

# Product documentation

Release 2302 – February 2023

**maiConnect**  
for SAP S4/HANA®

cxAddOns



**cxAddOns**

Qualifizierung von Inst

**Global AddOn specialist for Enterprise Software.**

# Table of contents

- 1 Introduction ..... 6**
- 1.1 Target group & scope of the document ..... 6
- 1.2 Note on the illustrations used ..... 6
- 1.3 Note on the use of Outlook Web Access (OWA) ..... 6
- 1.4 Languages ..... 6
- 1.5 Support ..... 6
- 2 What is maiConnect@S4? ..... 7**
- 3 Requirements ..... 8**
- 3.1 Exchange ..... 8
- 3.2 SAP S/4HANA ..... 8
- 3.3 Admin Cockpit ..... 8
- 4 Architecture ..... 9**
- 5 Security ..... 11**
- 6 Object synchronization ..... 12**
- 7 Features ..... 13**
- 7.1 Appointments **Standard** ..... 13
- 7.1.1 General information ..... 13
- 7.1.2 Synchronization tables ..... 15
- 7.1.3 Outlook → SAP S/4HANA ..... 16
- 7.1.4 SAP S/4HANA → Outlook ..... 19
- 7.2 Tasks **Standard** ..... 20
- 7.2.1 General information ..... 20
- 7.2.2 Synchronization tables ..... 20
- 7.2.3 Outlook → SAP S/4HANA ..... 21
- 7.2.4 SAP S/4HANA → Outlook ..... 24
- 7.3 Contacts **Standard** ..... 26
- 7.3.1 General information ..... 26
- 7.3.2 Synchronization table ..... 26
- 7.3.3 Outlook → SAP S/4HANA ..... 27
- 7.3.4 SAP S/4HANA → Outlook ..... 29
- 8 Administrator guide ..... 31**
- 8.1 What is the AdminCockpit about? ..... 31
- 8.2 Utilization notes ..... 31

- 8.3 Language selection .....31
- 8.4 First steps / overview.....33
- 8.5 Sections of the AdminCockpit .....34
  - 8.5.1 Administrator .....34
  - 8.5.2 User / Subscription.....37
  - 8.5.3 General Customizing .....44
  - 8.5.4 Activity Customizing.....49
  - 8.5.5 Realignment Report.....53
  - 8.5.6 White- / Blacklisting.....56
  - 8.5.7 Suspend/Resume .....58
- 8.6 Web interface for user management.....60
- 9 Monitoring.....61**
- 9.1 Key Figures .....63
  - 9.1.1 Status information .....64
  - 9.1.2 User KPIs.....64
  - 9.1.3 Total processed (today) .....64
  - 9.1.4 Requests per minute.....64
  - 9.1.5 Currently in Queue (all clients) .....64
  - 9.1.6 Active sync threads (all clients) .....64
  - 9.1.7 Time period .....65
  - 9.1.8 Additional Settings .....66

Figure 1: maiConnect@S4 system landscape (simplified example) ..... 9

Figure 2: maiConnect@S4 data flow (enqueueing) ..... 10

Figure 3: maiConnect@S4 data flow (dequeueing) ..... 10

Figure 4: Calendar view..... 14

Figure 5: Priority options in the header of an appointment ..... 16

Figure 6: Activity Customizing - Appointments with technical key ..... 17

Figure 7: Creation of an appointment in Outlook with a category (key) ..... 17

Figure 8: General Customizing - Synchronization Category for Appointments & Calls ..... 17

Figure 9: Creation of an appointment in Outlook with category (general parameter) ..... 17

Figure 10: General Customizing - Synchronization Prefix for Appointments and Calls ..... 18

Figure 11: Creating a phone call in Outlook with area code ..... 18

Figure 12: General Customizing - Delete Synchronization Prefix ..... 18

Figure 13: Creating an appointment in SAP S/4HANA ..... 19

Figure 14: SAP S/4HANA categories for appointments maintained in the AdminCockpit ..... 19

Figure 15: Activity Customizing - Tasks with technical key..... 22

Figure 16: General customizing - synchronization category for tasks ..... 22

Figure 17: Creating a task in Outlook with category (general parameter) ..... 23

Figure 18: General customizing - synchronization prefix for tasks..... 23

Figure 19: Creating a task in Outlook with prefix ..... 23

Figure 20: General Customizing - Delete Synchronization Prefix ..... 23

Figure 21: Creating a task in SAP S/4HANA..... 24

Figure 22: SAP S/4HANA categories for tasks maintained in the Admin Cockpit ..... 24

Figure 23: Task created in SAP S/4HANA ..... 25

Figure 24: Synchronized task in Outlook..... 25

Figure 25: Initial synchronization of a contact from Outlook ..... 28

Figure 26: Customer name after resynchronization ..... 28

Figure 27: Admin cockpit parameters for the threshold value for the detection of duplicates ..... 28

Figure 28: Creating a relationship relevant for contact synchronization ..... 29

Figure 29: Contact created in SAP S/4HANA ..... 30

Figure 30: Synchronized contact in Outlook..... 30

Figure 31: Language selection / order in Google Chrome ..... 32

Figure 32: Login screen..... 33

Figure 33: Starting screen ..... 33

Figure 34: Groupware overview ..... 35

Figure 35: System assignment - Groupware..... 35

Figure 36: Basic authentication ..... 36

Figure 37: OAuth App authentication ..... 36

Figure 38: Client Certificate authentication ..... 36

Figure 39: User list ..... 37

Figure 40: Filter criteria..... 38

Figure 41: Sorting options ..... 39

Figure 42: Add single user..... 39

Figure 43: Mass upload - data selection ..... 40

Figure 44: .xlsx file for mass upload ..... 40

Figure 45: Dialog window to confirm the mass uploads ..... 41

Figure 46: Saving was successful. .... 41

Figure 47: Error during saving: User is already registered..... 42

Figure 48: Error during saving: No business partner with this email in S/4HANA ..... 42

Figure 49: Download user list button ..... 44

Figure 50: Activate synchronization for appointments, contact persons and tasks ..... 44

Figure 51: General customizing ..... 45

Figure 52: Activity customizing ..... 49

Figure 53: Configuration of an activity type (appointment, phone call) ..... 49

Figure 54: Adding an activity type (task) ..... 51

Figure 55: Confirmation window ..... 52

Figure 56: Standard assignments ..... 52

Figure 57: Realignment report..... 54

Figure 58: Realignment report – searching for objects ..... 55

Figure 59: Realignment report - objects found ..... 55

Figure 60: Realignment report is running ..... 55

Figure 61: Whitelisting & blacklisting ..... 56

Figure 59: Blacklist ..... 57

Figure 60: Whitelist ..... 57

Figure 64: Suspend/resume ..... 58

Figure 62: Suspend/resume ..... 58

Figure 66: Status change ..... 59

Figure 67: Monitoring Login ..... 61

Figure 68: Dashboard selection ..... 62

Figure 69: Key figures overview ..... 63

Figure 70: Time range selection ..... 65

Figure 71: Additional monitoring settings ..... 66

Table 1: Synchronization of the priorities of an appointment towards Outlook ..... 16

Table 2: Synchronization of the priorities of an appointment towards SAP S/4HANA ..... 16

Table 3: Synchronization details for the individual fields of a task ..... 21

Table 4: Synchronizing the priorities of a task towards Outlook ..... 21

Table 5: Synchronization of the priorities of a task against SAP S/4HANA ..... 21

Table 6: Synchronization of the status of a task ..... 21

Table 7: Synchronization details for the individual fields of a contact ..... 27

# 1 Introduction

---

## 1.1 Target group & scope of the document

This document is intended for all maiConnect@S4 customers - primarily the end users who are supported by maiConnect@S4 in their daily work.

The product description explains the individual functions of the software and goes into detail about the various ways in which objects can be exchanged between SAP S/4HANA and Microsoft Outlook.

For the configuration settings available on the software side, please contact the administrator who has been entrusted by the customer with the administration of maiConnect@S4.

## 1.2 Note on the illustrations used

The illustrations used show examples from our test system. Due to different configurations, the actual setup in the customer system may differ. A list of the illustrations can be found at the end of the document.

## 1.3 Note on the use of Outlook Web Access (OWA)

maiConnect is intended to be used in connection with an Outlook client. Of course, synchronization via maiConnect also works if Outlook Web Access is used instead of the client. In this case, however, there may be differences in operation or menu navigation. In case of doubt, the Outlook client should be used.

## 1.4 Languages

Since maiConnect@S4 itself does not have a user interface, the language selection falls back to the languages available in SAP S/4HANA and Microsoft Outlook. When creating an entry in the Admin Cockpit user list, a language must be selected for each maiConnect employee. This language influences the display language of the maiConnect synchronization folders that are created in the mailbox folder structure. German and English can be selected here.



## 1.5 Support

If you have any questions or comments about this document, the descriptions it contains, or maiConnect@S4 in general, please email us at [support.cxaddons@nagarro.com](mailto:support.cxaddons@nagarro.com).



## 2 What is maiConnect@S4?

---



In today's world, it is becoming increasingly difficult to successfully manage customer relationships in a global context. maiConnect@S4 was developed with the aim of providing users with the best possible support in their day-to-day business.

With maiConnect@S4 you can easily synchronize tasks, (recurring) appointments, notes, contacts & emails between your own mailbox and SAP S/4HANA - in **real time**. No matter what device you use, maiConnect@S4 ensures smooth synchronization on **laptops, cell phones, tablets** and even **watches**. Directly installed on the SAP cloud server platform in Germany, maiConnect@S4 is **fast** and **reliable**.

A major advantage over client-based tools is that maiConnect@S4 is **server-based**. This enables real-time synchronization, ensuring a high level of security, scalability and performance.

Of course, you can also use the synchronization completely mobile and cross-system. You don't have to do anything else on the client side.

For a better overview of your activities and always up-to-date information about your customers.

## 3 Requirements

---

The following software is required to use maiConnect@S4:

- Microsoft Exchange Server (2013, 2016 or Exchange Online (o365))
- SAP S/4HANA onPrem with Customer Management Module
- maiConnect@S4

In addition, the following settings or requirements must be met:

### 3.1 Exchange

Both Exchange onPrem and Office365 are supported as Exchange systems. Communication via EWS must be activated in both cases. MS Graph is currently not supported.

In the case of Exchange onPrem, access to the mailboxes of maiConnect users takes place via a communication user to whom the corresponding permissions are assigned. With Office365, access is via OAuth. OAuth access must be activated in Microsoft Azure. The necessary EWS permissions to access the mailboxes of the maiConnect users must be granted in Microsoft Azure.

For further details on this and on how to configure the Exchange Server to adapt it to the needs of maiConnect, please refer to the maiConnect@S4 installation guide.

### 3.2 SAP S/4HANA

SAP S/4HANA users using maiConnect@S4 must have the business partner role to synchronize objects from SAP S/4HANA to Outlook and back. In addition, a unique email address of the corresponding employee must be maintained for each of these business partners.

In addition, a communication user must be set up on the SAP S/4HANA side with the appropriate permissions to run the SAP S/4HANA Web Services listed in the Architecture section.

**Please note:** We recommend assigning a security policy to the communication user in which the password does not expire to avoid problems with maiConnect.

For more information, see the maiConnect@S4 installation guide.

### 3.3 Admin Cockpit

For each maiConnect user, an entry must be made in the user list via the Admin Cockpit - including their business partner number or e-mail address.



maiConnect is using the e-mail address maintained under “communication”. The e-mail address field for “address-independent communication” is not used!

**Please note:** If the e-mail address of the maiConnect user is changed in SAP S/4HANA, the corresponding entry of the user in the user list must be deleted once and added again.

For further details, please refer to the Admin Guide section.



## 4 Architecture

maiConnect@S4 is hosted on the SAP Business Technology Platform (BTP). Synchronization always takes place between the SAP S/4HANA system and the BTP and the Microsoft Exchange system and the BTP. This means that the SAP S/4HANA system is not in direct exchange with the Microsoft Exchange system.

Standard replication services, OData and web services are used for data exchange between SAP S/4HANA and BTP. Some of these must be created and/or activated before use. The replication services contain a URL that can be used to forward notifications about creation and deletion as well as changes to synchronized objects to BTP, where they can be processed.

Communication between BTP and Microsoft Exchange also takes place via standard Exchange Web Services (EWS). Push subscriptions are created for the mailboxes of users using maiConnect@S4 so that the creation, deletion and modification of objects can be replicated in real time to BTP for further processing by maiConnect@S4.

maiConnect@S4 can communicate both with an Exchange Server hosted locally at the customer's site and with Office365, which in turn is cloud-based. With a non-cloud-based Exchange Server, communication problems can occur if there is a firewall or proxy between the BTP and the Exchange Server. Customers subject to this scenario must ensure that the connection between the two systems works without problems.

The Admin Cockpit is an application that is also hosted on the BTP. However, it does not communicate directly with the SAP S/4HANA system or the Microsoft Exchange Server. Instead, information is exchanged exclusively between the maiConnect@S4 application and the Admin Cockpit application.

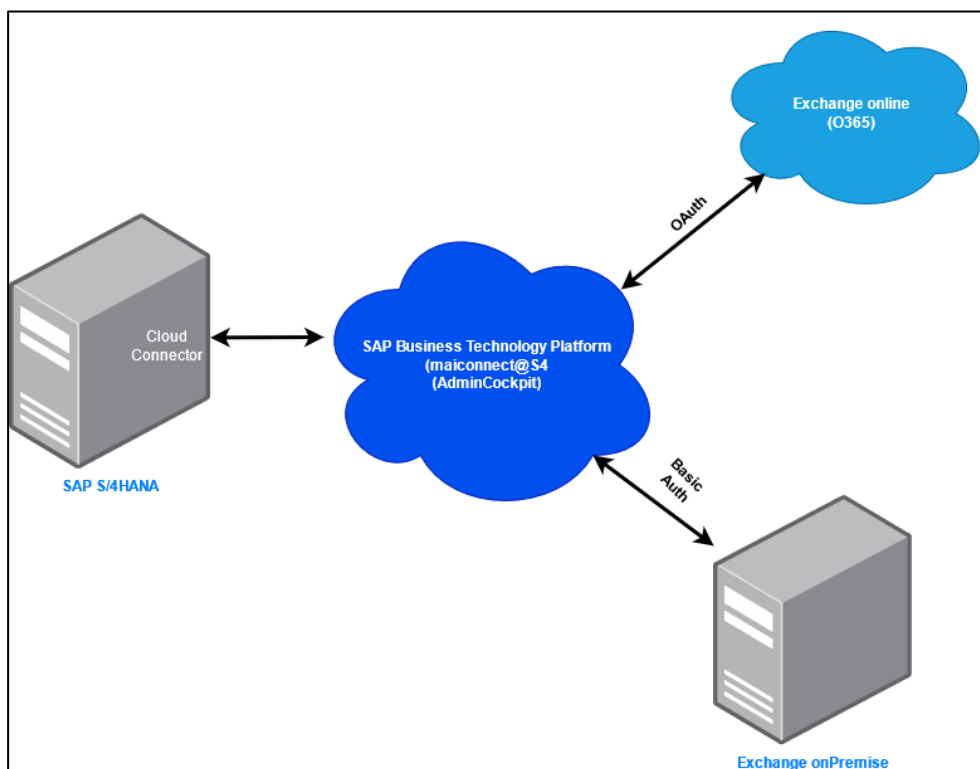


Figure 1: maiConnect@S4 system landscape (simplified example)

**Please note:** If the connection to the Exchange Server is secured by SSL with a certificate, then the certificate must have been issued by certain trusted certificate authorities. A list of certification authorities accepted by SAP can be found here:

<https://wiki.scn.sap.com/wiki/display/CLOUD/Trusted+certificate+authorities>

For more information about EWS notifications, please visit

<https://docs.microsoft.com/en-us/exchange/client-developer/exchange-web-services/notification-subscriptions-mailbox-events-and-ews-in-exchange>

### Enqueuing & Dequeuing (Enqueuing & Dequeuing)

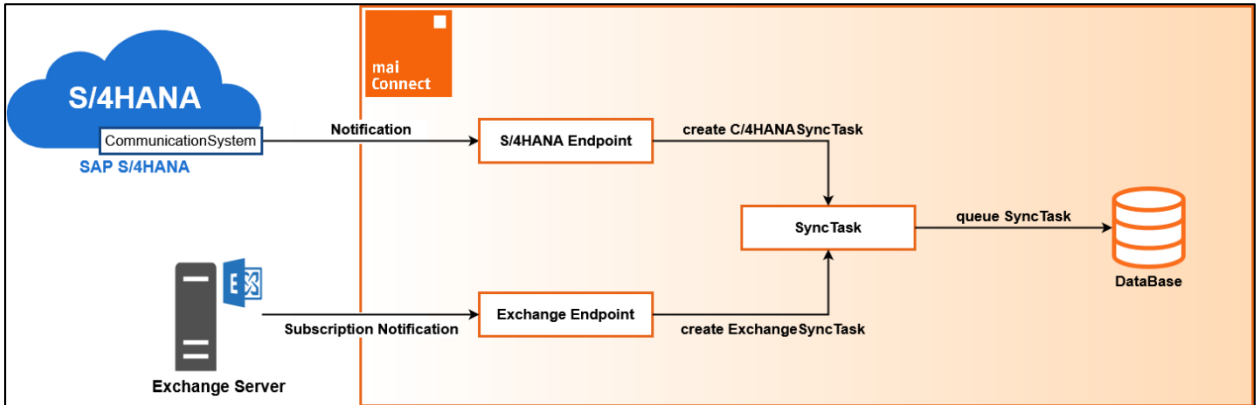


Figure 2: maiConnect@S4 data flow (enqueuing)

In simple terms, a sync task is created for each notification/subscription notification and stored in the maiConnect database. To be on the safe side, the system checks for duplicates to ensure that no duplicate sync task is created. This could lead to synchronization errors and thus to performance problems.

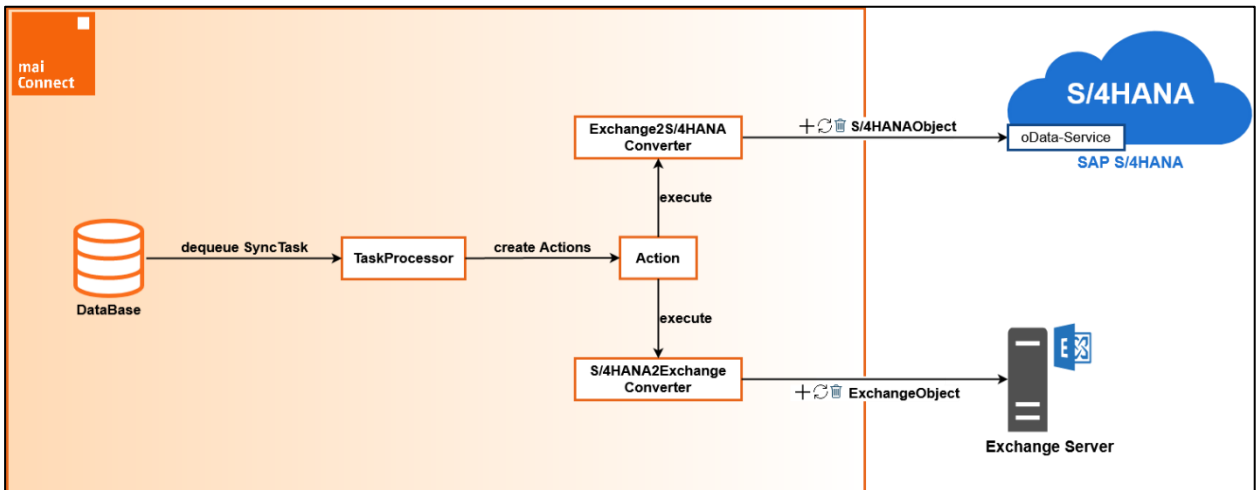


Figure 3: maiConnect@S4 data flow (dequeuing)

The sync tasks are read from the database by maiConnect and processed in blocks. One or more actions can be created for each sync task to be processed. These actions are then executed and the resulting requests are sent to SAP S/4HANA or Exchange.

## 5 Security

---

A communication user is used to read or change data in SAP S/4HANA or on the Microsoft Exchange server. The passwords of these users can be stored in the BTP or in the Admin Cockpit. They are stored encrypted in a keystore. We use the AS Java Key Storage Service recommended by SAP for this purpose.

The communication users require certain permissions to access the objects to be synchronized. These are described in more detail in the maiConnect@S4 installation instructions. It is the customer's responsibility to create these users and grant them all the necessary authorizations.

OAuth, a client certificate or Basic Authentication can be selected for authentication on the Exchange server. For the SAP S/4HANA system, only Basic Authentication is currently possible.

The web services used for communication between BTP and SAP S/4HANA or Microsoft Exchange are encrypted with HTTPS (TLS 1.2).

Communication between maiConnect@S4 and the Admin Cockpit is App2App SSO authenticated and takes place over HTTPS. This allows services to pass user identities to other applications used (provisioned or subscribed) in the BTP account. A user identity is passed to the application specified in the URL. The full identity is passed on <sup>1</sup>.

For error analysis, certain data of the synchronization is logged. This includes, for example, the business partner number and the associated e-mail address.

---

<sup>1</sup> <https://www.sap.com/developer/blueprints/finder/security-app-to-app-ssso.html>

## 6 Object synchronization

---

In order to initially synchronize objects between SAP S/4HANA and Microsoft Outlook, there are various options for the user with maiConnect.

- **Black-/Whitelisting:** Black-/Whitelisting is available as an option for synchronizing appointments (including visits and phone calls) and tasks from Outlook to SAP S/4HANA and can be activated via the Admin Cockpit. For users who are whitelisted, appointments / tasks are synchronized from Outlook to SAP S/4HANA without any further action. The use of sync prefix or Outlook category is no longer necessary. However, depending on the configuration, a sync prefix can also be used here, e.g. to specifically create a phone call.
- **Sync prefix:** If the whitelist is not active or a user is blacklisted, the synchronization of activities/tasks can be initiated via a sync prefix. This is a prefix that can be freely configured in the Admin Cockpit and must be prefixed to the title (description) of the item to be synchronized in Outlook.
- **Outlook category:** synchronization of appointments, tasks & contacts from Outlook can be done via an Outlook category, which can be set up by each user in their mailbox. There are two options: Either the name of the category in Outlook contains the category key of the activity type as maintained in SAP S/4HANA - or the category has the name defined via the corresponding parameter in the general customizing of the Admin Cockpit. The option to use a category for synchronization can be disabled in the Admin Cockpit.
- **Relationship:** To initially synchronize contacts from SAP S/4HANA with Outlook, certain relationship types are used that can be selected via the Admin Cockpit. If one of these relationships is set to the customer or a contact person directly, either only the contact person or all contact persons of the customer are synchronized into the mailbox of the maiConnect employee, depending on the relationship type.
- **Activity Customizing (SAP S/4HANA category):** The initial synchronization of activities and tasks from SAP S/4HANA is controlled by the categories configured there. The SAP S/4HANA categories whose elements are to be synchronized towards Outlook must be entered in the Activity Customizing of the Admin Cockpit. The maiConnect employee must then be entered as the responsible employee in the SAP S/4HANA activity.

In the following description of the individual features, we will go into detail about the available options for synchronization.

If the initial synchronization has taken place and thus the connection between the Outlook object and the associated object in SAP S/4HANA has been created, the synchronization of the updates does not have to be triggered, this happens automatically.

With maiConnect, objects can be synchronized from Outlook that have mandatory fields in SAP S/4HANA that are not filled in Outlook. However, when updating such an object from SAP S/4HANA, these fields must be filled.

General note on synchronization speed: maiConnect receives an immediate notification for any changes in SAP S/4HANA or Microsoft Outlook. These change notifications are stored by maiConnect in a queue and are then processed. Depending on how many changes are being processed at a time and the response times of the SAP S/4HANA as well as Microsoft Outlook, the time to process a synchronization may vary.

