



BPA Platform

White Paper

Magento Integration

Version 1.0

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Introduction

The Magento Integration tool allows communication between TaskCentre and Magento. All communication uses XML. You use the Connector to map TaskCentre data to Magento objects and operations. Operations such as, ADD, UPDATE, GET, and DELETE, are supported for a variety of business objects, such as, Product, Customer and Order — for a detailed list, see [SUPPORTED OBJECTS ON PAGE 15](#).

The XML responses received back from the Magento API can be saved to file, or passed to another TaskCentre tool for further processing. The responses can include details of the object requested, any errors from the provider, or the values of any automatically generated ID fields. For example, you can use Magento Integration to provide an indirect link between systems that do not typically synchronise data with each other, such as synchronising contacts from a CRM platform as Magento customers, importing Magento sales orders into an ERP, or even to provide reports containing data from both systems.

The Magento Integration Tool Pack

The tool pack consists of:

- **Magento Integration** – The Connector is a TaskCentre tool, used to communicate with the Magento API. It must be installed on the TaskCentre machine, and on any TaskCentre client machines. It is this that provides the translation between TaskCentre data and Magento object and operation.

System Requirements

The Magento Integration tool requires TaskCentre 4.6 or above.

This tool is compatible with Magento versions 2.x.

Architecture

The diagram below provides a high-level system architecture overview of the Magento Integration tool pack, with TaskCentre and the Magento REST API.

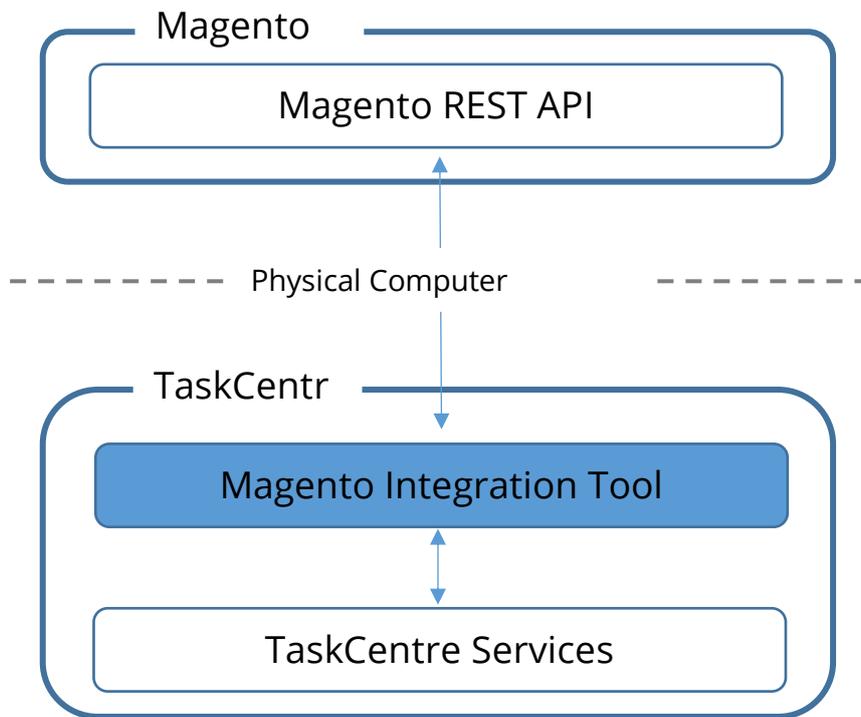


Figure 1 - High-level system architecture of the Magento Integration

About the Magento Integration Tool

Global Configuration

The global configuration for this tool is used to create connections to Magento.

