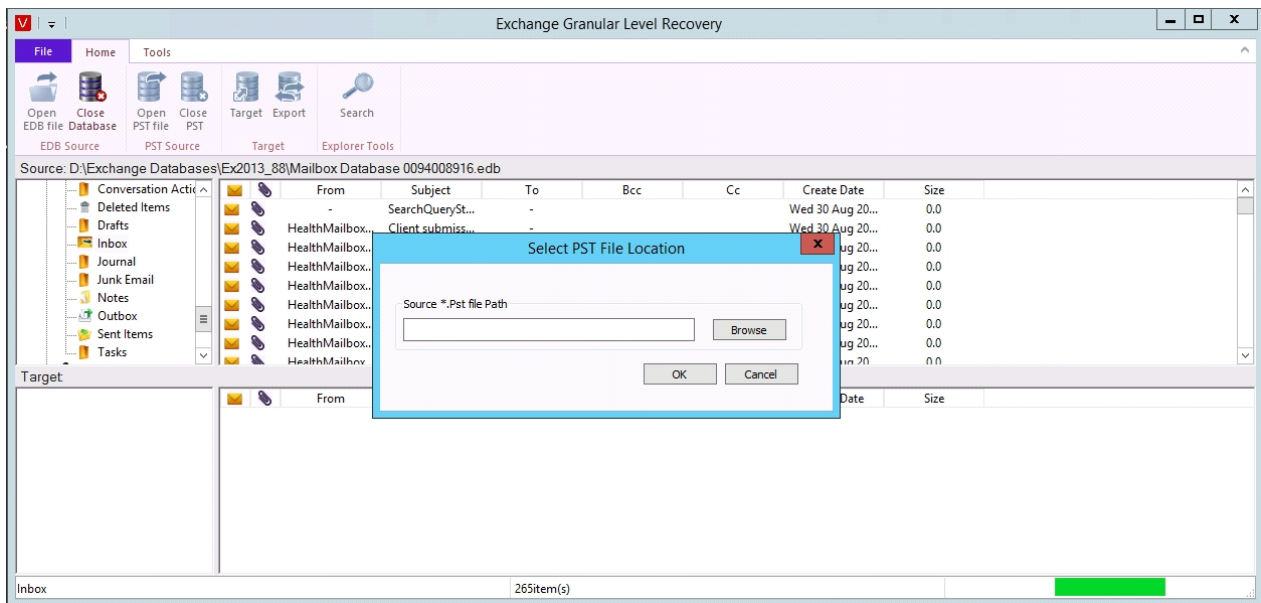
- You will have the exported files in the selected PST location as shown in the window below.
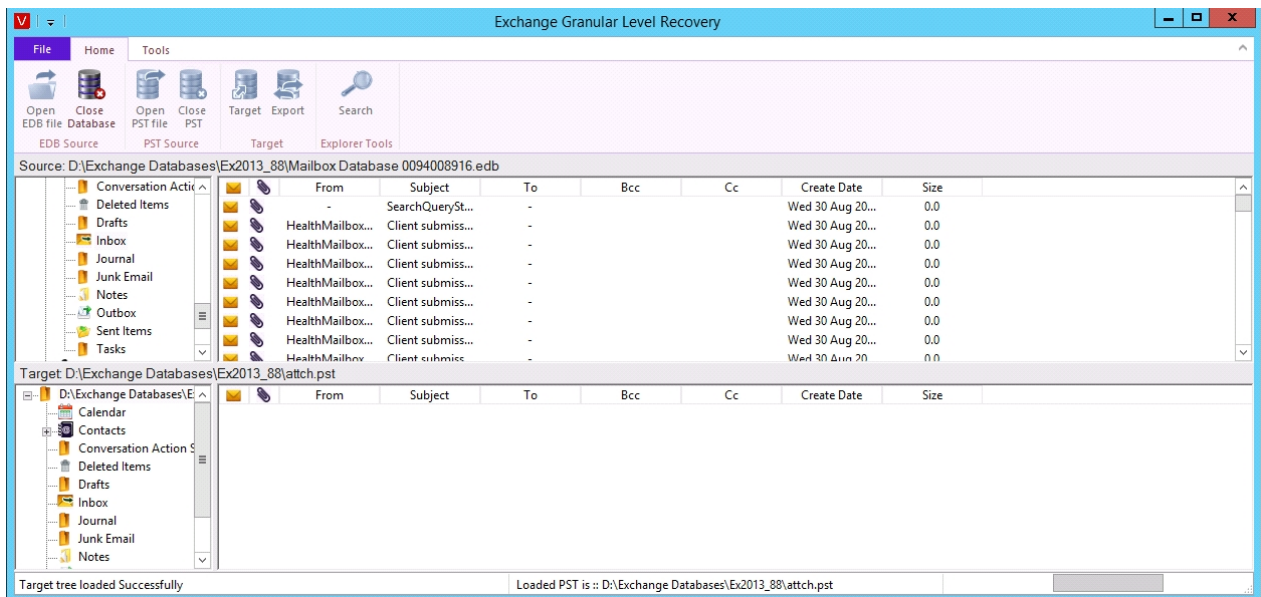
- Right click the mail and select the desired method to copy the mails to the target PST.
- You will be provided with two methods to copy the mails: **Export to PST** and **Send to PST**.
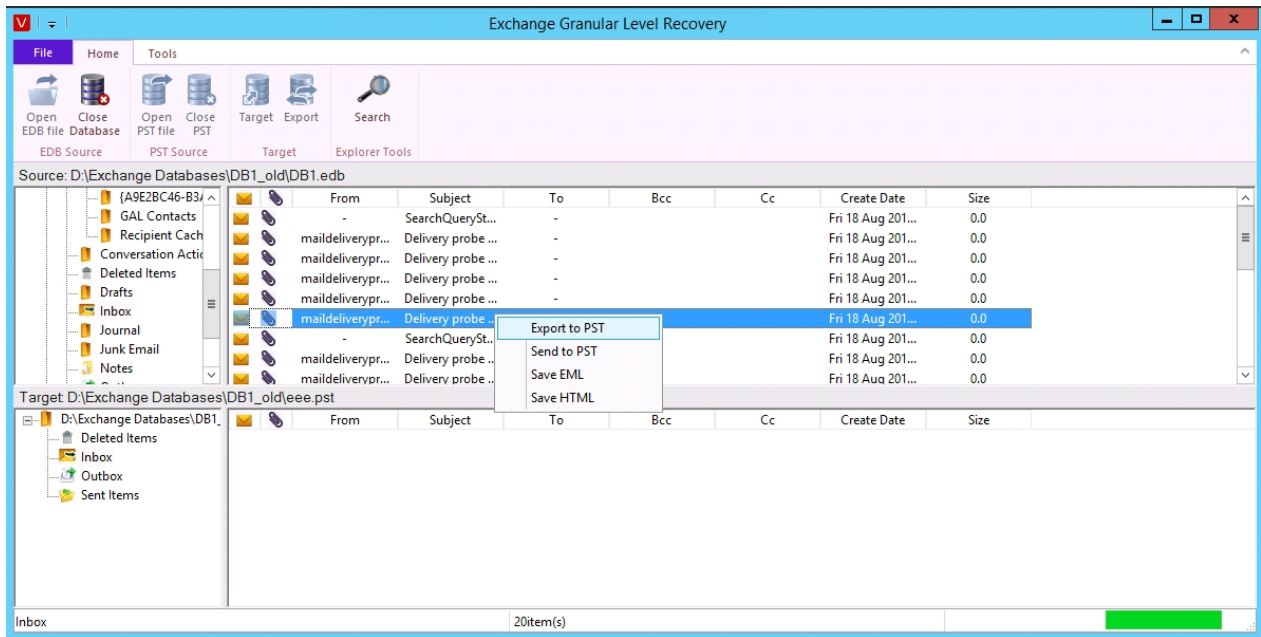
- Once you Click the '**Export to PST**' option you will be asked to select the new *.pst file location path.
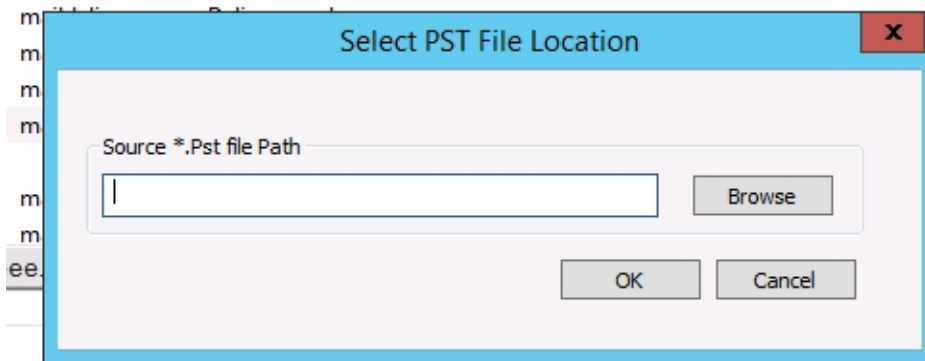
- If you select the **'Send to PST'** option, the mails will be directly copied to the target PST.
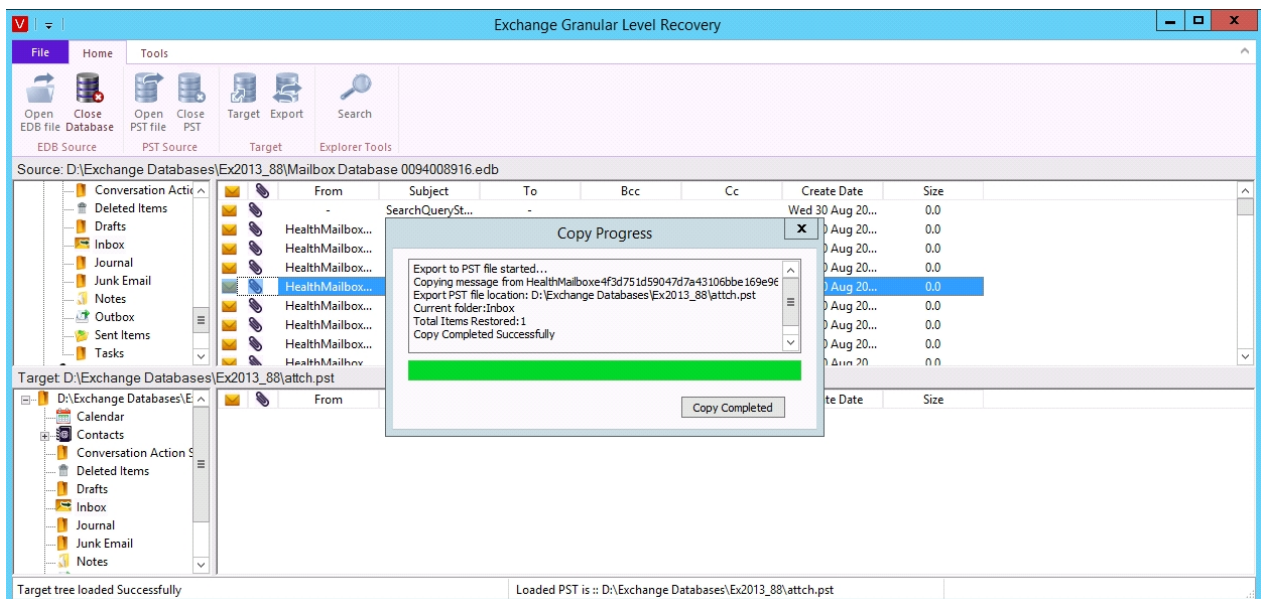
Note: Mail view is not supported for PST files. It can be viewed in MS Outlook.

- Open MS Outlook. Go to **File** option, click **Open** and select **Open Outlook Data File** (.pst file).
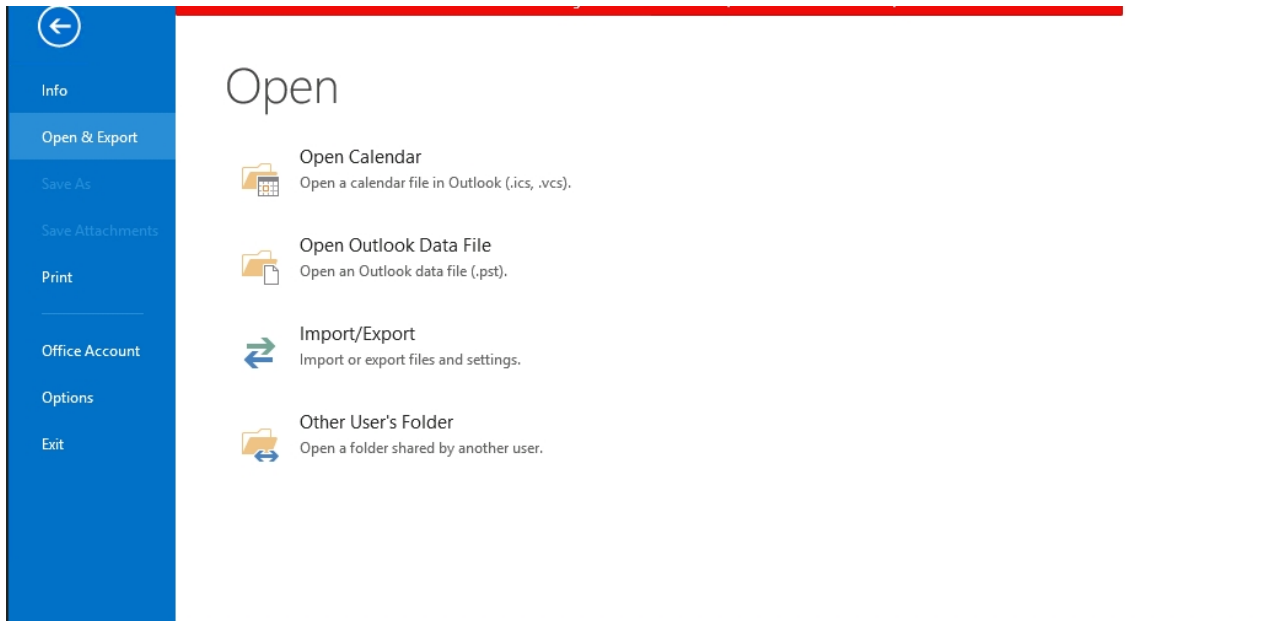
- Select the PST location and then click **OK.**
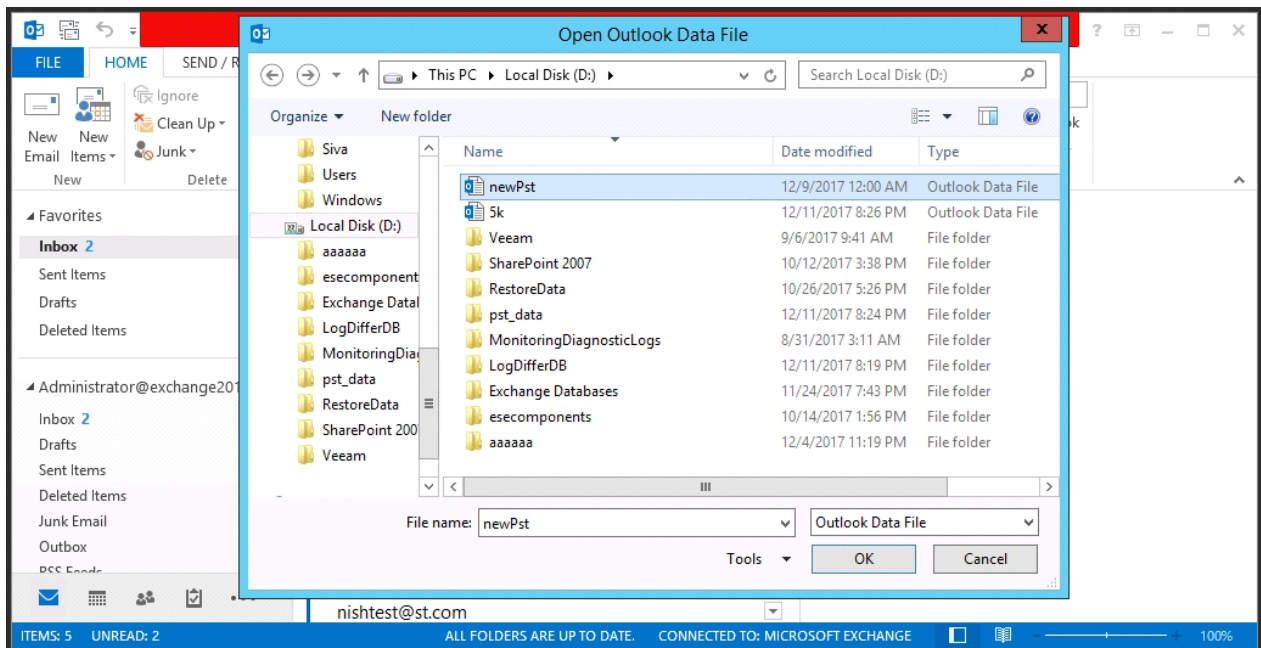
- A new account Vembu MLR 01 in the MS Outlook with all exported emails will be visible.
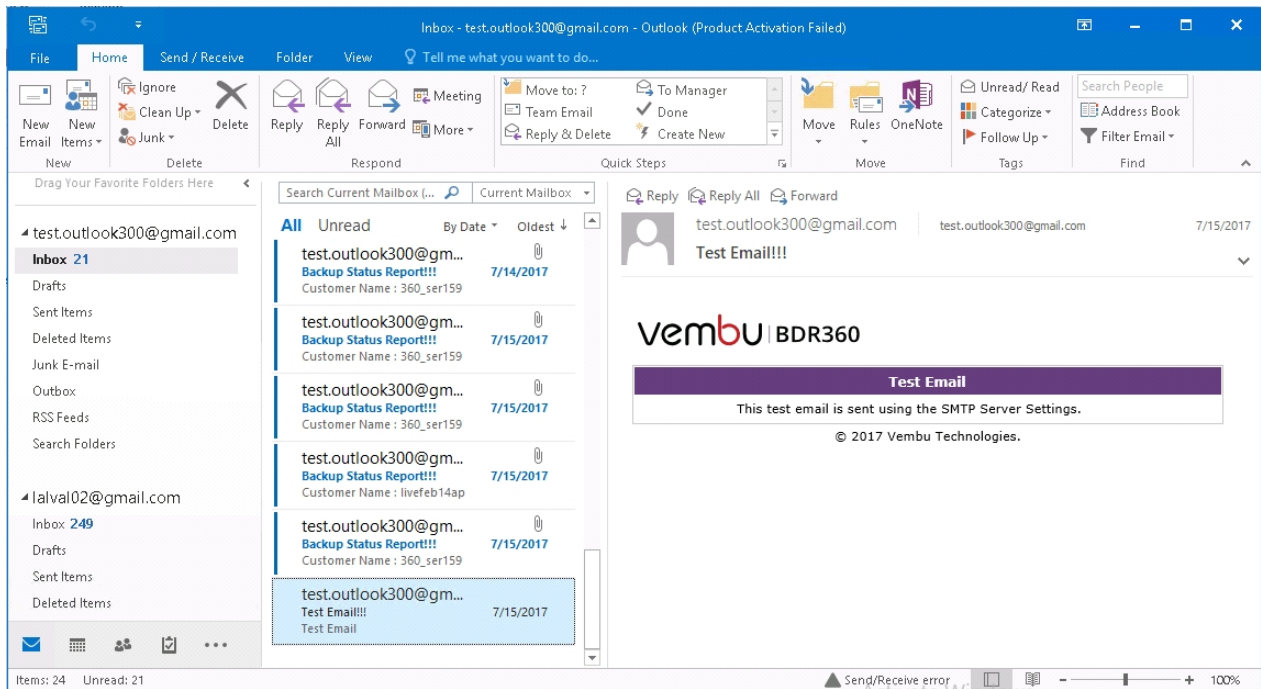
3. To Export Emails, Calendar and Contacts to the Exchange Server by using the PST files:

- Go to Home, click **Open PST file**, you will be required to provide the PST file path. Browse for the PST file to be selected and click **OK**.
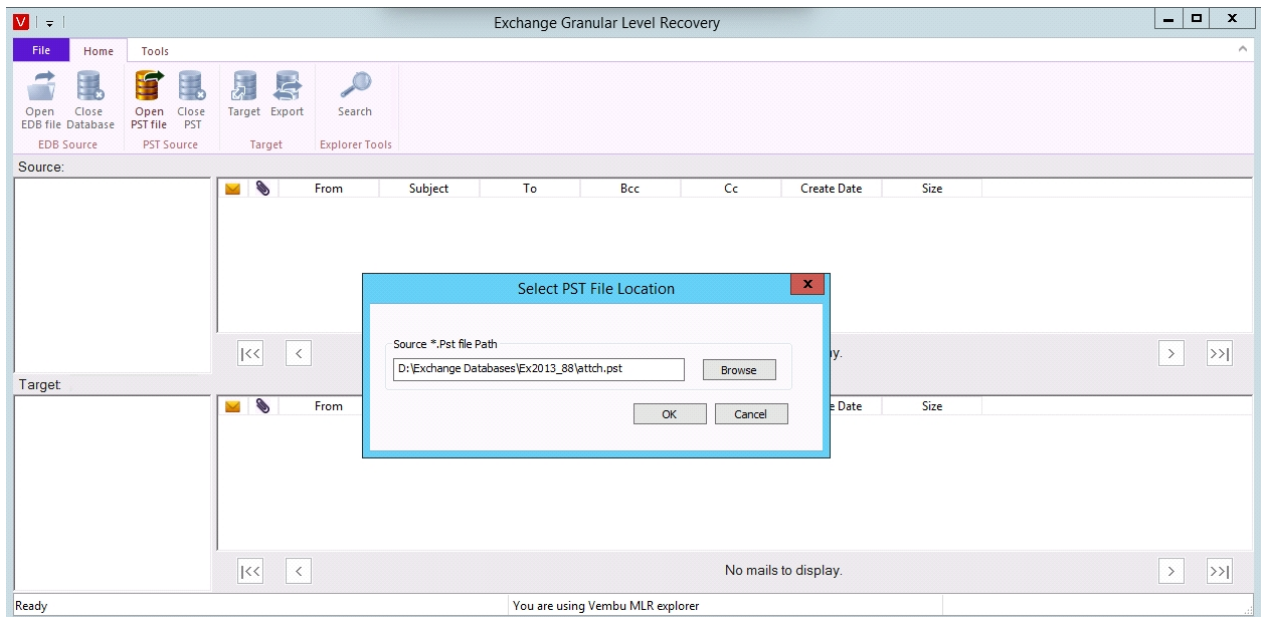
- A list of all mailbox items of the selected PST file is viewed in the Source section.
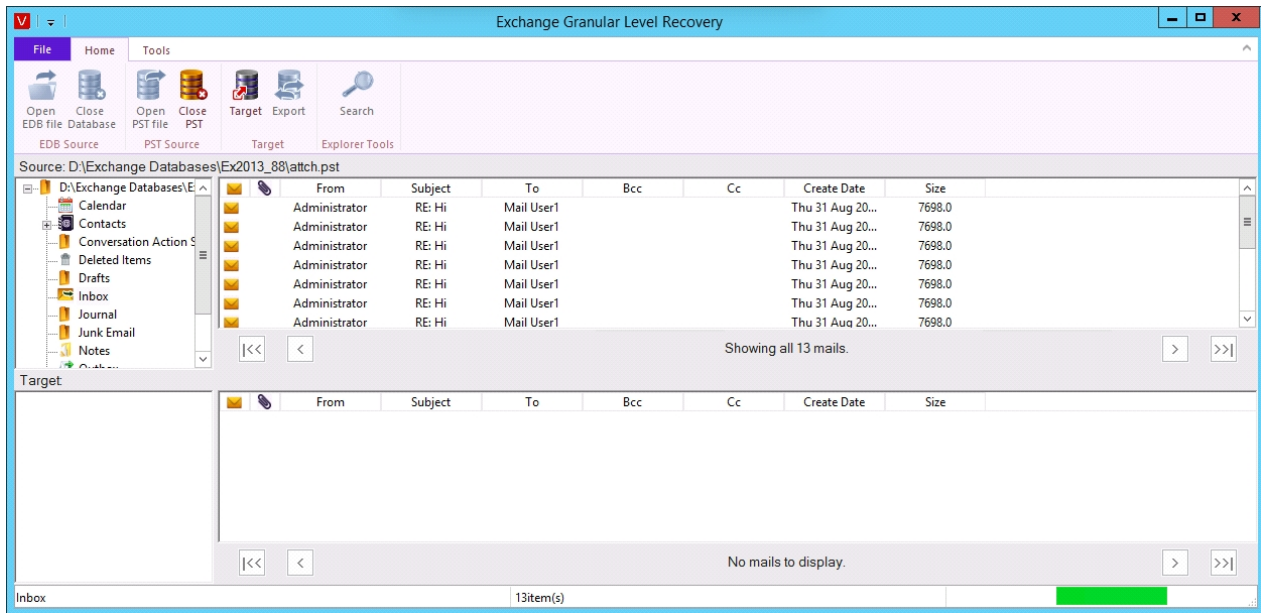
- To connect with the Destination Server, click **Open target Exchange Server**. A new window will ask you to enter the Server and mailbox names.
- Once required information is provided, Click **OK** to proceed further.
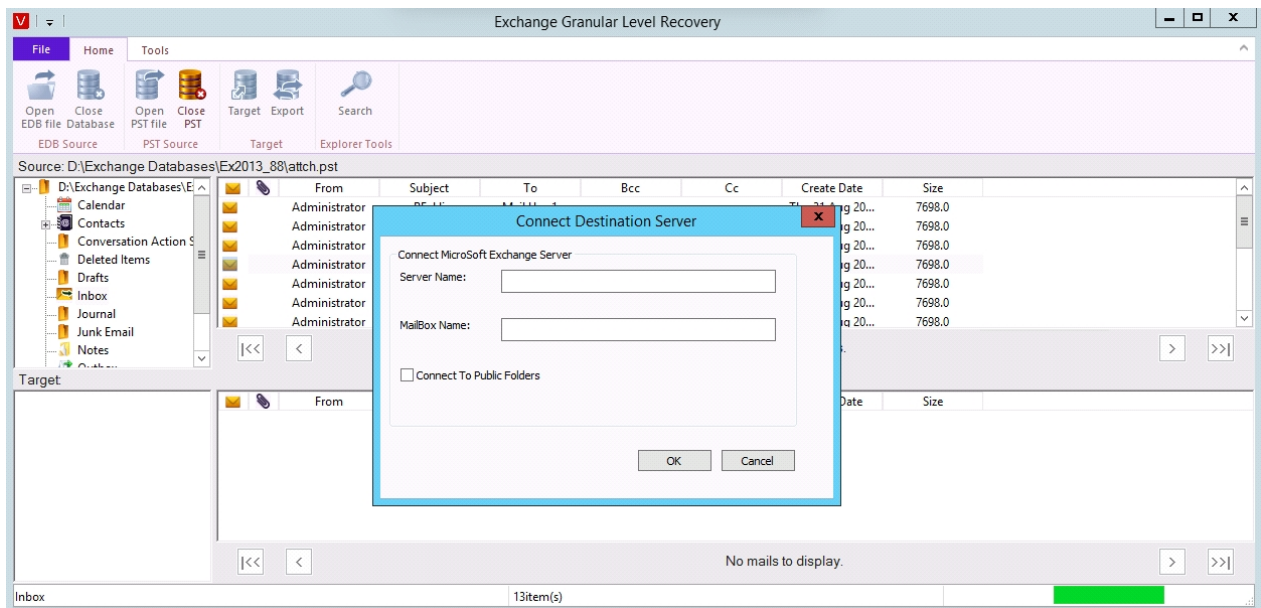
- You can view all the mailbox items of a selected Exchange Server in the Target section.
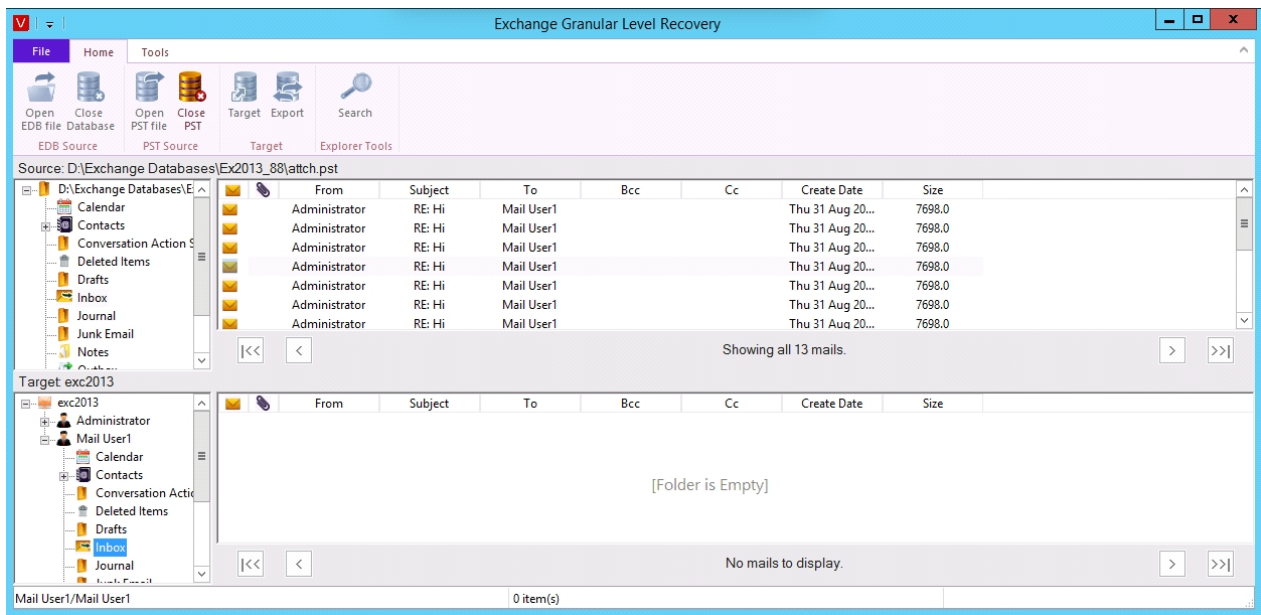
- Right click the mail and send to the selected destination Server or drag the email items to Target Section.
- The mails are recovered to the desired destination Server.
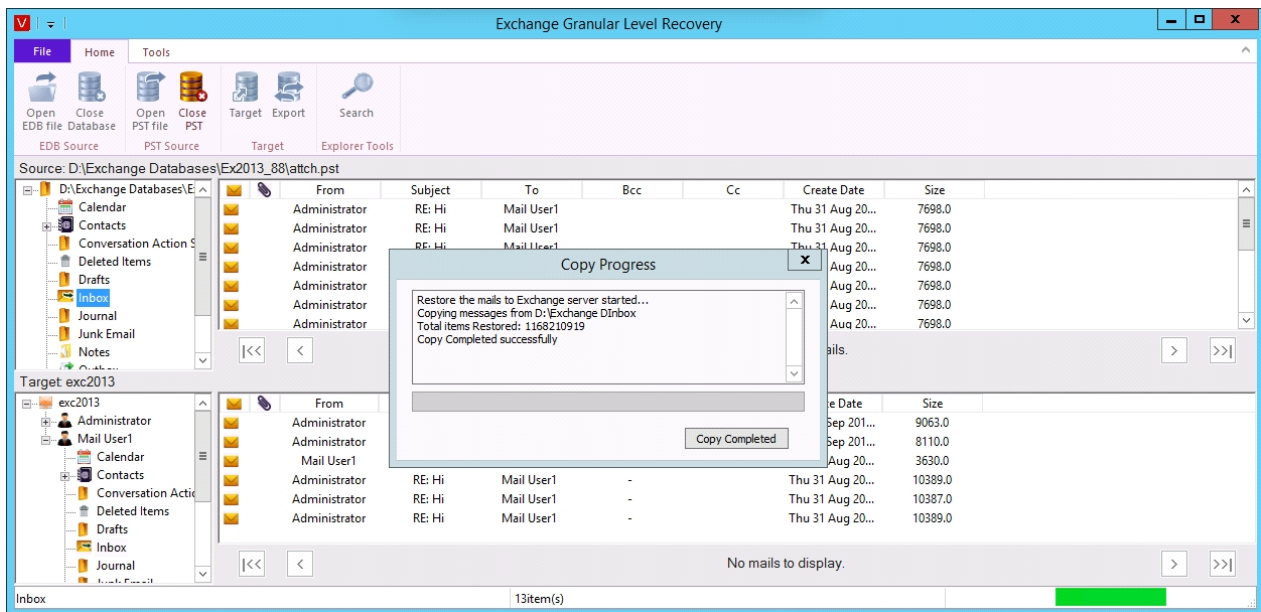
4. To save the message from EDB File:

