CHAPTER 3: OUTLOOK SYNCHRONIZATION

Objectives

The objectives are:

- Define basic Outline Synchronization concepts.
- Set up synchronization levels.
- Set up the synchronization user.
- Set up entity mappings.
- Install and set up the Microsoft Dynamics NAV Synchronization add-in.
- Set up troubleshooting.
- View the synchronization progress.

Introduction

Outlook Synchronization enables users to keep data in Microsoft Dynamics™ NAV and Microsoft® Outlook® up-to-date. After changing information in, for example, Microsoft Dynamics NAV, the user can update data in the related Microsoft Outlook items to reflect these changes.

Synchronization is initiated in Outlook and can be performed either automatically in predefined periods of time or manually by using a convenient interface. This section provides general information about synchronization and explains the most common synchronization procedures. Demonstrations give practical understanding of the most common administrator and user actions.
Comparison with Outlook Integration

The Outlook synchronization in Microsoft Dynamics NAV 5.0 has been redesigned from the Outlook Integration for version 4.0. It has been made easier to customize and it is more flexible.

The following table is a comparison of the old Outlook Integration with the new Outlook synchronization available in Microsoft Dynamics NAV 5.0:

<table>
<thead>
<tr>
<th>Old Outlook Integration</th>
<th>New Outlook Synchronization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Based on events</td>
<td>Based on periodic activities or a user request</td>
</tr>
<tr>
<td>Very little customization options</td>
<td>Highly customizable from both Microsoft Dynamics NAV and Outlook, based on the user ID and the settings made in the synchronization setup</td>
</tr>
<tr>
<td>Based on the settings for a specific salesperson</td>
<td>Based on the user ID and the settings made in the synchronization setup</td>
</tr>
<tr>
<td>Sending notifications about changes in Microsoft Dynamics NAV</td>
<td>In Outlook, the user can access the summary of items synchronized, created, modified, or deleted, or the summary of synchronization conflicts</td>
</tr>
<tr>
<td>Disabling reminders of Outlook appointments starting in less than 15 minutes</td>
<td>Disabling reminders is not supported</td>
</tr>
</tbody>
</table>
### Synchronization Entity

In synchronization, the data flows from one program to the other. Any item that can be synchronized is referred to as a synchronization entity.

In Microsoft Dynamics NAV, a synchronization entity can be represented by:

- Tables
- Fields
- Sets of filtered entries satisfying custom selection criteria

In Microsoft Outlook, the following objects can be mapped to synchronization entities:

- Items
- Collections
- Properties

### Levels of Synchronization

The synchronization levels are a hierarchical structure which consists of certain Microsoft Dynamics NAV entities and the specific Outlook items that those entities are mapped to. This structure enables users to configure mappings not only to Outlook items but also to the properties of these items.

There are three levels of synchronization, where higher levels are parent to the lower ones.

<table>
<thead>
<tr>
<th>Synchronization Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>The highest synchronization level where the most general Microsoft Dynamics NAV entities can be specified, for example master tables. Entities of this level can be either directly related to Outlook items, or the user can specify which Microsoft Dynamics NAV entities of the level 2 synchronization are logically related, included, and mapped directly to the chosen Outlook items.</td>
</tr>
<tr>
<td>Level 2</td>
<td>Entities of this level must always be mapped to the corresponding Outlook property or collection. Specifying the second level automatically requires configuring level 3.</td>
</tr>
<tr>
<td>Level 3</td>
<td>A Microsoft Dynamics NAV entity is only considered on a synchronization level 3 if it is part of a Microsoft Dynamics NAV entity of synchronization levels 1 and 2, and is mapped to the corresponding Outlook collection element.</td>
</tr>
</tbody>
</table>
Demonstration – Setting Up Level 1 Synchronization

In this demonstration, users will define a Microsoft Dynamics NAV entity of level 1. Usually, master tables are configured at this level. Be aware that the ability to modify these settings depends on the permissions granted by the administrator.

Steps:

1. Open the **Outlook Synch. Entity** window.

   ![FIGURE 3-1: THE OUTLOOK SYNCH. ENTITY WINDOW](image)

2. Press **F3** to create a new synchronization entity, and enter its name in the **Code** field.

3. In the **Description** field, enter text that describes this entity. Remember that this description will be used in Outlook as the label of the text box which will contain Outlook folders selected for synchronization.

4. Locate the synchronization entity for which a master table must be specified. This entity must already have a code and a description defined.

5. Click the **AssistButton** to the right of the **Table No.** field on the header of the window. From the **Outlook Synch. Table List** window that appears, select a table, and then click **OK** to confirm your choice. The **Table Name** field on the header of the **Outlook Synch. Entity** window is filled in automatically with the name of the selected master table.
6. To define the condition as the source for selecting records from the master table for synchronization, you can apply a specific filter to the master table.

7. To specify the condition for the records from the master table that must correspond to an Outlook collection used for synchronization, click the AssistButton to the right of the Outlook Item field. From the list of available Outlook items, select one and then click OK.

**NOTE:** The only Microsoft Dynamics NAV master table specified in the header of this window leads to level 1 synchronization. To organize the level 2 synchronization, define one or more supplementary Microsoft Dynamics NAV tables on the lines of this window.

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**Demonstration – Setting Up Level 2 Synchronization**

On a level 2 synchronization, define one or more collections of Microsoft Dynamics NAV records which logically belong to a certain Microsoft Dynamics NAV Entity defined at Synchronization Level 1.

Users can update specific Microsoft Dynamics NAV entities with either Outlook items or collections. This also requires decisions about which Microsoft Dynamics NAV objects are affected.

**Steps:**

1. Open the Outlook Synch. Entity window and locate the existing entity for which level 2 synchronization must be set up.

2. Click the AssistButton to the right of the Table No. field on the first empty line.

3. From the Outlook Synch. Table List window that appears, select the supplementary table and then click OK.

   The Table Name field is filled in automatically with the table name as soon as its number is specified.

4. Define a filter for the selected table. Here, users can specify relations between tables selected for level 1 and level 2 synchronization.

