

e-Con for Dynamics AX

User Manual

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Chapter 1 e-Con AX Overview

1.1 Purpose of e-Con AX Module

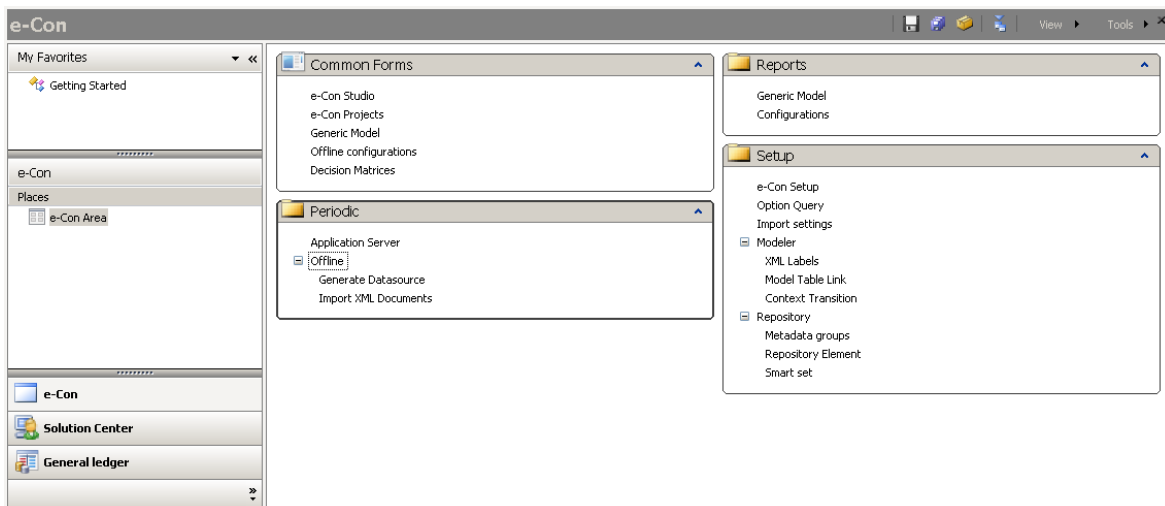
The purpose of the e-Con AX is:

- e-Con repository for e-Con models and configurations
- to insert, modify or delete AX database records based on the e-Con configurations
- connect the e-Con models to the business process

In fact, e-Con AX is the Back End of e-Con.

1.2 Tables – Common Forms

This section describes all the tables and forms that are used in e-Con AX.



1.2.1 e-Con Studio

This will startup e-Con studio with the environment settings used for the Dynamics AX company.

Note: Maintaining models, structure and rules, is done in e-Con Studio not in e-Con AX.

1.2.2 e-Con Project

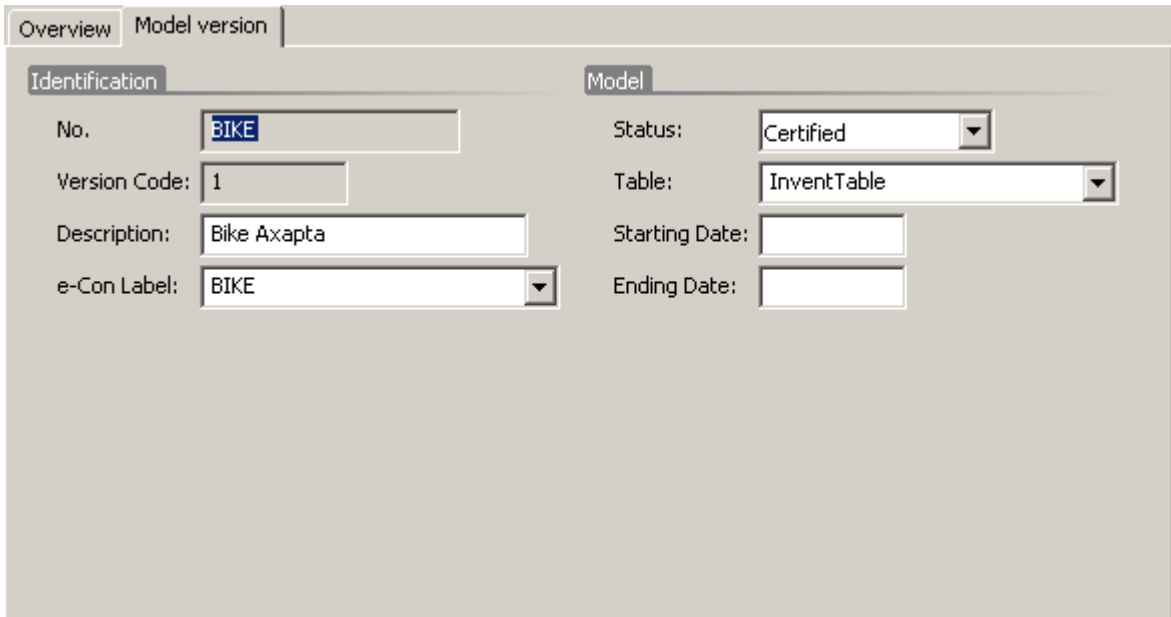
e-Con Projects can be used to manage your models. Models and sub models can be tight together in a project.

Note: Creating and maintaining projects can be done both in e-Con AX or in e-Con Studio.

Convenient tools are available in the projects like:

- Open e-Con studio for a project to maintain the models within the project.

1.2.2.1 Fields of the Model Version Tab



Identification		Model	
No.	BIKE	Status:	Certified
Version Code:	1	Table:	InventTable
Description:	Bike Axapta	Starting Date:	
e-Con Label:	BIKE	Ending Date:	

No.

Code of the Generic Model selected within the project.

Version Code

The version of the Generic Model selected within the project.

Description

Description of the Generic Model selected within the project.

e-Con label

Label of the version of the Generic Model selected within the project.

Status

Status of the Generic Model selected within the project.

Table

Table Name of the main entity of the Generic Model selected within the project.

Starting Date

Starting date of the version of Generic Model selected within the project.

Ending Date

Ending date of the version of of the Generic Model selected within the project.

1.2.2.2 e-Con Studio Button

Start the e-Con Studio for of this Project. The e-Con studio will be activated and the project will be opened in the studio.

1.2.2.3 Model Version Button

Included Models

Select and opens the model view for the selected model.

e-Con Studio

Start the e-Con Studio for the selected model. The e-Con studio will be activated and the model will be opened in the studio.

1.2.2.4 Other buttons

Import

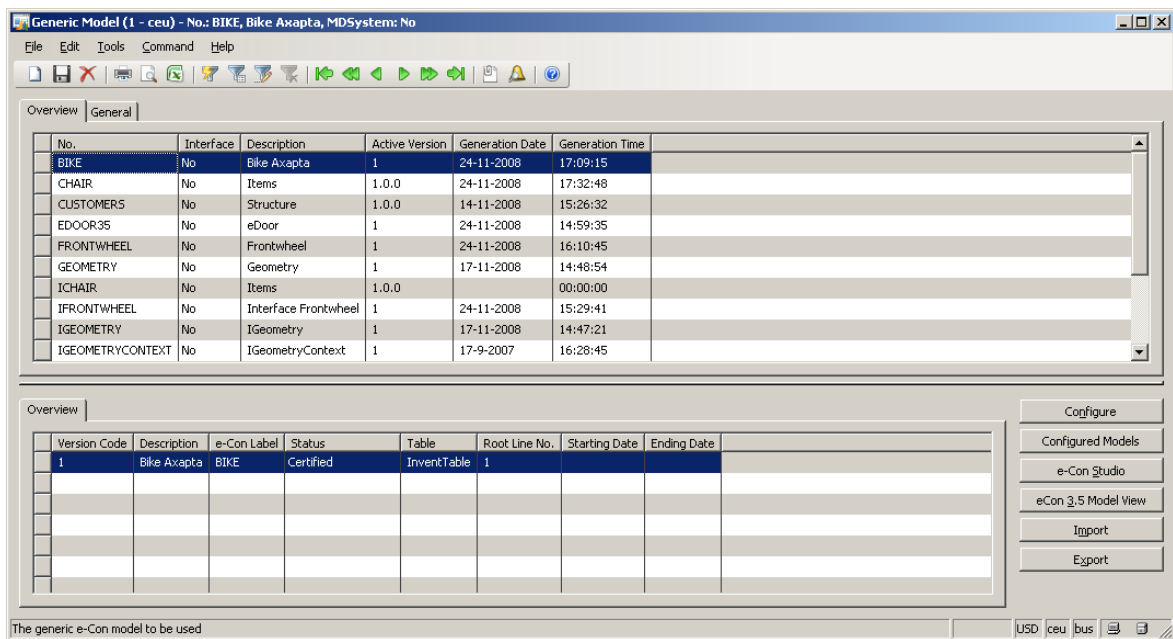
To import an project

Save as

To export an project

1.2.3 Generic Models

e-Con configuration models are created and maintained in the e-Con studio. E-Con configuration models set up in the e-Con studio are stored in Dynamics AX and can be seen here. Some functions and set up can take place here.



The screenshot shows the 'Generic Model (1 - ceu) - No.: BIKE, Bike Axapta, MDSYSTEM: No' window. The main area contains a table with the following data:

No.	Interface	Description	Active Version	Generation Date	Generation Time
BIKE	No	Bike Axapta	1	24-11-2008	17:09:15
CHAIR	No	Items	1.0.0	24-11-2008	17:32:48
CUSTOMERS	No	Structure	1.0.0	14-11-2008	15:26:32
EDOOR35	No	eDoor	1	24-11-2008	14:59:35
FRONTWHEEL	No	Frontwheel	1	24-11-2008	16:10:45
GEOMETRY	No	Geometry	1	17-11-2008	14:48:54
ICHAIR	No	Items	1.0.0		00:00:00
IFRONTWHEEL	No	Interface Frontwheel	1	24-11-2008	15:29:41
IGEOMETRY	No	IGeometry	1	17-11-2008	14:47:21
IGEOMETRYCONTEXT	No	IGeometryContext	1	17-9-2007	16:28:45

Below this table is another table with the following data:

Version Code	Description	e-Con Label	Status	Table	Root Line No.	Starting Date	Ending Date
1	Bike Axapta	BIKE	Certified	InventTable	1		

On the right side of the window, there is a configuration panel with the following buttons: Configure, Configured Models, e-Con Studio, eCon 3.5 Model View, Import, and Export. At the bottom of the window, there is a status bar that reads 'The generic e-Con model to be used' and a currency/units indicator showing 'USD ceu bus'.

1.2.3.1 Fields of the Overview Tab

No.

Code of the Generic Model.

Interface

Mark of a interface model. Interface models are needed when sub models are used. A sub model needs an interface to be able to interface with another model.

Description

Description of the Generic Model.

Active Version

The active version of the Generic Model. A generic model can have different versions. New versions can be created in the e-Con studio. The last version build is the active version. The active version will be used when starting e-Con from e.g. a sales order.

Generation Date

Last date of building the e-Con model.

Generation Time

Last time of building the e-Con model.

1.2.3.2 Fields of the General Tab

Include to Object

When "Include to Object" is check-marked, the configured object of this generic model will be stored as a separate XML file object. This child object can be reconfigured independently of its parent object. For example, if you use the BIKE demo model to configure a Bike e-Con will generate one XML object file for both generic models (BIKE

and FRONTWHEEL), unless the "Include to Object" field is check-marked in the FRONTWHEEL model. In that case, two separate XML object files are created.

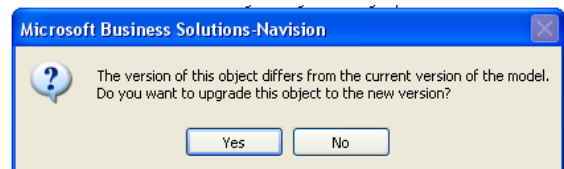
Online Recovery

To activate the "Online Recovery" for this particular model. With "Online Recovery" the user has the possibility to recover erroneous configuration. If the processing of a configuration fails the next time the user starts the e-Con model, the user is asked if he want to reopen the erroneous configuration. After reopening the configuration a reprocess can take place.

Online Synchronizing

The "online synchronizing" field has to do with the reconfiguration of an already configured object. When you reconfigure an object it will be synchronized with the active version of the base model. There are three ways of synchronizing:

- Manual: When the flag 'Synchronize' of the configuration is check marked the configuration will be synchronized.
- On Confirmation: You will be asked if you want to synchronize, no matter if the flag 'synchronize' is check marked.
- Automatically: The object is always synchronized, no matter if the flag 'synchronize' is check marked.



For example:

On 23/03/01, a customer orders a series of 100 customer-specific. With the help of e-Con, a customer-specific Item with its customer-specific Bill of Material and Routing will be generated. On the 12th of April the same year, the customer again orders a series of 100 bicycles which are identical to the series ordered a few weeks before, except for the color. This time the customer wants a special color. So a search for the item which had been generated a few weeks ago is done, and based on this item, a new item will be configured. If the "Online Synchronizing" field is check-marked, the already configured object will be merged with the basis model (the configuration tool model "BIKENM.xml") before the user can reconfigure the object.

When the model is merged, all the data from the object that was already configured is imported to the newest version of "BIKENM.xml" and saved. Now all changes made to the base model are available in the reconfigured object.

Onhold

Offline configurations of the model will get the status on hold when received and not be processed. A separate function is available to process the on hold configurations.

Detail level

A setting to determine the level of detail to be shown in the Axpata infolog after processing this model into Axapta.

There are four possibilities:

- All: All the info is shown in the infolog;
- Errors and warnings: Only errors and warnings are shown in the infolog;
- Errors only: Only errors are shown in the infolog;
- None: Nothing is shown in the infolog.

Limit

The maximum number of messages to be shown in the infolog.

1.2.3.3 Overview on version

Version Code	Description	e-Con Label	Status	Table	Root Line No.	Starting Date	Ending Date
1	Bike Axapta	BIKE	Certified	InventTable	1		

Version Code

Code of the version..

Description

Description of the version.

e-Con Label

This label is the name of the model. The XML document of the model will have a name according to this label.

Status

Status of the active version. There are four different statuses:

- *New*: Whenever a new version is created, the default status is "New".
- *Under Development*: During maintenance of a model in the e-Con studio the status will be change to 'Under Development'.
- *Certified*: Only when the status is "Certified" the model can be used in the business process. This means when the Key Value of the Root Entity is selected in the Sales Order, the Front End is started, but only if the status is "Certified".
- *Closed*: This status is selected when a version has to be blocked for use. Use this status for obsolete models.

Table

The main Entity to which this e-Con model is linked. The rest of the model is linked/refer to this Entity. For example, when a new generic item is created, with Bom version, Routing and Bills of Materials (BOM), the Root Entity will be the InventTable, Item. Once configuration is complete, a new item is inserted in the Item table.

Root Line No.

Just a sequence number to make the entity unique.

Starting Date

The starting date of the period in which the version is valid.

Ending Date

The ending date of the period in which the version is valid. A version can only be used for configuration while it is valid.

1.2.3.6 Fields of the Overview Tab

e-Con Model ID

e-Con will automatically create this value. It is a serial number.

Synchronize

If set to Yes before Configure the model will be synchronized during reconfiguration.

Model Status

The status of the model: new, configured, etc.

Error

This field contains an error code if there's a problem with a configuration.

User ID

User ID of the user who configured the object.

Last Date Modified

The last processing date of the configured object.

Last Time Modified

The last processing time of the configured object.

1.2.3.7 Fields of the Link Tab

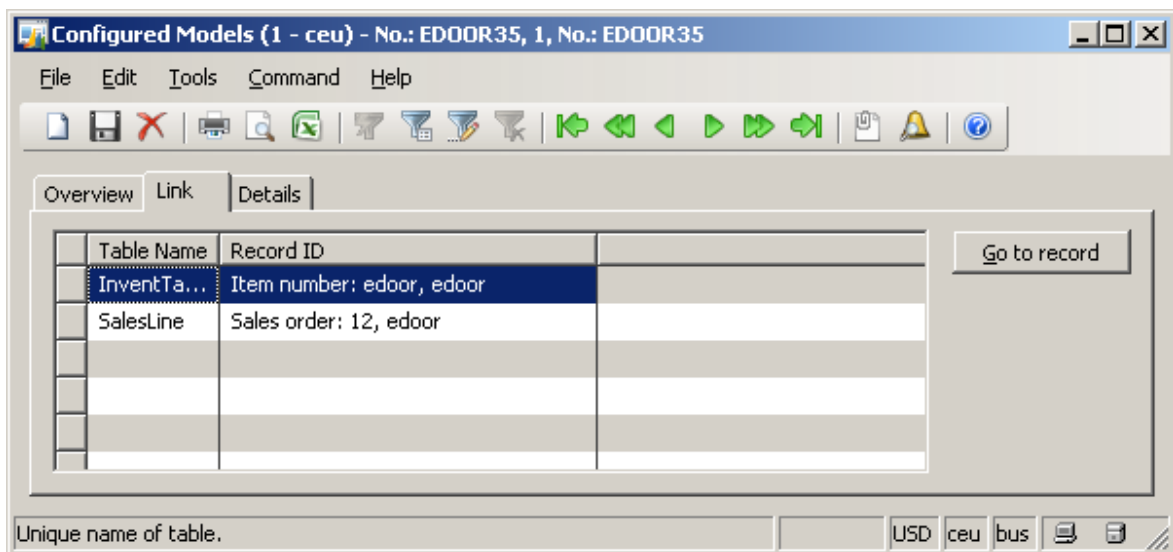


Table Name

The table linked to the configured model. This table is populated by this XML configuration

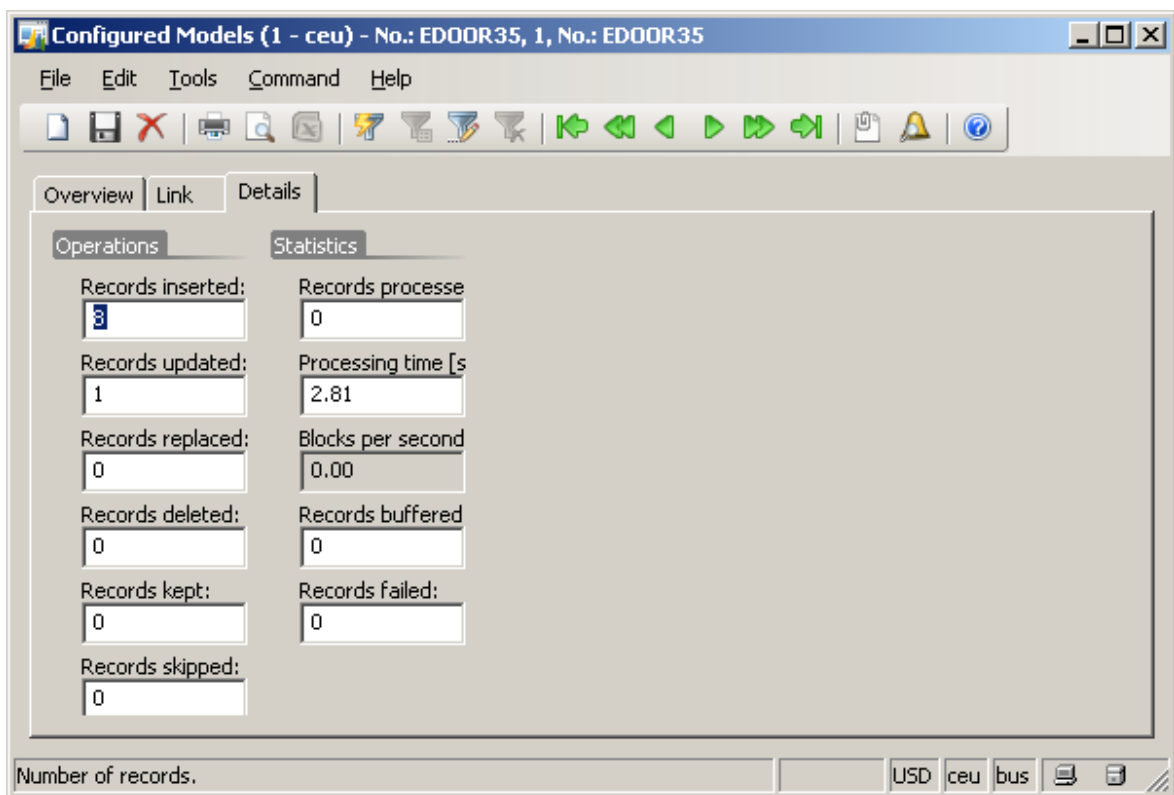
Record Id

The link to the actual record of the table

Button "Go to record".

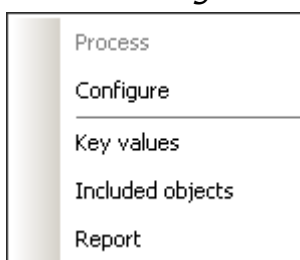
Clicking this button will jump to the table and record selected

1.2.3.8 Fields of the Details Tab



Information about number of records inserted, updated, delete etc. are displayed here. Performance indicators like processing time is here available as well.

1.2.3.9 Configured Model Buttons

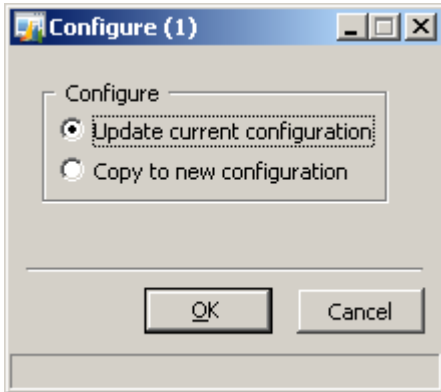


Process

An erroneous configuration can be reprocessed. Only enabled when the error flag is set for the particular configuration.

Configure

This activates the "Configure" option for the selected model.



Key values

Shows the Key Value(s) of the configured object.

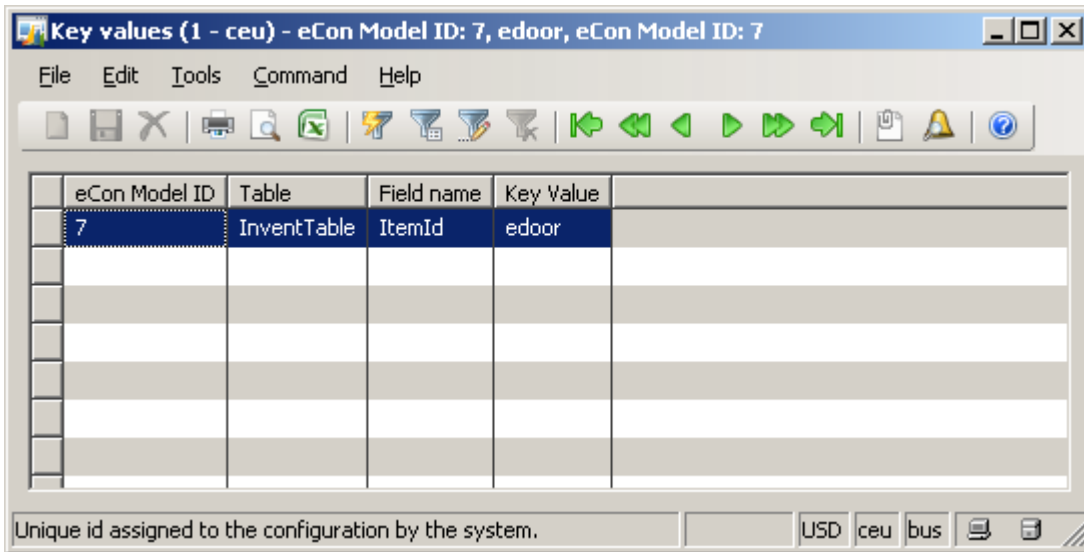
Included Object

Displays the included objects of this configured object. Included objects does only exist when sub models are used in the configuration model and when the flag 'include to objects' is set for the particular sub model. If so, a separate configured object (xml file) is created for the sub model part of the configuration.

