

BI4Dynamics AX Customization Manual

Last update: October 2017, version 6

This document is based on BI4Dynamics AX version 6

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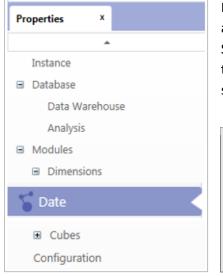
Total pages: 22

1 SETTING UP INSTANCE

Upon opening the instance, proceed to Instance properties by clicking File and Properties.

1.1 Setup dimensions

Set Date



New BI4Dynamics feature (Fiscal Year Date Dimension) allows you to analyze your data by Fiscal Date instead of the calendar date. Set the Fiscal Date Offset in line with the start of your Fiscal Year or choose the 4-4-5 calendar option, which enables you to analyses your data by selected quarters.

- Example 1: If your Fiscal Year starts with April, set the Fiscal Date Offset to 3.
- Example 2: If your Fiscal Year starts with July, set the Fiscal Date Offset to 6.
- Example 3: Select one of the options (4-4-5, 4-5-4 or 5-4-4) and the starting date

Select one of the following options to set-up Fiscal date:

Starting month	Starting month is not January.	Select starting month:	January 👻
◎ 4–4–5 calendar	Year is devided into 4 quarters, 13 weeks each. Select 445, 454 or 554	Select calendar type:	454 🔹
© 4-4-5 Calendal	type.	Select starting date:	29-06-2017 15

Fiscal Year name will be set to the following Calendar Year name.

1.2 Setup cubes

Set Receivables or Payables compression

Properties ×	New BI4Dynamics feature (set Receivables or/and Payables compression) allows to set the number of months in which the
▲	receivables or payables balance is calculated on a daily basis.
Instance	Defining how the balance is calculated before the selected period
 Database 	is limited to Monthly or Yearly option, but Daily option can be used
Data Warehouse	as well to keep the calculation on a daily level. Limiting the receivables or payables balance calculation will greatly
Analysis	improve the processing times.
Modules	
 Dimensions 	
Cubes	
🔯 Payables	
🔯 Receivables 🛛 🧹	The default setting for this new feature can be seen bellow.
Module settings	
Period (in months) when receivables balance is calculated d	aily: 6
Outside of the selected period or outside of the current yea	r (whichever occurs first) calculate receivables balances: Monthly Apply

1.3 Manage stage

Filter data stage

A new BI4Dynamics functionality is introduced in version 5. You now have the ability to filter the transaction data loaded from one or more AX databases or companies to BI4Dynamics stage.

To better understand this feature we prepared a simple example its usability. We will show you how to filter closing receivables balance in archive database without altering data in AX:

1 CHECK BALANCES

- 1. Check that ending balance in old company equals to opening balance in new company
 - Use Dynamics AX report and Excel from BI4Dynamics cube
 - If balances do not match stop!
 - Get it sorted out

Example:

4	Α	В	С	D	E	F	G	H	L J
						old	new		
	Receivables Balance								
		B DE	DE Total	🗏 NL	NL Total	⊟ UK		UK Total	
		DE 2009		NL 2009		UK 2009	CRONUS 2017		
	··· 2013	786,217	786,217	3,330,725	3,330,725	262,229		262,229	
	± 2014	1,349,950	1,349,950	3,330,725	3,330,725	695,676		695,676	
	··· 2015	3,330,725	3,330,725	3,330,725	3,330,725	1,335,765		1,335,765	
	2016								
	🖲 2016 - Jan	3,330,725	3,330,725	3,330,725	3,330,725	1,358,642		1,358,642	
D	🗄 2016 - Feb	3,330,725	3,330,725		3,330,725	1,389,052		1,389,052	
1	🖲 2016 - Mar	3,330,725	3,330,725	3,330,725	3,330,725	1,405,523		1,405,523	
2	🗉 2016 - Apr	3,330,725	3,330,725	3,330,725	3,330,725	1,446,699		1,446,699	
3	🗉 2016 - May	3,330,725	3,330,725	3,330,725	3,330,725	1,493,569		1,493,569	
4	🗉 2016 - Jun	3,330,725	3,330,725	3,330,725	3,330,725	1,549,570		1,549,570	
5	🗉 2016 - Jul	3,330,725	3,330,725	3,330,725	3,330,725	1,593,003		1,593,003	
5	🗷 2016 - Aug	3,330,725	3,330,725	3,330,725	3,330,725	1,615,869		1,615,869	
7	🗉 2016 - Sep	3,330,725	3,330,725	3,330,725	3,330,725	1,662,351		1,662,351	
3	🗄 2016 - Oct	3,330,725	3,330,725	3,330,725	3,330,725	1,826,202		1,826,202	Date: 31-12-2016
)	2016 - Nov	3,330,725	3,330,725	3,330,725	3,330,725	2,244,835		2,244,835	closing balance
D	🗄 2016 - Dec	3,330,725	3,330,725	3,330,725	3,330,725	4,252,828	4,252,828	8,505,655	opening balance
1	■2017								
2	🗉 2017 - Jan	3,330,725	3,330,725	3,330,725	3,330,725	4,252,828	4,252,828	8,505,655	
3	🗉 2017 - Feb	3,330,725	3,330,725	3,330,725	3,330,725	4,252,828	5,185,243	9,438,071	
4	🗉 2017 - Dec	3,330,725	3,330,725	3,330,725	3,330,725	4,252,828	6,255,790	10,508,617	
5	Grand Total	3,330,725	3,330,725	3,330,725	3,330,725	4,252,828	6,255,790	10,508,617	
6									