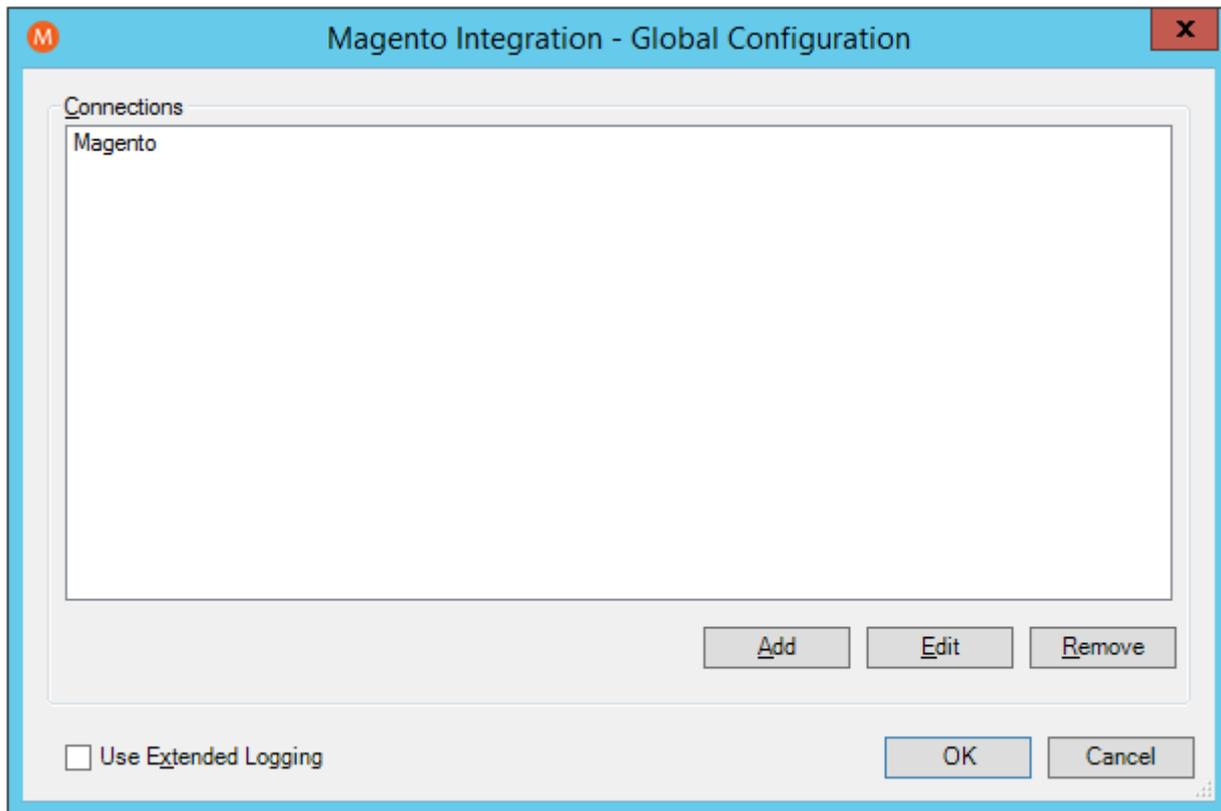


Figure 2 - Magento Integration - Global Configuration dialog

Click **Add** to create a connection to Magento.

Use Extended Logging

Enabling this option exposes the XML parsed between Magento Integration and the Magento API. You can view the log from the TaskCentre Event Log (*Manage > Event Log*).

Without extended logging, the Event Log only contains start and end of transaction messages, plus any error messages encountered at runtime.

Magento Connection Tab

You configure the connection to Magento here.

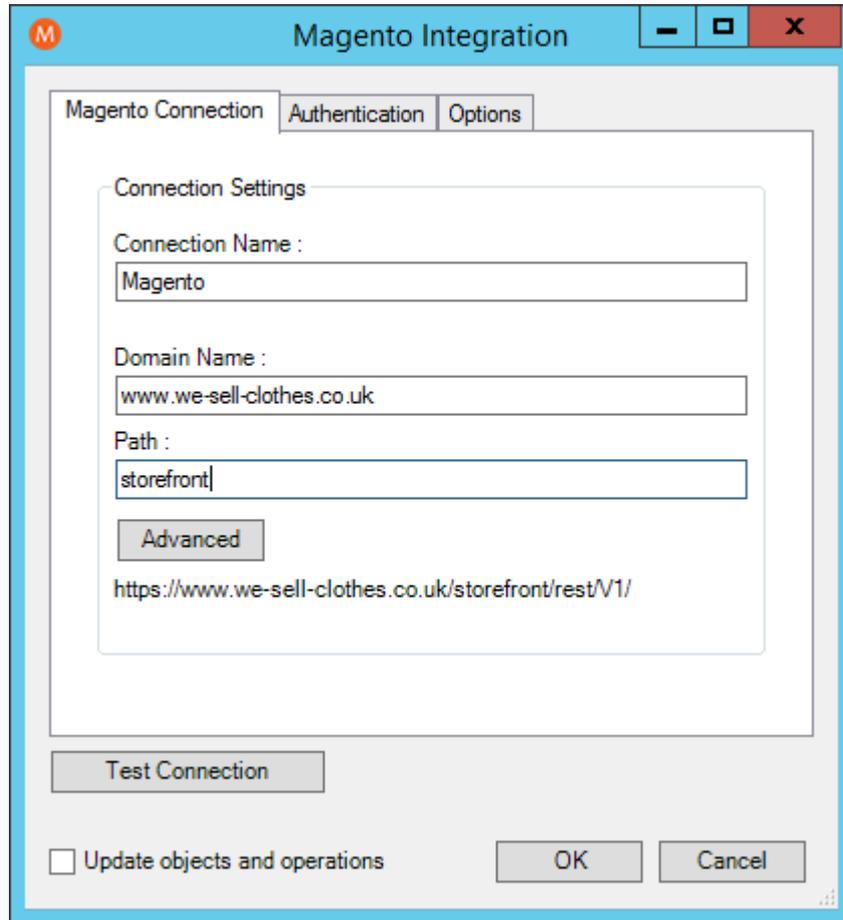


Figure 3 -Magento Integration – Magento Connection Tab

Configure a meaningful **Connection Name** for this connection; this is the name displayed when adding tasks for Magento.

Within **Domain Name**, specify the domain name of the URL to Magento. For example, if the Magento webshop is running on `https://www.we-sell-clothes.co.uk/storefront`, the corresponding domain name is `www.we-sell-clothes.co.uk`.

Within **Path**, specify the path of the URL to Magento. With the previous example, this is `storefront`.

By default, the connection to Magento is over HTTPS, on TCP port 443. Use the **Advanced** button to either **Set a Custom Port Number**, to not **Use HTTPS** to communicate to the server or specify a different **Connection Timeout time** in seconds.

