

Microsoft Dynamics®

# Connector for Microsoft Dynamics Configuration Guide for Microsoft Dynamics® NAV

June 2014

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# Table of Contents

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<b>Introduction</b> .....	<b>5</b>
Common terminology .....	6
<b>System requirements</b> .....	<b>7</b>
<b>Upgrading Connector for Microsoft Dynamics</b> .....	<b>8</b>
Upgrade to Connector V3 from previous versions .....	8
Upgrade to the Microsoft Dynamics CRM 2011 adapter .....	8
Upgrade from Microsoft Dynamics CRM 4.0 to Microsoft Dynamics CRM 2011 .....	9
Upgrade Microsoft Dynamics NAV .....	10
Integrate existing Microsoft Dynamics data .....	10
<b>Installation</b> .....	<b>11</b>
Apply currency hotfix .....	11
Apply country/region code hotfix .....	11
Create the ERP integration account .....	11
Enable Connector for Microsoft Dynamics in Microsoft Dynamics NAV .....	12
Install Connector for Microsoft Dynamics .....	12
<b>Configuration</b> .....	<b>13</b>
Configure adapter settings and organizations for Microsoft Dynamics CRM .....	13
Configure adapter settings for Microsoft Dynamics NAV .....	13
Create an integration .....	14
<b>Data preparation</b> .....	<b>16</b>
Verify customizations for Microsoft Dynamics CRM 4.0.....	16
Verify map modifications.....	17
Map constant values.....	18
Translate enumerated values .....	18

<b>Data synchronization .....</b>	<b>20</b>
Required fields in maps .....	20
Required updates to default maps.....	20
Recommended map run order .....	20
Map enumerated values.....	21
Map currency exchange rates .....	22
Map units of measure and unit groups .....	23
Map salespersons and ERP system users.....	24
Associate Microsoft Dynamics CRM users with ERP system users.....	25
Map customers to accounts .....	26
Mapping customers and accounts.....	27
Map contact information .....	28
Mapping contact cards and contacts .....	29
Map items, resources and products .....	30
Map orders and invoices .....	31
Mapping orders and invoices .....	32
<b>Customization .....</b>	<b>34</b>
Customize map settings.....	34
Maintenance.....	34
Additional information .....	34
<b>Appendix.....</b>	<b>35</b>
Integration exceptions.....	36
Map dependencies .....	37
Microsoft Dynamics NAV to Microsoft Dynamics CRM .....	37
Microsoft Dynamics CRM to Microsoft Dynamics NAV .....	38
Microsoft Dynamics CRM to Microsoft Dynamics NAV maps.....	39
Account to Customer Card .....	39
Contact to Contact Card .....	40
Order to Sales Order .....	41
Address2 in Microsoft Dynamics CRM .....	42
Microsoft Dynamics NAV to Microsoft Dynamics CRM maps.....	43
Microsoft Dynamics NAV Enumerated Values to Microsoft Dynamics CRM Picklist .....	43
Unit of measure to Unit Group .....	45
Salespeople/Purchaser to ERP System User.....	45
Customer Card to Account .....	45
Contact Card to Contact .....	46
Item Card to Product.....	46
Sales Order to Order .....	47
Ship-To addresses in Microsoft Dynamics NAV.....	47
Changes made by the Microsoft Dynamics NAV Configuration utility .....	48

## Introduction

Use Connector for Microsoft Dynamics to integrate Microsoft Dynamics CRM and Microsoft Dynamics NAV data. For example, you can integrate Microsoft Dynamics NAV customers with Microsoft Dynamics CRM accounts giving you access to up-to-date customer/account information in both systems.

Connector for Microsoft Dynamics is intended to be used in an implementation where Microsoft Dynamics CRM is used to manage business contacts, track leads, enter sales orders, and perform other sales and marketing activities, and where Microsoft Dynamics NAV is used to perform accounting functions, manage your company's chart of accounts, and maintain customer, item, salesperson, and other records.

Within Connector for Microsoft Dynamics, separate adapters are used to identify a source system (where data is read from) and a destination system (where data is written to). The source adapter reads data from the source system. The destination adapter writes the data to the destination system.

Record types that are integrated are referred to as "entities." Some entity information can be integrated only one way between the two systems. For example, a product that is entered into Microsoft Dynamics CRM cannot be integrated with Microsoft Dynamics NAV as an item, but an item that is entered into Microsoft Dynamics NAV can be integrated with Microsoft Dynamics CRM as a product.

After installation, you can integrate the following entities in Microsoft Dynamics NAV and Microsoft Dynamics CRM. Additional integration functions can be added later.

Microsoft Dynamics NAV entity	Integration direction	Microsoft Dynamics CRM entity
Customer card (including ship-to addresses)	↔	Account
Contact card	↔	Contact
Enumerated values	→	Picklist
Sales invoice	→	Invoice
Posted sales invoice	→	Invoice
Sales order	↔	Order
Item card	→	Product
Resource list	→	Product
Units of measure	→	Unit group
Salesperson/Purchaser	→	ERP system user
Currency exchange rates	→	Currency

For more information about integrating entities with Microsoft Dynamics NAV, see "Integrating Microsoft Dynamics NAV with Microsoft Dynamics CRM" on MSDN (<http://go.microsoft.com/fwlink/?LinkID=204486>).

## Common terminology

The following terms are used in this document.

Term	Definition
<b>Adapter</b>	A software component that enables data exchange through a specific transport. Connector for Microsoft Dynamics uses adapters to read data from and write data to Microsoft Dynamics systems.
<b>Entity</b>	A type of record in a Microsoft Dynamics system. Orders, invoices, accounts, customers, products, or items are all examples of an entity.
<b>Entity record</b>	A specific occurrence of an entity. A Microsoft Dynamics NAV customer record, a product, or a Microsoft Dynamics CRM order are each an example of an entity record.
<b>Exception</b>	An abnormal condition or error that occurs during the integration between a source entity and a destination entity.
<b>Integration</b>	The process of synchronizing data that was entered in one Microsoft Dynamics application with another Microsoft Dynamics application. Within Connector for Microsoft Dynamics, an integration consists of a set of maps that can be run to integrate some Microsoft Dynamics CRM entities with some Microsoft Dynamics NAV entities.
<b>Integrated record</b>	A record that has been linked between the two systems and then synchronized. For example, if a customer record in Microsoft Dynamics NAV has a corresponding account record in Microsoft Dynamics CRM and these records have been linked, it is an integrated record.
<b>Map</b>	A collection of associations between fields in one Microsoft Dynamics CRM entity with fields in another Microsoft Dynamics NAV entity. Maps also determine in which direction data flows from a given entity, and defines which adapter is the source and which adapter is the destination.
<b>Microsoft Dynamics Integration (MSDI) database</b>	The database created for Connector for Microsoft Dynamics during the installation process.
<b>Runtime</b>	The process of reading entity information from the source system, transforming that information into data that the destination system can recognize, and then writing the transformed data to the destination system.
<b>Source/Destination entity</b>	<p>The source entity provides the data that will be used to create new entities in the destination system.</p> <p>The destination entity is created or modified after you run an integration. If the Microsoft Dynamics NAV Customer record is the destination entity and the Microsoft Dynamics CRM Contact record is the source entity, then Microsoft Dynamics CRM Contacts will be created as Customers within Microsoft Dynamics NAV when the integration is run.</p>

## System requirements

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Before installing Connector for Microsoft Dynamics, your system must meet the following requirements.

- Microsoft Windows Server 2008 SP2, or Windows Server 2008 R2 SP1, or Windows Server 2012
- Microsoft .NET Framework 3.5 and Windows .NET Framework 4.5.1
- A valid connection to a computer with Microsoft SQL Server 2005 SP4, SQL Server 2008 SP2, SQL server 2008 R2, or SQL Server 2012 installed
- One of the following connections to Microsoft Dynamics CRM:
  - Microsoft Dynamics CRM version 4.0 with the most recent Update Rollup applied
  - Microsoft Dynamics CRM 2011 on-premises with the most recent rollup applied
  - A valid subscription to Microsoft Dynamics CRM online
  - A valid subscription to a hosted deployment of Microsoft Dynamics CRM 2011
- For Microsoft Dynamics CRM 2011 online only – At least two different Windows Live IDs and passwords
- Microsoft Dynamics NAV and Microsoft Dynamics CRM must use the same base install language
- Microsoft Dynamics NAV and Microsoft Dynamics CRM must use the same base or functional currency
- Microsoft Dynamics NAV and Connector for Microsoft Dynamics must be located in the same time zone

### **If you are using Microsoft Dynamics NAV 2009 R2:**

- Microsoft Dynamics NAV 2009 R2
- Granule 9100 for the Microsoft Dynamics NAV server
- Microsoft Dynamics NAV 2009 R2 hotfix in KB2597312 (<http://support.microsoft.com/kb/2597312>)
- Microsoft Dynamics NAV 2009 R2 hotfix in KB2721512 (<http://support.microsoft.com/kb/2721512>)

### **If you are using Microsoft Dynamics NAV 2013:**

- Microsoft Dynamics NAV 2013
- Granule 9100 for the Microsoft Dynamics NAV server

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## Upgrading Connector for Microsoft Dynamics

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You are not required to manually uninstall a previous version of the Connector for Microsoft Dynamics if you are upgrading to the current version. That process is completed automatically.

**Note:** Before you begin the upgrade process, create backups of your Microsoft Dynamics NAV database, your Microsoft Dynamics CRM databases, and your MSDI database.

### Upgrade to Connector V3 from previous versions

**Note:** Before you begin the upgrade process, create backups of your Microsoft Dynamics ERP database, your Microsoft Dynamics CRM database, and your MSDI database.

When you upgrade to the current release of Connector for Microsoft Dynamics, obsolete tables are removed from the MSDI database and user settings are cleared.

The first time that you start the client application after upgrade, the **Adapter Settings** window is displayed so that you can enter settings for the adapters that were installed. You must enter passwords and user information for both the ERP adapter and the Microsoft Dynamics CRM adapter in Connector for Microsoft Dynamics.

**Note:** After the upgrade process is completed, run the Configuration Utility for Microsoft Dynamics CRM and the Microsoft Dynamics ERP to update the adapter settings. Adapters cannot create new integrations until the adapter settings are updated.

If you are upgrading from versions earlier than 2.0.620.1, the following maps must also be manually updated to maintain accurate integration between Microsoft Dynamics NAV and Microsoft Dynamics CRM.

- In the **Item Card to Product** map, update the **Inventory** field with the following function: **[=If(LessThan(Inventory, 0), 0, Inventory)]**.
- In the **Currencies to Currency** map, update the map template with KB2597312. For more information, see [Apply currency hotfix](#).

### Upgrade to the Microsoft Dynamics CRM 2011 adapter

The current release of Connector for Microsoft Dynamics contains an updated adapter to connect to Microsoft Dynamics CRM 2011. This new adapter supports all deployments of Microsoft Dynamics CRM 2011, including Microsoft Dynamics CRM online. If you are connecting to a new instance of Microsoft Dynamics CRM 2011, or you are connecting to a new organization in an existing instance of Microsoft Dynamics CRM 2011, we recommend that you use the Microsoft Dynamics CRM 2011 adapter.

**Note:** If you have an existing integration between Microsoft Dynamics CRM 4.0 or Microsoft Dynamics CRM 2011 that is using a previous version of Connector for Microsoft Dynamics, you are not required to upgrade the integration.

To upgrade to the Microsoft Dynamics CRM 2011 adapter, complete the following steps.

1. Open Connector for Microsoft Dynamics. Record the following information for all existing maps:
  - The **Check for data modified after** date
  - The map run schedule
  - Any customizations that were made to existing maps.
2. If you have any custom integration maps, use the **Exported** tab to save the mapped fields to a spreadsheet in Microsoft Excel.

3. Inactivate all of the maps in Connector for Microsoft Dynamics.
4. Close Connector for Microsoft Dynamics.
5. Upgrade to the latest version of Connector for Microsoft Dynamics.
6. Configure the Microsoft Dynamics CRM 2011 adapter and Microsoft Dynamics CRM organizations. For procedures, see the [Connector for Microsoft Dynamics installation guide](#).
7. Create a new integration. For procedures, see [Create an integration](#).
8. For each map in the new integration, use the same **Check for data modified after** date as the corresponding map in the previous integration. If there was no corresponding map, use the current date.
9. For each map in the new integration, use the same map run schedule as the corresponding map in the previous integration. If there was no corresponding map, use the default setting.
10. Re-create any map customizations or customized maps that you noted in steps 1 and 2.
11. Start the Connector for Microsoft Dynamics service, and then activate the maps.

**Note:** When the new integration is performing as expected, you can delete the previous integration.

## Upgrade from Microsoft Dynamics CRM 4.0 to Microsoft Dynamics CRM 2011

If you have upgraded from Microsoft Dynamics CRM 4.0 to Microsoft Dynamics CRM 2011 and are currently integrated with Connector for Microsoft Dynamics Feature Pack 6 (version 1.6.731.4) or earlier, you must upgrade Connector for Microsoft Dynamics and manually reconfigure Connector for your ERP system. Alternatively, you could use the Microsoft Dynamics CRM 2011 adapter, as explained in [Upgrade to the Microsoft Dynamics CRM 2011 adapter](#).

