RegoLink Flow Connector - User Guide

Date: 04/24/2019

Version: 1.5

1. Contents

2. Document Revision History

Version	Date	Name	Description
1.0	03/07/2019	Omar Luna	First Draft
1.1	03/14/2019	Luis Palacios	Initial Review
1.2	03/19/2019	Omar Luna	Update Document
1.3	04/23/2019	Luis Palacios	Review
1.4	04/24/2019	Omar Luna	Update Document
1.5	04/24/2019	Luis Palacios	Review

3. What is the RegoLink Flow Connector?

The RegoLink Flow Connector is a Clarity PPM connector that allows organizations to integrate with Clarity PPM to read and load data through a robust mechanism of actions and validations.

The following guide details how to use the functionality for the RegoLink Flow Connector, which is summarized in 3 actions:

1) Execute an Action
2) Validate a lookup
3) Execute a Query

4. Installation

4.1 CA Clarity

RegoLink Flow Connector – Webhook Configuration

The Flow Connector leverages a custom object called “RegoLink Flow Connector – Webhook Configuration” to set up process-based triggers which provide Webhook Triggered Flows with a payload containing the pre-defined attributes selected.

RegoLink Flow Connector – Actions

This object stores the actions available for the Flow Action: “Execute An Action.” An admin can decide the following:

4) Action Name
5) Action XML Template
6) Action Attributes

NSQL Queries

In order for the RegoLink API to communicate properly with Flow, it requires the following NSQL queries. These are not to be modified and are considered core to the asset functionality:

7) RegoLink Flow Connector - Lookup Values
8) RegoLink Flow Connector - NSQL Queries
9) RegoLink Flow Connector - Actions
10) RegoLink Flow Connector - Lookup Queries
11) RegoLink Flow Connector - NSQL Query Att
12) RegoLink Flow Connector - NSQL Query Par
13) RegoLink Flow Connector - Parameters
14) RegoLink Flow Connector - Static Lookups

Installation

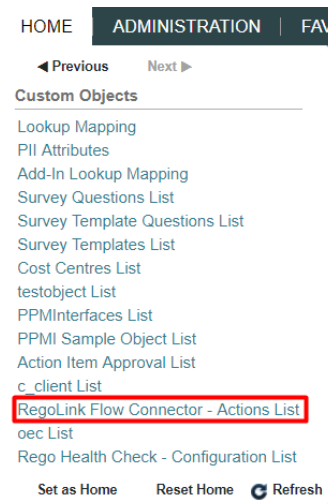
1) Login to your Clarity instance using a XOG Client.
2) Execute the following XOG files with an admin account to load the custom objects:
   a. 01 RegoLink Flow Connector - Action and Parameter Objects.xml
   b. 02 RegoLink Flow Connector – Webhook Configuration Object.xml
3) Execute the following XOG files with an admin account to load the NSQL queries:
   a. 03 RegoLink Flow Connector - Actions Query.xml
   b. 04 RegoLink Flow Connector - Parameters Query.xml

c. 05 RegoLink Flow Connector - Static Lookups Query.xml
d. 06 RegoLink Flow Connector - Lookup Values Query.xml
e. 07 RegoLink Flow Connector - Lookup Queries Query.xml
f. 08 RegoLink Flow Connector - NSQL Queries Query.xml
g. 09 RegoLink Flow Connector - NSQL Query Att.xml
h. 10 RegoLink Flow Connector - NSQL Query Par.xml

5. Configuration

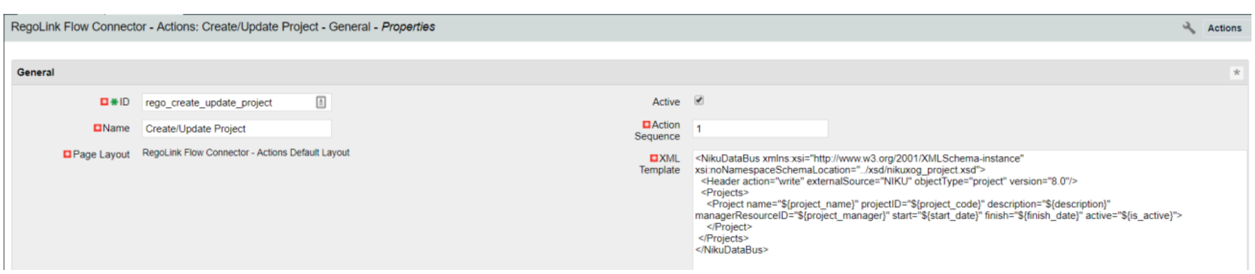
5.1 RegoLink Flow Connector – Actions

1) The “Actions” available in “Execute Actions” is set up via the Custom Object: RegoLink Flow Connector – Actions. In order to do so navigate to the list view as per the screenshot below.



