



Extreme Translator guide on EDI X12 to database translation

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Main website <http://www.etasoft.com>

Extreme Processing website <http://www.xtranslator.com>

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Basic requirements

This document describes the process of mapping EDI X12 file to database for translation. In order to do the mapping you should have:

1. Original EDI X12 file. In our case we use EDI X12 850 Purchase Order (X12 Release 4010).
2. Documentation explaining EDI X12 message layout and structure. You should have some document that would list all the EDI X12 segments and elements that you need to parse and read from the EDI X12 file. Contact your trading partner or supplier for simple documentation on EDI X12 message you need to translate into database. This documentation usually lists some specific required segments and provides EDI X12 message number and release version number.

Once mapping is done you do not have to recreate it again simply save it into the file with extension *.xmp. You can run map files using other utilities that come in the package (read User's Manual about other utility programs).

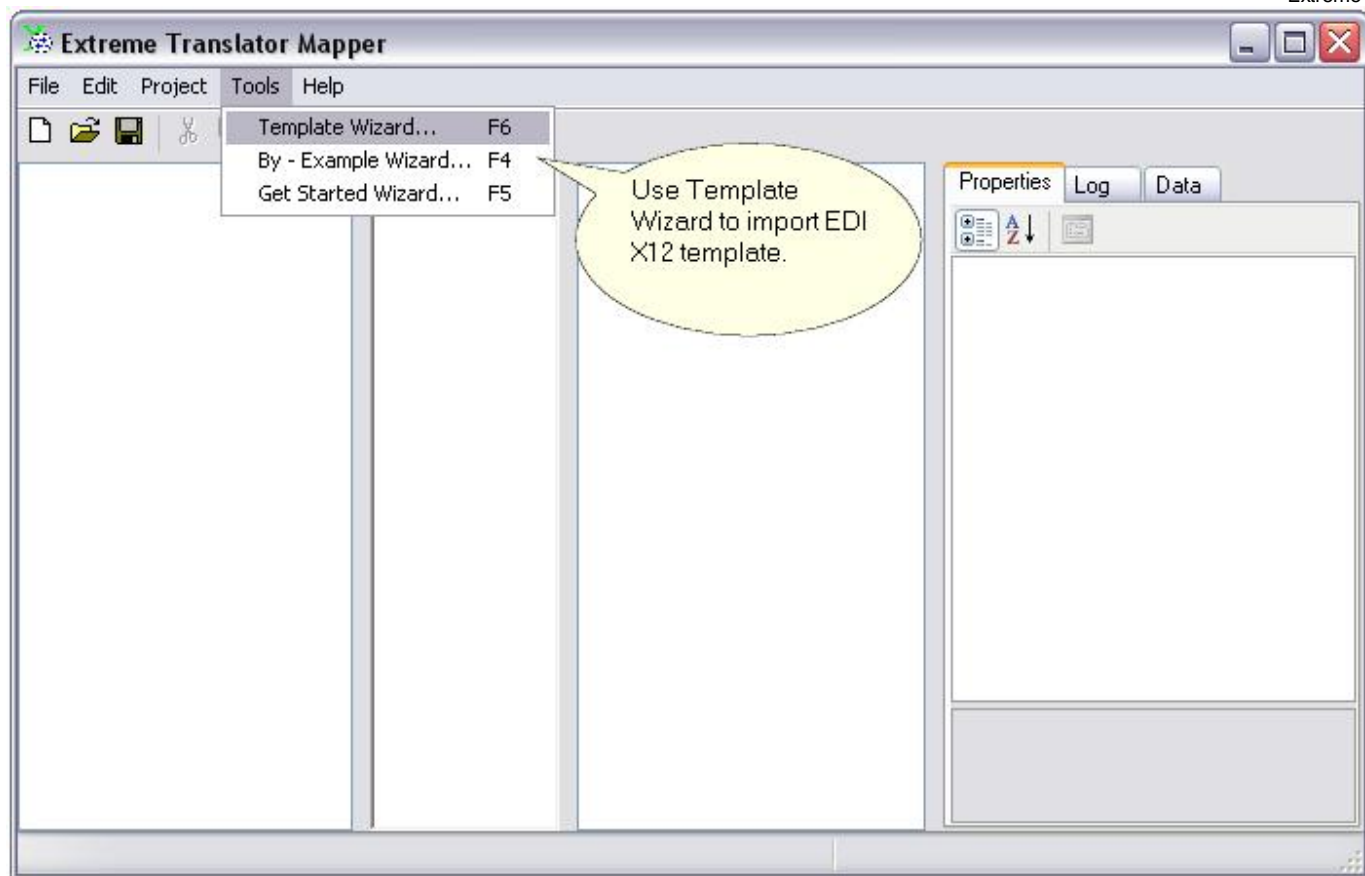
Software requirements

You will need to download and install Extreme Translator from the website <http://www.xtranslator.com>. Translator comes with number of templates accessible via Template Wizard. Setup program asks if you want to install templates that come with the package. If you choose not to install them, Template Wizard will not work and you will not be able to follow this document.

Once it is done, start Map Editor tool.