- Go to Home and click the **Open EDB file** icon and select **Source files** option.
- Browse the EDB files and path. Click **OK** once the required files are selected

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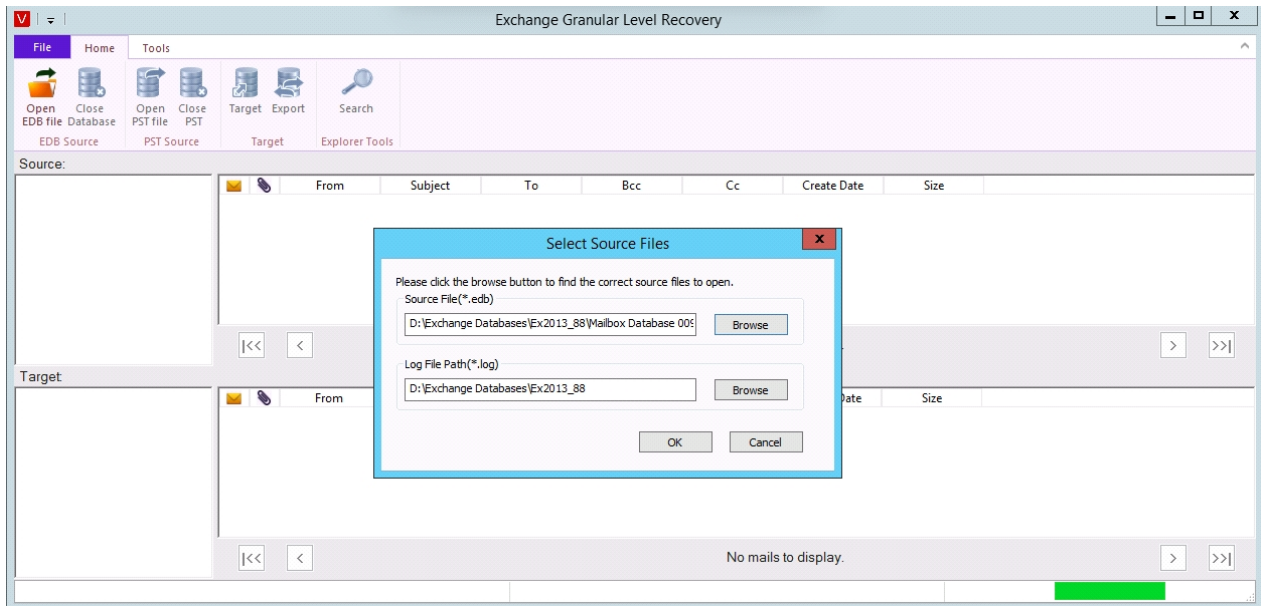
- Mailbox items of the selected database file is listed in the Source.
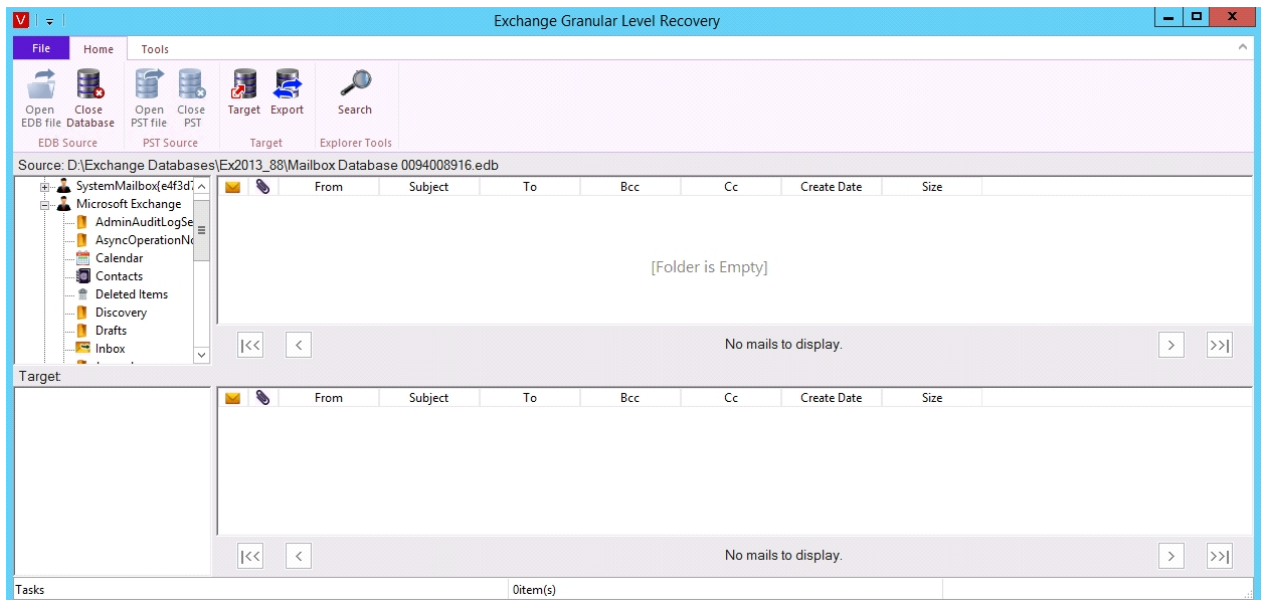
- Check the mail items such as Inbox, Sent Items etc.
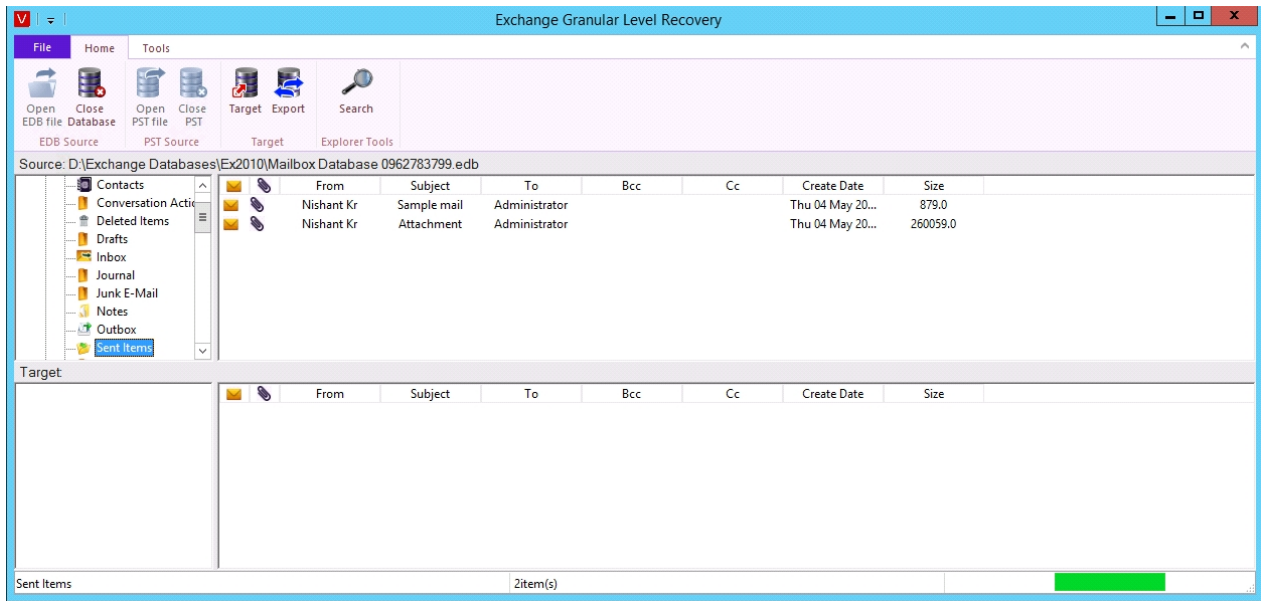
- To Save the mailbox items of the selected EDB, right click over the email and click **Save EML.**
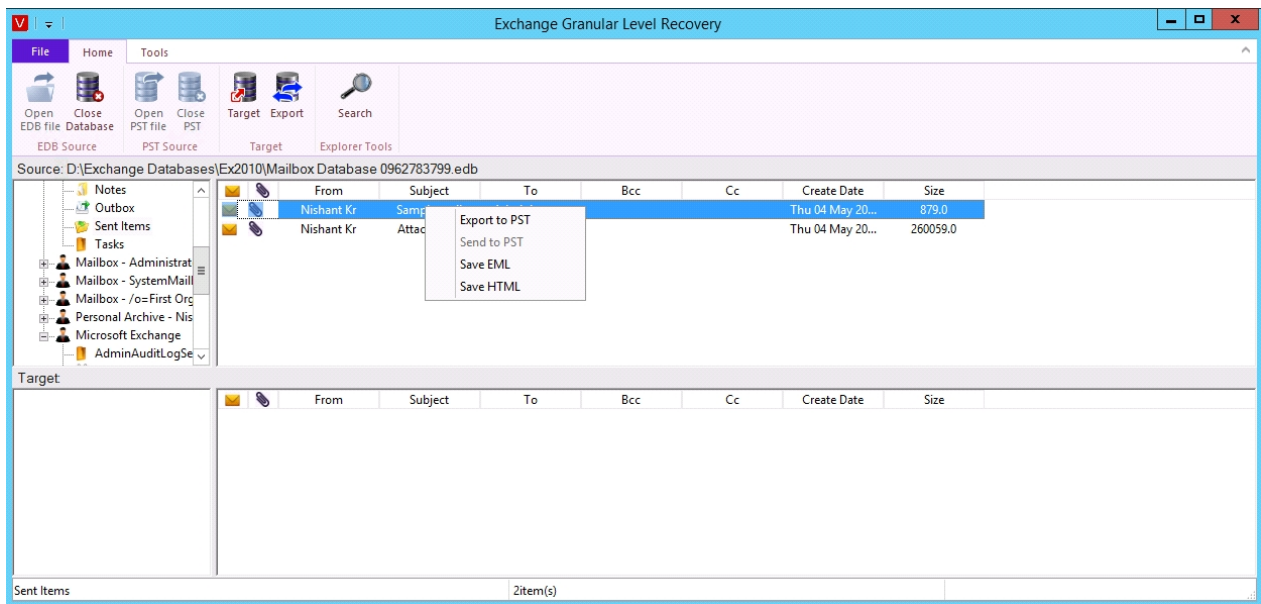
- Enter location to save the EML or HTML.
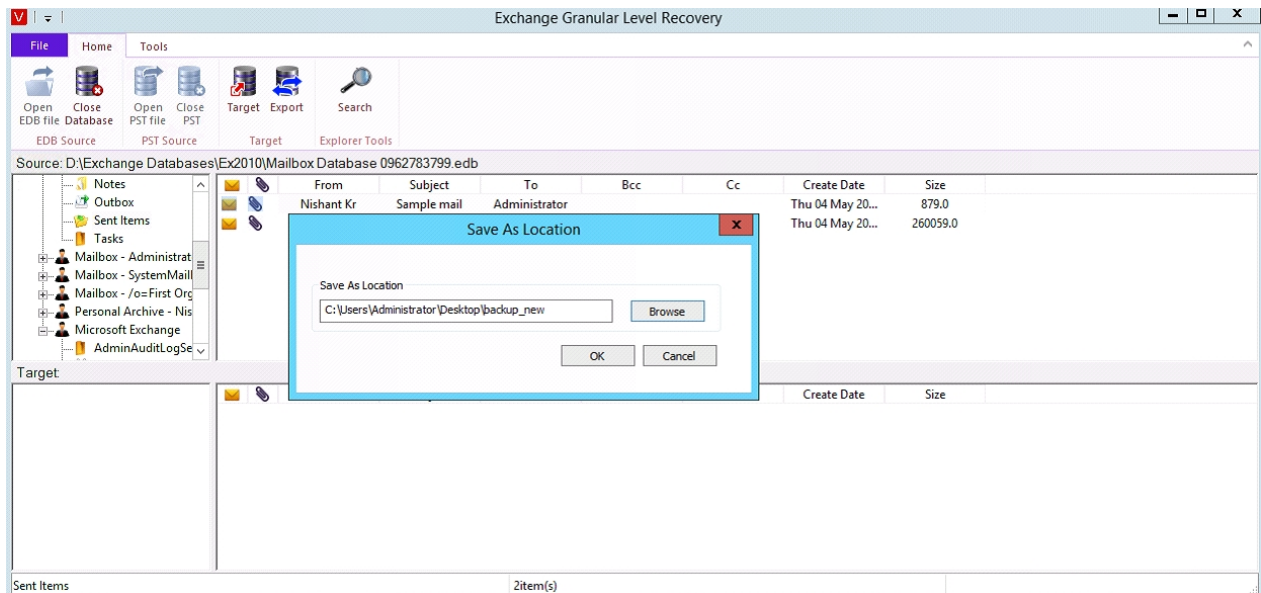
- The message will be saved in given location.
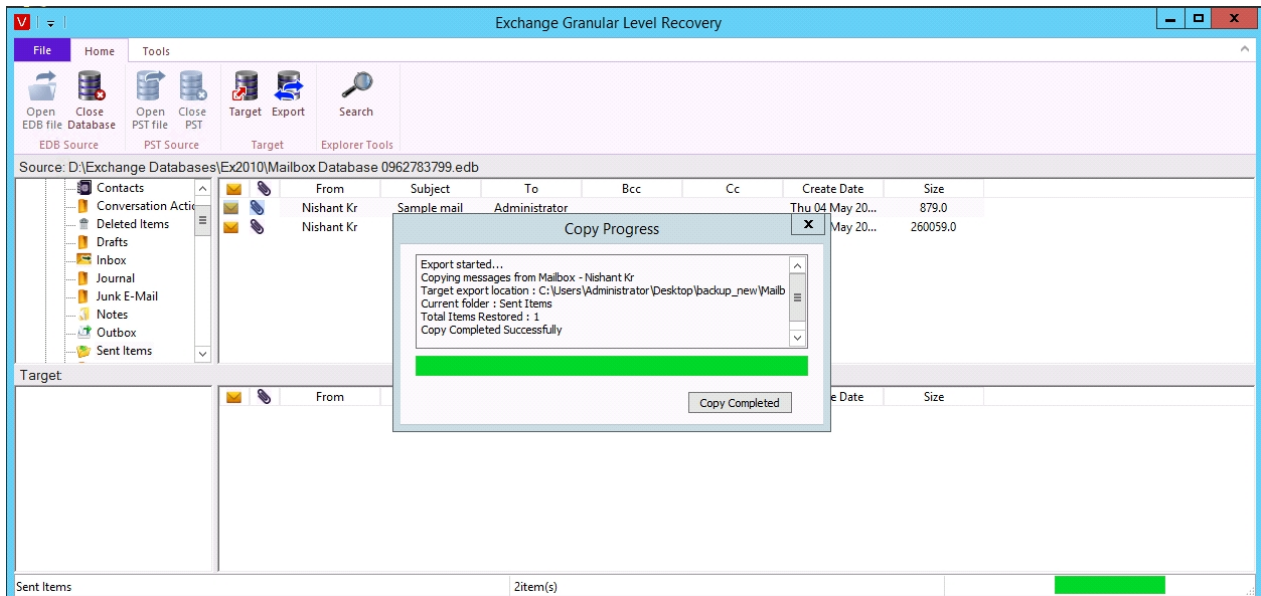
- The saved messages can be opened and viewed with outlook.
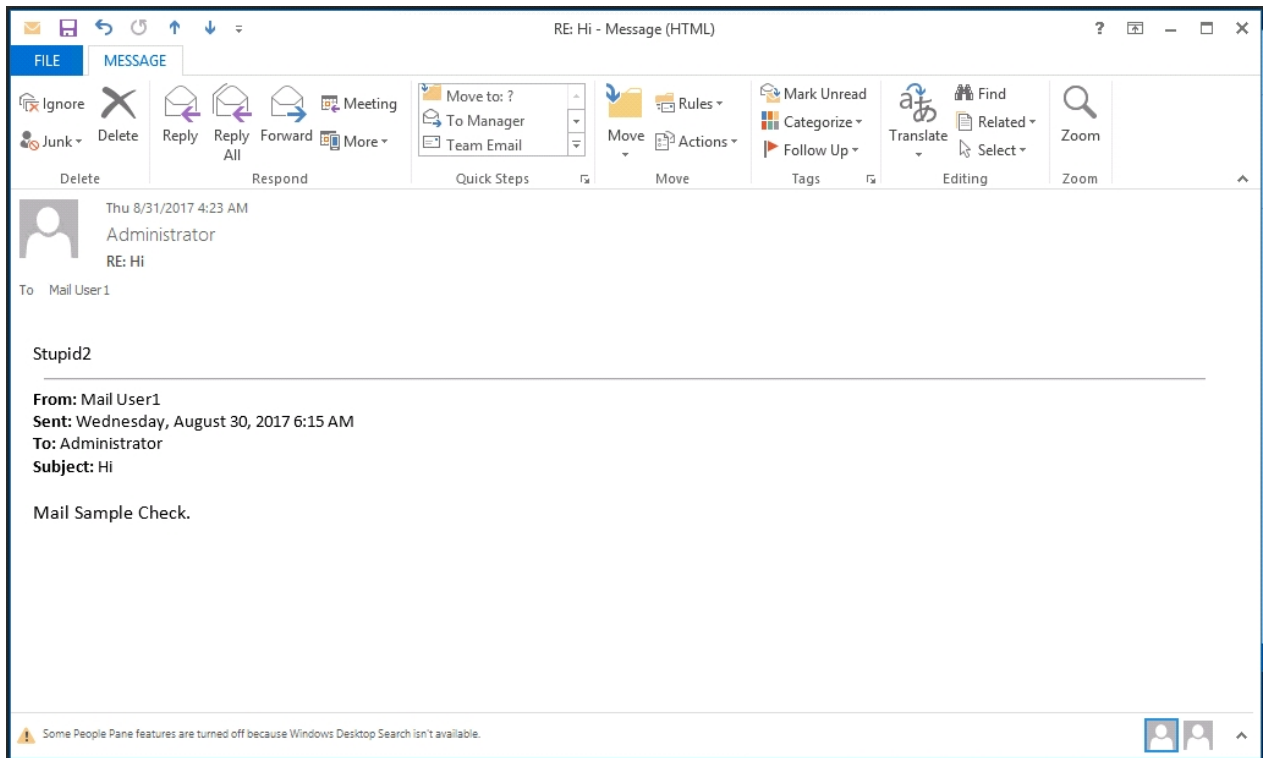
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Microsoft SQL Server
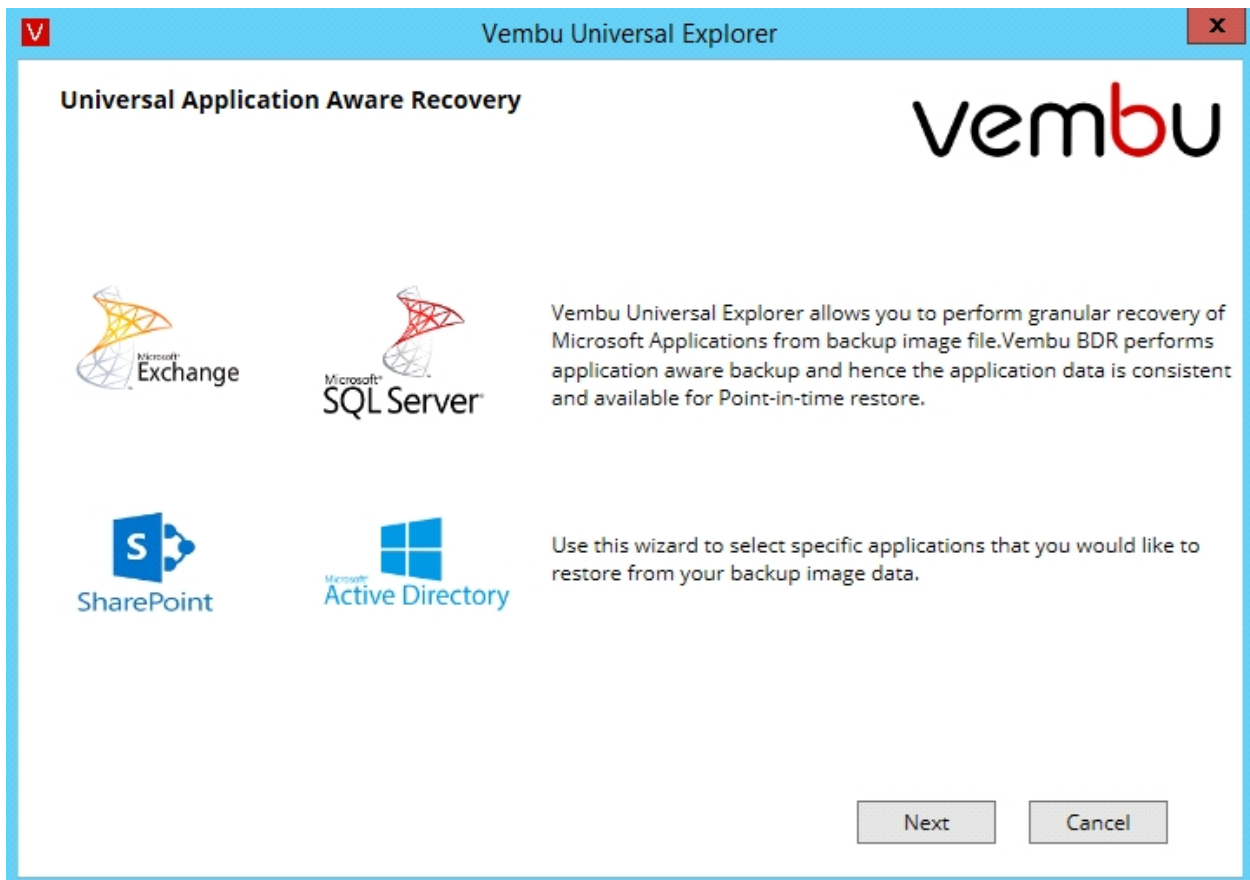
Vembu Universal Explorer tool is a comprehensive recovery tool which allows the user to

perform granular level recovery for their high end applications such as MS SQL, Exchange server, Active directory, Sharepoint.

In Microsoft SQL server it allows the user to perform object, schema and table level recovery using the Vembu Universal Explorer tool. To perform the recovery from the backup image, the backup should be mounted in the disk management.