Report

To print an e-Con report (both html or MS Word) from the selected configurations. Shows a list of reports available for the model. After selecting the report the document is printed.

1.2.3.10 Key Values



eCon Model ID	Table	Field name	Key Value
7	InventTable	ItemId	edoor

e-Con Model ID

E-Con will automatically create this value. It is a serial number.

Table

The table name where the configured object is stored.

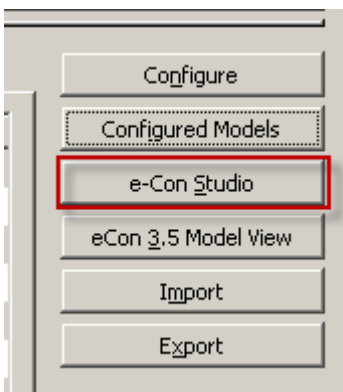
Field Name

Field name of the key field that is used.

Key Value

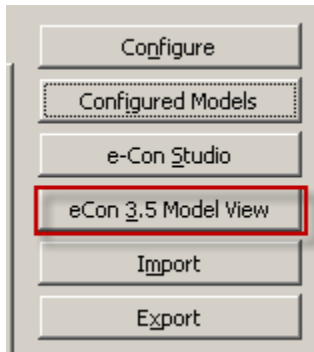
Key Value of the configured object.

1.2.3.11 e-Con Studio Button



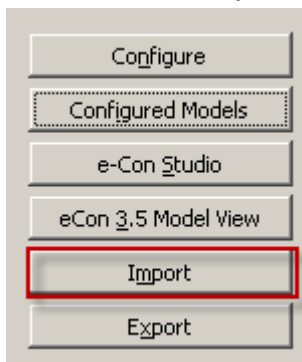
Start the e-Con Studio for the active version of this Generic Model. The e-Con studio will be activated and the model will be opened.

1.2.3.12 e-Con 3.5 Model View Button

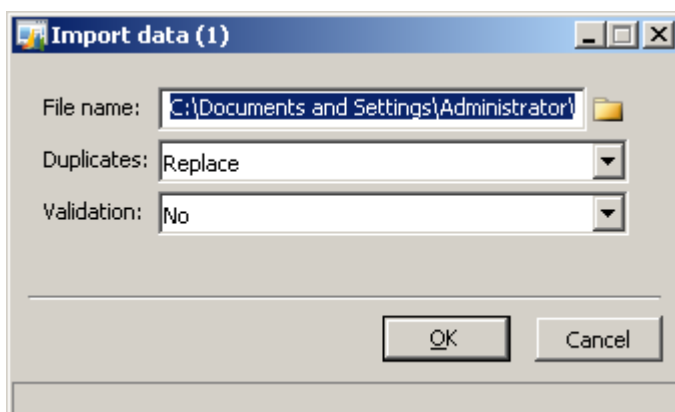


Opens the e-Con designer from AX. Nowadays this designer is only read-only and only allows the user to view the model in the old e-Con 3.5 format. From of version e-Con 4.0 the set up and maintenance of the e-Con models takes place in the e-Con studio instead of the AX Designer.

1.2.3.13 Import



With this function an export e-Con model file can be imported in the MS Dynamics AX application. Importing a model from here will also import the domains and entities used in the model.



File Name

The file name of the e-Con export model file can be selected here.

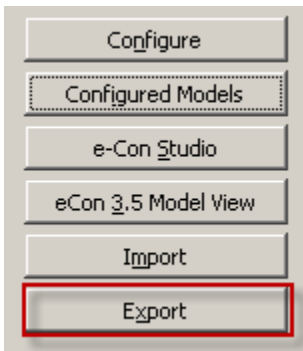
Duplicates

Set up how to handle with duplicates found during import. Typical e-Con labels and e-Con queries could already exist.

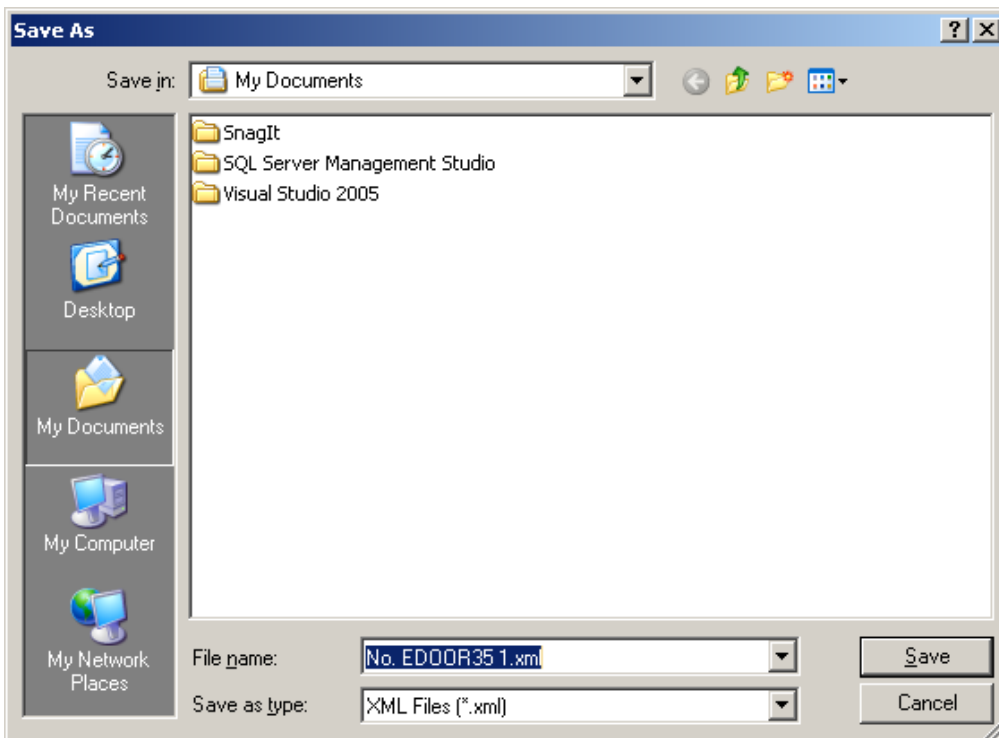
Validation

Set up how the AX record validation should be performed at the import of the e-Con model.

1.2.3.14 Export



With this function an export file for the selected model version can be made to be imported in another MS Dynamics AX company or database. Exporting a model from here will also export the domains and entities used in the model.

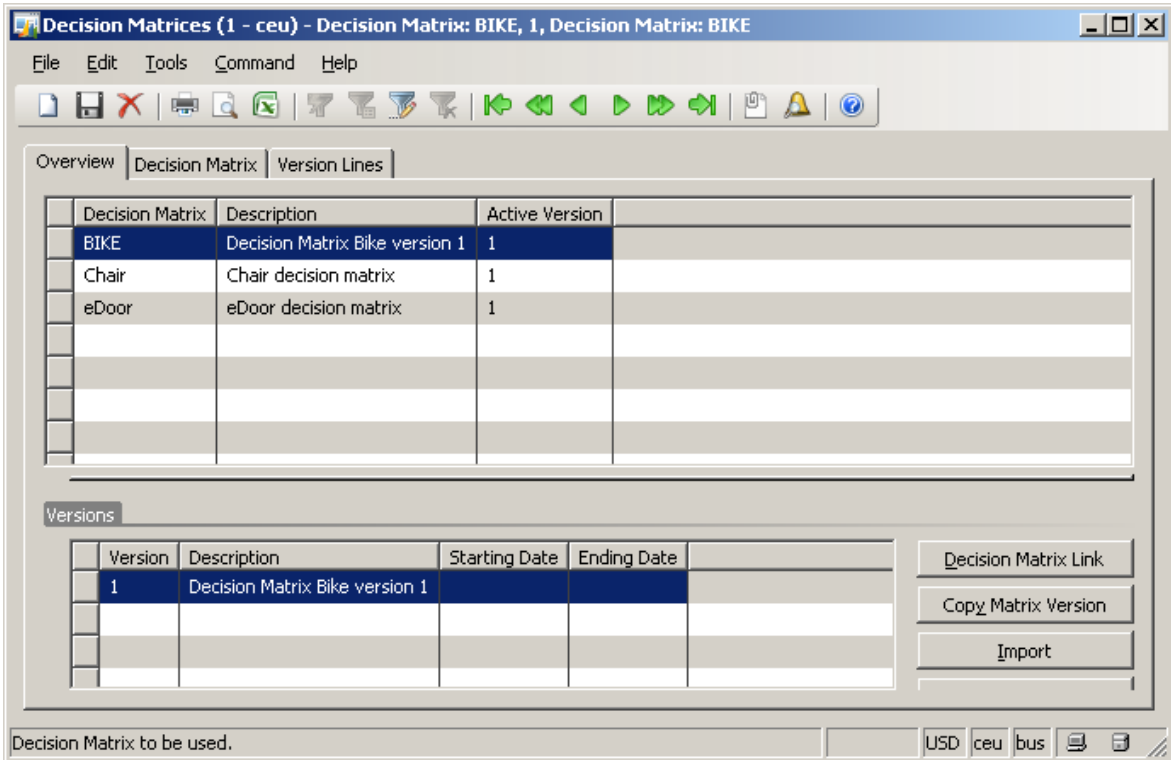


1.2.4 Decision Matrices

A Decision Matrix is used to set up interdependencies between member options. You can find Decision Matrices in the e-Con menu, by going to the "Decision Matrices".

It is possible to determine more than one decision matrix and every decision matrix can have one or more versions.

1.2.4.1 Overview Tab



Decision Matrix

Unique alpha-numeric code for the decision matrix.

Description

Description of the decision matrix.

Active version

One of the determined versions is the active version of the decision matrix.

1.2.4.2 Version lines

Version	Description	Starting Date	Ending Date
1	Decision Matrix Bike version 1		

Add versions to the decision matrix.

Version

Code of the version. You can enter a maximum of 20 characters, alphanumeric.

Description

Description of the version. You can enter a maximum of 50 characters, alphanumeric.

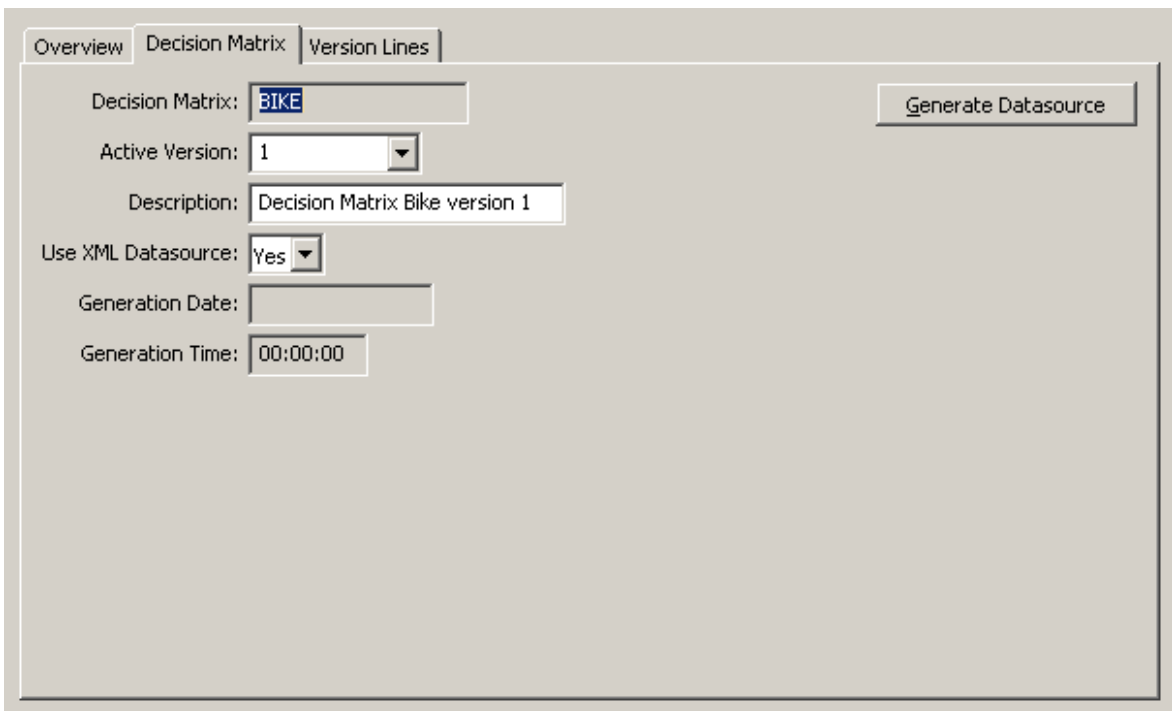
Starting Date

The starting date of the period in which the version is valid.

Ending Date

The ending date of the period in which the version is valid. A version can only be used for the decision matrix while it is valid.

1.2.4.3 Decision Matrix Tab



Decision Matrix

Id of the decision matrix

Active Version

The version that is active.

Description

Description of the decision matrix

Use XML Datasource

Field for whether this decision matrix is available in XML as well.

Generation Data

Date of generation of the XML file of the decision matrix. (Only filled up when the decision matrix is available in XML format)

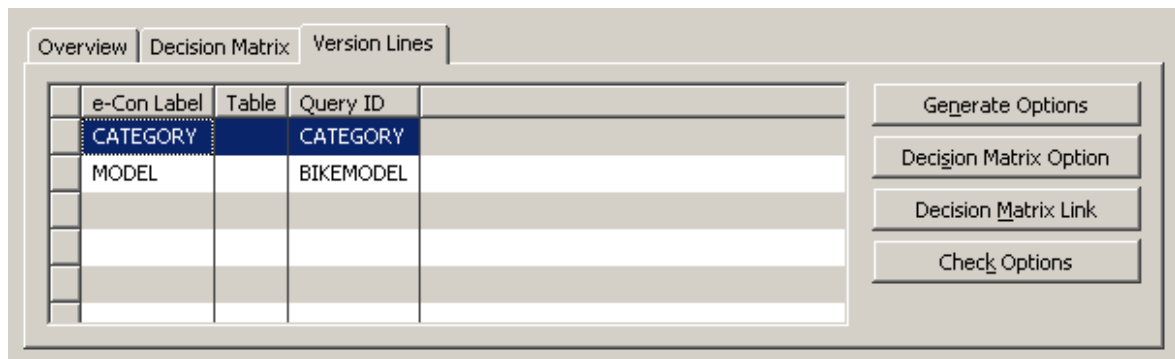
Generation Time

Date of generation from XML file from the decision matrix. (Only filled up when the decision matrix is available in XML format)

Button Generate Datasource

This function is used to export the selected decision matrix to a XML file. The XML file generated is stored in the folder Datasources in the eCon data folder.

1.2.4.4 Version Lines Tab



In the version lines the queries used in the decision matrix are determined, per version.

e-Con Label

Label of the version line (option set).

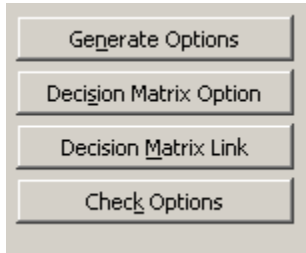
Table

Table linked to the query that will deliver the option set. Empty if the query is not based on an Axapta table.

Query ID

Select the query that will deliver the options.

1.2.4.5 Functions Button

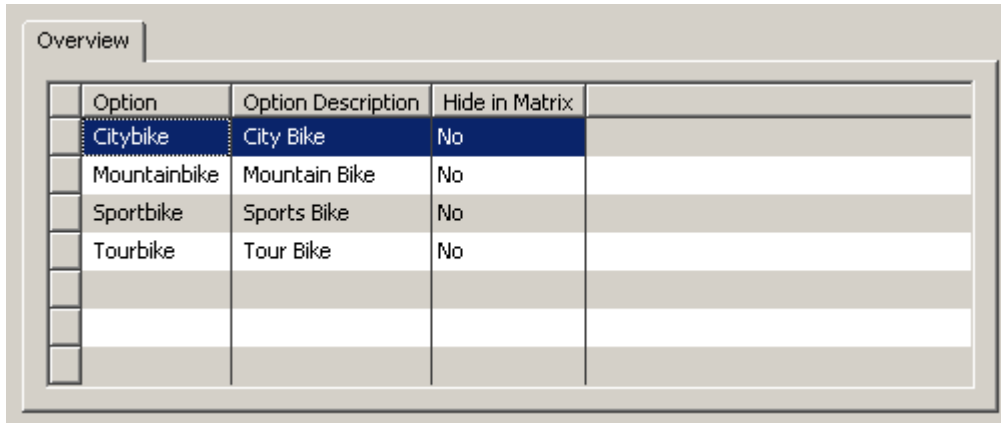


Generate Options

Generates the options for the version line, based on the Query linked to the version line.

Decision Matrix Option

Options that are generated are shown.



Option	Option Description	Hide in Matrix	
Citybike	City Bike	No	
Mountainbike	Mountain Bike	No	
Sportbike	Sports Bike	No	
Tourbike	Tour Bike	No	

Options can be added manually.

With "Hide in Matrix" options can be left out the decision matrix.

Decision Matrix Link

The form where the relation between the options can be entered is opened.

e-Con Options

e-Con Label		Option	Option Description
CATEGORY		Citybike	City Bike
MODEL		Mountainbike	Mountain Bike
		Sportbike	Sports Bike
		Tourbike	Tour Bike

Related Options for CATEGORY: Mountainbike

e-Con Label		Link		Link Values	
CATEGORY					
MODEL					
		<input type="checkbox"/>	<input type="checkbox"/>	bahia	Bahia
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	extreme	Extreme
		<input type="checkbox"/>	<input type="checkbox"/>	golfo	Golfo
		<input type="checkbox"/>	<input type="checkbox"/>	instinct	Instinct
		<input type="checkbox"/>	<input type="checkbox"/>	medeo	Medeo
		<input type="checkbox"/>	<input type="checkbox"/>	playa	Playa
		<input type="checkbox"/>	<input type="checkbox"/>	popular	Popular
		<input type="checkbox"/>	<input type="checkbox"/>	torrente	Torrente
		<input type="checkbox"/>	<input type="checkbox"/>	tranza	Tranza
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	ultimate	Ultimate

1.2.4.6 Link Tab

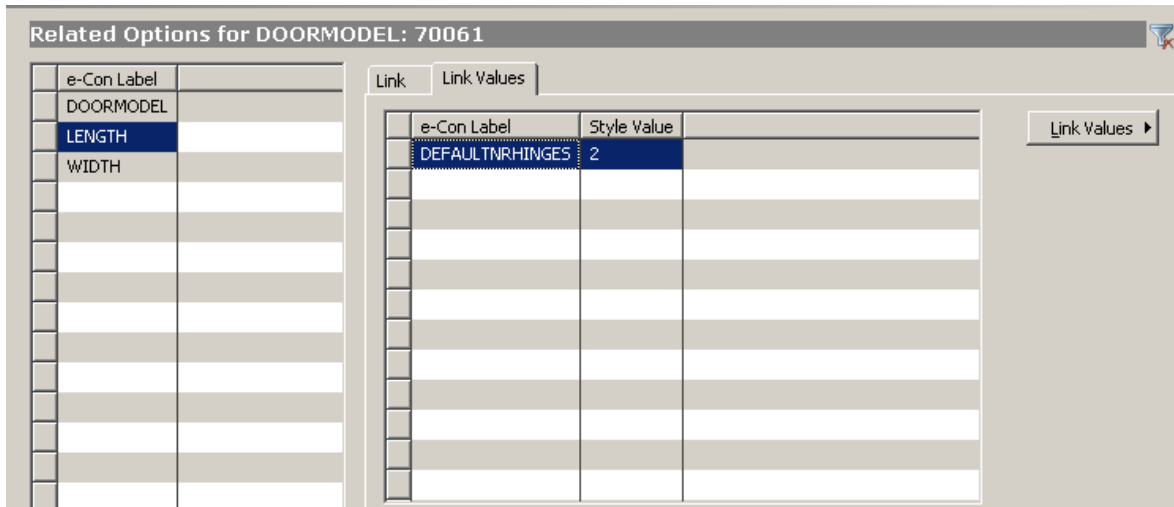
Link

The valid option for the upper part selection can be set here. (In this case popular and tranze are valid options for the Category Citybike)

Default

The default option for the upper part selection can be set here. (In this case popular is the default option for the Category Citybike)

1.2.4.7 Link Values



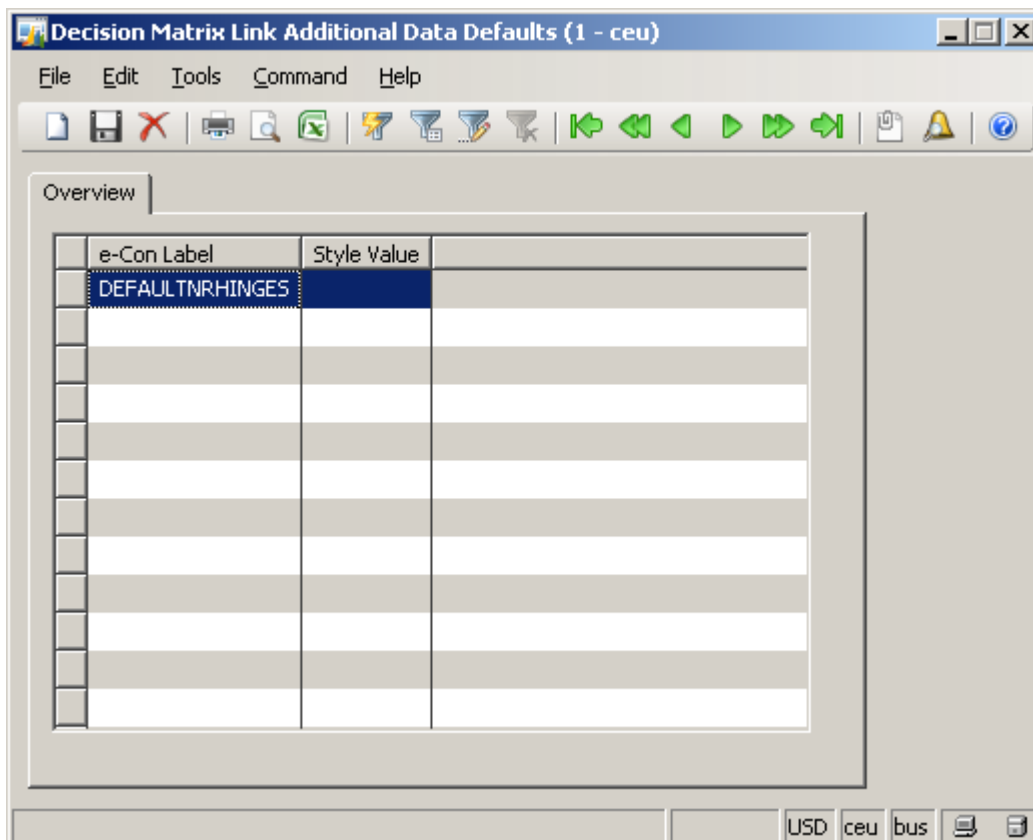
e-Con label

The label, identifier, of the linked value. This value is linked to the option checked at the link tab.

Style Value

Linked value itself.

1.2.4.8 Link Values button - Defaults



Default label and value can be set up here. These labels and values will be defaulted in for every checked option of the decision matrix.