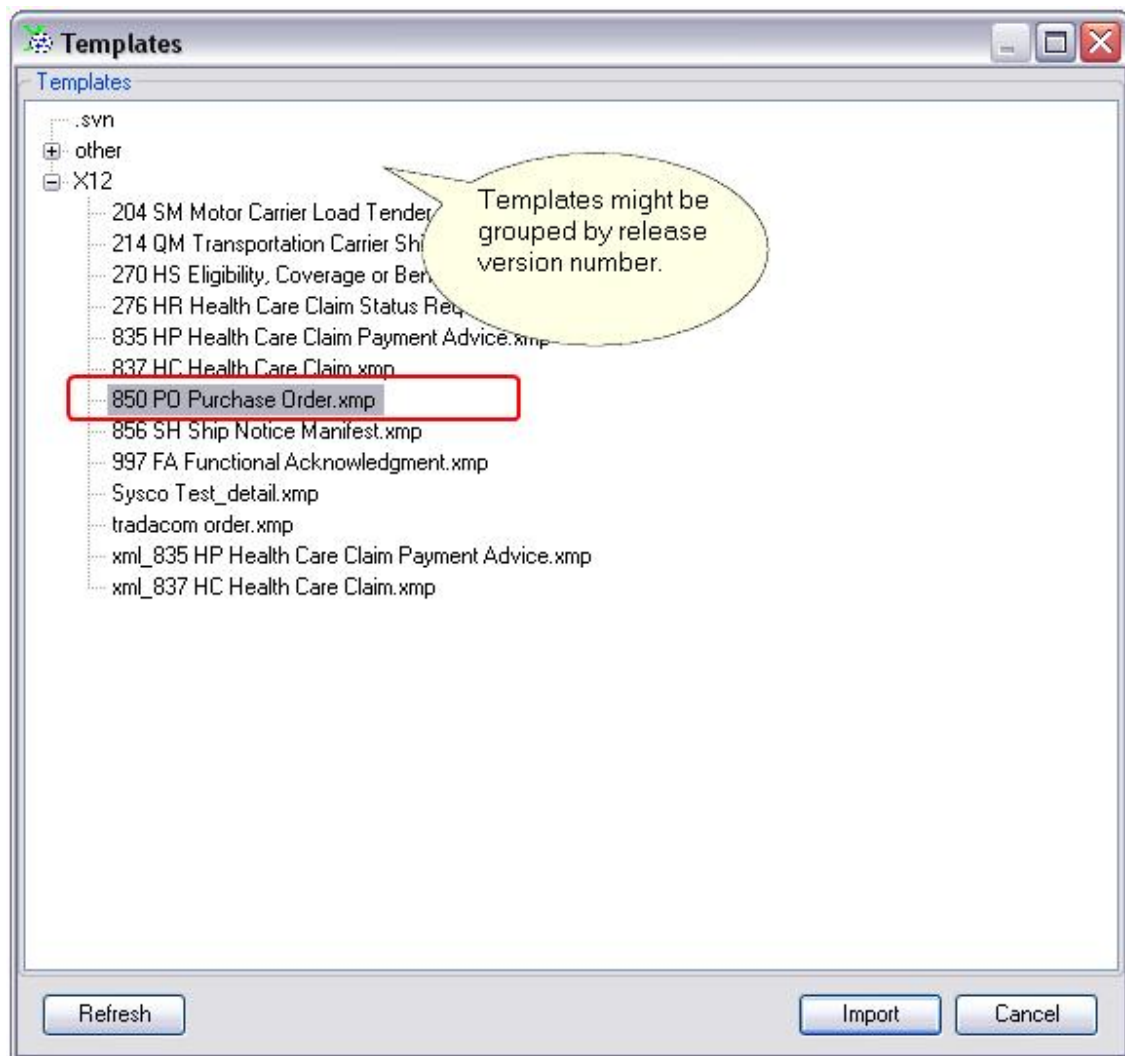
How to define EDI X12 layout

In the Map Editor under Tools -> Template Wizard menu you will find many templates for most widely used standard formats like EDI X12 (X12N), EDIFACT, SAP and XML. Most templates come with setup package, just make sure to install them once setup program gives you a choice in a form of checkbox. If you will not install templates, then \templates subfolder will be missing under translator installation folder and Template Wizard will not work.



Open Template Wizard using this menu option.

Select specific template and press Import button. All templates are grouped by their release version. There are a number of releases that come out almost every year. Some of the releases are more popular than others. Example: EDI X12 releases 4010 and 5010 are most popular at the time of writing of this document. Especially release 4010 is used probably in 80% of all EDI X12 implementations.



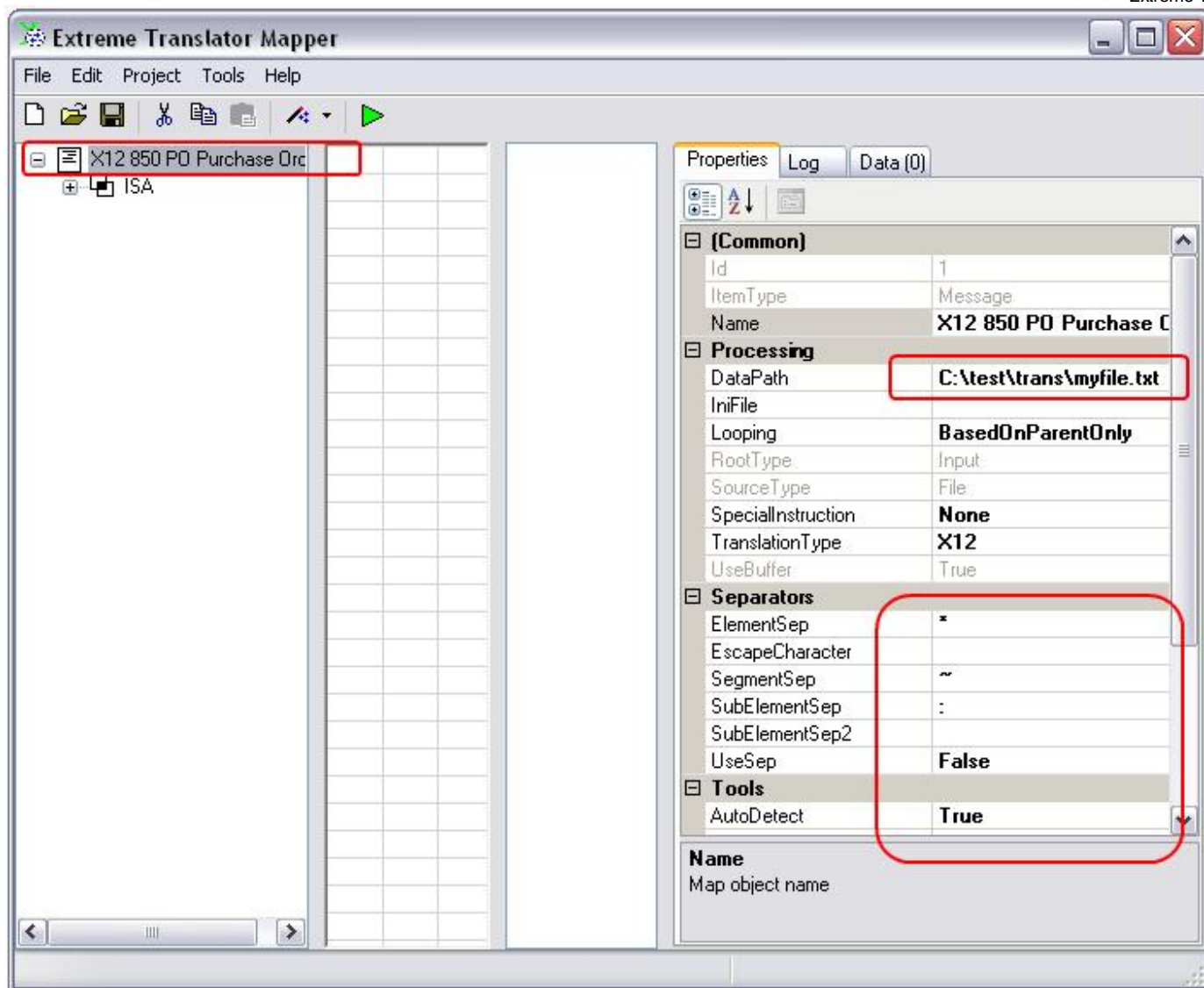
Import EDI X12 message. In our case we import EDI X12 850 release 4010.

You can import templates for input and output side. Second dialog screen in Template Wizard will ask if it is input or output template import.