Status:

Closing balance in old company - UK 2009 equals Opening balance in Cronus 2017. This is OK

Goal of this project:

Closing balance in old company - UK2009 - should be set to zero in BI and keep data in AX unchanged.

- 2. Check Receivables Balance in SQL (run SQL report)
 - Total Balance must match AX (per company)
 - Balance of all open entries must match total Balance
 - Balance of all closed entries must be zero
 - If Balances do not match stop!
 - Get it sorted out

2 FILTER STAGE

- 3. Go to filter area and select old data source (your selection is on T=21/F=Open)
- 4. Set value: =0 (see picture #1)
 - only closed entries will be copied from AX
 - As we filter integer type of field, so there is no '0' or "0", only 0.
 - Set the number of the company that you apply this rule
 - =0 @3 (this will apply filter for CompanyID=3, an get all data from other companies with filter into BI4Dynamics)
- 5. Run "Save filter" (see *picture #2*)
- 6. Run "Deploy & Process" on Current Table (see picture #3)
 - Deploy will apply filter to the stage
 - Process will select data from AX

Example:

							3							
File 🔻 🛛 D	leploy P	rocess Customize	Stag	je			1							
=	Tables:	21		Tables	7	O Deploy	00		Ľ					
Tables and columns	Columns:	Open		Columns		on Deploy ar process	nd Deploy ar process	nd XML	TAC					
S	elect table	s and columns		Manage f	ilter	Current tab	e All change	d tables Expor	t Import					
Log	:	× Tables	x	Companies		x								
210 Jo	1 CustLedgerEntry 10 JobJournalLine 12 JobPostingBuffer		PK	Col	umns	MLADE NAV Compa	ronus 2009 Mult			Ģ	Column Properties	on timestamp		
2103 0 2105 0 2110 0	2105 O365PaymentHistoryBuffer			Open			*		*	operties	Auto update clustered index			
2118 0	0365EmailS	etup									Data Source	TSQL Column Filter Data	2	
											MLADENSSD2 NAV Cronus 2009 Multi-Co.	=0 @3	Save filter	Remove filter
											MLADENSSD2\NAVDEMO Demo Database NAV (10-0)		Save filter	Remove filter

7. Check filters on staging area – this step is optional (run SQL report)

Example:

100 % - <							
	TableID	TableNameStage	ColumnNameStage	ColumnType	ColumnFilterData	DatabaseName	
1	21	CustLedgerEntry	Open	tinyint	=0@3	NAV Cronus 2009 Multi-Company	

8. Process DW, cubes

3 CONTROL

- 9. Check report in Excel
 - Receivables balance in old company (the one that we have filtered) should be zero!

Example:

~	-			-				
					old	new		
Receivables Balance								
	⊟ DE	DE Total		NL Total	⊟ UK		UK Total	
	DE 2009		NL 2009		UK 2009	CRONUS 2017		
± 2013	786,217	786,217	3,330,725	3,330,725	609,093		609,093	
± 2014	1,349,950	1,349,950	3,330,725	3,330,725	463,821		463,821	
± 2015	3,330,725	3,330,725	3,330,725	3,330,725	663,045		663,045	
∃ 2016								
🗄 2016 - Jan	3,330,725	3,330,725	3,330,725	3,330,725	734,831		734,831	
🗄 2016 - Feb	3,330,725	3,330,725	3,330,725	3,330,725	637,749		637,749	
2016 - Mar	3,330,725	3,330,725	3,330,725	3,330,725	645,124		645,124	
🗄 2016 - Apr	3,330,725	3,330,725	3,330,725	3,330,725	1,078,146		1,078,146	
2016 - May	3,330,725	3,330,725	3,330,725	3,330,725	479,159		479,159	
🗉 2016 - Jun	3,330,725	3,330,725	3,330,725	3,330,725	567,579		567,579	
🖲 2016 - Jul	3,330,725	3,330,725	3,330,725	3,330,725	646,458		646,458	
🗄 2016 - Aug	3,330,725	3,330,725	3,330,725	3,330,725	896,623		896,623	
🗄 2016 - Sep	3,330,725	3,330,725	3,330,725	3,330,725	1,014,909		1,014,909	
🗄 2016 - Oct	3,330,725	3,330,725	3,330,725	3,330,725	795,736		795,736	Date: 31-12-2016
1 2016 - Nov	3,330,725	3,330,725	3,330,725	3,330,725	504,677		504,677	closing balance
🗄 2016 - Dec	3,330,725	3,330,725	3,330,725	3,330,725		4,252,828	4,252,828	opening balance
2017								
🗄 2017 - Jan	3,330,725	3,330,725	3,330,725	3,330,725	-	4,252,828	4,252,828	
🗉 2017 - Feb	3,330,725	3,330,725	3,330,725	3,330,725		5,185,243	5,185,243	
⊞2017 - Dec	3,330,725	3,330,725	3,330,725	3,330,725		6,255,790	6,255,790	
Grand Total	3,330,725	3,330,725	3,330,725	3,330,725		6,255,790	6,255,790	

4 APPENDIX

If you need to filter more companies from same data source that add CompanyID by comma: =0 @3,4

This will apply filter for CompanyID=3 and 4

Filter has to be set per data source. =0 @1,3,4

If CompanyID=1 is in other data source than filter will not apply to CompanyID=1.

5 TROUBLESHOOTING

If something went wrong, you can delete filter at any time without effecting AX.

- 10. Go to Stage\\Tables & Columns\\Tables=21, Columns=Open\\ select the column Open
- 11. Run Remove filter (*see picture #6*)

Example:

Tables and columns: Open Select tatus and columns	Stage Image filter O Deploy O Cr Image filter Comparison Deploy and process D Manage filter Image filter Cummarison X	
Log × Tables ✓ 21 CustLedgeff.htty 210 210 JobDournalline 210 2120 JobPostingBuffer 2100 2130 O365SalesDocumentLon 2103 2105 O365SalesDocumentListoryBuffer 2110 2110 O365SalesInSetup 2118 2118 O365SemailSetup	PK Columns MLADENSSD2 NAV Gronus 2009 Multi- Commany MLADENSSD2 NAVDEMO Demo Database NAV Column Properties ✓ Open Auto create clustered index on timestamp Auto update clustered index statistics	mn Filter Data

- 12. Run "Deploy & Process" on Current table area button
- 13. Process DW, Cubes

2 SETUP FOLDER

Computer Local Disk (C:) Pr	rogram Files (x86) 🕨 BI4Dynami	cs AX ► BI4AX ►	
Include in library 👻 Share with	✓ Burn New folder		
Name	Date modified	Туре	Size
퉬 0 Setup	28/06/2017 09:24	File folder	
퉬 1 Stage (DW)	03/04/2017 09:30	File folder	
퉬 2 Snapshot	03/04/2017 09:30	File folder	
]] 3 Dimensions (DW)	03/04/2017 09:30	File folder	
퉬 4 Facts (DW)	03/04/2017 09:30	File folder	
]) 5 Cubes (SSAS)	03/04/2017 09:30	File folder	
퉬 6 Wizard	06/07/2017 15:37	File folder	
퉬 7 Visual Studio project	28/06/2017 09:24	File folder	
퉬 Unhandled Exceptions	25/09/2017 09:01	File folder	
BI4AX.bi4ax	01/09/2017 10:41	BI4AX File	5.948 KE
BI4AX.license	01/09/2017 10:36	LICENSE File	43 KE
BI4AX.log	01/09/2017 10:41	Text Document	1.275 KE
ocal Disk (C:) Program Files (x86)			
	P DEEDYNAMICS AX P DEEAX P	o Setup	
✓ Share with ▼ Burn	New folder		
ame	Date modified	Туре	
MetaData	29/09/2017 08:46	File folder	
Roles and Permissions	29/09/2017 10:40	File folder	

• MetaData (automatic retrieval of AX Metadata)

SSIS

Virtual Cubes

• Roles and Permissions (automated saving and applying roles and permissions from analysis cube)

29/09/2017 10:45

29/09/2017 10:45

File folder

File folder

- SSIS (SQL Server Integration Services Processing)
- Virtual Cubes (easily creating a brand new virtual cube)

2.1 MetaData

Information about AX structures is needed in order BI4Dynamics Wizard to work. We call this set »AX metadata«. It includes tables, fields, keys, translations, table relations and more.

