

Avanade Master Data Synchronization User Documentation

Dynamics 365 for Finance and Operations



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1. Introduction

The modern ERP system, regulates the flow of information and document, for the typical business process, in an enterprise. The basis for the illustration and controlling of the processes are master data used in the system, which are administered based on the concerned structure of the firm per client.

Over the virtual clients (also see chapter 7 "cross-client tables"), which is standard functionality, tables can be made available centrally for all clients.

Additionally, "Master data synchronization" (or) "Multi Company" module is a tool, with which a table or even individual fields from a table can be administered cross-client.

1.1 Levels of the master data administration

Data administration per client / company accounts

Data of a legal entity are summarized over a company account (standard). Partly, these data are already comprehensive with Dynamics 365 for operations. (E.g. global directory).

Module "Master data synchronization"

The central data that are to be partially used in other company accounts can be distributed over "Master data synchronization" tools into other clients. The synchronization ensures the updating during recording, changing, or deletion over all defined company accounts (common use of certain data segments). The module "Master data synchronization" is a very powerful tool for the synchronization of individual tables.

1.2 Master data synchronization

The parameterization of the master data synchronization determines more than just a superficial, an understanding of the databases, tables and data models. The conditions for the employment of this tool are the parameterization in a test environment and thorough tests of the settings.



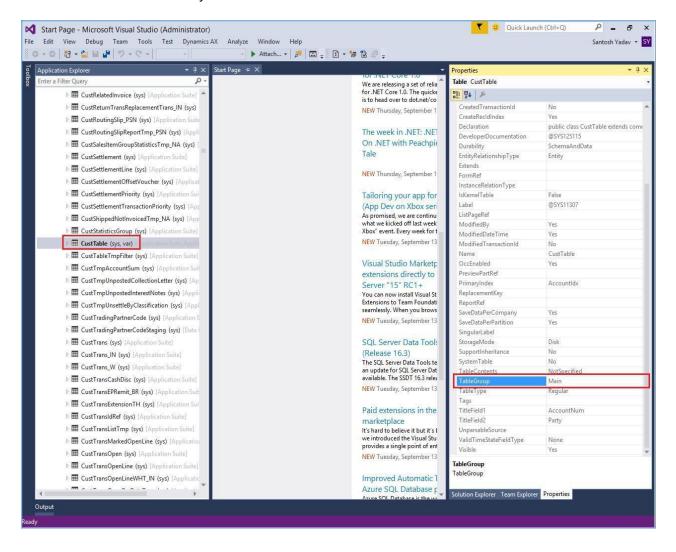


1.3 Limitations

Although multi company tool offers extensive synchronization possibilities, we need to ensure that meaningful data is distributed beyond the client limits based on individual cases.

1.3.1 Tables

Technically it is so that only the tables which are allocated in the Table Group "Main", "Group" or "Parameter" are available for the selection. Further Table Group is also possible, however the individual case is to be always checked.





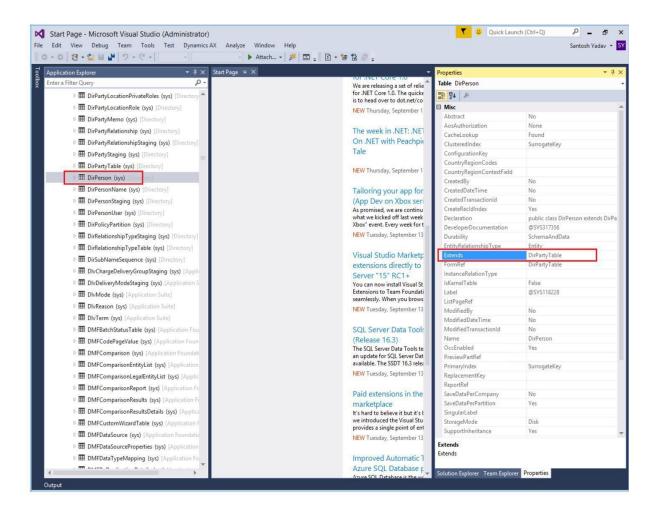
1.3.2 Several clients in a table

The tables which differ in the data set of the client (DataAreald) are to be excluded from the synchronization. There are exceptions in the synchronization of special tables (e.g. article) that have already been considered. The admission of further tables in principle is possible, however individual cases needs to be checked.

1.3.3 Extends

Extends are the tables which have another table or View as a basis. Therefore, no data can be maintained and/or changed in these tables. This must take place in principle at the data origination.

In the following illustration, an example of such a table can be seen.







1.3.4 Virtual Company Accounts

"Virtual company Accounts" functionality is deprecated in Dynamics 365 for Operations. This functionality cannot be used any more for the synchronization of master data. However, Master data synchronization tool supports the tables, which used virtual company accounts for synchronization of master data in earlier versions.

1.3.5 Other limitations

There can be limitations even with individual fields. Especially in the fields where the data content can be global or only local.

<u>Example</u>: If a worker is approved only in an enterprise / a client and not in others, however the field is included in the synchronization.

In such a case, we can exclude the corresponding field from the synchronization.

1.4 System- / Module upgrades

Dynamics 365 for operations can be developed further by Microsoft. Therefore, it is concerned for changes and/or extensions again and again with the tables. This fact, reflects that, all tables in a synchronization must be checked with each update.

Therefore, a functional examination of the master data synchronization into the updates procedure must be planned.

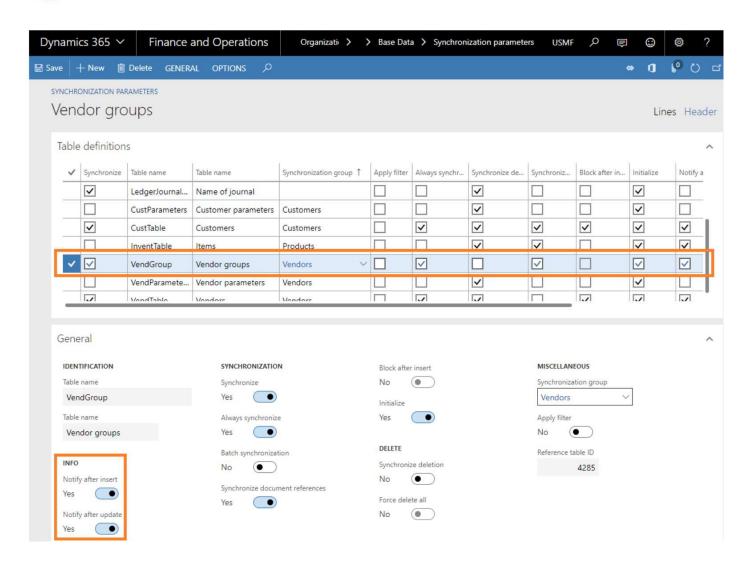
Approach (see next picture):

- 1. Each table is to be updated > check whether new fields have been added. If we click on "Refresh" button, added/deleted/updated fields get updated in the "Fields" section.
- 2. Activate the Info-Flag > if not already permanently active, the Info-Flags should be activated, and are executed in the organizational process by the functional department. These should also examine the result.

These procedures should be tested according to the User Acceptance test.





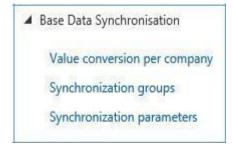


2. Call Synchronization

The synchronization can be called by any client, since the tables of the synchronization are global.

Synchronization facility:

Call: [Client] > Organization administration > Setup > **Base data synchronization**







Synchronization execution:

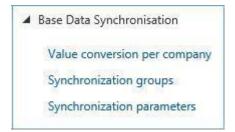
Call: [Client] > Organization administration > Periodic > **Synchronization**



2.1 Parameterization

The screen for the settings of the master data synchronization can be found under

Call: [Client] > Organization administration > Settings > **Base data synchronization**



For the Parameterization, it does not matter as in which client the settings are made, since these are valid cross-client.