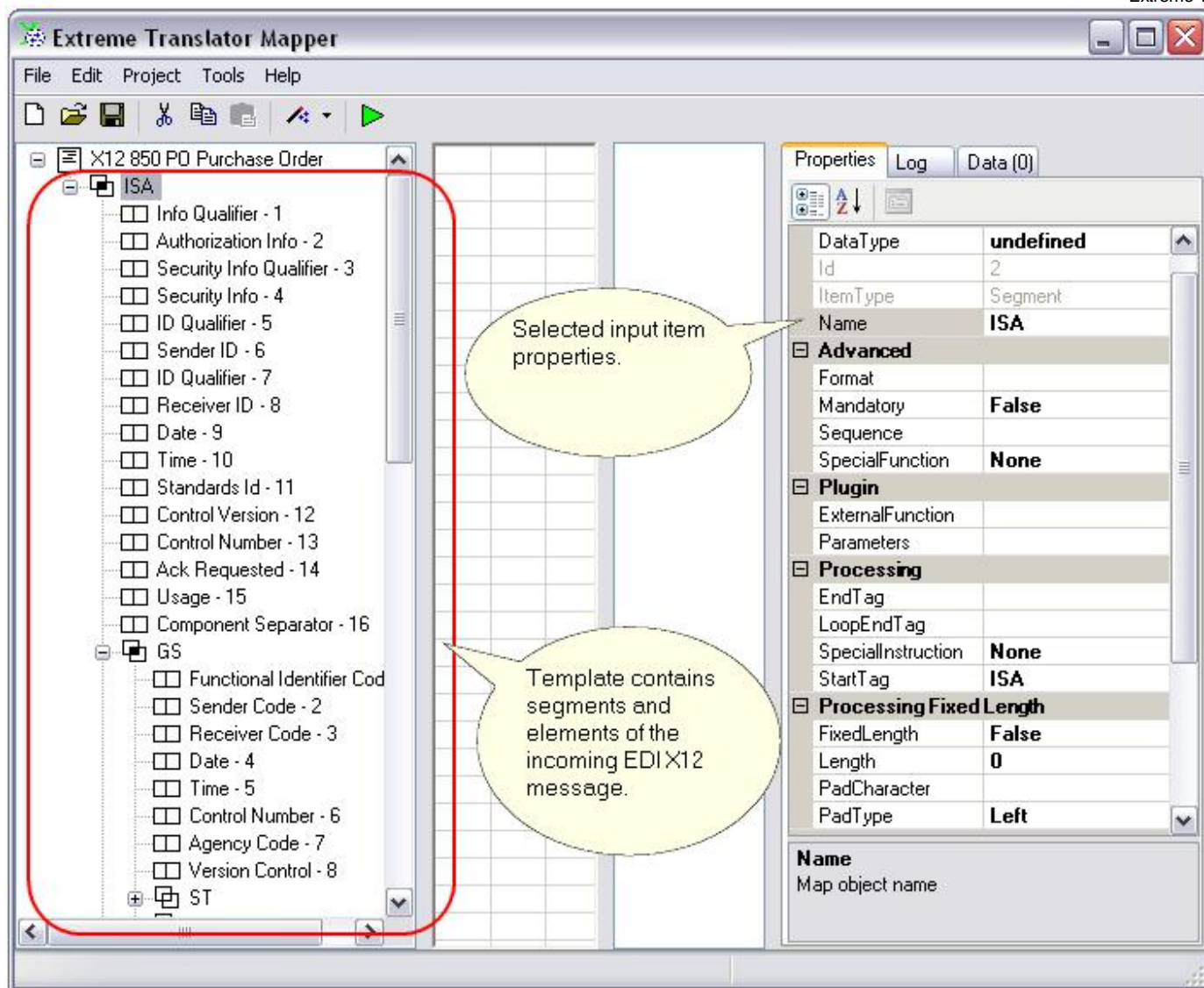
Choose template from the list.

Once you import template, it will load number of map objects. You will see object called "message" or "file" at the very top of the mapping tree. This object holds properties such as input or output file name, separators, number of other useful tools.

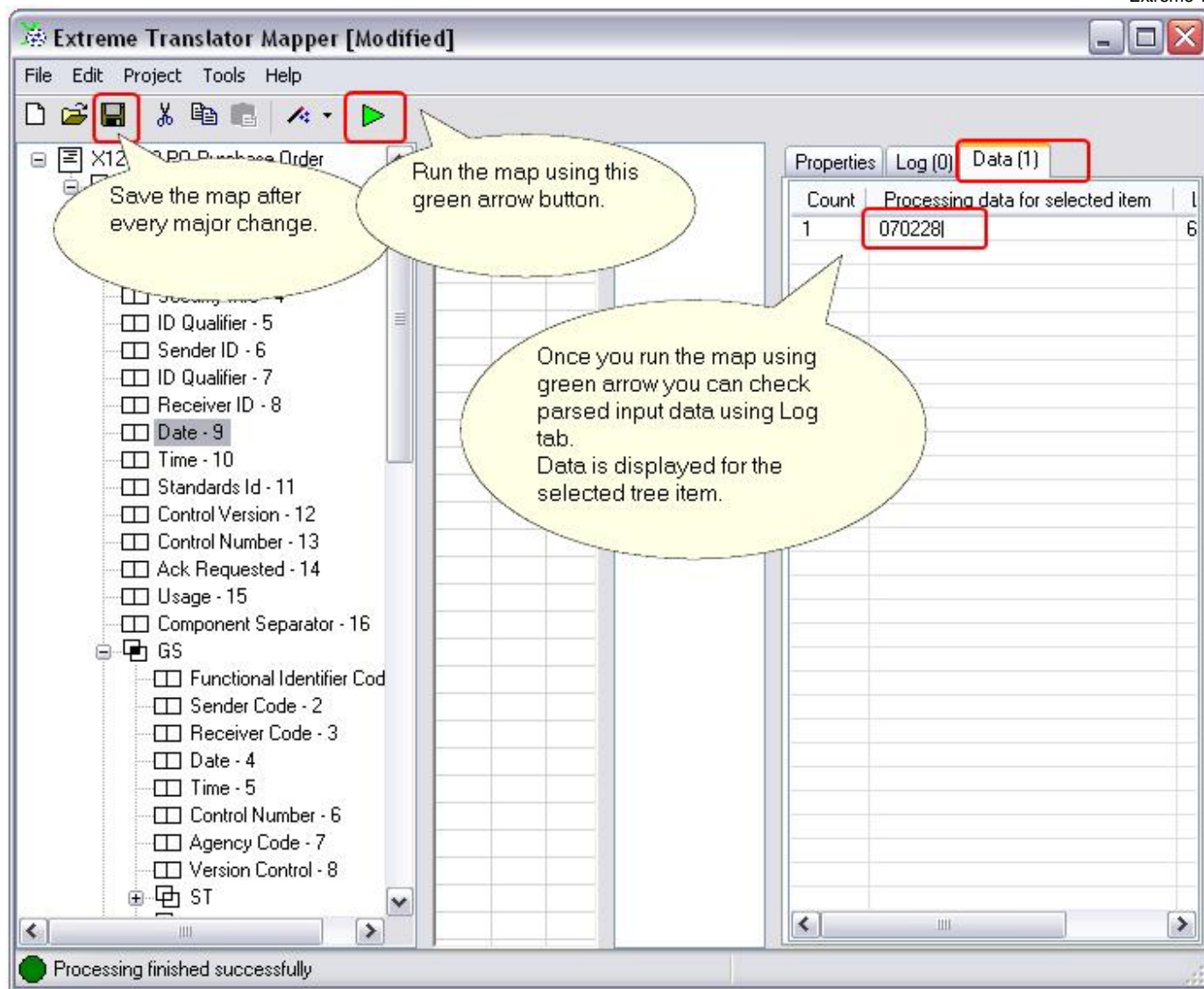


Root item in the map is called "message" or "file" and it contains most important properties related to file processing like input file name, segment separators, etc.

EDI X12 files may contain all kinds of separators from most typical "*" (star), "~" (tilde) and ":" (colon) to less typical non-printable characters. Translator has built-in mechanism to auto-detect separators. If you set AutoDetect property to True, translator will use internal logic to detect separators. Sometimes separators are so unique or files contain some junk that disables auto-detect ability and translator fails to find separators. In that case you will see many warnings under Map Editor Log tab. In this case you need to set separators manually by setting AutoDetect property to False and setting separators manually using properties ElementSep, SegmentSep, SubElementSep and UseSep=True.