1. Open Connector for Microsoft Dynamics. Inactivate all maps for the integrations.
2. Upgrade Microsoft Dynamics CRM 4.0 to Microsoft Dynamics CRM 2011.
3. Upgrade Connector for Microsoft Dynamics.
4. To continue using the Microsoft Dynamics CRM adapter settings, you must manually import ERP solutions. For more information, see the [Connector for Microsoft Dynamics installation guide](#).
5. Open Connector for Microsoft Dynamics. Click **Adapter Settings**, select your Microsoft Dynamics CRM adapter, and then run the Microsoft Dynamics CRM Adapter Configuration utility. For more information, see the [Connector for Microsoft Dynamics installation guide](#).
6. When the Microsoft Dynamics CRM Adapter Configuration utility has finished running, you must run the Microsoft Dynamics NAV Configuration utility again.
7. In the **Account to Customer Card** map, update the **All Shipping Address\Ship to Address\Is Primary** field with the following function: **[=EqualTo(All Addresses\Customer Address\AddressNumber, 1)]**.
8. Activate maps for the integrations again and continue integrating data.

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## Upgrade Microsoft Dynamics NAV

When you perform maintenance on Microsoft Dynamics NAV, we recommend that you inactivate all maps in Connector for Microsoft Dynamics. After maintenance is complete, start the Connector for Microsoft Dynamics service again and activate your maps. This ensures that Connector for Microsoft Dynamics is not running queries on the ERP system during maintenance.

## Integrate existing Microsoft Dynamics data

Connector for Microsoft Dynamics is designed to integrate data between Microsoft Dynamics NAV and Microsoft Dynamics CRM in the following scenarios:

- New Microsoft Dynamics NAV and Microsoft Dynamics CRM application installations
- Existing Microsoft Dynamics NAV installation and new Microsoft Dynamics CRM installation or existing Microsoft Dynamics CRM installation and new Microsoft Dynamics NAV installation
- Both Microsoft Dynamics NAV and Microsoft Dynamics CRM existing installations

Data can exist in one or both applications. If you are using Connector for Microsoft Dynamics with existing installations of the applications, this affects some of the maps that you will use during the initial data synchronization process.

**Note:** If you have existing installations of the applications, we recommend that you set up duplicate detection in Microsoft Dynamics CRM before you synchronize the data. For more information about duplicate detection, see [Connector for Microsoft Dynamics installation guide](#).

If you currently have data in Microsoft Dynamics NAV, and you use manual numbering for accounts, we recommend that you set up a duplicate detection rule for account numbers. This prevents a duplicate account from being created in Microsoft Dynamics CRM, which could cause integration errors.

## Installation

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Before installing Connector for Microsoft Dynamics, your system must meet the system requirements as listed in [System requirements](#).

**Note:** If you are upgrading from previous versions of Connector for Microsoft Dynamics, create backups of your Microsoft Dynamics NAV database, your Microsoft Dynamics CRM database, and your MSDI database.

### Apply currency hotfix

Knowledge Base article 2597312 (<http://support.microsoft.com/kb/2597312>) provides information about how to update the integration for currency information in Microsoft Dynamics NAV.

If you are installing Connector for Microsoft Dynamics for the first time, apply the hotfix in KB2597312 and then continue with the installation process.

If you are upgrading from a previous version of Connector for Microsoft Dynamics, complete the following procedure:

1. In Connector for Microsoft Dynamics, inactivate the **Currency Exchange Rates to Currency** map.
2. Apply the hotfix referenced in KB2597312 (<http://support.microsoft.com/kb/2597312>).
3. Right-click the **Currency Exchange Rates to Currency** map, and then select **Save to file**.
4. Right-click the **Currency Exchange Rates to Currency** map, and then select **Delete**.
5. Right-click the integration to update, and then select **Create New Map from File**. Go to the map templates folder (C:\Program Files (x86)\Microsoft Dynamics Adapter\NAV2009Maps), and then select the **NAVCurrenciesToCurrency.map** file.
6. Run the Microsoft Dynamics NAV Configuration utility again to update the object provider files and integrate changes made by the hotfix in step 2. For more information, see [Configure adapter settings for Microsoft Dynamics NAV](#).
7. In Connector for Microsoft Dynamics, activate the **Currencies to Currency** map.

### Apply country/region code hotfix

Knowledge Base article 2721512 (<http://support.microsoft.com/kb/2721512>) provides information about how to update the integration for country and region codes in Microsoft Dynamics NAV.

**Note:** In the **Enumerated Values to Picklist** map, the **Dynamics ERP Country Code Options** field must be mapped to the **Countries Regions/Country Regions/Code** field in Microsoft Dynamics NAV.

### Create the ERP integration account

Connector for Microsoft Dynamics uses several different accounts during installation, including the ERP integration account. This account is used to connect to the Microsoft Dynamics NAV database. You must create this account and set up security permissions in Microsoft Dynamics NAV before you set up Connector for Microsoft Dynamics.

The integration account must be defined as a Microsoft Dynamics NAV user to access the database through Microsoft Dynamics NAV web services. To create the integration account, see "How to: Add users" on MSDN (<http://msdn.microsoft.com/en-us/library/dd338947.aspx>).

**Note:** Only Microsoft Windows logons are supported in Microsoft Dynamics NAV 2009 or higher. To set up user permissions in the Microsoft Dynamics NAV Classic client, go to **Tools**, click **Security**, and then select the **Windows Logins** table. For the ERP Integration user account, set up full permission to all pages and tables that are integrated with Microsoft Dynamics CRM.

For more information about user accounts and Connector for Microsoft Dynamics, see the [Connector for Microsoft Dynamics installation guide](#).

## Enable Connector for Microsoft Dynamics in Microsoft Dynamics NAV

To integrate with Microsoft Dynamics NAV, you must modify certain settings in Microsoft Dynamics NAV. For more information and for procedures, see “How to: Set up and enable Connector for Microsoft Dynamics” on MSDN (<http://msdn.microsoft.com/en-us/library/gg502494.aspx>).

**Note:** If you are using a multi-tenant environment for Microsoft Dynamics NAV, you must modify these settings for each tenant that will be integrated.

## Install Connector for Microsoft Dynamics

Connector for Microsoft Dynamics must be installed before you can configure it for Microsoft Dynamics NAV.

1. Install Connector for Microsoft Dynamics.
2. Double-click **Connector for Microsoft Dynamics.msi**. Click **Next**.
3. Read and accept the Microsoft Software License Terms. Click **Next**.
4. Enter the name of the Microsoft SQL server where the MSDI database is to be stored.  
**Note:** The MSDI database does not need to be on the same physical server as Connector for Microsoft Dynamics.
5. Click **Next**.
6. Enter the domain, user name, and password for the service account to use when you are running integrations. For more information about this account, see the [Connector for Microsoft Dynamics installation guide](#).
7. Click **Next**. If the account that you entered in step 8 is valid, the **Ready to install page** is displayed.
8. Click **Install**.
9. Click **Finish** to complete the installation.

### Tips:

- Connector for Microsoft Dynamics does not need to be installed on the same computer as Microsoft Dynamics CRM or Microsoft Dynamics NAV. However, it does require a network connection that allows it to communicate with the web services exposed by these systems and to the SQL Server instance where the MSDI database is located.
- Connector for Microsoft Dynamics should be installed on a computer that is located in the same time zone as the Microsoft Dynamics NAV database.

## Configuration

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Before you can integrate data between Microsoft Dynamics CRM and Microsoft Dynamics NAV, you must configure adapter settings and create integrations. The following sections explain how to configure Connector for Microsoft Dynamics for use with Microsoft Dynamics NAV.

**Note:** You must complete these procedures in order, or Connector for Microsoft Dynamics will not operate correctly and data will not be synchronized between Microsoft Dynamics CRM and Microsoft Dynamics NAV.

To configure Connector for Microsoft Dynamics, complete the following procedures:

1. Configure adapter settings and organizations for Microsoft Dynamics CRM.
2. Configure adapter settings for Microsoft Dynamics NAV.
3. Create an integration.
4. Set up duplicate detection (optional).
5. Prepare the data for synchronization.
6. Run initial data synchronization

### Configure adapter settings and organizations for Microsoft Dynamics CRM

Before you can integrate data between Microsoft Dynamics CRM and Microsoft Dynamics NAV, you must provide settings for the adapters and organizations that the integration process will use. For configuration procedures, see the [Connector for Microsoft Dynamics installation guide](#).

### Configure adapter settings for Microsoft Dynamics NAV

Before you can run an integration, you must provide settings for the adapters that the integration process will use. The first time you start the client application after installation or upgrade, the **Adapter Settings** window is displayed so that you can enter settings for the adapters that were installed.

**Note:** Before you begin, make sure that Connector for Microsoft Dynamics is enabled from within Microsoft Dynamics NAV. If you are using a multi-tenant environment, Connector for Microsoft Dynamics must be enabled in each tenant to be integrated. See "How to: Set up and enable Connector for Microsoft Dynamics" on MSDN (<http://msdn.microsoft.com/en-us/library/gg502494.aspx>).

1. Open Connector for Microsoft Dynamics.  
(Click **Start**, select **All Programs**, select **Microsoft Dynamics**, select **Microsoft Dynamics Adapter**, and then select **Connector for Microsoft Dynamics**.)
2. If the **Adapter Settings** window did not open automatically, click **Adapter Settings**.
3. In the navigation pane of the **Adapter Settings** window, select **Microsoft Dynamics NAV**.
4. Enter the name of the domain that the Microsoft Dynamics NAV server belongs to.
5. Enter the user name and password for the integration account. For more information about this account, see [Create the ERP integration account](#).
6. Enter the URL for the Microsoft Dynamics NAV web service.

**Note:** To integrate with Microsoft Dynamics NAV 2009 R2, make sure that the URL is **http://<hostname>:7047/DynamicsNAV/WS**.

7. For multi-tenant environments, enter the name of the tenant to create an integration for.

**Note:** If you are not using a multi-tenant environment, leave the field blank.

8. Click **Test Settings** to connect to the Microsoft Dynamics NAV web service using the information that you entered.
9. Click the **Configure Microsoft Dynamics NAV** link if you have customizations in Microsoft Dynamics NAV that you would like exposed for integration into Microsoft Dynamics CRM. If you do not have customizations that you would like exposed, go to step 18.
10. Read through the information on the **Welcome** window and click **Next**.
11. Enter the URL of the server for the Microsoft Dynamics NAV base web service, if the default URL is not displayed.
12. Enter the domain, account, and password for the CRM Deployment Administrator account or the Administrator account for Microsoft Dynamics CRM online. Click **Connect**.  
**Note:** If you are using a multi-tenant environment, make sure that the name of the tenant is correct, and then click **Connect**.
13. In the **Select Organizations** area, select the organizations to integrate. Hold down the control key (Ctrl) to select multiple organizations.
14. Select the entities to integrate from the organization(s) selected in step 15. The pre-selected entities are those that are required for the standard integration to run. Click **Configure**.
15. When a message is displayed that indicates that the Configuration utility has finished running, click **Finish**.
16. Click **Apply** to save the adapter settings.
17. Continue to [Create an integration](#).

## Create an integration

An integration is a collection of active or inactive maps for one source/destination system combination. You must create an integration and activate maps before you can synchronize data between two Microsoft Dynamics applications. For more information about activating maps, see [Customize map settings](#).

1. Open Connector for Microsoft Dynamics.  
(Click **Start**, select **All Programs**, select **Microsoft Dynamics**, select **Microsoft Dynamics Adapter**, and then select **Connector for Microsoft Dynamics**.)
2. If the **New Integration** window is not open, click **New Integration**.
3. Select one of the following options:
  - **Blank** – Create a blank integration where you must create maps manually. Skip to step 5.
  - **From template** – Create a new integration from an integration template.
4. Select the **Microsoft Dynamics NAV /Microsoft Dynamics CRM 2011** template.
5. Select the Microsoft Dynamics NAV company to integrate. If the company list is empty, verify that you entered your Microsoft Dynamics NAV adapter settings correctly and click **Refresh** to attempt to retrieve the list of companies again. For more information, see [Configure adapter settings for Microsoft Dynamics NAV](#).
6. Select the Microsoft Dynamics CRM company to integrate. If the company list is empty, verify that you entered your Connector for Microsoft Dynamics settings correctly and you have completed the Microsoft Dynamics CRM Adapter Configuration utility for each organization that you want to integrate and click **Refresh** to attempt to retrieve the list of companies again. For more information, see [Configure adapter settings for Microsoft Dynamics NAV](#).

7. Click **Create**.

**Note:** When you create a new integration from a template, the date set to **Check for data modified after** is set to the current date for the following maps:

- **Sales Order to Order**
- **Sales Invoice to Invoice**
- **Order to Sales Order**
- **Posted Sales Invoice to Invoice**

If you have previously integrated sales orders or invoices using another integration solution, setting the **Check for data modified after** date to the current date will ensure that older sales orders and invoices are not re-integrated and duplicates are not created. To integrate orders or invoices that are older than the current date, change the **Check for data modified after** date for these maps. For more information, see "Change the data modification date" in the [Connector for Microsoft Dynamics installation guide](#).

The default **Check for data modified after** date is set to 12/31/1899 12:00 AM UTC (displayed as local time zone) for all other maps.