- Start the Vembu Explorer for SQL application.
- Click **Next** after reading the brief introduction to Vembu Explorer for SQL.
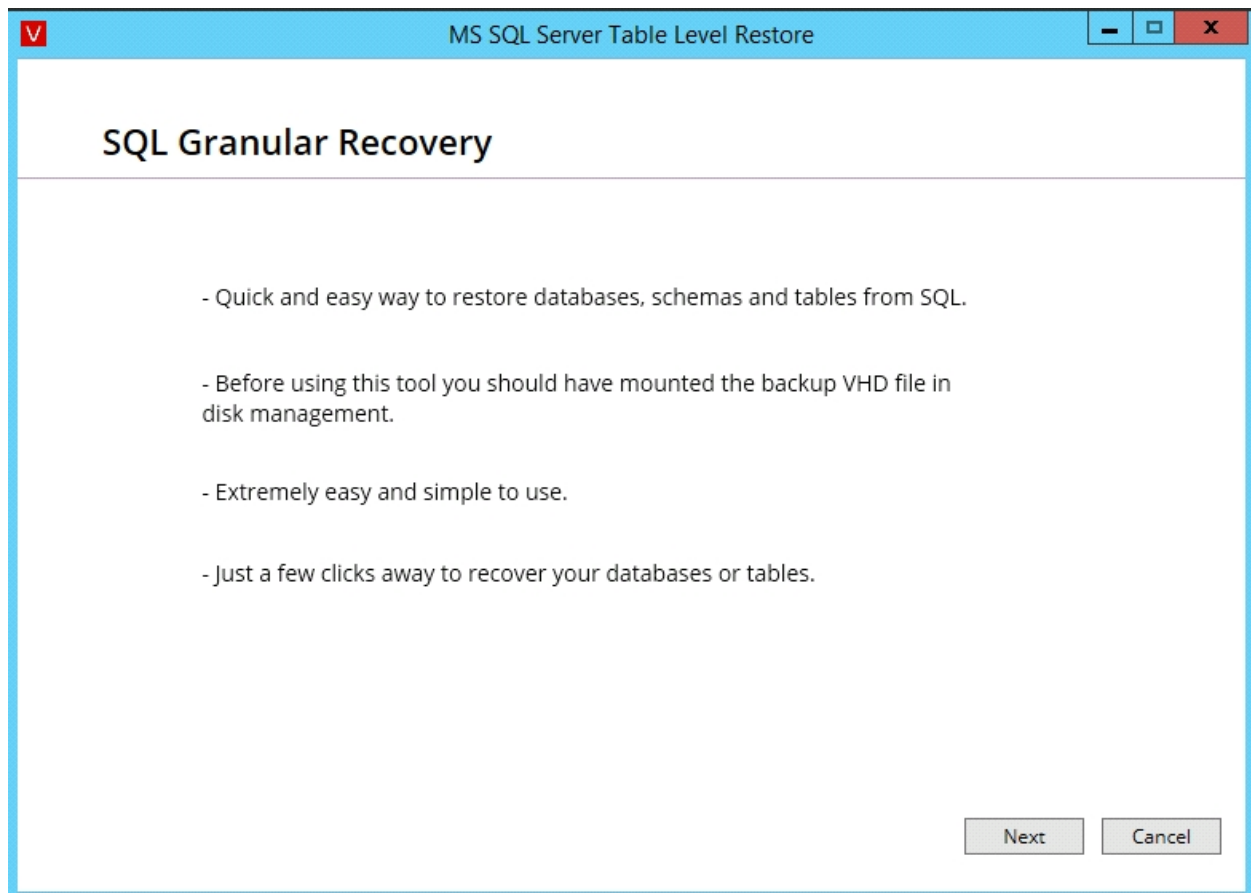
- In this window by default "Restore from backups in local disks" option is selected, click **Next** to proceed further.
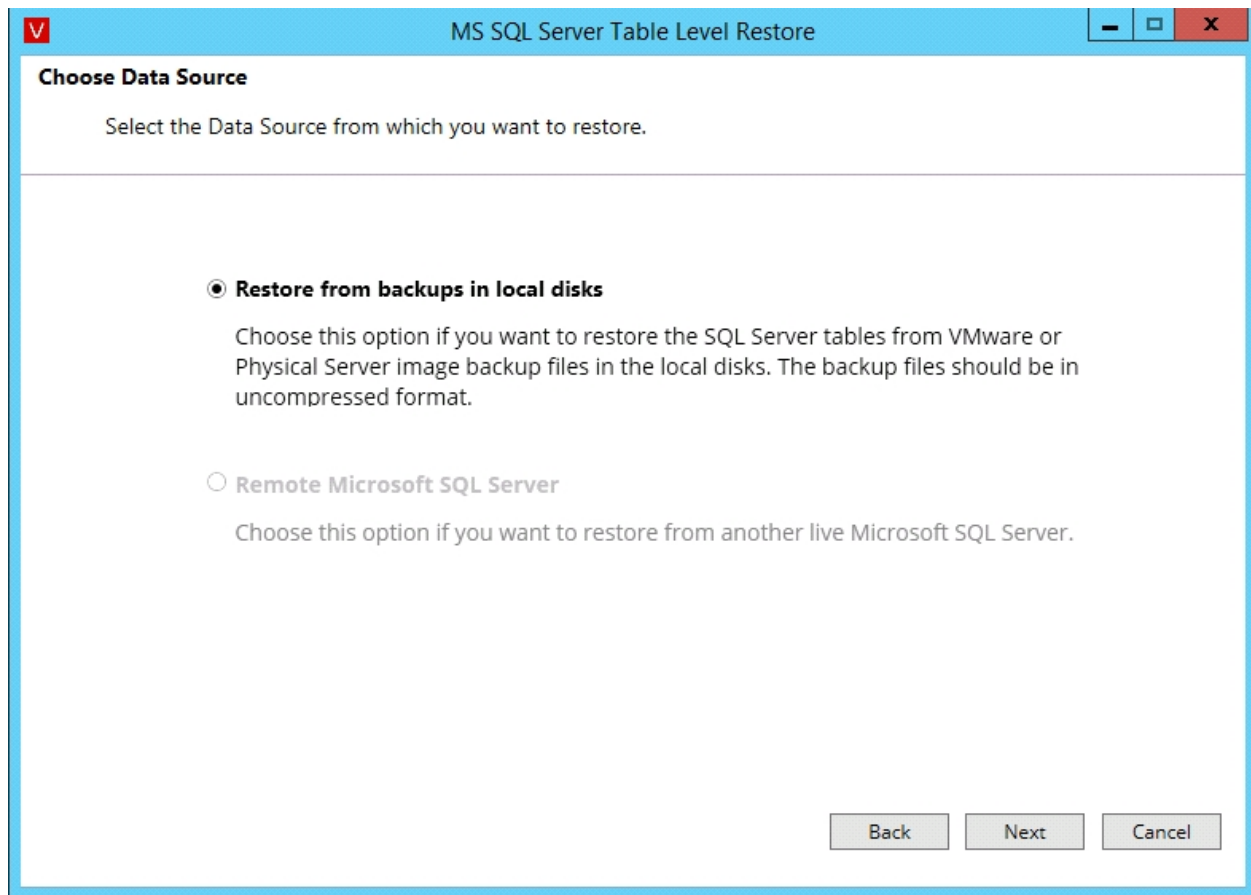
- Select the .mdf file respective to the SQL Database that you want to recover.
- Once you select the .mdf file, the respective .ldf file will be selected automatically. Click **Next**.

Choose Restore Type

- Export as a File
- Restore to SQL server

- **Select the desired restore type** - Export as a file (or) Restore to SQL server; By default "Export as a file option" is selected.
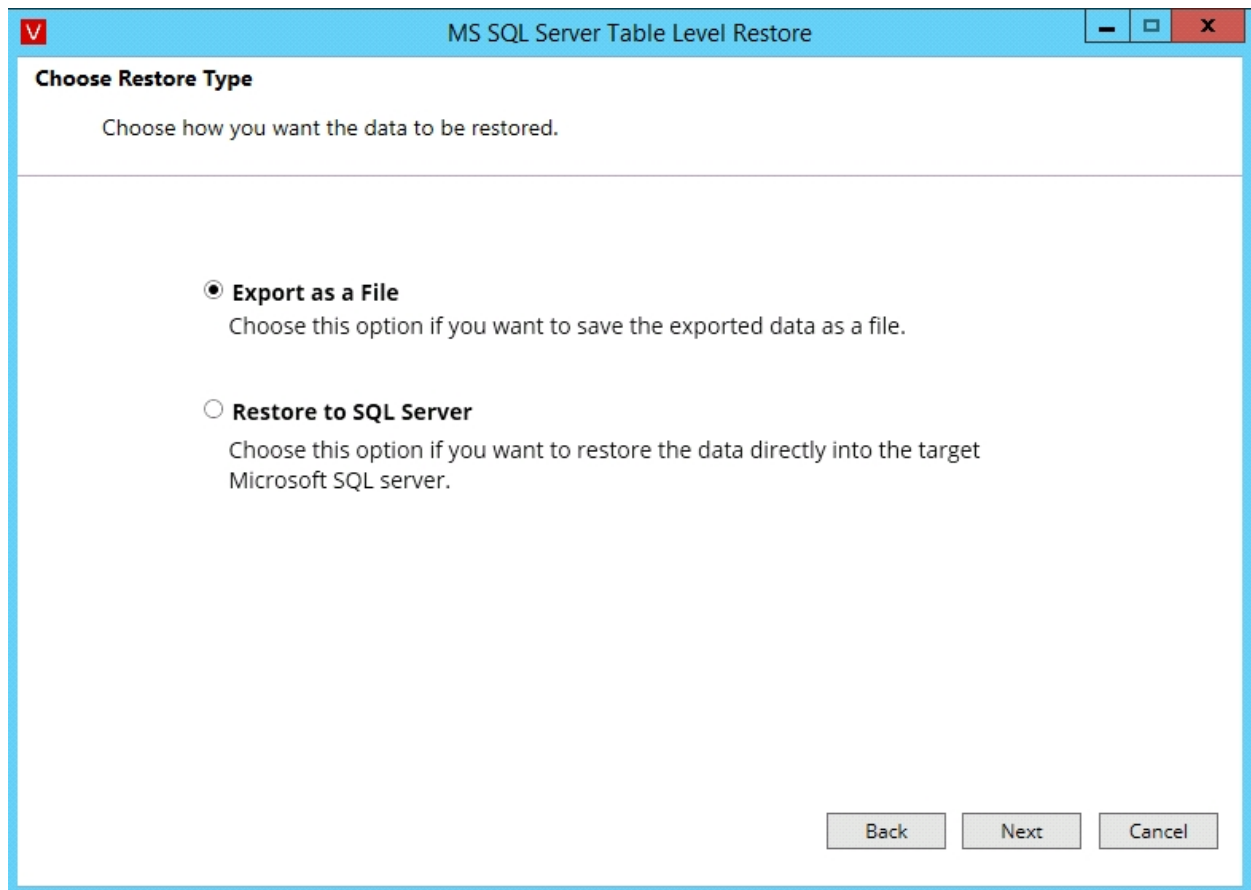
Export as a File:

- Select **export as a file** option and click **Next** to proceed.
- Once you select the Export as a file option, in the next step you will be asked to select the '**What to export**'. You can either export object's schema or export object's data.

What to Export

- **Export Object's Schema :** This option will allow you to export the structure or schema of the selecting object's.
- **Export Object's Data :** This option will allow you to export the schema and data of the selecting object's.
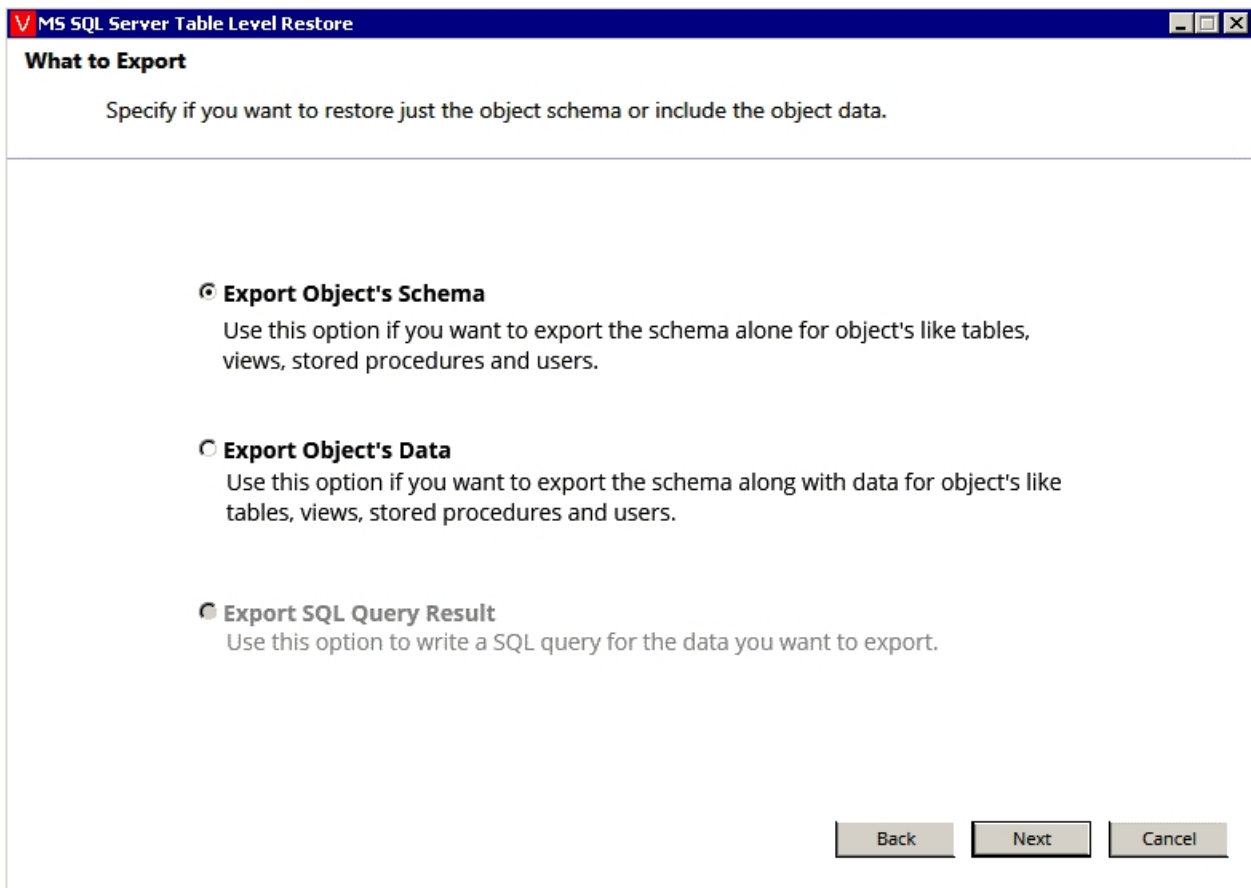
Export as Object's schema:
- Once you select the **Export as Object schema** option, in the next step of the wizard you will be asked to select an Export format.

Choose Export Format
In this step select one among below export formats:

Export as .sql File
- Using .sql format you can export the query for schema or data of the object's as a .sql file. This file can be opened in microsoft sql server management studio and you can run that query to generate the database objects.

Export as .xls File
- Using .xls format you can export schema and data of objects. You can view the data available in .xls file and then you import that file into database using import data option in the MS SQL Server Management Studio.
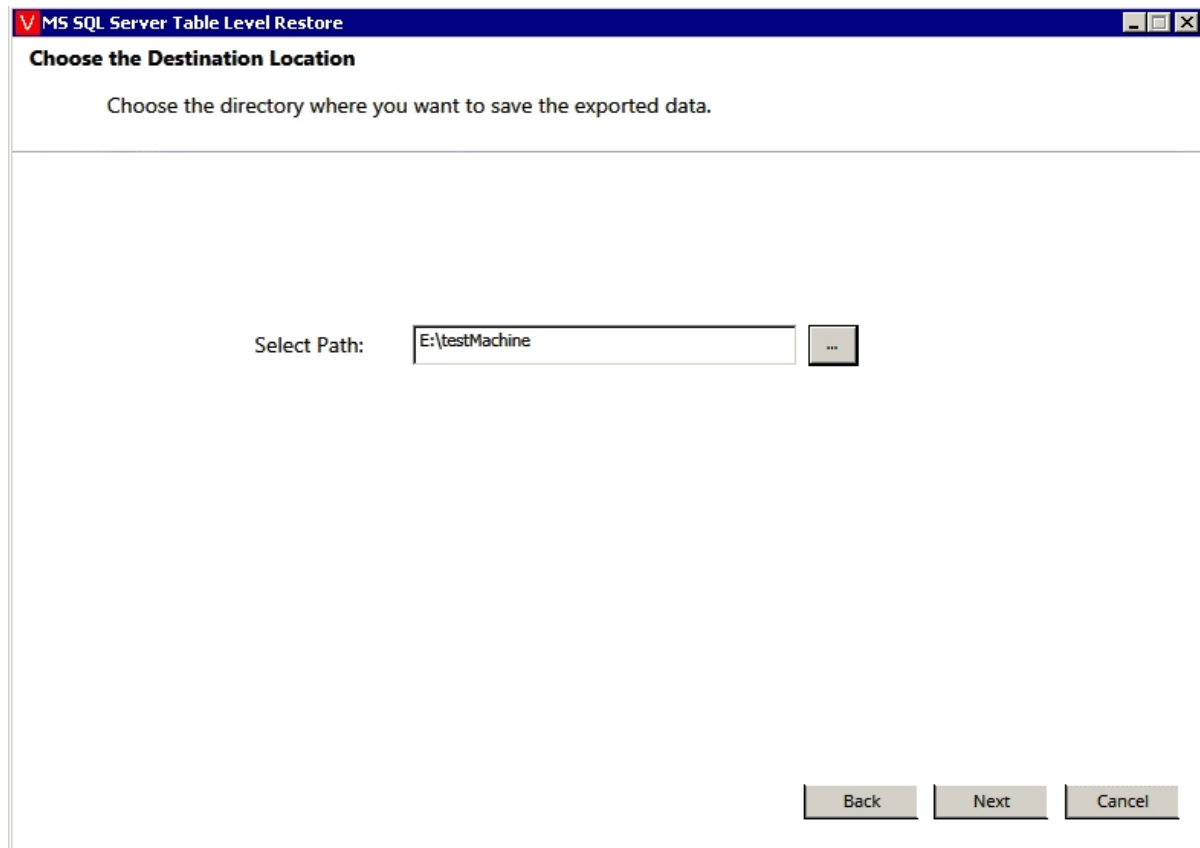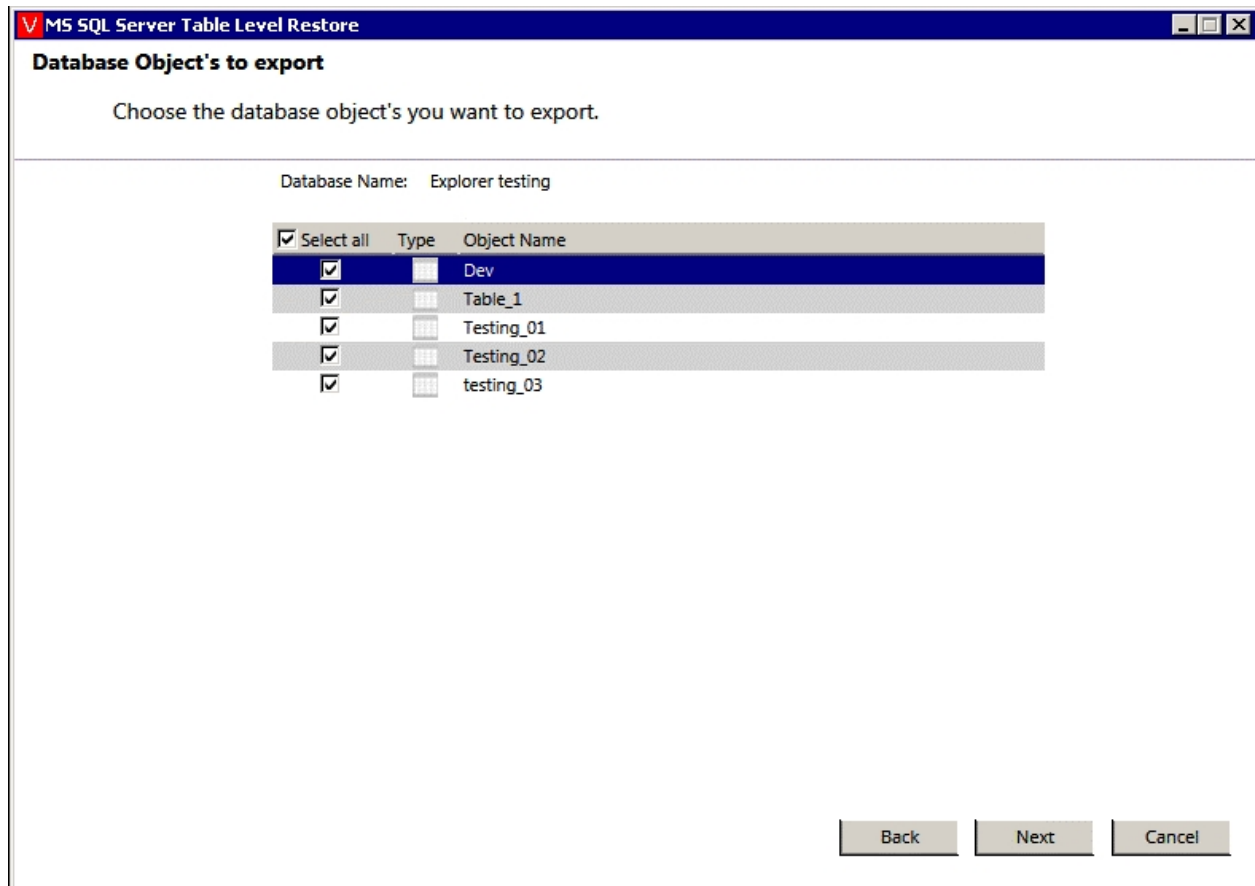
Export as .sql
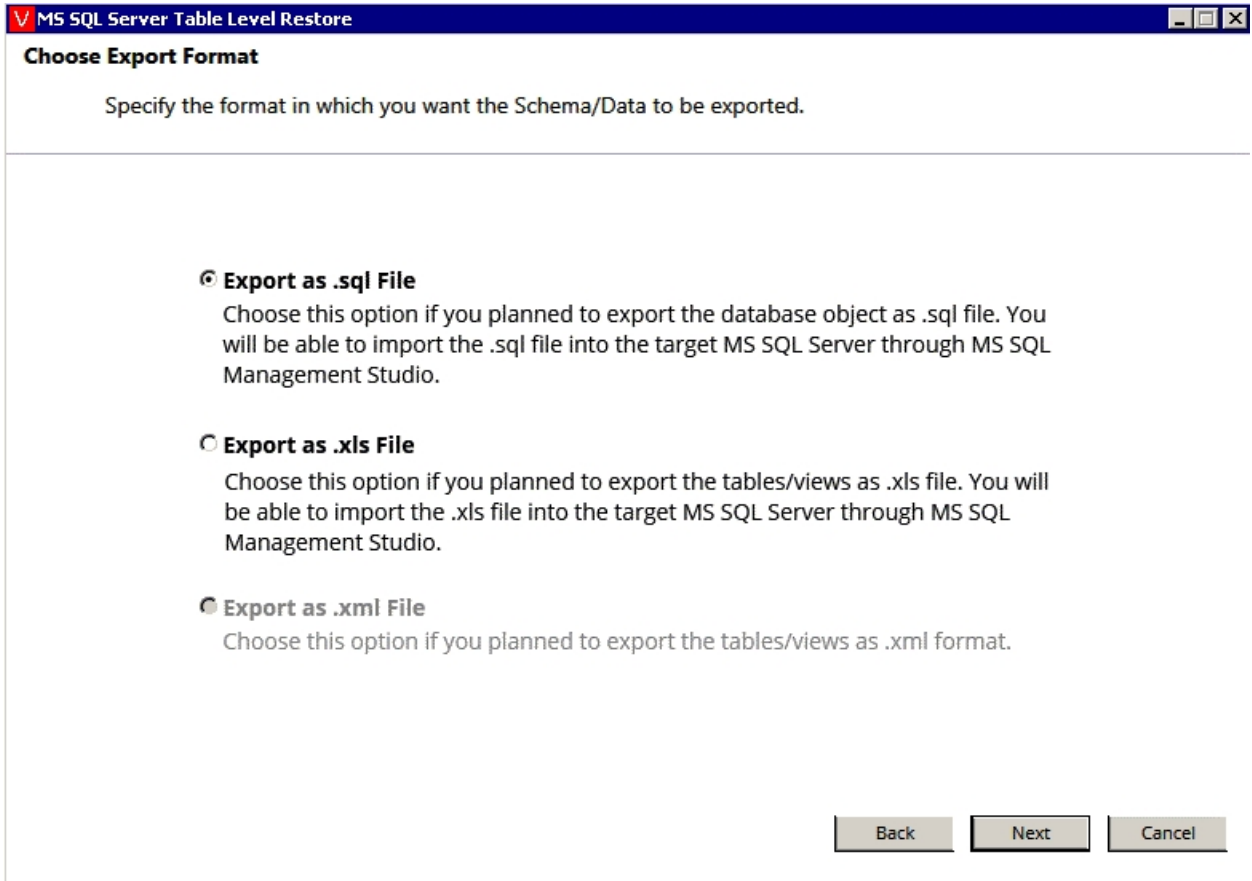
Choose the Destination Location

At this step of wizard, choose the location to export the files in given format.
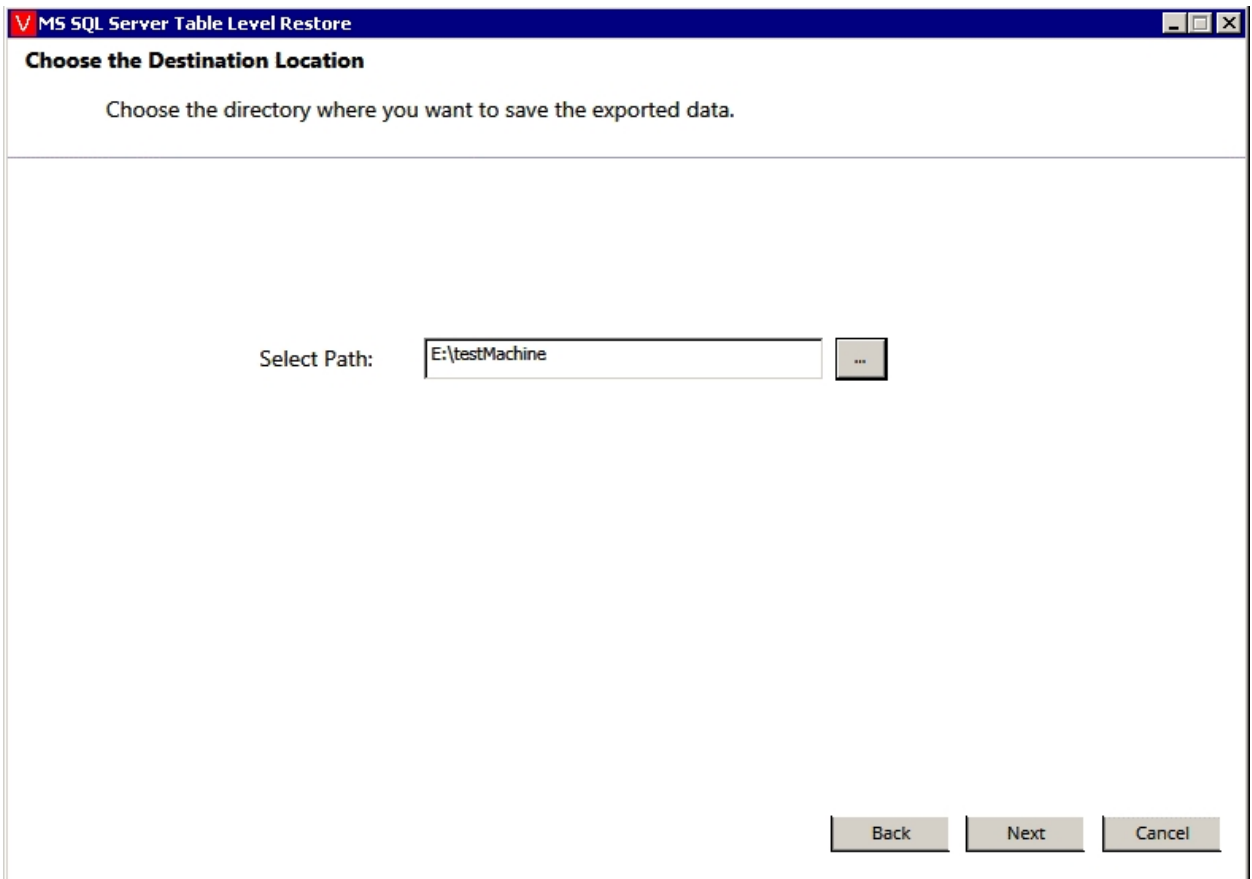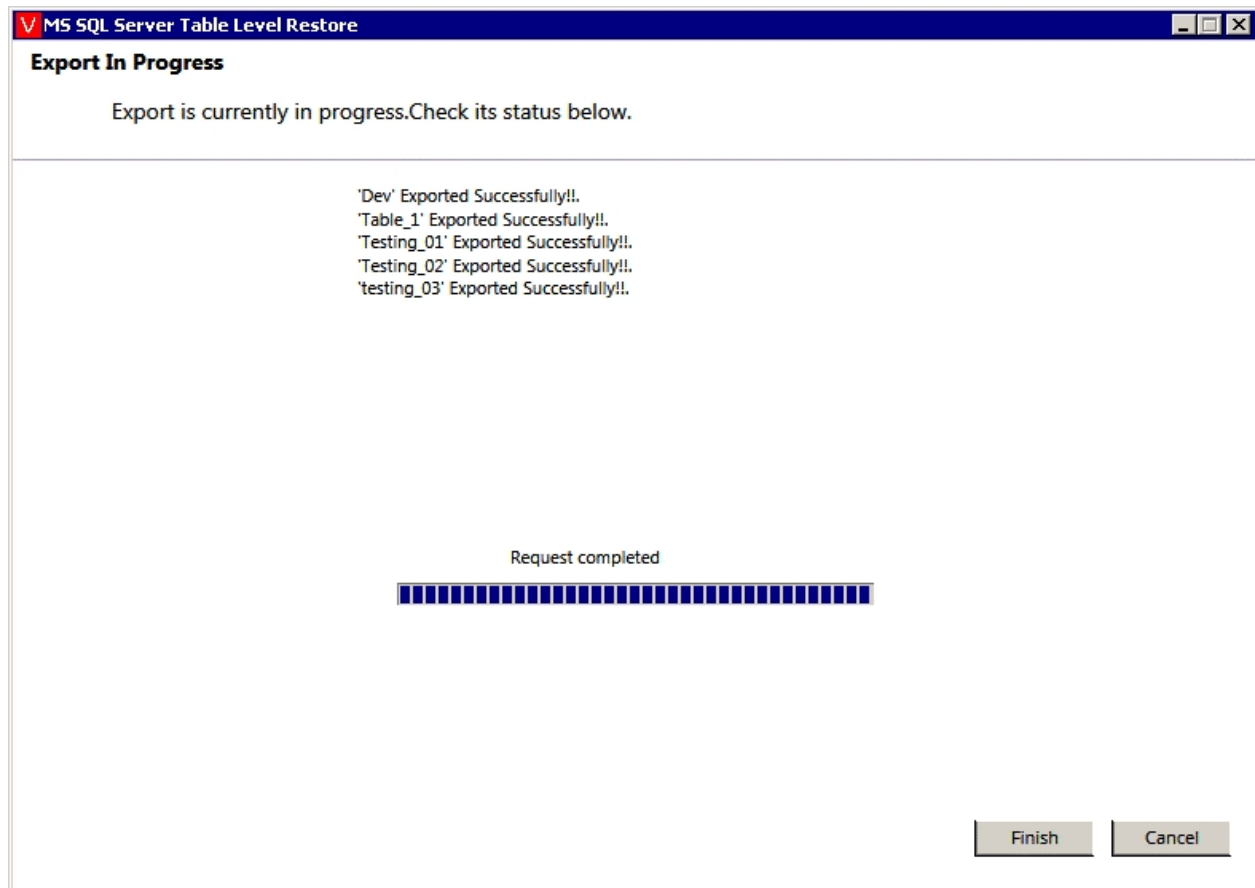
Select Database objects to export

- Once you select the destination location to export files, Click **Next** to proceed.
- The next step of wizard is populated by database objects present in the given database file.
  - Select the database objects to export.
  - By using select all check-box you can select all the objects.
  - Type column of datagrid will tell you the type of object whether it's table, view, stored procedure or user.
  - In Object Name column, the name of tables, views, stored procedure, and users will be available.

