

Carbonite Server Backup Granular Restore 9.1 for Microsoft Exchange and SQL

User Guide



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Acknowledgements: Two encryption methods, DES and TripleDES, include cryptographic software written by Eric Young. The Windows versions of these algorithms also include software written by Tim Hudson. Bruce Schneier designed Blowfish encryption.

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The Carbonite Server Backup Agent, Carbonite Server Backup CentralControl, and Carbonite Server Backup Director applications have the encryption option of AES (Advanced Encryption Standard). Advanced Encryption Standard algorithm (named Rijndael, pronounced "Rain Doll") was developed by cryptographers Dr. Joan Daemen and Dr. Vincent Rijmen. This algorithm was chosen by the National Institute of Standards and Technology (NIST) of the U.S. Department of Commerce to be the new Federal Information Processing Standard (FIPS).

The Carbonite Server Backup Agents and Carbonite Server Backup Director applications also have the added security feature of an over the wire encryption method.

Document History

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1 Product overview

Granular Restore for Microsoft Exchange and SQL (GRE) is a granular data extraction software for offline SQL databases and Microsoft Exchange Server mailbox stores and Outlook files. The utility provides direct access to unmounted database tables and mail store contents, displaying file structure and its contents with selective export functionality. With a search query tool, users can export specific queries rather than large tables or files.

For SQL databases, recovered items can be saved as SQL scripts or exported directly to a live SQL server.

For Microsoft Exchange servers, files can be saved as Personal Storage File (.pst) files, to be opened with Microsoft Outlook or other compatible email clients, or exported directly into live Exchange Server mailboxes.

The utility makes no changes to the store, preserving it in original unmodified state.

Main features of Granular Restore for Microsoft Exchange and SQL:

SQL Database

- Recovers entire tables, objects and object groups
- Recovers data obtained by specific search queries
- Recovers keys, scripts, functions, triggers and procedures
- Recovers default settings, user types and views
- Saves single or multiple points of data as SQL scripts or exports to live SQL database

Microsoft Exchange Server

- Recovers mailboxes, folders, messages and file attachments
- Recovers contents of Public Folder mailboxes
- Recovers email addresses from Active Directory storage
- Recovers notes, contacts, tasks and appointments
- Recovers creation dates for all objects
- Saves selected items to PST files or exports to live Exchange Server mailbox(es)

1.1 Supported Exchange database versions

Granular Restore for Microsoft Exchange and SQL supports the following mail store versions:

- Exchange 2019 (up to CU11)
- Exchange 2016 (up to CU22)
- Exchange 2013 (up to CU23)

1.2 Supported Outlook versions

Granular Restore for Microsoft Exchange and SQL supports the following versions of PST/OST files: 2019, 2016, and 2013

Note

OST files created in Outlook 2013, 2016 and 2019 are not supported.

1.3 Supported SQL Server database versions

Granular Restore for Microsoft Exchange and SQL supports the following versions of MDF/BAK files (including Express edition):

- SQL Server 2019
- SQL Server 2017
- SQL Server 2016
- SQL Server 2014
- SQL Server 2012

1.4 System requirements

Basic system requirements:

- Operating systems: Windows Server 2022, Windows Server 2019, Windows Server 2016, Windows Server 2012 R2, Windows Server 2012, Windows 11, Windows 10, Windows 8.1
- RAM: 1024MB; Depends on store size and OS version
- Hard Disk: minimum 50MB of free space required for installation
- Display: 800 x 600 or higher resolution, 256 colors

Additionally, Granular Restore for Microsoft Exchange and SQL may require free space on disk 1.5x the size of mail store being processed. For example, for 300MB store, 450MB free space should be available.

1.5 Live Exchange Server export requirements

Exchange Server

Exchange Server 2019, 2016 or 2013

Exchange Web Services enabled on Exchange Server

Network

Port 443 open on the network. The EWS messages are transported via SOAP-based API, which is essentially sending XML data using https protocol.

Restore client

GRE installed. Access to Exchange server(s) over network.

1.6 Live SQL Server export requirements

SQL Server

SQL Server 2019, 2017, 2016, 2014 or 2012

SQL Server Browser running on SQL Server

Network

To establish connection to live SQL Server, remote network access must be allowed on the server and TCP/IP protocol must be enabled in SQL Server Configuration Manager. For detailed instructions on how to do it, visit http://blogs.msdn.com/b/walzenbach/archive/2010/04/14/how-to-enable-remote-connections-in-sql-server2008.aspx

Restore client

GRE installed. Access to SQL Server(s) over network.

1.6.1 Limitations

The current version of the product has the following limitations:

- While processing dirty shutdown databases storages may be restored not to the topical condition.
- Messages in the Outbox folder are not restored if they haven't been synchronized with the server.
- Simultaneous recoveries are not supported.
- Simultaneous running of more than one instance of the product is not supported.
- Encrypted emails are not restored.
- Messages with size over 64MB are not supported.
- Windows 2000, 98, ME and 95 are not supported.
- Recovery of delivery receipts and non-delivery reports is not supported.
- Tool doesn't support usage in "Run as different user" mode.
- OST files created in Outlook 2013, 2016 or 2019 are not supported.
- Password-protected PST files are not restored in command-line interface.
- Command-line interface is not supported for MDF and BAK files.
- Compressed SQL Server 2014, 2016, 2017 and 2019 BAK files are not currently supported.
- System MDF and BAK files are not currently supported.
- Encrypted SQL databases are not currently supported.
- Calculated fields and fields of type [sql_variant] in indexes cannot be used in SQL database search.
- Sparse columns in SQL database are not supported.
- Filestream data type and Filetables in SQL databases are not currently supported.
- Searching by 'real' data type may return not full results.

- Approved status of Calendar Events is not supported.
- Links to the Exchange Global Address List are not supported.
- Exchange Server Databases: The search input field may work incorrectly with 4-byte.
- Unicode characters. It does not affect search results.
- Microsoft SQL Server: schemas with name containing a dot (".") for example, "[custom.schema]" cannot be restored.
- Microsoft SQL Server 2017: restore of graph tables is not supported.
- Microsoft SQL Server: for "sql_variant" datatype basetypes are not restored correctly (values are restored with "nvarchar" basetype).
- Microsoft SQL Server: secondary data files are not currently supported.
- Microsoft SQL Server: decimal values close to maximal/minimal cannot be restored to live SQL server through injection.

Injection limitations for Exchange Server

- Injection will not be supported for Exchange Server 2003 and earlier versions. These versions do not support EWS.
- Archived mailboxes (and items from such mailboxes) are not exported to live Exchange Server.
- Photos of contacts are not exported to original live mailbox in Exchange Server 2007.
- Emails with embedded images and other OLE objects are displayed with an attachments icon after exporting into live Exchange Server.
- Creation time and modified time are not restored.
- Exporting data into live public folder is not supported.
- Exporting data from PST/OST files into original mailbox is impossible.
- Contact groups and meeting requests cannot be exported into live Exchange Server 2007 instances. Use export through PST for these item types.
- Missing sent date is exported as current date/time into live Exchange Server.
- It is impossible to use the connection to the archive mailboxes, as they cannot be found in the Active Directory.
- For IPM.Task class items existing "Date Completed" value is exported into live Exchange Server as current date/time.
- For IPM.Task class items "Update List" field is not restored after injection.

Limitations for search in attachments content (available for EDB/PST/OST files)

Search in attachments does not work for:

- Text contained in embedded OLE objects, WordArt and smart objects, charts etc. Documents metadata (author, comments, tags etc.).
- Marker symbols in lists (numbered or bulleted).
- Text in header/footer.
- XLS/XLSX: number values, formulas, cell comments.
- PPT: tables content.

Тір

Note that the utility is best used for granular item extraction. The user interface of the program is designed for ease of locating, selecting and exporting specific messages, folders or mailboxes. Entire databases can be exported as well, but the restore time will significantly increase over a slow connection. For bulk operations that involve exporting more than one mailbox it is typically better to work with a local copy of the database.

1.6.2 Boundaries for optimal recovery and search

Usage of Granular Restore for Microsoft Exchange and SQL is optimal for files that do not exceed:

EDB:

- EDB size: 2TB
- Mailbox size: 100GB
- Number of messages in the EDB file: 2,000,000
- Number of mailboxes in the EDB file: 2,000
- Number of messages in one mailbox: 100,000

PST/OST:

- PST/OST size: 100GB
- Number of messages in the PST/OST file: 200,000
- Number of folders in the PST/OST file: 1,000
- Number of messages in one folder: 100,000

MDF/BAK:

- MDF/BAK size: 1TB
- Number of tables in the MDF/BAK file: 1,000
- Number of rows in one table: 10,000,000

1.6.3 Customer support

For customer support, please see Carbonite Server Backup Support.

Тір

When contacting customer support with a technical issue, please have ready the program's log files and the store you are having difficulty with.

To get log files, click File menu and choose Open log folder. Zip the contents of the folder and attach the resulting archive to your support request.

If the log archive and/or mail store exceeds 10MB, it may be impossible to send them as an email attachment. In that case, upload instructions will be provided to you upon request.

2 Installation

This chapter describes the steps required to install Granular Restore for Microsoft Exchange and SQL.

Depending on your preferences, it is possible to install the product in default or advanced mode.

2.1 Default mode

Default mode provides simple setup that requires just a few mouse clicks to complete. For the sake of simplicity, it does not offer any customization capabilities.

Granular Restore for Microsoft Exchange and SQL will be installed in a per-user folder and be available just for your user account. You do not need local administrator privileges in this case. The default installation location is "C:\Program Files\Carbonite Server Backup\" A shortcut for this program will be created on the desktop automatically.

Step by step instructions:

- 1. Double-click on the setup file to start the installation process.
- 2. The Software License Agreement appears. Read it and accept the terms in the License Agreement.

	Terms and
	Conditions
	These terms and conditions, including the Privacy Policy (https://evault.com/terms/privacy-
	☑ I accept the terms in the License Agreement
CARBONITE® Server Backup	Click Install to install the product with default options just for you. Click Advanced to change installation options.

- 3. Click Install to start setup.
- 4. The installation will start. When finished, you will have an option to launch the installed product.

2.2 Advanced mode

Advanced setup mode allows changing default installation options.

Step by step instructions:

- 1. Double-click on the setup file to start the installation.
- 2. The Software License Agreement appears. Read it and accept the terms in the License Agreement.

😼 Granular Restore for	Microsoft Exchange and SQL Setup 😑 🗖 💌
	Terms and Conditions
	These terms and conditions, including the Privacy Policy (https://evault.com/terms/privacy- policy(), which is incorrected herein
CARBONITE® Server Backup	Click Install to install the product with default options just for you. Click Advanced to change installation options.
Print	Install Advanced Cancel

- 3. Click Advanced to change installation options described above.
- 4. Click **Next** to install the product to the default folder or **Change** to choose another folder. To add an icon shortcut to the desktop for quick start of the program, check **Create a shortcut for this program on the desktop**. Click **Next**.

Destination Folder Click Next to install to the default fol	der or dick Change to	choose another.	
Install Granular Restore for Microsoft	Exchange and SQL to:		
C:\Program Files (x86)\Carbonite Ser	ver Backup\		
✓ Create a shortcut for this program	on the desktop.		

- 5. Click **Install** to begin the installation. Click **Back** to change any of your installation settings. Click **Cancel** to exit the setup wizard.
- 6. After the installation finishes you can choose to Launch Granular Restore for Microsoft Exchange and SQL when setup exits to start the program automatically by clicking the appropriate checkbox. Click the Finish button to exit the setup wizard.

2.3 Product activation

When starting Granular Restore for Microsoft Exchange and SQL for the first time, you are prompted to activate the product by entering your license key.

Enter the license key, and provide the names of registered user and company. Click **Activate** to finish the activation.

Granular Res	tore for Micros	o <mark>ft Exc</mark> hang	je and SQ	Ĺ		
						Support
	Mc	ode	Enter licen	se key	Confirmatio	on
	Enter license ke	y and registration infor	mation.			
	License key:	Enter the License	key, supplied after th	ie purchase		
	Name:	Enter your name				
	Company:	Enter the name of t	he company (leave	blank if the program w	ill be used for person	al needs)
	Help		Cancel	Previous		Activate

Тір

When getting an error message, first of all check if the license key has been entered correctly. It's best to copy and paste the key to avoid typos.

2.4 Product deactivation

Deactivation of the product should be used before product uninstallation.

Follow the steps below for successful deactivation:

1. Start the product. Go to the Help menu, click License manager.

File Options Help Contents and index F1 Go to customer support online Go to customer support online Go to Granular Restore for Microsoft Exchange and SQL web site Browse License manager And About And About Bran Size: 904 Mb Data Data Heath Malboxade3ee 7ke5b54860a 1cH0218265 Wersion: Exchange Server Database\Malbox Database.edb Size: 904 Mb Data Heath Malboxade3ee 7ke5b54860a 1cH0218265 Wersion: Exchange Server 2013 Transaction logs not used. Julet Capulet Julet Capulet Mata Woods Mehael Display time: Local Personal Achive - Heath Malboxade38e7k5e2 Display time: Local Personal Achive - Heath Malboxade38e7k5e2 Display time: Local Personal Achive - Heath Malboxade38e7k5e3 Display time: Local Person		Granular Restore for Microsoft Exchange and SQL – 🗖 🗙
And About And About And About And C:\Exchange Server Database\Mailbox Database.edb Size: 904 Mb Size: 904 Mb Dalia Date: 3/13/2014 HeathMailboxade9ae7ae5b54860a1cf02182c5 Version: Exchange Server 2013 HeathMailboxbas8042e260149aa928ba554ct Transaction logs not used. Julie Capulet Z2 mailboxes. Select a mailbox to display folders. Lise Load time: 00:00:04 Michael Display time: Local Personal Achive - HeathMailboxade9ae7ae5b Display time: Local Personal Achive - HeathMailboxade9ae7ae5b PST encoding: Unicode (Microsoft Outlook 2003, 2007, 2010 and 2013) Show deleted items: Only non-deleted items Incomplete messages: Hide	Contents and index Go to customer support online Go to Granular Restore for Micro Mailtox License manager	Select mailboxes or folders to search
B - Budy Raid B - Susane Tyler B - SystemMalbox(ade3ae 77+5bo5-4860-a1cf-0218 B - SystemMalbox(ade3ae 77+5bo5-4860-a1cf-0218 B - Strength and the strength	And About And About And Kort Brian Dalia Health Maliboxae9ae7re5b54860a1cf0218267 Health Maliboxae8042e260149aa928ba554cf John Juliet Capulet Kyle Pakeman Juliet Capulet Maria Woods Michael Personal Archive - Health Maliboxaa8042e260 Personal Archive - Health Maliboxaa8042e260 Personal Archive - Health Maliboxaa8042e260 Personal Archive - Health Maliboxaa8042e260 Personal Archive - Health Maliboxaa8042e260 Althout Rise Susare Tyler Susare Tyler Susare Tyler	Size: 904 Mb Date: 3/13/2014 Version: Exchange Server 2013 Transaction logs not used. 22 mailboxes. Select a mailbox to display folders. Load time: 00:00:04 Display time: Local PST encoding: Unicode (Microsoft Outlook 2003, 2007, 2010 and 2013) Show deleted items: Only non-deleted items Incomplete messages: Hide Search within attachments: On
Completed	P	File into

- 2. Select Deactivate product license for this computer in the opened window and click Next.
- 3. Enter your license key.

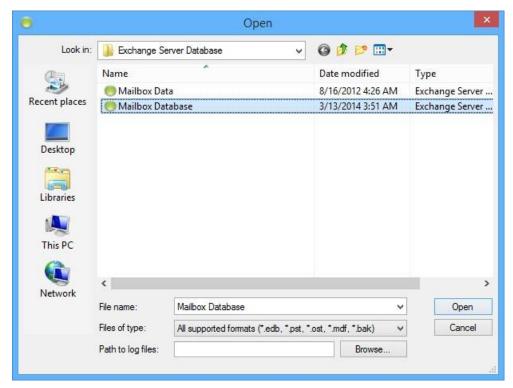
File Help Granular Restore for Microsoft Exchange and SQL Mode Enterlicense key. Enter license key.	
Mode Enter license key Confirma	
Mode Enter license key Confirma	
	-
	Support
Enter license key.	ition
License key: Your license key will be automatically displayed in this field.	
Name: User Name	
Company: Company	
Company: Company	
Help Cancel Previous I	Deactivate
Ready	8.31

4. Click **Deactivate** to finish the deactivation.

3 Opening a file

To directly open a file for browsing and export, launch Granular Restore for Microsoft Exchange and SQL and click file open button on the taskbar or select **File** |**Open** from the menu. On first launch, the file open dialog will be shown automatically.

Select the store you will be working with and click **Open**.



