

# Custom Connectors

## Scenario

In this lab, you will build a custom connector for A Datum's Risk Score API.

## High-level lab objectives

Build a custom connector

Modify the cloud flow to use the connector

## Exercise 1: Create a custom connector

### Task 1: Create a new solution

Navigate to <https://make.powerapps.com/> and make sure you are in the Dev environment.

Select **Solutions** and click **+ New solution**. We are creating a new solution to keep the custom connector separate from the flow that uses it which is the current requirement of using a custom connector.



Enter `Builder Risk Service` for Display name, select **Relecloud** for Publisher, and click **Create**.


### New solution

Display name \*


Name \*

Publisher \*

 New publisher

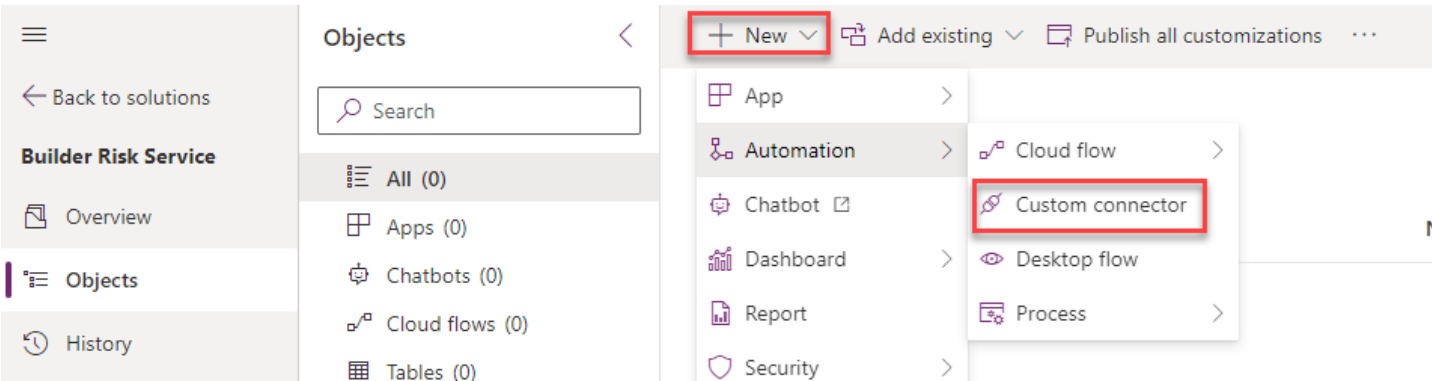
Version \*

[More options](#) 

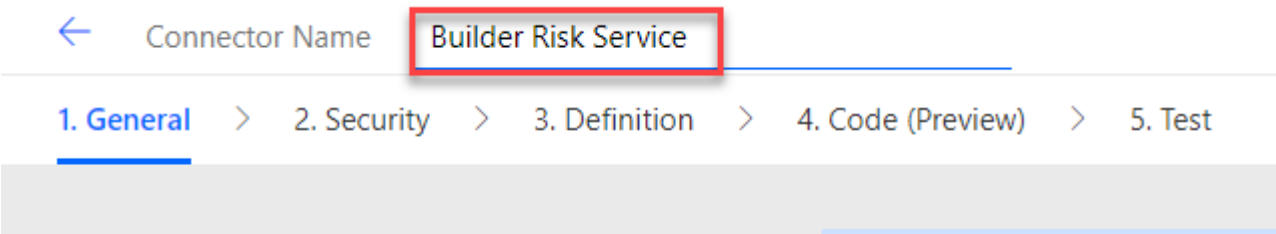
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Task 2: Create custom connector