2) Click on the “New” button on the lower left corner, or select an existing configuration.

3) Once the Properties are loaded fill in accordingly as per description below:

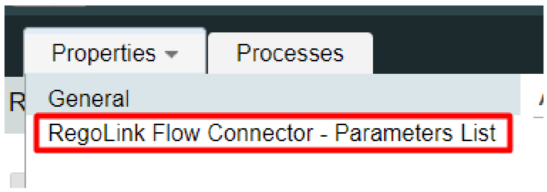


ID: The unique identifier for this action
Name: The name of the Action
Active: check the box to set the Action as active, and have it be available on the Flow Connector
Action Sequence: Order in which the actions will appear when using the Flow Connector
XML Template: XOG Template for the write operation. Parameters which will be replaced by Flow parameters must be tokenized in the following format:

${<ATTRIBUTE IDENTIFIER>}

Where **<ATTRIBUTE IDENTIFIER>** is the unique id used in the parameter definition described below.

4) Under the Properties tab, navigate to the subobject "RegoLink Flow Connector – Parameters" as per the screenshot below.



5) Click on the "New" button on the lower left corner, or select an existing configuration.
6) Once the Properties are loaded fill in accordingly as per description below:

ID: Unique identifier for the parameter, must match the same token identifier used on the XML Template.

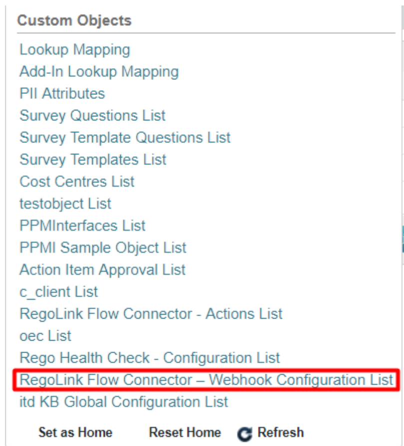
Name: The name of the field

Is Multi Valued: If the field can be MultiValue to enter more than one value
Parameter Sequence: The order in which parameters will be displayed in the Flow Action

Active: If the field is Active, when inactive parameter will not be displayed
Required: If the field is required to have a mapping or static value in the Flow Action
Remove if Empty: If this check is selected the parameter will be removed from the XML template execution if no value is provided during the execution

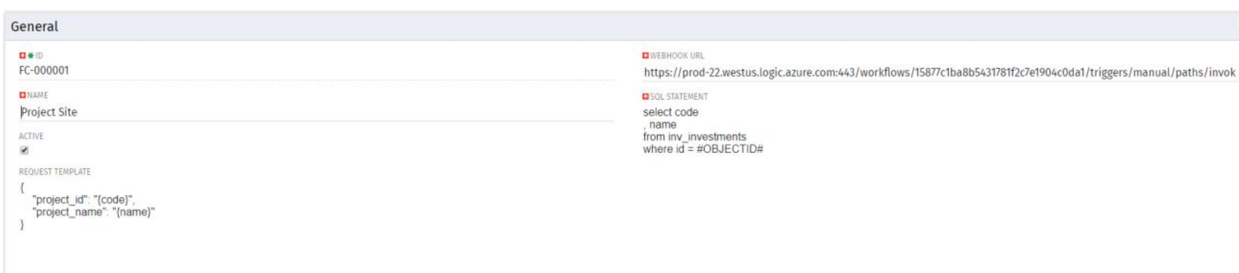
5.2 RegoLink Flow Connector – Webhook Configuration

2) The “Webhooks” which trigger Flows, are set up via the Custom Object: RegoLink Flow Connector – Webhook Configuration. In order to do so, navigate to the list view as per the screenshot below.



2) Click on the “New” button on the lower left corner, or select an existing configuration.