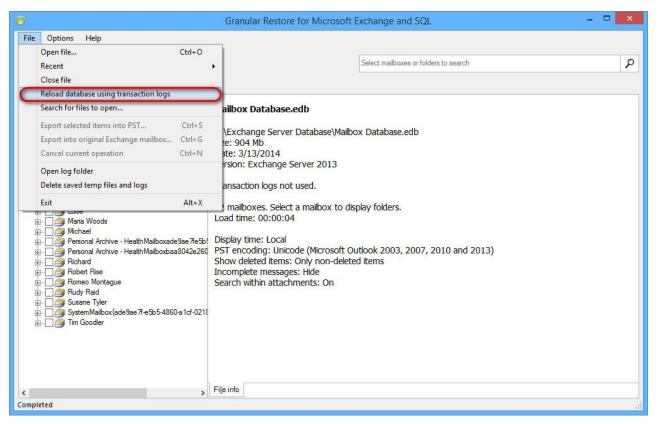
By default, a progress window will accompany opening the selected file. The window displays overall progress and information about the number of items and objects in the file (1). The window can be disabled by unchecking the **Show the dialog next time** check box (2) or from the **Options** menu. The progress window will be automatically closed in 3 seconds after database opening (3).

Completed		
Mailboxes	22	
Read speed	2 B/s	
Elapsed time	00:00:03	

Current operation can be cancelled right on the progress dialog, by clicking an appropriate link.

After loading the file is complete, it will be available for browsing and export. The opened store will also become the default store and will be automatically reopened next time you launch the utility.

Opened database can be reloaded with database log files. Go to the File menu and select **Reload database** using transaction logs.



Note

If you closed the progress window, it can easily be shown again by clicking on the progress bar on the status panel.

3.1 Finding a file

In case when the location of the file is unknown, it is recommended to scan existing drives to find the data. Granular Restore for Microsoft Exchange and SQL scans local drives, as well as network drives and searches for PST/OST, MDF/BAK and EDB files.

To start a new search, click Search for files to open in the File menu.

	Granular Restore for Microsoft Exchange and SQL -	
File Options Help		
Open file Ctrl+O	Select mailboxes or folders to search	0
Recent	Select maliboxes or folders to search	P
Close file		
Reload database using transaction logs		
Search for files to open	ailbox Database.edb	
Export selected items into PST Ctrl+S	\Exchange Server Database\Mailbox Database.edb	
Export into original Exchange mailbox Ctrl+G	re: 904 Mb	
Cancel current operation Ctrl+N	ite: 3/13/2014 rsion: Exchange Server 2013	
Open log folder	ISON. Exchange Server 2015	
Delete saved temp files and logs	ansaction logs not used.	
Exit Alt+X	mailboxes. Select a mailbox to display folders.	
Maria Woods Michael Personal Archive - HealthMailboxade9ae7te5b5 Personal Archive - HealthMailboxbaa8042e260 Richard Robert Rise Romeo Montague Susane Tyler SystemMailbox(ade9ae7t-e5b5-4860-a1cf-0218 D= Tim Goodler	PST encoding: Unicode (Microsoft Outlook 2003, 2007, 2010 and 2013) Show deleted items: Only non-deleted items Incomplete messages: Hide Search within attachments: On	
Completed	File info	

The following form appears, displaying the list of mounted disks:

		Search for files t	o open		×
Select source:				File types by application: Exchange Server (*.edb) Cutlook (*.pst, *.ost) SQL Server (*.mdf, *bak) Custom match: Example: *.edb;*.ost	
Add location to search			Fiter:	All	~
File	Size	Date created	Date modified	Туре	
Open file			Start	search Exit	

Select a location to search in.

0		Search for files t	o open		×
Select source:				File types by application: Exchange Server (*.edb) Outlook (*.pst, *.ost) SQL Server (*.mdf, *.bak) Custom match: Example: *.edb;*.ost	
Add location to search Found files:			Filter:	All	~
File	Size	Date created	Date modified	Туре	
Open file			Start	search Ex	ät

List of found files will be displayed. Double-click a file to open it.

0		Search for files t	to open		×
Select source:				File types by application: Exchange Server (*.edb) Cutlook (*.pst, *.ost) SQL Server (*.mdf, *.bak) Custom match: Example: *.edb;*.ost	
Found files:			Filter:	All	~
File	Size	Date created	Date modified	Туре	^
C:\Exchange Server Database\Mailbox Data.edb C:\Exchange Server Data\Mailbox Database.edb C:\DRTC_9\DREXATest\S\AddFunctions.sj.bak C:\DRTC_9\DREXATest\Script\Config.sj.bak C:\DRTC_9\DREX\Screen ShotsGenerate.sj.bak C:\DRTC_9\DREXATest\Script\UGApp.sj.bak C:\DRTC_9\DREXATest\UGMenuActions.sj.bak C:\DRTC_9\DREXATest\Script\UGTree.sj.bak C:\DRTC_9\DREXATest\Script\Unit2.sj.bak	35.9 KB 2.87 KB 81.6 KB 48.2 KB	6/22/2016 1/24/2016 8/18/2015 6/21/2016 6/22/2016 11/17/2017 11/16/2017 11/17/2017 11/17/2017	8/16/2012 3/13/2014 6/22/2016 11/17/2017 6/22/2016 11/17/2017 11/17/2017 11/30/2015 11/17/2017	Exchange Server (*.edb) Exchange Server (*.edb) SQL Server (*.mdf, *.bak) SQL Server (*.mdf, *.bak)	~
Open file Search complete. 24 file(s) found.			Clear list an	d search again Exi	t

4 Granular Restore for Microsoft SQL

4.1 Finding and browsing data

In general, Granular Restore for Microsoft Exchange and SQL provides two modes of processing file data:

browsing the file tree and search. Using these, it is possible to efficiently form a set of objects for subsequent export, including the necessary ones and excluding ones to be skipped.

A newly opened database is shown in the **Browse** mode.

File Options Help Search Search Programability Image: Comparison of the server s		Granular Restore for Microsoft Exchange and SQL	- 🗆 🗙
Browse AdventureWorks2012_CS_Data.mdf AdventureWorks2012_CS_Data.mdf Browse Comparison (1) Compa	File Options Help		
	Browse AdventureWorks2012_CS_Data.mdf Programmability (4) B Functions (11) B Procedures (10) B B B B B B B B B B B B B B B B B	Tables	Destination No live servers connected. Connect to a live server to enable export of objects from source storage.
Folder info		Fo <u>l</u> der info	

4.2 Browsing database tree

Browse mode shows database in a tree-like structure and allows browsing folders and previewing individual objects.

This mode is best for navigating to a specific object, when it is precisely known what data needs to be extracted.

For example, a user may ask to restore some specific table. Expand the folder 'Tables' in the tree and select the table. Available rows will be listed to the right of the tree. Please note that product will not try to load all rows in table. Instead of that rows will be loaded by portions each time you navigate to the end of list.

		darwe M				
7	Search in P	erson.Address			P	
wse						Destination
	AddressID	AddressLine1	AddressLine2	City	Stat 1	No live servers connected.
🗄 🗌 🛅 Programmability (4)	1	1970 Napa Ct.	NULL	Bothell	79	NO IVE SEIVEIS CONNECTED.
	2	9833 Mt. Dias Bly	NULL	Bothell	79	Connect to a live server to enable
dbo.AWBuildVersion (1)	3	7484 Roundtree Drive	NULL	Bothell	79	export of objects from source storage
	4	9539 Glenside Dr	NULL	Bothell	79	
	5	1226 Shoe St.	NULL	Bothell	79	
	6	1399 Firestone Drive	NULL	Bothell	79	
	7	5672 Hale Dr.	NULL	Bothell	79	
	8	6387 Scenic Avenue	NULL	Bothell	79	
	9	8713 Yosemite Ct.	NULL	Bothell	79	
Human Resources. Shift (3)	10	250 Race Court	NULL	Bothell	79	
	11	1318 Lasalle Street	NULL	Bothell	79	
Person Address Type (6)	12	5415 San Gabriel Dr.	NULL	Bothell	79	SHE
Person.BusinessEntity (20,777)	13	9265 La Paz	NULL	Bothell	79	
Person.BusinessEntityAddress (19,614)	14	8157 W. Book	NULL	Bothell	79	
Person.BusinessEntityContact (909)	15	4912 La Vuelta	NULL	Bothell	79	
Person.ContactType (20)	16	40 Ellis St.	NULL	Bothell	79	
	17	6696 Anchor Drive	NULL	Bothell	79	
Person, Password (19,972)	18	1873 Lion Circle	NULL	Bothell	79	
Person.Person (19,972)	19	3148 Rose Street	NULL	Bothell	79	
Person.PersonPhone (19,972)	20	6872 Thomwood Dr.	NULL	Bothell	79	
Person, Phone Number Type (3)	21	5747 Shirley Drive	NULL	Bothell	79	
	22	636 Vine Hill Way	NULL	Portland	58	
	23	6657 Sand Pointe Lane	NULL	Seattle	79	
	24	80 Sunview Terrace	NULL	Duluth	36	
Production.Document (13)	25	9178 Jumping St.	NULL	Dallas	73	
Production.Illustration (5)	26	5725 Glaze Drive	NULL	San Francisco	9 1	¥

In case if SQL script of a table is necessary, just right-click on the table in the database tree and select **Show SQL script** in the context menu.

Options Help						
×	Search in P	erson Address			8	ρ 👼
wse						Destination
AdventureWorks2012_CS_Data.mdf	AddressID	AddressLine1	AddressLine2	City	Stat	No live servers connected.
Programmability (4)	1	1970 Napa Ct.	NULL	Bothell	79	no inc scivels connected.
Tables (71)	2	9833 Mt. Dias Blv.	NULL	Bothell	79	Connect to a live server to enable
dbo.AWBuildVersion (1)	3	7484 Roundtree Drive	NULL	Bothell	79	export of objects from source storage
dbo.DatabaseLog (1,597)	4	9539 Glenside Dr	NULL	Bothell	79	
Human Resources. Department (16)	5	1226 Shoe St.	NULL	Bothell	79	
Human Resources. Employee (290)	6	1399 Firestone Drive	NULL	Bothell	79	
Human Resources.Employee Departmen	7	5672 Hale Dr.	NULL	Bothell	79	
Human Resources. Employee PayHistory	8	6387 Scenic Avenue	NULL	Bothell	79	
Human Resources. JobCandidate (13)	9	8713 Yosemite Ct.	NULL	Bothell	79	
Human Resources. Shift (3)	10	250 Race Court	NULL	Bothell	79	
Person Address (19 614)	11	1318 Lasalle Street	NULL	Bothell	79	
Person.Add Show SQL script		5415 San Gabriel Dr.	NULL	Bothell	79	
Person.BusinessEntity (20,777)	13	9265 La Paz	NULL	Bothell	79	
Person.BusinessEntityAddress (19,614)	14	8157 W. Book	NULL	Bothell	79	
Person BusinessEntityContact (909)	15	4912 La Vuelta	NULL	Bothell	79	
Person.ContactType (20)	16	40 Ellis St.	NULL	Bothell	79	
Person.CountryRegion (238)	17	6696 Anchor Drive	NULL	Bothell	79	
Person.EmailAddress (19,972) Person.Password (19,972)	18	1873 Lion Circle	NULL	Bothell	79	
Person Password (19,972)	19	3148 Rose Street	NULL	Bothell	79	
Person, Person Phone (19,972)	20	6872 Thomwood Dr.	NULL	Bothell	79	
Person. Phone Number Type (3)	21	5747 Shirley Drive	NULL	Bothell	79	
Person.StateProvince (181)	22	636 Vine Hill Way	NULL	Portland	58	
Production.BillOfMaterials (2,679)	23	6657 Sand Pointe Lane	NULL	Seattle	79	
Production.Culture (8)	24	80 Sunview Terrace	NULL	Duluth	36	
Production.Document (13)	25	9178 Jumping St.	NULL	Dallas	73	
Production.Illustration (5)	26	5725 Glaze Drive	NULL	San Francisco	9	~
>	<				>	

Any particular row can also be scripted via context menu. By right click on the row, SQL script can be either shown or at once copied to clipboard.

Options Help						
·	Search in P	erson.Address	P			
wse						Destination
	AddressID	AddressLine1	AddressLine2	City	Stat ^	No live servers connected
Programmability (4)	1	1970 Napa Ct.	NULL	Bothell	79	No live servers connected.
	2	9833 Mt. Dias Blv.	NULL	Bothell	79	Connect to a live server to enable
dbo.DatabaseLog (1,597)	3	7484 Roundtree Drive	NULL	Bothell	79	export of objects from source storage
dbo.ErorLog (0)	4	9539 Glenside Dr	NULL	Bothell	79	
	5	1226 Shoe St.	NULL	Bothell	79	
Human Resources.Employee (290)	6	1399 Firestone Drive	NULL	Bothell	79	
Human Resources. Employee Department	7	5672 Hale Dr.	NULL	Bothell	79	
Human Resources. Employee Pay History	8	6387 Scenic Avenue	NULL	Bothell	79	
	9	London o	Louise.	Bothell	79	
Human Resources. Shift (3)	10	Copy SQL script to clipboard Show SQL script		Bothell	79	
Person Address (19,614)	11			Bothell	79	
Person.AddressType (6)	12	Search for similar data		Bothell	79	-3110
Person.BusinessEntity (20,777)	13		14.11	Bothell	79	
Person.BusinessEntityAddress (19,614)	14	Search for data related to	[AddressID]	Bothell	79	
Person BusinessEntityContact (909)	15	4912 La Vuelta	NULL	Bothell	79	
Person.ContactType (20) Person.CountryRegion (238)	16	40 Ellis St.	NULL	Bothell	79	
Person.EmailAddress (19,972)	17	6696 Anchor Drive	NULL	Bothell	79	
Person.Password (19.972)	18	1873 Lion Circle	NULL	Bothell	79	
Person.Person (19,972)	19	3148 Rose Street	NULL	Bothell	79	
Person Person Phone (19,972)	20	6872 Thomwood Dr.	NULL	Bothell	79	
Person.PhoneNumberType (3)	21	5747 Shirley Drive	NULL	Bothell	79	
Person.StateProvince (181)	22	636 Vine Hill Way	NULL	Portland	58	
Production.BillOfMaterials (2,679)	23	6657 Sand Pointe Lane	NULL	Seattle	79	
Production.Culture (8)	24	80 Sunview Terrace	NULL	Duluth	36	
Production.Document (13)	25	9178 Jumping St.	NULL	Dallas	73	
Production.Illustration (5)	26	5725 Glaze Drive	NULL	San Francisco	9 4	

Rows filtering provides the ability to easily find specific values in tables. To enable filtering, just start typing necessary data, when focus is on the list or press **Ctrl+F** keys. Please note that rows filtering works only for rows that was already loaded in current view.

	Search in P	erson.Address			2	- C
wse						Destination
	AddressID	AddressLine1	AddressLine2	City	StatePi	No live servers connected.
Programmability (4)	20	6872 Thomwood Dr.	NULL	Bothell	79	No inve servers connected.
	46	5669 Ironwood Way	NULL	Kenmore	79	Connect to a live server to enable
dbo.AWBuildVersion (1) dbo.DatabaseLog (1,597)	55	591 Merriewood Drive	NULL	Snohomish	79	export of objects from source storag
dbo.DatabaseLog (1,557)	61	7726 Driftwood Drive	NULL	Monroe	79	
	77	9693 Mellowood Street	NULL	Duvall	79	
Human Resources. Employee (290)	86	390 Ridgewood Ct.	NULL	Camation	79	
Human Resources.Employee Department						
Human Resources. Employee Pay History						
Human Resources. JobCandidate (13)						
Human Resources. Shift (3)						
Person.Address (19,614)					1	
Person Address Type (6)						101
Person.BusinessEntity (20,777)						
Person.BusinessEntityAddress (19,614)						
Person.BusinessEntityContact (909)						
Person Contact Type (20) Person Country Region (238)					1	
Person Country Region (238)					1.	
Person.Password (19,972)						
Person.Person (19,972)						
Person Person Phone (19,972)						
Person, Phone Number Type (3)						
Person StateProvince (181)	-					
Production.BillOfMaterials (2,679)	woo		Where: All	~	Y	
Production.Culture (8)				·		

4.3 Using search

Granular Restore for Microsoft Exchange and SQL provides several ways to search for data:

- Standard search
- Search for related data
- SQL Query search

To access the Search tool, select a table where the search will be performed and click on the Search Bar (1) located at the top of the window.

