

ExMixedFolders

Exchange Mailbox Migration by ExMixedFolders

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ExMixedFolders – Exchange Migration

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Introduction

ExMixedFolders is a Windows service that can synchronize Exchange folders, folder structures or mailboxes within an Exchange server or even between multiple Exchange servers.

In order to gain access to the Exchange server, the Exchange Web Service (EWS) is used, which is available in the Exchange versions as of 2007 SP1. As a result, the program does not necessarily have to be installed directly on the Exchange server.

The program is therefore also suitable for the migration of mailboxes or public folders between two servers. (2007SP1, 2010, 2013, 2016, 2019 and Office 365).

To be able to use the program, at least Exchange Version 2007 SP1 or higher is required.

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1. Requirements for the use of ExMixedFolders

To migrate via Exchange Webservice, the following prerequisites are necessary.

Configure message size limits:

In order to transfer all elements, it is necessary to adjust the mail size limit so that you can also migrate the largest message from your mailboxes.

Microsoft writes the following: <https://docs.microsoft.com/en-us/exchange/configure-client-specific-message-size-limits-exchange-2013-help?redirectedfrom=MSDN>

To find out the current values, you can type the following in the Exchange Management Shell:

```
Get-ReceiveConnector | Format-List -Property Identity, MaxMessageSize
```

```
Get-TransportConfig | Format-List -Property MaxReceiveSize, MaxSendSize
```

```
Get-SendConnector | Format-List -Property Identity, MaxMessageSize
```

In order to change the values, use:

```
Get-SendConnector | Set-SendConnector -MaxMessageSize 100MB
```

```
Get-ReceiveConnector | Set-ReceiveConnector -MaxMessageSize 100MB
```

```
Set-TransportConfig -MaxReceiveSize 100MB -MaxSendSize 100MB
```

Since the mail size is also limited by the IIS, you will find further settings in the web.config of the EWS.

Open the [ExchangeInstallation] \ClientAccess\exchweb\ews\web.config file with a text editor.

In the file, find the following entries `maxAllowedContentLength` and `maxReceivedMessageSize`.

Change their values to the desired limit in bytes. The parameters `maxAllowedContentLength` and `maxReceivedMessageSize` for `UMLegacyMessageEncoderSoap11Element` do not need to be changed.

After saving the file, the IIS must be restarted.

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2. Exchange Throttling Policy

Exchange Webservice is using throttling-policy since Exchange 2010 to prevent overloading the system. However, you can customize them for your purposes.

If you need a higher execution speed of the EWS for the migration, then you could create a new throttling policy in the following way and then assign it to the relevant mailboxes.

Exchange 2010

New-ThrottlingPolicy ExMixedFoldersPolicy

Set-ThrottlingPolicy ExMixedFoldersPolicy -EWSMaxConcurrency \$null

Set-Mailbox [MAILBOXNAME] -ThrottlingPolicy ExMixedFoldersPolicy

Exchange 2013 and up

New-ThrottlingPolicy ExMixedFoldersPolicy

Set-ThrottlingPolicy ExMixedFoldersPolicy -EwsCutoffBalance Unlimited -EwsMaxBurst Unlimited -EwsRechargeRate Unlimited -EWSMaxConcurrency unlimited

Set-Mailbox [MAILBOXNAME] -ThrottlingPolicy ExMixedFoldersPolicy

<https://www.somebytes.net/en/support/faq/ews-configurations-solutions/exchange-throttling-policy-for-ews/>

In Office 365 you can only adjust the throttling temporarily:

<https://www.somebytes.com/en/support/faq/ews-configurations-solutions/exchange-throttling-policy-for-ews/>

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3. Adjust target mailbox language according to source mailbox

The folder names of the destination mailbox must correspond to the language of the outgoing mailbox, otherwise standard folders cannot be correctly assigned and duplication occurs.

You can set the language either when you log in for the first time or via the management console.

e.G.: `Set-MailboxRegionalConfiguration -Identity "UserOfTheMailbox" -Language de-DE - LocalizeDefaultFolderName`

for all mailboxes: `Get-Mailbox | Set-MailboxRegionalConfiguration -Language de-DE - LocalizeDefaultFolderName`

4. Configuration by Microsoft Excel (optional)

In order to create ExMixedFolders Migration-tasks you can use Excel from Service=>Open in Excel.

Here you can copy&paste to create new tasks.