## 7 Features

---

### 7.1 Appointments Standard

#### 7.1.1 General information

When it comes to maiConnect, appointments also include visits and phone calls. When an appointment is created in SAP S/4HANA for the first time, the selected category can be used to determine what type of activity (appointment, visit, phone call) the object is. When an object is created in Outlook, a sync prefix or category can be used to determine whether an appointment is created in SAP S/4HANA as an appointment, visit, or phone call. When an appointment is created in Outlook via whitelisting, the default mapping from the Admin Cockpit is used to determine what the appointment is created as. The following applies:

In SAP S/4HANA, an appointment is created with the category that is obtained from the standard assignment. If no participant is stored in the appointment, an appointment is created. If internal participants (employees) are stored in the Outlook appointment, an item is created in SAP S/4HANA with the category that is entered in the standard assignment for "Meeting". An appointment is created in SAP S/4HANA as a visit in SAP S/4HANA if external participants (contacts) are stored in the Outlook appointment. If there is neither a default assignment for a customer visit nor a default assignment for a meeting, a normal appointment is created in SAP S/4HANA.

For appointments, both the initial synchronization and the update and deletion of items are supported bidirectionally<sup>2</sup>. Exceptions are recurring appointments and private appointments - more on this below.

As soon as an appointment is deleted in Outlook, it is marked as "canceled" in SAP S/4HANA. If the deletion of the appointment in Outlook was not synchronized (e.g. if the appointment was deleted while maiConnect was deactivated) and the corresponding parameter was configured in the Admin Cockpit (see maiConnect Admin Guide), the appointment will also be recreated in Outlook when it is changed in SAP S/4HANA.



**Note about PhoneCalls and Visits:** Both objects do not exist as independent objects in SAP S/4HANA. If such activity types exist in the S/4HANA system, they can be activated for synchronization via activity customizing in the AdminCockpit. These objects are then not treated differently than appointments.

##### 7.1.1.1 Participants & contact persons

Attendees and contacts are exchanged bidirectionally between SAP S/4HANA and Outlook. All attendees whose email addresses are maintained on a contact in SAP S/4HANA are added to the appointment in SAP S/4HANA with the role "contact person", attendees whose email addresses are maintained on an employee are added as "attendee".

Whether contact persons or participants should be synchronized between SAP S/4HANA and Outlook can be set in the Admin Cockpit (see Admin Guide).

**Attention:** If contact persons or participants are replaced, please note that removing these persons from the SAP S/4HANA appointment means that they will also be removed in the Outlook appointment and will therefore automatically receive an email to cancel the appointment.

---

<sup>2</sup> The Admin Cockpit offers the option of specifically preventing synchronization in the event of a creation, update or deletion - both in the direction of SAP S/4HANA and Outlook. Further details can be found in the Admin Guide.

### 7.1.1.2 Private appointments

The Admin Cockpit of maiConnect offers the option to activate the synchronization of private appointments. If activated, private appointments are transferred from the Outlook calendar to SAP S/4HANA, where they are marked with a private flag.

General Data		References	
Description:	Private Meeting	Account:	
Location:	Privat	Contact:	
Start Date/Time:	17.06.2021 16:00	Employee Responsible:	[User]
End Date/Time:	17.06.2021 20:00	Reference:	
All Day:	<input type="checkbox"/>	Item:	
Importance:	Medium	Reference Description:	
Status:	Open	Private:	<input checked="" type="checkbox"/>
Category:	Date		
Activity ID:	11130		

Figure 4: Calendar view

This behavior applies both to appointments that are initially created as private in Outlook and to appointments that are later marked as private in Outlook.

Note: A private appointment in SAP S/4HANA can not be converted to a “normal” appointment by removing the private flag in Outlook. The reason for this is that the SAP S/4HANA interface prevents this change and it can only be done via the UI.

### 7.1.1.3 Serial appointments

The synchronization of serial appointments from Outlook to SAP S/4HANA is supported by maiConnect and can be activated and configured via the AdminCockpit<sup>3</sup>. If the function is activated, serial appointments can be created, changed and deleted via maiConnect. However, since this is a pure maiConnect solution and SAP S/4HANA does not recognize series appointments as such, there are some limitations.

When synchronizing an appointment series from Outlook, a separate appointment is created for each individual series element in SAP S/4HANA. When the appointment series is updated in Outlook, these updates are replicated to the appointments created for the individual elements of the series in SAP S/4HANA.

Due to this special feature, no changes to an appointment series can be saved from SAP S/4HANA. Only the individual elements can be updated here - and these changes are also only posted or synchronized as changes to the corresponding individual Outlook appointment.

<sup>3</sup> For more information on configuring recurring appointment synchronization, see the Admin Guide.

## 7.1.2 Synchronization tables

### 7.1.2.1 Appointments, visits, telephone calls, serial appointments

Area	Outlook → SAP S/4HANA	SAP S/4HANA → Outlook
<b>General data</b>		
Subject	supported	supported
Location	supported	supported
Start date/time	supported	supported
End date/time	supported	supported
All day	supported	supported
Private	supported <sup>4</sup>	-
Series type	supported <sup>5</sup>	-
Customer <sup>6</sup>	supported	-
<b>Participant<sup>78</sup></b>		
Internal (employee)	supported	supported
External (contacts)	supported	supported
Optional participants	supported <sup>9</sup>	-
<b>File attachments</b>		
File attachments	supported	supported
Embedded file attachments	supported	-
<b>Notes</b>		
Notes	supported	supported

Table 1: Synchronized fields - appointments, visits, phone calls, serial appointments

<sup>4</sup> See section 7.1.1.2.

<sup>5</sup> Supported with restrictions: See section 7.1.1.3.

<sup>6</sup> There must be at least one participant who is maintained as a contact person at a customer. If there are several participants assigned to a visit in Outlook who are contact persons for different customers, the customer of the first participant is inserted.

<sup>7</sup> A subscriber's email address may be maintained only on the employee or on the contact - not in parallel on both.

<sup>8</sup> Via the Admin Cockpit, you can set that participants who cancel an appointment in Outlook are no longer displayed as participants of the appointment in SAP S/4HANA.

<sup>9</sup> If the parameter has been activated in the Admin Cockpit.

### 7.1.2.2 Priorities <sup>10</sup>

The priority field is displayed in the header of an appointment in Outlook. There is no graphical representation for the "normal" level:

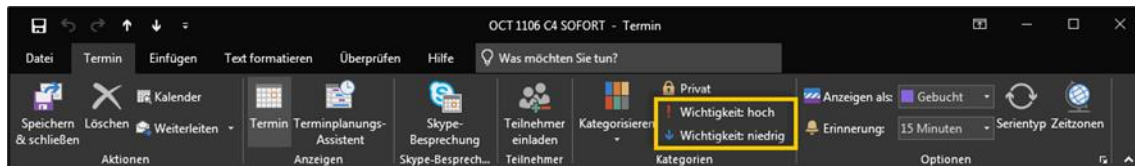


Figure 5: Priority options in the header of an appointment

Initial value SAP S/4HANA	Assigned value in Outlook
Immediately	High
Urgent	High
Normal	Normal
Low	Low

Table 1: Synchronization of the priorities of an appointment towards Outlook

Outlook output value	Assigned value in SAP S/4HANA
High	Urgent
Normal	Normal
Low	Low

Table 2: Synchronization of the priorities of an appointment towards SAP S/4HANA

### 7.1.3 Outlook → SAP S/4HANA

An appointment that was originally created in Outlook must be marked as relevant for synchronization with SAP S/4HANA <sup>11</sup>. The four options listed below apply equally to appointments / visits, recurring appointments and private appointments:

#### 7.1.3.1 Whitelisting

If whitelisting for appointments is active (see Admin Guide), users who are whitelisted can synchronize appointments from Outlook without having to mark them separately. Every appointment created in Outlook will then be synchronized.

#### 7.1.3.2 Category (key)

If an entry has been made for the activity type "Appointment" or "Phone call" in the Activity Customizing of the Admin Cockpit, a category can be created in Outlook that has the same technical key in its name as is assigned to the activity type in SAP S/4HANA. When such a category with the technical key is then assigned to an appointment in Outlook, the synchronization starts. Depending on the customizing of the activity, this can also be used to control what kind of object an appointment from Outlook is created as in SAP S/4HANA.

<sup>10</sup> Does not apply to the assignment of service tickets

<sup>11</sup> Depending on the activated function, appropriate customizing is required. See admin guide.



<p><b>APPOINTMENT</b></p> <p>Appointment - 0001 Kundenbesuch (Customer Visit)</p>
<p><b>PHONECALL</b></p> <p>Telephone Call - 0002 Telefonat (Phone Call)</p>

Figure 6: Activity Customizing - Appointments with technical key

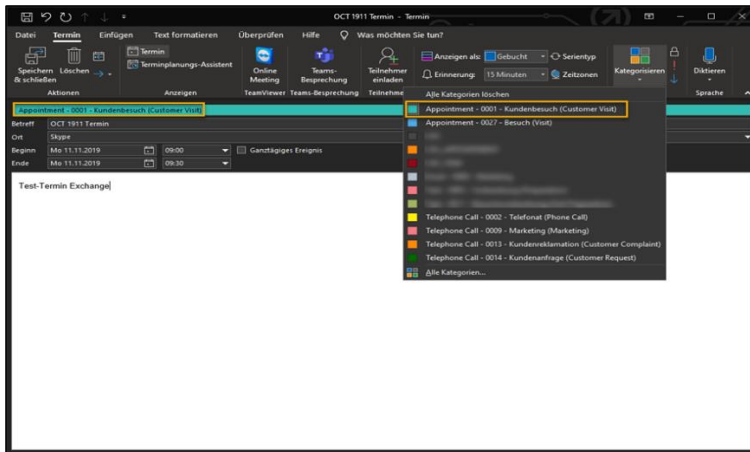


Figure 7: Creation of an appointment in Outlook with a category (key)

### 7.1.3.3 Category (General parameter)

In the general customizing of the Admin Cockpit, a synchronization category for appointments can be set up. The category maintained here can then also be created in Outlook and used for the initial synchronization:

<input type="text" value="Sync-Kategorie von Terminen"/>	<input type="text" value="C4C_APPOINTMENT"/>
<input type="text" value="Sync-Kategorie von Telefonaten"/>	<input type="text" value="C4C_CALL"/>

Figure 8: General Customizing - Synchronization Category for Appointments & Calls

If multiple categories are assigned to an appointment in Outlook, maiConnect uses the first valid category found for synchronization.

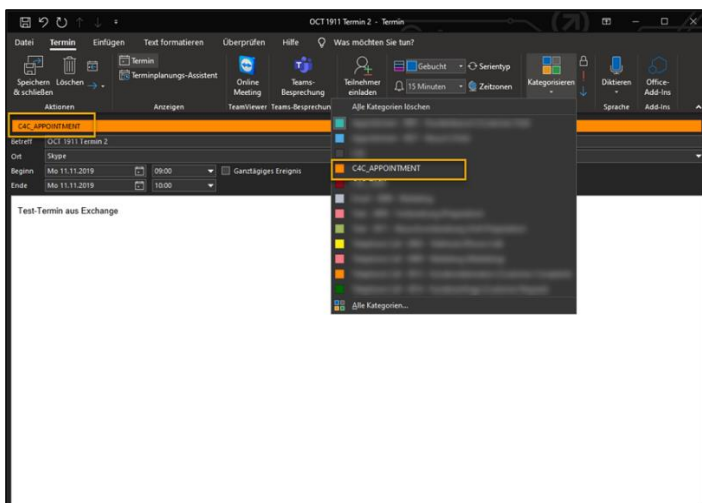


Figure 9: Creation of an appointment in Outlook with category (general parameter)

### 7.1.3.4 Prefix

If a sync prefix for appointments or phone calls is configured in general customizing, this can also be used to trigger the synchronization of appointments or phone calls from Outlook. To do this, the configured prefix is prefixed to the subject.

<input type="checkbox"/>	Sync-Präfix von Terminen	#C4C
<input type="checkbox"/>	Sync-Präfix von Telefonaten	#TEL

Figure 10: General Customizing - Synchronization Prefix for Appointments and Calls

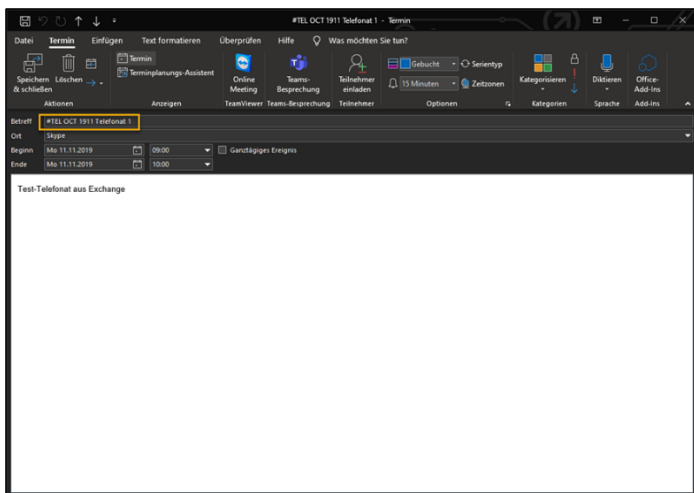


Figure 11: Creating a phone call in Outlook with area code

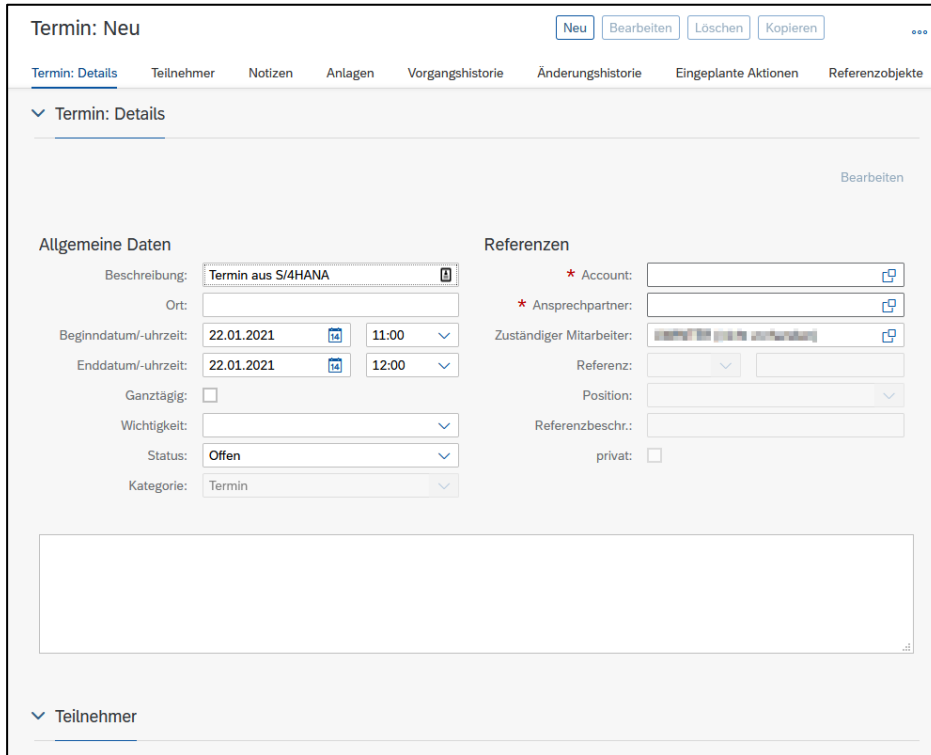
If the parameter for deleting the prefix is also activated, the prefix is not transferred to SAP S/4HANA and is removed from the Outlook element after the initial synchronization:

<input type="checkbox"/>	Loesche das Sync-Praefix von GW-Objekten	<input checked="" type="checkbox"/>
--------------------------	--	-------------------------------------

Figure 12: General Customizing - Delete Synchronization Prefix

## 7.1.4 SAP S/4HANA → Outlook

### 7.1.4.1 Appointments, visits, phone calls



The screenshot shows the 'Termin: Neu' (Appointment: New) form in SAP S/4HANA. The form is divided into two main sections: 'Allgemeine Daten' (General Data) and 'Referenzen' (References).  
**Allgemeine Daten:**  
 - Beschreibung: Termin aus S/4HANA  
 - Ort: (empty)  
 - Beginndatum/-uhrzeit: 22.01.2021 11:00  
 - Enddatum/-uhrzeit: 22.01.2021 12:00  
 - Ganztägig:   
 - Wichtigkeit: (empty)  
 - Status: Offen  
 - Kategorie: Termin  
**Referenzen:**  
 - Account: (empty)  
 - Ansprechpartner: (empty)  
 - Zuständiger Mitarbeiter: (empty)  
 - Referenz: (empty)  
 - Position: (empty)  
 - Referenzbeschr.: (empty)  
 - privat:

Figure 13: Creating an appointment in SAP S/4HANA

To initially synchronize an appointment, phone call, or visit from SAP S/4HANA to Outlook, you must select one of the categories maintained in the Admin Cockpit Activity Customizing (see Admin Guide). As soon as the item is saved, synchronization with Outlook begins, taking into account the parameters maintained in the Admin Cockpit for the selected activity type.



The screenshot shows the 'Aktivitäten Customizing' (Activity Customizing) screen in the SAP Admin Cockpit. The left sidebar shows the navigation menu with 'Aktivitäten Customizing' selected. The main content area shows a list of appointment categories under the heading 'APPOINTMENT'. The first category, 'Appointment - 0001 - Kundenbesuch (Customer Visit)', is highlighted with a yellow box. The second category is 'Appointment - 0006 - Termin (Meeting)'. Each category has a right arrow and a close button (X).

Figure 14: SAP S/4HANA categories for appointments maintained in the AdminCockpit

## 7.2 Tasks Standard

### 7.2.1 General information

The synchronization of tasks is supported bidirectionally by maiConnect. They can be initially created, synchronized, updated and deleted in Outlook as well as in SAP S4/HANA. From Outlook, initial synchronization can be initiated in several ways. To synchronize tasks from SAP S/4HANA, the respective category of the task must be maintained in the Activity Customizing of the Admin Cockpit (see admin guide).

### 7.2.2 Synchronization tables

#### 7.2.2.1 Field synchronization

Area	Outlook → SAP S/4HANA	SAP S/4HANA → Outlook
<b>General data</b>		
Subject	supported	supported
Start date/time	supported	supported
Due date/time	supported	supported
Status	supported	supported
Percentage completion	supported	supported
Category	supported	supported
Reminder	-	-
Series type	-	-
Private	-	-
<b>Parties involved</b>		
Customer	-	-
Main contact	-	-
Responsible employee	supported <sup>12</sup>	supported <sup>13</sup>
<b>File attachments</b>		
File attachments	supported	supported
Embedded file attachments	supported	-

<sup>12</sup> In SAP S/4HANA, the organizer of the Outlook task is always defined as the responsible employee and agent.

<sup>13</sup> When synchronizing from SAP S/4HANA to Outlook, the task is synchronized - depending on the setting in the Admin Cockpit - to the mailbox of the processor or the responsible employee.

Area	Outlook → SAP S/4HANA	SAP S/4HANA → Outlook
<b>Notes</b>		
Notes	supported	supported

Table 3: Synchronization details for the individual fields of a task

### 7.2.2.2 Priorities

Initial value SAP S/4HANA	Assigned value in Outlook
Immediately	High
Urgent	High
Normal	Normal
Low	Low

Table 4: Synchronizing the priorities of a task towards Outlook

Initial value Outlook	Assigned value in SAP S/4HANA
High	Urgent
Normal	Normal
Low	Low

Table 5: Synchronization of the priorities of a task against SAP S/4HANA

### 7.2.2.3 Status

SAP S/4HANA	Outlook
Open	Not started
In process	In process
Closed	Done
Cancelled	Deferred

Table 6: Synchronization of the status of a task

Please note that the status behavior of SAP S/4HANA and Microsoft Outlook is different. If a task is set to 100% completion in SAP S/4HANA, then this does not change the status. If completion is set to 100% in Outlook, then the status changes to "Closed".

## 7.2.3 Outlook → SAP S/4HANA

There are four ways to initially synchronize a task created in Outlook with SAP S/4HANA:

### 7.2.3.1 Whitelisting

If task whitelisting is enabled (see Admin Guide), users who are whitelisted can synchronize tasks from Outlook without having to mark them separately. Any task created in Outlook will then be synchronized.

### 7.2.3.2 Category (key)

If an entry for an activity of type "Task" has been created in the Activity Customizing of the AdminCockpit, a category can be created in Outlook that has the same technical key in its name that is assigned to the activity type in SAP S/4HANA. When a task in Outlook is then assigned this category, synchronization starts.



Figure 15: Activity Customizing - Tasks with technical key

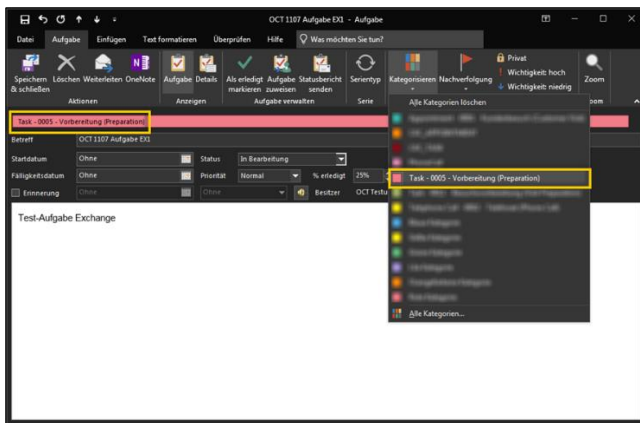


Figure 14: Creating a task in Outlook with category (technical key)

### 7.2.3.3 Category (General parameter)

In the general customizing of the AdminCockpit a synchronization category for tasks can be set up. The category maintained here can also be created in Outlook and used for the initial synchronization:



Figure 16: General customizing - synchronization category for tasks

If multiple categories are assigned to a task in Outlook, maiConnect uses the first valid category found for synchronization.

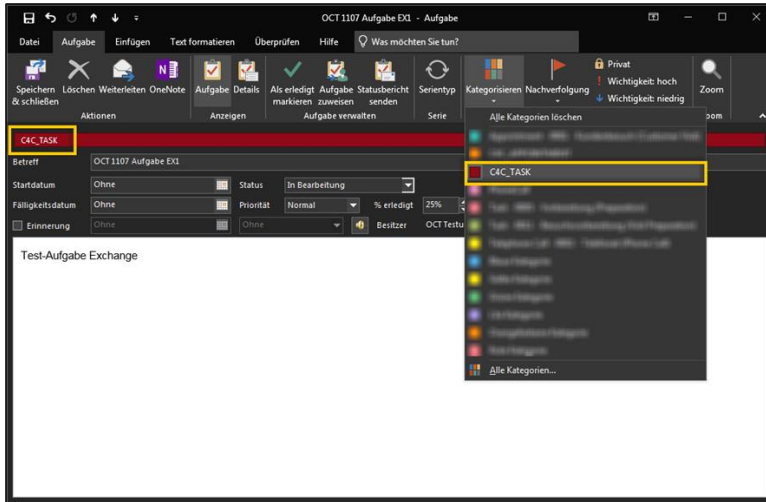


Figure 17: Creating a task in Outlook with category (general parameter)

### 7.2.3.4 Prefix

If a synchronization prefix for tasks is set up in the general Customizing of the AdminCockpit, this prefix can be used to trigger the synchronization of tasks from Outlook. The prefix must be prefixed to the subject.