	Search in P	erson Address			P	
WSe						Destination
	AddressID	AddressLine1	AddressLine2	City	Stat ^	No live servers connected.
Programmability (4)	1	1970 Napa Ct.	NULL	Bothell	79	NO INC SEIVERS CONNECTED.
	2	9833 Mt. Dias Blv.	NULL	Bothell	79	Connect to a live server to enable
dbo.AWBuildVersion (1)	3	7484 Roundtree Drive	NULL	Bothell	79	export of objects from source storage
dbo.DatabaseLog (1,597)	4	9539 Glenside Dr	NULL	Bothell	79	
	5	1226 Shoe St.	NULL	Bothell	79	
Human Resources, Employee (290)	6	1399 Firestone Drive	NULL	Bothell	79	
Human Resources. Employee Department	7	5672 Hale Dr.	NULL	Bothell	79	
Human Resources Employee Pay History	8	6387 Scenic Avenue	NULL	Bothell	79	
Human Resources. JobCandidate (13)	9	8713 Yosemite Ct.	NULL	Bothell	79	
	10	250 Race Court	NULL	Bothell	79	
Person Address (19,614)	11	1318 Lasalle Street	NULL	Bothell	79	
Person.AddressType (6)	12	5415 San Gabriel Dr.	NULL	Bothell	79	sue
Person.BusinessEntity (20,777)	13	9265 La Paz	NULL	Bothell	79	
Person.BusinessEntityAddress (19,614)	14	8157 W. Book	NULL	Bothell	79	
Person.BusinessEntityContact (909)	15	4912 La Vuelta	NULL	Bothell	79	
Person.ContactType (20)	16	40 Ellis St.	NULL	Bothell	79	
Person.CountryRegion (238)	17	6696 Anchor Drive	NULL	Bothell	79	
Person, Password (19,972)	18	1873 Lion Circle	NULL	Bothell	79	
Person Person (19.972)	19	3148 Rose Street	NULL	Bothell	79	
Person Person Phone (19.972)	20	6872 Thomwood Dr.	NULL	Bothell	79	
Person.PhoneNumberType (3)	21	5747 Shirley Drive	NULL	Bothell	79	
Person StateProvince (181)	22	636 Vine Hill Way	NULL	Portland	58	
Production.BillOfMaterials (2,679)	23	6657 Sand Pointe Lane	NULL	Seattle	79	
Production.Culture (8)	24	80 Sunview Terrace	NULL	Duluth	36	
Production.Document (13)	25	9178 Jumping St.	NULL	Dallas	73	
Production.Illustration (5)	26	5725 Glaze Drive	NULL	San Francisco	9 4	

Search results will be displayed on separate tabs with the ability to select query results and export them either into Live SQL Server or in the form of SQL script files which can be executed on server manually.

<u> </u>	Search in P	erson.Address			P	-
rowse Search 1 ×						Destination
Person.Address	AddressID	AddressLine1	AddressLine2	City	StateProvinceIC ^	No live servers connected.
	1	1970 Napa Ct.	NULL	Bothell	79	
	2	9833 Mt. Dias Blv.	NULL	Bothell	79	Connect to a live server to enable
	3	7484 Roundtree Drive	NULL	Bothell	79	export of objects from source storage
	4	9539 Glenside Dr	NULL	Bothell	79	
	5	1226 Shoe St.	NULL	Bothell	79	
	6	1399 Firestone Drive	NULL	Bothell	79	
	7	5672 Hale Dr.	NULL	Bothell	79	
	8	6387 Scenic Avenue	NULL	Bothell	79	
	9	8713 Yosemite Ct.	NULL	Bothell	79	
	10	250 Race Court	NULL	Bothell	79	
	11	1318 Lasalle Street	NULL	Bothell	79	
	12	5415 San Gabriel Dr.	NULL	Bothell	79	
	13	9265 La Paz	NULL	Bothell	79	
	14	8157 W. Book	NULL	Bothell	79	
	15	4912 La Vuelta	NULL	Bothell	79	
	16	40 Ellis St.	NULL	Bothell	79	
	17	6696 Anchor Drive	NULL	Bothell	79	
	18	1873 Lion Circle	NULL	Bothell	79	
	19	3148 Rose Street	NULL	Bothell	79	
	20	6872 Thomwood Dr.	NULL	Bothell	79	
	21	5747 Shirley Drive	NULL	Bothell	79	
	40	1902 Santa Cruz	NULL	Bothell	79	
	834	99300 223rd Southeast	NULL	Bothell	79	
	868	25111 228th St Sw	NULL	Bothell	79	
	18249	5509 Newcastle Road	NULL	Bothell	79	
	26486	7057 Striped Maple Court	NULL	Bothell	79 7 ~	

4.3.1 Standard search mode

To access Standard search click on the Search Bar and select the **Standard search** tab in the displayed window.

3 🔲 🗔	arch in Person Address	<u>م</u> - 🔤
	Please enter search parameters.	
owse	riease enter search parameters.	Destination
AdventureWorks2012_CS_Data.mdf	Standard search Related data SQL	No live servers connected.
Programmability (4) Tables (71)	Fields to search:	
dbo.AWBuildVersion (1)		Connect to a live server to enable export of objects from source stora
dbo.DatabaseLog (1,597)	All indexed fields O Custom (indexed only)	
dbo.ErrorLog (0)	O All fields O Custom	
	Multiple field match type:	
Human Resources. Employee Pay History	OR, records with one or more matching fields	
	 AND, records with matches in all searched fields 	
Human Resources. Shift (3) Person. Address (19,614)		
Person Address (19,614)	Fields:	^
Person BusinessEntity (20,777)	AddressID 🚯	
Person.BusinessEntityAddress (19,614)	AddressLine 1	
Person BusinessEntityContact (909)		
Person.ContactType (20)	AddressLine2	
Person.EmailAddress (19,972)	City	
Person.Password (19,972)	StateProvinceID	
Person Person Phone (19,972)	PostalCode	
Person.StateProvince (181)		
Production.BillOfMaterials (2,679)	Prefil Search Clear	ar .
Production.Culture (8)		
Production.Document (13)	5775 Glaze Drive NULL San Francisco	9 4

There are three sets of parameters to customize for this search:

Fields to search (1)

This options defines the set of fields which will be used to perform search. The user can choose to search in all indexed fields, all fields, custom selection from indexed fields or custom selection from all fields.

Multiple field match type (2)

In case more than one field is selected for search the user can choose which logical operator will be used to combine these fields.

OR - search results will include records which have at least one field that matches search parameters.

AND - search results will include records which have matching values in all fields which were selected for search.

Fields (3)

If *Custom (indexed only)* or *Custom* was selected in *Fields to search* the user will be able to choose fields which will be used for search. To select a field simply click on the field name, the field will then become selected and the user will be able to choose which comparison operator to use and to enter the value to search for.

There are also two ways to fill search fields with values from the selected row, which helps to avoid entering long string manually:

• Right-click on a row and select **Search for similar data** from the context menu. This will set the field selection to **Custom** and fill search from with values from selected row.

OR

• Select a row, then select the **Standard search** tab and click the **Prefill** button.

4.3.2 Search for related data

Search for related data can be used to search for rows which relate to the selected row - that are rows which have fields from the selected table as foreign keys.

Related data search can be accessed either by right-clicking on a row and selecting Search for data related to... from context menu or by selecting Related data tab in search window.

	Granular Restore for Microsoft Exchange and SQL		- • ×
File Options Help			
Sea	Aarch in Person Address Please enter search parameters. Standard search Related data SQL Fields: AddressID Related tables: Person.BusinessEntityAddress [AddressID] Sales.SalesOrderHeader [BillToAddressID]; [ShipToAddressID]	P Image: Connect to a live server to a live s	to enable
Human Resources. JobCandidate (13) Human Resources. JobCandidate (13) Human Resources. JobCandidate (13) Human Resources. Shift (3) Person. Address (19 614) Person. Business Entity (20, 777) Person. Contact Type (20) Person. Contract Type (20) Person. Contract Type (20) Person. Person (19, 972) Person. Person (19, 972) Person. Person Phone (19, 972) Person. Pe	Prefill Search Clear Stro-sumping St. NOLL Gailas 7 5725 Glaze Drive NULL San Francisco 9		
Completed			.::

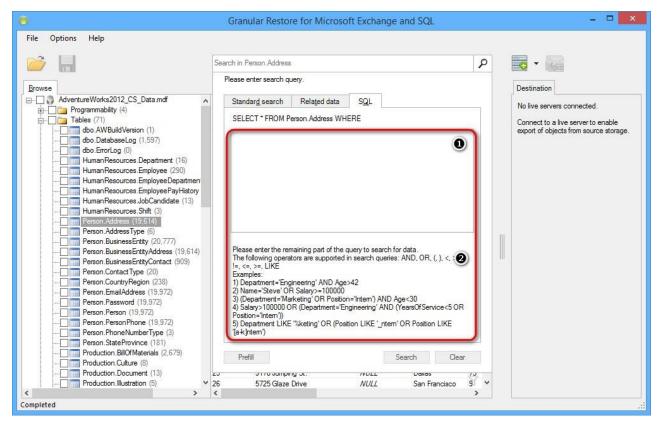
The application will analyze the selected table and automatically detect which fields are used in other tables as foreign keys (1). It will also provide a list of tables which relate to the selected table (2).

The user will then be able to enter field values which will be used when searching for related data and select from a list of tables where to perform search.

4.3.3 SQL Query mode

SQL Query search mode provides the ability to write complex search queries using SQL-like query language to narrow search results as much as possible.

SQL query mode can be accessed by clicking on the Search Bar and selecting the SQL tab.



The user is presented with a text field (1) which is used to enter search query. The beginning of the query is given and the user has to fill in the remaining part of WHERE clause.

The query may include field names, comparison operators, field values, logical operators and brackets. The text field makes it easier for entering search query by providing auto-complete feature, which automatically suggests possible query elements. The auto-complete window will appear automatically when first letters of query are typed, it can also be accessed by pressing Ctrl+Space. To select an item (field name, logical or comparison operator) from the list please press Tab or Enter.

Query examples are given at the bottom of the SQL tab (2).

4.4 Exporting items

Granular Restore for Microsoft Exchange and SQL allows a user to export the whole database or just particular objects (tables, views, functions, etc.) into live SQL Server and to SQL scripts, that can be used for manual import to a live server.

4.5 Restore to live SQL Server

Granular Restore for Microsoft Exchange and SQL includes the injection capability for items (tables, views, functions, etc.) from offline database and BAK file to live SQL database.

The following options are presented:

- Authentication
- Connection to a database using valid credentials. To provide the connection, host (domain name or IP), user logon name and password are required. It is also possible to connect through current Windows credentials.
- Connecting to several tables on different servers simultaneously.
- Browsing folder hierarchy of a connected database, browsing folder contents and viewing objects and rows.
- To provide injection, running the application as administrator or using a machine from AD domain, in which there is SQL Server with destination database, is not required.

4.5.1 Connection to SQL Server

To establish a new connection, use the button **Connect to live server** (1), next to the Search field or go to **File** > **New connection** > **Attach to live SQL Server database** (2).

😁 Granular Restore for Microsoft Exchange and SQL – T	×
File Options Help	
Open file Ctrl+O	
Recent P S	
Close file	
New connection Attach to live SQL Server database Ctrl+Q	
Search for files to open dventureWorks2012_CS_Data.mdf ON Ive servers connected.	
Save selected objects into SQL scripts Ctrl+S	
Export into live server Ctrl+E uildserver\Testing\TestCases\msr\Sample\AdventureWorks2012_CS\4	orage.
Cancel current operation Ctrl+N Ze: 188 Mb	
ate: 5/21/2012	
Open log folder ersion: SQL Server 2012	
Delete saved temp files and logs	
Exit Alt+X bad time: 00:00:02	
Image: Person Address (19,614) Person Address (19,614) Person BusinessEntty (20,777) Person BusinessEntty (20,777) Person BusinessEntty (20,777) Person Diverses Diverses Diverses (19,614) Person Contact Type (20) Person Contact Type (20) Person Desson (19,972) Person Person Person Person Production BillotMaterials (2,679) Person StateProvince (18) Person StateProvince (18) Production BillotMaterials (2,679) Production Document (13) Production Document (13) Production Jillotration (5)	
Completed	

To access the server, enter the domain name or the IP address, or just click on the arrow (1) to get the dropdown list of automatically detected servers and provide valid credentials.

Server name (ex.: contoso.com\MSSQLSERVER or WS2012SQL OR-ENVSERVER\ORENVSS WS2012SQL	192.168.0.5\MSSQLSERVER):
Use current Windows credentials SQL Server login (ex.: user1): Password: Save password	Please enter the server address and provide user credentials for connection. The application will then fetch the list of databases available on the target server. After that you will be able to choose the desired database from the list and connect.
Database name:	✓ Refresh
	Connect Cancel

List of available databases will be shown after clicking the Refresh button (1) or the arrow near the Database name field (2), if entered credentials are correct.

)	Connect to SQL Server	×
Server name (ex.: contoso.com\MSSQLSER\ WS2012SQL	/ER or 192.168.0.5\MSSQLSERVER):	Refresh
Use current Windows credentials SQL Server login (ex.: user1): Rick Password: Save password	Please enter the server address and prov credentials for connection. The application will then fetch the list of o available on the target server. After that you will be able to choose the o database from the list and connect.	latabases lesired
Database name:	0	Defeade
AdventureWorks2012	Connect	Cancel
	Connect	CONCOL

4.5.2 Injection workflow

Once data has been selected, click the **Export** button and select an Export option.

Options Help							
Search in Person.Address			9				
rse			Destinatio	n			
	AddressID	AddressLine1	🕞 🔚 WS		AddressID	AddressLine1	A
Programmability (4)	1	1970 Napa Ct.		AdventureWorks2012	1	1970 Napa Ct.	N
Tables (71)	2	9833 Mt. Dias Bly.		Programmability (4)	2	9833 Mt. Dias Blv.	N
- dbo.AWBuildVersion (1)	3	7484 Roundtree Dri		Tables (71)	3	7484 Roundtree Drive	N
dbo.DatabaseLog (1,597)	4	9539 Glenside Dr		dbo.AWBuildVersic	4	9539 Glenside Dr	N
Human Resources. Department (16)	5	1226 Shoe St.		dbo.DatabaseLog dbo.ErrorLog (0)	5	1226 Shoe St.	N
Human Resources. Employee (290)	6	1399 Firestone Driv		Human Resources	6	1399 Firestone Drive	N
Human Resources.Employee (200)	7	5672 Hale Dr.		Human Resources.	7	5672 Hale Dr.	N
Human Resources. Employee PayHistory	8	6387 Scenic Avenu		Human Resources	8	6387 Scenic Avenue	N
Human Resources JobCandidate (13)	9	8713 Yosemite Ct.		Human Resources.	9	8713 Yosemite Ct.	N
	10	250 Race Court		Human Resources.	10	250 Race Court	N
Person Address (19,614)	11	1318 Lasalle Street		Human Resources.	11	1318 Lasalle Street	N
Person Address Type (6)	12	5415 San Gabriel D		Person Address (1	12	5415 San Gabriel Dr.	N
	13	9265 La Paz		Person.AddressTyp	13	9265 La Paz	N
Person.BusinessEntityAddress (19,614)	14	8157 W. Book		Person.BusinessEr	14	8157 W. Book	N
Person.BusinessEntityContact (909)	15	4912 La Vuelta		Person.BusinessEr	15	4912 La Vuelta	N
Person.ContactType (20)	16	40 Ellis St.		Person.BusinessEr	16	40 Ellis St.	N
Person Country Region (238)	17	6696 Anchor Drive		Person.ContactTyp	17	6696 Anchor Drive	N
Person.EmailAddress (19,972)	18	1873 Lion Circle		Person Country Rec Person Email Addre	18	1873 Lion Circle	N
Person Person (19,972)	19	3148 Rose Street		Person EmailAddre	19	3148 Rose Street	N
Person Person (19,972)	20	6872 Thomwood D		Person Person (19	20	6872 Thomwood Dr.	N
Person Phone Number Type (3)	21	5747 Shirley Drive		Person Person Pho	21	5747 Shirley Drive	٨
Person StateProvince (181)	22	636 Vine Hill Way		Person.PhoneNum	22	636 Vine Hill Way	N
Production.BillOfMaterials (2,679)	23	6657 Sand Pointe L		Person State Provin	23	6657 Sand Pointe Lane	N
Production Culture (8)	24	80 Sunview Terrace		Production BillOfMa	24	80 Sunview Terrace	N
	25	9178 Jumping St.		Production.Culture	25	9178 Jumping St.	N
Production.Illustration (5)	26	5725 Glaze Drive Y		Production.Docum	26	5725 Glaze Drive	W
>	<	>	<	>	<		>

Granular Restore for Microsoft Exchange and SQL presents several injection modes for specified data:

- Export to original object The source object will be restored to the object listed under Desination Object.
- **Export to new object** The user may edit the Destination Object for any source object, and the Granular Restore application will create a new destination object to restore to.
- Schema only Export only the schema of the source objects. The destination object can be edited and the schema(s) will be restored to the new destination object.
- **Unselect successfully exported objects** This will unselect the data objects that were selected for export once they have been successfully exported to the live server. This will allow the user to more easily identify which objects encountered errors and were not exported.