Metadata - logical explanation

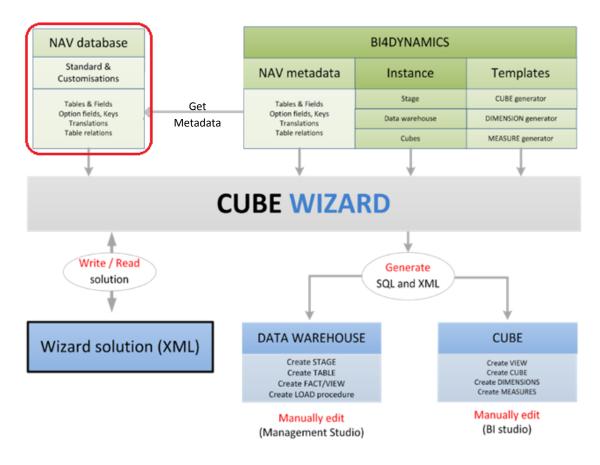
By AX metadata we understand information about AX structures that are needed for Wizard. Without this information Wizard would not work.

Metadata - physical explanation

AX metadata is an AX table filled by AX services. This table is filled by information about AX structures. These information are brought into BI part of SQL database and are used by Wizard. Following information are read from AX:

- 1. Tables, fields
- 2. Translation
- 3. Table keys
- 4. BI dimension and table relations
- 5. AX table relations

All tables and fields (standard and customized) are available.



BI4DynamicsAX version 4.2 introduced a new functionality which enable us to keep the security settings on the analysis database intact. In previous versions, the roles which were set up on the analysis database were not restored after Deploy All.

Saving Roles and Permissions

Roles and Permissions are stored to folder automatically:

- before Deploy
- before Processing data

An .xml script of the analysis database (together with Roles and permissions) is saved to "Roles and Permissions" folder.

≪ Local Disk (C:) Program Files (x86)	BI4Dynamics AX 🕨 BI4A>	(🕨 0 Setup 🕨	Roles and Permissions				
Include in library Share with Burn New folder							
Name	Date modified	Туре	Size				
BI4AX_Databasexml	29/09/2017 10:40	XML File	8.404 KB				

Restoring Roles and Permissions

Roles and permissions will be automatically restored to analysis database at the end of each Processing.

2.3 Virtual cubes

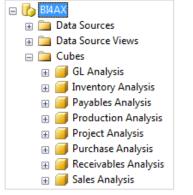
Virtual Cubes can be easily created from physical cubes (standard and wizard created cube) by accessing Virtual Cubes menu in Customize tab of BI4Dynamics application.



Each deploy updates physical <u>and virtual cubes</u> structures, while each process updates the data from AX.

Initial state

BI4Dynamics standard package cubes are deployed and processed.



View from Management studio

Create virtual cube

Create a new, empty cube by clicking **New** in the Virtual cube tab and choose the same name as you would like the new cube to be named.

In this scenario, we will create a Finance cube by joining General Ledger and Fixed Assets cubes.

Vi	rtual Cubes	×		
	Virtual Cub	es		
	Virtual Cube Name			
	Finance			
	New	Save	Delete	

Which cubes would you like to join?

On the right side of the screen, click **Add** and choose the cubes you would like to join in the new Finance virtual cube.

You can join all BI4Dynamics standard package cubes or select just few of them. In our case, we have selected General Ledger and Fixed Assets cubes.

Linked Cubes	BI4NAV	X
Linked Cube Name	Add Linked Cube	
GLAnalysis	Select Cube: FA Analysis	
Add Delete	Add Cancel	

Click save.

New file

A new .txt file is automatically generated in Virtual Cube folder (0 Setup).

Deploy and Process

Virtual cubes are deployed and processed after physical cubes. This ensures that all changes (structures and content) in physical cubes will be included in virtual cubes.

New virtual cube is ready to use!

All measures from physical cubes are available in new virtual cube – Finance.

2.4 SSIS Processing

SQL Server Integration Services processing will process the SSIS packages containing BI4Dynamics stored procedures parallel. If not installed or selected, loading stage tables and processing DW tables will run sequentially, one stored procedures after another.