You can click on any item in the input side and see the properties for it listed on the right side of the Map Editor window.



You can save and run unfinished map. It will only read incoming data but will not output anything because output side is not defined yet.

IMPORTANT:

If Log tab in the Map Editor shows number of warnings there could be number of reasons why it is happening:

1. Your input file contains non-standard separators or contains junk data and translator is not able to detect separators for incoming file. You can set separators manually by setting AutoDetect=False, UseSep=True, ElementSep, SegmentSep and SubElementSep properties.
2. Your input file might be encrypted. It may contain ISA/GS segments at the top like any typical EDI X12 file, but the rest might be encrypted and translator would not be able to match expected segments for Purchase Order to segments that are coming in the file.
3. You have imported EDI X12 template for X12 release that is actually contained in your file. Example: you expect release 4010 but your input EDI X12 file is release 5010.

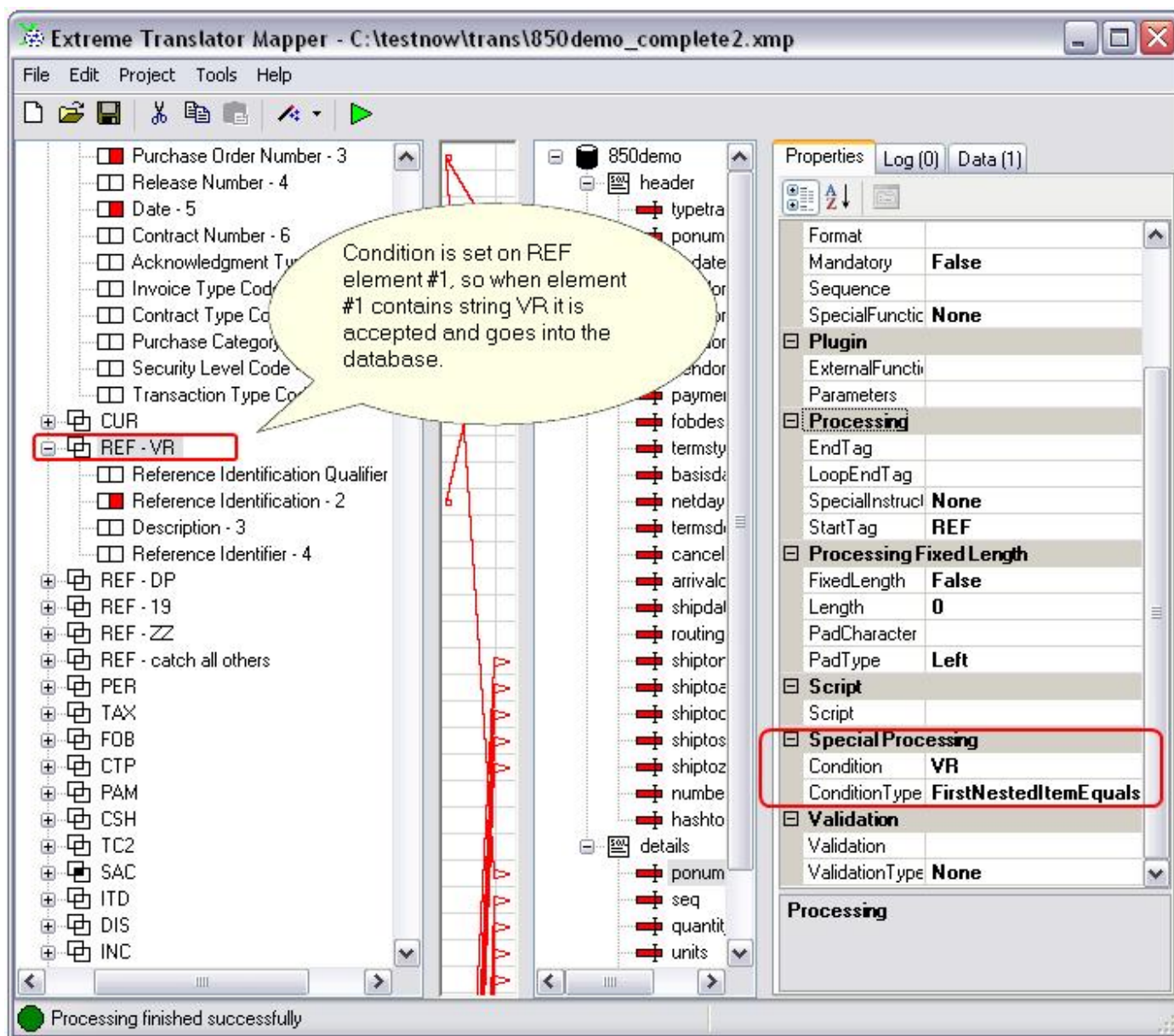
Conditions. How to extract segments based on they qualifier values

Importing template and setting properties is not difficult and in many cases does not require any knowledge of EDI X12 or file formats. However there is a part of the mapping that needs some knowledge of the EDI X12 unless your mappings are very trivial and you only want to extract some very basic information.

EDI X12 format has number of segments that have same identifier name but convey slightly different information. Example: NM1 segment may contain name and address information both for “ship to” and “bill to” parties. Only way to distinguish it is “ship to” and not “bill to” name and address, is only by checking qualifier values for element #1 of NM1 segment.

Loaded template does not separate segments by they qualifier values in part because it does not know what qualifiers you would want to extract and differentiate. You can modify the template by simply using Copy and Paste menu options. For example if you need two different NM1 segments, and want to extract each to different set of fields, copy and paste NM1 segment one after the other. This way you will have two NM1s. Now set Condition on segment for element #1 qualifier, for example: SH (as in “ship to”), and set ConditionType to FirstNestedItemEqualsTo. This way only NM1 with element #1 containing SH will be matched.

Below is an example of REF segment with expected qualifier of VR in element #1.

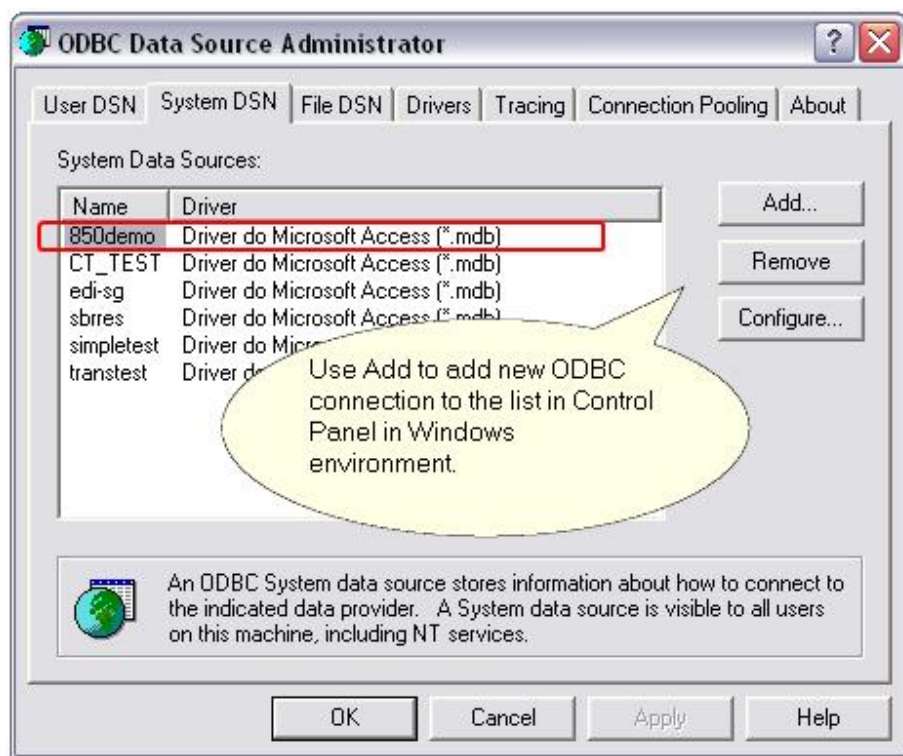


Conditions are used to extract segments with specific qualifier values, in other words specific values in the segment elements.

