



Customer Relationship
Management

Connector SE for Exchange Administrator Guide

Version 14.1

Notices

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Preface

For details, see the following topics:

- [About this documentation](#)
- [Notation conventions](#)
- [Aurea global support](#)

About this documentation

This guide is part of the documentation set for Aurea CRM.

Notation conventions

This document uses the following notation conventions:

Convention	Meaning
Fixed-width	<code>Fixed-width</code> font indicates code, path names, file names, environment variable names, parameter names, command names, machine names, URLs.
Bold Fixed-width	Bold Fixed-width font is used to indicate user input or to emphasize certain lines of code.
<i>Italic Fixed-width</i>	<i>Italic Fixed-width</i> font indicates a placeholder for which you must supply a value.
Bold Sans serif	Bold sans serif typeface indicates the names of graphic user interface elements such as dialog boxes, buttons, and fields.
<i>Italic serif</i>	In text, <i>italic serif</i> typeface indicates the first use of an important term. The term is defined in the glossary.
Underlined	Underlined text in command lines and parameter descriptions indicate that you only have to enter the underlined part of the command or parameter name. For example, if you use the <u>-LOGFILE</u> parameter in a command, you only need to enter -LOGF.
[]	Brackets enclose optional arguments.
{ a b c }	Braces enclose two or more items. You can specify only one of the enclosed items. Vertical bars represent OR separators. For example, you can specify a or b or c.

Convention	Meaning
...	Three consecutive periods indicate that you can repeat the immediately previous item. In code examples, they can be horizontal or vertical to indicate omissions.
Menu > Choice	An angle bracket between two menu items indicates that you should choose an item from a menu. For example, the notation File > > Exit means: "Open the File menu and choose Exit ."
>>	Links to related information in other chapters or documents are indicated using the >> symbol.

Aurea global support

If you encounter a problem while using an Aurea product or require assistance with downloading the software or upgrading a product release, please open a ticket on [Aurea Support Central](#). Preferably, search the articles on the [Aurea Knowledge Base](#) for solutions to your issues before opening a ticket.

Information about the support organization is available on Support Central. The product documentation is available at <https://help.aurea.com/crm/#>.

For information about purchasing an upgrade or professional services, contact your account executive. If you do not know who your account executive is, or for other queries, [contact us](#) through our [website](#).

1

General Information

Introduction to CRM.connector for Exchange SE (connector SE).

Second Edition of connector for Exchange– is referred as "connector SE" or "connector" is a bidirectional interface between the Aurea CRM system and Microsoft® Exchange Server (in the latter referred as "Exchange Server").

The solution is a fully server-based solution used to transfer calendar entries, e-mails, contact persons and tasks between the two systems (see also [Synchronization directions](#)).

The objects to be synchronized are transferred to CRM.interface as XML data streams. CRM.interface then transfers the objects to and from Aurea CRM.

For a detailed functional description please see [Functional scope](#) on page 10.

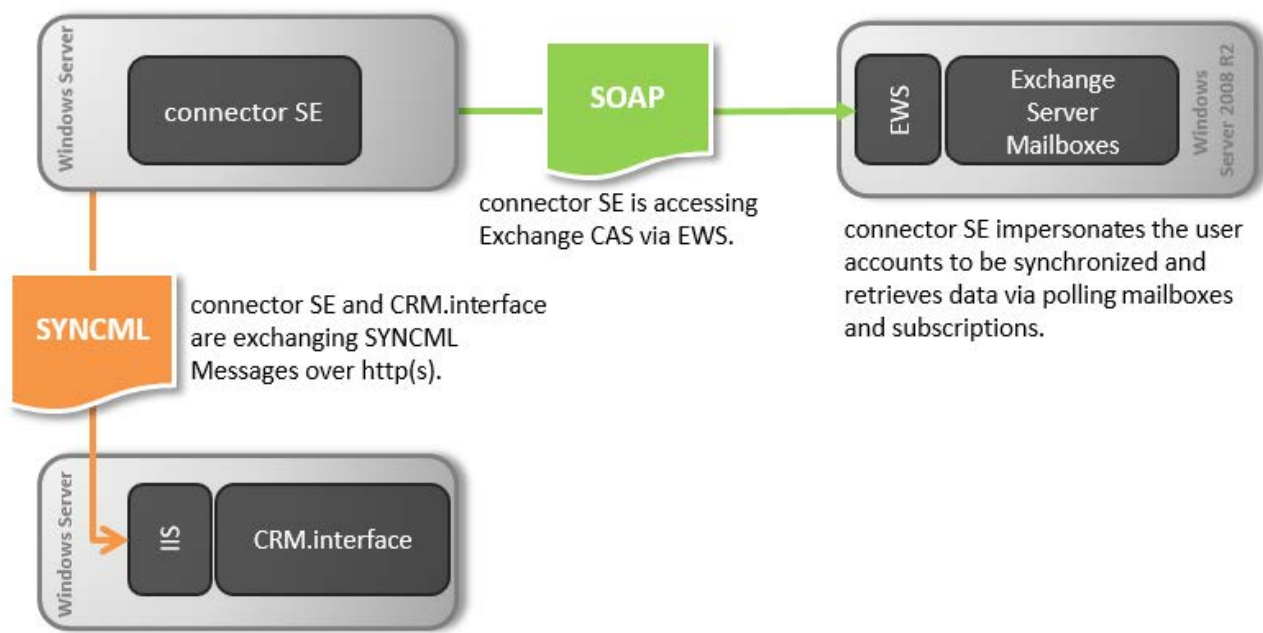
Architecture Overview & Brief Description

The solution is a **rule-based** interface for both the unidirectional and bidirectional exchange of objects between Aurea CRM and the Microsoft® Exchange Server.

With the aid of the application, data is automatically transferred from the Microsoft® Exchange Server to the Aurea CRM database and vice versa. The synchronization takes place on the **server** and is **time-controlled**, where by user interaction is generally restricted to moving the e-mails to the defined folders.

The connector determines the objects that are to be synchronized (calendar entries, e-mails, contact persons and tasks) from the defined mailboxes and generates XML messages that are transferred to the CRM system via CRM.interface. New or edited objects in Aurea CRM are delivered to Exchange® as part of the synchronization cycle.

Authentication on the CRM.interface takes place using so-called "Tokens", which are composed of the username, time stamp and security token generated by the token DLL. This allows user rights in the Aurea CRM system to be taken into account.



Architecture Overview

The product essentially consists of two main parts: connectorSE itself and CRM.interface.

In principle, both of the above mentioned product components may be installed on the same server.

The connector submits periodic queries in two directions: on the one hand, the connector polls the Exchange® server at the defined intervals for new or edited Exchange® objects; on the other hand, it queries CRM.interface and thus determines any changes to data in the CRM system.

Data is transferred using XML data streams in so-called SyncML format.

As mentioned before, synchronization is rule-based and covers both **unidirectional** and **bidirectional synchronization**. The synchronization between Microsoft® Exchange Server and Aurea CRM takes place as described in the table below.

Synchronization directions

E-mails	Unidirectional from Exchange to Aurea CRM
Contact persons	Unidirectional from Aurea CRM to Exchange
Calendar entries	Bidirectional
Tasks	(basically) unidirectional from Aurea CRM to Exchange
Absences	unidirectional from Aurea CRM to Exchange

For further details on functional scope, see next topic ([Functional scope](#)).

2

Functional scope

Learn about the details, limitations and restrictions of Connector SE.

Appointments

Bi-directional synchronization of appointments, where the chair is a synchronization user			YES
Details, Limitations and Restrictions	recurring appointments ¹	from groupware system to Aurea CRM	YES ²
		from Aurea CRM to groupware system	YES
	external appointments (appointments generated by "external persons")	YES ("published" ³)	
	appointments, where the chair is not a synchronization user	YES ("published")	
	synchronization of participants	YES	
	synchronization of participants invitation status	YES, requires 8.1.6.5855 or higher	
	Linking of appointments to additional info areas ⁴	NO	
	synchronization of Attachments	from groupware system to Aurea CRM	YES
		from Aurea CRM to groupware system	NO
	deletion of appointments	YES, bi-directionally ⁵	
	Turning on/off synchronization of Private appointments	YES ⁶	
	Synchronization of additional of additional fields ⁷	YES	
	Manual linking to companies/persons	NO, it's a server application	

E-Mails, contact persons, tasks and absences

synchronization of e-mails from groupware system to Aurea CRM		YES
Details, Limitations and Restrictions	Synchronization of attachments	YES
	Serialization of e-mail in original mail format	YES (*.msg file)
	Synchronization of Drafts	NO
	Synchronization of additional fields	NO
	Linking of e-mails to another info area ⁸	NO
contact persons		
Synchronization of contact persons from Aurea CRM to groupware system		YES (unidirectional)
Details, Limitations and Restrictions	Synchronization of additional fields ("field mapping" ⁹)	YES
Tasks		
	synchronization of tasks from Aurea CRM to groupware System	YES (basically unidirectional)
Details, Limitations and Restrictions	Synchronization of additional fields ("field mapping" ¹⁰)	YES
	bi-directional Synchronization of Status	YES
	Synchronization of participants	NO
Absences		
	Synchronization of absences from Aurea CRM to groupware system	YES (unidirectional)
Details, Limitations and Restrictions	Synchronization of additional fields ("field mapping" ¹¹)	YES

General features

General	
trigger synchronization manually	NO, server side, rule-based synchronization
server side installation	YES, no client side installation required
Filtering list of synchronization users	YES, see CollectedMailboxes.xml and Additional conditions on rep (ID) table .
Opensynchronizedappointments,e-mails and contacts in CRM from Outlook	YES, via link to Aurea CRM web link 12.
Inform and stop on error	YES, see Error Handling .
Writing performance data to performance counters	YES, see Writing performance data to performance counters .

Functional scope– details, limitations and restriction

1 From a technical point of view, synchronization of recurring appointments means, that all occurrences of such serial appointments which are within the synchronization time frame are synchronized to the particular other system as single appointments. The series itself can only be changed in the system where the series has been created, but of course singular appointments of the series can be changed in the other system as well. Such changes result in an exception in the originating system. For example: if you generate a recurring appointment happening every Wednesday, 2PM and change the occurrence of 11th of April in Aurea CRM, this will not change the series in Outlook itself, but only this appointment.

2 Only recurring appointments, where the chair is a synchronization user

3 Publishing means that such appointments are synchronized unidirectional from Exchange Server to the CRM system solely. See [Synchronize Appointments / Synchronization Interval](#) for further details.

4 E.g. if the appointment's subject is "Meeting to Opportunity: Y1-1-100" it would be possible to parse this information in the style sheets and link the appointment to Y1; or do the linking with an Aurea CRM trigger.

5 Note, that unlike (old) update.seven connector "classic" edition, connector SE doesn't support "marking appointments as 'free'", but solely supports deletion of appointments in Outlook. Activities (MA) are not physically deleted in Aurea CRM, but only marked.

6 It is not only possible to generally activate or de-activate the synchronization of private appointments, but also possible to define the behavior of connector SE on user level. See [Handling Private Appointments](#) for further details.

7 Advanced customization allowing for extending the out-of-the-box field mapping - see [Synchronization of Additional Outlook Fields](#) for further details.

Functional differences between Exchange Server Versions

Learn about the functional differences between Exchange Server Versions.

Coloring of synchronized messages in sub folders

Since the EWS API for Exchange 2007 does not support associated messages, the feature **Coloring of synchronized messages in sub folders** is not supported when using Exchange 2007.

New "Show as" type "Working Elsewhere"

With Outlook 2013 **Working Elsewhere** was introduced, but the API of EWS in combination with Exchange Server 2007 and Exchange Server 2010 doesn't support this value¹³. Therefore we provide the following workaround: if during decoding of the status of an appointment an exception is raised connector assumes, that the status is **Working Elsewhere** and sends this value to Aurea CRM. But, if an appointment with status **Working Elsewhere** is modified in the CRM system and sent back to Exchange connector cannot store this status value and therefore sets the appointment status to **Busy**.

In other words: appointments of status "Working Elsewhere" might change their status to **Busy** during synchronization, when using Exchange Server versions prior to 2013.

3

Connector SE – Overview

This topic provides some technical details about connector SE.

Connector SE uses Exchange Web Services (EWS) to access Microsoft Exchange Server. The first version of this API was introduced by Microsoft for Exchange Server 2007 SP1 and enhanced for Exchange 2010.

From October 2020, basic authentication is being discontinued by Microsoft. Hence there is a change in authentication process.

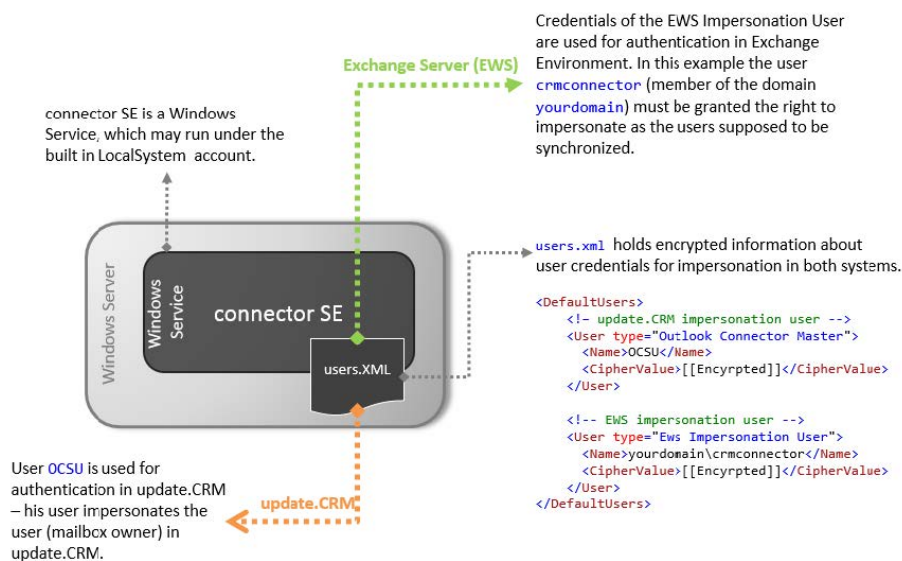
- For On-line exchange access, the Aurea CRM Connector SE uses OAuth for authentication. For authorization, the application (connector) impersonates bases on the API permissions assigned to it in the active directory. For further details, see [Configuring OAuth in Azure active directory admin center](#) on page 17.
- For On-premise access, the Aurea CRM Connector SE continues to use a service account for authentication in the Exchange environment – this technical account must have the right to impersonate the users, whose mailboxes are supposed to be synchronized (more precisely this technical user must have the role `ApplicationImpersonation` assigned).

This means that connector SE performs its operations by using the permissions that are associated with the impersonated accounts (as opposed to the "classic" connector, which uses the permissions that are associated with the administrative account).

The scope of users to be impersonated can be defined very precisely – you can either select all users in the Exchange Organization, certain groups of users or even specific single users. See the Microsoft MSDN article at [Configuring Exchange Impersonation](#) for further details.

A very similar mechanism is used by connector SE to impersonate users in Aurea CRM as well, which means connector SE acts in the rights contexts of the particular user.

The credentials of the above mentioned administrative accounts - (domain) username and password) - are stored in an encrypted XML file (`users.xml`). For further details, see [Configuration of users, creation of user.xml](#) on page 25.



The password of the impersonation users are encrypted using a key stored in the key container specified in the `update.Users.exe` program. The `EncryptedXml` class from the .NET framework is used for encryption of the resulting `users.xml` file. The file contains machine-dependent keys and therefore needs to be created on the machine where the connector is installed.

Note: In contrast to "classic" connector the Windows Service doesn't need to run in the user context of the technical account used to access Exchange Server, but should run under "LocalSystem".

Getting started with connector SE

Learn how to install and configure connector SE.

The following steps have to be performed in order to install connector SE:

[Configuring the impersonation for connector SE on Exchange Server 2010 and 2013](#)

[Installation of connector SE](#)

[Installation of CRM.interface](#)

[Creating a Master User in Aurea CRM](#)

[Creating User Settings in Aurea CRM](#)

[Configuration of connector SE](#)

[Excursus: migrating from "classic" connector to connector SE](#)

Migrating from "classic" connector to connector SE

Although there is no automatic upgrade procedure from connector to connector SE (since these are separate products) switching to connector SE doesn't require much effort.

Basically all the settings of connector can be reused, only the connection settings have to be redefined. Additionally, if you have custom field mapping in place, you have to modify the mapping file according to the "cook book" provided below in topic [FieldMapping.xml](#).

Configuring OAuth in Azure active directory admin center

Learn how to configure OAuth on Azure active directory.

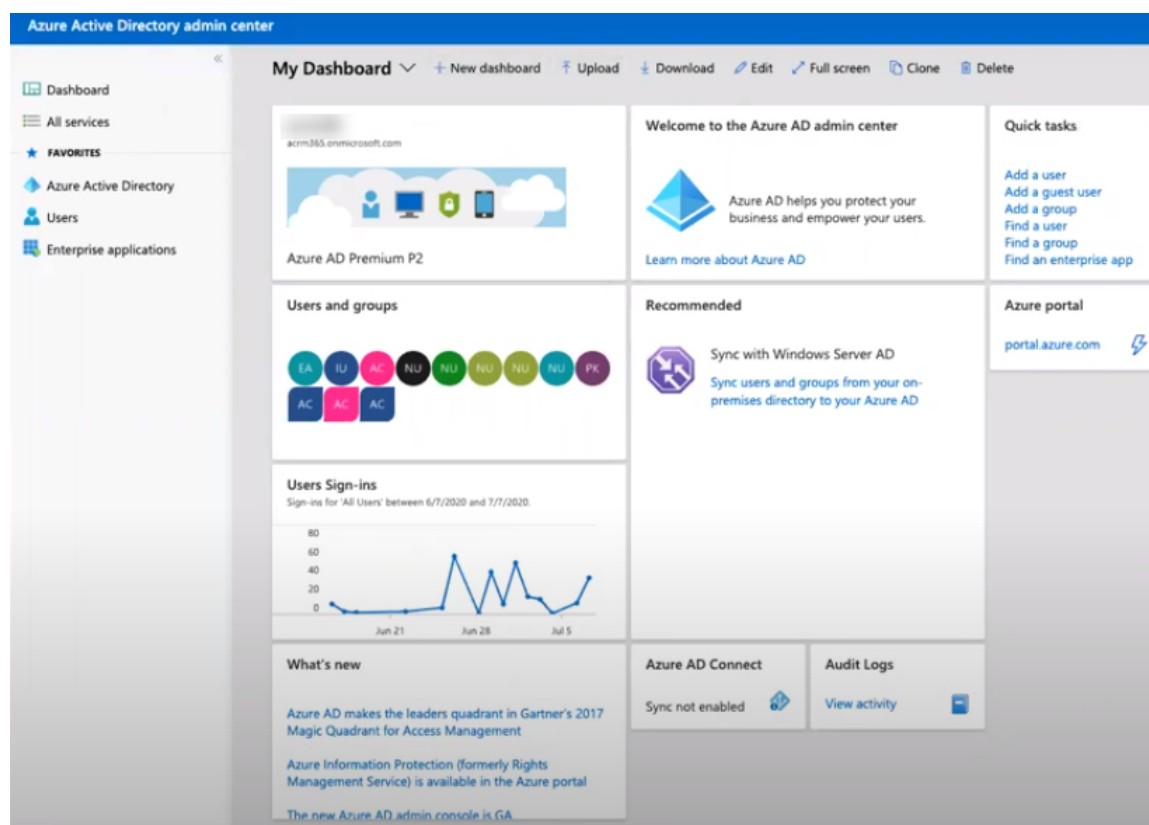
You can use the OAuth authentication service provided by Azure Active Directory to enable your EWS Managed API applications to access Exchange Online in Office 365.

Below are the steps to configure OAuth on Azure active directory admin center:

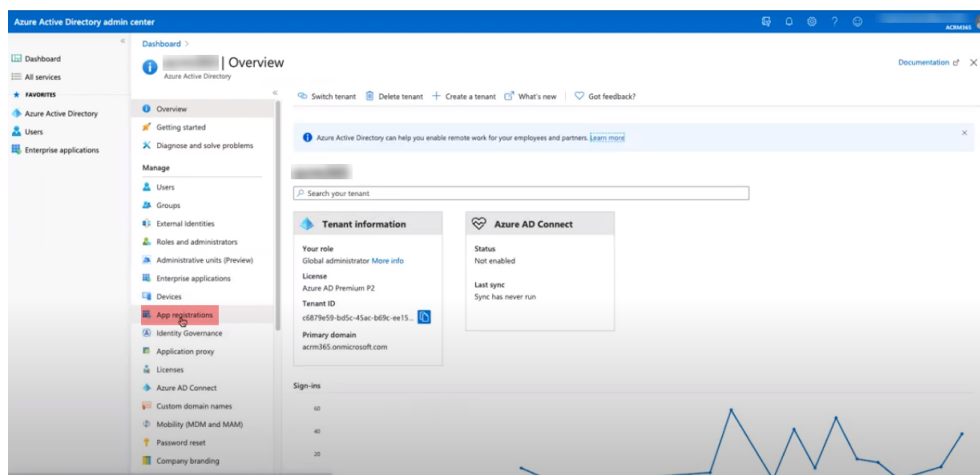
Note: For further details, see Microsoft documentation [Authenticate an EWS application by using OAuth](#).

Register your application

1. Open a browser and navigate to the [Azure Active Directory admin center](#) and login using a personal Microsoft account or work or school account.