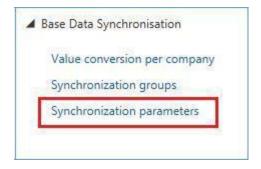


2.2 Screen for synchronization settings

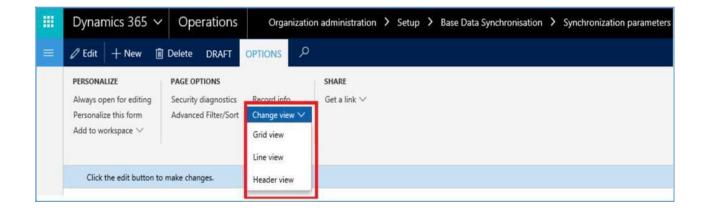
As per the form pattern used in Dynamics 365 for operations, there are UI changes in Synchronization settings screen.

Below is the Navigation path for synchronization parameters form.

Call: [Client] > Organization administration > Settings > Base data synchronization > **Synchronization parameters**



As per standard, the synchronization settings screen provides 3 views. Below screenshot explains different views available.

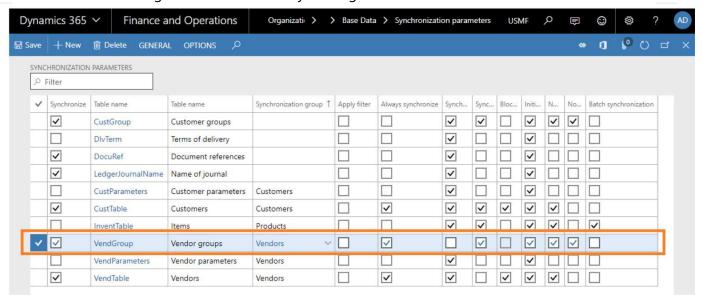




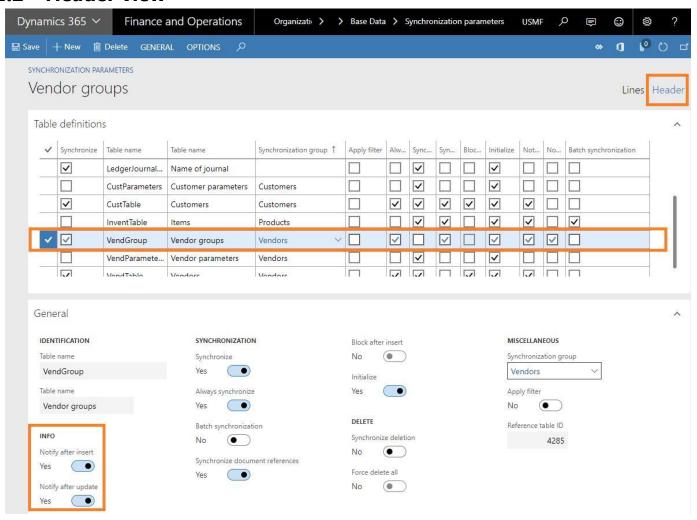


2.2.1 Grid view

This is the default view once the form opens. User can update the setup in the tables by clicking on "Edit" button. The user can navigate to the line view by clicking on table name.

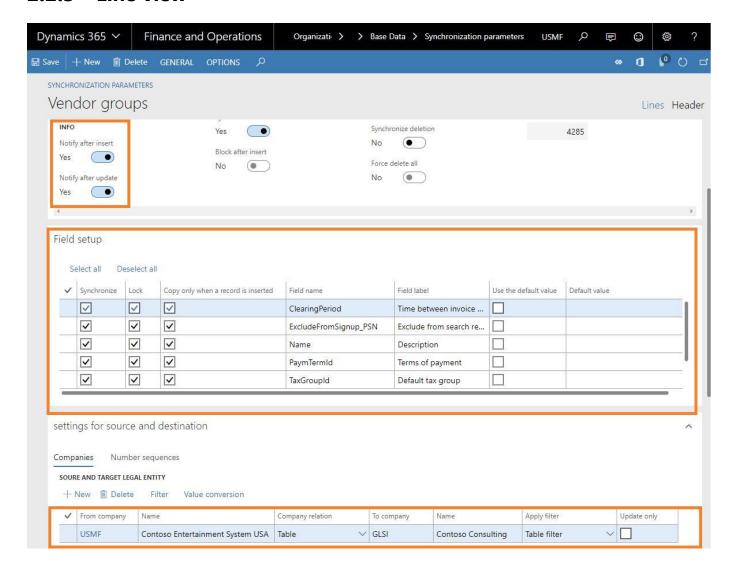


2.2.2 Header view





2.2.3 Line view

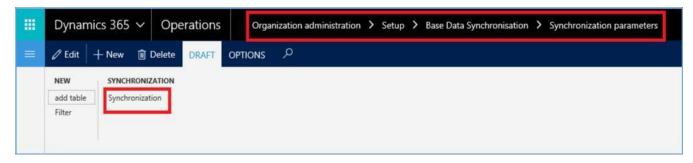




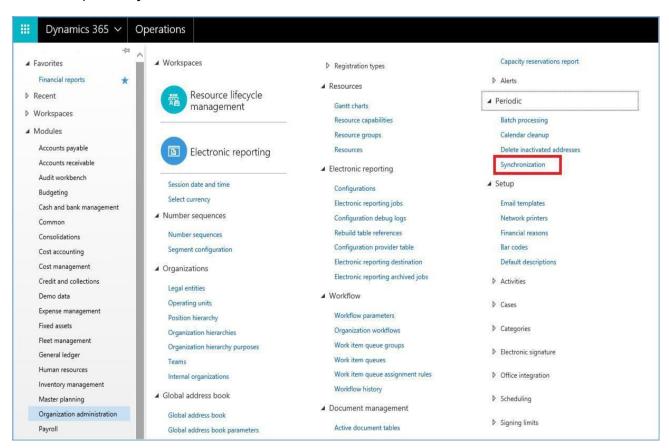
2.2.4 Execution of the synchronization

The synchronization can be called once over the button "Synchronization" in

Synchronization parameters form



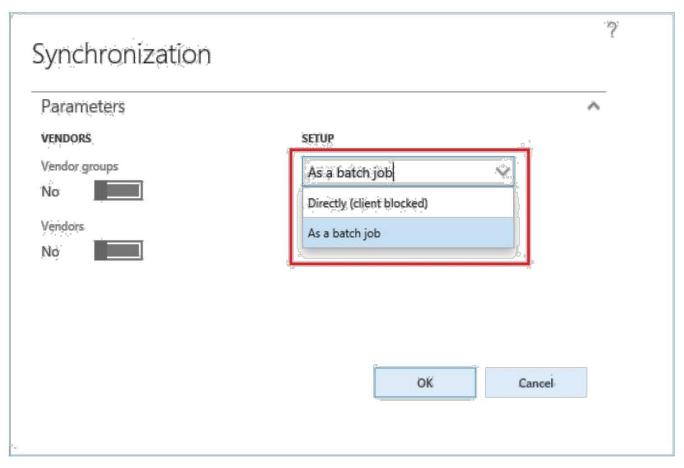
or over the periodic job



In both the cases, the following screen is called, thereby, all the tables with the active flag are synchronized on clicking "OK" button. For test purposes, the flag can also be switched on or off separately. The groups are dynamic and can be switched on and/or off in the synchronization groups form.







Periodic synchronization could be run as a background batch job with multi-tasking enabled. This will speed up the synchronization.