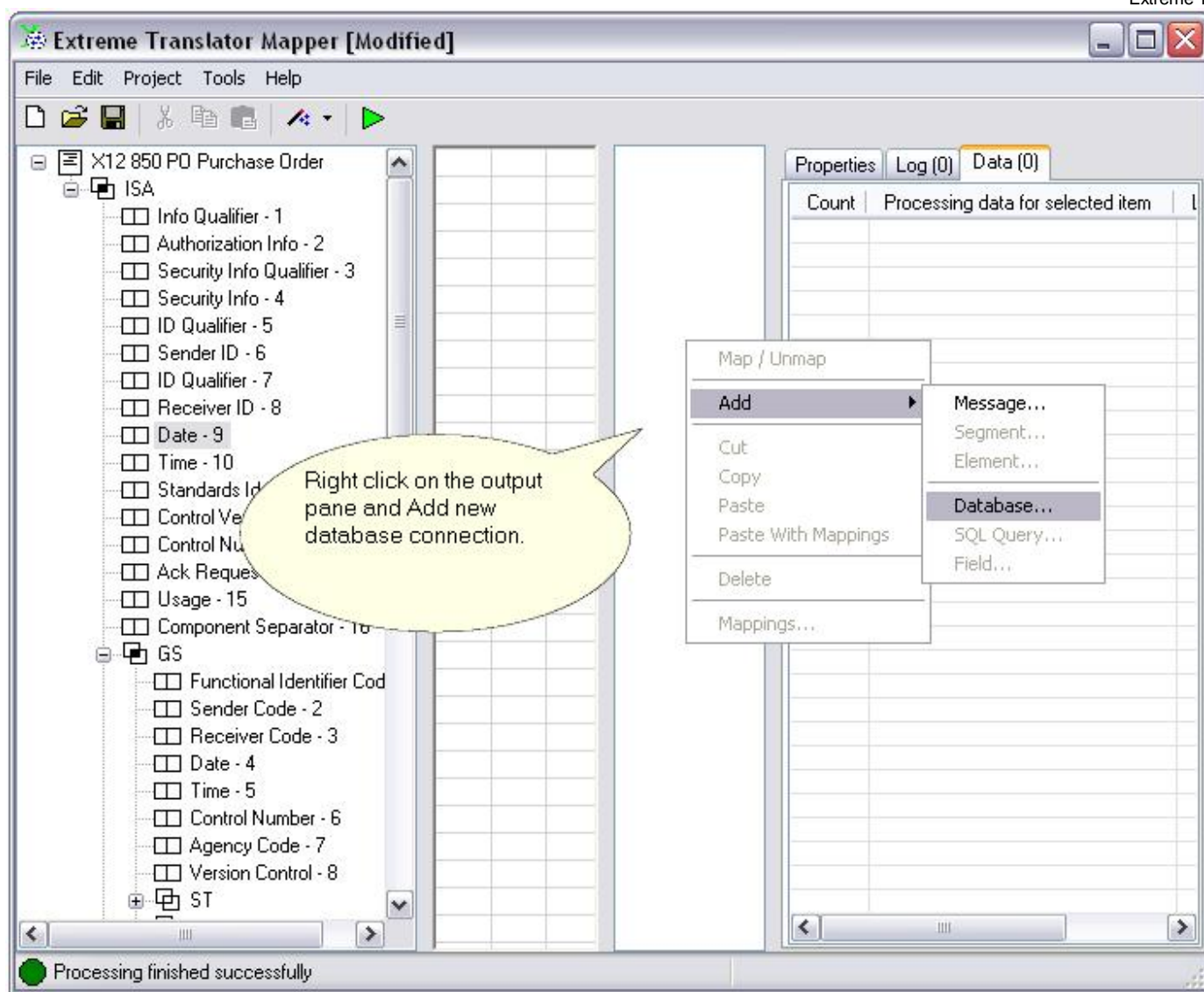
In the sample map provided with this package you will notice a few segments with Condition/ConditionType settings.

How to define database tables and fields

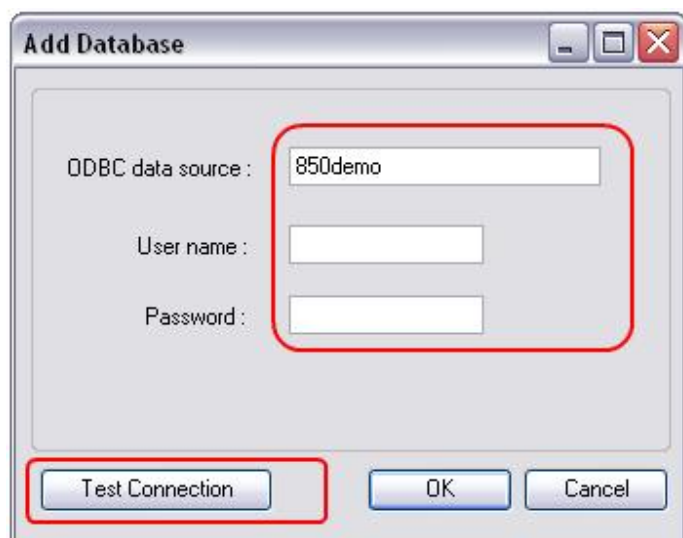
Before starting working in the Map Editor add your database connection to the list of ODBC connections in the Control Panel.



