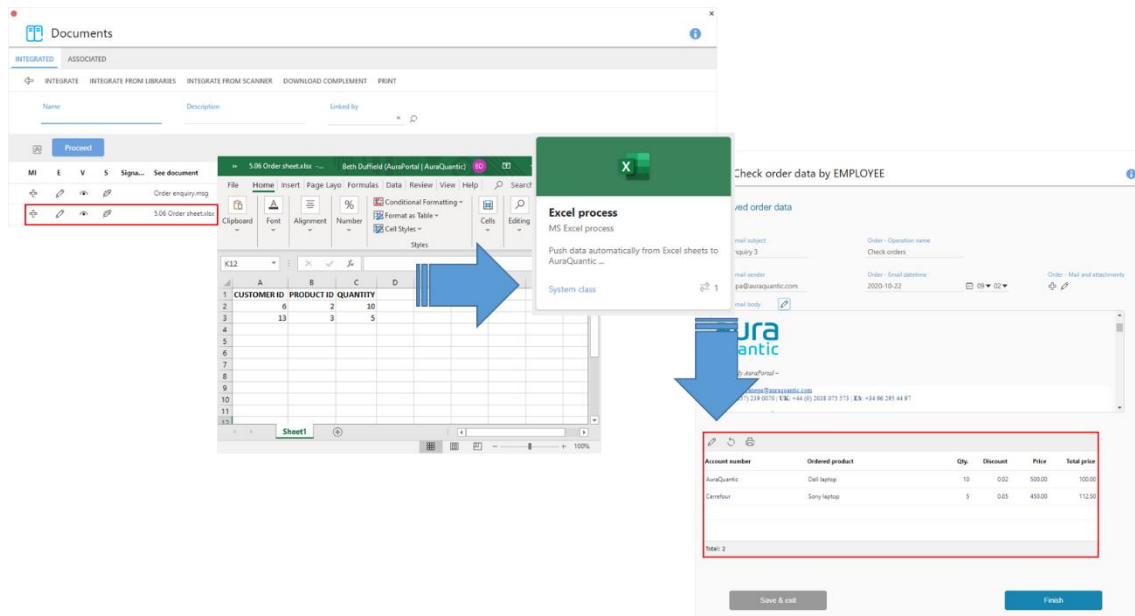# Excel process connector

Contents

April 22, 2022

Introduction

AuraQuantic has a wide range of mechanisms that allow integration or connection with external data, to ease the company's centralized management as must as possible. Among these mechanisms we have the "Connectors", and the subject of this document is the "Excel process" connector.

The Excel process connector extracts data from a Microsoft Excel spreadsheet and records it either in singular fields or in a group of fields included in a process panel. This action is carried out by the CONNECTOR system task configured with the "MS Excel" function, either as an independent object in the process diagram or as an action defined in a button in a form. Once in the process, the data can then be processed using all of the platform features.

For example, an order sent by a customer in an Excel spreadsheet attached to an email is collected in an AuraQuantic library field by the "Email" connector (explained in the corresponding document in the Knowledge base) and then the data is extracted from the Excel spreadsheet and recorded in a group of fields using the "Excel process" connector.

The image below represents the sequence of this example operation:


Here we have a library that contains an Excel file with the customer's order. When the "Excel process" connector is executed in a process, the information is extracted from the Excel file and added to a group of fields in a personal task form, displaying the data from the Excel directly to the performer of the task where they can then process them as necessary.