8. Continue to [Data preparation](#).

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## Data preparation

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To help ensure a smooth integration, some system settings and data values must be reviewed before data can be synchronized between Microsoft Dynamics NAV and Microsoft Dynamics CRM. Follow the procedures below to prepare your system for initial data synchronization.

**Note:** The procedures listed in this document assume that installation is complete and that you have set up an integration for a Microsoft Dynamics NAV company and Microsoft Dynamics CRM organization. If you have not yet completed the installation process, see the [Connector for Microsoft Dynamics installation guide](#).

### Verify customizations for Microsoft Dynamics CRM 4.0

If you are integrating with Microsoft Dynamics CRM 4.0, or if you are using the Microsoft Dynamics CRM 4.0 adapter, certain customizations were applied during the installation process. You must make sure that the customizations for Microsoft Dynamics CRM 4.0 have been deployed as explained in [Upgrading Connector for Microsoft Dynamics](#). If you did not install these customizations during installation or have not manually applied the customizations, you must do so before initial data synchronization, or certain features in Connector for Microsoft Dynamics will not operate correctly.

If you have existing Microsoft Dynamics CRM 4.0 customizations, you must apply the customizations manually. To do so, download the **Microsoft.Dynamics.Tools.MergeCustomizations.zip** file from the Connector for Microsoft Dynamics download page on PartnerSource or from your Partner. See the Readme.doc in the .zip file for more information.

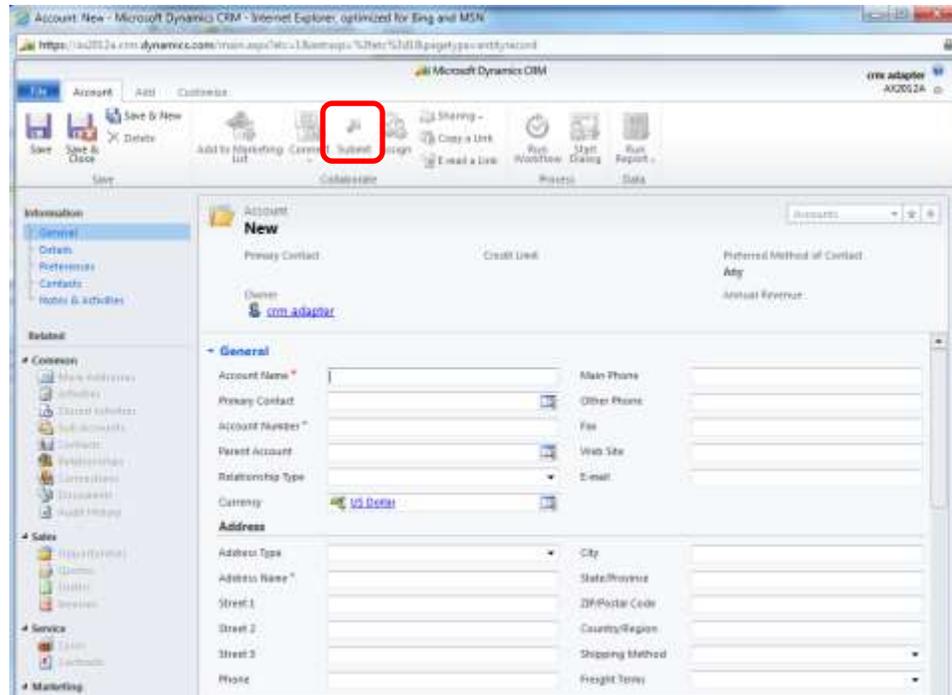
If you do not have existing Microsoft Dynamics CRM customizations, you can import the necessary customizations by running the Microsoft Dynamics CRM Adapter Configuration utility. For more information about this Configuration utility, see the [Connector for Microsoft Dynamics installation guide](#).

**Note:** If you are integrating with Microsoft Dynamics CRM 2011, these customizations were imported and merged during the Microsoft Dynamics CRM 2011 Configuration utility, and you can skip this procedure.

Verify that the Connector for Microsoft Dynamics customizations for Microsoft Dynamics CRM have been properly installed.

1. Open Microsoft Dynamics CRM for the organization that you are integrating with.
2. In the navigation pane, under the **Sales** node, select **Accounts**. Click **New**.
3. Make sure that the **Submit** option is visible in the top command bar. If you do not see this option, then the Connector for Microsoft Dynamics customizations are not properly installed.

**Note:** The **Submit** button is not active until after the record has been saved.



## Verify map modifications

Before initial data synchronization, you must make sure that the integration maps are set up for your business needs. The map templates are set up to work without customizations and will integrate all data that is common in both applications (Microsoft Dynamics CRM and Microsoft Dynamics NAV).

If there is any data mapped that you do not want to integrate, or if there is data that is not mapped that you do want to integrate, we recommend that you make these modifications now, or these modifications are not included in the initial data synchronization process.

## Map constant values

If you plan to integrate with a version of Microsoft Dynamics CRM that has been localized to a language other than English, you must localize certain values in some maps. The following table shows the constant string values necessary for localization.

Map name	Field name	Value to be localized	Notes
<b>Customer Card to Account</b>	Address 1 Address Type\Name	"Primary"	Required
	Address 1 Name	"Primary"	Optional
	All Address\Customer Address\Address Type\Name	"Ship To"	Required if this value is localized in the Enumerated Values map
<b>Enumerated Values to Picklist</b>	Account\Address 2 Address Type	"Ship To"	Optional
	Customer Address\Address Type	"Ship To"	Optional
<b>Resource List to Product</b>	Default Unit\Dynamics Integration Key	"Hour"	Required
<b>Order to Sales Order</b>	Sales Order Lines\Sales Order Line\Type	"HOUR" in the mapping function	Required
<b>Contact to Contact Card</b>	Type	"Person"	Required

## Translate enumerated values

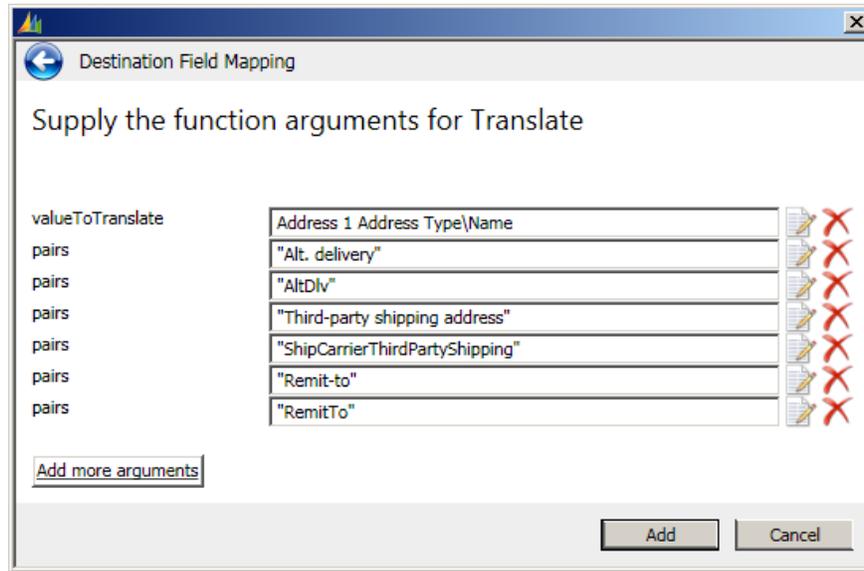
If you have installed language packs for Microsoft Dynamics CRM, and you want to use these language packs for integration with Microsoft Dynamics NAV, you can use the **Translate** function to localize the enumerated value sets.

**Note:** Microsoft Dynamics CRM and Microsoft Dynamics NAV must have the same base language. The **Translate** function changes the displayed values only.

To change these enumerated values and picklist values, follow the procedures below.

1. In Microsoft Dynamics CRM, manually change the picklist value **Label** field to match the **Enumerated Value Label** field in Microsoft Dynamics NAV.
2. Open Connector for Microsoft Dynamics and select the affected map. Update the mapping functions for each affected field with the **Translate** function.
  - a. For maps that integrate data from Microsoft Dynamics CRM to Microsoft Dynamics NAV, pair the modified picklist value **Label** from step 1 with the **NAVEnumName** value.

For example, pair the Microsoft Dynamics CRM Address\Address Type label **Alt. delivery** with the Microsoft Dynamics NAV AddressType Enum **AltDiv**.



- b. For maps that integrate data from Microsoft Dynamics NAV to Microsoft Dynamics CRM, pair the **NAVEnumName** with the modified picklist value **Label** from step 1.

For example, pair the Microsoft Dynamics NAV AddressType Enum **AltDlv** with the Microsoft Dynamics CRM Address\Address Type label **Alt. delivery**.

- 3. Click **Add** to add the function to the map.

## Data synchronization

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Before you can integrate data between Microsoft Dynamics CRM and Microsoft Dynamics NAV, you must synchronize the data in both systems. After initial data synchronization, you can run integrations on a regular schedule.

The recommended map run order is listed below, and the synchronization procedures provide additional information about each map.

### Required fields in maps

When you run integrations from Microsoft Dynamics NAV to Microsoft Dynamics CRM, make sure that all required fields in Microsoft Dynamics CRM are mapped from entities in Microsoft Dynamics NAV or the integrations will not run properly. Required fields in the maps are marked in bold font.

All mandatory fields for entities must contain values in order to replicate a record between Microsoft Dynamics NAV and Microsoft Dynamics CRM. If entities only contain values for the primary key, for example the customer number for the customer entity, then that entity will not be integrated.

### Required updates to default maps

When integrating data from Microsoft Dynamics CRM to Microsoft Dynamics NAV, the currency code must be set to "". By default, Microsoft Dynamics NAV uses a blank currency code for local currency in the program. If you not use a blank currency code for your local currency in Microsoft Dynamics NAV, you do not have to replace the values in the default maps with this function.

To transform local currency in Microsoft Dynamics CRM to "" in Microsoft Dynamics NAV, use the following mapping function: **[=If(EqualTo(Currency\Dynamics Integration Key, "<BASE CURRENCY>"), "", Currency\Dynamics Integration Key]** where <BASE CURRENCY> is your system's base currency code.

This function must be entered on the **Currency Code** fields in the following maps:

- **Account to NAV Customer Card** map
- **Contact to Contact Card** map
- **Order to Sales Order** map

### Recommended map run order

The initial data synchronization process uses several individual maps to integrate data between Microsoft Dynamics NAV and Microsoft Dynamics CRM. We recommend that you run integrations in the following order to minimize data dependencies during synchronization.

1. Map enumerated values.
2. Map currency information.
3. Map units of measure to unit groups.
4. Map salespeople and purchasers to ERP system users.

**Note:** After this map runs successfully, you must associate Microsoft Dynamics CRM users with ERP system users before you run the next maps.

5. Map customer accounts.
6. Map contact information.
7. Map item and product information.

8. Map sales orders.
9. Map sales invoices.

**Note:** During the initial data synchronization process, exceptions might appear. This occurs due to data that has not been integrated yet. The recommended map run order is designed to minimize exceptions and keep the log file as clean as possible.

If exception messages for missing data are displayed during initial data synchronization, complete the procedures for the recommended map run order. The system will automatically retry exceptions that are due to missing data.

## Map enumerated values

With Connector for Microsoft Dynamics, data found in Microsoft Dynamics NAV is compared to data found in Microsoft Dynamics CRM, but there is a subset of data that must be synchronized between the two applications before the balance of the data can be successfully integrated. These data values must be identical in both end point applications. The **Enumerated Values to Picklist** map synchronizes these necessary data points before other, more detailed, maps are run.

The enumerated values that are available for mapping in the source list of the Connector for Microsoft Dynamics service are the only enumerated values for Microsoft Dynamics NAV that are available for synchronization using this map. Custom enumerated values must be synchronized manually with custom picklists in Microsoft Dynamics NAV.

**Note:** This should be the first map that you run after you have created a new integration and configured your Microsoft Dynamics CRM organizations in Connector for Microsoft Dynamics, and before you begin activating other maps..

1. Verify that you have entered all your enumerated values in Microsoft Dynamics NAV. For a list of the enumerated values to be synchronized, see [Picklist synchronized data](#).
2. Open Connector for Microsoft Dynamics.
3. Go to the integration to work with, and then click the **Maps** node in the left pane.
4. Select the **Enumerated Values to Picklist** map.

If you do not want to change any of the default map settings, go to step 5. To customize map settings, see the [Connector for Microsoft Dynamics installation guide](#).

5. In the **Status** area, click **Activate**.
6. Click the **Edit** link next to the **Check for changes** area to open the **Map Run Schedule** window. Make sure that the **Start Date** is before the date that you first entered data into Microsoft Dynamics NAV. Click **OK** to close the **Map Run Schedule** window.

**Note:** The **Enumerated Values to Picklist** map only needs to be run once, or as needed. For example, when a new shipping method is added in Microsoft Dynamics NAV, this map should be run in order to integrate that new data.

7. Click **Save** on the top command bar.

In the **Status** section of the **Map** page, the **Last run** status is displayed. While the integration is running, the **Last run** status is displayed as **Currently running** and displays the numbers of changes found, changes written, deletions found, records deleted, and failures. Wait until the **Currently running** status is no longer displayed and the **Last run** status is displayed to allow the integration to run and move the Microsoft Dynamics NAV enumerated values over to Microsoft Dynamics CRM, and the Microsoft Dynamics CRM picklist values to Microsoft Dynamics NAV.