ExMixedFolders Service-configuration

In `C:\Programs\Somebytes\ExMixedFolders\` you can find a file named `ExMixedFolders.exe.conf`, where you can change some settings which are usefully for your migration.

1. Logpath (optional):

If you set the log path with this variable, you can get one logfile for each day, instead of the `C:\ProgramData\ExMixedFolders\ExMixedFolders.log`, which is growing until 10 MB only.

```
<setting name="LoggingPath" serializeAs="String">  
  <value>C:\temp\log\</value>  
</setting>
```

2. Privacy:

In order to prevent subjects appearing in the log:

```
<setting name="CanShowNamesInLog" serializeAs="String">  
  <value>False</value>  
</setting>
```

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3. DB-path:

ExMixedFolders is using some databases for its data.

In the file C:\ProgramData\ExMixedFolders\settings.conf you can set the path for the databases.

```
<DBDataPath>C:\temp\db\</ DBDataPath >
```

4. Performance:

Depending on how you set your throttling in the Exchange, you can change the following parameters.

The parameters are the statement to ExMixedFolders to perform parallel operations within a minimum and maximum limit. At the minimum limit I recommend you to enter a 1, at maximum limit you can decide for yourself how your Exchange server should be charged maximum. The initial value is the starting value, which will change depending on the amount of errors, whether the value is increased or decreased.

The value MaxDegreeOfMailboxParallelism... applies to parallel processing of mailboxes and the value MaxDegreeOfParallelism... stands for parallel processes of element processes (copy, change, create objects).

In the file C:\ProgramData\ExMixedFolders\settings.conf you can set the limits:

```
<MaxDegreeOfParallelismAutoMax>20</MaxDegreeOfParallelismAutoMax>  
<MaxDegreeOfParallelismInit>5</MaxDegreeOfParallelismInit>  
<MaxDegreeOfParallelismAutoMin>1</MaxDegreeOfParallelismAutoMin>  
<MaxDegreeOfMailboxParallelismAutoMax>20</MaxDegreeOfMailboxParallelismAutoMax>  
<MaxDegreeOfMailboxParallelismAutoMin>1</MaxDegreeOfMailboxParallelismAutoMin>
```

There are some performance-indicators as well, which you can watch from windows performancemonitor:

- ItemChangesPerHour = Changes per hour.
- Items1 / Items2 = Itemcount of source and target
- MaxDegreeOfParallelism = current parallelism value
- FolderPairsWaitingToSync = how many folders left
- FolderPairs = amount of folderpairs in sync

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Create connections to Exchange

Now start the ExMixedFolders configurator and create connections to your Exchange servers (source => destination).

Activate "Use impersonation" in both connections and configure impersonation in the Exchange Server. This means that the service user must be assigned the "ApplicationImpersonation" role. (The details can be found in the ExMixedFolders manual)

In order to be able to access the desired mailbox of a user with the service user via "impersonation", the SMTP address of the user must be entered in the migrationtask.

Connection of Mailboxes

Now it's time to create a synchronizationtask manually, which you can use as a template for all other mailboxes.

Exchange 1 / Mailbox 1 => Exchange 2 /Mailbox1

From the menu [Synchronizationtask] => [create Migrationtask] you will get a new Mailbox migration job.

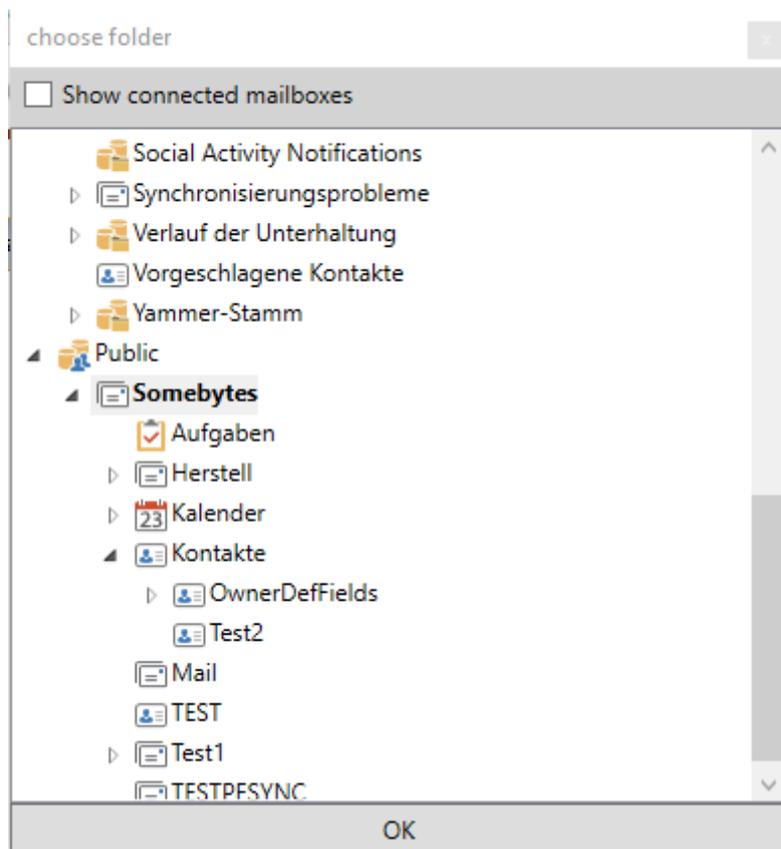
Choose your server 1 and server 2 from the EWS box.