Restore In Progress
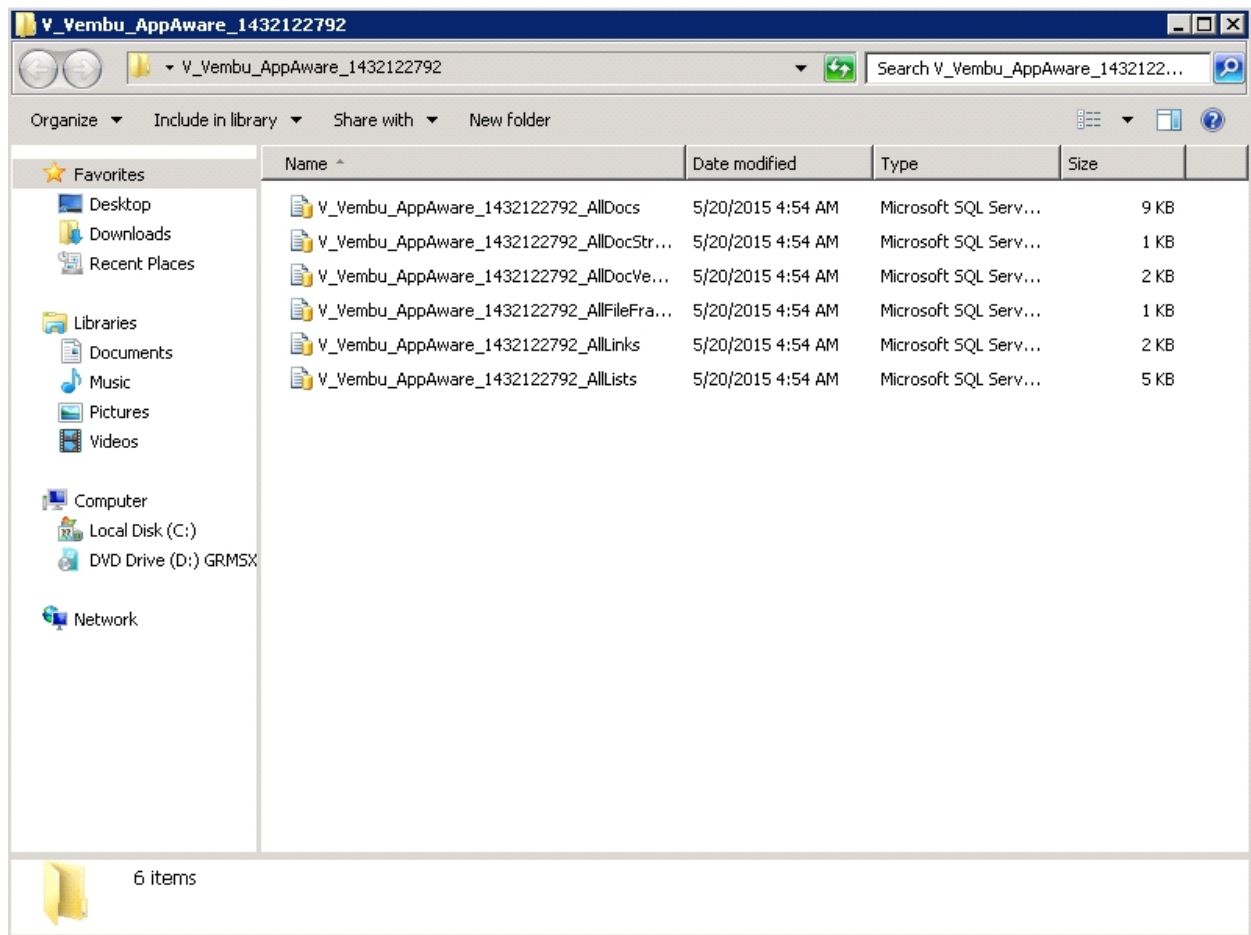- In this step of wizard, you can view the progress of export process.
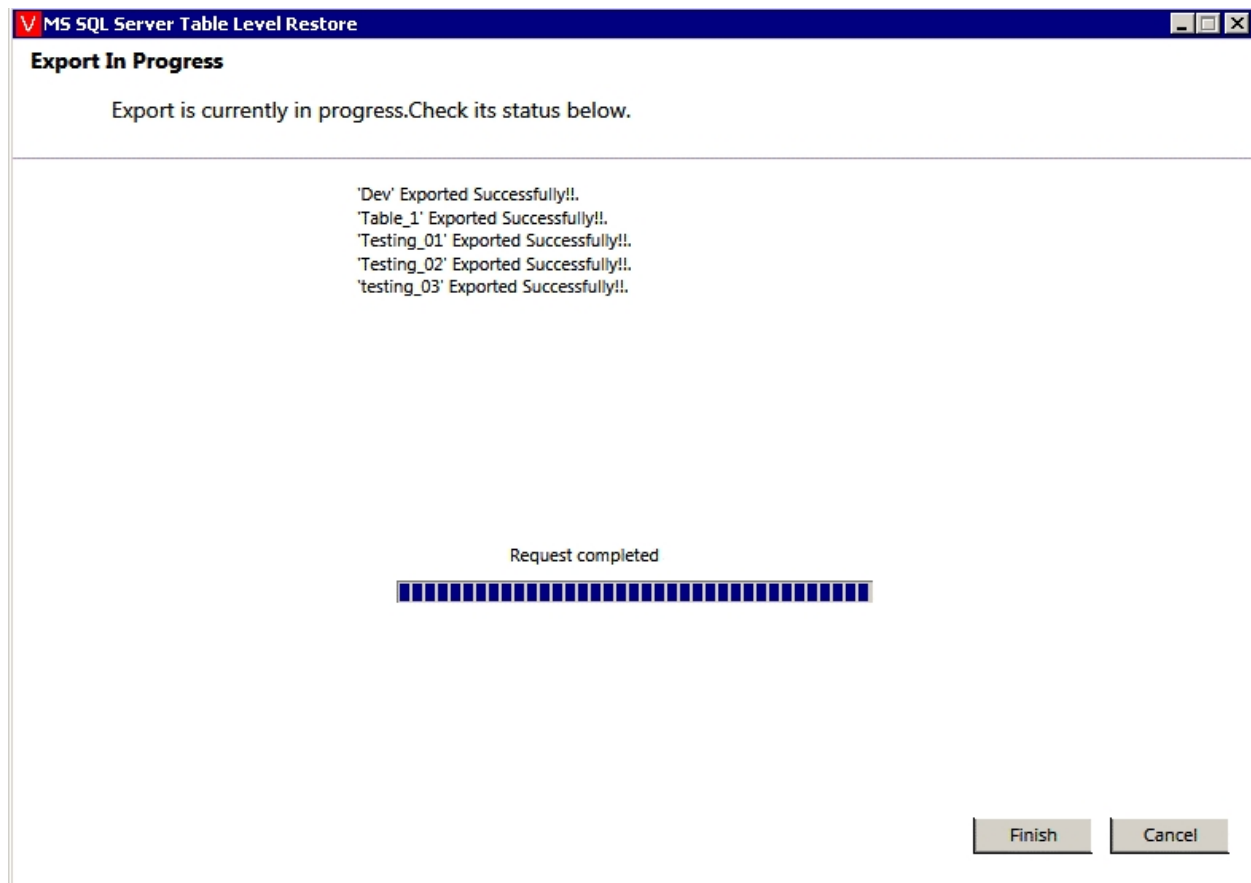
- Click the **Finish** option once the export process is completed.
- When the Export process is completed go to the Export location to access the files.

Go to Export Location :
The exported file name will be in the format as below:
**V_Database Name_Time Stamp During Export_Object Name.**
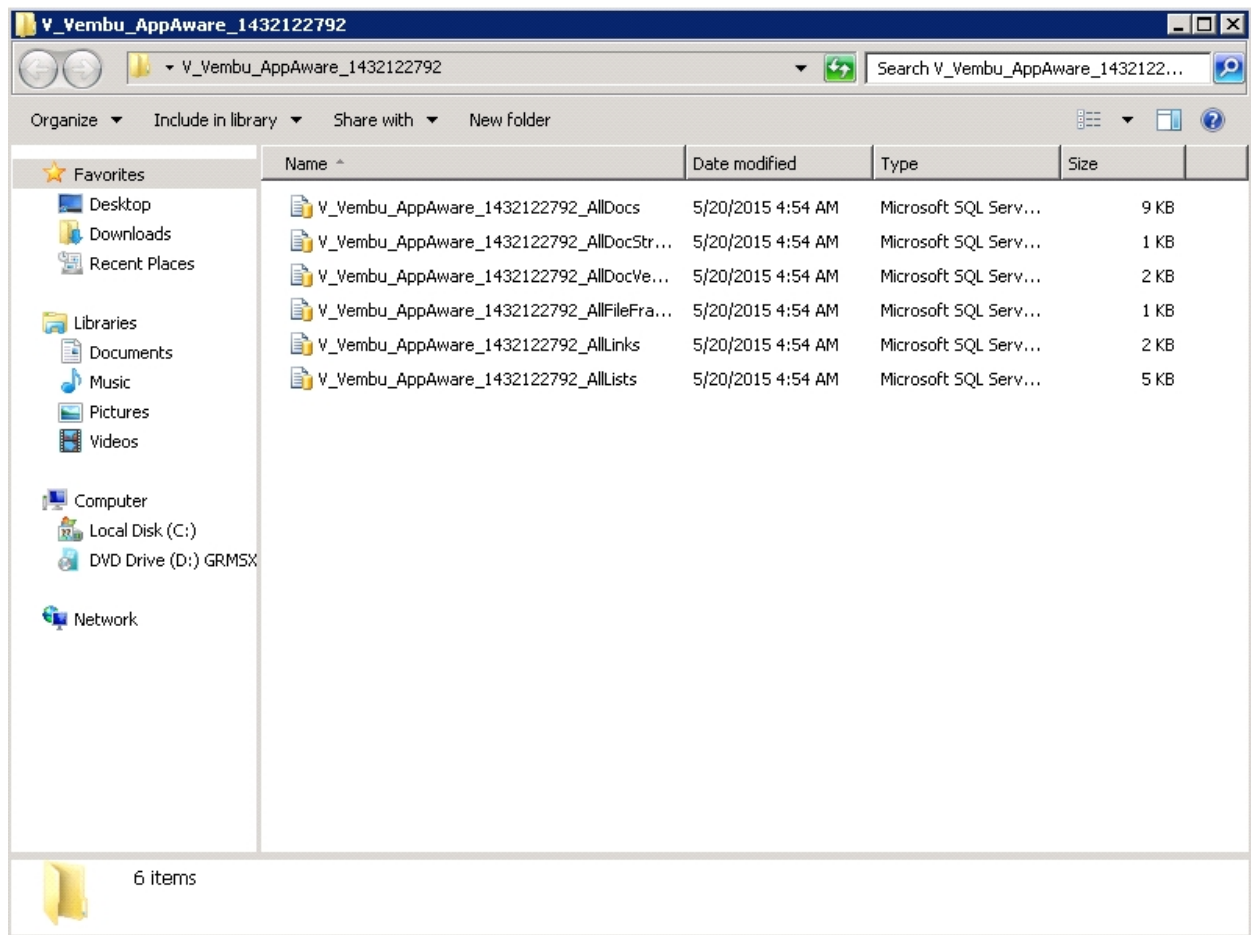
If the exported format is .sql, then follow below steps to use that file:

- Right click over the file and click **Open**. The file will be opened in MS SQL server management studio and will look like the below picture.
- You have to run the SQL query to view the exported Object schema or Object data.
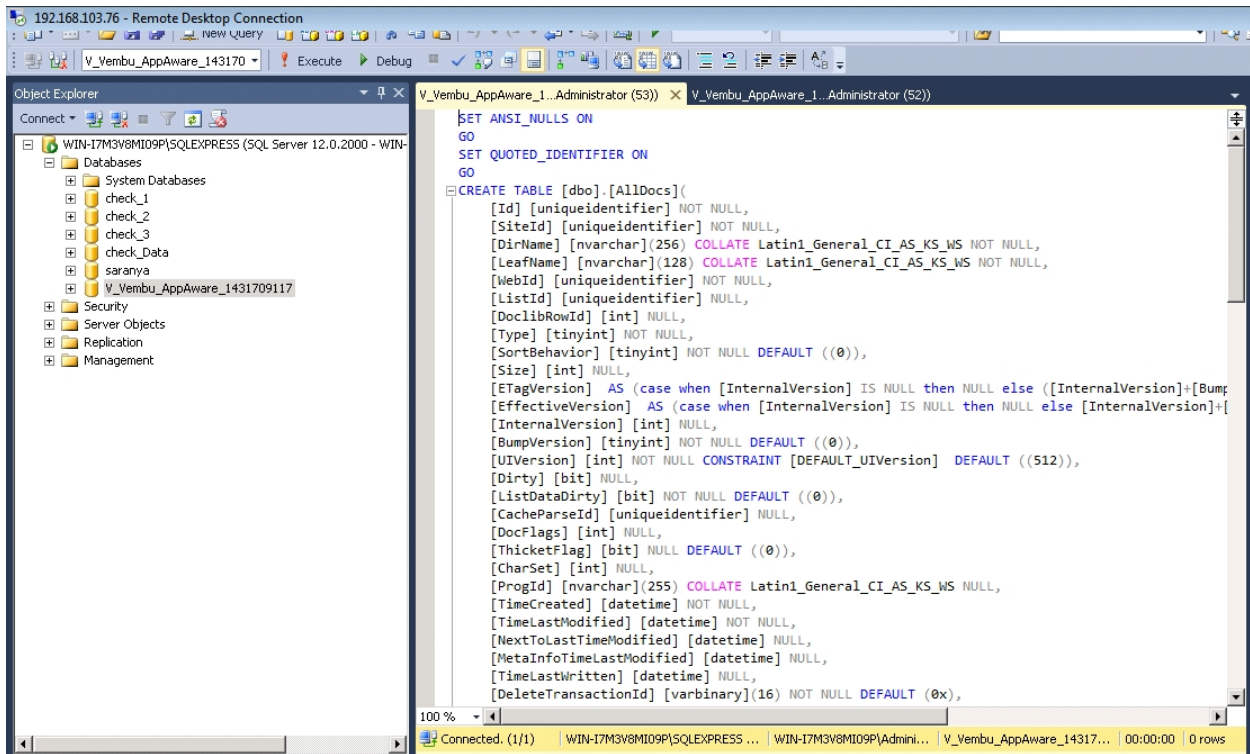
Export as .xls
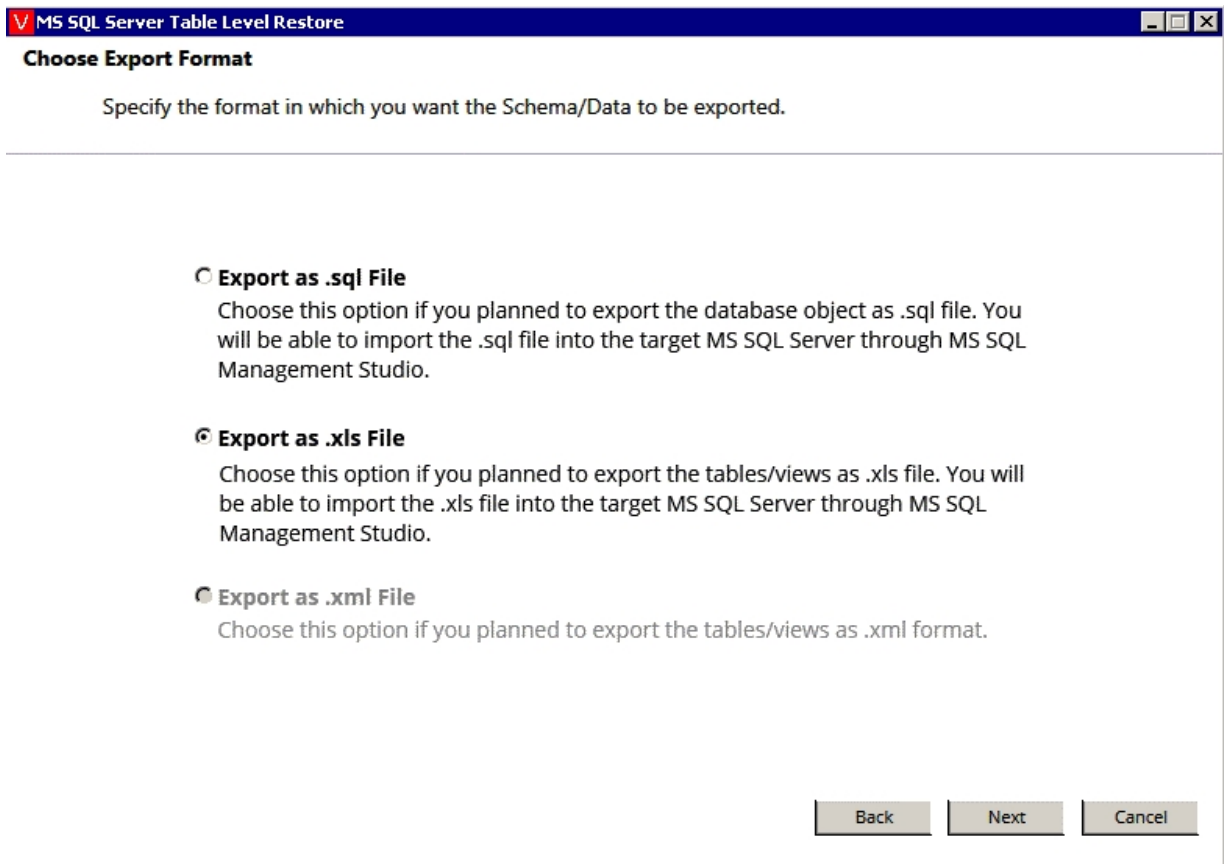
Choose the Destination Location

At this step of wizard, choose location to export files in given format.

Select Database objects to export

- Once you select the destination location to export files, Click **Next** to proceed.
- The next step of wizard is populated by database objects present in the given database file.
  - Select the database objects to export.
  - By using select all check-box you can select all the objects.
  - Type column of datagrid will tell you the type of object whether its table, view, stored procedure or user.
  - In Object Name column the name of tables, views, stored procedure and users will be available.

Restore In Progress

- In this step of wizard, you can view the progress of export process.

- Click the **Finish** option after export process is finished.
- Once the Export process is completed go to the Export location to access the files.

Go to Export Location :

The exported file name will be in below format:
V_Database Name_Time Stamp During Export_Object Name.

If the exported format is .xls then, follow the below steps:

- Go to MS SQL Server Management studio, choose the database to Import Data in the .xls file. Right click on the database.
- Go to tasks and then Import Data option. MS SQL Server Import and Export wizard will open.