**NOTE:** If the Outlook Synch. Filters window is opened from the lines of the Outlook Synch. Entity window, define filters for both the master and supplementary Microsoft Dynamics NAV tables. In contrast, if the Outlook Synch. Filters window is opened from the header of the Outlook Synch. Entity window, define filters for only the master table specified in the header of this window.
5. Select an Outlook collection for synchronizing with the Microsoft Dynamics NAV table.

6. Enter the number of dependencies.

**NOTE:** If the selected collection depends on other entities, you must define these dependencies in the Outlook Synch. Dependencies window. If there are no dependencies, the No. of Dependencies field remains empty.

### Demonstration – Defining Table Relations

To bind master and supplementary tables in the synchronization entity, define the way these tables are related. Defining the tables is performed by associating fields of the master table with those in the supplementary one.

**Steps:**

1. Open the Outlook Synch. Entity window.
2. Locate the synchronization entity for which the supplementary table for level 2 synchronization must be specified.
3. In the Table Relation field, click the AssistButton. The Outlook Synch. Filters window appears.
4. In the Field Name field, click the AssistButton to open the list of fields for the selected table on the lines.
5. In the Outlook Synch. Table Fields window, select a table and then click OK.
6. In the Type field of the Outlook Synch. Filters window, select FIELD.
   - In the Value field, click the AssistButton to the right of it. This will open the Outlook Synch. Table Fields window with a list fields of the master table selected in the header of the Outlook Synch. Entity window.
7. Select a table and then click OK to insert this field in the Value field.

The final filtering expression will be displayed in the Filtering Expression field. When you are finished with the filters, click OK to apply them.
Demonstration – Mapping Fields to Outlook Properties

The third level of synchronization is where specific Microsoft Dynamics NAV fields are associated with the required Outlook properties. Making this correspondence creates a document that contains the information about what items should be synchronized. This document is called a mapping schema. To perform field mapping, first define the tables for level 1 or level 2 of the synchronization entity:

1. Open the Outlook Synch. Entity window.
2. To define the fields for the master table selected in the header, click SYNCH. ENTITY→FIELDS. To define the fields for the supplementary table selected on the lines, click LINE→FIELDS.

In both cases the Outlook Synch. Fields window appears.

3. To specify a field that will be mapped to an Outlook property, click the AssistButton in the Field No. field and select the field. If the Table No. field is empty when a field name is selected, select a field from the list of fields for the master or selected supplementary table, depending on where the Outlook Synch. Fields window was opened from. The number of the table originates from the Master Table No. field of the source table for this window. Specify the number of a different table the fields of which will take part in synchronization. If a different table number is specified, you must define table relations between the selected and the master tables.

4. To restrict the number of fields that will take part in the synchronization, apply a filter to the current master table.

5. In the Outlook Property field, enter the number of the Outlook property that will be synchronized with the Microsoft Dynamics NAV Table field. This number is available from the Field No. field.

6. To map Microsoft Dynamics NAV table fields to the Outlook property, click the AssistButton to the right of the Field No. field. In the Outlook Synch. Table Fields window that appears, select a field for mapping. The set of fields depends on the table specified in the Table Name field. As soon as you select the field number, the Field Name field is filled in automatically with the field name.

7. In the Outlook Synch. Fields window, fill in the fields that have Outlook properties and the Microsoft Dynamics NAV table fields to set the mapping. Fill in other fields in this window if it is required.
Working with Change Log Entries Using C/AL

The Change Log functionality is used to log the changes the user made to the data in Microsoft Dynamics NAV. The **Change Log** makes it possible to do the following:

- Obtain a chronologically ordered list of all changes in any field of any table.
- View who (by user's ID) made changes in the fields.
- Enable organizations to track who has made changes, and when they were made.
- Enable organizations to specify both the old and the new values.

The **Change Log Setup** window in Microsoft Dynamics NAV lets the user specify tables to store the information about tracked changes. All direct modifications that the user makes to the data in those tables are logged. Users can customize which tables and fields are tracked by the Change Log. It enables organizations to report on everything from finances to operations.

**NOTE**: To keep the Microsoft Dynamics NAV database functioning at an optimal capacity, save the Change Log to a backup file or print it and then delete it from the active database.

To ease the process of setting up the synchronization entity, the tables and fields that take part in the synchronization process are automatically registered in the change log. However, the change log cannot be activated from the code, because it is required that the current company be closed and reopened after activation.

Users must manually start the change log, which enables the functionality from the Change Log Setup window, and then they must select to close and open the company.

The change log collects only those changes that were made by the user. Changes that are made through the C/AL code are not logged.

For detecting changes applied to Microsoft Dynamics NAV records, the Outlook Synchronization add-in uses the change log functionality (reworked for the Microsoft Dynamics NAV Server Tier). Only records with changes logged there will be synchronized according to the synchronization setup.
Entity Mapping

Before synchronization starts, Microsoft Dynamics NAV entities must be correlated with specific Outlook items. As soon as the synchronization starts, the program creates a document to store these correlations. This document is called a mapping schema.

The Microsoft Dynamics NAV Synchronization add-in that is installed on the Outlook side receives the mapping schema and keeps it in the isolated storage to make the entity mapping available to Outlook.

For convenience, the Microsoft Dynamics NAV synchronization includes a set of default entity mappings. As in Outlook Integration for version 4.0 of Microsoft Dynamics NAV, the following mappings are already configured:

<table>
<thead>
<tr>
<th>Microsoft Dynamics NAV</th>
<th>Microsoft Office Outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contacts of the Person and Company types</td>
<td>Contacts</td>
</tr>
<tr>
<td>Salespeople</td>
<td>Contacts</td>
</tr>
<tr>
<td>To-dos</td>
<td>Tasks</td>
</tr>
<tr>
<td>Meetings</td>
<td>Appointments</td>
</tr>
</tbody>
</table>

**NOTE:** Users must first define the tables for level 1 or level 2 of the synchronization entity to perform field mapping (levels of synchronization are explained more in the Levels of Synchronization topic).