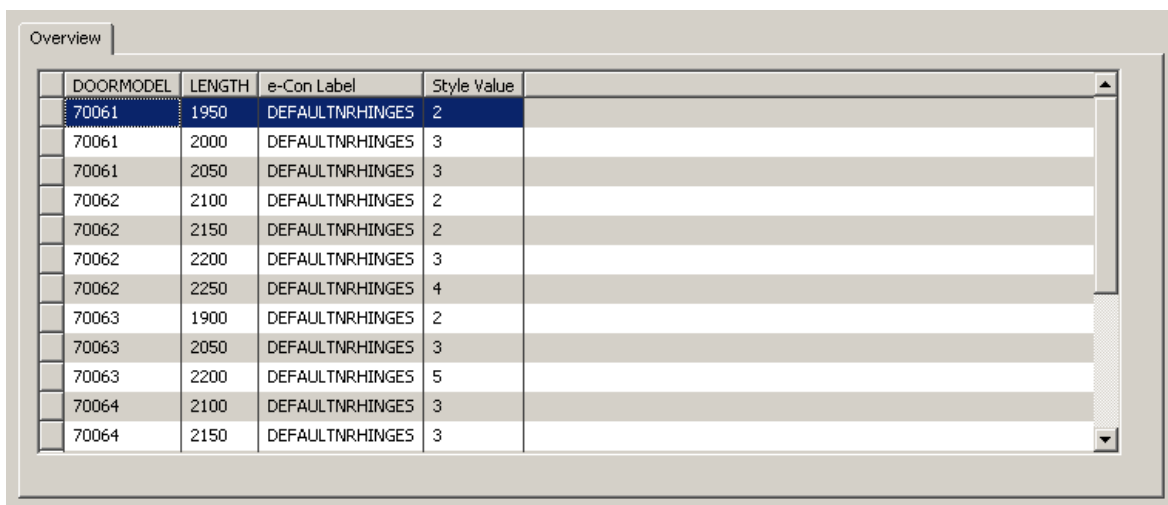
e-Con Label:

The default label, identifier, of the linked value

Style Value:

Default value itself.

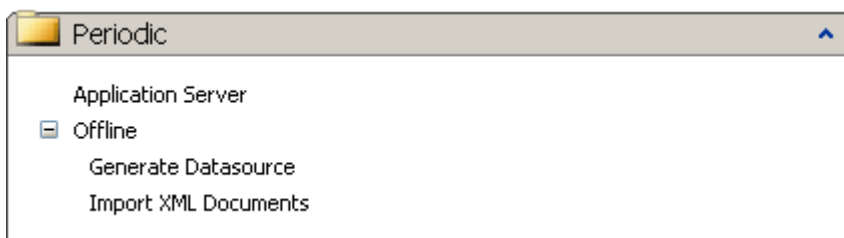
1.2.4.9 Link Values button - Overview



DOORMODEL	LENGTH	e-Con Label	Style Value
70061	1950	DEFAULTNRHINGES	2
70061	2000	DEFAULTNRHINGES	3
70061	2050	DEFAULTNRHINGES	3
70062	2100	DEFAULTNRHINGES	2
70062	2150	DEFAULTNRHINGES	2
70062	2200	DEFAULTNRHINGES	3
70062	2250	DEFAULTNRHINGES	4
70063	1900	DEFAULTNRHINGES	2
70063	2050	DEFAULTNRHINGES	3
70063	2200	DEFAULTNRHINGES	5
70064	2100	DEFAULTNRHINGES	3
70064	2150	DEFAULTNRHINGES	3

An overview of all linked values added in the decision matrix.

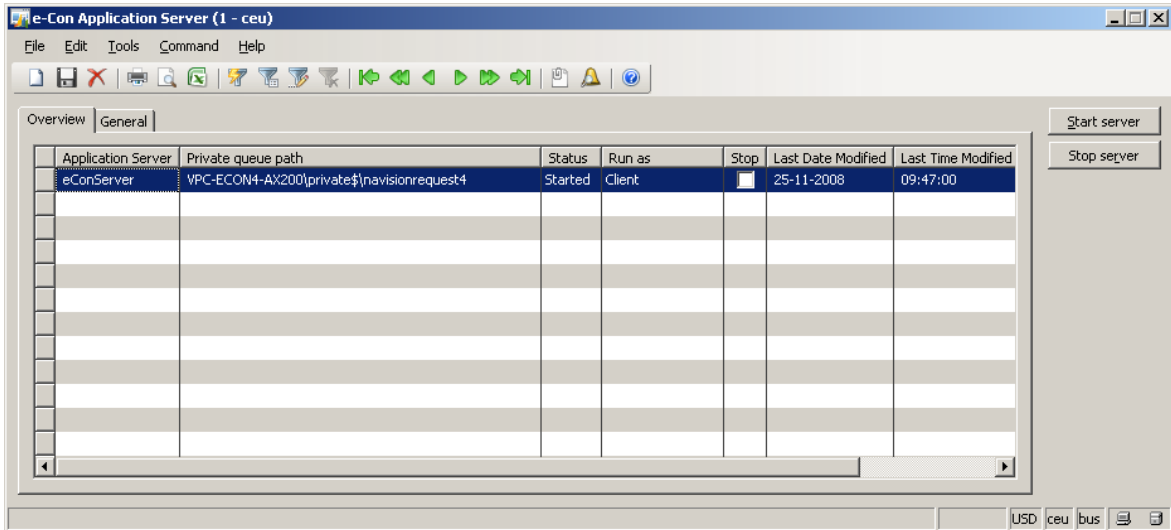
1.3 Tables – Periodic Forms



1.3.1 Application Server

Application server can be found in the Periodic menu. The application server is the server that handles the request of e-Con for the real time data access to MS Dynamics AX.

1.3.1.1 Overview tab



Application Server

Name of the application server. Default name is eCon. Any name is allowed here.

Private queue path

The request queue to be used by this application server is selected here from the Environment settings.

Status

Shows the status of the Application Server, the correct status is only displayed if you use the buttons (Start Server and Stop Server) to start and stop the Application Server. There are 4 statuses:

- Stopping The Application Server is stopping. After status started the status changes to stopping after clicking the button Stop Server. Only when the Application Server is stopped correctly the status changed to stopped
- Stopped The Application Server is not running (or not correct)
- Starting The Application Server is starting. Clicking the Start Server button will first change the status to starting. After the correct start up of the server the status becomes started.
- Started The Application Server is running in the right way

Run as

This field has two options start-up command and client.

- Client: The client is used as an Application Server. Clicking the start button runs the current client as the e-Con application server
- Start up command: An AX batch process running as a service runs as the e-Con application server

Stop

Indicator when the Application Server must stop. This field is checked after activation of the Stop Server function.

Last Date modified

The last date of stopping or starting the application server

Last Time modified

The last time of stopping or starting the application server

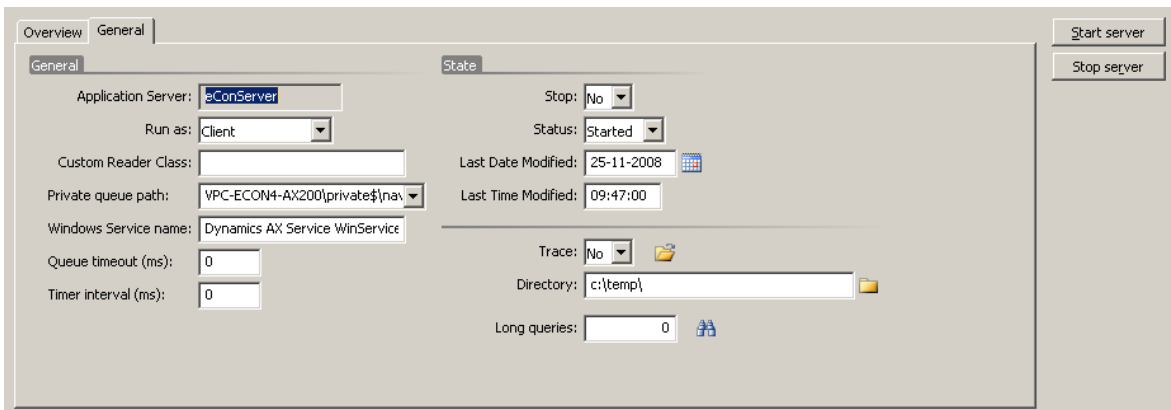
Start Server – button

To start the selected application server

Stop Server – button

To stop the selected application server

1.3.1.2 General tab



Application Server

Name of the application server. Default name is eCon Server and eCop Server. Any name is allowed here.

Run as

This field has two options batch and client.

- Client: The client is used as an Application Server. Clicking the start button runs the current client as the e-Con application server
- Start up command: An Axapta batch process running as a service runs as the e-Con application server

Custom Reader Class

When custom classes are executed with the e-Con Data Function 'CallFunction()' the class containing these custom class definitions must be specified here. Read more about this in the 'SDK AX integration'

Private queue path

The request queue to be used by this application server is selected here from the Environment settings.

Windows Service Name

The name of the corresponding windows service

Queue Timeout (ms)

Used when the application server is used in 'Run On Client' mode !

It will determine how long the client is running to execute requests from the request queue and create responses in the response queue. When the Queue Timeout (ms) is ended it will wait a certain time (Timer Interval (ms)) before it will execute again. This will give the user the opportunity to do other activities in AX with this client for instance startup e-Con studio. The client is not for 100% dedicated to e-Con communication. Typical value is 50. When it stays on 0 a default value is used.

Timer Interval (ms)

Used when the the application server is used in 'Run On Client' mode !

It determines the wait time for the client between the communications to the queues. Typical value is 500. When it stays on 0 a default value is used.

Stop

Indicator when the Application Server must stop. This field is checked after activation of the Stop Server function.

Status

Shows the status of the Application Server, the correct status is only displayed if you use the buttons (Start Server and Stop Server) to start and stop the Application Server

Last Date modified

The last date of stopping or starting the application server

Last Time modified

The last time of stopping or starting the application server

Trace

With this setting the trace functionality can be activated. Activating trace will log all communication between e-Con and Axapta. All the XML messages send via the message queues are logged and stored in the folder as indicated in the field 'Directory'.

Directory

Location where the trace function stores the trace files.

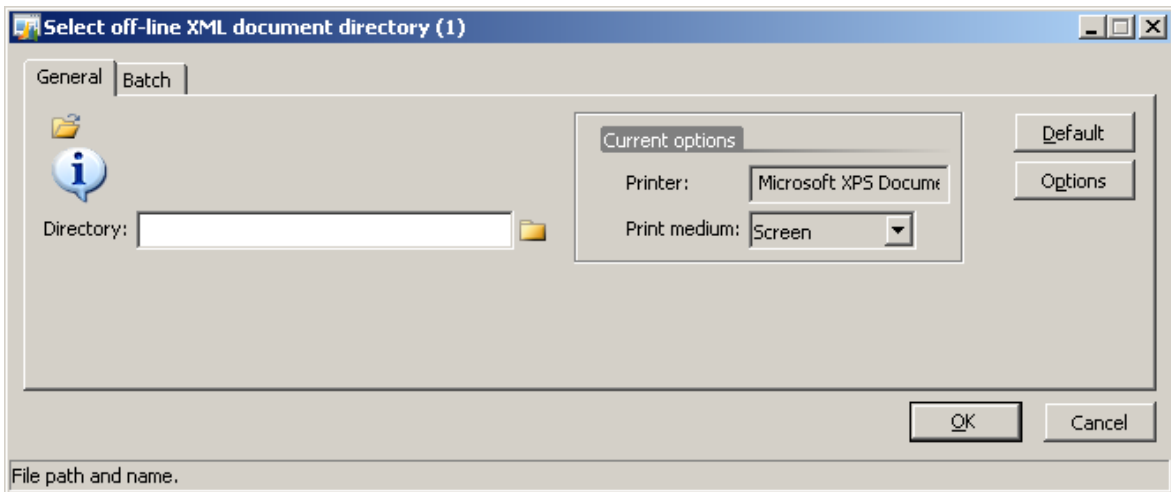
Long Queries

A special function for performance analyses. All queries with a duration longer then specified in this field are gathered.

1.3.2 Import XML Documents

Offline created e-Con configurations (XML – files) can be imported and processed within this menu.

The tab Batch is the standard Batch functionality of Axapta and enabled the possibility to attach a batch process to the XML documents processing.



Directory:

Directory containing the XML configuration files to be processed. All files within this location will be processed and deleted from this location. After processing a document will be generated with information about status, created records and more

Printer

Selected printer.

Print medium

Selected output medium

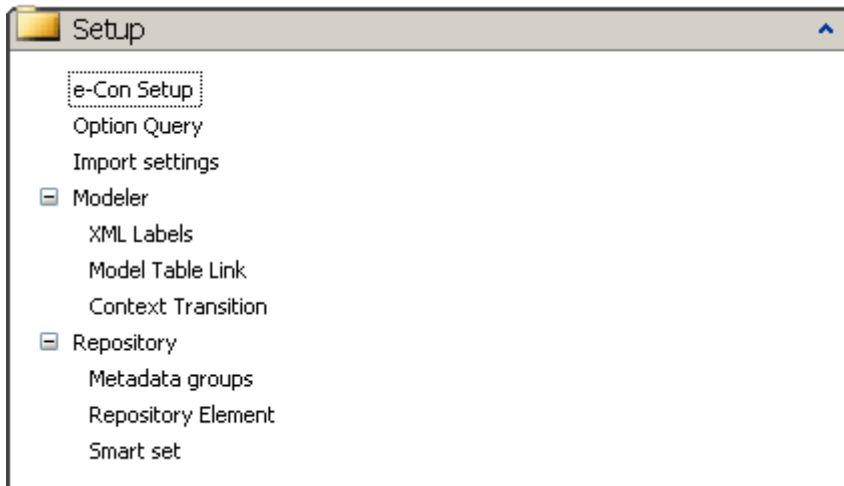
Default Button:

Clicking this button will change the printer and print medium to the defaults.

Options Button:

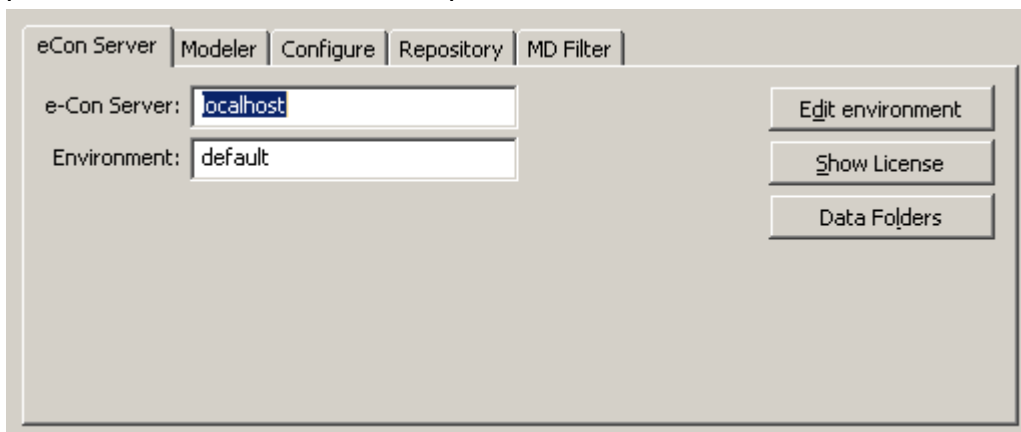
With this button printer and print medium can be set up and selected

1.4 Tables – Setup Forms



1.4.1 e-Con Setup

Before we can use e-Con, the setup data has to be entered. The location of files and user preferences are stored in the Setup form.



1.4.1.1 Fields of the eCon Server Tab

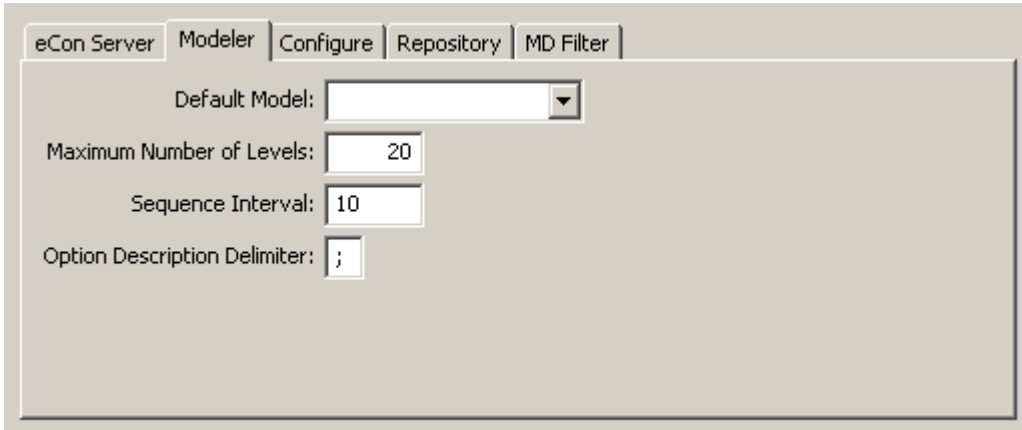
e-Con Server

Enter the name of the server on which e-Con is running.

Environment

The environment used. Per e-Con environment a set with settings are available.

1.4.1.2 Fields of the Modeler Tab



Default Model

This setting is obsolete.

Maximum Number of Levels

To limit a loop in the model, you can define a maximum number of levels. When Axapta generates a data structure, it will stop if the number of levels in the document exceeds this value, and then it will generate an error.

Sequence Interval

This setting is obsolete.

Option Description Delimiter

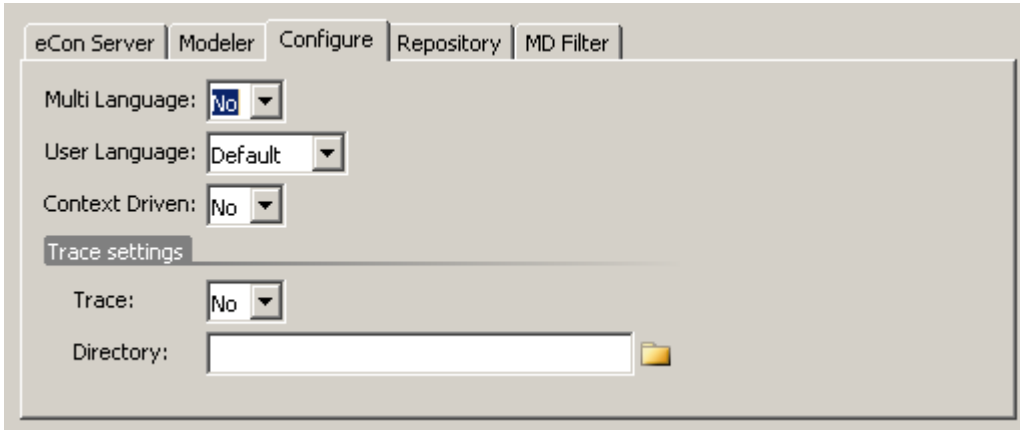
Options are linked to the additional properties of Entities, via queries. The symbol entered here is used as a separator.

An additional property can have multiple options. For example, the "Color" additional property has the options "Red", "Blue" and "Yellow". These options are stored in a query (see section 3.3). In the "Option" field, the value displayed before the Option Description Delimiter is chosen, whereas the value after the Option Description Delimiter is shown in the Front End. Example: the Option Description Delimiter is a semicolon ";"

```
1;blue
2;red
3;yellow
```

Now the end user has the choice between "Blue", "Red" and "Yellow", but in a rule you can say: "If option is 1, then price is 10".

1.4.1.3 Fields of the Configure Tab



The screenshot shows the 'Configure' tab of the e-Con Server interface. It contains the following fields and settings:

- Multi Language:** A dropdown menu set to 'No'.
- User Language:** A dropdown menu set to 'Default'.
- Context Driven:** A dropdown menu set to 'No'.
- Trace settings:** A sub-section containing:
 - Trace:** A dropdown menu set to 'No'.
 - Directory:** A text input field with a folder icon to its right.

Multi Language

To activate the multilingual functionality. When "yes" is selected, the label translations of the e-Con labels, will be added to the model during the XML file generation.

User Language

Setting concerning the language selection for an e-Con model. There are four options:

- Default: The default model language is always the model language;
- Client: The MS Dynamics AX client language is the model language;
- Document: The language of the customer of for example the quote or order e-Con is started from, is the language of the model;
- Selected: The model language is manual selected each time the model is started.

Context Driven

To activate the context driven functionality.

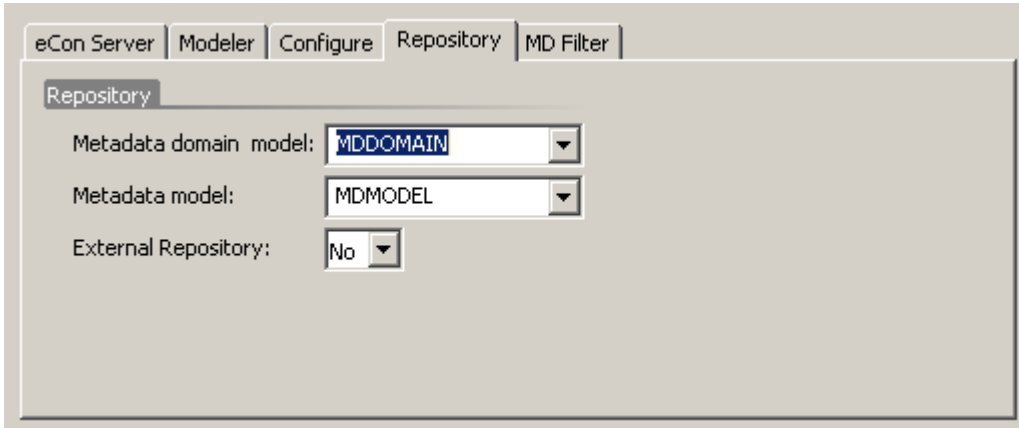
Trace

To activate the e-Con tracing. Activating this will save the so called 'full XML document' and change XML document to the file system. The 'full XML document' is the XML document as how it is processed in MS Dynamics AX. The changes XML document are changes update in the e-Con XML document after processing of the document in AX.

Directory

Location of the trace file.

1.4.1.4 Fields of the Repository Tab



In the e-Con studio all models and related elements are maintained like entities to be used in the model structure or for queries and domains with options used in the models. These elements should be stored in AX, because AX is the repository for e-Con by default.

Metadata Model

This field contains the model that will have all the custom created entities. By default this is the MDMODEL model. This model is not visible in the generic model card!

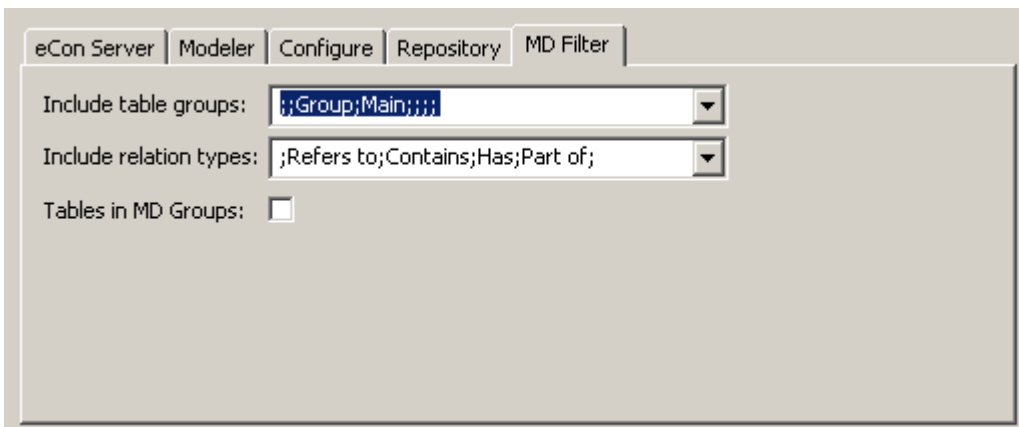
Metadata Domain Model

This field contains the model that will have all the domains created in e-Con studio. By default this is the MDDOMAIN model. This model is not visible in the generic model card!