2.3 Initial position "synchronize customer master"

The following examples and settings are based on the approval that a master client "SY1" and two further clients "SY2" and "SY3" are present.

2.4 Terms

Master client - > client from which data is to be synchronized.

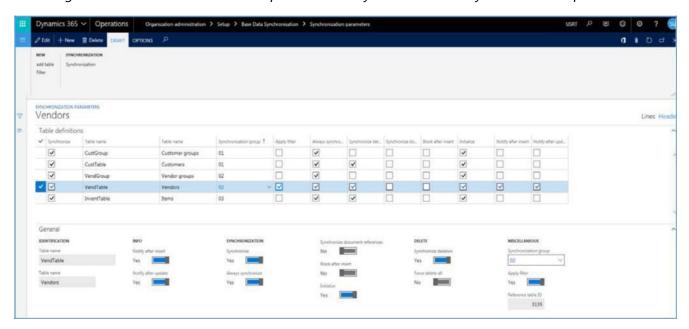
Synchronization client - > client(s) into which data is to be synchronized.





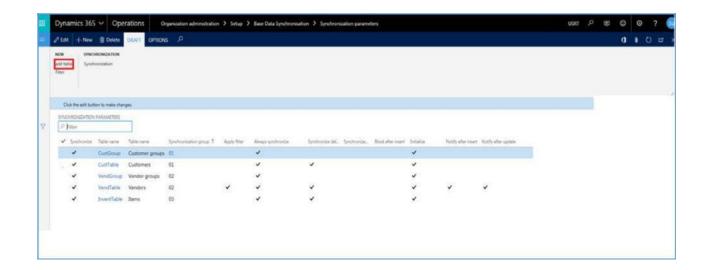
2.5 Basic setting

Path: Organization administration - Setup - Base data synchronization - Synchronization parameters



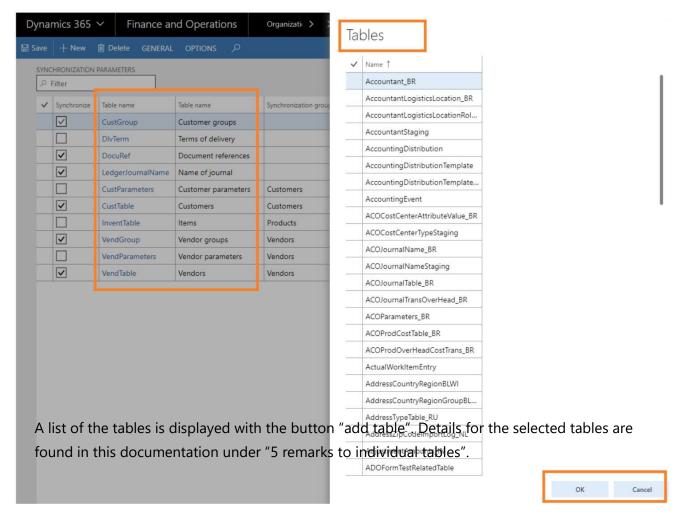
At the first start, this screen is empty. Tables to be synchronized can be added here.

2.5.1 Insert Tables

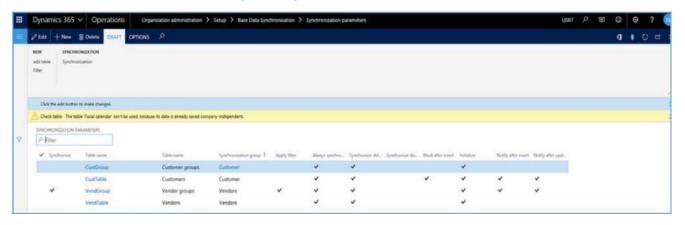








Cross-client Tables cannot be selected for the synchronization, since its data sets are already available for all clients. The following message appears when Cross client tables are selected.



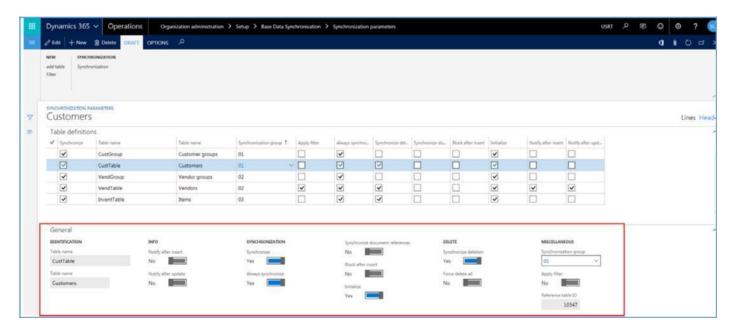
Button "Filter"

As soon as a table is added, the button "Filter" becomes active. More information about the possibilities of filter are found under "2.8.1 filter possibilities".





2.6 Settings per table



All settings of the selected table are found in the "general" section of Synchronized parameters form.

Field	Description
Identification	
Table name	Table name in the data model (English)
Table name	Table name in the language of the interface
Info	
Notify after Insert	Active = a data set is created and message is displayed.



Notify after Update	Elynemics 355-2 Ciperations Objects Edit
Synchronization	Recommendation: Active (eventually "not active")
	The table is synchronized if the floorie active
Synchronize	The table is synchronized, if the flag is active. IMPORTANT: Settings for fields are possible only if the flag is activated.
	Recommendation: Active
Always synchronize	If the flag is active, all the fields with the setting "synchronize" are overwritten
	with the values of the master client, regardless of whether a change on the field
	took place or not. If this flag is not active, then only the changed fields are synchronized with the
	values of the master client.
	Recommendation: Not active (possible performance problems)
Synchronize	If linked documents are to be synchronized with data sets, this flag must be
Document	active.
references	IMPORTANT: The table "DocuRef" must be synchronized likewise. See: "3
	Synchronize document references"
	Recommendation: check in individual cases
Block after insert	If this flag is active, data sets are locked and must be first released in the synchronization clients.
	See: "4 post basket function (block flag)" CustTable
	(customers)
	VendTable (vendors) InventTable (products / articles) ProjTable (projects)
	smmBusRelTable (prospective clients) Recommendation: check in individual cases, meaningful with customers,





Initialize	Data sets are initialized with creation of values (INIT Values) on table or parameters in accordance with standard. Subsequently, the synchronization takes place, with which the deviating values of the INIT-Values are overwritten with the values of the master client, unless the field is synchronized or standard values are defined. Note: The initialized values do not correspond to the standard values of the MultiCompany. Sequence: 1. INIT with values 2. Synchronization or standard values Recommendation: Active
	Recommendation. Active
Delete	General: Deletion of master data sets is only possible if it is not a component of archiving data.
Synchronize	If the flag is active, the deletion of data in the master client is synchronized.
deletion	There are standard tests on validity (document booking available Y/N etc.).
	Recommendation: Active
Force delete all	Deletes the data set, only if the data set in all the clients that can be synchronized could be deleted.
	Recommendation: Not active
Miscellaneous	
Synchronization	Select the group in which the tables which can be synchronized need to be
group	assigned.
Apply Filter	With this flag, it is controlled whether filter functions can be used for selected table. The actual filter settings can be executed in the header per table and lower
	range per synchronization client.
	Whether the header or client filter is used, is decided by the corresponding
	setting in "source and target legal entity".
	See: "2.8.1 filter possibilities"
	Recommendation: check in individual cases
Reference table ID	ID of the table in the development environment



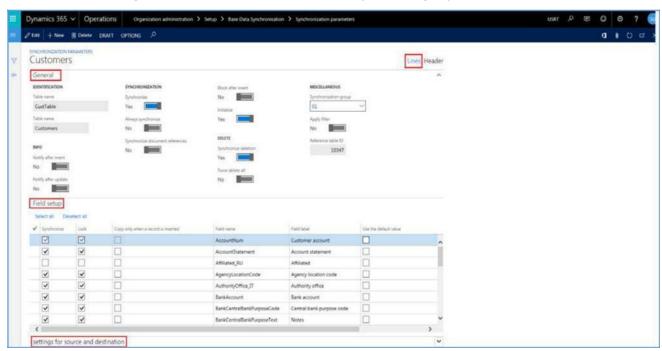


2.6.1 Contact information, addresses and postal addresses

Contact information, addresses and postal addresses are stored cross-client over the global directory. If the partial allocation of the individual customers, vendors and prospective customer are synchronized at the same time, then the information will also be visible in the synchronization clients. There is however no copy of the data set, which can administer each client separately.