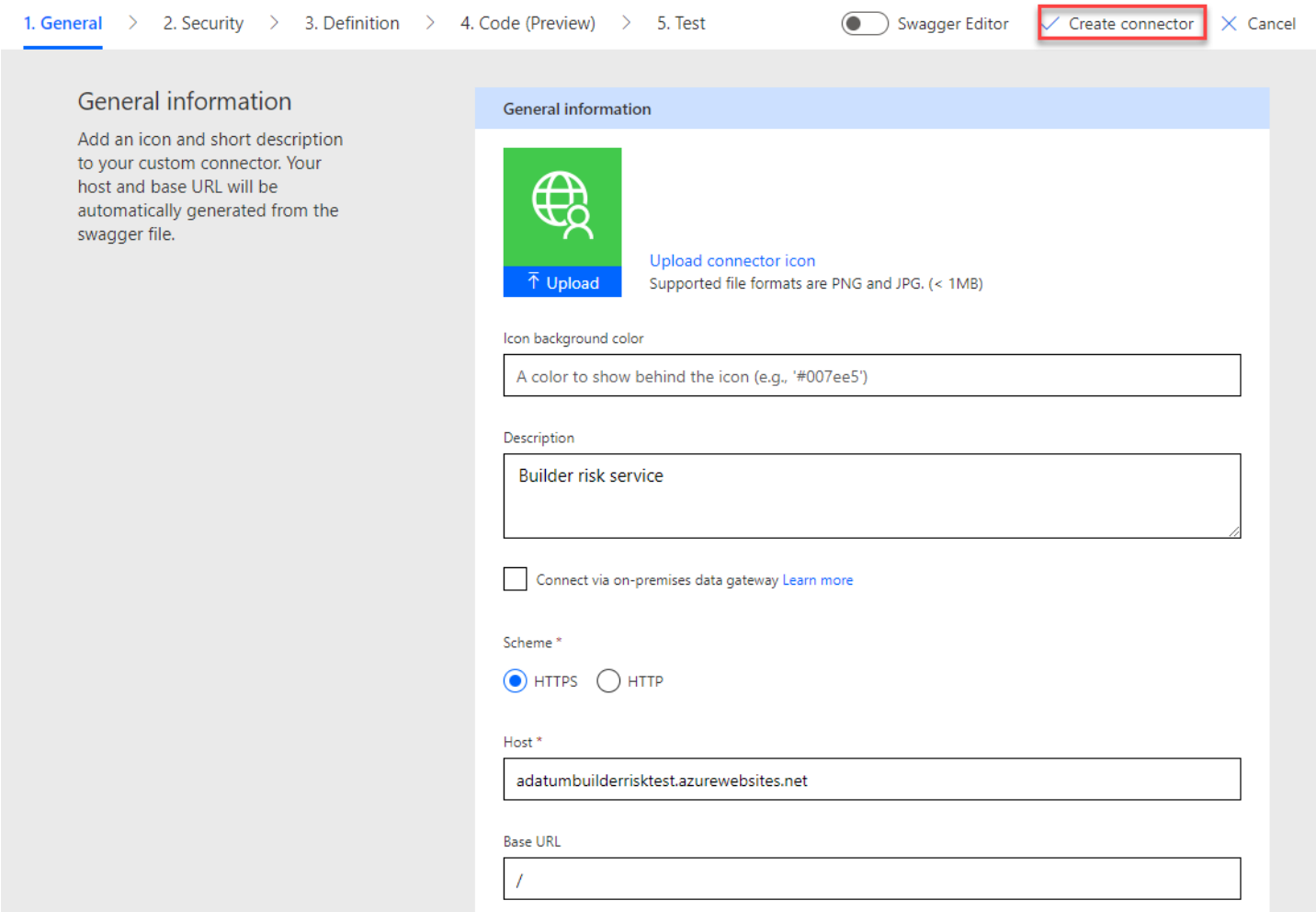
Click **+ New** and select **Automation | Custom connector**.



Enter `Builder Risk Service` for Connector Name.



Enter `Service for evaluating builder risk` for Description, enter `adatumbuilderrisktest.azurewebsites.net` for Host, and click **Create connector**.



### Task 3: Import Open API

Navigate to <https://adatumbuilderrisktest.azurewebsites.net/>

Click **Download Logo** and save the logo on your machine.

Click on the **API Key** link.



## ADatum Builder Risk Score

This is an example API for use in learning how to build Power Platform custom connectors.

- 
- You can find the API documentation [here](#)
  - You can find the Open API definition file [here](#)
  - You can get an API Key [here](#)
- 

[Download Logo](#)

Copy the **API Key** and save it on a notepad.

Click **Return to home**.

Click on the **API documentation** link.

Review the documentation.

Close the documentation browser tab or window, after you finish reviewing.