**Steps:**

1. Open the Outlook Synch. Entity window.
2. Specify a code to identify the new entity mapping.
3. In the Description field give a concise description of the entity.
4. Click the Lookup button in the Table No. field and select the appropriate Microsoft Dynamics NAV table from the list that appears. As soon as the Table No. is specified, the program automatically fills in the Table Name field.
5. In the Condition field, specify one or more criteria. In this manner, only specific entries from the table chosen in the Table No field are synchronized.
6. Click the AssistButton to select the Outlook item that should be mapped with the chosen Microsoft Dynamics NAV synchronization entity.
Additionally, the user must set up the mapping for specific Microsoft Dynamics fields and Outlook properties that belong to the selected synchronization entities:

1. Click SYNCH. ENTITY→, FIELDS to define the fields for the master table selected in the header. Click LINES,→ FIELDS to define the fields for the supplementary table selected on the lines. In both cases the Outlook Synch. Fields window opens.

2. To specify a field that will be mapped to an Outlook property, click the AssistButton in the Field No. field and select the field.

**NOTE:** If the Table No. field is empty when you select a field name, select a field from the list for the master or selected supplementary table, depending on where the Outlook Synch. Fields window was opened from. The number of the table originates from the Master Table No. field of the source table for this window. Specify the number of a different table the fields of which will take part in synchronization. Define table relations between the selected and the master tables.

3. To restrict the number of fields that will take part in the synchronization, apply a filter for the current master table.

4. In the Outlook Property field, enter the number of the Outlook property that will be synchronized with the Microsoft Dynamics NAV table field. This number is available from the Field No. field.

5. To map Microsoft Dynamics NAV table fields to the Outlook property, click the AssistButton to the right of the Field No. field. In the Outlook Synch. Table Fields window that appears, select a field for mapping. The set of fields depends on the table specified in the Table Name field. With the field number selected, the Field Name field is filled in automatically with the field name.

In the Outlook Synch. Fields window, fill in the fields with the Outlook properties, and then fill in the Microsoft Dynamics NAV table fields to set the mapping. Fill in other fields in this window as required.
Outlook Synchronization User Roles

The capability to change the synchronization schema depends on the permissions associated with a certain predefined role. For each synchronization related table in Microsoft Dynamics NAV, roles determine what specific actions are permissible for the user. In other words, the user can read, insert, modify, or delete entries in the synchronization related Microsoft Dynamics NAV tables based on the permissions available with a specific role.

In Outlook synchronization, there are three roles:

- **User**
- **Power User**
- **Administrator**

**User**

A user is a role whose permissions are limited to viewing almost all synchronization objects. The user cannot create, change, or remove any synchronization related objects under this role.

**Power User**

In contrast to the user role, the power user can change another user's credentials and preferences in Microsoft Dynamics NAV. The power user can only operate with the user setup functionality.

**Administrator**

The administrator has the ability to define the directions of the synchronization as well as change the mapping schema for any other synchronization user roles.
Demonstration – Defining Users' Synchronization Credentials

In this demonstration, add a user who already has a Windows login registered in Microsoft Dynamics NAV, specify a set of entities that the user can work with, and define in what direction the user can synchronize data.

**NOTE:** Administrator permissions are required in order for users to specify credentials and preferences.

Steps

1. Open the **Outlook Synch. User Setup** window.

![Outlook Synch. User Setup Window](image)

2. On the first empty line, enter the name of the user in the **User ID** field. This user must already be registered in the system and have a valid Windows login.

3. Assign a synchronization entity to the specified user.

4. In the **Synch. Direction** field, click the **AssistButton** to select the direction of synchronization: Bidirectional, Microsoft Dynamics NAV to Outlook, or Outlook to Microsoft Dynamics NAV.
Demonstration – Assigning Synchronization Entities to Users

In this demonstration, define synchronization entities to work with. As a result, users can only synchronize those Microsoft Dynamics NAV entities and Outlook items that have been assigned to them.

**NOTE:** Only power users or administrators can assign entities to synchronization users.

Steps

1. Open the Outlook Synch. User Setup window.
2. Go to the selected user for whom a synchronization entity must be specified.
3. To assign synchronization entities, click the AssistButton to the right of the Synch. Entity Code field.
4. In the Outlook Synch. Entity List window, select an entity from the list of all available entities.
5. Click OK to confirm the choice. The Description field is filled in automatically with the description of the selected synchronization entity.

Administration Scenarios

The following demonstrations show the topics covered so far in typical use. To make the demonstrations easier to understand, they simulate a real life scenario.

In this scenario, a salesperson receives tasks from the CRM department. The salesperson works in the field and only comes to the office from time to time. For the daily work, the salesperson uses Outlook and does not have Microsoft Dynamics NAV installed. In order to simplify communication with the CRM department, the salesperson would prefer to receive tasks automatically in Outlook.
Demonstration – Set Up a New Synchronization Entity

This demonstration illustrates the situation when the administrator receives a request to set up Outlook synchronization for the salesperson who wants to receive updates for appointments. The Outlook synchronization functionality provides a number of default synchronization entities. The administrator uses one of them to enable synchronization of Microsoft Dynamics NAV to-dos and Outlook appointments.

**Steps:**

1. Open the Outlook Synch. Entity window.
2. Press F3 to create a new entity using the information in the following table.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>APPOINT</td>
</tr>
</tbody>
</table>

3. Click SYNCH. ENTITY→RESET TO DEFAULTS.
4. In the window that appears, choose the Microsoft Dynamics NAV Meetings option.
5. The program will establish the relation with the AppointmentItem Outlook item and fill in the fields in the Outlook Synch. Entity window automatically.

![Figure 3-3: The Outlook Synch. Entity Window](image-url)
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Now, the administrator registers the APPOINT synchronization entity in the Change Log to enable tracking of this entity:

1. Open the Outlook Synch. Entity window.
2. Go to the APPOINT synchronization entity.
3. Click SYNCH. ENTITY—REGISTER IN CHANGE LOG SETUP. The Outlook Synch. Change Log Set. window opens.
4. Click OK.

