

A Solution to Extract Mailbox from Exchange 2010 EDB via Recovery Database

With Exchange 2010, administrators are gifted with Recovery Database (RDB) feature that allows mounting restored-backup on it and then data can be extracted from them. Data after extraction can be merged with mailbox of production or some different Server or moved to a folder. The reason why RDBs are of great help to the admins is they give a platform to extract mailbox from Exchange 2010 EDB backup or its copy without causing any disturbance to original database. This option is used in situations when any mailbox or its item is deleted and has passed retention period also. Moreover, if a single mailbox has to be recovered without interrupting production Server, then concept of RDB works in favor.

Recovery Database (RDB) is different from a normal mailbox database in various aspects. Here are some basic differences between both the databases:



- Recovery Databases are created using Exchange Management Shell.
- Emails cannot be sent or received through Recovery Database.
- No information to Exchange environ can be added using RDB.
- There are no system or mailbox policies for Recovery Database.
- ➔ No backup can be performed against RDB like normal mailbox.
- Recovery Database (RDB) cannot be connected with normal mailbox.

Recovery Steps Using Recovery Database (RDB)

Step1) Restore Backup (Here Illustrated using Windows Server Backup)

Consideration:

- Database = E:\Drive
- Backups = F:\ Drive
- Database Name = DB01 on Server MBX1

Open Windows Server Backup and in the Actions Pane, select Recover Task.

| 🌺 Windows Server Backup | |
|--------------------------------|--|
| File Action View Help | |
| Backup Schedule Backup Once | |
| Wir Recover | al) |
| Configure Performance Settings | laup or schodule a regular backup using this application |
| | |

a) <u>Getting Started</u>: In this window, define the location where backup to be restored is saved.

| 🌆 Recovery Wizard | × | | | |
|--|--|--|--|--|
| Getting Started | | | | |
| Getting Started Select Backup Date Select Recovery Type Select Items to Recover Specify Recovery Opti Confirmation Recovery Progress | You can use this wizard to recover files, applications, volumes, or the system state from a backup that was created earlier. Where is the backup stored that you want to use for the recovery? This server (MBX1) A backup stored on another location To continue, click Next. More about recovering your server data Previous Next > Recover Cancel | | | |

b) <u>Select Backup Date</u>: Now, using the calendar control, define a date from which you want the restoration should start.

| 🗽 Recovery Wizard | × | | | | |
|--|--|--|--|--|--|
| Select Backup Date | | | | | |
| Getting Started Select Backup Date Select Recovery Type Select Items to Recover Specify Recovery Opti Confirmation Recovery Progress | Oldest available backup: $12/9/2010 \ 10:23 \ PM$ Newest available backup: $12/9/2010 \ 10:23 \ PM$ Available backups Select the date of a backup to use for recovery. Backups are available for dates shown in bold. Backup date: $12/9/2010$ Time: $10:23 \ PM$ Location: Backups (F:) Status: Available online | | | | |
| | < Previous Next > Recover Cancel | | | | |

c) <u>Select Recovery Type</u>: Now, chose the type of data has to be restored:

| 🗽 Recovery Wizard | | |
|--|---|--|
| Select Recovery Type | | |
| Getting Started Select Backup Date Select Recovery Type Select Application Specify Recovery Opti | What do you want to recover? Files and folders You can browse volumes included in this backup and select files and folders. Volumes You can restore an entire volume, such as all data stored on C:. | |
| Confirmation Recovery Progress | Applications You can recover applications that have registered with Windows Server Backup. Bystem state You can restore just the system state. | |
| | More about performing recoveries < Previous Next > Recover Cancel | |

d) <u>Select Application</u>: Since I have to restore database of Exchange Server, I will enter Exchange Server in the text box.

| 🌆 Recovery Wizard | × | | | |
|---|--|--|--|--|
| Select Application | | | | |
| Getting Started Select Backup Date Select Recovery Type Select Application Specify Recovery Opti Confirmation Recovery Progress | Select application to recover. Applications: Exchange View Details | | | |
| | <pre></pre> | | | |

e) <u>Specify Recovery Options</u>: Define a location where the backup data will be restored.