- Press Next. The wizard navigates you to **Choose a Data Source wizard.**

- In Data Source field select Microsoft Excel.
- In Excel file path browse the exported .xls file path, choose the path and hit next.
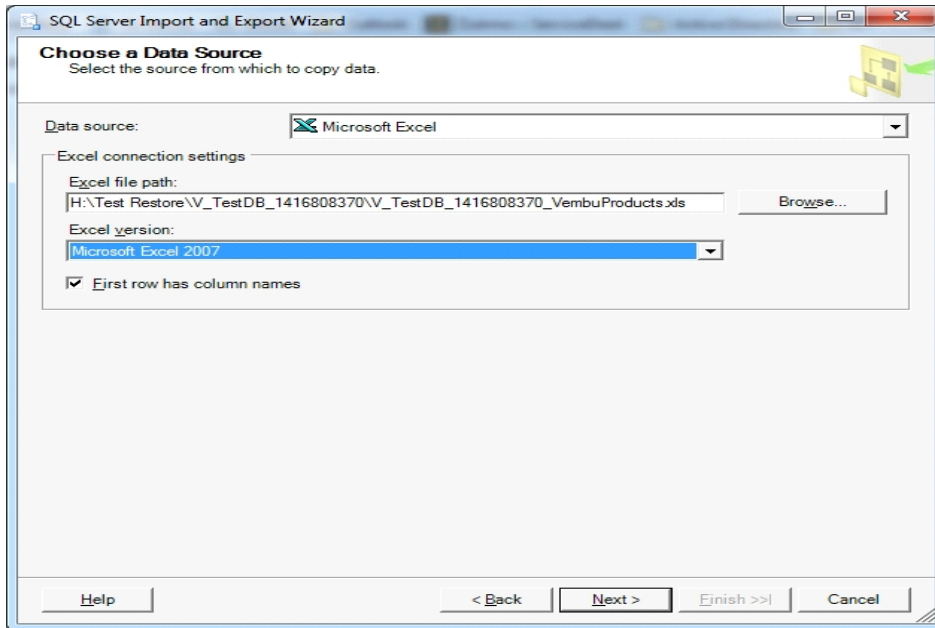
- Now select the server name, authentication and database to import the data in the xls file.
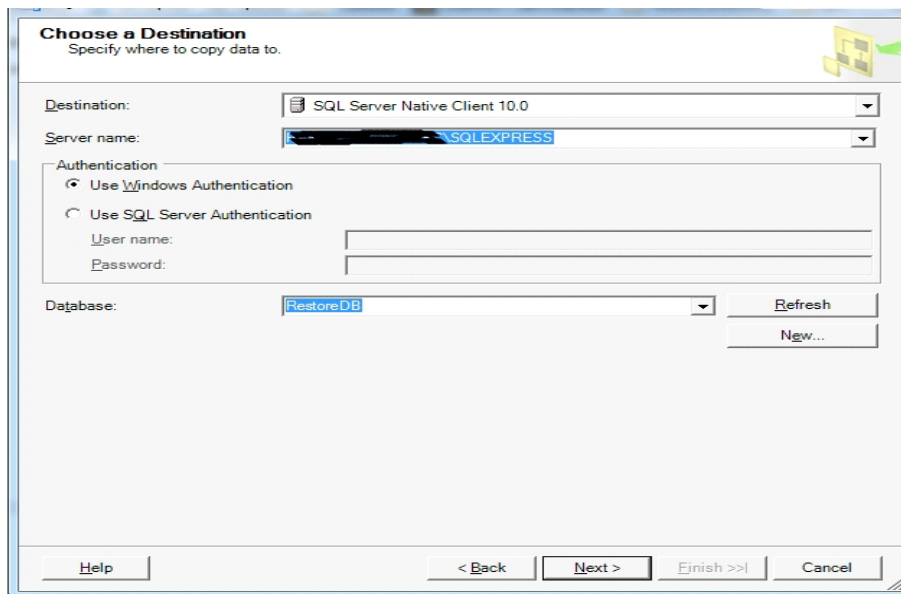
- Specify Table Copy and Query step, copy data from one or more tables choose this option and click **Next**.
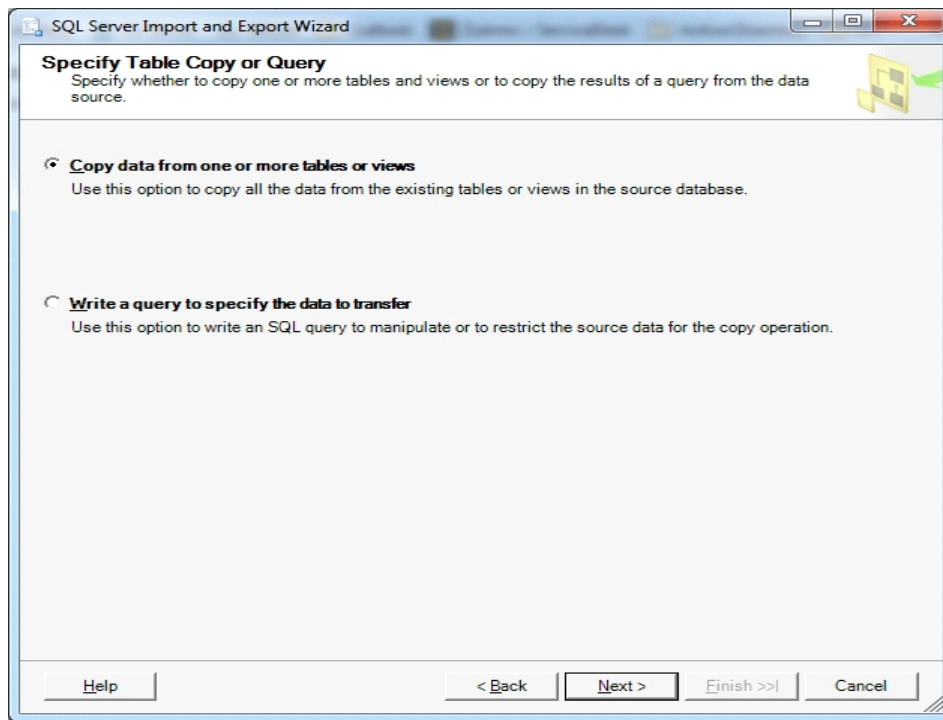
- In **the** Select Source Tables and Views wizard, select the sheet from which you want to import data and proceed.
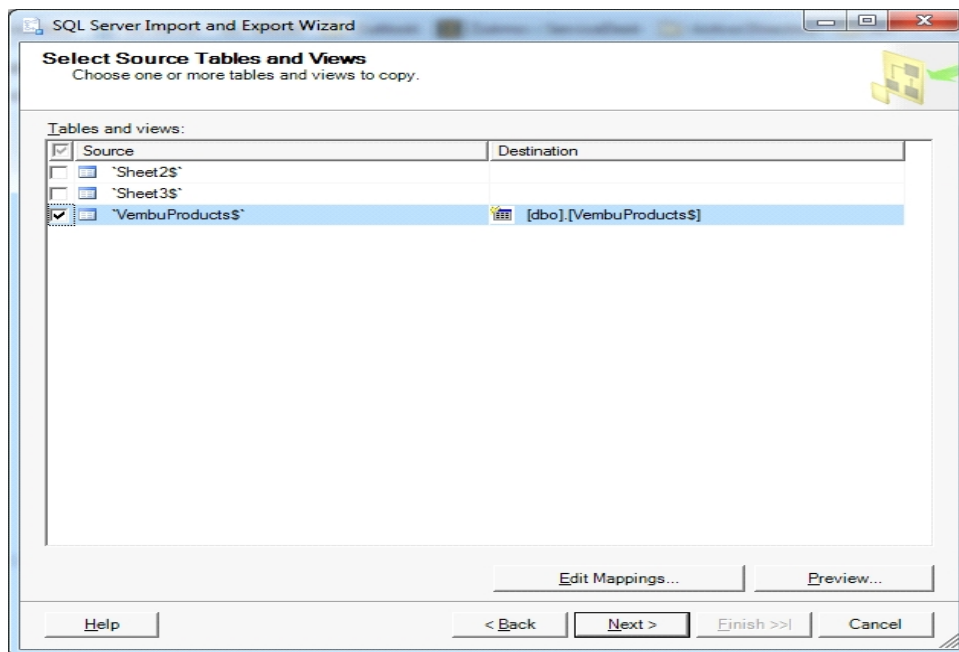
- In Run Package wizard, select **Run Immediately** option and click **Next**.
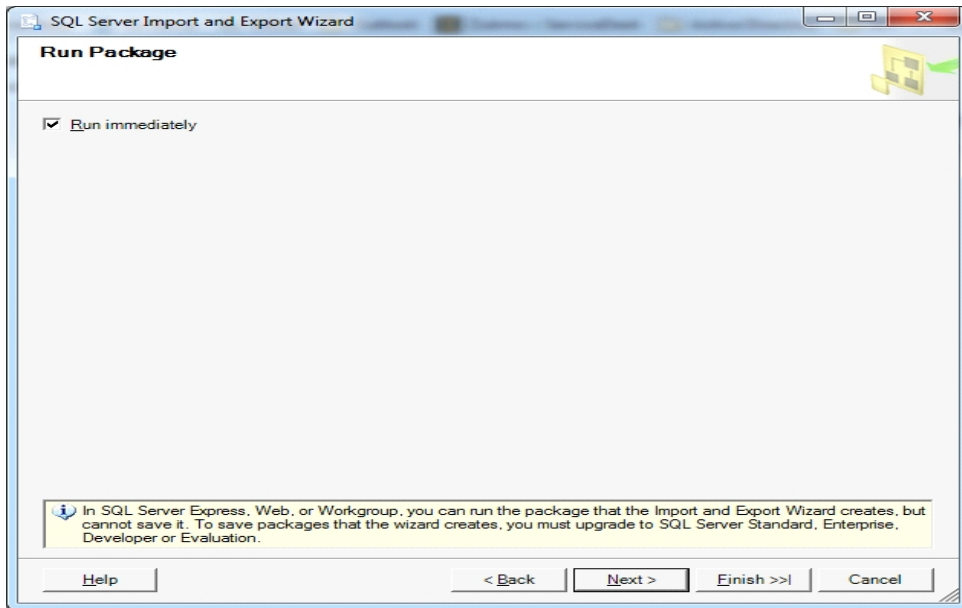
- Verify the provided details and click **Finish**.
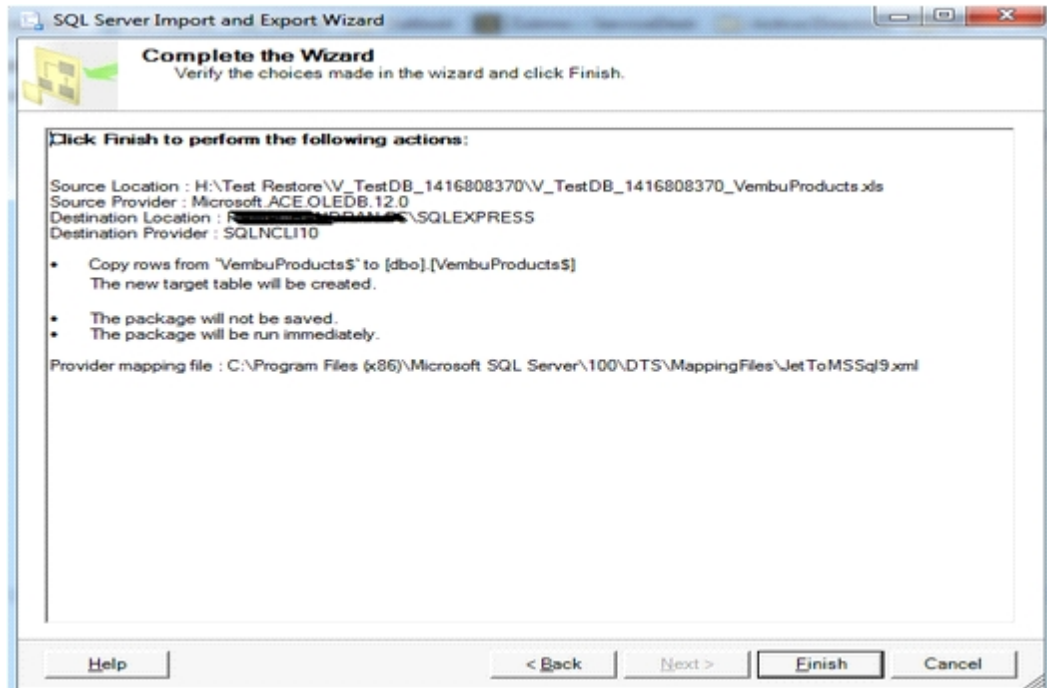
- The wizard displayed below will be available once the data is imported.
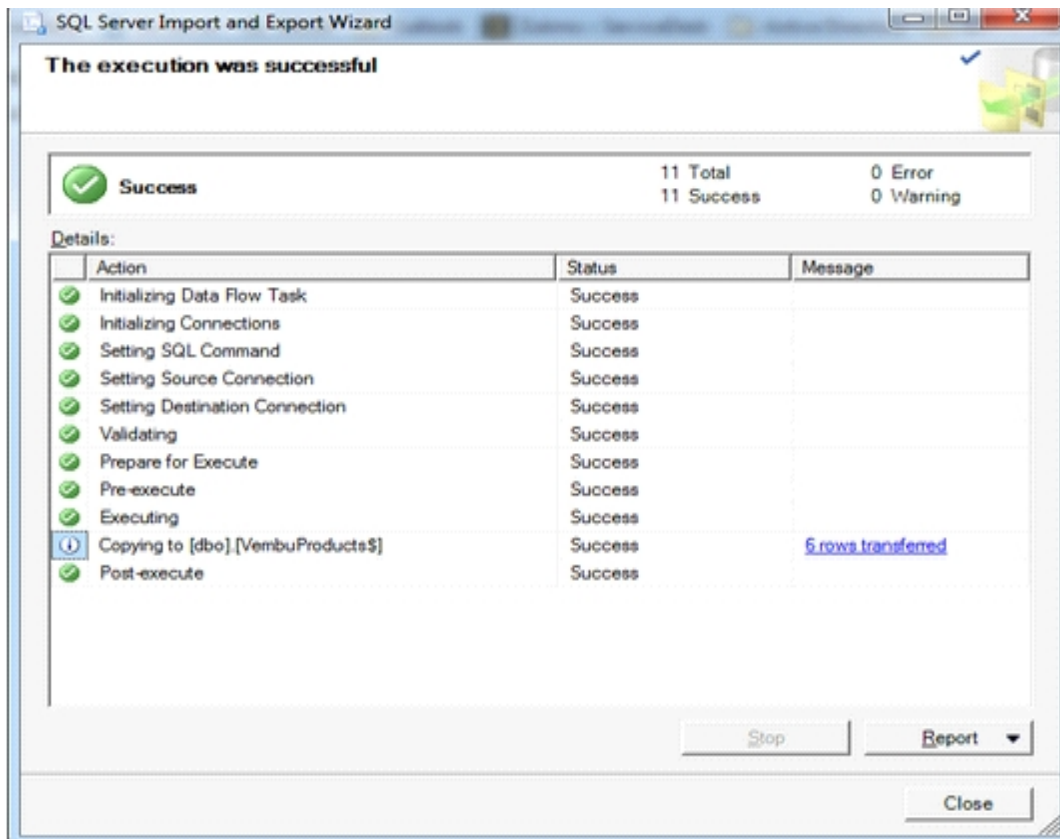
- Once done importing data, go to database and verify the imported data.
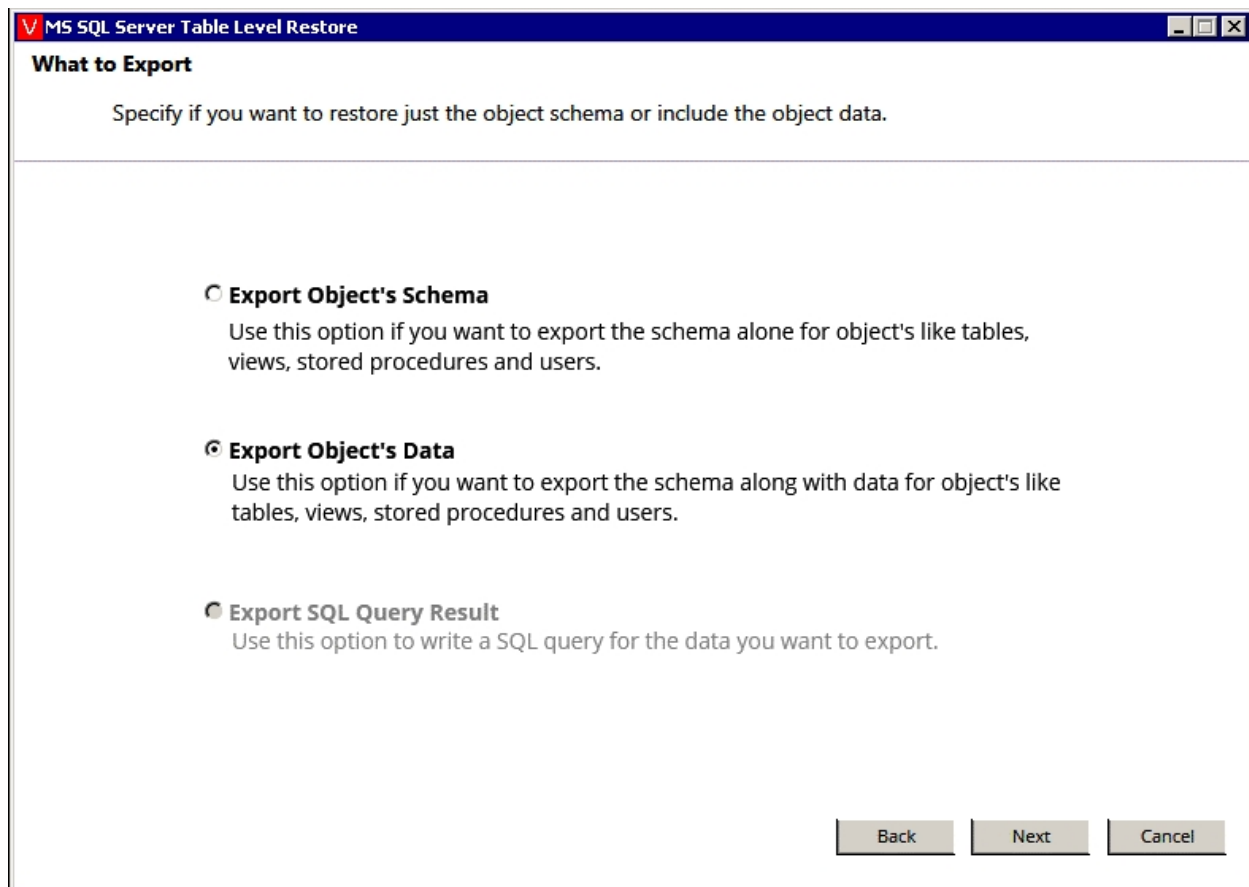
Export Object's Data

Once you select the **Export as Object's Data** option, in the next step of the wizard you will be asked to select an Export format.

Choose Export Format
In this step select one among below export formats:

Export as .sql File
Using .sql format you can export the query for schema or data of the object's as a .sql file. This file can be opened in Microsoft sql server management studio and you can run that query to generate the database objects.

Export as .xls File
Using .xls format you can export schema and data of objects. You can view the data available in .xls file and then you import that file into database using the **Import data** option in the MS SQL Server Management Studio.
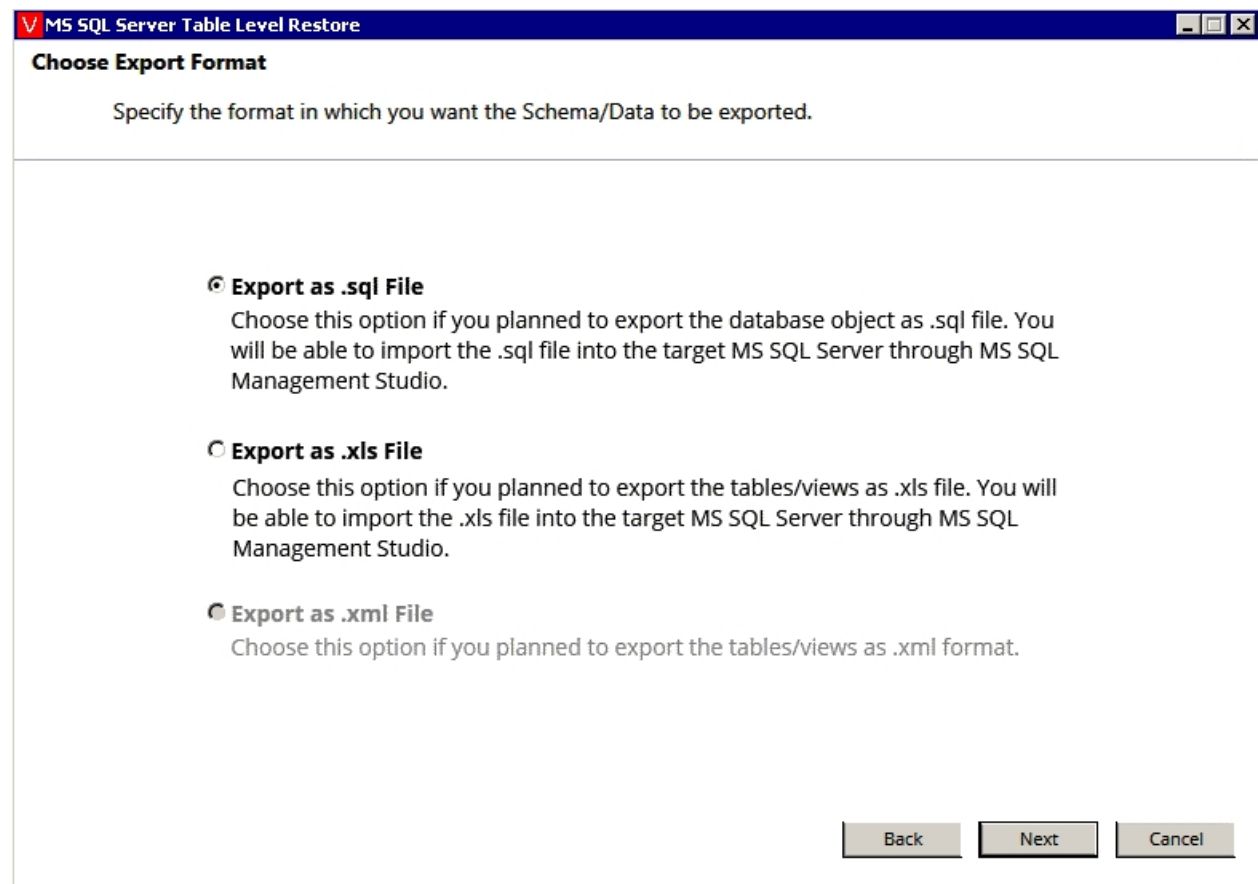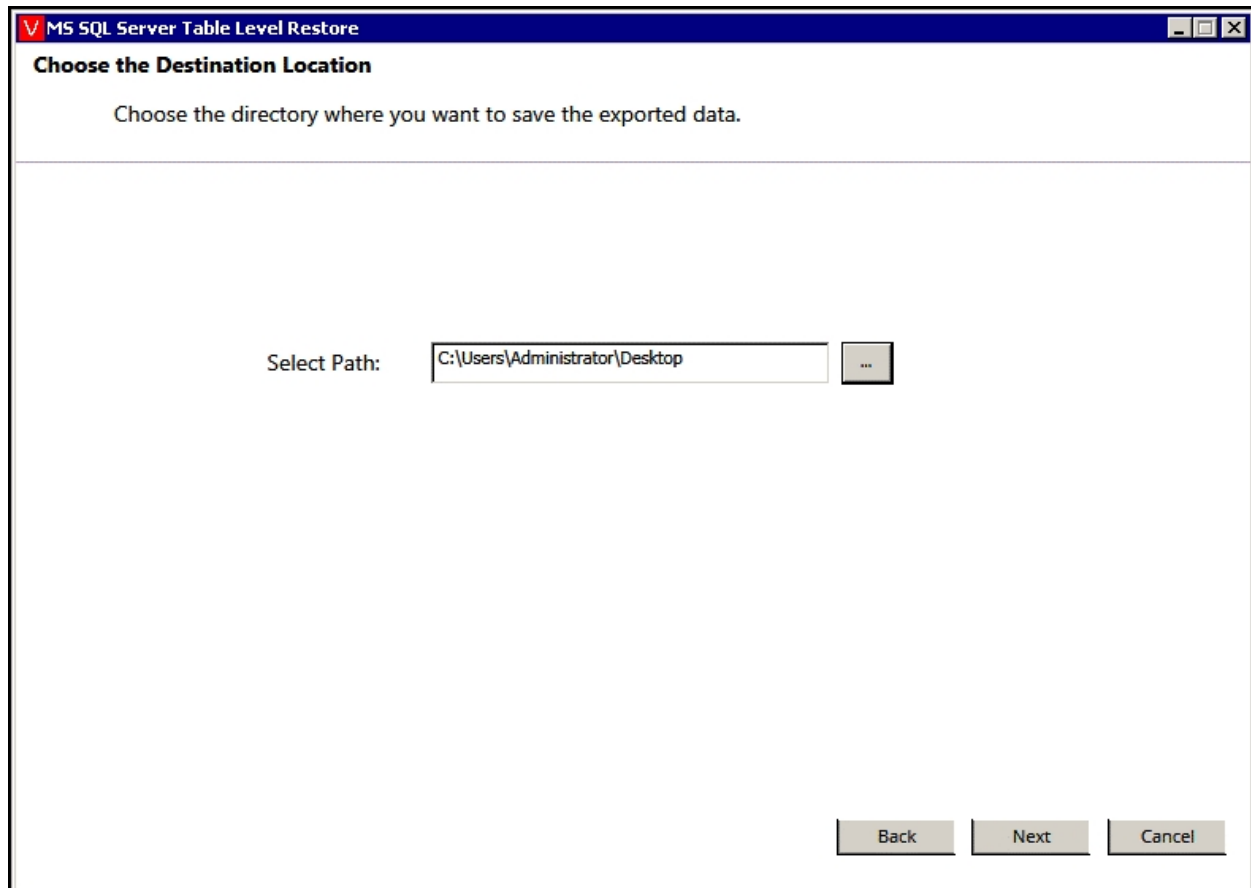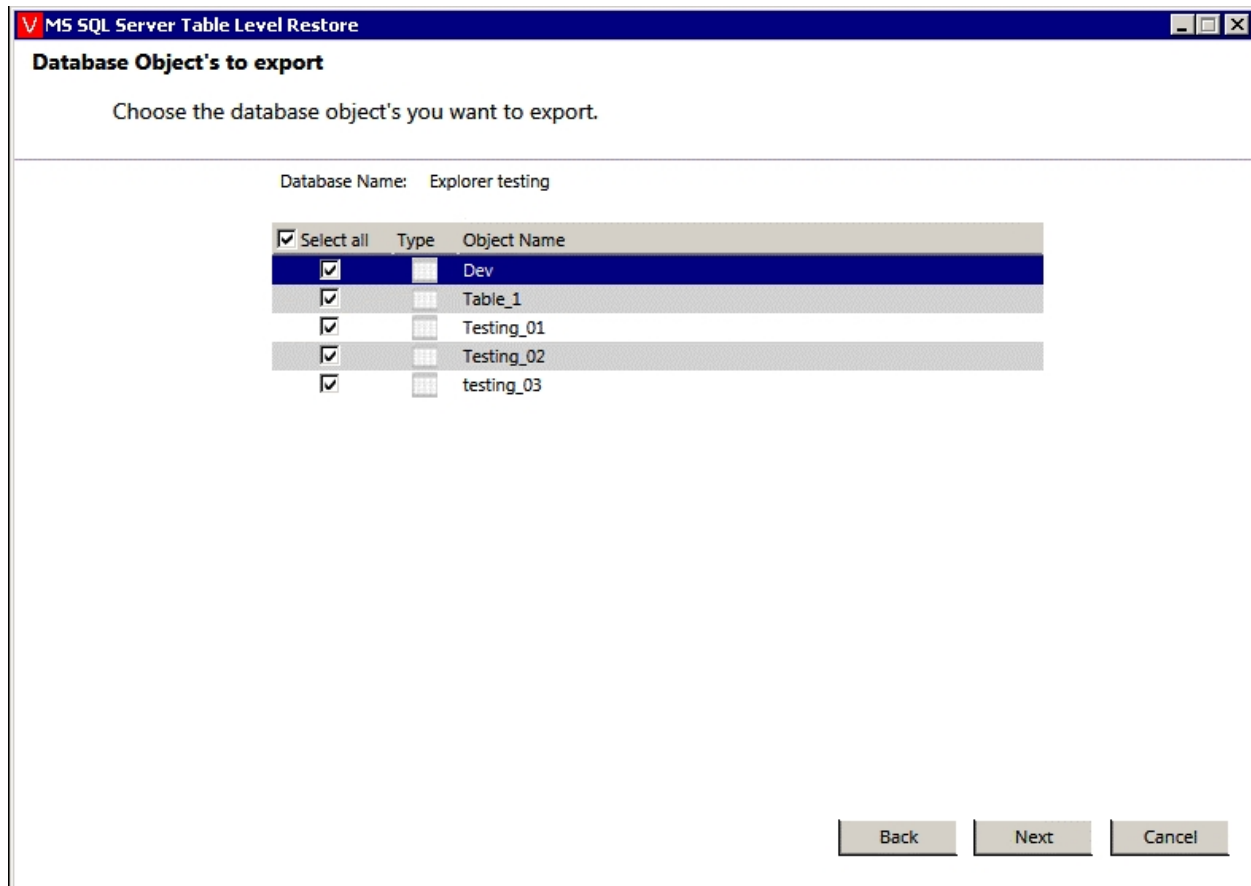
Export as .sql

Choose the Destination Location

At this step of wizard, choose the location to export files in the given format.
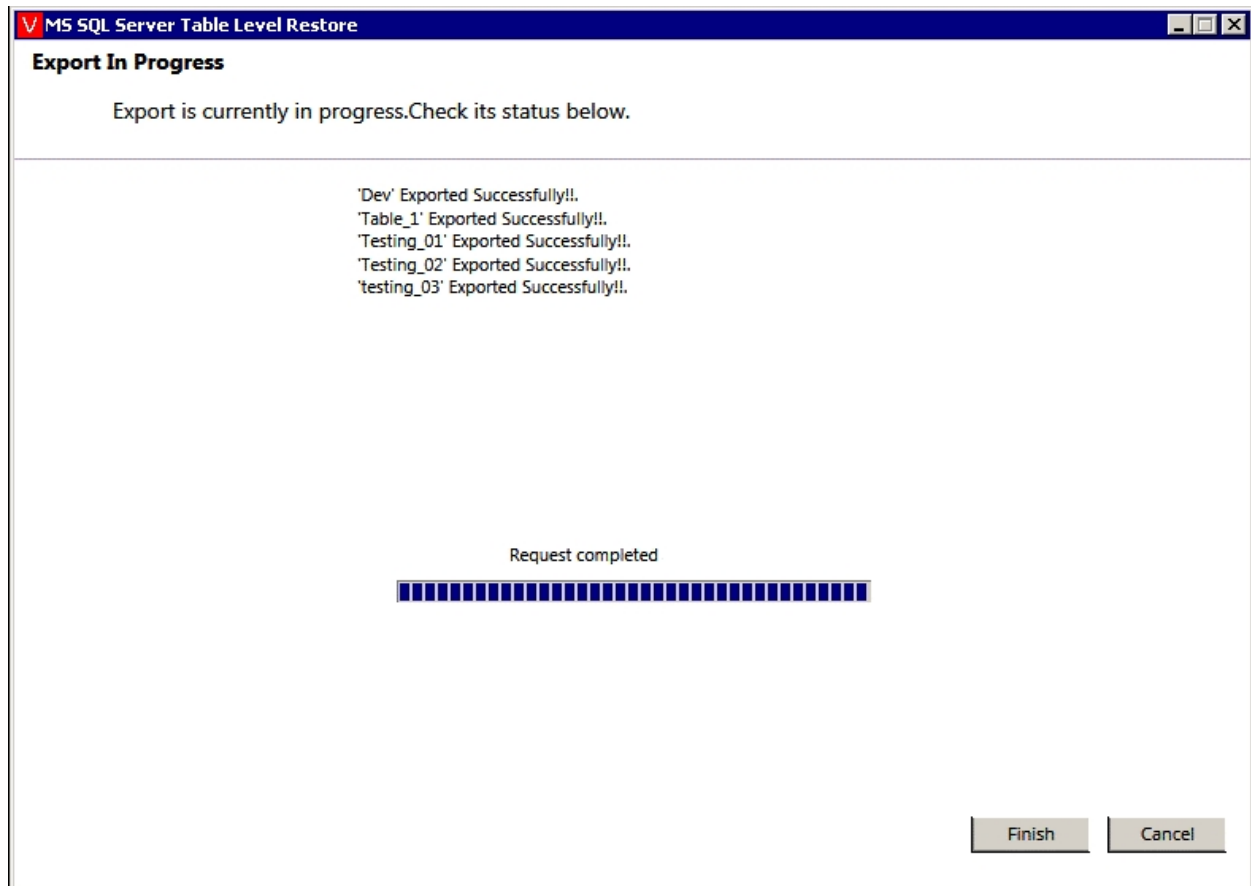
Select Database objects to export

- Once you select the destination location to export files, Click **Next** to proceed.
- The next step of wizard is populated by database objects present in the given database file.
  - Select the database objects to export.
  - By using select all check-box you can select all the objects.
  - Type column of data-grid will tell you the type of object whether it's table, view, stored procedure or user.
  - In Object Name column, the name of tables, views, stored procedure and users will be available.

Restore In Progress

- In this step of wizard, you can view the progress of export process.

- Click the **Finish** option after export process is finished.
- Once the Export process is completed go to the Export location to access the files.

Go to Export Location :
The exported file name will be in below format:
**V_Database Name_Time Stamp During Export_Object Name.**

If the exported format is .sql, then follow below steps to use that file:

- Right click over the file and click **Open**. The file will be opened in MS SQL server management studio and will resemble the image displayed below.
- You have to run the SQL query to view the exported Object schema or Object data.

Export as .xls

Choose the Destination Location

At this step of wizard, choose the location to export files in given format.

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Select Database objects to export

- Once you select the destination location to export files, Click **Next** to proceed.
- The next step of wizard is populated by database objects present in the given database file.
    - Select the database objects to export.
    - By using select all check-box you can select all the objects.
    - Type column of data-grid will tell you the type of object whether it's table, view, stored procedure or user.
    - In Object Name column the name of tables, views, stored procedure and users will be available.

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Restore In Progress

- In this step of wizard, you can view the progress of export process.

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- Click the **Finish** button after export process is finished.
- Once the Export process is completed go to the Export location to access the files.

Go to Export Location :

The exported file name will be in below format:
V_Database Name_Time Stamp During Export_Object Name.
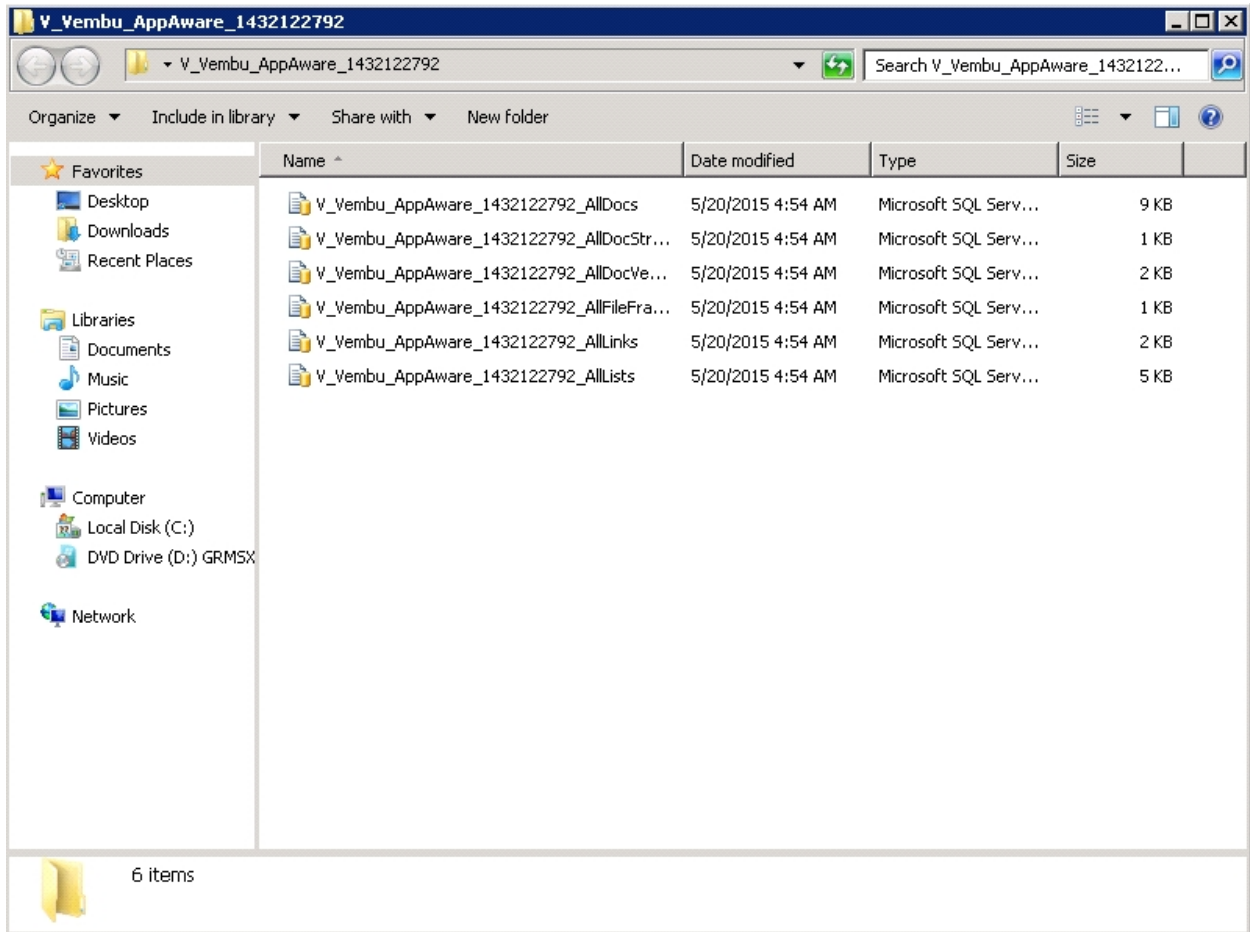
If the exported format is .xls then, follow the below steps:

- Go to MS SQL Server Management studio. Choose the database to import the data in the .xls file. Right click the database.
- Go to **Tasks** and click **Import Data** option. MS SQL Server Import and Export wizard will open.