Demonstration – Configure the New Synchronization Entity for the Salesperson

This demonstration shows the next steps of the administrator who now should configure the synchronization for the user. The salesperson for whom the synchronization is being set up must already have a valid Windows logon registered in the Microsoft Dynamics NAV. After the following procedure, only to-dos assigned to a specific user will be synchronized.

Steps:

1. Open the Outlook Synch. User Setup window.
2. Create a new entry using the information in the following table.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>User ID</td>
<td>A valid windows login</td>
</tr>
<tr>
<td>Synch. Entity</td>
<td>APPOINT (The name of the entity created in the previous demonstration)</td>
</tr>
<tr>
<td>Description</td>
<td>Microsoft Dynamics NAV Meetings (The program fills in this field automatically)</td>
</tr>
<tr>
<td>Condition</td>
<td>Click the AssistEdit button; In the Outlook Synch. Filters window that appears specify the following: Field Name: Salesperson Code Type: CONST Value: AH Click OK to apply the new condition (Only those to-dos that are assigned to the salesperson with the AH code will be synchronized for this synchronization user)</td>
</tr>
<tr>
<td>Synch. Direction</td>
<td>Bidirectional</td>
</tr>
</tbody>
</table>

![Outlook Synch. User Setup](image)

**FIGURE 3-4: THE OUTLOOK SYNCH. USER SETUP WINDOW**

The administrator sends an e-mail to the salesperson informing him or her about the settings that should be made in Outlook.

**Demonstration – Configure Dependencies**

In this demonstration, the salesperson requests to change the synchronization settings to be able to synchronize meetings with contacts. As a result, the synchronization set up for this salesperson should be enhanced to enable synchronization of contacts who can be meeting recipients and related contacts. In addition to the existing APPOINT entity, the administrator should set up synchronization for the Recipients and Links collections that belong to the Appointment Item.

**Steps:**

1. Open the Outlook Synch. User Setup window.
2. Click **SETUP→SYNCH. ELEMENTS**. The **Outlook Synch. Setup Details** window opens.
3. Click the **Lookup** button to create a new entry.
4. The **Outlook Synch. Lookup Names** window opens. This window contains the list of collections that belong to the related Outlook Item.
5. Select the **Recipients** collection and click **OK**.
The collection is not chosen, however, and the program responds with an error message which informs that this collection is based on entities that have not been set up to be synchronized for the current synchronization user. The system administrator stops this procedure and sets up the required entities for the current user.

The administrator views what dependencies exist for the Recipients collection:

1. Open the Outlook Synch. Entity window.
2. In the header of the window, select the APPOINT entity.
3. On the lines of the window, place the pointer on the record where the Outlook Collection field contains Recipients.
4. Click LINE—DEPENDENCIES.
5. The Outlook Synch. Dependencies window opens. This window displays a list of entities that are required for the synchronization of the entity selected on the lines of the Outlook Synch. Entity window.

The administrator will set up for the current user the following entities:

- CONT_COMP. This entity is required for synchronizing Microsoft Dynamics NAV contacts of the Company type.
- CONT_PERS. This entity is required for synchronizing Microsoft Dynamics NAV contacts of the Person type.
- CONT_SP. This entity is required for synchronizing Microsoft Dynamics NAV salespeople.

Next, the administrator should also configure the dependencies for the APPOINT synchronization entity:

1. Open the Outlook Synch. User Setup window.
2. Create a new entry for the same user.
3. In the Synch. Entity field, specify the CONT_COMP entity.
4. Repeat steps 2 and 3 for the CONT_PERS and CONT_SP entities.
FIGURE 3-5: OUTLOOK SYNCH. USER SETUP WINDOW WITH DEPENDENCIES

With the dependencies satisfied the administrator can return to the procedure of setting up the recipients for the APPOINT synchronization entity:

1. In the **Outlook Synch. User Setup** window, select the entry where the **Synch. Entity** field contains the APPOINT value.

2. Click **SETUP→SYNCH. ELEMENTS**.

3. The **Outlook Synch. Setup Details** window opens.

4. Click the **Lookup** button in the first entry. The **Outlook Synch. Lookup Names** window opens.

5. Select the Recipients entry and click **OK**. Now the **Outlook Synch. Setup Details** window contains the name of the Recipients collection in the **Outlook Collection** field.

6. Close the **Outlook Synch. Setup Details** window. The **No. of Elements** field in the **Outlook Synch. User Setup** window specifies that the current synchronization entity contains one collection.
Demonstration – Custom Synchronization Setup

This demonstration illustrates the situation when the salesperson requests that custom fields be added to the Outlook synchronization entities used in the synchronization. The salesperson wants to add the name of the language for a contact if the contact is a person and not a company. This information is already specified for Microsoft Dynamics NAV contacts but it is not available for Outlook contacts. To add the language name to the Outlook synchronization entity the administrator uses a custom user-defined field:

Steps:

1. Open the Outlook Synch. Entity window.
3. Select the CONT_PERS entity and then click OK. The Outlook Synch. Entity window closes.
4. Click SYNCH. ENTITY → FIELDS. The Outlook Synch. Fields window opens.
5. In the Outlook Synch. Entity window, click SYNCH. ENTITY → FIELDS. The Outlook Synch. Fields window opens.
6. In the Outlook Synch. Fields window add an entry with the following field values:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table No.</td>
<td>8</td>
</tr>
<tr>
<td>Table Name</td>
<td>Language</td>
</tr>
</tbody>
</table>
| Table Relation   | 1. Click the AssistEdit button. The Outlook Synch. Filters window opens.  
2. Create a new entry:  
Field Name: Code  
Type: FIELD  
Value: Language Code |
| Field No.        | 2                                          |
| Field Name       | Name                                       |
| User-Defined     | Yes                                        |
| Outlook Property | Language Name                              |
Demonstration – Customize Synchronization Entities

In this demonstration, the salesperson does not want to synchronize all meetings. The salesperson requests that only meetings that are of normal or high priority be synchronized. Your task is to limit the choice of meetings to be synchronized to respect this condition.

