Manual

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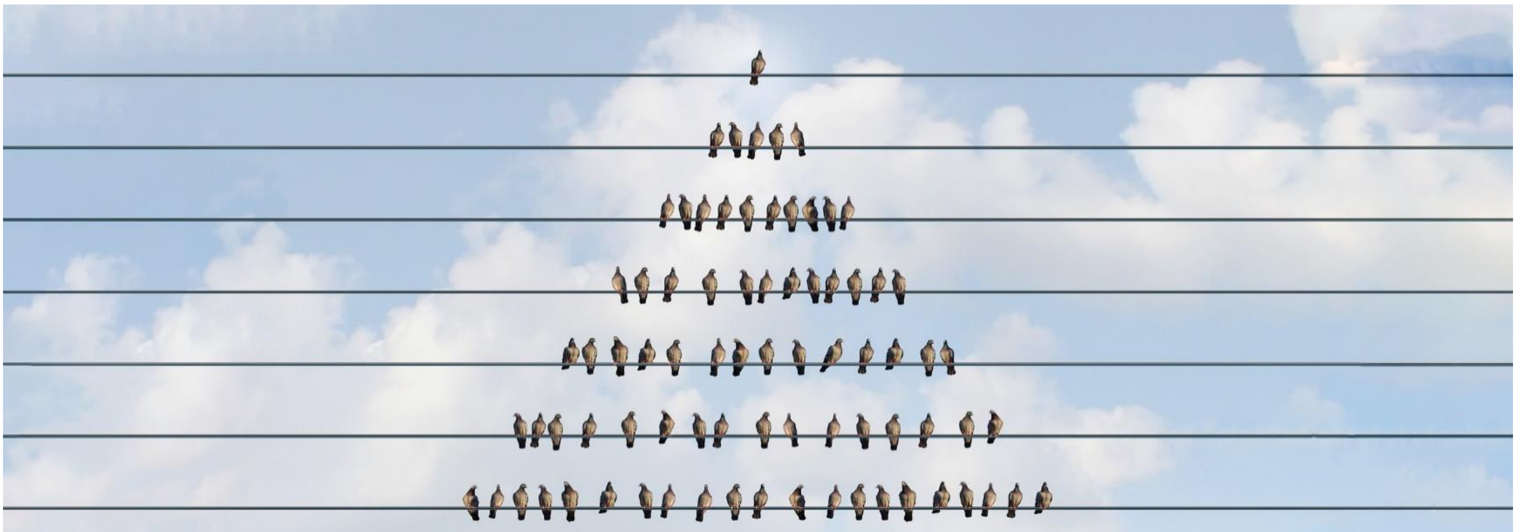

Global Master

HOW TO SYNCRONIZE MASTER DATA BETWEEN COMPANIES

Microsoft
Partner

itm8

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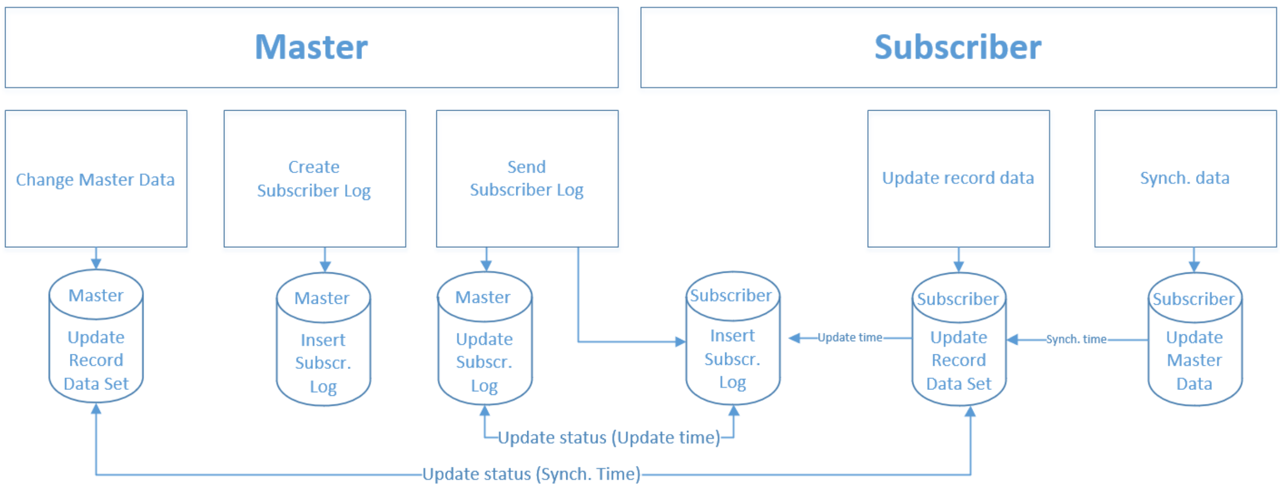
INTRODUCTION

Global Master (GM) is a tool used to synchronize data between companies. It is also possible to synchronize between companies in different databases.
GM provides synchronization based on relationship between partners. In GM, there are two types of partners - Master and Subscriber. It is possible to be both a Master and Subscriber at the same time. Master own templates and data, whereas Subscriber receive data from Master.
Data to synchronize is set up in Templates. Companies that would to subscribe to a template is set up as Subscribers on the Data Template (Reference to Partner setup).



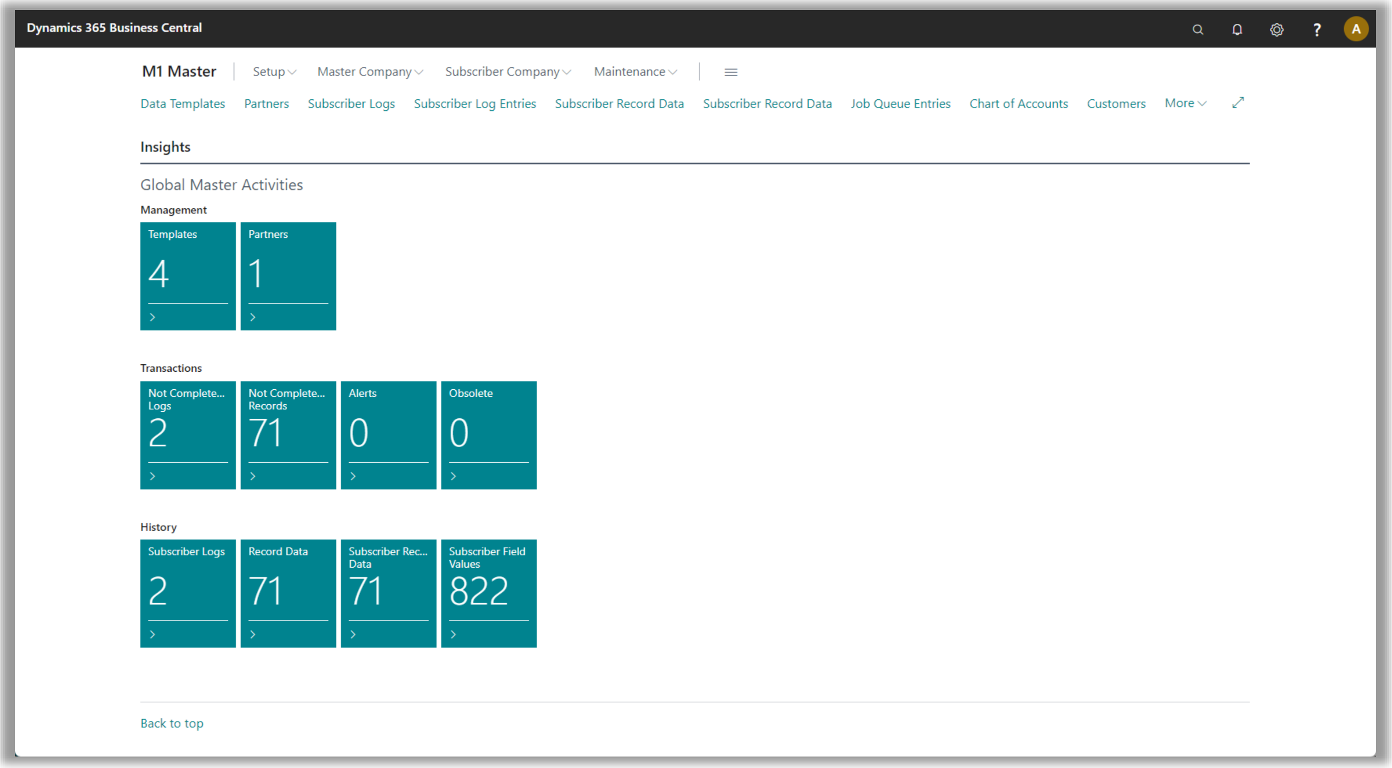
Access Global Master through a dedicated role center or by use of the role explorer.
Remember to set the “Show in Role Explorer” in the profile Global Master Administrator to get the overview in the role explorer.
You are getting the best overview of available functions and tables using the role center or the role explorer.

REQUIREMENTS

This product can be installed as an extension in Microsoft Dynamics Microsoft Dynamics 365 Business Central.

GLOBAL MASTER ROLE CENTER

The best overview of the available functions in GM is present in the role center. Here you will find easy access to the Global Master definitions and functions.



There are two types of companies managed by the role center: *Master company* and *Subscriber companies*.
The role center is covering both areas since a company can be both of the two types simultaneously or only master or only subscriber.

Hint: The *History* group is displayed if selected in Global Master Setup only.

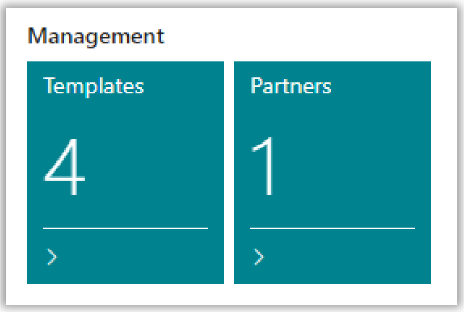
On the next pages the role center cue tiles are explained.

Role Center Cue Tiles

In the role center there are three groups. Management, Transactions and History. Every single cue tile represents a shortcut to a table containing data, but the number in the cue tile itself provides information on how many entries there are present in the underlaying table.

Management

The management group gives access to definitions of what data to synchronize whereto.

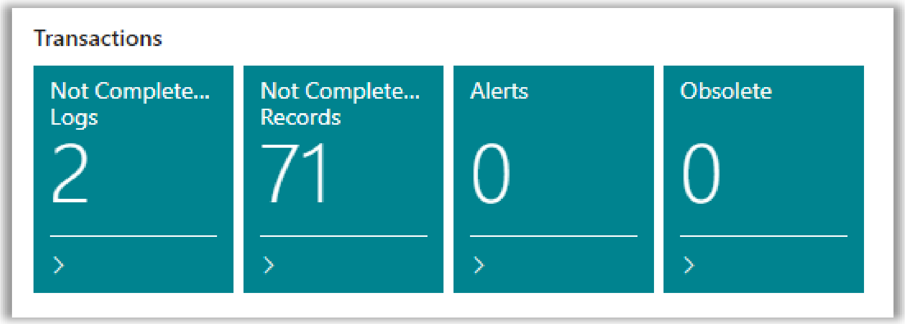


Templates are supplying the synchronization process with settings of what data to synchronize.
Partners defines the subscribers to receive data.
Template Subscribers are holding information on exactly what subscribers who are to receive data defined in a given template.

These cues are the easiest access to the information as described above.

Transactions

The transactions group is displaying data to be or being processed.



Here Subscriber Logs which are being processed, or which at least are waiting to have the final status marks updated, displayed along with Subscriber Record Data not synchronized yet.
To be accessed in subscriber companied only you find the Alerts. Here you find failing synchronization of Record Data that should be investigated. Obsolete Record Data are Record Data which are not controlled by the master company any more are displayed in the subscriber company role center.

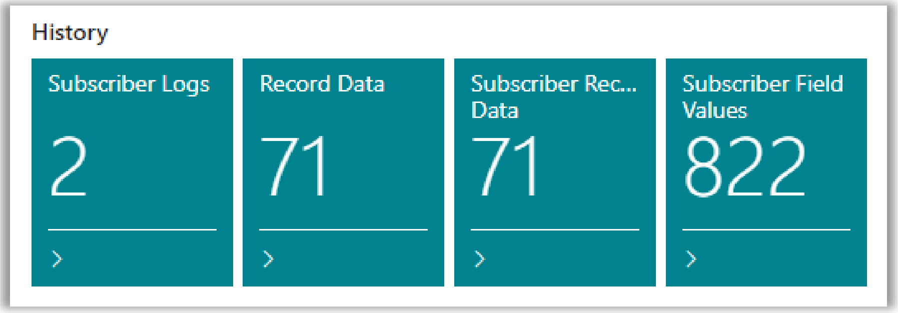
Subscriber Logs are holding data to be synchronized for a specific data template. The data itself are stored in an xml document attached to the subscriber Log.
More the log has information on send-to-subscriber and updated-at-subscriber status.

Subscriber Record Data are data per record in a table handled by a data template to be send to a subscriber. Also, here status on the transactions are displayed.

Subscriber company
Alerts are Record Data in the subscriber company which are not synchronized.

Obsolete are Record Data in the subscriber company which no longer controlled by the master company. These records are probably deleted in the master company, and they are now released from the master company control. They can now be managed in the subscriber company.

History
The history group are cue tiles with shortcuts to processed data, but also to data prepared for synchronizing.



Subscriber Logs are holding data being synchronized for a specific data template. The data itself are stored in an xml document attached to the subscriber Log.
More the log has information on send-to-subscriber and updated-at-subscriber status.

Record Data are data to be handled by Global Master on a record level. From here you can even see what fields are handled by Global Master. The current values of the genuine data are to be seen here.
In a subscriber company, Record Data are holding information on what fields the user cannot edit.
It is the presence of a data record that is telling Global Master that a table or field is managed by Global Master.

Subscriber Record Data are data per record in a table handled by a data template to be send to a subscriber. Also, here status on the transactions is displayed.

Subscriber Field Values are data being synchronized to a subscriber on field level.

Role Center Actions

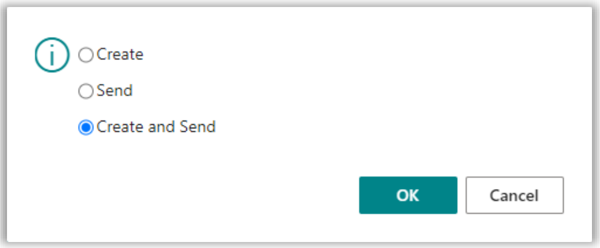
The role center does offer the user a number of quick access actions to a number of features for maintaining the Global Master data flow.

Setup

Global Master Setup	Set up current company. Here you also have an easy way of selecting the Global Master Role Center as your personal role center.

Master Company

Create and send Subscriber Log	Select one or both the create and send options.



Create and Send
Creating the Subscriber Logs containing data to be transferred to subscriber companies immediately followed by sending the assembled data to the subscriber.

This feature is available in Master Company only.

Create
Creating the Subscriber Logs containing data to be transferred to subscriber companies.

This feature is available in Master Company only.

Send
Sending the Subscriber Logs containing data to subscriber companies.

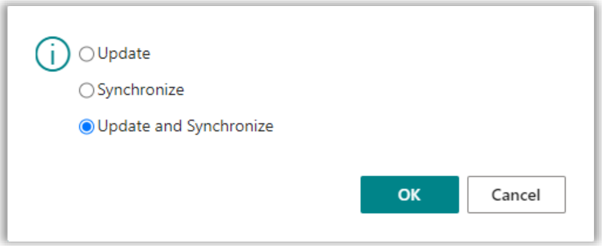
This feature is available in Master Company only.

Synchronize Subscriber status	Requesting transfer and update status from subscriber companies. This feature is available in Master Company only.

Subscriber Company

Update Record Data

Select one or both of the update end synchronize options.



Update and Synchronize
Importing data received from the master company and immediately hereafter making imported data available in the subscriber company.

This feature is available in Subscriber Company only.

Update
Importing data received from the master company ready for synchronizing to make the data available in the subscriber company.

This feature is available in Subscriber Company only.

Synchronize
Making imported data available in the subscriber company.

This feature is available in Subscriber Company only.

Maintenance

Cleanup Subscriber Log

Remove data (XML) from the Subscriber Log after the synchronization of data already has been performed.

Subscriber Log records does have an attached XML document, containing data to be transferred to the subscriber company. Removing this XML document leaves the rest of the Subscriber Log with all other information than the data transferred.

Cleanup Subscriber Log Entries

Deleting Subscriber Log Entries after the synchronization of data already has been performed.

Role Center setup

You choose the Global Master Role Center as your personal role center easily from the Global Master Setup. Then you have easiest access to all Global Master functionality.

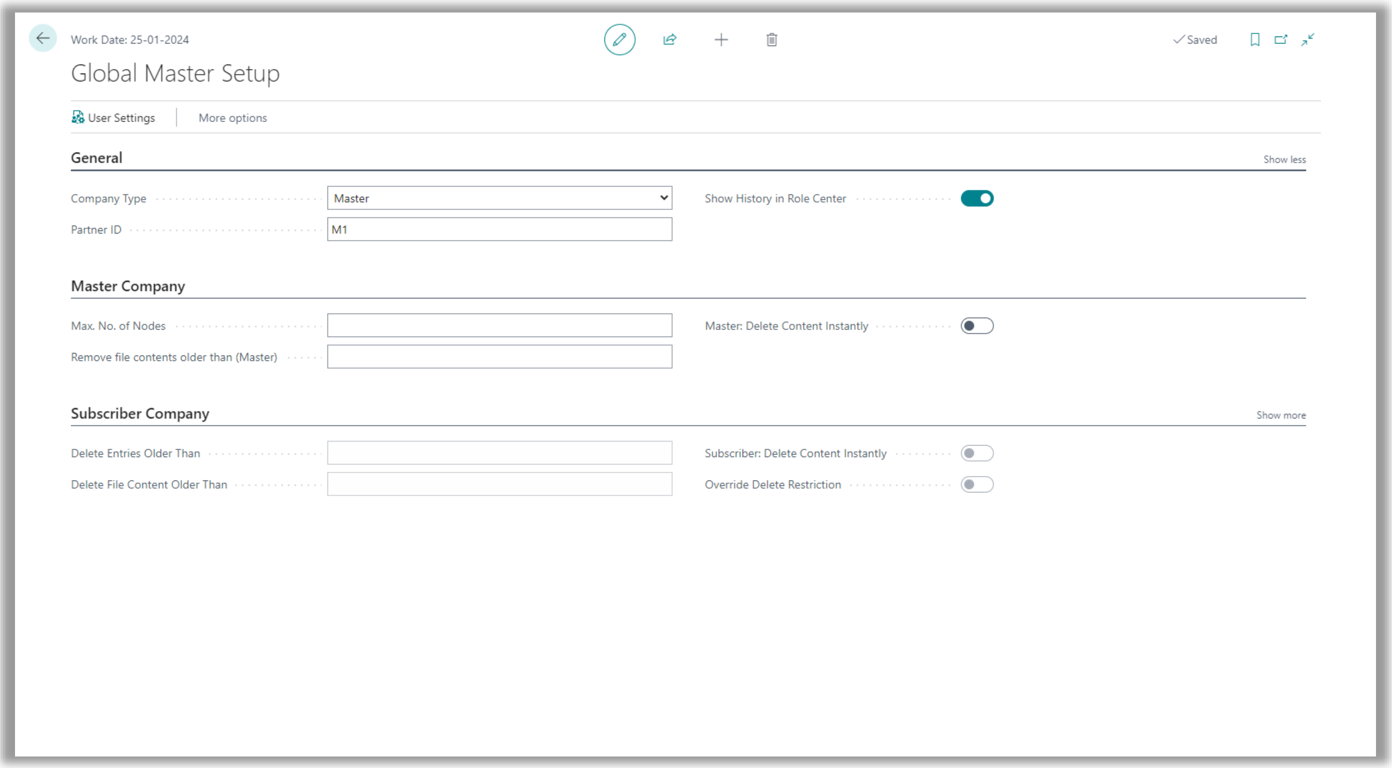
GENERAL SETUP

There are two basic things you need to set up before you set up the Data Templates. These are Global Master Setup and Partner Setup.
Global Master Setup needs to be set up in both Master Company and Subscriber Company, whereas Partner Setup is only set up in Master Company.

Master and Subscriber must have a unique Partner ID. It is not allowed to have companies with the same Partner ID.
The same rule applies to Data Templates (this is only a problem if we have multiple Master Companies). It is not allowed to have the same Data Template code in different Master Companies. If you have multiple Master Companies, we suggest you to use prefix or suffix that is unique for the individual Master Company.

Global Master Setup

This is the basic setup for Global Master functionality. The company can be setup as *Master*, *Subscriber* or *Master and Subscriber*.
Partner ID is the unique value for the partner. When setting up a Partner to connect to a subscriber ID in the Partner setup must be the same as Partner ID in the Global Master Setup.



To activate Global Master functionality the first requirement is to enter a value in Company Type and Partner ID in Global Master Setup.

General

Company Type

Determining if the current company is *Master*, *Subscriber* or *Master and Subscriber*.

Partner ID

ID for the company used when synchronizing.

Show History in Role Center

Select if the History group is to be displayed in the role center. If not selected there is no access to the cues belonging to this group.

Master

Max. No. of Records per Xml File

Enter a number of nodes for splitting the transactions into smaller parts whenever the number of nodes exceeds the "Max No. of Records per Xml File".

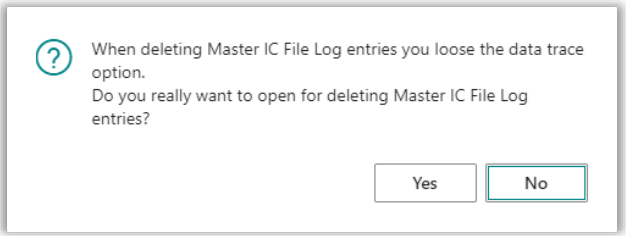
This should make the transaction process smoother.
A number larger than 10000 must be entered. Else leave 0 as the default value for not splitting the transactions.

Remove file contents older than (Master)

Enter a date formula with a time span of how old a Log entry has to be before removing file contents (XML document) will take place.

