



**TaskCentre® v4.5
Web Service Connector Tool
White Paper**

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Introduction

Overview

The '**Web Service Connector**' is an Execute Tool which is used to create a Task Step that calls a web service operation and returns the response from the web service as data content which can be used in the Task. It can consume a recordset or XML document which may then be transformed within the Step before being submitted to the web service.

It is capable of working with a very wide range of services, both SOAP and REST. These services may be business applications, hosted locally, at a remote location or in the cloud, such as ERP, Financial or CRM systems or they could be information services provided on the internet.

This Tool can be applied in many different types of Tasks, including, system to system integrations, automation of business activity within a system removing routine overheads and errors, information service integration into business processes and many others.

The services that are to be called can be described within the Tools global configuration producing, a more user friendly experience when being used in Task Steps. These simplified descriptions can be exported from one installation of TaskCentre and imported into another installation.

Task Step Configuration

The Web Service Connector Tool can be dragged from the browser onto the Task planner to create a Task Step just like all other TaskCentre Tools. Double clicking on the Step icon opens a tabbed dialog where details for the web service call required may be configured.

General tab

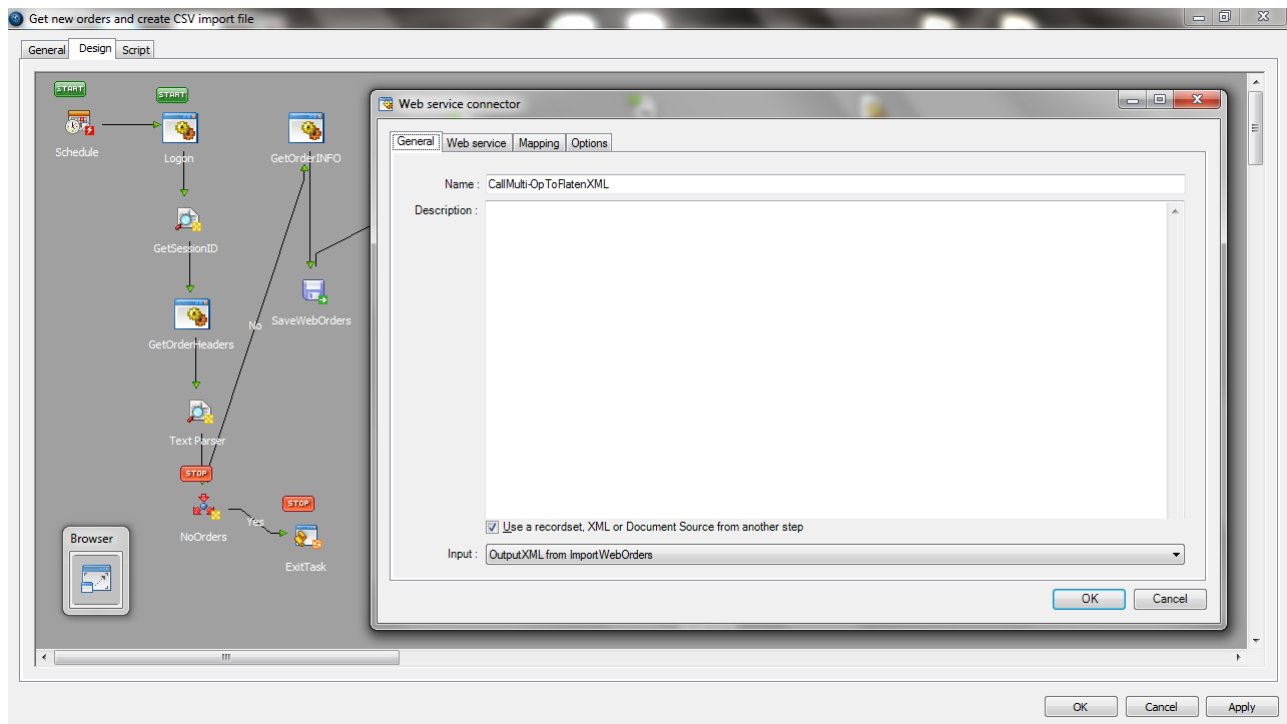


Figure 1. Web Service Connector – General tab.