Creating an Excel process connector

To create an MS Excel connector, go to **Structure > Dictionaries > Connectors**, as seen in the image below:
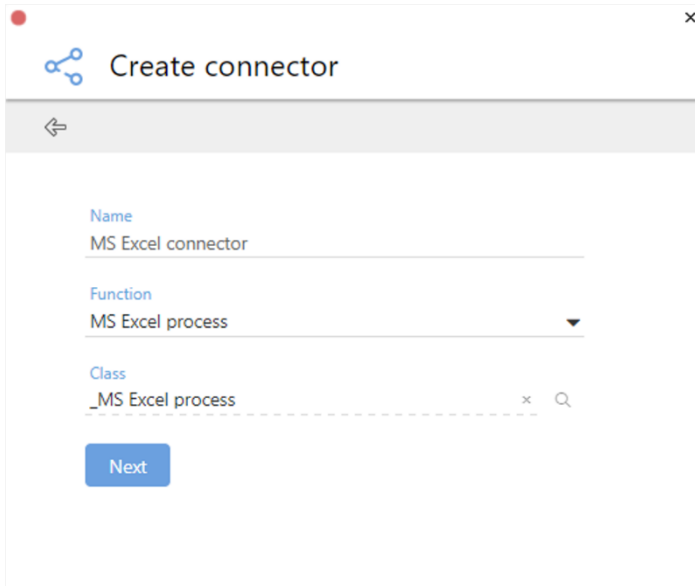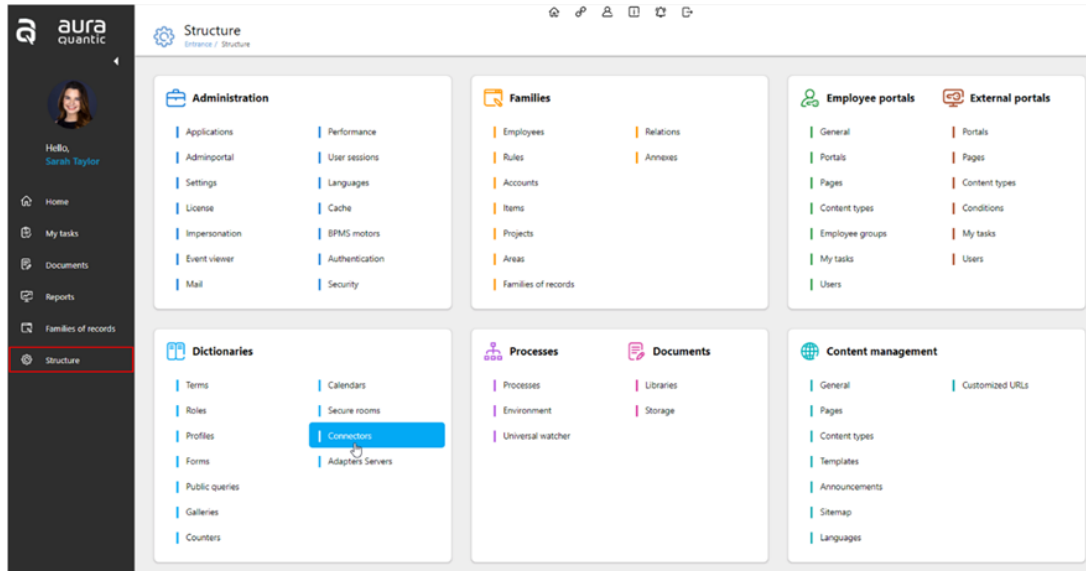

The "Connections with external applications" window will appear:
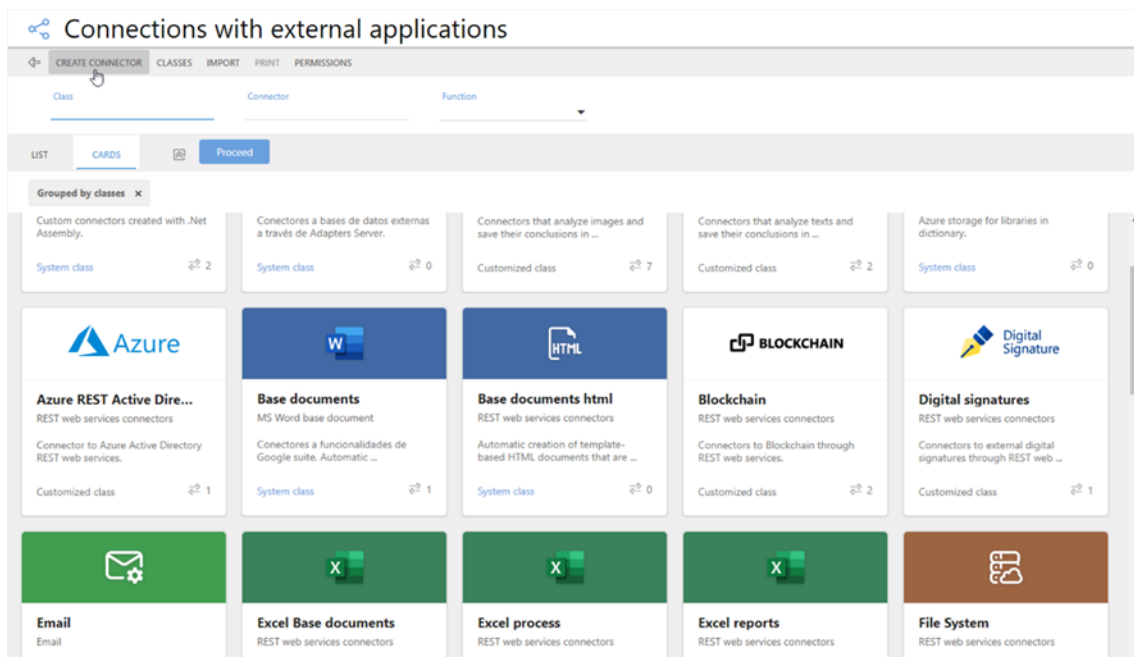
For a detailed explanation of this window, search for the document named "Connectors" in the Knowledge base.