The removing of the file contents will be performed by the function designated for this procedure:
Cleanup Subscriber Log.

Warning when entering date formula will appear:



Remove file contents immediately (Master)

With this option selected the XML file stored in BLOB field "File contents" on the Subscriber Log will be removed after use. This meaning that when the Subscriber Log has been sent to the subscriber company, the presence of the XML file is obsolete, and therefore it is removed.

Please note that the Subscriber Log is copied to the subscriber company with the XML file contents included.

Subscriber

Handle Data Files	This field is required to extract the data received from Master Company. The process “Update record data” extracts data into the Global Master record set. It is only possible to run this process in the Subscriber Company.
Synch. dataset	This field is required to update master data in the Subscriber Company. It is only possible to run this process in the Subscriber Company.
Only Synch. Net Changes	Global Master is only sending net changes to Subscriber. If we mark this field only these changes are synchronized at Subscriber.
Update older log first	Subscriber logs are processed sequentially sorted by the number. Selecting *“Update older log first”* ensures that the contents of a subscriber log, that is handling a certain table must be synchronized before the next subscriber log managing the same table is completed. This ensures the changes are synchronized in the correct order, if more changes are following each other.
Delete entries older than	Enter a date formula with a time span of how old a Log entry has to be before deleting the entry The removing of the file contents will be performed by the function designated for this procedure: *Cleanup Subscriber Log Entries*. **Note**: Date formula used for both Master and Subscriber.
Removing file contents older than (Subscriber)	Enter a date formula with a time span of how old a Log entry has to be before removing file contents (XML document) will take place. The removing of the file contents will be performed by the function designated for this procedure: *Cleanup Subscriber Log*.
Remove file contents immediately	With this option selected the XML file stored in BLOB field “File contents” on the Subscriber Log will be removed after use. This meaning that when the Subscriber Log has processed by the update to Record Data in the subscriber company, the presence of the XML file is obsolete, and therefore it is removed.

Setting up role center

A shortcut for setting up role centers for yourself or other users has been introduced. Instead of going through My Settings, where you can change your own role only, you can use the action button from Global Master Setup.

User Settings	Opening the User Settings list for setting up users.

Copying the entire subscriber company

Copy Subscriber Company	Copying a subscriber company into a sister subscriber company. See chapter Copy Subscriber Company for more information.

Setting up field blacklist

Some fields are not wanted in the field synchronization. For making fields unwanted and excepted from the data template setup a blacklist containing unwanted fields has been introduced to the system.
A field entered in this blacklist will not be inserted in the data templates when using "*Insert all fields from table*" from the Data Template Card.

Access to the blacklist is found in Global Master Setup on the *Related* tab.

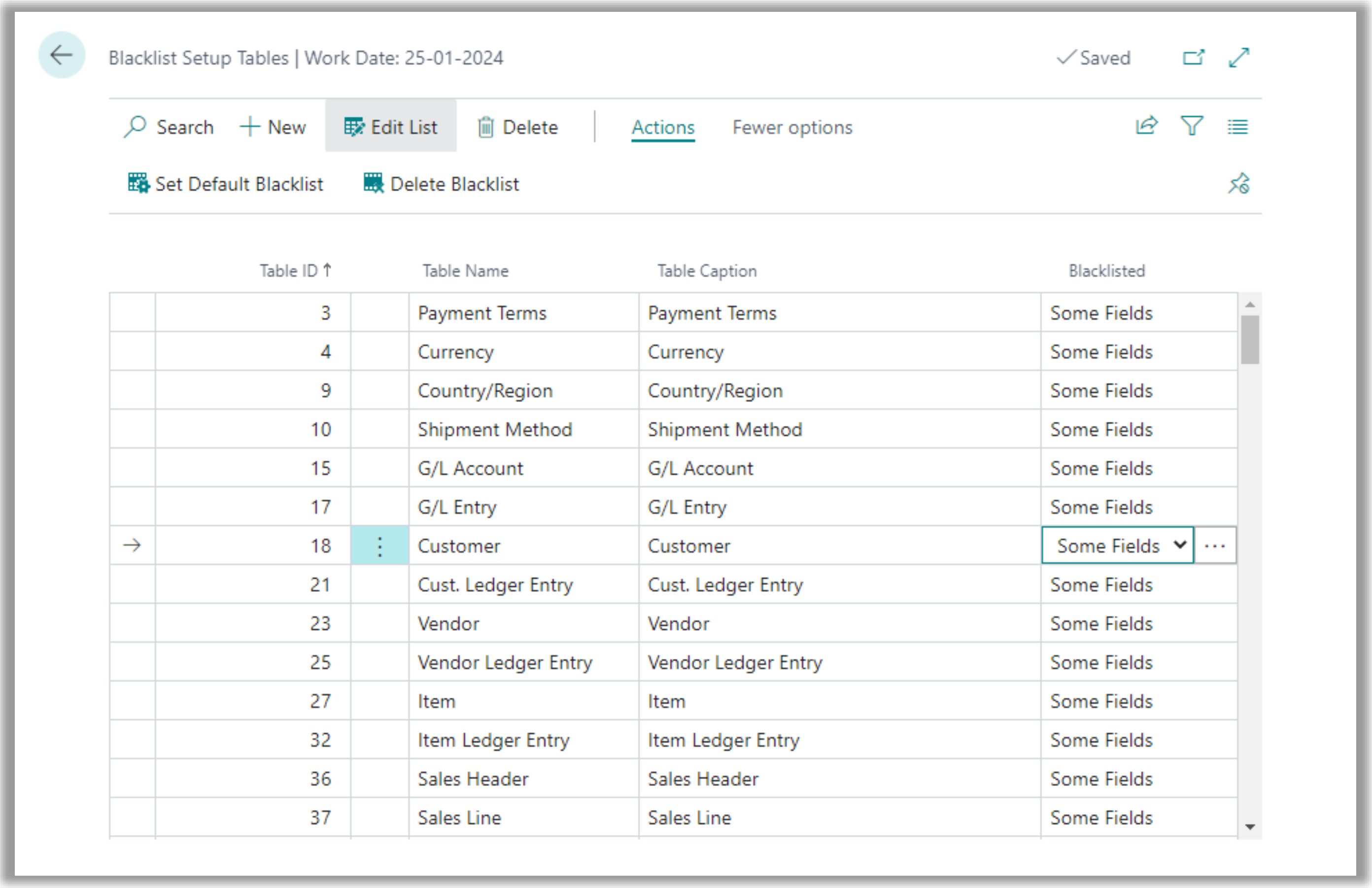


Table ID ↑	Table Name	Table Caption	Blacklisted
3	Payment Terms	Payment Terms	Some Fields
4	Currency	Currency	Some Fields
9	Country/Region	Country/Region	Some Fields
10	Shipment Method	Shipment Method	Some Fields
15	G/L Account	G/L Account	Some Fields
17	G/L Entry	G/L Entry	Some Fields
18	Customer	Customer	Some Fields
21	Cust. Ledger Entry	Cust. Ledger Entry	Some Fields
23	Vendor	Vendor	Some Fields
25	Vendor Ledger Entry	Vendor Ledger Entry	Some Fields
27	Item	Item	Some Fields
32	Item Ledger Entry	Item Ledger Entry	Some Fields
36	Sales Header	Sales Header	Some Fields
37	Sales Line	Sales Line	Some Fields

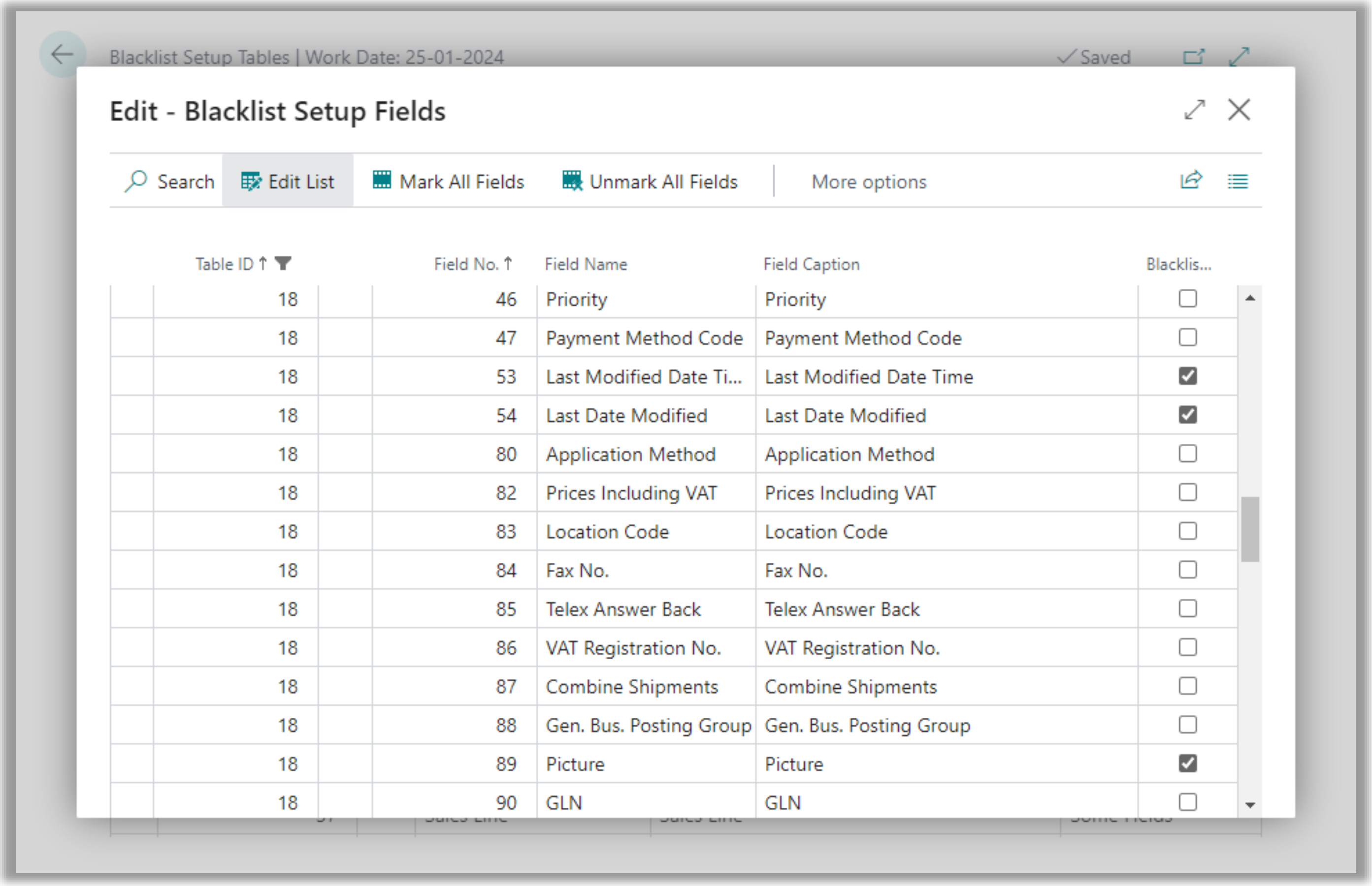
Here you have an overview of the tables with fields included in the blacklist. The provided action buttons can help you set up the blacklist.

Set default Blacklist	Setting up a default blacklist provided by the Global Master system. This setup can be modified after the initial setup. Please note that some fields will be mandatory blacklisted. The "Blacklist" mark cannot be removed from fields which are considered as mandatory blacklisted.
Delete Blacklist	Removes all blacklist setup making it possible to build a new blacklist from scratch.

Accessing the Blacklist Setup Tables where individual tables can be blacklisted by the following options:

Blacklisted	*All fields* The entire table is blacklisted and excepted from the "*Insert all fields from table*" function, used in Data Template. *Some fields* The fields marked "Blacklisted" in the "Blacklist Setup Tables" page are blacklisted and excepted from the "*Insert all fields from table*" function, used in Data Template.

Access to the Blacklist Setup Fields page is granted when clicking the assist button on Blacklist Setup Table lines marked "Some fields". Her the field list for the selected table can be managed.

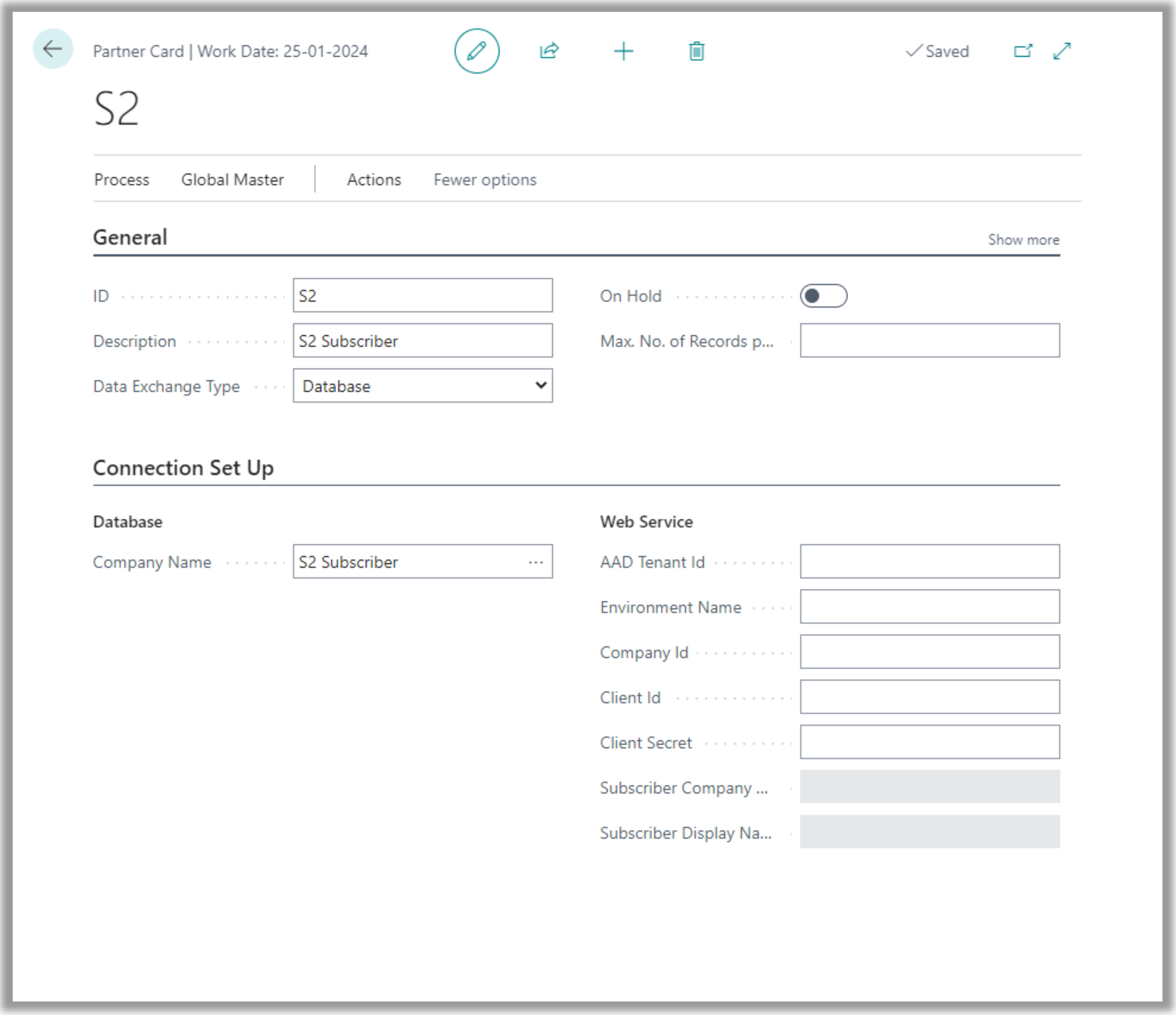


The column Blacklisted is indicating if the field defined by the line is blacklisted or not.

Blacklisted	Marked (yes) meaning that the field cannot be inserted in templates.

Partner Setup

In the Partner list you can add and manage subscribers. A partner is a company which is receiving master data from the master company.
When added to the partner list, a partner can be attached to one or more templates as a "Template Subscriber".



ID	Partner ID is a unique value. It is not allowed to have companies with the same Partner ID.
Database Exchange Type	Database: Exchange data with a Partner which is located in the same database Web Service: Exchange data with a Partner which is located in another SQL database. A Web Service is used.

On Hold — It is possible to set the Partner on hold. We will not exchange data if the Partner is on hold. Default value is Yes and can only be changed if mandatory fields are entered.

Description — If Description is empty when entering a value in Company Name then Description is set to Company Name.

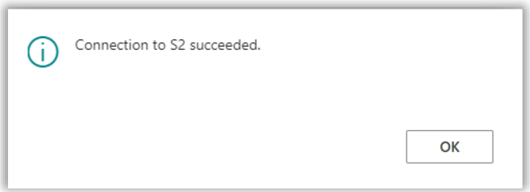
Mandatory fields

"Company Name" is mandatory if Database Exchange Type is Database.

The four fields "Web Service Name", "Service Name", "User ID" and "Password" are all mandatory when Exchange Type "Web Service" has been selected.

Actions

Test Connection — Test if we can contact the server. If connection is success test is also performed regarding Partner ID on Global Master setup is the same as the ID on the Partner card.



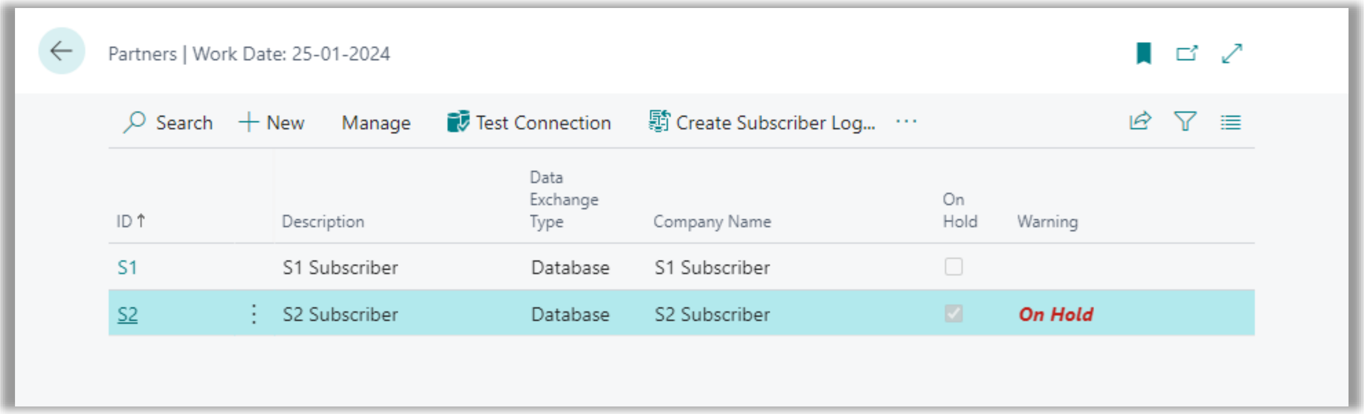
Create Subscriber Log — This step creates a Subscriber Log containing and xml-file with all the data that needs to be send to the Partner. It is not sent to Partner in this step.

Only data from released Data Templates not "On hold" are used and only changed records from these Templates are collected.

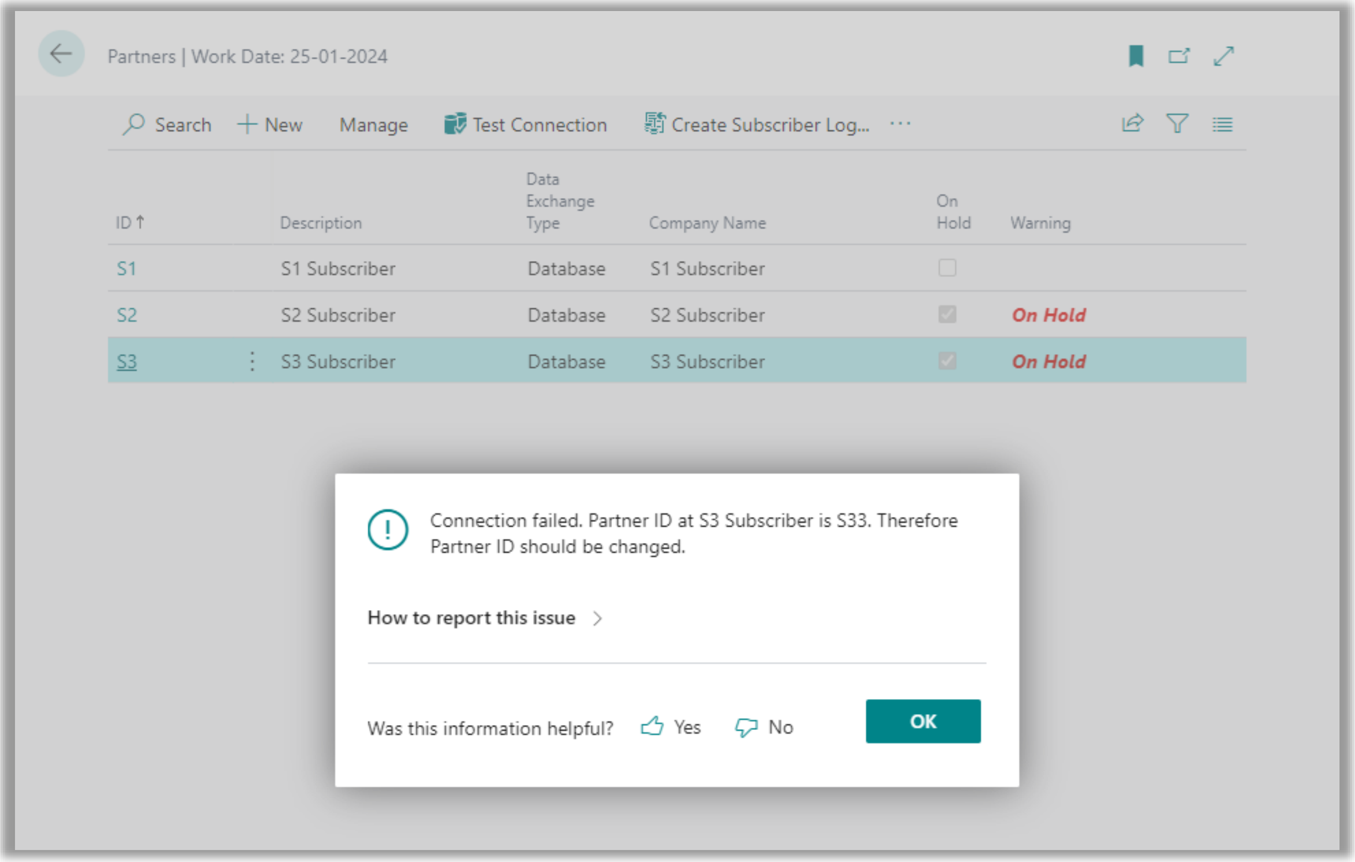
Send Subscriber Log — Send all open Subscriber Logs to this partner

Test Connection

Setting up partners are essential for making the data synchronization work. Please make sure that the Partner ID in the subscriber companies are set up correctly.