Steps:

1. Open the Outlook Synch. User Setup table.
2. Select the line where the Synch. Entity field contains the APPOINT value.
3. Click the AssistEdit button in the Condition field. The Outlook Synch. Filters window opens.
4. In the Outlook Synch. Filters window add one more filter using the information in the following table.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Field Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Name</td>
<td>Priority</td>
</tr>
<tr>
<td>Type</td>
<td>FILTER</td>
</tr>
<tr>
<td>Value</td>
<td>High</td>
</tr>
</tbody>
</table>

5. Click OK to close the Outlook Synch. Filters window and return to the Outlook Synch. User Setup window.
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Using Outlook Synchronization

To adjust the synchronization settings, specify troubleshooting options, and perform synchronization, the user relies on the interface available in Outlook. If modifications occur in Microsoft Dynamics NAV and Outlook at the same time, the user can decide which side has the priority by specifying the rule most appropriate for a specific synchronization procedure.

Microsoft Dynamics NAV Synchronization Add-in

The Microsoft Dynamics NAV Synchronization add-in is a key component of the synchronization setup process and the main user interface to control the flow and settings of synchronization. This component also features a mechanism for the resolution of synchronization conflict and errors. The Microsoft Dynamics NAV Synchronization add-in is installed at the Outlook side.

Installing Microsoft Dynamics NAV Synchronization Add-in

The Microsoft Dynamics NAV Synchronization add-in contains the means necessary for setting up and adjusting synchronization options. The add-in is the only part of Outlook Synchronization that users install on the Outlook side. The next topic will cover how to install, set up, and remove the Microsoft Dynamics NAV Synchronization add-in.

The Microsoft Dynamics NAV Synchronization add-in is installed separately from the Microsoft Dynamics NAV installation.

There can be two setup scenarios:

- When a new version of Microsoft Dynamics NAV 5.0 is installed and a company is created
- When upgrading the database from Microsoft Dynamics NAV version 4.0 to version 5.0

The procedure of installing the add-in component is part of the standard Microsoft Dynamics NAV installation.

NOTE: After you install the add-in, the Microsoft Dynamics NAV Synchronization toolbar will appear in Outlook the next time that you start it.
Setting Up the Synchronization Add-in

This section covers what settings and options are available for adjusting synchronization.

Synchronization Toolbar
The Microsoft Dynamics NAV Synchronization toolbar makes it possible to do the following:

- Start synchronization.
- Set up its options.
- Resolve synchronization conflicts.
- Test the connection status.

![Microsoft Dynamics NAV Synchronization Toolbar](image)

The **Synchronize** button lets users synchronize two types of Outlook items:

- Items or fields that have not been synchronized since the last modification
- Items that have not been synchronized at all

The **Full Synchronization** button lets users synchronize all Outlook items that are stored in folders specified on the **Folders** tab of the **Settings** window. Outlook items are not synchronized if no fields have changed since the last synchronization.

For example, full synchronization might be required in response to a change of time zone. In this case, the last modification date/time of objects will be changed and must be adjusted. By default the **Full Synchronization** button cannot be seen. However, it can be added to the toolbar using the **Customize** tab of the **Settings** window.

*NOTE: If a custom toolbar exists called Microsoft Dynamics NAV Synchronization, it will be removed during the add-in installation. All buttons that were on the custom toolbar will be lost.*

When a user clicks the **Settings** button, the Settings window opens, where synchronization and conflict resolution settings can be adjusted. This window contains five tabs:

- General
- Connection
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- Folders
- Filters
- Customize

**General Tab**

The **General** tab controls the primary synchronization options. Here, the user can specify information about different aspects of the synchronization process. To define the behavior of the program in case a conflict occurs, the user must select a desirable option in the Synchronization conflicts resolution group. This is also available on this tab.

![FIGURE 3-7: THE GENERAL TAB OF THE SETTINGS WINDOW](image)

FIGURE 3-7: THE GENERAL TAB OF THE SETTINGS WINDOW
**Connection Tab**

The **Connection** tab contains options for setting up a server for communication between Outlook and Microsoft Dynamics NAV.

![Figure 3-8: The Connection Tab of the Settings Window](image)

In the Company Name field, the user enters the name of the required company that already exists in Microsoft Dynamics NAV. Specify the server type Microsoft Dynamics NAV works with.

The following options are available:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Dynamics NAV Server Tier</td>
<td>The communication will be performed through the NST. If this option is selected, the user can adjust Web service settings.</td>
</tr>
<tr>
<td>Microsoft Dynamics NAV Database Server</td>
<td>The communication is performed through the Microsoft Dynamics NAV database server. If the user selects this option, it is possible to view the C/FRONT.NET related settings in the Connection Type area in this window.</td>
</tr>
<tr>
<td>Microsoft SQL Server</td>
<td>The SQL server will be responsible for communication. If you select this option, you will be able to select a Microsoft Dynamics NAV database name in the Connection Type area.</td>
</tr>
</tbody>
</table>

In addition, specify the transport layer as a connection type. The options that will be available to adjust are either Web Service or C/FRONT.NET, depending on the selected server type.
Chapter 3: Outlook Synchronization

Folders Tab

To select the folders for synchronizing Outlook items with Microsoft Dynamics NAV entities and for storing already synchronized items, use the Folders tab.

FIGURE 3-9: THE FOLDERS TAB OF THE SETTINGS WINDOW

The controls in the Settings window are added dynamically, depending on the information about the synchronized entities that is retrieved from the mapping schema on the Microsoft Dynamics NAV Service Tier. There should be a separate folder for each synchronization entity the user defined in Microsoft Dynamics NAV. The labels for these controls correspond to the values of the Description field in the Synchronization Entity table in Microsoft Dynamics NAV.

NOTE: Specifying folders is very important. If there is not a specified folder, the solution will not work.