Here we can either modify an existing connector by entering the "Excel process" class and finding the connector we want to update, or we click on **Create connector** in the action bar to create a new one. The configuration is as follows:
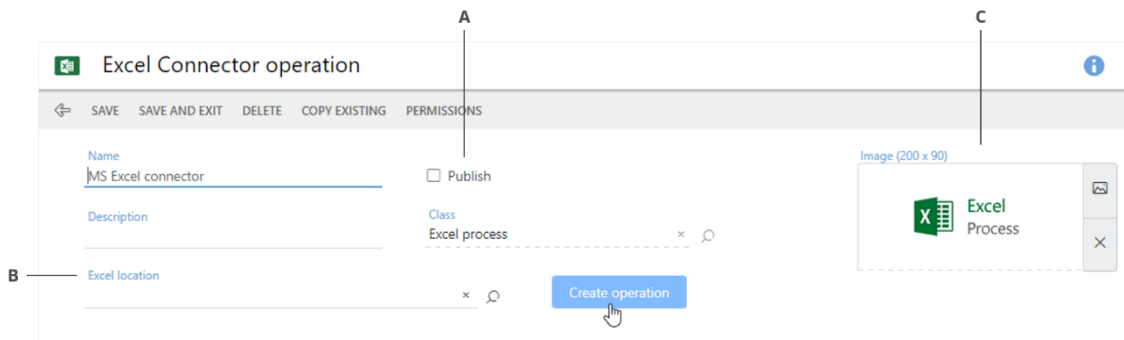
Connector creation window.

In this window, give the connector a "Name" and select **MS Excel process** in the "Function" option. The "Class" will be filled in automatically.

Now click **Next**. The MS Excel connector configuration window will appear:

A Connector publication option; B Location of the Excel file; C Image for the card view.

Here we can see that the name and class are already filled in from the previous window. The other options are:

- **Publish**. Marking this checkbox will publish the connector, making it available for selection from the CONNECTOR system task (MS Excel).
- **Excel location**. Here we choose a library term from the dictionary of terms that will contain the Excel spreadsheet. The term chosen here must be included in the panel of the class of processes from where the connector will be executed by the CONNECTOR system task.
- **Image**. This is the image that appears on the card for this connector when the list of connectors in shown in card view. A default image is provided, but it can be modified. The size of the indicated image must be maximum 200 x 90 pixels.

Clicking on **Create operation** will expand the window to show the operation section.

Configuring the operations

After indicating in the general options where the Excel data will be retrieved from, in the operations we define how and where these data are going to be recorded.

Several operations can be defined in the same connector. In the configuration of the CONNECTOR system task, once the connector has been selected, we can select one or more of the operations that have been defined in the connector and marked as published.

To configure an operation, we click on the **Create operation** button as indicated in the previous image. The operation panel will appear in the bottom half of the window with one created named "not defined", given that we still haven't given the operation a name:

*A Operation **B** Data relationship **C** Location **D** Copy existing*

We can edit this operation by directly filling in the options in the "Operation" tab (displayed in the image above) and clicking on "Save" in the action bar.

We can also create a new operation by clicking on the "Create operation" button on the far left.

The other options and tabs that have been indicated in the action bar in the previous image are explained below.

Operation

In this tab, which is the one displayed in the image above, we indicate a name to identify the operation and a description if necessary. The "Publish" checkbox allows us to publish this individual operation, making it available for selection from the CONNECTOR system task (MS Excel).

Here we also choose the type of "Target term" for the data retrieved from the Excel spreadsheet, from two possibilities:

- **Singular**. The data will be imported to singular fields which must be present in the panel of the class of processes that executes the connector.
- **Group of fields**. In this case we select the group of fields where we want to import the Excel data. The window will expand to show more options:

A Operation B Data direction C Last row/column with data D Create empty rows

The options when we have selected a group of fields as the "Target term" are explained below.