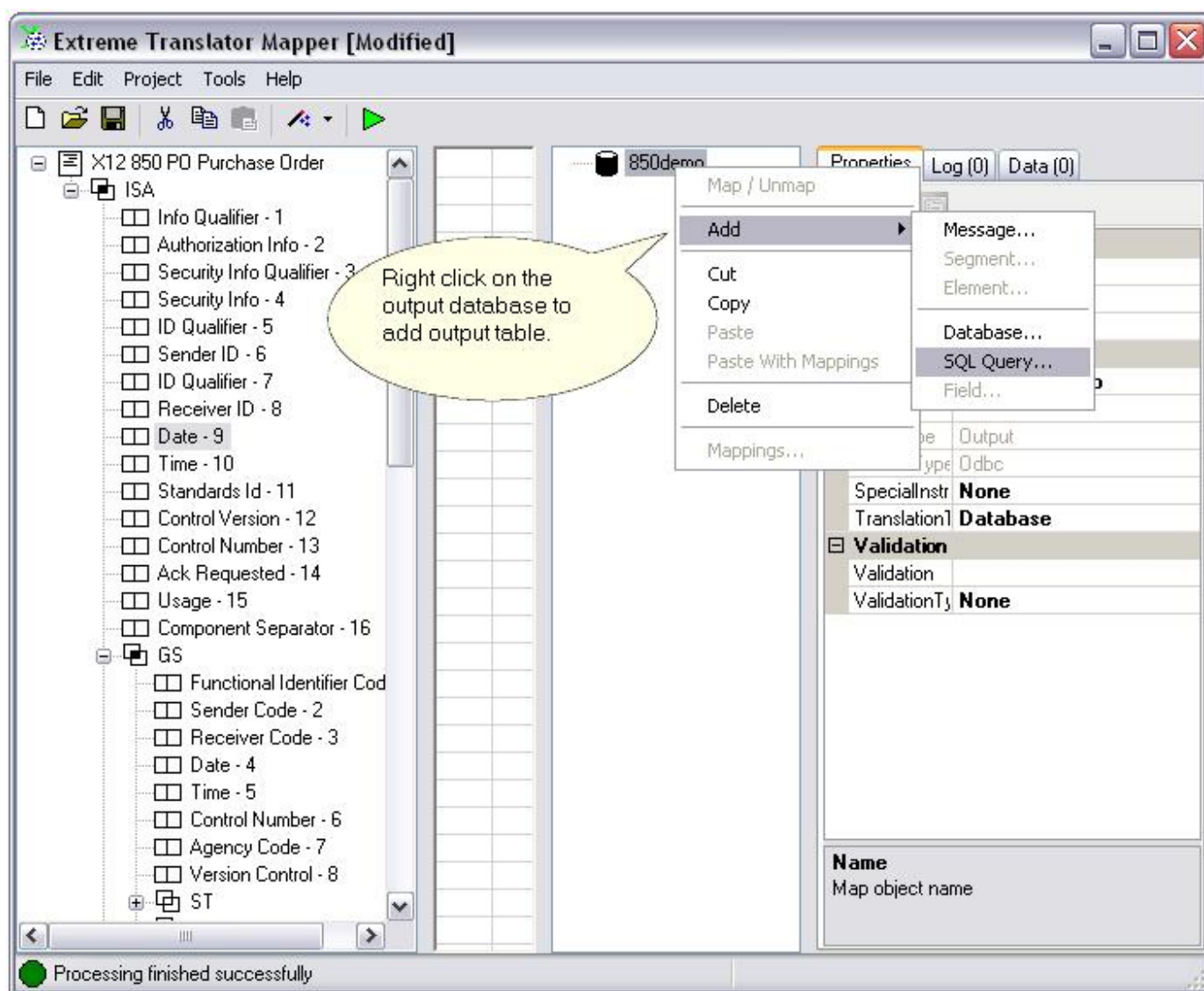
Add ODBC connection using Add button in Control Panel applet.



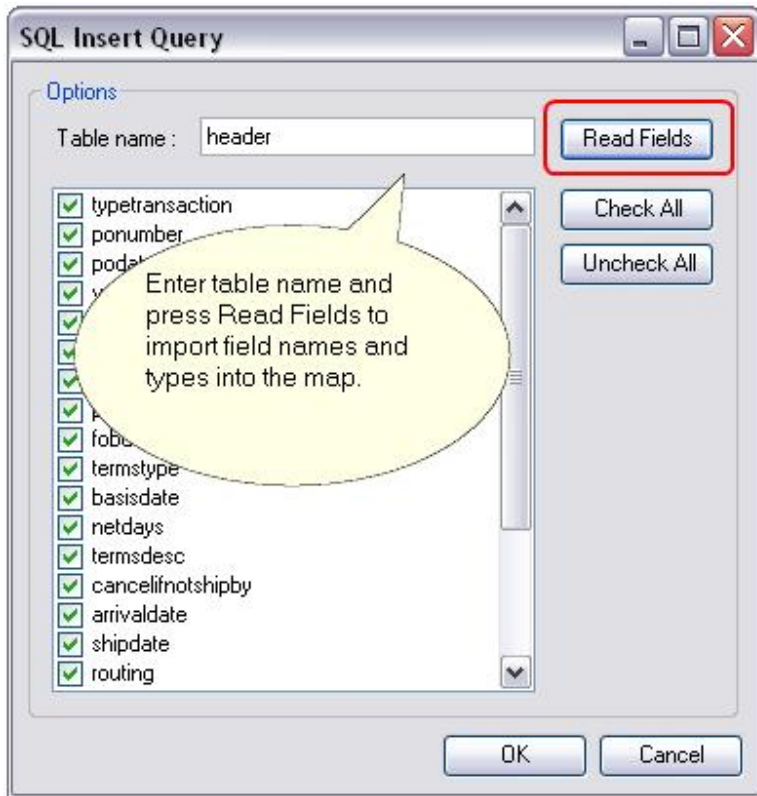
Add Database connection via Map Editor.



You must define ODBC connection in Control Panel prior to using Test Connection button.