Filters Tab

On the Filters tab, you can specify criteria to define more accurately the Outlook items that will be synchronized with Microsoft Dynamics NAV entities. The items sorted out will not be synchronized. The items the user will apply filters to originate from the folders specified on the Folders tab.
Each item type has its own set of filters that can be edited in the Filter window. The user can click the Edit button on the Filters tab next to the filter to be modified.
Chapter 3: Outlook Synchronization

The filter expressions are shown in the rows in the **Do not synchronize items that match these criteria** area. In this area, the user can delete excessive criteria or add more using the functionality available in the **Define more criteria** area in the **Filter** window.

**Customize Tab**

On this tab, select which command buttons are available on the **Microsoft Dynamics NAV Synchronization** toolbar. Be aware that the **Settings** button is absent from the list of options because it is always visible.

![Figure 3-12: The Customize Tab of the Settings Window](image)

**Troubleshooting**

The user can access a list of the synchronization errors and conflicts that occurred during synchronization. To make this information available, the user opens the **Troubleshooting** window by clicking the **Troubleshooting** button on the **Microsoft Dynamics NAV Synchronization** toolbar.

One of two statuses is possible:

**No errors or conflicts have been logged.** In this case, the button is unavailable and white in color.

**At least one conflict or error has been logged.** The button is red and clicking it displays the Troubleshooting window.

The Troubleshooting window contains two tabs:

- **Errors.** Displays synchronization errors.
- **Conflicts.** Displays synchronization conflicts.
Errors Tab

Technical problems such as connection errors that occurred during synchronization are stored in the log file that was created when Outlook was first run. This log is intended for the system administrators.

The **Errors** tab displays the entries of the synchronization errors log file. New entries are added, for example, because of attempts to synchronize items from folders that have been deleted. After every instance of synchronization, the program updates the list of errors on the **Errors** tab.

After correcting an error, the user can delete the corresponding error record manually by clicking the **Delete** button on the **Errors** tab toolbar. The **Delete All** button makes it possible to delete all the records in the error log.

![Figure 3-13: The Errors Tab of the Troubleshooting Window](image)

**NOTE**: New errors make the list bigger even if the identical entries already exist. This is because the same error can be listed more than one time.

Conflicts Tab

The **Conflicts** tab contains information about the mapped Outlook items and Microsoft Dynamics NAV entities that have been modified after the previous synchronization, both on the Microsoft Dynamics NAV and Outlook side. The entries displayed in the **Conflicts** tab specify which objects cannot be synchronized automatically, and the user has to decide how to resolve the conflict.
Chapter 3: Outlook Synchronization

If the program registers any conflicts, the list of conflicts is updated.

**NOTE:** Records of synchronization conflicts will be stored and then displayed on the Conflicts tab if the Log Conflicts option is selected on the General tab of the Settings window. If you selected any other option for conflict resolution, synchronization conflicts will be resolved automatically according to the selected option and therefore cannot be logged.

**Figure 3-14: The Conflicts Tab of the Troubleshooting Window**

**NOTE:** Conflicts that remained from the previous synchronization are deleted.

**Synchronization Progress Window**

The Synchronization Progress window shows the status of the synchronization being performed. By design, it is similar to the Send/Receive window available in Outlook.

**Figure 3-15: The Synchronization Progress Window**
The user reaches the **Synchronization Progress** window by clicking the **Synchronize** button on the **Microsoft Dynamics NAV Synchronization** toolbar.

**NOTE:** The Synchronization Progress window opens only if the Show synchronization progress option in the Settings window is selected. If the **Schedule automatic synchronization every … minutes** option is selected on the **General** tab of the **Settings** window and synchronization is started automatically, the Synchronization Progress window will not be shown.

If a user clicks the **Synchronize** button on the **Microsoft Dynamics NAV Synchronization** toolbar while the synchronization is already running in the background, the **Synchronization Progress** window pops up to display the current status of the synchronization.

The **Synchronization Progress** window can give the user details on the current synchronization process. Clicking the **Details** button reveals the synchronization status of:

- The synchronization process
- Outlook and Microsoft Dynamics NAV items
- Finalization

When the synchronization process is complete, the **Synchronization Progress** window displays the summary of the performed actions.

**NOTE:** To see the synchronization summary, the user must have the **Show synchronization summary** option in the **Settings** window selected.

**Demonstration – Synchronizing Automatically**

A salesperson has to synchronize Outlook items and Microsoft Dynamics NAV objects. The Microsoft Dynamics NAV objects are contacts of the Company type, Meetings, and Tasks. The synchronization options provide automatic running of synchronization every 60 minutes.

After synchronization is performed, all Microsoft Dynamics NAV entities must be replaced with Outlook items. For each folder in Outlook where synchronized items are to be stored, apply a filter with different conditions that limit the number of Outlook items that will be synchronized.
Chapter 3: Outlook Synchronization

To synchronize items, the salesperson does the following:

1. Click the Settings button on the Microsoft Dynamics NAV Synchronization toolbar. This opens the Settings window.

2. On the General tab, fill in the available fields as follows:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule automatic synchronization every</td>
<td>Select this field. Put 60 as the frequency for automatic synchronization</td>
</tr>
<tr>
<td>Show synchronization progress</td>
<td>Select this field.</td>
</tr>
<tr>
<td>Show synchronization summary</td>
<td>Select this field.</td>
</tr>
<tr>
<td>Synchronization conflicts resolution</td>
<td>Select the Replace Microsoft Dynamics NAV records with Outlook items option</td>
</tr>
</tbody>
</table>

3. On the Connection tab, fill in the available fields as follows:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name</td>
<td>Enter the name of the demo company: CRONUS International Ltd.</td>
</tr>
<tr>
<td>Server Type</td>
<td>Choose the Microsoft SQL Server option</td>
</tr>
<tr>
<td>Connection Type</td>
<td>C/FRONT.NET is selected automatically</td>
</tr>
<tr>
<td>Server Name</td>
<td>Specify the name of the required server</td>
</tr>
<tr>
<td>Database Name</td>
<td>Select the appropriate database</td>
</tr>
</tbody>
</table>

4. Click the Folders tab to assign folders for storing synchronized data. On this tab, fields that have folder names as captions are available.