| 🗽 Recovery Wizard | × | | | |
|--|--|--|--|--|
| Specify Recovery Options | | | | |
| Getting Started Select Backup Date Select Recovery Type Select Application Confirmation Recovery Progress | Where do you want to recover the application and application data to? Recover to original location This option will recover the application from the selected date. Recover to another location E:\RecoveryDB Browse Important: This option will copy just the application data to the new location - this will not recover the application itself. More on application recovery options Previous Next > Recover Cancel | | | |

f) <u>Confirmation</u>: Information that has been provided for data restoration will be shown on screen. Verify and click *Recover* option.

| 🗽 Recovery Wizard | X | | | |
|-----------------------------------|---|--|--|--|
| Confirmation | | | | |
| Getting Started | From backup: 12/9/2010 10:23 PM Recovery items: | | | |
| Select Recovery Type | Microsoft Exchange Server Wicrosoft Information Store WBX1\de883e0c-0c71-44d6-b2f4-b1ce | | | |
| Specify Recovery Opti | | | | |
| Confirmation Recovery Progress | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | Recovery destination: E:\RecoveryDB | | | |
| | < Previous Next > Recover Cancel | | | |

g) <u>Recovery Progress</u>: Status of restoration process can be checked out in this window. If Status=Completed, it means the restoration is complete.

| 🗽 Recovery Wizard | × |
|---|--|
| Recovery | Progress |
| Getting Started Select Backup Date Select Recovery Type Select Application Specify Recovery Opti Confirmation Recovery Progress | Application recovery progress: Status: Completed. Recovery details: Items Item Destination Status Data transferred Microsoft E E:\RecoveryDB Completed. 337.07 MB of 337 To close the wizard, click Close — the recovery operation will continue to run in the background. To view the progress of this operation, open the backup in progress message from the Windows Server Backup console. |
| | <pre>< Previous Next > Close Cancel</pre> |

Restoration Result will be like this:

| | | Search DB01 | |
|---------------------------|--------------------------------|--------------------|---------------------|
| Organize Include in lib | rary ▼ Share with ▼ New folder | | E ▼ 1 0 |
| 📌 Favorites | Name ^ | Date modified | Type S |
| 🧾 Desktop | DB01.edb | 12/9/2010 10:21 PM | EDB File |
| 鷆 Downloads | 🚳 E01.chk | 12/9/2010 10:23 PM | Recovered File Frag |
| 🔚 Recent Places | E01tmp | 12/9/2010 10:23 PM | Text Document |
| En 14 | e01000000a | 12/9/2010 8:57 PM | Text Document |
| Decumenta | 📄 e0 10000000b | 12/9/2010 8:58 PM | Text Document |
| | | | |

Step2) Bring Database to Clean Shutdown State

Now, the next step is to mount the recovered database to RDB but before that it is necessary that it is brought to clean shutdown state. To test state of DB in command-prompt, the syntax is: C:\program files\exchsrvr\bin>eseutil /mh "drive:\program files\exchsrvr\bin files\exchsrvr\bin files\exchsrvr\bin f

Administrator: Command Prompt _ 🗆 🗙 * E:\RecoveryDB\E_\DB01>eseutil /mh DB01.edb

If the results of DB state verification are viewed, it will be Dirty Shutdown:

| 🛤 Administrator: Command Prompt | |
|--|--|
| DB Signature: Create time:12/09/2010 20:55:23 Rand:1385945 Computer: cbDbPage: 32768 dbtime: 275356 (0x1339a) State: Dirty Sbutdown | |
| Log Required: 71-71 (0x47-0x47) Log Committed: 0-72 (0x0-0x48) Log Recovering: 0 (0x0) | |