Tell the users SMTP address of your source-mailbox. On the right you can tell the SMTP of the target users Mailbox.

Now click on the left and then right on the mailbox selection under folder and select the mailbox.

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Settings for the migration job:

1. **Migrate deleted items:** Here you determine whether the trash box should also be synchronized. (not recommended)
2. **Empty target folder first:** Before the migration starts, the target folder is emptied. This setting is only necessary if you already have data in the target folder due to previous tests or migration attempts.
3. **Reset faulty folders:** If this option is activated, the next time the service is started, any folder that has been marked as faulty will be migrated again. This can happen, for example, if one of the Exchange servers has not been available for a long time.
 - a. The "Reset on error" option is also interesting here: You can specify a number of attempts here in which the service folder will automatically re-synchronize if an error occurs.
4. **Generate revision data:** ExMixedFolders creates tsv files that you can later examine for errors that occurred during the migration.
5. **Remove duplicates:** These two options are more for maintenance purposes, you can also configure the migration jobs as a maintenance task.
6. **Initially generate revision data:** Before the migration starts, some databases and CSV files are created, e.g. Can be used for the duplicate search.

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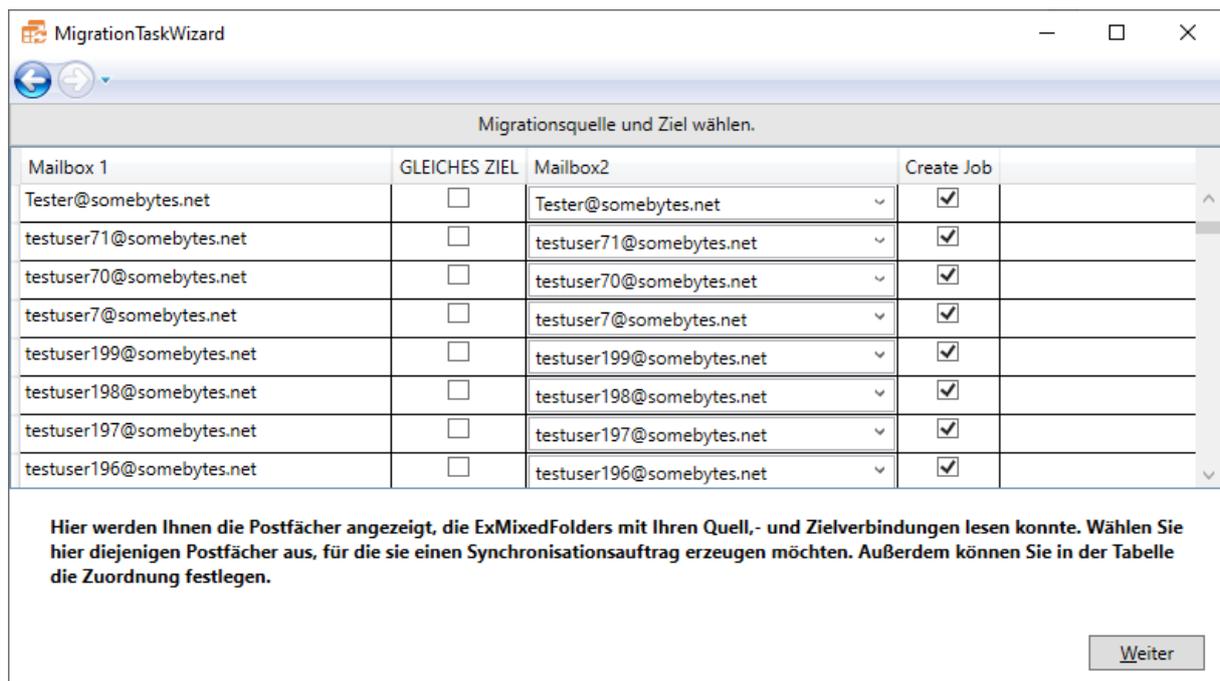
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7. **Migration in progress:** With the option you determine whether the task should work as a maintenance task or as a migration job.
8. **Do not overwrite elements in the target:** You can use this option if you only want to migrate data but want to skip recent changes.
9. **Migration type:** You can select a green and a red arrow in the selection box. With the green arrow all data of the source as well as changes of the source are transmitted. If you choose the red arrow, it is ensured that no changes can be made at the target. Every change in the target causes the element to be overwritten again.
10. **Time filter:** With the time filter, you can ensure that only the latest elements are migrated.