3) Once the Properties are loaded, fill in accordingly as per the description below:



ID: Unique Identifier, by default is auto numbered

Name: Name for the Webhook Configuration
Active: Check box to set the webhook as active; when inactive will be ignored even if a process is using this configuration
Request Template: The template that will be sent as the Flow payload. Which must be used to generate the schema when creating the Flow. Parameters must be tokenized in the following format:

{<ATTRIBUTE IDENTIFIER>}

Where **<ATTRIBUTE IDENTIFIER>** will match the query column name.

Webhook URL: The URL of the Microsoft Flow, autogenerated when creating a Flow
SQL Statement: The SQL query to read the required fields; the column names must match the values specified in the template. To filter by a specific ID the token #OBJECTID# can be used.

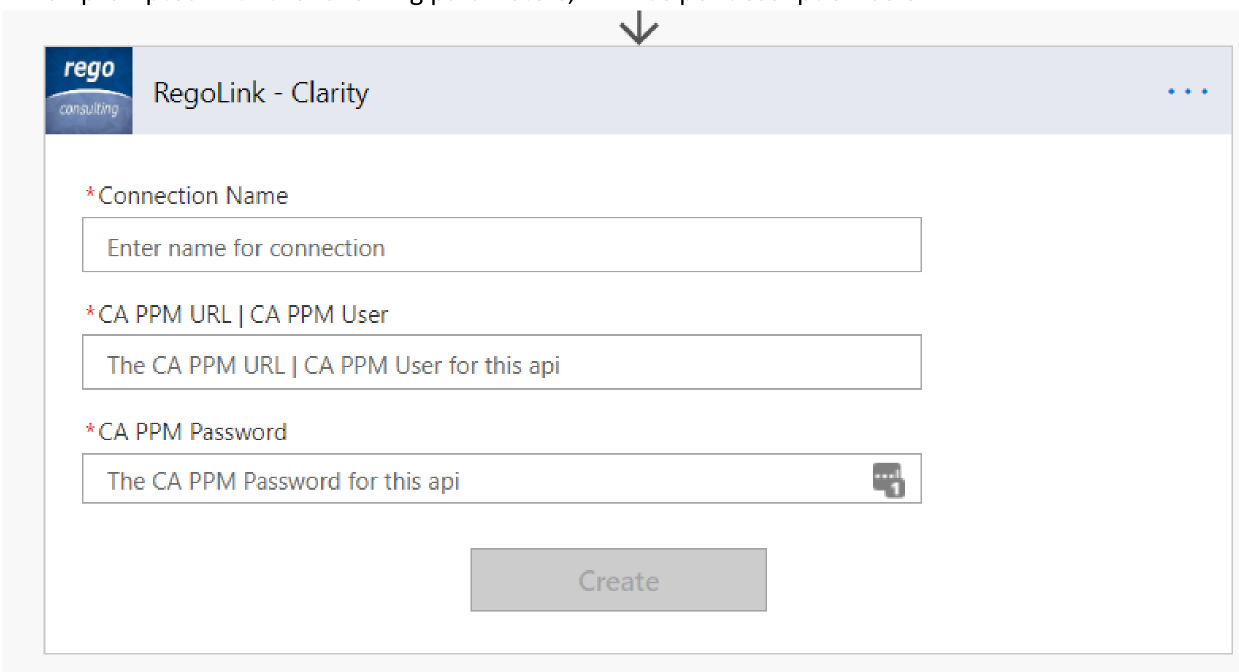
6. Flow Actions

The Flow connector can perform the following actions

15) **Execute Actions:** Execute active actions defined in Clarity
16) **Read lookups:** Read or validate lookups; supports both lookup types: dynamic and static
17) **Execute queries:** Execute an NSQL Query defined in Clarity, and provide the output

6.1 How to Authenticate?

1) When the connector is first used, it will request login information. Once credentials are provided, they will be stored in Microsoft Flow. In order to authenticate for the first time, perform the steps below.
2) When prompted with the following parameters, fill in as per description below:



Connection Name: User friendly name to identify this connection
CA PPM URL|CA PPM User: Your environment url and a valid user name must be provided in the following format:

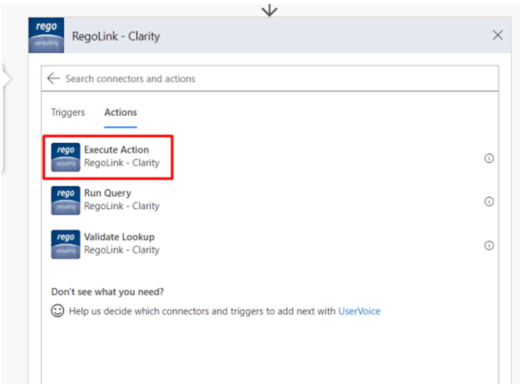
<Clarity XOG URL>|<Username>

Where:
<Clarity XOG URL> is your environments URL for XOG, commonly ending on /niku/xog
<Username> is a valid Clarity user name with enough rights to perform any of the selected actions

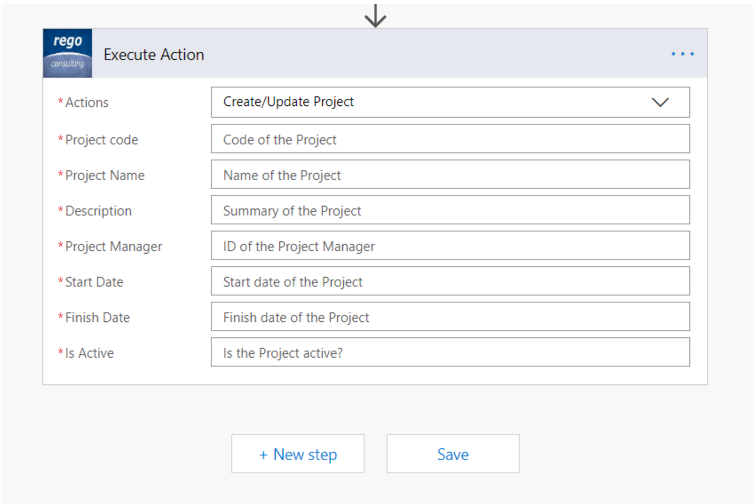
CA PPM Password: Clarity password for the username provided

6.2 Execute Action

1) To add an action using RegoLink Flow Connector. Click to add an action on a given flow, search for the connector "RegoLink – Clarity", once selected the actions will appear.
2) The "Execute Action" action will list any preconfigured actions on the Clarity object: RegoLink Flow Connector – Actions, once the action is selected as per the image below.



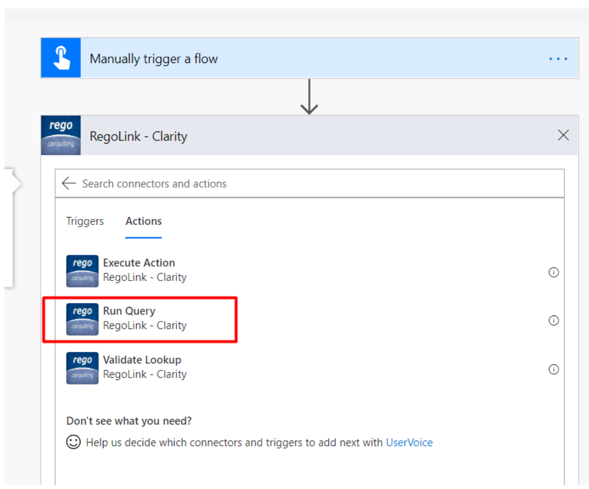
3) Users will be presented with the "Actions" drop down. Once an action is selected the parameters will be displayed.
    a. The parameters can either contain static values, mappings, or be empty when not required.



4) Once added, the following actions can use the following output:
    a. Request: XML Body of the generated request based on the parameters provided.
    b. Response: XML response provided by Clarity PPM.
    c. Status: Resulting status of the operation. Will return a numeric value based on the following:
       0: Failure
       1: Success
       2: Error
    d. Message: When not empty, it will provide any XOG messages returned by Clarity PPM in a friendly format without XML tags.
    e. Failed: Numeric value, represents the failed records
    f. Inserted: Numeric value, represents the inserted records
    g. Updated: Numeric value, represents the updated records
    h. Total: Numeric value, represents the total records