The transaction logs have to be replayed (through the process 'Soft Recovery') with following syntax in order to bring database to consistent state: ESEUTIL /r enn /L[path to log files] /s[path to checkpoint file] /d[path to database file] /i

| Administrator: Command Prompt | _ _ × |
|--|--------------|
| E:\RecoveryDB\E_\DB01>eseutil /r e01 /d | |
| Extensible Storage Engine Utilities for Microsoft(R) Exchange Serv | ver |
| Copyright (C) Microsoft Corporation. All Rights Reserved. | |
| Initiating RECOVERY mode Logfile base name: e01 Log files: <current directory=""> System files: <current directory=""></current></current> | |
| Database Directory: <current directory=""></current> | |
| Performing soft recovery Restore Status (% complete) | |
| 0 10 20 30 40 50 60 70 80 90 100 | |
| | |
| | |
| operation completed successfully in 5.813 seconds. | |

Now again test state of DB using /mh switch (syntax shared above) and it will probably be in consistent state:



Step3) Create Recovery Database and Mount Restored DB to It

For creating Recovery Database (RDB), PowerShell Cmdlet *New-MailboxDatabase* can be used: <u>New-MailboxDatabase</u> –Recovery –Name Recovery –Server <servername> – edbfilepath <databaseapath\databasename.edb> -logfolderpath <logpath>

| 🚱 Machine: mbx1.uss.local | | | | × |
|--|--|---|---|---|
| [PS] C:\>New-Mailbox .edb -LogFolderPath WARNING: Recovery da E:\RecoveryDB\E_\DB0 state before it can | Database -Name Recovery E:\RecoveryDB\E_\DB01 tabase 'RecoveryDB' wa 1\DB01.edb. The databas be mounted. | yDB -EdbFilePath -Recovery -Server s created using e se must be brough | E:\RecoveryDB\E_\DB01\DB01 mbx1 xisting file t into a clean shutdown | |
| Name | Server | Recovery | ReplicationType | |
| RecoveryDB | MBX1 | True | None | |

Now when the RDB is created, restored database from backup can be mounted on it:



Step4) Extract Mailbox from RDB and Merge it

The RDB is now online and to check out status of mailboxes on it, use the *Get-MailboxRestoreRequest* cmdlet. – <u>Get-MailboxStatistics</u> –<u>Database</u> '<u>DatabaseName</u> – <u>Recovery'</u>

| atistics -Datab | ase RecoveryDB | |
|-----------------|--|---|
| ItemCount | StorageLimitStatus | LastLogonTime |
| | | |
| 3 | NoChecking | |
| 3 | BelowLimit | |
| 3 | BelowLimit | |
| 4 | BelowLimit | |
| | atistics -Datab ItemCount 3 3 3 4 | atistics -Database RecoveryDB ItemCount StorageLimitStatus 3 NoChecking 3 BelowLimit 3 BelowLimit 4 BelowLimit |

To extract mailbox from Exchange 2010 EDB from RDB, use the New-MailboxRestore cmdlet that requires DisplayName and Mailbox GUID parameter. In order have GUID names of mailboxes on RDB, use the command:

Get-MailboxStatistics -Database 'DatabaseName - Recovery' | Format-List DisplayName, MailboxGUID

In order to restore Recover Database mailboxes on target Server, following command in EMS can be used:

Here alias name of mailbox on target Server and GUID name of mailboxes on RDB will be required.

New-MailboxRestoreRequest -SourceDatabase 'DatabaseName - Recovery' -SourceStoreMailbox MailboxGUID -TargetMailbox TargetMailboxAlias -AllowLegacyDNMismatch

| 🚱 Machine: mbx1.uss.local | | |
|--|---|---|
| [PS] C:\>New-MailboxRe: ke Pfeiffer' -TargetMa match | storeRequest -SourceDatabase ilbox administrator -TargetRo | RecoveryDB -SourceStoreMailbox 'Mi▲ otFolder Restore -AllowLegacyDNMis |
| Name | TargetMailbox | Status |
| MailboxRestore3 | uss.local/Users/Admin | istr Queued |

What if Backup is not available or is inconsistent?

There could be situations where a backup could be inconsistent or it is not available and to extract mailbox from Exchange 2010 EDB file in such scenarios, a third party tool could be adopted. Exchange Recovery software is a trustable name that allows extracting public and private folder data from EDB file and exports them to PST, EML, MSG, and to live Exchange Server.



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