External Repository

Activate Webservices for external repository via environment settings

1.4.1.5 Fields of the MD Filter Tab



Metadata is used in the e-Con studio. Here some filters can be determined to filter the metadata as shown in the e-Con studio.

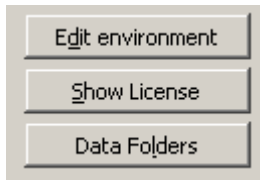
Include table groups:

Select the table groups which tables should be shown in the e-Con studio metadata.

Include relation types:

Select the metadata relation types to be shown in the e-Con studio metadata.

1.4.1.6 Button



Edit Environment

To open and edit the environment settings. The environment specified at the field "Environment" will be opened.

Show license

The XML license is shown. The XML license is available in the ...\\e-Con\Web folder.

Data folders

To create the sub folder structure as required for e-Con in the data store as set up in the environment settings.

1.4.2 Option Query

Option queries are typically created in e-Con studio via domains and if based on AX tables a query entity. But it is still possible to create a query in AX and then with the Copy to domain function create the domain for it.

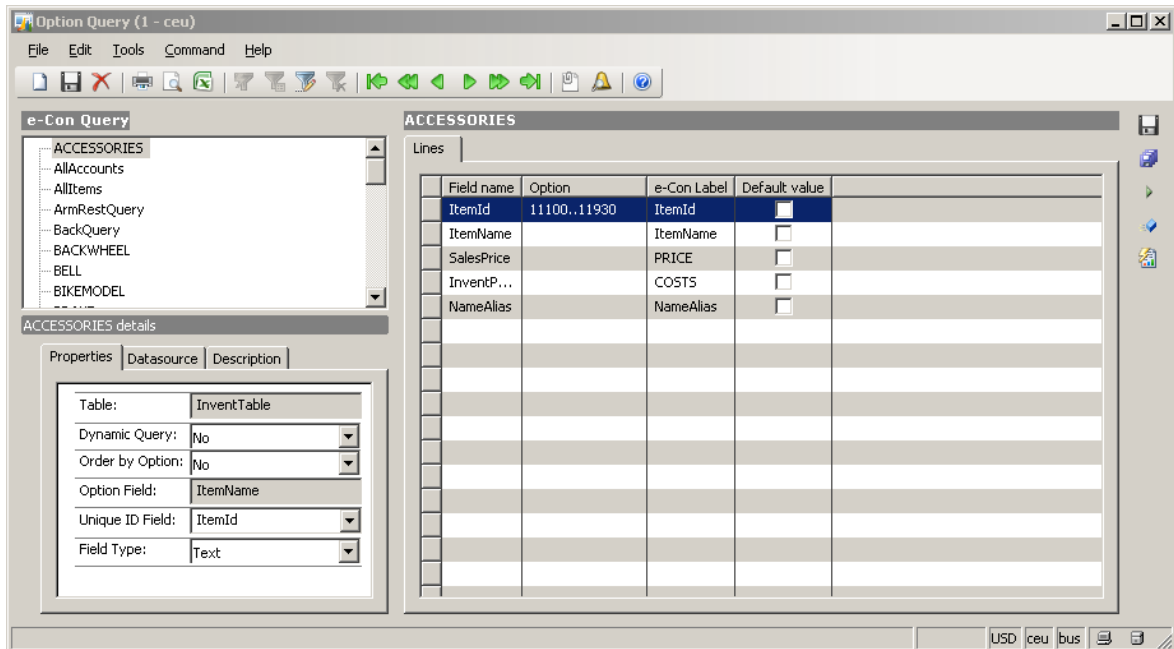
In the form that pops up, a query can be created. Queries are used to select information from AX tables or are just a list of options. The end user will then be able to choose from the values selected at the Front End. There are several types of queries:

- "Query" (static), this query is executed upon generating the data structure
- "Option Query", this query is used to display options for additional properties that are not included in the AX table.
- "Dynamic Query", this query is activated during configuration by an 'add query' rule in the e-Con Studio.

It's also possible to store the outcome of queries in a separate XML data source. This can offers advantages for offline use and increase of query performance.

For example, several items can be selected in a BOM line. The following query selects items from the Item table. Only items that start with the number "19" and with a description that starts with "Frame" can be selected. Here, the end user chooses from among the descriptions. The item 1900 is shown by default.

1.4.2.1 Query tree



Tree displaying all queries.

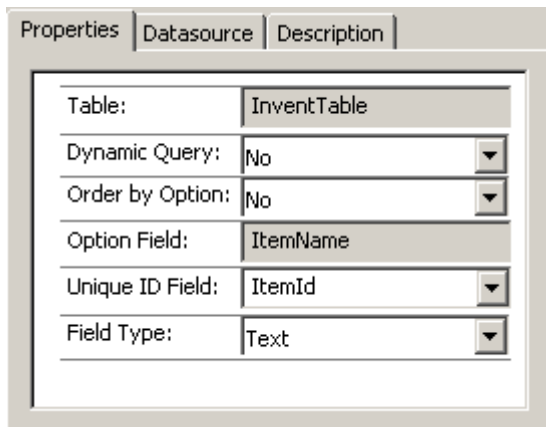
New – Item

Creates a new query.

New –SubiItem

Creates a sub item for the selected item. Useful for grouping queries in the tree.

1.4.2.2 Properties tab of Query details



Table

Name of the table to which the query refers. If you want to make a selection based on, for example, the items, select InventTable here. If options does not exist in any Axapta table just leaf this field empty.

Dynamic Query

When this box is check-marked, the records that fit the result of the query will not be added to the XML document. The values are taken from the database only by means of rules.

Order by Option

Only applicable for queries based on AX tables. When this box is check-marked, the order of the option list as shown in the drop-down box of the Front -end is based on the Option Field No. Without this box check-marked the order of the option list is based on the primary key of the table.

Option Field

This field is added to the XML document. It is used in the drop-down boxes of the Front End. In general, it is easier for the end user to choose between various descriptions than to make a selection from among item codes. The name entered here refers to the table field of the Table indicated after "Table Name"

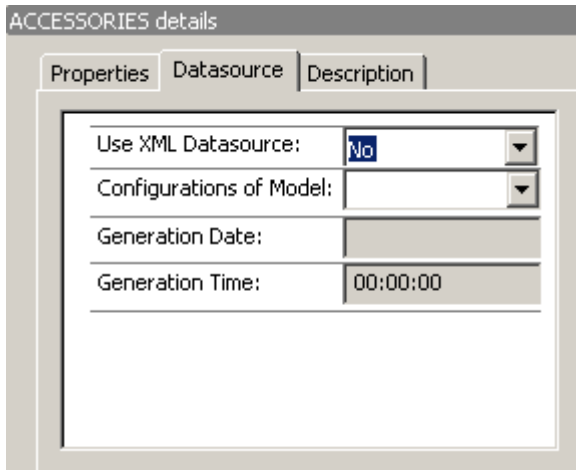
Unique ID Field

This field indicates which field from the primary key acts as the key to generation the option. This field makes only sense for queries applied to table with a primary key that exists of multiple fields.

Field Type

The type of field for the result of the query

1.4.2.3 Datasource tab of Query details



Uses XML Data Source

Indicator if a XML Data Source is available from the query.

Configurations of Model

This field has to be filled up when a Data Source has to be build from former made configurations. Based on this model and the table name, a data source in XML format is build up. That data source is populated with the object id's and key values of the configurations of that particular model. Furthermore the data of the fields added in the option query lines are added as well.

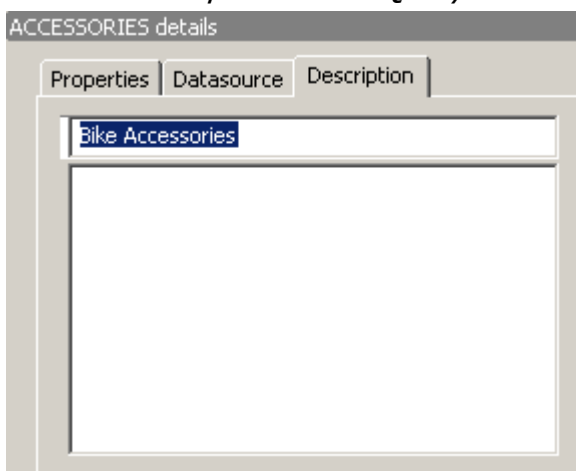
Generation Date

Last generation date of the data source

Generation Time

Last generation time of the data source

1.4.2.4 Description tab of Query details



Description

Description of the query.

1.4.2.5 Option Query Line Tab

Field name	Option	e-Con Label	Default value
ItemGro...	Chair	ItemGrou...	<input type="checkbox"/>
ItemName	Desk chair back*	ItemName	<input type="checkbox"/>
ItemId		ItemId	<input type="checkbox"/>
InventP...		InventPrice	<input type="checkbox"/>
SalesPrice		SalesPrice	<input type="checkbox"/>

Field Name

Name of the field out of the table the query is based on where a filter (option) must be set for to determine the outcome of the query.

Option

This is the actual query. You can use the standard Axapta filter signs, like 7*, 12..34 etc. to filter the record entered in the Filter Field. A query can consist of more than one line.

e-Con label

This field is only used for queries which are not applied to an Axapta table. In that case the description of the label selected here is used as the description of the option.

Default Value

If you want to propose a default value at the Front End, you can enter that default value here. In the case of a query based on a table: add a line where you type in the value and mark this value as default.

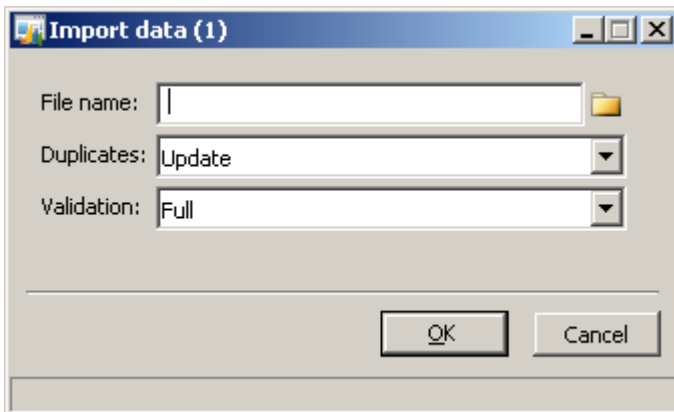
Button Run Query

Clicking this button runs the query and will display the outcome of the query. Useful function for testing a query.

Button Generate Datasource

It is also possible to store the outcome of a query in an external XML Data Source. It's even possible to generate an XML Data Source containing the configured objects of a Generic Model with user defined features. That makes it possible to check if a certain configuration already exists. Activating this button will create such an XML Data Source.

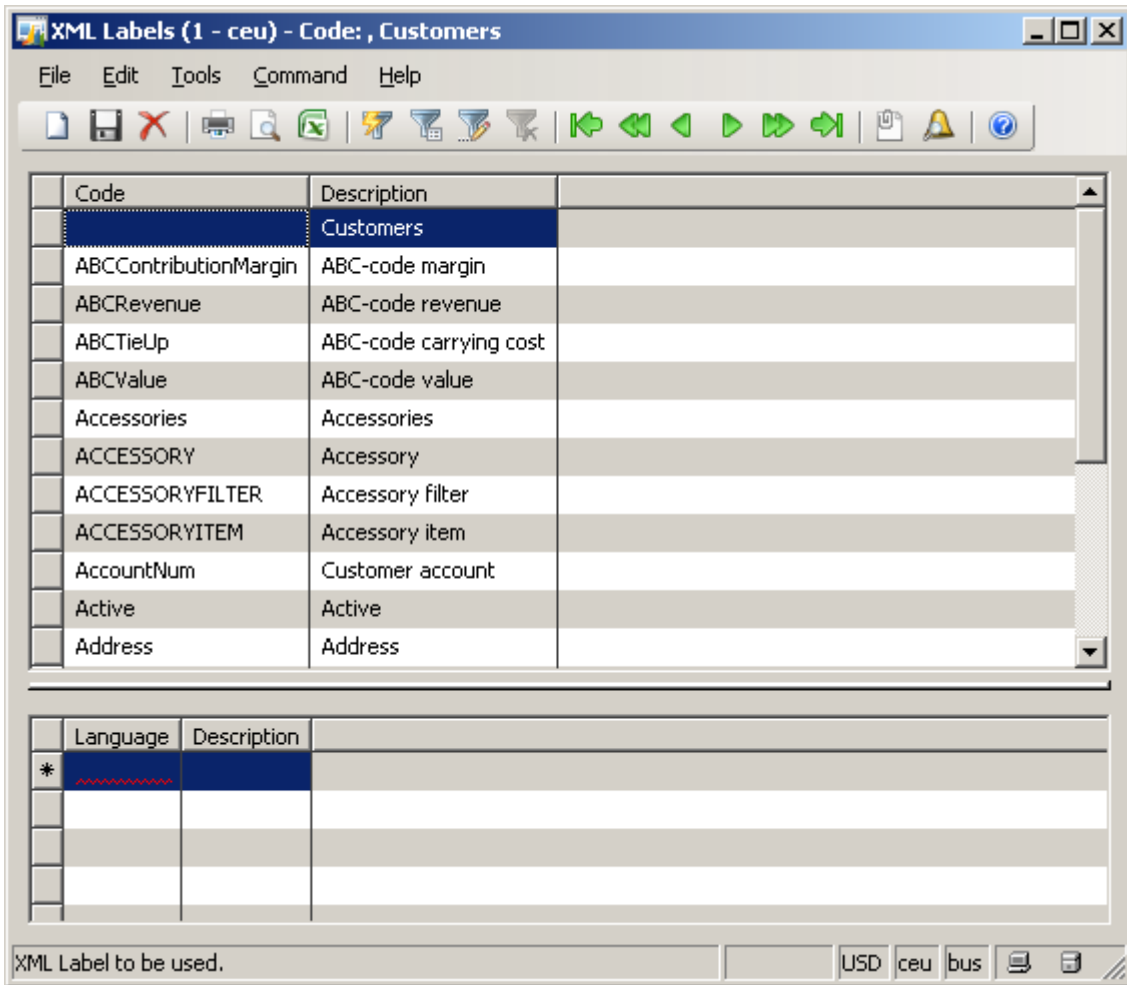
1.4.1 Import settings



Data and/or settings can be imported here.

1.4.2 XML Labels

In the e-Con studio ID's and labels are determined for the Properties and Entities. These ID's and labels are stored in this part of AX. If needed manual labels can be added for use in Decision Tables.



Code

The ID of a label. This Code is used as an identification code (ID) when applying the rules in the e-Con Studio.

Description

Description of the label. In e-Con studio this is the label. This Description is shown at the Front End. Use a meaningful name that will make sense to the end user.

Language

Obsolete. (Translations are added in the e-Con studio)

Description

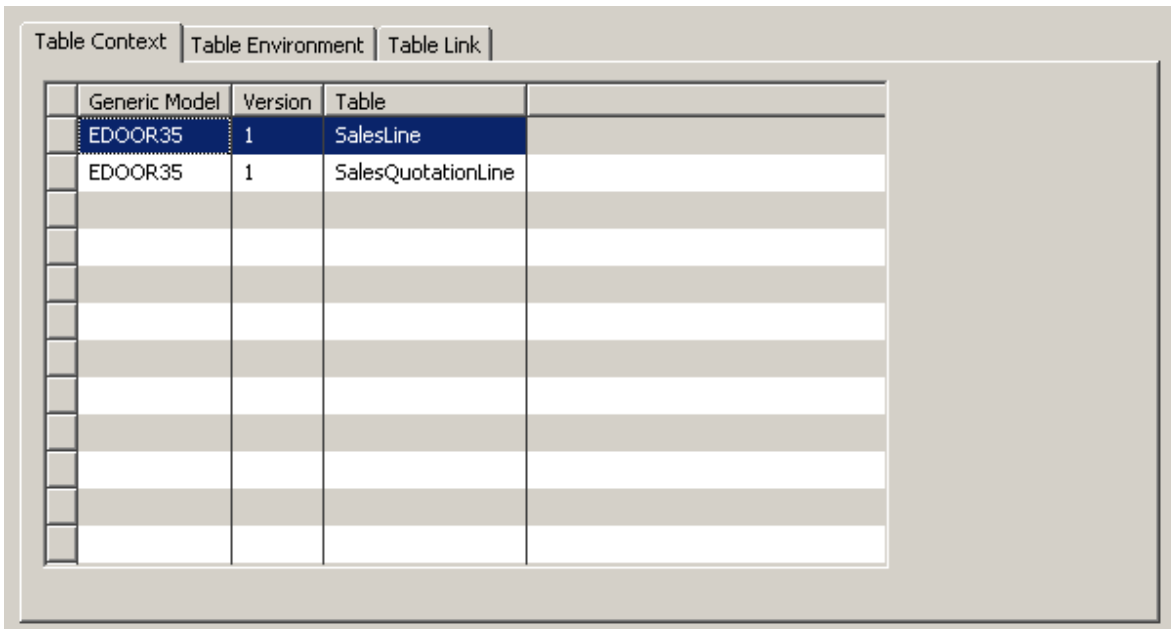
Obsolete. (Translations are added in the e-Con studio)

1.4.3 Model Table Link

The following functionality can be set up here:

- **Table environment:** Information of the Axapta Context can be passed to e-Con by means of arguments. These arguments can be read in e-Con with the function GetArg. The Axapta Context can for example be the Sales Line. The field custaccount can for example be passed to e-Con and known in e-Con by using the GetArg function to read this argument.
- **Table link:** Additional information can be populated in the Axapta Context after e-Con has returned to Axapta. The Axapta Context can for example be the sales line. Fields like quantity and config id can be populated by the e-Con model after e-Con returns at the sales line

1.4.3.1 Table Context Tab:



Generic Model	Version	Table
EDOOR35	1	SalesLine
EDOOR35	1	SalesQuotationLine

Generic Model

Select the Generic e-Con model where table link information must be added.

Version

Select the version of the generic e-Con model where table link information must be added.

Table

Select the table(s) where table link and table environment information must be added. Typically tables in this areas are 'SalesLine', 'SalesQuotationLine'.

1.4.3.2 Table Environment Tab:

Field name	Environment Variable	
SalesId	OrderId	

Field name

The field of the table which must be passed over to e-Con.

Environment Variable

The name of the variable (argument) used to store the value of the field. This variable can be read in e-Con with the GetArg() function. GetArg(Customer) will deliver the customer account of the sales line where e-Con is started.

1.4.3.3 Table Link Tab

Field name	XML Path	
ItemBOMId	BOMVersion.BOMId	
SalesPrice	PRICE	

Field Name

The field of the AX context (sales line in this case) to be populated by e-Con after processing of the e-Con model.

XML Path

The property or property path of the model which value must be stored in the field specified in 'Field Name'. The value of property 'COSTS' will be stored in the Dynamics AX field 'CostPrice' of the Sales line.

1.4.4 Context Transition

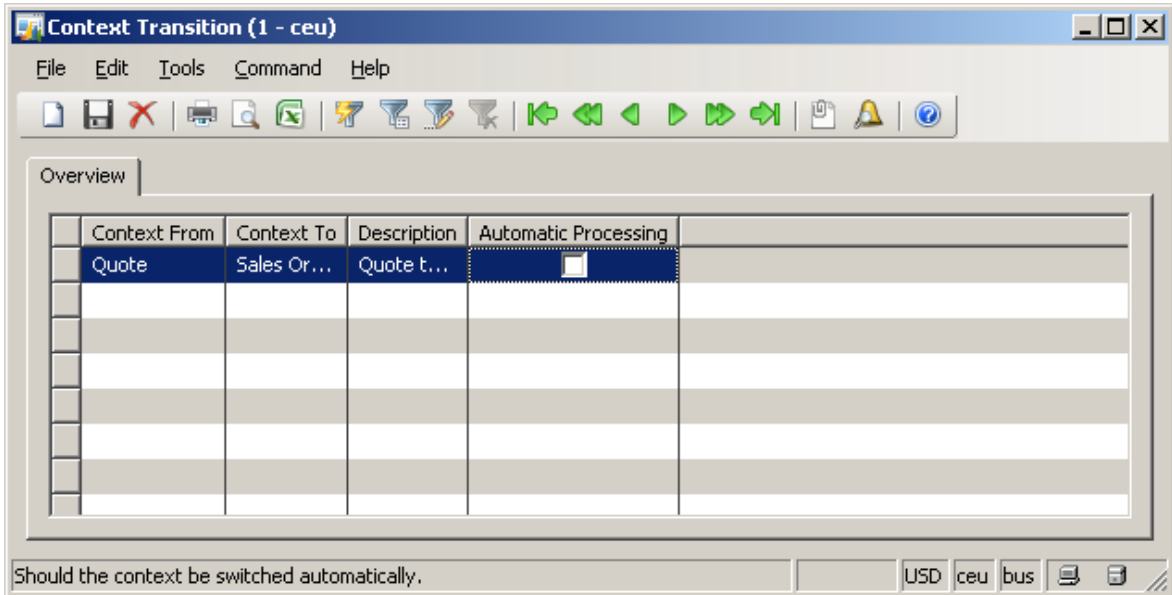
A context is a business process context in Dynamics AX. Two contexts are supported yet:

- Quote: Context when e-Con is launched from a sales quote
- Sales order: Context when e-Con is launched from a sales order

With the context transition it is possible to launch e-Con in the back ground when a transition takes place from one to another context.

An example: When the context is quote the e-Con model will not create a Bill of Material and Routing. However, when the context is sales order the Bill of Material and Routing are created. By setting up a context transition from quote to sales order, the e-Con model is recalculated in the back ground when the CRM Quote is converted into a sales order.

During this recalculation e-Con will notice a change of context from quote to sales order and will create the Bill of Material and Routing.



Context From

The original context

Context To

The new context

Description

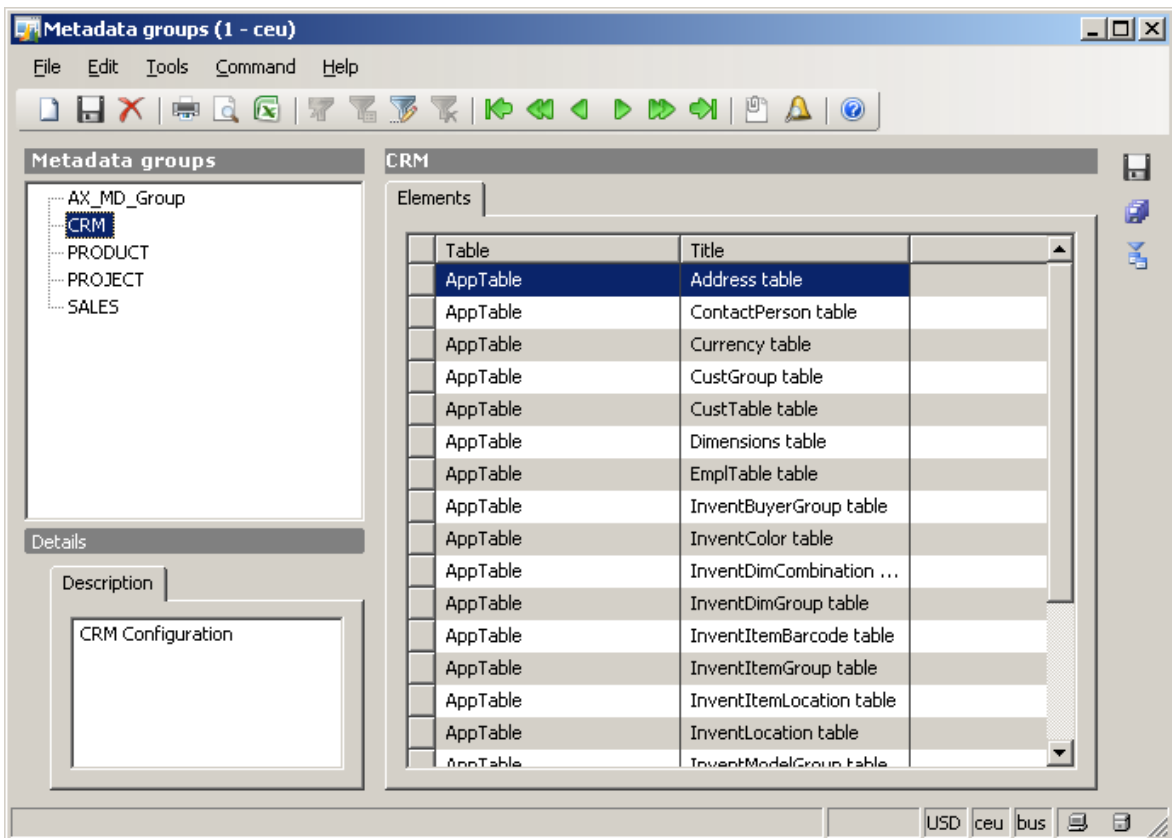
A description of the context transition

Automatic Processing

This box must be check-marked if you want to recalculate your e-Con model automatically during the context transition.