8. Verify that all the picklist and enumerated values have been fully integrated.
9. Click the **View log for this map** link at the top of the **Status** area. Review any events that are displayed and fix any issues before proceeding. For more information about reviewing the log file, see the [Connector for Microsoft Dynamics installation guide](#).
10. After this map has run successfully, we recommend that you inactivate it. In the **Status** area, click the **Deactivate** button.
11. Click **Save** to save changes.

## Map currency exchange rates

When Connector for Microsoft Dynamics is installed, Microsoft Dynamics NAV data takes precedence over all currency and exchange rate information. Exchange rates are managed in Microsoft Dynamics NAV and integrated into currency information in Microsoft Dynamics CRM. Therefore, you must verify your exchange rates in Microsoft Dynamics NAV before you integrate them with Microsoft Dynamics CRM currencies.

Currencies in Microsoft Dynamics CRM use the Microsoft .NET regional settings foundation classes to specify the default values for ISO code, name, and symbol properties. In Microsoft Dynamics CRM, you can change the name and symbol for currencies to your own values after they have been enabled. This causes additional map changes to support the nonstandard values for these attributes. In this map, the **GetCurrencyName()** and **GetCurrencySymbol()** functions are used to retrieve the Microsoft .NET regional settings for the ISO code for a currency that is provided by Microsoft Dynamics NAV. This function looks up the appropriate values to integrate into Microsoft Dynamics CRM. If you have customized this value for any currencies in Microsoft Dynamics CRM, you must add the **Translate()** function to these attributes for the mapped entities to convert the .NET regional setting value in Microsoft Dynamics CRM to your custom value.

**Note:** All currencies and currency codes that are used in the Microsoft Dynamics CRM entities that you integrate with Microsoft Dynamics NAV must exist in the Currencies table in Microsoft Dynamics NAV (go to **Departments**, select **Administration**, select **Application Setup**, select **Financial Management**, and then select **Finance**). The Microsoft Dynamics NAV demo data contains ISO codes that are out of date, and these codes will cause exceptions to occur during initial synchronization. These ISO codes will not be integrated into Microsoft Dynamics CRM.

1. Verify that you have entered all of your currency data in Microsoft Dynamics NAV.

**Note:** Before activating this map, verify that you have applied the hotfix referenced in KB2597312 (<http://support.microsoft.com/kb/2597312>). For more information, see [Apply currency hotfix](#).

2. Open Connector for Microsoft Dynamics.
3. Go to the integration to work with, and then click the **Maps** node in the left pane.
4. Select the **Currency Exchange Rate to Currency** map.

If you do not want to change any of the default map settings, go to step 5. To customize map settings, see the [Connector for Microsoft Dynamics installation guide](#).

5. In the **Status** area, click **Activate**.
6. Click the **Edit** link next to the **Check for changes** area to open the **Map Run Schedule** window. Change the schedule to run every 45 seconds. Make sure that the **Start Date** field value is before the date that you first entered data into Microsoft Dynamics NAV. Click **OK** to close the **Map Run Schedule** window.

If your business needs require a longer run time, you can set the map run schedule to any duration.

7. Verify that the date listed in the **Check for data modified after** area is before the date that you entered your Microsoft Dynamics NAV currencies. To change this date, click the **Edit** link next to the **Check for data modified after** area to open the **Check for data modified after** window. Enter the new value and click **OK**. Start the Connector for Microsoft Dynamics service again.
8. Click **Save** on the top command bar.

In the **Status** section of the **Map** page, the **Last run** status is displayed. While the integration is running, the **Last run** status will be displayed as **Currently running** and displays the number of changes found, the number of changes written, the number of deletions found, the number of records deleted, and the number of failures. Wait until the **Currently running** status is no longer displayed and the **Last run** status is displayed to allow the integration to run and move the Microsoft Dynamics NAV currency information over to Microsoft Dynamics CRM.
9. Open Microsoft Dynamics CRM. Go to **Settings**, select **Business Management**, and then select **Currencies**. All the currencies that have been integrated are displayed.
12. Verify that all the currencies have been fully integrated.
13. Click the **View log for this map** link at the top of the **Status** section. Review any events that are displayed and fix any issues before proceeding. For more information about reviewing the log file, see the [Connector for Microsoft Dynamics installation guide](#).

## Map units of measure and unit groups

Units of measure in Microsoft Dynamics NAV are directly integrated to unit groups in Microsoft Dynamics CRM. For every unit of measure in the Microsoft Dynamics NAV **Units of Measure** table, a unit group is created in Microsoft Dynamics CRM. Each unit group in Microsoft Dynamics CRM contains exactly one unit of measure named the same as the unit group.

**Note:** Only the base units of measure are integrated from Microsoft Dynamics NAV. Item-specific units of measure are not currently supported for integration.

1. Verify that you have entered all of your units of measure in Microsoft Dynamics NAV.
2. Open Connector for Microsoft Dynamics.
3. Go to the integration to work with, and then click the **Maps** node in the left pane.
4. Select the **Units of Measure to Unit Group** map.

If you do not want to change any of the default map settings, go to step 5. To customize map settings, see the [Connector for Microsoft Dynamics installation guide](#).

5. In the **Status** area, click **Activate**.
6. Click the **Edit** link next to the **Check for changes area** to open the **Map Run Schedule** window. Change the map run schedule to run every 45 seconds. Make sure that the **Start Date** field value is before the date that you first entered data into Microsoft Dynamics NAV. Click **OK** to close the **Map Run Schedule** window.

If your business needs require a longer run time, you can set the map run schedule to any duration.

7. Verify that the date listed in the **Check for data modified after** area is before the date that you entered your Microsoft Dynamics NAV units of measure. To change this date, click the **Edit** link next to the **Check for data modified after** area to open the **Check for data modified after** window. Enter the new value and click **OK**. Restart the Connector for Microsoft Dynamics service.

8. Click **Save** on the top command bar.

In the **Status** section of the **Map** page, the **Last run** status is displayed. While the integration is running, the **Last run** status is displayed as **Currently running** and displays the numbers of changes found, changes written, deletions found, records deleted, and failures. Wait until the **Currently running** status is no longer displayed and the **Last run** status is displayed to allow the integration to run and move the Microsoft Dynamics NAV units of measure to Microsoft Dynamics CRM.

9. Open Microsoft Dynamics CRM and go to **Settings**, select **Product Catalog**, and then select **Unit Groups**. All the unit groups that integrated from Microsoft Dynamics NAV should be displayed. Double-click any existing unit group to open the **Unit Group** window. Click **Units** in the left pane to see all the unit names that integrated for this unit group.
10. Verify that all the units of measure and unit groups have been fully integrated.
11. Click the **View log for this map** link at the top of the **Status** section. Review any events that are displayed and fix any issues before proceeding. For more information about reviewing the log file, see the [Connector for Microsoft Dynamics installation guide](#).
12. After this map has run successfully, we recommend that you inactivate it. In the **Status** area, click the **Deactivate** button.
13. Click **Save** to save changes.

## Map salespersons and ERP system users

In Microsoft Dynamics CRM, salespeople are Microsoft Dynamics CRM users. To properly integrate these users, an association must be set up in Microsoft Dynamics CRM that indicates which Microsoft Dynamics NAV salesperson maps to which Microsoft Dynamics CRM user. Microsoft Dynamics NAV salespeople must first be integrated to Microsoft Dynamics CRM ERP system users.

**Note:** If you will not be using salespeople in Microsoft Dynamics NAV, you can skip this procedure.

1. Verify that you have entered information for all your salespeople in Microsoft Dynamics NAV.
2. Open Connector for Microsoft Dynamics.
3. Go to the integration to work with, and then click the **Maps** node in the left pane.
4. Select the **Salespeople/Purchasers to ERP System User** map.  
If you do not want to change any of the default map settings, go to step 5. To customize map settings, see the [Connector for Microsoft Dynamics installation guide](#).
5. In the **Status** area, click **Activate**.
6. Click the **Edit** link next to the **Check for changes area** to open the **Map Run Schedule** window. Change the map run schedule to run every 45 seconds. Verify that the **Start Date** field value is before the date that you first entered data into Microsoft Dynamics NAV. Click **OK** to close the **Map Run Schedule** window.  
If your business needs require a longer run time, you can set the map run schedule to any duration.
7. Verify that the date listed in the **Check for data modified after** area is before the date that you entered your Microsoft Dynamics NAV salespeople records. To change this date, click the **Edit** link next to the **Check for data modified after** area to open the **Check for data modified after** window. Enter the new value and click **OK**. Start the Connector for Microsoft Dynamics service again.

8. Click **Save** on the top command bar.

In the **Status** section of the **Map** page, the **Last run** status is displayed. While the integration is running, the **Last run** status is displayed as **Currently running** and displays the numbers of changes found, changes written, deletions found, records deleted, and failures. Wait until the **Currently running** status is no longer displayed and the **Last run** status is displayed to allow the integration to run and move the Microsoft Dynamics NAV salespeople to Microsoft Dynamics CRM.

9. Open Microsoft Dynamics CRM and go to **Settings**, and select **Users**. Click **New**, and select **User** or double-click any existing Microsoft Dynamics CRM user to open the **User** window. The **ERP SystemUser ID** property is displayed in the **Organization Information** section of the **User** window. Click the **Lookup** icon beside the field to open the **Look Up Records** window. If no records are displayed, click the **Lookup** icon in the upper right corner. The Microsoft Dynamics NAV salespeople should be displayed. Verify that all of your Microsoft Dynamics NAV salespeople records have been integrated to Microsoft Dynamics CRM ERP system users.
10. Click the **View log for this map** link at the top of the **Status** section. Review any events that are displayed and fix any issues before proceeding. For more information about reviewing the log file, see the [Connector for Microsoft Dynamics installation guide](#).
11. If you are running this map for the first time or are adding new users, follow the procedures in [Associate Microsoft Dynamics CRM users with ERP system users](#).
12. To change the map run schedule for ongoing integration, repeat step 6 and change the map run schedule to the appropriate settings for this map.

## Associate Microsoft Dynamics CRM users with ERP system users

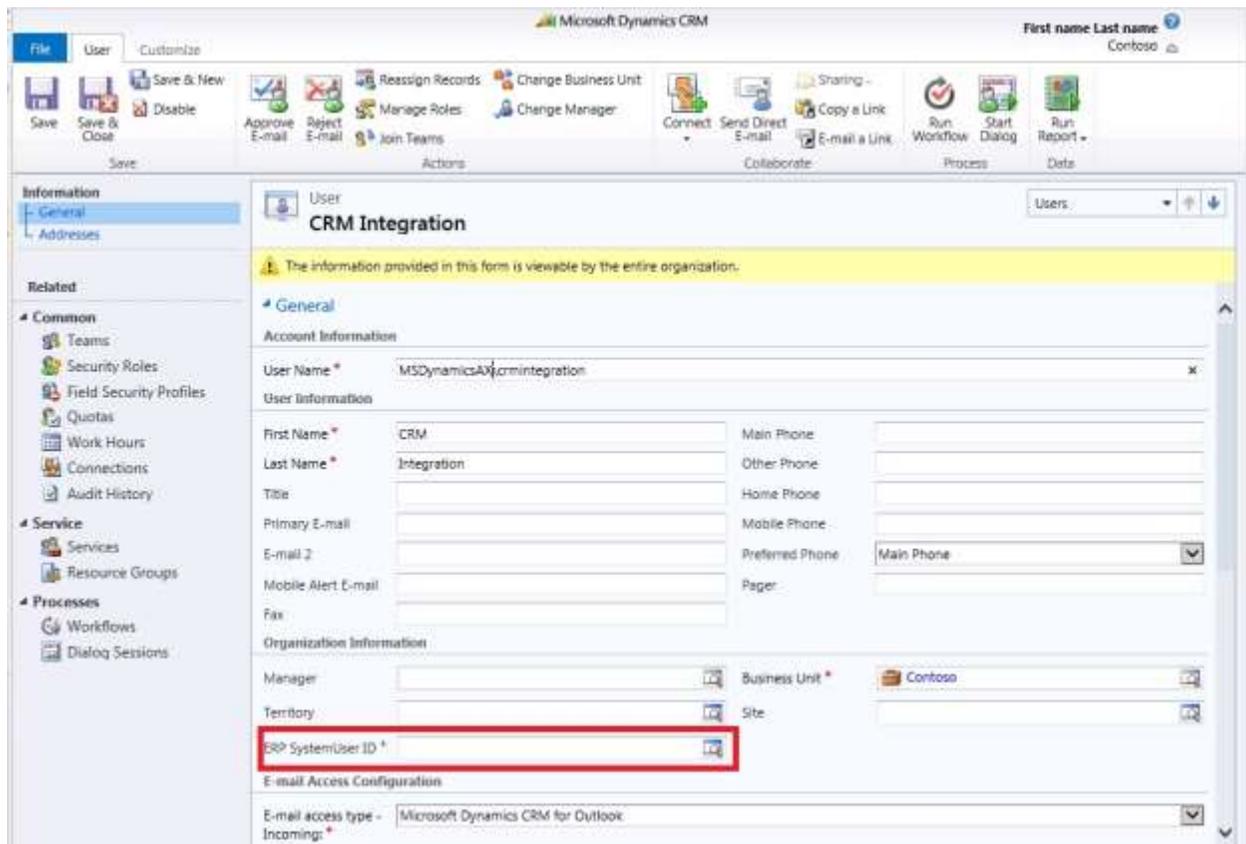
After you activate the **Salespersons/purchasers to ERP System User** map and the map successfully integrates the Microsoft Dynamics NAV salesperson entity with the ERP system user entity in Microsoft Dynamics CRM, you can associate Microsoft Dynamics CRM users with the integrated ERP system user entity within Microsoft Dynamics CRM.