Operation

Here there are two options:

- **Create new lines**. New lines will always be created in the group of fields for the data retrieved from the Excel spreadsheet.
- **Update existing lines**. The lines that already exist in the group of fields will be updated with the data from the Excel spreadsheet. If we select this option, the "Create new lines if they don't exist" option will appear to indicate whether we want new lines to be created if the data retrieved from the Excel spreadsheet doesn't exist in the group of fields, acting in the same way as the "Create new lines" option.

The "Update existing lines" option, also enables a specific column in the "Data relationship" tab (explained in the section "Data relationship" further down in this document), where we must select which of the lines will act as the "Primary key" for the operation:

Configuration in the "Data relationship" tab if we have indicated "Update existing lines".

The function of the primary key is as follows: if the value in the Excel cell matches the value in the panel field in the relation marked as "Primary key", the line will be updated instead of a new one being created.

Any suffixes in the group of fields will be updated, but the prefix will remain the same.

If when the connector is executed the origin Excel cell is empty, the destination panel field will be emptied, and if the origin cell has value "0", the same value will be introduced in the destination panel field. Check the "Data relationship" section in this document.

Data direction

Data direction	Last row with data	Create empty rows
⦿ Vertical ◯ Horizontal	_____	◯ No ⦿ Yes

Indicate here the direction in which the data is displayed in the Excel spreadsheet. If the labels are displayed vertically, the values are introduced in rows meaning the data direction is **Horizontal**:

	A	B	C	D
1	**P/N Item**	ED-22345	EF-3332443	EF-3334349
2	**Product**	Dell Optiplex 7020MT	Dell Monitor E1913, 19"	Dell Monitor E2314H, 23"
3	**Amount**	2	2	3

Excel spreadsheet with horizontal data direction.

If the labels are displayed horizontally, the values are introduced in the columns below meaning the data direction is **Vertical**:

	A	B	C
1	**P/N Item**	**Product**	**Amount**
2	ED-22345	Dell Optiplex 7020MT	2
3	EF-3332443	Dell Monitor E1913, 19"	2
4	EF-3334349	Dell Monitor E2314H, 23"	3
5			

Excel spreadsheet with vertical data direction.

Something to take into account with the vertical data direction is that, even though it is vertical, the data will be introduced in the group of fields in horizontal lines.

Last row/column with data

The name of this option will change depending on whether the "Data direction" is vertical or horizontal. If it is **Vertical**, we indicate the last row in the Excel spreadsheet that we want the connector to read. If it is **Horizontal**, we indicate the last column.

Create empty rows

If "Yes" is marked here and there are any empty rows within the selected range of data in the Excel spreadsheet, they will be created as empty lines in the group of fields.

After completing the general options in this tab, it's now time to map the data between Excel and AuraQuantic.

Data relationship

In this tab, we establish the data mapping between the origin, cells in the Excel spreadsheet, and the destination, terms in AuraQuantic. The terms selected as the destination must be included in the panel of the class of processes that is going to execute the Excel process connector:
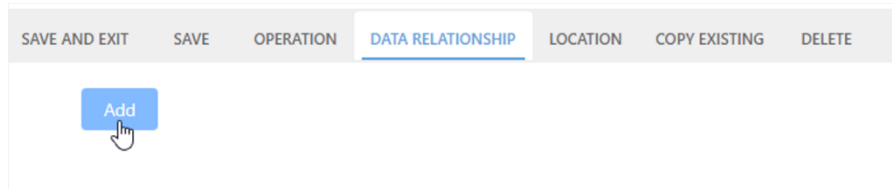
Click on **Add** and a line will appear for creating the relationship:
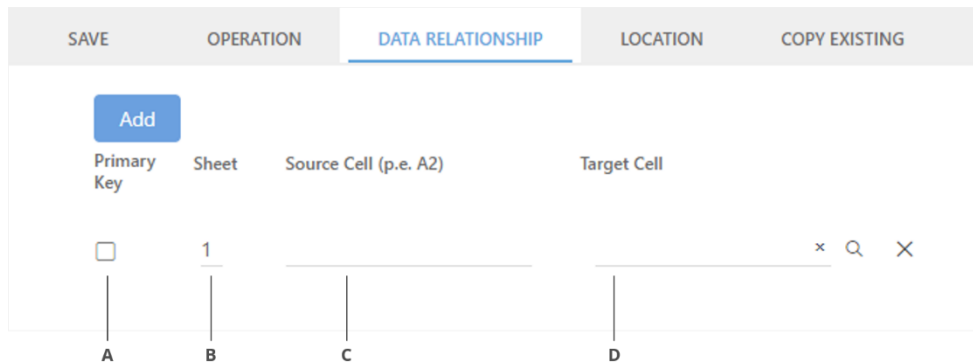
Data relationship configuration when the destination is a group of fields with the "Update existing lines" operation.
***A** Primary key **B** Sheet **C** Source cell (e.g. A2) **D** Target cell*