2.7 Settings per table for fields

To be able to carry out the field settings, it must be changed in the line view of the selected table and the editing mode button must be activated by checking "Synchronize" checkbox.



The view sub-divides the three registers "general", "field setup" as well as "settings for source and destination". In the register "general" previously discussed settings concerning the table can be carried out.

Field settings are possible only if the flag "synchronize" is activated on the table definition.

Fields can be selected separately for the synchronization. A help are the two buttons "select all" and "deselect all".





FI	Field sétup						
	elect all Dese	lect all					
4	Synchronize	Lock	Copy only when a record is inserted	Field name.	Field label	Use the default value	Default value
	✓	✓		AccountNum	Customer account		
	v	v		AccountStatement	Account statement		
				Affiliated_RU	Affiliated		
2	v	V		AgencyLocationCode.	Agency location code		
	V	V		AuthorityOffice_IT	Authority office		
_	V	V		BankAccount	Bank account		

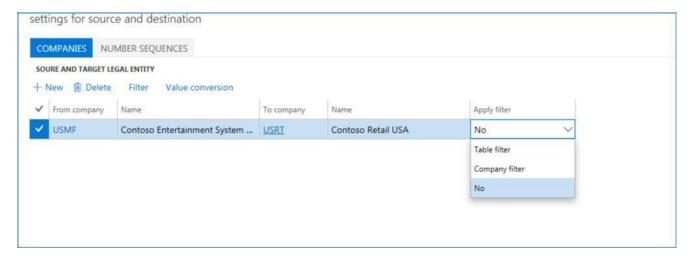
Field	Description
Synchronize	It controls whether a field is synchronized.
	Important:
	There are some fields that must be completely synchronized (e.g. account number). In these cases the flag is set according to the standard and cannot be changed.
Lock	If the flag is active, the fields in the synchronization client cannot be changed.
	Important:
	If a flag cannot be synchronized (see above), this flag cannot be set as well.
Copy only when a record is inserted	If the flag is active, the field is copied only during the first insertion (creation) of the data set. Subsequently, it is no more synchronized.
	It is possible to deactivate this flag whenever required. Once this flag is deactivated normal synchronization occurs.
	this hag is deactivated normal synchronization occurs.
Module (<i>only conditionally visible</i>)	This column is displayed only if subordinate tables are automatically synchronized at the same time. This is the case for example with the article master (InventTable).
Field name	The field name in the data model (English)
Field Label	The field label in the language of the interface





Use the default value	The flag controls whether the value in "Default value" column is used with the creation of a data set. The field will not be synchronized in the future. This function is not to be mixed up with the function initializing.
Default value	Client-independent default value for the fields while creation of a data set. In order to ensure that the value is used, the flag "use the default value" must be active. Note: If the value serves as a reference for another table, then it is to be ensured that the data set with the value exists in the reference table of the synchronization client.

2.8 Specify Synchronization clients



The clients for the synchronization can be specified per table in this screen.

Field	Description
From company	Master client
Name	Name of the Master client
To company	Synchronization client
Name	Name of the Synchronization client
Apply filter	For details see "2.8.1 filter possibilities"
Update Only	When checked, the data gets synchronized only when the data is updated in the master client.

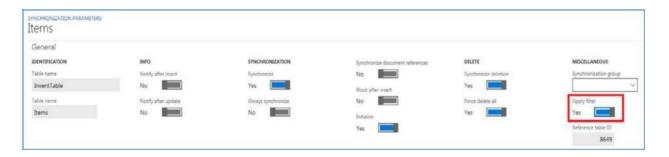




2.8.1 Filter possibilities

The extent of synchronized data can be limited by applying filters. This is particularly helpful, when trying to synchronize only specific records in the table instead of the complete master data.

To ensure that the Filter is used, the flag "Apply Filter" must be activated per table.



Filters can be set up in 2 ways

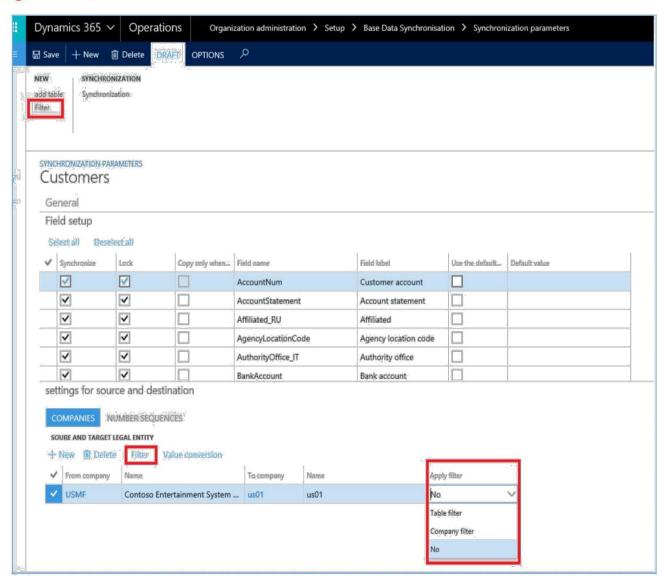
- 1. Table Filter: Filter per table
- 2. Company Filter: Filter per synchronization client

The decision of which filter is active depends upon the selection made under "Apply Filter" drop down in "Settings for Source and destination" section.

If "No" option is selected for "Apply Filter" then all the master data gets synchronized, even if "Apply filter" checkbox is checked in the "General" section of the table settings.





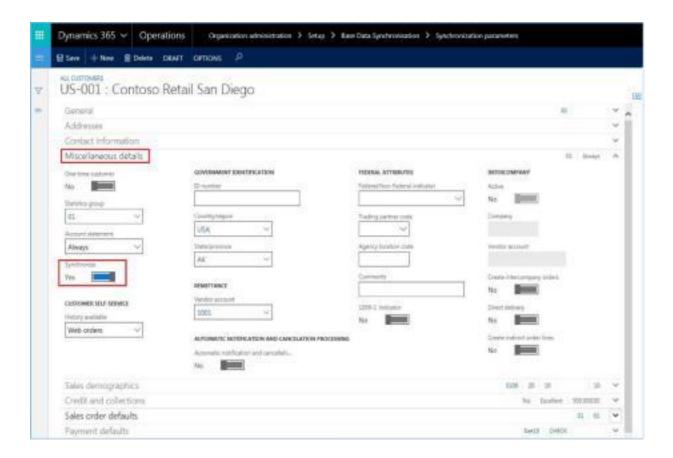


use Filter	Description
Filter of table (Default)	Global filter is active.
	Definition of the filter criteria over the large button "Filter" in the menu list.
Filter of client	Considered filter, which is set up on the line of the client settings.
	Definition of the filter criteria over the small button "Filter" within the range of From and To Company.
No	No filter function, all master data are synchronized.