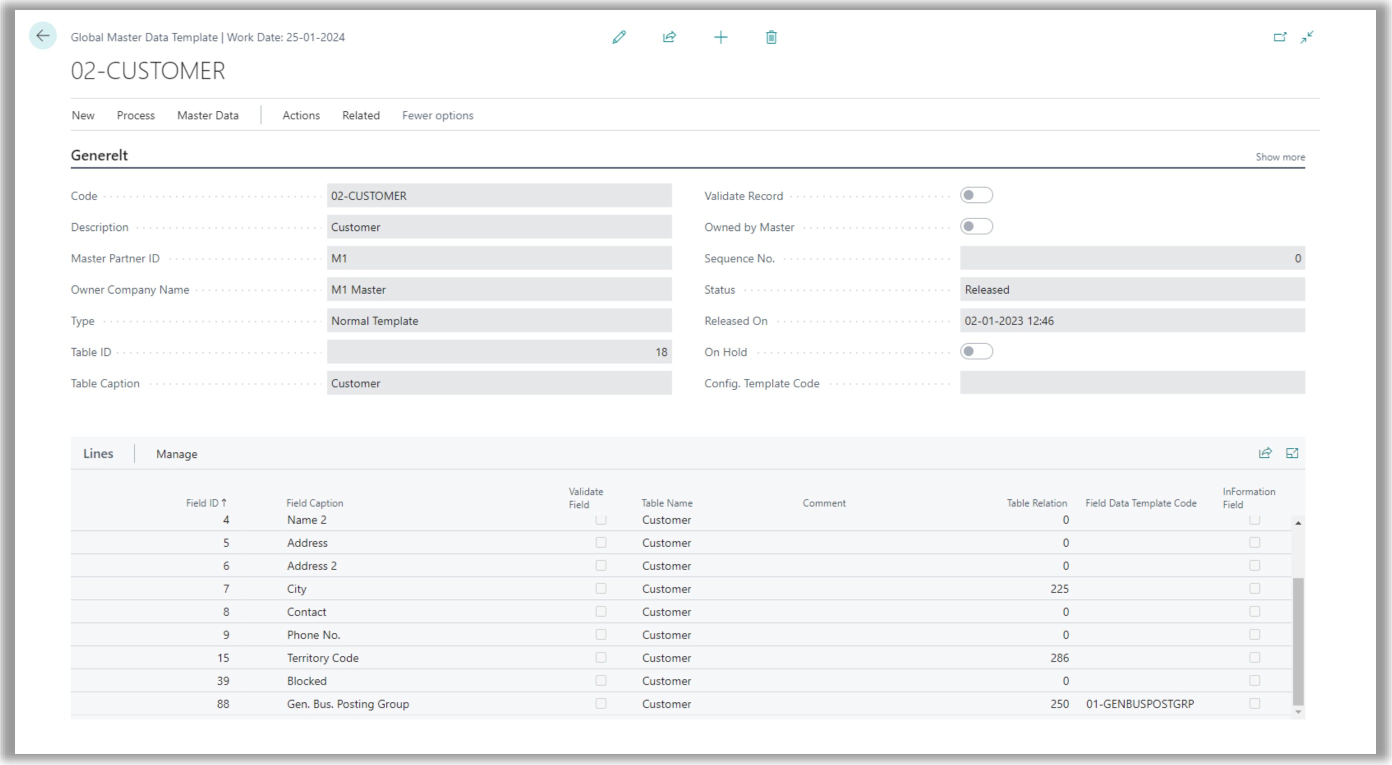
You can always use the "Test Connection" action in the Master Company to ensure that the ID's are matching each other. If not, you probably will experience an error message as shown below.



Also, the Partner cannot be marked "On Hold" if the synchronization should be activated. Make sure no partners you are expecting synchronized are "On Hold".

DATA TEMPLATE

Data Templates are used to set up data we want to exchange between Master and Subscribers. A Data Template contains table ID and a number of table fields to be transferred.



To every Data Template there is a Master (Master Partner ID) and one or more subscribers. Master is the owner of the Data Template. It is only possible to change the Data Template in Master Company, and status must be "Under Development" in order to change the template settings.
It is possible to set filters to select a subset of the data. This could be finished goods, balance accounts etc.
If the Data Template table have related data, you want to update together with this this Template you can do this.

If you have data directly related to a field, you can add a Field Template for this field. This could be General Business Posting Group.

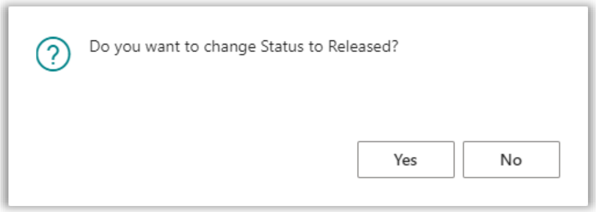
If you on the other hand have data related to the table, you can add a Sub Template. This could be Item Cross Reference etc. Tables used as Sub Templates must have at least two fields in the primary key. The first must refer to the table from which Template the Sub Template is attached.

Data Template Card fields

Setting the template up requires that information is filled in in a number of fields in the template header.

Code	The code is a unique ID for the template. It is not allowed to use the same Data Template code in different Master Companies.
Description	Template description of your own choice. If Description is empty when entering a value in Table ID then Description is set to Company Name.
Type	Type of the template will be used to determine the usage of the template and its fields. *Normal Template* Data from templates fields are synchronized to the subscriber. *Field Template* Data from the field templates fields are synchronized when a Normal Template is referring to the Field Template in a line with a field containing a table relation. Field templates are used for data related to a field in the normal template field. Only the used value will be transferred to the subscriber. *Sub Template* Data from the sub templates fields are synchronized to the subscriber when a normal template with the sub template attached is processed. Sub templates are used for data from tables with indirect relations. All values are transferred. See Appendix for more information on using field- and sub templates.
Table ID	Table number for the data to be defined in the current template. When a table number is selected the Description field of the template header will be filled in automatically. The Table ID field is a lookup field referring to all tables in the database which are not excepted from use in the Global Master.
Table Caption	Name of the table handled by the template.

	Is mostly interesting when the Description field is used for a description different from the table name.
Sequence No.	Number used for sorting within the templates belonging to each template type.
Status	Status is indicating the state of the template. *Under Development* The template and its settings can be modified. When under development, the template is “On Hold” meaning that it is excepted from synchronization. Pending Approval The template is “On Hold” and cannot be synchronized. *Released* The template is activated for synchronization.



	When changing status to “Released” the so called Record Data are updated. These are the data to be synchronized.
Released On	Date and time stamp for when status set to “Released”.
On Hold	When “On Hold” the template is not processed when creating Subscriber Logs. However, changes are still being recorded in Record Data if the template is Released, even if the template is “On Hold”.
Sub Templates Exists	Showing if Sub Templates are attached to the template.

Config. Template Code	Attached Standard Configuration Template to be used by the subscriber when adding new records in the subscriber company. Please see the “Configuration Template” chapter. Check Field Value Update Activate the post processing of the current template, that is checking and updating Field Values. *All* Check all field values. *Recently updated* Consider the date formula entered in field “Recently updated time span” when processing the post processing to determine how recent the changes are allowed to be for being included. The field value update post processing can be activated from the Action tab or by setting the job queue up to handle the check procedure frequently.
Recently updated time span	Date formula setting the time frame for how old changes can be, when qualifying changes to be postprocessed by the field value update control. Please note: The date formula must start with minus (-) to calculate a valid start limit. Example: -3D meaning that changes logged within the last three days will be checked and updated.

Data Template Card actions

A few actions on the *action* tab are useful when working with the templates.

Create/Update Record Data	Creating Record Date for the current template. Note: This action should be performed automatically when setting the template status "Released". It is only possible to run this process in the Master Company.
Check Field Value Update	Check and update Field Values logged compared with the current values in data. Settings in fields "Check Field Value Update" and "Recently updated time span" will qualify Record Data and Field Data to be processed.
Sync. Company	Synchronize the current template. All waiting synchronizations for the current table are processed It is only possible to run this process in the Subscriber Company.
Choose fields from table	Select fields to be synchronized with the template. Already chosen fields are marked blue in the list page which are displaying all fields to be selected. *Hint:* If a table field does not appear in the list, please check the Blacklist Setup in page Global Master Setup.
Copy Template	Copy existing template and its settings into a new template Code. Lines are included. If chosen, references to attached Field Data Templates are transferred as well. If selected by option, Record Filters are copied to the new code. Please note that subscribers not are copied. These are to be maintained manually. A useful feature for when working with different template filters etc.
Set Status Under Development	With one click all data templates with status "Released" will be set to status "Under Development". Data templated with status "Pending Approval" are not changed.
Set Status Released	With one click all data templates with status "Under Development" will be set to status "Released". Data templated with status "Pending Approval" are not

	changed.
Create and send Subscriber (Current Template)	Performing the action known from the Global Master role center, but for the current template only.
Send Template definition only (Current Template)	Process starting synchronization of a single template definition from the master company. Template managed data are not synchronized.

From the *Navigate* tab you can get an overview of attached data.

Record Filters	It is possible to setup filters if you do not want to exchange all records in this table.
Subscribers	Here you add Subscribers to which you will exchange data defined in the current Data Template.
Sub Template link	Data related to the template tables primary key fields can be added using a “Sub Data Template Link”. When a Sub Template is linked to template, the data described in the Sub Template will be synchronized to the subscriber company. All records from the table will be synchronized.
Record Data	Get an overview of the Record Data attached to the current Data Template prepared for the synchronization.
Subscribers Record Data	Record Data for individual subscribers are displayed here.
Log Entries	Displaying Log Entries attached to the current template. Log Entries are present in the Subscriber Companies only.

Data Template List actions

The list page of the Data Templates does have some useful action features in the *Actions* tab.

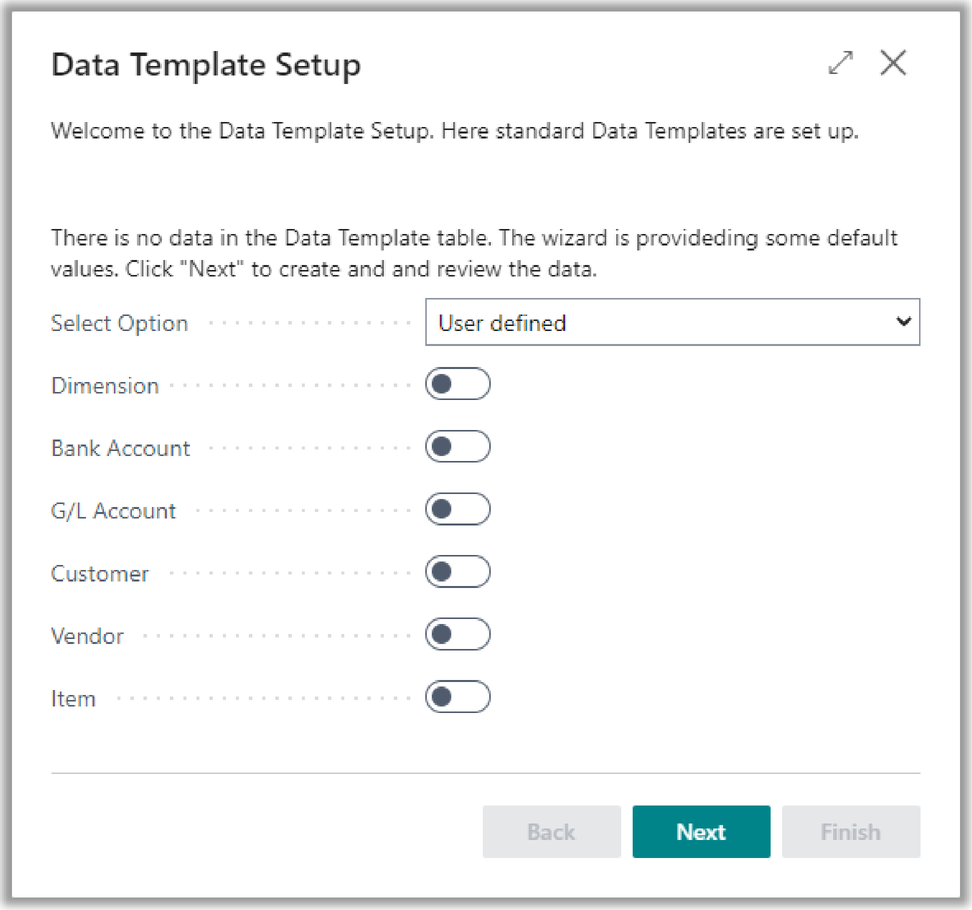
Set all to Under Development	With one click all data templates with status "Released" will be set to status "Under Development". Data templated with status "Pending Approval" are not changed.
Set all to Released	With one click all data templates with status "Under Development" will be set to status "Released". Data templated with status "Pending Approval" are not changed.
Set On Hold	Setting a "On Hold" checkmark directly from the list page.
Activate	Resetting (removing) "On Hold" checkmark directly from the list page.
Synchronize Record Data (Current Template)	An alternative to the "Update and Synchronize Record Data" in the Global Master Role Center is to use this function. Only the current template will be synchronized. Please note that Record Date have to be updated before this function is started. This action is for use in subscriber companies only.
Set up Data Templates	Select an area for which a number of data templates will be created according to GM standard settings. These can be modified for customized use if necessary.
Set up Subscribers	Using a wizard you can easily select a number of subscribers to be attached to the current Data Template.

Super User features
Handling unusual circumstances might require special tools, which are not to be used on daily basis.
That is why the *Global Master Super* profile gives access to a few extra features.

Mark template changed	To force an update of the template definition, the Super User can use this action to raise the "Field added" flag.
Create/Update Record Data (all Data Templates)	A function corresponding to the one on the Template Card, but handling all templates instead of the current only, will be started using this action. This feature is very powerful, when a complete update is desired. Select the "Force Full Update" option in the request form which appears with this action or change the filter to suit your demands.

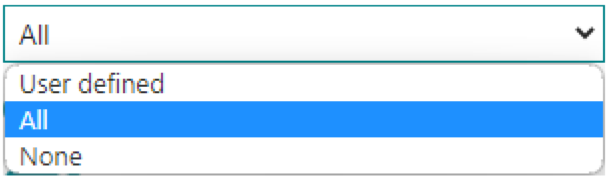
Set up Data Templates

When activating “Set up Data Templates” from Data Template List the user can select among pre-defined areas for which Data Templates will be created.



Wizard step 1: Select among standard data templates and continue by clicking “Next”.

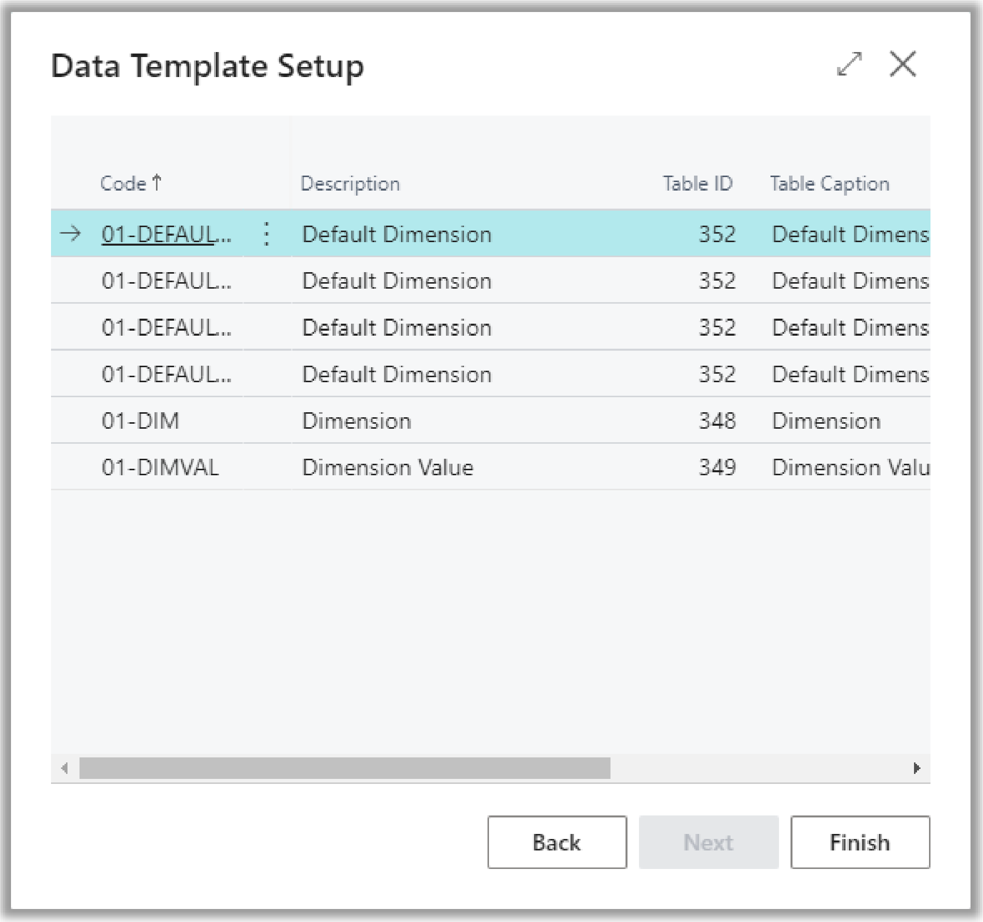
The option box does have three options which are helping for fast filling in the checkboxes.



Options

User defined – Select by clicking checkboxes
All – All checkboxes will be marked.
None – Marks in checkboxes are removed

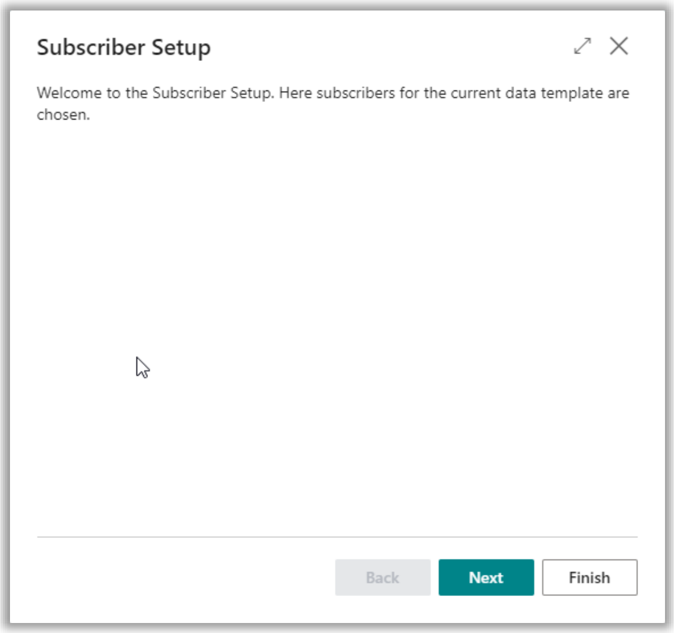
Click “Next” when the desired checkboxes are filled out.



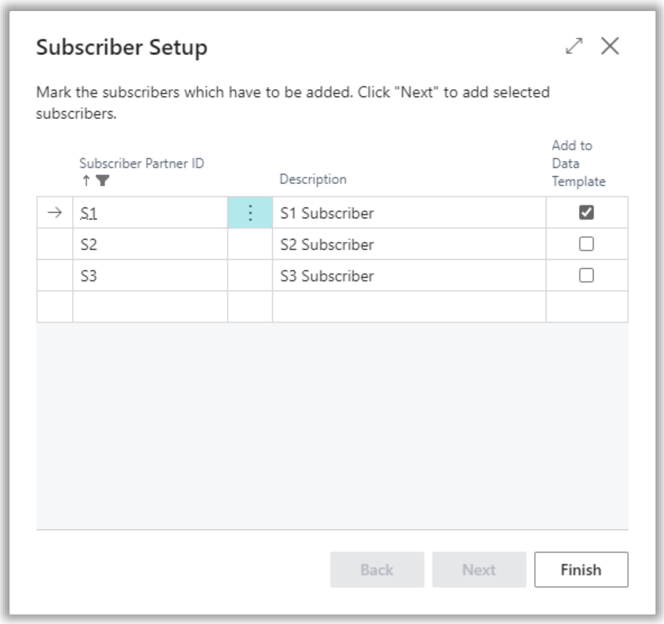
Wizard step 2: Created data templates are displayed. Click "Finish" to end the wizard.

Subscriber setup

When activating the action "Set up Subscribers" from the Templates list a wizard will guide you through selection of a number of subscribers, which are attached as subscribers to the current data template.
The current template is the template on the line with focus in the Templates list.



Wizard step 1: Displaying welcome instructions only. Click "Next" to continue.



Wizard step 2: Mark partners to be added as subscribers.

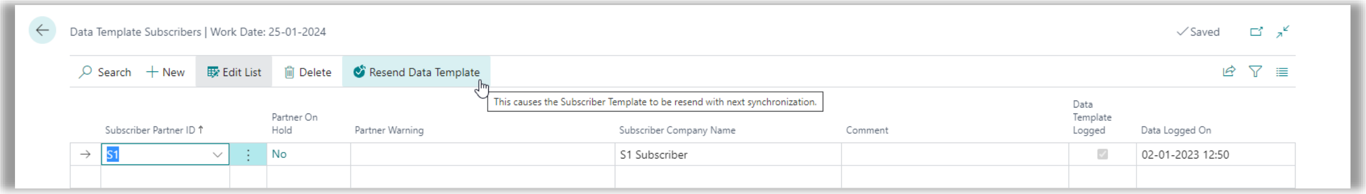
Choose the partners you want to subscribe to the current template by inserting checkmarks in the checkboxes. Click "Finish" to complete the selection.