- Click **Next**. The wizard navigates you to **Choose a Data Source wizard**.
- In Data Source field select Microsoft Excel.

- In Excel file path browse the exported .xls file path, choose the path and click **Next**.
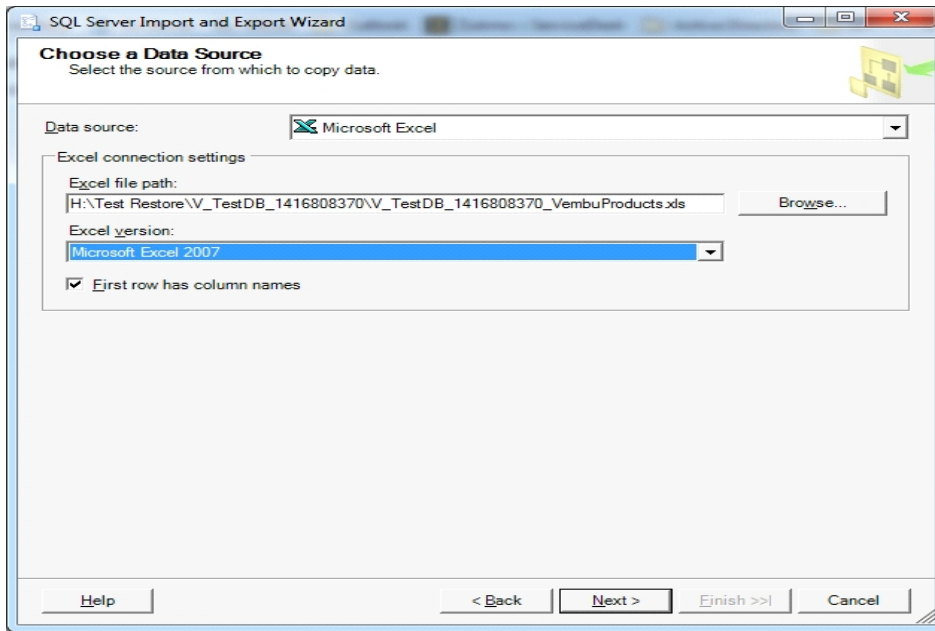
- Now select server name, authentication and database to import the data in the xls file.
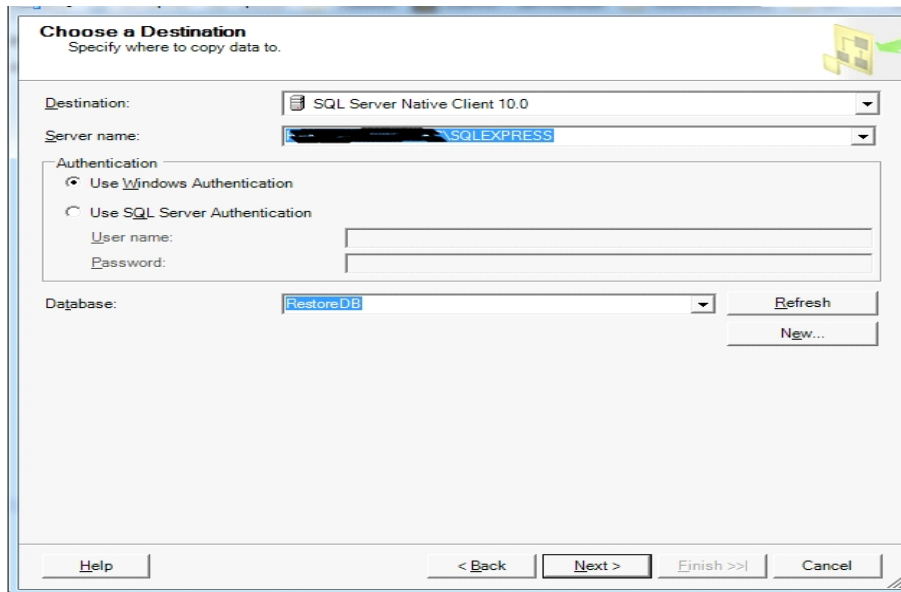
- Specify Table Copy and Query step, copy data from one or more tables choose this option and click next.
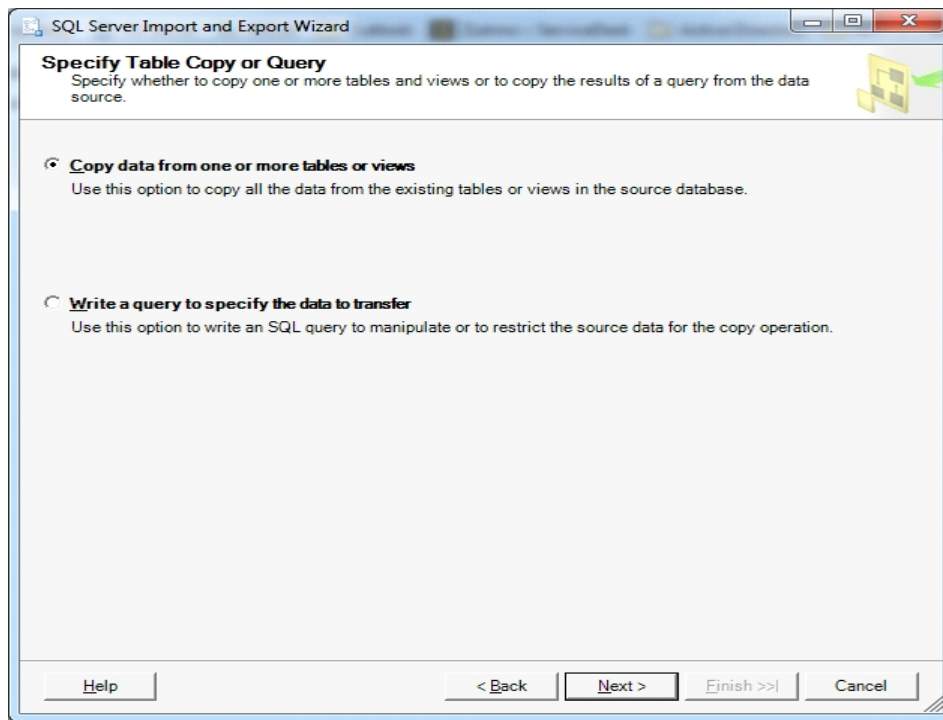
- In **the** Select Source Tables and Views wizard, select the sheet from which you want to import data and proceed.
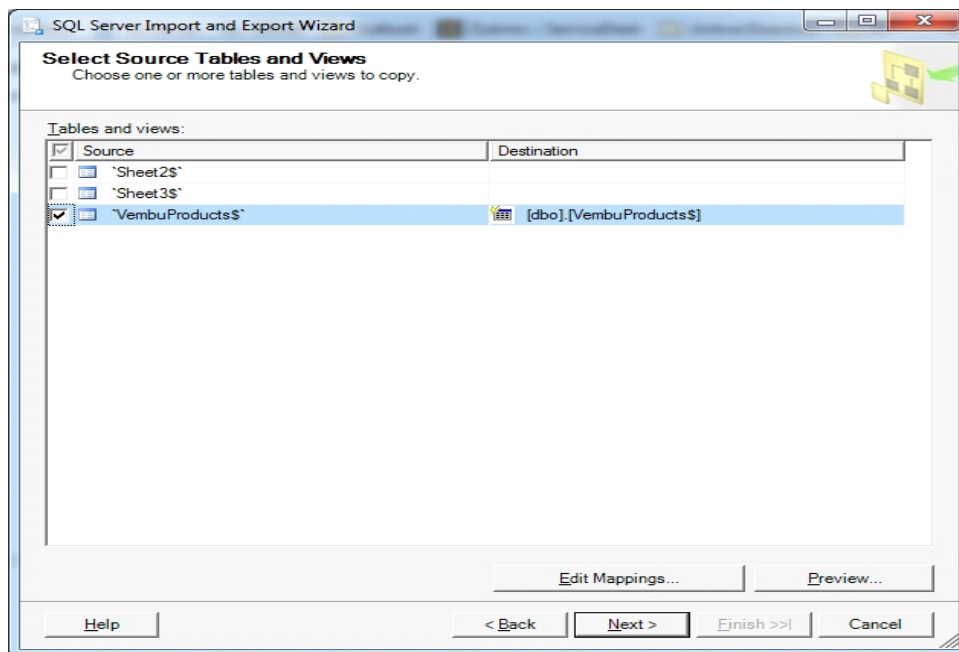
- In Run Package wizard, check **Run Immediately** option and click **Next**.
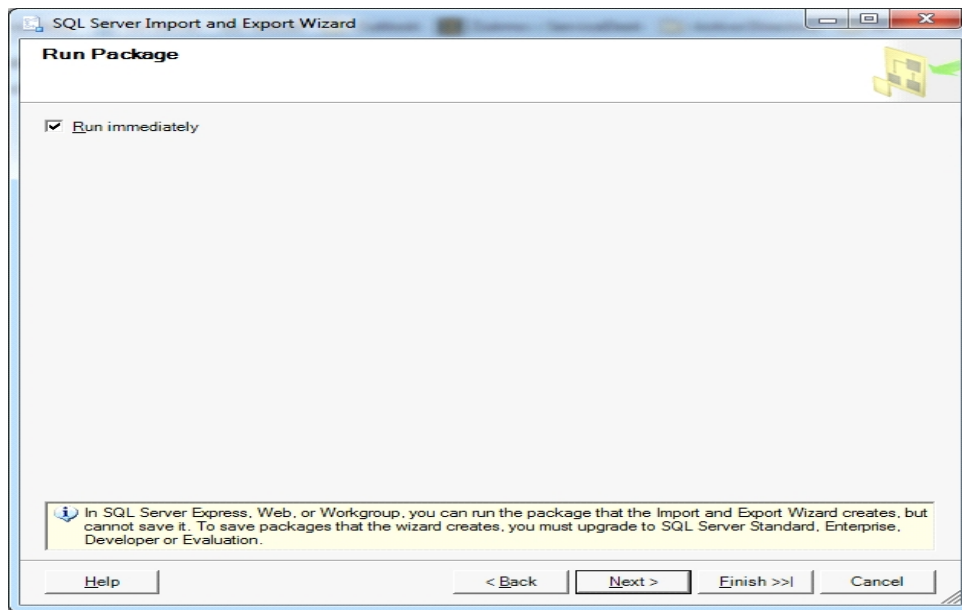
- Verify the provided details and click **Finish**.
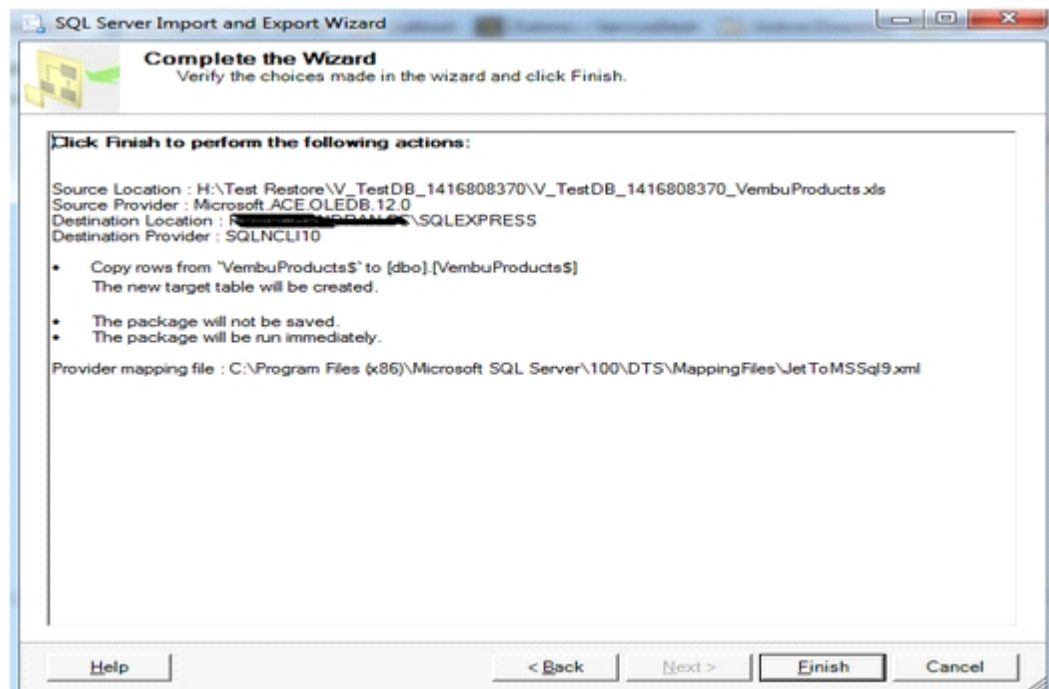
- The wizard displayed below will be available after importing data.
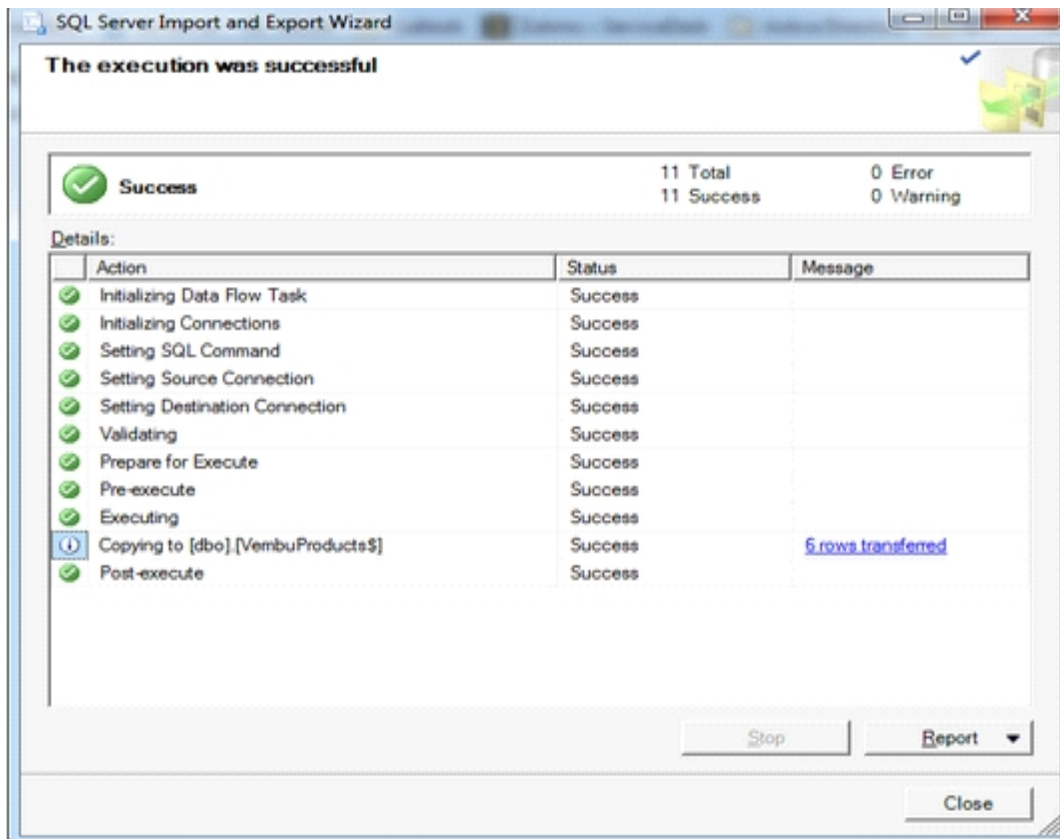
- Once done importing data, go to database and verify imported data.

Restore to SQL server

Restore directly to the target SQL server can be performed by selecting this option. If you select **Restore to SQL Server,** the application wizard leads you to process explained below.
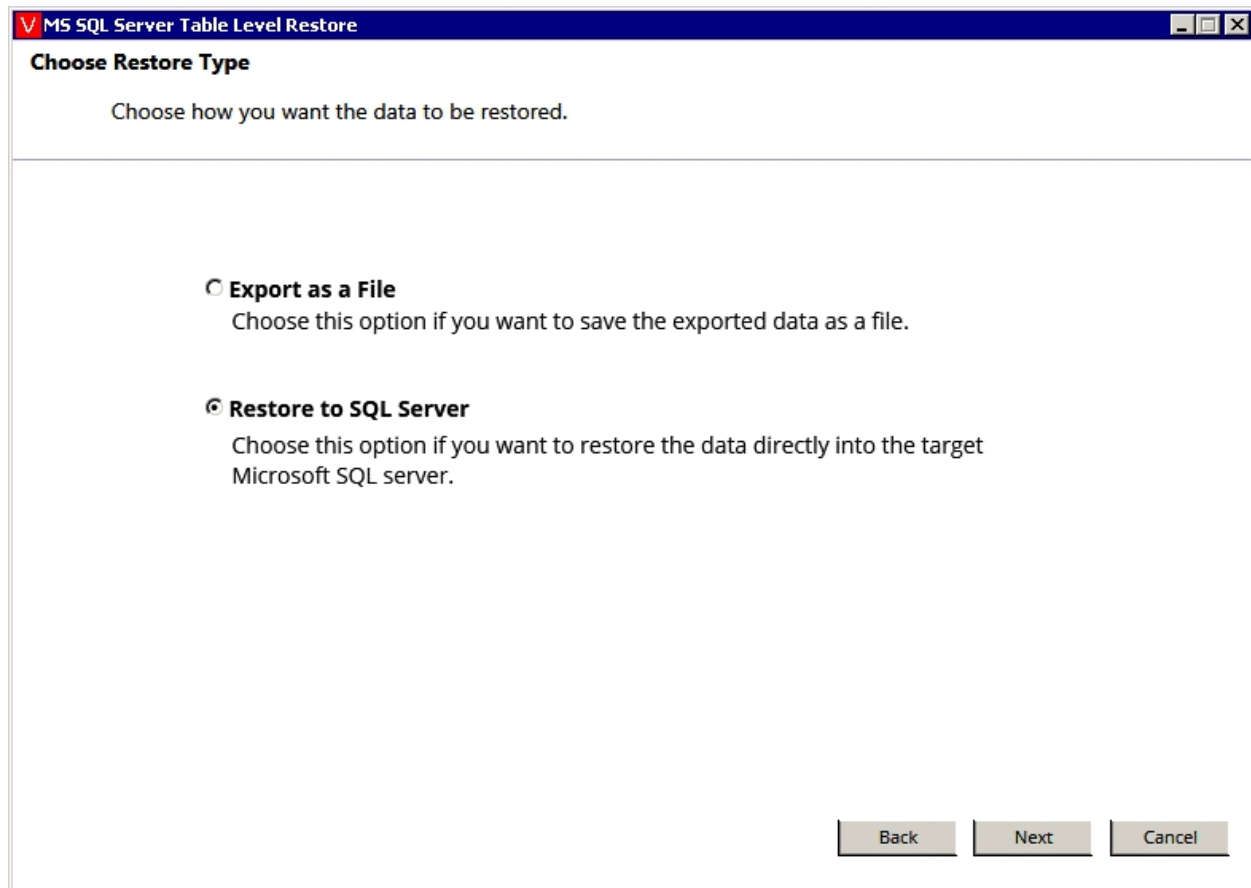
Specify object copy method

- At this step of wizard, choose whether you need to restore schema or schema along with data of objects to the target database and proceed to **Next**.

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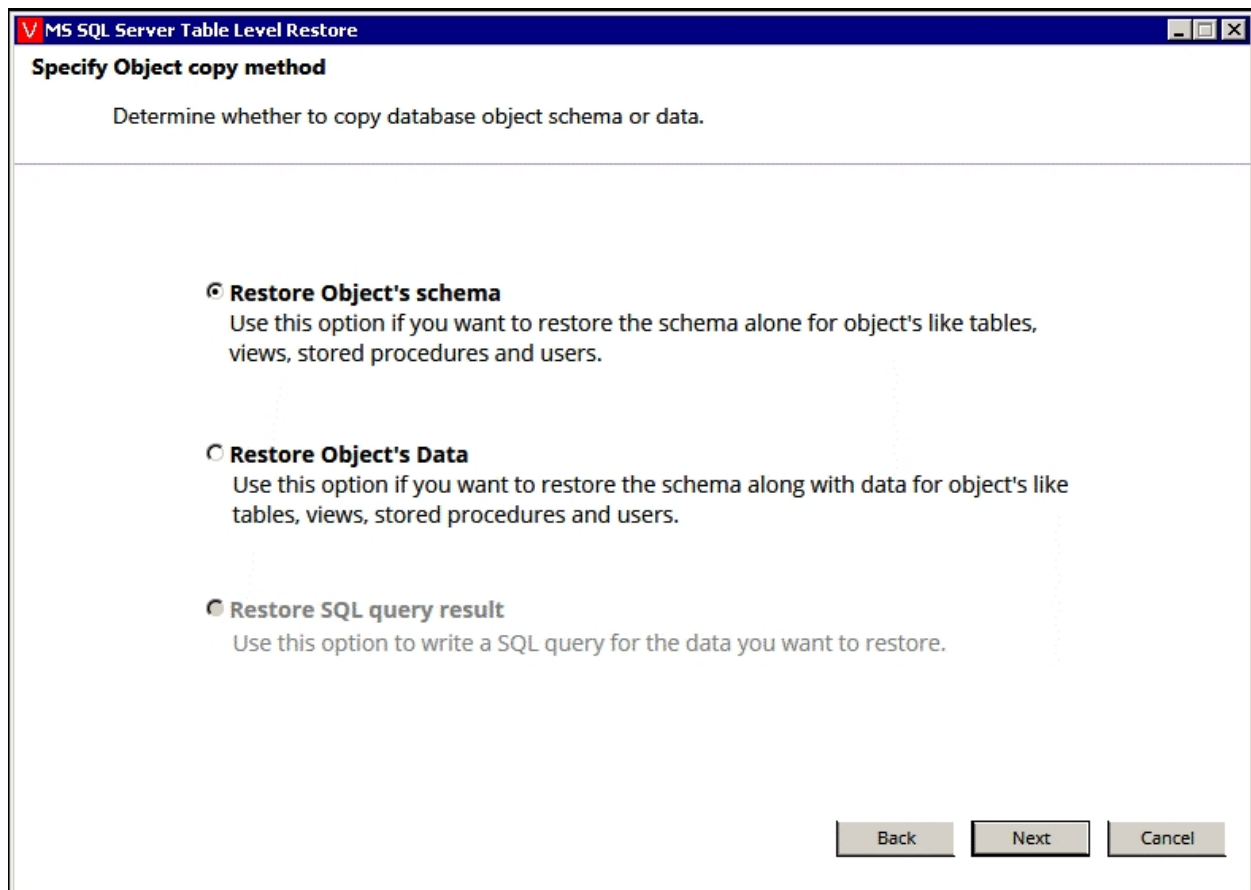
Choose the Destination Database:

At this step of wizard:

- o In instance field choose SQL Server instance of target database in which you are going to restore objects.
- o In authentication field choose the authentication for SQL Server, by default it is windows authentication. If you choose SQL Server Authentication then provide username and password in respective fields.
- o In target database field select the target database to restore the database objects.
- o If 'Display system database' check-box is checked, then system databases are available in target database combo-box.
- o In target database combo-box there is an option called **"Choose different Database"**; If you select it, a new text-box asking new database name will be visible. Provide database name in that text-box.
- o Once restore process completes, you can find the newly created database in SQL server with the provided name with restored objects stored in it.