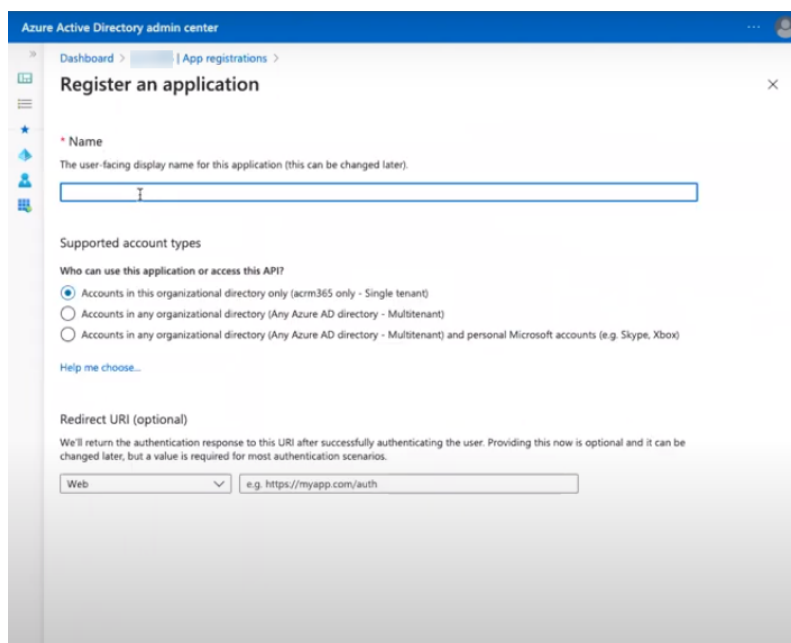


2. Select **Azure Active Directory** in the left-hand navigation, then select **App registrations** under **Manage**.

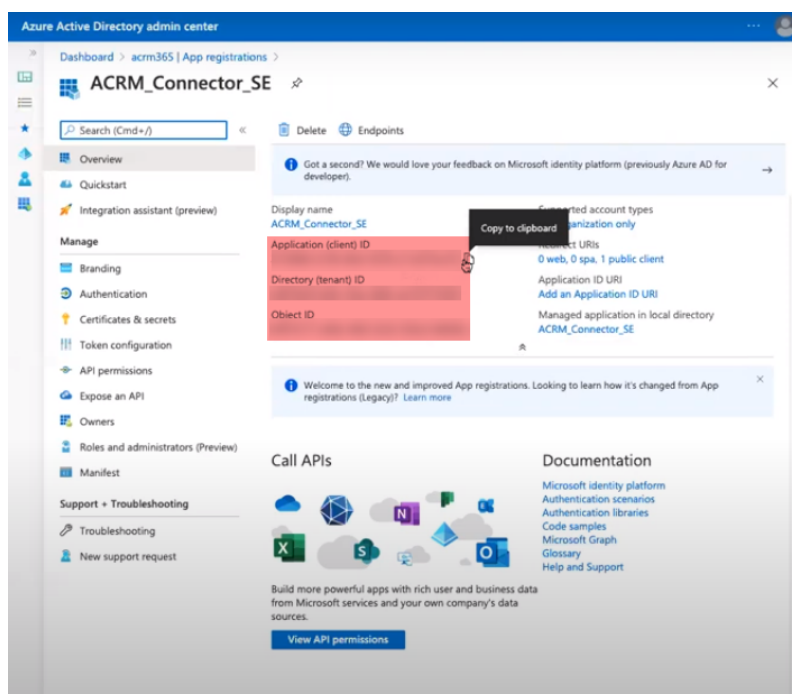


3. Select **New registration**. On the **Register an application** page, set the values as follows.

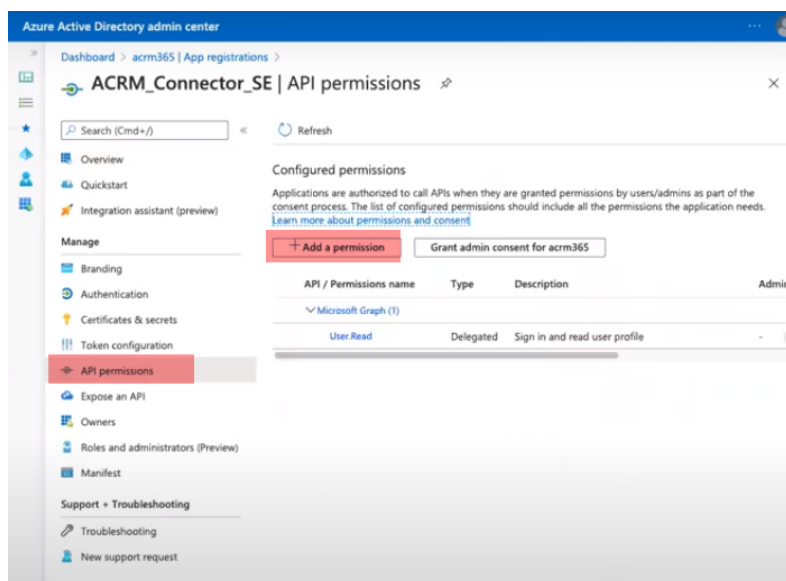
Field	Description
Name	Set a name for your app.
Supported account types	Select relevant account type.
Redirect URL (optional)	Change the dropdown to Public client (mobile & desktop) and set the value to <code>urn:ietf:wg:oauth:2.0:oob</code> .



4. Choose **Register**. On the next page, copy the value of the **Application (client) ID** and save it. (This saved details is used to enter details on users.xml. For details, see [Configuration of users, creation of user.xml](#) on page 25).



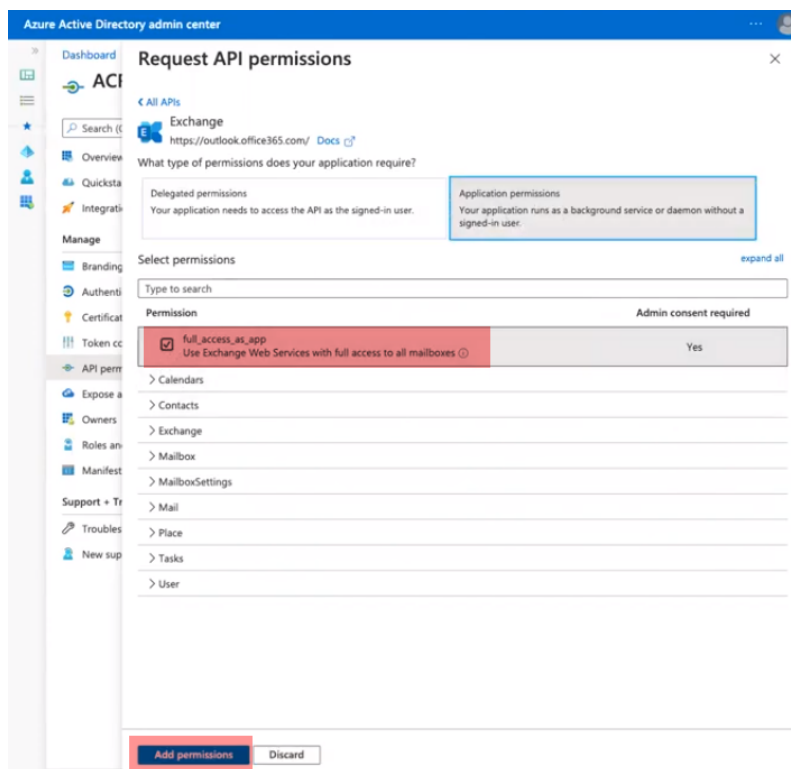
5. Select **API permissions** in the left-hand navigation under Manage.
6. Select **Add a permission**. On the Request API permissions page, select Exchange under Supported legacy APIs.



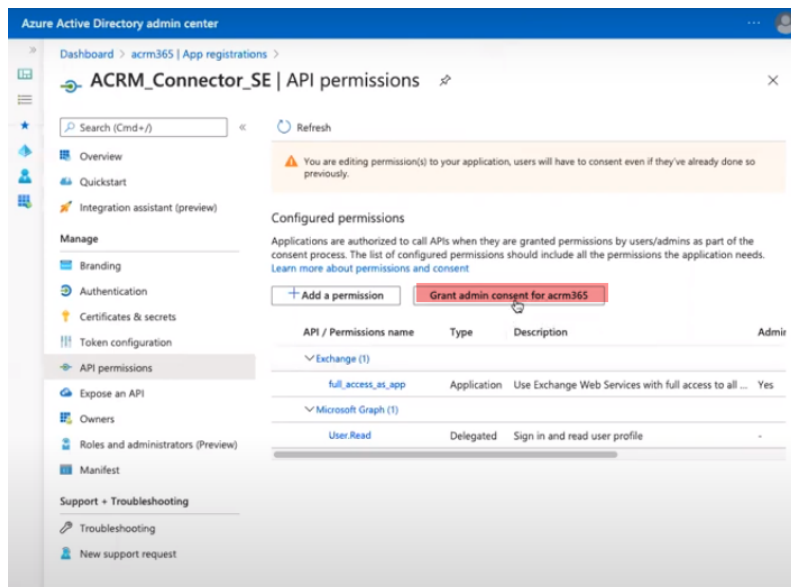
Application permissions

To use Application permissions, follow these additional steps.

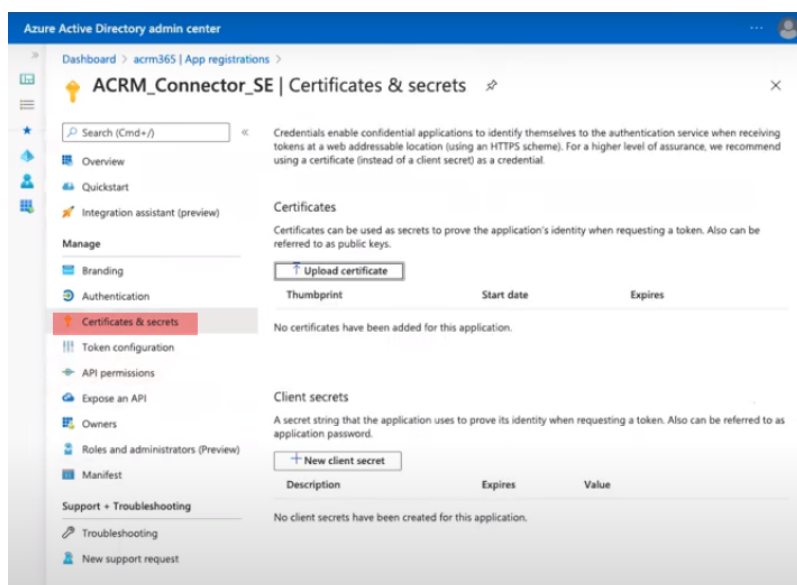
1. Select **Application permissions** and then select **full_access_as_app**. Click on **Add permissions**.



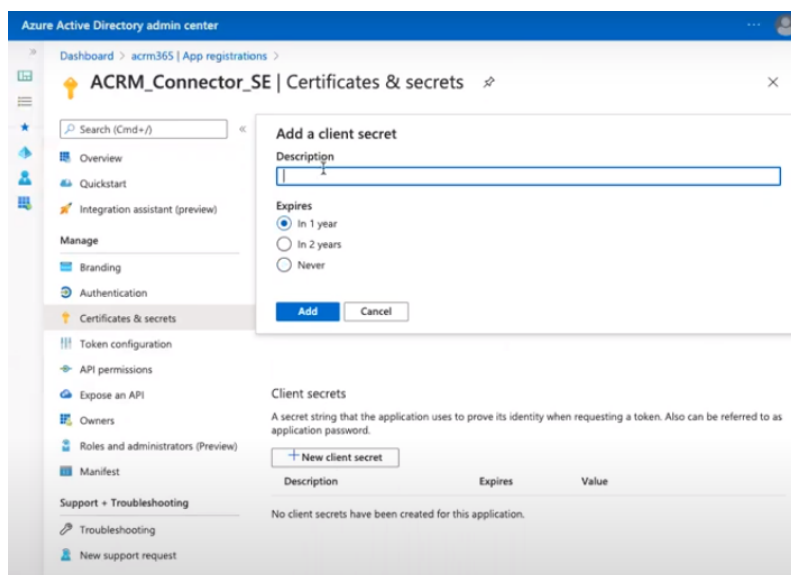
2. Select **Grant admin consent for <org>** and accept the consent dialog.



3. Select **Certificates & Secrets** in the left-hand navigation under **Manage**.



4. Select **New client secret**, enter a short description and select **Add**.



5. Copy the value of the newly added client secret and save it, you need it later. (This saved details is used to enter details on users.xml. For details, see [Configuration of users, creation of user.xml](#) on page 25).

Configuring the impersonation for connector SE on Exchange Server 2010 and 2013

Learn to create and configure impersonating account on exchange servers 2010 and 2013.

Connector SE uses a technical account to impersonate the users, whose mailboxes are supposed to be synchronized (see topic [connector SE – some technical details](#) for further explanation).

Note:

- In Exchange 2010 the e-mail address for a user is generated by an E-Mail Address Policy
 - Ensure that the account used for impersonation has a mailbox assigned to it on the Exchange Server.
-

After you have created the impersonating account (in the examples below we use Exlab01\ExConn01 with e-mail address exconn01@exlab01.local) you can use the Exchange Management Shell to configure the impersonation for this account.

```
New-ManagementRoleAssignment -Name "CRM.connector"  
-Role:ApplicationImpersonation -User "Exlab01\ExConn01"
```

In the example above, the role `CRM.connector` is created and assigned to a service account `Exlab01\ExConn01` on Exchange Organization level.

In order to restrict the scope of the impersonation user to a group of users, you can create a scope to which the impersonation role can be assigned and define the members of the scope. The sample below illustrates limiting the scope to "Aurea CRM users", where "Aurea CRM users" is an Active Directory group.

```
New-ManagementScope -Name "Aurea CRM users"  
-RecipientRestrictionFilter {MemberofGroup -eq "CN=Aurea CRM Users,  
CN=Users, DC=exlab01, DC=local"}
```

```
New-ManagementRoleAssignment -Name "Aurea CRM connector"  
-Role:ApplicationImpersonation -User "Exlab01\ExConn01"  
CustomRecipientWriteScope "Aurea CRM users"
```

For an example of how to create such a group and determine the distinguished name of the group, see topic [How to create an AD group and limit the scope of the impersonation user](#) below.

For further details on configuring impersonation and how to define the scope of the users that can be impersonated, see MSDN. E.g. the MSDN article "Configuring ExchangeImpersonation" at [http://msdn.microsoft.com/en-us/library/bb204095\(v=exchg.140\).aspx](http://msdn.microsoft.com/en-us/library/bb204095(v=exchg.140).aspx) or a step-by-step description in [http://msdn.microsoft.com/en-us/library/exchange/bb204095\(v=exchg.140\).aspx](http://msdn.microsoft.com/en-us/library/exchange/bb204095(v=exchg.140).aspx).

Connector SE supports "basic" and "NTLM" authentication – so you have to configure your EWS endpoint accordingly. This "external" URL has to be accessible for connector SE. You can use the `Get-WebServicesVirtualDirectory` and `Set-WebServicesVirtualDirectory` Command lets to retrieve and set information for the virtual directory EWS. For further details, see the Microsoft TechNet Article [Set-WebServicesVirtualDirectory](#) for further details.

Configuring the impersonation for connector SE on Exchange Server 2007

Learn to create and configure impersonating account on exchange servers 2007.

Connector SE uses a technical account to impersonate the users, whose mailboxes are supposed to be synchronized (see topic [connector SE – some technical details](#) for further explanation).

Note: Ensure that the account used for impersonation has a mailbox assigned to it on the Exchange Server.

In the case of Exchange Server 2007, the configuration of impersonation is determined via two extended Active Directory permissions (`ms-Exch-EPI Impersonation` and `ms-Exch-EPI-May-Impersonate`).

The impersonation right itself can be granted either on server-, database-or account-level. See the MSDN Article [Configuring Exchange Impersonation \(Exchange Web Services\)](#) for further details.

Synchronization with Exchange Online

Connector SE uses Application Impersonation over EWS in order to access Exchange Server – therefore an ExchangeOnline Edition (e.g. Plan E1or Plan E3) is required, which includes this feature.

See <http://www.microsoft.com/en-us/office365/compare-plans.aspx> for a comparison of the different plans (editions) of Exchange Online.

After creation of the impersonation account the role Application Impersonation can be granted to this user either via PowerShell (See Working with application impersonation in Exchange Online (see [http://msdn.microsoft.com/en-us/library/exchange/gg194012\(v=exchg.140\).aspx](http://msdn.microsoft.com/en-us/library/exchange/gg194012(v=exchg.140).aspx)) for further details.) or via GUI (See <http://exchws.wordpress.com/2011/12/13/activate-user-impersonation-in-office-365-for-exchange-online/> for further details.).

The URL of the Exchange Online Web Service is built like `https://" + <Server Name> + "/EWS/ Exchange.asmx`. You can see your `<Server Name>` when logging into Exchange Online using OWA in the options of your account.

Account Information - Martin Putz

General
 Display name: Martin Putz
 User ID:

Mailbox Usage

Contact Numbers
 Work phone:
 Mobile phone:

[Settings for POP, IMAP, and SMTP access...](#)

Exchange Online - How to figure out the EWS URL

Installation of connector SE

Learn how to install connector SE.

Aurea software AG provides an installation wizard that guides you through the installation of connector SE (and CRM.interface).

Installation of CRM.interface

Learn how to install CRM.interface.

Please see the documentation of [CRM.interface](#) for further information.

Aurea CRM rights settings

During synchronization the following tables in Aurea CRM are accessed, therefore, it's required that the users do have access to these info areas:

InfoArea	Comment	AccessType
External Key (XK)	Match-up table for Outlook IDs and Aurea CRM IDs.	write
Tel.No./E-mail(TN)	This table is used to search for the participants by e-mail address.	read-only
Activity (MA), Activity Participant (MB)	E-mails and appointment are stored in MA.	write
To-Do (TD), Message (MD), Reminder (ER)	Required for synchronization of the participation status and reminder management.	write.
Company (FI), Person in Company (KP), Person (PE)		read-only

InfoArea	Comment	AccessType
Tasks (A1)	If task synchronization is enabled.	write
Absences (A3)	If absences are synchronized.	read-only

Aurea CRM catalogs

Ensure that the following catalogs and catalog values exist and that the values do not have a tenant or a lock assigned.

Catalog	Values	Comment
Ext. System (Rep)	Marketing.Manager notes outlook	
Content Type (ExternalKey)	application/x-mmRecord text/x-mmAbsences text/x-mmPerson text/x-mmTasks text/x-vevent	

Aurea CRM module rights

The users must have the module right **groupware connector** assigned.

Aurea CRM user settings

See [Creating User Settings in Aurea CRM](#) topic.

Aurea CRM master user

See [Creating a Master User in Aurea CRM](#) topic.

Configuration of users, creation of user.xml

Learn how to create users in connector SE.

During synchronization, connector and CRM.interface impersonate the user which is assigned to the particular mailbox. connector authenticates itself both against Exchange Server and CRM.interface using these two technical accounts (see also topic [General features](#)).

The credentials (username and password) of these technical users are stored in an encrypted XML file - `users.xml`.

Use `update.Users.exe` – which is installed in the installation directory of connector SE- to create or modify the `users.xml` file.

For On-premise access, you just need to enter the **User** and **Password** for authentication.

For On-line exchange access, enter the details in the **User Azure Details** window as below:

Field	Description
User	Enter your Office365 email address.
Client Id	Enter Client Id from Azure active directory. See Configuring OAuth in Azure active directory admin center on page 17.
Client Secret	Enter Client Secret from Azure active directory. See Configuring OAuth in Azure active directory admin center on page 17.
Tenant	Enter Tenant from Azure active directory. See Configuring OAuth in Azure active directory admin center on page 17.
Scopes	Enter <code>https://outlook.office.com/.default</code> .

Default User Configuration

Note: "EWS Impersonation User" are the credentials of the user configured and created in Step [Creating a technical user and configuring the impersonation for connector SE on Exchange Server 2010](#) above.

You can not only specify this user in the format: `domain\username` but also via SMTP address.

"EWS Connector Master" are the credentials of the Aurea CRM user.

In case of accessing Aurea CRM this security token is a base-64 encoded and RC2-128 encrypted string containing, among others, timestamps and the user name and password of the Administrator (OCSU) in the Aurea CRM database. The token is created based on information stored in the `users.xml`. The file contains machine-dependent keys and therefore needs to be created on the machine where the connector is installed. If such a token is authenticated successfully and the user name matches the configured master user, the system is able to log on to another user's account on the server without requiring password verification.

Note: The specified master user has to exist in Aurea CRM (for further details see [Creating a Master User in Aurea CRM](#)), the impersonation user has to exist in the Exchange organization.

Creating a Master User in Aurea CRM

Learn how to create master user in Aurea CRM.

Create an Aurea CRM user matching the credentials of the master user specified in the step [Configuration of users, creation of users.xml_Configuration_of_users](#).