Afterwards the selected partners will occur as subscribers. Check this out from the Template Card clicking on the "Subscribers" button in the Navigate tab.

Resending data to subscriber

If you need to make it possible for transferring a Data Template to a given subscriber, even if the “Data Template Logged” field on the subscriber is marked, a function can remove this “Data Template Logged” mark for resending the data with the next synchronization.

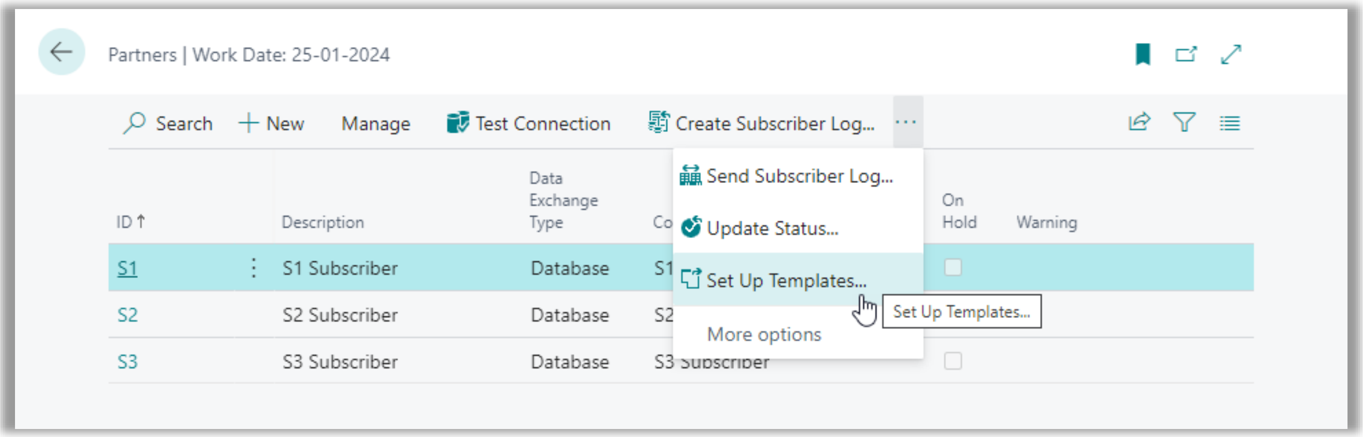
On the Data Template Subscribers page, you will find the action button to clear the “Data Template Logged” field. The button is named “Resend Data Template”.



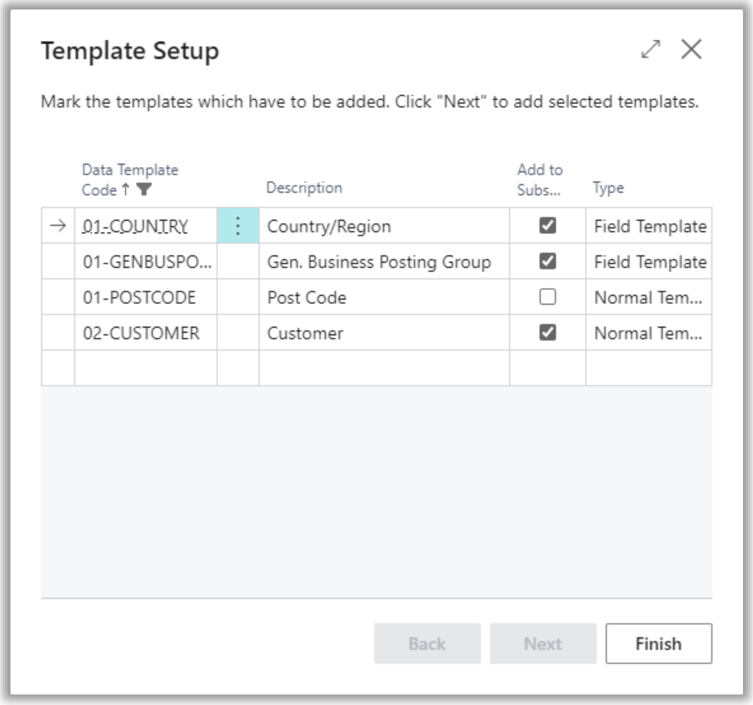
Set up Data Templates for partner

Adding a new partner when a number of useful templates already are available, will set the user in another perspective regarding how to add more templates to a specific partner (subscriber).

For this Global Master has a wizard named “Set up Templates”, which can be started from the Action tab in the Partners page.



Select a partner in the Partners page and start the “Set up Templates” wizard. After pressing “Next” a list of templates to select are displayed.



Mark the checkboxes for the desired templates to add as template subscribers to the current template and press “Finish” to create.

Data Template Filter

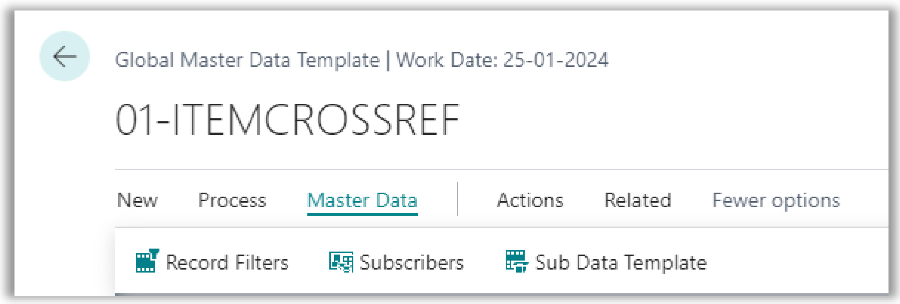
You might have a situation where you don't want to synchronize all records in a table. Maybe a certain subscriber needs a partial range of the customers available in the master company only.

Adding a Data Template Filter to a Data Template ensures that only records within the filter will be processed by the Global Master synchronization.

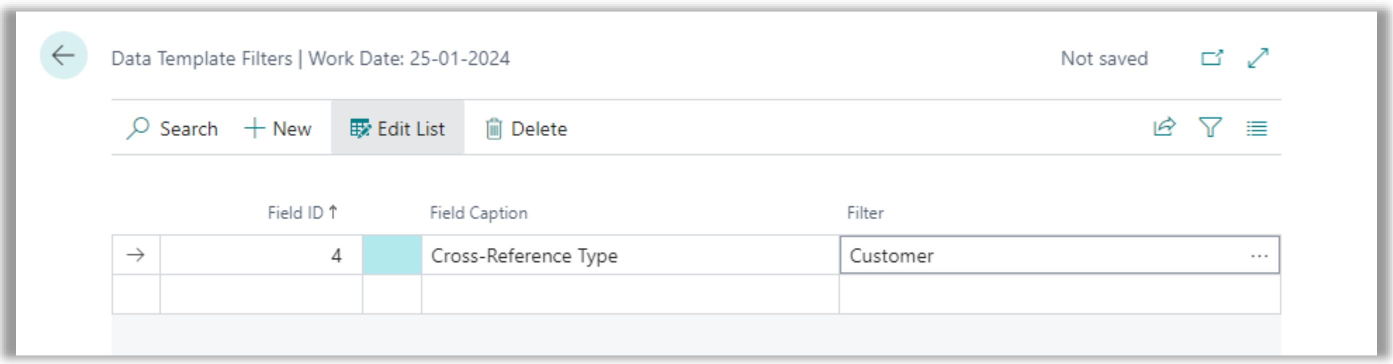
Even data template filters in a sub template can be very useful.
Take an example with the Item Cross Reference, where the table contains references between between items and a customer, a vendor or a bar code.
From the normal template for the Itemtable a Sub Data Template Link connecting to the template handling table "Item Cross Reference" should be defined.

In a case where you are synchronizing customers but neither vendors nor bar codes, it is not desired to synchronize all contents of the Item Cross Reference table.
Here a filter attached to the Item Cross Reference template would make sense.
The template has to be "Under Development" when you want to add a data template filter.

In the Data Templates list or in the Data Template card, please navigate to the "Record Filters" action button.



Adding a Data Template Filter on the Item Cross Reference template, including only data with "Cross Reference Type=Customer" ensures transfer of data from the table with references to customers alone.

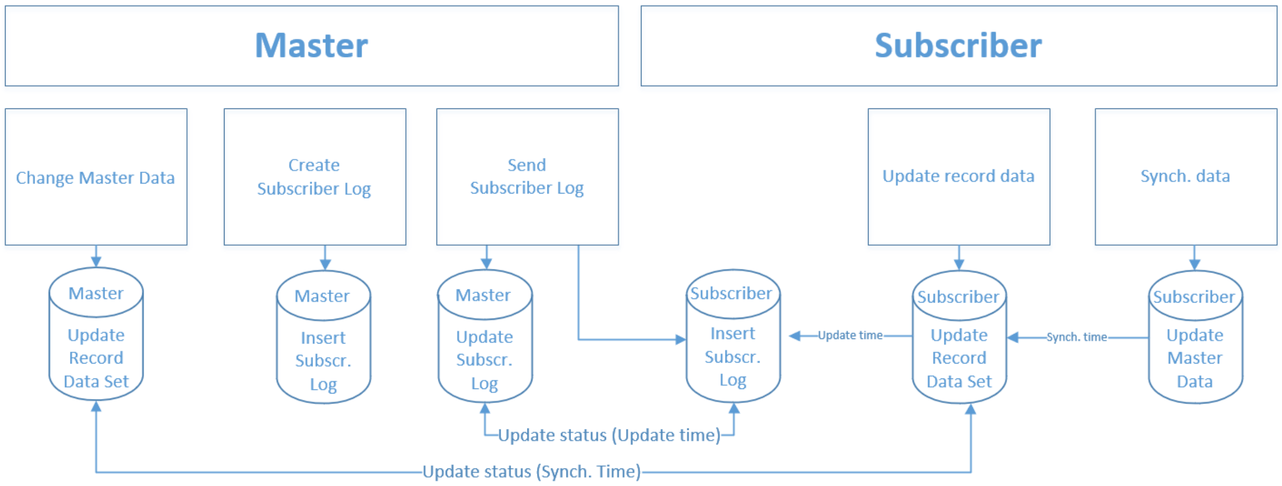


Now the value of the Item Cross Reference will be taken to consideration before including the cross reference in the dataset to be synchronized.

CONTACT INFORMATION
Itm8 A/S | Tonsbakken 16-18, 3. Sal | DK-2740 Skovlunde
information@itm8.com | www.itm8.com

UPDATE DATA

GM update data in different steps. First steps is in the Master Company where we generate the data for Subscribers. Last steps is in the Subscriber Company where we receive and process the data from Master Company.



Besides Master Data updating, GM also keeps track of the status of this. In the Master Company, we can see if the Subscriber has updated the Record Data and more important if, Subscriber has synchronized data.

GM provides possibility to schedule jobs to handle all steps automatically. In the Master Company, it is also possible to update GM Record Data automatically when you change Master Data.

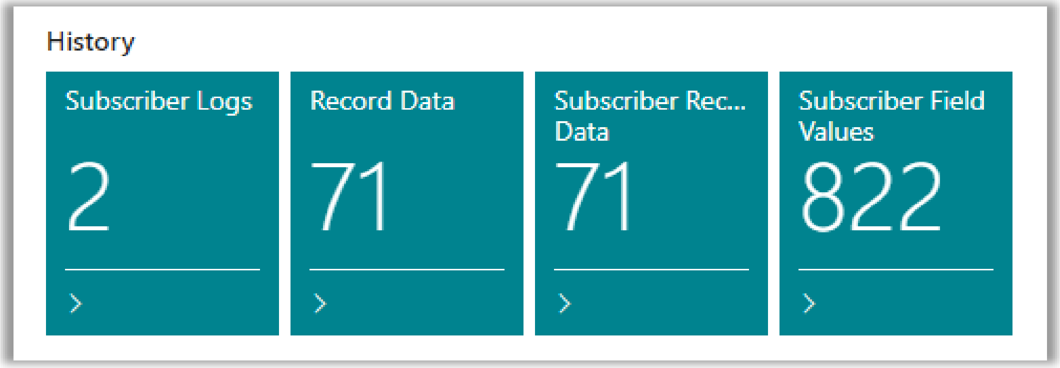
If you have scheduled steps to be processed it is still possible to process these manually[1].
This could be the case if we need to push data to a Subscriber outside the scheduling periods. In this case, Subscriber also have to handle the incoming data manually.

See Chapter *The Data Transfer Process*.

[1] Please note that long lasting synchronizations can lock each other since writing in the database can cause tables to be locked during the process.

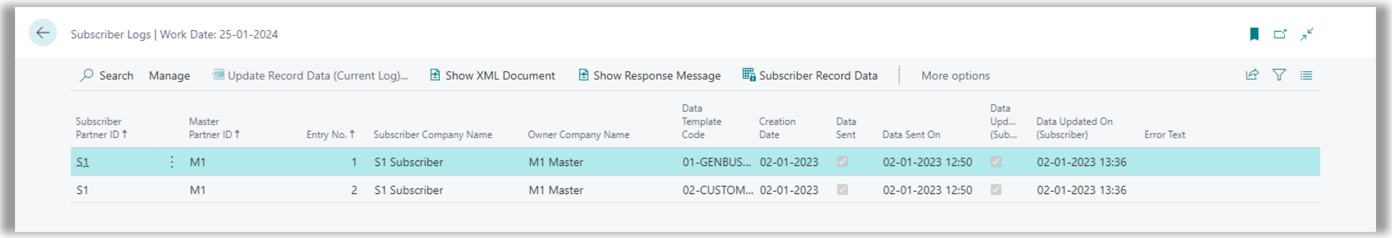
UPDATE STATUS

GM provides status on two levels in Master Company. First level is the Subscriber Log that contains data for each Subscriber Company to be synchronized. Next level is on Subscriber Record Data which holds all details with single field values.



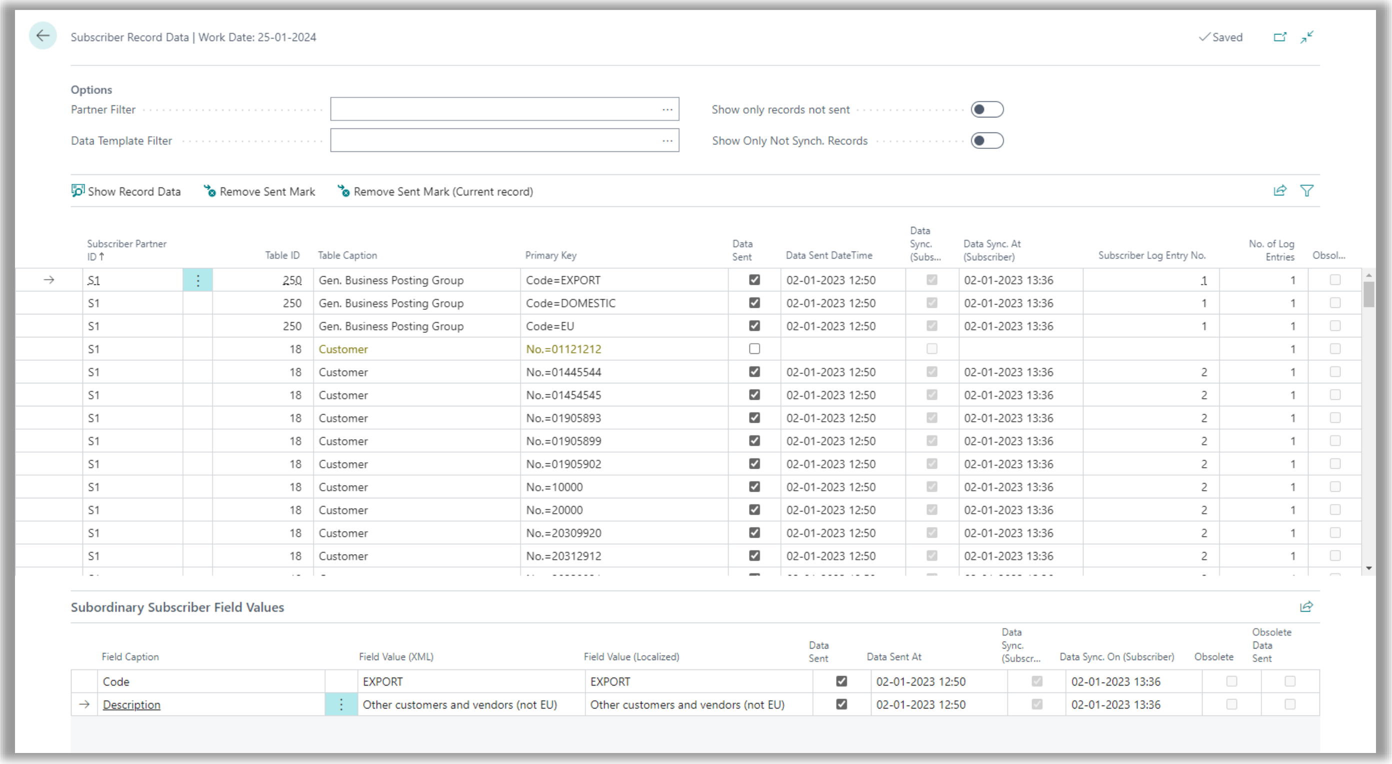
Subscriber Log

Here you can see if the Subscriber Log has been send to Subscriber. GM logs this in the fields “Data Send” and “Data Send On”. Furthermore, it is possible to see if Subscriber has updated the data.
This requires that you run the status update job (Synchronize Subscriber Status). GM logs this in the fields “Data updated (Subscriber)” and “Data updated On (Subscriber)”.



Subscriber Record Data

Here you can see if the Subscriber Record Data has been included in Subscriber Log. GM logs this in the fields “Data Logged”, “Data Logged On” and “Subscriber Log Entry No.”
Furthermore, it is possible to see if Subscriber has synchronized the data. This requires that you run the status update job (Synchronize Subscriber Status). GM logs this in the fields “Data Sync. (Subscriber)” and “Data Sync. On (Subscriber)”.



If records are marked as Obsolete this means that, the record has been sent to Subscriber previous but is now not part of Data Template.

ERROR HANDLING

If you synchronize record data in Subscriber Company, then sometimes you will experience errors on some of the records.

If you look at your Record Data errors are highlighted in red.
If you have not synchronized Record Data, you will see these highlighted in yellow.

To see the error, go to the record and choose Log Entries

SUBSCRIBER PERMISSIONS

If you subscribe for data from a Master Company then Master Company owns these data. That is, you cannot change data you received from Master Company.

An example could be that Master Company owns your Customer table. If you try to change some of the fields provided by Master Company, you will get an error.

In the example below, it is intended to change the address of the customer, which results in an error. You will also get an error if I try to delete or rename the customer.

Example with modification

Address is controlled by Global Master and cannot be changed locally, because the record is attached to Data Template Code 02-CUSTOMER.

Example with deletion

It is not allowed to delete Customer , because the record is attached to Data Template Code 02-CUSTOMER.

Example with rename

It is not allowed to rename Customer , because the record is attached to Data Template Code 02-CUSTOMER. (Select Refresh to ...

THE DATA TRANSFER PROCESS

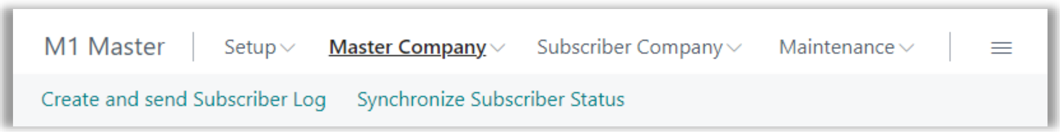
This chapter describes how to synchronize data step by step.

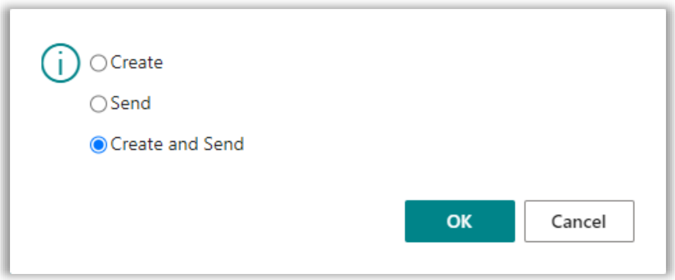
Please note that actions must be performed in both master and subscriber companies. If more subscriber companies are to be handled, the actions described for the subscriber company must be performed in every single subscriber company.

Data to be transferred are stored in the Subscriber Logs. Here you will find an XML Document containing the detailed transactions to be sent.
The Subscriber Log also holds information on creation date, sent time and updated on subscriber time.
There is one Subscriber Log for every template subscriber.

Create and send Subscriber Log from master company

To activate the synchronization, press the "Create and send Subscriber Log" action button in the role centers ribbon.





You can choose to create and send separately or performing both steps combined.

Create	Subscriber Logs are created for the templates which are released. Templates on hold are not processed.
Send	The contents of the Subscriber Logs are sent to the subscriber companies. In the Subscriber Record Data and Subscriber Field Values the records will be marked Sent. Still yellow since they are not synchronized in the subscriber company.
Create and Send	Performing both of the above described functions.

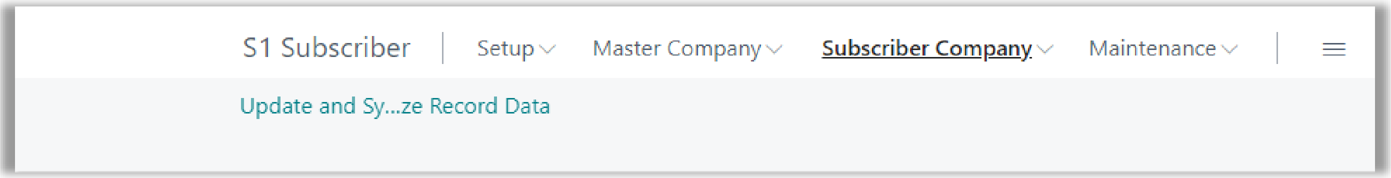
Next action takes place in the subscriber company.