		Export into live SQ	L Server			
Destination database:						
WS2012SQL\AdventureWor	ks2012					
Loading objects to export.						
Source object	Destin	nation object		Status		Action
[Person].[Address]						Remov
 Export to original object (c) 	create if not exists)	 Export to new object 	 Schema only 	15		
Export to original object (Unselect successfully exp		Export to new object	Schema only	/: /	Start	Cancel

4.6 Restore to SQL scripts

To save objects marked for export, click the **Export selected objects into SQL scripts** button on the toolbar or select the point in the **File** menu.

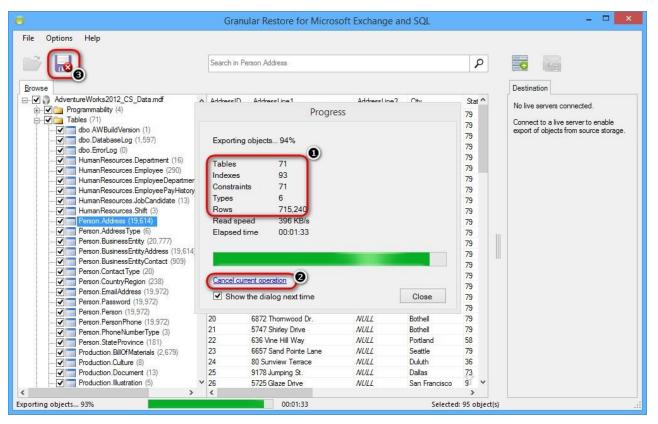
Options Help						
	Search in P	erson.Address			2	
wse						Destination
	AddressID	AddressLine1	AddressLine2	City	Stat ^	No live servers connected
Programmability (4)	1	1970 Napa Ct.	NULL	Bothell	79	No ine acress connected.
Tables (71)	2	9833 Mt. Dias Blv.	NULL	Bothell	79	Connect to a live server to enable
dbo.AWBuildVersion (1)	3	7484 Roundtree Drive	NULL	Bothell	79	export of objects from source storage
dbo.DatabaseLog (1,597)	4	9539 Glenside Dr	NULL	Bothell	79	
	5	1226 Shoe St.	NULL	Bothell	79	
	6	1399 Firestone Drive	NULL	Bothell	79	
	7	5672 Hale Dr.	NULL	Bothell	79	
	8	6387 Scenic Avenue	NULL	Bothell	79	
	9	8713 Yosemite Ct.	NULL	Bothell	79	
	10	250 Race Court	NULL	Bothell	79	
	11	1318 Lasalle Street	NULL	Bothell	79	
	12	5415 San Gabriel Dr.	NULL	Bothell	79	SHE
	13	9265 La Paz	NULL	Bothell	79	
Person.BusinessEntityAddress (19,614)	14	8157 W. Book	NULL	Bothell	79	
Person.BusinessEntityContact (909)	15	4912 La Vuelta	NULL	Bothell	79	
Person.ContactType (20)	16	40 Ellis St.	NULL	Bothell	79	
Person.CountryRegion (238)	17	6696 Anchor Drive	NULL	Bothell	79	
Person.EmailAddress (19,972)	18	1873 Lion Circle	NULL	Bothell	79	
Person.Person (19,972)	19	3148 Rose Street	NULL	Bothell	79	
Person Person Phone (19.972)	20	6872 Thornwood Dr.	NULL	Bothell	79	
Person.PhoneNumberType (3)	21	5747 Shirley Drive	NULL	Bothell	79	
Person.StateProvince (181)	22	636 Vine Hill Way	NULL	Portland	58	
	23	6657 Sand Pointe Lane	NULL	Seattle	79	
	24	80 Sunview Terrace	NULL	Duluth	36	
Production Document (13)	25	9178 Jumping St.	NULL	Dallas	73	
Production.Illustration (5)	26	5725 Glaze Drive	NULL	San Francisco	9 4	

To start exporting process, select destination folder or create a new one and click OK.

estination folder or create a new one and click OK. T mediately.	he export process will start
Documents	-
Downloads	
Favorites	
🚺 Links	
🜗 Music	
Pictures	
🕞 Saved Games	
Image: Searches	
Videos	

Required time depends on how many objects are selected for export. By default, a progress window appears after the export starts. The window shows the number of saved objects and rows (1). You can disable the progress window directly in the window or go to the **Options** menu and select **Show progress dialog**. The

export can be cancelled by clicking an appropriate link in the progress dialog window (2) or by clicking the **Cancel Export** button (3) on the task bar.



Тір

If you closed the progress window, it can be shown again by clicking on the progress bar on the status panel.

4.6.1 Restoring exported scripts into SQL Server

SQL scripts exported from the offline database can be easily imported into live SQL Server manually

For this purpose a special bat-file, commit.bat, is generated while extracting data. It is stored in the folder with restored scripts.

Usage for trust connection:

commit.bat server name db name

Usage for mistrust connection:

commit.bat server_name db_name user_name password

5 Granular Restore for Microsoft Exchange

5.1 Special features

Usage of Granular Restore for Microsoft Exchange and SQL can be more comfortable for a user due to additional **Options** menu, which allows user to customize program work.

Detailed information about every option is described in this help section.

Note

PST encoding and Show deleted items options are not available for PST/OST files.

5.2 PST encoding

Exporting mail store data into PST allows to select a PST format that suits your version of Microsoft Outlook. Outlook 2013 and earlier versions process both Unicode and ANSI PST files, but as for older versions of Outlook, they will not be able to open Unicode formatted PST files. Previous versions of Outlook were using only ANSI format. The main reason for this change was to allow for international character support and to extend the maximum size of PST files beyond the 2GB limit of the ANSI formatted PST files. In Granular Restore for Microsoft Exchange and SQL there are two ways to select suitable encoding for output PST.

Output PST encoding can be changed while selecting a destination folder for restored PST files.

A 📗 CLIENT-PC	^
Recovery 002 - AdventureWorks2012_CS_Data.r	ndf
Recovered_session1	
Recovered_session2	
Recovered_session3	
Recovered_session4	
Recovered_session5	
Recovered_session6	
DestReports	v

Alternatively, encoding for the output file can be changed in the Options menu at any time the program runs.

Selected value will be saved and used on the next program launch.

Granular Restore for Microsoft Exchange and SQL	- 🗆 🗙
Granular Restore for Microsoft Exchange and SQL Select mallboxes or folders to search Select mallboxes or folders to search C: Exchange Server Database\Mallbox Database.edb Size: 904 Mb Date: 3/13/2014 Version: Exchange Server 2013 Transaction logs not used. 2 mallboxed Searce 76:8554860a1cf021825 Kyle Pakeman Luse Personal Archive - HealthMalboxedeSearce Personal Archive - HealthMalboxedeSaeTreb: Personal Archive - HealthMalboxedeSaeTreb: Show deleted items: Display time: Local Personal Archive - HealthMalboxedeSaeTreb: Personal Archive - HealthMalboxedeSaeTreb: Personal Archive - HealthMalboxedeSaeTreb: Susare Tyler Tim Gooder	
< > File info Completed	

5.3 Incomplete messages

Incomplete messages, such as messages with missing properties, bodies, are hidden by default. This option can be changed in the Options menu.

	Granular Restore for Microsoft Exchange and SQL	- 🗆 🗙
File Options Help		
Show notification panel	The second secon	1
Show progress dialog	Select mailboxes or folders to search	9
Brow Search within attachments		
PST encoding		
Incomplete messages	now x Database.edb	
Display time Display Display time Display time Displ	Version: Exchange Server 2013 Transaction logs not used. 22 maliboxes. Select a mailbox to display folders. Load time: 00:00:04 Display time: Local PST encoding: Unicode (Microsoft Outlook 2003, 2007, 2010 and 2013) Show deleted items: Only non-deleted items Incomplete messages: Hide Search within attachments: On	
	File info	
< > > Completed		

Note

After changing the way of displaying incomplete items, the database will be reopened.

5.4 Showing deleted items

Granular Restore for Microsoft Exchange and SQL provides an ability to process deleted items and folders.

This special feature can be enabled via the Options menu. There are three available display modes:

- non-deleted items displays actual items in folders
- show only deleted items displays items/folders deleted from a mailbox hierarchy, but not physically
- show both deleted and non-deleted items displays both actual items in folders and items/folders deleted from a mailbox hierarchy.

Note that after selecting any way of processing deleted items, the database will be reopened.

Items, deleted from Exchange Server 2013 databases, are stored in the folder Deletions and have an appropriate type.

•	Gran	ular	Restore for Microsof	t Exchan	ge and SQL	×
File Options Help						
📂 🔚 🖏				Search	in Andrew Wait	م
Browse						
	▲ Туре	0	Subject	From	То	Created
ian			JESSICA I am sorry thou	Dalia	Romeo Montague; Tim Goodler; Maria	Thursday, August 16, 2012 3:00:17 A
Alex Clark			ABHORSON Do you call	Michael	Andrew Wait; Susane Tyler; Juliet Cap	Thursday, August 16, 2012 3:00:12 A
Calendar (0)	-					
Contacts (0)						
Deleted Items (0)						
Deletions (2)						
Drafts (0)						
Junk E-Mail (0)						
Notes (0)						
Outbox (0)						
Sent Items (0)						
🔁 🏹 Tasks (0)						
🗄 🗋 🎒 Andy Kort						
🗄 ··· 🗋 🎒 Brian						
🗄 ··· 🗌 🎒 Dalia						
ia j ∰ John ia j ∭ Juliet Capulet						
i international						
ituse ituse ituse Maria Woods						
🗄 📄 🗿 Richard						
🗄 🦳 🎒 Robert Rise						
Romeo Montague						
🗄 🗋 🏂 Rudy Raid	*					ŭ
< >>	<					1
Completed						

As for items deleted from Exchange Server 2007 databases, they are stored in the their original folders but can be easily recognized by an appropriate status.

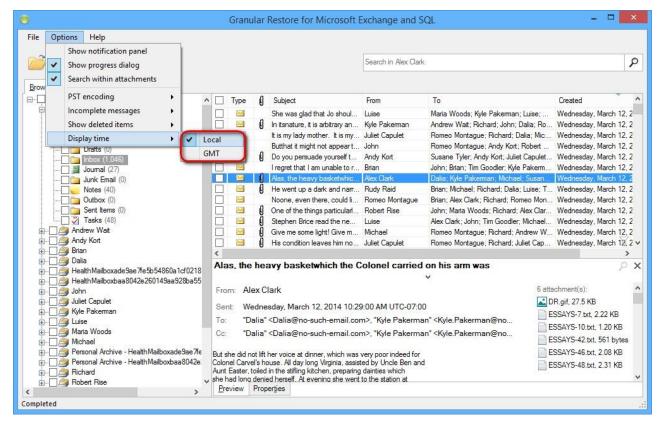
Note

Items, stored in the folder Deletions, cannot be recovered to live Exchange Server database. It is recommended to restore items from the Deletion folder to PST and then import to live Exchange Server.

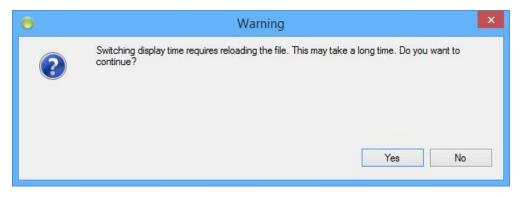
5.5 Display time

There are two dates display formats available for users, local time and GMT.

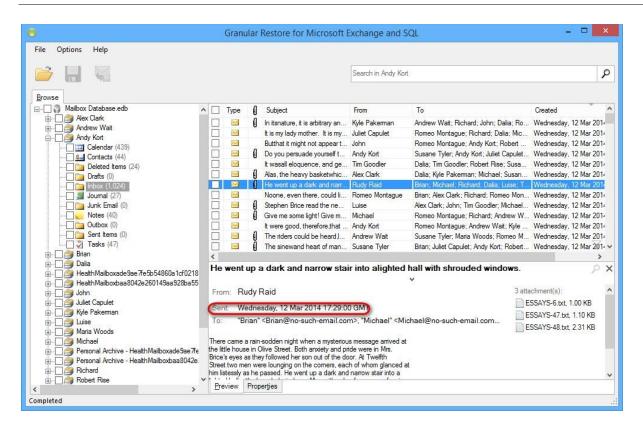
To switch dates display format between local computer time and GMT, use the Options menu.



If you switch display time, a warning, that the file will be reloaded, appears.

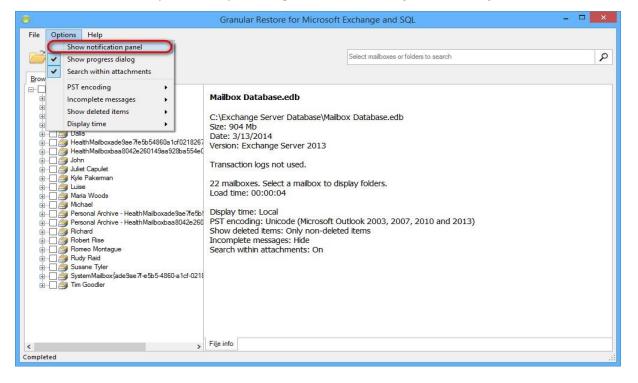


A message in GMT format looks the following way:



5.6 Showing notification panel

Every program action is accompanied by an appropriate notification for user. Notification panel is disabled by default, but can be easily enabled by checking **Show notification panel** in the **Options** menu.



After that user will see additional information about opening file, export results, search results, etc.

	Granular Restore for Microsoft Exchange and SQL	- 🗆 🗙
File Options Help		
📂 🔚 😼	Search in Andy Kort and 2 more	٦
Browse		
Mailbox Database edb Image: All of the second se	Show deleted items: Only non-deleted items Incomplete messages: Hide Search within attachments: On	
< >	File info	
[11/18/2017 3: 17:08 AM] Save time: 0 hour(s) 0 minute(s) 50 :	second(s)	×
	and 4,872 message(s) into c:\Recovered\CLIENT-PC\Recovery 001*.pst	
[11/18/2017 3:16:13 AM] Database load time: 0 hour(s) 0 minu	ute(s) 4 second(s)	<u> </u>
Completed	Selected: 3 mailbox(es)	

5.7 Finding and selecting messages, folders and mailboxes

Granular Restore for Microsoft Exchange and SQL provides two mutually complementary modes of finding, previewing and selecting items: browsing the mailbox tree and search. Using these, it is possible to efficiently form a set of items for subsequent export, including the necessary ones and excluding ones to be skipped.

A newly opened database is shown in the **Browse** mode.

	Granular Restore for Microsoft Exchange and SQL	- • ×
File Options Help	Select mailboxes or folders to search Mailbox Database.edb C:\Exchange Server Database\Mailbox Database.edb Size: 904 Mb Date: 3/13/2014 Version: Exchange Server 2013 Transaction logs not used. 22 mailboxes. Select a mailbox to display folders.	ع -
⊕ Luise ⊕ Maria Woods ⊕ Michael ⊕ Personal Archive - HealthMailboxade9ae7re5b!	Load time: 00:00:04	
· · · · · · · · · · · · · · · · · · ·	File info	
mpleted		

5.8 Browsing mail store tree

Browse mode shows mail store in a tree-like structure and allows browsing folders and previewing individual items.

This mode is best for navigating to specific mailboxes, folders and messages when it is precisely known what data needs to be extracted.