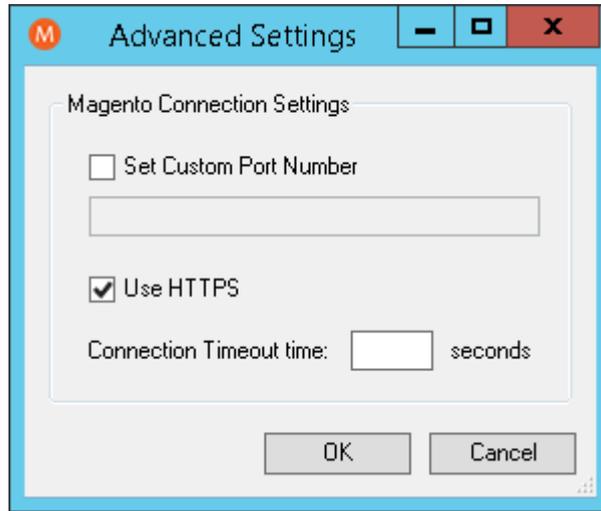


Figure 4 - Advanced Settings dialog

Authentication Tab

You can configure the Magento credentials here that allow access to Magento.

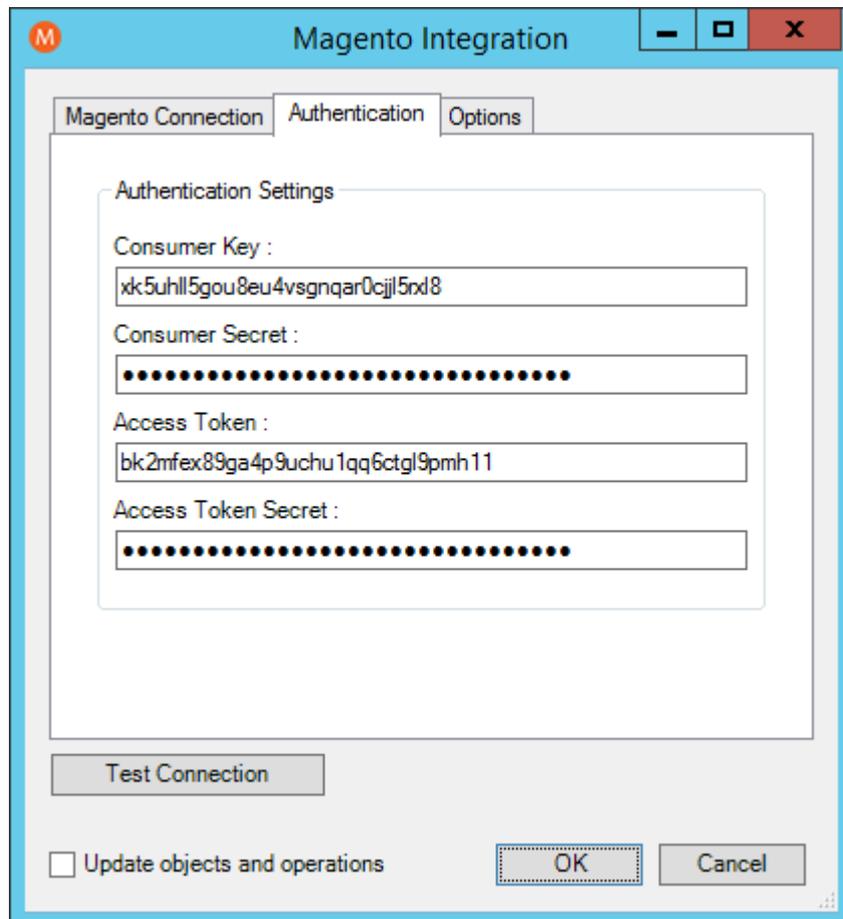


Figure 5 - Magento Integration - Authentication Tab

Specify the **Consumer Key**, **Consumer Secret**, **Access Token** and **Access Token Secret** created in Magento (*System > Extensions: Integrations > Integration Details*).

Options Tab

Optionally, choose a **Module** to show only objects from that module on the mapping tab, see [MAPPING TAB ON PAGE 11](#).