Note: In `forms.xml` by default the master user **OCSU** is preconfigured. If you want to use a different user (name) you have to change the master user in `forms.xml` accordingly (section `<masterUser client='outlook' login='Principal, ClientID'>OCSU</masterUser>`);

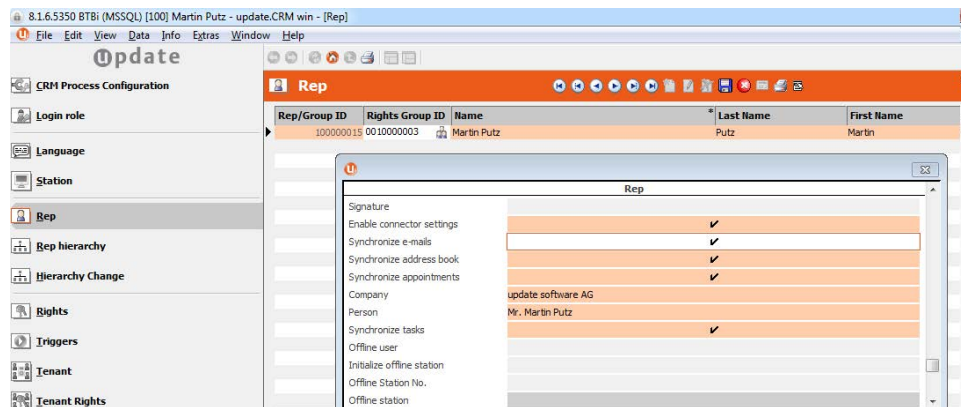
Creating User Settings in Aurea CRM

Learn about connector settings in Aurea CRM.

On start-up, connector SE requests a user list from Aurea CRM. This list is based on the "Enable Connector settings" flag in the rep table. In other words: in order to add a user to the synchronization process, you have to enable the "Enable Connector settings" check box for the rep, and enable at least one of the options "Synchronize e-mails" or "Synchronize appointments" for this user.

Note: The value in the Rep's "E-mail" field must match the rep's e-mail address in Exchange Server.

Note: As of Service Pack 2 it is possible to define additional conditions on the ID table, see the WIKI article [How connector\(s\) determine which users to synchronize](#) for further information.



Note:

If you want to synchronize a mailbox of a user, this user needs to be created in Aurea CRM as a rep with a person assigned. In addition, the user must have the module right for "groupware connector".

In other words, if you want to synchronize the mailbox of "Simon Seller" the following must exist:

- a KP record for Simon Seller,
- a ID record for Simon Seller,
- a Login for Simon Seller with the "**groupwareconnector**" module right and the "**Enable Connector settings**" option for the rep Simon Seller has to be activated.

Note: If you have set the CRM.interface option "**use FI/KPfrom rep**" to true, CRM.interface always takes the KP record linked to the relevant ID record of the user. If not set to true, it is mandatory that the e-mail addresses of the Reps have to be unique in KP table.

Remark:

If this person "Simon Seller" has meetings with other employees of your enterprise (whose mailboxes are not synchronized) and you want to synchronize the full information, you have to create an entry in the rep table for these colleagues, but there is no need to create a login for them as well.

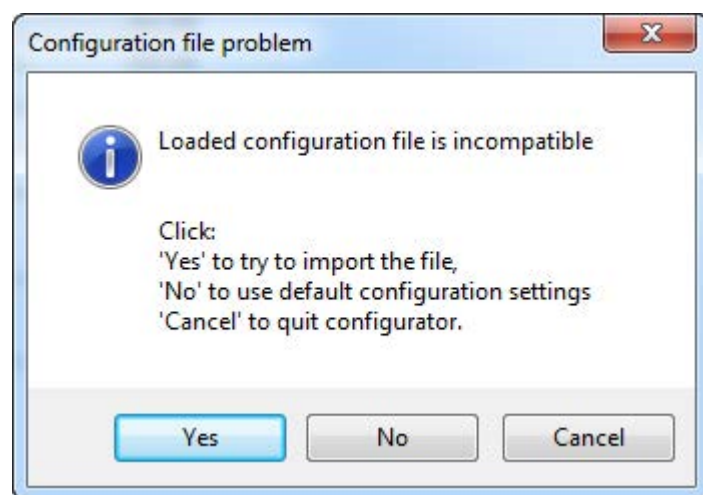
Configuration of connector SE

Learn how to configure connector SE.

See topic [Configuring CRM.connector SE](#) below.

Note: You have to run the CRM.connector SE administration console after every upgrade, since new functionality may require you to invoke additional settings.

After upgrading to a new version of connector SE new functionality may require you to invoke additional settings. In case of incompatible configuration settings the configuration console allows you to choose between the options listed in the screenshot below.



Advanced Features

Learn about some of the advanced features of connector exchange.

CollectedMailboxes.xml

By default connector SE gets the list of users – whose mailboxes are supposed to be synchronized from Aurea CRM (see [Creating User Settings in Aurea CRM](#) for further details).

Furthermore connector supports additional filtering of the user list via an XML file (See **CollectedMailboxes.xml** below). If such a file exists in the installation directory the list of users (mailboxes) is restricted to the users, which are both activated in Aurea CRM via their ID table settings and their e-mail addresses are included in the file.

Note: See the WIKI article [How connector\(s\) determine which users to synchronize](#) for further details.

This mechanism might be quite helpful for testing purposes, because it allows for limiting the number of synchronization users without any need to change the settings in Aurea CRM.

The structure of the `CollectedMailboxes.xml` is simple, connector SE solely requires is the SMTP address of the mailboxes.

```
<?xml version="1.0"?>
<Mailboxes>
  <Mailbox Smt="fred.test@exlab02.local" />
  <Mailbox Smt="john.productowner@exlab02.local" />
</Mailboxes>
```

Example: `CollectedMailboxes.xml`

Note: connector SE does not provide any means for creating such a `CollectedMailboxes.xml` file, since EWS does not allow for generating a list of all mailboxes available.

Connector SE "understands" the format of `CollectedMailboxes.xml` file created with (update.seven) connector for Exchange, too.

This option disables the [Automatically update list of mailboxes to synchronize n time\(s\) a day](#) setting of the connector configuration.

Information and stop on Errors

Note: This feature is deprecated – please use the Error Handling Features instead (see [Error Handling](#) for further details).

Sending warning and error messages to users

Connector stores the reason of the last failure on the message or appointment level (`mmSyncStatus` property) respectively, so that only one message per item is sent unless the reason for an error changes. In other words: in case that the reason for a failure matches the one stored in the `mmSyncStatus` property, no additional message is sent to the user. Restarting the connector does not change this behavior.

There is one exception from the above rule: if connector fails while reading/decoding a message, this usually means that the connection with Exchange Server was lost/failed. In this case it is not possible to save any changes to the message (cannot store the reason on `mmSyncStatus`) and it can happen that connector sends multiple error messages to the user, but connector holds this information in memory and not send the error message as long the item stays unchanged and connector is not restarted.

These options are intended to give feedback to the users in case that during the synchronization of items either not the full information could be synchronized (e.g. if an attachment exceeded the configured size limit) or an error occurred (e.g. that due to fact, that the message could not be assigned properly in the CRM system).

Although connector typically – see details above - doesn't send multiple error / warning messages for the same item, in case of a systematic problem enabling this option could result in lots of messages to the dedicated users.

E.g. if the e-mail address of the synchronizing user is not unique in the CRM system, such an error message would be sent over and over (for every new item), unless this problem is corrected.

Configuring CRM.connector SE

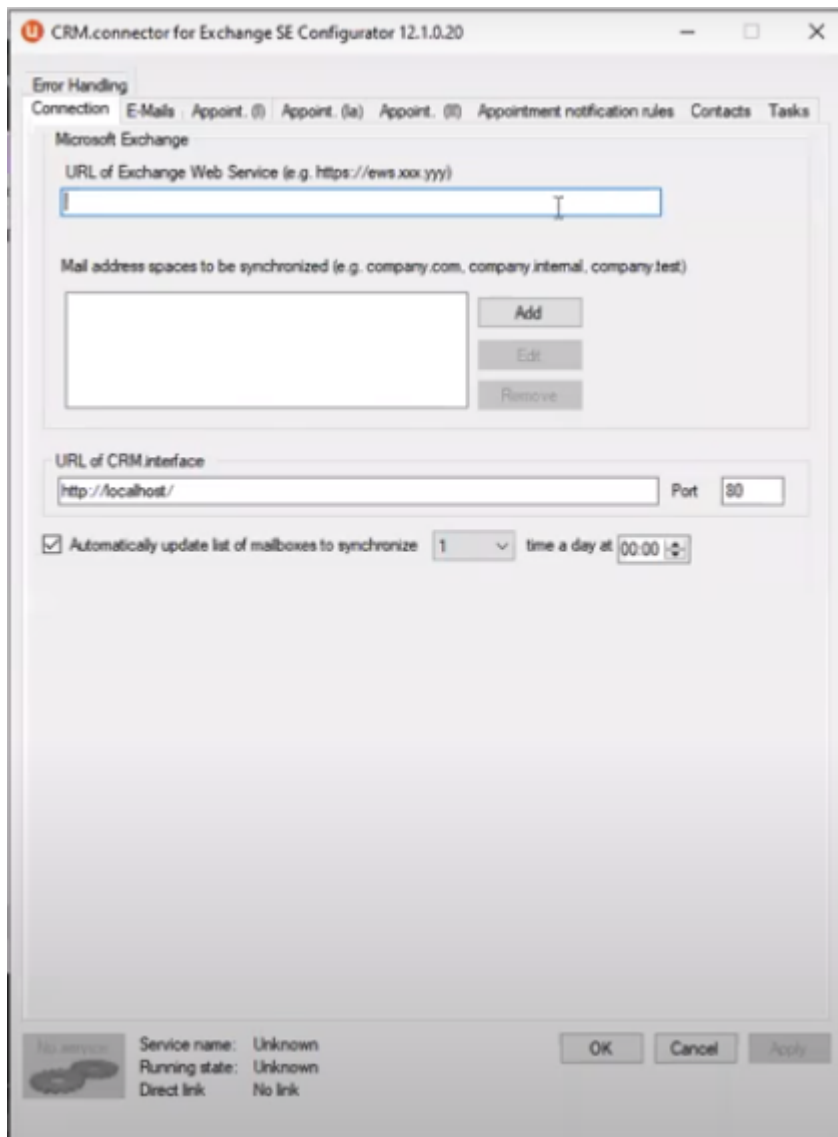
Connector SE can be configured using a configuration console (`SynchroConnectorConfigurator.exe`).

Below are the configuration settings to be performed:

Connection Settings

Learn to configure basic connector settings.

In this dialog you can define the basic settings regarding URL of EWS, CRM.interface etc.



URL of Exchange Web Service

For On-premise access enter the relevant url in **URL of the Exchange Web Service** field (connector SE doesn't use the Auto Discover Service feature, therefore you have to explicitly define the EWS endpoint).

For On-line exchange access, Enter `https://outlook.office365.com/EWS/Exchange.asmx` in **URL of the Exchange Web Service**.

"Mail address spaces to be synchronized" Setting

Add all mail address spaces you want to synchronize. Exchange Server can store e-mail addresses from more than one e-mail space.

If connector SE comes across e-mail addresses of a mail space which is not defined to be synchronized, you can find information concerning this matter in the log file.

[...] does not belong to any of the defined mail spaces: [...] and will NOT be synchronized

URL of CRM.interface

CRM.interface and can be either installed on the same or a different machine as the connector.

Port Number

This setting specifies the port number of CRM.interface; since CRM.interface is running in IIS the port would be either 80 or 443 when using HTTPS by default.

Automatically update list of mailboxes to synchronize *n* time(s) a day

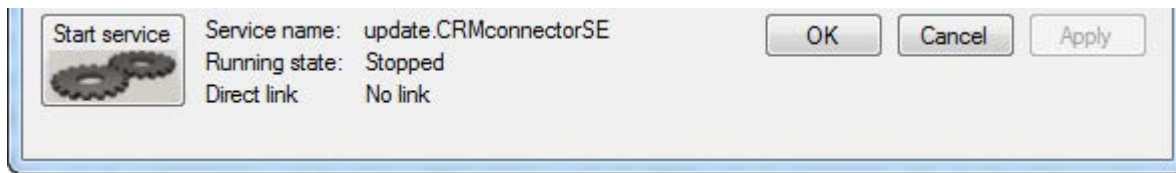
The update of the list of mailboxes requires re-initialization of connector, which might take a while in a scenario with many users in the Exchange Environment and therefore may have a huge impact on the duration of synchronization cycles. Therefore it might make sense to consider doing this update only once a day or even switch it off in a scenario in which the user list (users whose mailboxes are supposed to be synchronized) doesn't change often.

If this setting is set to "1" you can additionally schedule, when the list should be updated.

Starting/Stopping Service and applying changed settings to running service

Starting and Stopping of the Service connector SE service can not only be restarted using Microsoft Tools but also via the administrative console ("configurator") of the application as well.

At the bottom of the administrative console the "state" of the service is displayed. Possible values are "unknown" and the states of Windows services (starting, started, stopping, stopped, etc.).



Applying changed settings to running service it is possible to apply changed settings to the running service, which means that the service doesn't need to be restarted to use the new settings. Depending on which configuration has changed, the injection of the new settings causes a full, a partly or even no re-initialization of the service.

For example changing the URL of the EWS endpoint a full re-initialization while turning the logging on (or off) a partial re-initialization of the service. After the injection the configuration changes are added to the command queue of connector for Exchange and processed after the connector has finished its current tasks. Typically it won't take more than a few seconds until the new settings are applied by connector. Information on the (re)initialization progress and result are displayed at the bottom of the dialogue box along with a progress bar.

E-mail Synchronization Settings

Learn to configure E-mail Synchronization settings.

The screenshot shows the 'CRM.connector for Exchange SE Configurator 8.2.7.8199' window. The 'E-Mails' tab is selected, showing the following settings:

- ☒ Synchronize E-Mails every minutes. (Note: 0 = as often as possible).
- Fully qualified synchronization folder path (e.g. /Inbox/Synchro or /Synchronized_Mail):
- ☒ Automatically create folder
- ☒ Enable coloring of synchronized messages in subfolders (note: can cause performance issues)
- ☒ Synchronize E-Mails even if the mailbox owner cannot be found in the recipient list (e.g. was added as BCC)
- ☐ Enable synchronization of HTML content
- Attachments**
 - ☒ Do not synchronize attachments
 - ☐ Synchronize attachments
 - ☒ Do not synchronize attachments larger than kilobytes
 - ☐ Save whole message as MSG file (attachments are included)
 - ☐ Do not synchronize MSG files larger than kilobytes
- Synchronization Success**
 - ☐ Move successfully synchronized messages to the following subfolder (e.g. Sync_Success)
 or its subfolders
- Synchronization Failure**
 - ☐ Send error messages to the users by E-Mail
 - ☒ Move unsuccessfully synchronized messages to the following subfolder (e.g. Sync_Failure)
- Sending Warning Message**
 - ☐ Message body was truncated
 - ☐ At least one attachment was not synchronized

At the bottom, there is a status section showing 'No service' with a gear icon, and a table with the following data:

Service name:	Unknown
Running state:	Unknown
Direct link	No link

Buttons for 'OK', 'Cancel', and 'Apply' are located at the bottom right.

Synchronize E-Mails / Synchronization Interval

Synchronize e-mails: If this check box is checked, e-mails are synchronized. Uncheck the checkbox to prevent connector SE from synchronizing e-mails at all.

Synchronize e-mails every n minutes: You can additionally define the interval (in minutes) in which the connector checks users' mailboxes for new mails to synchronize.

Note: connector synchronizes in cycles – the setting **Synchronize e-mails every n minutes** relates to the interval between these cycles. Setting the interval to "10" causes connector starting the next synchronization interval 10 minutes after finishing the previous cycle. In other words, this setting defines the pause between such synchronization runs.

Defining a small interval (i.e. forcing the connector to poll the Exchange Server more frequently) causes higher network traffic and a somewhat higher load on the Exchange Server.

Synchronization Folder Settings and additional options

Fully qualified folder path: connector SE synchronizes e-mails in a specific folder (and its sub folders) with the Aurea CRM system. This means that the user has to move or copy the mails which should be synchronized to this folder.

Automatically create folder: If this option is enabled, connector SE adds this folder to the user mailboxes if it does not exist. If this option is unchecked, the user needs to create the synchronization folder manually.

`/<inbox>` is a language independent placeholder for the inbox. If you set the parameter to `/<inbox>/crm_sync_folder`, the connector creates the CRM sub folder below the Inbox in an English or Posteingang in a German mailbox. As an administrator, you need not to care about the different languages of your users' mailboxes.

Enable coloring of synchronized messages in sub folders: Outlook allows color-coded mail folders. If this option is activated, connector creates and updates the properties (e.g. `mmSyncStatus`, `mmKey`, ...) not only for the main synchronization folder, but also for all sub folders. This way a user can color-code the mails depending on the synchronization status (e.g. `mmSyncStatus=0` indicates that the synchronization of the mail was successful).

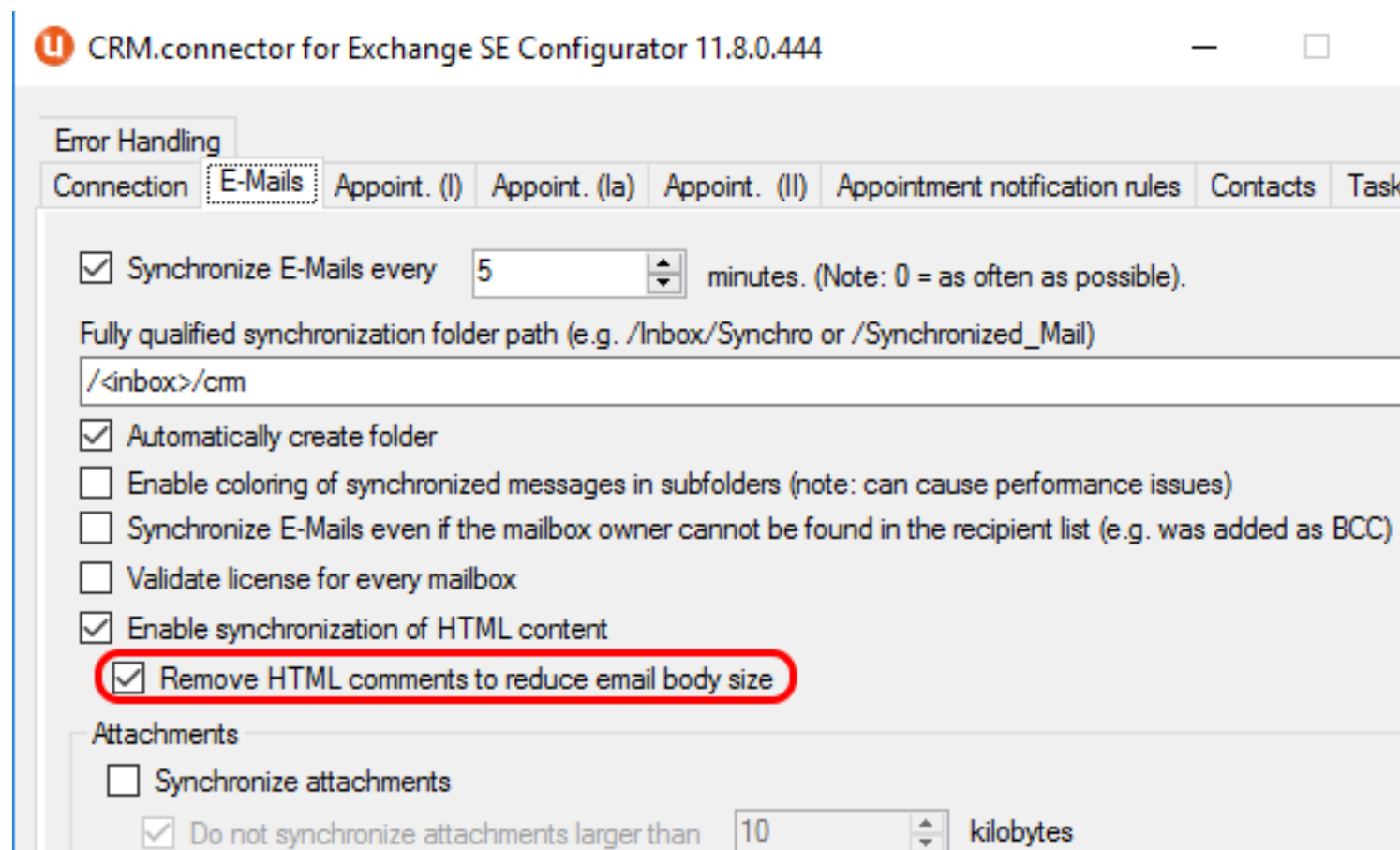
Synchronize e-mails if the owner of the mailbox cannot be found in the recipients list (e.g. was added as BCC): if this option is enabled, the owner of a mailbox is added to the recipients list (exchanged by connector and CRM.interface) to allow for synchronizing such an e-mail.

Enable synchronization of HTML content: If this option is enabled, connector sends the HTML representation (not the plain text representation) of the e-mail body content.

Note: The default size of the HTML text field is 12000 characters. If the text in the email body is greater than the default size, empty content is shown in the CRM web after synchronisation. To avoid this situation, the default size of the HTML text field should be increased to a higher value.

Remove HTML comments to reduce email body size: This allows removing HTML comments from emails bodies, in order to make them fit into the database. Outlooks adds additional code as HTML comments into emails. This makes the emails too big. Hence it is truncated and saved into CRM database. This flag will remove these comments and just leave basic HTML code.

Note: This setting is only available when synchronization of HTML content is also enabled.