Click on the **Open API definition file** link.



## ADatum Builder Risk Score

This is an example API for use in learning how to build Power Platform custom connectors.

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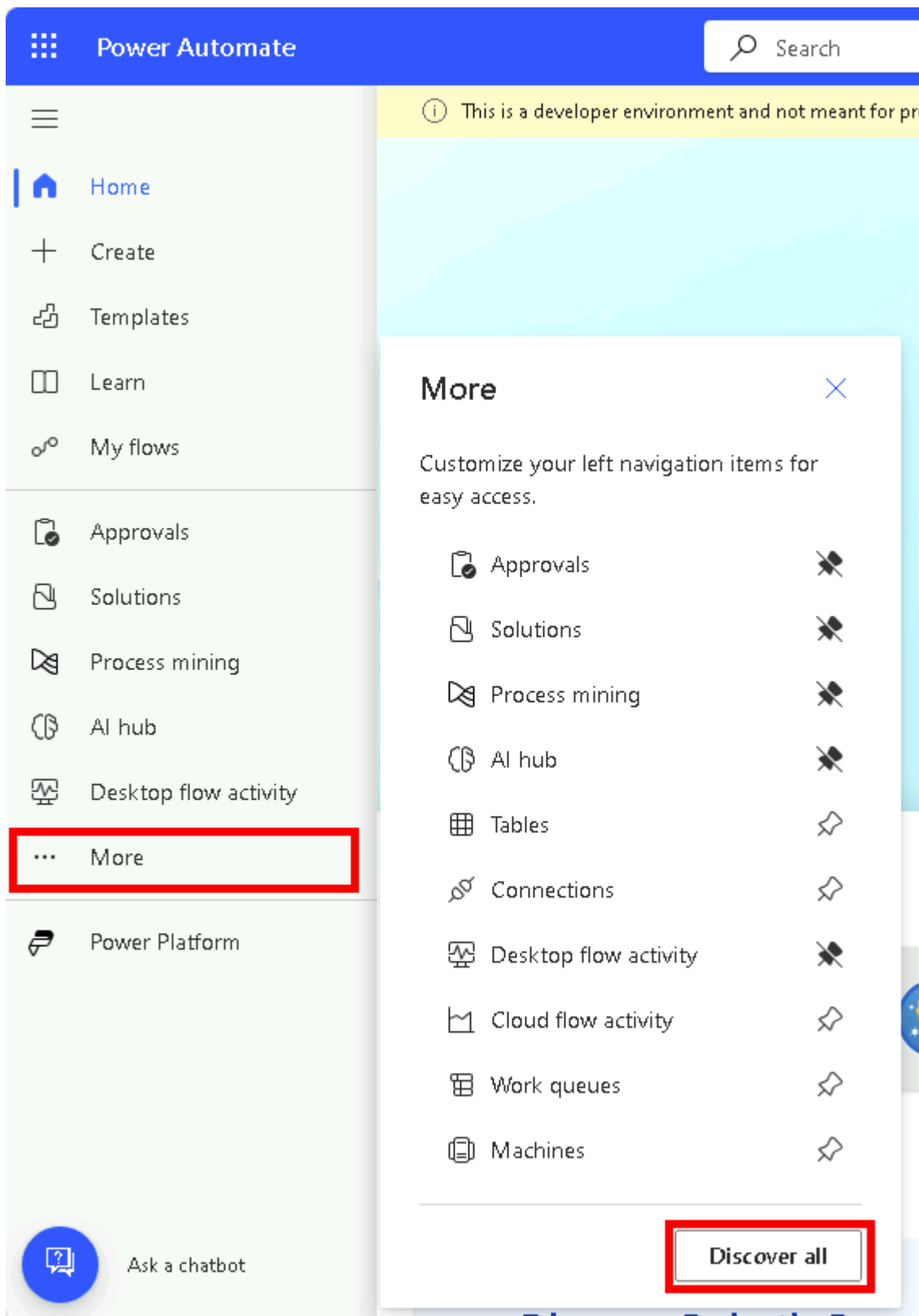
- You can find the API documentation [here](#)
  - You can find the Open API definition file [here](#)
  - You can get an API Key [here](#)
- 

[Download Logo](#)