1.4.5 Metadata group

Metadata groups are shown and used in the e-Con studio. Metadata groups set up in the studio are available in AX as well.




Table

Table name being part of the metadata group.

Title

Description of the table being part of the metadata group

Button – Import e-Con 3.5 metadata groups 

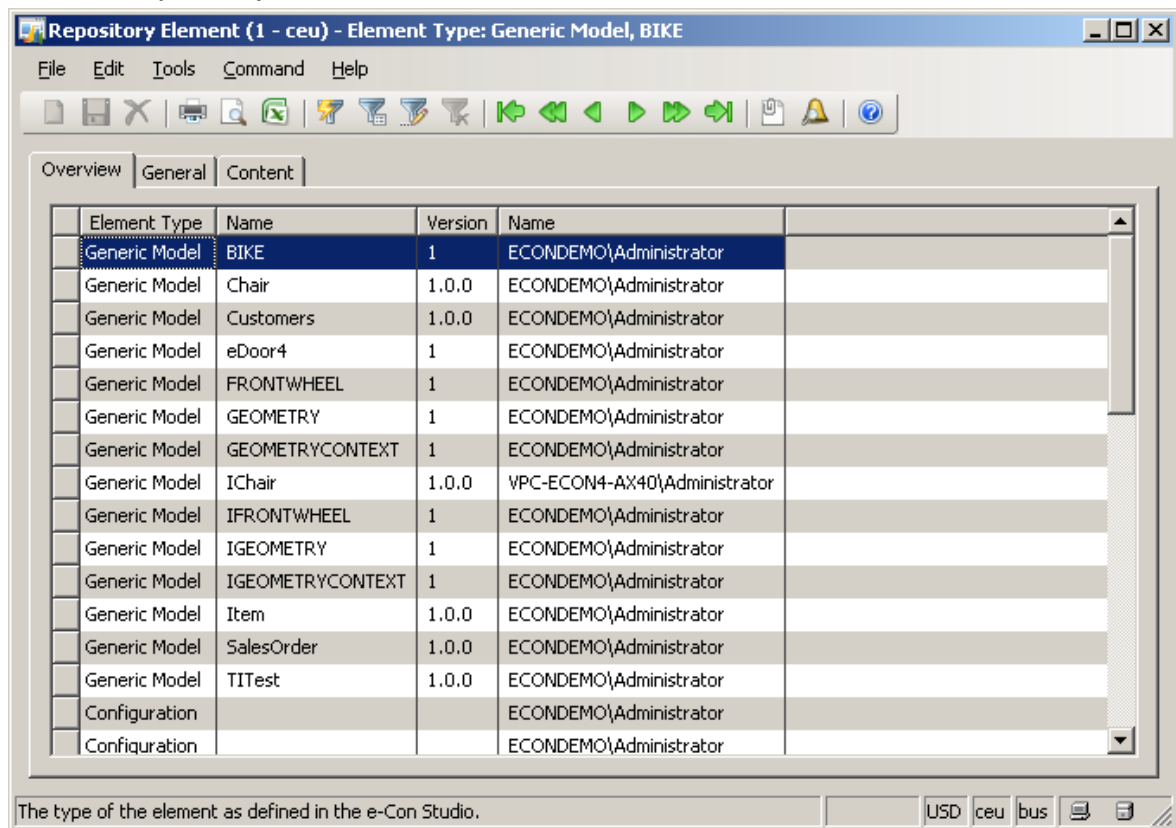
Import a set of default metadata groups. The XML file to be used can be found at the product CD.

1.4.6 Repository Element

All e-Con model related data can be stored in AX. This is by default the case. In that case AX is called the repository for e-Con.

Models, configurations, projects, templates, etcetera are stored. If AX is the repository a backup of the database will contain all applicable e-Con data. Except from images or other data sources like SQL or Excel (xml) which are not available in AX.

1.4.6.1 Repository Element Tab Overview



Element Type

The type of data stored in this repository record.

Name

Name or Id of the stored data.

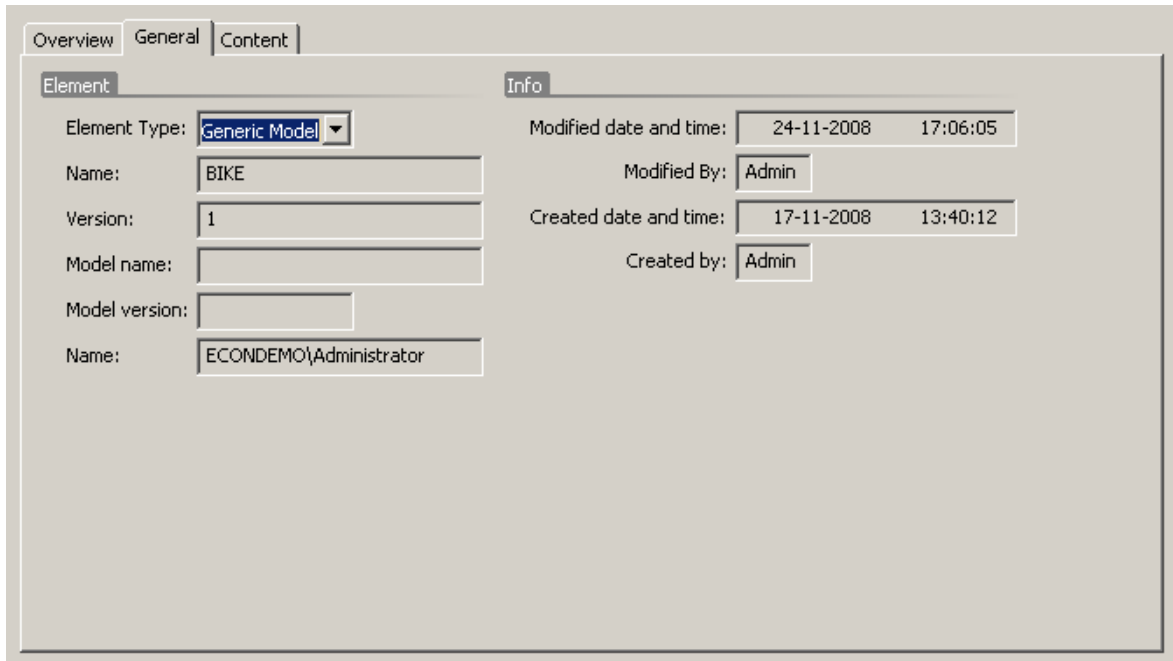
Version

Version of the model, report, project or translation.

Name

User creating the repository input.

1.4.6.2 Repository Element Tab General



Element		Info	
Element Type:	Generic Model	Modified date and time:	24-11-2008 17:06:05
Name:	BIKE	Modified By:	Admin
Version:	1	Created date and time:	17-11-2008 13:40:12
Model name:		Created by:	Admin
Model version:			
Name:	ECONDEMO\Administrator		

Element Type

The type of data stored in this repository record.

Name

Name or Id of the stored data.

Version

Version of the model, report, project or translation.

Model Name

ID of the model used for the configuration. Only applicable for configurations.

Model Version

Version of the model used for the configuration. Only applicable for configurations.

Name

User creating the repository input.

Modified date and time

Date and time of latest modification.

Modified by

User of last modification

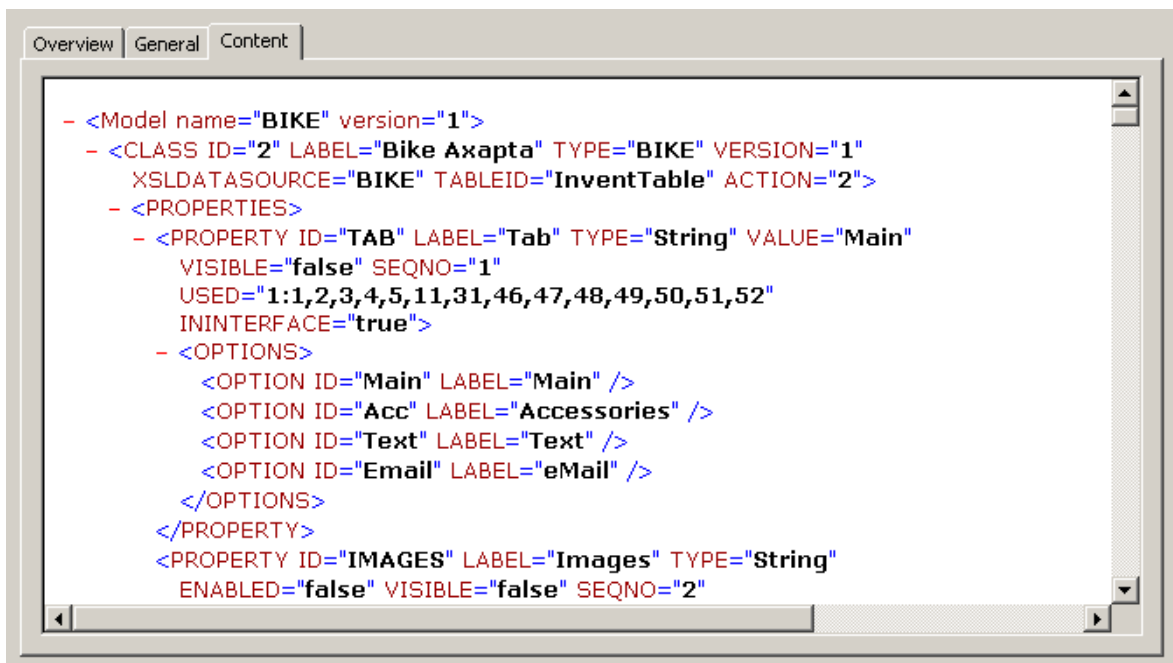
Created date and time

Date and time of creation

Created by

User created the element

1.4.6.3 Repository Element Tab Content



```

- <Model name="BIKE" version="1">
- <CLASS ID="2" LABEL="Bike Axapta" TYPE="BIKE" VERSION="1"
  XSLDATASOURCE="BIKE" TABLEID="InventTable" ACTION="2">
- <PROPERTIES>
- <PROPERTY ID="TAB" LABEL="Tab" TYPE="String" VALUE="Main"
  VISIBLE="false" SEQNO="1"
  USED="1:1,2,3,4,5,11,31,46,47,48,49,50,51,52"
  ININTERFACE="true">
- <OPTIONS>
  <OPTION ID="Main" LABEL="Main" />
  <OPTION ID="Acc" LABEL="Accessories" />
  <OPTION ID="Text" LABEL="Text" />
  <OPTION ID="Email" LABEL="eMail" />
</OPTIONS>
</PROPERTY>
<PROPERTY ID="IMAGES" LABEL="Images" TYPE="String"
  ENABLED="false" VISIBLE="false" SEQNO="2"

```

Shows content of the selected repository element

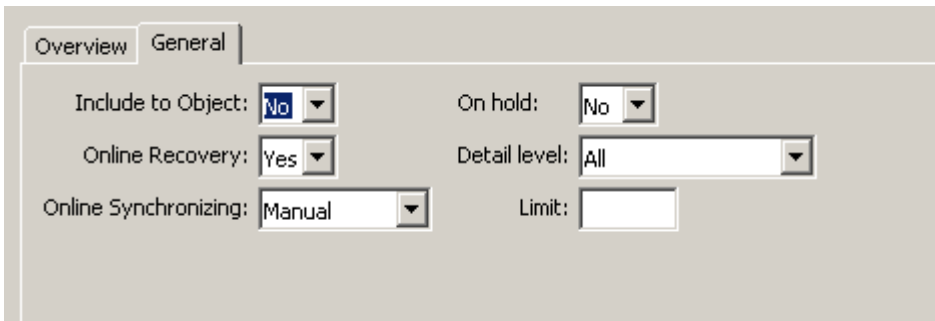
1.4.7 Smart Sets (for future use)

Chapter 2 How to

2.1 How to set up recovery

Configurations with errors can be recovered. Meaning that erroneous configurations are shown to the user when recovering is activated. The user get always his erroneous configurations displayed when he wants to use the particular model. Selecting one of the erroneous configuration will open them. The normal process can take place afterwards. Recovery can be activated per model.

- Select the generic model from where the recovery must be activated.
- Select the tab page 'General' and check the field 'Online recovery'.



Overview General

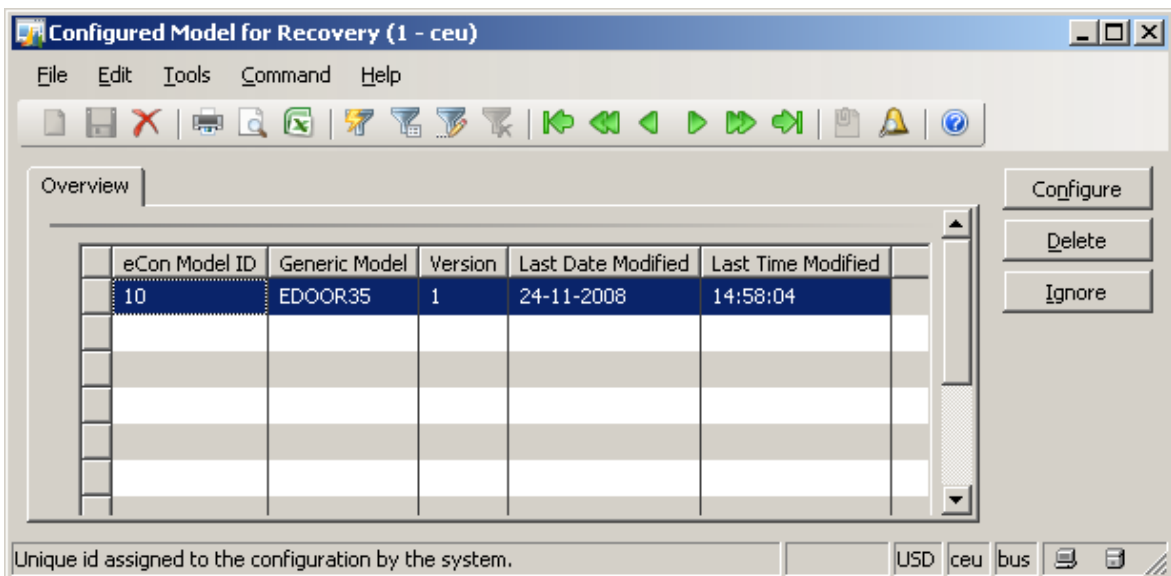
Include to Object: No On hold: No

Online Recovery: Yes Detail level: All

Online Synchronizing: Manual Limit:

What to do to recover a configuration:

- When for a certain model and users configurations exist with the error flag turned on the erroneous configuration is shown the next time the user starts the model. (The error flag is turned on by a sudden system break down as well, since the flag is set by the start of the model and reset when the configuration succeeded)



Configured Model for Recovery (1 - ceu)

File Edit Tools Command Help

Overview

eCon Model ID	Generic Model	Version	Last Date Modified	Last Time Modified
10	EDOOR35	1	24-11-2008	14:58:04

Configure
Delete
Ignore

Unique id assigned to the configuration by the system. USD ceu bus

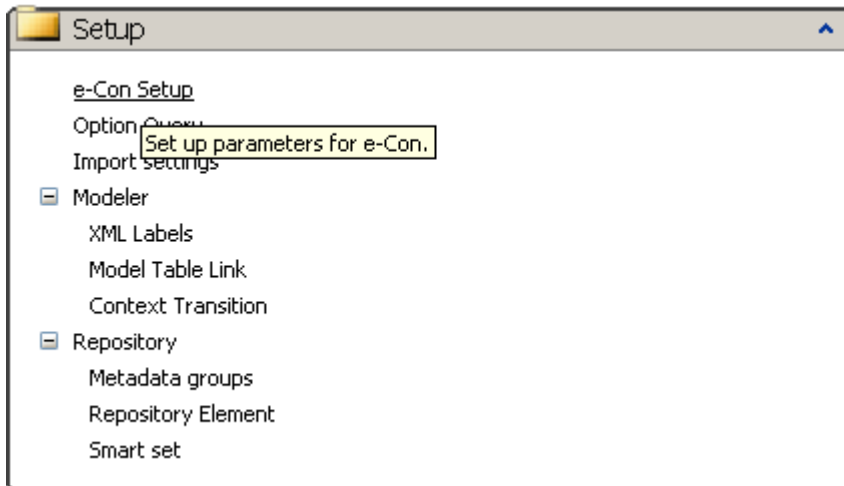
- Clicking the OK button will open the erroneous configuration.

- The remove will remove the erroneous configuration and open a new configuration.
- Ignore will just open a new configuration

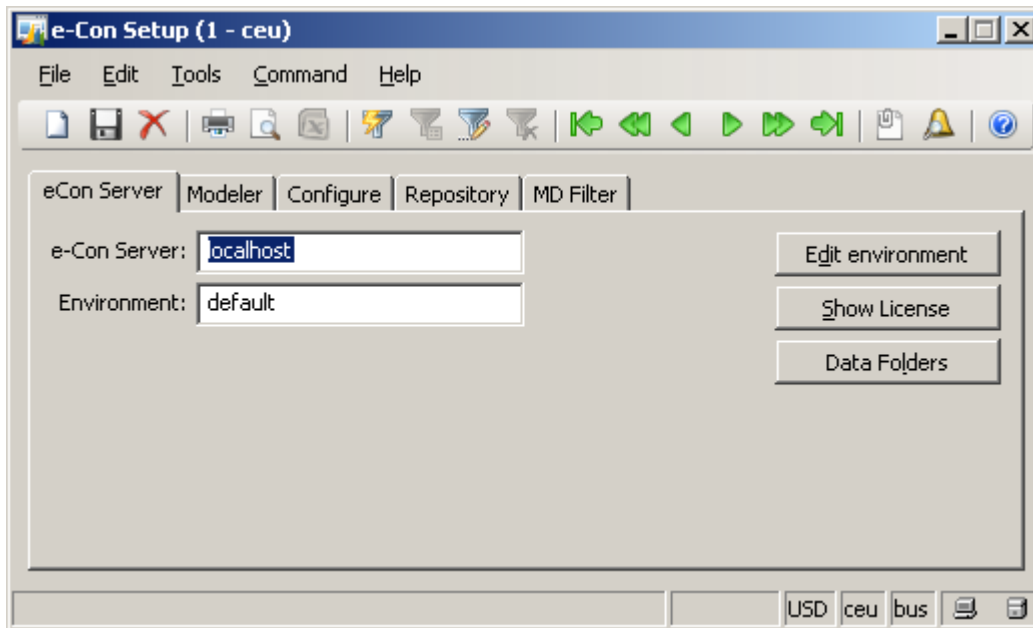
2.2 How to change the set up for e-Con

By going to "e-Con Setup", you can alter or check the default installation settings. Note : see e-Con 4.1 - MS Dynamics AX Integration - Installation Manual for details on the initial set up of e-Con in Dynamics AX.

- Go to and select "e-Con Setup"



The following form will open:



- When a new environment is needed just type in a new e-Con Environment and open the Functions – Edit Environment. More information regarding setting up a new environment can be found in “e-Con 4.1 - MS Dynamics AX Integration - Installation Manual”
- Activate the “Create Folder Structure” option to generate the folders as required for e-Con. These folders are generated on the file system for the data store as set up in the selected environment.
- Activate the “Edit Environment” option to show all the e-Con settings for the environment as selected in the field e-Con Environment. Make the changes needed, data store, default buttons etc. (Read more about all the environment settings in the “Settings” document).

2.3 How to Set Up the e-Con Application Server

See *e-Con 4.1 - MS Dynamics AX Integration - Installation Manual*

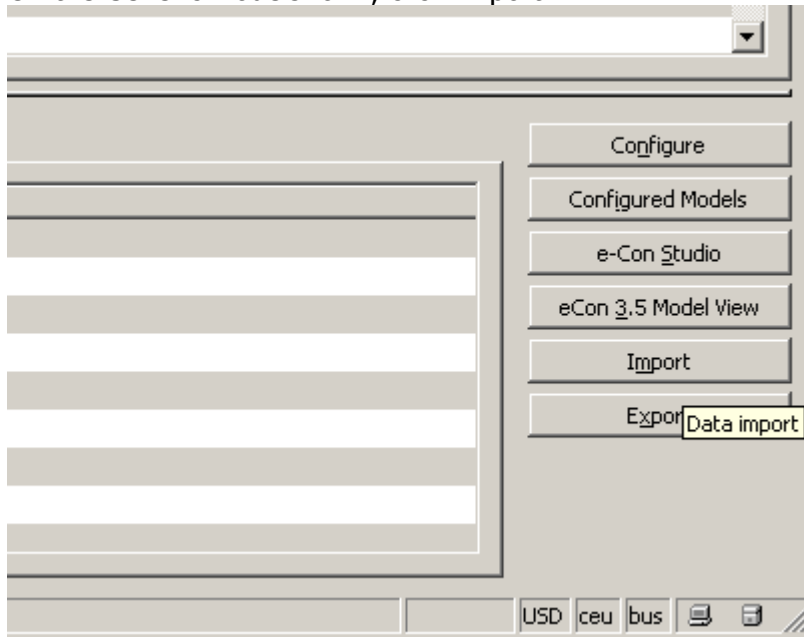
2.4 How to Import or Export Models

With e-Con, you can import and export models. Most commonly this is done via e-Con studio, but it is also possible to do it via AX.

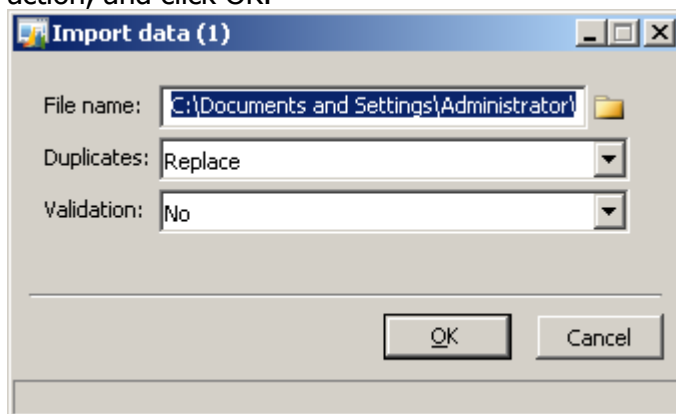
2.4.1 Model Import

To import a model:

- On the Generic Models form, click Import.



- On the Import data form, select the to-be-imported model's xml file, the duplicate action, and click OK.