On the '**General**' tab the Task Step can be named and described and the input data source selected. This input data can be from another Step already created in the Task which outputs XML or a recordset.

Web Service Tab

The '**Web Service**' tab is used to select the service and operation to be called.

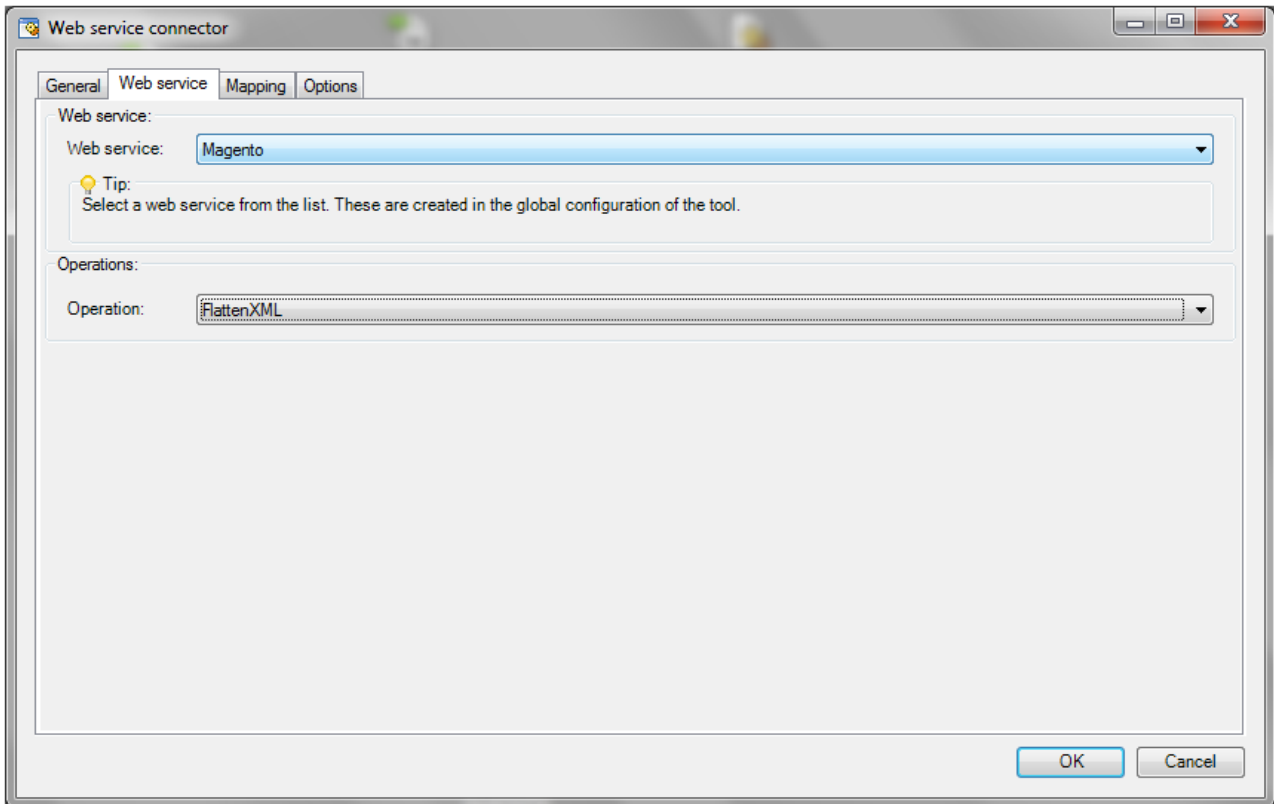


Figure 2. Web Service Connector – Web service tab.

The web service connections and their associated operations are first created and configured in the Tools Global Configuration. They are then available to the Task designer for selection when adding a Web Service Connector Step to any Task.