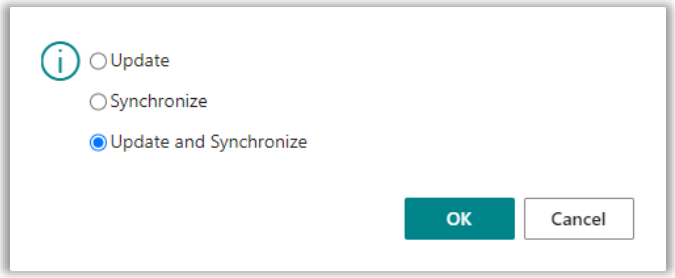
Update and Synchronize Record Data in subscriber company

In the subscriber company, there are still a few tasks to be performed before the data are received and ready to be used here.

The Subscriber Log has been updated when the Send activity was performed in the master company.
In our example we can see that one template was sent.

Press “Update and Synchronize Record data” to proceed.





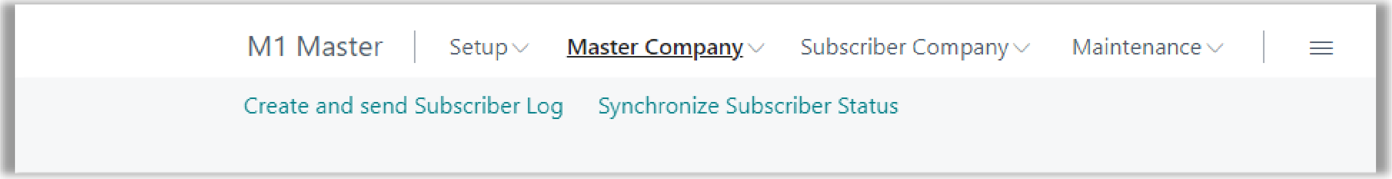
Update	Data are received from the XML document of the Subscriber Logs. Data are stored in Record Data
Synchronize	Data are synchronized from the Data records into the corresponding data tables. Subscriber Log Entries are now present in the subscriber company. After the synchronization the data are ready to be used in the subscriber company.
Update and Synchronize	Performing both of the above described functions.

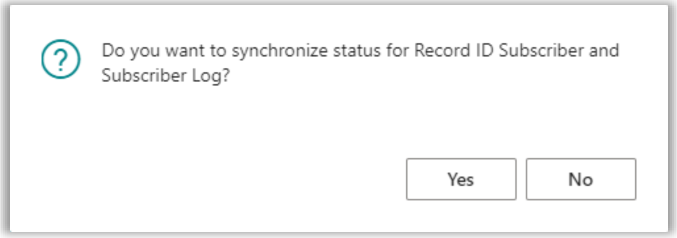
Next action takes place in the master company.

Synchronize Subscriber status in master company

Now the subscriber company have been synchronized, we do have to fetch the subscriber status to complete the entire synchronization process.

Activate the "Synchronize Subscriber status" in the role centers action ribbon.





Now the lines in both Subscriber Record Data and in Subscriber Field Values are marked with "Data Synchronized" and they are not yellow anymore.

Note: Partners "On Hold" will not have the status updated.

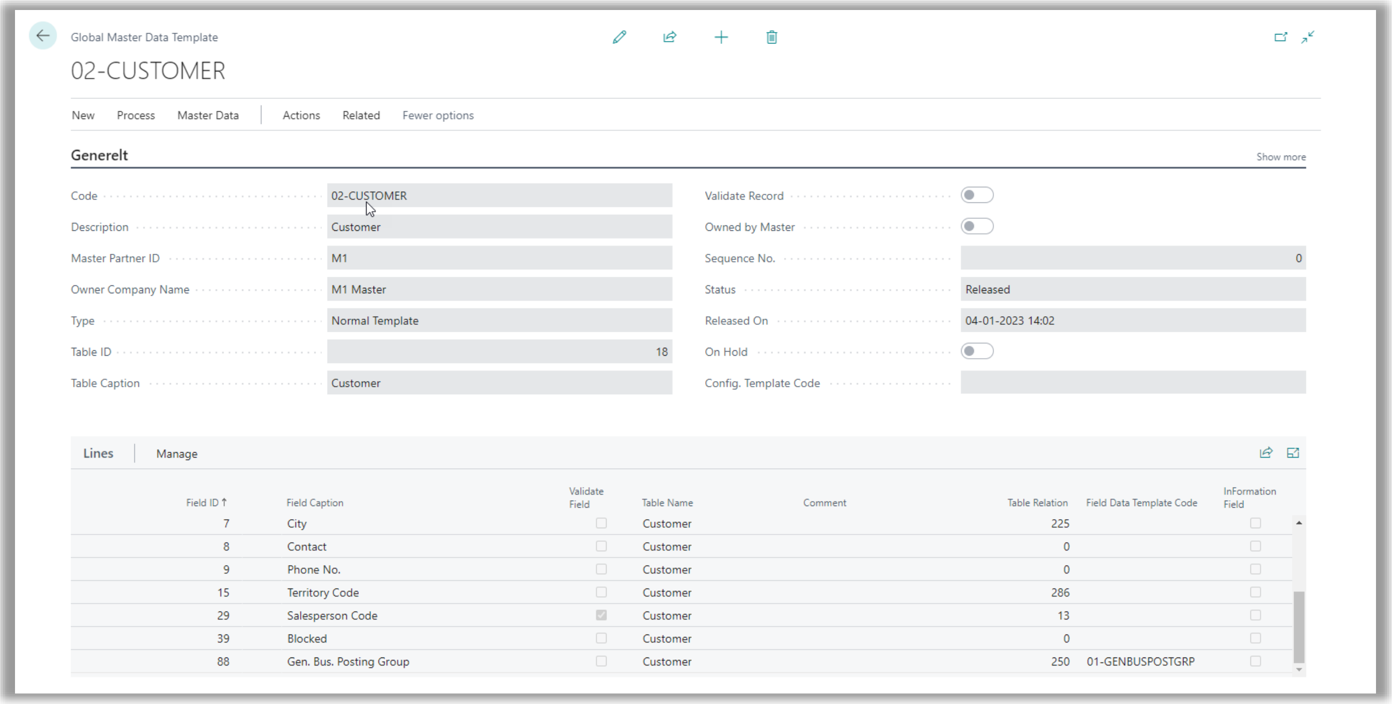
The synchronization process is completed.

Examining the result of the data transfer process

After the synchronization process is completed, it is always a good idea to take a look on the result. Check if the expected data was transferred into the target tables in the subscriber company.

Even if the Subscriber Log is regarded as completed, that is if both fields “Data Template Sent” and “Data Updated” are marked, the final step synchronizing the data into the genuine target tables might have been unsuccessful.

Example: Customer with validation of field “Salesperson Code”
Some fields are validated when filled in by a user. This is to verify if references and business logic is accepting the data set into the field.
Take a look on the data template below. The line set up to synchronize field 29 ‘Salesperson Code’ has a checkmark in “Validate Field”. When synchronized into the subscriber company the validation code on this field will be processed.


Global Master Data Template
02-CUSTOMER
New Process Master Data Actions Related Fewer options
Generelt Show more

Code	02-CUSTOMER	Validate Record	
Description	Customer	Owned by Master	
Master Partner ID	M1	Sequence No.	0
Owner Company Name	M1 Master	Status	Released
Type	Normal Template	Released On	04-01-2023 14:02
Table ID	18	On Hold	
Table Caption	Customer	Config. Template Code	

Lines Manage

Field ID ↑	Field Caption	Validate Field	Table Name	Comment	Table Relation	Field Data Template Code	InFormation Field
7	City	☐	Customer		225		☐
8	Contact	☐	Customer		0		☐
9	Phone No.	☐	Customer		0		☐
15	Territory Code	☐	Customer		286		☐
29	Salesperson Code	☑	Customer		13		☐
39	Blocked	☐	Customer		0		☐
88	Gen. Bus. Posting Group	☐	Customer		250	01-GENBUSPOSTGRP	☐

The template is released to generate subscriber record data. A subscriber Log is created and sent. Then the data was updated and synchronized in the subscriber company.

After the update and the synchronization both have been performed in the subscriber company the subscriber log was marked with “Data Template Sent” and “Data Updated” information. So far it looks perfect.

Data Template Code	Creation Date	Data Sent	Data Sent On	Data Upd... (Su...	Data Updated On (Subscriber)	Error Text
02-CUSTO...	04-01-2023	☑	04-01-2023 14:03	☑	04-01-2023 14:03	

Time stamps were successfully added, and no error text appears.

However, the synchronization process comes after a successfully performed data update. The data update is generating Record Data to be synchronized into the actual target table.

Regarding the Record Data some customer lines are appearing red and with error messages.

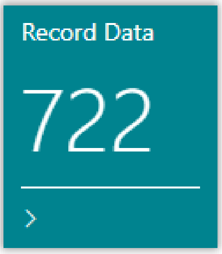


Table ID	Table Caption	Primary Key	Data Sync. (Sub...	Data Sync. On (Subscriber)	Obs...	Han...
18	Customer	No.=01121212	☐		☐	☐
18	Customer	No.=01445544	☐		☐	☐
18	Customer	No.=01454545	☐		☐	☐
18	Customer	No.=01905893	☐		☐	☐
18	Customer	No.=01905899	☐		☐	☐
18	Customer	No.=01905902	☐		☐	☐

Use the “Log Entries” button to see what error message is describing the detected problem.

Subscriber Log Entries ✓ Saved

Search Manage Show Record Data

Data Template Code	Record ID	Synchronization Date	Status	Error Message
02-CUSTOMER	Customer: 01121212	04-01-2023 14:03	Error	Privacy Blocked must not be true for Salesperson JO.

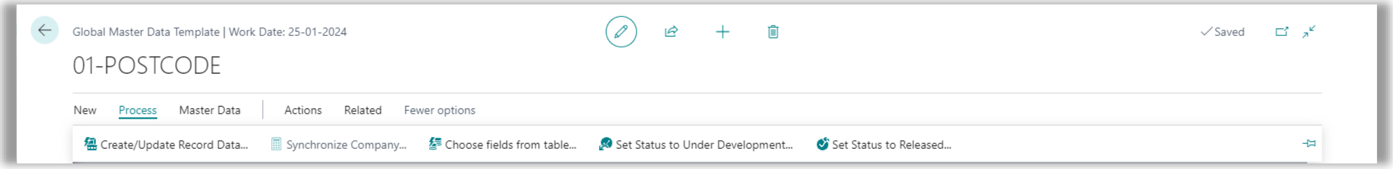
The error message ‘Privacy Blocked must not be true for Salesperson JO.’ Indicates that the field “Privacy Blocked” is set on salesperson ‘JO’. Then it is not allowed to set ‘JO’ in field Salesperson Code on a customer.

When you are experiencing such error messages, it must be considered how to fix the problem. In this case it seems that salesperson ‘JO’ didn’t have “Privacy Blocked” in the master company, at the time the customers “Salesperson Code” was set on customer ‘01121212’.
You must fix the problem in the master company, and then synchronize the data again to have data in the different tables correspond correctly with each other.

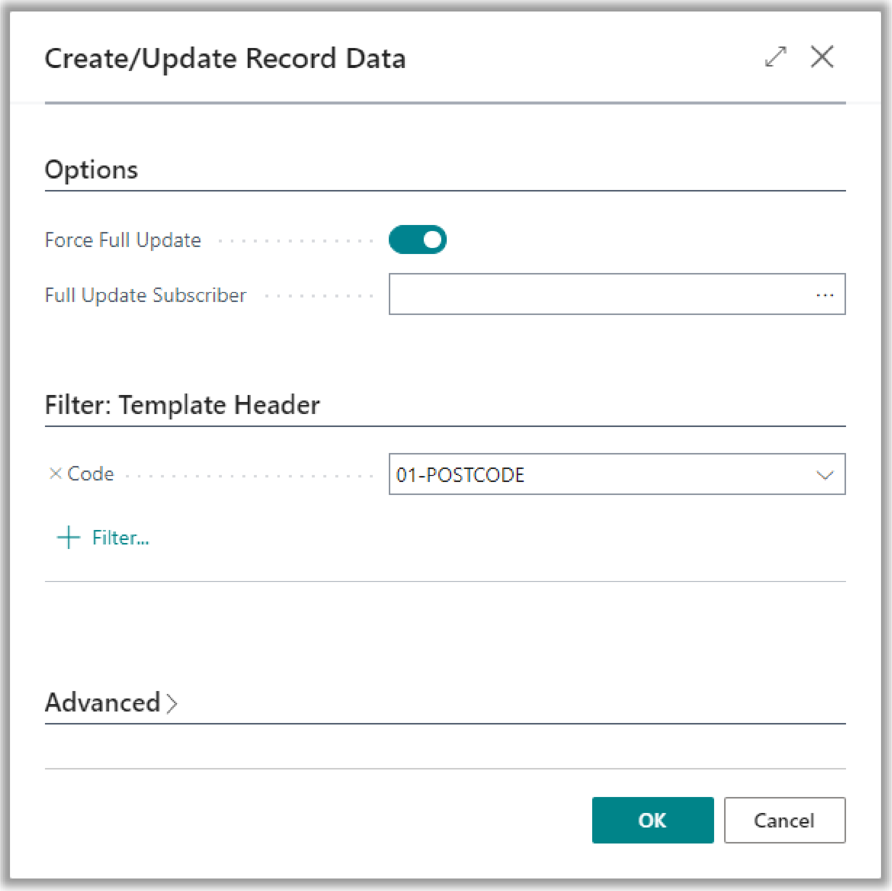
Feature: Force Full Update

If the data for some reason was not correct updated Global master provides a function which should help making the update complete.

In the Data Template Card, you will find the action "Create/Update Record Data".



When starting the report, you are presented the option "Force Full Update". If you select this mark, the template is forced to be updated at once, when the OK button is pressed.



A brand-new set of Subscriber Logs are created. Data to be transferred are stored in the Subscriber Logs. Here you will find an XML Document containing the detailed transactions to be sent.

Important notice:
Now the data still have to be synchronized to the subscribers. This is not performed with this feature.

Feature: Check Field Value Update

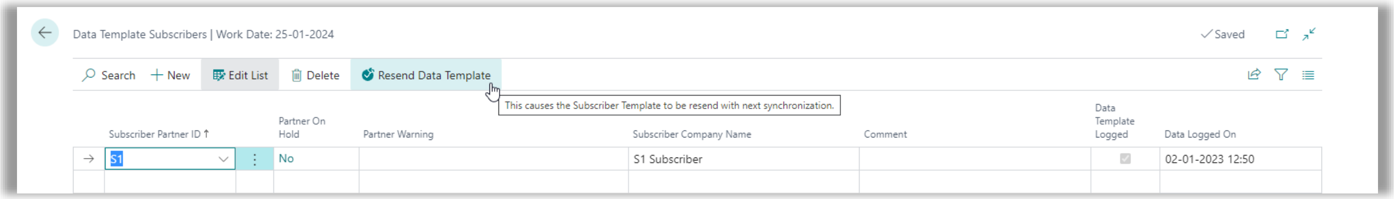
It is possible to perform a post processing comparison of logged changes and the current values in live data. For tables you need to verify you must set up the template fields “Check Field Value Update” and “Recently updated time span” to enable the check procedure.

Please refer to the template header card fields description in the Data Template chapter.

The feature is executed from the Actions tab in the template card or by adding the task Report 6208199 in the job queue.

Feature: Resend Data Template

If you need to make it possible for transferring a Data Template to a given subscriber, even if the “Data Template Logged” field on the subscriber is marked, a function can remove this “Data Template Logged” mark for resending the data with the next synchronization.

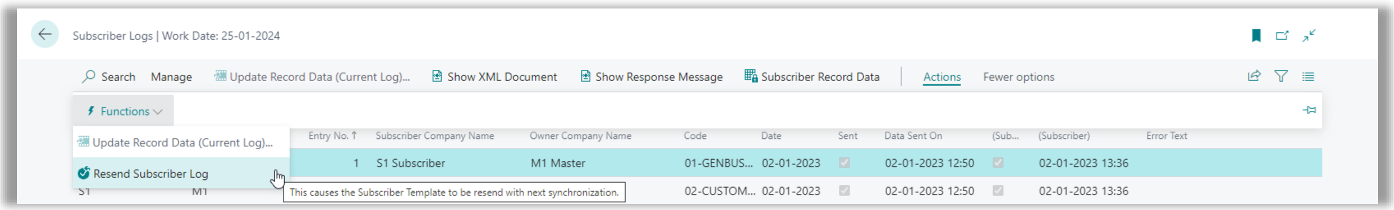


On the Data Template Subscribers page you will find the action button to clear the “Data Template Logged” field.

Feature: Resend Subscriber Log

Once a Subscriber Log has been marked in the “Data Template Sent” field, this specific transaction is considered sent to subscriber company.
As a troubleshooting action, the system provides an option to resend the already sent Subscriber Log.

In the Subscriber Log page, you will find an action named “Resend Subscriber Log” located in the action tab.

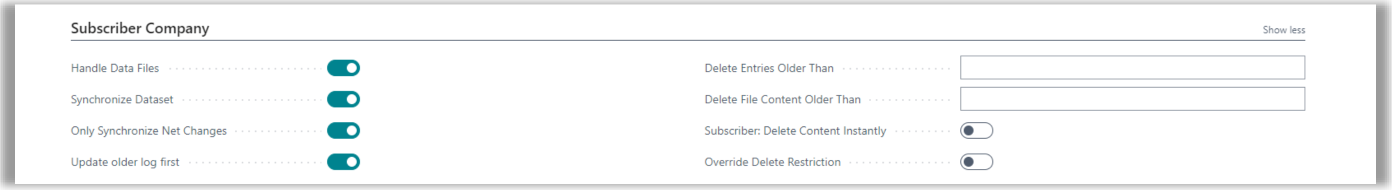


Activating this button the field “Data Template Sent” will be cleared together with “Data Sent On” time stamp. Hereby the Subscriber Log can be send once more.

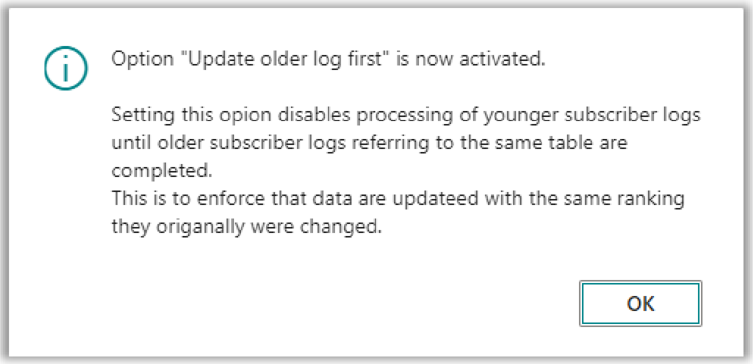
With the next “Send Subscriber Log” action the reopened Subscriber Log will be send to the subscriber.

Feature: Update older log first

To ensure that data are updated in the subscriber company in the order the data originally was changed and logged in in the master company, a setting in Global Master Setup can be set.

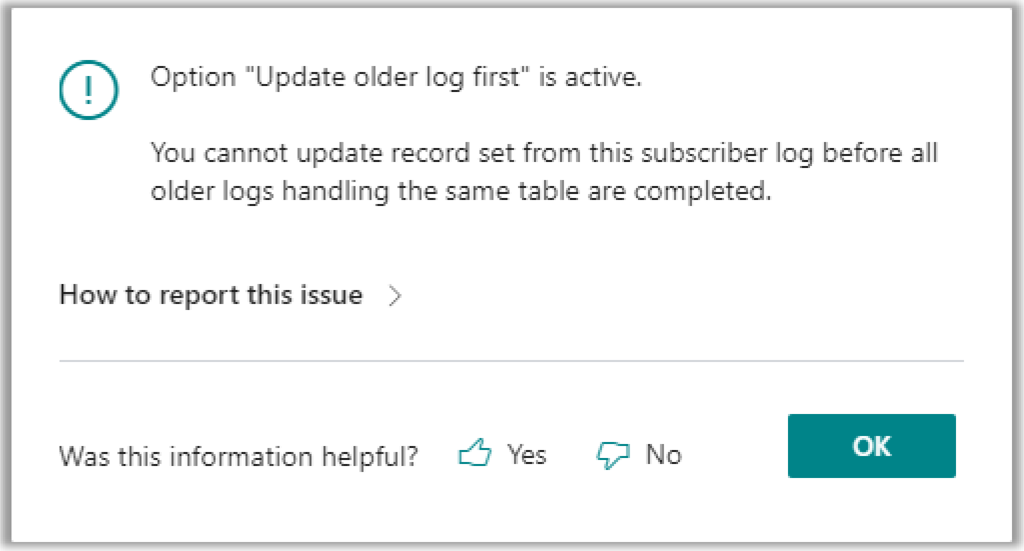


Setting a checkmark in field “Synch. Older log first” will activate a verification ensuring that a newer log referring to data in the same table as for an older not completed log cannot be processed first.



Now the subscriber company function “Update Record Data” will skip processing younger subscriber logs, if there are one or more older subscriber logs handling data for the same table as the one to be processed.

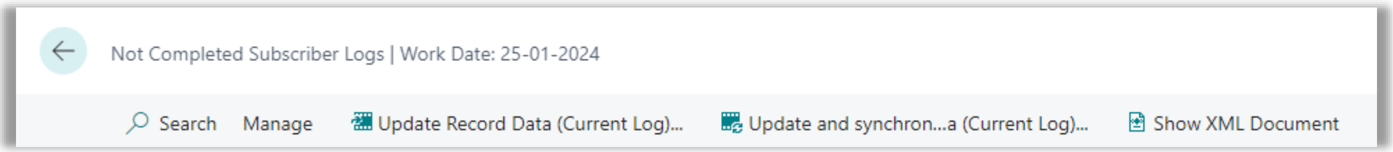
Even if you use the “Update Record Data (Current Log)” in the “Not Completed Subscriber Log” page, the option will not allow to process the younger log before an older one. You will get an error message as displayed below.