Figure 18: General customizing - synchronization prefix for tasks

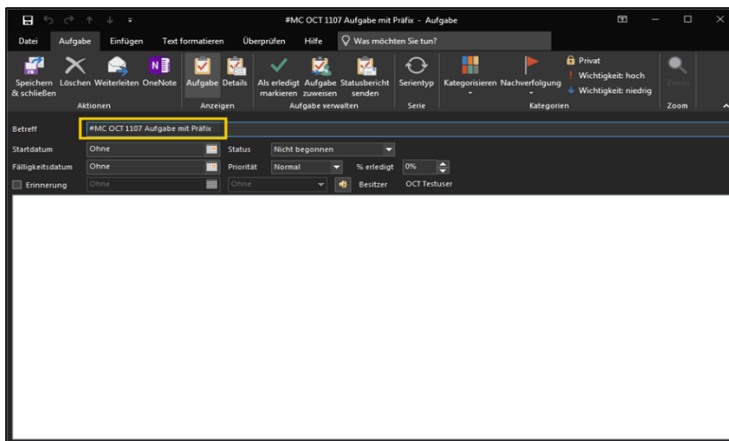


Figure 19: Creating a task in Outlook with prefix

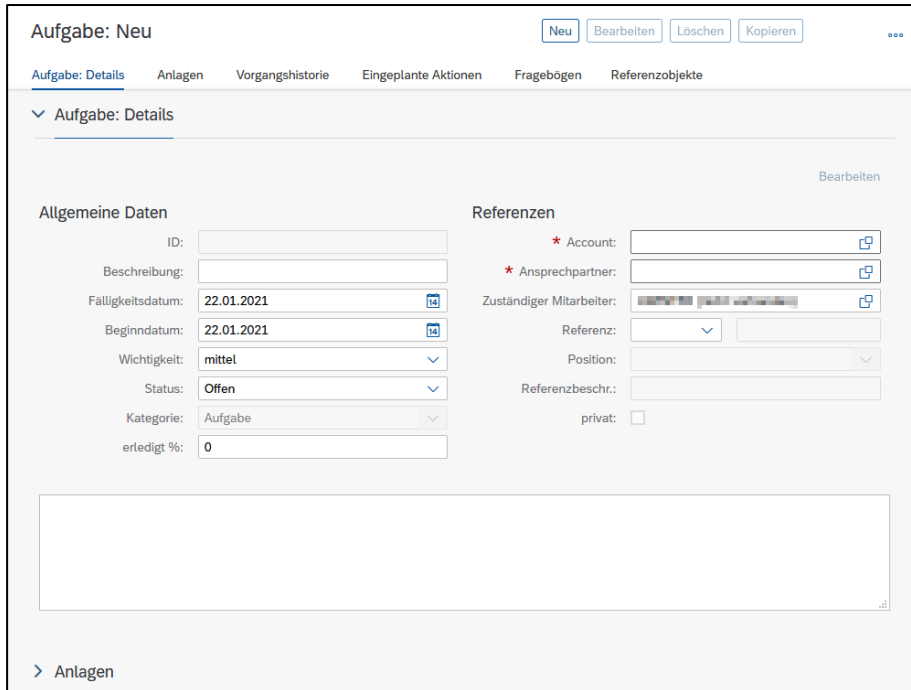
If the parameter to delete the prefix is also enabled, the prefix will not be transferred to SAP S/4HANA and will be removed from the Outlook item after the first synchronization:



Figure 20: General Customizing - Delete Synchronization Prefix

When a task is created in Outlook and assigned to another person, a local copy can also be stored in the user's own mailbox. This local copy does not reflect the current status of the task created and synchronized for the employee to whom it was assigned.

## 7.2.4 SAP S/4HANA → Outlook



The screenshot shows the 'Aufgabe: Neu' (New Task) form in SAP S/4HANA. The form is divided into two main sections: 'Allgemeine Daten' (General Data) and 'Referenzen' (References). The 'Allgemeine Daten' section includes fields for ID, Description, Due Date (22.01.2021), Start Date (22.01.2021), Priority (mittel), Status (Offen), Category (Aufgabe), and Completion Percentage (0). The 'Referenzen' section includes fields for Account, Contact Person, Responsible Employee, Reference, Position, Reference Description, and a 'privat' checkbox. The form also features navigation buttons at the top (Neu, Bearbeiten, Löschen, Kopieren) and a sidebar with tabs for 'Aufgabe: Details', 'Anlagen', 'Vorgangshistorie', 'Eingeplante Aktionen', 'Fragebögen', and 'Referenzobjekte'.

Figure 21: Creating a task in SAP S/4HANA

In order to initially synchronize a task from SAP S/4HANA towards Outlook, one of the categories maintained in the Activity Customizing of the AdminCockpit must be selected as the category (see Admin Guide). As soon as the task is saved, the synchronization towards Outlook starts taking into account the parameters maintained in the Admin Cockpit for the selected activity type.



The screenshot shows the 'Aktivitäten Customizing' (Activity Customizing) screen in the SAP S/4HANA Admin Cockpit. The left sidebar lists various customization areas, with 'Aktivitäten Customizing' selected. The main area displays a list of tasks under the heading 'TASK'. Two tasks are listed: 'Task - 0005 - Vorbereitung (Preparation)' and 'Task - 0011 - Besuchsvorbereitung (Visit Preparation)'. Each task entry has a right arrow and a close button (X). A yellow box highlights the task list area.

Figure 22: SAP S/4HANA categories for tasks maintained in the Admin Cockpit



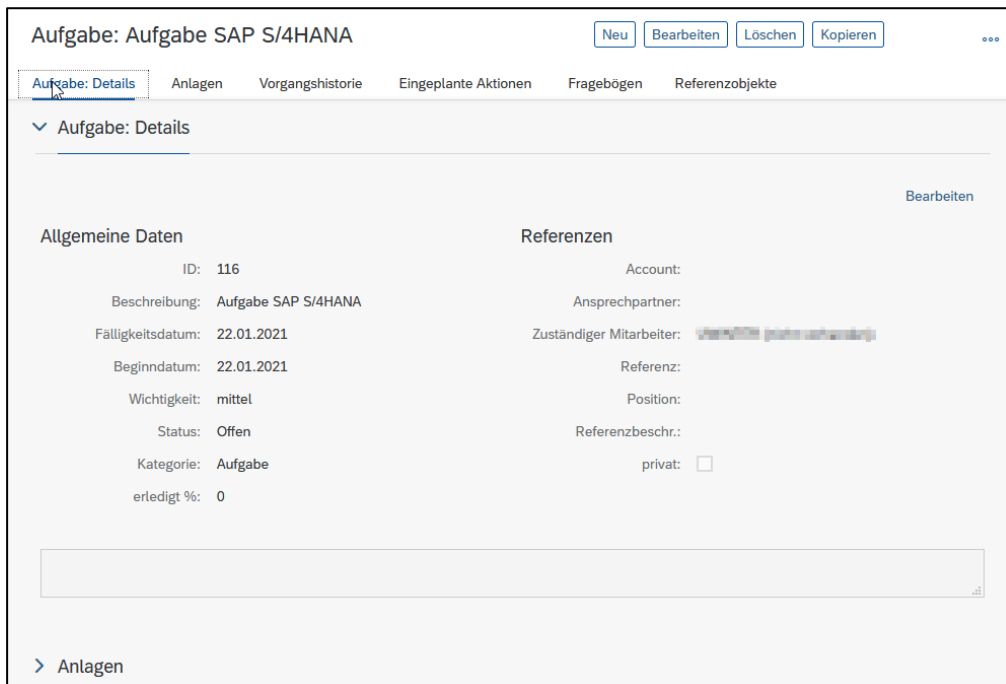


Figure 23: Task created in SAP S/4HANA

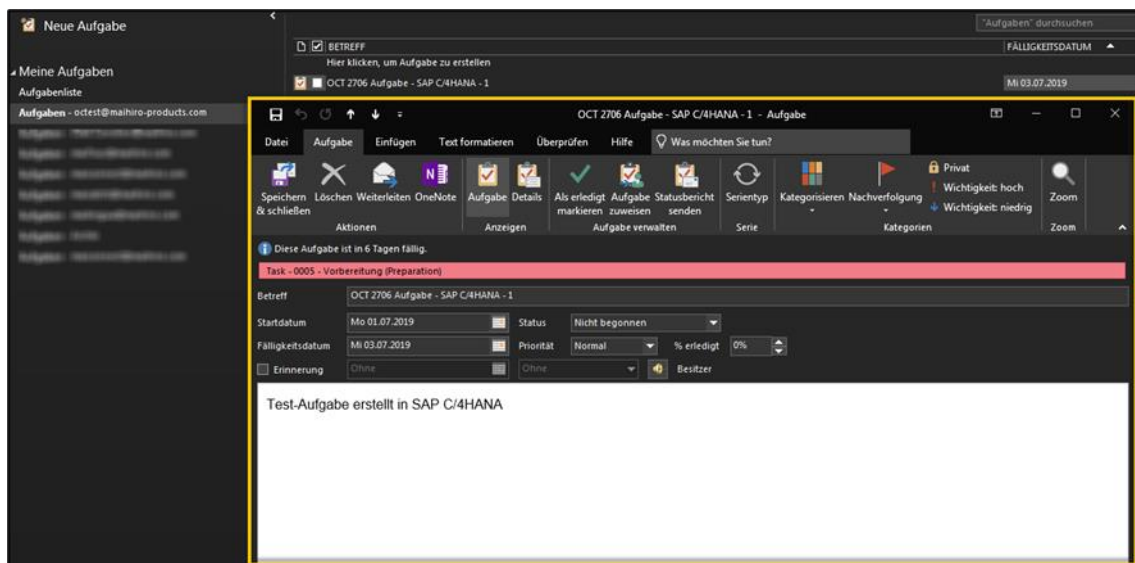


Figure 24: Synchronized task in Outlook

## 7.3 Contacts Standard

### 7.3.1 General information

maiConnect@S4 supports the initial synchronization and update of contacts from SAP S/4HANA to Outlook and vice versa.

### 7.3.2 Synchronization table

Area	Outlook → SAP S/4HANA	SAP S/4HANA → Outlook
<b>General data</b>		
Salutation	-	-
Academic title	supported	supported
First name	supported	supported
Last name	supported	supported
Date of birth	supported	supported
<b>Private address data</b> <sup>14</sup>		
Street + house number	supported	supported
Zip code + City	supported	supported
State + Country	supported	supported
Phone number	supported	supported
E-mail address	supported	supported
<b>Business data</b>		
Company name	supported <sup>15</sup>	supported
Department	-	supported
Job title	supported	supported
Street + house number	-	supported
Zip code + City	-	supported
State + Country	-	supported
Phone number	supported	supported

<sup>14</sup> See the note at the end of this chapter about private address data.

<sup>15</sup> For the initial creation

Area	Outlook → SAP S/4HANA	SAP S/4HANA → Outlook
Cell phone number	supported	supported
E-mail address	supported	supported
<b>File attachments</b>		
File attachments	-	-
<b>Notes</b>		
Notes	supported	supported

Table 7: Synchronization details for the individual fields of a contact

If an already synchronized contact is deleted in Outlook, this does not remove the relationship in SAP S/4HANA!

Please note: In Outlook it is possible to mark contacts as private. This option is not available in the SAP S/4HANA. maiConnect is currently technically unable to check whether a Outlook contact is private or not. Since the synchronization from Outlook to the S/4HANA is triggered manually, it must be ensured, that no private contacts are synchronized.

Please also note: maiConnect is used in business environments and is intended to synchronise business data. In Outlook and also in SAP S/4HANA there is the possibility to maintain private address information. The synchronisation of private address data can be deactivated in the general settings in the maiConnect AdminCockpit.

### 7.3.3 Outlook → SAP S/4HANA

The synchronization of a contact from Outlook is initiated via category or a prefix maintained in the admin cockpit (contact the business administrator if necessary). Assign the appropriate category to a newly created or already existing Outlook contact (1) or set the prefix in front of the first or last name and save the contact (2) to start the synchronization. You can also directly assign the contact as a contact person of a customer in SAP S/4HANA if you enter the account number from SAP S/4HANA as Company (3).

Instead of the account number, the name of the customer can also be used (or individual components of the name, such as "Miller Ireland" instead of "Marcus Miller Ireland Ltd."). In this case, it is important that the customer can be uniquely identified in SAP S/4HANA using the name entered.

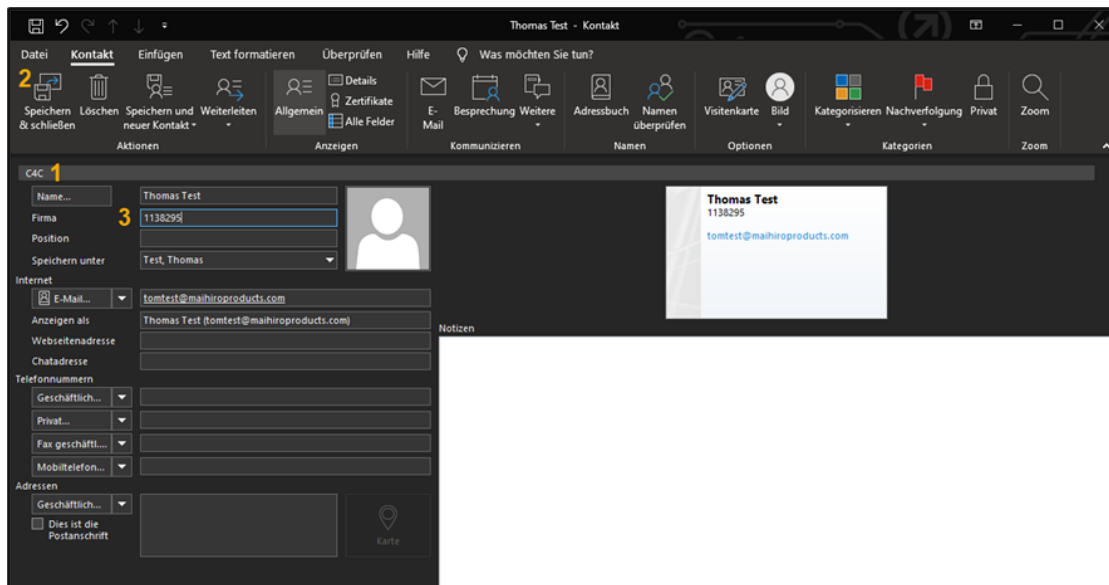


Figure 25: Initial synchronization of a contact from Outlook

After the contact has been successfully created on SAP S/4HANA side, resynchronization takes place. If a customer was initially specified (either by the account number or the customer name), this is replaced by the full name of the customer from SAP S/4HANA. Any prefix used is removed.

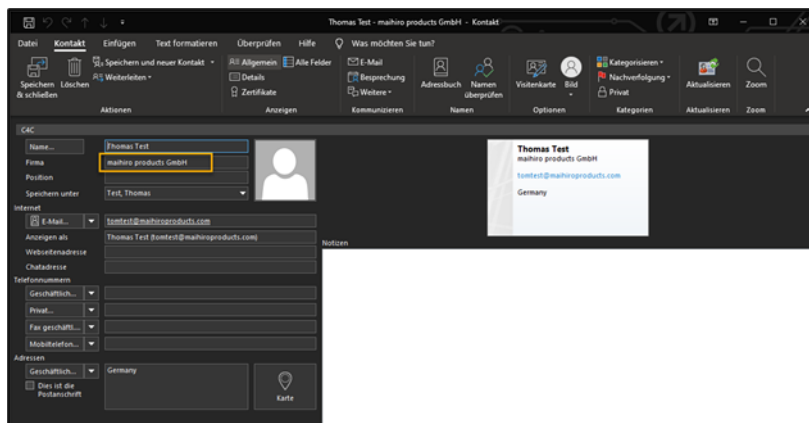


Figure 26: Customer name after resynchronization

If the customer belonging to a contact does not yet exist in SAP S/4HANA, maiConnect can create it. The prerequisite for this is that the corresponding option is activated in the admin cockpit.

During the initial synchronization of a contact from Outlook towards SAP S/4HANA, maiConnect uses the SAP standard duplicate check. The first name, last name and e-mail address<sup>16</sup> of the contact created and to be synchronized are checked. For this purpose, a threshold value can be set in the admin cockpit (see Admin Guide):

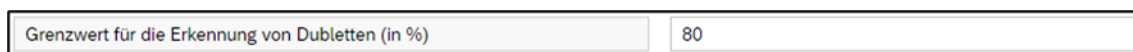


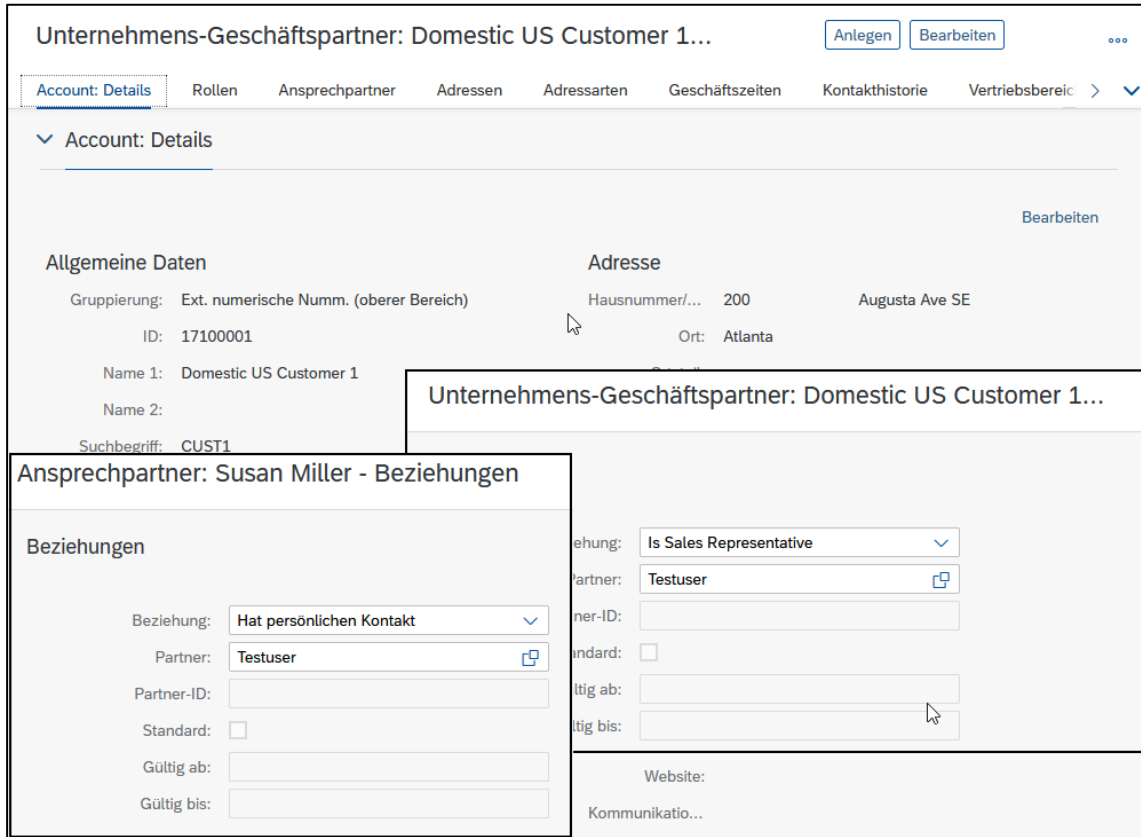
Figure 27: Admin cockpit parameters for the threshold value for the detection of duplicates

If a duplicate is detected during the check, synchronization will not occur. Instead, an error e-mail is created as a draft in the inbox.

<sup>16</sup> In Outlook there is the possibility to assign several e-mail addresses to a contact. However, only the primary e-mail address is checked by the duplicate check.

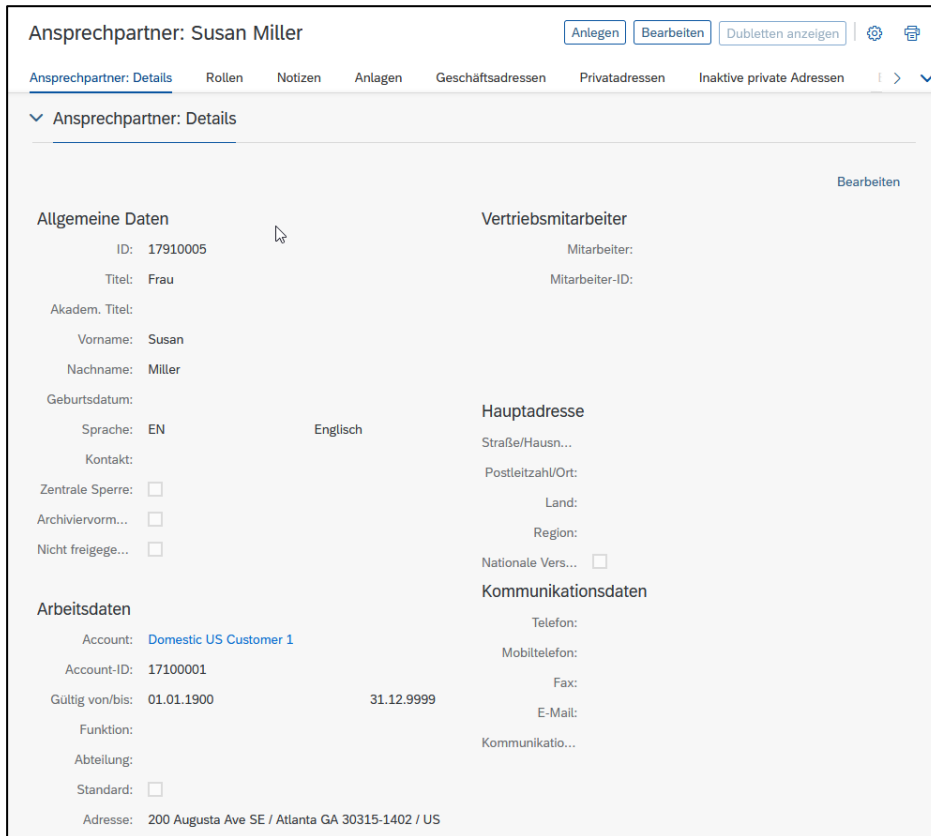
### 7.3.4 SAP S/4HANA → Outlook

To initially synchronize a contact with maiConnect, one of two different relationships (contact person ↔ employee, customer ↔ employee) can be used. For contact synchronization, either existing relationships in SAP S/4HANA can be used or new relationships can be maintained (by the administrator of SAP S/4HANA).



The screenshot displays the SAP S/4HANA interface for managing a business partner account. The main window shows 'Account: Details' for 'Unternehmens-Geschäftspartner: Domestic US Customer 1...'. The 'Allgemeine Daten' section includes fields for 'Gruppierung', 'ID', 'Name 1', 'Name 2', and 'Suchbegriff'. The 'Adresse' section shows 'Hausnummer/...', 'Ort', and 'Augusta Ave SE'. An overlay window titled 'Anspruchspartner: Susan Miller - Beziehungen' is open, showing a 'Beziehungen' section with a dropdown for 'Beziehung' (set to 'Hat persönlichen Kontakt'), a 'Partner' dropdown (set to 'Testuser'), and fields for 'Partner-ID', 'Standard', 'Gültig ab', and 'Gültig bis'. The 'Beziehung' dropdown is set to 'Is Sales Representative'.