2.8.2 Exclude individual customers

In the debtor master, there is an additional possibility to exclude the synchronization for certain data set by means of a flag. The data set will be synchronized only if this flag is active.



2.8.3 Settings of Register number range

With settings in the "Number Sequence" it can be achieved that the number allocation for defined tables takes place from the "master client". The function is applicable for the following tables:

CustTable (Customers)

VendTable (Vendors)

InventTable (Products / Articles)

ProjTable (Projects)

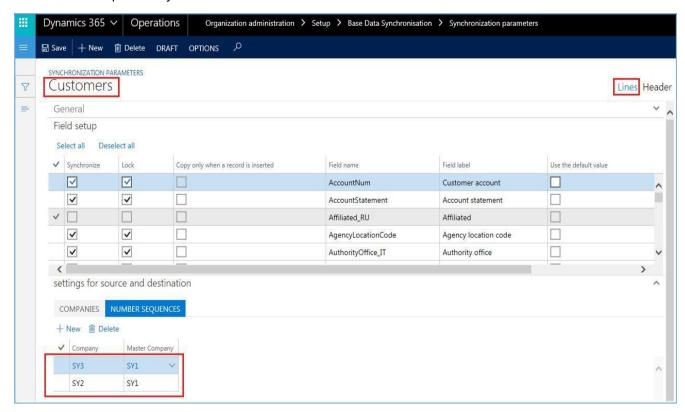
smmBusRelTable (Prospective customer)

ContactPerson (Contacts)





In the following example, the debtor number in the clients 'SY2' and 'SY3' is fetched from the number sequence by the client 'SY1'.



2.8.4 Client dependent default value

In order to be able to use the function "client dependent default values", the flag "use the default is not to be mixed up with the initializing function.

Furthermore, the corresponding setting of "source and target Legal entity" should be configured and selected.

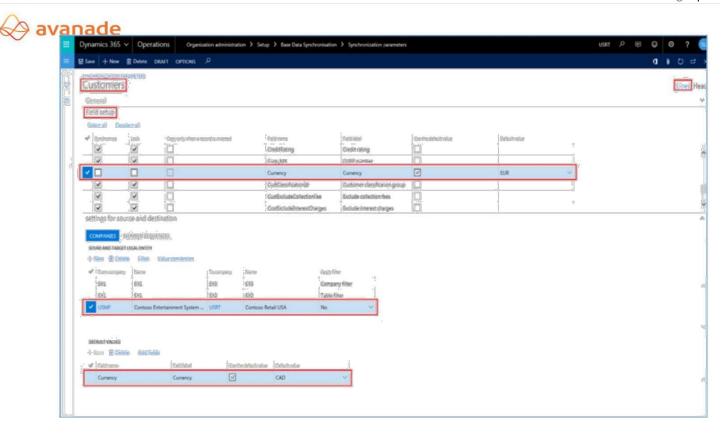
Within the "Default values" under "Source and target Legal entity", the fields can be added for which have set up the flag "Use the default value" in the field settings. The client dependent default value is defined in the field "Default value". Besides, the flag "use the default value" must also be set up under the section "Default values".

Note: If the value serves as reference for another table, then it is to be ensured that the data set with the value exists in the reference table of the synchronization client.

The sequence of the application of standard values:

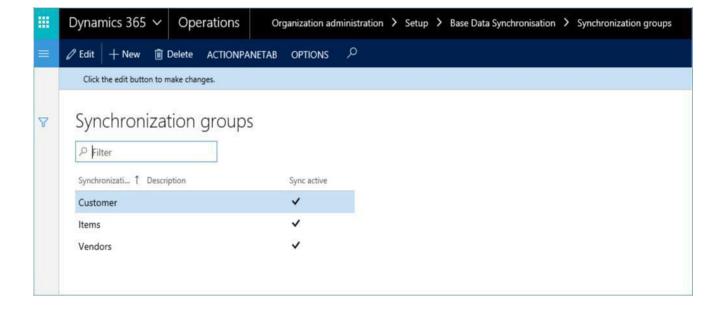
- 1. Client-dependent standard values (provided that the flag "use standard value" is set up)
- Overall standard values (value with field settings)





2.8.5 Synchronization groups

To ensure that the synchronizations can be summarized visually, groupings are also possible that include the controlling function.

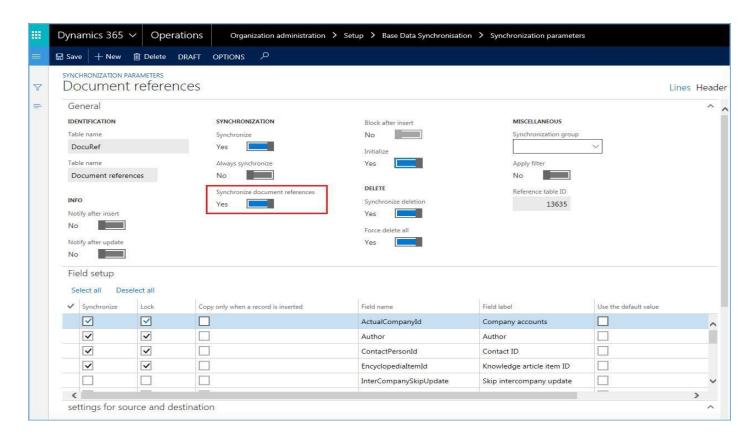




Filters use	Description
	Grouping characteristic.
Synchronization group	Application:
	A synchronization Group can be assigned for several tables.
Description	Name of the synchronization group
Synch active	Here there is the possibility to take out individual groups from the synchronization

3 Synchronize Document references

To ensure that the setting "synchronize document references" become effective, the table definition "DocuRef - document reference" must be applied for the synchronization to be applied. Even the source and target client must be set up.





4 Post basket function (block- flag)

If the flag "block after insert" is active, a data set with creation is synchronized for the following tables

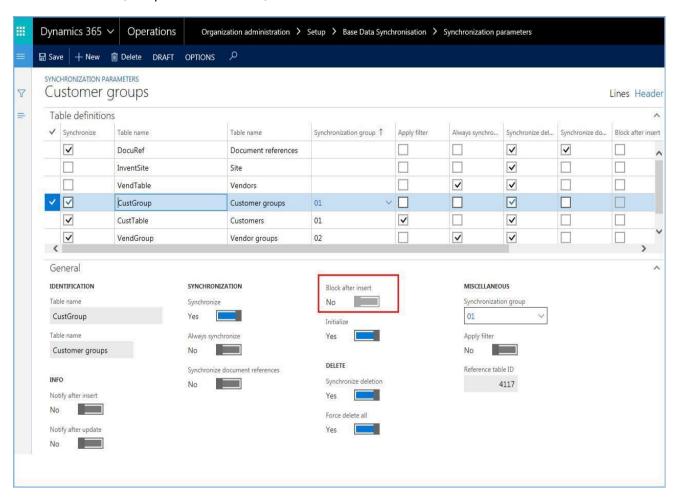
CustTable (Customers)

VendTable (Vendors)

InventTable (Products / Articles)

ProjTable (Projects)

smmBusRelTable (Prospective customer)



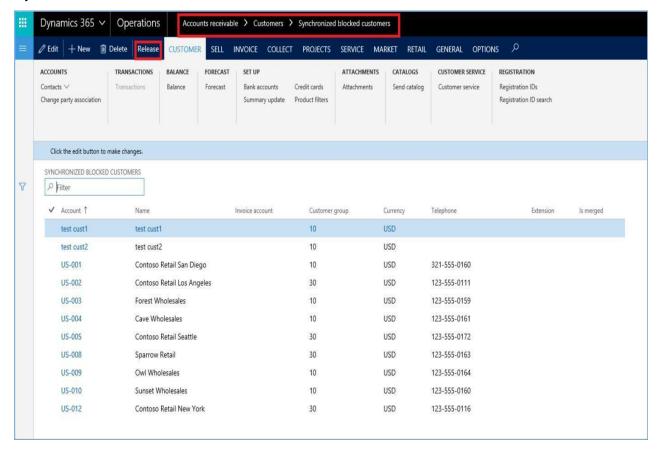
However, the data is not displayed in the normal screens. The blocked data sets can be displayed and released in the corresponding menus under "synchronized closed...".