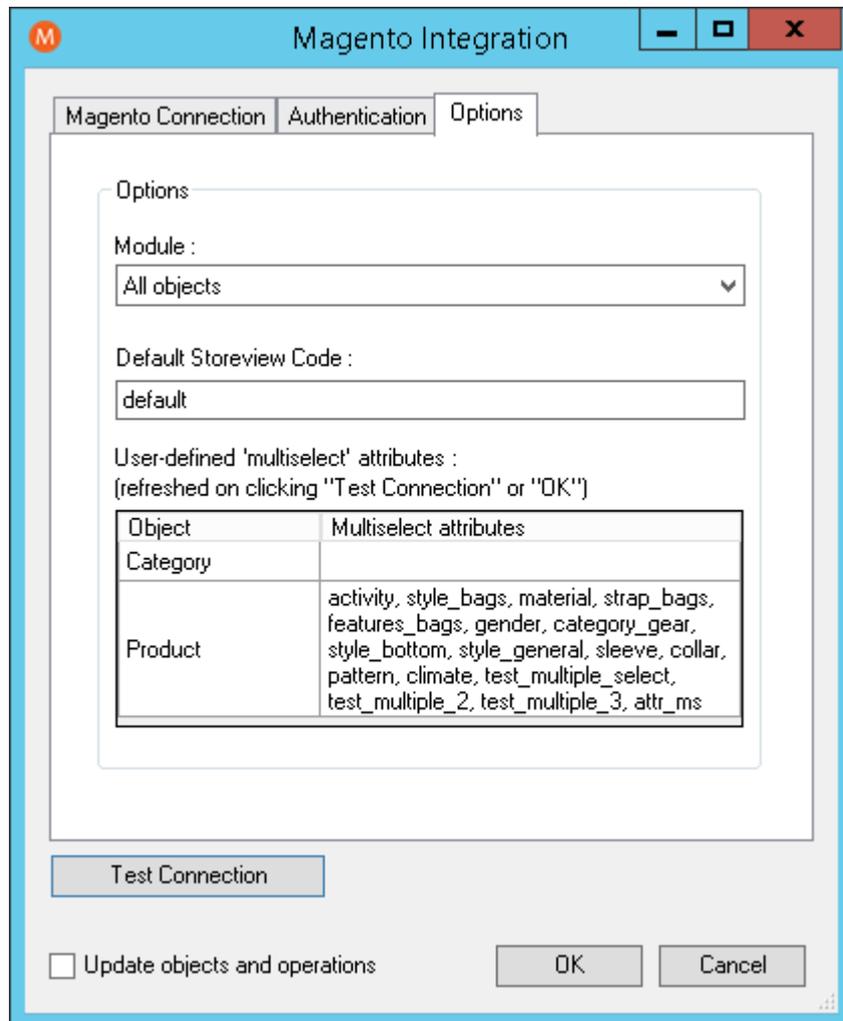


Figure 6 - Magento Integration - Options tab

The Product and Category objects have an optional property called 'storeview_code' that can be mapped in the mapping tab. This property determines which Magento store view is used for the operation. When the property isn't mapped, the value specified under **Default Storeview Code** is used.

The list of user-defined 'multiselect' attributes is refreshed on using the **Test Connection** or the **OK** button. Attributes of type 'multiselect' will be treated in a different way than other attributes. When new 'multiselect' attributes are added in Magento, this list needs to be refreshed to ensure proper conversion of these attribute values.

Test Connection

Using the **Test Connection** button allows you to test the connection to the Magento API.

Update Objects and Operations

Enabling the **Update objects and operations** option, allows the Magento Integration schema within TaskCentre to be refreshed.

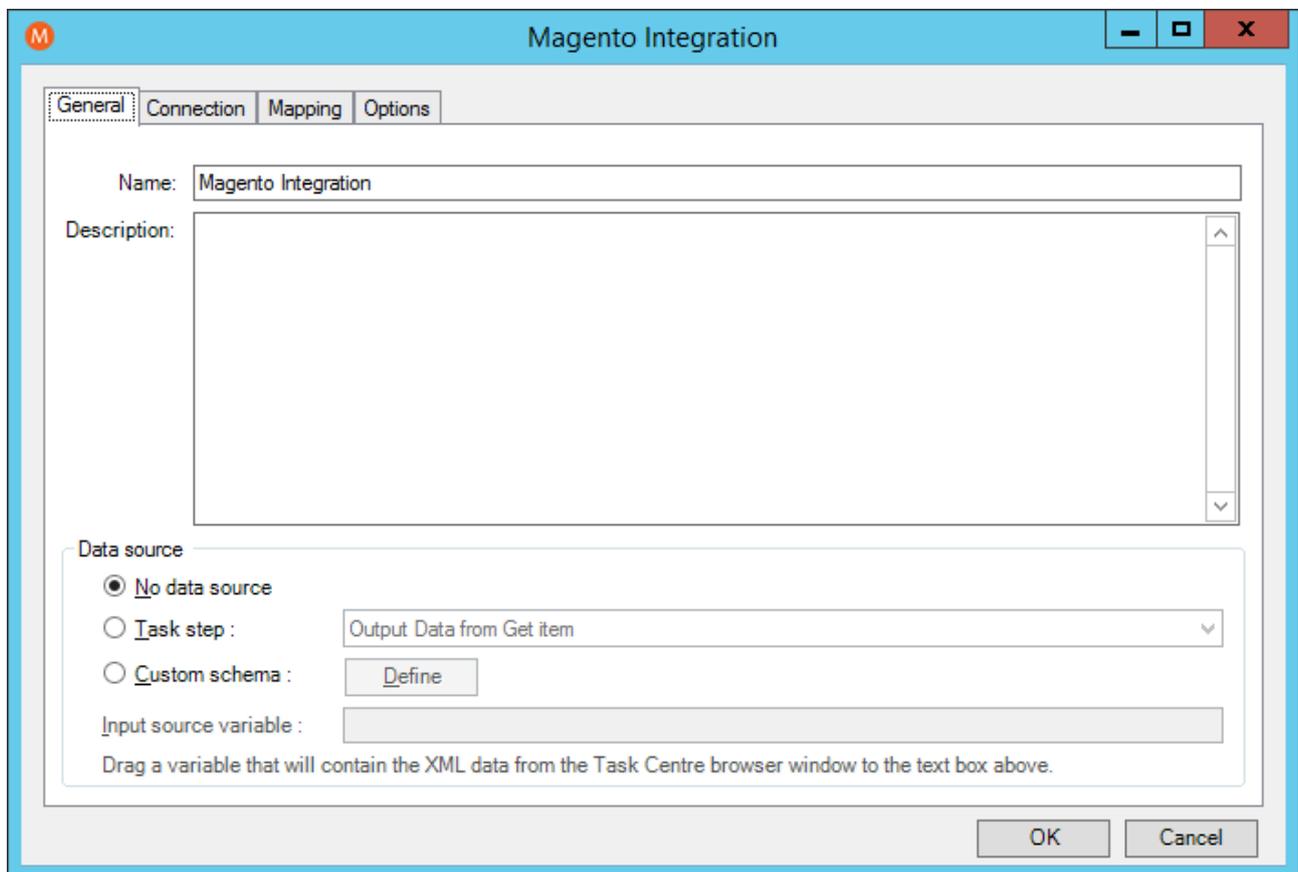
NOTE: Existing task steps using the Magento connection must be refreshed in order to use the latest schema.