Mapping tab

The **'Mapping'** tab is used to produce mappings from the input data defined on the **'General'** tab to the input parameters of the web service.

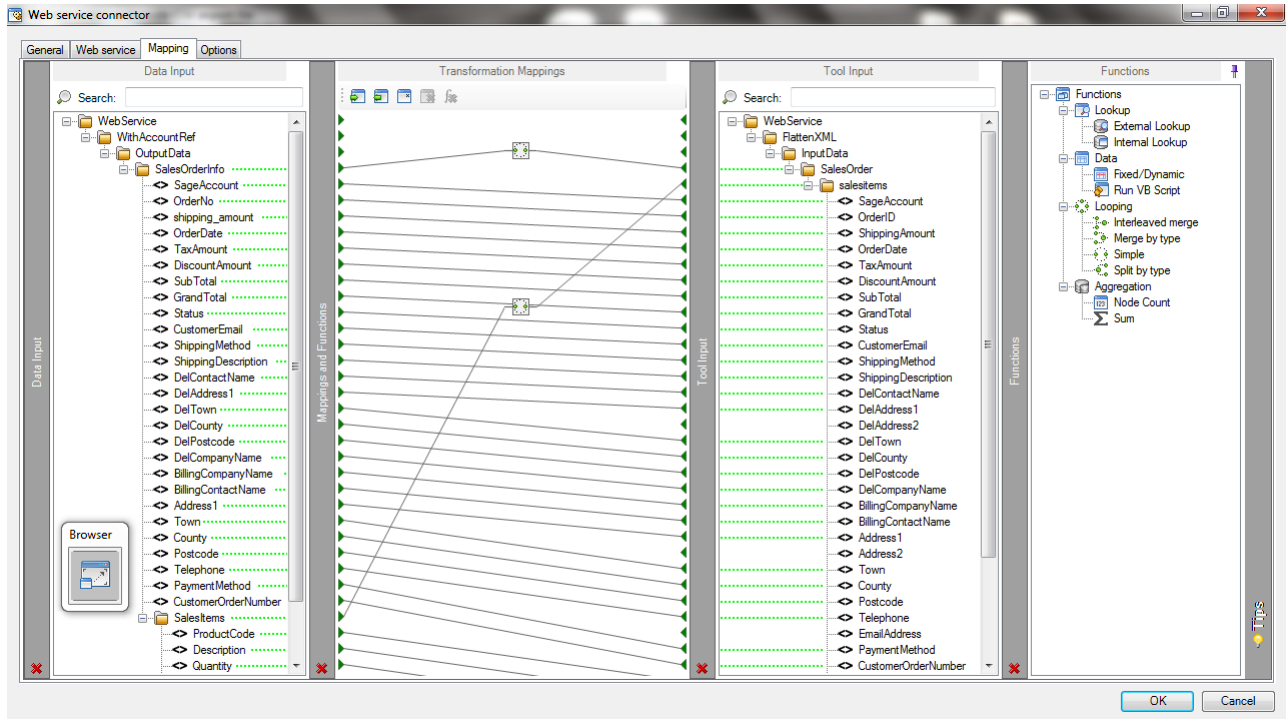


Figure 3. Web Service Connector – Mapping tab.

This tab uses the standard TaskCentre data transformation component and supports many features including:

- Automatic mapping where input and output parameter names match.
- A set of transform functions that can be dragged onto the mapping area to change the data between input and output.
- Support for hierarchical data structures with nested looping.
- Export and import of mappings so that they can be reused in other Steps.