Feature: Update and synchronize Record Data (Current Log)

When a Subscriber Log has been sent to the subscriber company it is normally processed together with other subscriber logs, using the normal update and synchronization options or by jobs set up in the Job Queue.

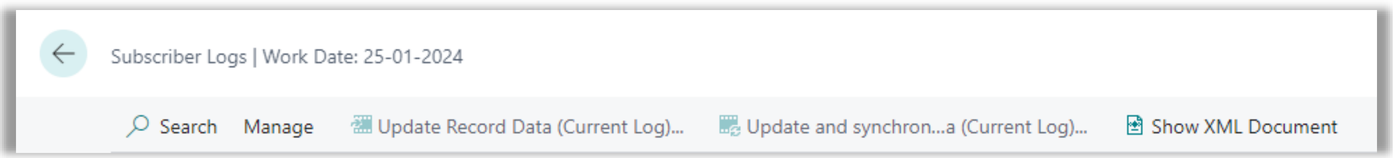
However, it is possible to update one single Subscriber Log. This can be useful in cases where you want to follow the handling of one specific table.
In the “Not completed Subscriber Log” page select the action buttons “Update Record Data (Current Log)” or “Update and synchronize Record Data (Current Log)”.



Update Record Data (Current Log)	Data are extracted from the XML document of the current Subscriber Log. Data are stored in Record Data
Update and synchronize Record Data (Current Log)	Data are extracted from the XML document of the current Subscriber Log. Data are stored in Record Data Afterwards data are synchronized from the Data records into the corresponding data table. If other data belonging to the current table already was waiting to be synchronized, these data will be synchronized too. Subscriber Log Entries are now present in the subscriber company. After the synchronization the data are ready to be used in the subscriber company.

Feature: Show XML Document

In pages listing Subscriber Logs, you are able to see the contents of the XML Document, which is the data being transferred from master to subscriber. Select the action button “Show XML Document”.



Feature: Use Template Sequence No. to determine template processing rank

The order Data Templates are processed in are controlled by three fields on the template header.
The order is important in the subscriber company, because data in a certain field can be dependent of already available date in case of references to a parent table etc.

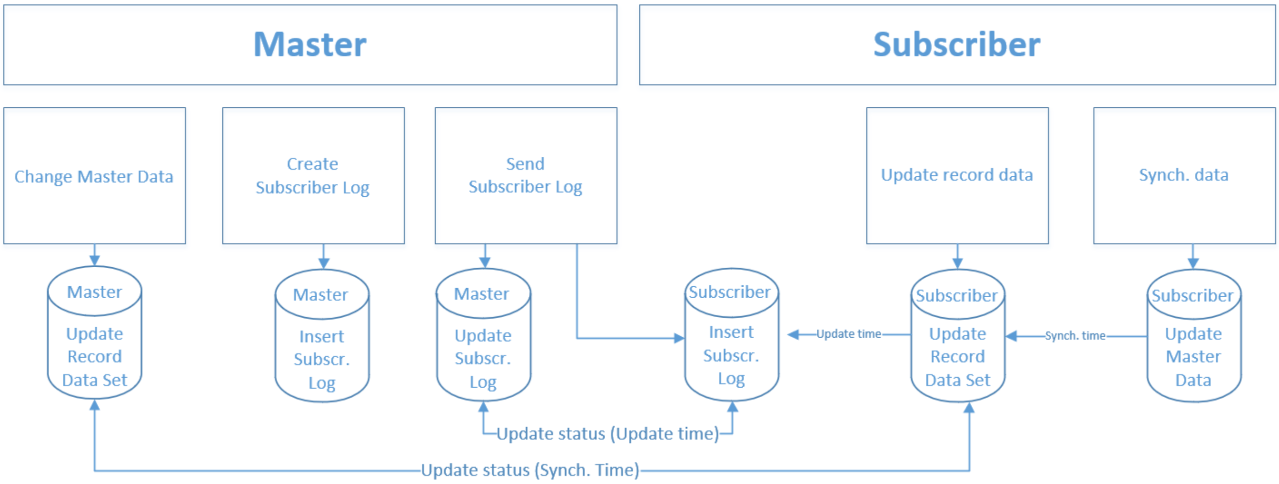
Use the naming of Data Template Codes together with the Sequence No. to control in which order the data will be synchronized in the subscriber company.

Type	The field Type can have three values. Field Template, Normal Template and Sub Template. The options are explained in chapter *Data Template Card Fields*.
Sequence No.	This field is used to set the sorting within the template type when processing Data Templates. Here you set up an integer no. control the sorting, if you want another sorting, than when Data Templates within the template type are sorted by the templates Code.
Code	Code is the primary key of the Data Template table. Combined with the two fields “Type” and “Sequence No.” this field will be used for sorting for Data Templates within the same Type and with the same Sequence No.

The sorting used when processing templates are Type, Sequence No. and Code. The ranking of Type is “Field Template”, “Normal Template” and “Sub Template”.

JOB QUEUE SETUP

We have jobs to handle all steps in Global Master. In this section, it is described which objects to call to schedule these steps using the Job Queue.



Master

Record Data Set

Update Record Data Set:	Codeunit 6208197 GM Create Record Data PROF

If you have set “Auto Update Record Set”[2] in Global Master Setup, you do not need to schedule this job. When setting the Auto Update Record Set you need to run the batch job once to update record data for master data that have been changed but not updated.

Check Field Value Update	Report 6208199 GM Check Field Update Prof Performing check to ensure that logged changes are up to date.

Subscriber Log

Create Subscriber Log:	Codeunit 6208207 “GM Create Subscriber Log PROF”
Send Subscriber Log:	Codeunit 6208202 “GM Send Subscriber Log PROF”
Create and Send Log:	Codeunit 6208205 “GM Create and Send Log PROF” Including both of the two mentioned above to ensure data are ready to be send.
Synchronize Subscriber Status	Report 6208193 "GM Update Status PROF"

[2] ”Auto Update Record Set” is not optional in the NAV 2018 and 365 BC versions. This feature will be performed by default.

Subscriber

Record Data

Update Record Data:	Codeunit 6208208 “GM Handle Subscriber Log PROF”
Synchronize Record Data:	Codeunit 6208195 “GM Synch. Company PROF”

See chapter Maintenance for available cleanup jobs.

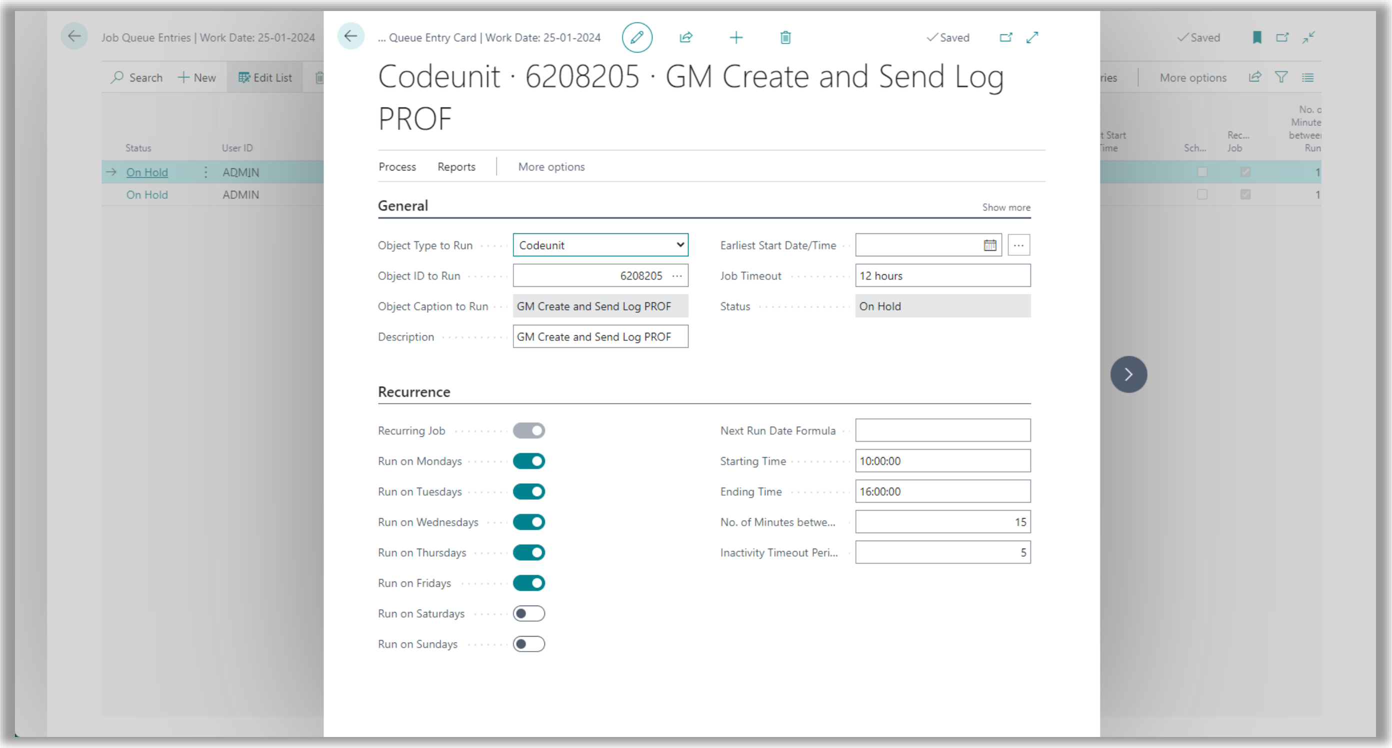
Update and Synchronize Record Data

Update and Synchronize Record Data:	Codeunit 6208206 “GM Upd. and Synch. Record PROF” Including both of the two mentioned above to ensure data are ready for synchronization.

Jobs scheduled to run repeatedly with intervals

Find Job Queue by searching for Job Queue Entries.

Example of Job Queue Entry scheduling Codeunit 6208205 “GM Create and Send Log PROF”.
You can also schedule this to run several times per day.

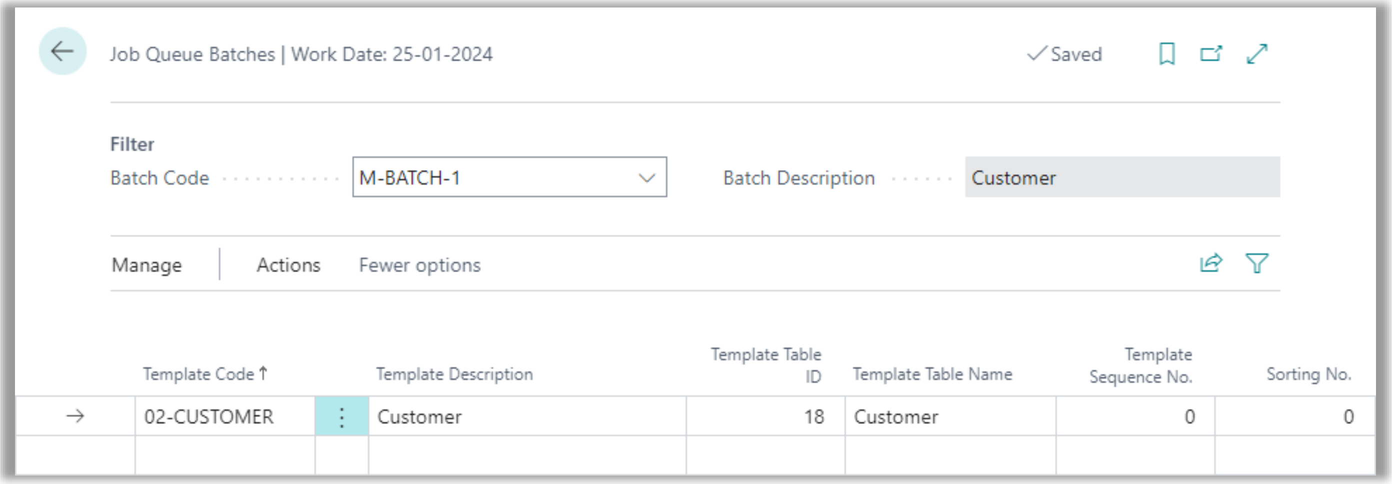


Job Queue Batch

Running all templates with one job might require a larger number of resources. To make jobs running more smoothly, Job Que Batches are introduced.

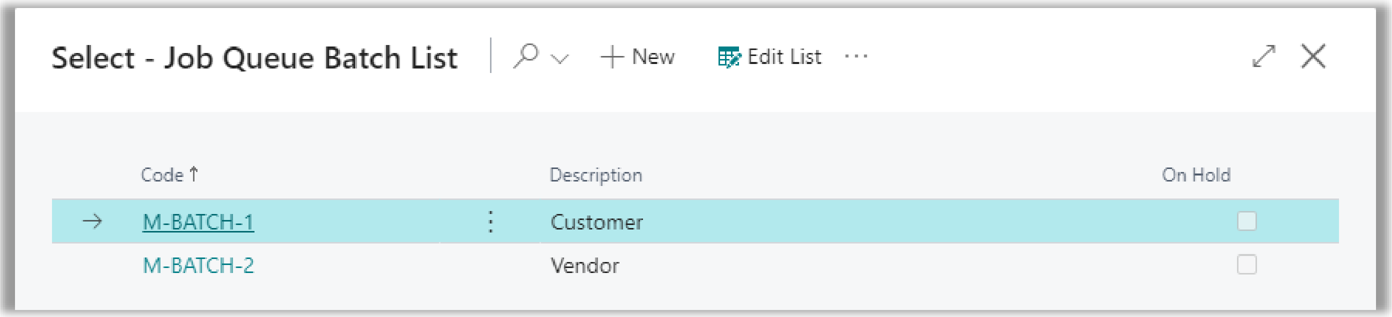
A Job Queue Batch makes it possible to group a number of templates in a batch. This batch will then be processed by a dedicated Job Queue Entry.

Job Queue Batches are accessed from the Global Master role center, from the role explorer or by using the search field.



Add the number of templates you want to group, and set the "Parameter string" in a Job Queue Entry.
The parameter string is used as a filter for which templates to be processed. See an example on next page.

A Job Queue Batch can be set on hold for a period by marking the "On Hold" field in the Job Queue Batch List.



Sorting templates within a Job Queue Batch
Sorting when processing lines is: "Batch Code", "Sorting No.", "Template Sequence No.", "Template Code".
The value "Template Sequence No." comes from the Data Template and cannot be modified here.

When entering "Sorting No." on the lines you can overrule the default sorting controled by "Template Sequence No. and "Template Code". Then "Sorting No." is controlling the rank of templates within the batch.

Codeunits for Job Queue Batches

There is one codeunit for each step of the synchronization process. These codeunits are requiring a template filter set in the Job Queue Entry which is meant to start the process.

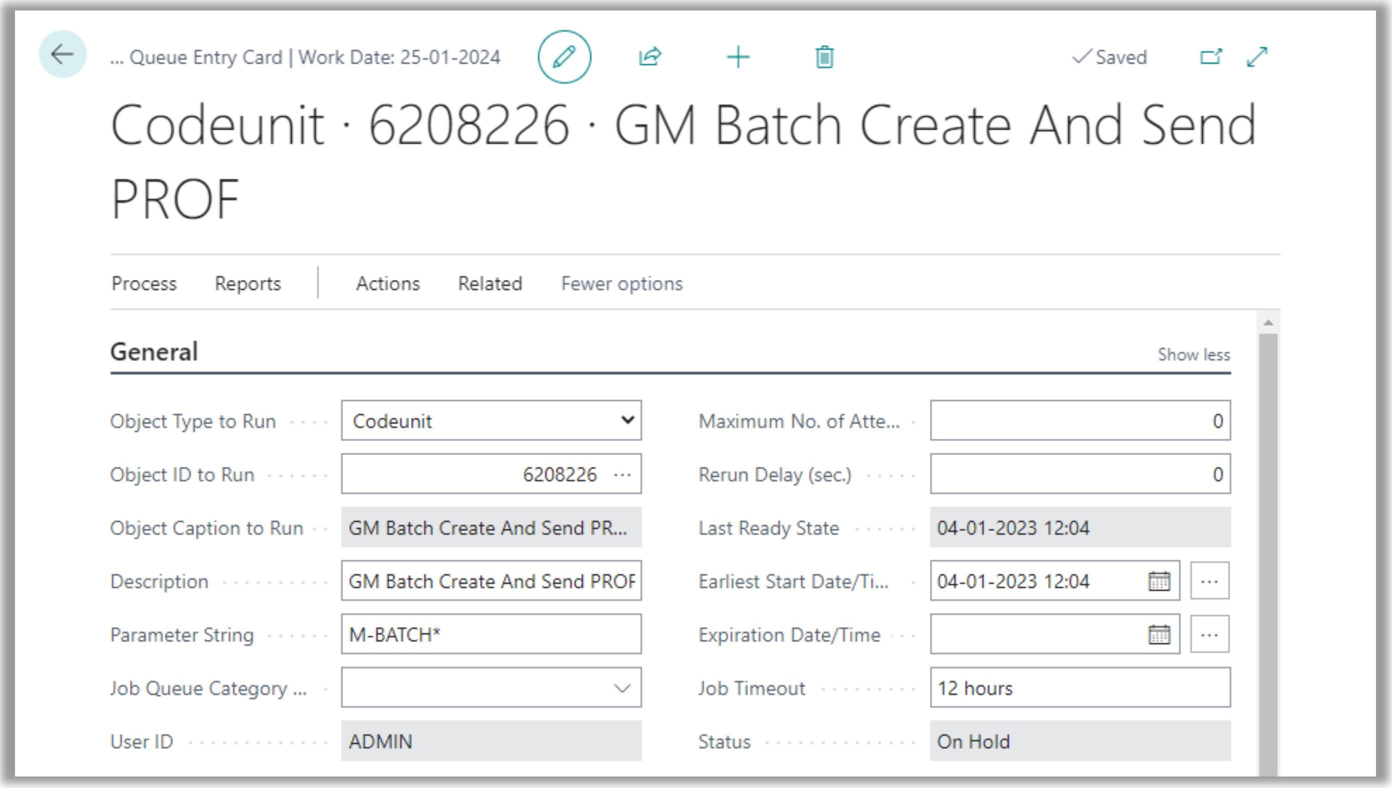
Codeunit 6208221 "GM Batch Create Subs. Log PROF"	Create Subscriber Log (Master)
Codeunit 6208222 "GM Batch Send Subs. Log PROF"	Send Subscriber Log (Master)
Codeunit 6208223 "GM Batch Update Rec. Data PROF"	Update Record Data (Subscriber)
Codeunit 6208224 "GM Batch Synch. Company PROF"	Synchronize Data (Subscriber)
Codeunit 6208225 "GM Batch Update Status PROF"	Update Status on Subscriber Log (Master)
Codeunit 6208226 "GM Batch Create And Send PROF"	Create Subscriber Log and Send Subscriber Log (Master) (6208221 + 6208222)
Codeunit 6208227 "GM Batch Update And Sync PROF"	Update Record Data and Synchronize Data (Subscriber) (6208223 + 6208224)

Job Queue Entry with Parameter String

On the Job Queue Entry one of the GM Batch codeunits are to be selected, when you want to use Job Queue Batches in Global Master. Enter a filter in field "Parameter String" to choose what batch or batches to process.

Example of filter string: M-BATCH*

Batches starting with M-BATCH will be processed. M-BATCH-1, M-BATCH-2 M-BATCH-3 etc.



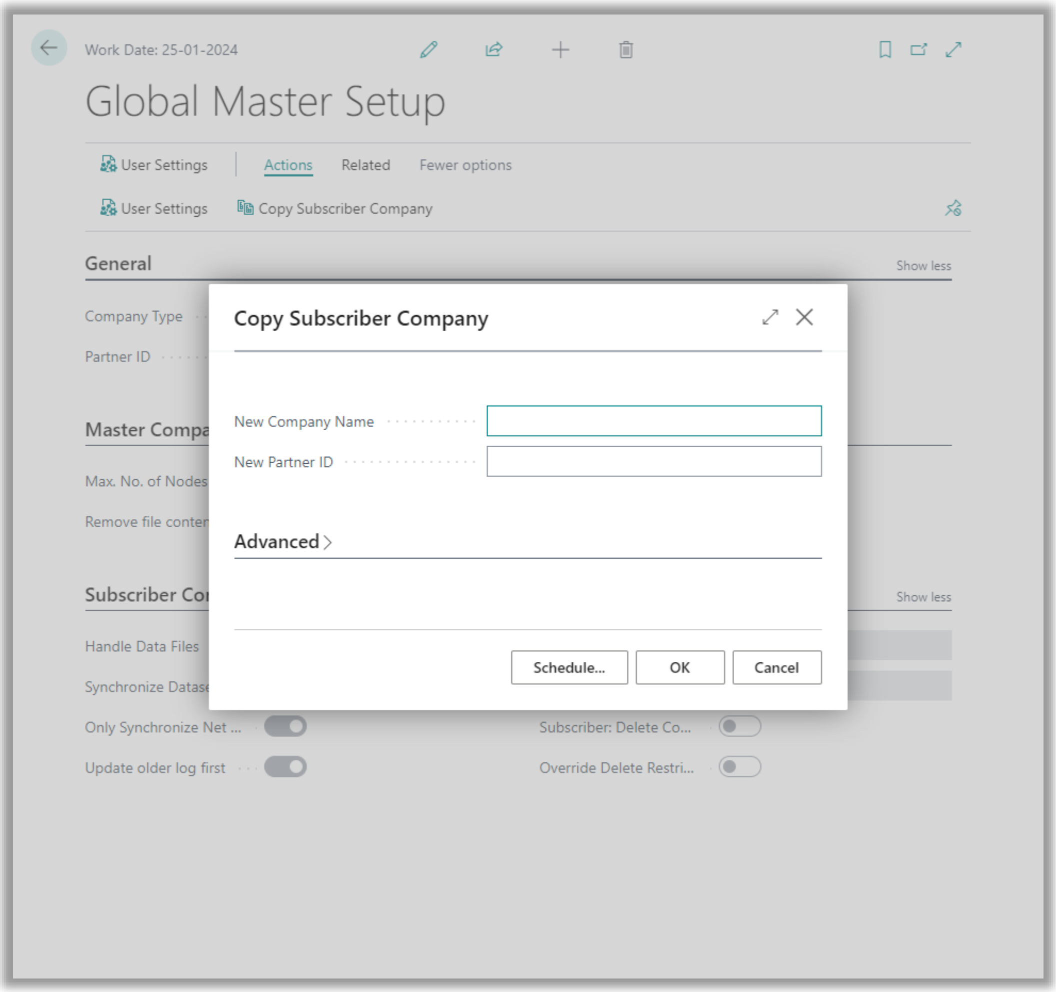
COPY SUBSCRIBER COMPANY

Adding a new company as a subscriber into a configuration with an already subscribed master would normally result in a large number of synchronization activities into the new subscriber.