For example, a user may ask to restore a specific message from a known folder. Expand his or her mailbox in the tree, select the folder, find and click the item. All available properties and information about the item will be displayed in the Preview window to the right of the tree.

ile Options Help							
🗃 🔚 🖏					Search in Andy Kor	ť	
Browse							
		Туре	0	Subject	From	То	Created
Alex Clark			0	In itsnature, it is arbitrary an	Kyle Pakeman	Andrew Wait; Richard; John; Dalia;	Ro Wednesday, March 12,
ia			1050	It is my lady mother. It is my	Juliet Capulet	Romeo Montague; Richard; Dalia; I	Mic Wednesday, March 12,
Calendar (439)				Butthat it might not appear t	John	Romeo Montague; Andy Kort; Robe	ert Wednesday, March 12,
		24	0	Do you persuade yourself t	Andy Kort	Susane Tyler; Andy Kort; Juliet Cap	ulet Wednesday, March 12,
Deleted Items (24)		\simeq		It wasall eloquence, and ge		Dalia; Tim Goodler; Robert Rise; Su	and the second second states and the second
Drafts (0)		\mathbf{M}	Q	Alas, the heavy basketwhic		Dalia; Kyle Pakerman; Michael; Sus	
inbox (1,024)		2		He went up a dark and nam	a province and a second s	Brian; Michael; Richard; Dalia; Luise	And a second
🛄 🗾 Journal (27)		\simeq		Noone, even there, could li		Brian; Alex Clark; Richard; Romeo I	
🔲 🛅 Junk Email (0)		\geq	U	Stephen Brice read the ne		Alex Clark; John; Tim Goodler; Mich	
Notes (40)		\bowtie	U	Give me some light! Give m		Romeo Montague; Richard; Andrew	the second se
Outbox (0)				It were good, therefore, that	and the second s	Romeo Montague; Andrew Wait; Kj	والمحاج والمستعلق والمراجعة والمراجع والمراجع والمراجع والمراجع والمراجع والمحاج والمحاج والمراجع والمراجع
Sent Items (0)			ų	The riders could be heard, I		Susane Tyler; Maria Woods; Rome	and a subscription of the second second production of the second s
im ✓ Tasks (47)			IJ	The sinewand heart of man	Susane Tyler	Brian; Juliet Capulet; Andy Kort; Rol	bert Wednesday, March 12,
	<		_				>
Health Mailboxade9ae 7fe5b54860a1cf0218	He	went	up a	a dark and narrow star	ir into alighted	hall with shrouded window v	s. p
	Fro	m: Ru	Idy F	Raid			3 attachment(s):
Juliet Capulet							ESSAYS-6.txt, 1.00 KB
🗄 🖂 🍎 Kyle Pakeman	Ser			sday, March 12, 2014 10:29			ESSAYS-47.txt, 1.10 KB
🗄 🗋 🞒 Luise	To:	"Bi	ian"	<brian@no-such-email.com< td=""><td>m>, "Michael" <mi< td=""><td>chael@no-such-email.com</td><td>ESSAYS-48.txt, 2.31 KB</td></mi<></td></brian@no-such-email.com<>	m>, "Michael" <mi< td=""><td>chael@no-such-email.com</td><td>ESSAYS-48.txt, 2.31 KB</td></mi<>	chael@no-such-email.com	ESSAYS-48.txt, 2.31 KB
🗄 🗌 🎒 Maria Woods					22		COORTO-40.00, 2.31 ND
Michael				-sodden night when a mysteriou Dive Street, Both anxiety and pr			
Personal Archive - Health Mailboxade9ae7fe	Brice	's eyes a	as the	y followed her son out of the do	or. At Twelfth		
ia	Stree	t two me	en we	re lounging on the corners, eac	h of whom glanced a	at	
	him lis	stessly a	shej	passed. He went up a dark and	I narrow stair into a		
	Pre	view	Prop	erties			

There is a check box next to the message. Check it to mark the message for export.

Continue to mark other items, folders and mailboxes for export in a similar way.

					Search in Andy Kort	<i>6</i>			p
					Search in Andy Kon				7
rowse									
Mailbox Database.edb		Туре	0	Subject	From	То	Created		
Alex Clark	-		0	In itsnature, it is arbitrary an	Kyle Pakerman	Andrew Wait; Richard; John; Dalia; Ro	Wednesday,	March 1	2,2
ia	-			It is my lady mother. It is my	Juliet Capulet	Romeo Montague; Richard; Dalia; Mic	Wednesday,	March 1	2, 2
				Butthat it might not appear t	John	Romeo Montague; Andy Kort; Robert	Wednesday,	March 1	2,2
	-	2	0	Do you persuade yourself t	Andy Kort	Susane Tyler; Andy Kort; Juliet Capulet	Wednesday,	March 1	2.2
Deleted Items (24)	~	2		It wasall eloquence, and ge	Tim Goodler	Dalia; Tim Goodler; Robert Rise; Susa	Wednesday,	March 1	2, 2
Drafts (0)		\sim	0	Alas, the heavy basketwhic	Alex Clark	Dalia; Kyle Pakeman; Michael; Susan	Wednesday,	March 1	2, 2
🖬 🧰 Inbox (1.024)	-	2	0	He went up a dark and narr	Rudy Raid	Brian; Michael; Richard; Dalia; Luise; T	Wednesday,	March 1	2, 2
🗾 🗾 Journal (27)	-	2	101220	Noone, even there, could li	Romeo Montague	Brian; Alex Clark; Richard; Romeo Mon	Wednesday,	March 1	2,2
Junk Email (0)	-		0	Stephen Brice read the ne	Luise	Alex Clark; John; Tim Goodler; Michael	Wednesday,	March 1	2,2
Notes (40)	-	\geq	0	Give me some light! Give m	Michael	Romeo Montague; Richard; Andrew W	Wednesday,	March 1	2, 2
🗋 🛅 Outbox (0)	-	2		It were good, therefore, that	Andy Kort	Romeo Montague; Andrew Wait; Kyle	Wednesday,	March 1	2, 2
Sent Items (0)	-		0	The riders could be heard, I	Andrew Wait	Susane Tyler; Maria Woods; Romeo M	Wednesday,	March 1	2,2
🔤 🏹 Tasks (47)	-	\sim	0	The sinewand heart of man	Susane Tyler	Brian; Juliet Capulet; Andy Kort; Robert	Wednesday,	March 1	2.2
🗄 🖳 🥭 Brian	<								>
ia	It w	asall	elo	quence, and generous	and noble the	ought." It wasall			
Health Mailboxade 3ae 7e3b 54860a fcr0218						~			
	Ero	m Tir	n Ge	odler					
in Juliet Capulet	1.10								- 1
Kyle Pakeman	Ser	nt: We	edne	sday, March 12, 2014 10:29	00 AM UTC-07:00	D			
	To:	"Da	alia"	<dalia@no-such-email.com< td=""><td>n>, "Tim Goodler"</td><td><tim.goodler@no-such-email.com>,</tim.goodler@no-such-email.com></td><td>"Robert Rise</td><td></td><td></td></dalia@no-such-email.com<>	n>, "Tim Goodler"	<tim.goodler@no-such-email.com>,</tim.goodler@no-such-email.com>	"Robert Rise		
🗄 🗌 🍎 Maria Woods	Cc:	"Da	alia"	<dalia@no-such-email.com< td=""><td>n> "Tim Goodler"</td><td><tim.goodler@no-such-email.com>.</tim.goodler@no-such-email.com></td><td>"Robert Rise</td><td></td><td></td></dalia@no-such-email.com<>	n> "Tim Goodler"	<tim.goodler@no-such-email.com>.</tim.goodler@no-such-email.com>	"Robert Rise		
🗄 🗌 🦓 Michael	07070								
🗄 🗌 🍎 Personal Archive - HealthMailboxade9ae7fe	The (Cure frov	vned	and continued: "You look on v	onder burning walls."	he			
	said,	'and wor	nder	when they will rise again on this	hill made sacred				
				ir beloved, by the christening of		. 1			
🗄 🗋 🚔 Robert Rise 🗸 🗸				ave given vou happy homes, an erties	d the sacraments wh	ich			-

Use filtering feature for better browsing the list of items in a folder.

Enable filtering by pressing the **Ctrl+F** keys. A special panel will appear in the right part of the program window.

	Granu	lar Restore for Microsoft I	Exchange and S	QL	- 🗆 🗙
File Options Help					
📂 🔡 🖏			Search in Andy Kort		2
	 Type W W W 	Subject Privatebankers in London g Schools have no exclusive. This relaxation in theexclusi		To Romeo Montague; Alex Clark; Susane Rudy Raid; Dala; Romeo Montague; Maria Woods; Susane Tyler, Andy Kott	Wednesday, March 12, 2014 Wednesday, March 12, 2014
Tasks (47) Tasks (47) Dalia Dalia Health Mailboxdae 9ae 7te 5b 54860a 1cf 0218 Health Mailboxdae 8042e 260149ae 328ba55 John John John Juliet Capulet Maria Woods Michael Personal Archive - Health Mailboxdae 9ae 7te Robert Rise	From: Da Sent: We To: "M. The Dutch se were originally progress of ac comparison w and established	xation in theexclusive pri Ilia ednesday, March 12, 2014 10:2	vileges of the c 1:00 AM UTC-07:00 o-such-email.com> se in the East Indies, clusive company. The been considerable in sheen long peopled	• "Susane Tyler" <susane.tyler@no-s< td=""><td>ipal P X</td></susane.tyler@no-s<>	ipal P X
Completed					,d

Use search in preview feature for quick find text in item preview.

Enable search in preview by pressing the **Ctrl+D** keys after opening preview of item. A special panel will appear in the right part of the program window.

ile Options Help						
🔰 🔚 🔤			Search in Andy Kor	t		\$
Arowse Mailbox Database edb Alex Clark Andrew Wait Calendar (435) Calendar (435) Calendar (436) Calendar (436) Calendar (437) Calendar (438) Calend	Type Signature Si	 Subject In itsnature, it is arbitrary an It is my lady mother. It is my Buthat t might not appear t Do you persuade yourself t It wasall eloquence, and ge Alas, the heavy basketwhic He went up a dark and nar Noone, even there, could i Stephen Brice read the ne Give me some light Give m The riders could be heard l 	Juliet Capulet John Andy Kort Tim Goodler Alex Clark Rudy Raid Romeo Montague Luise Michael Andy Kort	To Andrew Wait; Richard; John; Dalia; Ro Romeo Montague; Richard; Dalia; Mic Romeo Montague; Andy Kort; Robert Susane Tyler; Andy Kort; Juliet Capulet Dalia; Tim Goodler; Robert Rise; Susan Dalia; Kyle Pakeman; Michael; Susan Brian; Michael; Richard; Dalia; Luise; T Brian; Alax; Clark; Richard; Moneo Mor Alex; Clark; John; Tim Goodler; Michael Romeo Montague; Richard; Andrew W Romeo Montague; Richard; Romeo Mor Susane Tyler; Maria Woods; Romeo M	Wednesday, March 1 Wednesday, March 1	12, 2 12, 2
		 The sinewand heart of man 		Brian; Juliet Capulet; Andy Kort; Rober	include the second s	
	light	Find				
ia	Give me	e some <mark>light</mark> ! Give me som	e <mark>light</mark> !			-
Juliet Capulet Kyle Pakeman Maria Woods Michael Personal Archive - HealthMailboxade9ae7re Richard Robert Rise	To: "F Ham. He p The story	Michael Vednesday, March 12, 2014 10:2 Romeo Montague" <romeo.mor poisons him i'th' garden for's estate. Hi y is extant, and written in very choice il anon how the murtherer cets the lowe Properties </romeo.mor 	atague@no-such-e s name's Gonzago. alian. You	o 🖉	attachment(s): ESSAYS-2.txt, 526 byte ESSAYS-4.txt, 1.01 KB ESSAYS-10.txt, 1.20 KB ESSAYS-43.txt, 760 byt ESSAYS-47.txt, 1.10 KB	3 tes

Тір

Each individual item, folder and mailbox has a check box next to it. Using these check boxes, it is possible to select as many or as few items for export as necessary.

To export an entire:

- Mail store, mark the root check box with the mail store name.
- Mailbox, mark the check box next to the mailbox in the tree.
- Folder, mark the check box next to the desired folder.

5.9 Using search

The search in the main window provides the ability to search single or multiple mailboxes and perform actions on the search results.

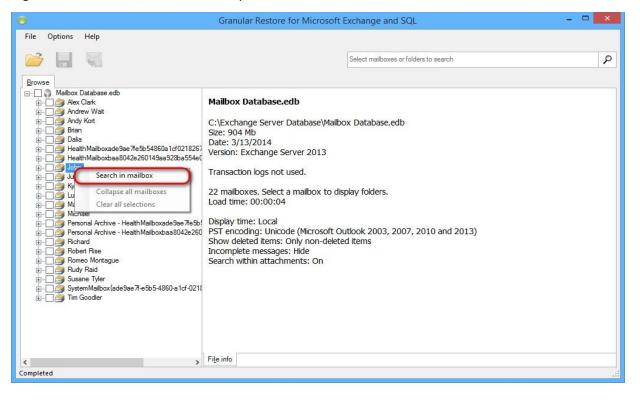
The best application of search mode is when the location and/or number of items to extract is not known exactly. Using keyword search, it is possible to narrow down on specific messages, folders and mailboxes. The quickest way to get search results is clicking on a particular mailbox, entering some keywords in the **Search** field and clicking the **Start search** button.

Search results will be displayed on a separate tab.

				Search in user-defined	l locations: wait		8
Browse Search: «wait» (1,016) ×							
	Туре	Location	Ø	Subject	From	То	1
🗄 🗌 🎒 Alex Clark (1,016)	1111	\Alex Clark\Calendar	-	The face is	Rudy Raid	Michael; Juliet Capulet; Kyle Pakeman	
Calendar (278)	111	\Alex Clark\Calendar		But the thing	Andrew Wait	Susane Tyler: Alex Clark: Michael: Rud	
	1111	\Alex Clark\Calendar		When the	Brian	Andrew Wait	
	1111	\Alex Clark\Calendar		I have	Andrew Wait	Andy Kort; Maria Woods; Juliet Capulet	
	-1-1	\Alex Clark\Calendar			Maria Woods	John; Alex Clark; Susane Tyler; Dalia	
Notes (4)	1111	\Alex Clark\Calendar			Andy Kort	Alex Clark; Rudy Raid; Maria Woods;	
Tasks (8)	114	\Alex Clark\Calendar		He had taken	Andrew Wait	John; Michael; Juliet Capulet; Rudy Ra	
	1141	\Alex Clark\Calendar		LADY FAULCONBRIDGE.	John	Alex Clark; Maria Woods; Susane Tyler	
	114	\Alex Clark\Calendar			Dalia	Brian; Robert Rise; Michael; Rudy Rai	
	111	\Alex Clark\Calendar		After	Andrew Wait	Juliet Capulet; Luise; John	
	111	\Alex Clark\Calendar		Herfather	Maria Woods	Andy Kort; Luise; Juliet Capulet	
	112	\Alex Clark\Calendar		Brinsmade, lifting the	Juliet Capulet	Susane Tyler; Alex Clark; Kyle Pakerm	
	-1-1	\Alex Clark\Calendar			Andrew Wait	Andy Kort; John; Tim Goodler; Susane	
	1111	\Alex Clark\Calendar		Mon. Mon. Mon.	Susane Tyler	Andrew Wait; Alex Clark; Robert Rise;	
		\Alex Clark\Calendar		Originally,	Andrew Wait	Susane Tyler; Brian; Alex Clark; Rome	
	114	\Alex Clark\Calendar		I called him	Alex Clark	Rudy Raid; Richard; John; Kyle Paker	
	114	\Alex Clark\Calendar		She gathered	Susane Tyler	Maria Woods; Andy Kort; Andrew Wait	
	111	\Alex Clark\Calendar			Brian	Alex Clark; Tim Goodler; John; Romeo	
	1141	\Alex Clark\Calendar		The maintenance of	Andrew Wait	Kyle Pakerman	
		\Alex Clark\Calendar		Chaudiere had	Susane Tyler	Andrew Wait; Andy Kort; Alex Clark; M	
	-1-1	\Alex Clark\Calendar		Beside	Robert Rise	Richard; Andy Kort; Maria Woods; Sus	
		\Alex Clark\Calendar		Break off thy	Dalia	Alex Clark; Rudy Raid; Luise; Tim Goo	
	-1-4	\Alex Clark\Calendar		How frequently	Richard	Maria Woods; Michael; Robert Rise; R	
	1141	\Alex Clark\Calendar		She was going	Rudy Raid	John; Susane Tyler; Luise; Romeo Mo.	Ē

If a user knows exactly in what mailbox or folder the data is located, using **Search in mailbox** option will speed up the search.

Right-click on a folder/a mailbox will open a context menu.



By clicking on this menu advanced mode of search dialog will be opened and **Search in** field will be filled with the selected mailbox/folder.

Fill in necessary search parameters and start the search.

For more precise searches, click on the **Search** field. A drop-down list of all search fields will appear:

• Search in - specifies mailbox(es)\folder(s) to search in. Default: entire database. If you select one or more Search in check boxes, but specify no additional search criteria, the utility will return all items from the selected folder(s).