20 Outlook 2007: perform the following:

1. On the **Tools** menu, click **Organize** and **Using Colors**
2. Set up the rule for color coding and click **Apply Color**.²¹

Impact on performance: our tests showed that it takes about 70 ms to create and fill the `USER_FIELDS` property with data for each single folder and 50 ms to check its existence and keep the content up to date. If the `USER_FIELDS` property contains information on properties coming from other applications, it may take even longer (depending on the size of the BLOB). So if a user has 100 sub folders, it may cause an overhead of about 5-6 seconds every time his mailbox is being synchronized. This performance “penalty” is multiplied by the number of the user having such a structure.

"Attachments" Settings

Do not synchronize attachments: Enable this option to prevent attachments from being synchronized.

Synchronize attachments: If you enable this option, every attachment is synchronized as a single document and linked to the appointment (MA) record in the CRM system. You can also limit the size of the attachments via the **Do not synchronize attachments larger then n kilobytes** setting.

Save whole message as MSG file (attachments included): When enabled, the message itself including all attachments is linked to the appointment (MA) record in the CRM system as a document. You can also limit the size of the MSG file via the **Do not synchronize MSG files larger then n kilobytes** setting.

"Synchronization Success" Settings

Move successfully synchronized e-mails to the following sub folder: if this option is enabled, e-mails which have been synchronized with Aurea CRM are moved to the specified folder or the matching sub folder of this folder respectively. In other words: if an e-mail from a sub folder of your synchronization folder is synchronized the successfully synchronized e-mail is moved into a sub folder of the same name. These sub folders are generated by connector SE automatically.

Note: Since Outlook items might get a new ID when moving to another folder moving synchronized e-mails back from this "success folder" to the synchronization folder might cause duplicates in the CRM system.

"Synchronization Failure" Settings

Send error messages to the users by e-mail: If this option is enabled, the user is notified of synchronization failures via e-mail.

For further details, see [Sending warning and error messages to users](#).

Move unsuccessfully synchronized e-mails to the following sub folder: If this option is enabled, e-mails which could not be synchronized are moved to the specified sub folder of the synchronization folder. E.g. if you have defined /<inbox>/crm as the synchronization folder and Sync_Failure as the failure folder, the connector creates a folder /<inbox>/crm/Sync_Failure and moves the e-mails into this folder. connector SE no longer tries to synchronize these e-mails.

Note: It is not recommended to use this option without enabling "Move unsuccessfully synchronized e-mails to the following sub folder" as well. Connector stores the last reason for a failure on the message level (mmSyncStatus property) and would not send another error message unless the error reason changes, but in a scenario where connector is not able to access the mmSyncStatus property (e.g. if decoding of e-mail fails), it would keep sending error messages over and over.

"Sending Warning Message" Settings

See [Sending warning and error messages to users](#).

Message body was truncated: If this option is enabled, the user receives a warning e-Mail from connector SE in case the message text (body field) of a synchronized message exceeds the size of the text field in Aurea CRM.

Note: with the option Save whole message as MSG file (attachments included) you can ensure that the complete message is synchronized to Aurea CRM.

At least one attachment was not synchronized: If this option is enabled, the user receives a warning message from connector SE in case an attachment could not be synchronized because its size exceeded the defined limit.

e-mails – synchronized Fields

Out-of-the-box, the following fields are synchronized from Outlook to Aurea CRM.

Aurea CRM	
MA [#12]	Participant ID
MA [#103]	Subject
MA [#77]	Person
MA [#25]	Document 1
MA [#23]	Text

Outlook	
PR_DISPLAY_TO	To:
PR_DISPLAY_CC	CC:
PR_DISPLAY_BCC	BCC:
PR_SUBJECT	Subject
PR_SENDER_NAME	From:
PR_HASATTACH (true, if there is at least one attachment)	Attachments:
PR_BODY	Text

Settings I

Appointment Synchronization Settings I

To perform this setting select **Appointments (I)** tab from the **CRM.connector for Exchange SE Configurator**.

Appointment Synchronization Settings Dialog I

CRM.connector for Exchange SE Configurator 8.2.7.8199

Connection | E-Mails | **Appointments (I)** | Appointments (II) | Contacts | Tasks | Error Handling

☒ Synchronize appointments every 10 minutes. (Note: 0 = as often as possible).

Time Frame

Synchronize appointments up to 0 days in the past and 7 days in the future

Synchronizing MS Exchange with update.CRM

Appointment States to Synchronize

- ☐ Free
- ☐ Tentative
- ☒ Busy
- ☒ Out of Office

Synchronize appointments as: meeting (#3)

☒ Synchronize private appointments from Microsoft Exchange to update.CRM

☒ Synchronize appointments created 'on behalf' (created by userA on behalf of userB)

☐ Synchronize only changes of appointments already existing in update.CRM

Publish accepted appointments from a different owner

☒ External ☒ Internal

Attachments

☒ Synchronize attachments

☒ Do not synchronize attachments larger than 2000 kilobytes

Synchronization Failure

☐ Send error messages to the users by E-Mail

Sending Warning Message

☐ Appointment body was truncated

☐ At least one attachment was not synchronized

No service  Service name: Unknown
Running state: Unknown
Direct link: No link

OK Cancel Apply

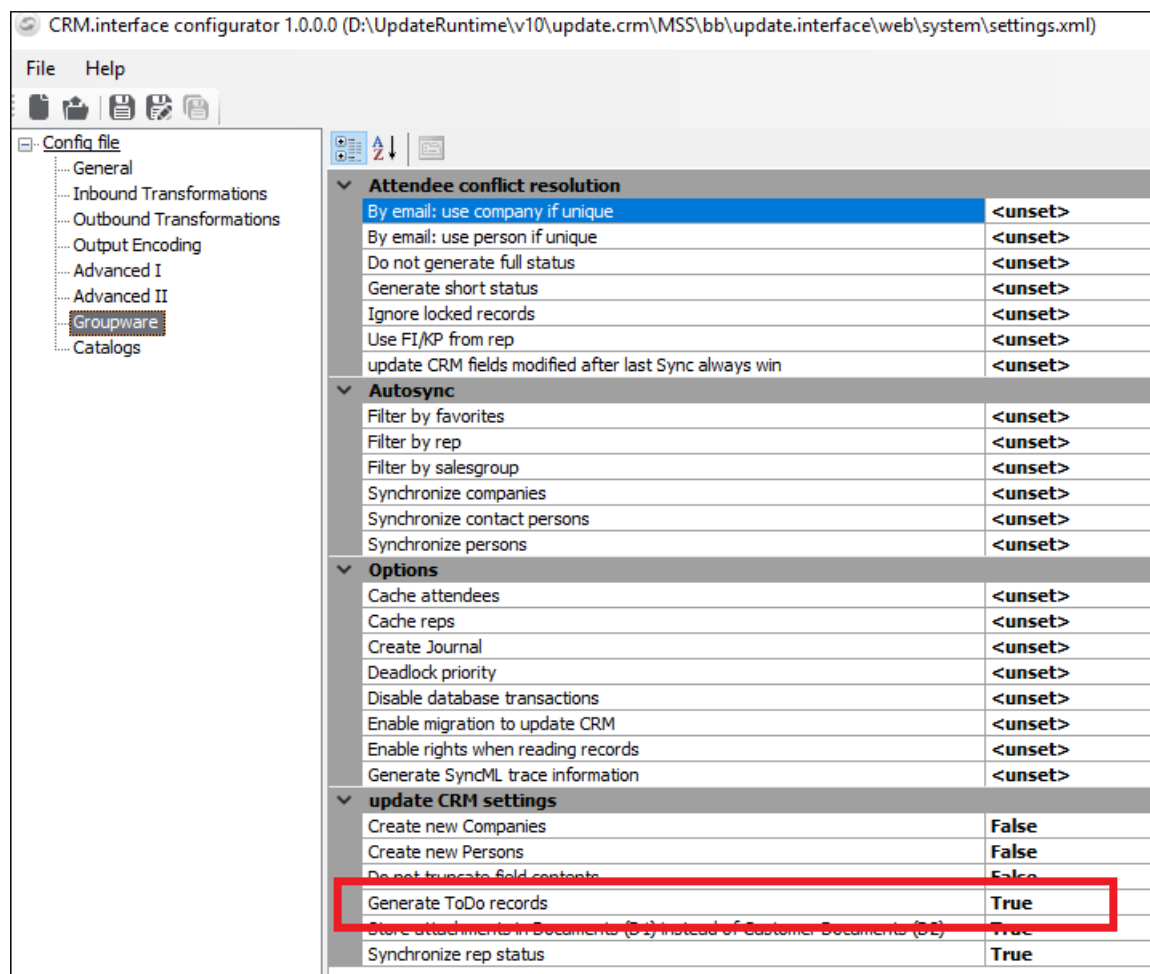
For example, creating an appointment in Aurea CRM and adding a participant the appointment is synchronized to Outlook. When the participant accepts the appointment the status is synchronized back to CRM.

Important: The following set up is required for the task status to be synchronized back to CRM:

1. **ToDo** records should be created for each participant in the Activity (MA) infoarea by enabling **Create To-Do** option in the Activity (MA) record. This ensures that status changes are synchronized back to Aurea CRM.

Note: This option can be enabled for appointments set in the future.

2. For the participants without **ToDo** records, new records are generated automatically upon synchronization, provided the `Generate ToDo` records setting option is enabled in the interface configuration `settings.xml` file. See the screenshot below:



Synchronize Appointments / Synchronization Interval

Synchronize appointments: If this check box is checked, appointments are synchronized. To prevent connector SE from synchronizing appointments at all, uncheck the checkbox.

Synchronize appointments every n minutes: You can also define the interval (in minutes) in which the connector checks users' mailboxes for new or changed appointments to synchronize. Please note that defining a small interval (i.e. forcing the connector to poll the Exchange Server more frequently) causes higher network traffic and a somewhat higher load on the Exchange Server.

"Time Frame" Settings

To make the synchronization mechanism clearer and to simplify configuration, the "Time Frame" settings apply to both synchronization directions. Use this option to define how many days in the past and future appointments are synchronized from Aurea CRM to Microsoft Exchange and vice versa. Note that the reference date is not the date when the appointment was created, but the date the appointment is scheduled for.

Note: Defining a wide interval (many days in the past or future) causes a higher load on the CRM data base and the Microsoft Exchange Server due to more costly queries.

"Synchronization Failure" Settings 27

Send error messages to the users by e-mail: If this option is enabled, the user is notified of synchronization failures via e-mail.

"Sending Warning Message" Settings 28

Appointment body was truncated: If this option is enabled, the user receives a warning message from connector SE in case the appointment text (body field) of a synchronized appointment exceeds the size of the text field in Aurea CRM.

At least one attachment was not synchronized: If this option is enabled, the user receives a warning message from connector SE in case that an attachment could not be synchronized because its size exceeded the defined limit.

Settings II

Here is a detailed review of the Appointment Synchronization Settings II.

To perform this setting, select **Appointments (II)** tab from the **CRM.connector for Exchange SE Configurator**.

CRM.connector for Exchange SE Configurator 13.1.0.2483

Error Handling

Connection E-Mails Appoint. (I) Appoint. (Ia) Appoint. (II) Appointment notification rules Contacts Tasks

Synchronizing update.CRM with MS Exchange

Appointment Types to Synchronize

- ☒ Telephone (#0)
- ☒ Visit (#1)
- ☒ Letter (#2)
- ☒ Event (#3)
- ☒ Fax (#4)

Get types from update.CRM database

☒ Synchronize absences

Deleting Appointments

☒ Enable deletion

Time Frame

☒ Default time frame (Note: same as for appointment synchronization)

☐ Individual synchronization time frame for deleting appointments

Delete appointments up to 0 days in the past and 7 days in the future

Open appointments in update.CRM

☐ Insert web link to message body

Host URL (e.g. http:// xyz.company.com/crm)

☐ Insert win link to message body

☐ Send invitations to reps only

☐ Exclude companies from invitation

☐ Send notifications to external attendees

Start service

Service name: acm.server.sandbox-ent-mss-bb-13.1.0.

Running state: Stopped

Direct link: No link

OK Cancel Apply

Available options are described in detail below.

Synchronizing Aurea CRM with MS Exchange

Synchronization of appointments is bi-directional (see table, *Synchronization directions* in [Architecture Overview & Brief Description](#) on page 7). All settings in this group concern the synchronization from Aurea CRM to MS Exchange Server.

- **Appointment Types to synchronize:** Use this option to filter the CRM appointment types to be synchronized.
- Assuming you have a valid configuration, you can retrieve the appointment types in the Aurea CRM system using the **Get types from Aurea CRM database** button.
- **Synchronize absences:** If this option is enabled, absences are synchronized from Aurea CRM to Exchange Server. See [Absence Synchronization](#) for further details.

Deleting Appointments

Connector SE is capable of publishing deletion of items bi-directionally.

Note: In Aurea CRM, appointments are not deleted physically, but only marked as deleted. See [Marking Appointments as "Deleted" in CRM](#) on page 68 for further details.

- **Enable deletion:** With this option you can turn the publishing of deletion of items on and off.
- **Time Frame** allows you to fine-tune the time frame for the deletion of appointments.
- **Default time frame:** If you enable this option, the same time frame is used for both synchronization and deletion of appointments. In order to make the process easier to understand for the users, update Software AG recommends using this setting.
- **Individual synchronization time frame for deleting appointments:** Use this option to define how many days in the past and future deletion of appointments is synchronized from Aurea CRM to Microsoft Exchange and vice versa. Note that the reference date is not the date when the appointment was created, but the date the appointment is scheduled for.

Open appointments in Aurea CRM

- **Insert web link to the message body:** If this option is enabled, then connector during synchronization inserts a so-called protocol link (to the appointment in Aurea CRM) into the body text field of the appointment. This link allows you to open the appointment in Aurea CRM web from Outlook directly. Additionally you have to specify the **Host URL**. e.g. <http://mycompany.com/AureaCRM/crm>.
- **Insert win link to the message body:** If this option is enabled, then connector during synchronization inserts a so-called protocol link (to the appointment in Aurea CRM) into the body text field of the appointment. This link allows you to open the appointment in Aurea CRM win from Outlook directly.

Send invitations to reps only

In principle connector sends invitations to attendees, if their e-mail address belongs to a mail space which is supposed to be synchronized.

See topic [Mail address spaces to be synchronized](#) Setting for further information.

If this option is checked, connector sends invitations solely if the attendee is assigned as a Rep to the appointment (and not linked as a person only).

Exclude companies from invitation

Note: Available from ACRM 13.1.

Use this check box to control sending invitations to company users:

- If unchecked, the email is sent to the participant's company email as well
- If selected, the participant's company email is skipped when sending invitations

Sending notifications to external attendees

You can allow users to send invitations to external participant whose email address is not registered in the CRM.Connector mail space that is synchronized with Outlook. By default appointments are not extended to external participants.

To enable the external participant to receive notifications about an appointment enable the **Send notifications to external attendees** option in the configurator.

Enabling this option results in the following behavior:

- If an appointment does not exist in Outlook Exchange then on creating an appointment, the external attendees are saved to regular attendees lists just like internal attendees.
- If an appointment already exists then the external attendees in Outlook Exchange are handled as follows:
 - New external attendees are saved to the sendable attendees list.
 - External attendees that are on the unsendable attendees lists are moved to the regular attendees list (according to their participation type).
 - External attendees that already are on attendees lists are **not** moved to unsendable attendees lists.

Disabling this option results in the following behaviour:

- If appointment doesn't exist in Outlook Exchange then on creating an appointment, external attendees are saved to unsendable attendees lists.
- If an appointment already exists then the external attendees in Outlook Exchange are handled as follows:
 - New external attendees are saved to the unsendable attendees list.
 - External attendees that are on the sendable attendees lists are moved to the unsendable attendee list (according to their participation type).

Appointments – synchronized fields

Out-of-the-box, the following fields (in the BTB version) are synchronized between Aurea CRM and Outlook:

Aurea CRM	
MA [#103]	Subject
MA [#2]	Date
MA [#3]	Time
MA [#4]	Duration
MA [#5]	Unit
MA [#6]	End Time

Outlook	
PR_SUBJECT	Subject
0x818D ApptStartDate	Start
0x818E ApptStartTime	Start
0x8187 Duration	Duration
0x8187 Duration	Duration
0x8189 ApptEndTime	End

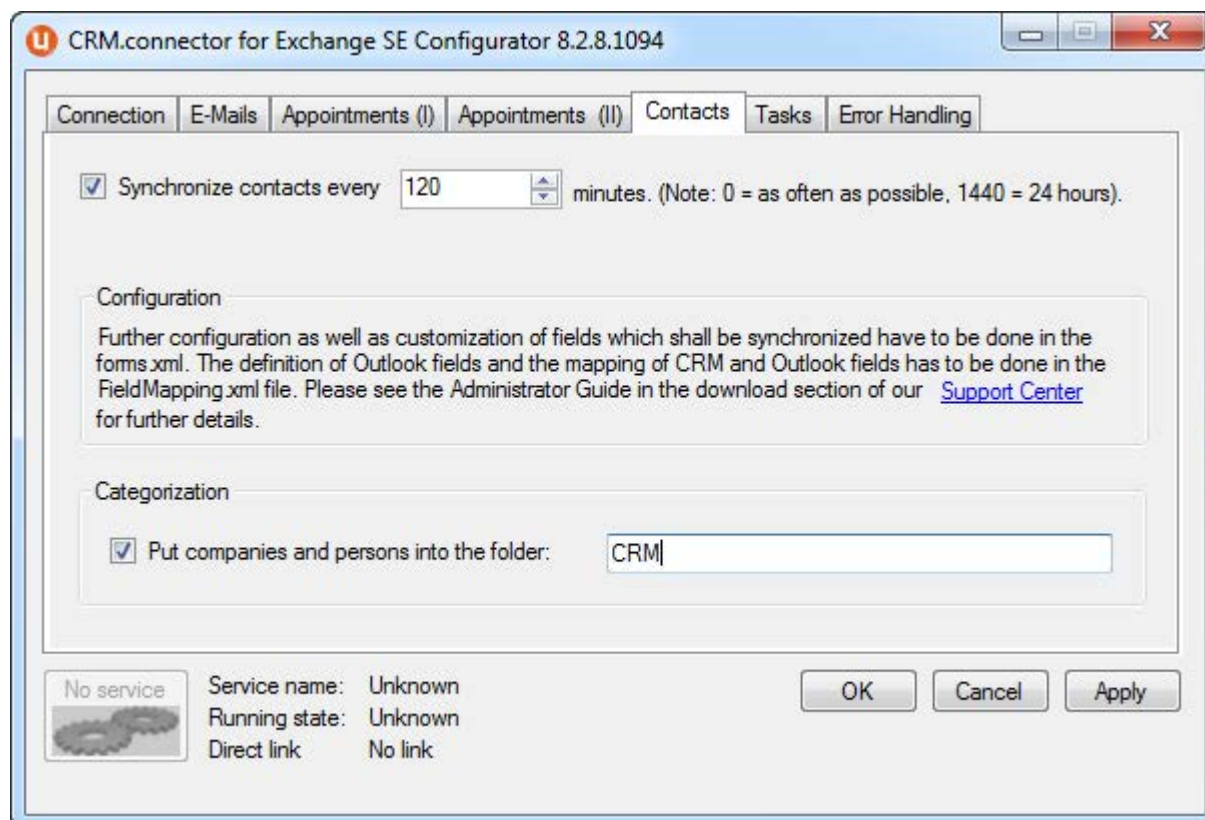
MA [#23]	Text	PR_BODY	Text
MA [#120]	End Date	0x8188 ApptEndDate	End
MA [#12]	Participant ID	PR_DISPLAY_TO	Required attendees
		PR_DISPLAY_CC	Optional attendees
		PR_DISPLAY_BCC	Resources
MA [#25]	Document 1	PR_HASATTACH (true, if there is at least one attachment)	
MA [#122]	Reminder Duration Reminder Unit	0x81EBReminderMinutes-BeforeStart	Reminder before-hand
MA [#123]		0x81EEReminderSet (true, if set)	Reminder
MA[#8]	RepID	PR_SENDER_NAME	Organizer

Contact Synchronization

Learn how to synchronize contact persons from Aurea CRM to Microsoft Exchange Server

In deference to data quality and common rights settings in the CRM system, contact persons created in Outlook are not synchronized to Aurea CRM. If a user modifies synchronized contacts in Outlook, these changes are overwritten by the data from Aurea CRM on the next synchronization run.

Contact Sync.



"Synchronize contacts n time(s) a day" Setting

With this setting you can define how frequently contact persons are synchronized from Aurea CRM to Microsoft Exchange Server.

Note: Setting the frequency to a low value might cause performance impacts.

The synchronization point is not set to a fixed day time, but depends on the start/re-initialization time of the connector SE.

Assumption: Synchronize contacts every 720 minutes.

First synchronization occurs on start time, the second on start time +720 minutes.

Categorization

With this setting you can define a target**folder** where company and person data are stored in the address book.

If companies or persons are updated in Aurea CRM, connector SE doesn't update the contacts in the address book but deletes and recreates them.