Options tab

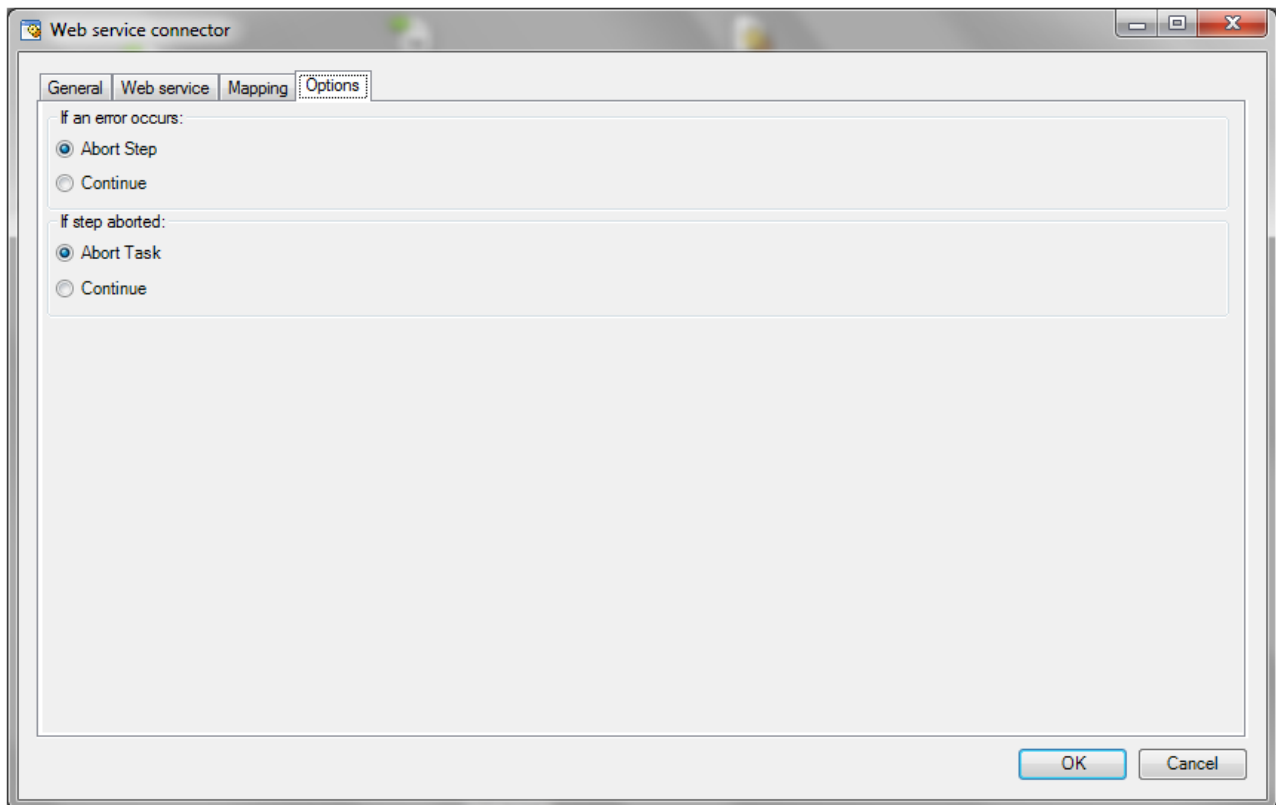


Figure 4. Web Service Connector – Options tab.

The '**Options**' tab is used to configure the Step behaviour if an error occurs when the Step is being processed.

Tool outputs

The Tool outputs the XML returned from the web service operation it is calling and provided this data for consumption in other Steps within the Task. If the web service returns an error for any reason the Tool outputs an error XML containing the input data and error details returned from the service. Both of these XML outputs can be consumed by other Steps within the Task that consume XML.

Global Configuration

Creating a new connection

New web service connections can be established in the Global Configuration in TaskCentre. For services with a WSDL (Web Service Definition Language) file that describes the service, this can be used to determine the available operations and their schemas. Services previously described in another installation of TaskCentre and exported as a TCWX file can be imported. For direct HTTP services the service can be described globally, making them available for Task designers in a user friendly format.