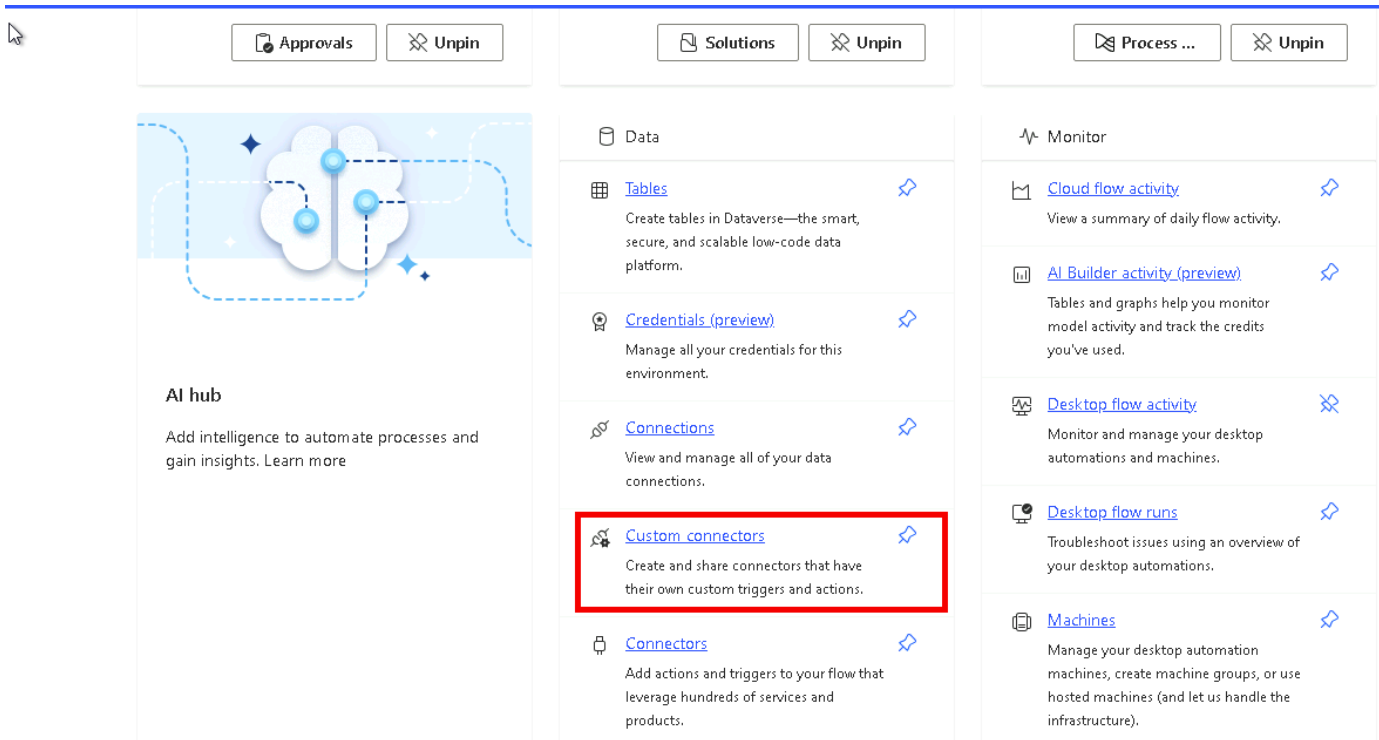
On your keyboard press **CTRL + S** and select **Save**. Now the file is saved on your machine.

Navigate to <https://make.powerautomate.com/> and make sure you are in the Dev environment.