4.1 Synchronized blocked Customers

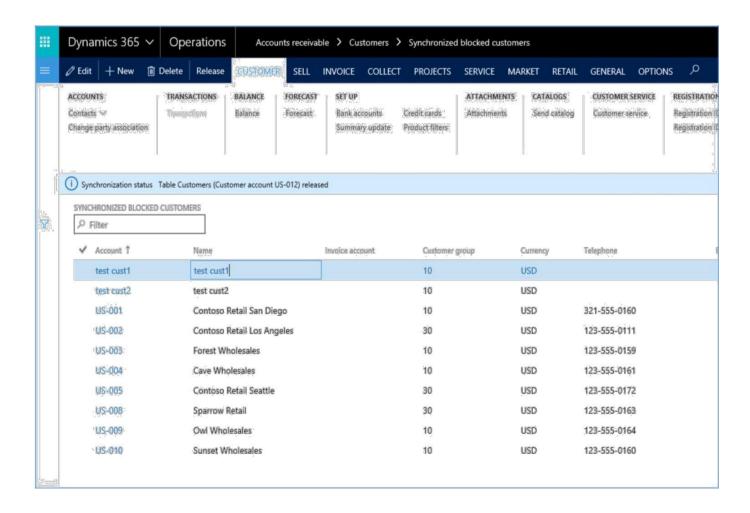
After creation of the customers, these are displayed only in the screen "synchronized blocked Customers".



The check flag is waived with "release" button and the debtor is visible in "All Customers" form. The following message appears after the release:





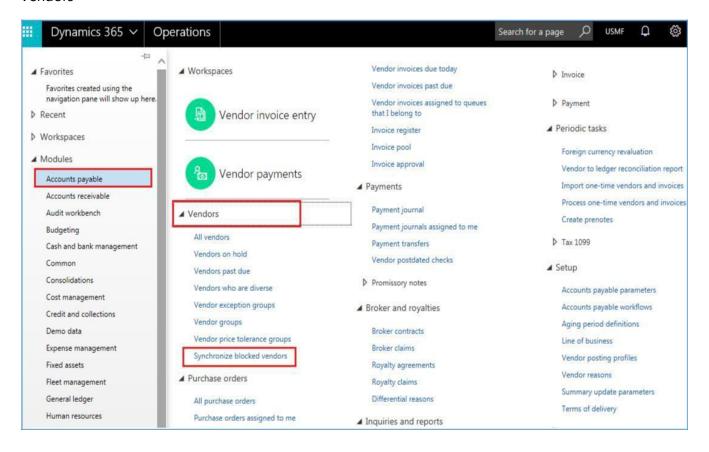




4.2 Synchronized blocked Vendors / Products / Projects / Prospective customer

The following tables are conducted in the same manner as the "synchronized blocked customers", if the flag "block after insert" is set up.

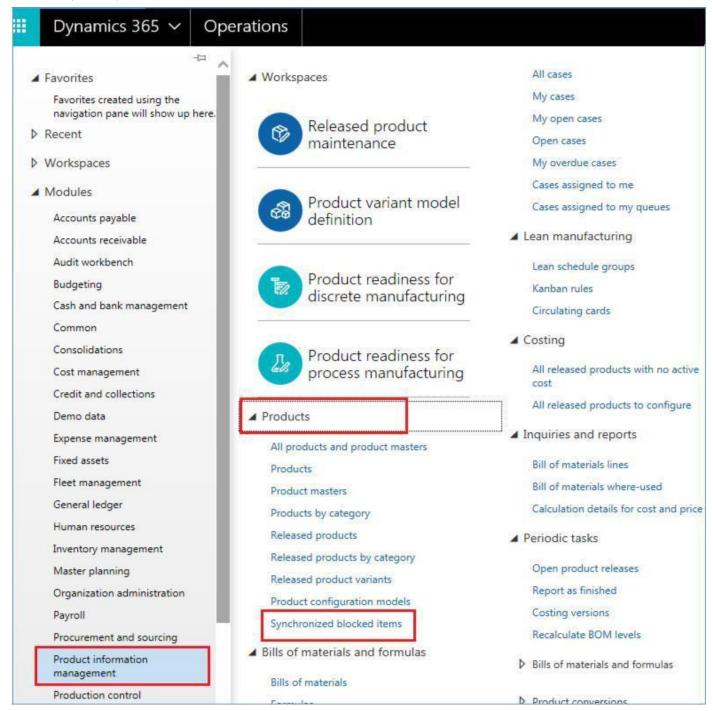
Vendors





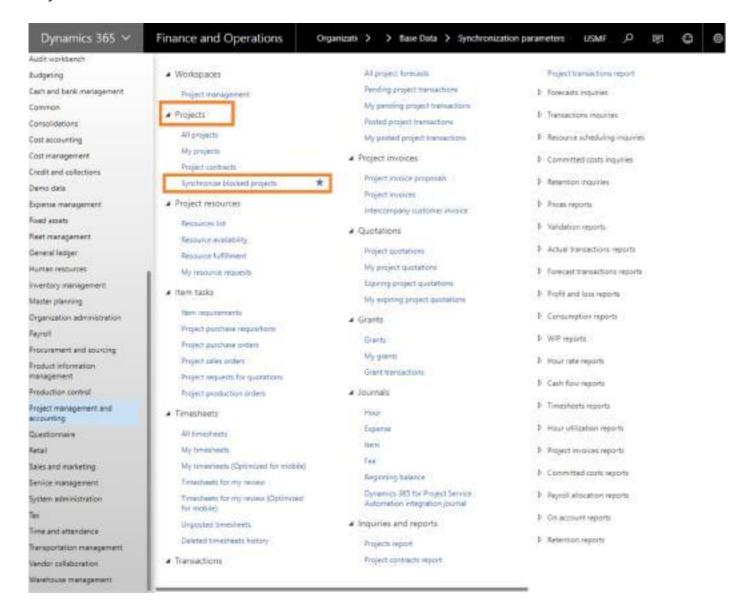


Products (articles)