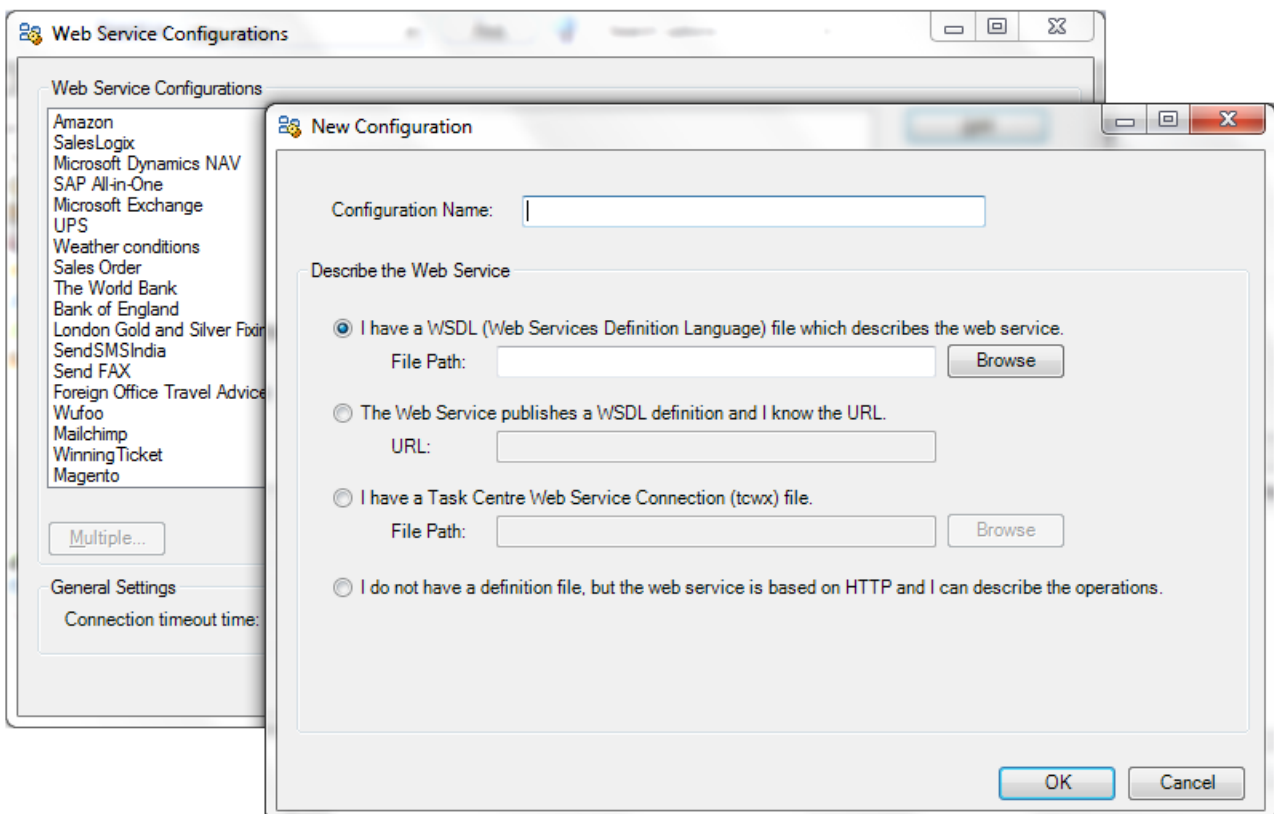


Figure 5. Web Service Connector – New Web Service Configuration.

WSDL Services

For many services that provide a WSDL file, no further activity beyond pointing at the file is necessary. The WSDL file will be interrogated by TaskCentre to determine as many details about the service as possible, such as the operations available and their parameters.