If you do not associate ERP system users with Microsoft Dynamics CRM users before you integrate customer accounts, sales orders, and sales invoices, the owner on all entities that are integrated from Microsoft Dynamics NAV are set up as the CRM Integration account user that was specified in the Microsoft Dynamics CRM adapter settings. For more information about the CRM Integration account, see the [Connector for Microsoft Dynamics installation guide](#).

**Note:** Repeat the procedure below for each Microsoft Dynamics CRM user that is mapped to an ERP system user.

1. Start your web browser and go to your Microsoft Dynamics CRM Workplace.
2. Open the **Users** page. (Click **Settings**, select **Administration**, and then select **Users**.)

3. Double-click a user record to open the **User** window.



4. On the **General** tab, locate the **ERP SystemUser ID** field under **Organization Information**. Click the **Lookup** button to search for and select an ERP system user to associate to the user record.  
**Note:** Verify that each ERP SystemUser ID is associated with only one Microsoft Dynamics CRM user.
5. Click **Save** or **Save and Close**.
6. Repeat steps 1 through 5 for each Microsoft Dynamics CRM user.

## Map customers to accounts

To integrate Microsoft Dynamics NAV customer cards with Microsoft Dynamics CRM accounts, you must decide which application you will use to enter your initial customer data. You must enter initial customer data in one application or the other, but not both. Connector for Microsoft Dynamics will create the customer data in the other application after the appropriate map is activated. After you have completed the initial data synchronization, you can enter customer data in both Microsoft Dynamics NAV and Microsoft Dynamics CRM, and Connector for Microsoft Dynamics will keep the data synchronized.

If you use Microsoft Dynamics CRM to enter your initial customer data, you must click the **Submit** button for each Microsoft Dynamics CRM account that you will integrate to Microsoft Dynamics NAV. Alternatively, you can run the **Bulk Submit Account** workflow on these entities. The submission

process allows you to keep Microsoft Dynamics CRM account records in Microsoft Dynamics CRM and not integrate them into Microsoft Dynamics NAV until they are needed.

To integrate customer orders from Microsoft Dynamics CRM to Microsoft Dynamics NAV, the **Customer Posting Group** value must be assigned to the customer in Microsoft Dynamics NAV in order to integrate customer orders from Microsoft Dynamics CRM to Microsoft Dynamics NAV.

**Note:** Values that are entered in the Country/Region fields in Microsoft Dynamics CRM account cards and contact cards must match the country codes that exist in the **Countries/Regions** table in Microsoft Dynamics NAV (go to **Departments**, select **Administration**, select **Application Setup**, and then select **General**).

## Mapping customers and accounts

If you have existing installations of both Microsoft Dynamics NAV and Microsoft Dynamics CRM, the Microsoft Dynamics NAV customer records take priority and must be integrated before the Microsoft Dynamics CRM records. If you have data that currently exists in both systems, use the duplicate detection rules in Microsoft Dynamics CRM to prevent duplicate records from being created during integration. For more information about duplicate detection, see the [Connector for Microsoft Dynamics installation guide](#).

**Note:** If you currently have data in Microsoft Dynamics NAV, and you use manual numbering for accounts, we recommend that you set up a duplicate detection rule for account numbers. This prevents a duplicate account from being created in Microsoft Dynamics CRM, which could cause integration errors.

1. Verify that you have entered all your customer cards in either Microsoft Dynamics NAV or Microsoft Dynamics CRM accounts.

**Note:** During initial integration, you need to choose to integrate either Microsoft Dynamics CRM accounts into Microsoft Dynamics NAV customers, or Microsoft Dynamics NAV customers into Microsoft Dynamics CRM accounts. The **Account to Customer Card** and **Customer Card to Account** maps must not run simultaneously during initial integration. For more information, see [Account to Customer Card](#) and [Customer Card to Account](#) in the appendix. After initial synchronization, these maps can be run simultaneously.

2. Open Connector for Microsoft Dynamics.
3. Go to the integration to work with, and then click the **Maps** node in the left pane.
4. Select the correct map depending on where you entered your initial customer data:
  - If you entered your initial customer data in Microsoft Dynamics NAV, select **Customer Card to Account**.
  - If you entered your initial customer data in Microsoft Dynamics CRM, select **Account to Customer Card**.

If you do not want to change any of the default map settings, go to step 5. To customize map settings, see the [Connector for Microsoft Dynamics installation guide](#).

5. In the **Status** area, click **Activate**.
6. Click the **Edit** link next to the **Check for changes area** to open the **Map Run Schedule** window. Change the map run schedule to run every 45 seconds. Verify that the **Start Date** field value is before the date that you first entered data into Microsoft Dynamics NAV or Microsoft Dynamics CRM. Click **OK** to close the **Map Run Schedule** window.

If your business needs require a longer run time, you can set the map run schedule to any duration.

7. Verify that the date listed in the **Check for data modified after** area is before the date that you entered your Microsoft Dynamics NAV customer cards or Microsoft Dynamics CRM accounts. To change this date, click the **Edit** link next to the **Check for data modified after** area to open the **Check for data modified after** window. Enter the new value and click **OK**. Start the Connector for Microsoft Dynamics service again.
8. Click **Save** on the top command bar.

In the **Status** section of the **Map** page, the **Last run** status is displayed. While the integration is running, the **Last run** status is displayed as **Currently running** and displays the numbers of changes found, changes written, deletions found, records deleted, and failures. Wait until the **Currently running** status is no longer displayed and the **Last run** status is displayed to allow the integration to run and move the Microsoft Dynamics NAV customer cards to Microsoft Dynamics CRM accounts.

**Note:** The amount of time it will take to integrate your Microsoft Dynamics NAV customer cards with your Microsoft Dynamics CRM accounts depends on the number of customers in your Microsoft Dynamics NAV and/or Microsoft Dynamic CRM data set.
9. Open Microsoft Dynamics CRM and go to **Marketing** and select **Accounts**, or go to **Sales** and select **Accounts**. You will see all the accounts that integrated from Microsoft Dynamics NAV.
10. Verify that all the customers and accounts have been fully integrated.
11. Click the **View log for this map** link at the top of the **Status** section. Review any events that are displayed and fix any issues before proceeding. For more information about reviewing the log file, see the [Connector for Microsoft Dynamics installation guide](#).
12. To change the map run schedule for ongoing integration, repeat step 6 and change the map run schedule to the appropriate settings for this map.

## Map contact information

Contact information can be integrated between Microsoft Dynamics NAV and Microsoft Dynamics CRM. To integrate records, Microsoft Dynamics CRM contacts must be submitted before they can be integrated to Microsoft Dynamics NAV.

If you use Microsoft Dynamics CRM to enter your initial customer data, you must click the **Submit** button for each Microsoft Dynamics CRM contact that you will integrate to Microsoft Dynamics NAV. Alternatively, you can run the **Bulk Submit Contact** workflow on these entities. The submission process allows you to keep Microsoft Dynamics CRM contact records in Microsoft Dynamics CRM and not integrate them into Microsoft Dynamics NAV until they are needed.

**Note:** Only Microsoft Dynamics NAV contacts that are of the type "Person" are integrated to Microsoft Dynamics CRM. Contacts marked with the type "Company" or other types are not integrated.

Microsoft Dynamics CRM always creates two addresses for each contact. These are the **Address 1** and **Address 2** fields. If values are not supplied for the name attribute of these addresses, Address 1 is named the PRIMARY address, and Address 2 is named the SECONDARY address. These values will always be created in the Microsoft Dynamics ERP record, and they should not be deleted.

**Note:** Values that are entered in the Country/Region fields in Microsoft Dynamics CRM account cards and contact cards must match the country codes that exist in the **Countries/Regions** table in Microsoft Dynamics NAV (go to **Departments**, select **Administration**, select **Application Setup**, and then select **General**).

## Mapping contact cards and contacts

If you have existing installations of both Microsoft Dynamics NAV and Microsoft Dynamics CRM, the Microsoft Dynamics NAV contact records take priority and must be integrated before the Microsoft Dynamics CRM records. Use the duplicate detection rules in Microsoft Dynamics CRM to prevent duplicate records from being created during integration. For more information about duplicate detection, see the [Connector for Microsoft Dynamics installation guide](#).

**Note:** You must verify that the **Country/Region** field on the contact card is a valid country/region value in Microsoft Dynamics NAV before integration.

1. Verify that you have entered all your contact cards in either Microsoft Dynamics NAV or Microsoft Dynamics CRM.

**Note:** During initial integration, you need to choose to integrate either Microsoft Dynamics CRM contacts into Microsoft Dynamics NAV contact cards, or Microsoft Dynamics NAV contact cards into Microsoft Dynamics CRM contacts. The **Contact to Contact Card** and **Contact Card to Contact** maps must not run simultaneously during initial integration. For more information, see [Contact to Contact Card](#) and [Contact Card to Contact](#) in the appendix. After initial synchronization, these maps can be run simultaneously.

2. Open Connector for Microsoft Dynamics.
3. Go to the integration to work with, and then click the **Maps** node in the left pane.
4. Select the correct map, depending on where you entered your initial contact data:
  - If you entered your initial contact data in Microsoft Dynamics NAV, select **Contact Card to Contact**.
  - If you entered your initial contact data in Microsoft Dynamics CRM, select **Contact to Contact Card**.

If you do not want to change any of the default map settings, go to step 5. To customize map settings, see the [Connector for Microsoft Dynamics installation guide](#).

5. In the **Status** area, click **Activate**.
6. Click the **Edit** link next to the **Check for changes area** to open the **Map Run Schedule** window. Change the map run schedule to run every 45 seconds. Verify that the **Start Date** field value is before the date that you first entered data into Microsoft Dynamics NAV or Microsoft Dynamics CRM. Click **OK** to close the **Map Run Schedule** window.

If your business needs require a longer run time, you can set the map run schedule to any duration.

7. Verify that the date listed in the **Check for data modified after** area is before the date that you entered your Microsoft Dynamics NAV contact cards or Microsoft Dynamics CRM contacts. To change this date, click the **Edit** link next to the **Check for data modified after** area to open the **Check for data modified after** window. Enter the new value and click **OK**. Start the Connector for Microsoft Dynamics service again.
8. Click **Save** on the top command bar.

In the **Status** section of the **Map** page, the **Last run** status is displayed. While the integration is running, the **Last run** status is displayed as **Currently running** and displays the numbers of changes found, changes written, deletions found, records deleted, and failures. Wait until the **Currently running** status is no longer displayed and the **Last run** status is displayed to allow the integration to run and move the Microsoft Dynamics NAV contact cards to Microsoft Dynamics CRM contacts.

**Note:** The amount of time it will take to integrate your Microsoft Dynamics NAV contact cards with your Microsoft Dynamics CRM contacts will depend on the number of Customers in your Microsoft Dynamics NAV and/or Microsoft Dynamic CRM data set.

9. Open Microsoft Dynamics CRM. Go to **Marketing** and select **Contacts**, or go to **Sales** and select **Contacts**. You will see all the contacts that integrated from Microsoft Dynamics NAV.
10. Verify that all the contacts have been fully integrated.
11. Click the **View log for this map** link at the top of the **Status** section. Review any events that are displayed and fix any issues before proceeding. For more information about reviewing the log file, see the [Connector for Microsoft Dynamics installation guide](#).
12. To change the map run schedule for ongoing integration, repeat step 6 and change the map run schedule to the appropriate settings for this map.

## Map items, resources and products

When Connector for Microsoft Dynamics is installed, Microsoft Dynamics NAV takes precedence over all product information. Therefore, you must verify your inventory items and resources in Microsoft Dynamics NAV before you integrate them with Microsoft Dynamics CRM products.

The initial integration of products uses a synchronous plug-in that creates price list entries in Microsoft Dynamics CRM for every price level in every currency. This initial integration can require extra time, depending on the number of currencies used, the number of products used, and the Microsoft Dynamics CRM server load at the time of integration. For example, if you have 100,000 products and five currencies, then five price level entries are created in Microsoft Dynamics CRM for each product, in addition to the product entries. When those Microsoft Dynamics NAV items are initially synchronized into Microsoft Dynamics CRM products, the 100,000 products are created plus 500,000 price level entries, resulting in 600,000 total entries created in Microsoft Dynamics CRM.

All line types in Microsoft Dynamics NAV can be integrated into Microsoft Dynamics CRM. Line types not marked as items or resources will be write-in line entries in Microsoft Dynamics CRM. Resources from Microsoft Dynamics NAV will be integrated as part of the Product catalog in Microsoft Dynamics CRM with the product category designated as "Resource."