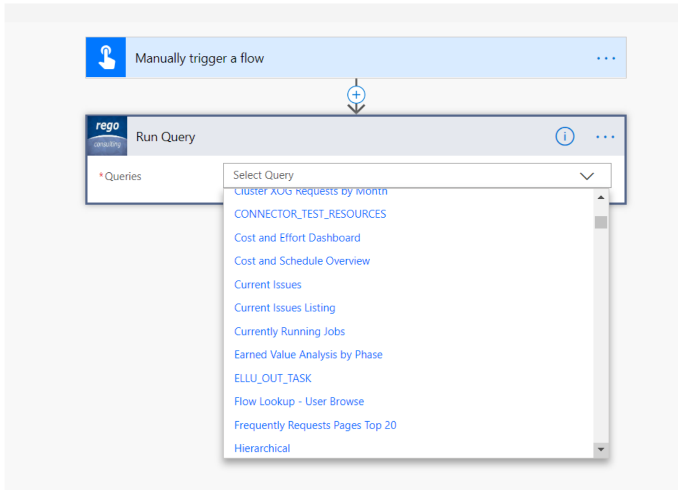
6.3 Run Query

1) To add an action using the RegoLink Flow Connector, click to add an action on a given flow, and search for the connector "RegoLink – Clarity". Once selected the actions will appear.
2) The "Run Query" action will list all available NSQL Queries created, once the action is selected as per the image below.

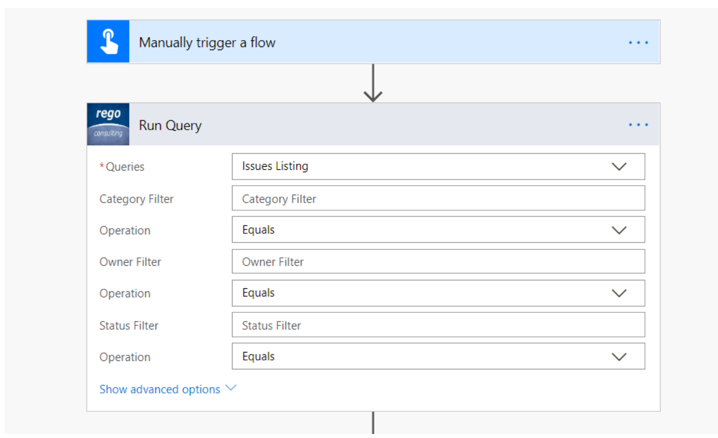


3) Users will be presented with a "Queries" drop down. Once a query is selected the parameters will be displayed.

a. Queries List



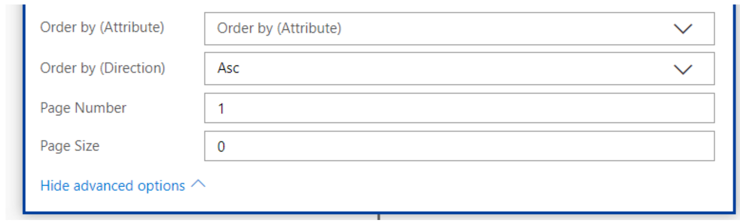
Parameters View



The parameters will allow the following:

- Parameters: Available filters in the query. It can be either a static value, a mapping or empty. The name of these parameters may vary according to the selected query
- Operation: The operation for each one of the parameters: which will allow for:
  i. Equals: an exact match of the value
  ii. Contains: wild card, will bring any values containing the value provided

The Run Query Action has the following Advanced Options:

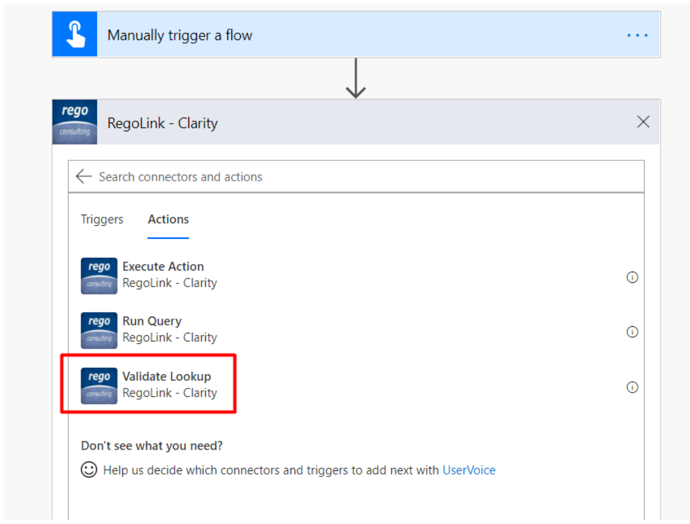


- Order by (Attribute): Lists all the columns available for this query, the results will be ordered based on the selected value.
- Order by (Direction): When an Order By value is selected, the sorting order can be done either Ascending or Descending order.
- Page Number: Page index which will be brought back
- Page Size: The number of results per page, when defaulted to 0, paging will not be active.