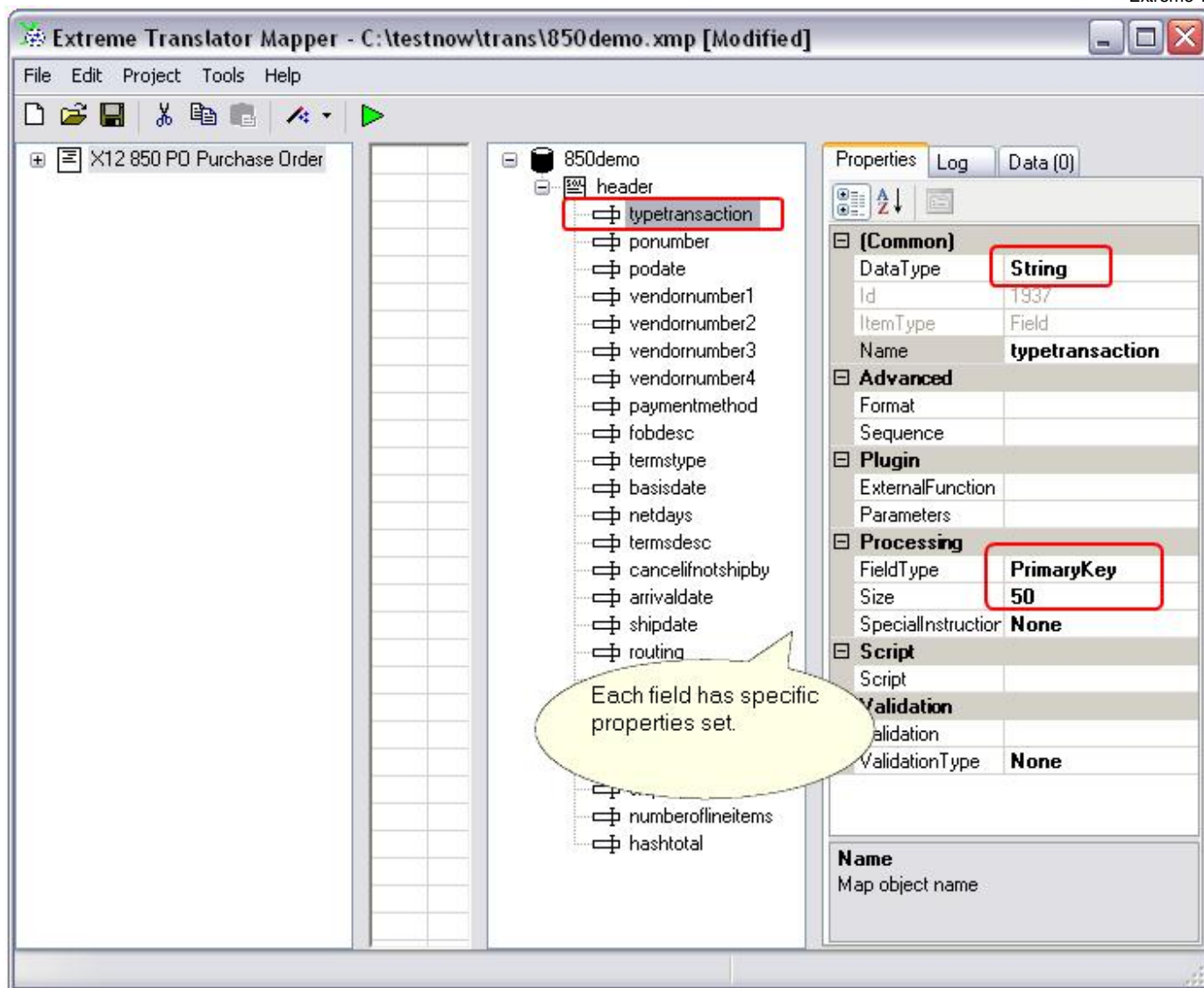


Add database tables.



Import database table fields into the map.

You can import table fields with each table. This wizard will attempt to read table structure from the database schema, and set field Size, DataType and FieldType properties for each imported field.

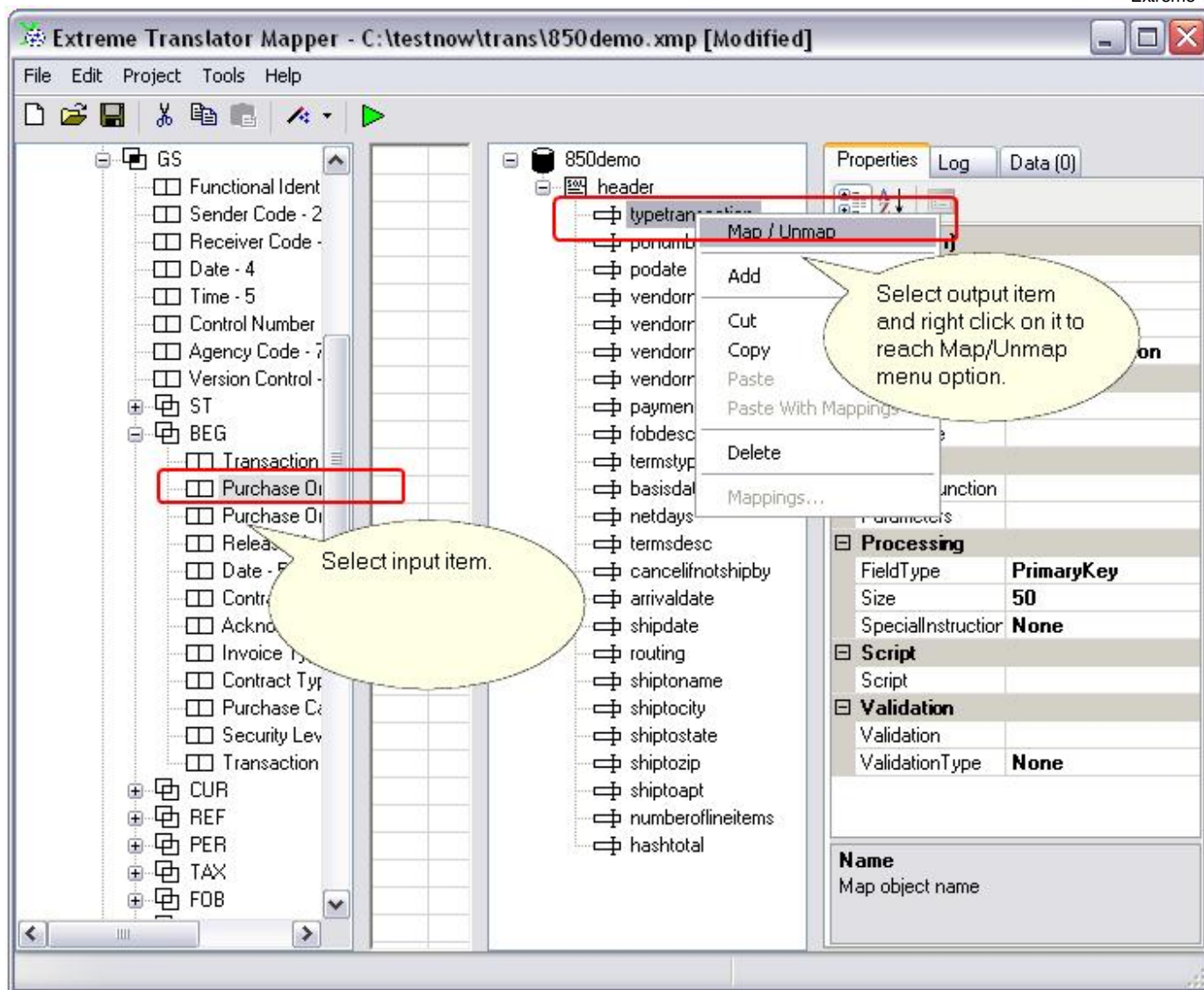


Each field has specific properties set.

Field import will mark first field as FieldType=PrimaryKey. Field that is set FieldType=PrimaryKey in the map does not have to be set primary key in physical database table. FieldType property settings on each table are very important they determine how many records are inserted in the database and how values are arranged in those records.