**Note:** The **Resource List to Product** map uses **Hour** as a constant value for base unit of measure. To change the base constant to another value, you must update the **Default Unit/Dynamics Integration key** field in the **Resource List to Product** map to whatever base constant that you want to use for resources. This unit of measure must exist in Microsoft Dynamics CRM to successfully integrate the value. Only one unit of measure is supported for integrating resources.

1. Verify that you have entered all your items and resources in Microsoft Dynamics NAV.
2. Open Connector for Microsoft Dynamics.
3. Go to the integration to work with, and then click the **Maps** node in the left pane.
4. Select the **Item Card to Product** map.

If you do not want to change any of the default map settings, go to step 5. To customize map settings, see the [Connector for Microsoft Dynamics installation guide](#).

5. In the **Status** area, click **Activate**.
6. Click the **Edit** link next to the **Check for changes area** to open the **Map Run Schedule** window. Change the map run schedule to run every 45 seconds. Make sure that the **Start Date** field value is before the date that you first entered data into Microsoft Dynamics NAV. Click **OK** to close the **Map Run Schedule** window.

If your business needs require a longer run time, you can set the map run schedule to any duration.

7. Verify that the date listed in the **Check for data modified after** area is before the date that you entered your Microsoft Dynamics NAV item cards. To change this date, click the **Edit** link next to the **Check for data modified after** area to open the **Check for data modified after** window. Enter the new value and click **OK**. Start the Connector for Microsoft Dynamics service again.
8. If there are Microsoft Dynamics CRM resources that you want to integrate, select the **Resource List to Product** map.
9. Repeat steps 5 through 7 for this map.
10. Click **Save** on the top command bar.

In the **Status** section of the **Map** page, the **Last run** status is displayed. While the integration is running, the **Last run** status is displayed as **Currently running** and displays the numbers of changes found, changes written, deletions found, records deleted, and failures. Wait until the **Currently running** status is no longer displayed and the **Last run** status is displayed to allow the integration to run and move the Microsoft Dynamics NAV items to Microsoft Dynamics CRM products.

**Note:** The amount of time it will take to integrate your Microsoft Dynamics NAV item cards with your Microsoft Dynamics CRM products will depend on the number of items in your Microsoft Dynamics NAV data set.

11. Open Microsoft Dynamics CRM and go to **Settings**, select **Product Catalog**, and then select **Products**. All the products that integrated from Microsoft Dynamics NAV should be displayed.
12. Verify that all the Microsoft Dynamics NAV item cards have been fully integrated with Microsoft Dynamics CRM Products.
13. Click the **View log for this map** link at the top of the **Status** section. Review any events that are displayed and fix any issues before proceeding. For more information about reviewing the log file, see the [Connector for Microsoft Dynamics installation guide](#).
14. To change the map run schedule for ongoing integration, repeat step 6 and change the map run schedule to the appropriate settings for this map.

## Map orders and invoices

When Connector for Microsoft Dynamics is installed, Microsoft Dynamics NAV data takes precedence over all order and invoice information. You can integrate existing Microsoft Dynamics CRM orders, but not existing Microsoft Dynamics CRM invoices. However, you can integrate existing and new or modified Microsoft Dynamics NAV sales orders and invoices to Microsoft Dynamics CRM.

Because Microsoft Dynamics ERP products support more complicated pricing operations than Microsoft Dynamics CRM does, orders that are initially created in Microsoft Dynamics CRM might not be priced as accurately as they will be after they have been integrated into the Microsoft Dynamics ERP. Sales order maps must run in both directions so that the Microsoft Dynamics ERP can calculate the correct prices and integrate the information back into Microsoft Dynamics CRM.

After installation, the following functionality is available:

- Invoices can be viewed only in Microsoft Dynamics CRM.
- You cannot create invoices in Microsoft Dynamics CRM.
- You can create and modify orders in Microsoft Dynamics CRM, but only until the order is submitted.

If there are orders in Microsoft Dynamics CRM to move to Microsoft Dynamics NAV, open the Microsoft Dynamics CRM **Orders list**. For each order that you will integrate, open the order form and click **Submit Order** at the top of the form. Only orders that have been submitted are integrated to Microsoft Dynamics NAV. Do not submit Microsoft Dynamics CRM orders that have already been recreated in Microsoft Dynamics NAV.

You need to verify that the currencies or currency codes used are valid currencies or currency codes in Microsoft Dynamics NAV. All currencies and currency codes that are used in the Microsoft Dynamics CRM entities that you want to integrate with Microsoft Dynamics NAV must exist in the **Currencies** table in Microsoft Dynamics NAV (go to **Departments**, select **Administration**, select **Application Setup**, select **Financial Management**, and then select **Finance**).

Sales orders and invoices created in Microsoft Dynamics NAV may have lines that do not contain a product number. You must verify that all sales lines in a sales order or invoice have an item or resource number before integrating the sales order or invoice to Microsoft Dynamics CRM.

If entities other than sales orders are deleted in Microsoft Dynamics NAV, these entities will be deleted in Microsoft Dynamics CRM. If sales orders are deleted in Microsoft Dynamics NAV, they will be canceled in Microsoft Dynamics CRM and their status will change from "In progress" to "No money."

**Note:** If you are running localized versions of Microsoft Dynamics NAV and Microsoft Dynamics CRM, then you might need to customize the template maps or create specialized maps to adhere to tax codes in your locale.

- **Microsoft Dynamics NAV sales orders to Microsoft Dynamics CRM orders**

Microsoft Dynamics CRM orders must have an entry in the **Owner** field. If a sales order is created in Microsoft Dynamics NAV with no salesperson, or a salesperson who is not associated with a Microsoft Dynamics CRM user, the Microsoft Dynamics NAV sales order is integrated to Microsoft Dynamics CRM with an **Integration** owner. This applies for Microsoft Dynamics CRM on-premise deployments and to the user that is specified in the Microsoft Dynamics CRM adapter registration settings window for online deployments.

- **Microsoft Dynamics CRM orders to Microsoft Dynamics NAV sales orders**

Microsoft Dynamics CRM orders must have an entry in the **Owner** field. If an order is created in Microsoft Dynamics CRM with an owner that is not a user associated with a Microsoft Dynamics CRM user, the Microsoft Dynamics CRM sales order is integrated to Microsoft Dynamics NAV with a blank value for salesperson.

**Note:** Sales orders numbers cannot be mapped from Microsoft Dynamics CRM to Microsoft Dynamics NAV. To integrate sales order numbers from Microsoft Dynamics CRM to Microsoft Dynamics NAV, you need to activate manual pricing in Microsoft Dynamics NAV (which is inactivated by default), and map the field to use numbers from Microsoft Dynamics CRM. This will also help designate which orders in Microsoft Dynamics NAV originated from Microsoft Dynamics CRM.

## Mapping orders and invoices

When both Microsoft Dynamics NAV and Microsoft Dynamics CRM are new installations, there is no order or invoice data in either application. You do not need to do any initial data synchronization for these entities. To integrate orders and invoices, you must activate the appropriate maps for integration before you begin to enter order and invoice transactions in Microsoft Dynamics NAV or Microsoft Dynamics CRM.

**Note:** If a unit of measure for the sales item or the resource entity on the sales order or sales invoice line is different than a unit of measure for the corresponding product in Microsoft Dynamics CRM, then the integration of that sales order or sales invoice will fail.

1. Verify that you have entered all your sales orders in Microsoft Dynamics NAV or Microsoft Dynamics CRM.
2. Open Connector for Microsoft Dynamics.
3. Go to the integration to work with, and then click the **Maps** node in the left pane.

4. If there are Microsoft Dynamics NAV sales orders to integrate, select the **Sales Order to Order** map.

If you do not want to change any of the default map settings, go to step 5. To customize map settings, see the [Connector for Microsoft Dynamics installation guide](#).

5. In the **Status** area, click **Activate**.
6. Click the **Edit** link next to the **Check for changes area** to open the **Map Run Schedule** window. Change the map run schedule to run every 45 seconds. Make sure that the **Start Date** field value is before the date that you first entered data into Microsoft Dynamics NAV. Click **OK** to close the **Map Run Schedule** window.

If your business needs require a longer run time, you can set the map run schedule to any duration.

7. Verify that the date listed in the **Check for data modified after** area is before the date that you entered your Microsoft Dynamics NAV sales orders or Microsoft Dynamics CRM orders. To change this date, click the **Edit** link next to the **Check for data modified after** area to open the **Check for data modified after** window. Enter the new value and click **OK**. Start the Connector for Microsoft Dynamics service again.
8. Click **Save** on the top command bar.

In the **Status** section of the **Map** page, the **Last run** status is displayed. While the integration is running, the **Last run** status is displayed as **Currently running** and displays the numbers of changes found, changes written, deletions found, records deleted, and failures. Wait until the **Currently running** status is no longer displayed and the **Last run** status is displayed to allow the integration to run and move the Microsoft Dynamics NAV sales orders over to Microsoft Dynamics CRM and the Microsoft Dynamics CRM orders to Microsoft Dynamics NAV.

9. Open Microsoft Dynamics CRM and go to **Sales**, and select **Orders**. All the sales orders that integrated from Microsoft Dynamics NAV are displayed.
10. Verify that all the orders and sales orders have been fully integrated.
11. Repeat steps 1 through 10 for the **Sales Invoice to Invoice** and **Posted Sales Invoice to Invoice** maps.

**Note:** Invoices can only be integrated from Microsoft Dynamics NAV to Microsoft Dynamics CRM.

12. Click the **View log for this map** link at the top of the **Status** section. Review any events that are displayed and fix any issues before proceeding. For more information about reviewing the log file, see the [Connector for Microsoft Dynamics installation guide](#).
13. To change the map run schedule for ongoing integration, repeat step 6 and change the map run schedule to the appropriate settings for this map.

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## Customization

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The following sections contain information about how to configure Connector for Microsoft Dynamics. For more information, see the [Connector for Microsoft Dynamics installation guide](#).

### Customize map settings

After you have created an integration, you must add maps, which are collections of associations between the fields for an entity in one Microsoft Dynamics ERP system with the fields for an entity in another Microsoft Dynamics ERP system. For example, to integrate the Microsoft Dynamics CRM account entity with the Microsoft Dynamics NAV customer card entity, you must add and activate the **Account to Customer Card** map and the **Customer Card to Account** map.

If you created an integration from a template, maps have already been created for you. For more information about customization, see the [Connector for Microsoft Dynamics installation guide](#).

### Maintenance

Connector for Microsoft Dynamics has several options for maintaining your integrations. For more information, see the [Connector for Microsoft Dynamics installation guide](#).

### Additional information

For more information about using Connector for Microsoft Dynamics, and for troubleshooting tips and customization techniques, see the "Connector - Integrating Dynamics ERP with Dynamics CRM" blog on MSDN (<http://blogs.msdn.com/b/dynamicsconnector/>).

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## Appendix

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The following sections are provided for your reference:

- [Integration exceptions](#)
- [Map dependencies](#)
- [Microsoft Dynamics CRM to Microsoft Dynamics NAV maps](#)
- [Microsoft Dynamics NAV to Microsoft Dynamics CRM maps](#)
- [Changes made by the Microsoft Dynamics NAV Configuration utility](#)

## Integration exceptions

If the integration encounters an exception that is considered a possible retry, such as attempting to create an order in Microsoft Dynamics NAV that would cause the customer balance to exceed the credit limit, that particular integration instance is placed in a retry queue.

Retry occurrences are based on a progressively time-delayed algorithm that allows up to seven retries per instance. The default retry wait setting is five tries.

The following table indicates the actual time between each retry attempt based on the configurable retry wait setting.

Retry Wait Setting	Retry Attempt																
	1	2	3		4		5			6			7				
	Secs	Secs	Mins	Secs	Mins	Secs	Hrs	Mins	Secs	Days	Hrs	Mins	Secs	Days	Hrs	Mins	Secs
7	7	49	5	43	40	1	4	40	7	1	8	40	49	9	12	45	43
6	6	36	3	36	21	36	2	9	36	0	12	57	36	3	5	45	36
5	5	25	2	5	10	25	0	52	5	0	4	20	25	0	21	42	5
4	4	16	1	4	4	16	0	17	4	0	1	8	16	0	4	33	4
3	3	9	0	27	1	21	0	4	3	0	0	12	9	0	0	36	27
2	2	4	0	8	0	16	0	0	32	0	0	1	4	0	0	2	8
1	1	1	0	1	0	1	0	0	1	0	0	0	1	0	0	0	1

## Map dependencies

Some maps in Connector for Microsoft Dynamics are dependent on values in other maps. Maps with a high number of dependencies will not successfully run until dependent values in other maps are integrated first. Map dependencies are listed below.

### Microsoft Dynamics NAV to Microsoft Dynamics CRM

The following table lists the dependencies that occur when mapping entities from Microsoft Dynamics NAV to Microsoft Dynamics CRM.