5. To define a path of each of these folders, click Browse next to the field. The Select Folder window appears.
   - For contacts of the Company type select Contacts
   - For the Meeting select the Appointments folder
   - For Tasks select Tasks

6. In the Filters tab, specify filters for each entity that are to be synchronized. To start defining filters, click Edit next to Contacts of the Company type. The Filter window appears. Use the information in the following table.
7. Click OK to apply the filter.

8. On the Settings window, click Edit next to the Meeting folder label. In the Filter window, select the following values:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Name</td>
<td>Categories</td>
</tr>
<tr>
<td>Condition</td>
<td>Contains</td>
</tr>
<tr>
<td>Value</td>
<td>Important</td>
</tr>
</tbody>
</table>

9. Click OK.

10. On the Settings window, click Edit next to the Tasks folder label. In the Filter window, select the following values:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Name</td>
<td>Subject</td>
</tr>
<tr>
<td>Condition</td>
<td>Contains</td>
</tr>
<tr>
<td>Value</td>
<td>Outlook</td>
</tr>
</tbody>
</table>

11. Click OK.

12. After you have set up all the options necessary for completing the demonstration, click OK to apply the changes.
Demonstration – Synchronizing Manually

This demonstration is based on the results of the Synchronizing Automatically demonstration. In this demonstration, the user synchronizes Outlook items and Microsoft Dynamics NAV objects manually instead of automatically.

NOTE: The synchronization is done from Outlook to Microsoft Dynamics in this demonstration, but it can also be done from Microsoft Dynamics to Outlook.

In this demonstration, the salesperson creates an appointment, a task, and a contact in Outlook to synchronize with the corresponding Microsoft Dynamics NAV objects by performing the following:

1. Specify the exact subject, location, label, and time for the appointment.
2. Make the appointment appear in the calendar as the out of office time.
3. Start the synchronization manually, instead of waiting until automatic synchronization will run.
4. Verify that the items in the folders specified in the Settings window are synchronized with Microsoft Dynamics NAV objects.

To synchronize Outlook items with Microsoft Dynamics NAV entities manually, the salesperson performs the following:

1. In Outlook, open the folder that was specified for storing calendar items and then click New, Appointment. Use the information in the following table.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject</td>
<td>Meeting with Customers</td>
</tr>
<tr>
<td>Location</td>
<td>Enter where this appointment is to occur</td>
</tr>
<tr>
<td>Label List</td>
<td>Business</td>
</tr>
<tr>
<td>Start Time</td>
<td>The twelfth of the current month</td>
</tr>
<tr>
<td>All Day Event</td>
<td>Select</td>
</tr>
<tr>
<td>Show As</td>
<td>Out of Office</td>
</tr>
</tbody>
</table>

2. In the Tasks window, open the folder that was specified for storing tasks and then click NEW→TASK. Fill in all the necessary fields to create the task.

3. In the Contacts window, open the folder that was specified for storing contacts and then click NEW→CONTACT. Fill in all the necessary fields to create the contact.
4. Click the Settings button on the Microsoft Dynamics NAV Synchronization toolbar to open the Settings window.

5. On the General tab, select the Show synchronization summary check box. This option makes sure that after you perform synchronization, the Synchronization Summary window opens and displays what items have been synchronized. According to the settings made in the Synchronizing Automatically demonstration, synchronization must run every 60 minutes.

6. Click the Synchronize button on the Microsoft Dynamics NAV Synchronization toolbar.

7. Open the Synchronization Summary window to view the number of items that have been synchronized.

**Demonstration – Resolving Synchronization Conflicts**

This demonstration is based on the result of the Synchronizing Manually demonstration. In this demonstration, the user manually resolves the conflicts that occurred during synchronization.

The marketing staffer calls and asks to postpone an appointment until the 14th of the current month. However, by mistake the user changed the date to the 13th. Resolve the logged conflict in favor of information provided by the marketing staffer.

1. Click Settings on the Microsoft Dynamics NAV Synchronization toolbar. The Settings window opens.

2. On the General tab, select the Log Conflicts options in the Synchronization conflicts resolution area.

   This option signifies that each synchronization conflict will be stored in the troubleshooting log. Click OK to apply changes and close the Settings window.

3. In Outlook, open the appointment that you created for the Synchronizing Manually demonstration. Change the date to the 13th of this month and save the appointment.

4. Click Synchronize on the Microsoft Dynamics NAV Synchronization toolbar to run synchronization. The Troubleshooting button turns to red, which means that synchronization conflicts occurred and have been logged.

5. Click Troubleshooting on the Microsoft Dynamics NAV Synchronization toolbar. The Troubleshooting window opens. Click the Conflicts tab to view the synchronization conflict.
6. To view details of this conflict, double-click the appropriate entry. The Conflict Details window opens and shows what data has been mismatched during synchronization. In this case it will be dates. Click OK to close the window and start resolving the conflict.

7. To resolve the conflict in favor of the marketing staffer, select the conflict and then click the Replace Outlook Item button on the toolbar. Click OK to close the Troubleshooting window. Click OK to apply changes on the confirmation message that appears.

8. Open the appointment that you synchronized with Microsoft Dynamics NAV to notice that the date has been changed to the 14th.

Points to Remember

When synchronizing such different applications as Microsoft Dynamics NAV and Outlook, the user should consider the specifics of each. This section helps avoid many pitfalls of synchronization.

Working with Contacts

When working with Contacts, remember the following:

- Salespeople can only be created in Microsoft Dynamics NAV. Because of functional limitations imposed by Microsoft Dynamics NAV for adding salespeople, each Outlook contact synchronized with a Microsoft Dynamics NAV salesperson should be created in Microsoft Dynamics NAV as a salesperson and then synchronized to Outlook. After the salesperson is created in this manner, its properties can be synchronized both ways.

- Make sure that the full Name field is empty on the Contact window in Outlook or copy the value of the Company field for contacts that should be synchronized with Microsoft Dynamics NAV contacts of the Company type. As the name of contacts of the Company type is always the same as the Company name, the related Outlook contacts either should not have the full name specified or the full name should be identical to the value of the Company field. If the user specifies the Full Name different from the Company name, the data in Microsoft Dynamics NAV can become inconsistent.