Therefore the logic is as follows:

If categorization is **disabled**

- New contacts are created in the main address book (main folder)
- "Updated" contacts remain where they are (either in the main folder or in the previously defined folder)

If categorization is **enabled**

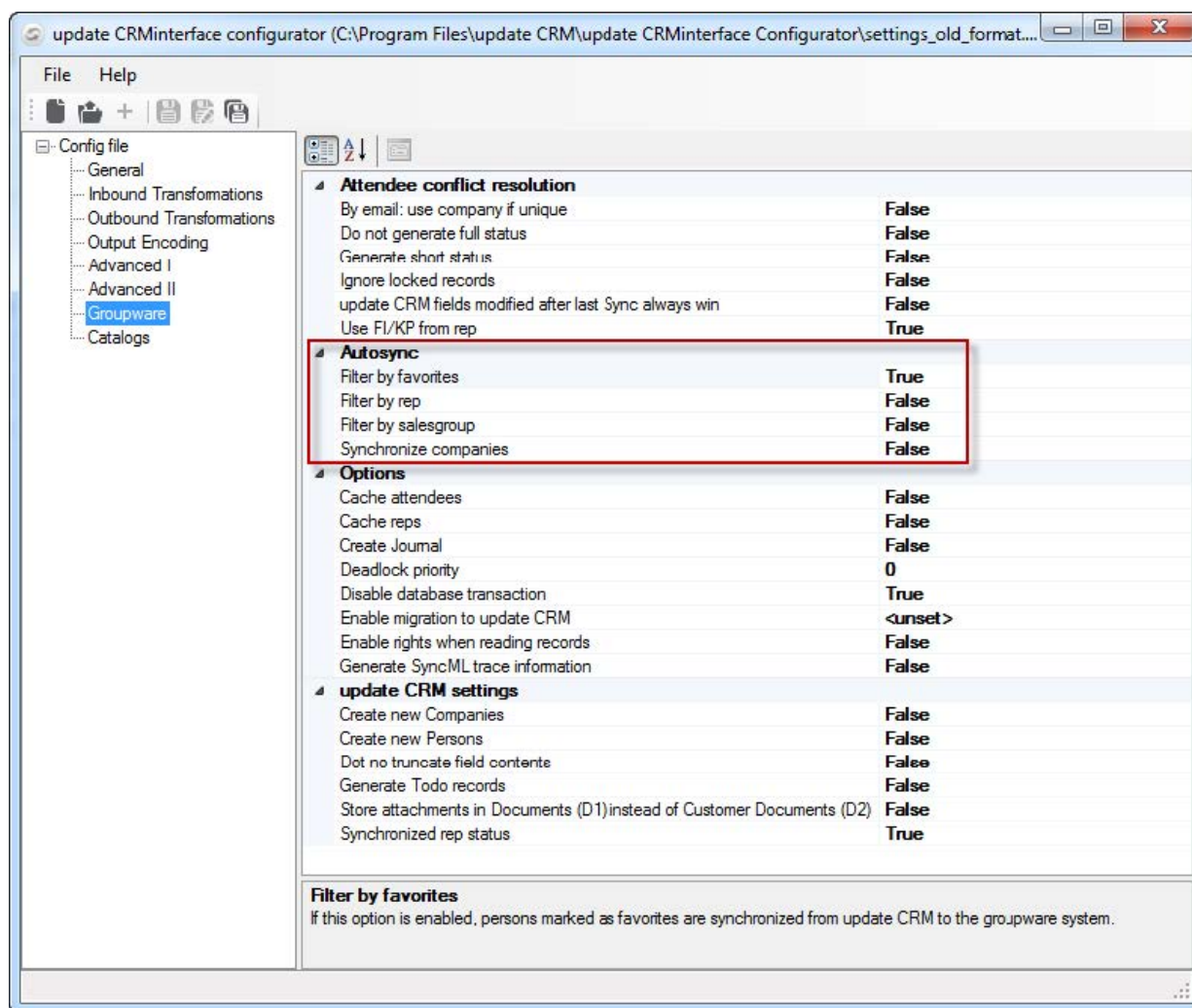
- New contacts are created in configured folder (if the folder does not exist it is created)
- "Updated" contacts are "moved" to the configured folder regardless where these contacts currently are stored

Note: It is possible to override the global settings (in the configuration) for users via the user settings in Aurea CRM. See [Categorization of contact persons](#) for further information.

Settings in CRM.interface

The criteria which contact persons (companies) are synchronized have to be defined on CRM.interface side. (see picture below).

Settings for contact person synchronization in CRM.interface configurator



Filter by Rep: If this option is enabled, all persons where the current user is assigned to the "rep field" (AD field) in Aurea CRM are synchronized.

Filter by Sales group: If this option is enabled, all persons where the current user is part of the associated Sales Group are synchronized.

Sync Companies: If this option is enabled, then not only contact person (KP) data, but also company (FI) information is synchronized from Aurea CRM to Microsoft Exchange Server.

Filter by Favorites: If this option is enabled, persons marked as favorites are synchronized from Aurea CRM to Microsoft Exchange Server.

Note: If you enable more than one of these options (e.g. "Rep" and "Favorites"), then the superset of persons matching these criteria is synchronized.

Since the number of persons to synchronize might be quite high, enabling all these options could cause high data base activities and slow down performance reasonably.

Contacts – synchronized Fields

Out-of-the-box, the following fields are synchronized between Aurea CRM and Outlook:

Contact Persons - synchronized Fields

Aurea CRM	
KP [#3]	FirstName
KP [#4]	Last Name
KP [#9]	E-Mail 1
KP [#6]	Tel 1

Outlook	
PR_GIVEN_NAME	FirstName
PR_SURNAME	Last Name
0x8083 (Email1Address)	E-Mail
PR_OFFICE_TELEPHONE_NUMBER	Business Phone

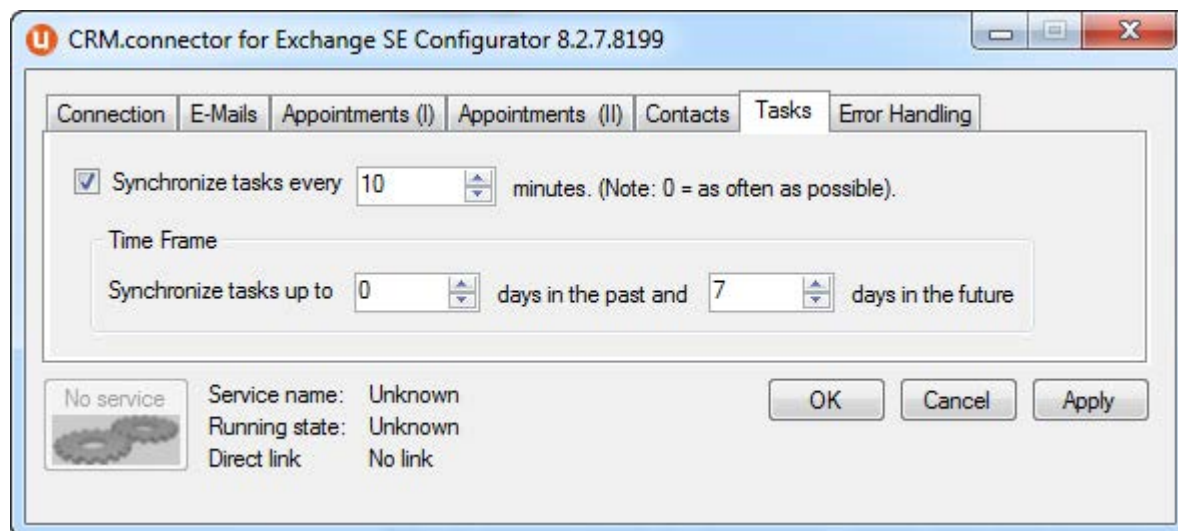
The out-of-the-box field mapping between Microsoft Exchange Server and Aurea CRM can be modified by the same mechanism as described in topic [Synchronization of Additional Outlook Fields](#).

Task Synchronization

Connector SE can synchronizing tasks from Aurea CRM to Exchange Server.

Only status changes are synchronized from Exchange to Aurea CRM.

Task synchronization



There is no possibility to accept or decline these tasks in MS Outlook. Other participants of the task are not synchronized to the Exchange server. Therefore they are not notified via the MS Outlook functionality.

Delegation is not supported by connector; if a task is delegated to another person connector ignores this task at all.

If an already synchronized task is delegated to another Rep in Aurea CRM a new task for this Rep is created in Outlook. Note, that there is no deletion mechanism in this case so the original tasks remains in the mailbox of the original owner (user).

"Synchronize tasks every nminutes " Setting

Synchronize tasks: If this check box is selected, appointments are synchronized. To prevent connector SE from synchronizing tasks at all, de-select the checkbox.

Synchronize tasks every n minutes: Defines the interval (in minutes) at which the connector checks for new or changed tasks to synchronize. Please note that defining a small interval (i.e. forcing the connector to poll the Exchange Server more frequently) cause higher network traffic and a somewhat higher load on the Exchange Server.

"Time Frame" Settings

Use this option to define how many days in the past and future tasks are synchronized from to Microsoft Exchange. Note that the reference date is not the date when the task was created, but the date the task is scheduled for.

Note: Defining a wide interval (many days in the past or future) causes a higher load on the CRM database and the Microsoft Exchange Server due to more “costly” queries.

tasks – synchronized Fields

Out-of-the-box, the following fields³⁰ are synchronized between Aurea CRM and Outlook:

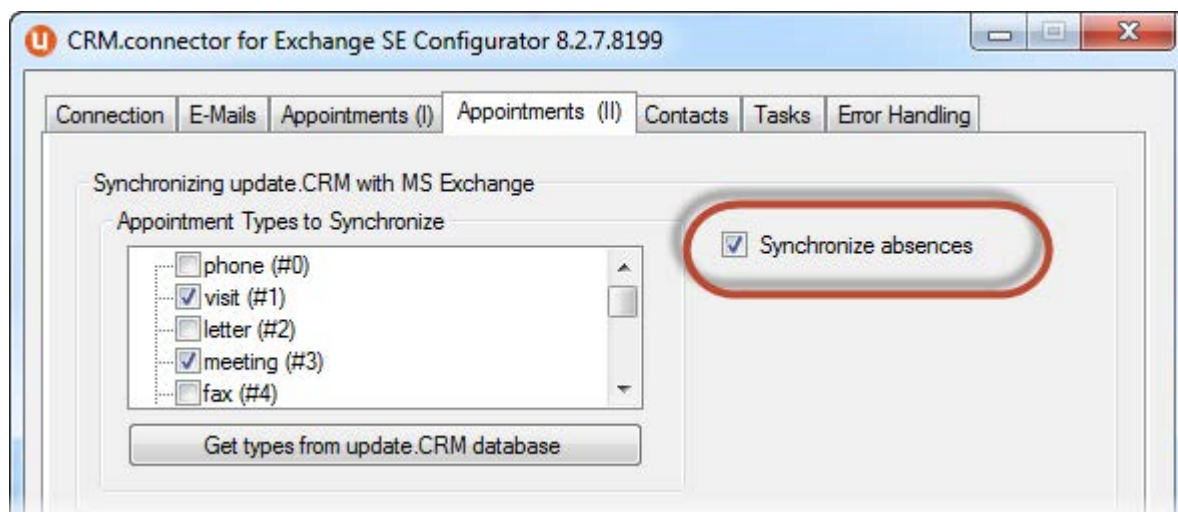
Aurea CRM	
A1 [#4]	Rep
A1 [#10]	Created byRep
A1 [#38]	Start date
A1 [#14]	Due date
A1 [#2]	Status
A1 [#5]	Priority
A1 [#56]	Complete %
A1 [#8]	Complete Date
A1 [#42]	Reminder Duration
A1 [#43]	Reminder Unit
A1 [#58]	Subject
A1 [#20]	Comments

Outlook	
0x801BOwner	TaskOwner
PR_CREATOR_NAME	Requested by
0x8144 StartDate	Start date
0x8145 DueDate	Due date
0x8146 Status	Status
PR_PRIORITY	Priority
0x8147 PercentComplete	% complete
0x814ADateCompleted	Complete date
calculated	Reminder
	Reminder
PR_SUBJECT	Subject
PR_BODY	Text

Note: See also topic [Mapping of Task Status](#) for further information.

Absence Synchronization

Learn how to synchronize absences from Aurea CRM to Exchange Server.



Absence synchronization

Changes in these appointments in Outlook are not synchronized back to Aurea CRM. Absences are shown in Outlook as standard appointments – the only difference is the user-defined property mmAbsence, which contains the ID of the "absence reason" catalog in Aurea CRM and may be used for coloring, see topic [Color-Code "Absences" in Outlook](#).

absences – synchronized Fields

Out-of-the-box, the following fields³¹ are synchronized from Aurea CRM to Outlook:

Aurea CRM	
A3 [#5]	Start Date
A3 [#6]	Start Time
A3 [#10]	Text
A3 [#22]	Status
A3 [#23]	Private
A3 [#24]	End Date
A3 [#25]	End Time
A3 [#26]	Reminder Duration
A3 [#27]	Reminder Unit
A3 [#30]	Subject

Outlook	
0x81B3Start	Start Time
PR_BODY	Text
0x81B7BusyStatus	Show time as
PR_SENSITIVITY	Private
0x81AD End	End Time
calculated	Reminder Set
calculated	Reminder Time
PR_SUBJECT	Subject

Error Handling

Learn to handle configuration errors.

The screenshot shows the 'Error Handling' tab of the 'CRM.connector for Exchange SE Configurator 8.2.7.8199' window. The window has a standard Windows-style title bar and a tabbed interface with tabs for 'Connection', 'E-Mails', 'Appointment (I)', 'Appointment (II)', 'Contacts', 'Tasks', and 'Error Handling'.

Connection Timeout

Http: seconds EWS: seconds
 Note: as long as there are no problems with timeouts do not change the default value (60 seconds)

CRM.interface errors

Error codes (e.g. 500;511;...)

☒ Stop connector on CRM.interface errors
 Max number of errors before stopping connector:

☒ Exclude mailboxes from synchronization in case of consecutive access failures

When all mailboxes are excluded from synchronization

☐ Stop connector immediately

☒ Wait minutes and then try to reinitialize messaging server access module

☒ Stop connector if reinitialization occurs times within last 24 hours

Inform admin users about the following events (NOTE: may not work if the messaging system is down)

☒ Connector stops on CRM.interface errors, excluding all mailboxes or too many reinitializations

☐ Mailbox gets excluded from synchronization

☐ Connector's messaging server access module reinitializes

☒ One of the above defined CRM.interface errors occurs

Smtip addresses of administrative users to be informed about errors

☒ Write performance data to performance counters

Status Bar:

No service Service name: Unknown
 Running state: Unknown
 Direct link: No link

Error Handling Dialog

http Connection Timeout

Timeout n seconds: normally there is no need to change the default value (60 seconds) unless you experience timeouts in the log file. Such timeouts typically are caused by "thin" connections between connector SE and Aurea CRM http server or when synchronizing huge attachments.

Note: Additionally such timeouts may occur if the synchronization of an item starts a lot of processes (e.g. triggers or workflows) in the CRM system. This case typically goes hand in hand with the log entry "User is already active", which is an indication that a request from connector is still being processed by CRM.interface and could not be finished within the timeout. In order to avoid duplicates, CRM.interface doesn't execute the same request twice. Although increasing the timeout may help, it is not a real solution but rather fighting the symptoms. Therefore we strongly recommend to analyze the customizing on CRM side in order to ensure that operations can be completed within the default timeout.

This setting solely concerns the timeout of requests from connector SE to http server, not requests to the EWS.

EWS Connection Timeout

Timeout n seconds: normally there is no need to change the default value (60 seconds) unless you experience timeouts in the log file. The maximum value is 3.600 seconds.

This setting solely concerns the timeout of requests from connector SE to Exchange Server, not requests to CRM.interface.

CRM.interface errors

You can define on which errors returned by CRM.interface connector SE should react and which actions to take.

Error codes (e.g. 500;511;...): error codes to be monitored. Typically you would monitor SYNCML error code 511. Error 511 is returned, when something unexpected happened on the CRM.interface side – a system returning a lot of 511 errors is to be considered unhealthy and you should investigate further. Typically error 500 is related to configuration errors, e.g. when CRM.interface is not able to save a record because of a rights-constraint. A typical message for such an error would be "Permission denied (required field missing)". These errors indicate that you have to change your configuration in order to ensure proper synchronization.

Stop connector on CRM.interface errors | Max number of errors before stopping connector: with this setting you can configure that connector should stop after exceeding the error count threshold.

Note: Exceeding this threshold does not necessarily stop connector immediately. Typically connector is sending packages of 10 items to CRM.interface server and needs to process the whole response and send all failure messages before quitting.

If for example `MaxErrorCount="5"` and the actual error count was already set to 2 and all of the 10 items fail with `HttpErrorCodes="511"`, connector stops after 12 errors in total.

Exclude mailboxes from synchronization in case of n consecutive access failures

In combination with the settings below you can force connector to reinitialize its messaging server interface (simplified: closing existing connection to EWS and establishing a new connection). The idea behind this feature is to exclude certain mailboxes which are not accessible due lack of access rights; for example to save processing time (typically such situations are not "self-healing").

When all mailboxes are excluded from synchronization

With this setting you can either stop connector or enforce a reinitialization of connector's messaging server interface.

Stop connector immediately if this option is activated connector stops when all mailboxes are removed from the synchronization list due to access failures. Typically this can happen, when the Exchange Web Services are not reachable.

Wait n minutes and then try the reinitialize connector's messaging server access module you can define the interval after which connector should reinitialize the connection to EWS. Normally removing of all mailboxes from the synchronization list won't happen, unless there are connection problems or EWS is down. Therefore a certain delay between the occurrence of this problem and the reinitialization is reasonable.

Stop connector if reinitialization occurs n times within last 24 hours with this setting you can force connector to stop, which might be reasonable in situations where there is a substantial and permanent problem in the infrastructure preventing connector from accessing Exchange Server. Please note, that 24 hours in this case are meant literally - the error count is monitored 24 hours after first occurrence (e.g. if it happens at 8PM the observation time frame is until 8PM next day).

Inform admin users about the following events

Note: In case the messaging system is down, connector cannot send e-mails and therefore this notification feature fails.

Connector stops on groupware server errors, exclusion of all mailboxes or too many reinitializations if this option is enabled, the defined administrative user(s) are informed when connector stops because of one of the above mentioned events.

Mailbox gets excluded from synchronization if this option is enabled the defined administrative user(s) is/are informed when a mailbox is removed from the list of synchronization users. Basically there is solely one e-mail per mailbox until connector either is restarted or reinitialized. (And – of course – the problem accessing this mailbox is persistent).

Connector's messaging server access module reinitializes if this option is enabled the defined administrative user(s) are informed when connector reinitialized the connection to EWS.

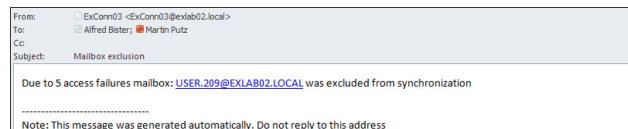
One of the above defined CRM.interface occurs if this option is enabled the defined administrative user(s) are informed when CRM.interface errors occur.

Smtp addresses of administrative users to be informed about errors here you can specify a list of SMTP addresses such information messages should be sent to.

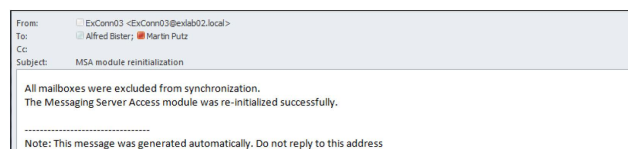
Note: Only one e-mail is sent if an error occurs, e-mails are not sent if the same error occurs when subsequently synchronizing the same appointment.

Examples of e-mails to administrator

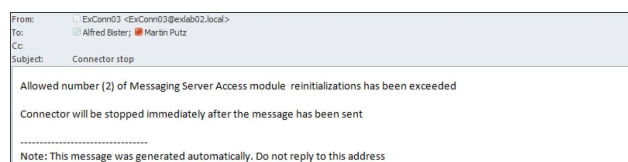
Message to administrator: mailbox excluded from synchronization



Message to administrator: reinitialization of connector's messaging server interface



Message to administrator: connector stopped - allowed number of reinitializations exceeded



Writing performance data to performance counters

Write performance data to performance counters: If this option is enabled, connector SE is writing its state and some performance data to performance counters. These performance data can be viewed and monitored with the Windows Performance Monitor; the counters are available in the category "CRM.connector for Exchange SE".

Note: The counters for connector are only visible for instances of connector for which the configuration option "Write performance data to performance counters" has been enabled.

Note: See the WIKI article [Writing performance data to performance counters](#) for further details on the performance counters.

Logging

Since connector SE is part of the update server family logging is now configured as in all other server products via `settings.xml`.

Note: See the WIKI articles

- [HOWTO Configure Logging on the Server](#) and
- [HOWTO configure diagnostic logging for CRM.interface](#) for further information.

```
<Logging>
    <!-- logLevel - possible values are: NoLogging, Emergency, Alert,
Critical, Error, Warning, Notice, Info, Debug -->
    <Channel logLevel="Warning"
        writerName="ConnectorfileLogWriter"
        formatterName="Default"/>
    <!-- rollingMode - possible values are: Date (when date changes), Size
    (when
        exceeding defined size), Startup (on every startup). Values can be
combined,
        e.g. "Size,Startup" means when exceeding the size and on every restart
of
        connector -->
    <Writer filePath="log\connector.log"
        name="ConnectorfileLogWriter"
        maxSizeKB="50000"
        rollingMode="Size,Startup"
        compressBackup="true"
        maxBackups="50"
        includeDateInBackupFileName="true"
        closeOnIdleTimeout="5"
        type="update.Lib.Logging.Writers.FileLogWriter,update.Lib"/>
    <Formatter name="Default"
        logDate="true"
        logTicks="true"
        logFacility="true"
        logLevelFormat="Name"
        logException="true"
        logMemory="True" logCpu="True"
        type="update.Lib.Logging.Formatters.DefaultLogFormatter,update.Lib"
    />
</Logging>
```

Example log configuration

The configuration in the example above the `logLevel="Warning"` and the log file size is limited to 50MB (`maxSizeKB="50000"`); after exceeding this limit or when connector is restarted the log file is packed into a GZ archive (`rollingMode="Size,Startup"`, `compressBackup="true"`) and a new log file is created. A maximum of 10 log archives are kept (`maxBackups="50"`).