Step Configuration

When creating new tasks, the Magento Integration tool is located under **Data Connectors** of the Task Browser.

NOTE: It is not possible to add the connector tool to the task until at least one connection to Magento has been defined in the global configuration

General Tab



The screenshot shows a dialog box titled "Magento Integration" with a blue header bar. The "General" tab is selected, showing fields for "Name" (set to "Magento Integration") and "Description". Below these is a "Data source" section with three radio button options: "No data source" (selected), "Task step:" (with a dropdown menu showing "Output Data from Get item"), and "Custom schema:" (with a "Define" button). There is also an "Input source variable:" text box and a note: "Drag a variable that will contain the XML data from the Task Centre browser window to the text box above." At the bottom right are "OK" and "Cancel" buttons.

Figure 7 - Magento Integration - General tab

Provide a meaningful **Name** and **Description** for this step.

Choose your **Data source**. This can either be:

- **No data source** — If you don't make use of a dedicated XML input source, select this option to use TaskCentre variables in place of the XML objects' fields. These can then be mapped to operational fields — see [MAPPING TAB ON PAGE 11](#).

For example, you can extract various bits of information from an email and store them in TaskCentre variables. Then, having mapped them to Magento objects and operations, these can be stored in Magento for later use.

- **Task step** — The data source can be set to an available TaskCentre XML data source. Only those steps that are capable of natively exposing an XML document at runtime are listed. These may be another Magento Integration step, or a Tool, such as **Recordset to XML**.
- **Custom schema** — An XML schema defines the structure of the parsed XML: what tags are present, and the nesting of the tags. You **Define** the schema of the XML that will be used as the input data source for this step. The industry standard XSD format is used by the Magento Integration tool. Any XML processed by this step must conform to this schema else an error will be reported.

If the XSD schema is available, either import it into the **Custom Schema Configuration** (use the **Import XSD/XML File** button), or copy and paste it into the configuration box.

If the XSD schema is not available, you can import an example of the runtime XML (**Import XSD/XML File**), or copy and paste it into the configuration box. Use the **Parse** button to create the schema.

- **Input source variable** — As well as defining the schema, you must specify the TaskCentre variable that contains the XML data at runtime.

Connection Tab

You specify the Magento **Connection** this step must use.