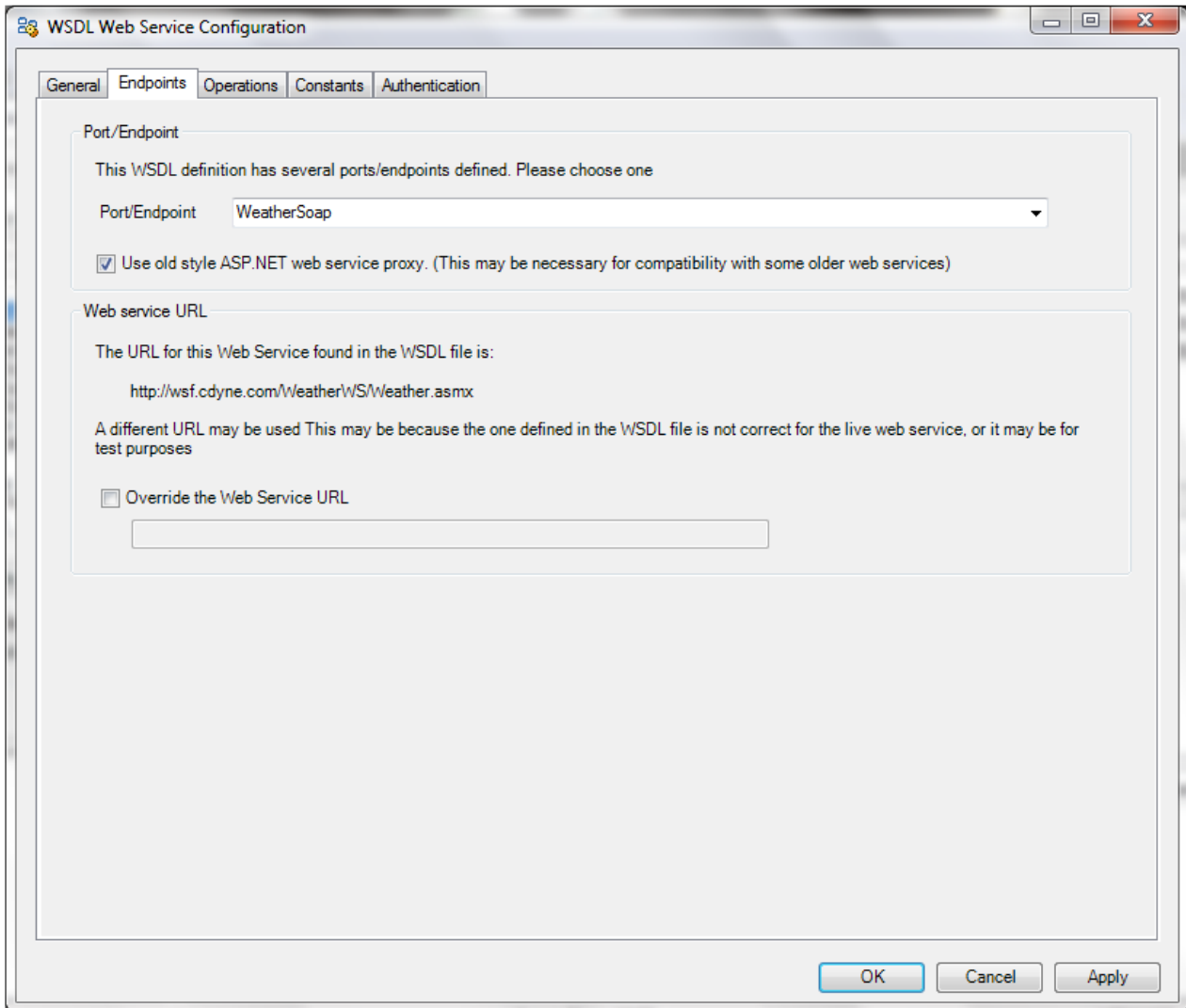


Figure 6. Web Service Connector – WSDL Service Configuration.

The details returned from the WSDL file interrogation can be amended and augmented as required, such as adding authentication details etc.

HTTP Services

For HTTP services the operations that can be performed can be described manually through the TaskCentre Global Configuration.