Enhanced Logging to Monitor Connector Synchronization

You can monitor connector synchronization activities by using the performance log configuration in the settings.xml file. The synchronization activities can be logged in a separate file. Detailed information about activity types like email, appointment, contact, task, absence are captured in this file. Including the minimum, maximum, average, and total time taken along with the number of items synchronized. The following screenshot shows a sample performance log file.

```

5336 Mailboxes: 57
5337 From: 2017-05-16 18:13:25
5338 To: 2017-05-16 17:14:14
5339 Total time: 00:00:49,167
5340
5341 -----
5342 Summary CRM -> Domino
5343 -----
5344 | Type | Synced | Not Synced | Max Time | Min Time | Avg Time | Total Time |
5345 |-----|-----|-----|-----|-----|-----|-----|
5346 | Email | 55 | 2 | 00:00:00,297 | 00:00:00,048 | 00:00:00,180 | 00:00:10,272 |
5347 | Appointment | 51 | 6 | 00:00:00,288 | 00:00:00,035 | 00:00:00,173 | 00:00:09,889 |
5348 | Contact | 57 | 0 | 00:00:00,297 | 00:00:00,033 | 00:00:00,174 | 00:00:09,965 |
5349 | Task | 56 | 1 | 00:00:00,297 | 00:00:00,030 | 00:00:00,169 | 00:00:09,680 |
5350 | Absence | 57 | 0 | 00:00:00,294 | 00:00:00,032 | 00:00:00,164 | 00:00:09,357 |
5351 |-----|-----|-----|-----|-----|-----|-----|
5352
5353 Errors synchronizing emails (3.51%):
5354 - Mailbox 'user958@mail.com': Cannot connect to Domino server.
5355 - Mailbox 'user991@mail.com': Cannot connect to Domino server.
5356
5357 Errors synchronizing appointments (10.53%):
5358 - Mailbox 'user156@mail.com': Incorrect schedule time.
5359 - Mailbox 'user332@mail.com': Incorrect schedule time.
5360 - Mailbox 'user896@mail.com': Incorrect schedule time.
5361 - Mailbox 'user929@mail.com': Incorrect schedule time.
5362 - Mailbox 'user947@mail.com': Incorrect schedule time.
5363 - Mailbox 'user991@mail.com': Incorrect schedule time.
5364
5365 Errors synchronizing tasks (1.75%):
5366 - Mailbox 'user937@mail.com': Wrong task duration.
5367
5368 -----

```

The following sample shows the configuration set up to generate the performance log:

```
<Logging>
```

```

    <Channel facilityFilter="performance"
      logLevel="Debug"
      logLevelDebug="Debug"
      writerName="fileLogWriter2"
      formatterName="webLogFormatter2"
    />

    <Writer filePath="log\performance.log"
      name="fileLogWriter2"
      maxSizeKB="8192"
      closeOnIdleTimeout="5"
      type="update.Lib.Logging.Writers.FileLogWriter,update.Lib" />

    <Formatter name="webLogFormatter2"
      logDate="true"
      logTicks="false"
      logFacility="false"
      logLevelFormat="None"
      logException="false"
      logMemory="false"
      type="update.Lib.Logging.Formatters.WebLogFormatter,update.Lib" />

```

```

    ...
  </Logging>

```

SYNCML return codes

List of SYNCML return codes.

Class	Code	Error Name	Description
Success / Info	100	HTTP_ERRCODE_DIS- PLAY:	Additional info on event
	200	HTTP_ERRCODE_ UP- DATE_OK	An itemwas updated successful- ly.
	201	HTTP_ERRCODE_ CREATE_OK	An itemwas created successfully.
	304	HTTP_ERRCODE_ NOT_MODIFIED	Cannot modify synchronized item or there is no need to modify it.

Class	Code	Error Name	Description
Error	204	HTTP_ERRCODE_NO-DATA	No data to synchronize (or reps/persons are duplicated or unknown). Note: At least one of recipients/attendees must be defined as a person or a company and one as a rep.
	206	HTTP_ERRCODE_PARTIAL_DATA	Malformed (partial) data to synchronize.
	207	HTTP_ERRCODE_MERGE_CONFLICT	Cannot merge changes.
	300	HTTP_ERRCODE_MULTI_CHOICE	Too many items to synchronize with or multiple persons/reps to assign an item to. Note: most likely there are two or more persons/reps with the samee-mail address
	400	HTTP_ERRCODE_BAD_REQUEST	Unknown request.
	401	HTTP_ERRCODE_INVALID_CREDS	Invalid user credentials (or user is not allowed to perform synchronizations e.g. user is in not defined as Rep in Aurea CRM).
	403	HTTP_ERRCODE_FORBIDDEN_OPERA	TION Requested operation is forbidden
	404	HTTP_ERRCODE_NOT_FOUND	Cannot find item to update or synchronize with
	410	HTTP_ERRCODE_GONE	

Class	Code	Error Name	Description
			Synchronized item has already been deleted. Note: This code is also used as response to CRM.interface <Get> requests in case when an item has already been deleted in Outlook by a user - it is not a real error code in such a case.
	412	HTTP_ERRCODE_INCOMPLETE_COMM	AND Malformed or incomplete command
	415	HTTP_ERRCODE_UNSUPPORTED	Unsupported operation
CRM.interface internal codes	500	HTTP_ERRCODE_FAILED	Internal HTTP operation failed
	501	HTTP_ERRCODE_NOT_IMPLEMENTED	Functionality not implemented
	506	HTTP_ERRCODE_PROCESSING_ERROR	R Internal processing error
	511	HTTP_ERRCODE_SERVER_FAILURE	General server failure

Advanced customization

Learn the tips and tricks for advance customization of connector SE.

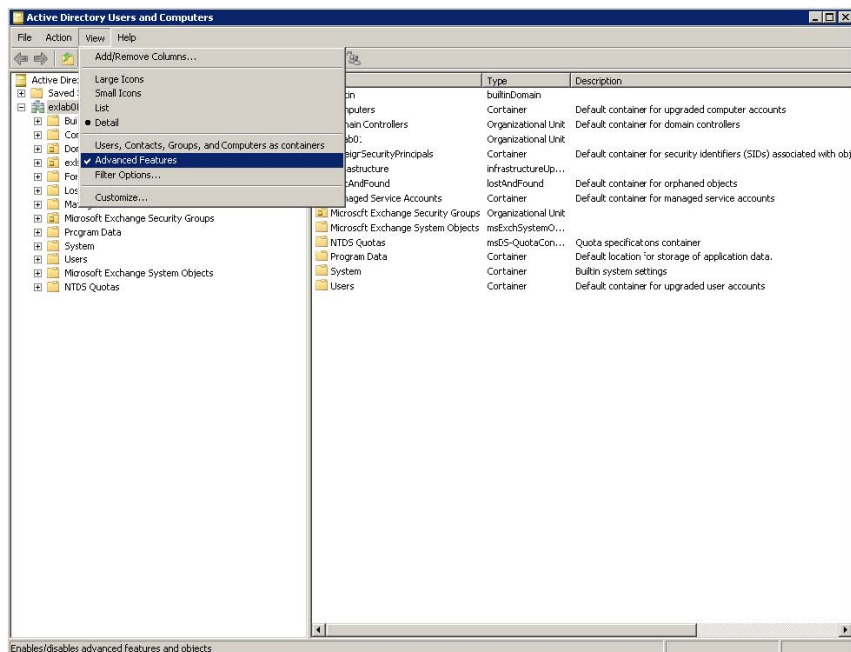
Below are some of the tips to perform advanced customizations:

Creating an AD group and limiting the scope of the impersonation user

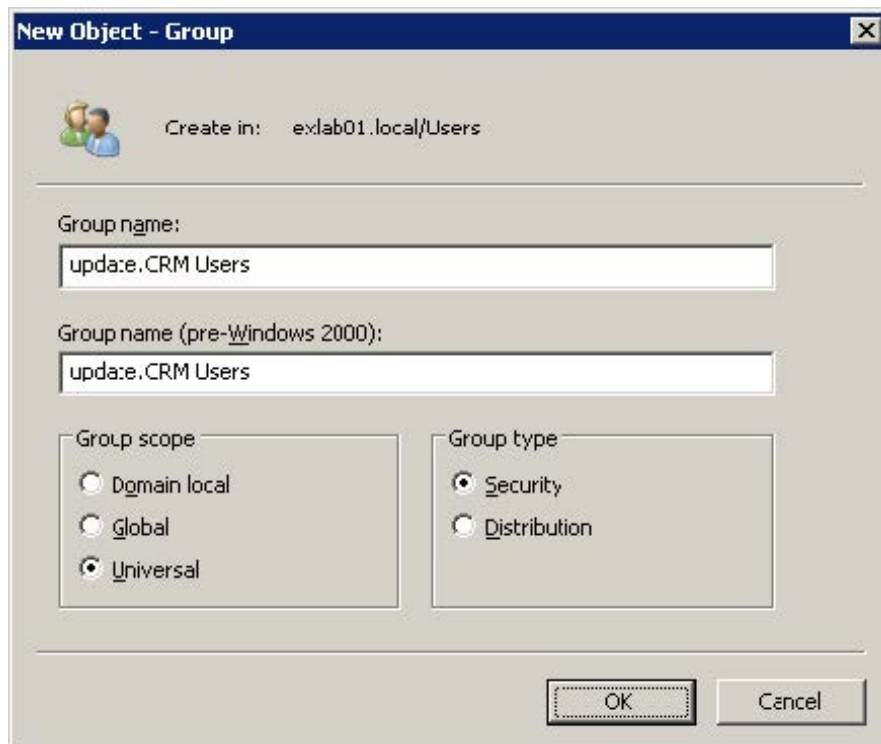
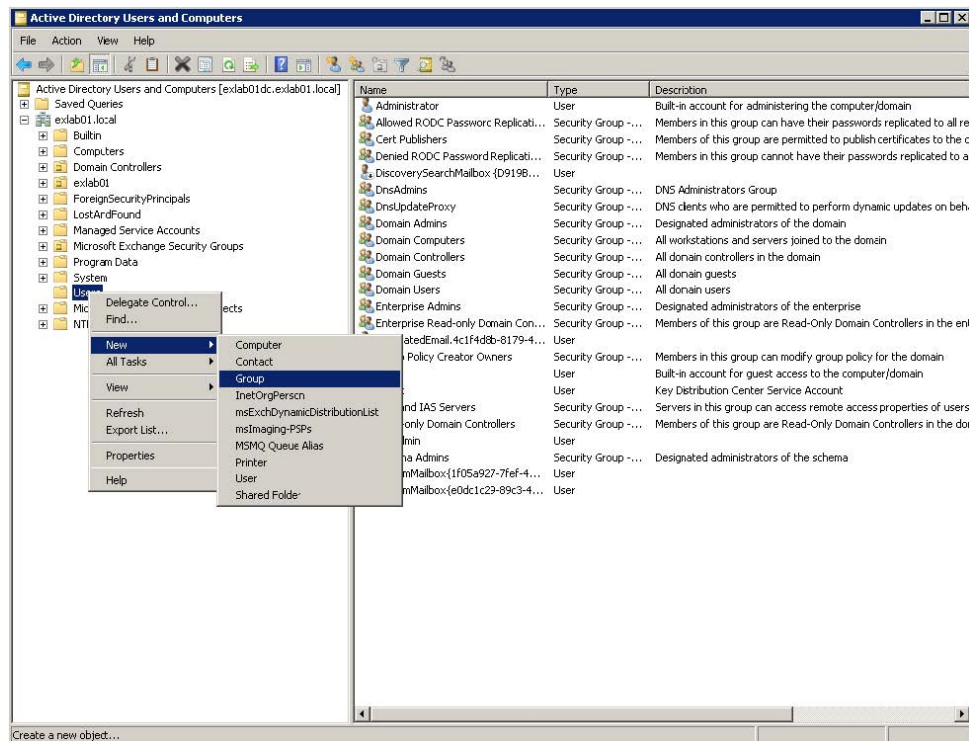
Learn how to create an AD group and limit the scope of the impersonation user.

There are plenty of possibilities to organize users and groups in Active Directory and to configure a Microsoft Exchange organization. Therefore we cannot fully deal with this subject in our documentation – anyhow we want to illustrate one possible way how to restrict the impersonation scope to a group of users.

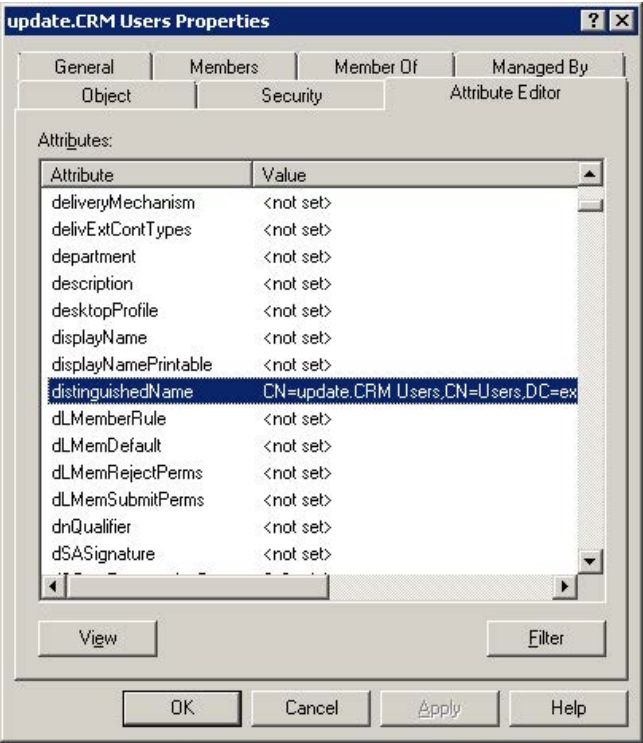
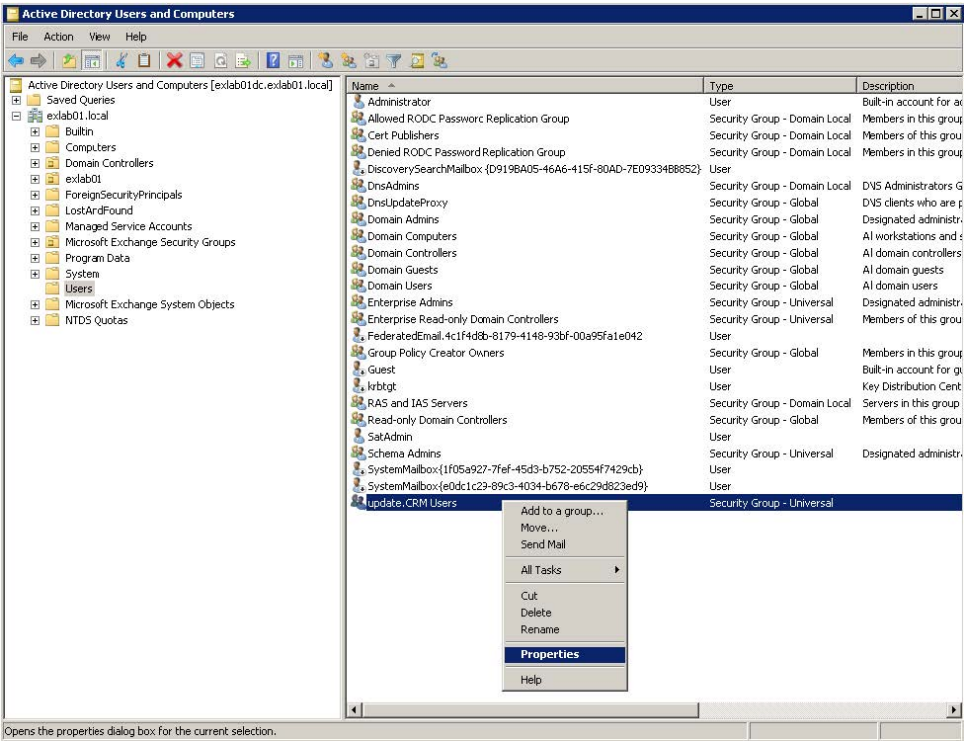
- Step 1** Activate the Advanced Features View in the "Active Directory Users and Computers" Microsoft Management Console (MMC).

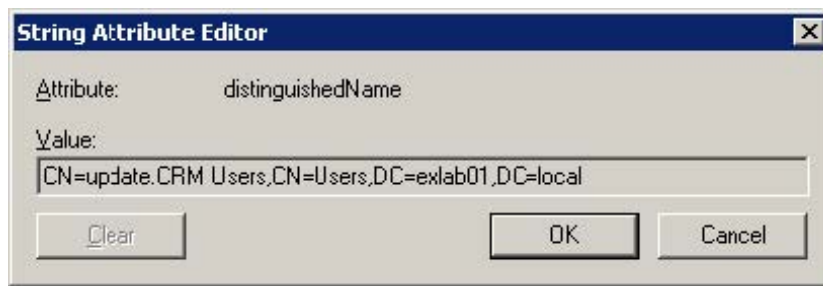


- 2. Step 2** Create a new group on an Organizational Unit (OU) in the directory tree.



3. Get the Distinguished Name of the group.





4. Use the distinguished name of the created group to create a *Management Scope* and use this *Management Scope* to restrict the role of the impersonation user as sketched in topic [Creating a technical user and configuring the impersonation for connector SE on Exchange Server 2010](#).

Alternatively you can use the Exchange Management Shell to create the group and assign the scope to the impersonation role.

Step A – create the group

```
New-ADGroup -Name "Aurea CRM Users" -GroupScope Universal -Path
"CN=Users,DC=exlab01,DC=local"
```

Step B – determine the distinguished name of the group

```
Get-ADGroup "Aurea CRM Users"
```

Step C – create the scope

```
New-ManagementScope -Name "Aurea CRM" -RecipientRestrictionFilter
{MemberofGroup -eq "CN=Aurea CRM
Users,CN=Users,DC=exlab01,DC=local"}
```

Step D – create the impersonation role and assign the scope

```
New-ManagementRoleAssignment -Name "Aurea CRM Connector" -
Role:ApplicationImpersonation -User "EXLAB01\ExConn01" -Custom-
RecipientWriteScope "Aurea CRM"
```

Determining primary SMTP address of a mailbox

Learn how to determine the primary SMTP address of a mailbox.

Since there were some questions in the past on how to determine the primary SMTP address of an account (e.g. for the user `Exlab01\ExConn01`), find a sample below using the Exchange Management Shell:

```
Get-Mailbox ExConn01 | Format-List PrimarySmtpAddress.
```

Synchronize (only) Appointments of CRM users

Learn how to synchronize appointments of CRM users.

Use Case: You want to synchronize all appointments where at least one CRM user (i.e. a user in Aurea CRM win or web) is on the attendee list. You could think of adding non-CRM users to the rep list as well (see [Creating User Settings in Aurea CRM](#)) and add the CRM users to a group (e.g. CRM-User).

Define a new conditional access right for the MA table with the condition `Rep Group ID = CRM-User`.

A contact can then only be stored in Aurea CRM if at least one user is part of this group.

Marking Contact (MA) Records in Aurea CRM

Learn how to make contact records.

Use Case: A user receives an e-Mail from a customer and the sender cannot be found in the Aurea CRM database. The mail is synchronized and linked to the person associated with the user. Consequently, the mail is not added to the customer's contact history.

If you for example add the section below to your `forms.xml` file, such appointments are "marked" and can easily be identified by a (start page) query. Based on this information, the user can take further action (adding the customer to the CRM data base and linking this appointment to the customer etc.)

```
<root>
[... ]
<options>
  <vevent>
    <missing_attendees>
      <Contact>
        <FreeC1>Sender unbekannt</FreeC1>
        <FreeL1>true</FreeL1>
        <FreeN1>69</FreeN1>
      </Contact>
    </missing_attendees>
  </vevent>
</options>
[... ]
</root>
```

Missing attendees (participants)

Learn how to trigger the information about missing/not found participants in a user-friendly representation into a certain field.

This feature can be turned on/off and fine-tuned via `forms.xml`.

```
<header lang='de'>--- Unassigned Participants: ---</header>
<required lang='de'>REQUIRED: </required>
<optional lang='de'>OPTIONAL: </optional>
<informational lang='de'>INFORMATIONAL: </informational>
<unknown lang='de'>UNKNOWN: </unknown>
<email_separator>, </email_separator>
```

The definition above would create an entry like:

```
--- Unassigned Participants: ---
REQUIRED: both@test.com, rep@test.com
OPTIONAL: contact@test.com
```

Without an `<email_separator>` the generated field value would look like this:

```
--- Unassigned Participants: ---
REQUIRED:
both@test.com
rep@test.com
OPTIONAL:
contact@test.com
```

Note: The section **UNKNOWN** should not be filled at any time since the roles of all participants should be defined, but it was inserted by update to be 100% sure.

Marking Appointments as "Deleted" in CRM

Learn how to publish meetings (appointments) that are deleted in Outlook.

However these appointments are not physically deleted, but only marked as deleted (since the information that a meeting has not taken place might be important for the customer contact history in the CRM system). Out of the box the `FreeC1` field of the Activity info area used (value is set to "gelöscht"). If you want to change this behavior you have to modify each of the following `SyncHandler` elements in the `forms.xml` file accordingly.