SQL Server Integration Services processing can be turn on during the creation of the instance or turn on/off from the BI4Dynamics application File menu.

File \rightarrow Edit \rightarrow Options \rightarrow Check/Uncheck SQL Integration Service

bis Edit instance	×
Instance type:	Dynamics AX
License key:	Import
Name:	BI4AX
Language:	English (United States) 🔹
Database O	ptions
SQL Database	e File Locations
Data C	\Program Files\Microsoft SQL Server\MSSQL
Log:	C:\Program Files\Microsoft SQL Server\MSSQL
SQL Database	e Collation: Slovenian_CI_AS 🔹
SQL Integrati	on Service 🔽
SSIS Server n	ame: MATEJHPWKS2 Ver. 12.0
	Refresh
	OK Cancel

SSIS

Program Files (x86)	► BI4Dynamics AX ► BI4AX	► 0 Setup ► SSIS ►	
th 🔻 Burn	New folder		
Name	A	Date modified	Туре
BI4Dynamics Custom		03/04/2017 09:44 03/04/2017 09:30	File folder File folder

BI4Dynamics folder contains up to 21 encrypted, non-editable SSIS packages for BI4Dynamics troubleshooting. Please contact support@bi4dynamics.com if errors occur on processing using SSIS option.

3 EDITING SSIS PROCESS FLOW

biş	💾 👩 BI4Dynamics AX 6.0.2 I	nstance: BI4/	ΑX									
FI	Deploy Process	Customize	Stage	2		8			9			
Ed	it 🚽 🛛 🗛		_	•	● Full	7 Process	ⓒ Stage Sata Warehouse ∑ Analysis Database	DimLoad		Remove Add	Remove Add	10
	Process Flow	v SSIS			Update	Process All	Process one	Obje	ct group		SSIS package	
Log	• × Edit Pr	oc Flow SSI	s ×									
С	bject group	Proces	ss ste	ps 12								
No	Name	I nclude	Order	Process	Object Name		Object subgroup		Executed	Custom	Last exec time (sec)	
1	DimDate	v	5	Run	[dim].[LoadFisc	alCalendar]	DimDate		~		0	
2	DimHelp	7	6	Run	[dim].[LoadCor	mpany]	DimCompany		-		0	
3	DimLoad		7	Run	[dim].[LoadCur	rency]	DimCurrency		6		0	
4	FactDropConstraintIndex	v	8	Run	[dim].[LoadDat	eTool]	DimDateTool		G ₂		0	
5	FactHelp		9	Run	[dim].[LoadFAT	ype]	DimFixedAssetsTy	be	G _k		0	
6	FactLoad		10	Run	[dim].[LoadFAE	look]	DimFixedAssetsBo	ok	6		0	
7	FactCreateConstraintIndex		11	Run	[dim].[LoadFixe	edAsset]	DimFixedAsset		G.		0	
		v	12	Run	[dim].[LoadFAL	ocation]	DimFixedAssetsLo	cation	G _k		0	

With BI4Dynamics version 6, you will have the ability to edit SSIS process flow.

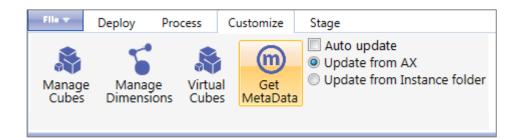
- 1. Click Edit SSIS on Process tab to enter the process flow editing window
- 2. Reset Process flow to its initial state
- 3. Reload the process flow to include manual script from folders 2 5.
- 4. Move selected stored procedure up on the list of Process Steps
- 5. Move selected stored procedure down on the list of Process Steps
- 6. Full processing option
- 7. Incremental processing option only newly posted entries will be processed
- 8. Choose which part of BI4Dynamics solution (Stage, Data Warehouse, Analysis Database) will get processed when pressing Process button
- 9. Add or remove Object group from Object group list
- 10. Add or remove custom SSIS Package from Object group
- 11. Object group list
- 12. Process steps List of procedures in each individual Object group which will be ran on Process.

Please follow <u>BI4Dynamics YouTube Channel</u> for more detailed instruction.

4 MANAGING CUBES AND DIMENSIONS

On Customize tab, please click Get MetaData and make sure the Update from AX option is chosen when first getting the MetaData.

Without Metadata, Manage Cube or Manage Dimension features will not work.



Please follow <u>BI4Dynamics YouTube Channel</u> for more details about managing MetaData and its troubleshooting.