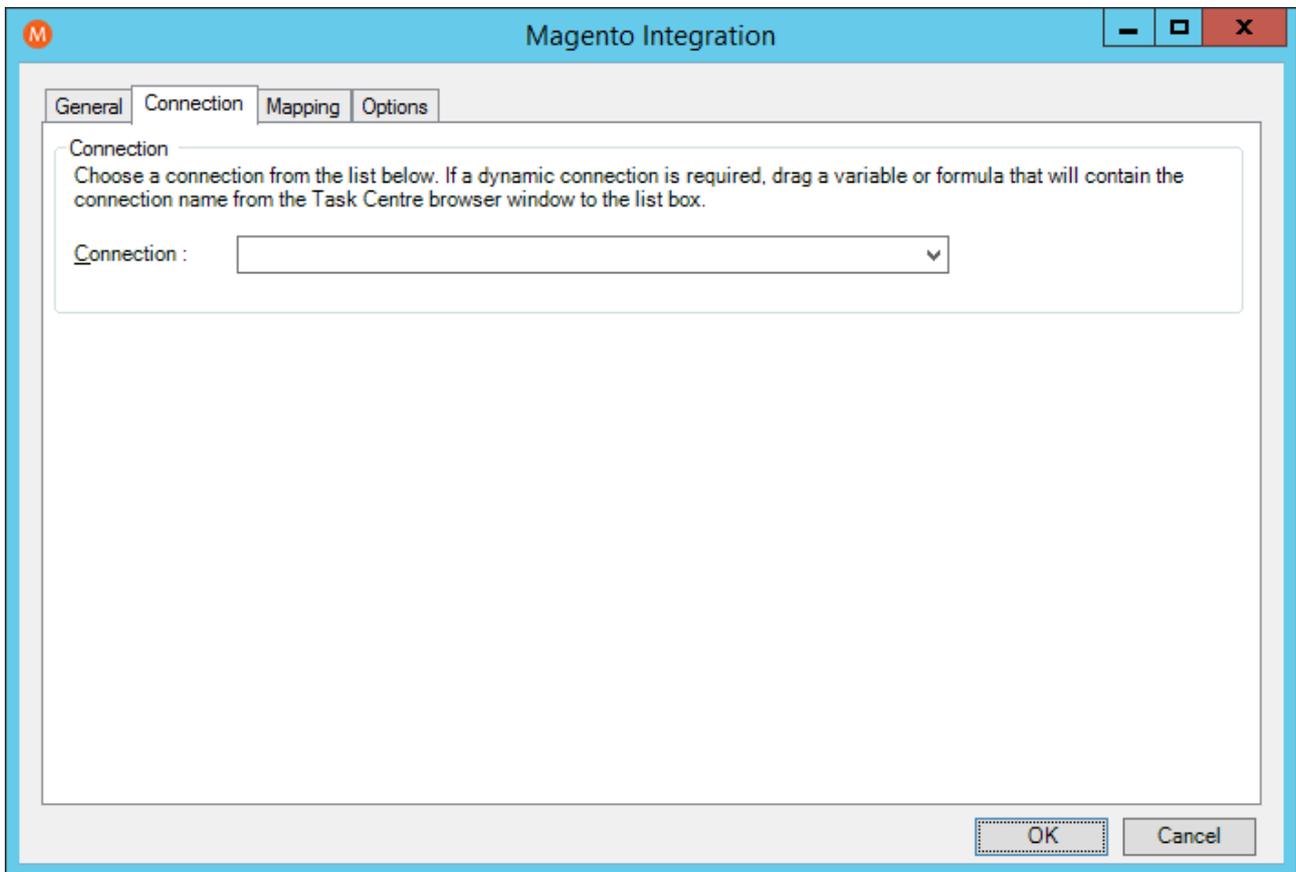


Figure 8 - Magento Integration - Connection tab

All connections created in [GLOBAL CONFIGURATION ON PAGE 5](#) are presented here.

Alternatively, you can use a TaskCentre variable to create a dynamic connection, where the connection used is determined by runtime circumstances. At runtime, the contents of the variable must match the name of one of the [GLOBAL CONFIGURATION](#) connections — this is case-sensitive.

Mapping Tab

Here you define links between the incoming XML and the outgoing data that is sent to the Magento API. This defines how, at runtime, the incoming XML is to be translated into the XML required for the relevant object and operation.

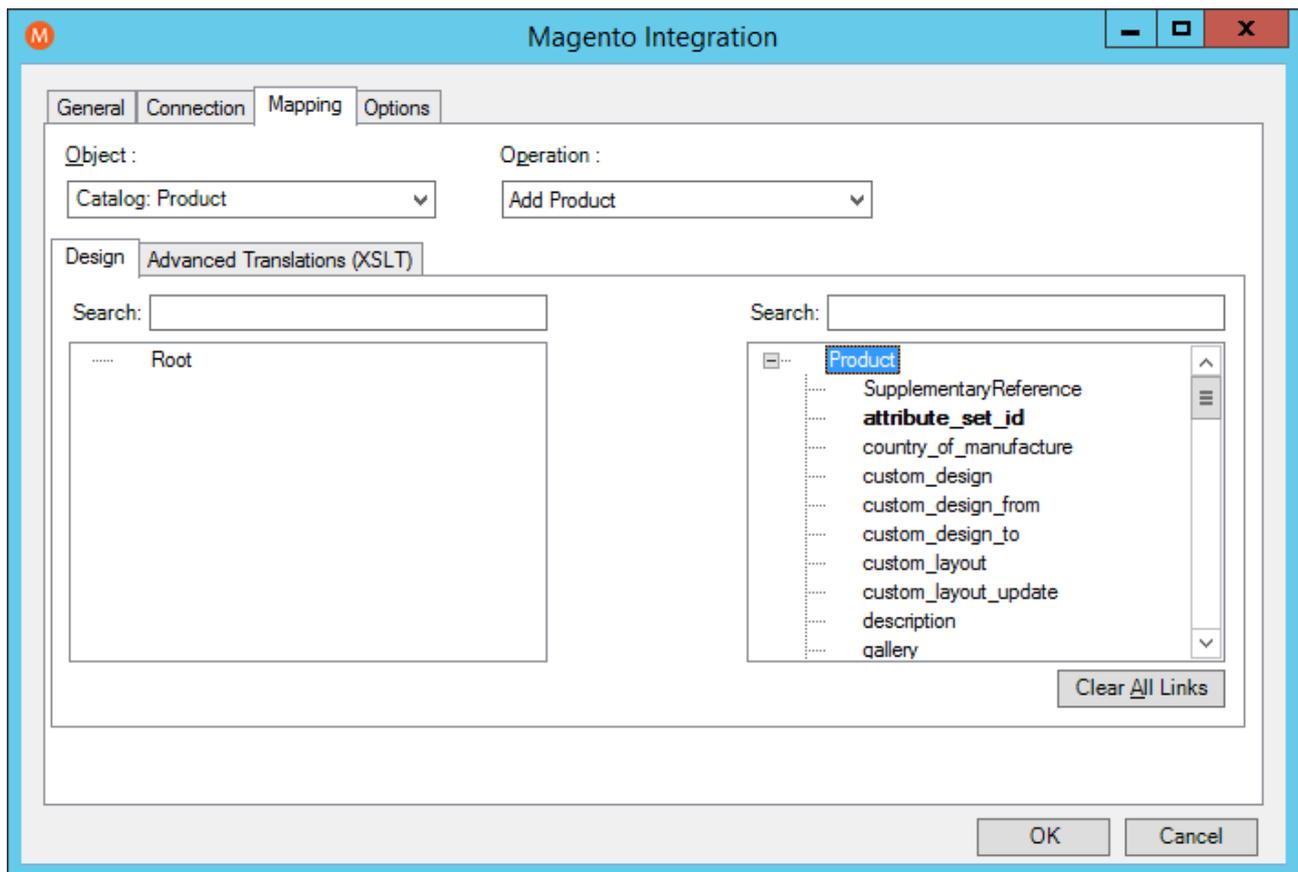


Figure 9 - Magento Integration - Mapping tab

The **Object** drop-down shows the available objects. The **Operation** drop-down shows the operations available for the selected **Object**. For more information about which operation is available for an object, see [SUPPORTED OBJECTS ON PAGE 15](#).