- `<SyncHandler type='Default'>`
- `<SyncHandler type="DeleteSync">`
- `<SyncHandler type="ExchangeConnector_VeventFilter">`

Note: Be careful when changing this mechanism in a running system.

For example, if you want to use a boolean field instead of `FreeC1` it might be wise to stop synchronization and run a maintenance job setting the value of the new field based on the value of `FreeC1`.

Marking Appointments as "published" in Aurea CRM

Learn how to mark appointments as **Published**.

Published appointments are always linked to the person associated with the owner of the mailbox. Therefore it must be ensured, that such "published" appointments are not synchronized back from Aurea CRM to Exchange to avoid duplicates.

Out of the box "published" appointments are:

- mapped to Activity Type "Info" and
- the value of FreeC2 is set to "published"

Appointments, which have a value FreeC2 = "published" are excluded from synchronizing back to Exchange Server.

If you want to change this behavior, you have to modify the SyncHandler.

- `<SyncHandler type="ExchangeConnector_VeventFilter">` in `forms.xml` and the section
- `<xsl:when test='@x-mmPublish="true"'>` in `SyncML_gw2mm.xslt` accordingly.

Note: Be careful when changing this mechanism in a running system.

For example, if you want to use a boolean field instead of `FreeC2` it might be wise to stop synchronization and run a maintenance job setting the value of the new field based on the value of `FreeC2`.

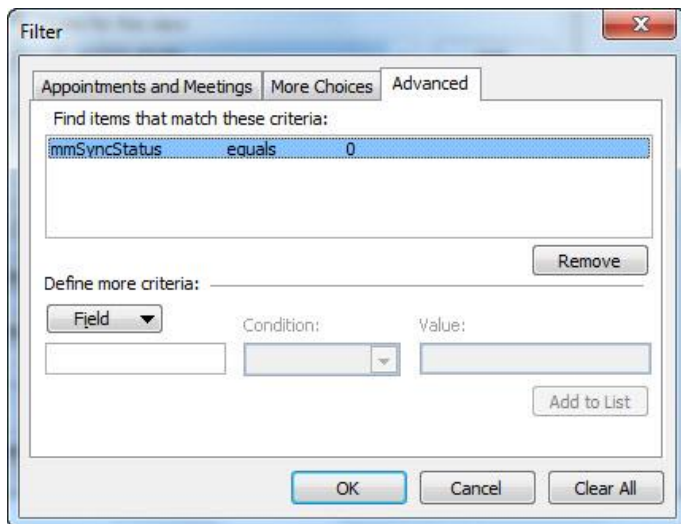
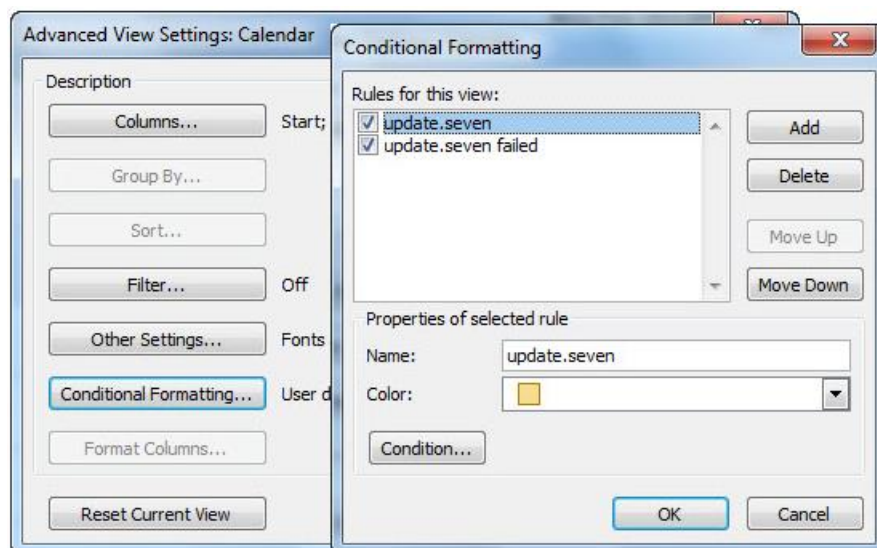
Color-Code Appointments (Meetings) in Outlook

Using the Outlook option **Automated Formatting**, you can color-code the appointments that are synchronized with the Aurea CRM system.

In the filter of this rule you define a condition `mmSyncStatus is 0`. You'll find the field `mmSyncStatus` in the user defined fields in this filter dialogue.

For example you might want to color-code all appointments, which could not be synchronized as well. If the synchronization of an appointment fails, the field `mmSyncStatus` is set to a value `> 0`.

See screen shots (Figure 39, How to create an Outlook Formatting rule and Figure 40, Filter for Formatting Rule) below, which illustrate how to do that in Outlook 2007. Please refer to the Outlook Help for further details.

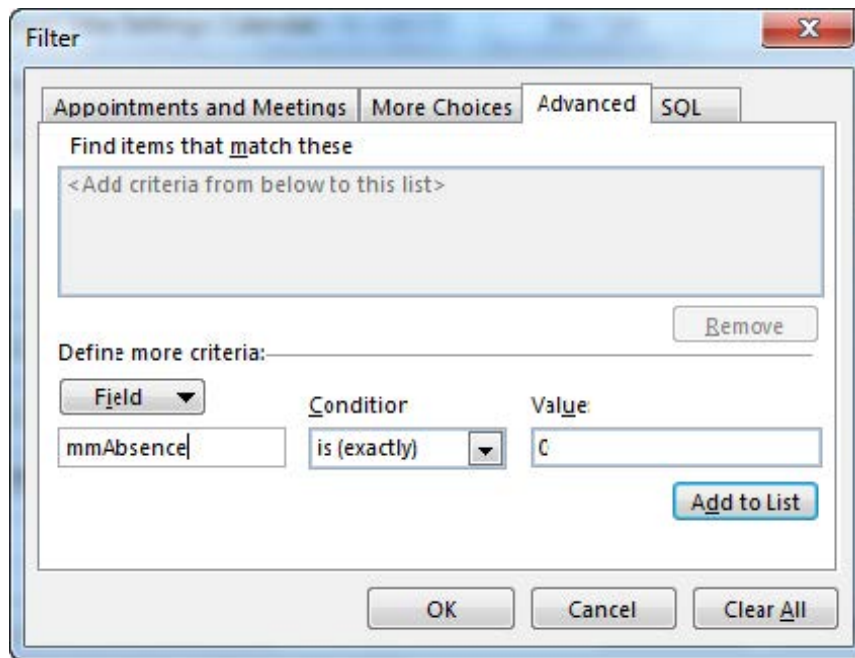


Color-Code "Absences" in Outlook

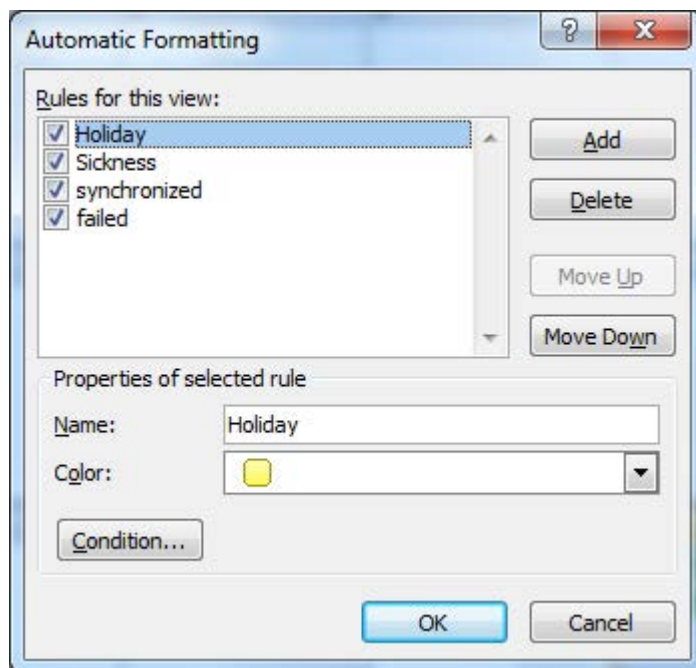
To color-code "absences" in Outlook you need to perform the same steps as described in [Color-Code Appointments \(Meetings\) in Outlook](#).

For more information, see [Color-Code Appointments \(Meetings\) in Outlook](#).

In Aurea CRM absences (A3) and appointments (MA) are different data objects, but both are mapped to appointments in Outlook. Outlook appointments linked to absences do have the `mmAbsence` key set, which allows for distinguishing between regular appointments and absences when defining a formatting rule.



Additionally you have to take care that the formatting rules for absences are executed before the more general rules for coloring synchronized appointments are applied.



Flagging internal appointments

Internal appointments created in Outlook are specially flagged to enable hooking in special business logic on CRM.interface side.

Internal appointments are appointments which do not have any external participants - or internal appointments are appointments where all participants belong to internal mail spaces.

The flag is set to true only if the mail addresses of all of uninvited/invited recipients belong to defined mail spaces. If there are any ambiguities – e.g. if there is an attendee without an e-mail address the flag is set to false

In this case the attribute `x-internal="true"` is sent to the server. `x-internal` is a new attribute of the `<vevent>` Tag.

Using this flag (attribute) you could think about establishing special rights on "internal" (or "external" appointments). The following sample illustrates how to trigger this information into Field `FreeL1` of the contact info area. In order to activate this functionality you need to un-comment the following blocks in the style-sheet.

1. process this flag in `SyncML_gw2mm.xslt`

```
<xsl:if test="@x-internal='true'">
  <xsl:element name='field'>
    <xsl:attribute name='name'> x-mmContactType</xsl:attribute>
    <xsl:attribute name='tablename'>Contact</xsl:attribute>
    <xsl:attribute name='fieldname'>FreeL1</xsl:attribute>true
  </xsl:element>
</xsl:if>
```

2. add `FreeL1` to `forms.xml`

```
<form type="vevent">
  <table tablename="Contact">
    <field fieldname="FreeL1"/>
  </table>
</form>
```

Synchronization of Additional Outlook Fields

Connector SE supports the synchronization of additional fields from Exchange Server to Aurea CRM and vice versa.

The following rules apply to the different business objects:

- **Appointments:** connector SE is dependent on almost all standard fields, thus only fields which are not part of the business logic of the connector can be freely used.
- Therefore the customization possibilities are limited to the Outlook standard field **"Location"** **and to user defined fields**. Manipulations (mappings) on fields used by the connector (e.g. `PR_START_DATE` or `PR_END_DATE`) are ignored to avoid malfunctions.
- **Contact Persons:** Out-of-the-box, the fields listed in table, Contact Persons - synchronized Fields are synchronized. These fields may be overridden by customization as well. In other words: in case of synchronizing contact persons, you can either additionally map standard Outlook fields or user defined fields, and even change the mapping of the out-of-the-box fields.

Basically the mechanism consists of the steps listed.

1. Add the desired field to `forms.xml` to ensure that the field is exchanged between connector and CRM.interface.
2. Add the field to `SyncML_gw2mm.xslt` to define the rules applying when sending information from Outlook to Aurea CRM (in case of contact persons, this step is not necessary since contact persons are solely synchronized from Aurea CRM to Outlook).
3. Add the field to `SyncML_mm2gw.xslt` to define the rules applying when sending information from Aurea CRM to Outlook.
4. Add the mapping information to `FieldMapping.xml` to define the mapping to Outlook fields. See [FieldMapping.xml](#) for further details.
5. Restart CRM.interface application pool and connector SE services.

Flagging incoming/outgoing mails

Learn how to flag unsynchronized incoming and outgoing mails in connector SE.

Connector SE synchronizes E-Mails moved to the defined folders. It might be useful to be able to distinguish in the Aurea CRM system, if an incoming or outgoing E-Mail was synchronized. In order to achieve such functionality add the below sketched transformation to the `SyncML_gw2mm.xslt` style sheet at the very end of the

`<xsl:template name='Convertvevent'>` section.

```
<xsl:template name='Convertvevent'>
<!--contact type-->
<!-- use if a specific contact type is needed
[...]
<!-- flagging sent/received emails -->
<xsl:element name='field'>
  <xsl:attribute name='name'>x-mmIncomingEmail</xsl:attribute>
  <xsl:attribute name='tablename'>Contact</xsl:attribute>
  <xsl:attribute name='fieldname'>FreeL1</xsl:attribute>
  <xsl:variable name='var:incoming_email'
select='msxsl:string-compare(/syncml:SyncML/syncml:SyncHdr/syncml:Principal,syncml:attende

  <xsl:value-of select='boolean($var:incoming_email)'/>
</xsl:element>
</xsl:template>
```

In this sample the field `FreeL1` is set to "true", if the synchronized is an incoming E-Mail, means that the owner of the mailbox was the recipient of this mail.

Setting the default contact type for items created in Outlook

Learn how to set the default contact type for items created in outlook.

In case it is not possible (for whatever reasons) to set a default contact type for appointments that have been created in Outlook via Aurea CRM using a trigger, you could implement this via `SyncML_gw2mm.xslt` as sketched below.

```
<xsl:when test='not(..../syncml:Target) '>
  <xsl:element name='field'>
    <xsl:attribute name='name'>x-mmContactType</xsl:attribute>
    <xsl:attribute name='tablename'>Contact</xsl:attribute>
    <xsl:attribute name='fieldname'>Contact</xsl:attribute>#17
  </xsl:element>
</xsl:when>
```

The general idea is to check if the element already has an `mmKey` value - if not, the element has not yet been synchronized. In this example the contact type is set to `#17`, change this accordingly depending on your requirements. However, if the feature "publish appointments" is used too, you have to consider that in your style-sheet as well.

Client Attribute in XML Request

Learn how to add client attribute in incoming XML request.

Connector SE sends its client identification to CRM.interface with every request. This mechanism would allow for additional transformations of the "incoming" request.

Sample request:

```
<request ... client=" update.connector.exwebsvc"> ...</request>
```

<ServerData> element in SYNCML response

The `ServerData` element, which is included into the element `SyncHdr` might be helpful for figuring out which rights have been considered by CRM.interface.

In the sample below the station right `SR Global` and the group right `GR International` are active for user `MUser`.

```
<SyncHdr>
  <ServerData>
    <session id="2" flags="1d0">
      <user nr="100344" gr="100286" rgr="100286" name="MUser" />
      <rights sta="SR Global" grp="GR International" />
    </session>
  </ServerData>
  <!-- ... -->
</SyncHdr>
```

FieldMapping.xml

Learn how to define and modify fieldmapping.

An example of `FieldMapping.xml` (`FieldMapping_Sample.xml`) is deployed to the installation directory by the setup routine. To modify the out-of-the-box field mapping, you have to copy `FieldMapping_Sample.xml` to `FieldMapping.xml`.

Basically there are several ways to define a field mapping – for all samples below, the colors used have the following meaning:

Node-Name	Can have the following values: <code>FieldFullName</code> <code>FieldFullId</code> <code>FieldExtId</code> <code>FieldExtName</code> The node name determines, which kind of declaration has to be used. E.g. if you use the node name <code>FieldFullName</code>, connector SE expects a declaration containing the attribute <code>MSEx-FieldFullName</code>.
Mandatory Attribute	Required attribute
Legacy Attribute	Not used by connector SE (solely used by "classic" connector)
Optional Attribute	If not provided the particular default values are used. <code>MSExFieldType</code> – field type (if not specified <code>PT_TSTRING</code> is used) <code>MSExFieldGuid</code> – field GUID (if not specified <code>PROP_GUID_USER</code> is used)

If you want to map a field which is part of the particular EWS field schema³², you may use the simple form as sketched below.

```
<FieldFullName MapFieldID="1" MSExFieldFullName="Location" OLDisplName="Location"/>
```

If you want to map a field which is not part of the particular EWS field schema, you can use one of the definitions listed below.

```
<FieldFullId MapFieldID="2" MSExFieldFullID="0x80320040" MapiPropTag="0x80320040"
  OLDisplName="Reminder Time"/>
<FieldExtId MapFieldID="3" MSExFieldID="0x803F" MSExFieldType="PT_LONG"
  MSExFieldGuid="PROP_GUID_APPOINTMENT" OLDisplName="Duration"/>
<FieldExtName MapFieldID="4" MSExFieldName="mmTemporary" MSExFieldType="PT_TSTRING"
  MSExFieldGuid="PROP_GUID_USER" OLDisplName="mmTemporary"/>
```

Consequently the most simple way to declare a mapping for a user-generated Outlook field of type string would be

```
<FieldExtName MapFieldID="15" MSExFieldName="MyMappedField"/>
```

Note: The file `FieldMapping_Sample.xml` is provided as is, without any warranty of any kind.

In particular, note that the attribute `MSExFieldFullID` for fields may differ in some cases from Exchange server to server.

Field mapping is supported for the following MAPI data types:

- single value data types:

```
PT_UNICODE (PT_TSTRING), PT_BOOLEAN, PT_LONGLONG, PT_SYSTIME
```

- multi-value data types³³:

```
PT_MV_UNICODE (PT_MV_TSTRING), PT_MV_LONGLONG
```

Example | Synchronizing Additional Appointment Fields

An example illustrates how to synchronize additional text information from Aurea CRM to a user defined field in Outlook appointments and vice versa.

Assumption: You have created a (generic) field `Text_New` for the MA table in Aurea CRM and added a text field `Additional Information` for meetings in Outlook.

The realization consists on the following steps:

1. Adding the additional field to `forms.xml`. You have to add the field Aurea CRM `Text_New` to ensure that this field is exchanged during synchronization.

Add `<field fieldname='Text_New'/>` to the `<form type="vevent"><table tablename="Contact">` section.

```
<form type='vevent'>
  <table tablename='Contact'>
    <field fieldname='StatNo' />
    <field fieldname='SeqNo' />
    ...
    <field fieldname='Text_New' />
  </table>
  ...
</form>
```

2. Adding the additional field to the style sheet `SyncML_gw2mm.xslt`.

Add the nodes listed below to the `<xsl:template name='Convertvevent'> <!-- other fields-->` section:

```
<xsl:template name='Convertvevent'>
  ...
  <!--other fields-->
  <xsl:if test='syncml:Text_New'>
    <xsl:element name='field'>
      <xsl:attribute name='name'>Text_New</xsl:attribute>
      <xsl:attribute name='tablename'>Contact</xsl:attribute>
      <xsl:attribute name='fieldname'>Text_New</xsl:attribute>
      <xsl:value-of select='syncml:Text_New' />
    </xsl:element>
  </xsl:if>
```

3. Adding the additional field to the style sheet `SyncML_mm2gw.xslt`.

Add the nodes listed below to the `<xsl:template name='ConvertContact'>` section:

```
<xsl:template name='ConvertContact'>
  <!--Reminder-->
  ...
  <!--Reminder end -->
  <xsl:if test='syncml:Text_New'>
    <xsl:element name='Text_New' namespace='SYNCML:SYNCML1.1'>
      <xsl:value-of select='syncml:Text_New' />
    </xsl:element>
  </xsl:if>
  ...
```

4. Adding the additional field to the mapping table `FieldMapping.xml`.

Add the field to the "mappable fields" list:

```
<Appointments>
  <MappableFields>
    <FieldExtName MapFieldID="1" MSEextFieldName="Additional Information"/>
  </MappableFields>
  <FieldMapping>
    <Map UpdFieldName = "Text_New" MapFieldID="1"/>
  </FieldMapping>
</Appointments>
```

Note: In case you want to map a field, which is part of the standard EWS field schema (e.g. "location" you have to use the following convention to declare the field:

```
<FieldFullNameMapFieldID="1" MSExFieldFullName="Location" OLDisplName="Location"/>
```

For user defined fields, connector assumes that they are of type `PT_TSTRING` if there is no `MSExFieldType` attribute specified.

5. Restart CRM.interface application pool and connector service.

Example | Synchronizing Additional Appointment Fields – "Category"

An example to illustrate how to synchronize the `Category` field from Outlook to Aurea CRM and vice versa.

Assumption: You have created a (generic) field `Category` for the MA table in Aurea CRM.

1. Add the mapping for `Category` to `FieldMapping.xml`

```
<Appointments>
  <MappableFields>
    <Field MapFieldID="2" OLDisplName="Category" MSExFieldName="Keywords"
MSExFieldType="PT_MV_STRING8"/>
  </MappableFields>
  <FieldMapping>
    <Map UpdFieldName = "Category" MapFieldID="2"/>
  </FieldMapping>
</Appointments>
```

2. Add the field `Category` to `Forms.xml`.

```
<form type="vevent">
  <table tablename="Contact">
    <field fieldname="Category"/>
  </table>
</form>
```

3. Add the following block to `SyncML_gw2mm.xslt`

```
<xsl:if test='syncml:Category'>
  <xsl:element name='field'>
    <xsl:attribute name='name'>Category</xsl:attribute>
    <xsl:attribute name='tablename'>Contact</xsl:attribute>
    <xsl:attribute name='fieldname'>Category</xsl:attribute>
    <xsl:value-of select='syncml:Category' />
  </xsl:element>
</xsl:if>
```

4. Add the following block to `to SyncML_mm2gw.xslt`

```
<xsl:if test='syncml:Category'>
  <xsl:element name='Category' namespace='SYNCML:SYNCML1.1'>
    <xsl:value-of select='syncml:Category' />
  </xsl:element>
</xsl:if>
```

5. Restart CRM.interface application pool and connector service.

Example | Synchronizing Additional Contact Fields

An example illustrates how to additionally synchronize the Aurea CRM field `Division` (Field number 11) to the Outlook field `Department`.