4.1 Manage Cubes

After MetaData were successfully imported, click Manage Cubes. A new Cube Wizard window will open. With this new and unique feature, you will have the ability to add facts to existing cubes, create a new cube altogether or create a new MDX measure within the existing or new fact.

Detailed instructions on how to manage cubes can be found on <u>BI4Dynamics YouTube Channel</u>.

BI4Dynamics AX 6.0.2	Instance: BI4AX_Wizard_GL		
File Deploy Process	Customize Stage		
Manage Cubes Dimensions Virtual Cubes	Get Auto update © Update from AX O Update from Instance folder		
Log × Cube	Wizard ×		
1 Manage Cubes	Cubes	Fact Tables	MDX Calculated Measures
2 Select Source Tables	Cube Name	Fact Name	Calculation Name
3 Select Fields	Inventory Analysis	New Custom Fact	New MDX Measure
	Sales Analysis		
4 Manage Dimensions	GL Analysis		
5 Manage Measures	New Custom Cube		
	New Save Generate	Add Edit Delete	Add Edit Delete
	Delete Clear		

Cubes

- 1. New Create New cube
- 2. Save Save the progress when creating a new cube
- 3. Generate Generate scripts and save to folders 1 through 5
- 4. Delete Delete newly created cube (standard cubes cannot be deleted)
- 5. Clear Clear(Delete) the generated scripts from folders 1 through 5

Fact Tables

- 1. Add Add a New Custom Fact
- 2. Edit Edit a custom fact (standard facts cannot be edited)
- 3. Delete Delete a custom fact (standard facts cannot be deleted)

MDX Calculated Measures

- 1. Add Add new MDX Calculated Measure
- 2. Edit Edit existing MDX Calculated Measure
- 3. Delete Delete MDX Calculated Measure

4.2 How to Manage Cubes

Upon clicking Add in a Fact Tables section a new window will open. The newly created fact can be configured through series of different steps.

Cube Wizard ×							
1 Manage Cubes	Fact Name: Retail						
2 Select Source Tables	AX Tables Retail Trans 2 P	Selected Tables		Table Relations		Relation Condi	tions
	Retail transaction sale render trans	RETAILTRANSACTIONSALESTRA	ANS 5	Related Table		Column	Related Column
5 Select reads	Retail Transaction Sales Trans	CUSTTABLE		Retail Transaction Sales Tra	ns 8	Account Num	cust Account
4 Manage Dimensions	Retail Transaction Service Profile					1	1
	Retail Transaction Table 3						
5 Manage Measures	Retail Transaction Table Ex5						
	Retail Transaction Tax Trans						
	Retail Transaction Tender Declaration Trans	6	7	9	10	12	13
	Add Table	Show Related Tables	Remove Table	Add Relation	Remove Relation	Add Condition	Remove Condition
	Total number of tables: 4712						
				· Back	Cancel	Next ·	

- 1. Choose the name of the new fact
- 2. Search for the table on which the new fact will be based upon
- 3. Click the table
- 4. Add the selected table to Selected Tables Column
- 5. See which tables were selected

- 6. Click Show related Tables to show related tables in the AX Tables column
- 7. Remove the selected table
- 8. See which table is related to the selected table in Selected Table column
- 9. Add a new Relation
- 10. Remove Relation (at least one relation must exists between the tables)
- 11. See the Relation condition (between which two columns is the relation made)
- 12. Add a new Condition
- 13. Remove Condition (at least one condition must exists between the columns)

When all the tables are selected and all the relation and conditions are defined – click **Next**. At next step different fields from selected tables can be selected.

Cube Wizard ×								
1 Manage Cubes	Selected Tables	Selected Fields		2 P				
2 Select Source Tables	RETAILTRANSACTIONSALESTRANS	Show only selected fields			4			
	CUSTTABLE	Table Name	Use Nar	ame	Object Type	Field Type	Data Type	Custom SQL Expression
3 Select Fields		Cust Table	Acc	ccount Num	Dimension	•	String	
4 Manage Dimensions		Cust Table	Cor	ommission Group	Dimension	•	String	
		Retail Transaction Sales Trans	Cos	ost Amount	Measure	•	Double	
5 Manage Measures		Retail Transaction Sales Trans		isc Amount	Measure	•	Double	
	Total number of Tables: 2	Total number of Fields: 280	3	Preview	Total selected: 4 Measures: 2 Dimensions: 2			
				· Back	Cancel	Next ·		

- 1. See which tables were selected in the previous step
- 2. Search for fields in those tables
- 3. Check Use to select specific fields
- 4. Choose whether selected filed would act as an Dimension or Measure within the new fact (this is already automatically defined for you, but can be changed)

When everything is set up - click Next.