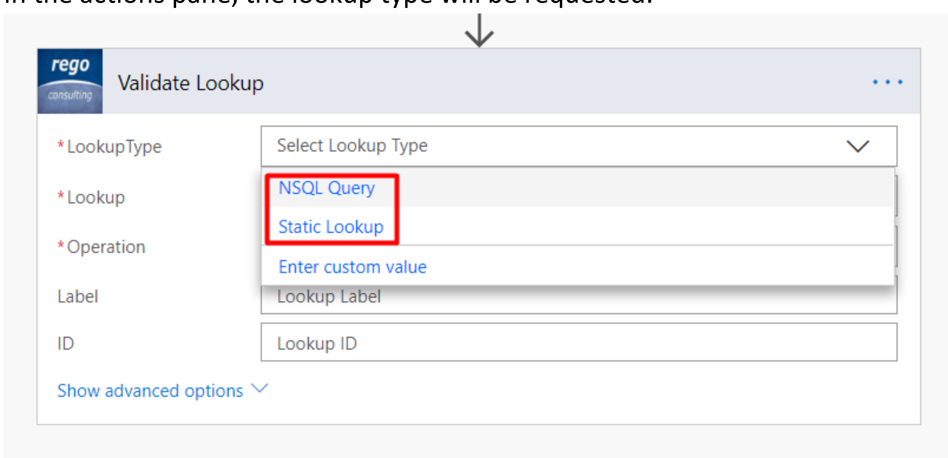
5) Once added, the following actions can use the following output:
   a. Count: number of records returned
   b. <Columns>: The columns for the returned result set, when added it will be assumed as a loop named “Results”
   c. Run Query Response(JSON): The full response in JSON format

6.4 Validate Lookups

1) To add an action using the RegoLink Flow Connector, click to add an action on a given flow, search for the connector “RegoLink – Clarity”, and once selected the actions will appear.
2) The “Validate Lookups” action will allow you to read all the values for a given lookup or search lookups by ID or Label, once the action is selected as per the image below.

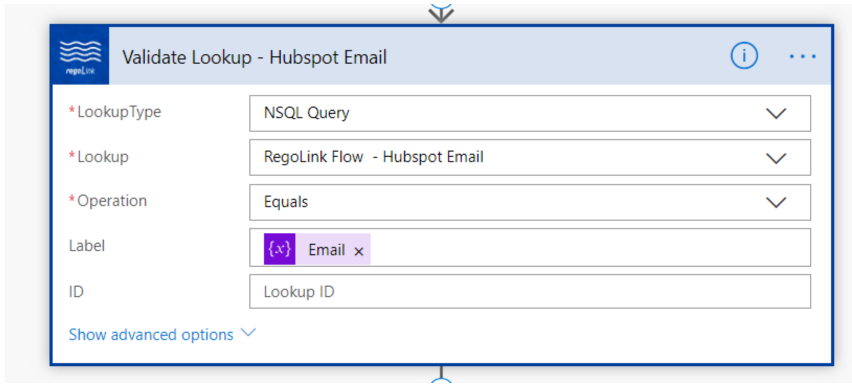


3) In the actions pane, the lookup type will be requested.



a. Static Lookup: Will provide a list of all static lookups available
b. NSQL Query: Will display a list of all queries matching the following requirements (see Appendix for example):
   i. Must contain two columns named: ID and Name
   ii. Must contain two NSQL parameters named: ID and Name

4) Once a Lookup Type and Lookup are selected, the following must be filled:



- Operation: The operation for each one of the parameters: which will allow for:
    a. Equals: an exact match of the value
    b. Contains: wild card, will bring any values containing the value provided
- Label: The friendly lookup label. It can be either a static value, a mapping or empty.
- ID: The lookup_code or lookup_enum depending on the selected query. It can be either a static value, a mapping or empty.

The Action has the following Advanced Options:

- Return First Record Only:
    i. When Yes, it will only return the first match, ideal for filtering and transformation/validation of values.
    ii. When No, it will return all values similar to the Run Query Action.