Figure 28: Creating a relationship relevant for contact synchronization



**Ansprechpartner: Susan Miller** Anlegen Bearbeiten Dubletten anzeigen ⚙️ 🖨️

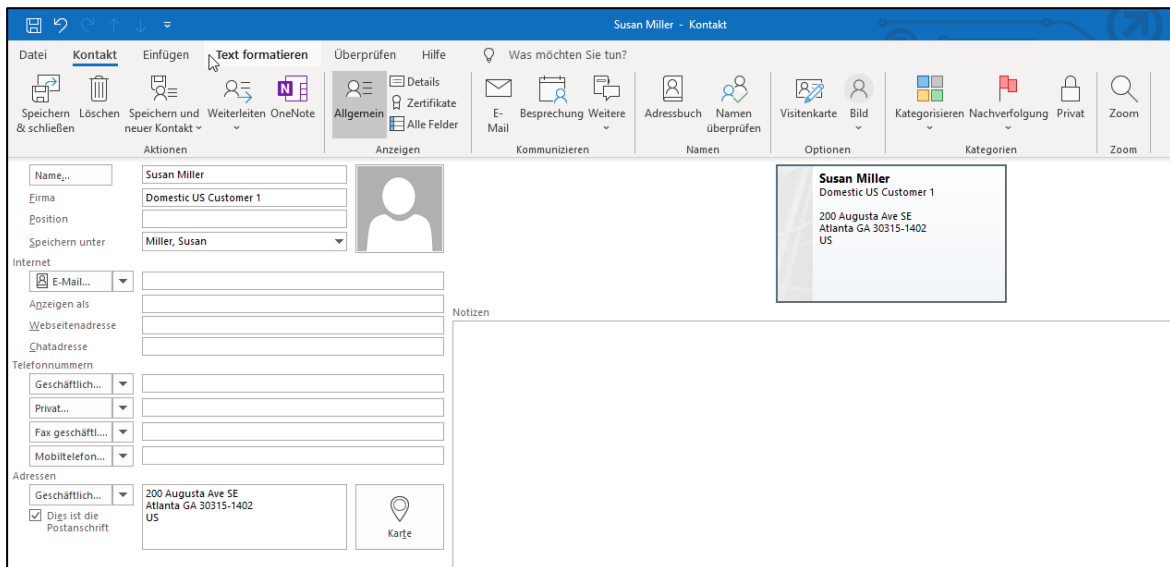
Ansprechpartner: Details Rollen Notizen Anlagen Geschäftsadressen Privatadressen Inaktive private Adressen ⌵

▼ **Ansprechpartner: Details** Bearbeiten

<p><b>Allgemeine Daten</b></p> <p>ID: 17910005</p> <p>Titel: Frau</p> <p>Akadem. Titel:</p> <p>Vorname: Susan</p> <p>Nachname: Miller</p> <p>Geburtsdatum:</p> <p>Sprache: EN <span style="margin-left: 100px;">Englisch</span></p> <p>Kontakt:</p> <p>Zentrale Sperre: <input type="checkbox"/></p> <p>Archiviert: <input type="checkbox"/></p> <p>Nicht freigegeben: <input type="checkbox"/></p> <p><b>Arbeitsdaten</b></p> <p>Account: Domestic US Customer 1</p> <p>Account-ID: 17100001</p> <p>Gültig von/bis: 01.01.1900 <span style="margin-left: 100px;">31.12.9999</span></p> <p>Funktion:</p> <p>Abteilung:</p> <p>Standard: <input type="checkbox"/></p> <p>Adresse: 200 Augusta Ave SE / Atlanta GA 30315-1402 / US</p>	<p><b>Vertriebsmitarbeiter</b></p> <p>Mitarbeiter:</p> <p>Mitarbeiter-ID:</p> <p><b>Hauptadresse</b></p> <p>Straße/Haus...</p> <p>Postleitzahl/Ort:</p> <p>Land:</p> <p>Region:</p> <p>Nationale Vers... <input type="checkbox"/></p> <p><b>Kommunikationsdaten</b></p> <p>Telefon:</p> <p>Mobiltelefon:</p> <p>Fax:</p> <p>E-Mail:</p> <p>Kommunikatio...</p>
--	--

Figure 29: Contact created in SAP S/4HANA


After one of the two different relationships to the employee has been maintained and saved, the synchronization of the contact(s) begins in the background.



Susan Miller - Kontakt

Was möchten Sie tun?

Speichern & schließen | Löschen | Speichern und neuer Kontakt | Weiterleiten | OneNote | Allgemein | Details | Zertifikate | Alle Felder | E-Mail | Besprechung | Weitere | Adressbuch | Namen überprüfen | Visitenkarte | Bild | Kategorisieren | Nachverfolgung | Privat | Zoom

Name: Susan Miller 

Firma: Domestic US Customer 1

Position:

Speichern unter: Miller, Susan

Internet

E-Mail:

Apzeigen als:


Webseitenadresse:

Chatadresse:

Telefonnummern

Geschäftlich... | Privat... | Fax geschäftl... | Mobiltelefon...

Adressen

Geschäftlich... | 200 Augusta Ave SE  
Atlanta GA 30315-1402  
US 

**Susan Miller**  
Domestic US Customer 1  
200 Augusta Ave SE  
Atlanta GA 30315-1402  
US

Notizen

Figure 30: Synchronized contact in Outlook

A direct relationship between maiConnect employee and contact person ensures that this contact person is synchronized for the employee. If, on the other hand, a relationship at the customer or via the customer team is used, all contacts of this customer are synchronized for the maiConnect employee.

## 8 Administrator guide

---

### 8.1 What is the AdminCockpit about?

The AdminCockpit is a web application that serves as a central entry point for user administration and all settings that can be made for maiConnect@S4. This is a cloud product which is continuously being further developed.

For each S/4HANA System for which maiConnect Cloud has been set up an AdminCockpit is set up as well. The initial setup is usually done by Nagarro ES in cooperation with the customer. Once set up, the customer is responsible for further administration.



Please note: Since the latest version of maiConnect@S4 is installed on QA and productive systems with a time delay and new functions are always made available first for testing on the QA system, there may be sporadic differences between the AdminCockpits (QA / productive). In this document we refer to the functions and parameters available in the productive environment.

### 8.2 Utilization notes

The URLs for calling the AdminCockpits (QA + Productive) are made available to the customer by Nagarro ES. The customer determines which persons in the company should have access to the AdminCockpit. The corresponding users are then created by Nagarro ES for which the first name, last name and e-mail address of the employees are required.



Please note: The AdminCockpit has been optimized for Google Chrome. Of course, you can also access the AdminCockpit via all other common browsers. However, if you encounter any display or function elements, we would kindly ask you to try Google Chrome first.

### 8.3 Language selection

The AdminCockpit is available in German and English. If several languages are maintained in the browser (see example from Google Chrome on the following page), the AdminCockpit is displayed by default in the first selected (top) language:

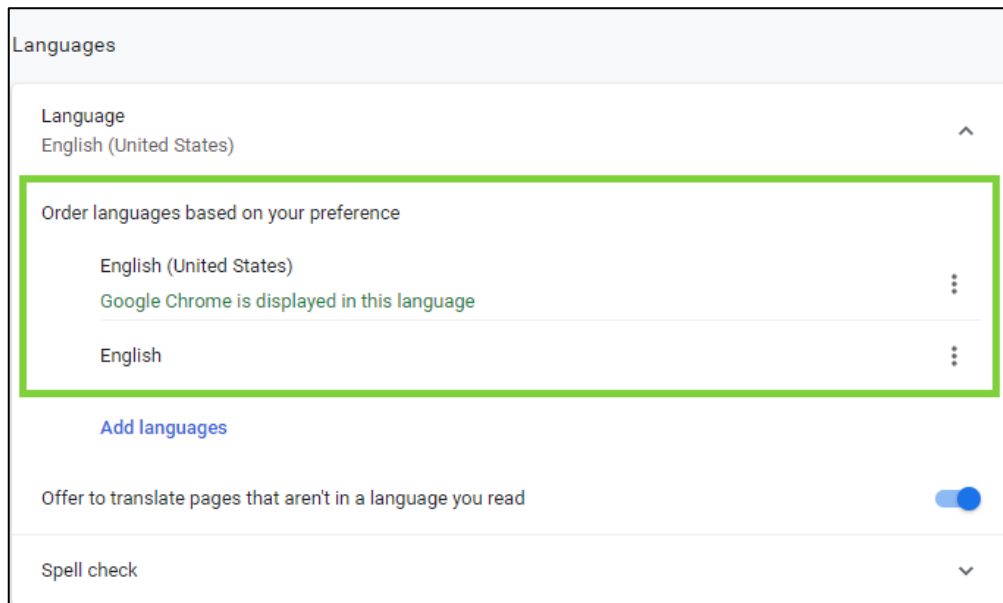


Figure 31: Language selection / order in Google Chrome

The display language of the AdminCockpit can also be controlled via an additional parameter at the end of the URL (?sap-ui-language=XX):



<https://maadmn4e19661-af329143.hana.ondemand.com/admincockpit/?sap-ui-language=DE>



<https://maadmn4e19661-af329143.hana.ondemand.com/admincockpit/?sap-ui-language=EN>



## 8.4 First steps / overview

Open the AdminCockpit by following the customer system specific URL provided by maiConnect support. You will be taken to the login screen. On the left of the screen you will find the account name, which usually consists of 'CA', the customer name and the system description.

Now log in to the area on the right with the provided login data. If you have forgotten your password, you can reset it here.

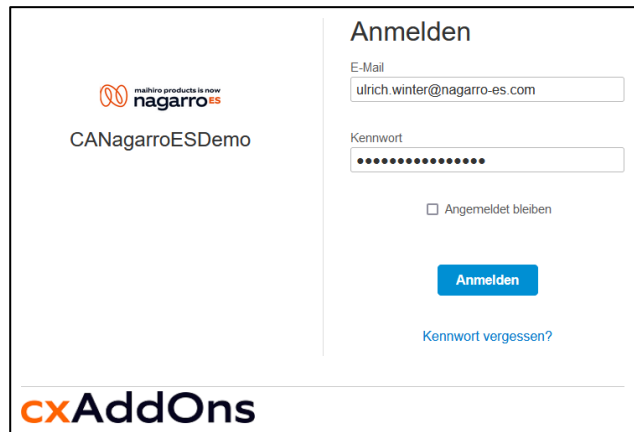


Figure 32: Login screen

As soon as you have logged in, you will automatically be redirected to the homepage. In the title bar you will find the account name mentioned above again. Below, on the left side, is the menu and in the middle, various information are displayed.

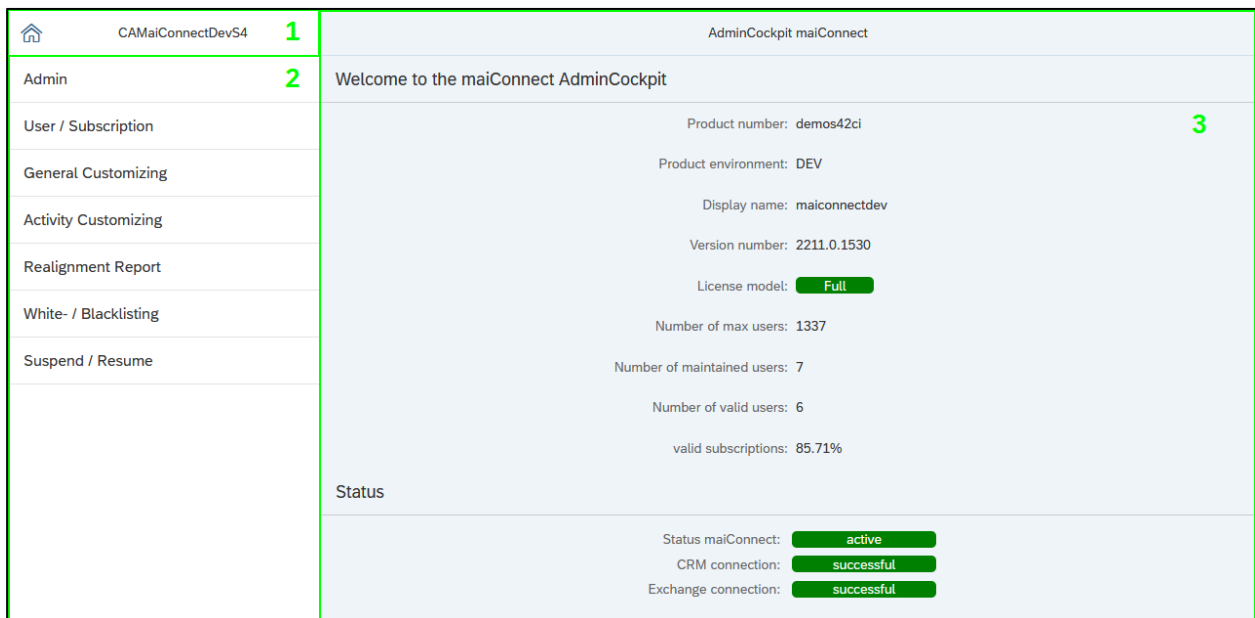


Figure 33: Starting screen

The AdminCockpit is basically structured as follows:

- 1) Title bar (button for overview, name of the account and version, section)
- 2) Main menu (From here you can access the individual sections)
- 3) Main Area (Settings are made here)

In the main area, further elements are displayed on the various pages:

Additional menu at the top of Main Area (not available in all sections)

Footer with action elements (Section-specific. For example: Save, Reset)

The following general information can be read in the main area on the start page:

Product number	ID of the connected S/4HANA tenant
Product environment	System
Display name	Name of the application
Version number	Current running version
License model	Purchased license package (Full or Trial)
Number of max users	Maximum number of currently purchased user licenses
Number of maintained users	Number of active maiConnect users
Number of valid users	Number of users with a valid subscription
Valid subscriptions	Percentage of users with a valid subscription

After the general information some status information are displayed:

Status maiConnect	The status of the maiConnect system is displayed here. Possible values are: active, deactivated, paused, unsuccessful.
S/4HANA connection	The status of the configured S/4HANA system is checked every 5 minutes. The status of the last check is displayed here.
Exchange connection	The status of the configured Exchange servers is checked every 5 minutes. The status of the last check is displayed here.

## 8.5 Sections of the AdminCockpit

In the following, we will deal with the individual sections and the respective setting options.

### 8.5.1 Administrator

Communication users are required for the synchronization of objects via maiConnect (Groupware & CRM). In order for maiConnect to be able to use them, the access data of these communication users must be maintained accordingly - either in the AdminCockpit for Microsoft Exchange (Administrator > System Assignment) and in the SAP Business Technology Platform (BTP<sup>17</sup>) for SAP S/4HANA.

#### 8.5.1.1 Groupware

The maiConnect application supports the management of multiple Exchange servers. The reason for that is, that the employees of a company usually work with one S/4HANA system, but the corresponding mailboxes can be distributed over several Exchange servers.

All maintained groupware servers are displayed on the overview page.

---

<sup>17</sup> If the access data of the communication users are stored in the BTP, the "System assignment" tab in the AdminCockpit is not available.

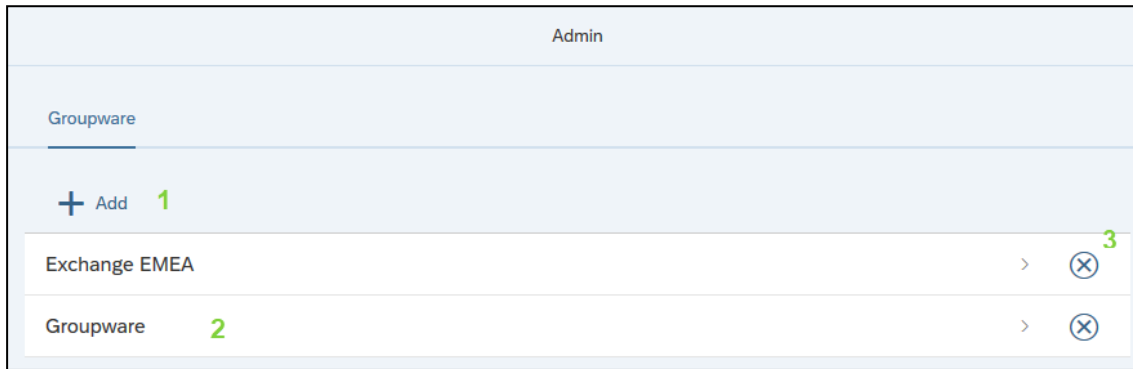


Figure 34: Groupware overview

- 1) **+ Add:** This button can be used to create a new Exchange configuration.
- 2) **Selection:** If you click on an existing line, you can change the details of the Exchange server.
- 3) **Delete:** The delete button can be used to delete an existing Exchange configuration. This is only possible if the Exchange server is no longer assigned to a user.

The configuration of new or existing Exchange servers is edited on a detail page.

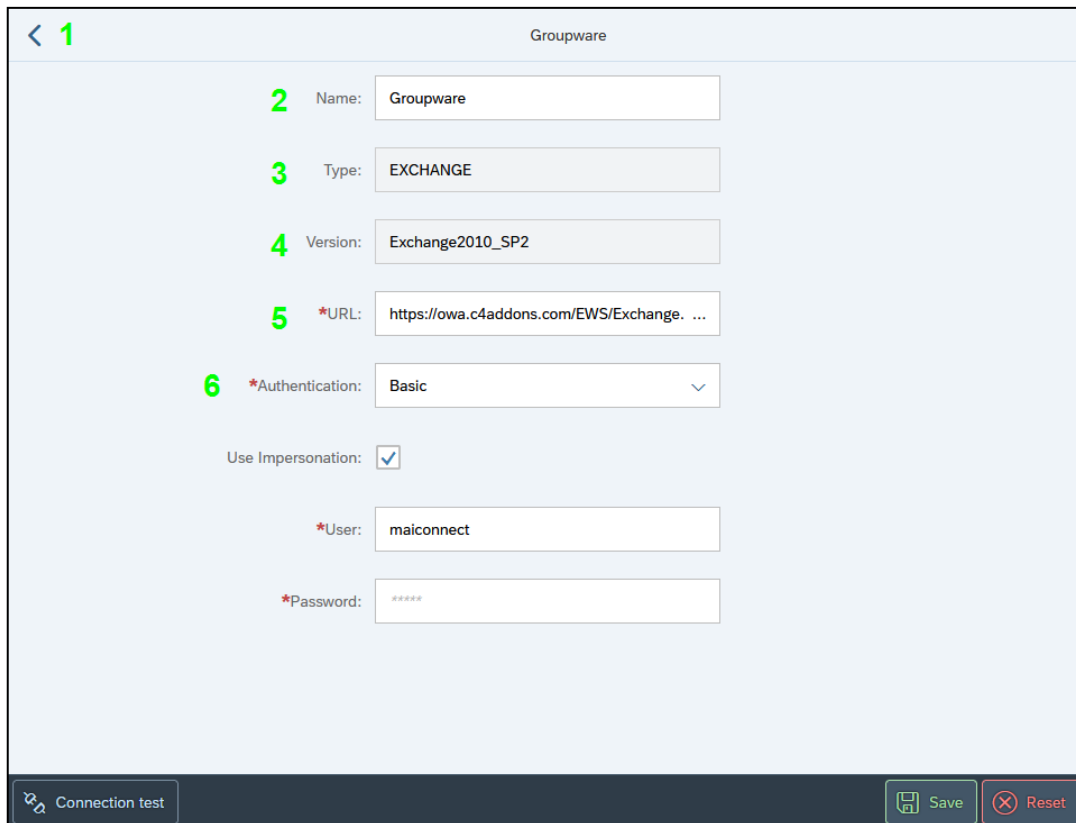


Figure 35: System assignment - Groupware

Click on (1) to return to the overview page.

The name (2) identifies each groupware instance.

Currently only “Exchange” is supported as type (3) and is preselected because of that.

For the Exchange version (4) the version is “Exchange2010\_SP2 is preselected and cannot be changed. This is the most recent version of the EWS interface and is compatible with the following Exchange server versions: Exchange 2010 SP2, Exchange 2013, Exchange 2016 and Exchange Online (Office 365).

In the field 'URL' (5) the URL of the Groupware system which processes the EWS calls is specified. It is important that the path /EWS/Exchange.asmx is added at the end of the URL.

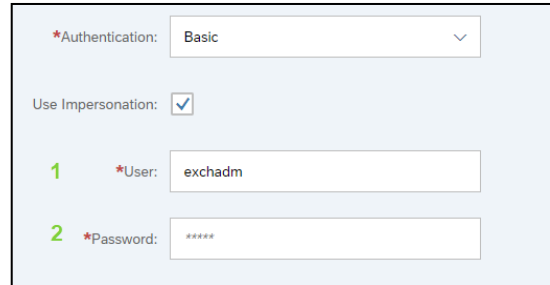
The selection of the authentication method (6) for the connection to the Groupware influences the additional setting options, which are available below. The authentication methods available for selection are Basic, OAuth & Client Certificate. The options associated with these authentication methods are described in more detail below:

**Basic Authentication**

If 'Basic' is selected as the authentication method, the user name (1) and password (2) of the Exchange communication user must be specified.

The option "Use impersonation" must be activated if the access to the mailboxes of the individual users is controlled via the RBAC role Application Impersonation.

Instead of giving the communication user access to the Exchange account of each individual maiConnect user, the communication user takes on the role of the employee with this setting.



The screenshot shows a configuration form for Basic authentication. At the top, there is a dropdown menu for '\*Authentication:' set to 'Basic'. Below it is a checkbox for 'Use Impersonation:' which is checked. There are two input fields: '1 \*User:' containing 'exchadm' and '2 \*Password:' containing '\*\*\*\*\*'.

Figure 36: Basic authentication



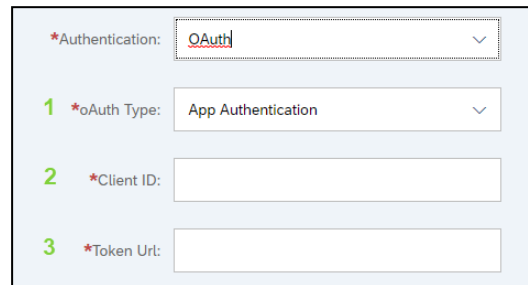
If impersonation is enabled, the requests are sent to the Exchange server by the communications user alone - and not by the individual employees themselves. This setting reduces the load on the Exchange server and prevents it from not responding if a large number of requests are received.

Due to these factors, we recommend the use of impersonation wherever possible. A throttling policy does not have to be set up in that case.

**OAuth – App Authentication**

In order to use OAuth as authentication, maiConnect must first have been registered as an application in the Microsoft Azure AD.

If you set the OAuth App Authentication (1) in the AdminCockpit, you also need the Client ID (Application ID) (2) and the Token URL (3). You will receive this data when you register maiConnect in the Microsoft Azure AD. Contact your Azure Admin for more information.



The screenshot shows a configuration form for OAuth App authentication. The '\*Authentication:' dropdown is set to 'OAuth'. Below it is a dropdown for '1 \*oAuth Type:' set to 'App Authentication'. There are two empty input fields: '2 \*Client ID:' and '3 \*Token Url:'.

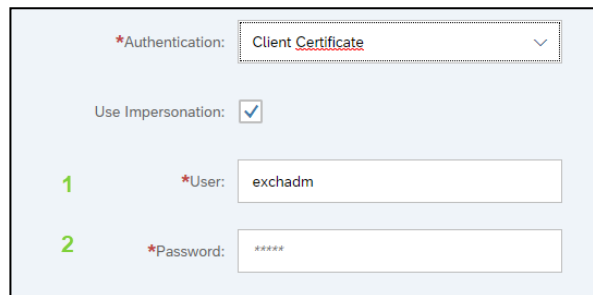
Figure 37: OAuth App authentication

**Client Certificate**

The "Client Certificate" option can be used as an authentication method if the connection to the Exchange server has been set up in a certified manner.

In this case - as with Basic Authentication - the user name (1) and password (2) of the Exchange communication user must also be specified.

The "Impersonation" option is also available here, as it is for Basic Authentication.



The screenshot shows a configuration form for Client Certificate authentication. The '\*Authentication:' dropdown is set to 'Client Certificate'. Below it is a checkbox for 'Use Impersonation:' which is checked. There are two input fields: '1 \*User:' containing 'exchadm' and '2 \*Password:' containing '\*\*\*\*\*'.

Figure 38: Client Certificate authentication

## 8.5.2 User / Subscription

### 8.5.2.1 User

The maiConnect users are managed here. The employees, for whom maiConnect is to be activated, are entered in this user list. For this purpose, their business partner number or their e-mail address, which are stored at the employee in the S/4HANA, are entered. In addition to that, the language and the activated features must be specified.