Therefore the Copy Subscriber Company function have been created. Copying an existing company into a new company name in the database, is an already known feature in Dynamics NAV and Dynamics 365 Business Central.

The advantage using the "Copy Subscriber Company" function is that the new company will be set up as a subscriber, and in the same step configured as if the data synchronization from the master company already have been performed into the new subscriber company.

This is to avoid unnecessary synchronizations when the new subscriber is activated.



Among the Global Master Setup actions, you will find the "Copy Subscriber Company" feature.
Copying a company including Global Master settings to be adjusted, is possible from a subscriber company only.

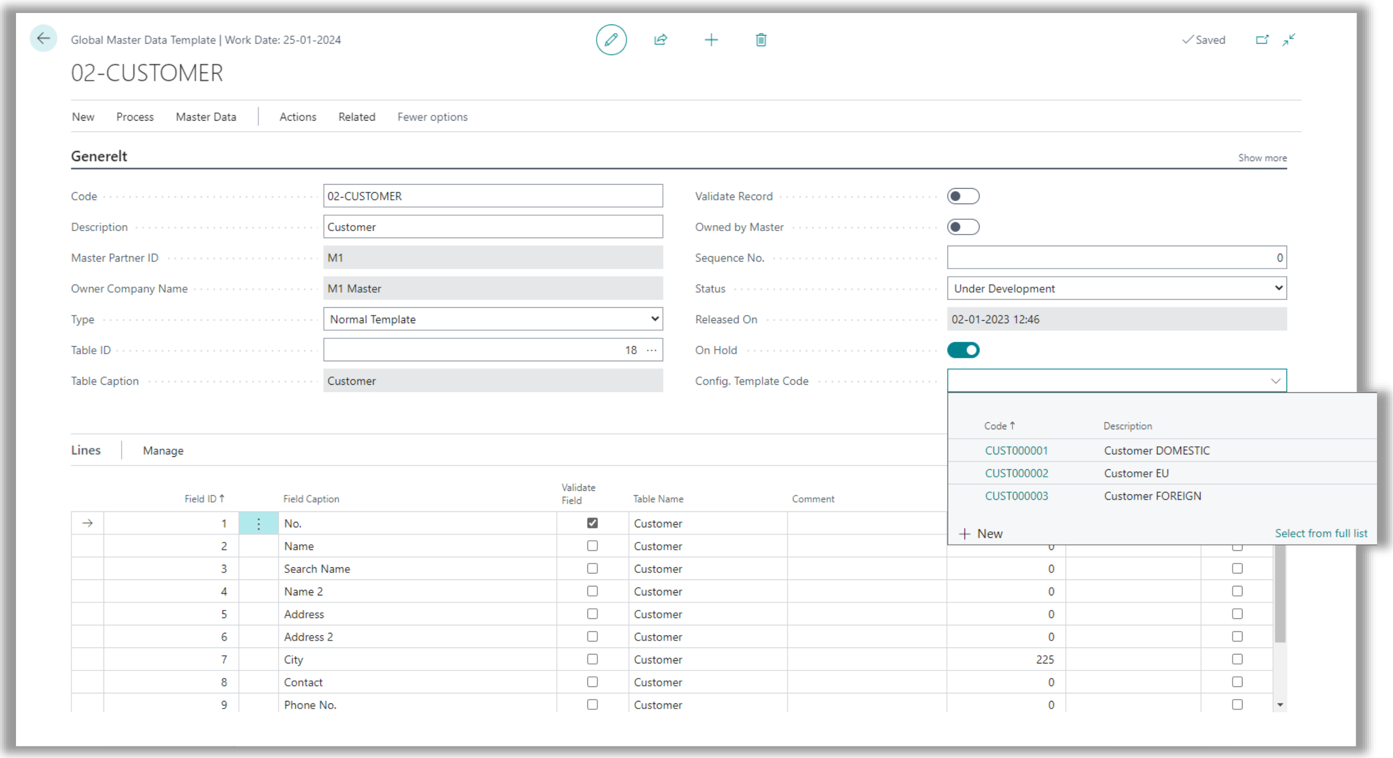
CONFIGURATION TEMPLATE

A standard feature in Dynamics NAV/365 Business Central is to have configuration templates for setting default values in new records created.

As an example, you could add a Location Code to newly added customers by entering a certain value in the Location Code field.

When entering a “Config. Template Code” in the template header, the code will be synchronized to the subscriber companies, meaning that the usage of this specific Configuration template code is open.
Now you can enter fields and initial values for these fields in a configuration template named with exactly this code.

New entered records (Customers etc.) will then have the initial value inserted when created.
However, is a field present in the configuration template, and also present in the Global Master data template, the data governed by Global Master will be transferred to the subscriber.



From the Data Template card, you can look up in field “Config. Template Code” to access configuration templates attached to the current table. Select amongst the displayed configuration templates.

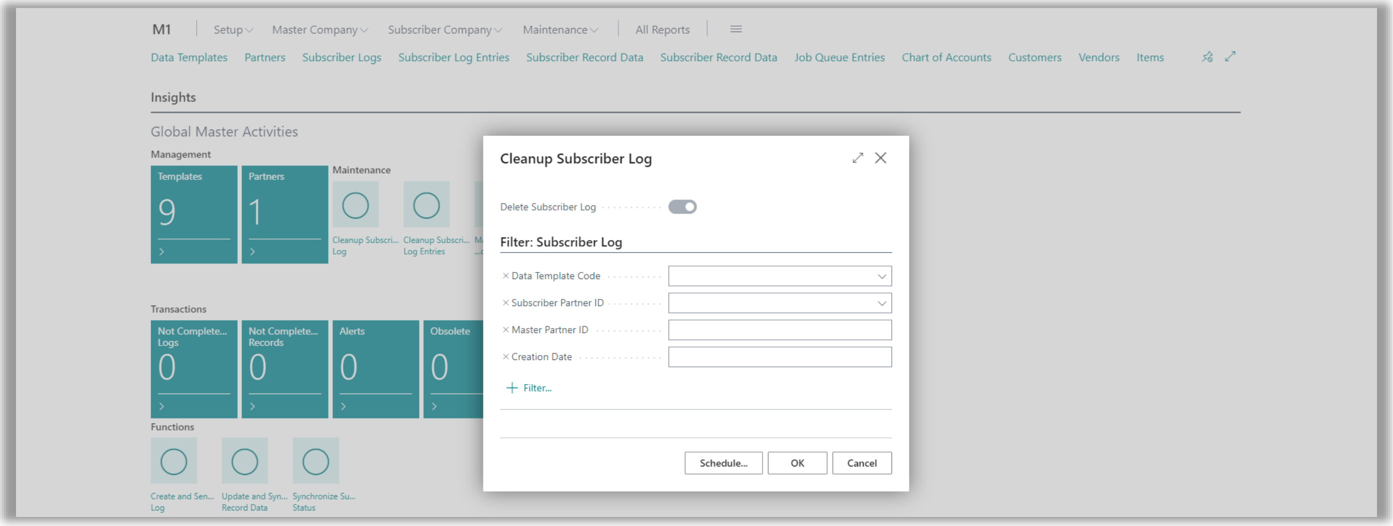
MAINTENANCE

Through Role Explorer you can find the two cleanup functions in the Maintenance menu.

Alternatively access to the functions are found directly from the Global Master Role Center.
These processing only reports are used for removing data and deleting log entries.
Since the file contents in the Subscriber Log entries are using quite an amount of space, this cleanup procedure is useful for freeing space in the database.

Cleanup Subscriber Log

This report is used for deleting the Subscriber Logs.
File contents is the embedded XML document used when transferring GM data between databases.
These XML documents can have a rather large size, which does have an impact on the disk space used.

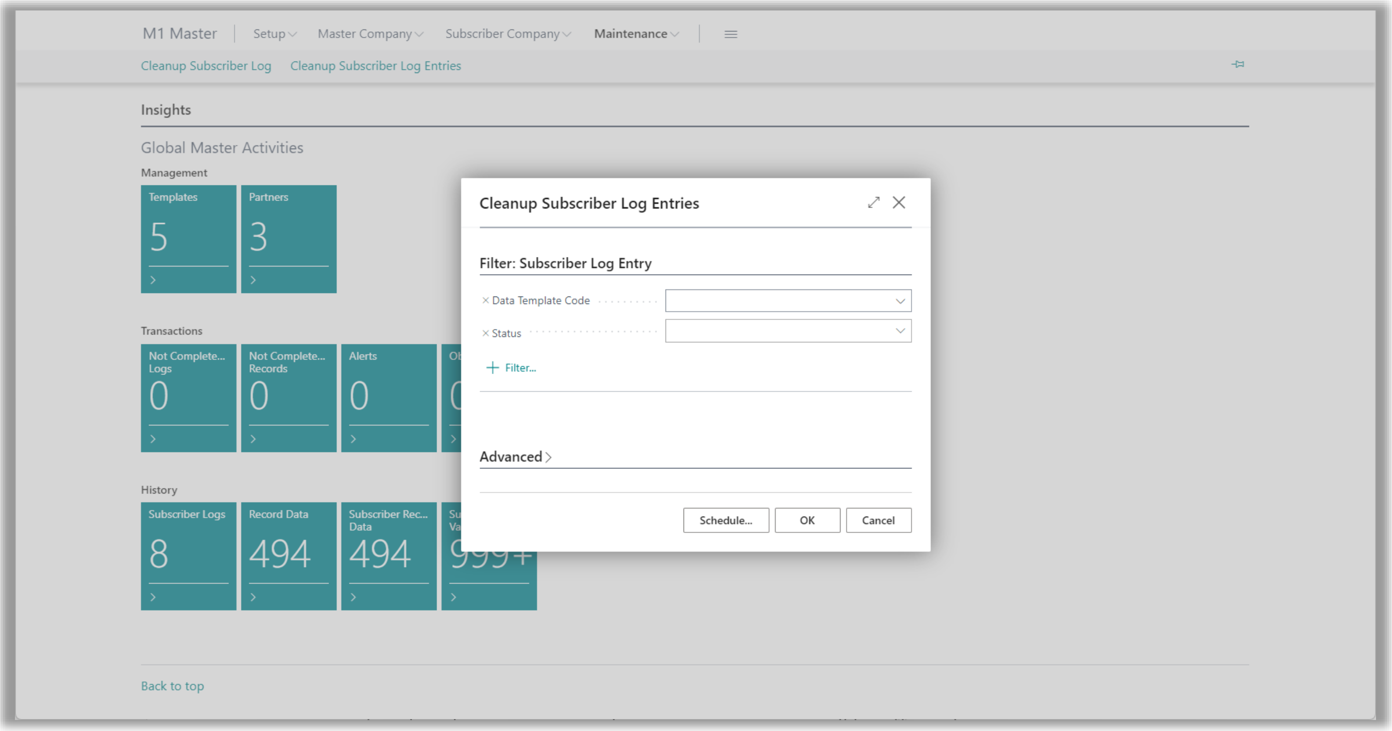


The report can be started using a filter as in most reports. In addition to this there are two options.
The minimum age of the entry entered in the Global Master Setup must be reached before an entry is deleted.

Delete Subscriber Log	Deleting the Subscriber Log completely. Subscriber logs will be deleted if this field is selected. Option is set by entering a date formula in Global Master Setup field "Delete Entries Older Than".

Cleanup Subscriber Log Entries

This report is used for deleting the Subscriber Log entries.



The report can be started using a filter as in most reports. In addition to this there are two options.
The minimum age of the entry entered in the Global Master Setup must be reached before an entry is deleted. Subscriber logs will be deleted if this field is selected. Option is set by entering a date formula in Global Master Setup field "Delete Entries Older Than".

Cleanup reports managed by Job Queue

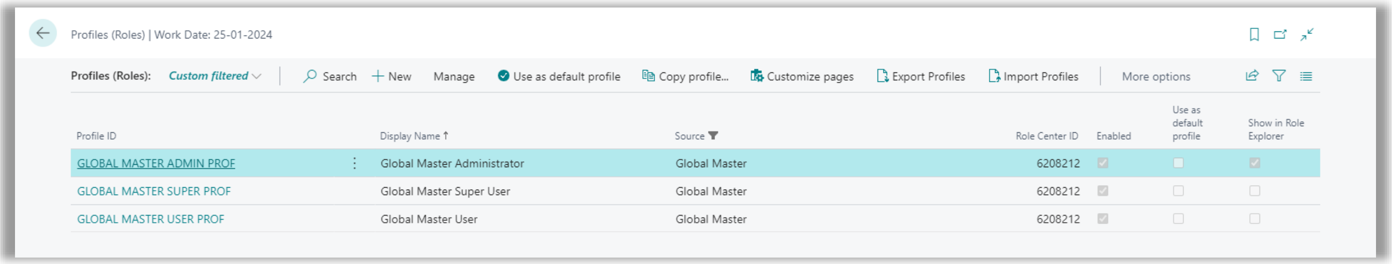
The two reports mentioned above, can be managed by the job queue. There are two codeunits designed for this purpose.

Codeunit 6208213 “GM Cleanup Subscriber Log PROF” – Delete Subscriber Log option is set.
Codeunit 6208214 “GM Cleanup Sub. Log Entr. PROF”

Running these codeunits the corresponding report will be started with no request form.

PROFILES

The Global Master extension comes with three profiles. These are pre-defined profiles, each with a designated purpose.



Profiles are to be added to users in the User Personalization page. Here you see an overview of the three profiles which are included in the Global Master extension.

GLOBAL MASTER USER PROF	This profile has access to tasks for performing the synchronization of data between master and subscriber companies.
GLOBAL MASTER ADMIN PROF	The Administrator profile has access to all necessary functions and set up options for running and managing Global Master.
GLOBAL MASTER SUPER PROF	The super user has access to a few extra features than the admin user. However, these options are for analysis and test purposes only. It is not recommended using the super user for running the system daily.

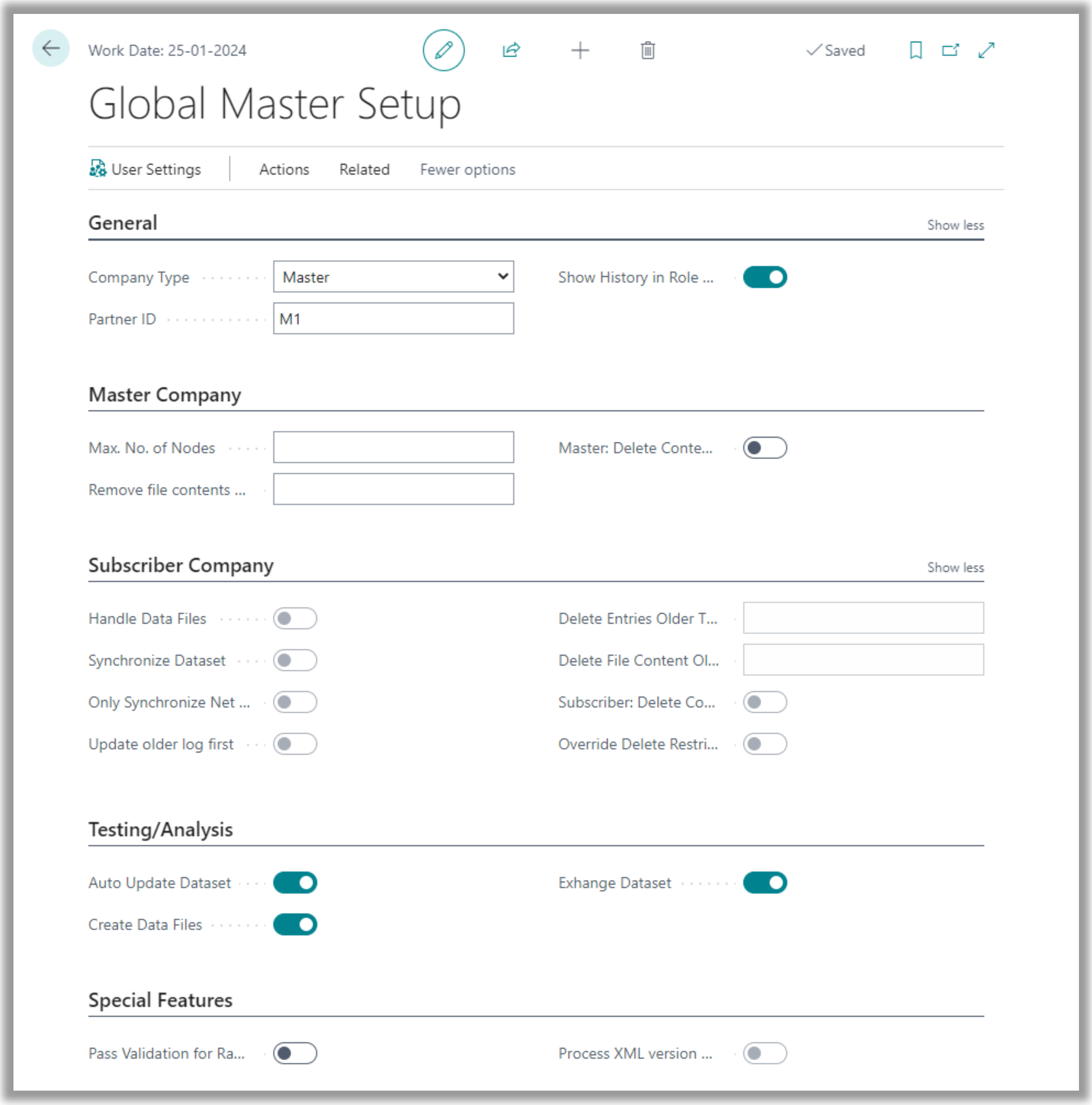
The identifier PROF used as suffix is the suffix provided for ProFacto A/S. It is required to have this identifier on profiles distributed with ProFactos ISV products.

References to the profiles above might be mentioned without PROF.
The “Display Name” is used when selecting a profile.

Global Master Super User

Business Central offers an additional setup using a build in profile.
This profile does use the Global Master Role Center as already described. However, there is a difference.
For more information see the *Global Master SUPER USER* paper which is describing a few hidden features.

By choosing the profile "GLOBAL MASTER SUPER", the Global Master Setup page is modified in a way that gives the user a few undisclosed features.
Showing the group *"Testing/Analysis"*, the super user does have access to some additional options, which normally are activated in by default.
"Special Features" are to be used occasionally and with great caution only.



Testing/Analysis

Auto Update dataset	If this field is marked, Record Data are automatically updated when a record is changed in the master company, and if the field is included in a Data Template owned by Master Company.
Create Data Files	In general, this field should always be marked, as this is to allow generating data to Subscribers. If we for some reason want to stop this for a period, the option can be disabled.
Exchange dataset	This setting is required for sending the Subscriber Logs to a subscriber. If we for some reason want to stop this process temporarily, we can uncheck this field.

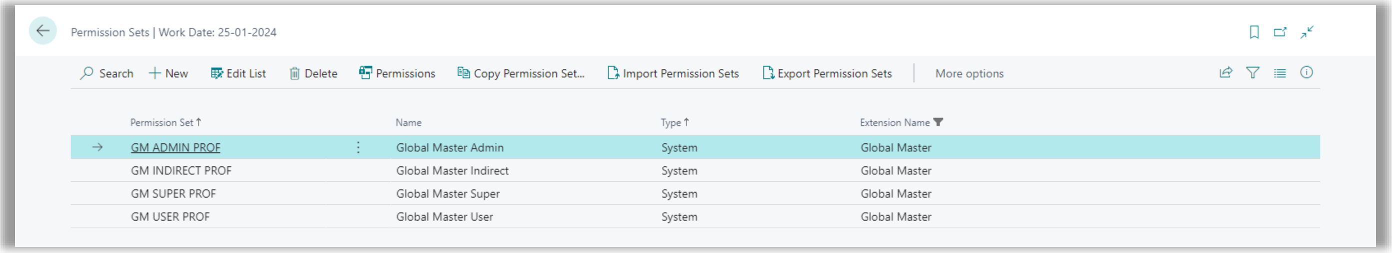
Important: For making the synchronization work smoothly, these options must be enabled.

Special Features

Pass Validation for RapidStart	Using RapidStart together with an active Global Master installation in not possible, because primary key fields always are validated on insert. Using this option makes it possible to pass the validation and makes it possible to insert data using RapidStart. **Important**: Please deactivate this option right after use.
Process XML version 2.00	Used for Business Central 14 on premises and earlier versions only. With Global Master version 69 a new XML Document version 2.10 was introduced. This option re-activates interpretation of the old XML data when updating and synchronizing in the subscriber company. Please refer to important guidance in the paper *"Global Master – Installation instructions for version 69"*. This option is only available in subscriber companies and should be used with great caution only. **Important**: Please deactivate this option right after use.

PERMISSION SETS

The Global Master extension provides three permission sets. These are to be attached to users who must perform tasks in the Global Master system.



Permission Set ↑	Name	Type ↑	Extension Name
GM ADMIN PROF	Global Master Admin	System	Global Master
GM INDIRECT PROF	Global Master Indirect	System	Global Master
GM SUPER PROF	Global Master Super	System	Global Master
GM USER PROF	Global Master User	System	Global Master

Three permission sets are corresponding to the three user profiles with the three same names.

GLOBAL MASTER ADMIN	The Administrator permissions gives access to all necessary functions and set up options for running and managing Global Master.
GLOBAL MASTER SUPER	The super user has identical rights as the admin user. Using the super user profile makes a few extra features visible. These are for test and analysis or for data processing purposes only. Tampering with the extra settings in Global Master Setup is not advisable in a system running smoothly.
GLOBAL MASTER USER	This permission set gives access to tasks for performing the synchronization of data between master and subscriber companies.