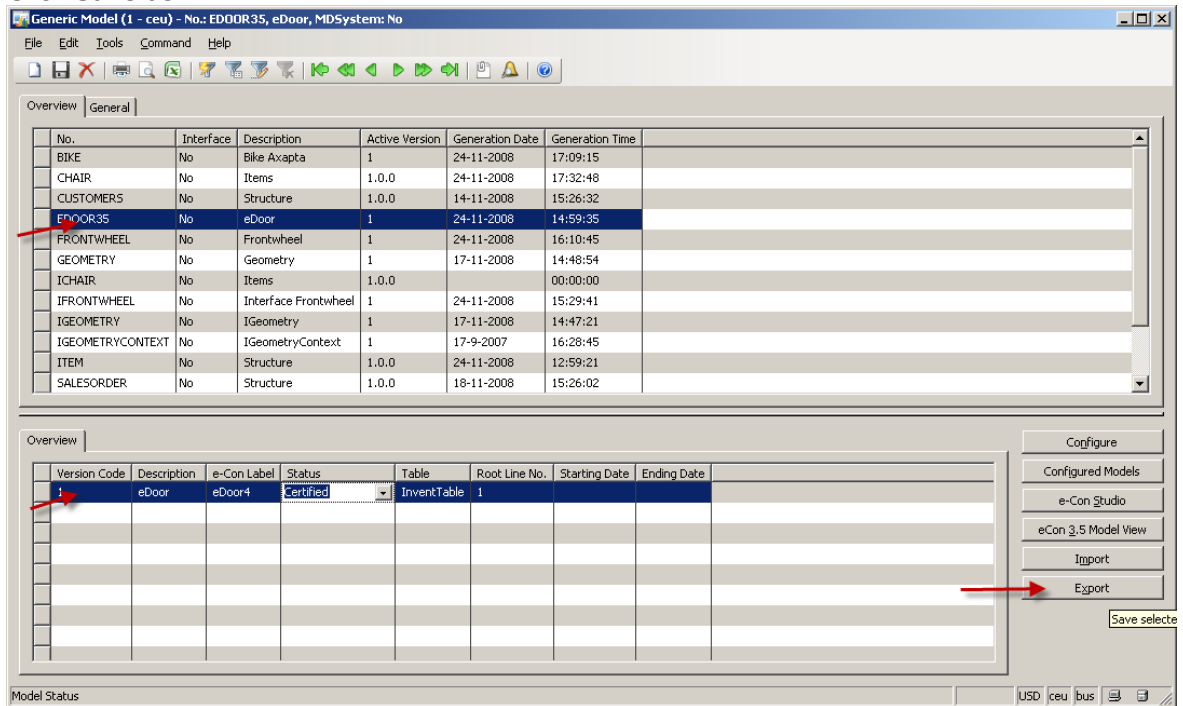


2.4.2 Model Export

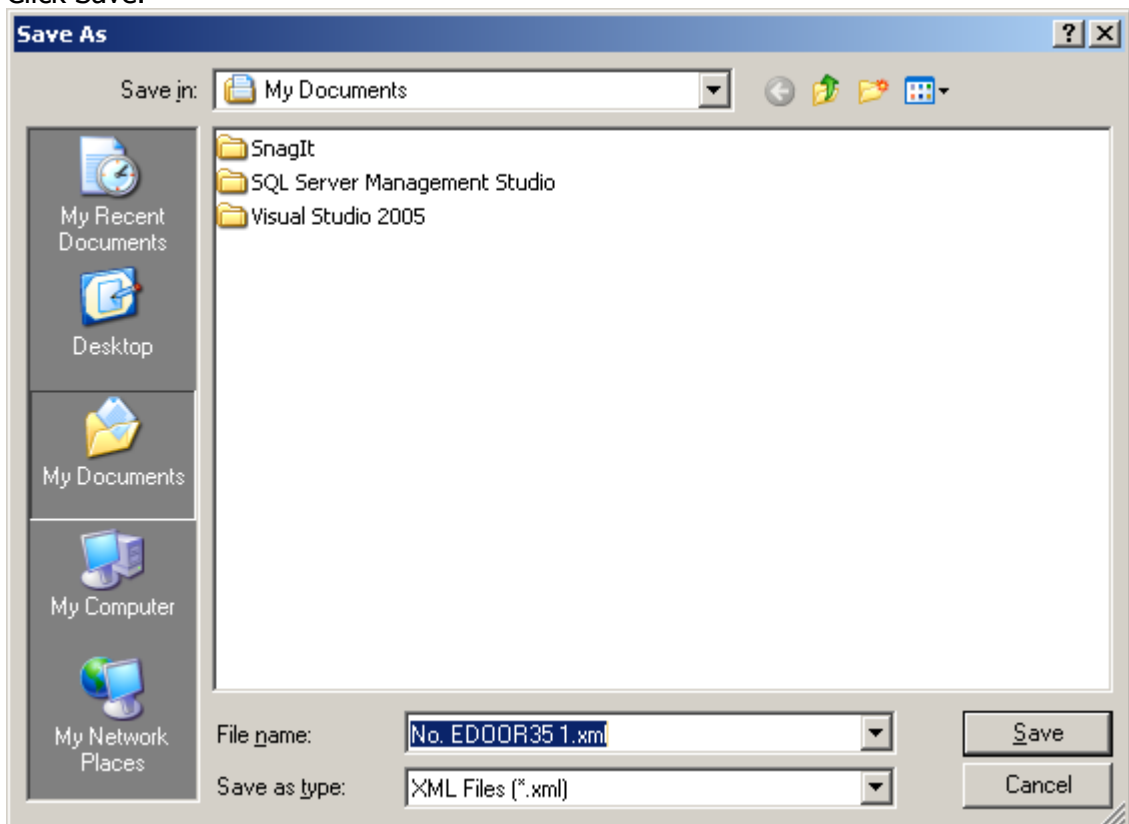
To export a model:

- In the Generic Model form, select a model.
- Select a version of the model.

- Click Save as.



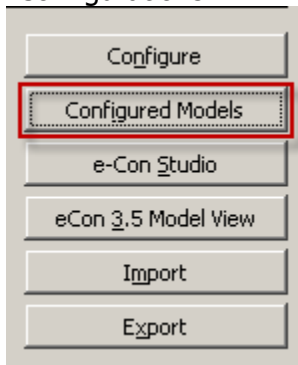
- Specify the folder in which you want to store the model export file.
- Enter the file name.
- Click Save.



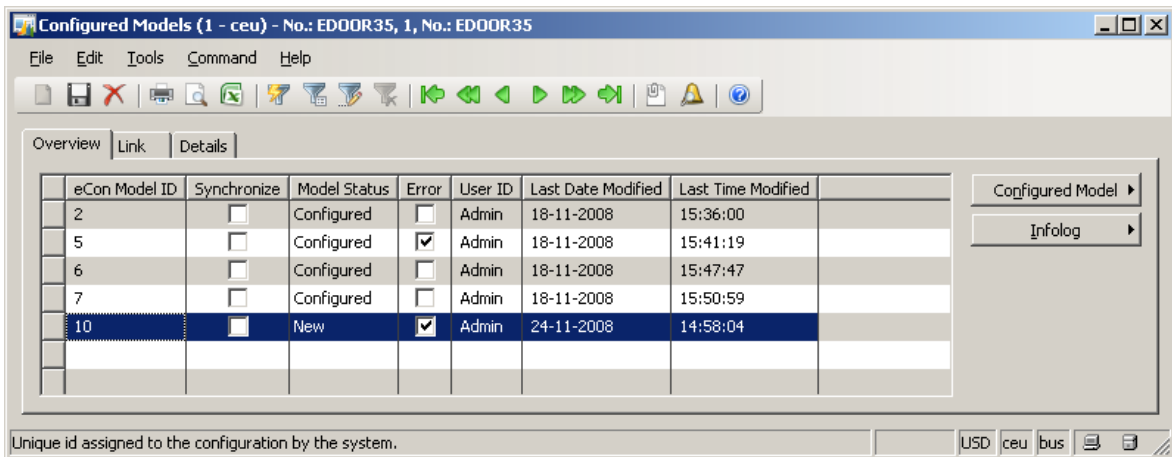
2.5 How to View Your Configurations

You can view the configurations generated using e-Con.

- Select an e-Con generic model, go to the "Functions" button and activate "Configurations".

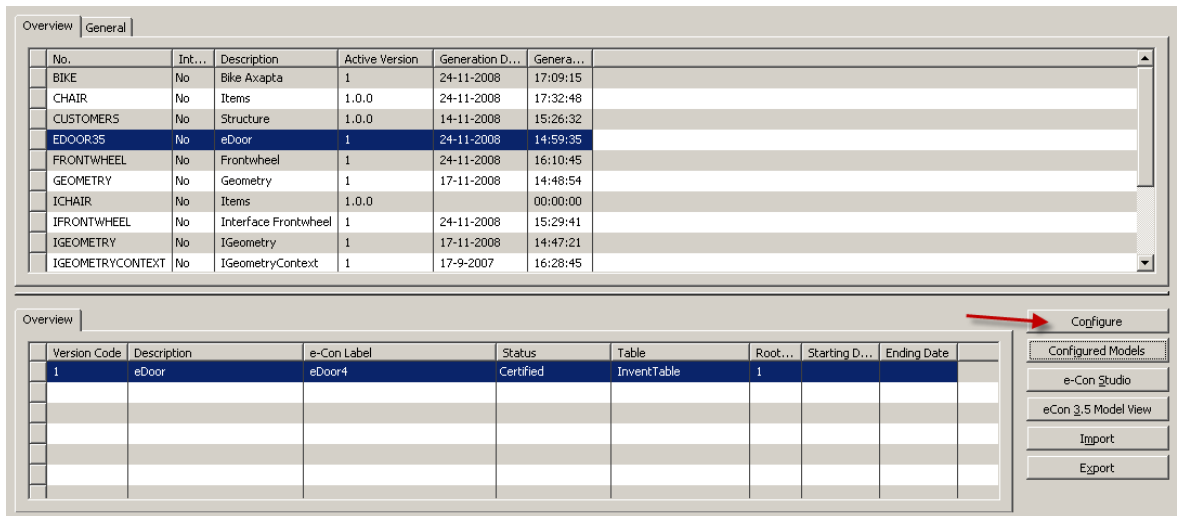


The following form will open:



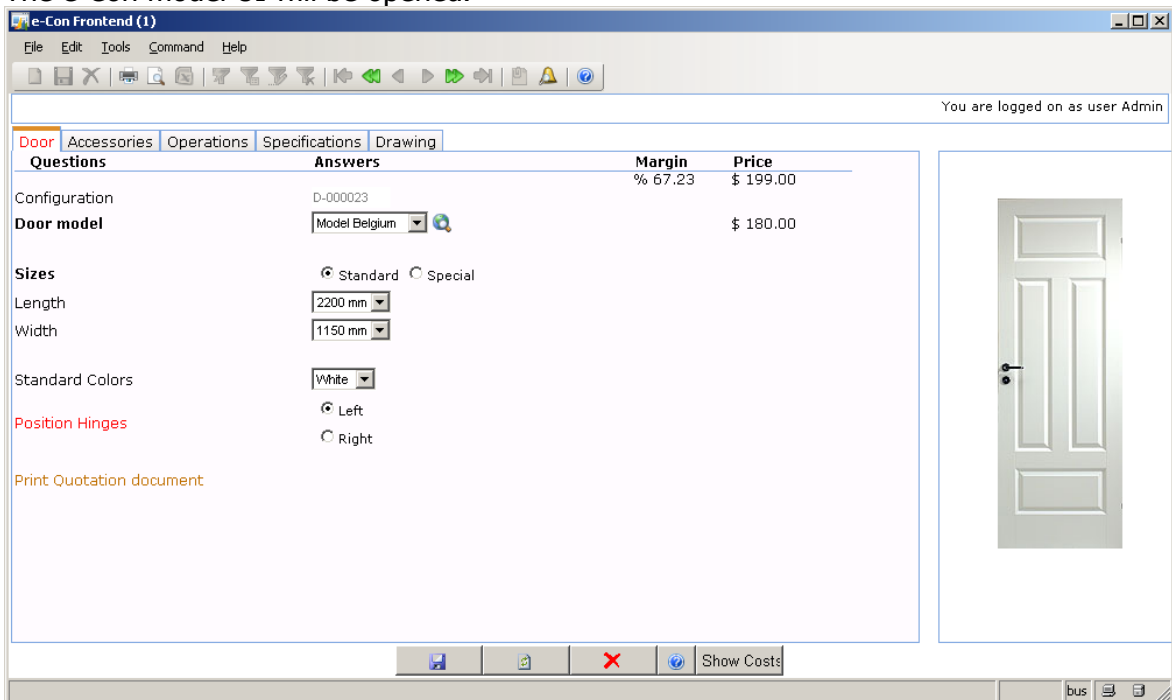
2.6 How to Start Up Your Model

- Select the desired model in the Generic Model menu



- Click the "Configure" button. Or simply press the F8 key on your keyboard.

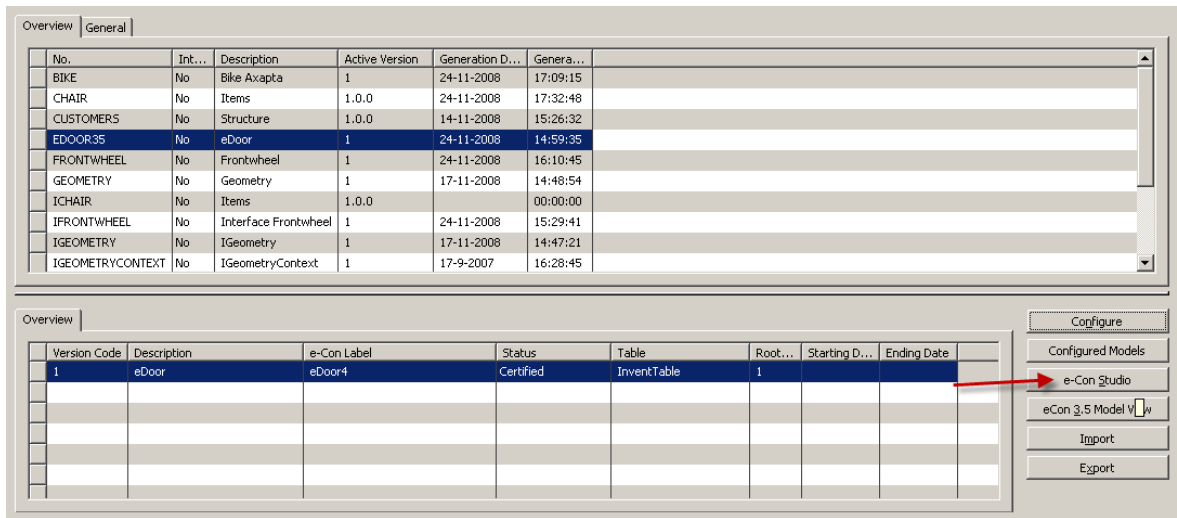
The e-Con model UI will be opened.



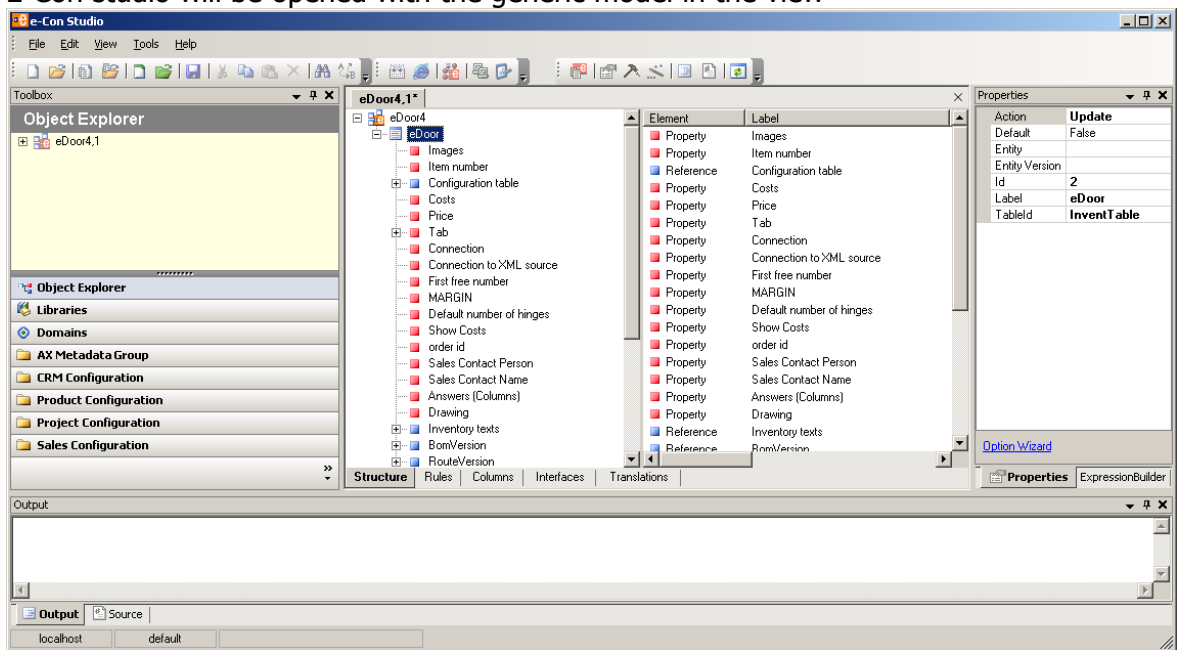
2.7 How to Start Up the e-Con Studio

With the Studio, you can alter the data structure and add rules, among other things.

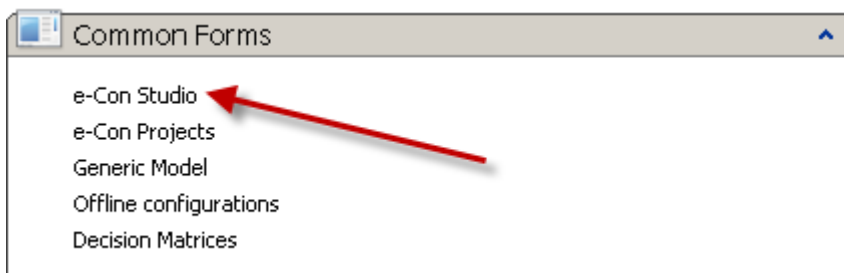
- Select the desired model in the Generic Model menu.



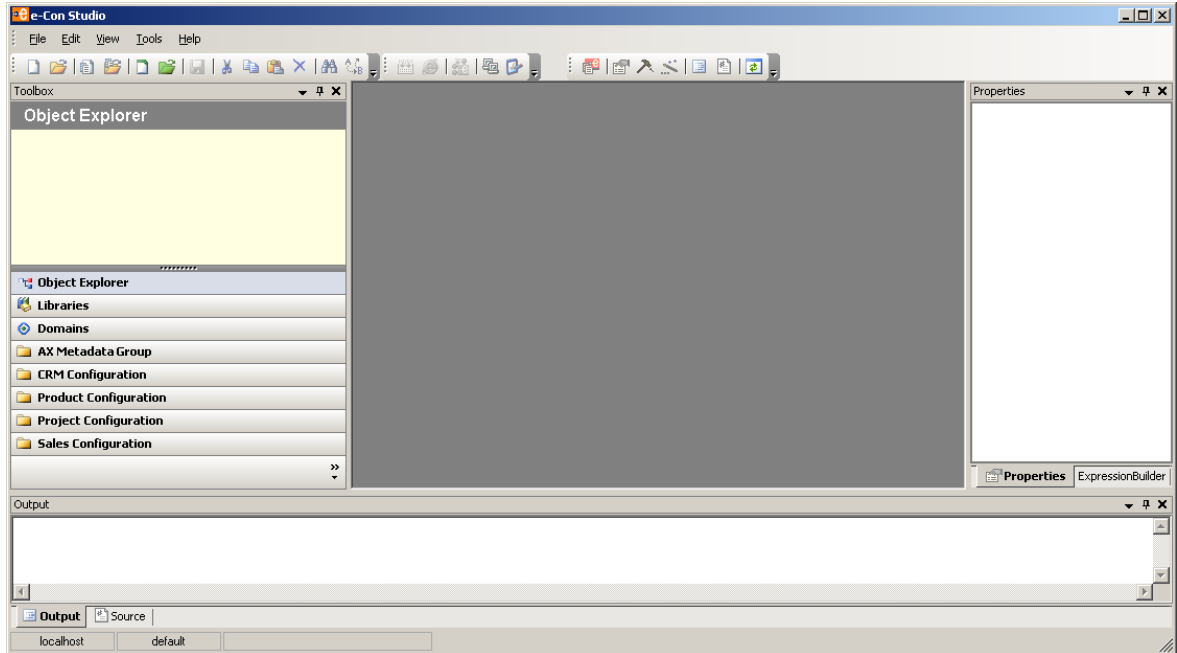
- Click the "e-Con Studio" button.
- E-Con studio will be opened with the generic model in the view



Or select the e-Con Studio from the e-Con Common Forms



- E-Con studio will be opened empty. Next in the e-Con studio the model should be selected.



2.8 How to Set Up Decision Matrices

This section describes the Decision Matrix functionality. An overview of this functionality is given, followed by instructions for setting up the matrix, and an explanation of the business rules needed.

2.8.1 Overview

You can use Decision Matrices to indicate an interdependency between member options in your model. In many cases, certain options are not possible for a given Model. "Options" in this case may mean other Options (like Color or Type) as well as Items.

It's also possible to lay out such interdependencies in the business rules. However, these interdependencies may change frequently, and changing your business rules frequently is not ideal. In addition, it is often Sales Representatives, Assortment Control staff or Product Control employees who need to make these changes, and they are usually not authorized to alter the business rules.

So instead, e-Con makes use of easy-to-use Decision Matrices. By check-marking fields in these Matrices, employees can easily make the necessary changes in interdependencies among Entity members. And they need only make use of a few existing business rules to consult the matrix.

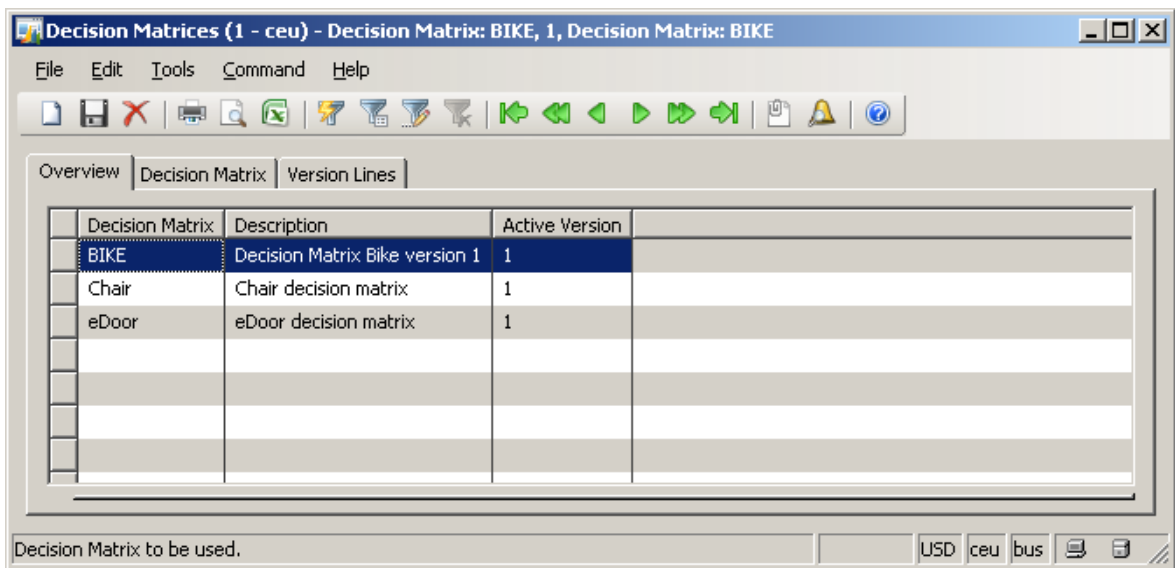
2.8.2 Setting up the Matrix

This section covers setting up a Decision Matrix in MS Dynamics AX.