You create the links by clicking and dragging an object field onto its corresponding operation field. Note that only linked fields are used in the output XML. TaskCentre formulas and variables can be included in the source data — drag them from the TaskCentre Browser to the object's XML tree control. These can then be linked to operation fields. Note that TaskCentre recordsets must first be converted to XML using either the **Recordset to XML** or **Transform Data** tool before they can be used here.

Each operation has an additional field, `SupplementaryReference`, which allows for traceability when transferring data from one place to another. When mapped, the data resides locally at runtime. It is added to the output, and creates a record for reference purposes only — you can choose to map any field to

SupplementaryReference to assist with checking where the data originated from or at what time the data transfer occurred, for example.

The Magento Integration tool uses eXtensible Stylesheet Language Transformations (XSLT) to translate the received XML. The **Advanced Translations (XSLT)** tab shows the XSLT generated for the links created for the object and operation. Use **Enable Free Type Mode** to directly edit the XSLT — this is particularly useful when translating a nonstandard requirement.

Options Tab

The **Options** tab allows you to define how errors in this step are handled at task runtime.

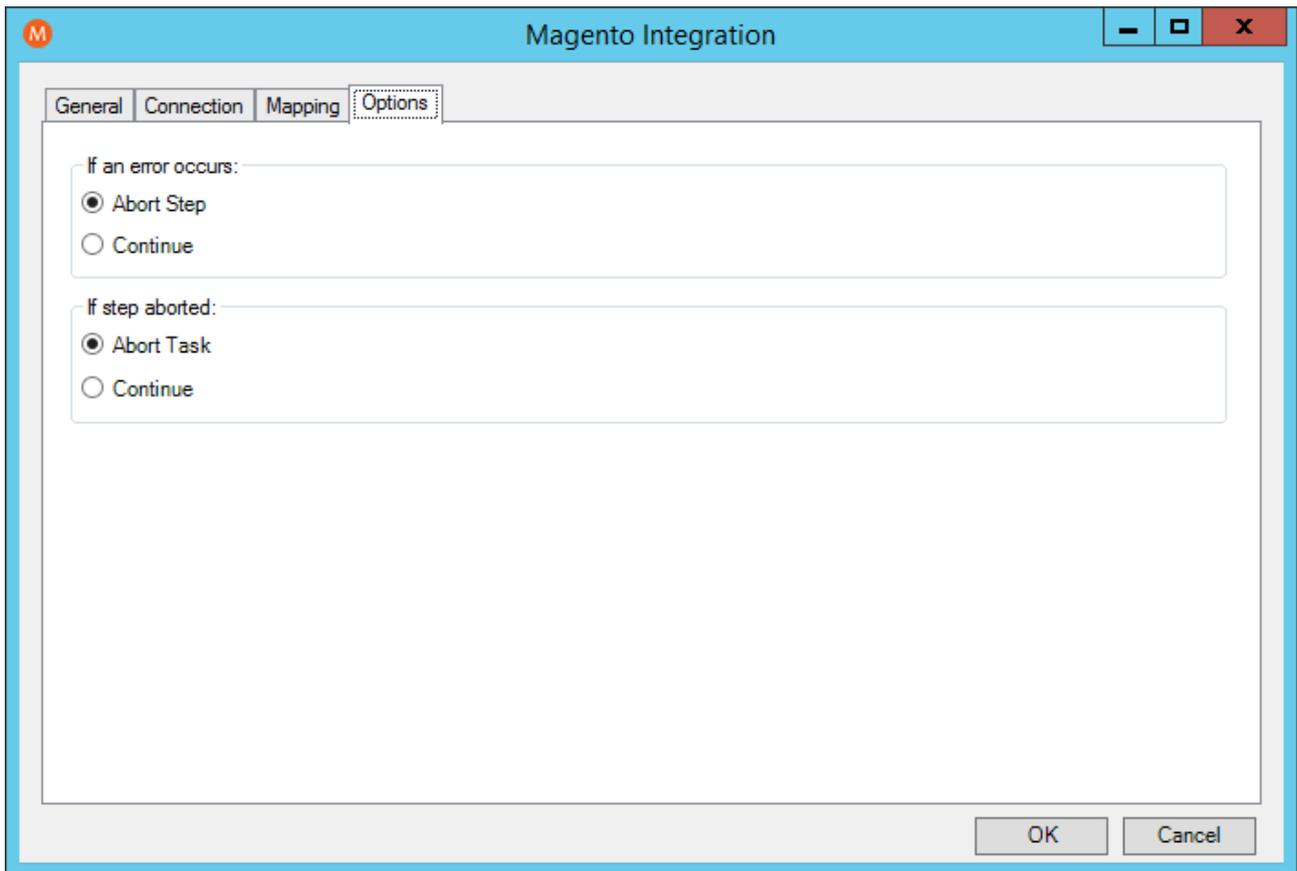


Figure 10 - Magento Integration - Options tab

If an error occurs, you can decide whether the step should **Continue** processing, or terminate the step immediately (**Abort Step**).

If the step is aborted, you can choose to **Continue** processing onto the next step in the task, or terminate the whole task immediately (**Abort Task**).

Allowing the task to continue allows you to use the error XML received back from Magento Integration in a **Save as File** step for investigation purposes, for example.

All errors are recorded to the TaskCentre Event Log (*Manage > Event Log*).