You have now configured mailbox migration. After [Service] => [Save and restart] the migration of this mailbox would be started. If you now want to add further tasks, you can proceed as follows.

1.) With the task assistant, which you can find in the Service menu.

Save your (as above) configured migration job as a template (right click => Save template) and start the task wizard. Select the template, the source and the target connection. In the next step, all users are displayed, if the same users occur on the right and left, the ExMixedFolders mailboxes can be connected accordingly.



The screenshot shows the 'MigrationTaskWizard' window with the title 'Migrationsquelle und Ziel wählen.' It contains a table with the following columns: 'Mailbox 1', 'GLEICHES ZIEL', 'Mailbox2', and 'Create Job'. The table lists several test users from 'somebytes.net'. The 'Create Job' column has checkboxes that are all checked. Below the table is a text box with instructions in German and a 'Weiter' button.

Mailbox 1	GLEICHES ZIEL	Mailbox2	Create Job
Tester@somebytes.net	<input type="checkbox"/>	Tester@somebytes.net	<input checked="" type="checkbox"/>
testuser71@somebytes.net	<input type="checkbox"/>	testuser71@somebytes.net	<input checked="" type="checkbox"/>
testuser70@somebytes.net	<input type="checkbox"/>	testuser70@somebytes.net	<input checked="" type="checkbox"/>
testuser7@somebytes.net	<input type="checkbox"/>	testuser7@somebytes.net	<input checked="" type="checkbox"/>
testuser199@somebytes.net	<input type="checkbox"/>	testuser199@somebytes.net	<input checked="" type="checkbox"/>
testuser198@somebytes.net	<input type="checkbox"/>	testuser198@somebytes.net	<input checked="" type="checkbox"/>
testuser197@somebytes.net	<input type="checkbox"/>	testuser197@somebytes.net	<input checked="" type="checkbox"/>
testuser196@somebytes.net	<input type="checkbox"/>	testuser196@somebytes.net	<input checked="" type="checkbox"/>

Hier werden Ihnen die Postfächer angezeigt, die ExMixedFolders mit Ihren Quell,- und Zielverbindungen lesen konnte. Wählen Sie hier diejenigen Postfächer aus, für die sie einen Synchronisationsauftrag erzeugen möchten. Außerdem können Sie in der Tabelle die Zuordnung festlegen.

[Weiter](#)

In the next step, the tasks will be generated for you.

2.) Manual assignment of the mailboxes.

As a prerequisite you need a list with the SMTP addresses of your mailboxes to be transferred.

If you need a list of mailboxes you can now use this command on the Exchange Management Shell.

```
Get-Mailbox |select PrimarySmtpAddress
```

With this list you can create all your jobs be the template you just created.

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More infos are here: <https://www.somebytes.net/en/products/exmixedfolders/faq/exmixedfolders-massgen/>

Right-click into the User ID field and select “create jobs by template”. You get a dialog that contains a source list and a target list. Now insert your sorted mailbox lists here and check the assignment.

Please enter one username (SMTP) per line. Each line generates one synctask for the desired user.

user1@quellserver.de user2@quellserver.de user3@quellserver.de	user1@zielservers.de user2@zielservers.de user3@zielservers.de
--	--

Cancel  Create synctasks by template

After the dialog is ready, you should have your configuration for the migration.

If you like to create the configuration in Excel it's possible as well. Copy the migration tasks and change the addresses and jobnames.