A decision matrix consists of two or more "Option sets" of which the options are dependent of each other. The Option sets are based on existing queries. These queries can be based on Dynamics AX tables or not.

Setting up a Decision Matrix.

- First select "Decision Matrices" in the e-Con Common Forms.
- The Decision Matrix form for setting up the Decision Matrices and Versions appears. Different Decision Matrices with version can be determined. Every Decision Matrix has an Active Version. The "Option sets" are determined as Version Lines per version.



- Add a new line on the Overview tab with CTRL-N and fill a unique code for the Decision Matrix and a Description.

Overview | Decision Matrix | Version Lines

Decision Matrix	Description	Active Version
BIKE	Decision Matrix Bike version 1	1
Chair	Chair decision matrix	1
eDoor	eDoor decision matrix	1
MyBike	My Bike Decision Matrix	

Versions

Version	Description	Starting Date	Ending Date
*			

Decision Matrix Link
Copy Matrix Version
Import
Export

- Go to the Versions and add a new version.

Versions

Version	Description	Starting Date	Ending Date
* 1	1y First Vers		

Decision Matrix Link
Copy Matrix Version
Import
Export

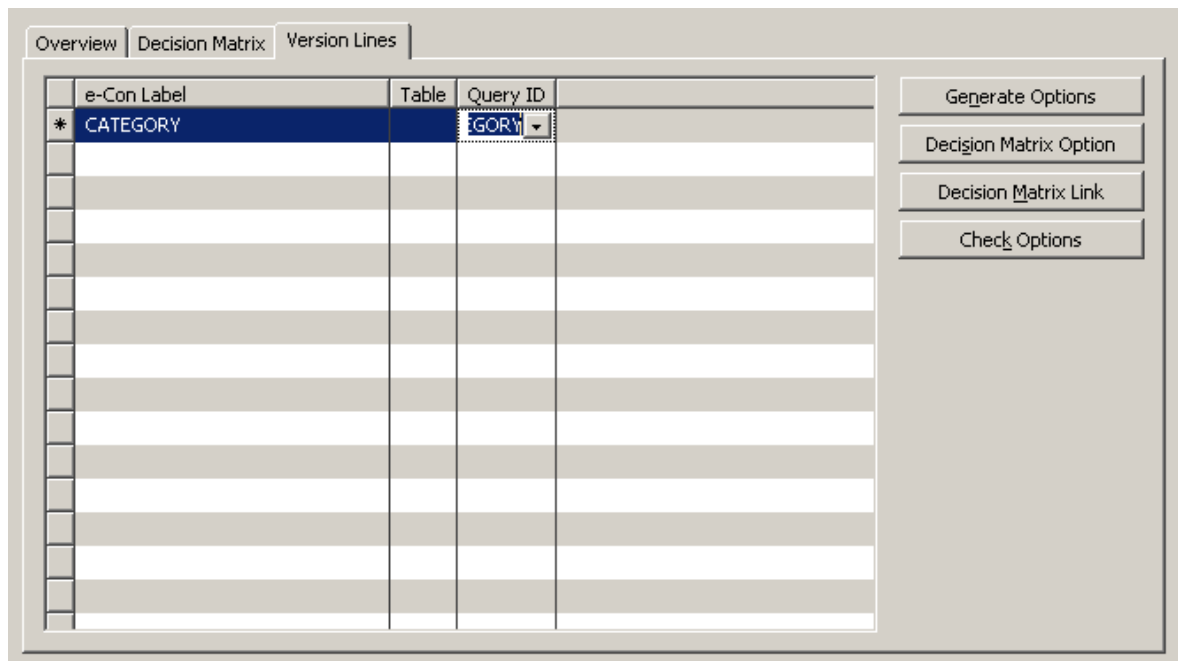
- Select the new version as "Active Version" for the Decision Matrix.

Overview | Decision Matrix | Version Lines

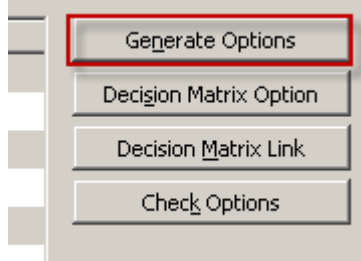
Decision Matrix	Description	Active Version
BIKE	Decision Matrix Bike version 1	1
Chair	Chair decision matrix	1
eDoor	eDoor decision matrix	1
MyBike	My Bike Decision Matrix	

Version	Description
1	My First Version

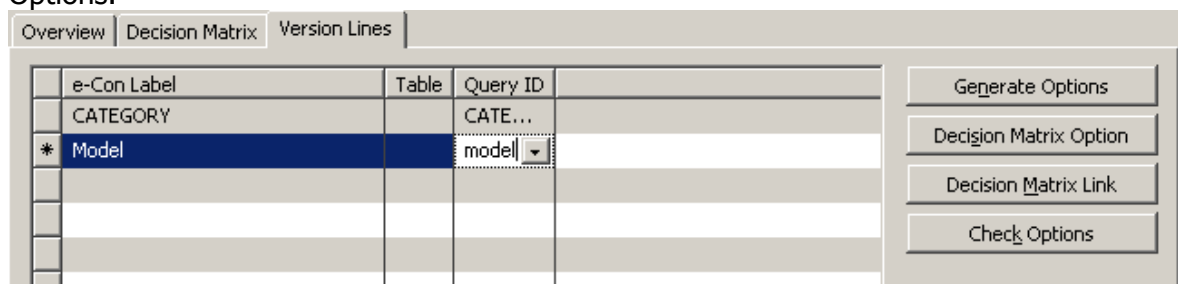
- Go to the Version Lines tab and add the Option sets. Add a new line with CTRL-N. Select the e-Con Label, Table Name (if the query is based on a Dynamics AX table) and Query ID.



- Generate the options with the “Generate Options” button and view the options.



- Add a second option set e.g. MODEL. Generate the options and check them with View Options.



- Go with “Decision Matrix Link” to the form where the dependency between the options are set. With check-mark in the Boolean fields the relation between the options can be set. For instance Only models “popular” and “tranza” are possible for “Citybike”.

e-Con Options

e-Con Label	
CATEGORY	
Model	

Option	Option Description
Citybike	City Bike
Mountainbike	Mountain Bike
Sportbike	Sports Bike
Tourbike	Tour Bike

Related Options for CATEGORY: Citybike

e-Con Label	
CATEGORY	
Model	

Link		Link Values		
Link	Default	Option	Option Description	
<input type="checkbox"/>	<input type="checkbox"/>	bahia	Bahia	
<input type="checkbox"/>	<input type="checkbox"/>	extreme	Extreme	
<input type="checkbox"/>	<input type="checkbox"/>	golfo	Golfo	
<input type="checkbox"/>	<input type="checkbox"/>	instinct	Instinct	
<input type="checkbox"/>	<input type="checkbox"/>	medeo	Medeo	
<input type="checkbox"/>	<input type="checkbox"/>	playa	Playa	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	popular	Popular	
<input type="checkbox"/>	<input type="checkbox"/>	torrente	Torrente	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	tranza	Tranza	
<input type="checkbox"/>	<input type="checkbox"/>	ultimate	Ultimate	

- Fill the Decision Matrix for all the Categories.

2.8.3 Checking the default option in the matrix.

In the Decision Matrix valid options can be checked. Besides that the default option for a particular row can be checked as well.

Two steps are required to add this default behavior to the matrix functionality.

Select the matrix link and check for each row the default option. In this example model 'popular' is check marked as the default option for Category 'Citybike'.

e-Con Options

e-Con Label	Option	Option Description
CATEGORY	Citybike	City Bike
Model	Mountainbike	Mountain Bike
	Sportbike	Sports Bike
	Tourbike	Tour Bike

Related Options for CATEGORY: Citybike

e-Con Label	Link	Link Values	Option	Option Description
CATEGORY				
Model	<input type="checkbox"/>	<input type="checkbox"/>	bahia	Bahia
	<input type="checkbox"/>	<input type="checkbox"/>	extreme	Extreme
	<input type="checkbox"/>	<input type="checkbox"/>	golfo	Golfo
	<input type="checkbox"/>	<input type="checkbox"/>	instinct	Instinct
	<input type="checkbox"/>	<input type="checkbox"/>	medeo	Medeo
	<input type="checkbox"/>	<input type="checkbox"/>	playa	Playa
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	popular	Popular
	<input type="checkbox"/>	<input type="checkbox"/>	torrente	Torrente
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	tranza	Tranza
	<input type="checkbox"/>	<input type="checkbox"/>	ultimate	Ultimate

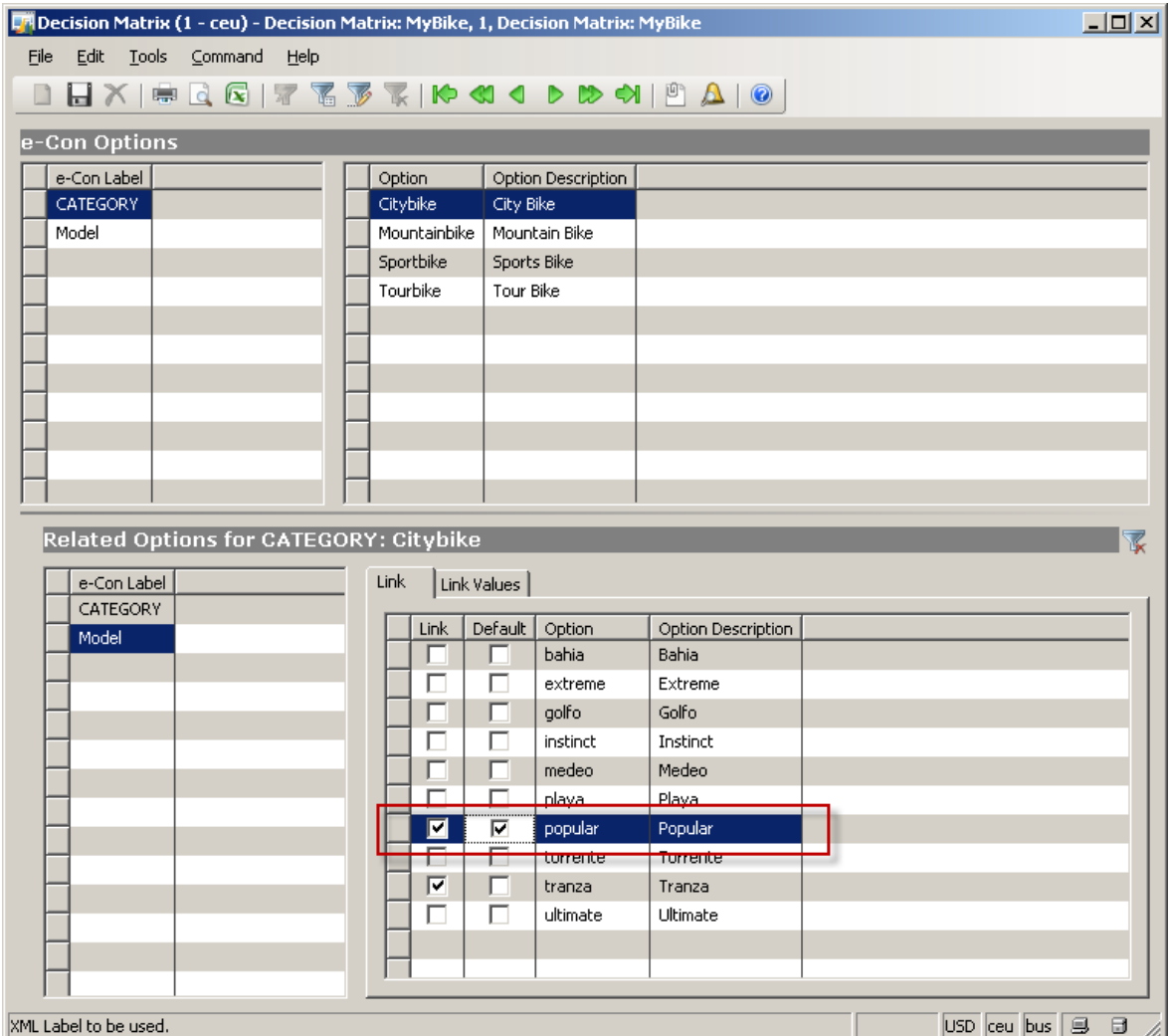
Add a new style to the property representing the Models. In this case the property model. The style to be added is: 'selectdefault' with value 'true'.

Style	selectdefault:true
-------	---------------------------

2.8.4 Adding Additional Data to a Selected Check Box in the Matrix

In this section we describe how additional data can be added to a checked field in the decision matrix. This functionality offers you the possibility to add data to options available in the decision matrix. As an example: It's possible to add the prices for all the monitors in combination with the computer model for. That means that the price for monitor vary depending on the computer model the monitor belongs to.

- Select the Decision Matrix as set up in the former step. And select the Matrix form as shown below.



Decision Matrix (1 - ceu) - Decision Matrix: MyBike, 1, Decision Matrix: MyBike

File Edit Tools Command Help

e-Con Options

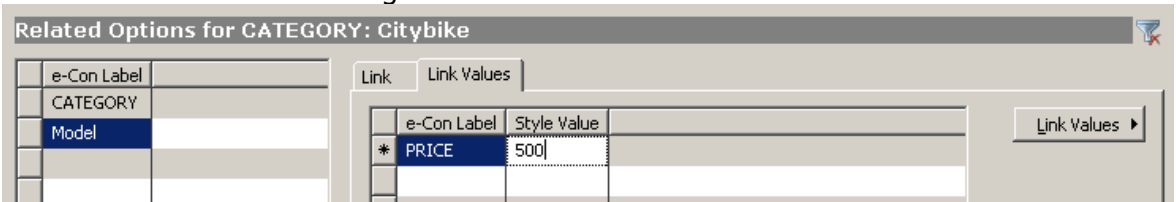
e-Con Label	Option	Option Description
CATEGORY	Citybike	City Bike
Model	Mountainbike	Mountain Bike
	Sportbike	Sports Bike
	Tourbike	Tour Bike

Related Options for CATEGORY: Citybike

e-Con Label	Link	Link Values	Option	Option Description
CATEGORY	<input type="checkbox"/>	<input type="checkbox"/>	bahia	Bahia
Model	<input type="checkbox"/>	<input type="checkbox"/>	extreme	Extreme
	<input type="checkbox"/>	<input type="checkbox"/>	golfo	Golfo
	<input type="checkbox"/>	<input type="checkbox"/>	instinct	Instinct
	<input type="checkbox"/>	<input type="checkbox"/>	medeo	Medeo
	<input type="checkbox"/>	<input type="checkbox"/>	playa	Playa
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	popular	Popular
	<input type="checkbox"/>	<input type="checkbox"/>	torrente	Torrente
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	tranza	Tranza
	<input type="checkbox"/>	<input type="checkbox"/>	ultimate	Ultimate

XML Label to be used. USD ceu bus

- Select a link for which a check box is selected.
- Open the Link Values tab.
- On the link values tab, enter a label and a value. This data is unique linked to the checked field in the matrix. The label of the value is important because that label is used in the business rules to get this value in eCon.



Related Options for CATEGORY: Citybike

e-Con Label	Style Value
* PRICE	500

Link Values

Tips & Tricks:

To assure that always the same labels are used for the additional data in a decision matrix, use the Link Values Defaults. The Defaults function can be found under the "Link Values" button on the Link Values tab of the e-Con Decision Matrix form. When additional data is entered, those defaults always appear.

Implication:

```
1 CATEGORY@options =
2 GetMatrixColumns("CATEGORY"; true; CONNECTION; "BIKE"; "MODEL"; "CATEGORY"; "="; MODEL)
```

This rule establishes that when the end user selects a Model, the various Category options associated with that Model are retrieved from the Decision Matrix.

Implication:

```
1 MODEL@options =
2 GetMatrixRows("MODEL"; false; CONNECTION; "BIKE"; "MODEL"; "CATEGORY"; "="; CATEGORY)
```

This rule established just the opposite. When the end user selects a Category, the associated Models are retrieved from the Decision Matrix.

- The GetMatrixCell function is used to get information linked to a certain cell of the decision matrix, the so called additional data.

Below you will find an example how to use this function:

Implication:

```
1 WEIGHT =
2 GetStringMatrixCell(CONNECTION; "BIKE" ; "Weight"; "CATEGORY" ; "="; CATEGORY; "MODEL" ; "="; MODEL);
```

In this rule the weight is retrieved from the Decision Matrix "Bike". Based on the chosen Category and Model the right cell is consulted.

For more detailed information about these functions, see the document "Data Functions - Library Descriptions".

Tips & Tricks:

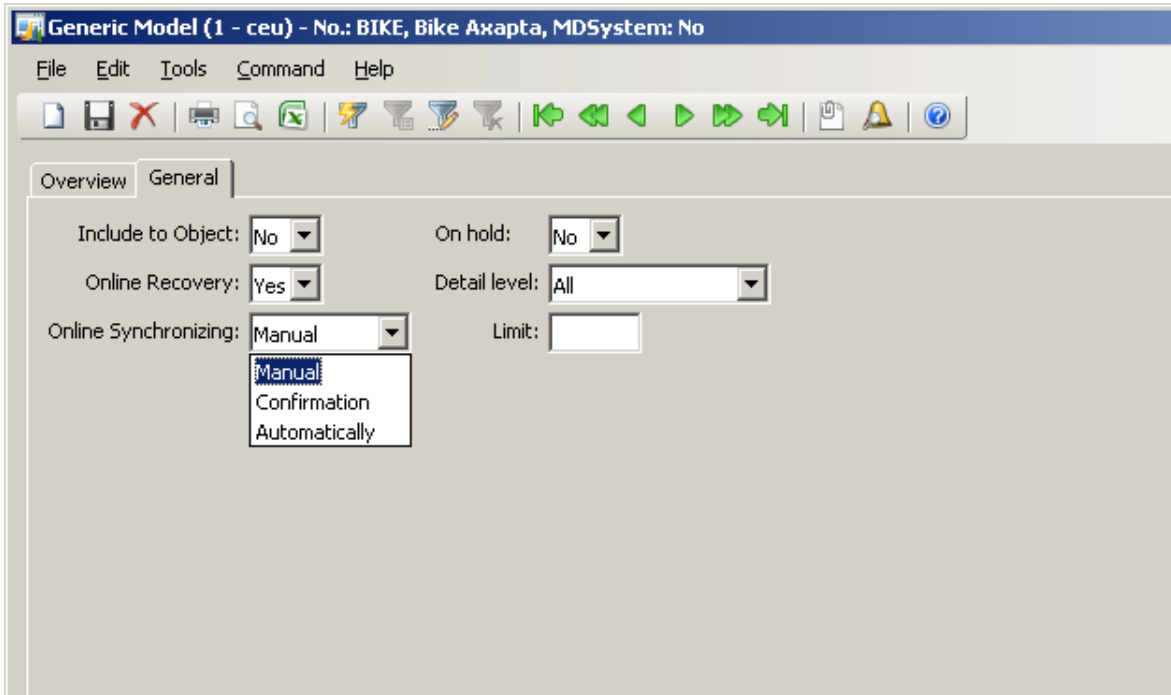
Use the 'Data Wizard' in the e-Con studio to easily add these functions to your model.

2.9 How to synchronise my configurations against the latest model

During the life cycle of a model many changes, upgrades and extensions of a model take place. Sometimes it's required to update existing configurations with these latest model changes, sometimes it's not. Such an update is called "Synchronization" in e-Con terms. There are different ways how synchronisation can take place. The section explains the different possibilities in this area.

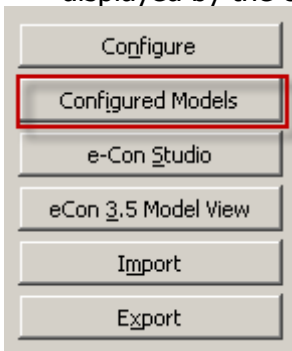
A controlled synchronisation can only take place when changes are done in a controlled way via versions. Changes made to a model without adding a new version are **always** synchronized during reconfiguration. In other words, changes made to the active version are always applied to an existing configuration during the reconfigure process.

When changes are done via a versioning procedure, each change or set of changes is a new model version, a certain set up of synchronization can be done. This set up can primarily be done on the generic model card. At the tab page "XML" a field "online synchronization" exists. This field determines how the model will act when the version of the configuration differ from the active version of the model.

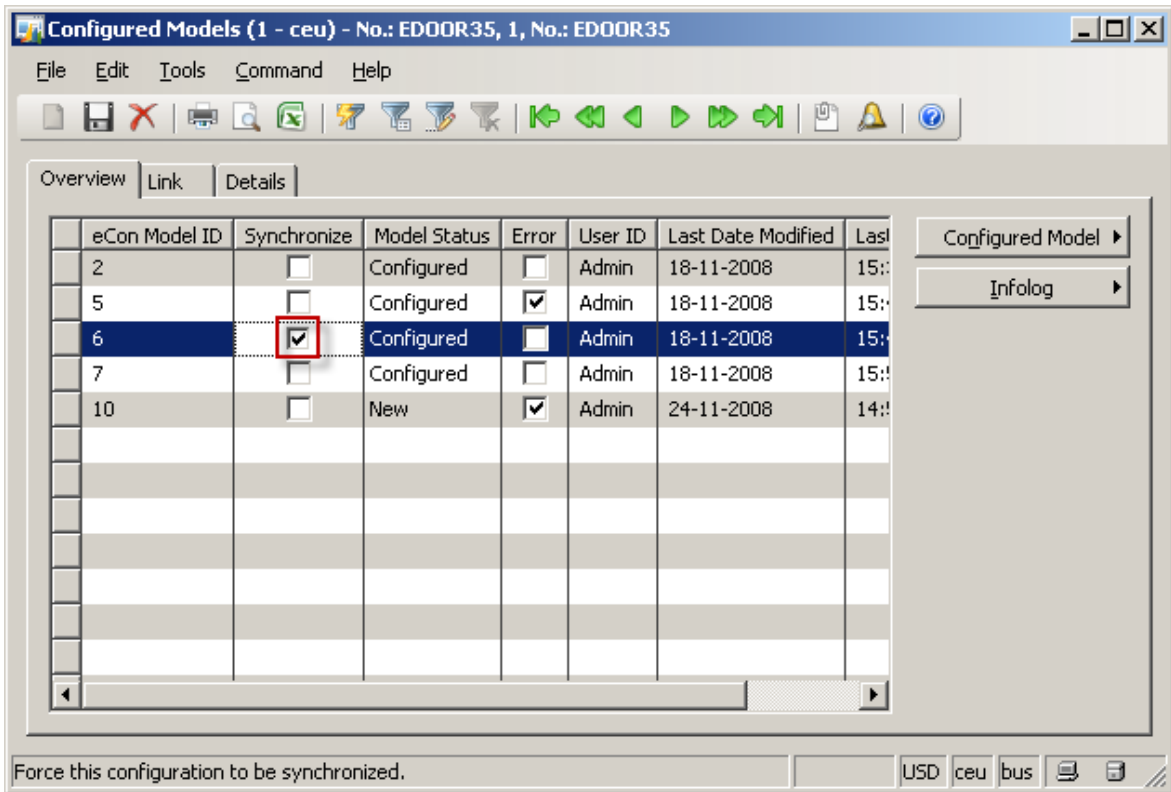


Three possibilities exists here:

- Manual: The configuration is only synchronized with the active version of the model when the field "Synchronize" for that particular configuration is true. This "Synchronize" field is located in the "Configured Models" table. This table can be displayed by the clicking the button "Configurations" at the "Generic Model" menu.