Database objects to Restore

- At this step of wizard, the data-grid in wizard is populated with the database objects available in given database.
- Select the required objects to restore from the database to production environment.
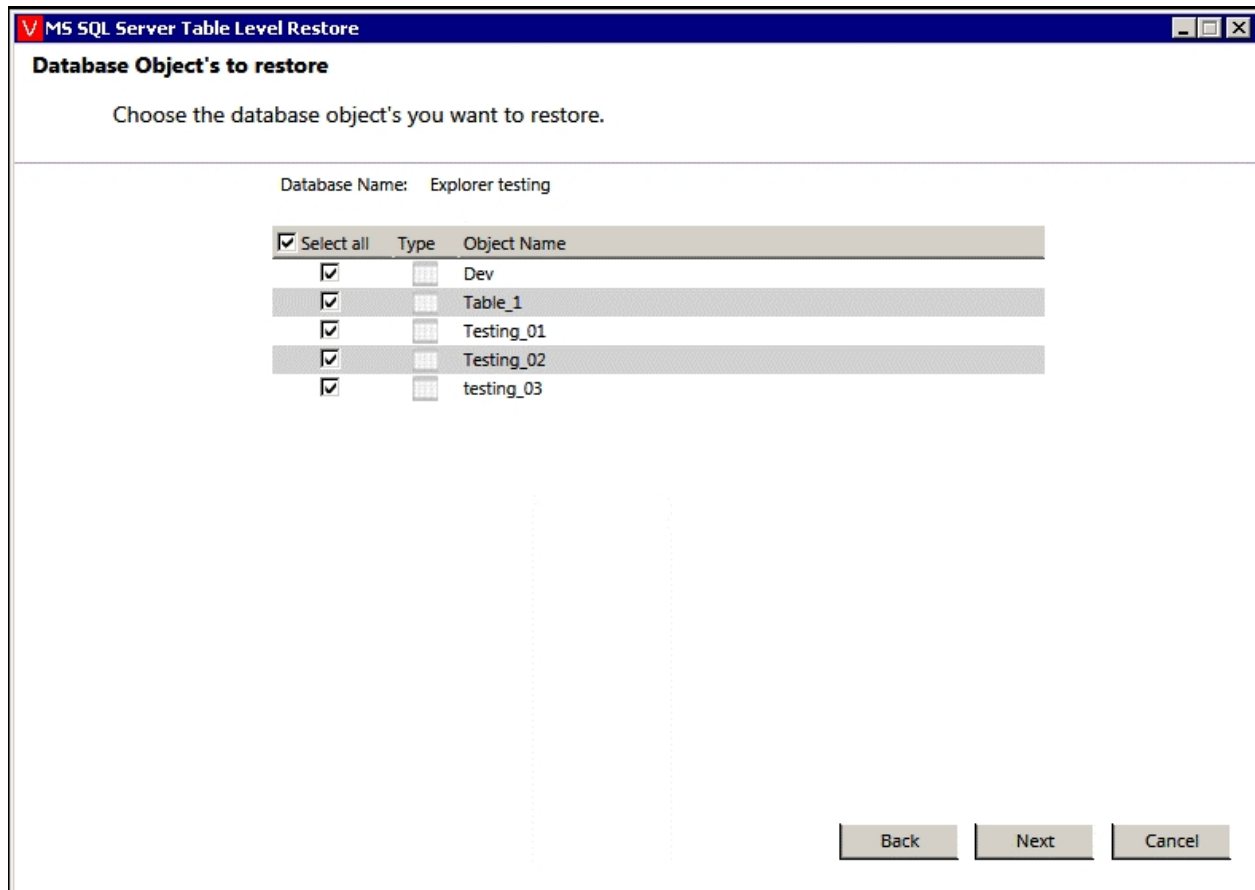
Rename Objects

- At this step of wizard, the data-grid available in the wizard is populated with the selected objects from previous step.
- Two columns will be available in data-grid, where the original name column shows the actual name of object; whereas in new name column, you can provide desired names for objects with which you want to restore.
- By default, the original names will be the name for objects.
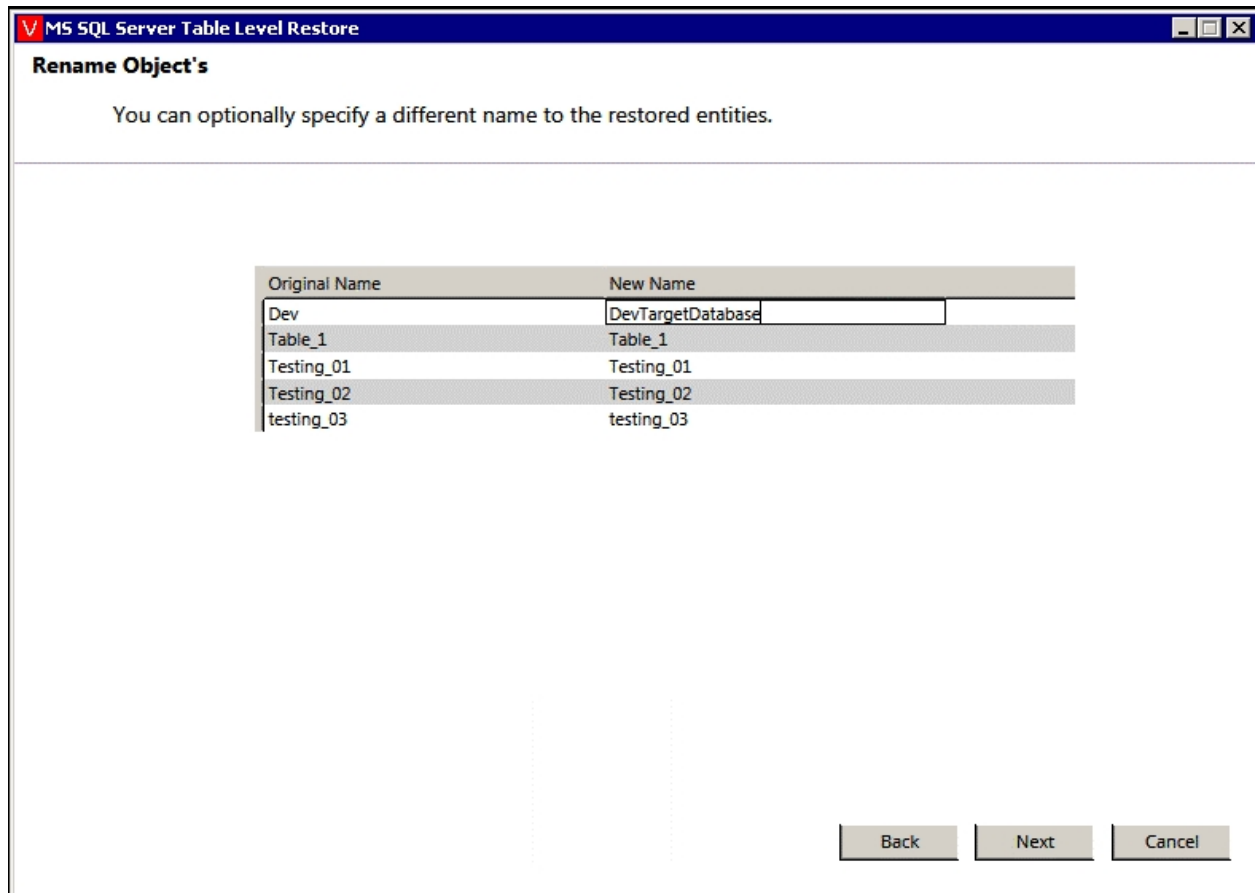
Restore In Progress

- Here you can view the progress of restore process.
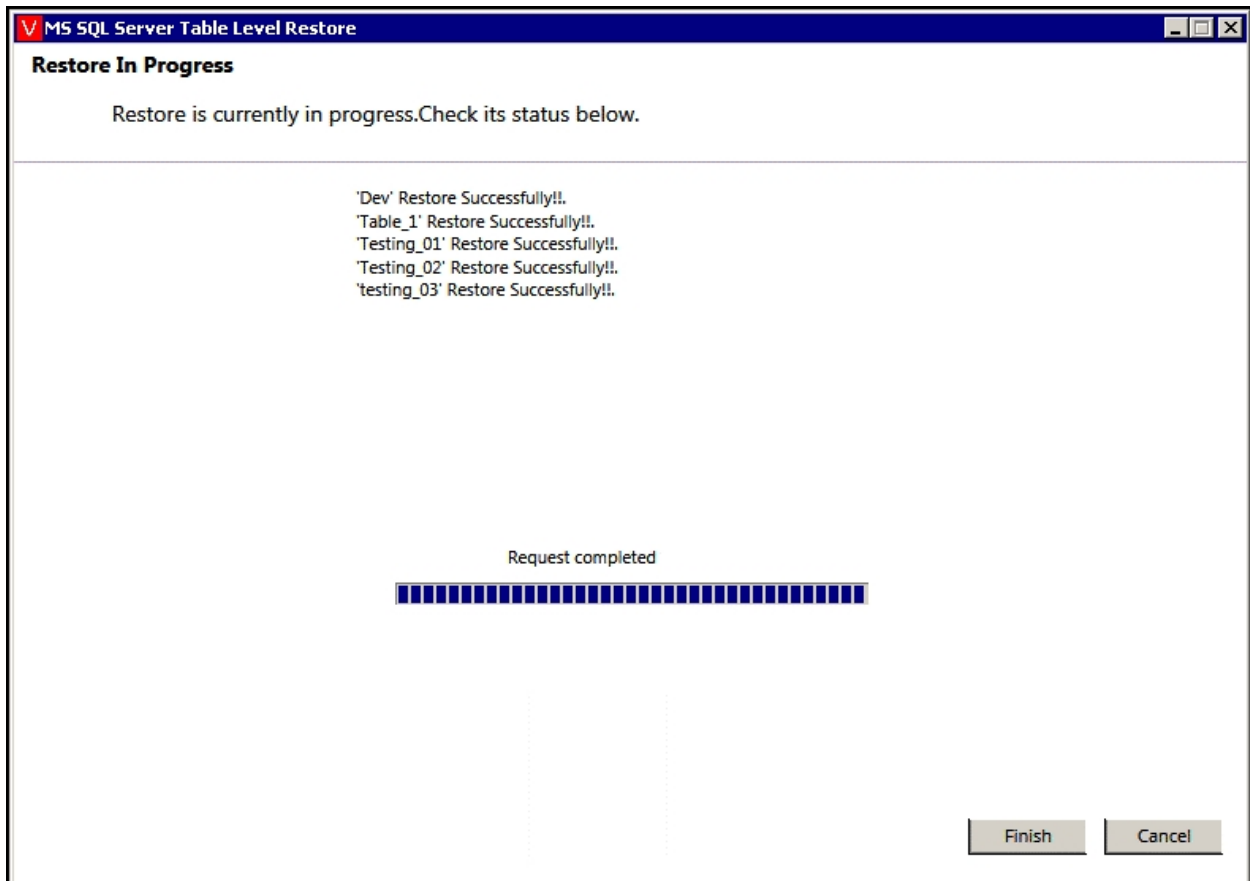
- Click **Finish** to close the wizard, once restore completes successfully.

Post completion of Restore:
- Go to MS SQL Server Management Studio.
- Connect to the instance to which you selected restore process.
- Go to the target database where you can view restored objects(Refer below).
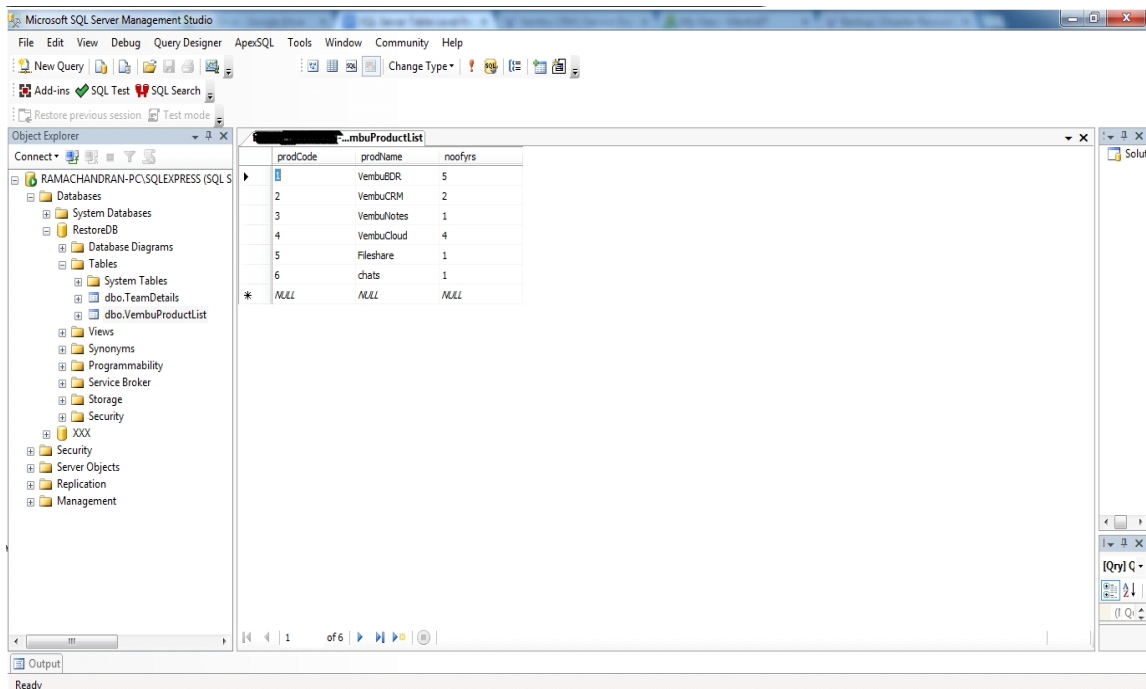
# Vembu Universal Explorer User Guide

Microsoft SharePoint Server

- Start Vembu Explorer for SharePoint application.
- Once you have finished reading the brief introduction about Vembu Explorer for SharePoint, click **Next**.
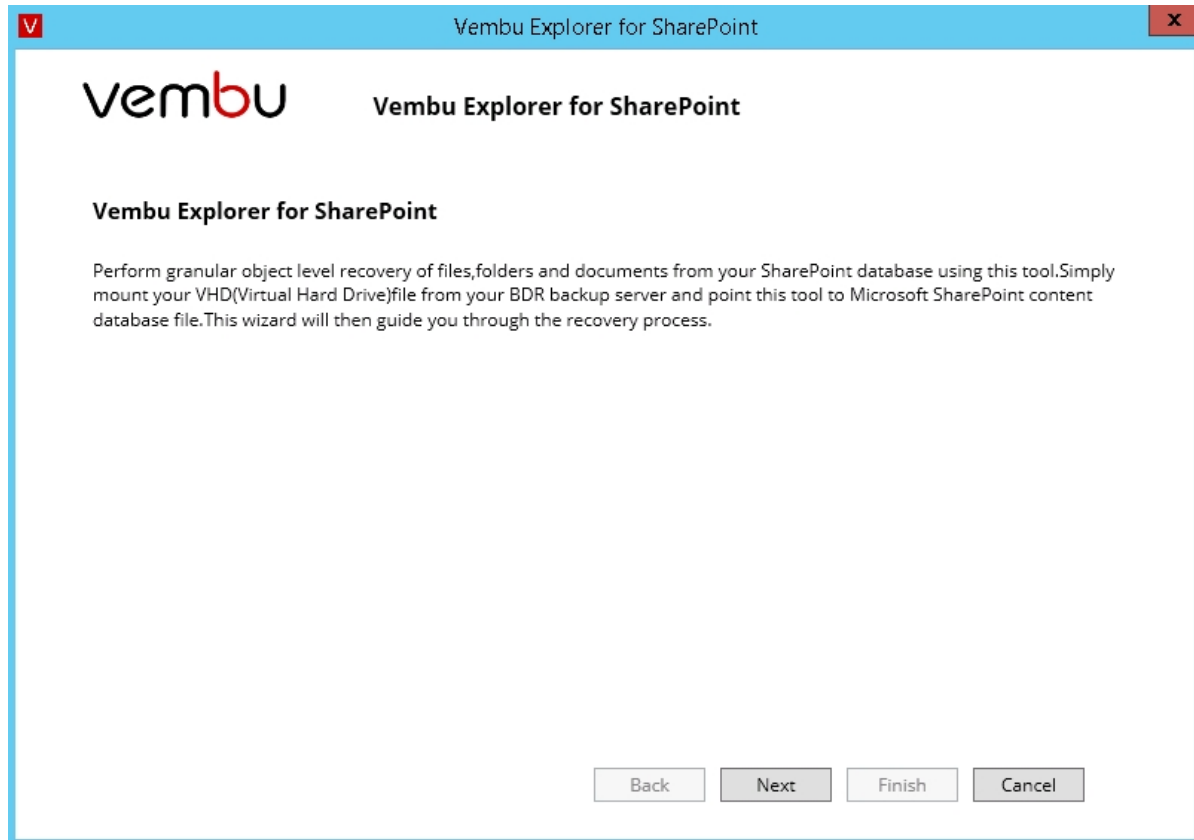
- In the window that appears, select the .mdf file respective to the SharePoint site that you want to recover.
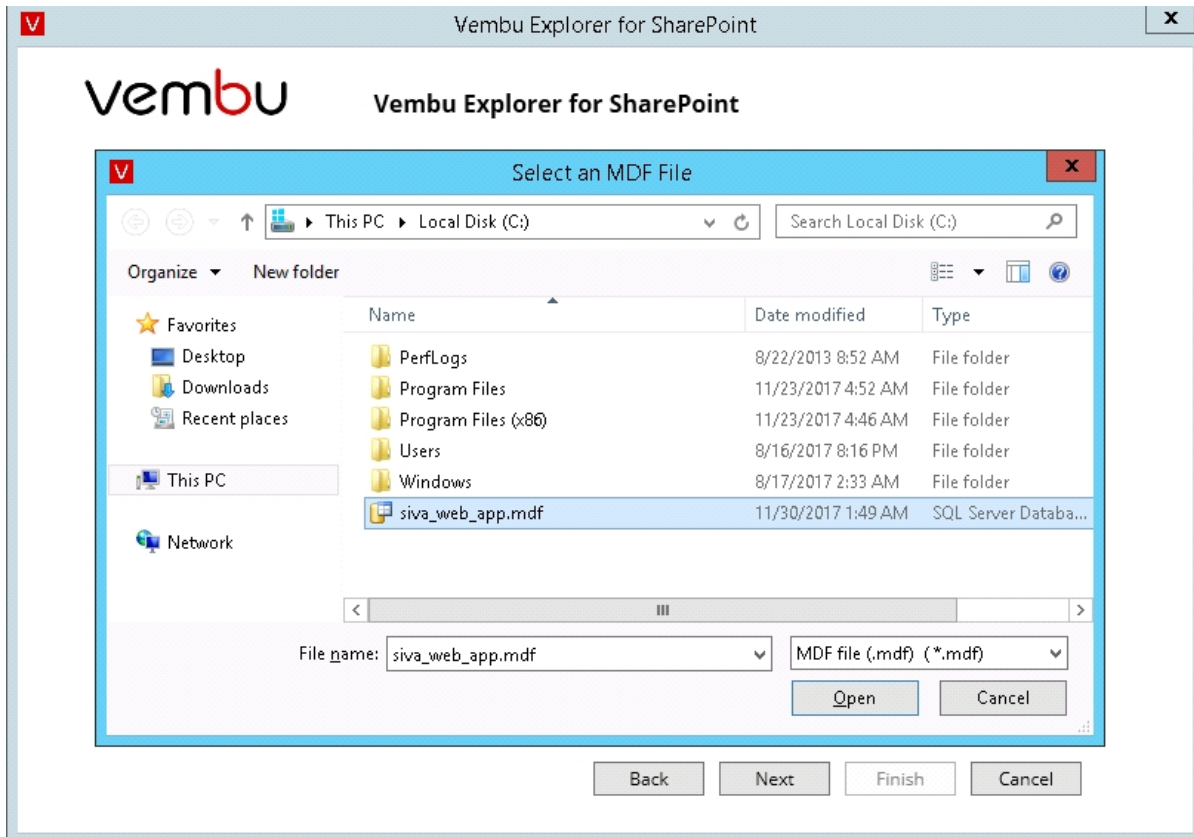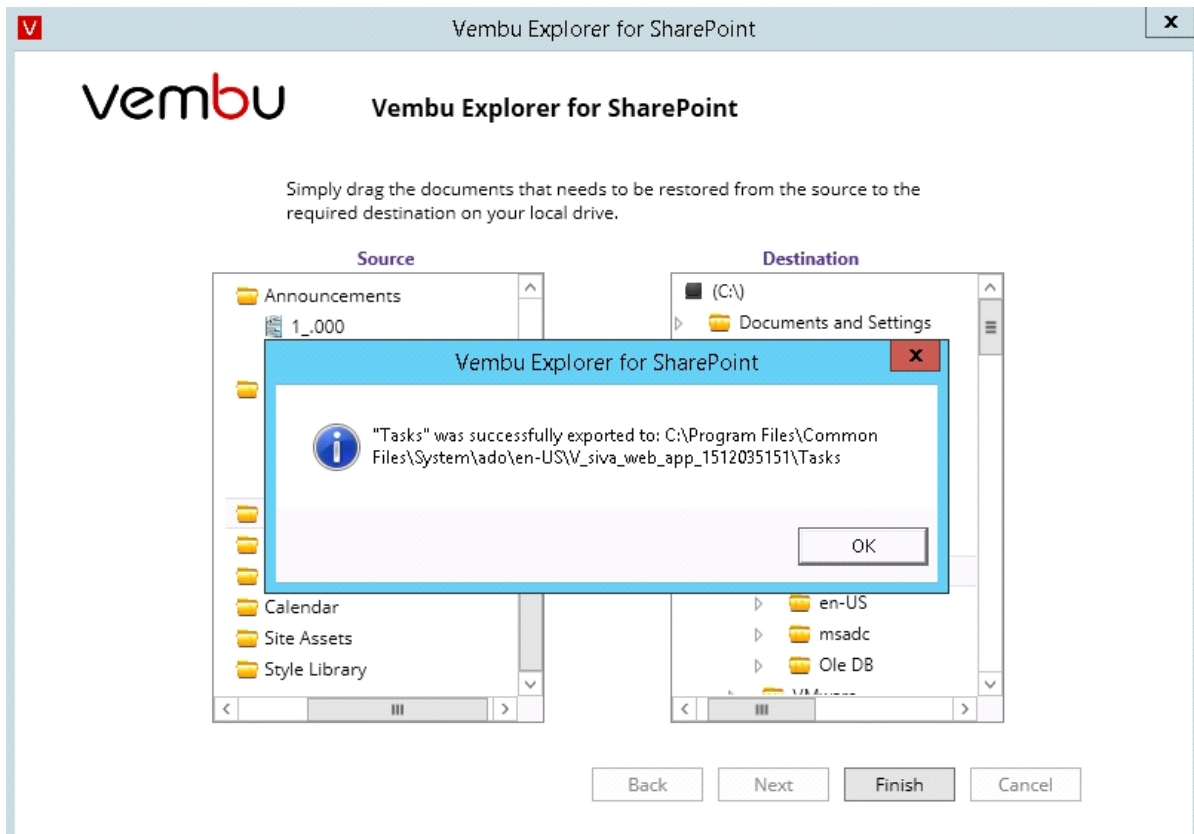
- Once you select .mdf file the respective .ldf file will be automatically selected.
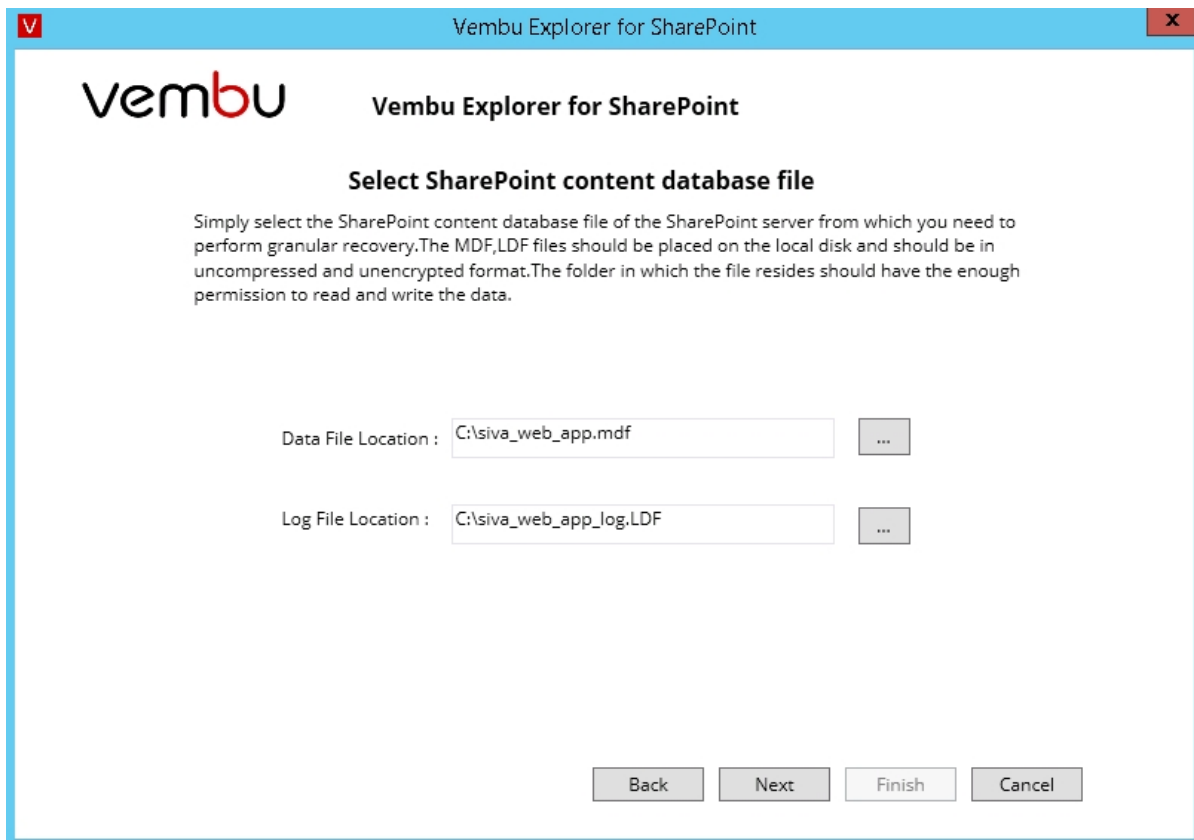
- Click **Next** to proceed further.
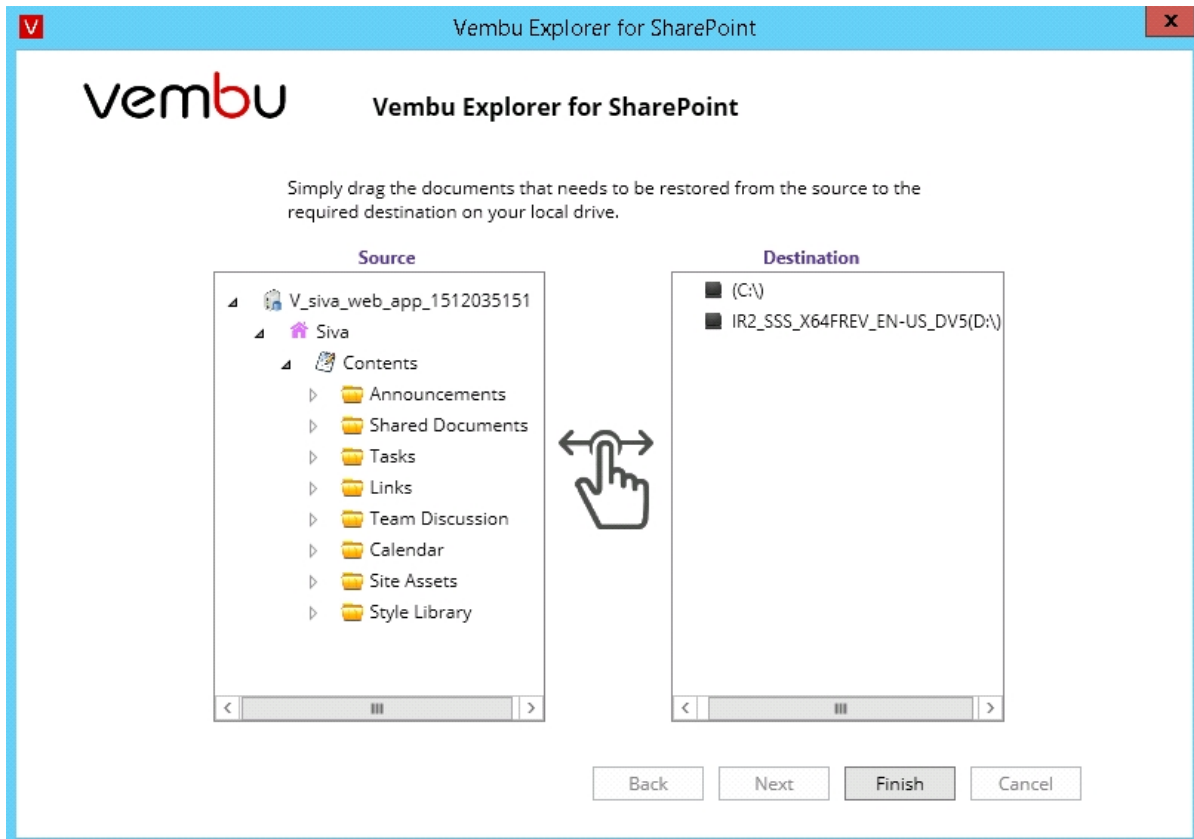
- The next window will display the contents of the SharePoint site explored in the Source column.
- Simply drag the content that you want to recover from the source and drop them into a folder at the Destination.

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- The selected content will be successfully exported to the destination location you have chosen.