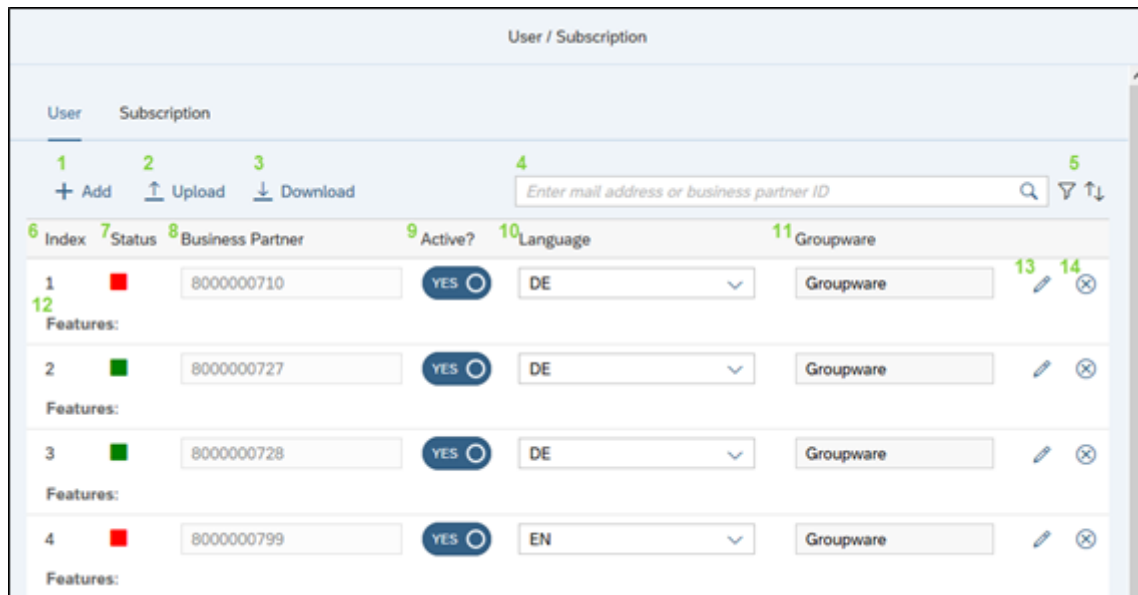


Figure 39: User list

- 1) **+ Add:** New employees can be added via this button. A dialog opens in which the user settings can be defined.
- 2) **Upload:** This button can be used to upload a .csv or .xlsx file with user information to comfortably activate multiple users at once. A corresponding template file can be provided by the maiConnect support.
- 3) **Download:** The current user list can be downloaded (filtered or unfiltered).
- 4) **Search bar:** The search bar can be used to filter the user list – one can search for business partner IDs as well as e-mail addresses.
- 5) **Filter- and Sorting:** Using these buttons one can filter / sort the user list (various options).
- 6) **Index:** Consecutive numbering for a better overview over the increasing number of users.
- 7) **Status:** Colored symbol that reflects the status of the subscription for the user entered in the respective line (see 3.1.1.3):
  - The subscription is active and valid. The exchange of messages between the Groupware and maiConnect should work.
  - This subscription is not yet valid or is no longer valid. If the user has just been added, just wait and refresh the page. If the user was already active before, a tooltip with an error message is now displayed as soon as you mouseover the red box.
- 8) **Business Partner ID:** Either the business partner number or the e-mail address of the employee is entered here.

- 9) *Active?*: Individual users can be deactivated using this column, so that no more synchronization takes place for these users. By default, all users are active.
- 10) *Language*: DE or EN. Relevant for the creation of synchronization folders in the Groupware (e-mail and opportunity synchronization).
- 11) *Groupware*: The assigned Exchange server of the user is listed here. This assignment cannot be changed later. If the Exchange server assignment of a user changes, the user must be deleted and recreated.
- 12) *Features*: In the future the activated features are listed here for each user. For example, once the e-mail synchronisation feature is available.
- 13) *Edit*: This button opens the "Add/Edit User" dialog box (see Figure 42). Here individual features can be activated and deactivated for the user.
- 14) *Delete*: This button can be used to delete the data record for a user from the user list.

#### 8.5.2.1.1 Filtering

The filter field can be used to search for a specific user number or e-mail address by entering it. If the number is searched for, several users can be filtered out by an incomplete entry, e.g. "799" finds all users containing 799.

If the user list is to be restricted by other filter criteria, another filter dialog can be opened.

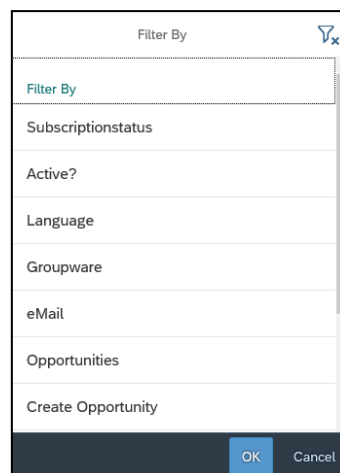




Figure 40: Filter criteria

These filters can be combined with each other. The simultaneous search via the user number and the additional filters is unfortunately not yet possible.

Via the button  the filter will be reset.

 If a filter is active, no new employees can be added. The corresponding buttons in the lower toolbar are disabled.

#### 8.5.2.1.2 Sorting

The user list can be sorted by all columns. Click on the button to open the following dialog.

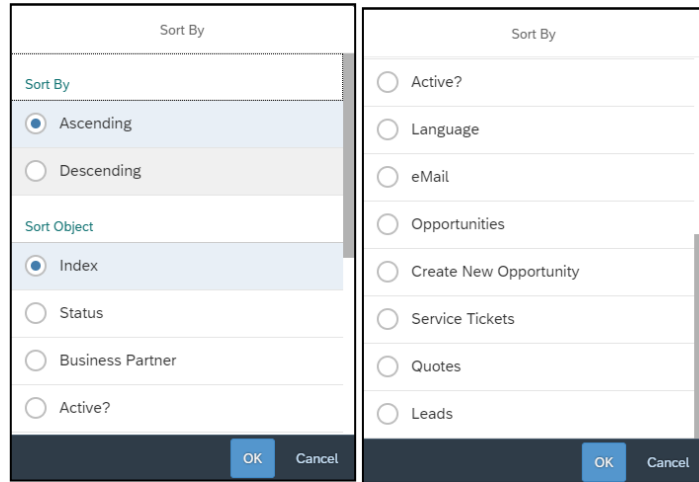


Figure 41: Sorting options

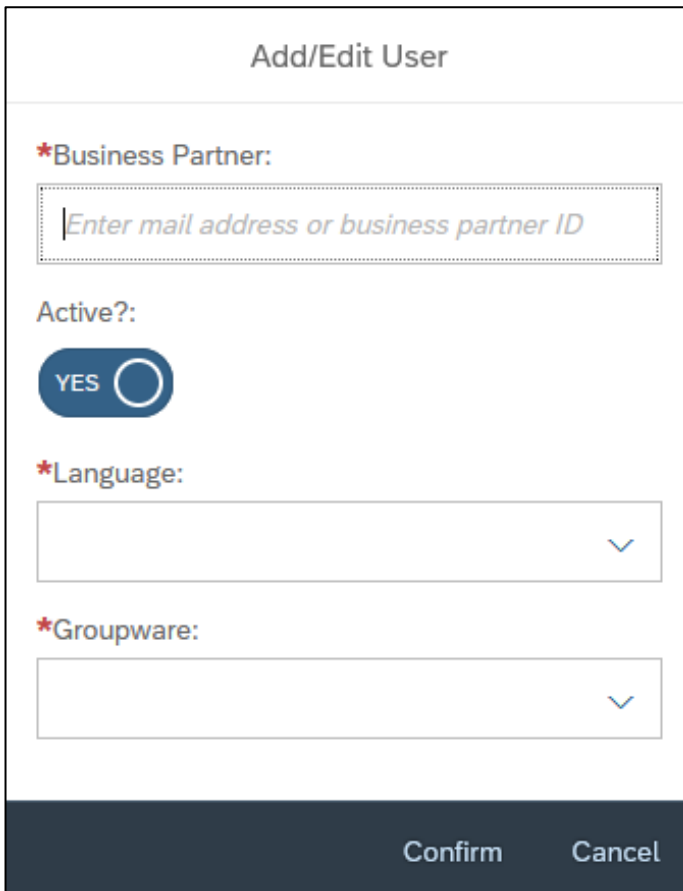
Here you can select the sort order and the sort field. If you click OK, the user list is sorted accordingly.

### 8.5.2.1.3 Add users

#### Add single user



Individual users are added to the user list via the "Add" button. The following dialog is displayed after that button is used:



The business partner number or e-mail address of the new user is entered here, and the language is selected via the drop-down field. The active switch can be used to select whether the user is to be created as an active user. The user language is selected via the dropdown field. The groupware selection field is used to select the assigned Exchange server of the user.

Afterwards you can save the registered users by clicking on the corresponding button in the action bar at the bottom right.



Figure 42: Add single user

### Add several users (Mass-Upload)

Via the button 'Upload' a .csv or .xlsx file can be uploaded, in which the data of several users are stored. This makes it easy to activate a large number of users at the same time.

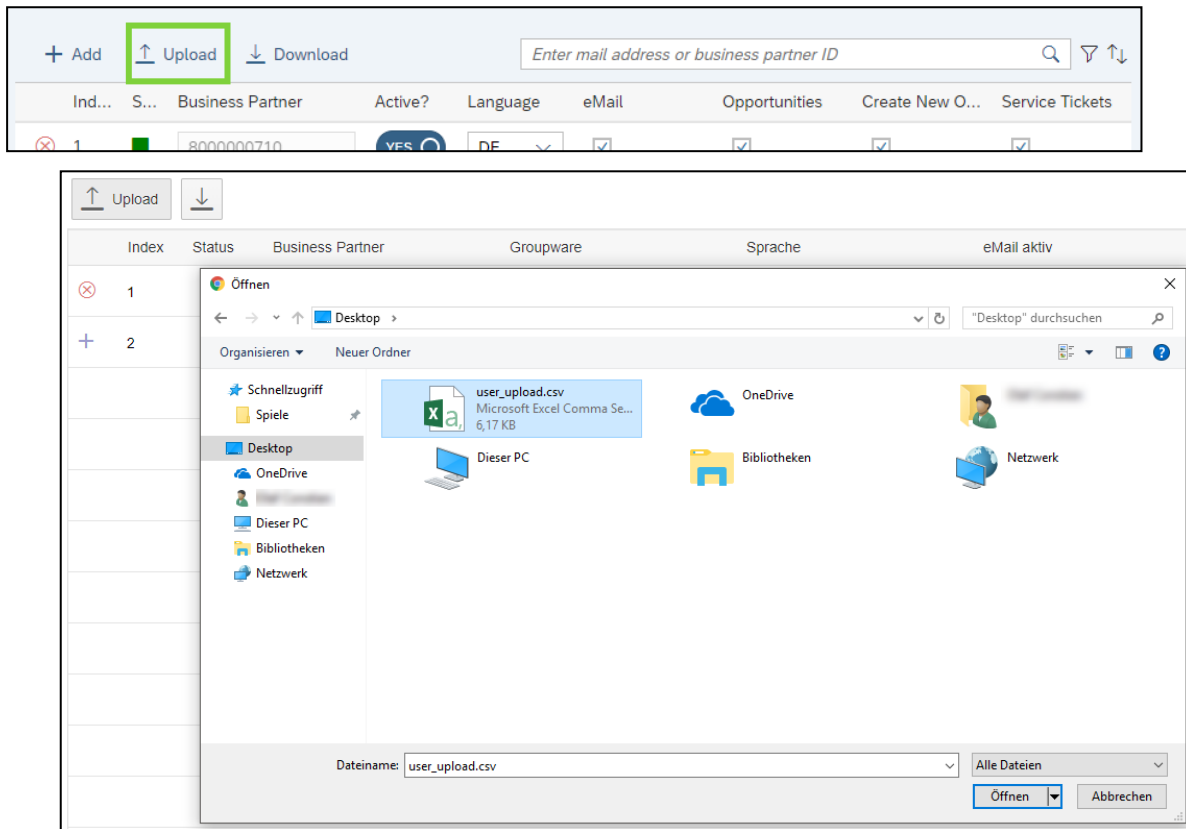


Figure 43: Mass upload - data selection



When saving newly added users, queries are sent in the background to maiConnect as well as to S/4HANA and Exchange in order to create a subscription for the new users. If you use the mass upload and save several users at once, it may take a little longer until all newly added users have been assigned a subscription.

To add several users, they must be entered into a .csv or .xlsx file as preparation in a certain format:

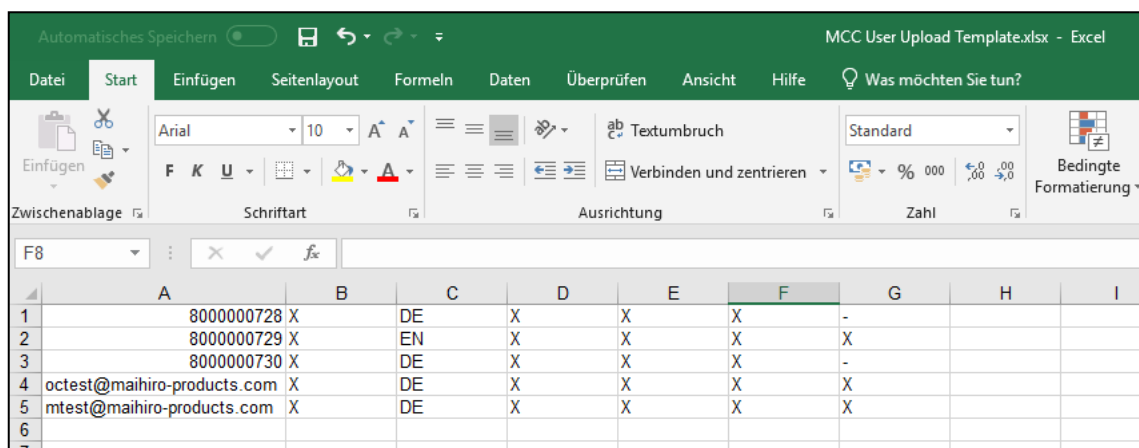


Figure 44:.xlsx file for mass upload

It must contain the business partner number (alternatively also the e-mail address), the active status, the abbreviation for the language and information about which features are to be activated for the user.



In the .xlsx document, the data can be entered separately in individual cells. The features can be enabled (true) or disabled (false). In the .csv file, a user's data is written to a cell separated by commas. An 'X' can be set for the activation of a feature, a '-' for the deactivation.

The prepared file is selected in the dialog window for the upload (Figure 10) and after a short loading time you get an overview of the contained data in a confirmation window:

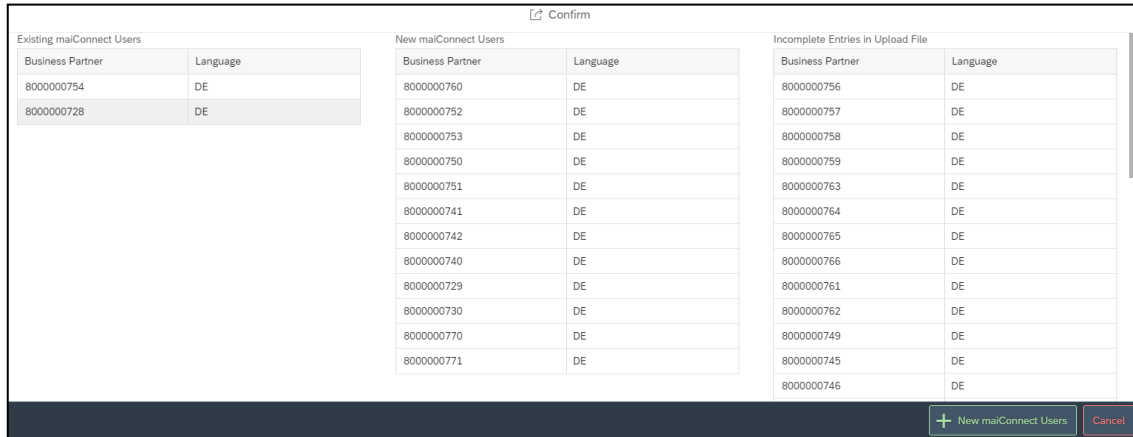


Figure 45: Dialog window to confirm the mass uploads

The confirmation window is divided into three parts. If users with a business partner ID are entered in the source file, who are already stored in the user list of the AdminCockpit, they are listed in the left area.

In the right area, users are listed for whom the data record in the source file is either incomplete or for whom there is no valid entry in the S/4HANA under the business partner ID or e-mail address. The same applies to users who are to be added using the e-mail address, but whose corresponding business partner number has already been entered in the AdminCockpit.

New data records that are complete in the source file and exist in the S/4HANA are listed in the middle area. With a click on the button "+ New maiConnect users" these data records are taken over as new users in the AdminCockpit. Subsequently, the users must be saved via the corresponding button.



The administration of users is only possible after the system details for CRM and Groupware have been stored under "System Assignment" or in the SAP Technology Platform (BTP).

**Exemplary feedback when adding users**

When newly added users are saved, there will be a confirmation message indicating whether the user(s) could be saved or whether there was a problem. The following is an example of some of the messages that may appear:

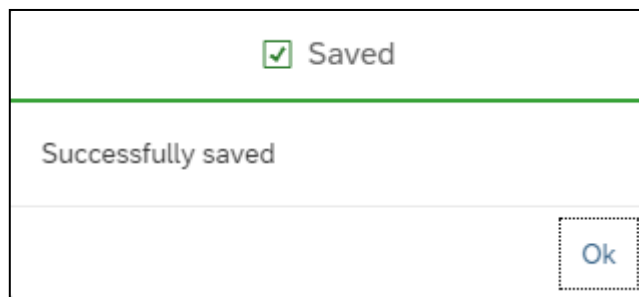


Figure 46: Saving was successful.

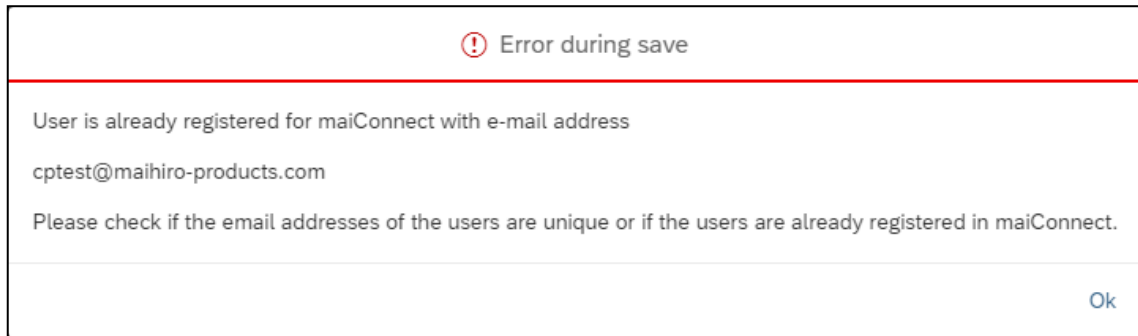


Figure 47: Error during saving: User is already registered

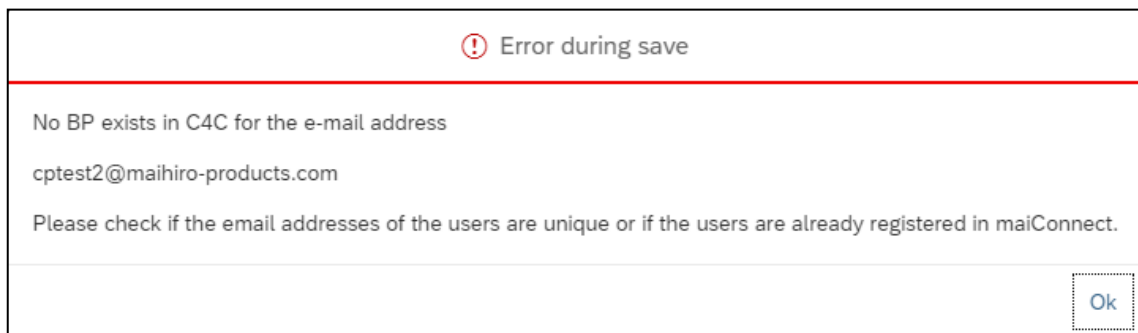


Figure 48: Error during saving: No business partner with this email in S/4HANA

The error messages that can occur here provide information about the cause of the problem so that a business administrator can correct them.



Newly added users do not have a valid subscription immediately after saving. The subscription status is initially displayed in red. Update the display by reloading the AdminCockpit to see the correct status of the subscriptions.

#### 8.5.2.1.4 Subscription status

A valid subscription must be assigned to the user so that objects can be correctly synchronized from the Groupware towards S/4HANA. The "Status" column in the user list provides information on the status of the subscription. If the status symbol is red, this indicates an invalid subscription. If you move the mouse over the red box, you will get a tooltip with further information about the cause of the error.

##### ■ The user's subscription is valid [OK]

The subscription has been created and is valid.

##### ■ Error accessing S/4HANA system [S/4HANA ACCESS ERROR]

The S/4HANA system is temporarily unavailable or the S/4HANA communication user lacks authorizations.

##### ■ Unauthorized access to S/4HANA system [S/4HANA ACCESS DENIED: UNAUTHORIZED (401)]

Access to the S/4HANA was not granted due to missing or invalid credentials of the S/4HANA communication user.

##### ■ Business partner in S/4HANA not found [S/4HANA BUSINESS PARTNER NOT FOUND]

A business partner with the specified number or e-mail address was not found in the S/4HANA.

##### ■ User has no email address in S/4HANA [NO MAIL ADDRESS]

There is no e-mail address stored for the business partner with the specified number.

- **Exchange error item not found [GW ITEM NOT FOUND]**

A folder or subfolder (including calendar, tasks, contact list) was not found or is not accessible.
- **Exchange error access denied [GW ACCESS DENIED]**

The Exchange communication user does not have the required administration rights.
- **Missing access rights to Outlook inbox [GW NO ACCESS RIGHTS]**

The Exchange communication user has no / insufficient access rights to the inbox.
- **Exchange access denied while creating an item [GW CREATE ITEM ACCESS DENIED]**

The Exchange communications user has no authorization to create the maiConnect synchronization folders for e-mail and/or opportunity synchronization in the inbox.
- **Exchange access denied while accessing a subfolder [GW CREATE SUBFOLDER ACCESS DENIED]**

The Exchange communication user does not have permission to create the subfolder(s) in the Inbox.
- **Exchange error accessing the subscription [GW SUBSCRIPTION ACCESS DENIED]**

The Exchange communication user does not have permission to access the subscription. This can occur if the communication user has been replaced and the newly entered communication user wants to access a subscription that was created before the replacement.
- **Exchange error invalid watermark [GW INVALID WATERMARK]**

The watermark (timestamp of the last change) that is saved to synchronize the subscriptions is not valid.
- **Mailbox does not exist in Exchange [GW NON EXISTENT MAILBOX]**

There is no mailbox on the Exchange server for the specified / stored e-mail address.
- **Error accessing Exchange [GW CONNECTION ERROR]**

Connection to Exchange server not possible. Possible causes are limitations due to the throttling policy, incorrectly stored access data of the communication user or the server is temporarily unavailable.
- **Unknown error in exchange [UNKNOWN EXCHANGE ERROR]**

Error on Exchange side that has not been categorized yet. Please contact the maiConnect support regarding this.
- **Unknown internal error [UNKNOWN INTERNAL ERROR]**

General error that has not yet been categorized. Please contact the maiConnect support regarding this.

### 8.5.2.1.5 Download user list

The current user list in the AdminCockpit can be downloaded via the button shown on the right. Active filters and sorting are considered. For example, you can download only those users in a list for whom there is no valid subscription (see 3.1.1.1).