Cube	e W	Vizard	x												
1	N	Manage	Cubes		1	From F	ield		From Enum	From	n Rel	ated Table		Custom	
2		Select So	ource T		А	vailabl	e Dimensi	ons		ţ	p	Selected	l Din	nensions	
					Table	Name	Field Name		Dimension Name			Dimension Nar	me		Source
3	S	Select Fie	elds		Cust	Table	Commission	Group	Commission Group	2		Account Numb	er	4	Field
4	N	Manage	Dimen	sions <											
5	Ν	Manage	Measu	res											
						Select	3					Deselect	2	5	
												Total selected d	imensi	ons: 1	
							• Bacl	¢	Cancel		Ne	d ·			

- Previously selected dimension will show up under different tabs (From Field, From Enum, From Related Table), depending on the source and type of the filed.
 In From Related Table tab, all dimensions (fields) from related tables can be chosen, even if the filed was not chosen in the previous steps.
- 2. Choose and rename(if necessary) the dimension
- 3. Click Select to bring the dimension from Available to Selected Dimensions column
- 4. See the list of Selected Dimensions
- 5. Click Deselect to deselect previously selected dimension

Custom Dimension can be created under Custom Tab. Please explore our <u>BI4Dynamics YouTube Channel</u> for detailed instructions on custom dimensions.

Base Measures		1									Extended Me	easures 2	
Table Name Field Nam	e Name	e		Operatio	on	Format	Visible	Opposite Sign	Display Folder	MDX	Base Measure	Operation	
Retail Transacti disc Amo	unt Disco	ount Amount		SUM	•	#,#0.00	v			 Extend 	Discount Amount	YTD	•
Retail Transacti cost Amo	unt Cost	Amount		SUM	•	#,#0.00	V			 Extend 	Cost Amount	POP	•
Custom Measur	es 3												
Name		Operation	Format	Visible		Custom SQL Expr	ession D	isplay Folder		MDX			
New Custom Measure		SUM 🔻	#,#0.00							Extend			

When you have set up all the dimensions – please click **Next**.

- See selected measures (Step 3) and edit them if necessary. Each measure can be renamed, operate as SUM, MIN or MAX function, be in different formats, be visible or not(if used as base for extended or custom measure), be shown with Opposite Sign(+/-), can be assigned to different display folders or be extended
- 2. Extended Measures functionality can extend base measures to perform as Year-to-Date, Period-over-Period, Year-over-Year, Last Periods or Rolling measure.
- 3. Custom measures can be created using Structured Query Language (SQL) and added to BI4Dynamics Data Warehouse

When all measures are set up – please click **Next**.

You have now create a new cube or a new fact on the existing cube. Please click **Generate** to generate scripts and **save** them to folders 1 through 5.

Cubes	Fact Tables	• Generation fini×
Cube Name	Fact Name	Description:
FA Analysis	Retail	Cube Retail Cube has
GL Analysis		been saved to Wizard
Retail Cube		folder! SQL Scripts have been successfully generated!
New Save Ger Delete Clear	nerate Add Edit Delete	

Further and detailed instructions on how to manage cubes can be found on **BI4Dynamics YouTube Channel**.

4.3 Manage Dimensions

After MetaData were successfully imported, click Manage Dimensions. A new Manage Dimensions window will open.

With this new and unique feature, you will have the ability to add new dimensions or edit existing standard or cube wizard-created dimensions.

Detailed instructions on how to manage dimensions can be found on <u>BI4Dynamics YouTube Channel</u>.

anage Dimensions ×			
Wizard Dimensions	م	Standard Dimensions	م
Dimension			
Catalog		Fixed Asset	
Invent Serial		GL Account	
Retail Gift Card		GL Budget	
Retail Staff		Item	
Retail Statement		Vendor	
Retail Statement Line		Employee	
Retail Statement Table		Project	
Retail Tender Type			
Retail Tender Type Card			
Total number of wizard dimensions: 9			
New Dimension Edit Dimension	Edit Hierarchies	Manage	
Delete Save	Generate		

WIZARD DIMENSION

- 1. New Dimension Create a new dimension
- 2. Edit Dimension Edit existing dimension
- 3. Edit Hierarchies Create, Edit or Delete hierarchies on selected dimension
- 4. Delete Delete Dimension
- 6. Save Save the progress when creating or editing a dimension
- 5. Generate Generate scripts and save to folders 3 and 5

STANDARD DIMENSIONS

1. Manage - Transfer the Standard Dimension on the Wizard Dimension list to edit it

4.4 How to Manage Dimensions

Upon clicking Edit in the Wizard Dimensions section a new window will open. The newly created or existing Dimensions can be configured through series of different steps.