If you like to start the migration you can select Service => “Save and restart”

3.) Using Excel

If you have installed Excel, you can also create the tasks in Excel or edit existing ones. To do this, click on [Service] => [Edit in Excel]. Excel is opened with the configuration from the configurator. In order to create further tasks, copy an existing one and change the name and the source and target mailbox. After saving and closing the file, ExMixedFolders will read the changed configuration.

If you want to start the migration process, then select [Service] => [Save and restart]

However, it is advisable to only start the service when the configuration is completely what you want. (You can prevent the service from starting simply by setting the service to "Deactivated" under services.msc => ExMixedFolders.)

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4.) Add migrationtasks via PowerShell

ExMixedFolders comes with a PowerShell module that can generate migration jobs in the PowerShell. For this it is necessary that you have already created service connections to the source and destination in the configurator and that they are configured for impersonation.

The Powershell module is loaded as follows:

```
Import-Module 'C:\Program Files\Somebytes\ExMixedFolders\ExMixedFoldersPS.dll'
```

With the following command you can create a migration job for a mailbox:

```
Add-ExMixedFoldersMigration user1@server1.net user1@server2.net ServiceConnection1 ServiceConnection2
```

The parameters 1 and 2 are the source and destination mailboxes and the 3rd and 4th positions are the source and destination connections to the exchange server.

If you want to configure several migration jobs at the same time, you can use import-csv, for example.

To do this, create a CSV file that contains the addresses of the mailboxes from the source and the destination. This can look like this:

```
Users1;Users2  
user1@somebytes.de;user1@server2.de  
user2@somebytes.de;user2@server2.de  
user3@somebytes.de;user3@server2.de  
user4@somebytes.de;user4@server2.de  
user5@somebytes.de;user5@server2.de  
user6@somebytes.de;user6@server2.de
```

With the following command you now read in the CSV file and use the addresses as input for the program.

```
Import-Module 'C:\Program Files\Somebytes\ExMixedFolders\ExMixedFoldersPS.dll'  
$csv = import-csv D:\migrationusersTest.csv -Delimiter ';'   
Add-ExMixedFoldersMigration $csv.Users1 $csv.Users2 ServiceConnection1 ServiceConnection2
```

The command works as follows. First, the ExMixedFolders service is stopped. Then the appropriate migration jobs (.tpl files) are created using a template (the default is

C:\ProgramData\ExMixedFolders\MigrationTaskTemplate.tpl).

The service is then started again and the prepared job blanks (.tpl files) are read in by ExMixedFolders and converted into a migration job (.conf files).

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The Add-ExMixedFoldersMigration command has other parameters as well.

- 1.) **Template:** Here you can enter another template that you have prepared. (Default = C:\ProgramData\ExMixedFolders\MigrationTaskTemplate.ttpl)
- 2.) **Tenant:**
- 3.) If you use several instances of ExMixedFolders, you can specify the corresponding service here. (Standard = ExMixedFolders)
- 4.) **Projekt:** You can enter a name here, which is then appended to the job name. (Default = migration)
- 5.) **StartService:** If the ExMixedFolders service is not yet to be started, you can enter a false here. (Default = true)

Monitoring the migration

The configurator does not have to be open for the migration process, as ExMixedFolders is a Windows service.

To keep an overview of the progress, you can access the ExMixedFolders web service. Open [Service] => [Log] => [Folder overview].

The page provides the following information:

- 1.) Progress of the migration in % / time (Since ExMixedFolders does not know the size of the folders and elements, this display is only an estimate.)
 - 2.) Changes / hour shows the number of elements that have already passed through the hands of ExMixedFolders.
 - 3.) Data shows the approximate amount of data that has already been copied.
 - 4.) Folder pairs = number of folders that ExMixedFolders finds
 - a. Synchronous: how many of them are already synchronized
 - b. Faulty: how many of them are currently faulty.
 - 5.) Number of elements in the source server / number of elements in the target server
 - 6.) You will also find a line for each mailbox in the table, which provides you with the following information:
 - a. Name and link to the sub-folders
 - b. Last synchronization of the data
 - c. Status: Incorrect, in progress or completed. (After "completion", data will still be synchronized if there are changes in the source mailbox)
 - d. Changes / hour in this order
 - e. Number of elements in the source and in the target.
1. The lines have several background colors that are intended to represent the current status of the order:
- Red: Migration is not yet finished or is faulty.
 - Yellow: ExMixedFolders is currently working with this job.
 - Blue: Searching for sub-folders is in progress.