- The field "Synchronize" can be checked here for each configuration needed to update.



- On Confirmation: Each time, when e-Con detects a difference between the configuration version and active version of the model, is asked if the configuration must be synchronized with the active version of the model. The field "Synchronize" does not play any role in this case.
- Automatically: When e-Con detects a difference between the configuration version and active version of the model synchronization takes automatically place without any user interaction. The field "Synchronize" does not play any role in this case.

2.10 How to save my model without leaving the UI (posting)

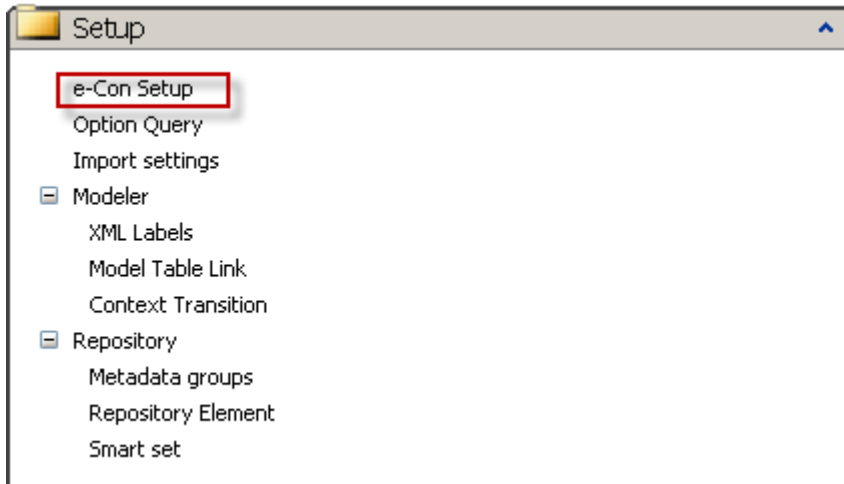
The general task to save and process a configuration in MS Dynamics AX is the process task. (represented by a 'B' in the Button set up). However another possibility exists as well to save and process a configuration: the so called 'Post' action. Posting a configuration means that the XML document is posted in the request queue and via the Application Service processed in MS Dynamics AX. The UI is still open after this action (leave without exit). This can be especially useful when multiple configurations must be made with almost the same specifications. After posting a configuration the change can be done, posting, changing, posting etc.

To set up the post functionality few actions must take place:

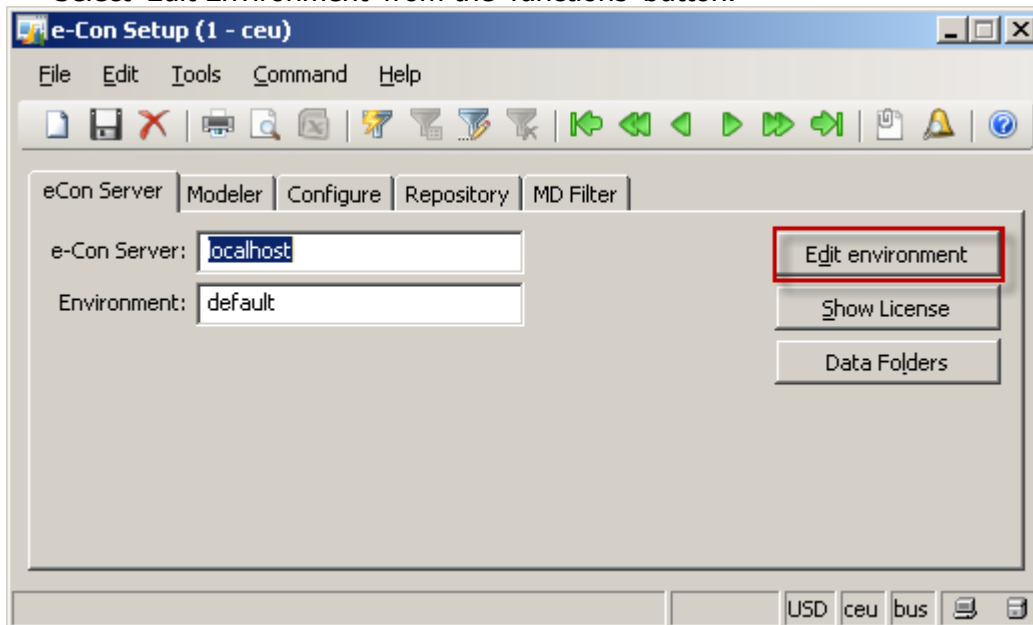
- Adding a post button to the UI.
- Adding the Env datastructure to the model with BeforePost property.
- Adding a few rules to control the assignment of the right object id's.

Adding a Post button to the UI.

- Select the 'e-Con Setup' menu options from the 'Set Up' menu from e-Con.



- Select 'Edit Environment' from the 'functions' button.



- Add the letter 'Q' or 'X' to the buttons field. Every character here represents a button. The 'Q' represents the Post button the 'X' represents the Post and Exit button.



Adding Env.BeforePost structure element to the model



Adding rules to control the object ID.

The object ID is the number which the configuration and XML file becomes after the save or post action. There are some special functions to control the number (object id) to assign to the posted configuration.

Furthermore two environment variable exist 'Env.BeforePost' and 'Env.AfterPost'. The 'BeforePost' becomes true just before the post action, the 'AfterPost' becomes true after the post action. These environment variables allows to trigger and execute rules just before and or after the posting from a configuration.

- Enter a rule to retrieve an new object number. This can be done with the function `CallStringFunction(CONNECTION;"GetObjectID")`
- Enter a rule to assign this Object number to the document to be saved. This can be done with the function `SetArg("saveas"; OBJECTID)`

Example from the Sales Order Demo model.

Id:	Get New Object ID after post action
Label:	Get New Object ID after post action
Condition:	<code>1 Env.BeforePost</code>
Implication:	<code>1 OBJECTID = CallStringFunction(CONNECTION;"GetObjectID");</code> <code>2 Env.BeforePost = not(SetArg("saveas"; OBJECTID))</code>

Chapter 3 Troubleshooting

This chapter explains how to address error messages. First, we discuss the quickest ways to address commonly occurring error messages, like "There are errors in the rules." Unfortunately, sometimes other sorts of errors also occur, like "Loop detected" or simply a model not performing as you expected. In the second section of this chapter, we will outline a procedure for addressing these other types of errors.

3.1 Common Procedure for Resolving Errors

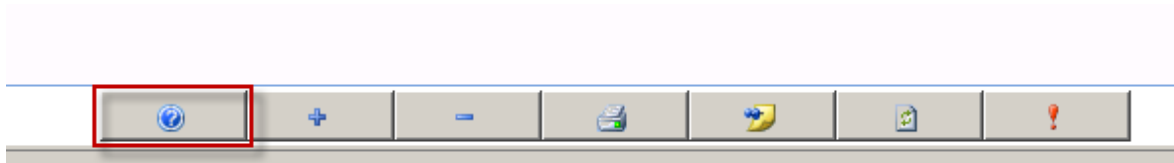
In this section, we will outline a procedure for addressing errors. Sometimes the error message "Loop detected" appears or a model simply does not perform as you expected. It's often difficult to determine what's causing the problem, especially when you're dealing with a large or detailed model.

Tips & Tricks:

The error message "Loop detected" occurs when e-Con finds a loop in the rules. For example: The implication "A = A + 1" will cause this error message to appear. The rules engine is declarative, which means that every time "A" is changed, this rule will be executed. But executing this rule causes A to be changed, causing the rule to be executed, causing a change in A...and so on. e-Con detects this loop in the rules and provides the error message "Loop detected".

There is a helpful function to understand what happens in the model. Sometimes your model does not give an expected outcome or behavior. With the aid of the "?" button (How and Why) in the Front-end you can check how a certain value is calculated. You can also understand which rule(s) the member takes its value from.

How it works:



When the "?" button is clicked the cursor changed to a hand. This hand can be moved to a field in the front end.

A right mouse click at the field in the UI offers you the next screen:

e-Con 4.0 Explanation Facility			
Engine context	eDoor4	Member context	eDoor4
Member	Door.Length	Label	Length
Value	2200	Type	Double
Length	0	Index	-1
Default	2200	Previous	0
Filter		Fieldfilter	
Attributes	P-*ERSV	Style	selectdefault:true
Table ID		Field ID	
Rules	1:8,37,41,42,43,50		
Active Rule	Member set by user		
Condition			
Implication			
Rule context			

Select member

Context Member Rule Engine

Expression

Result

In this screen the next fields are available:

Engine Context:

The parent model running.

Member Context:

The (sub)model the member is located.

Member

The member of the model the How & Why function is applied to. Actually the member from the UI field selected.

Label

The label from the selected member.

Value

The value from the selected member

Type

Type from the selected member

Length

Length from the selected member

Index

Index from the selected member. Actually this only make sense when the member is part of an array (so called repeatable entity). When the member is not part of an array the value is always '-1'.

Default

The default value from the selected member. When there is no default value set for the member this field is empty.

Previous

The previous value from the selected member .

Filter

The Filter applied to the member.

Attributes

The attributes applied to the member.

Style

The styles applied to the selected member.

Table id

The table id from the related table from AXision (Only applicable for field properties)

Field Id

The eventually field id from the related field from AXision (Only applicable for field properties)

Rules

Where used from the member. The where used are the rule numbers where the member is used in.

Active Rule

The rule(s) description involved in the calculation from this field

Condition

The condition from the active rule

Implication

The implication from the active rule

Rule Context

The (sub) model in which the rule is executed.

Select member

The member analyzed. It's possible to key in a member from the model to be analyzed as well.

Context

Three possibilities to select from:

- Member:
- Rule:
- Engine:

Expression

A rule expression can be entered here.

Result

The result from the above typed expression. This is calculated after clicking the activate button

Button 'Go'

To analyze the member entered in the 'Select Member' field.

Button 'Evaluate'

To calculate the expression as keyed in the 'Expression' field

Button 'Clear'

To clear the 'how and why content'. All fields will be blanked.

Member Model Path:

The path in the data structure to the selected member.

Rule Model Path:

The location of the rule where the value derives from. This is especially useful when there are sub models. This path locate in which model the rule is available.

Condition:

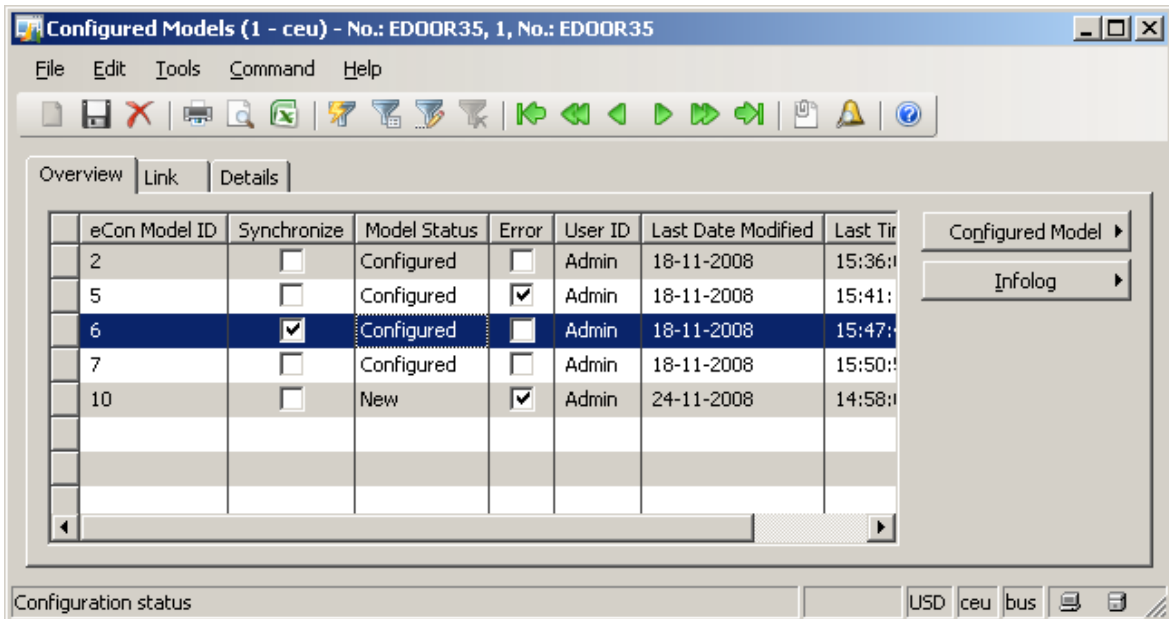
The condition of the rule where the value derives from.

Implication:

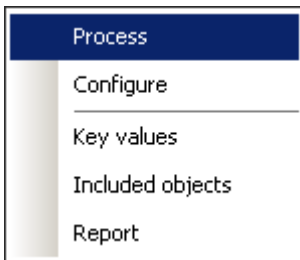
The implication of the rule where the value derives from.

3.2 How to restore erroneous lines.

It could happen that the processing of the configuration (xml object) in MS Dynamics AX fails. The configuration is saved as an xml file at the file system, however processing in Dynamics AX fails for some reason. This is of course indicated by a warning message but besides that the "error" field is checked for that particular configuration. By selecting the "Configured Models" button from the e-Con Generic model menu for a particular e-Con model an overview is displayed from all configurations. One of the columns shown here is the "error" field. That field is checked for configurations that are not right processed in the back end.



In the "Configured Model" menu from this table a special function "Process" is available. With this function a configuration with an error, that isn't stored in Dynamics AX, can be reprocessed. This means actually, that the linked xml document is reprocessed in Dynamics AX. This functions allows you to process the configuration again after the solving the problem. Information isn't gone it can just be reprocessed with this function.



3.3 Tracing of XML

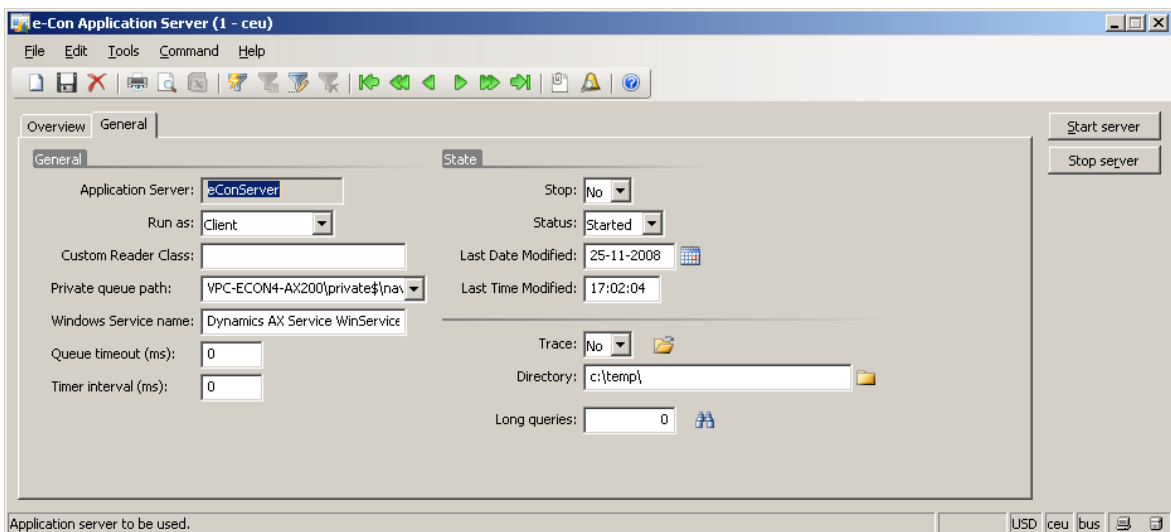
3.3.1 Tracing of request and response messages

In the e-Con Application XML input / output logging can be activated for the Application Server. All requests and responses running through the Application Server to Dynamics AX are logged. Both for e-Con model queries and e-Con studio queries.

Go the 'Application Server' in the 'Periodic' menu.



Select the 'General' Tab.

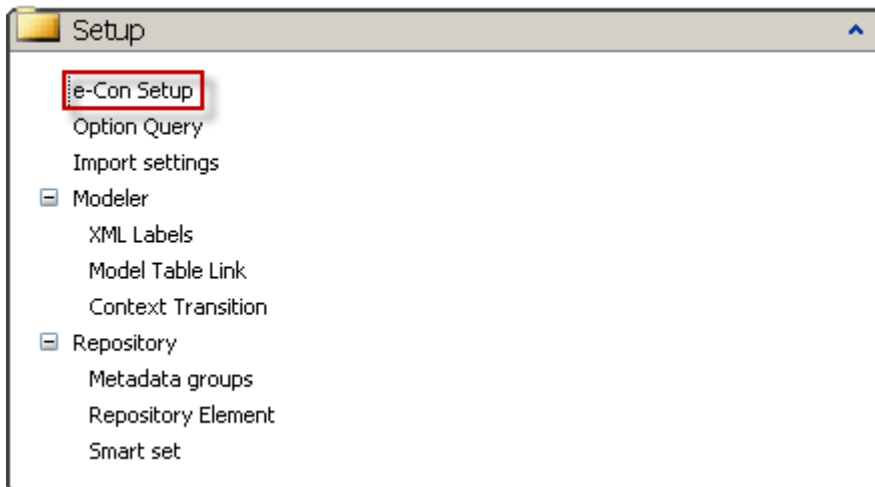


Activate the trace by changing the 'Trace' setting from 'No' to 'Yes'. Select a folder as trace output as well. This can be done in the 'Directory' setting.

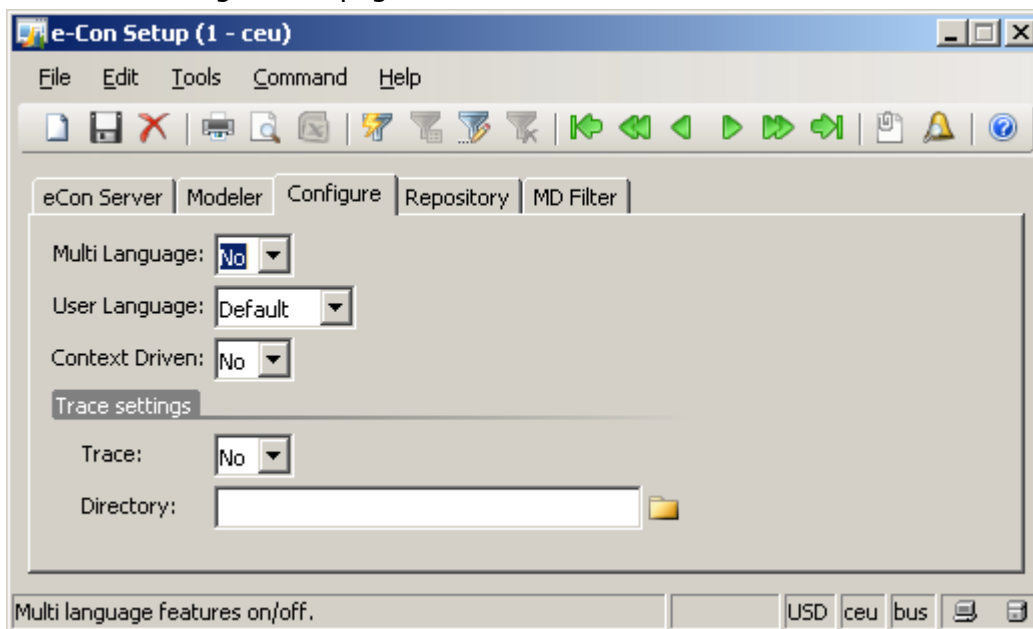
3.3.2 Tracing of configuration XML

It is possible to log the XML file that is created during configuration and processed in MS Dynamics AX. This is called the full XML that will be processed by Dynamics AX to create the records in Dynamics AX.

Go to the e-Con setup in the Setup.



Select the 'Configure' tab page.



Activate this tracing by changing the 'Trace' to 'Yes'. Specify the trace location by selecting a folder in the field 'Directory'.

Now when a model is used to configure some XML files are created.

- Arguments file
- Change document
- Full xml

3.4 List with most common syntax errors

The most common error descriptions that may appear during compilation of the e-Con rules are listed in the table below. Possible causes are also provided.

Error Description	Possible Cause
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Implication expected	You added an unnecessary semicolon ";" after the last implication in the rule.
Variable expected	You forgot to enter a variable in, for example, an assignment.
"(" expected	You forgot an open parenthesis "(".
")" expected	You forgot a closed parenthesis ")"
;" expected	You forgot to add a semicolon ";" after an implication, in spite of the fact that there is another implication in the rule.
Undefined member .. (the member concerned is noted instead of the dots):	You made a typo in the member name, or the member has been changed, or the member is no longer available in the data structure.
Undefined attribute .. (the attribute concerned is noted instead of the dots):	You made a typo in the attribute name.
Member of attribute .. is undefined (the attribute concerned is noted instead of the dots):	You made a typo in the member of the relevant attribute or the member is changed or no longer available in the data structure.
Undefined function .. (the function concerned is noted instead of the dots):	You made a type mistake in the function.
Unexpected symbol:	You made a typo in the rule.
"else" expected:	The if-then-else structure isn't set up correctly; you most likely forgot the "else" statement.
"then" expected:	The if-then-else structure isn't set up correctly; you most likely forgot the "then" statement.
"end" expected:	The if-then-else structure isn't set up correctly; you most likely forgot the "end if" at the end.
"if" expected:	The if-then-else structure isn't set up correctly; you most likely forgot the "end if" at the end.
"#" expected:	You forgot the number sign "#" in the declaration of the array.
Index variable "#.." not declared (the variable concerned is noted instead of the dots):.	You used an array in an implication, but forgot to define this array in the implication concerned.
Attribute .. is read-only (the attribute concerned is noted instead of the dots):	Some attributes are read-only. In a rule, an assignment is applied to a member with a read-only attribute.

3.5 List with most common .Net compile errors

The most common error descriptions that may appear during compilation of the e-Con model to the .Net run time assembly are listed in the table below. Possible causes are also provided.

Compile Error Description	Possible Cause
Cannot implicitly convert type 'int' to 'string'	A type mismatch between two properties. Probably a comparison or assignment is done between properties from an unequal type. (This error can, of course, also happen for other data types)
Type of conditional expression can't be determined because there is no implicit conversion between 'int' and 'bool'	A type mismatch between a function and property or value. Mostly this error occurs when the MsgBox(<string>) function is used. MsgBox("String") <> 1 instead from only MsgBox("String") will solve this error.
Cannot implicitly convert type 'eCon.Base.EConCollection' to 'string'	A type mismatch between two properties, a string value can not be assigned are compared with a property used to store options. (<member>@options = "string" or <member> = {} both will generated this compiler error)
The best overloaded method match for 'eCon.Data.Functions.GetOptions(eCon.Interfaces.IEConClass, string, bool, string, string, params object[])' has some invalid arguments	The data type from one of the arguments of the function isn't correct. The number of the argument is shown in the next compile error.
Argument '3': cannot convert from 'string' to 'bool'	This message follows always the former messages. This error indicates that the data type from the argument from the function is not valid.
Operator '>' cannot be applied to operands of type 'string' and 'string'	Operators can not be applied to a string value. Convert the string first to a double or long before comparing can take place.
Unreachable code detected	It's just a warning and it can be ignored.
Could not write to output file '...' The process cannot access the file because it is being used by another process. '	This mainly happens when the interface model or a sub model is generated. The dll from the interface is still used after ending the configuration process. Close and reopen the Attain client to solve this problem.
'...Interface0' does not contain a	The "<property>" as specified in the

definition for '<property>'	error message, is a property from a sub model and used in the current model. This property is missing in the interface for that particular model.
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