AX Tables	<mark>۶ 2</mark>	Selected Tables		Table Relation:	S	Relation Co	onditions
/end RFQ Trans	1	VENDTABLE		Related Table Vend Table		Column Vend Group	Related Column Vend Group
/end Settlement /end Settlement Extension TH	_	LOGISTICSLOCATION	_				11
/end Settlement Tax1099 /end State Tax ID	_	VENDGROUP	5				
/end Table 3		INVENTBUYERGROUP					
/end Total Price Tolerance /end Trans	_	PRICEDISCGROUP SMMBUSRELSEGMENTGROU	IÞ				
/end Trans Cash Disc		SMMBUSRELSUBSEGMENTG	ROUP				
/end Trans EP Remit_BR /end Trans Open	-	CURRENCY	_				
Add Table		6 Show Related Tables	7 Remove Table	9 Add Relation	10 Remove Relation	12 Add Conditio	n Remove Condition
al number of tables: 4712							

- 1. Choose/Change the Dimension name
- 2. Search for the table on which the new dimension will be based upon
- 3. Click the table
- 4. Add the selected table to Selected Tables Column
- 5. See which tables were selected
- 6. Click Show related Tables to show related tables in the AX Tables column
- 7. Remove the selected table
- 8. See which table is related to the selected table in Selected Table column
- 9. Add a new Relation
- 10. Remove Relation (at least one relation must exists between the tables)
- 11. See the Relation condition (between which two columns is the relation made)
- 12. Add a new Condition
- 13. Remove Condition (at least one condition must exists between the columns)

When all the tables are selected and all the relation and conditions are defined – click **Next**. At next step different fields from selected tables can be selected

Selected Tables	Selected Fields			2 P				
VENDTABLE	Show only selected fields						5	
✓ DIRPARTYLOCATION	Table Name Vend Table		Cube	Name	Field Type	Data Type	Custom SQL Expression	
LOGISTICSLOCATION	Vend Table			CIS Company Reg Num CIS National Insurance Num		String String		
VENDGROUP	Vend Table			CIS Status	Enum			
MARKUPGROUP	Vend Table			CIS Unique Tax Payer Ref		String		
INVENTBUYERGROUP	Vend Table			CIS Verification Date		- DateTime		
PRICEDISCGROUP	Vend Table			CIS Verification Num		String		
SMMBUSRELSEGMENTGROUP	Vend Table			Clearing Period		String		
SMMBUSRELSUBSEGMENTGROUP	Vend Table			CNAE_BR		String		
CURRENCY	Vend Table			CNPJCPF Num_BR		String		
PAYMTERM	Vend Table			Commercial Register		String		
otal number of Tables: 11		-		· · · · · · · ·			-	
otal number of Tables: 11	Total number of Fields: 272	3	4	Preview Tota	l selected: 17			

- 1. See which tables were selected in the previous step
- 2. Search for fields in those tables
- 3. Check DW to select it and add it to Data Warehouse
- 4. Check Cube to select it and add it to Analysis Database
- 5. Modify the field with Custom SQL field Expression
- 6. When everything is set up click **Next**.

nage Dimensions ×							
Attributes	۶ <mark>1</mark>			Custom Attributes 2			
Table Name	Field Name	Attribute Name	Visible in Cube	Attribute Name	Visible in Cube	Custom SQL Expression	SQL Data Type
Vend Table	Account Num	No		Vendor			nvarchar(255)
			3	Country			nvarchar(255)
				State			nvarchar(255)
				Vendor Group			nvarchar(255)
				Vendor Markgroup			nvarchar(255)
				Vendor Sub Segment Group			nvarchar(255)
				Vendor Segment Group			nvarchar(255)
				Vendor Price Group			nvarchar(255)
				Vendor Item Buyer Group			nvarchar(255)
				Add Remo	3	6	7
				4 5			
				· Back Cance	el Next		

- 1. Search for selected attributes
- 2. See the available Custom Attributes
- 3. Select Visible in Cube to make the attribute visible in Analysis Database
- 4. Add Custom Attributes
- 5. Remove Attribute
- 6. Modify the attribute with Custom SQL field Expression
- 7. Change the attribute type

Detailed instructions on how to manage dimensions can be found on **<u>BI4Dynamics YouTube Channel</u>**.