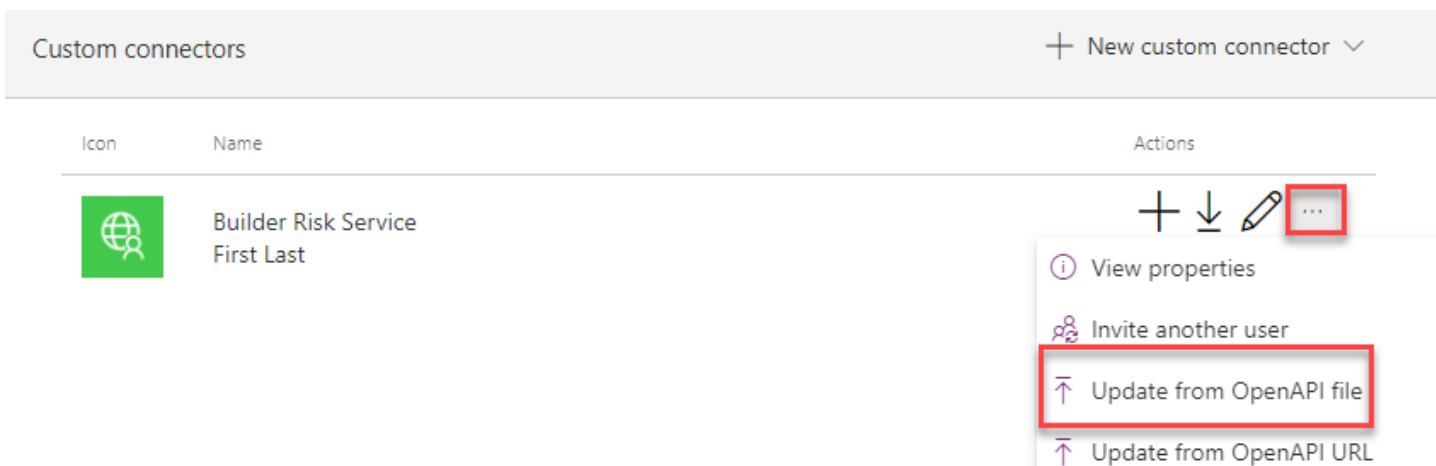
Click **More** and select **Discover all**.



Scroll down and select **Custom connectors** under data.



Click on the ... more actions button of the **Builder Risk Service** custom connector and select **Update from OpenAPI file**.



Click **Import**.

Select the **swagger.json** file you saved to your machine and click **Open**.

Click **Continue**.

# Import an OpenAPI file

Connector name

Builder Risk Service

Import an OpenAPI file

swagger.json

Import

Continue

Cancel

Click **Upload** under the logo.

Select the logo you downloaded and click **Open**.

Enter `Service for evaluating builder risk` for Description, enter

`adatumbuilderrisktest.azurewebsites.net` for Host, and select **Security** from the breadcrumb navigation bar at the top of the screen.

Connector Name

Builder Risk Service

1. General

2. Security

3. Definition

4. Code (Preview)

5. Test

Swagger Editor


Update connector

Close

General information

Add an icon and short description to your custom connector. Your host and base URL will be automatically generated from the swagger file.

General information



Upload connector icon  
Supported file formats are PNG and JPG. (< 1MB)

Icon background color

#007ee5

Description

Builder risk service

☐ Connect via on-premises data gateway [Learn more](#)