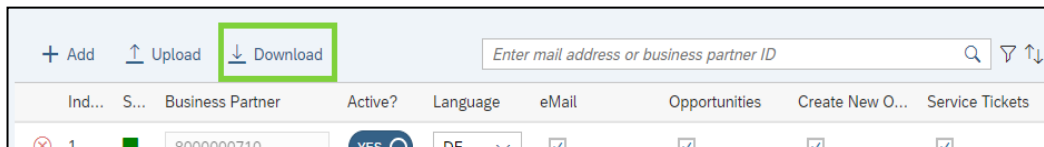


Figure 49: Download user list button

### 8.5.2.2 Subscription

In the 'Subscription' tab, you can set exactly which objects (appointments, contact persons, tasks) and which use cases (creation, update, deletion) are to be synchronized from the Groupware in the direction of CRM. The setting made here applies globally to every maiConnect user in this system:

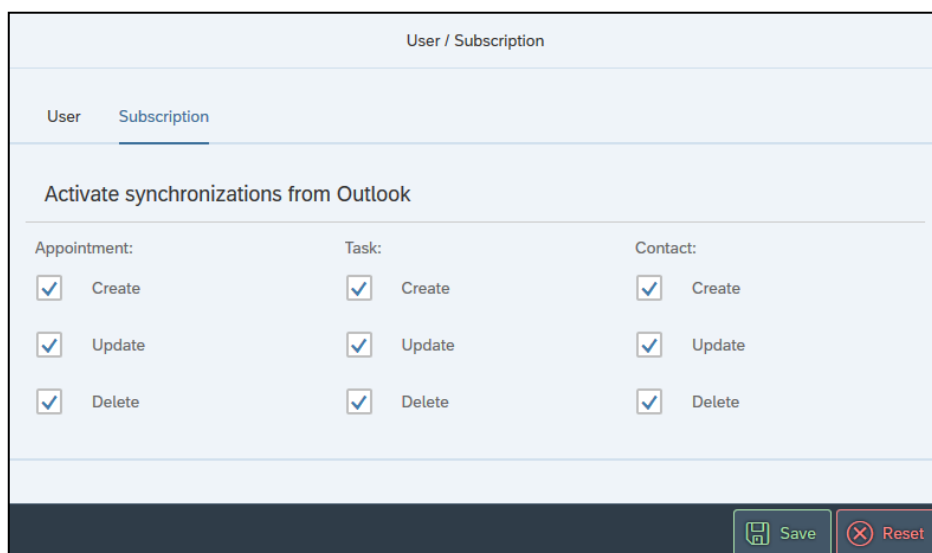



Figure 50: Activate synchronization for appointments, contact persons and tasks

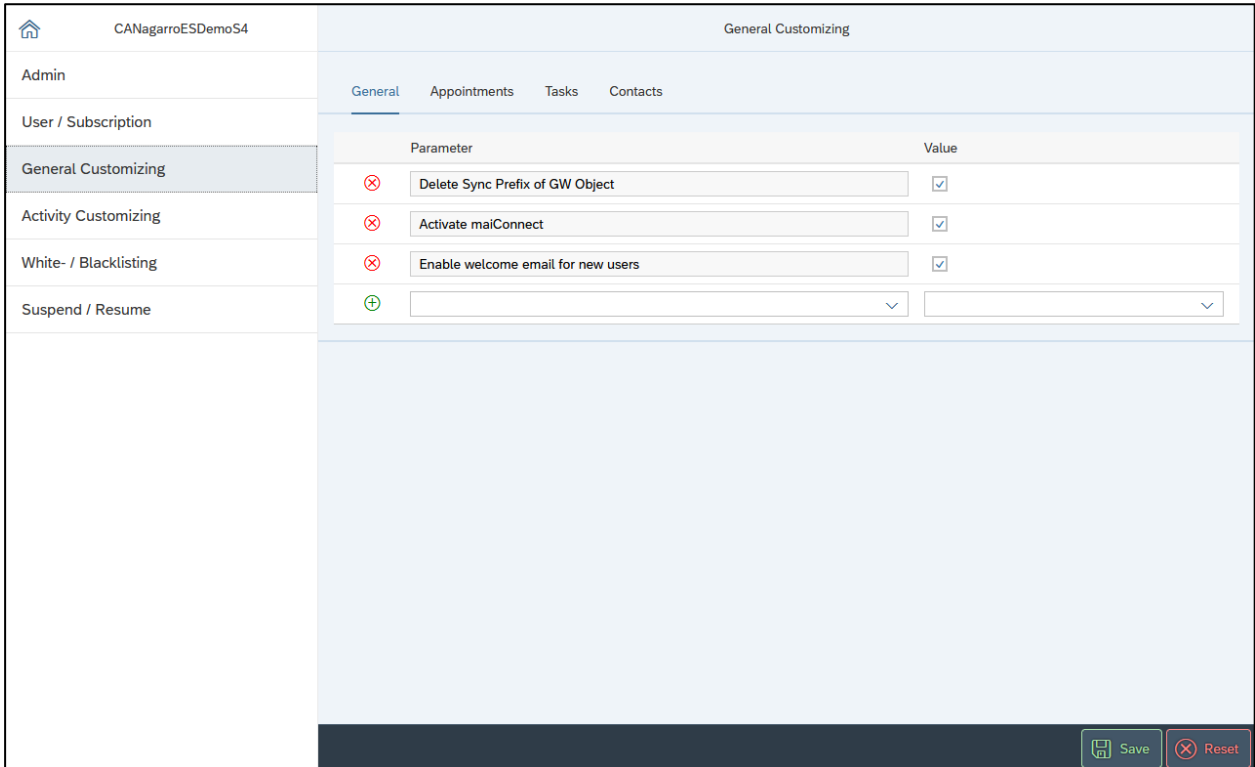
 The synchronization of contact persons is only available in the Professional and Enterprise versions.

### 8.5.3 General Customizing

The General Customizing is used to manage the central settings for maiConnect@S4. Activated parameters / settings are listed - deactivated options can be selected and activated via the drop-down menu of the input field.

The parameters are divided into 4 sections:

- 1) General: General maiConnect@S4 settings are listed here.
- 2) Appointments: Here you can configure parameters for appointment synchronization.
- 3) Tasks: Here parameters for task synchronization are configured.
- 4) Contacts: Here the parameters for contact synchronization are configured.



Parameter	Value
<input checked="" type="checkbox"/> Delete Sync Prefix of GW Object	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Activate maiConnect	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Enable welcome email for new users	<input checked="" type="checkbox"/>
<input type="checkbox"/> [Parameter Name]	<input type="checkbox"/>

Figure 51: General customizing

The individual parameters are listed and explained on the following pages.

### 8.5.3.1 General

#### Activate maiConnect

[Check box] Via this parameter maiConnect can be globally activated or deactivated. If the parameter is not active, maiConnect does not synchronize any objects.

#### Delete the sync prefix of GW object

[Check box] If the initial synchronization of Groupware objects towards S/4HANA is controlled by a sync prefix, this parameter can be used to remove the prefix from the description of the Groupware object after successful synchronization. At the S/4HANA object it is not even taken over with activated parameter.

#### GW category for successful synchronization

[Free text field] Defines the name of the category that is assigned to the Groupware objects after successful synchronization.

#### Activate service ticket assignment synchronization

[Check box] With this option the synchronization of service ticket assignments can be activated. Service tickets that are assigned to a service technician via the resource planner in the S/4HANA are thus transferred to the Outlook calendar as appointments.

#### Disable synchronization of activities by category

[Check box] This option allows the initial synchronization via Exchange category to be disabled. For example, if whitelisting is enabled for appointment synchronization without moving a user to the whitelist (or if blacklisting is active), appointments can be initially synchronized using either a preset sync prefix or an Exchange category. The latter can be prevented with this option, so that the initial synchronization from Exchange is only possible via sync prefix.

#### Enable welcome mail for new users

[Check box] With this option the generation of a user welcome mail can be activated. New maiConnect users will receive a welcome mail if activated. The sender of the email is the communication user in the customers Exchange server.

#### **S/4HANA business role for the registration as maiConnect user**

[Free text field] This option configures a S/4HANA user role. If new users are created in S/4HANA and have assigned this role, these are automatically created as new maiConnect users. As a precondition, a corresponding event notification must be configured in S/4HANA.

#### **Automatically deactivate expired S/4HANA users**

[Check box] If this option is enabled, the system checks every night whether maiConnect users have lost their validity in the S/4HANA. If so, they will be deactivated in maiConnect.

### **8.5.3.2 Appointments**

#### **Sync prefix of appointments**

[Free text field] Defines a prefix for the initial synchronization of appointments from the Groupware in direction S/4HANA. If the prefix selected here is prefixed to the description of an appointment in the Groupware, synchronization takes place.

#### **Sync prefix of phone calls**

[Free text field] Defines a prefix for the initial synchronization of telephone calls from the Groupware towards S/4HANA. If the prefix selected here precedes the description of an appointment in the Groupware, synchronization and categorization as a telephone call takes place.

#### **Sync category of phone calls**

[Free text field] This parameter allows you to define a category with which an appointment from the Groupware can be initially synchronized into the S/4HANA. In the S/4HANA, this appointment is then created as a telephone call.

#### **Sync category of appointments**

[Free text field] This parameter can be used to define a category with which appointments from the Groupware can be initially synchronized.

#### **Recreate phone calls if not found in mailbox**

[Check box] If this parameter is active, a previously synchronized phone call that has been deleted from the Groupware in the meantime will be recreated when it is updated in the S/4HANA.

#### **Recreate appointments if not found in mailbox**

[Check box] If this parameter is active, a previously synchronized appointment, which has been deleted from the Groupware in the meantime, is recreated when it is updated in the S/4HANA.

#### **Synchronize private appointments**

[Check box] This option can be used to activate the synchronization of private appointments from the Groupware towards S/4HANA.

#### **Sync optional attendees**

[Check box] This parameter can be used to control if optional participants of a Groupware appointment should be synchronized in direction of S/4HANA or not. If this parameter is active, optional participants are listed in the S/4HANA as normal participants.

#### **Responsible employee ID for externally organized appointments**

[Free text field] With this option you can activate the feature that externally organized Exchange appointments for a maiConnect user are synchronized towards S/4HANA. The value must be a business partner ID for an employee. This employee is then used in the appointment as organizer and responsible employee.

#### **Activate synchronization of recurring appointments**

[Checkbox] This parameter is used to switch the synchronization of recurring appointments on and off.

#### **Limit of synchronization for recurring appointment elements in the future (max 180 days)**

[Text field] This parameter can be used to determine how many days in the future maiConnect will consider when synchronizing recurring appointments. If the maximum value of 180 days is used here, maiConnect synchronizes only those elements that lie up to 180 days in the future, even with endless appointment series.

#### **Limit of synchronization for recurring appointment elements in the past (max 30 days)**

[Text field] maiConnect enables the synchronization of recurring appointments whose start lies in the past. This parameter can be used to determine up to how many days in the past (maximum 30 days) maiConnect synchronizes recurring appointments.

#### **Status of recurring appointment elements in the past**

[Dropdown] This parameter can be used to specify which status the elements of a recurring appointment that were lying in the past during the initial synchronization should receive. Possible values are "Cancelled", "Complete", "In process" and "Open". If this parameter is not set, the status "Complete" is automatically selected for those elements of a series which are lying in the past when initially synchronizing.

### **8.5.3.3 Tasks**

#### **Sync prefix of tasks**

[Free text field] Defines a prefix for the initial synchronization of tasks from the Groupware in direction S/4HANA. If the prefix selected here precedes the description of a task in the Groupware, synchronization takes place.

#### **Sync category of tasks**

[Free text field] This parameter can be used to define a category with which tasks from the Groupware can be initially synchronized.

#### **Recreate tasks if not found in mailbox**

[Check box] If this parameter is active, a previously synchronized task, which has been deleted from the Groupware in the meantime, is recreated when it is updated in the S/4HANA.

### **8.5.3.4 Contacts**

#### **Relation between contact and maiConnect user<sup>18</sup>**

[Free text field] Relevant for contact synchronization (Professional & Enterprise). The relationship code that was created in the "Business configuration" in the S/4HANA for the corresponding relationship is entered here. Individual contacts to the maiConnect employee can be synchronized via this relationship type.

#### **Relation between account and maiConnect User**

[Free text field] Relevant for contact synchronization (Professional & Enterprise). The relationship code that was created in the "Business configuration" in the S/4HANA for the corresponding relationship is entered here. This relationship type is used to synchronize all contact persons of a customer with the maiConnect user.

#### **Relation between Account and Contact**

[Free text field] Relevant for contact synchronization (Professional & Enterprise). Defines the connection between S/4HANA account (customer) and contact person (SAP standard is: BUR001).

#### **Role of Contacts**

[Free text field] Defines the role that a S/4HANA business partner must have to be a contact person (SAP default is: BUP001).

---

<sup>18</sup> This parameter is required for initial synchronization of contacts from Outlook.

**Recreate Contacts if not found in Mailbox**

[Check box] Relevant for contact synchronization (Professional & Enterprise). If this parameter is active, a previously synchronized contact, which has been deleted from the Groupware in the meantime, is recreated when it is updated in the S/4HANA.

**Synchronization action for obsolete contacts**

[Drop-down field] Relevant for contact synchronization (Professional & Enterprise). This parameter determines what happens during contact synchronization with contacts who are marked as 'obsolete' in the S/4HANA. There are 3 options:

*Stop synchronization:* Contact persons flagged as 'obsolete' are not synchronized.

*Synchronize contact:* Obsolete contact persons are also synchronized.

*Delete contact in mailboxes:* A synchronization of obsolete contact persons does not take place. The system checks whether the corresponding contact person already exists in the mailbox of the maiConnect employee and then deletes it.

**Threshold for the recognition of duplicates (in %)**

[Free text field] Relevant for the creation of contacts from the groupware (Professional & Enterprise). This parameter is used to determine the percentage of match above which a contact is recognized as a duplicate.

**Sync category of Contacts**

[Free text field] This parameter is used to specify a category that triggers the creation of contacts from the groupware. Also, this category will be assigned to all synchronized Outlook contacts.

**Sync prefix of Contacts**

[Free text field] This parameter is used to specify a prefix that triggers the creation of contacts from the groupware.

**Automatic creation of non-existent accounts**

[Check box] If this parameter is active when creating contacts and account information is available in Outlook, then an account is created in S/4HANA.

**Deactivate the synchronisation of personal data of contacts**

[Check box] If this parameter is active, personal data (private address, personal e-mail address and telephone number) are not synchronised during contact synchronisation.



## 8.5.4 Activity Customizing

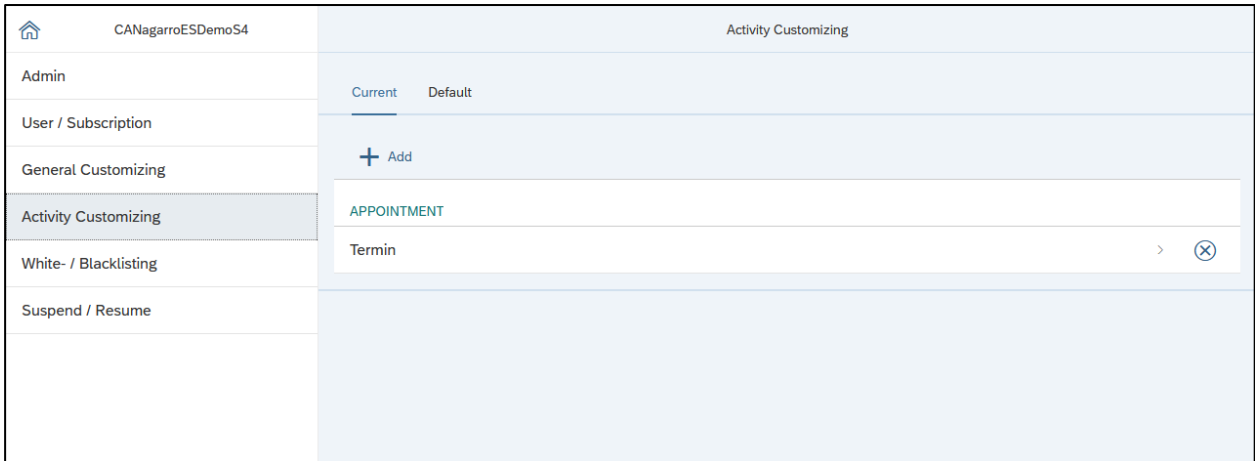


Figure 52: Activity customizing

Activity Customizing in the AdminCockpit is used to manage the transaction types whose objects are to be synchronized from S/4HANA into Groupware. Activity Customizing also controls which category is used to create appointments and tasks out of the Groupware in S/4HANA.

### 8.5.4.1 All activities

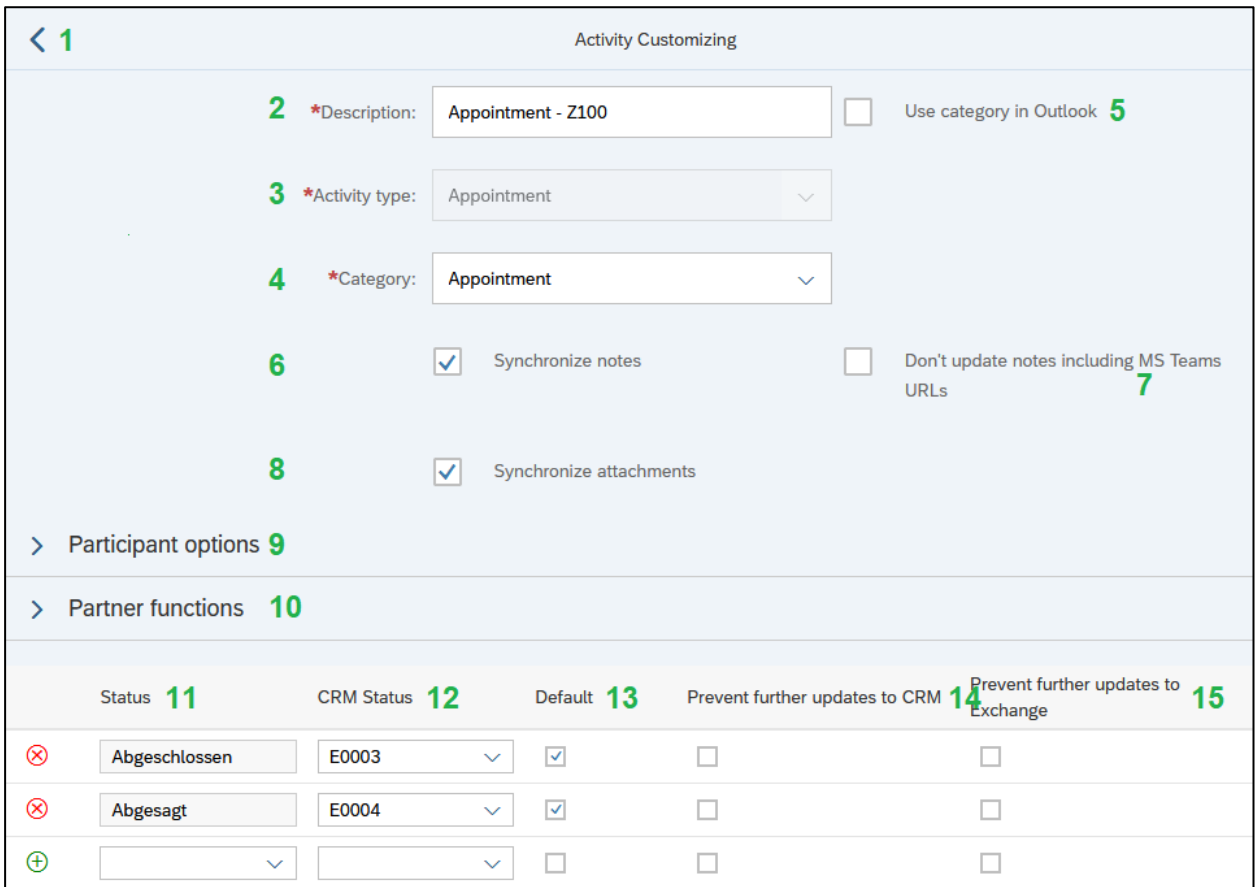


Figure 53: Configuration of an activity type (appointment, phone call)

Under the "All" tab, the process types of the objects that you want to synchronize from the S/4HANA in direction Groupware are created. Existing entries can be edited by clicking on the corresponding line. A

click on the button "+ Add" opens the input mask shown in Figure 55, in which the following information must be entered:

- 1) *Back to the activities list*
- 2) *Description*: [Free text field] Description of the transaction type – the name can be freely chosen.
- 3) *Activity type*: [Drop-down field] Here you can choose between the 3 activity types: appointment, phone call and task. The selection influences the options available for participants in the area below.
- 4) *Category*: [Drop-down field] Here you can select one of the categories that are stored in the "Business configuration" of the S/4HANA for the selected activity type.
- 5) *Use category in outlook*: [Check box] If this option is activated the activity type's description is being taken over as category to Outlook
- 6) *Synchronize notes*: [Check box] This option can be used to control whether maiConnect synchronizes notes for the respective activity type or not.
- 7) *Don't update notes including MS Teams URLs*: [Check box] This option can be used to control whether note updates from C4C are synchronized. If enabled and the note contains an MS Teams invitation link, then Note In Outlook will not be updated.
- 8) *Synchronize attachments*: [Check box] This option controls whether maiConnect synchronizes attachments for each activity type or not.
- 9) *Participants options*

*Transfer organizer*: [Check box] This field is mainly used for transparency. The organizer of an activity is always synchronized with it, so this option cannot be disabled.

*Transfer CRM contact*: [Check box] With this option it can be controlled whether contact persons are synchronized from S/4HANA to Exchange for the respective activity type or not.

*Transfer Exchange contact*: [Check box] With this option it can be controlled whether contact persons are synchronized from Exchange to S/4HANA for the respective activity type or not.

*Transfer CRM attendee*: [Check box] This option can be used to control whether participants are synchronized from S/4HANA to Exchange for the respective activity type or not.

*Transfer Exchange attendee*: [Check box] This option can be used to control whether participants are synchronized from Exchange to S/4HANA for the respective activity type or not.

*Remove CRM attendee from appointment on declination*: [Check box] This option can be used to control that participants who reject an Outlook appointment are removed from the corresponding S/4HANA appointment.<sup>19</sup>

#### 10) *Partner functions*

*Default contact partner function [Free text field]*: Here you can define die S/4HANA partner function for contacts. When a Outlook attendee is identified as a contact person, then this partner function is used in the S/4HANA activity. The default value is 00000015.

---

<sup>19</sup> If the Outlook appointment is cancelled, the relevant participants are removed from the S/4HANA appointment, but they are not removed from the organizer's Outlook appointment. If the organizer updates his Outlook appointment, synchronization takes place and the previously removed participant receives a new appointment invitation and is added back to S/4HANA.

*List of additional contact partner functions [Free text field]:* With this option you can define further contact partner functions, which will be synchronized in that activity as attendees in Outlook. Multiple values can be added by pressing enter.

*Default attendee partner function [Free text field]:* Here you can define die S/4HANA partner function for attendees. When a Outlook attendee is not a contact person but exists in S/4HANA as a employee, then this partner function is used in the S/4HANA activity. The default value is 00000032.

*List of additional attendee partner functions [Free text field]:* With this option you can define further attendee partner functions, which will be synchronized in that activity as attendees in Outlook. Multiple values can be added by pressing enter.

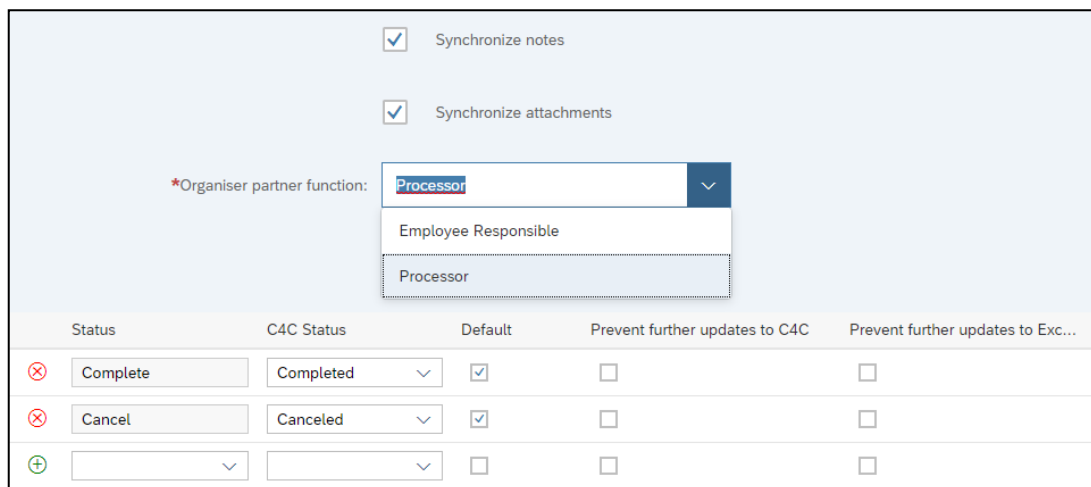
- 11) *Status:* [Drop-down field] With this option you can maintain various status values for the activity (Open, In process, Completed, Cancelled).
- 12) *S/4HANA Status:* [Drop-down field] The corresponding status value from the S/4HANA is selected here.
- 13) *Default Status:* [Check box] If activated, this status is set as the default status. There can only be one standard status for each status type. If an attempt is made to set another status of the same type as the default, a corresponding error message appears.
- 14) *Prevent further updates to S/4HANA:* [Check box] If enabled, updates to activities from the Groupware can be prevented if the activity is in the appropriate status.
- 15) *Prevent further updates to Exchange:* [Check box] If enabled, updates to activities can be prevented from S/4HANA if the activity is in the appropriate status.

Standardaktivität existiert bereits.



Points 11-15 form the Status Customizing. If the Status Customizing is not maintained, this has no effect on the synchronization from S/4HANA towards Groupware. However, deleting an activity in the direction of S/4HANA is not synchronized.