1. Adding the additional field to `forms.xml`. If `Division` is not yet in the list of fields to synchronize, you have to add the Aurea CRM field `Division` to ensure that this field is exchanged during synchronization.

```
<form type='mmPerson'>
  <table tablename='Person'>
    <field fieldname='CoGrp' />
    <field fieldname='CoNo' />
    <field fieldname='PeGrp' />
    ...
    <field fieldname='Division' />
    ...
  </table>
  ...
</form>
```

2. Adding the additional field to the style sheet `SyncML_mm2gw.xslt`. Ensure that the field is listed in the `<xsl:template name='ConvertPerson'>` template

```
<xsl:template name='ConvertPerson'>
[...]
```

```
<!-- custom fields -->
<xsl:if test='syncml:Division'>
  <xsl:element name='Division' namespace='SYNCML:SYNCML1.1'>
    <xsl:value-of select='syncml:Division' />
  </xsl:element>
</xsl:if>
```

3. Adding the additional field to the mapping table `FieldMapping.xml`.

Add the field to the "mappable fields" list:

```
<Contacts>
  <MappableFields>
    <Field MapFieldID="18" OLDisplName="Department" MSeXFieldFullID="0x3A18001F"
      MapiPropTag="PR_DEPARTMENT_NAME" />
  </MappableFields>
  <FieldMapping>
    <Map UpdFieldName = "Division" MapFieldID="18"/>
  </FieldMapping>
</Contacts>
```

4. Restart CRM.interface application pool and connector service.

Note: Since the synchronization of contact persons is unidirectional, there is no need to change the style sheet `SyncML_gw2mm.xslt`.

Multiple Instance of connector Service

Learn about the possibilities of having more than one instance of connector service. It is possible to have more than one instance of the service on a single machine.

For example - With this feature it is for example possible to have e.g. a "Test" and "Development" environment on the same machine.

Basically you have to:

1. install connector (once)

2. copy the installation to a **separate** folder

(e.g. "c:\program files\update CRM\update CRMconnector 1")

3. register this additional service with a different name

```
update.server.exe -i --name=servicename
```

4. configure the instance via the console application

Note: To unregister the service, run the following command:

```
update.server.exe -u --name=servicename.
```

Alternatively you can delete a service via the service control manager:

```
sc delete servicename.
```

Setting the catalog language

Learn how to synchronize catalog values defined in languages other than English.

CRM.Connector for Exchange SE uses English as the default language for catalog values. Thus only the catalog values in English are synchronized from Aurea CRM to Domino. To synchronize catalog values defined in languages other than English, specify the required catalog language on the CRM.Interface server.

To add a catalog language, extend the server-side style sheet `SyncML_mm2gw.xslt` as shown in the sample below.

Note: Ensure that the required language DLL is present on the CRM.Interface server.

```
<xsl:variable name='vAutoAttendee'>false</xsl:variable>
<xsl:variable name='vIndependentPeriods'>false</xsl:variable>

<!-- Begin changes (1) -->
<!-- definition of vLang to change catalog language. -->
<!-- de ... German|en ... English. -->
<xsl:variable name='var:vLang'>de</xsl:variable>
<!-- End changes (1) -->

<xsl:template match='@*|node()'><xsl:copy><xsl:apply-templates
select='@*|node()' /></xsl:copy></xsl:template>
<xsl:template match='/'><xsl:apply-templates select='*' /></xsl:template>

<!-- Begin changes (2) -->
<xsl:template match="syncml:SyncML">
  <xsl:copy>
    <xsl:attribute name='xml:lang'><xsl:value-of select='$var:vLang' /></xsl:attribute>

    <xsl:apply-templates select='*' />
  </xsl:copy>
</xsl:template>
<!-- End changes (2) -->
```

Mapping of "ShowAs"

The status of tasks is mapped during synchronization from Domino Server to Aurea CRM and vice versa.

Such mapping is described below. This mapping is implemented in the CRM.interface style sheets SyncML_gw2mm.xslt and SyncML_mm2gw.xslt).

Mapping of "Show as"

Aurea CRM to Exchange	
Aurea CRM	Exchange(Outlook)
Free	Free
Working elsewhere	Working elsewhere
Tentative	Tentative
Busy	Busy
Out of Office	Out of Office

Exchange(Outlook) to Aurea CRM	
Exchange(Outlook)	Aurea CRM
Free	Free
Working elsewhere	Working elsewhere
Tentative	Tentative
Busy	Busy
Out of Office	Out of Office

Mapping of Task Status

Learn how the status of tasks is mapped during synchronization from Exchange Server to Aurea CRM and vice versa.

This mapping is implemented in the CRM.interface style sheets `SyncML_gw2mm.xslt` and `SyncML_mm2gw.xslt`).

Mapping Task Status

Aurea CRM to Exchange	
Aurea CRM	Exchange(Outlook)
Open	Not started
In Progress	In Progress
Completed	Completed
Missed	Deferred

Exchange(Outlook) to Aurea CRM	
Exchange(Outlook)	Aurea CRM
Not started	Open
In Progress	In Progress
Completed	Completed
Deferred	Missed
Waitingfor...	In Progress

Note: The Outlook task status "**Waitingfor...**" is mapped by connector to "In Progress" (hard-coded), therefore in `SyncML_gw2mm.xslt` you can only find the mapping from "Not started", "In Progress" and "Deferred".

Custom attribute <Folder>

Connector SE sends the path of the respective mail folder to CRM.interface server for the synchronization of e- mails.

Assuming the folder name contains the key of the relevant CRM object (e.g. Opportunity) you could consider linking the e-mails to this opportunity by adopting the stylesheets.

For example, if you have named your folder "alice_has_a_cat Y1-100-1" connector SE would send the following information to CRM.interface

```
<vevent x-mmContactType="#5">
...
<Custom>
  <Folder>Inbox/CRM Folder/alice_has_a_cat Y1-100-1</Folder>
</Custom>
</vevent>
```

Therefore you could link each e-mail from this folder to the opportunity with the key Y1-100-1 via the below sketched extensions to SyncML_gw2mm.xslt (you could at the lines below to the end of the <xsl:template name='Convertvevent'> section of the file).

```
<xsl:if test='syncml:Custom/syncml:Folder and contains(syncml:Custom/syncml:Folder,
" Y1-")'>
<xsl:element name='field'><xsl:attribute
name='name'>x-mmLink</xsl:attribute><xsl:attribute
name='tablename'>Contact</xsl:attribute><xsl:attribute
name='fieldname'>OpportunityStatNo</xsl:attribute><xsl:value-of
select='user:find_2way_key(string(syncml:Custom/syncml:Folder),"Y1",1)'/></xsl:element>
<xsl:element name='field'><xsl:attribute
name='name'>x-mmLink</xsl:attribute><xsl:attribute
name='tablename'>Contact</xsl:attribute><xsl:attribute
name='fieldname'>OpportunitySeqNo</xsl:attribute><xsl:value-of
select='user:find_2way_key(string(syncml:Custom/syncml:Folder),"Y1",2)'/></xsl:element>
</xsl:if>
```

Note: The parsing mechanism in find_2way_key expects the folder name in the following format:

```
[folder_name][space][Y1-station_nr-opportunity_nr]
```

This mechanism is by nature only helpful in scenarios where the number of folders is limited and therefore it's feasible, to name the folders manually. Since these folders are user specific the "linking" to CRM objects cannot be delegated to the administration program of CRM.connector for Exchange, but would require an additional client plug-in. In the concrete scenario, for which this extension has been designed, the installation of client side components was unwanted.

Adding auto_sync to forms.xml

Learn how synchronize appointments created offline.

In scenarios where CRM data is exchanged between different Aurea CRM stations via the Aurea CRM win **Communication module** – e.g. between main office and branch offices (notebooks) - you need to add the entry below to the `forms.xml` file to ensure that appointments (MA records) created offline are also synchronized. In purely centralized environments (where data is only added centrally), we recommend that you do not add this entry since it causes a slight performance penalty.

```
<settings>
  [...]
  <auto_sync>
    <key_name='include_com_dt' value='true' />
  </auto_sync>
  [...]
</settings>
```

Adding auto_sync flag (required for communication scenarios)

Deactivating Reminder in forms.xml

Learn how to deactivate reminders.

By default connector SE sets a reminder for appointments, which are synchronized from Aurea CRM to Exchange. If the reminder field in the MA record is not set, the connector sets the reminder to the Exchange default value. In order to deactivate the reminder mechanism you have to comment the reminder fields `<field fieldname='ReminderDur' />`, `<field fieldname='ReminderUnit' />` in the `<form type='vevent'>` section of `forms.xml`.

Time zones

If CRM.interface and Exchange server/connector are located in different time zones, differing contact times are stored in Aurea CRM and Outlook. Therefore connector SE sends time-zone information with in the SYNCML header.

To correct this behavior, the following must be added to the `SyncML_gw2mm.xslt` style sheet:

A variable (*vTimeOffset*) which can be used to specify the time difference in hours (note: not the difference to UTC, but the difference between the two time zones):

e.g. `<xsl:variable name='vTimeOffset'>9</xsl:variable>`

Add the following section below the `<xsl:template match="syncml:Meta">template:`

```
<!-- Changes used to convert the synchronization time period -->
<xsl:template match="metinf:AnchorUpdate/metinf:Last">
  <xsl:element name="Last" namespace="syncml:metinf" >
    <xsl:value-of select="user2:computeTimestamp(string(.),number($vTimeOffset))"/>

  </xsl:element>
</xsl:template>
<xsl:template match="metinf:AnchorUpdate/metinf:Next">
  <xsl:element name="Next" namespace="syncml:metinf" >
    <xsl:value-of select="user2:computeTimestamp(string(.),number($vTimeOffset))"/>

  </xsl:element>
</xsl:template>
```

Add the conversion function `computeTimestamp` to the `<msxsl:script language='JScript' implements-prefix='user2'>` section.

```
function computeTimestamp(strTimestamp, offset)
{
  var tmp, n, tz;
  if (strTimestamp.charAt(8) == 'T')
    strTimestamp = strTimestamp.substr(0,8) + strTimestamp.substr(9);
  dl = new Date(
    parseInt(strTimestamp.substr(0,4),10),
    parseInt(strTimestamp.substr(4,2),10),
    parseInt(strTimestamp.substr(6,2),10),
    parseInt(strTimestamp.substr(8,2),10) + parseInt(offset),
    parseInt(strTimestamp.substr(10,2),10),
    parseInt(strTimestamp.substr(12,2),10)
  );
  tmp=dl.getFullYear().toString()
  n=dl.getMonth();

  if (n<10)
    tmp+="0";
  tmp+=dl.getMonth().toString();
  n=dl.getDate();
  if (n<10)
    tmp+="0";
  tmp+=dl.getDate().toString()+"T";
  n=dl.getHours();
  if (n<10)
    tmp+="0";
  tmp+=dl.getHours().toString();
  n=dl.getMinutes();
  if (n<10)
    tmp+="0";
  tmp+=dl.getMinutes().toString();
  n=dl.getSeconds()
  if (n<10)
    tmp+="0";
  tmp+=dl.getSeconds().toString();

  //strTimestampCorrected=tmp.substr(0,8) + "T" + tmp.substr(9);

  return tmp;
}
```

Repairing an installation

You can repair the installation from the control panel of your machine.

Note: Repairing an installation (e.g. via the Add or Remove Programs Dialog) resets the installation to the original setup version – all hotfixes have to be applied again.

Updating existing versions

Aurea provides (silent) patches to upgrade existing installations.

For further details see "Installing Hotfixes" at <https://support.aurea.com>.

Special UserSettings in Aurea CRM

Learn how to override global settings for a user.

It is possible to override some global settings of connector on user level. To implement such a mechanism you need to create an additional field `UserSettings` (type=Text, length=2048) in the Aurea CRM rep table (ID table). Using an XML-based description you can define the following special settings for specific users.

Note: Changes of `UserSettings` require a restart of the connector service in order to be applied.

Handling Attachments

It is possible to overrule the general setting (see "[Attachments](#)" Settings) how connector SE handles the synchronization of attachments for specific users (mailboxes).

```
synchronization of attachments for specific users (mailboxes).
<SyncSettings>
  <EmailSync SyncAttach="save_whole_msg" AttachSizeLimit="5000" />
  <AppointSync_Ex2Up SyncAttach="true" AttachSizeLimit="2000" />
  <AppointSync_Up2Ex />
</SyncSettings>
```

Figure 47, Special user settings for handling attachments

Supported values for `EmailSync SyncAttach` are `save_whole_msg`, `true` and `false`, supported values for `AppointSync_Ex2Up SyncAttach` are `true` and `false`. ³⁶

`AttachSizeLimit` is always a number ≥ 0 (if 0 there is no limitation for attachment size). There is also no limit if `EmailSync SyncAttach` is set to `save_whole_msg`). `AttachSizeLimit` is the size in KB.

³⁶ See the supervisor manual on how to create an additional field, which is not part of the out-of-the-box Aurea CRM data model.

Note: If this feature is enabled, connector passes the HTML representation of an e-mail as provided by EWS to CRM.interface unmodified. Since HTML is a very chatty language (with potentially a lot of formatting information) the e-mail body might not be stored fully in the particular text field in Aurea CRM. Therefore we recommend to check with some typical test e-mails – if most of these e-mails do not fit into the text field, we suggest using the **Save whole message as MSG file (attachments included)** feature instead.

Handling Private Appointments

It is possible to override the global settings how connector handles the synchronization of private appointments on user level. You can turn on the synchronization of private appointments via `<AppointSync_Ex2Up SyncPrivate="true"/>` or turn it off using the following XML syntax `<AppointSync_Ex2Up SyncPrivate="false"/>`.

Categorization of contact persons

It is possible to override the global settings regarding categorization of contact persons on user level, e.g. via the `<ContactSync Category="My Category" />` element.

Special user settings for handling categories

The following logic applies:

Global setting	User setting	[Resulting]Folder
"CRM"	Category = ""	<i>Category notset</i>
"CRM"	Category = " My Category"	"My Category"
	Category = " My Category"	"My Category"
"CRM"	<i>Category notset</i>	"CRM"
	<i>Category notset</i>	<i>Category notset</i>

Path to the settings files

Learn how to define the paths to the setting file.

By default, the setting files of connector are located in the installation directory, but you can override this behavior via adding the following tags to the `<appSettings>` section of the `update.Server.exe.config` file:

```
<add key="usersFile" value="[path]" />
<add key="connectorConfigFile" value="[path]" />
<add key="collectedMailboxesFile" value="[path]" />
<add key="fieldMappingFile" value="[path]" />
```

You can enter both, absolute (e.g. `c:\users.xml`) and relative (e.g. `..\config.xml`) paths. If no path is given, or one of the above listed keys does not exist, the system searches for the file(s) in the installation directory.

5

Troubleshooting

Learn how to troubleshoot connector SE.

Connection to EWS cannot be established

Error message	Possible reasons and how to resolve
Microsoft.Exchange.WebServices.Data.ServiceRequestException: The request failed. The remote server returned an error: (401) Unauthorized. ---> System.Net.WebException: The remote server returned an error: (401) Unauthorized.	EWS impersonation user is not allowed to access EWS
Microsoft.Exchange.WebServices.Data.ServiceRequestException: The request failed. The remote server returned an error: (403) Forbidden. ---> System.Net.WebException: The remote server returned an error: (403) Forbidden.	wrong/misspelled URL of EWS e.g.: http://exlab02s1.exlab02.local/ instead of http://exlab02s1.exlab02.local/EWS/exchange.asmx
Microsoft.Exchange.WebServices.Data.ServiceRequestException: The request failed. The remote server returned an error: (404) Not Found. ---> System.Net.WebException: The remote server returned an error: (404) Not Found.	
The request failed. The remote server returned an error: (405) Method Not Allowed.	wrong/misspelled URL of EWS (when using HTTPS) e.g.: https://exlab02s1.exlab02.local/ instead of https://exlab02s1.exlab02.local/EWS/exchange.asmx
Microsoft.Exchange.WebServices.Data.ServiceRequestException: The request failed. The underlying connection was closed: Could not establish trust relationship for the SSL/TLS secure channel. --> System.Net.WebException: The underlying connection was closed: Could not establish trust relationship for the SSL/TLS secure channel. --- >System.Security.Authentication.AuthenticationException: The remote certificate is invalid according to the validation procedure.	Certificate is not trusted on local machine running connector SE Solution is to add this certificate as trusted on local machine
Microsoft.Exchange.WebServices.Data.ServiceResponseException: Access is denied. Check credentials and try again.	Password of EWS Impersonation User is not correct or expired
For EWS version Exchange2010_SP1 exception caught: The request failed. The remote server returned an error: (503) Server Unavailable.	wrong/mis-spelled URL of EWS

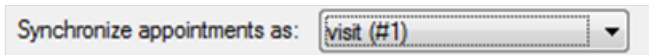
Errormessage	Possible reasons and how to resolve
The account does not have permission to impersonate the requested user. Thrown exception: SCDataInterop.Exceptions.CDbException: Could not open mailbox	EWS Impersonation User is not configured properly– is not allowed to impersonate
SYNCHRONIZING MAILBOX: USER.121@EXLAB02.LOCAL 2014.05.14;09:50:00;38;update.connector ;Error ; 59228160; 2352;10,56121;CExWebSvcAccess.SetImpersonationId ***** EXCEPTIONCAUGHT !!! ***** Thrown exception: System.Exception: There is no contact data found for smtp = USER.121@EXLAB02.LOCAL	Mailbox USER.121@EXLAB02.LOCAL is not visible in GAL and cannot be accessed by connector (EWS)

Appointments are not synchronized

Appointments which are created in Aurea CRM are not synchronized to Exchange Server.

Solution:

Check if an appointment type is selected in the "Appointments (I)" tab in the configuration application, e.g.



Check if `< auto_sync >` is added to `forms.xml`.

Check for correct definition of the master user (see also [Configuration of users, creation of users.xml](#) further details).

Only appointments of OCSU user are synchronized

If impersonation fails only appointments of OCSU user are synchronized. This might be caused by the missing or falsely authentication tag in the `forms.xml` (see [Configuration of users, creation of users.xml](#)).

If impersonation is properly defined you should find similar entries in the log file as listed below showing.

```
2009-09-11 11:19:54,820|Inf|interface0|WWW|General|yncML::ProcessCredentials|Login
user=OCSU uri=outlook
2009-09-11 11:19:54,820|Inf|interface0|WWW|General|yncML::ProcessCredentials|Login
user=OCSU master=1
```

No invitations are sent for company-related appointments

In case of company related appointments no invitations or cancellations are sent even if the company (mail address) belongs to a mail space which is supposed to be synchronized. This is by design.

6

FAQs

Frequently asked questions for connector and connector SE.

Does connector SE replace connector for Exchange?

For the lifetime of the Aurea CRM product generation both connector and connector SE are available. "Classic" connector for Exchange is not part of the Aurea CRM product family.

How can I upgrade from connector to connector SE?

Since from a technical point of view connector SE is a separate product. Aurea CRM AG does not provide an upgrade procedure – switching to connector SE means de-installation of connector and (new) installation of connector SE.

Anyway, there is no need for re-installation of CRM.interface and most of the settings of connector can be imported into the configuration tool of connector SE.

Please see topic [Excursus: migrating from "classic" connector to connector SE](#) for further details.

What are the main differences between connector and connector SE?

From a technical point of view the main difference between the connector products is that connector SE uses EWS (Exchange Web Services) to access Microsoft Exchange Server, while connector uses MAPI. Additionally EWS is not supported by Microsoft® Exchange Server 2003 and thus consequently not supported by connector.

Regarding functionality the main difference between connector and connector SE is that connector SE supports the synchronization of recurring appointments created in Outlook, as well.

	connector	connectorSE
Technology to access Exchange Server	MAPI/CDO	EWS (Exchange Web Services) – part of the Client Access server (CAS) role in Exchange 2010 and 2013 environments.
How does connector retrieve data?	Polling mailboxes.	Polling mailboxes and subscriptions. Connector SE currently does not use "push notifications".

	connector	connectorSE
Rights-Context	"Full Access Permission" – though that does not mean that these permissions allow for creating/deleting mailboxes etc. Administrative account of connector must have full access to the mailboxes of the synchronization users – synchronization process runs in user context of administrative user. (Basically exactly the same concept, which is used by BlackBerry Enterprise Server, too).	"Impersonation" Connector SE impersonates a given user account. This enables connector to perform operations by using the permissions that are associated with the impersonated account, instead of the permissions that are associated with the caller's account (and limited to these permissions). Can be defined for • all users in an organization • specific users or groups New-ManagementRoleAssignment - Name:impersonationAssignmentName - Role:ApplicationImpersonation - User:serviceAccount
Where does connector live?	Must exist in the same domain or in a domain fully trusted with the domain, where Exchange Server lives.	May exist outside of Exchange Environment (not necessary that a connectorSE lives in the same or a fully trusted domain as Exchange Server).
Which Exchange Server versions are supported?	Exchange 2003, Exchange 2007, Exchange 2010.	Exchange 2013, Exchange 2010, Exchange 2007.

Differences between connector and connectorSE

TLS 1.1 and 1.2 Support for Connector

Connector can communicate with Exchange Server and Aurea CRM over TLS 1.1 and 1.2 (Transport Layer Security) Protocols. Connector connections are managed by the .NET framework and TLS 1.1 or 1.2 protocols should be enabled by default by the underlying windows host to enable all outgoing secure channel connections to rely on TLS 1.1/1.2 protocols.