Scheme \*

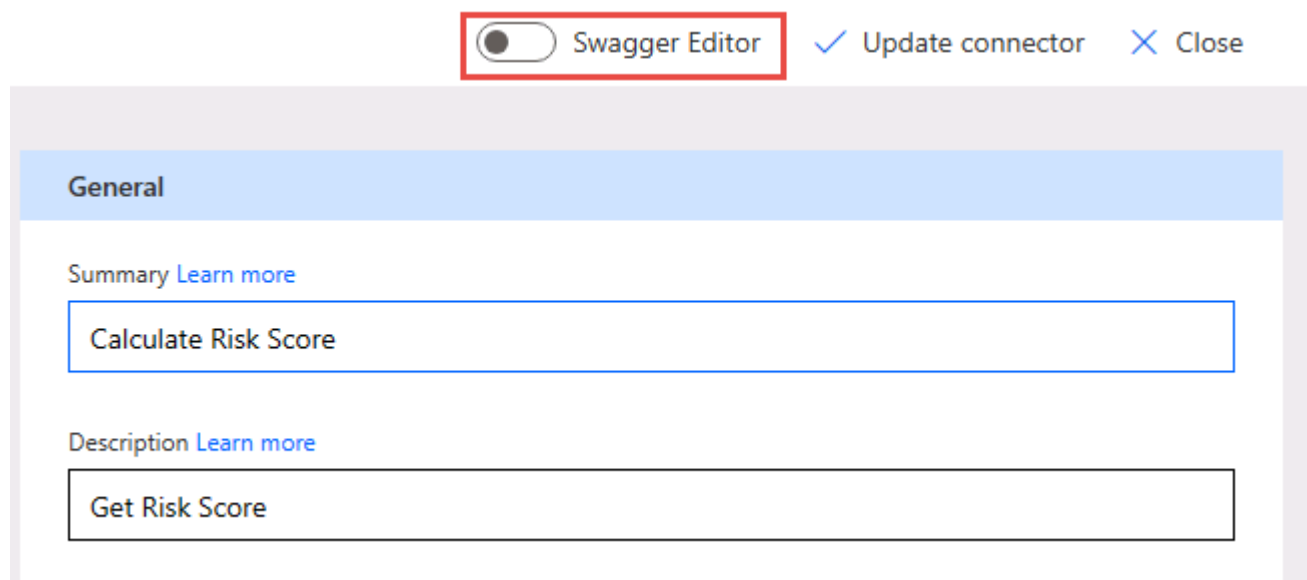
☒ HTTPS ☐ HTTP

Host \*

adatumbuilderrisktest.azurewebsites.net

Select **Definition** from the breadcrumb navigation bar at the top of the screen and see the operation imported.

Turn on **Swagger Editor**.



The screenshot shows a modal window with a header bar containing a toggle switch for 'Swagger Editor' (which is turned on), a checkmark icon followed by 'Update connector', and an 'X' icon followed by 'Close'. The main content area has a 'General' tab selected. Under 'Summary', there is a text input field containing 'Calculate Risk Score'. Under 'Description', there is a text input field containing 'Get Risk Score'.

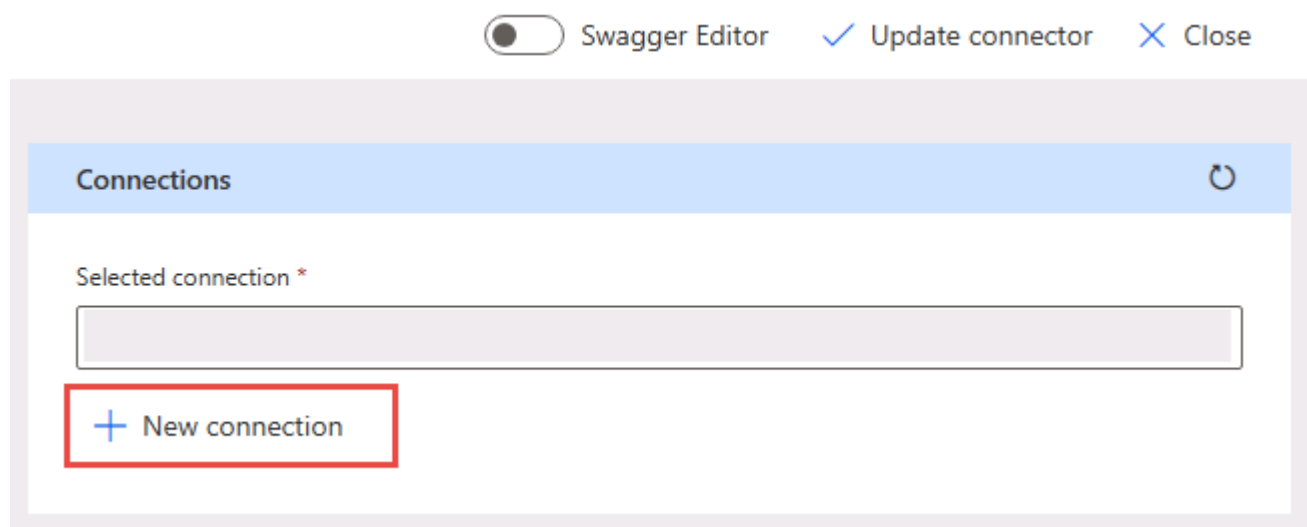
Have a look at the Swagger Editor and then turn off the **Swagger Editor**.

Select **Update connector** and wait for the connector to be updated.

Do not navigate away from this page.

#### Task 4: Test connector

Select **Test** from the breadcrumb navigation bar at the top of the screen and click **+ New connection**.