If the Status Customizing is maintained but no standard status exists for deletion (rejected), the corresponding S/4HANA status of the activity is not set to "Cancelled" if it is deleted in the Groupware.



The screenshot shows a configuration window with the following elements:

- Two checked checkboxes: "Synchronize notes" and "Synchronize attachments".
- A dropdown menu for "\*Organiser partner function:" with "Processor" selected. The dropdown list shows "Employee Responsible" and "Processor".
- A table for status customizing with the following columns: Status, C4C Status, Default, Prevent further updates to C4C, and Prevent further updates to Exc...

Status	C4C Status	Default	Prevent further updates to C4C	Prevent further updates to Exc...
⊗ Complete	Completed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
⊗ Cancel	Canceled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
⊕ <input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 54: Adding an activity type (task)

If an activity of the type "Task" is set up, the options for participants are not available. Instead, there is the "Partner Function Organizer" option. This specifies the mailbox to which a task is to be synchronized - that of the employee responsible (Employee Responsible) or that of the processor.

**!** Caution: If an activity is deleted from activity Customizing, a confirmation prompt is displayed in the form of a confirmation dialog. If you agree to the deletion here, the corresponding entry is removed immediately without having to save the changes in a dedicated way.

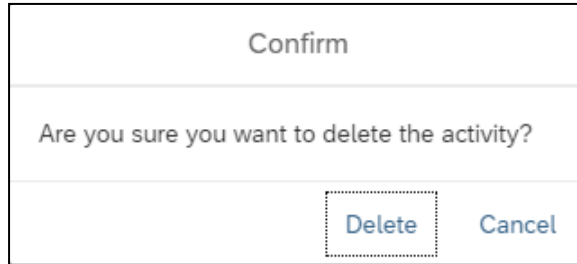


Figure 55: Confirmation window

### 8.5.4.2 Standard-Assignment

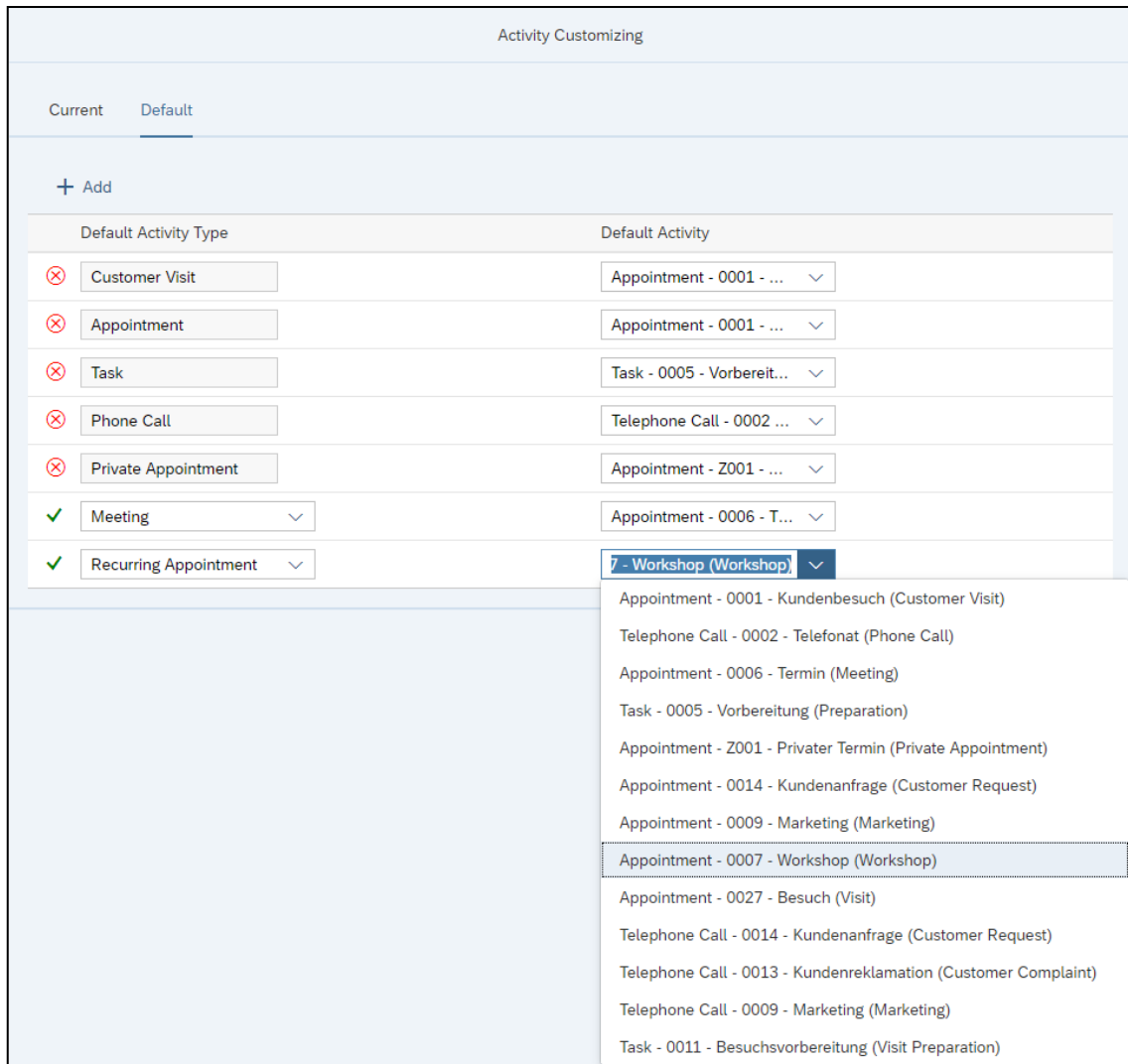


Figure 56: Standard assignments

Since there are no subcategories for appointments in Outlook, as it is the case in S/4HANA (e.g.: customer visit, meeting, marketing, ...), the standard assignment was introduced.

The activity types *Meeting*, *Customer Visit*, *Appointment*, *Task*, *Phone Call*, *Private Appointment* and *Recurring Appointment* can be assigned to a default activity via the standard assignment. This is used to create appointments from Outlook in the S/4HANA with the correct category if the initial synchronization was not initiated via a category<sup>20</sup>, but via the black/white listing.

To set up, a line is inserted via the "+ Add" button. On the left you can select the activity type via a dropdown menu, on the right the standard activity assigned to this type from activity customizing.

The following applies: In the S/4HANA, an appointment is created as an appointment if no participant is stored in the Outlook appointment. If internal participants are stored in the Outlook appointment, this becomes a meeting in the S/4HANA. An appointment is created in the S/4HANA as a visit if external participants are stored in the Outlook appointment. If neither a standard assignment for a customer visit nor a standard assignment for a meeting exists, a completely normal appointment is created in the S/4HANA. If a telephone call is created using a prefix or a category with participants, this is also created in the S/4HANA as a telephone call.

### 8.5.5 Realignment Report

Unfortunately, it can happen that the synchronization is interrupted due to temporary problems. For example, due to connection problems, SAP failures or a problem with maiConnect.

The Realignment Report was developed in order to easily correct any data inconsistencies that may have arisen. It can be used to search for all activities (appointments, visits, telephone calls, tasks) created/updated within a certain period of time and to start post-processing of non-synchronized elements.

The Realignment Report searches for objects that were created or updated in a defined period, but not synchronized. These can then be reprocessed. maiConnect automatically searches in both systems (CRM and Outlook) and compares the respective objects with each other so that the status of the most up-to-date item is adopted.

---

<sup>20</sup> If the initial synchronization is initiated via a prefix or a category, it is already possible to determine as what the corresponding objects are to be created in the S/4HANA.

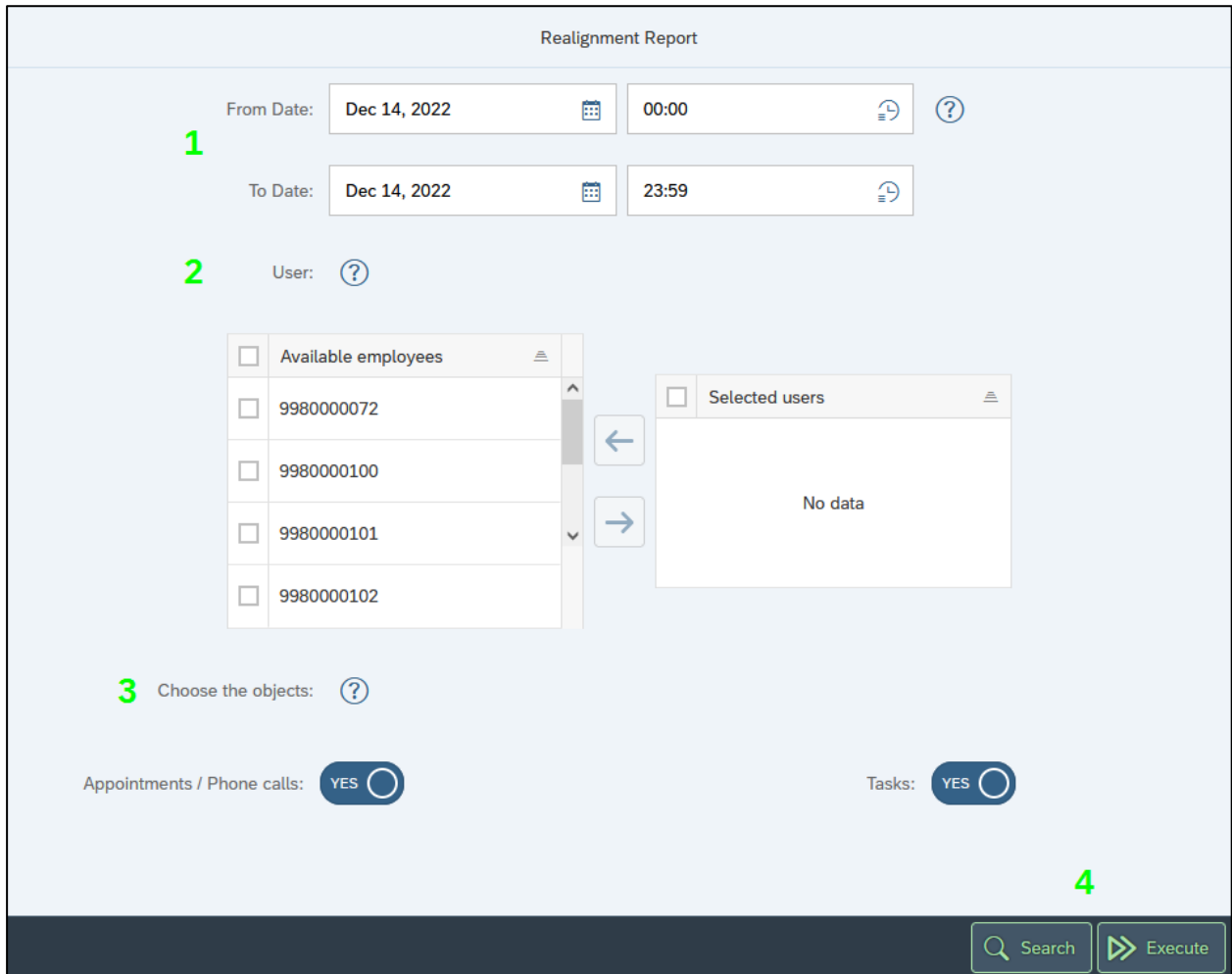


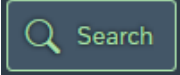


Figure 57: Realignment report

- 1) **Date and time selection:** This option is used to limit the period in which activities have been created or updated, but for which the relevant changes have not been synchronized yet.
  -  Please note: If you run the Realignment Report for just one user, a maximum search period of 7 days can be specified. If you select more than one user under 2), the search period cannot be longer than 24 hours.
- 2) **User:** Select the maiConnect employees for whom you want to search for non-synchronized activities. If you leave this field empty, the system automatically searches for the activities of all users.
- 3) **Object selection:** These two switches are used to determine exactly which activities are to be searched for.
  -  Please note: When searching for objects of the type Opportunity, Lead or Quote, the time span specified under (1) is irrelevant. For objects of these types, maiConnect searches for general changes that have not yet been synchronized - regardless of the time period.
- 4) **Search:** The first step after pressing the "Search" button that the search will be started. The search runs as a background process in maiConnect. The following status information is displayed:
 



**Execute:** With the button "Execute" the postprocessing is started directly with the set parameters.

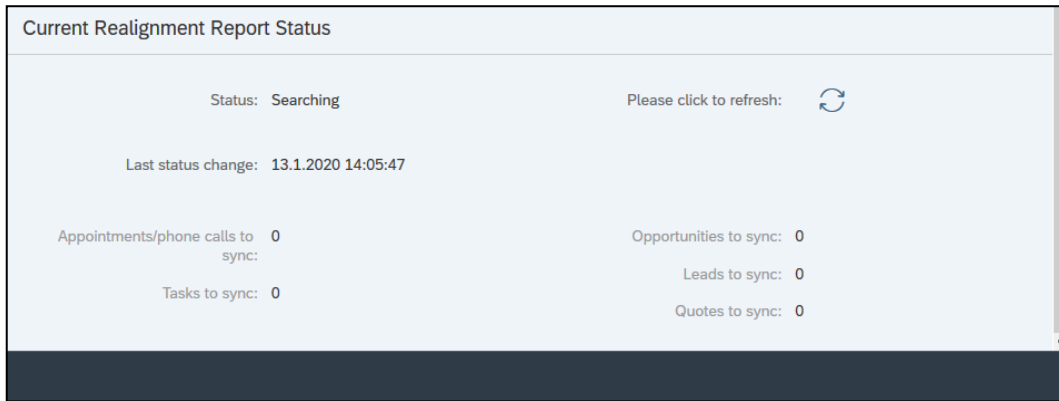


Figure 58: Realignment report – searching for objects

Please note: The page refreshes itself every 10 seconds. Additionally, the page can be refreshed via the refresh button.

The time “Last status change” shows when the status of the execution last changed.

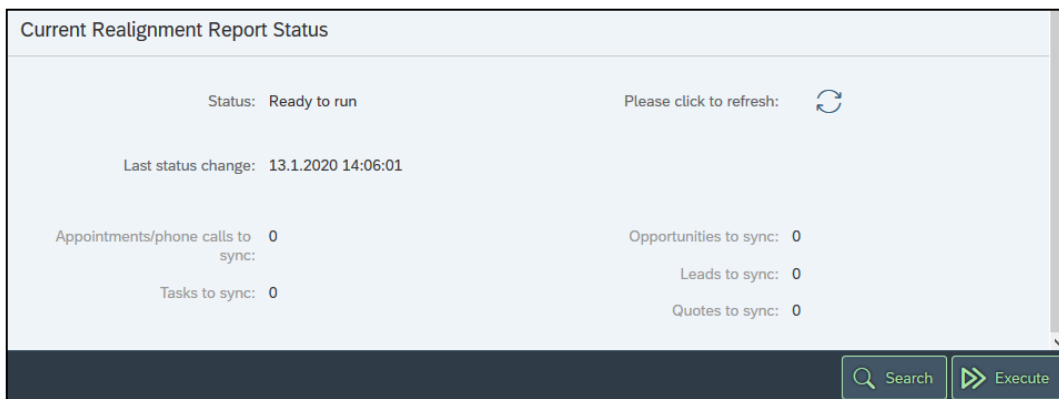
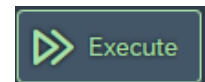


Figure 59: Realignment report - objects found

The number of found objects is displayed in the status area. If objects have been found that can be post processed, the “Execute” button is displayed.



When the post processing is executed, the status “Running” is displayed. A synchronization task is created for each found object and written to the queue.

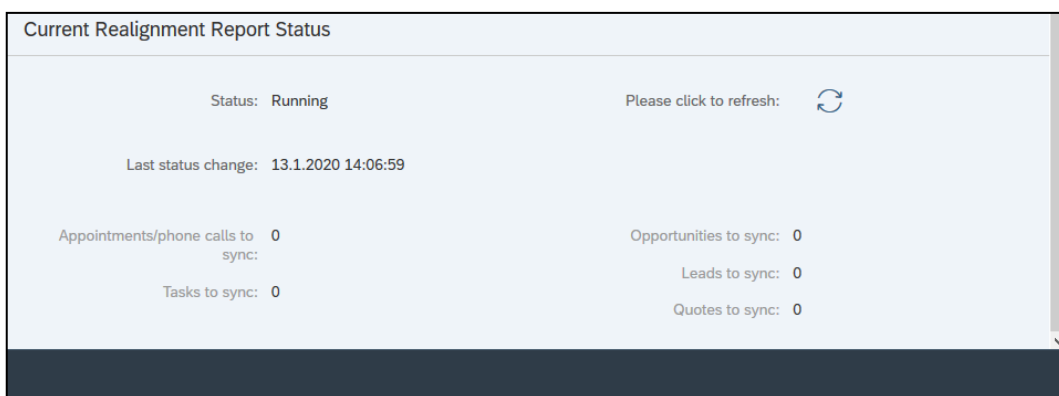


Figure 60: Realignment report is running

When the report is finished, the status “Finished” is displayed. The correct number of post processed objects is also displayed.

### 8.5.6 White- / Blacklisting

In addition to the option of controlling the initial synchronization of objects from the Groupware in the S/4HANA direction via a prefix or a category, white or blacklisting was introduced.

This function allows maiConnect to be set up in such a way that all objects (appointments, telephone calls, tasks) of employees are automatically synchronized from the Groupware towards S/4HANA. All users can be individually whitelisted or blacklisted - and it can be set up in such a way that newly added maiConnect employees also end up directly on the whitelist or blacklist.

In order to illustrate how exactly this can be set up, a description of the available options is given and followed by an explanation of the possible ways of setting up automatic synchronization.

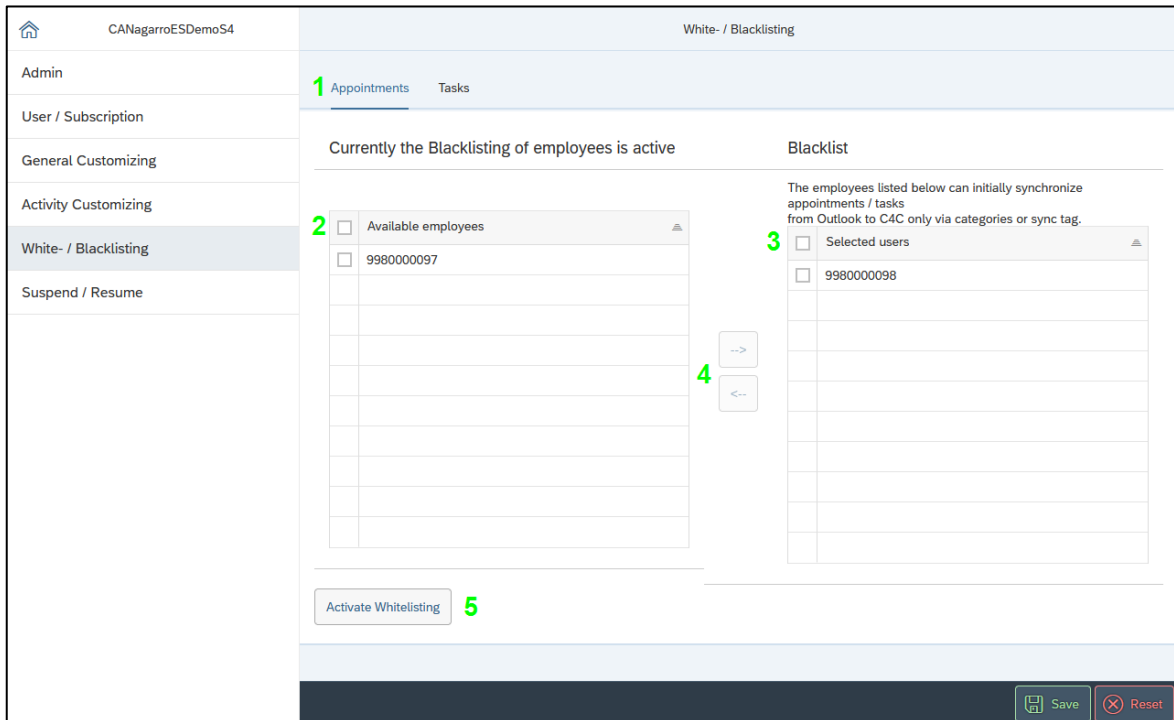


Figure 61: Whitelisting & blacklisting

- 1) *Appointments*: These two tabs can be used to switch between the settings for appointments (appointments, visits, telephone calls) and tasks. The respective pages have the same structure.
- 2) *Available users*: All maiConnect users registered in the user list, that are not part of the right list, are listed here.
- 3) *Selected User*: Actual whitelist (blacklist) with the selected or assigned users.
- 4) *Assignment option*: These two buttons can be used to add or remove users from the list. To do this, the respective user must be selected before the button is clicked.option
- 5) *Activate Whitelisting*: Used to switch between the whitelist and blacklist.



### Activating automatic synchronization

*Option 1:* Activate the blacklist as shown in the picture on the right. If now none of the users is moved from the list on the left to the blacklist, the automatic synchronization is active for them. Automatic synchronization is also directly active for new users registered in the AdminCockpit. Individual users can be easily excluded by moving them to the blacklist.

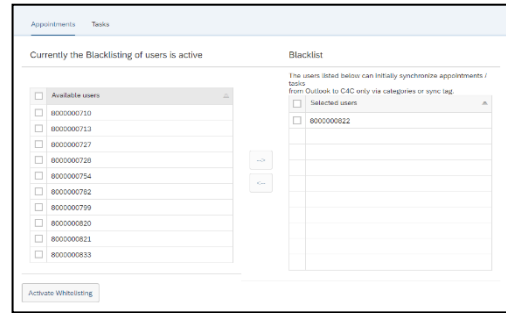


Figure 62: Blacklist

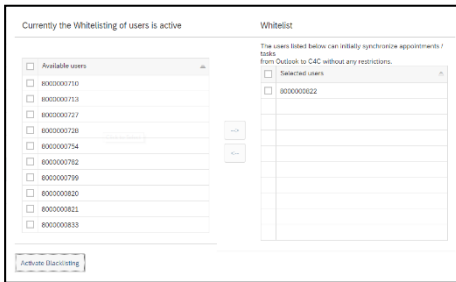


Figure 63: Whitelist

*Option 2:* Activate the whitelist as shown in the picture on the left. Now you can decide individually for each user whether the automatic synchronization is activated. Those for which automatic synchronization is to be activated can then be moved to the list on the right.

Users on the blacklist can control the synchronization of objects from the Groupware towards S/4HANA via prefix / category (if set up).

### 8.5.7 Suspend/Resume

The "Suspend/Resume" function can be used to interrupt any communication between the S/4HANA system and the Exchange server. The important difference to deactivating maiConnect via the corresponding parameter in General Customizing is that when pausing, the synchronization requests of both systems are not lost, but written to a dedicated database queue instead. If maiConnect is then continued again, the synchronization requests are processed from the queue so that no data is lost. New synchronization requests are processed directly.