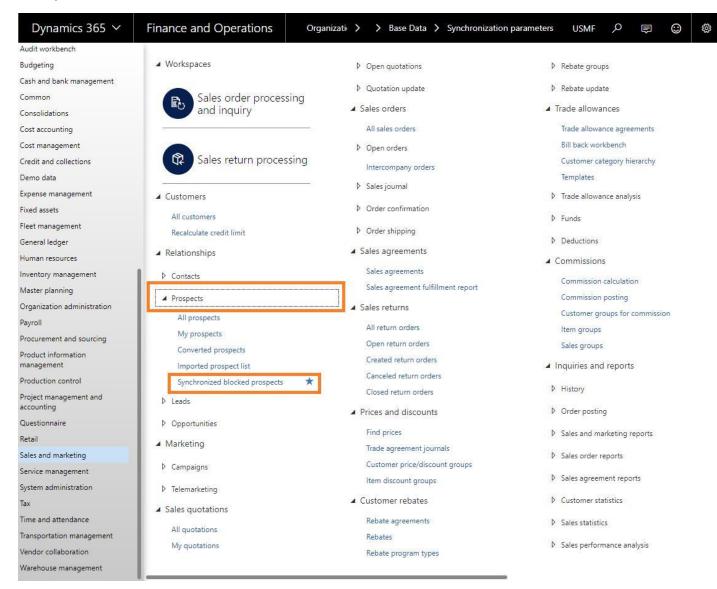


Projects





Prospective customer





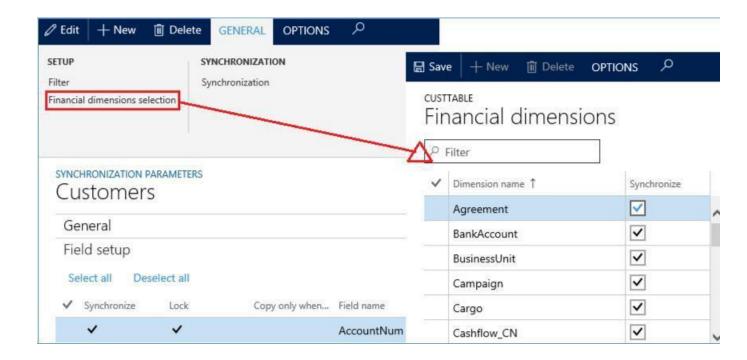
5 Extended Product Synchronization

Additional tables like WHSInventTable, WHSInventEnabled etc., are now included for synchronization. When releasing a product to a legal entity then synchronization will run. The synchronization sequence of sub tables is changed, so that the records are inserted by the synchronization instead of standard Dynamics business logic. Editing is also blocked for inventory dimension groups and reservation hierarchy on synchronized items.

6 Merge Synchronization for Financial Dimension

For synchronization of financial dimensions, it is possible to define which ones should be synchronized.

Source and target dimension will get merged as per the setup.



7 Price agreement relation conversion

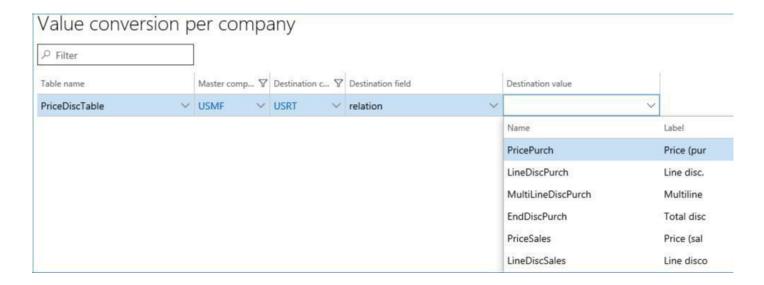
For synchronization of price agreements (table PricDiscTable) the relation is now enabled for defining conversions. The intended use case is to synchronize sales prices to purchase prices or vice versa.





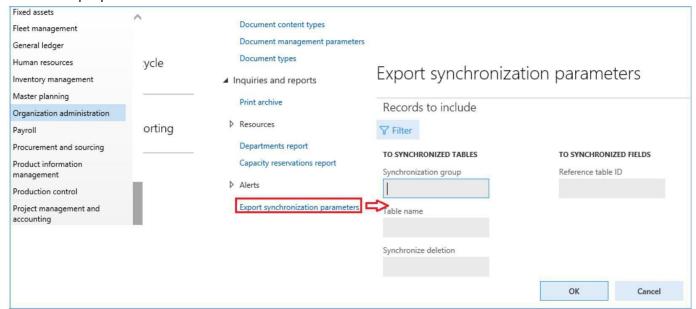
8 Improved value conversions for enumeration data types

For value conversion with enumeration data types the technical enumeration value name could be used for entering the destination value. This is helpful when working with different client languages. It is still possible to use the enumeration value (integer) or the label (not recommended).



9 Excel export for synchronization parameters

All synchronization parameters could be exported to an excel file for documentation and validation purposes.



10 Remarks on individual tables





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	CustTable CustTableTmpFilter CustCollectionsContact DirPersonName DirPartyTable mcrMessageAssociation TaxInformationCustTable_IN RetailCustTable CustDirectDebitMandate MCRCustTable WHSCustTable
Supplier master VendTable	the debtor view is not automatically synchronized at the same time. Only the fields of the supplier's master (VendTable) are synchronized. Further fields from linked tables (red framework) displayed in the creditor view is not automatically VendTable DirPersonName
	 DirPartyTable DirPartyTable_PrimaryContactPhone Vend10990IDDetail VendInfoZakat_SA DirPartyLocation_Electronic LogisticsElectronicAddress RetailVendTable TaxInformationVendTable_IN VendTableTmpFilter
	synchronized at the same time.
Article master InventTable	For the InventTable, the following tables are synchronized at the same time (the Green

	InventTableModule (storage module parameter: Purchase / Storage / Sale)	
<a href="mailto: Confidential See Avanade's Data Classification and Protection Standard © 2018 Avanade Inc. All Rights	Avanade Master Data Synchronization User Documentation	



InventItemLocation (Storage site administration: Storage site article)

This becomes visible in the field settings in the column "module".

Further fields from linked tables (red framework) displayed in the article view are not automatically synchronized at the same time.







Parts lists	For the BOMTable, both the following tables are synchronized at the same time:
BOMTable	BOMVersion (parts list version) BOM (parts list number)
Work plan	For the RouteTable, the following tables are
RouteTable	synchronized at the same time:
	Route version (Work plan version)
	Route (Processing step)
	RouteOpr (Processing step relations)
Addresses	Addresses are not synchronized, since these are stored in the global directory, which is crossclient. The partial allocation in the individual tables can be synchronized for customers,
	vendors or prospective customers. Thus, the

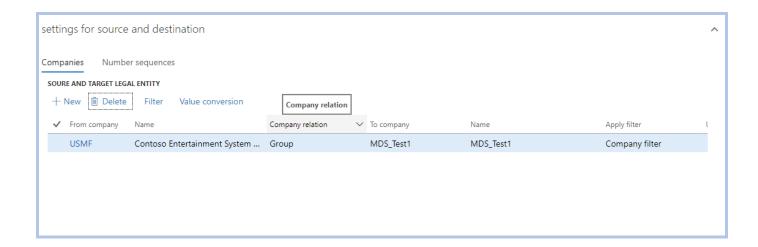
	respective addresses are displayed in the synchronized clients. There is however no copy of the data set, which can administer each client
	separately.
Contact information	The contact information is linked over the partial allocation. Even the contact information is evident in the synchronization clients provided that the partial allocation is synchronized at the same time. There is however no copy of the data
	set, which can administer each client separately.
Contact Person	The table Contact Person is not automatically synchronized at the same time with the customers, vendors or prospective customers.
	The contacts are stored separately per client and must therefore be synchronized separately.
Commercial agreements	All agreements are stored in this table; there is no partitioning in purchase and sale or prices
PricDiscTable	and discounts.