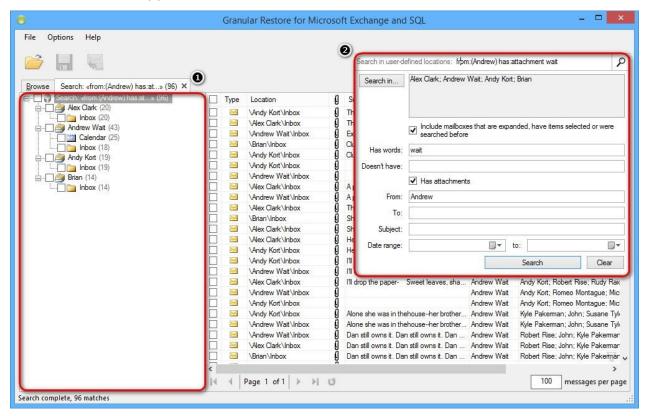
Search in	×
🖃 📲 🌍 Mailbox Database.edb	^
🗄 🗌 🎒 Alex Clark	
🗄 🗌 🎒 Andrew Wait	
🗄 🖳 🗹 🎒 Andy Kort	
😑 🚥 🧾 Brian	
Calendar (444)	
Contacts (44)	
Deleted Items (28)	
Drafts (0)	
Inbox (1,018)	
Outbox (0)	
Sent items (0)	
in	
in □ → Kyle Pakeman	
🛱 🖳 🚔 Maria Woods	
F Alkael	
🛱 🔲 🧖 Personal Archive - Health Mailboxade9ae 7/e5b54860a1cf021826768790	*
Include mailboxes that are expanded, have items selected or were searched before	
OK Can	cel
	_

- Has words search for mail store items that have words or phrases entered in the field.
- Doesn't have search for mail store items that do not have words or phrases entered in the field.
- Has attachments search for items with attachments.
- From search for keywords in the From field.
- To search for keywords in the To field.
- Subject search for keywords in the subject.
- Date range set specific date range if known. It is obligatory to set both the beginning and the end of the desired time period.

The outcomes of a search can be:

1. The program was able to find items (1) that corresponds to specified search parameters (2). The user can select separate items or mark search results for recovery.

Clicking an item in the search results tab will open the item preview. Selecting item(s) in search results will make their recovery possible.



Counters of found elements are automatically updated or can be updated manually by clicking on the **Refresh** button. If any folder is selected and the program has found new elements in it, then the following value will be shown: previous (value, when we selected the folder) value of a counter + count (in green) of newly found elements, which will be updated in real-time.

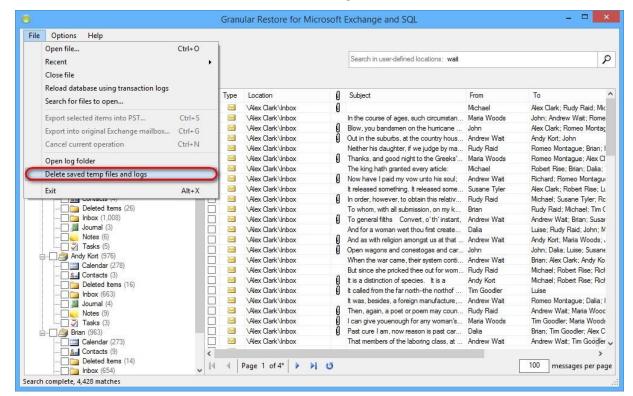
					1			
					Search in user-defined locations: wait			5
Browse Search: «wait» (4,428) ×		-			-			
	<u>^</u> □	Туре	Location	Ø	Subject	From	То	
		\sim	\Alex Clark\Inbox		How goes the world, sir, now? How go		Michael; Alex	Clark; Sus
		\geq	\Alex Clark\Inbox	0	Nature then becomesto him the measu	Andrew Wait	Rudy Raid; N	lichael; Ale
Deleted Items (16)			\Alex Clark \Inbox	U	For nearly a month he had tramped ov		Brian; Susane	Contraction of the second
		2	\Alex Clark\Inbox	1000	This high price, indeed, seems to have		Romeo Mont	the second s
		2	\Alex Clark\Inbox	0	Uncle, for God's sake, speak comforta	Brian	Kyle Pakerma	in; Michael
		2	\Alex Clark\Inbox		For I have swom deep oaths of thy de	Andrew Wait	Luise	
		~	\Alex Clark\Inbox	0	The other,that you do not peremptorily	Richard	Maria Woods	; Andrew V
		~	\Alex Clark\Inbox		In the course of ages, such circumstan	Maria Woods	John; Andrew	Wait; Ror
Calendar (421)			\Alex Clark\Inbox	0	Blow, you bandsmen on the hurricane	John	Alex Clark; R	omeo Mont
Contacts (4)		\geq	\Alex Clark\Inbox	0	Out in the suburbs, at the country hous	Andrew Wait	Andy Kort; Jo	hn
Deleted Items (26)			\Alex Clark\Inbox		Neither his daughter, if we judge by ma	Rudy Raid	Romeo Mont	ague; Brian
Inbox (1,008)			\Alex Clark\Inbox	0	Thanks, and good night to the Greeks'	Maria Woods	Romeo Mont	ague; Alex
🔁 📕 Journal (3)			\Alex Clark\Inbox	0	Now have I paid my vow unto his soul;	Andrew Wait	Richard; Rom	eo Montag
Notes (6)		2	\Alex Clark\Inbox		It released something. It released some	Susane Tyler	Alex Clark; R	bert Rise;
Tasks (5)		2	\Alex Clark\Inbox	0	In order, however, to obtain this relativ	Rudy Raid	Michael; Sus	ane Tyler;
Andy Kort (976)		2	\Alex Clark\Inbox	Q	To general filths Convert, o'th' instant,	Andrew Wait	Andrew Wait	Brian; Sus
Calendar (278)			\Alex Clark\Inbox		And for a woman wert thou first create	Dalia	Luise; Rudy F	Raid; John;
& Contacts (3)			\Alex Clark\Inbox	0	And as with religion amongst us at that	Andrew Wait	Andy Kort; Ma	aria Wood
			\Alex Clark\Inbox	Q	Open wagons and conestogas and car	John	John; Dalia; I	uise; Susa
		1	\Alex Clark\Inbox		When the war came, their system conti	Andrew Wait	Brian; Alex Cl	ark; Andy I
Notes (9)			\Alex Clark\Inbox		But since she pricked thee out for wom	Rudy Raid	Michael; Rob	ert Rise; R
Tasks (3)		2	\Alex Clark\Inbox	0	It is a distinction of species. It is a	Andy Kort	Michael; Rob	ert Rise; R
Brian (963)		24	\Alex Clark\Inbox	Q	It called from the far north-the northof	Tim Goodler	Luise	
Calendar (273)		24	\Alex Clark\Inbox		It was, besides, a foreign manufacture,	Andrew Wait	Romeo Monta	ague; Dalia
Contacts (9)	<				7			

Words and phrases which match the search query are highlighted in the preview, which helps to easily identify where the match was found.

ile Options Help			
🧉 🔚 🔤		Search in user-defined locations: from:(Andrew Wait) wait	
Browse Search: «from:(Andrew Wait) wait» (109)	X Type Location	() Subject From To	
Andrew Wat (109) Calendar (47) Deleted Items (26) Inbox (36)	Andrew Wait \\nbox Andrew Wait \\nbox Andrew Andrew Wait \\nbox Andrew Andrew Andrew Andrew Andrew Andre	Exeunt FAIRIES Exeunt FAIRIES Andrew Wait Maria Wicconcerning the bounds of unity; the tru Andrew Wait Arac Xiar () A particular country, in the same Andrew Wait Nobert F Ili drop the paper-Sweet leaves, sha Andrew Wait They were getting kind of interested. T Andrew Wait SHALLOW. SHALLOW. SHALLO Andrew Wait Thesubscribers to a new loan, who me Andrew Wait Johrn: Mit Andrew Wait Johrn: Mit	pulet; Andrew Wait; foods; Juliet Capulet rk; Andrew Wait; Lu rt; Romeo Montague Siee; Andrew Wait; A rt; Robert Rise; Rud aid; Andrew Wait; Ru rk; Juliet Capulet; Lu Rise; Maria Woods; I ichael; Luise; Susan rk; Andrew Wait; Lu
	Andrew Wait\Inbox	Hisgarments hung in tatters; his boots Andrew Wait Kyle Pak	kerman; Maria Wood > P
	and a second	nail.com>, "Michael" < Michael@no-such-email.com nail.com>, "Michael" < Michael@no-such-email.com fe, such as those in Great tc. necessarily raise the	27.5 KB gif, 29.7 KB
	Proview Properties	U	messages per pa

2. The search didn't match any items. Review search parameters and run another search.

To delete temporary data, generated by Granular Restore for Microsoft Exchange and SQL, go to the **File** menu and click **Delete saved search indexes and logs**.



Note

Next search in the same folder/mailbox will be almost instant (only if saved search indexes and logs haven't just been deleted).

Note

Search with empty query is not available.

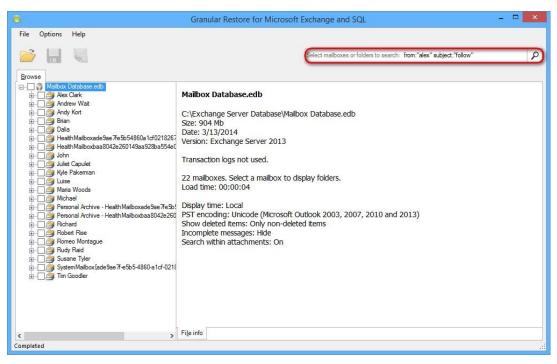
Note

Asterisk ('*') is added to all words in search fields by default. This allows to find not only specified words but also their word forms. Use quotes ("") to search for an exact phrase.

Advanced search

Advanced search uses symbols and operators in queries. These operators allow you to find what you're looking for quickly and accurately.

To use advanced search enter operators and their values into the **Search** field (1).



Operators are listed below:

Operator	Definition	Example
from:	Used to specify the sender.	Example: from:alex Meaning: messages from Alex.
to:	Used to specify a recipient.	Example: to:John Meaning: all messages that were sent to John (by any user).
subject:	Search for words in the subject line.	Example: subject:dinner Meaning: messages that have the word "dinner" in the subject.
OR	Search for messages matching term A or term B. OR must be in all caps	Example: from:alex OR from:john Meaning: messages from Alex or from John.

Operator	Definition	Example
AND or Space	Search for messages matching term A and term B. AND must be in all caps.	Example: from:alex AND from:john Meaning: messages from Alex and from John.
- (hyphen)	Used to exclude messages from your search.	Example: dinner -movie Meaning: messages that contain the word "dinner" but do not contain the word "movie".
has:attachment	Search for messages with an attachment.	Example: from:john has:attachment Meaning: messages from John that have an attachment.
att_name:	Search for messages with specified attachment name.	Example: to:jane att_name:photo.png Meaning: messages to Jane that have an attachment with specified attachment name.
cc: bcc:	Used to specify recipients in the cc: or bcc: fields Search on bcc: cannot retrieve messages on which you were blind carbon copied.	Example: cc:John Meaning: messages that were cc-ed to John.
" " (quotes)	Used to search for an exact phrase* *capitalization isn't taken into consideration.	Example: "i'm feeling lucky" Meaning: messages containing the phrase "i'm feeling lucky" or "I'm feeling lucky". Example: subject:"dinner and a movie" Meaning: messages containing the phrase "dinner and a movie" in the subject.

Operator	Definition	Example
()	Used to group words Used to specify terms that shouldn't be excluded.	Example: from:alex (dinner OR movie) Meaning: messages from Alex that contain either the word "dinner" or the word "movie". Example: subject:(dinner movie) Meaning: messages in which the subject contains both the word "dinner" and the word "movie".
create_time:[yyyymmdd yyyymmdd]	Search for messages created during a certain period of time.	Example: create_time:[20110416 20110516] Meaning: messages created between April 16, 2011 and May 16, 2011.
after: before: older: newer:	Search for messages sent or received during a certain period of time (using the date format yyyymmdd).	Example: after:20110416 before:20110516 Meaning: messages sent between April 16, 2011 and May 16, 2011. More precisely: messages sent after 12:00 AM (or 00:00) April 16, 2011 and before May 16, 2011.
older_than: newer_than:	Similar to older and newer, but allows relative dates using d, m, and y for day, month, and year.	Example: newer_than:2d Meaning: finds messages sent within the last two days.
size:	Search for messages larger than the specified size in bytes. Abbreviations for numbers (B, K, M) are allowed. Size limit is 2000MB.	Example: size:300 Meaning: messages larger than 300 bytes Example: size:[300 2000] Meaning: messages larger than 300 bytes but smaller than 2000 bytes.

Operator	Definition	Example
larger: smaller:	Similar to size, allows abbreviations for numbers (B, K, M). Size limit is 2000MB.	Example: larger:1M Meaning: All messages of at least 1MB in size. Example: larger:150K smaller:1M Meaning: messages larger than 150KB but smaller than 1MB.
+ (plus sign)	Match the search term exactly.	Example: +movie Meaning: minds messages containing "movie" but not "movies" or "movei".

Using wildcard characters

A wildcard character is a keyboard character such as an asterisk (*) or a question mark (?) that is used to represent one or more characters when you are searching for files, folders, printers, computers, or people. Wildcard characters are often used in place of one or more characters when you do not know what the real character is or you do not want to type the entire name.

Wildcard character	Definition	Example
* (asterisk)	Used to substitute for zero or more characters.	Example: subject:d*g Meaning: finds messages containing words "doing", "dog", "debug", etc.
? (question mark)	Used to substitute for a single character in a name.	Example: subject:d?g Meaning: finds messages containing words "dog", "dig", "dug", etc.

Note

Use checked 'Find whole word only' in case using question mark ("?") in the start of the word.

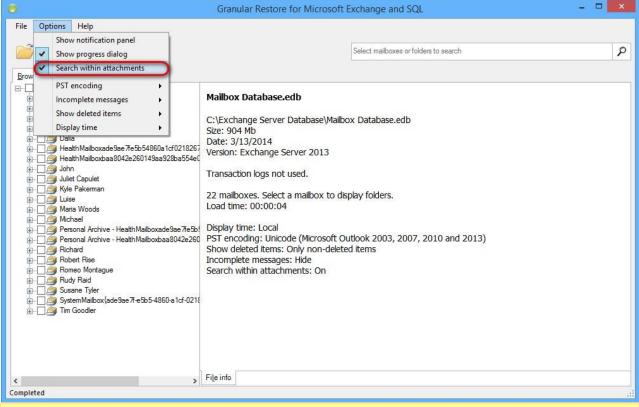
Note

Other special characters are not used for search. Search query, containing special characters, may return incorrect results.

Search within attachments

Search within attachments is enabled by default. This option can be changed in the Options menu.

This option allows to perform search in attachments' content.



Note

After enabling this option the database will have to be reopened. Search process may take longer when search within attachments is enabled.

5.10 Exporting items

Granular Restore for Microsoft Exchange and SQL includes the injection capability for items (emails, calendars, contacts, etc.) from offline database and PST/OST files to original live Exchange databases as well as granular data extraction to Personal Storage File (.pst) files.

