# RegoLink Flow Connector - User Guide

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# 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

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## 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

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# 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

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- 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

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## 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:

RegoLink Flow Connecto	or - Actions: Create/Update Project - 0	General - Properties				2	Actions
General							*
<b>□ #</b> ID	rego_create_update_project		Active	۲			
Name	Create/Update Project	Se	Action equence	1			
Page Layout	RegoLink Flow Connector - Actions Default La	yout T	XML Template	<nikudatabus exter<br="" write"="" xmlns.xsi="http:&lt;br&gt;xsi:noNamespaceSchemaLo:&lt;br&gt;&lt;header action="><projects= <project \$[project]<br="" name="\$[project_&lt;br&gt;managerResourceID="></project></projects= </nikudatabus>	p://www.w3.org/2001/XMLSchema-instance" auton=", xyadmikurog_project.xsd?> maSource="NIK" ObjectType="project" version="8 0"/> name)" projectID="\$project_code}" description="\$(description)" ect_manager)" start="\$(star_date)" finish="\$(finish_date)" active="\$(s_active)"	>	

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:

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#### **\${<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.

	Properties 👻	Processes		
R	General			,
	RegoLink Flow	Connector - Par	ameters List	_

- 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:

General		
<b>□ *</b> ID		Hint
Is Multi Valued		
Name		
Parameter Sequence		
Active		
Required		
Remove If Empty		
Save Save And	Return	
Required # = Uni	ique	

**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

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#### 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.

Custom Objects
Lookup Mapping
Add-In Lookup Mapping
PII Attributes
Survey Questions List
Survey Template Questions List
Survey Templates List
Cost Centres List
testobject List
PPMInterfaces List
PPMI Sample Object List
Action Item Approval List
c_client List
RegoLink Flow Connector - Actions List
oec List
Rego Health Check - Configuration List
RegoLink Flow Connector – Webhook Configuration List
itd KB Global Configuration List
Set as Home Reset Home C Refresh

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:

General	*
C+0 FC-00001	BINEBHOOK URL https://prod-22.westus.logic.azure.com:443/workflows/15877c1ba8b5431781f2c7e1904c0da1/triggers/manual/paths/invok
Project Site	select code
ACTIVE	, name from in_investments where id = #OBJECTID#
REQUEST TEMPLATE { "project_id", "(code)", "project_name", "(name)" }	

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.

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**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.

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## 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:

•		
or this api		
	-	
Create		
	or this api Create	or this api

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

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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.

Search connectors ar	id actions	
Triggers Actions		
RegoLink - Clarit	у	(
Run Query RegoLink - Clarit	y	(
RegoLink - Clarit	у	(
Don't see what you nee	d?	
Help us decide whice	h connectors and triggers to add next with UserVoice	

- 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.

Actions	Create/Update Project	$\sim$
Project code	Code of the Project	
Project Name	Name of the Project	
Description	Summary of the Project	
Project Manager	ID of the Project Manager	
Start Date	Start date of the Project	
Finish Date	Finish date of the Project	
Is Active	Is the Project active?	

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- 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.
- 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.

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#### a. Queries List



#### **Parameters View**

	$\checkmark$	
Run Query		
* Queries	Issues Listing	$\checkmark$
Category Filter	Category Filter	
Operation	Equals	$\sim$
Owner Filter	Owner Filter	
Operation	Equals	$\sim$
Status Filter	Status Filter	
Operation	Equals	$\checkmark$

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

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The Run Query Action has the following Advanced Options:

Order by (Attribute)	Order by (Attribute)	$\checkmark$
Order by (Direction)	Asc	$\checkmark$
Page Number	1	
Page Size	0	
Hide 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.

	$\checkmark$	
validate Looku	0	
*LookupType	Select Lookup Type	$\sim$
*Lookup *Operation	NSQL Query Static Lookup Enter custom value	]
Label	Lookup Label	
ID	Lookup ID	
Show advanced options	×	

- 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:

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egeLink		$\bigcirc$
*LookupType	NSQL Query	$\sim$
*Lookup	RegoLink Flow - Hubspot Email	$\checkmark$
*Operation	Equals	$\checkmark$
Label	{x} Email ×	
ID	Lookup ID	

- 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	Yes	$\checkmark$
Hide 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

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## 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:

	Flow		$\odot$	Q	₹	ŝ	?	Julian Henao Rego Consulting (Upgrade)
≡					Flows			
ŵ	Home	Work less, do more.			Conne	ectio	ns	
Ċ	Approvals	Create automated worknows with Microsoft Flow.			Gatev	vays		
o/ <sup>10</sup>	My flows				Custo	m Co	onneo	tors
-23	Templates	Find a template or connector to start with			Settin	gs		
¢ <sup>0</sup>	Connectors	Featured template collections			Admi	n Cer	nter	

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

Cust	Custom connectors		$+$ Create custom connector $\vee$
			Create from blank
		Name	Import an OpenAPI file
		RegoLink - Clarity	Import an OpenAPI from URL
	regalitie	Jose Carvajal	Import a Postman collection

 Add the name "RegoLink - Clarity" to the custom connector and upload the "RegoLinkCustomConnector\_OPENAPI.json" file provided. As per screenshot below:

	Create custom connector		
	Custom connector name		
	RegoLink - Clarity		
	Import an OpenAPI file	Import	
		import	
	Continue	Cancel	
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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.

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		/

SELECT
<pre>@SELECT:DIM:USER_DEF:IMPLIED:RESOURCE:U.FIRST_NAME    '    U.LAST_NAME:NAME@,</pre>
<pre>@SELECT:DIM_PROP:USER_DEF:IMPLIED:RESOURCE:RES.UNIQUE_NAME:ID@</pre>
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@

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