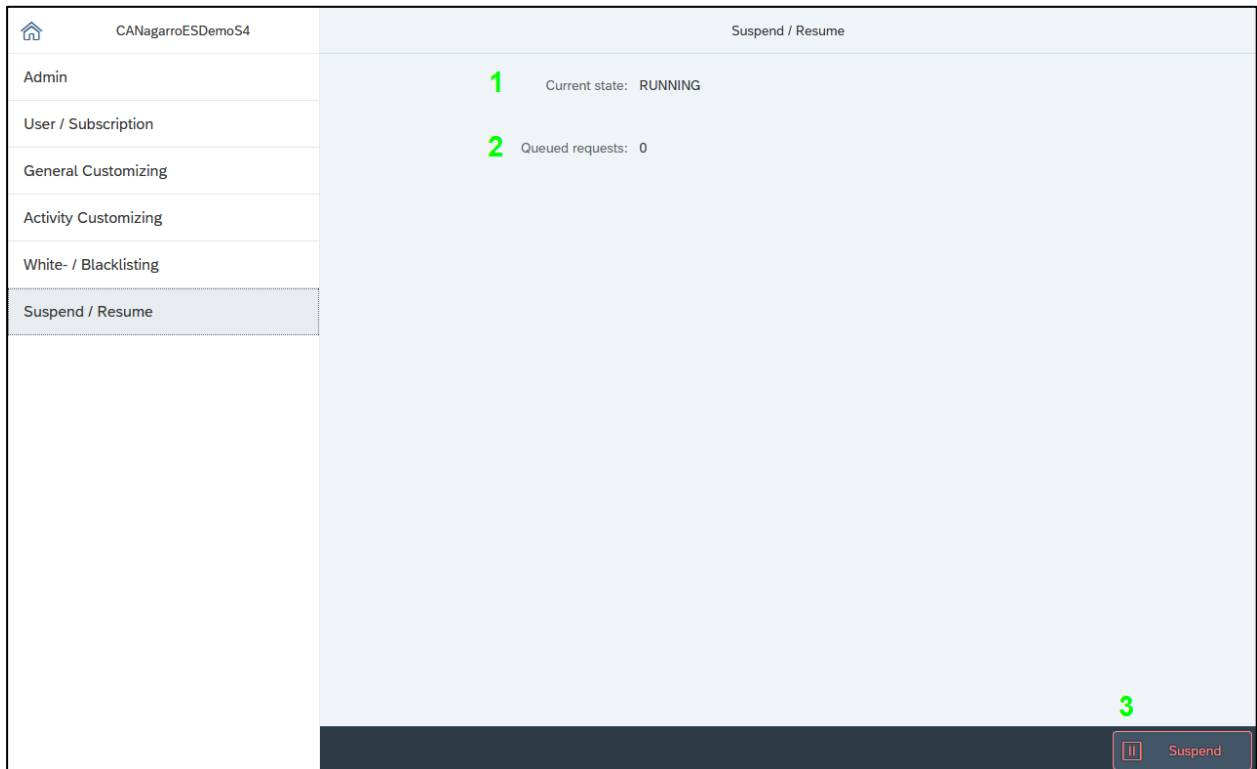
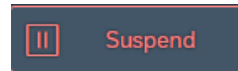


Figure 64: Suspend/resume

- 1) *Current status*: Reflects whether maiConnect is currently active or suspended.
- 2) *Queued requests*: Counter for the number of requests written to the corresponding queue while maiConnect is paused.
- 3) *Suspend / Resume*: These buttons change with each status change and offer the option to pause or resume maiConnect.



If you click on one of the "Pause" and "Resume" buttons, you will be prompted to confirm your selection.

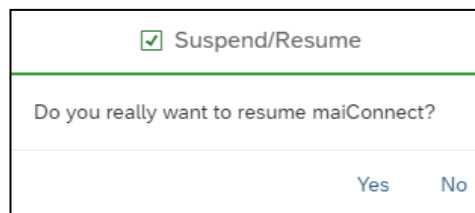
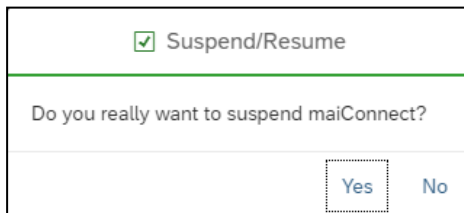


Figure 65: Suspend/resume

After confirmation and a short loading time, the status displayed in the AdminCockpit changes:

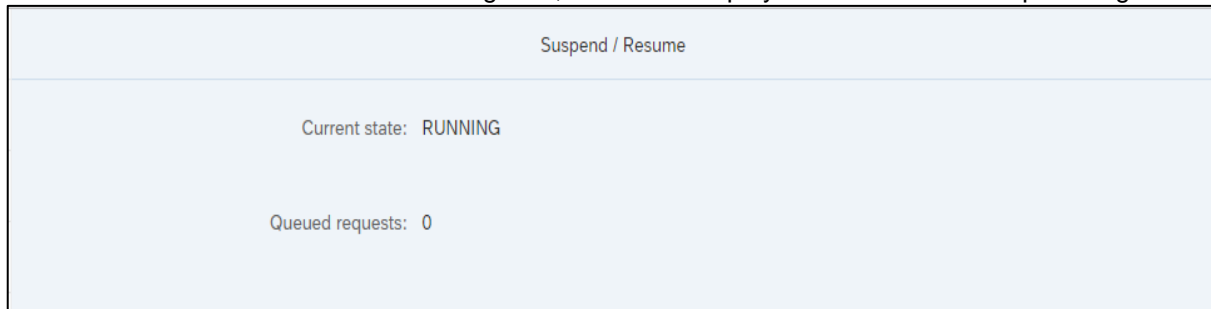


Figure 66: Status change

### Example

If the access data for one of the communication users (Exchange or S/4HANA) change or the communication user itself has been exchanged, it must be ensured that no requests are sent during the transitional period which still contain the old communication user or the old access data. In such a case it could come otherwise that the communication user is locked and so the synchronization is affected.

### Method

If the password of the S/4HANA communication user needs to be changed, proceed as follows:

- 1) Suspend maiConnect via the AdminCockpit
- 2) Assignment of a new password for the communication user in the S/4HANA
- 3) Log in manually with the communication user in the S/4HANA and change the initial password.
- 4) Resume maiConnect via the AdminCockpit

Between changing the password and resuming maiConnect, you are welcome to wait for little moments to make sure that the changes have been processed. This way, no data is lost and the business administrator keeps track of the fact that the synchronization requests are written to the queue in the meantime and processed in the aftermath.



We recommend that you never suspend maiConnect for a longer period of time (> 15 minutes), as this may cause problems when continuing because of the reprocessing of the elements written to the queue in the meantime.

## 8.6 Web interface for user management

There is another possibility of user administration via a web interface. With this interface it is possible to query users, create new users, change features for users and delete users. Since it is a pure data interface, there is no separate user interface.

The interface is REST-based, communication takes place via https. The data format for requests and responses is JSON. The basic URL to call the interface is:

<http://maiconnect...hana.ondement.com/maiconnect/ManageUsers>

The JSON Struktur looks like this:

```
{
  "businessPartnerId":"8000000xxx",
  "language":"DE",
  "userActive":true,
  "oppiActive":true,
  "emailActive":true,
  "serviceTicketActive":true,
  "createNewOpportunityActive":true,
  "quoteActive":true,
  "leadActive":true,
  "createNewQuoteActive":true,
  "createNewLeadActive":true,
  "groupwareId":"Groupware"
}
```

The interface is secured by a certificate key, so that requests are only accepted with the correct key. To find out the correct key for your company, please contact maiConnect Support via the e-mail address [support.cxaddons@nagarro.com](mailto:support.cxaddons@nagarro.com).

### GET-Request

With a GET request the maiConnect users can be queried. If the request is executed without parameters, the response returns all users. Individual users can be queried using the parameter businessPartnerId. For example:

<http://maiconnect...hana.ondement.com/maiconnect/ManageUsers/8000000337>

The response is structured according to the JSON structure described above.

### POST-Request

New maiConnect users can be created with a POST request. The request must contain at least the fields businessPartnerId, language and groupwareId.

### PUT-Request

The settings for a user can be changed with a PUT request which must at least contain the fields businessPartnerId, language and groupwareId. The key is the field businessPartnerId. All features that are to be activated must be transmitted with true. All features that are not contained in the request are set to false.

### DELETE Request

With a DELETE request maiConnect users can be deleted. The key is the field businessPartnerId.

## 9 Monitoring

---

With the maiConnect solution, data can be synchronized between a Microsoft Exchange Server and the SAP S/4HANA. maiConnect creates various key figures with which the current and past synchronizations can be measured.

These key figures are made available using Grafana monitoring technology. The individual key figures are divided into dashboards. For each maiConnect system environment (QA and PROD) there is a separate dashboard so that the key figures can be viewed separately.

To access the dashboards and key figures, please open the following page in a browser:

<https://status.cxaddons.com/>

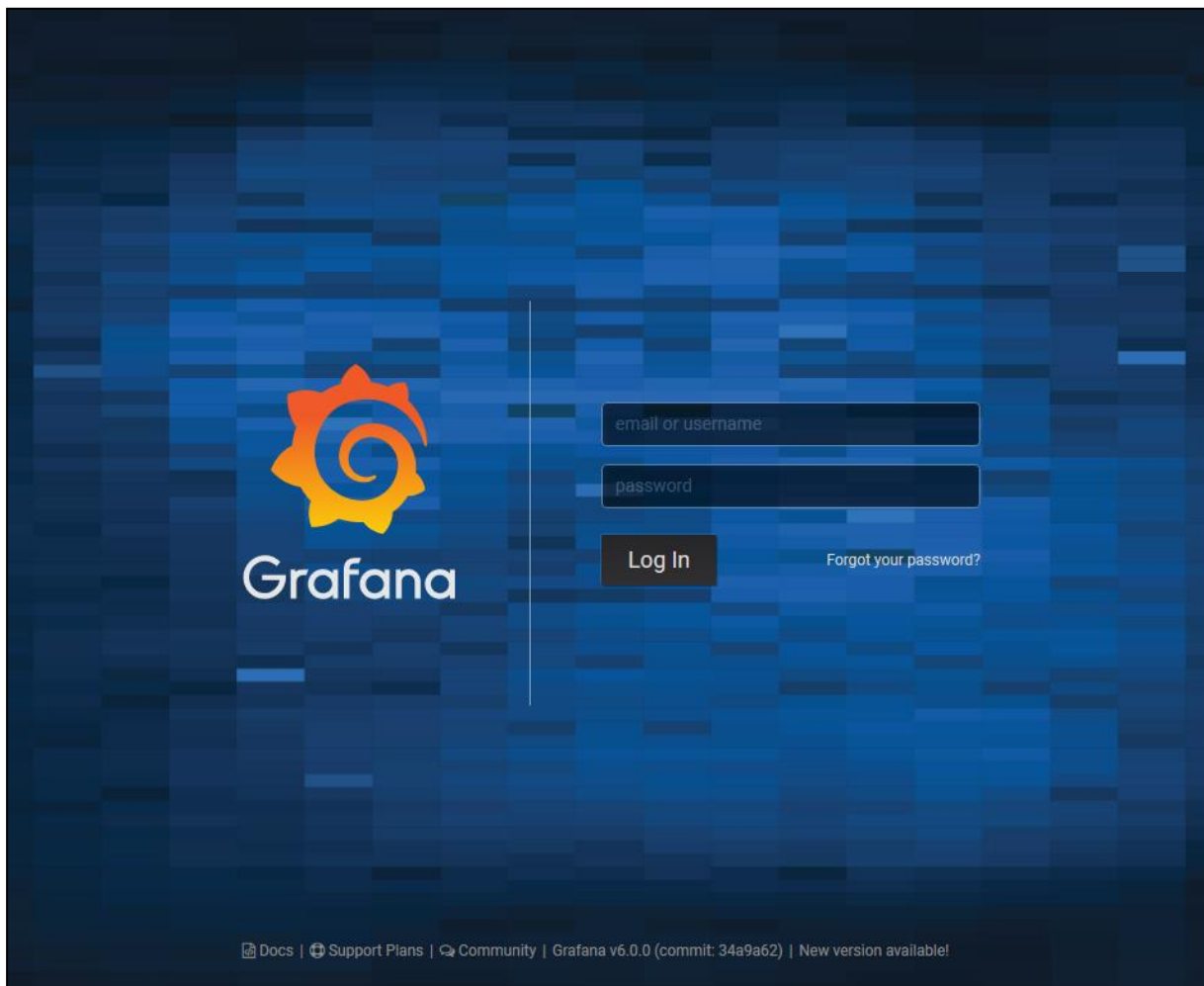


Figure 67: Monitoring Login

Please log in here with the credentials provided by Nagarro ES. You will then be redirected to the following page:

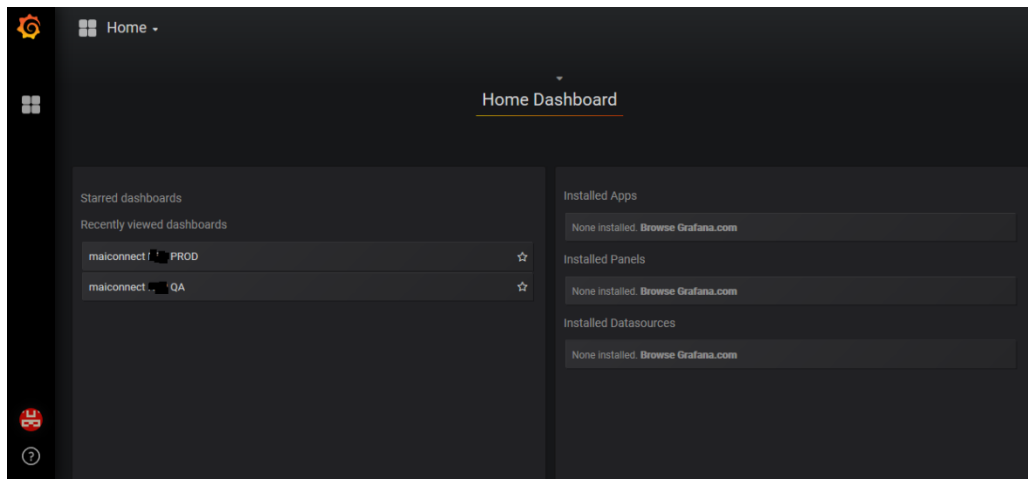


Figure 68: Dashboard selection

A dashboard with the key figures can be opened via the "Home" menu or via the "Recently viewed dashboards" list.

## 9.1 Key Figures

Some general KPIs and four diagrams are displayed per dashboard. The following screenshot shows the basic structure of a dashboard:

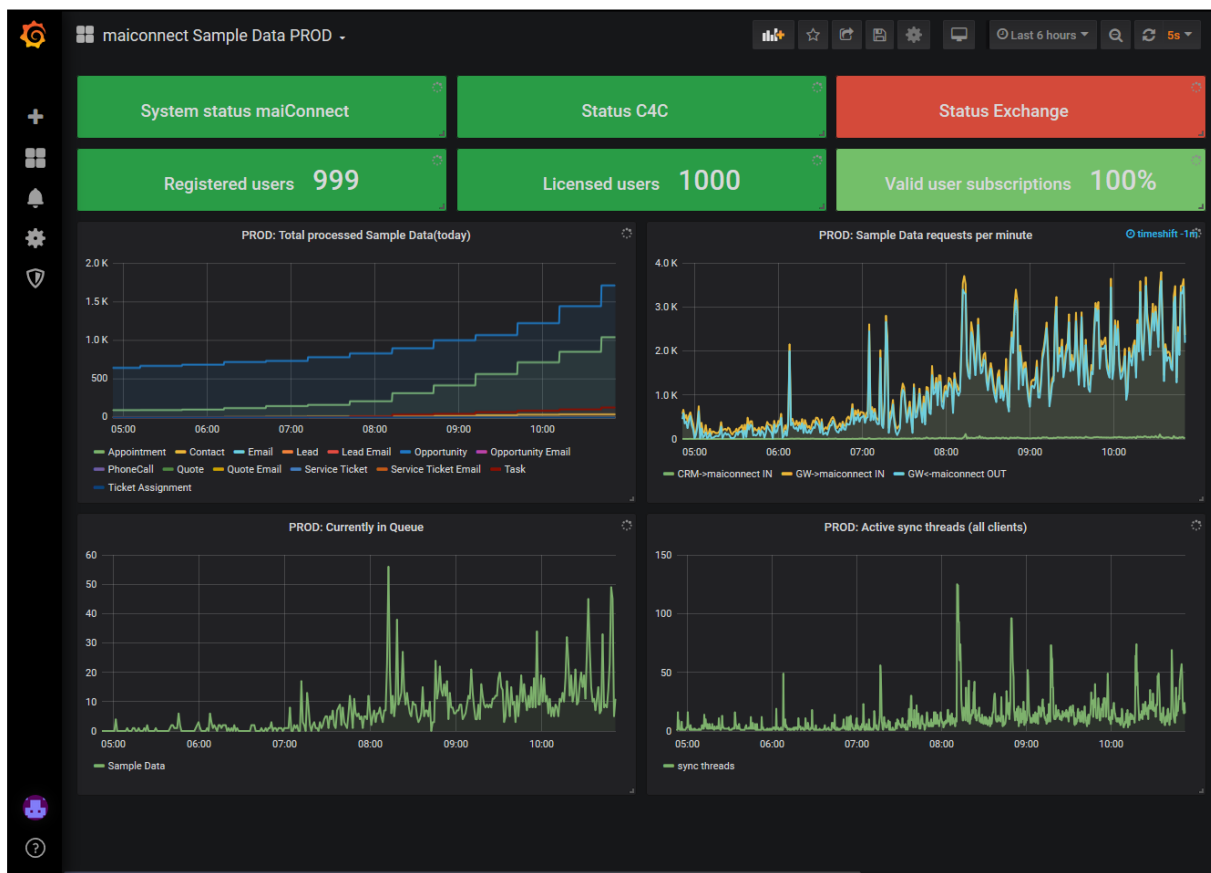


Figure 69: Key figures overview

### 9.1.1 Status information

Through the maiConnect monitoring the status of the connected systems can be determined:

- System status maiConnect: This shows, if the maiConnect system is available.
- Status S/4HANA: This shows, if the connected S/4HANA system is available.
- Status Exchange: This shows, if the connected exchange servers are available.

The status information are updated every 5 minutes. If one system is not available, then the status is displayed red (see sample screenshot).

### 9.1.2 User KPIs

Above the diagrams three user KPIs are shown:

- Registered users: This shows the number of users in the maiConnect AdminCockpit.
- Licensed users: This shows the number of licenses maiConnect users.
- Valid user subscriptions: This KPI shows the number of users with a valid Outlook subscription.

### 9.1.3 Total processed (today)

This diagram shows the synchronization history - i.e. how many objects in total have been synchronized today. A separate graph is displayed for each object type (appointment, telephone call, task, contact, e-mail, opportunity, ...).

### 9.1.4 Requests per minute

This shows how many communication requests are exchanged with the Exchange Server and the S/4HANA Server or have been exchanged in the past.

- CRM->maiconnect IN: This graph shows the number of synchronization requests from the S/4HANA server towards maiConnect.
- CRM<-maiconnect OUT: This graph shows the number of requests from maiConnect to the S/4HANA server.
- GW->maiconnect IN: This graph shows the number of synchronization requests from the Exchange server towards maiConnect.
- GW<-maiconnect OUT: This graph shows the number of requests from maiConnect to the Exchange server.

### 9.1.5 Currently in Queue (all clients)

This diagram shows how many objects are in the queue (currently or in the past)

- Customer Name: Number of synchronization objects waiting for synchronization for your system.

### 9.1.6 Active sync threads (all clients)

There is a separate thread for each synchronization object that is responsible for processing the synchronization. This graph shows how many of these threads are active (or have been active in the past).



### 9.1.7 Time period

The time period displayed in the upper right corner of the dashboards can be used to set for which time period the results are to be displayed in the diagrams and how often the dashboard is updated.

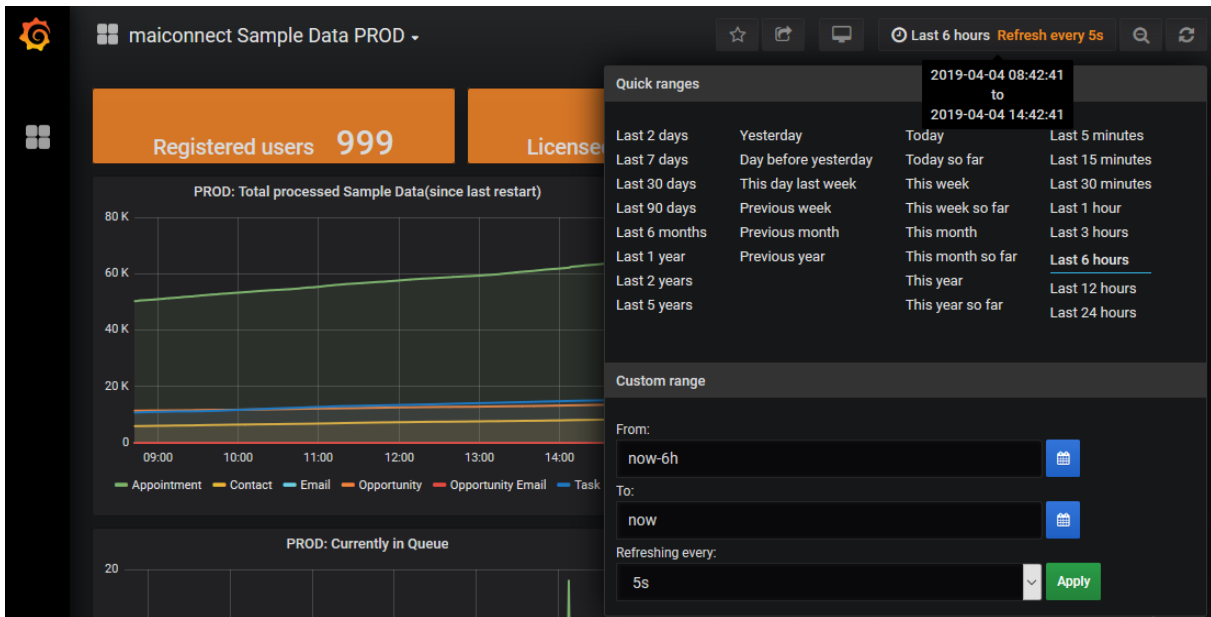


Figure 70: Time range selection

Various predefined periods can be selected here via the "Quick ranges". You can set a different time period via the "Custom range". With the value "Refreshing every" you can determine how often the dashboard is updated.

With the default setting, the last 6 hours are displayed with an update rate of 5 seconds. These are also the recommended values.

### 9.1.8 Additional Settings

Clicking on the heading of a diagram opens a context menu with further options:

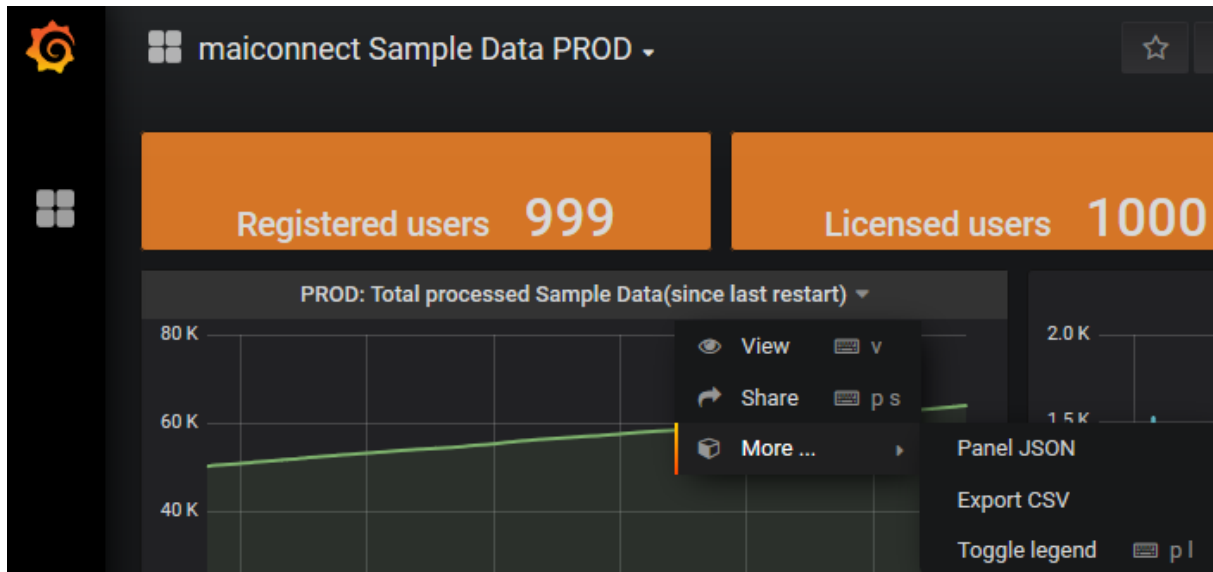


Figure 71: Additional monitoring settings

- View: Display of the diagram in full screen.
- Share: Sharing the Diagram Externally
- Panel JSON: Display configuration of the diagram.
- Export CSV: Export data of a diagram as CSV file.
- Toggle legend: Show/hide diagram legend.