5.11 Restore to original live Exchange Server. Standard mode

Important Note

Standard export mode requires access to Active Directory to establish connection to Exchange Server. The program requests users list from Active Directory and checks if IDs of offline and live user mailboxes match. That's why the user, logged in, must be a domain user.

a 🗆 🖾						Search in Alex Clark	• .			5
						Search in Alex Clark				1
rowse										
Mailbox Database.edb		Туре	ß	Subject		From	To	Created	*	
🖶 🔳 🎒 Alex Clark			Ã	Do you persuade yo	urselft	Andy Kort	Susane Tyler; Andy Kort; Juliet Capulet	Wednesday	March 1	22
Calendar (438)	H		0	I regret that I am una			John; Brian; Tim Goodler; Kyle Pakerm			
	Н		0	Alas, the heavy bas			Dalia: Kyle Pakeman: Michael: Susan			
Deleted Items (25)	Ы	123	ă	He went up a dark a			Brian; Michael; Richard; Dalia; Luise; T	and the second se		
Drafts (0)	Ы		0	Noone, even there.		and the second	Brian: Alex Clark: Richard: Romeo Mon	and the state of t		
inbox (1.046)	-	24	a	One of the things pa			John; Maria Woods; Richard; Alex Clar	and the second sec		
Journal (27)	ĥ	24	ă	Stephen Brice read			Alex Clark: John: Tim Goodler: Michael			
Notes (40)	Н	250	ă	Give me some light!			Romeo Montague; Richard; Andrew W	1.1.1		
	H		å	His condition leaves			Romeo Montague; Richard; Juliet Cap	and a second product of the second		
	Ho I		0	What a pied ninny's			Maria Woods; Brian; Juliet Capulet; Ro			
Tasks (48)	Н		A	Your vows, your mer			Robert Rise; Maria Woods; Andrew W	and the second second second second second second		
Andrew Wait	Ы		å	The riders could be			Susane Tyler; Maria Woods; Romeo M			
Andy Kort	Ы		å	The sinewand heart	and a state of a state of a state		Brian; Juliet Capulet; Andy Kort; Robert	and the second se		
🗄 🦳 🚔 Brian	<		6	The sinewarid fieldit	or marr	Susarie Tylei	bilan, Juliet Capulet, Andy Noit, Nobelt	wearlesday,	March	>
🗄 🗋 🎒 Dalia		mul	a du	mother. It is m	y lady	mathar				-
🗄 🗌 🎒 Health Mailboxade9ae7fe5b54860a1cf0218	IL IS	my a	ady	nouler. It is m	y lauy	nomer.	2.2		1	1
🗄 🗌 🎒 HealthMailboxbaa8042e260149aa928ba55		57	R = 285	3721 145			×			
🖶 🗋 🎒 John	Fro	m: Ju	liet C	apulet						
🖶 🖂 🎒 Juliet Capulet	Ser	t We	edne	sday March 12 20	14 10.20	00 AM UTC-07:00	1			
🗄 🗌 🎒 Kyle Pakeman	1900									
	To:	R	ome	o Montague" < Ron	neo.Mon	tague@no-such-e	mail.com>, "Richard" <richard@no-su< td=""><td>Jch-email.co</td><td>m</td><td></td></richard@no-su<>	Jch-email.co	m	
🗄 🗌 🎒 Maria Woods	237		1							
		se. Mada Nurse?	am!							
Personal Archive - HealthMailboxade9ae7fe			lady	mother is coming to y	our chamb	er.				
Personal Archive - Health Mailboxbaa8042e	Th	e day is	broke	; be wary, look about	t.					
	Jul.	Then, w	indov	v, let day in, and let lif	e out.					
🗄 🗌 🦳 🚔 Robert Rise 🗸 🗸	h -	view	Prop							

After startup, opening an EDB file and checking items the main window of the application looks as follows:

Clicking the injection button will bring up the following dialog:

•	Export into original mailbox	×
Host (ex.: contoso.com or 192.168.0.5): ES2013.no-such-email.com Details: Export from source mailbox 'Alex Clark' to desti	Kefresh Advanced Ination mailbox Advanced	About export into original mailbox Selected items will be copied from offline mailboxes into their original locations on live Exchange Server. The destination Exchange Server is detected automatically using the current Active Directory domain. Current user should be a member of the same domain as target Exchange Server and should have <u>Exchange Server and should have Exchange Server and should have Exchange Server and should have Exchange Server and should have Exchange Impersonation access to destination mailboxes. Each selected item will go to its original location in respective mailbox, e.g. Patrick's offline mail will go to Patrick's mailbox, tisa's calendar items to Lisa's mailbox etc. When selected items cannot be matched to destination mailbox, they will not be exported.</u>
Unselect successfully exported items Diagnostics	Export Cancel	

Domain name of the machine with Exchange Server will be automatically detected if current machine is in the same domain with Exchange Server. Otherwise, the host will not be detected and has to be entered manually. By default, Granular Restore for Microsoft Exchange and SQL uses current user to establish the connection. If current user doesn't have rights to impersonate selected for export user, an appropriate error will appear in details.

In case of error it is recommended to use the Advanced button and configure the connection settings.

☑ Use current Windows credentials User logon name (ex.: user1):	Exchange impersonation lets you connect to a mailbox other than the default one for your credentials. To use the feature, access permissions need to be configured at Exchange Server.
Password:	
Save password	

There are two ways to connect to selected mailbox:

- 1. Use credentials of selected mailbox.
- 2. Specify the user that has impersonation rights.

To use credential of selected mailbox, enter host name of machine with Client Access Role, unmark **Use** current Windows credentials enter user name and password and press **Connect**.

ES2013.no-such-email.com Use current Windows credentials User logon name (ex.: user1): Alex.Clark Password: Save password	Exchange impersonation lets you connect to a mailbox other than the default one for your credentials. To use the feature, access permissions need to be configured at Exchange Server.
---	--

To use Exchange impersonation to establish the connection, enter host name of machine with Client Access role, unmark **Use current Windows credentials**, enter credentials of the user with impersonation rights and press **Connect**. In the example below, Brian has impersonation rights to access Dalia's mailbox.

ES2013.no-such-email.com	
Use current Windows credentials User logon name (ex.: user1): Brian	Exchance impersonation lets you connect to a mailbox other than the default one for your credentials. To use the feature, access permissions need to be configured at Exchange Server.
Password:	
Save password	

Exporting to live Exchange is also available via the File menu.

Options Help								
Open file Ctrl	0	1						
Recent					Search in Alex Clark	0		
Close file								
Reload database using transaction logs								
		Туре	A	Subject	From	То	Created	
Search for files to open				She was glad that Jo shoul	Luise	Maria Woods; Kyle Pakerman; Luise;	Wednesday, M	larch 12
Export selected items into PST Ctr	+S		A			Andrew Wait: Richard: John: Dalia: Ro		larch 12
Export into original Exchange mailbox Ctrl	6			It is my lady mother. It is my	Juliet Capulet	Romeo Montague; Richard; Dalia; Mic	Wednesday, M	larch 12
and the second				Butthat it might not appear t	John	Romeo Montague; Andy Kort; Robert	Wednesday, M	larch 12
Cancel current operation Ctrl	N		0	Do you persuade yourself t	Andy Kort	Susane Tyler; Andy Kort; Juliet Capulet	Wednesday, M	larch 12
Open log folder				I regret that I am unable to r	Brian	John; Brian; Tim Goodler; Kyle Pakerm	Wednesday, M	larch 1
Delete saved temp files and logs			0	Alas, the heavy basketwhic	Alex Clark	Dalia; Kyle Pakeman; Michael; Susan	Wednesday, M	larch 12
Delete saved temp files and logs			0	He went up a dark and narr		Brian; Michael; Richard; Dalia; Luise; T		
Exit Alt	+X			Noone, even there, could li		Brian; Alex Clark; Richard; Romeo Mon		
Jer & Rema (o)			0	One of the things particular		John; Maria Woods; Richard; Alex Clar		
	-		0	Stephen Brice read the ne		Alex Clark; John; Tim Goodler; Michael		
Andrew Wait	~		Q	Give me some light! Give m		Romeo Montague; Richard; Andrew W		
- 🦳 🎒 Andy Kort	~		0	His condition leaves him no		Romeo Montague; Richard; Juliet Cap		
e⊷ Bran a Dalia			~	What a pied ninny's this!		Maria Woods; Brian; Juliet Capulet; Ro		
Health Maiboxade 9ae 7fe 5b 54860a 1cf 021	. 🗸		g	Your vows, your memories,		Robert Rise; Maria Woods; Andrew W		
Health Mailboxbaa8042e260149aa928ba5			ų	The riders could be heard I		Susane Tyler; Maria Woods; Romeo M		
John	4		A	The sinewand heart of man		Brian; Juliet Capulet; Andy Kort; Robert		
Juliet Capulet	v			Now, herald, are the dead		Michael; Alex Clark; Susane Tyler; Ro		
- 🦳 🎒 Kyle Pakerman	V			Dieu vous garde, monsieur		Maria Woods; Robert Rise	Wednesday, M	
- 📑 Luise	v v			If you had seen the look in		Dalia; Juliet Capulet; Alex Clark; Rome		
🗈 🗌 🎒 Maria Woods	~			She wore a gray blouse wit But though the public scho		Alex Clark; Susane Tyler; Maria Woods John; Brian; Michael; Andy Kort; Maria		
Michael				if it was in gold; but at the sa		John; Bnan; Michael; Andy Kort; Mana Rudy Raid; Juliet Capulet; Brian; Andy		
Personal Archive - HealthMailboxade9ae7				My stars shine darkly over		Juliet Capulet; Tim Goodler; Alex Clark;		
Personal Archive - Health Mailboxbaa8042			a	Charley was of these peopl		Susane Tyler; Alex Clark; Michael; Rud		
- Abert Rise	~ 7		6	criancy was of triese peopl	Richard	Richard: John: Andy Kort: Robert Rise:		
					Tionara	radinard, with, varay hort, hobert hise,	moundoudy, M	wolf h

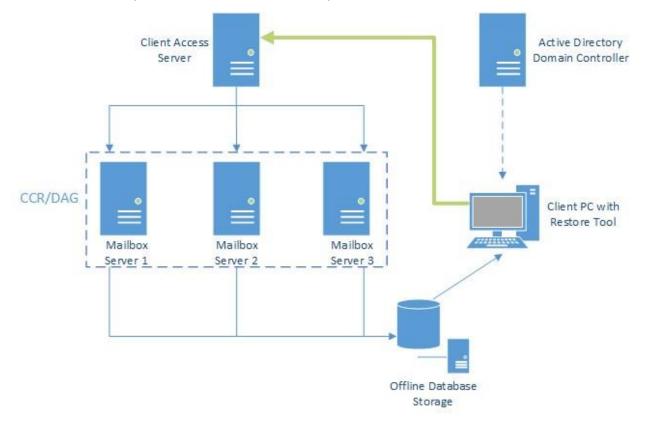
After establishing the connection, the export will start. The required time depends on how many items are selected for export. You will be shown a progress window during the export. The window shows the number of saved folders, messages, errors and total expected items to be restored. You can disable the progress window directly in the window or go to the **Options** menu and select **Show progress dialog**.

0		Gra	nular	Restore for Microsoft	Exchange and	SQL			
File Options Help									
					Search in Alex Cla	ark			٦
Browse									
🖃 📲 🌒 Mailbox Database.edb 🧖		Туре	0	Subject	From	To		Created	^
🖨 🔽 🎒 Alex Clark	-			She was glad that Jo shoul	Luise	Maria Wo	ods; Kyle Pakerman; Luise;	Wednesday, I	March 12, 2
Calendar (438)	-		A				Vait; Richard; John; Dalia; Ro		
Contacts (45)	-	100					tague; Richard; Dalia; Mic	and and a start of start the start of the st	
Deleted items (25)				Progress			itague; Andy Kort; Robert	Wednesday, I	March 12, 2
							er; Andy Kort; Juliet Capulet	Wednesday, I	March 12, 2
Journal (27)	E.	montin	a into	original Exchange Server n	nilhov		Tim Goodler; Kyle Pakerm	Wednesday, I	March 12, 2
Junk Email (0)	D	cporun	y into	oliginal Exchange Server II	Idiibox		^o akeman; Michael; Susan	Wednesday, I	March 12, 2
Notes (40)	-						sel; Richard; Dalia; Luise; T	Wednesday, I	March 12, 2
Outbox (0)	100	olders		0			Clark; Richard; Romeo Mon	Wednesday, I	March 12, 2
Sent Items (0)		essag	es	16			Woods; Richard; Alex Clar	Wednesday, I	March 12, 2
🗹 🏹 Tasks (48)	- 270	rors		0			Iohn; Tim Goodler; Michael	Wednesday, I	March 12, 2
🛓 🗆 🔄 🎒 Andrew Wait			-	es count 1,669			Itague; Richard; Andrew W	Wednesday, I	March 12, 2
🗄 🖳 🎒 Andy Kort	El	apsed	time	00:00:05			Itague; Richard; Juliet Cap	Wednesday, I	March 12, 2
⊕	C -		iment c	operation			ls; Brian; Juliet Capulet; Ro	Wednesday, I	March 12, 2
ia ∰ Dalia ia ∰ Health Mailboxade9ae 7re5b54860a1cf021{	<u></u>			peration	_		; Maria Woods; Andrew W	Wednesday, I	March 12, 2
Health Mailboxade Sae / eSb 54660a (Cr021)	1	Sho	w the	dialog next time		Close	er; Maria Woods; Romeo M	Wednesday, I	March 12, 2
							Capulet; Andy Kort; Robert	Wednesday, I	March 12, 2
Juliet Capulet	-			Now, herald, are the dead	and a second	Michael;	Alex Clark; Susane Tyler; Ro	Wednesday, I	March 12, 2
Hun A Kyle Pakerman	-			Dieu vous garde, monsieur	Michael	Maria Wo	ods; Robert Rise	Wednesday, I	March 12, 2
	-	2		If you had seen the look in	and the second se		et Capulet; Alex Clark; Rome		
🗄 🗌 🧃 Maria Woods	-	\simeq		She wore a gray blouse wit	Robert Rise	Alex Clark	t; Susane Tyler; Maria Woods	Wednesday, I	March 12, 2
🗄 🗌 🎒 Michael	-	2		But though the public scho			an; Michael; Andy Kort; Maria	and the second second second second	And a second
🗄 🖂 🍎 Personal Archive - HealthMailboxade9ae7fe	-	M		if itwas in gold; but at the sa			d; Juliet Capulet; Brian; Andy		
🗉 🗌 🎒 Personal Archive - HealthMailboxbaa8042e.	~	2		My stars shine darkly over			ulet; Tim Goodler; Alex Clark;		
🖶 🖳 🎒 Richard	-	×	0	Charley was of these peopl			yler; Alex Clark; Michael; Rud		57
🗄 🗌 🎒 Robert Rise		2			Richard	Richard;	John; Andy Kort; Robert Rise;	Wednesday, I	March 12, 2 ¥
< >	<								>
Exporting into original Exchange Server mailbox (folders:	0	00:00	:05			Selecte	d: 1 mailbox(es)		

The export can be cancelled by clicking the Cancel exporting button on the taskbar.

5.12 Working with clustered Exchange Server configuration

Exporting data into live instance of clustered Exchange Server does not differ from working with any other server configuration. Even if there are several servers with Mailbox Server roles in your configuration, and they have been added to your CCR/DAG, data can be easily restored.



As you can see on the scheme, to export data into live server, Granular Restore for Microsoft Exchange and SQL calls Client Access Server to get access to specified mailbox. And it doesn't really matter which of existing Mailbox Servers stores target mailbox - data will be exported to the right place.

The IP-address or FQDN of Client Access Server should be specified in the Host field while using the Expert mode. In the Export into original mode FQDN of this server is detected automatically by calling Active Directory domain controller.

5.13 Restore to PST files

To save items marked for export, click the **Export selected items** button on the toolbar or select the point in the **File** menu.

					-			
≝ [册] 🗟					Search in Alex Clark	t.		
rowse					(
Mailbox Database.edb	-	Туре	0	Subject	From	То	Created	
Colordar (420)	~	\geq		She was glad that Jo shoul	Luise	Maria Woods; Kyle Pakerman; Luise;	Wednesday, M	larch 12,
	~	2	0	In itsnature, it is arbitrary an	Kyle Pakerman	Andrew Wait; Richard; John; Dalia; Ro	Wednesday, M	larch 12,
Deleted Items (25)	~	200		It is my lady mother. It is my	Juliet Capulet	Romeo Montague; Richard; Dalia; Mic	Wednesday, M	larch 12,
Deleted items (25)	-	24		Butthat it might not appear t	John	Romeo Montague; Andy Kort; Robert	Wednesday, M	larch 12,
	-		0	Do you persuade yourself t	Andy Kort	Susane Tyler; Andy Kort; Juliet Capulet	Wednesday, M	larch 12,
Journal (27)	-			I regret that I am unable to r	Brian	John; Brian; Tim Goodler; Kyle Pakerm	Wednesday, M	larch 12,
Junk Email (0)	~	~	0	Alas, the heavy basketwhic	Alex Clark	Dalia; Kyle Pakeman; Michael; Susan	Wednesday, M	larch 12,
Notes (40)	~	2	Ā	He went up a dark and narr	Rudy Raid	Brian; Michael; Richard; Dalia; Luise; T	Wednesday, M	larch 12,
Outbox (0)	-	2	-	Noone, even there, could li	Romeo Montague	Brian; Alex Clark; Richard; Romeo Mon	Wednesday, M	larch 12,
Sent Items (0)	~		A	One of the things particularl	Robert Rise	John; Maria Woods; Richard; Alex Clar	Wednesday, M	larch 12.
	~	2	Ã	Stephen Brice read the ne	Luise	Alex Clark; John; Tim Goodler; Michael	Wednesday, M	larch 12,
🗄 🗆 🗁 Andrew Wait	~		Ă	Give me some light! Give m	Michael	Romeo Montague: Richard; Andrew W	Wednesday, M	larch 12,
🗄 🖳 🥭 Andy Kort	~		Ă	His condition leaves him no	Juliet Capulet	Romeo Montague; Richard; Juliet Cap	Wednesday, M	larch 12,
🗄 🗆 Brian	~	2		What a pied ninny's this!		Maria Woods; Brian; Juliet Capulet; Ro	Wednesday, M	larch 12.
🗄 🗋 🮒 Dalia	-	2	A	Your vows, your memories,	John	Robert Rise; Maria Woods; Andrew W	Wednesday, M	larch 12,
🖶 🗌 🎒 Health Mailboxade 9ae 7fe 5b 54860a 1cf 0218	-	2	Ã	The riders could be heard.I	Andrew Wait	Susane Tyler; Maria Woods; Romeo M	Wednesday, M	larch 12.
Health Mailboxbaa 8042e260149aa 928ba55	-		ã	The sinewand heart of man	Susane Tyler	Brian; Juliet Capulet; Andy Kort; Robert		
ia	-			Now, herald, are the dead	Alex Clark	Michael; Alex Clark; Susane Tyler; Ro		
ia	-	2-9		Dieu vous garde, monsieur	Michael	Maria Woods; Robert Rise	Wednesday, M	larch 12.
	-	100		If you had seen the look in		Dalia; Juliet Capulet; Alex Clark; Rome	and the standard and supply in the property of	
⊕	-			She wore a gray blouse wit	Robert Rise	Alex Clark; Susane Tyler; Maria Woods	and the second sec	
	-	2		But though the public scho		John; Brian; Michael; Andy Kort; Maria	and a second sec	
Personal Archive - Health Mailboxade9ae7fe	-	2		if itwas in gold; but at the sa	Andrew Wait	Rudy Raid; Juliet Capulet; Brian; Andy	Wednesday, M	larch 12,
	-	2		My stars shine darkly over		Juliet Capulet; Tim Goodler; Alex Clark;		
	-		A	Charley was of these peopl		Susane Tyler; Alex Clark; Michael; Rud	and the second s	
Robert Rise	-		U	,	Richard	Richard; John; Andy Kort; Robert Rise;		