11 Legal Entity Group Sync

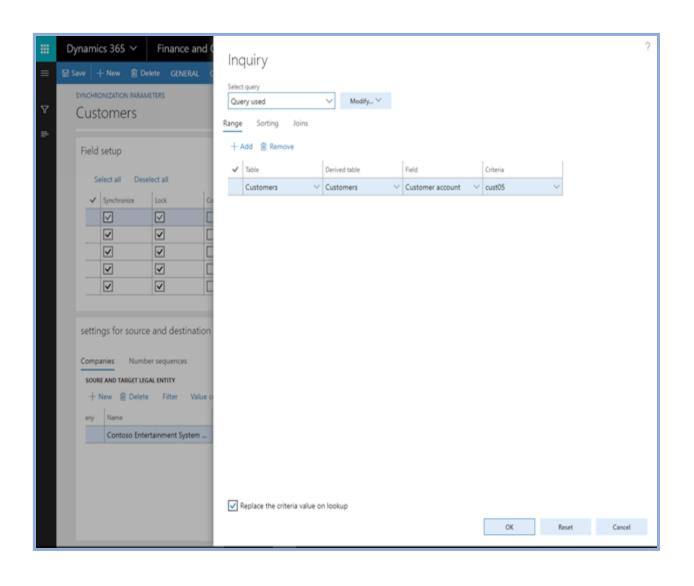
Legal entity group can be defined with entities and same can be used for syncing the data

Call: [Client] > Organization administration > Setup > **Base Data Synchronization> Synchronization Parameters**



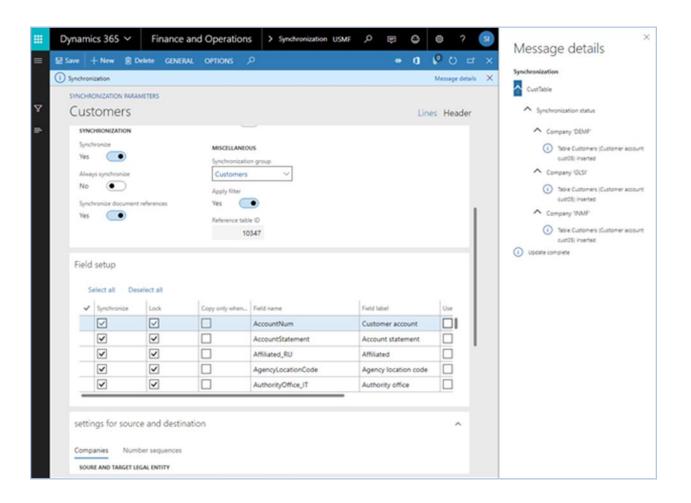
Set the filter criteria in "Settings for Source and destination" section to limit the extent of synchronized data as shown below







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The data will be synced and can be viewed in respective entities defined in the group



12 Data Sync run in Batch

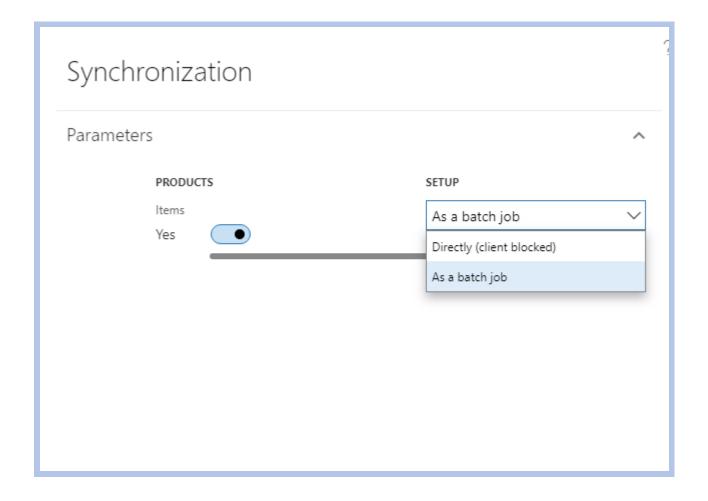
Call: [Client] > Organization administration > Setup > Base Data Synchronization > Synchronization Parameters > CustTable



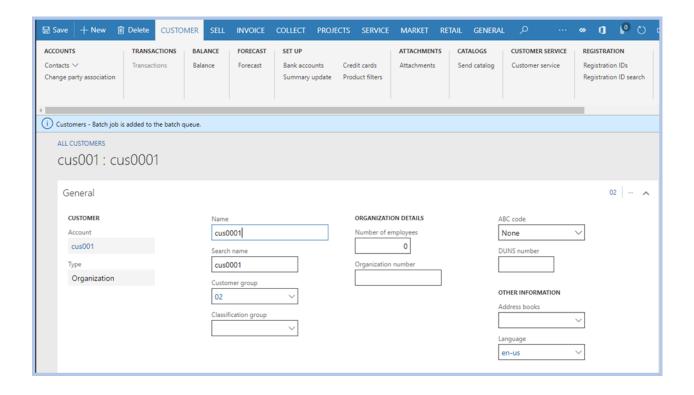
Enable Batch Synchronization from synchronization parameters and synchronize using general tab and opt "As a batch job" as shown in the below image











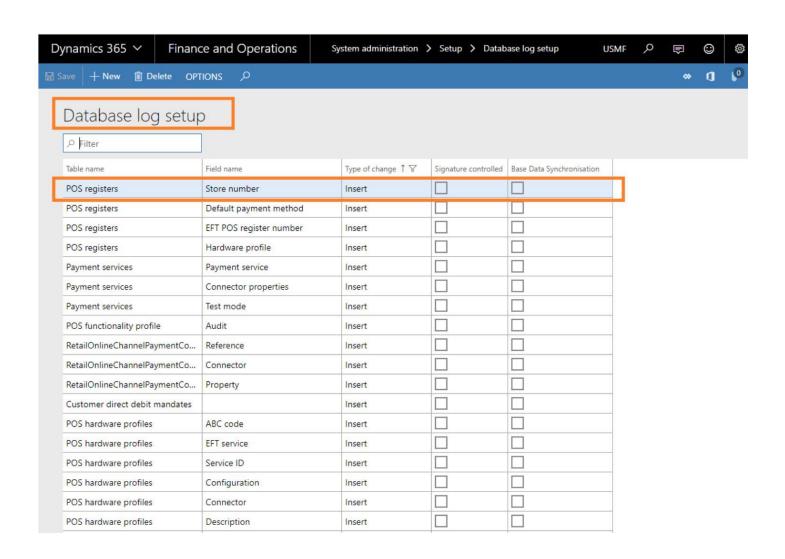
13 Database logging

To be able to track the changes at master data, Dynamics 365 for operations offers the logging on database level in the standard. Thereby logging tables can be added to follow actions such as insertion, deletion, update and/or key rename. The user is displayed over the flag "master data synchronization", if the table for master data synchronization was arranged. The logging settings are cross client.

Path: System administration - Setup - Database Log setup



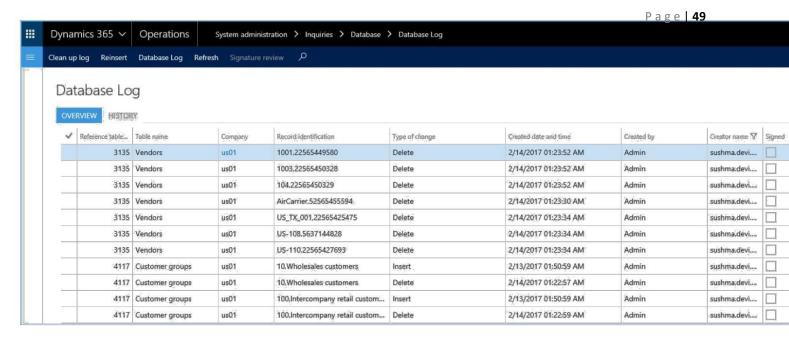




The actions and changes of a data set can be tracked over

Path: System administration - Inquiries - Database - Database log".





14 Cross-client tables

Tables are equipped with the characteristic "Save **Data Per Company"**. This characteristic can be set on "**No"** in the development environment. Thus, the table is global and is no more led per client. The data sets of this table are valid for all clients (without exception).

Note: There can be data loss and inconsistencies, if the table already contains data sets during the conversion. This variant should be used only with empty tables.





15 Installation

The complete module can be activated/deactivated in the configuration screen.

Path: System administration – Setup - License configuration