Map	Dependencies
<b>Enumerated Values to Picklist</b>	<ul style="list-style-type: none"> <li>No dependency</li> </ul>
<b>Salespeople/Purchasers to ERP System User</b>	<ul style="list-style-type: none"> <li>No dependency</li> </ul>
<b>Unit of Measures to Unit Group</b>	<ul style="list-style-type: none"> <li>No dependency</li> </ul>
<b>Currency Exchange Rates to Currency</b>	<ul style="list-style-type: none"> <li>No dependency</li> </ul>
<b>Item Card to Product</b>	<ul style="list-style-type: none"> <li>Enumerated Values to Picklist</li> <li>Units of Measure to Unit group</li> <li>Currency Exchange Rates to Currency</li> </ul>
<b>Resource List to Product</b>	<ul style="list-style-type: none"> <li>Enumerated Values to Picklist</li> <li>Units of Measure to Unit group</li> <li>Currency Exchange Rates to Currency</li> </ul>
<b>Customer Card to Account</b>	<ul style="list-style-type: none"> <li>Enumerated Values to Picklist</li> <li>Currency Exchange Rates to Currency</li> <li>Salesperson to ERP System User</li> <li>For a customer that has a parent customer dependency, Customer Card to Account might be dependent on the parent customer integrating first</li> </ul>
<b>Contact Card to Contact</b>	<ul style="list-style-type: none"> <li>Enumerated Values to Picklist</li> <li>Currency Exchange Rates to Currency</li> <li>Salesperson to ERP System User</li> <li>Customer Card to Account</li> <li>For a customer that has a parent customer dependency, Customer to Account Card might be dependent on the parent customer integrating first</li> </ul>
<b>Sales order to Order</b>	<ul style="list-style-type: none"> <li>Enumerated Values to Picklist</li> <li>Salesperson to ERP System User</li> <li>Currency Exchange Rates to Currency</li> <li>Units of Measure to Unit Group</li> <li>Item Card to Product</li> <li>Customer Card to Account</li> <li>Contact Card to Contact</li> <li>Currency Exchange Rates to Currency</li> </ul>

Map	Dependencies
<b>Sales Invoice to Invoice</b>	<ul style="list-style-type: none"> <li>• Enumerated Values to Picklist</li> <li>• Salesperson to ERP System User</li> <li>• Units of Measure to Unit Group</li> <li>• Item Card to Product</li> <li>• Customer Card to Account</li> <li>• Contact Card to Contact</li> <li>• Currency Exchange Rates to Currency</li> </ul>
<b>Posted Sales Invoice to Invoice</b>	<ul style="list-style-type: none"> <li>• Enumerated Values to Picklist</li> <li>• Salesperson to ERP System User</li> <li>• Units of Measure to Unit Group</li> <li>• Item Card to Product</li> <li>• Customer Card to Account</li> <li>• Contact Card to Contact</li> <li>• Currency Exchange Rates to Currency</li> </ul>

## Microsoft Dynamics CRM to Microsoft Dynamics NAV

The following dependencies exist when mapping entities from Microsoft Dynamics CRM to Microsoft Dynamics NAV.

- **Account to Customer Card or Contact to Contact Card**

Existing Microsoft Dynamics CRM accounts or contacts will not be integrated to Microsoft Dynamics NAV unless they are submitted to ERP.

Therefore, when you are running your initial data synchronization, integrating accounts to customers can be dependent on the salesperson created in Microsoft Dynamics NAV. To mitigate the dependencies, complete the following procedures:

1. Create the Microsoft Dynamics NAV user that is corresponding to Microsoft Dynamics CRM sales person.
2. Run the **Salesperson to ERP System User** integration, and map all Microsoft Dynamics CRM users to ERP system users.
3. Run the **Account to Customer Card** or **Contact to Customer Card** integration.

- **Order to Sales Order**

Existing Microsoft Dynamics CRM orders will not be integrated to Microsoft Dynamics NAV unless they are submitted.

## Microsoft Dynamics CRM to Microsoft Dynamics NAV maps

The following sections provide additional information about how data is mapped from Microsoft Dynamics CRM to Microsoft Dynamics NAV. Detailed information about each map is listed.

### Account to Customer Card

In the **Account to Customer Card** map, the Microsoft Dynamics CRM account entity is the source entity and the Microsoft Dynamics NAV customer card entity is the destination entity. This map provides the field associations that are necessary to read data from an account record and write that data to the correct fields in the customer record.

- This map should not be scheduled to run at the same time that the **Customer Card to Account** map runs during initial data synchronization. For more information about the order in which maps should be run, see [Recommended map run order](#).
- Country/Region fields in Microsoft Dynamics CRM customer cards and account cards must match the country codes that exist in the **Countries/Regions** table in Microsoft Dynamics NAV (go to **Departments**, select **Administration**, select **Application Setup**, and then select **General**). Accounts created in Microsoft Dynamics CRM with country codes that do not exist in Microsoft Dynamics NAV will only have the account header information (account number) integrated to Microsoft Dynamics NAV until a correct country code is provided in the Microsoft Dynamics CRM account. Affected account data includes customer, contact, and sales order entities in Microsoft Dynamics CRM.
- The **Address Name** field in Microsoft Dynamics NAV only allows up to 10 characters in the field. The **All Shipping Addresses > Ship To Address > Code** field in Microsoft Dynamics CRM accounts must be updated to a maximum of 10 characters to ensure smooth integration into Microsoft Dynamics NAV.
- New accounts will not be integrated until you click **Submit** on the **Account** form in Microsoft Dynamics CRM. Primary contacts for new accounts must be submitted before the corresponding account is submitted, or integration errors will occur and updates will fail.
- The map template does not integrate primary contact information by default for accounts and customers. You can add a customized mapping function for primary contact information, but if you associate a Microsoft Dynamics CRM contact card to a Microsoft Dynamics CRM account using the **Primary Contact** field on the **Account** form, the account will fail to integrate, and a log entry similar to "Contact <...> is not related to customer <...>" will be created.

To integrate Microsoft Dynamics CRM accounts that have an associated primary contact, you need to open the **Contact** form in Microsoft Dynamics CRM for each contact that is associated to an account, and then click **Submit**.

- The requirement level of the **Account Number** field on the **Account** form is noted as **Business Recommended**. When integrating Microsoft Dynamics CRM accounts to Microsoft Dynamics NAV customer cards, you must enter an account number in order to avoid inconsistent generation of the ERP key used for integration.
- Before you merge accounts in Microsoft Dynamics CRM, you must remove any current and historical sales transactions for the associated Microsoft Dynamics NAV customer card. If you do not do this, the Microsoft Dynamics NAV customer card will remain active and during the next integration, the Microsoft Dynamics CRM account will be reactivated.
- Updates to Microsoft Dynamics CRM customer address fields except **Address 1** and **Address 2** will not integrate with Microsoft Dynamics NAV unless the account record associated with these addresses is updated.

- Accounts in Microsoft Dynamics CRM require both a primary and a secondary address (address1 and address2). Address2 is created automatically when the account is submitted for integration with Microsoft Dynamics NAV. After an account is integrated with Microsoft Dynamics NAV, removal of the secondary address from the “ship-to address” collection field in Microsoft Dynamics NAV will not remove address2 from the corresponding account in Microsoft Dynamics CRM.
- If you have activated duplicate detection, the **Account to Customer Card** map may be dependent on existing Microsoft Dynamics CRM price list and salespersons that are created in Microsoft Dynamics NAV. Your options are listed below.

For price level dependencies:

- Remove the mapping defaultpricelevelid PriceLevelKey\ID

For salesperson dependencies:

- Remove the mapping for Addresses\item\SalespersonKey\ID
- Alternatively, create the Microsoft Dynamics NAV salespeople that correspond to the Microsoft Dynamics CRM users and enable the **Salesperson to ERP SystemUser** map so that all Microsoft Dynamics CRM users are mapped to the ERP SystemUsers. Then you can run the **Account to Customer Card** or **Contact Card to Customer** map.

## Contact to Contact Card

In the **Contact to Contact Card** map, the Microsoft Dynamics CRM contact entity is the source entity and the Microsoft Dynamics NAV contact card entity is the destination entity. This map provides the field associations that are necessary to read data from a contact record and write that data to the correct fields in the contact record.

- This map should not be scheduled to run at the same time that the **Contact Card to Contact** map runs during initial data synchronization. For more information about the order in which maps should be run, see [Recommended map run order](#).
- New contacts will not be integrated until you click **Submit** on the **Contact** form in Microsoft Dynamics CRM. Parent accounts for contacts must be submitted before the corresponding contact information is submitted.
- Before you merge contacts in Microsoft Dynamics CRM, you must remove any current and historical sales transactions for the associated Microsoft Dynamics contact card record. If you do not do this, the Microsoft Dynamics contact card record will remain active, and during the next integration the Microsoft Dynamics CRM contact will be reactivated.
- Updates to Microsoft Dynamics CRM contact **Address1** fields will integrate with Microsoft Dynamics NAV.
- If you create a Microsoft Dynamics CRM contact with a **First Name** field value and click **Submit** before saving, the ERP key is created by combining the first four characters of the contact’s **First Name** field value and the first five characters of the contact’s **Last Name** field value, plus a random number.

If you create a Microsoft Dynamics CRM contact without a **First Name** field value and save before clicking **Submit**, the ERP key is created by combining the first five characters of the contact’s **Last Name** field value, plus a random number. The first four characters of the contact’s **First Name** field value are not used.

- Microsoft Dynamics NAV does not support the integration of a Microsoft Dynamics CRM contact that contains another contact as the parent customer. If a contact in Microsoft Dynamics CRM contains another contact as a parent customer, the contact will not be integrated.

- Contacts in Microsoft Dynamics NAV inherit information from their parent contacts. To prevent this inherited information from overwriting data in Microsoft Dynamics CRM, the following fields are not mapped in the **Contact to Contact Card** map:
  - Contact phone number
  - Fax number
  - Pager number
  - Email address
  - Address fields

To synchronize the unmapped fields in the **Contact to Contact Card** map, use the following formula: **=If(EqualTo(<FIELD>, DefaultValue()), " ", <FIELD>)**.

- To prevent contacts from inheriting information from parent contacts, open the **Marketing Setup** window in Microsoft Dynamics NAV. In the **Inheritance** area, turn off inheritance for the following options:
  - Salesperson code
  - Territory code
  - Country/region code
  - Language code
  - Address details
  - Communication details

For more information about the **Marketing Setup** window, see "How to: Set up and enable Connector for Microsoft Dynamics" on MSDN (<http://go.microsoft.com/fwlink/?LinkID=204486>).

## Order to Sales Order

In the **Order to Sales Order** map, the Microsoft Dynamics CRM order entity is the source entity and the Microsoft Dynamics NAV sales order entity is the destination entity. This map provides the field associations that are necessary to read data from an order record and write that data to the correct fields in the sales order record.

- Microsoft Dynamics CRM orders can be integrated into Microsoft Dynamics NAV only by clicking the **Submit Order** button on the Microsoft Dynamics CRM **Order** form.
- After a new Microsoft Dynamics CRM order is submitted to Microsoft Dynamics NAV, it cannot be modified or deleted in Microsoft Dynamics CRM. However, it can be canceled in Microsoft Dynamics CRM.
- If you cancel a submitted order in Microsoft Dynamics CRM, the associated order in Microsoft Dynamics NAV will not be voided or deleted. If you want the associated Microsoft Dynamics NAV order to be voided or deleted, you must manually void or delete the order from the Microsoft Dynamics NAV application.
- Sales orders created in Microsoft Dynamics CRM and integrated to Microsoft Dynamics NAV may exceed a customer's credit limit as recorded in Microsoft Dynamics CRM. You will need to verify the credit limit of a customer or account after integrating sales orders into Microsoft Dynamics NAV.
- Sales orders with write-in product lines in Microsoft Dynamics CRM will not integrate properly to Microsoft Dynamics NAV orders. Only sales orders with items or resources that exist in Microsoft Dynamics NAV can be integrated.

- Sales orders created in Microsoft Dynamics CRM and integrated to Microsoft Dynamics NAV may include items that are out of stock. You will need to verify the stock supply of items after integrating sales orders into Microsoft Dynamics NAV.
- If a sales order is created in Microsoft Dynamics CRM that contains items that lack key information in Microsoft Dynamics NAV (such as posting group), then the sales order will have missing sales lines when the sales order is integrated into Microsoft Dynamics NAV. When both sales order maps (**Order to Sales Order** and **Sales Order to Order**) are activated, the original order in Microsoft Dynamics CRM will be overwritten with the sales order in Microsoft Dynamics NAV, and the original line item information will be lost.

## Address2 in Microsoft Dynamics CRM

Accounts in Microsoft Dynamics CRM require both a primary and a secondary address (address1 and address2). Address2 is created automatically when the account is submitted for integration with Microsoft Dynamics NAV. When an account is integrated with Microsoft Dynamics NAV, removal of the secondary address from the "ship to" addresses collection in Microsoft Dynamics NAV will not remove address2 from the corresponding account in Microsoft Dynamics CRM. The deleted address is re-created in Microsoft Dynamics NAV when the account is updated in Microsoft Dynamics CRM.

## Microsoft Dynamics NAV to Microsoft Dynamics CRM maps

The following sections provide additional information about how data is mapped from Microsoft Dynamics NAV to Microsoft Dynamics CRM. Detailed information about each map is listed.