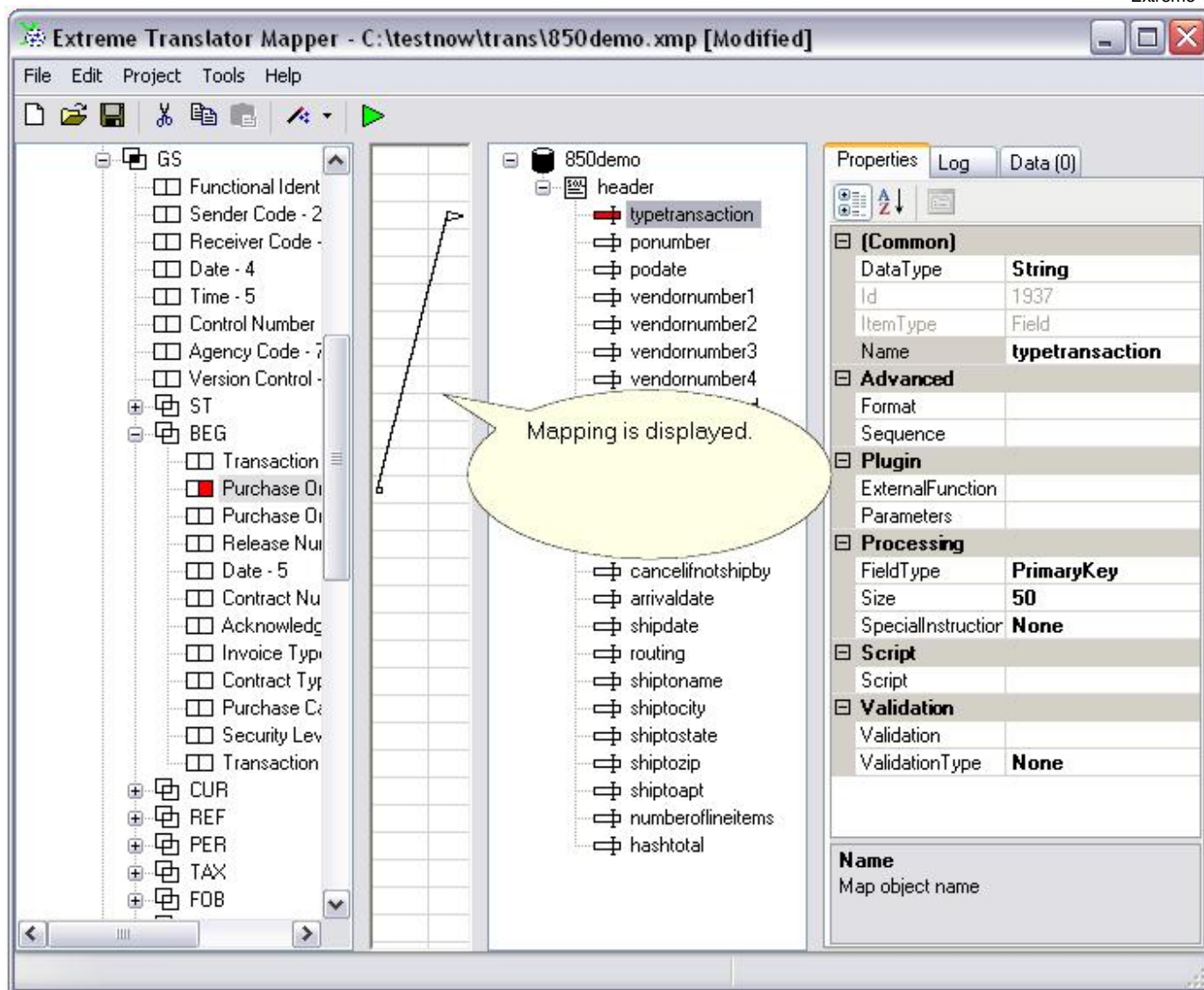
The most important field is the one that has FieldType=PrimaryKey. Make sure it is mapped to input side otherwise you will get no records inserted into the database. You will get as many records inserted into the database as many new values will come from the input side into the field with FieldType=PrimaryKey.

Please check User's Manual (xtrans.pdf) for more details on FieldType property and its use.

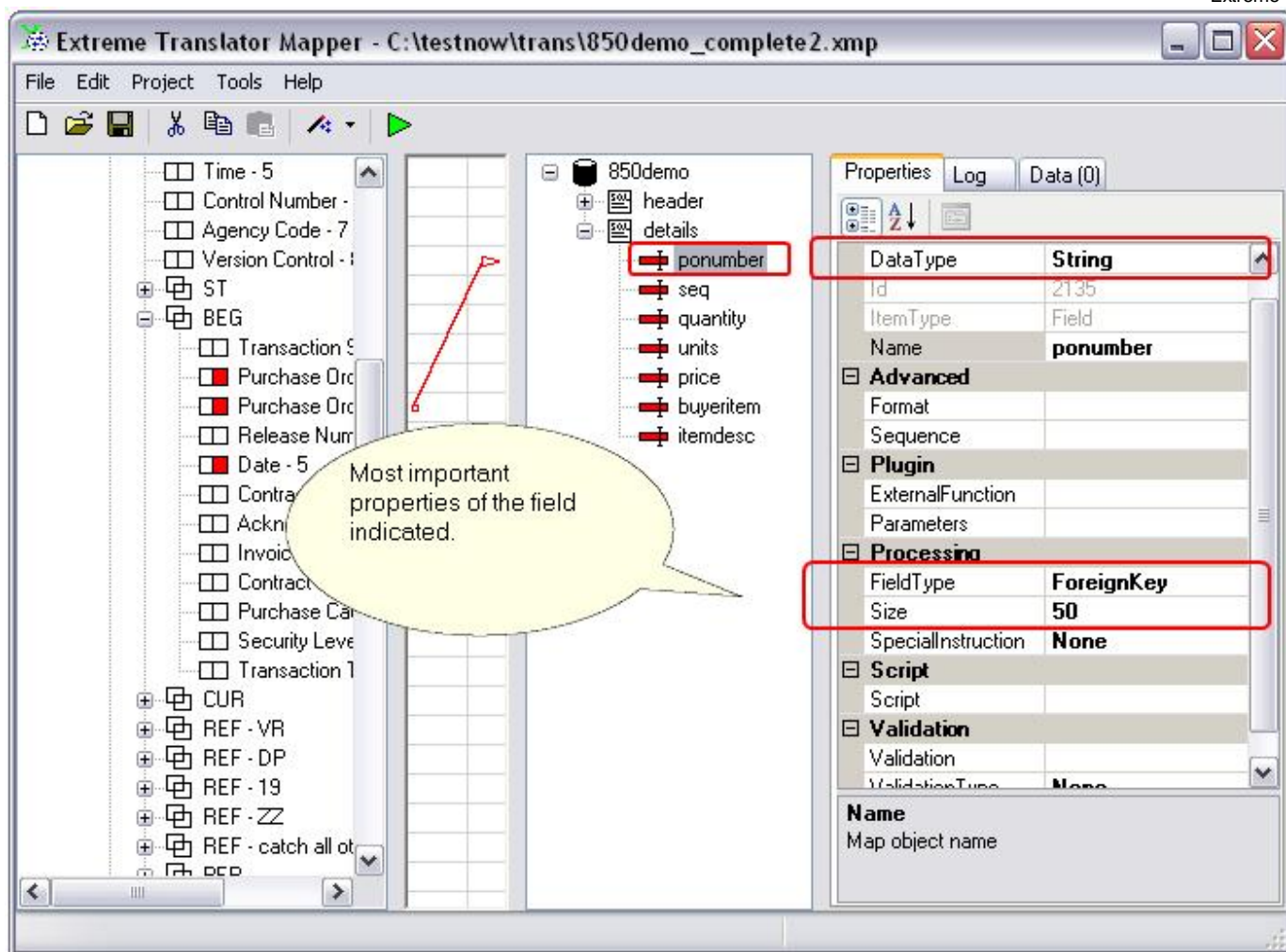


You can map input to output following these steps:

1. Click on the input side element.
2. Click on the output side field.
3. Right click to reach pop up menu and click Map/Unmap.



Once mapping is created Map Editor will show mapping line with the arrow.



Once you add detail table to the map, you will want to tie header and detail tables by having some ID field from the header to be mapped to the detail as well. This field is usually marked as `FieldType=PrimaryKey` on the header table. In this case we have chosen to have "ponumber" as a field that ties tables together. On detail table "ponumber" should be marked as `FieldType=ForeignKey`.

Frequently asked question is: **What does setting of `FieldType=ForeignKey` actually do?**

When field is set to `FieldType=ForeignKey`, translator will store incoming value for it in memory. Whenever new value comes into field `FieldType=PrimaryKey` translator will try to insert new record into the table, it will lookup last value for each field set to `FieldType=ForeignKey`, and use it to create a record. So even if you will have only one value coming into the field set to `FieldType=ForeignKey`, you will have it repeated on each record inserted per each new value in field set to `FieldType=PrimaryKey`.

Run the map using green arrow in the Map Editor toolbar.