You will be asked to select or create the destination folder for recovered data:

4	Recovered	1
	LIENT-PC	
	Recovered_session1	
	Recovered_session2	
	Recovered_session3	
	Recovered_session4	
	Recovered_session5	
	Recovered_session6	
Þ	TestReports	-

After selecting folder, the export will start. Required time depends on how many items are selected for export. You will be shown a progress window during the export. The window shows the number of saved mailboxes, folders, messages and total expected items to be restored (1). You can disable the progress window directly in the window or go to the **Options** menu and select **Show progress dialog**. The export can be cancelled by clicking an appropriate link in the progress dialog window (2) or by clicking the

	Granular Restore for Microsoft Exchange a	and SQL	
ile Options Help Growse Wallbox Database edb Alex Clark Alex Clark Adrew Wait Andrew Andrew Health Mailboxade Sae 7n Andrew Andrew	Search in all Search in all Mailbox Database.edb Progress Exporting into PST 27% Mailboxes 9 Folders 100 Messages 7,710 Total messages count 28,163 Read speed 2,249 KB/s Elapsed time 00:01:05 Cancel current operation 2 Show the dialog next time	mailboxes	
porting into PST 27%	File info 00:01:05	Selected: 22 mailbox(es)	

PST file naming, size and format

Granular Restore for Microsoft Exchange and SQL exports each mail store into a separate .pst file named "Recovery NNN - <Mailbox Name>[- VVV] . pst", where NNN is current recovery session identifier, VVV volume number in case the PST has to be written in more than one volume.

Example:

Recovery 001 - John Doe.pst

Recovery 001 - John Doe - 001.pst

Recovery 001 - John Doe - 002.pst

Recovery 001 - Mary Smith.pst

With large exports, there can be more than one file on the output. Additional files are created automatically when the file size limit is hit. The size volume limit depends on the output file encoding. For ANSI PST files the limit is 1GB, for Unicode files it is 19GB.

Opening exported items in Outlook

To view and manipulate exported items, use Microsoft Outlook to open the Personal Storage File (.pst) files exported by Granular Restore for Microsoft Exchange and SQL:

- 1. Start Outlook.
- 2. Click File and choose Open Outlook Data File.
- 3. Select exported pst file and click OK.

			Outlo	ok Today - Mici	rosoft Outlook	
File Home Send / I	Receive Folde	r View				
Save As Save Attachments Info		Open Calendar Open a calendar file in Outloo	ok (.ics, .vcs).			
Open Print		Open Outlook Data File Open an Outlook data file (.p	st).			
Help		Open Outlook Data File				
Options		G v · Librarie	s > Documents >		arch Documents	
Exit		Organize 🔻 New fol	der		≣ ▼ 🚺	0
		🖫 Recent Places 🔺	Documents library Includes: 2 locations		Arrange by: Folder 🔻	
		Documents	Name		Date modified	* T
		J Music	Recovery 001 - Juliet Capulet Recovery 002 - Andrew Wait		8/24/2012 2:22 PM 8/24/2012 2:18 PM	C
		■ Pictures ■ Videos	Recovery 002 - Andrew Walt Recovery 002 - Susane Tyler Recovery 002 - Kyle Pakerman		8/24/2012 2:18 PM 8/24/2012 2:18 PM 8/24/2012 2:18 PM	
		II Computer 실 Local Disk (C:)	 Recovery 002 - Andy Kort Recovery 002 - SystemMailbox(78d3) 	a78c-3e71-42c9-	8/24/2012 2:18 PM a8 8/24/2012 2:18 PM	c c
		👝 Local Disk (D:) 👝 Local Disk (E:) 👻	Recovery 002 - Rudy Raid		8/24/2012 2:17 PM	C -
		File	name: Recovery 001 - Juliet Capulet	✓ Outl ools ✓	ook Data File OK Cancel	

It is not recommended to move .pst files that are open in Outlook. Before moving, right-click the name of the Outlook Data File (.pst) and click Close.

Restoring exported items into Exchange Server

Items extracted from a mail store can be easily restored into a live server:

- 1. Make sure you have Microsoft Outlook with access to the mailbox you want to restore items into.
- 2. Open .pst file with exported messages.
- 3. Open the mailbox you need to import data into.
- 4. Select the items and drag-and-drop them back into the original folders. They will be automatically synchronized with the live Exchange Server database.

New New E-mail Items*	Clean Up * X Junk * Delete	Reply Reply For	ward 🍂 Meeting	Restored Mail	lagi To Manager ✔ Done ♀ Create New	4 1	Move (
New	Delete	Respo	ond	Qui	ck Steps	5	Mc
Drag Your Fai	vorite Folders Here	<	Search Inbox (Ctri	I+E)			P
Exchange Ma	ilbox		Arrange By: Date		New	est on to	
D 🖂 Inbox		N	1				
Sent Ite	ms	Ś.	Last Week				
Deleted	Items	7	Andy Kort subj About ti	he Test Mailbox Store	Т	hu 8/16 🦊	07
Drafts			Romeo Mon The farmer in	tague nagines power and	T	hu 8/16 🤳	07
E Restore	d Mail		John Whilst the w	orld is thus	Т	hu 8/16 🦊	$\Box \nabla$
ISS Fee			POLARITY or a	action and reaction we		hu 8/16 👃	۵Ŷ
Recovery 001	- Juliet Capulet		Kyle Pakerma	an man of genius who ha:		hu 8/16 hil 🌷	۵Ÿ
Deleted			Tim Goodler		TI	hu 8/16	
Convers Drafts	ation Action Settings		Susane Tyler In self-trust a			hu 8/16	
Inbox (1	982)		🖂 Susane Tyler		T	hu 8/16	
📜 Junk E-I	Mail		A CONTRACT OF A CONTRACTACT OF A CONTRACT OF A CONTRACTACT OF A CONTRACTACT OF A CONTRACT OF A CONTR	value of action like tha		1001722-000	<u>n</u> k
🧔 Search F	Folders ed Folders		John Emerson spe	nt the latter part of his		hu 8/16	07
Outbox			Alex Clark	SHT OF REPLACEMENT	T	hu 8/16	07

6 Command-line interface

The command line feature allows you to easily process several databases.

Usage: esr.exe <source> <destination>

Example: esr.exe "c:\Mailbox Database.edb" "c:\results\"

Below is a list of commands with their description that can be used in command line:

There are several ways to set the source file(s):

Operation	Description	Example
<file mask="" path=""></file>	mask to path with files	esr.exe c:*.edb c :\results\
/list= <path></path>	sets a path to file which contains a list with files to recover	esr.exe /list=d:\files_to_recover.txt c:\results\
/list={file1, file2,, fileN}	sets enumeration of files to recover. Full path to file must be used	esr.exe /list={d:\1.edb, d:\2.edb} c:\results\

Specify the destination directory for the recovered file(s):

Operation	Description	Example
<out dir=""></out>	path to output directory	esr.exe c:*.edb c :\results\

Detailing parameters:

Operation	Description	Example
/initdir= <path></path>	sets the initial directory for the Open database dialog	esr.exe /initdir="c:\EDB Mailboxes\"
-notfilterfaultymessages	shows messages that have been filtered due to their damage	esr.exe -notfilterfaultymessages
/redirect= <path></path>	redirects console output to text file	esr.exe c:*.edb c :\results\ /redirect="c:\result.txt"
/cleartemp	if set - the product will remove all temp data on startup	esr.exe /cleartemp

6.1 Extended command-line interface

Extended command-line interface can help to automate various command-line operation.

Automation commands begin with /auto switch. To address individual items, such as mailboxes, folders and messages, their IDs are used. To obtain an object's ID, the 'lh' automation command is used.

Operation	Description	Example
/auto	Begins automation sequence. Parameters that follow will specify automation.	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto lh /items={FF55DD44- EE6788DD, BB3345F4-EE788922}
lh	Lists EDB objects (tab-separated: Id, Name, Parent Id). Also see /items and /r options. Note: mailbox(es) or folder(s) IDs must be used in /items parameter.	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto lh /items={FF55DD44-EE6788DD, BB3345F4-EE788922}
Im	Lists messages (tab-separated: Id, Subject). Also see /items and /r options. Note: folder(s) ids must be used in /items parameter	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto lm /items={FF55DD44- EE6788DD, BB3345F4-EE788922}
fd	Shows folder details (tab-separated: Id, Name, MessageCount, Class). Also see /items option. Note: folder(s) ids must be used in /items parameter	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto fd /items={FF55DD44-EE6788DD}
e	 Extracts items. Also see /items and /rcs options. See /pstencoding to set PST encoding. See /outdir to set output folder. Note: mailbox(es), folder(s) or email(s) IDs must be used in /items parameter. 	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto e /items={FF55DD44-EE6788DD} /outdir="C:\results\"
ea	Extracts attachments from message. Also see / items option. See /outdir to set output folder. Note: folder(s) or email(s) ids must be used in / items parameter	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto ea /items={FF55DD44- EE6788DD} /outdir="C:\results\"

Operation	Description	Example
pm	 Does performance test (tab-separated output: Operation Elapsed time hh:mm:ss, Count). Sequence: Opens EDB Saves items. Use /itemscount to pass a number of items to save Use /items to pass a folder with items to save or an item list(or one item) to save. See /pstencoding to set PST encoding. See /outdir to set output folder. Note: if you pass an email id in /items parameter it will be saved "/itemscount" times. 	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto pm /items={FF55DD44- EE6788DD} /itemscount=3000 /outdir="C:\results\"
S	Searches for provided query string (see /query option). Output: same as in Im command. Use /items option to set a folder where to search. Otherwise, search will be performed on a whole database.	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto s /query={has_words=email}

Below there is list of options and their descriptions that can be used with command-line operations, described above.

Operation	Description	Example
/items={id1,id2,}	List of items(mailbox, folder, message, calendar IDs etc.) in hexadecimal format Root ID = 1 (/items={1})	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto lh /items={FF55DD44-EE6788DD, BB3345F4-EE788922}
/r	Recursively includes subfolders into current operation.	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto lm /items={FF55DD44-EE6788DD, BB3345F4-EE788922} /r

Operation	Description	Example
/itemscount= <count></count>	Count of items to save.	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto ps /items={FF55DD44-EE6788DD} /itemscount=5
/query= <query></query>	Search query string. "; " sequence is used to divide search parameters in string. Parameters (see search tab of the UI): 1. has_words – "Has words" field 2. no_words – "Doesn't have" field 3. has_attach – "Has attachments" field. True or false. 4. from – "From" field 5. to – "To" field 6. subject – "Subject" field 7. datefrom – start date of range in "dd/MM/ yyyy" format 8. dateto – end date of range in "dd/MM/ yyyy" format	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto s /query={has_words=email; no_words=theme; has_attach=true; from=Brian; to=Romeo; subject=Test this App; datefrom=10/04/2013; dateto=10/05/2013}
/pstencoding= <encoding></encoding>	Encoding of PST file. Values: Unicode(default), ANSI.	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto ps /items={FF55DD44-EE6788DD} /itemscount=3000 /pstencoding=ANSI /outdir="C:\results\"
/outdir= <path></path>	Path to output folder	esr.exe "c:\EDB Mailboxes\priv1.edb" /auto ps /items={FF55DD44-EE6788DD} /itemscount=3000 /outdir="C:\results\"

Application Exit Codes

Code	Description
0	ОК
1	Some errors in parameters
2	No data to restore
3	Empty /item or / outdir parameter, operation did not start

7 Glossary

This glossary lists terms and their synonyms, most commonly used in Granular Restore for Microsoft Exchange and SQL help.

AD - Active Directory (AD) is a directory service implemented by Microsoft for Windows domain networks. An AD domain controller authenticates and authorizes all users and computers in a Windows domain type network. For additional information, please visit <u>http://en.wikipedia.org/wiki/Active_Directory</u>.

ANSI PST format - An old PST-file format, used in Outlook 97-2002. ANSI format has a 2 GB limit in file size.

Deleted items - Items/folders deleted from a mailbox hierarchy.

Destination folder/mailbox - A folder/mailbox, selected for export.

EDB - An Exchange database format, used to store information from users' mailboxes. Synonyms: Exchange Server database, dataset.

EWS - Exchange Web Services. EWS provides the functionality to enable client applications to communicate with the Exchange server. EWS provides access to much of the same data that is made available through Microsoft Office Outlook.

Exchange impersonation - Exchange impersonation enables a caller to impersonate a given account so that the operations can be performed with the rights of the impersonated account, instead of the rights that are associated with the caller's account. Configuration information is available at http://msdn.microsoft.com/en-us/library/office/bb204095(v=exchg.140).aspx

Exchange Server - A mail server, calendaring software and contact manager developed by Microsoft. Export - Copying information from an offline mailbox so it can be stored in a pst file or on the live Exchange Server.

GMT - Greenwich Mean Time (GMT) is considered as a reference point for time.

Host - Domain name of the machine with Client Access role of Exchange Server, or IP address.

Injection - The process of copying data from offline mailbox to live or original connected mailbox on the server. Local time - Local time is calculated by adding or subtracting a number of hours, depending on a time zone, to UTC.

Live Exchange Server mailbox - Destination Exchange server mailbox, that exists on the server and is available for connection. Synonym: attached mailbox.

Mail Store - A type of self-storage whereby customers send items by mail or delivery service (usually by the box) to be stored at a central location. Synonyms: mailbox, offline database, Outlook storage, database storage(depending on the conext).

Original mailbox - A mailbox in live Exchange Server that corresponds to the mailbox in the opened database.

OST - An Offline Storage Table (.ost) format. OST is used by Microsoft Exchange Server that enables users to work with their messages and mail data even when access to the mail server isn't available.

PST - A Personal Storage File (.pst) format, used to store copies of messages, calendar events, and other items. PST files are readable with Outlook or other compatible email client.

Unicode PST format - A PST-file format used in Outlook 2013 and earlier versions, so older versions of Outlook will not be able to open Unicode formatted PST files. Previous versions of Outlook were using ANSI format. The main reason for this change was to allow for international character support and to extend the maximum size of PST files beyond the 2GB limit of the ANSI formatted PST files. UTC - Coordinated Universal Time (UTC) is the primary time standard by which the world regulates clocks and time. Usually used with references to time zones.

8 Carbonite Server Backup Support

If you have a question about Carbonite Server Backup that isn't covered in this guide, our frequently-updated Knowledge Base contains comprehensive information. The Knowledge Base is your first stop when searching for any Carbonite Server Backup solutions you may need. We highly recommend searching here first for the quickest answers to your questions.

Knowledge Base: http://support.carbonite.com/evault

What can we help you with?			
type a topic or question	Search		
Popular Searches pending reboot, restore, clnt-e-04103			

8.1 Contacting Carbonite

If you need live assistance from a qualified support agent, Carbonite Support is here for you 24 hours a day, 7 days a week (excluding US holidays). Please feel free to get in touch with us, and we'll help out any way we can! You can find the contact information for Carbonite Support in the Knowledge Base: http://support.carbonite.com/evault



Tip: When contacting Support with a technical issue, please have both the program's log files and the store you are having difficulty with ready.

To gather log files, click File menu and choose Open log folder. Compress the contents of the folder in a .zip file and attach it to your support request.

If the log archive and/or mail store exceeds 10MB, you may not be able to send them as an email attachment. In that case, upload instructions will be provided to you upon request.