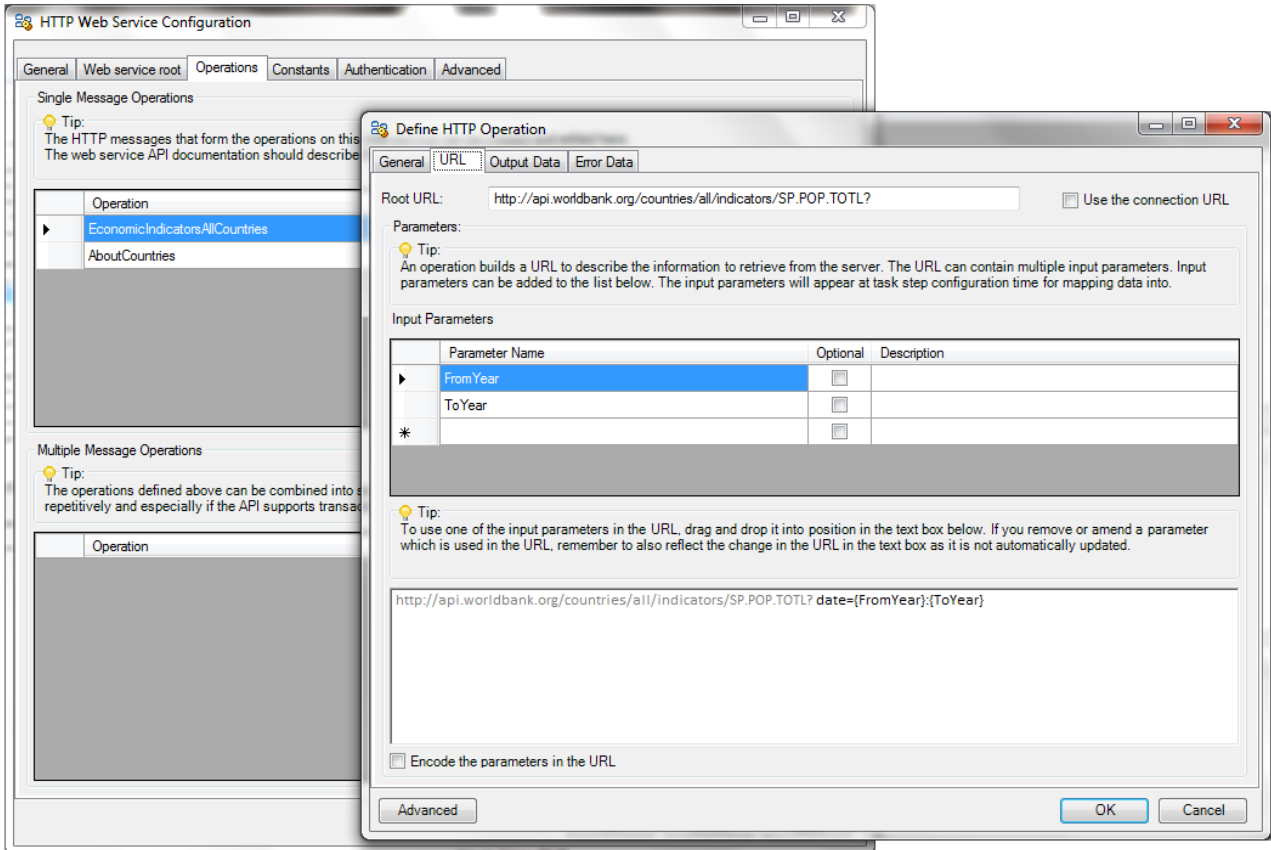


Figure 7. Web Service Connector – HTTP Service Configuration.

From the documentation provided for the web service a series of parameters can be added and dragged into the URL. These parameters will then appear when configuring the Task Step as input parameters for the user and they will not need to see or be aware of the structure of the URL.

Multiple Message Operations

An optional feature in the Global Configuration is the creation of Multiple Message Operations. This allows single operations to be combined into a sequence of operations by dragging them from the list on the right into the sequence on the left (below).