Working with Other Steps

Magento Integration can directly interact with the following steps:

Consuming XML from Other Tools

Step Icon	Name	Step Type
	Convert Recordset to XML	Format
	Import XML Document	Input
	Import Flat File	Input
	Web Service Connector Tool	Execute
	Call Task Tool	Execute
	Transform Data	General
	Magento Integration	Data Connectors

Exposing XML to Other Tools

Step Icon	Name	Step Type
	Convert XML to Recordset	Format
	Run Microsoft Reporting Services	Format
	Save File	Output
	Web Service Connector Tool	Execute
	Call Task Tool	Execute
	Transform Data	General

Step Icon	Name	Step Type
	Magento Integration	Data Connectors

Supported objects

At the time of writing, the following objects and operations are supported:

Magento Object	Standard Operations						Comment
	Get	Add	Update	Delete	Email	Other	
Catalog: Category	✓	✓	✓	✓		✓	Additional operation: <ul style="list-style-type: none"> Move
Catalog: Category Attribute	✓						
Catalog: Category Link	✓	✓		✓			
Catalog: Product	✓	✓	✓	✓			
Catalog: Product Attribute	✓	✓	✓				
Catalog: Product Attribute Option	✓	✓		✓			
Catalog: Product Website Link		✓		✓			
Catalog: Configurable Product Link		✓		✓			
Customer: Customer	✓	✓	✓	✓			
Customer: Customer Address	✓	✓	✓	✓			
Customer: Customer Group	✓	✓	✓	✓			
Directory: Country	✓						Get Countries and Regions
Directory: Currency	✓						
Sales: Order	✓				✓	✓	Additional operations: <ul style="list-style-type: none"> Add comment Cancel order Hold order Release order
Sales: Order Address	✓						
Sales: Order Item	✓						
Sales: Credit Memo	✓				✓		
Sales: Credit Memo Comment	✓	✓					

Sales: Invoice	✓			✓	
Sales: Invoice Order		✓			
Sales: Refund Invoice		✓			Create and process a refund. Use this service if the invoice was created using an online payment method.
Sales: Refund Order		✓			Create and process a refund. Use this service if the invoice was created using an offline payment method.
Sales: Shipment	✓			✓	
Sales: Ship Order		✓			

Tool Output

The Magento Integration tool outputs two documents:

- OutputData
- ErrorData

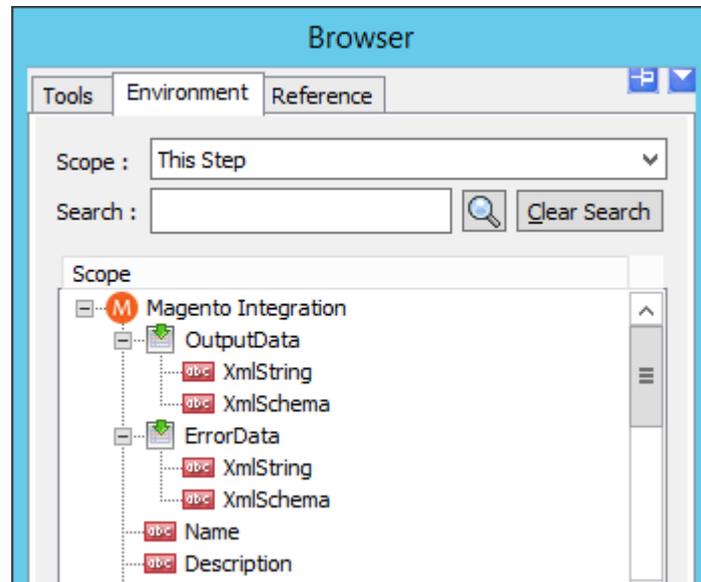


Figure 11 - Magento Integration tool outputs

Both outputs can be used:

- Directly by subsequent tool steps which consume XML data inputs
 - If required, use the **XML to Recordset** tool to convert the XML to a TaskCentre recordset

- Accessed using the output or error objects for response data (`XmlString`), or the output or error schema (`XmlSchema`) present in the Task Browser

OutputData XML Document

The `OutputData` document contains:

- Data returned from Magento Integration, for instance the created, updated or retrieved entity instances
- `SupplementaryReference`

ErrorData XML Document

The ErrorData document is structured as follows:

<Error> — All errors are created as an <Error> node, with the following sub-nodes:

<Object> — The name of the requested object, such as, Product

<CODE> — The error code returned by Magento

<MESSAGE> — The corresponding error message

<EXTENDEDINFO> — A string containing additional information about the error

<INPUTDATA> — The input data mapped for the object, plus all data contained in the SupplementaryReference field

Runtime

The incoming XML is translated into the XML format for the object and operation selected in the configuration. The data for the linked fields is brought across into the output XML — only those fields that were linked are brought across. The XML is passed to the connector tool, which then:

- Processes the data
- Performs the operation requested
- Sends back an XML document containing the response

The XML can then be used by other TaskCentre steps

Error Handling

Errors are written to the TaskCentre Event Log (*Manage > Event Log*). You define how errors are handled in the **Options** tab of the Magento Integration tool — see [OPTIONS TAB ON PAGE 12](#).

Reasons for the errors could include:

- Web service connection errors
- User privilege errors
- Errors from the Magento API (see [TOOL OUTPUT ON PAGE 16](#))
- Warnings and messages from the Magento API (see [TOOL OUTPUT ON PAGE 16](#))

Magento Account Security

The Magento API is the only method used to connect to Magento, and perform read / write tasks — all security present in the API is used.