## Vembu Universal Explorer User Guide

Microsoft Active Directory

Note:
If a user plans to import the exported objects and containers to a server, make sure that the domain name is same as that of target server. A user can also edit and rename the DC attributes as target domain name.
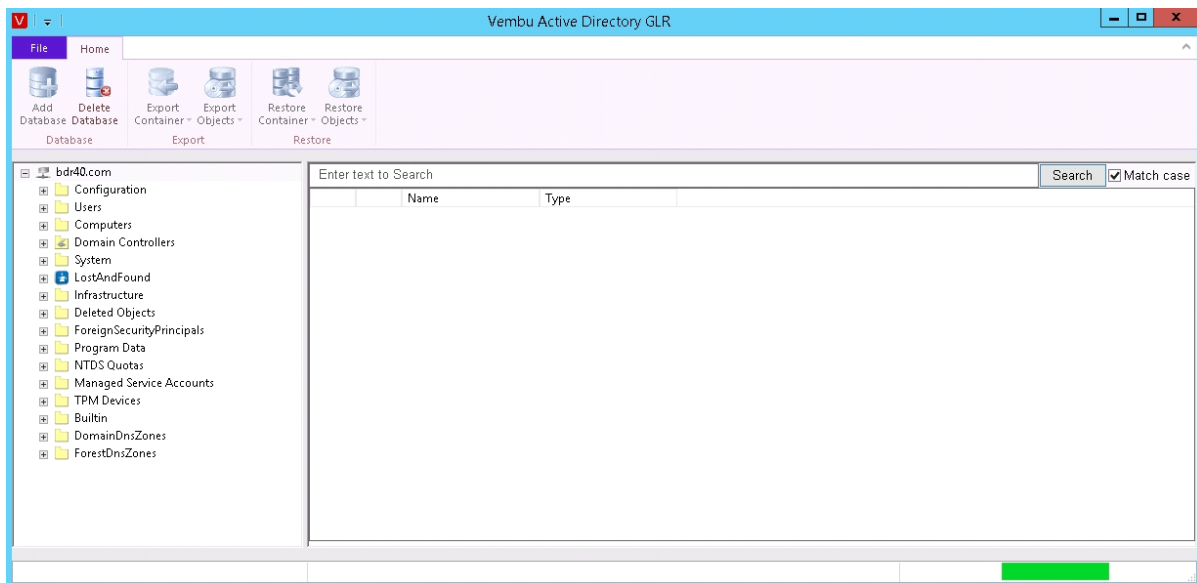
Steps to be followed to restore Active Directory data:
- Start Vembu Explorer for Active Directory Server.
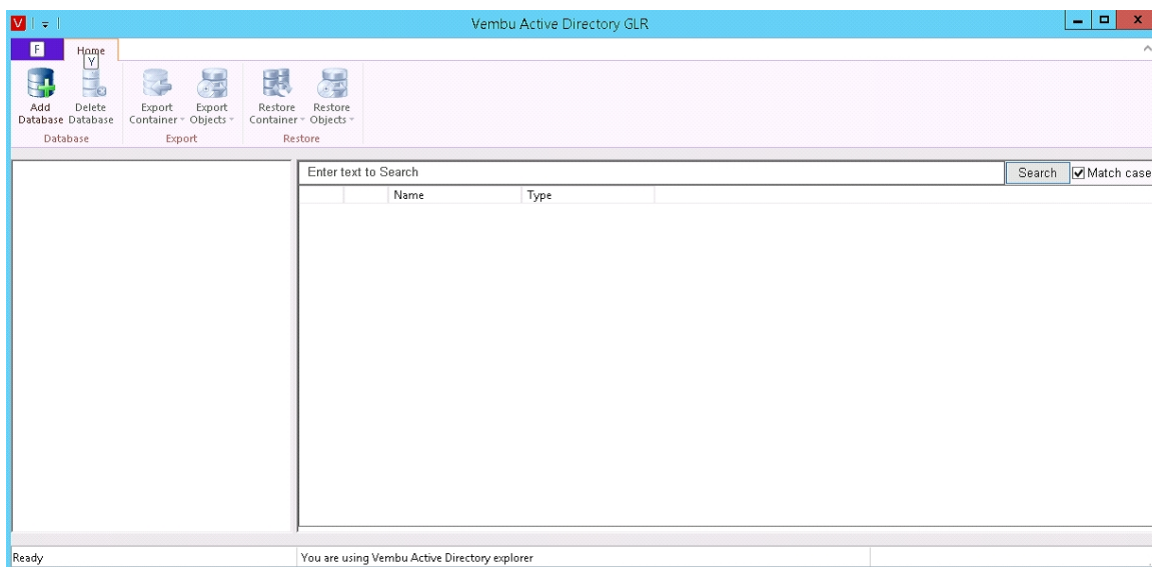
- Go to Home tab and click **'Add Database.** Browse the database file' (i.e) ntds.dit file and click **OK**.
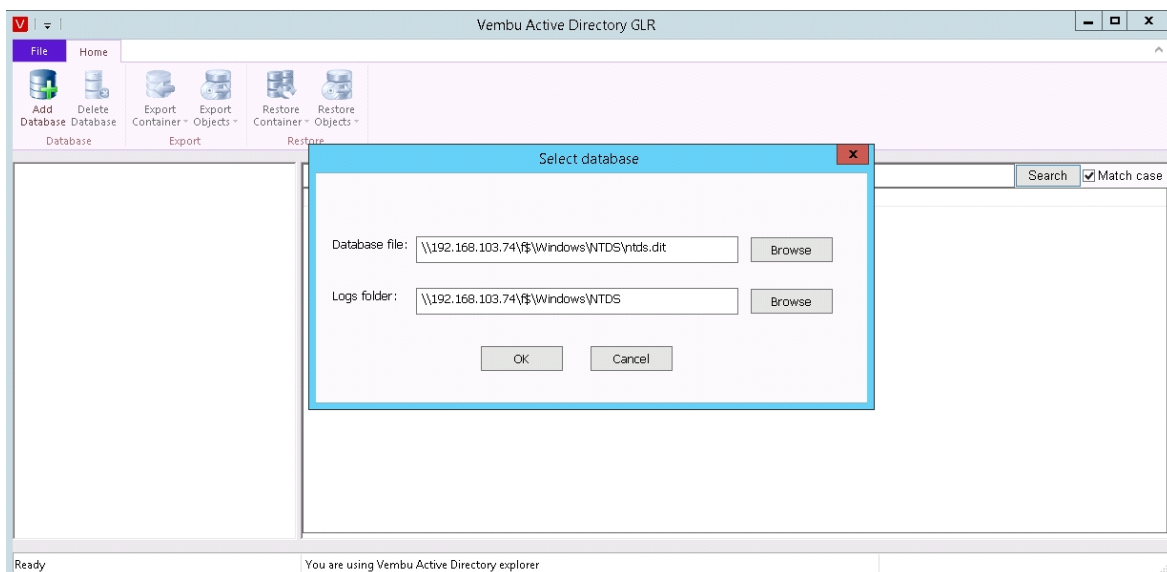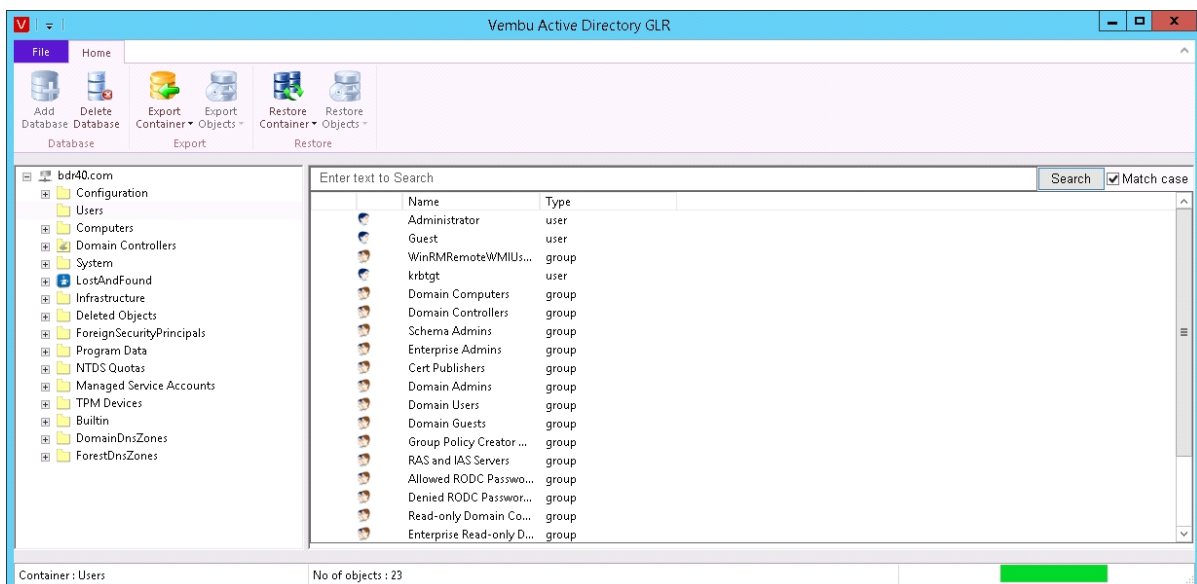
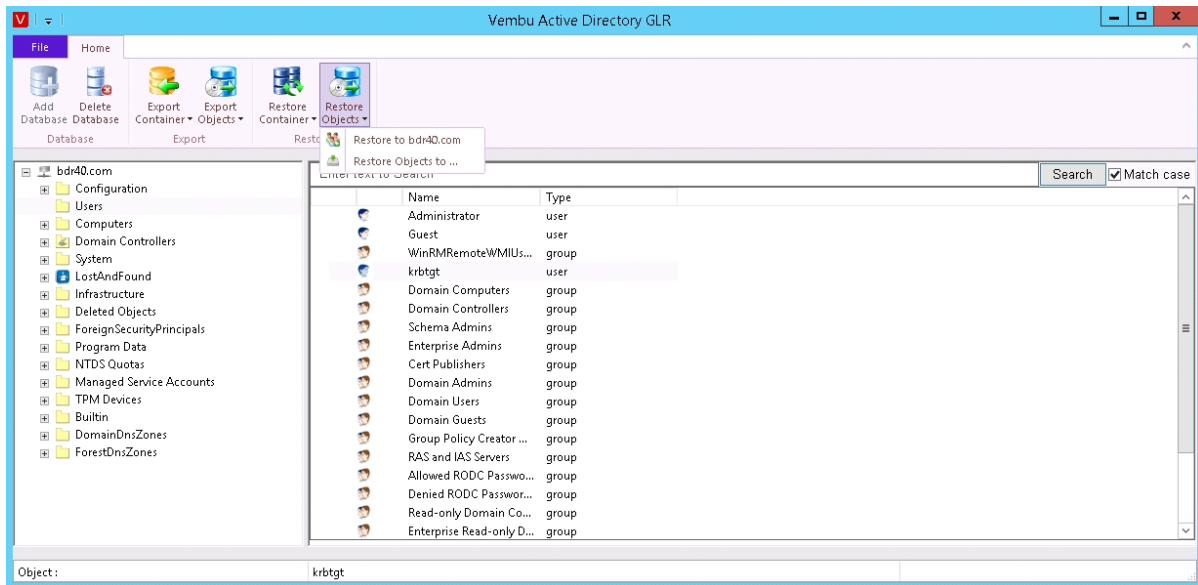- All the objects related to the database files will be listed as shown below.

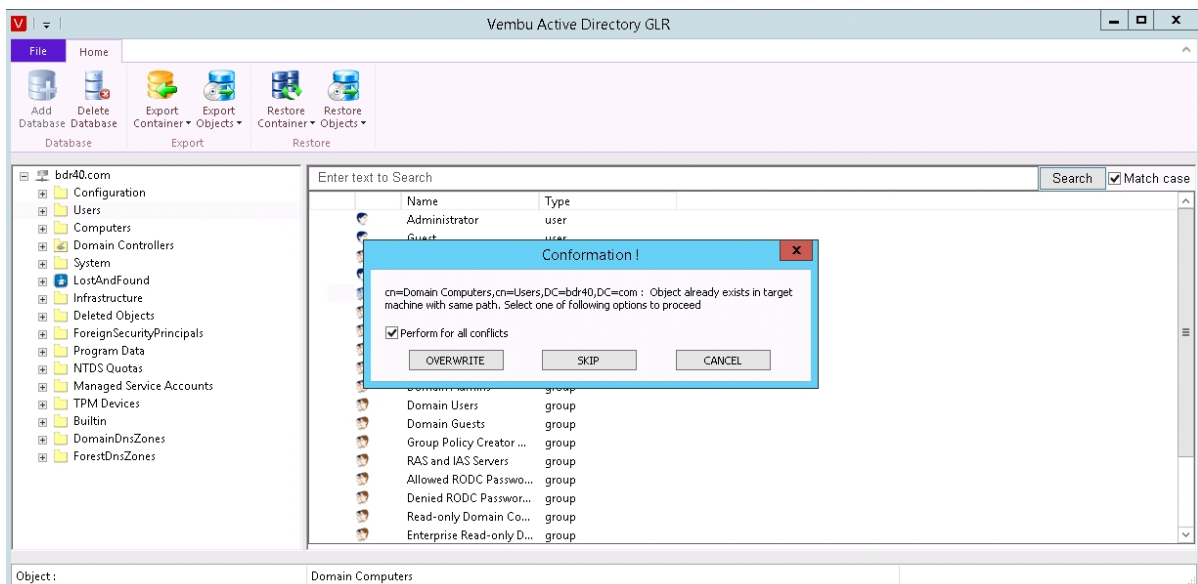**To import user, machine and network related information:**
- Select the specific object or container to be restored as shown below.
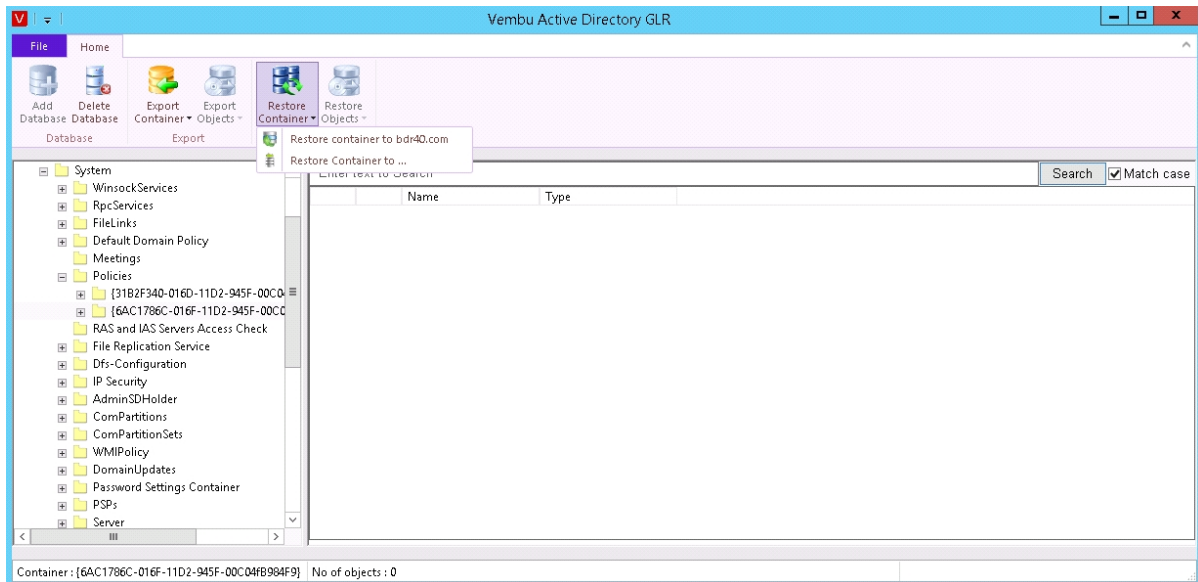

- Click **Restore Objects** or **Restore container** (any one of the option) based on your requirement.
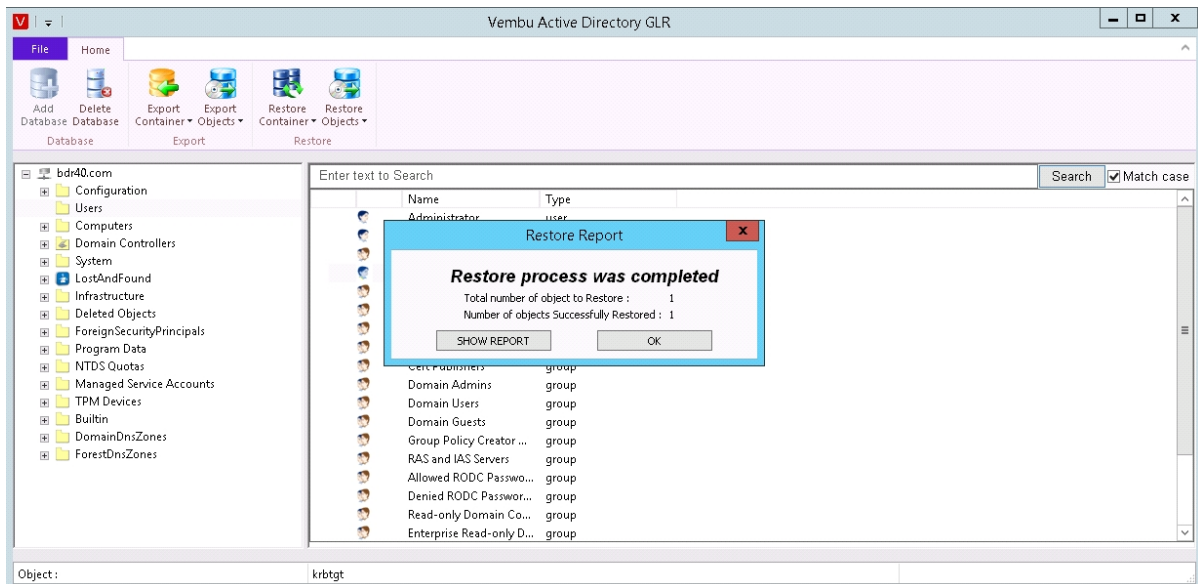
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- If the selected object/container name already exists on the target machine, you will be alerted with a message as shown below. You can either overwrite or skip those files.
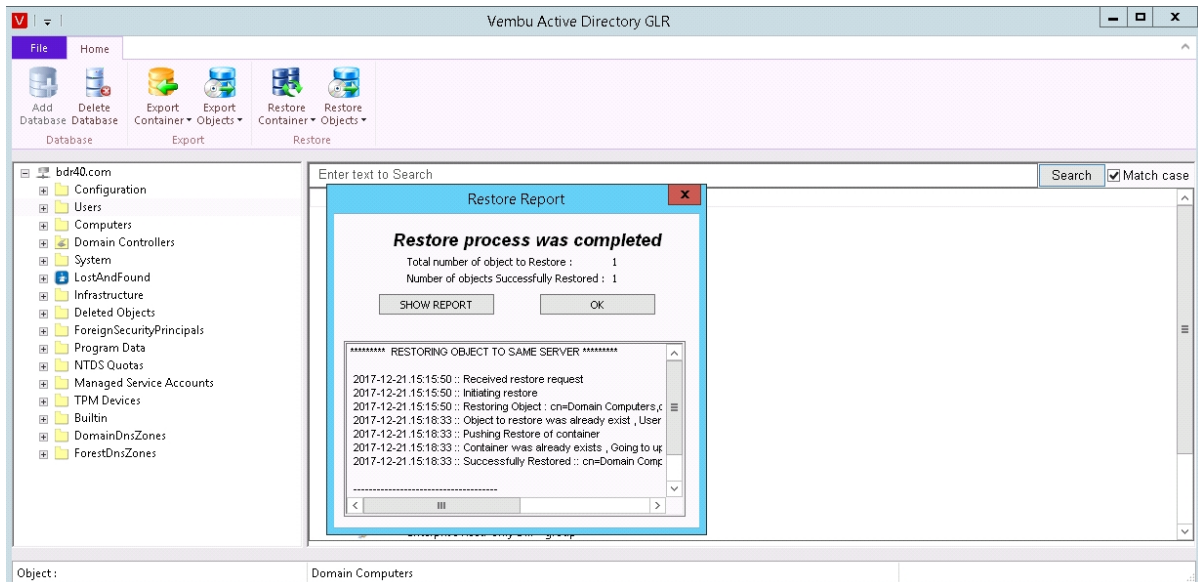
- Once restore completes successfully, user will be acknowledged with a pop-up message as shown below.

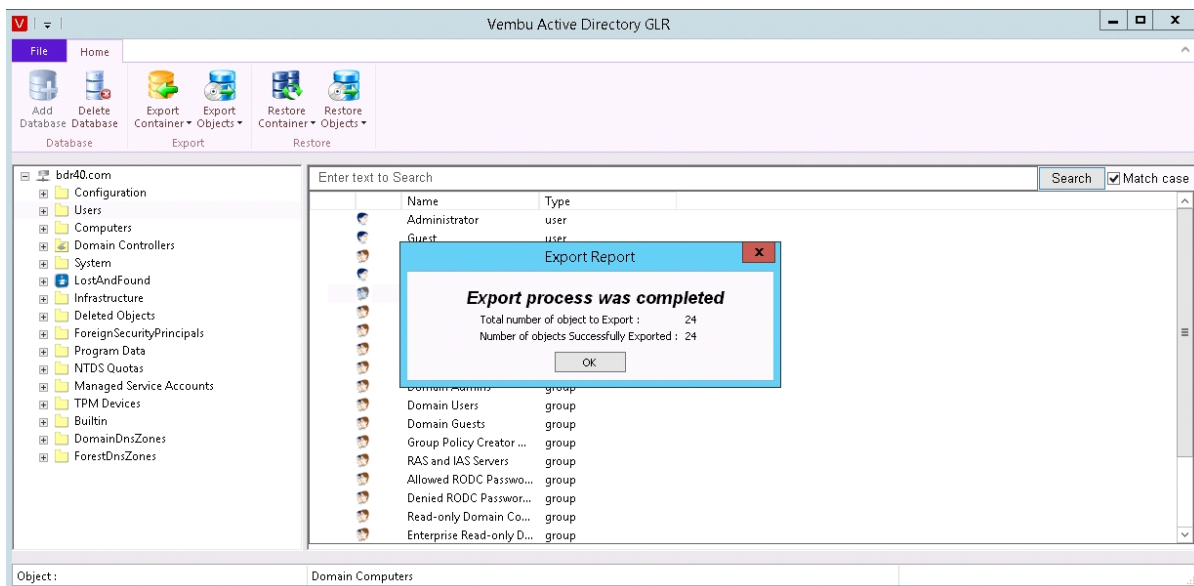- Click the **SHOW REPORT** option, to view further details about the Restore process.

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To export user, machine and network related information:

- Select the specific object or container to be exported and Click **Export Object**/**Export Container** based on requirement
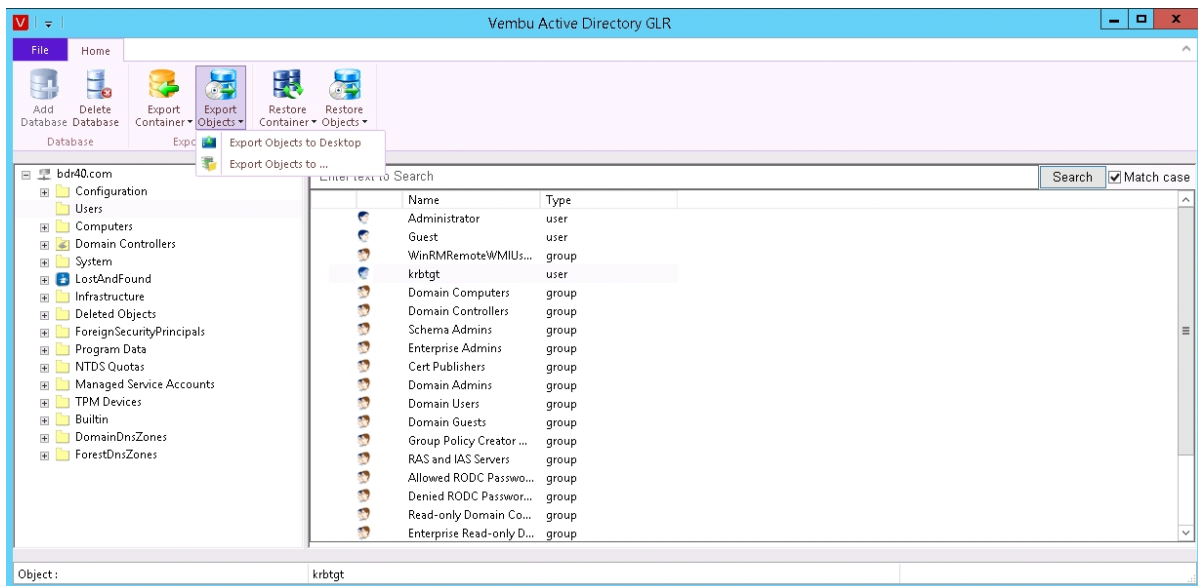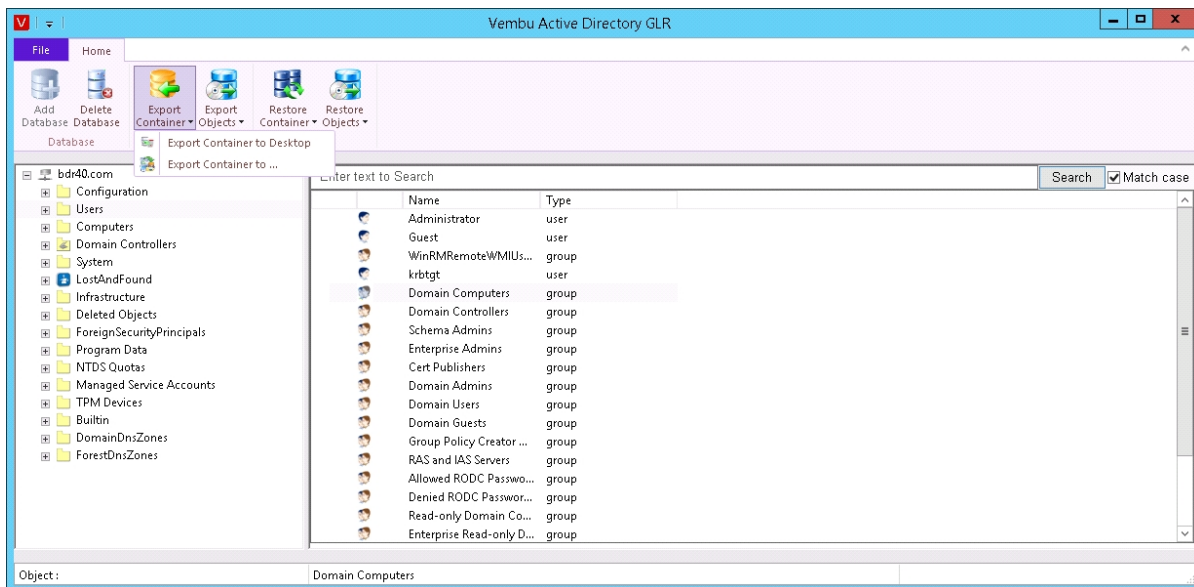
- Once export is done, acknowledgment message will appear just as the image below.

- The Exported file will be in .ldf format.
- You can import .ldf files to target server by executing below command in command prompt:
  ldifde -i -f "ldf_file_path_location" -j "Logfile_location"
  Ex: ldifde -i -f c:\1.ldf -j c:\

- If you want to view additional information such as Version Number, Build Number and OS Type, go to **File** and select **About**. A window will be displayed with the required details as below.

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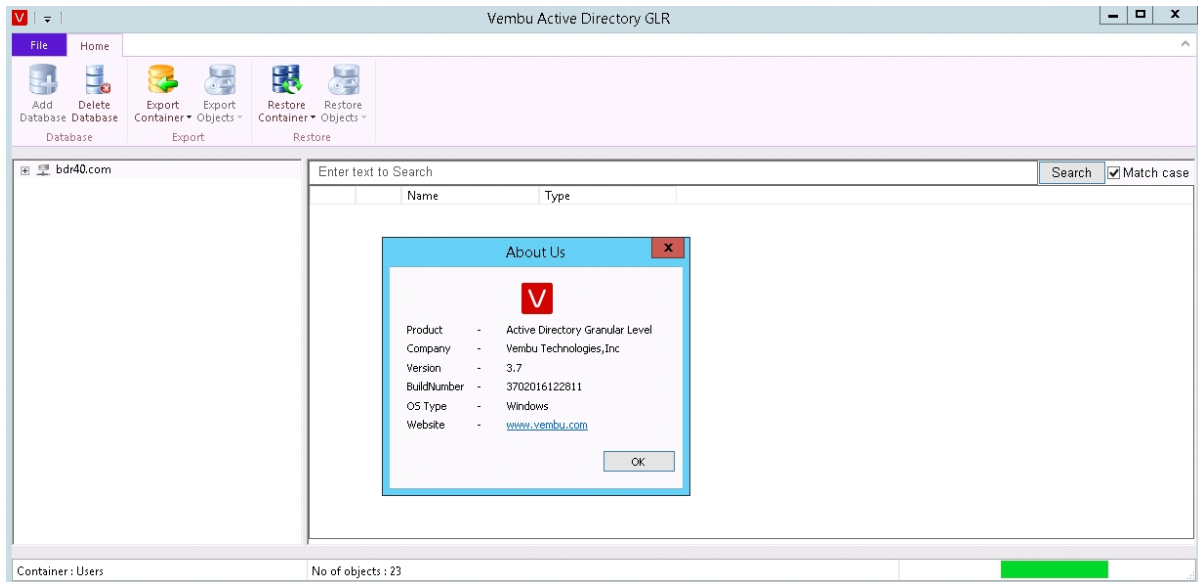
- If you want to delete a particular database it can be done in two ways:
  - o Choose the **Delete Database** option and select **Yes** to remove the database from explorer.

(OR)
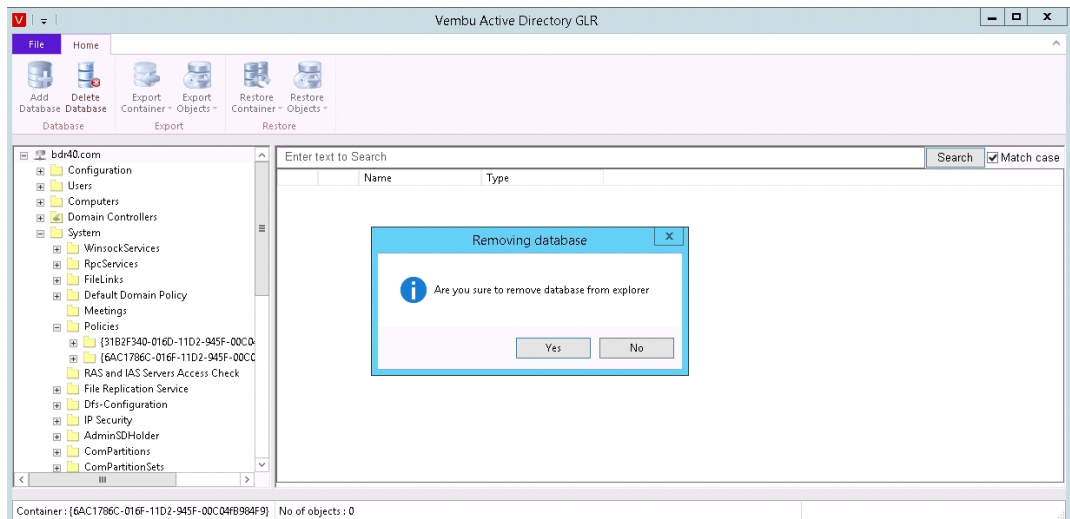
  - o Right Click on the Database Name and select **Close database**. Select **Yes** and remove the database from explorer.