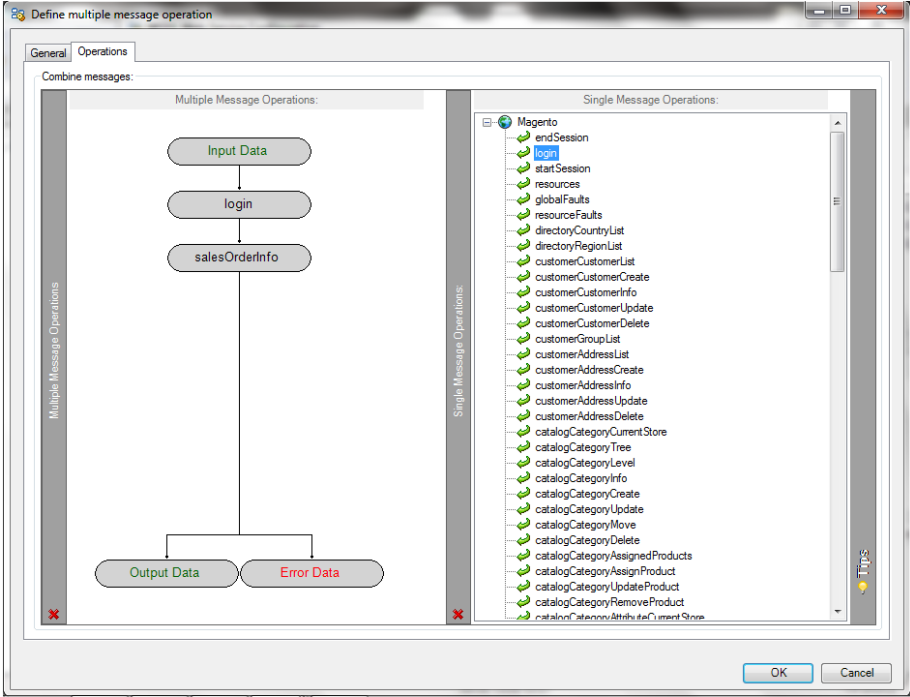


Figure 8. Web Service Connector – Multiple Message Operation Configuration.

Ordinarily the schema presented to the user when maintaining Task Steps contains the parameters defined by the web service. This facility enables the schema to be restructured to contain the parameters that are relevant to the users, with an appropriate ordering and naming. Double clicking on an operation takes the user to a mapping dialog where they can map the user defined schema and any results from previous operations into the input schema of the operation.

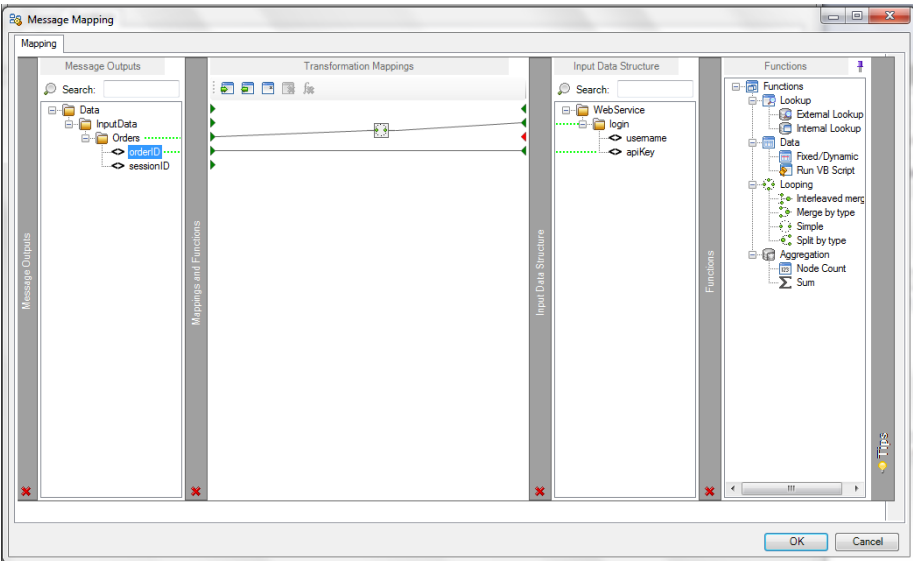


Figure 9. Web Service Connector – Message Mapping.