The extra permission set GLOBAL MASTER INDIRECT is used to extend permission set D365 BASIC.

GLOBAL MASTER INDIRECT	For most users of the Business Central application, Global Master is only visible when giving a user restriction on what data fields the user can change. To process data and verifying if data is managed by Global Master, all users need access for performing background validation. The GLOBAL MASTER INDIRECT permission set is granting access to perform this background validation. By adding D365 BASIS to the user's permission sets the permissions defined in GLOBAL MASTER INDIRECT are included.

RECOMMENDATIONS

Templates

Knowing the data to be synchronized using Global Master is very important. References between tables is critical when using field templates and sub templates.
In this chapter a few suggestions how to define templates for certain tables are listed.

Post Code	The "Post Code" table was designed to make entering of post codes and city easier. Therefore, the table has a unusual structure that does not match the use of neither field template nor sub template. Use a template type normal for the "Post Code" table. Consider if it is a good idea setting a filter on the Code field.
Comment Line	The "Comment Line" table has a build in option reference to a number of tables. This is not matching the requirements of the template types field and sub. Use Normal Template for the "Comment Line" table, but a good advice is to have a filter on the "Table Name" field. You might want to have more than one "Comment Line" template with different filters attached to each one.
Extended Text Header	Both the "Extended Text Header" and the "Extended Text Line" cannot be handled by other types than the normal template. Use a filter when setting the template up for synchronization. A matching template for "Extended Text Line" is a must.
Extended Text Line	Both the "Extended Text Header" and the "Extended Text Line" cannot be handled by other types than the normal template. Use a filter when setting the template up for synchronization. A matching template for "Extended Text Header" is a must.

APPENDIXES

Field Templates

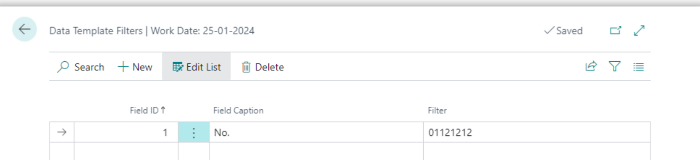
Field templates are templates handling data related to from a parent template. This is to ensure that the data which is related to does exist in the subscriber company after synchronization.
The advantage of using a field template as an alternative to a normal template is that the field template does only transfer the data records which are related to from the parent template.
Using a normal template all data in the table are transferred. Unless the template has a record filter.

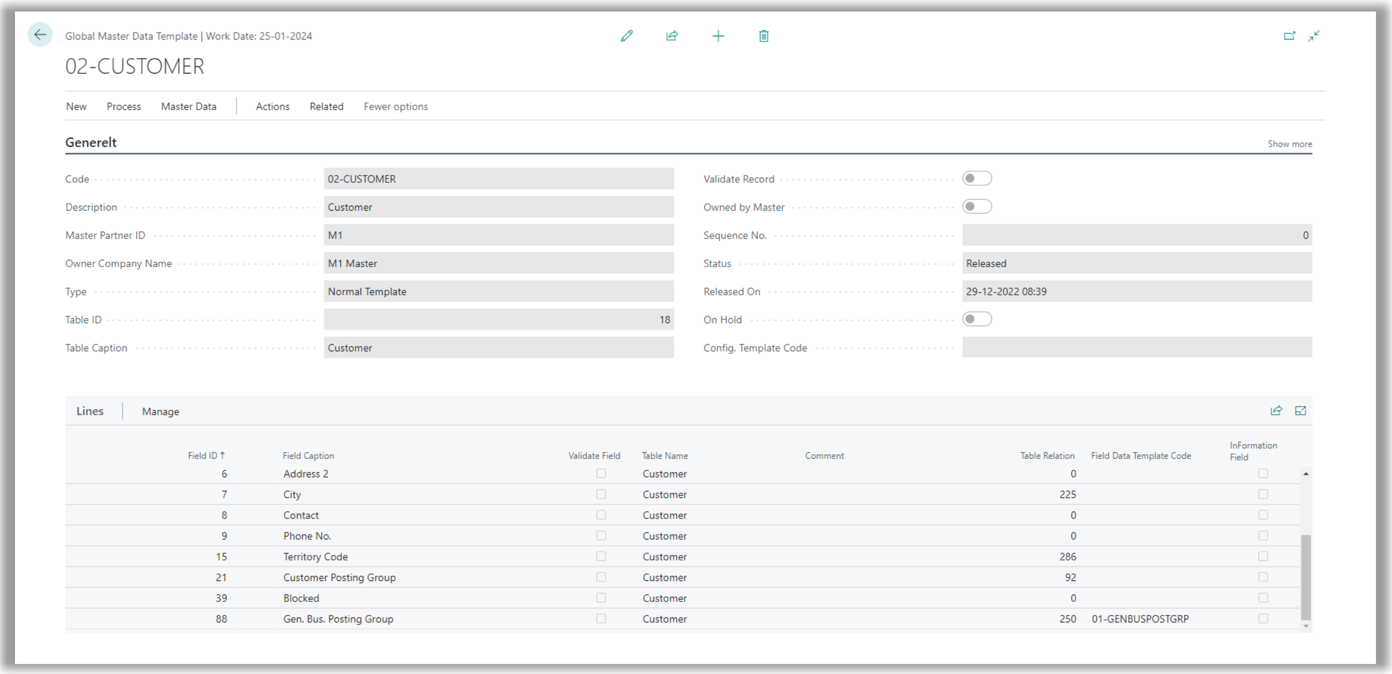
A field template is identified as a template with type 'Field Template'.

In the following example a simple template setup explains the connection and use of field templates.

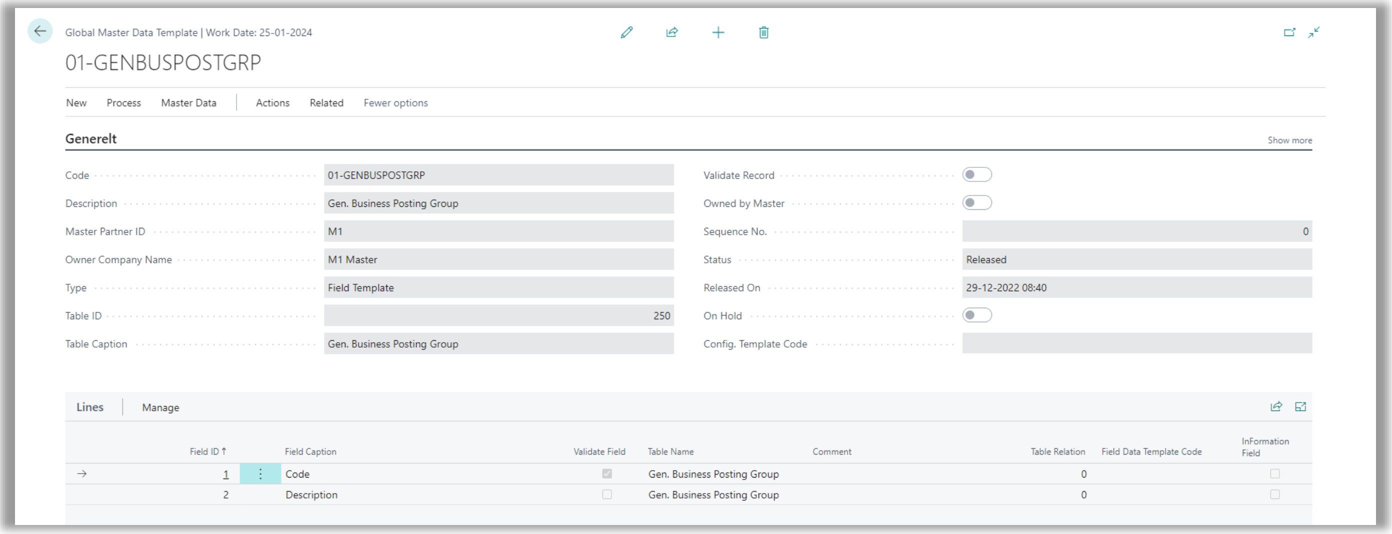
'02-CUSTOMER'	Normal template handling table 18 Customer
'01-GENBUSPOSTGRP'	Field template handling table 250 Gen. Business Posting Group

For easy overview the normal template '02-CUSTOMER' used is set with a record filter, to reduce affected data.



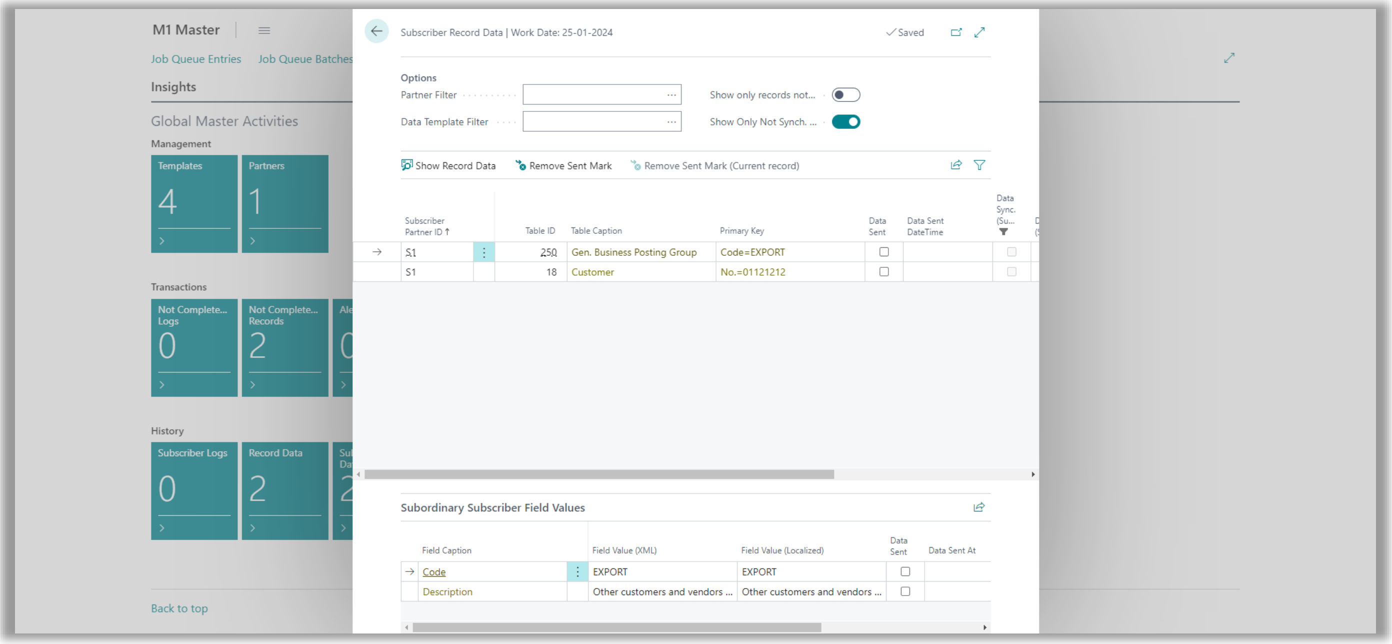


When a field has a table relation it is possible to attach a field template.
Customer table field no. 88 Gen. Bus. Posting Group is referring to table 250 Gen. Business Posting Group.
In this case field template '01-GENBUSPOSTGRP' is set up.



The field template is identified by having field Type set to 'Field Template'. This is what makes it possible to look up from the parent template line, where the field has a table relation to the table the field template is handling.

When the two templates have the same subscriber applied, the templates can be released. At the time the templates are released subscriber record data is being updated.



Because of the used record filter, only customer '01121212' is being prepared for synchronization. This also meaning that only the Gen. Business Posting Group value 'EXPORT' is set for synchronization.

Was a normal template used to synchronize table 250, you might have a lot of values that is not relevant for the subscriber company. Of cause, if you need value for other purposes please consider if normal template is better in your case.

Sub Templates

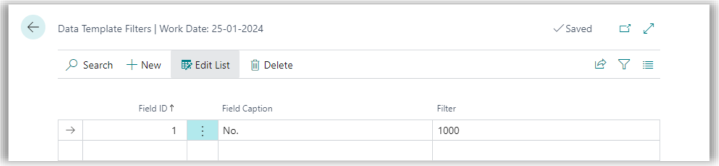
Sub templates are templates handling data related to from a parent template. This is to ensure that the data which is related to does exist in the subscriber company after synchronization.
The advantage of using a sub template as an alternative to a normal template is that the sub template does only transfer the data records which are related to from the parent template.
Using a normal template all data in the table are transferred. Unless the template has a record filter.

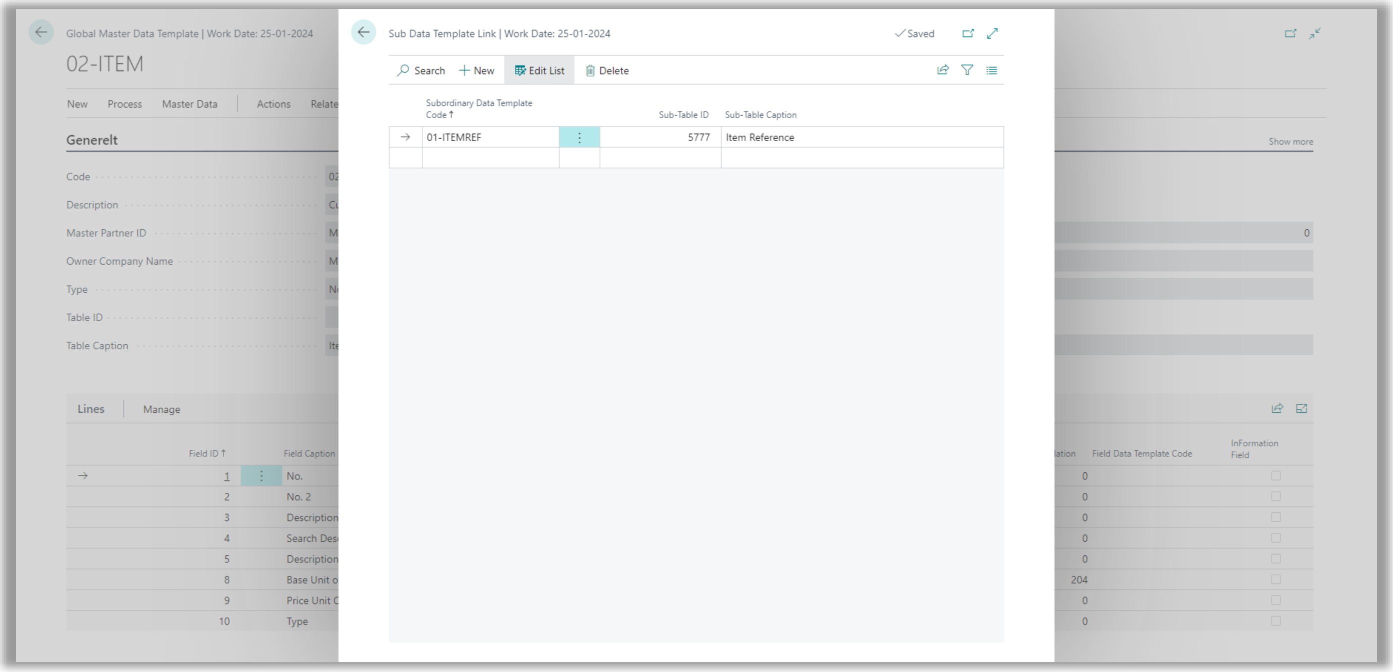
A sub template is identified as a template with type ‘Sub Template’.

In the following example a simple template setup explains the connection and use of field templates.

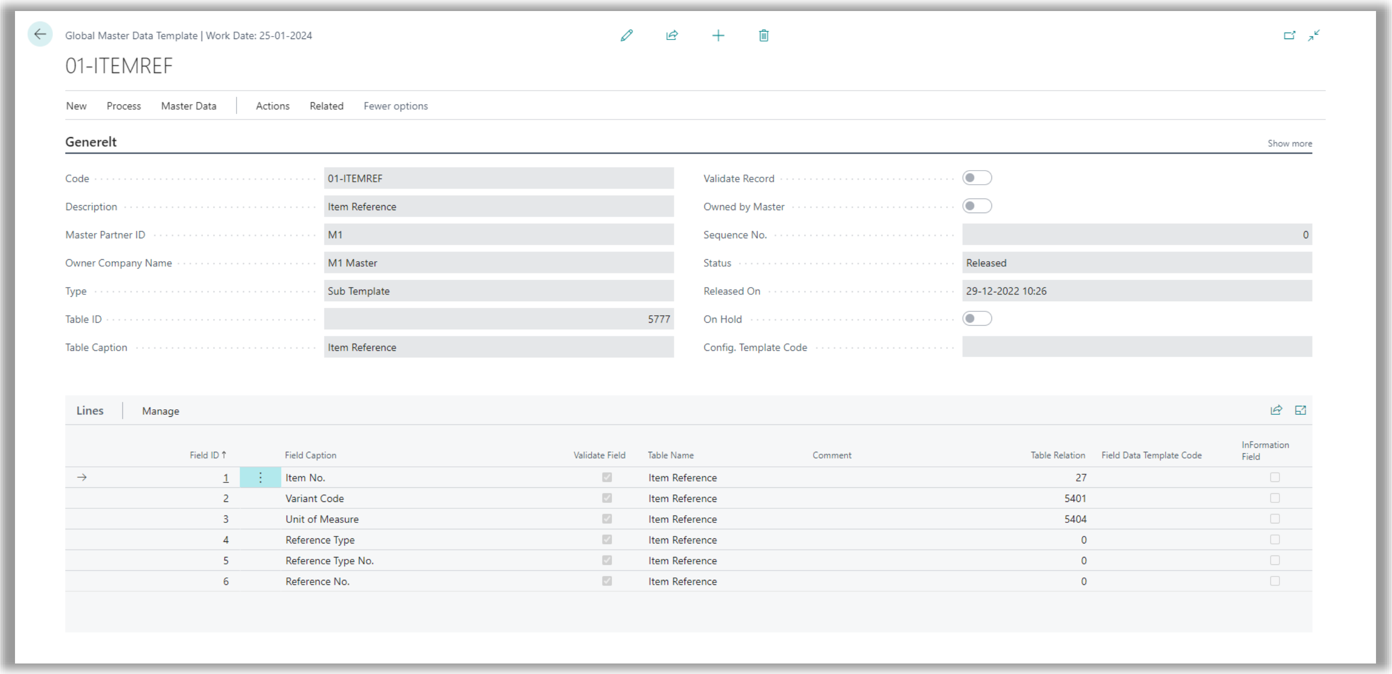
‘02-ITEM’	Normal template handling table 27 Item
’01-ITEMREF’	Field template handling table 5777 Item Reference

For easy overview the normal template ‘02-ITEM’ used is set with a record filter, to reduce affected data.



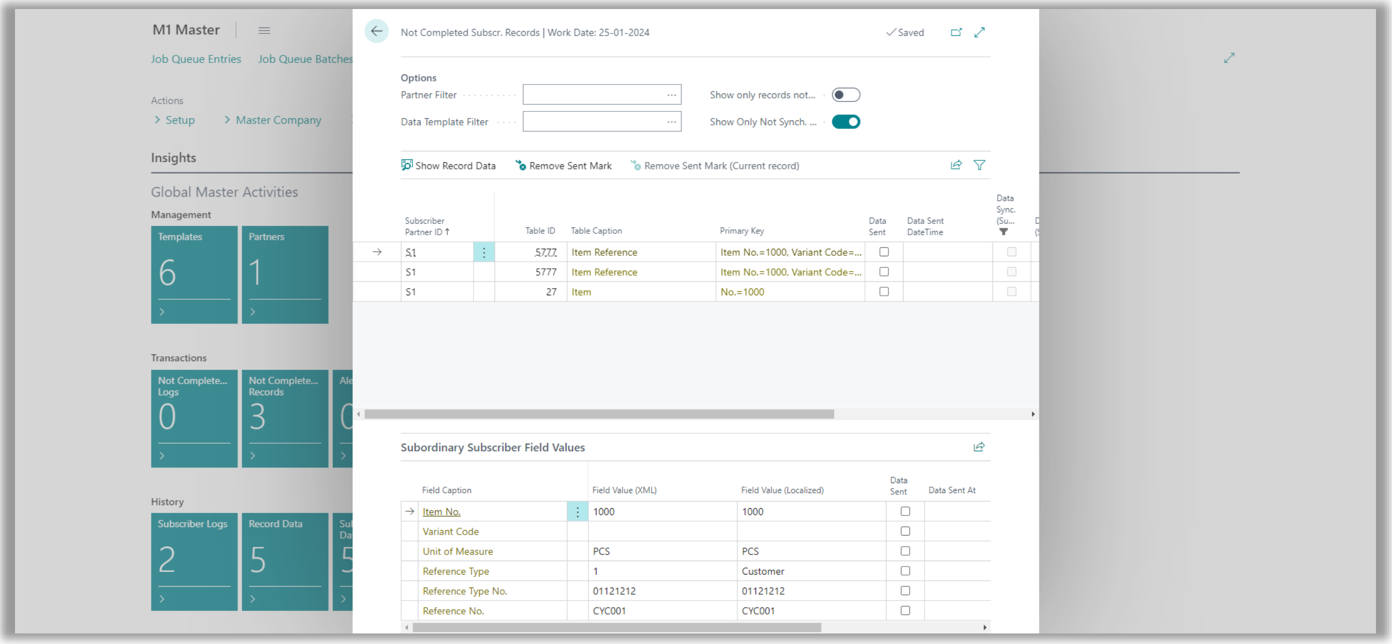


When a table has a table relation in the primary key it is possible to attach a sub template handling this table.
Table 5777 Item Reference is referring to Item in its first field of the primary key, namely field “Item No.”
In this case a link to sub template ‘01-ITEMREF’ is set up.



The sub template is identified by having field Type set to 'Sub Template'. This is what makes it possible to attach the template from the parent template defining a sub template link.

When the two templates have the same subscriber applied, the templates can be released. At the time the templates are released subscriber record data is being updated.



Because of the used record filter, only item '1000' is being prepared for synchronization. This also meaning that only the relevant item references values are set for synchronization.