- Close the Microsoft Dynamics NAV window to apply changes to an entity that should be synchronized. Modifications to Microsoft Dynamics NAV entities cannot be detected until the user closes all the appropriate windows. Closing windows finalizes changes and registers them correctly in the change log from where they become available to the Outlook Synchronization.
- To make sure that the e-mail address of a newly synchronized salesperson is stored in the correct format, the first synchronization should be performed for the related contact in Outlook. Because of the specifics of storing e-mail addresses at the Exchange server in Outlook, the correct e-mail format will be applied only when the address is added to the contact in Outlook. Therefore, if the salesperson is synchronized for the first time, or the salesperson has not been synchronized yet, make sure that the contact's e-mail has been defined for the related contact in Outlook.

- Avoid starting names of companies with the word “The”. Because of the specifics of Outlook, the word “The” that appears at the start of a company name is truncated automatically. Therefore the synchronization will fail because the related Microsoft Dynamics NAV contact of the Company type will not be found.

- The e-mail and the name of the current Outlook user and those of the to-do organizer should not differ.

**Working with Tasks and Appointments**

The following recommendations will facilitate working with tasks and appointments:

- The name of the effective Outlook user (the synchronization user) should coincide with the name of the salesperson in Microsoft Dynamics NAV. To synchronize tasks and appointments, the Outlook user must be the same as the contact registered as a salesperson in Microsoft Dynamics NAV. The name and e-mail address should be identical in both applications. Otherwise the synchronization fails.

- Select related contacts and recipients for appointments or tasks exclusively from the folders defined in the synchronization setup.

- When you create an appointment or task, select related contacts and recipients from the folders defined in the synchronization setup. If contacts and recipients were selected from other folders, these appointments and tasks will not be synchronized.

- When you create a task that should synchronize with Microsoft Dynamics NAV to-dos of the Telephone Call or Blank type, select only one contact. Select a contact synchronized with a Microsoft Dynamics NAV contact of the Person or Company type. Outlook tasks can be synchronized with Microsoft Dynamics NAV to-dos either of the Telephone Call or Blank type. These types can have only one contact assigned. If more than one contact is specified for Outlook, the program automatically chooses the last and ignores the rest.
• When you define the Outlook contact’s full name, avoid using titles, such as Mr. or Mrs., for tasks and appointments that can be used as related contacts. If you intend to use a contact as a related contact in tasks and appointments do not fill in the Title field in the Contact window in Outlook (available from the Full Name button). Otherwise, the program may not find this contact during synchronization.

• When synchronizing Outlook tasks, select only contacts that are synchronized with Microsoft Dynamics NAV contact of the Company or Person type to synchronize with Outlook tasks (no salesperson as a synchronization folder). Microsoft Dynamics NAV allows only contacts of the Person or Company type to be assigned a to-do (the Telephone Call or Blank type).

• Tasks assigned to other users but stored in the synchronization folder of the effective Outlook user are not synchronized.

• Appointments with the organizer stored in the synchronization folder but different from the effective Outlook user are not synchronized because of Outlook limitations.

• Make sure that the related contact added manually to tasks and appointments is recognized as a valid Outlook contact. If you insert a contact manually you must check if the specified value is the name of a valid Outlook contact (using the Check Names button available on the Tools menu). Otherwise the contact is not synchronized.

General Settings

When synchronizing data, the user should consider the following Outlook specifics:

• Do not change the value of fields that identify a synchronization entity. Otherwise, this entity will not synchronize. If the program finds a synchronization entity by the e-mail address, for example, and is used in a specific synchronization, it will not be synchronized if the user modifies the e-mail address in Outlook.

• The synchronization folder moved to the Deleted Items folder in Outlook can still be synchronized. To remove a synchronization folder the user must delete it completely from the Deleted Items, too. Then it is necessary to run the synchronization and restart Outlook for the changes to take effect.

• Avoid duplicates in the fields that are used for finding synchronization entities. The synchronization entities should not have duplicates in fields that identify these entities. Otherwise Outlook only synchronizes the first one it finds, ignoring the other ones. For example, as the related contacts are identified by their names, there should not be two such contacts that have the same name.
- Multiple profiles in Outlook are not supported. If you have more than one Outlook profile connected to different Exchange servers, and one of them is prepared from synchronization, then all profiles will have identical synchronization settings (except the folders selected for storing synchronized items).

- Do not change the system time manually. The current version of synchronization supports only automatic time changes caused by a time zone change or summer/winter time change. Therefore, it is not recommended to change the system time manually.

- Adjust the time span between automatic synchronizations according to the number of objects that should be synchronized. If many entities are expected to be synchronized, increase the scheduled period of time that should elapse between synchronization.
Conclusion

Outlook Synchronization is a new functionality that provides a state-of-the-art solution that enriches Office integration for small and mid-sized businesses, delivering convenient and customizable synchronization between Microsoft Dynamics NAV and Outlook clients.

This solution provides a flexible control over how the synchronization process performs and offers new features previously unavailable:

- It is a role-based approach that makes it possible to control the influence of employees to the company data.
- There are no limitations as to what data can be synchronized. Unlike the earlier version, it is only up to the administrator or the user to decide what data can be updated both in Microsoft Dynamics NAV and in Outlook.
- Due to the flexible setup, the user can define the data to synchronize within the limits defined by the administrator, and data can be synchronized from different sources.
- The user can either leave it to the system how to resolve data conflicts or work on each case manually.
- It covers both periodic and user requested operations. Unlike the event-based approach, it makes it necessary to establish a connection between Microsoft Dynamics NAV and Outlook for a short period of time. The system determines what data to synchronize at every synchronization session and the system makes the required changes.
Quick Interaction: Lessons Learned

Take a moment and write down three key points you have learned from this chapter:

1. ______________________________________
   ______________________________________
   ______________________________________

2. ______________________________________
   ______________________________________
   ______________________________________

3. ______________________________________
   ______________________________________
   ______________________________________