5) Once added, the following actions can use the following output:
    a. Count: Number of records returned, ideal to be used in conditions.
    b. ID: The lookup value ID
    c. Label: The lookup friendly label

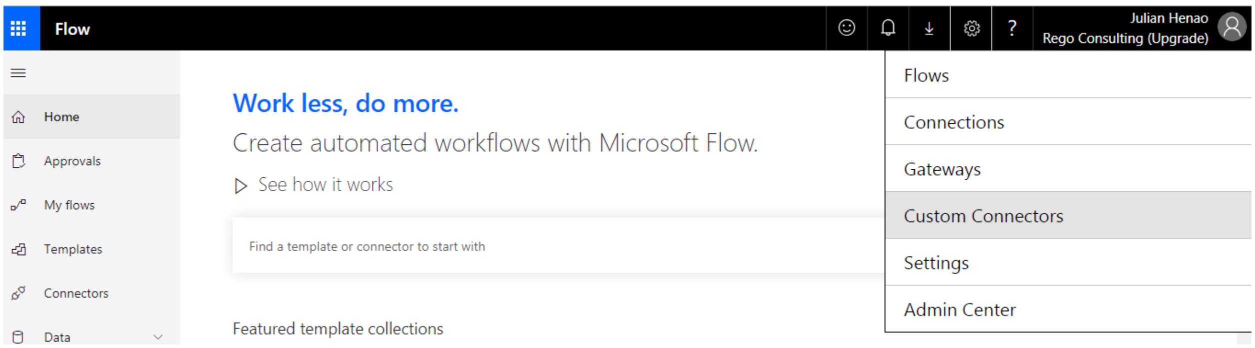
Page 17 of 20

7. Appendix

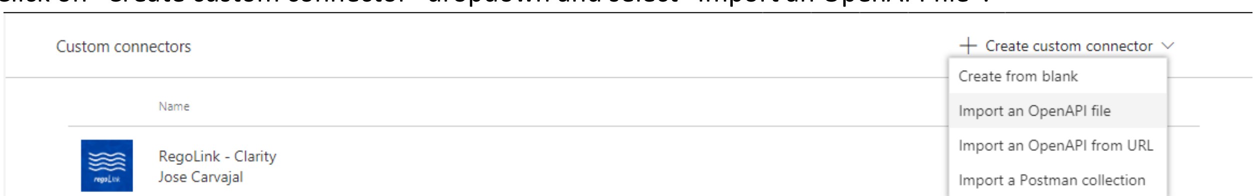
7.1 Custom Connector Upload

Under certain scenarios a Custom Connector will be deployed, the instructions below walk through the steps to generate this connector manually on a per organization basis.

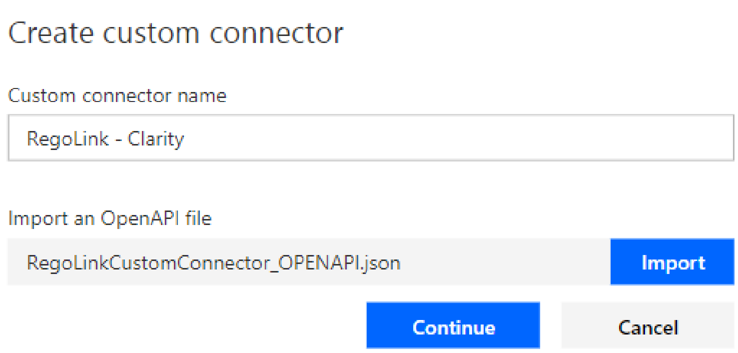
1) Once logged into Flow, navigate to Custom Connectors as per screenshot below:



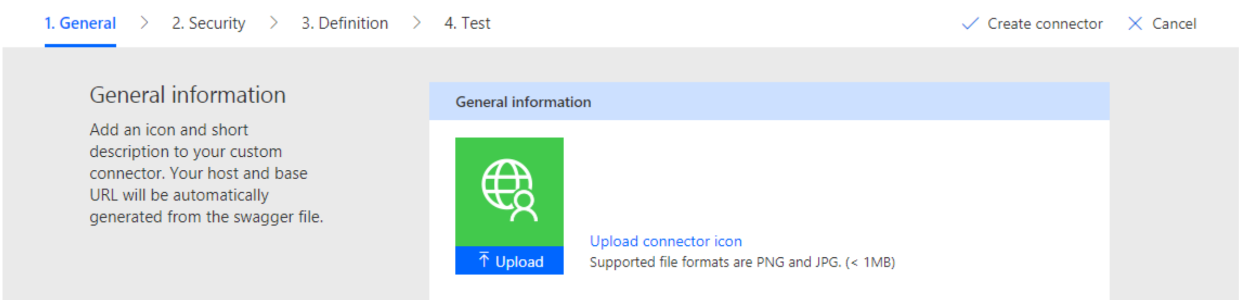
2) Click on “Create custom connector” dropdown and select “Import an OpenAPI file”:



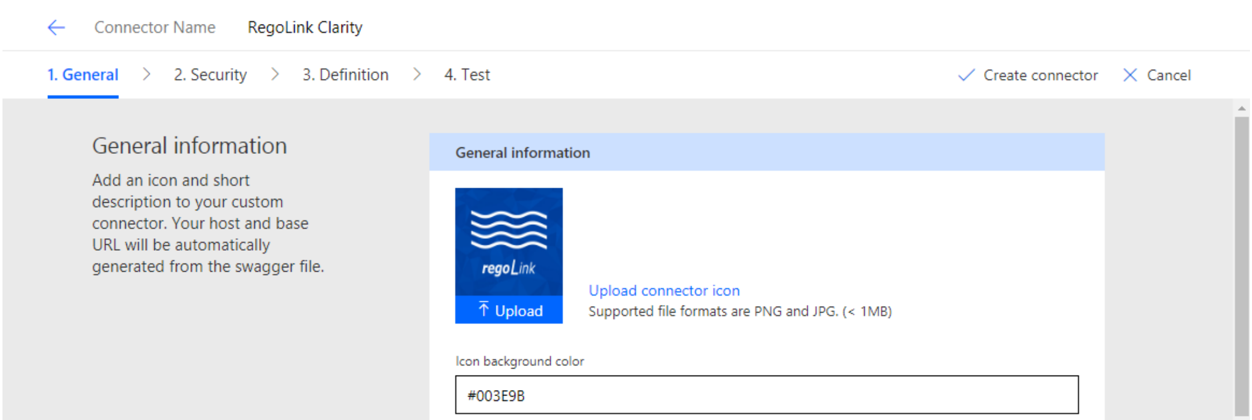
3) Add the name “RegoLink - Clarity” to the custom connector and upload the “RegoLinkCustomConnector_OPENAPI.json” file provided. As per screenshot below:



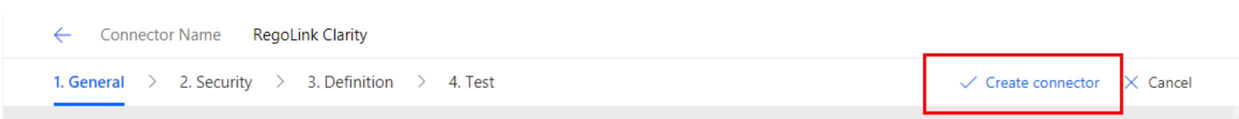
4) Click in the “Upload connector icon” link and upload de RegoLink connector icon



5) Set the Icon background color field: #003E9B



6) Click on the “Create connector” button:



7) Once the connector it’s created you could access to the “My flows” tab and create a new flow using the uploaded connector

7.2 Sample Lookup NSQL Query

The following query returns all active users. Where NAME is the full name of the user, and ID is the resource unique name.

```
SELECT
@SELECT:DIM:USER_DEF:IMPLIED:RESOURCE:U.FIRST_NAME || ' ' || U.LAST_NAME:NAME@,
@SELECT:DIM_PROP:USER_DEF:IMPLIED:RESOURCE:RES.UNIQUE_NAME:ID@
FROM    SRM_RESOURCES RES
LEFT JOIN CMN_SEC_USERS U ON U.ID = RES.USER_ID
WHERE
(U.FIRST_NAME || ' ' || U.LAST_NAME = @WHERE:PARAM:USER_DEF:STRING:NAME@ OR
@WHERE:PARAM:USER_DEF:STRING:NAME@ IS NULL)
AND (RES.UNIQUE_NAME = @WHERE:PARAM:USER_DEF:STRING:ID@ OR
@WHERE:PARAM:USER_DEF:STRING:ID@ IS NULL)
AND U.USER_STATUS_ID = 200
AND @FILTER@
```