### Microsoft Dynamics NAV Enumerated Values to Microsoft Dynamics CRM Picklist

Microsoft Dynamics NAV data takes precedence over data that is synchronized. The data found in Microsoft Dynamics NAV is compared to the data found in Microsoft Dynamics CRM and is synchronized as follows:

1. The data found in Microsoft Dynamics NAV is added to Microsoft Dynamics CRM if it does not already exist in Microsoft Dynamics CRM.
2. If a value is found in Microsoft Dynamics CRM that does not exist in Microsoft Dynamics NAV, the following processing occurs:
  - a. The text of the value is surrounded with an asterisk (\*). The asterisk is added because:
    - Existing Microsoft Dynamics CRM records may contain the picklist value and data integrity must be maintained.
    - As users add new records in Microsoft Dynamics CRM, they will see that these values are not valid in the ERP system and the text is intended to prevent these values from being selected.

**Note:** If a Microsoft Dynamics CRM picklist value that contains the text "(Not in ERP)" or starting and ending with an asterisk is associated with a record that is intended to integrate to the ERP, the record will NOT integrate because there is no corresponding value in the ERP.
  - b. If appending and prepending an asterisk causes the value to exceed the allowed length, an exception is raised.
  - c. If the **Picklist** map is rerun, the asterisk is not appended or prepended again.
  - d. If the **Picklist** map is rerun and a Microsoft Dynamics CRM value that already contains leading and trailing asterisks is now found to exist in Microsoft Dynamics NAV (it was added to Microsoft Dynamics NAV after the initial run of the **Picklist** integration map), the asterisks are removed from the Microsoft Dynamics CRM value.
3. If a matching value is found in Microsoft Dynamics CRM, that value will be renamed to match the Microsoft Dynamics NAV value. For example, Microsoft Dynamics CRM has a shipping method value of Ex and Microsoft Dynamics NAV has a shipping method value of EX. The existing Microsoft Dynamics CRM shipping method value will be renamed to EX.

**Note:** Run this map after you have created a new integration and configured your Microsoft Dynamics CRM organizations in the Connector for Microsoft Dynamics client and before you begin activating other maps.

The map can also be used later if data needs to be synchronized again. The values that are updated in Microsoft Dynamics CRM are all of type Picklist and some of these values cannot be updated manually in Microsoft Dynamics CRM.

## Picklist synchronized data

The following data values are updated in Microsoft Dynamics CRM from the enumerated values that are found in Microsoft Dynamics NAV.

Microsoft Dynamics CRM entity	From (in Microsoft Dynamics NAV)	To (in Microsoft Dynamics CRM)
<b>Account</b>	Shipment Method Code	Address 1 Freight Terms Options Address 2 Freight Terms Options
	Shipping Agent Code	Address 1 Shipping Method Options Address 2 Shipping Method Options Shipping Method Options
	"Ship To"	Address 2 Address Type Options
	Payment Term Code	Payment Terms Options
<b>Contact</b>	Shipment Method Code	Address 1 Freight Term Options Address 2 Freight Terms Options
	Shipping Agent Code	Address 1 Shipping Method Options Address 2 Shipping Method Options Shipping Method Options
	Payment Term Code	Payment Terms Options
<b>Customer Address</b>	"Ship To"	Address Type Options
	Shipment Method Code	Freight Terms Options
	Shipping Agent Code	Shipping Method Options
<b>Invoice and Invoice Detail</b>	Payment Term Code	Payment Terms Options
	Shipment Method Code	Ship To Freight Terms Options Freight Terms
	Shipping Agent Code	Shipping Method Options
<b>Price Level</b>	Shipment Method Code	Freight Terms Options
	Payment Term Code	Payment Method Options
	Shipping Agent Code	Shipping Method Options
<b>Product</b>	Types Item and Resource	Product Type Options
<b>Dynamics ERP Country Code</b>	Countries/Regions	Dynamics ERP Country Code

### Notes:

- These are the only enumerated value sets that are supported for Microsoft Dynamics NAV. Custom enumerated values are not supported.
- In Microsoft Dynamics CRM, **Shipping method** entity exists on **Other Address** form as well as on **Address1** and **Address2** fields and on the account and contact headers.
- In Microsoft Dynamics CRM, the **Address Type** field exists on both the **Account/Contact** information forms as well as on the **More Addresses** forms. These two address type fields

represent two entirely different Microsoft Dynamics CRM picklists and they may or may not be identical.

- In Microsoft Dynamics CRM, the `addressstypecode`, `freighttermscode`, and `shippingmethodcode` picklist values on the `address2` attribute set will always default to a null value when this map is run.
- The **Default Value** value in the `address2_shippingmethodcode` picklist on the account entity is renamed to **CRM Default**.

## Unit of measure to Unit Group

In the **Unit of Measure to Unit Group** map, the Microsoft Dynamics NAV unit of measure entity is the source entity and the Microsoft Dynamics CRM unit group entity is the destination entity. This map provides the field associations that are necessary to read data from a unit of measure record and write that data to the correct fields in the unit group record.

- For every unit of measure in the Microsoft Dynamics NAV **Units of Measure** table, a unit group is created in Microsoft Dynamics CRM. Each unit group in Microsoft Dynamics CRM contains exactly one unit of measure named the same as the unit group.
- If a unit of measure in Microsoft Dynamics NAV is associated with at least one product in Microsoft Dynamics CRM and the unit of measure is deleted, the associated unit group in Microsoft Dynamics CRM is inactivated. Deleted units of measure cannot be integrated again.

## Salespeople/Purchaser to ERP System User

In the **Salesperson to ERP System User** map, the Microsoft Dynamics NAV salesperson entity is the source entity and the Microsoft Dynamics CRM system user entity is the destination entity. This map provides the field associations that are necessary to read data from a salesperson record and write that data to the correct fields in the ERP system user record.

After running this map, you must add the ERP system user ID to each Microsoft Dynamics CRM user. See [Associate Microsoft Dynamics CRM users with ERP system users](#).

## Customer Card to Account

In the **Customer Card to Account** map, the Microsoft Dynamics NAV customer card entity is the source entity and the Microsoft Dynamics CRM account entity is the destination entity. This map provides the field associations that are necessary to read data from a customer record and write that data to the correct fields in the account record.

- This map should not run at the same time that the **Account to Customer Card** map runs during initial data synchronization. This map should be run before you integrate the contact information using the **Contact to Contact Card** and **Contact Card to Contact** maps, or integration errors might occur. For more information about the order in which maps should be run, see [Recommended map run order](#).
- You must activate the **Salesperson to ERP SystemUser** map and associate Microsoft Dynamics CRM users to the integrated ERP system user records to maintain ownership in Microsoft Dynamics CRM.
- The map template does not integrate primary contact information for accounts and customers. You can add a customized mapping function to integrate primary contact information between Microsoft Dynamics CRM and Microsoft Dynamics NAV.
- Country/Region fields in Microsoft Dynamics CRM customer cards and account cards must match the country codes that exist in the **Countries/Regions** table in Microsoft Dynamics NAV (go to **Departments**, select **Administration**, select **Application Setup**, and then select **General**). If the **Customer Card to Account** map runs before country code errors are fixed in Microsoft Dynamics CRM, account data will be lost from Microsoft Dynamics CRM.

- For customer records that have parent customer dependencies, the **Customer Card to Account** map might be dependent on whether the parent customer record has been integrated. If exceptions occur, they are normally resolved by the retry mechanism.
- When integrating addresses from Microsoft Dynamics NAV to Microsoft Dynamics CRM, the system will fail with an exception if the text coming into Microsoft Dynamics CRM from Microsoft Dynamics NAV is longer than the maximum number of characters allowed in Microsoft Dynamics CRM. In order to prevent this exception from occurring, you can adjust the maximum number of characters for the Microsoft Dynamics CRM address lines to be 60 characters or less, or you can limit the length of the address string that is sent to Microsoft Dynamics CRM by modifying the map and using the **Mid** function. The **Mid** function allows the transform to find a string in a certain location for a specified number of characters. For example, you could modify the mapping of the Microsoft Dynamics NAV ship-to address to the Microsoft Dynamics ship-to address by utilizing the **Use a function** option in the **Destination Field Mapping** window. Select the **Mid** function from the function list. Map the **text** to the Microsoft Dynamics NAV **Ship-to Address** source field, set the **start** value to 1, and set the **length** value to 50. This will truncate any characters beyond 50 characters.

## Contact Card to Contact

In the **Contact Card to Contact** map, the Microsoft Dynamics contact card entity is the source entity and the Microsoft Dynamics CRM contact entity is the destination entity. This map provides the field associations that are necessary to read data from a contact record in Microsoft Dynamics NAV and write that data to the correct fields in the contact record in Microsoft Dynamics CRM.

- This map should not be scheduled to run at the same time that the **Contact to Contact Card** map runs during initial data synchronization. For more information about the order in which maps should be run, see [Recommended map run order](#).
- You must activate the **Salesperson to ERP System User** map and associate Microsoft Dynamics CRM users to the integrated ERP system user records if you want to maintain ownership in Microsoft Dynamics CRM.
- For customer records that have parent customer dependencies, **Contact Card to Contact** might be dependent on whether the parent customer record has been integrated. If exceptions occur, they are normally corrected by the retry mechanism.
- Only Microsoft Dynamics NAV contacts that are of the type Person are integrated in the **Contact Card to Contact** map. Contacts marked with type Company or other types are not integrated from Microsoft Dynamics NAV.

## Item Card to Product

In the **Item Card to Product** map, the Microsoft Dynamics NAV item card entity is the source entity and the Microsoft Dynamics CRM product entity is the destination entity. This map provides the field associations that are necessary to read data from an item card record and write that data to the correct fields in the product record.

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## Sales Order to Order

In the **Sales Order to Order** map, the Microsoft Dynamics NAV sales order entity is the source entity and the Microsoft Dynamics CRM order entity is the destination entity. This map provides the field associations that are necessary to read data from a sales order record and write that data to the correct fields in the order record.

- In the case where a Microsoft Dynamics CRM sales order fails to integrate with Microsoft Dynamics NAV, you can cancel the sales order in Microsoft Dynamics CRM even after it has been submitted to Microsoft Dynamics NAV for integration.
- Microsoft Dynamics NAV allows new sales orders to have an ID that already exists in the history. However, duplicated sales order IDs, historic or new, are not supported for integration. You will receive an error if a duplicate is encountered.
- Microsoft Dynamics NAV supports negative numbers and amounts on the sales order detail quantity, tax amount, discount amount etc. Microsoft Dynamics CRM does not support negative numbers on the related fields, which means that the integration will fail

## Ship-To addresses in Microsoft Dynamics NAV

After an account is integrated between Microsoft Dynamics NAV and Microsoft Dynamics CRM, a secondary address is generated for the account in the Ship-to address collection. This secondary field is created because Microsoft Dynamics CRM requires both a primary and secondary address (which corresponds to address2) for accounts. Removing the secondary address from the ship to address collection will not remove address2 from the corresponding account in Microsoft Dynamics CRM.

## Changes made by the Microsoft Dynamics NAV Configuration utility

When you run the Microsoft Dynamics NAV Configuration utility, certain fields are automatically modified to make them "Read Only" files. Modified fields are listed below. If you run the configuration utility for these entities, you will have to manually modify these fields again to make them "Read Only".

Form	Fields modified
<b>Contact card</b>	<ul style="list-style-type: none"> <li>Company name</li> <li>Company number</li> <li>Date of last interaction</li> <li>Last date attempted</li> <li>Last date modified</li> <li>Next to do date</li> <li>Number</li> <li>Number of business relations</li> <li>Number of industry groups</li> <li>Number of job responsibilities</li> <li>Number of mailing groups</li> <li>Organizational level code</li> </ul>
<b>Currencies</b>	<ul style="list-style-type: none"> <li>Code</li> <li>Last date adjusted</li> <li>Last date modified</li> <li>Payment tolerance percent</li> <li>Maximum payment tolerance amount</li> </ul>
<b>Item card</b>	<ul style="list-style-type: none"> <li>Number</li> <li>Created from non-stock item</li> <li>Quantity on purchase order</li> <li>Quantity on product order</li> <li>Quantity on component lines</li> <li>Quantity on sales order</li> <li>Quantity on service order</li> <li>Last date modified</li> <li>Last counting period update</li> <li>Next counting period</li> <li>Posted sales invoice</li> </ul>
<b>Sales invoice</b>	<ul style="list-style-type: none"> <li>Number</li> <li>Status</li> <li>Sales order</li> <li>Quote number</li> <li>External document number</li> <li>Status</li> <li>Bill-to address</li> <li>BizTalk sales order confirmation</li> <li>Date sent</li> <li>Time sent</li> <li>Prepayment amount invoice</li> <li>Invoice discount amount</li> <li>Quantity shipped</li> <li>Quantity invoiced</li> <li>Prepayment amount deducted</li> </ul>
<b>Units of measure</b>	<ul style="list-style-type: none"> <li>Code</li> </ul>
<b>Salespeople/purchasers</b>	<ul style="list-style-type: none"> <li>Code</li> </ul>
<b>Ship-to address</b>	<ul style="list-style-type: none"> <li>Code</li> <li>Last date modified</li> </ul>

If you modify a Microsoft Dynamics NAV .config file, these changes are overridden in the new .config file when the Configuration utility is run for that entity. The utility will regenerate the .config file again based on the Microsoft Dynamics NAV field information and will ignore any changes the user made to the file.

If you need to make manual changes to the .config files, you must run the Microsoft Dynamics NAV Configuration utility, and then add changes to the new file.