The columns in the data relationship table are the following:

- **Primary key**. This column only appears if the operation is configured to import the data to a group of fields with the option "Update exiting lines" selected, and is explained here. If we have selected singular fields as the "Target term", or a group of fields but with the option "Create new lines" selected, this column will not be visible.
- **Sheet**. Here we indicate the number of the sheet in the Excel workbook that the data is located in.
- **Source cell**. Here we indicate the Excel cell (for example A2, C3, etc.) that contains the value we want to import.
- **Target cell**. Here we select the term from the dictionary of terms that the Excel value will be imported to. If we have selected a group of fields as the "Target term", the list will be filtered by the fields in that group. These terms must be included in the panel of the class of processes the connector is executed from.

The following data types can be selected as the destination:

- **Date**. The Excel cell must contain a date.
- **Date and time**. The Excel cell must contain a date or date and time.
- **Decimal number**. The Excel cell must contain a decimal or whole number.
- **Whole number**. The Excel cell must contain a whole number. If it is a decimal, only the integer value will be transferred.

- **Simple selection**. The Excel cell must contain a whole number corresponding to the ID of a simple selection field option. If an ID that doesn't exist is the target cell is transferred, it will be left empty.
- **Yes / No**. The Excel cell must contain a *0* for "no" or a *1* for "yes".
- **One line text**. The Excel cell must contain a text which will be transferred to one single line, regardless of how much the text occupies in the cell.
- **Multiple line and rich multiple line text**. The text in the source cell will not be transferred with format.

Location

This button in the action bar opens a new window with a grid indicating the classes of processes the operation has been used in and the object that contains the system task that executes it.

Copy existing

This option in the action bar does not have its own configuration panel like the others given that, on clicking this button, a copy will be made of the operation that is currently being configured. A new line will appear in the left-hand panel with the word "Copy –"before the name of the copied operation, and it will be selected ready for modifications to be made.

Executing an Excel process connector

As mentioned previously, the "Excel process" connector is executed by the CONNECTOR system task configured with the "MS Excel" function, either as an independent object in the process diagram or as an action defined in a button in a form. Below we can see an example:
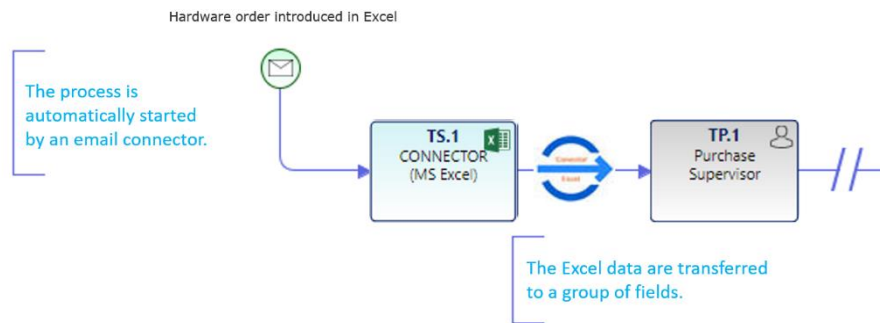
Here we can see part of the diagram of the same order process that was mentioned at the beginning of this document. This process is started automatically by an "Email" connector (explained in the corresponding document in the Knowledge base).

The email connector integrates the Excel spreadsheet containing the order that was sent by the customer into a library field in the process start message. The CONNECTOR system task (MS Excel) retrieves the spreadsheet from the library field and exports the Excel data to a group of fields, which is then sent in a personal task to the "Purchase Supervisor" who handles the order as necessary. The results of the Excel connector are shown in the group of fields in the personal task as follows:

Refer to the corresponding documents in the Knowledge base to see all the configuration details for the CONNECTOR system task and the form action buttons.

Excel process connector

Structure

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ID:7879

www.auraquantic.com | school@auraquantic.com | Tel: +34 962 954 497 |

International: +1 (857) 239 0070