The screenshot shows the same modal window as before, but the 'Swagger Editor' toggle switch is now turned off. The 'Update connector' checkmark and 'Close' button are still present. The main content area now shows a 'Connections' tab. Below the tab, there is a 'Selected connection \*' label and an empty text input field. At the bottom left, a button with a plus sign and the text 'New connection' is highlighted with a red rectangle.

Paste your **API Key** and click **Create connection**.

Click the **Refresh connections** button, on the right. The connection you just created should be the **Selected connection**.

Under CalcRiskScore, enter Contoso for builderName, 7165 Brock Lane Renton, WA 61795 U.S. for propertyAddress, JG7165 for loanNumber, 645000 for loanAmount, 500000 for creditAvailable, 100000 for drawAmount, and click **Test operation**.



## CalcRiskScore

Raw Body



Off

builderName

Contoso

propertyAddress

7165 Brock Lane, Renton WA 61795 U.S.

loanNumber

JG7165

loanDate

loanAmount

645000

creditAvailable

500000

drawAmount

100000

Test operation

The test should run successfully, and you should receive a score and a reason.

Request

Response

Status

(200)

Headers

```
{
  "apicallsleft": "100",
  "content-encoding": "gzip",
  "content-type": "application/json; charset=utf-8",
  "date": "Thu, 22 Jun 2023 01:36:10 GMT",
  "request-context": "appId=cid-v1:48c9c9fa-c489-4263-af7c-f53adbc045a3"
```

Body

```
{
  "score": 0,
  "reason": "Within acceptable risk"
}
```

Click **Close** to return to the list of Custom connectors.

## Exercise 2: Modify cloud flow to use connector

### Task 1: Use custom connector in flow

Navigate to <https://make.powerapps.com/> and make sure you are in the Dev environment.

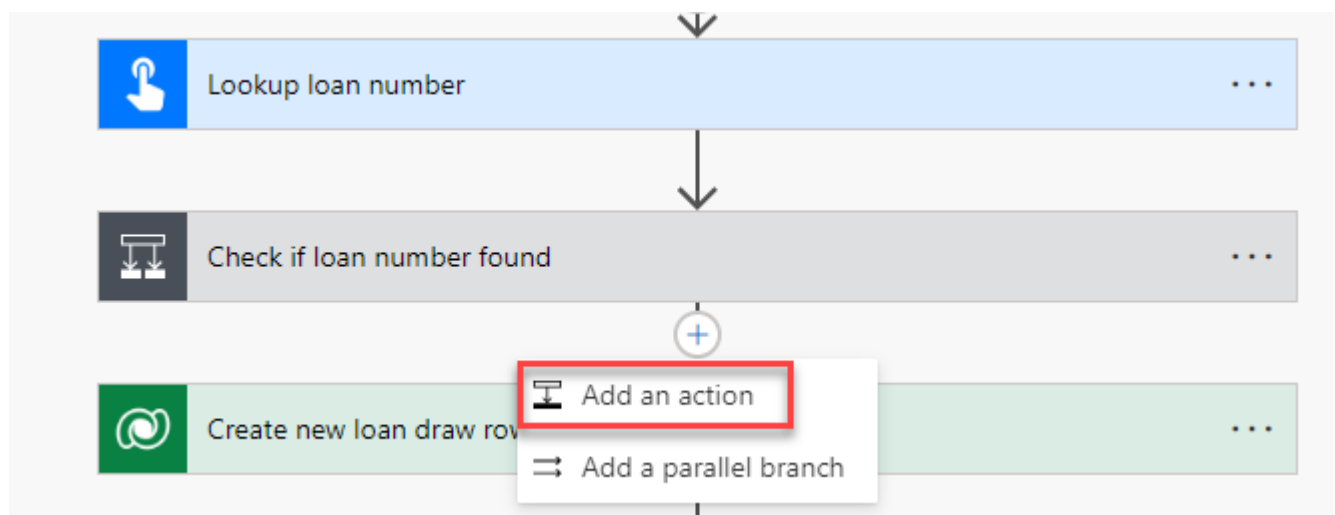
Select **Solutions** and open the **Construction Funding** solution.

Select **Cloud flows**, select **Process Construction Funding Request** flow and click **Edit**.

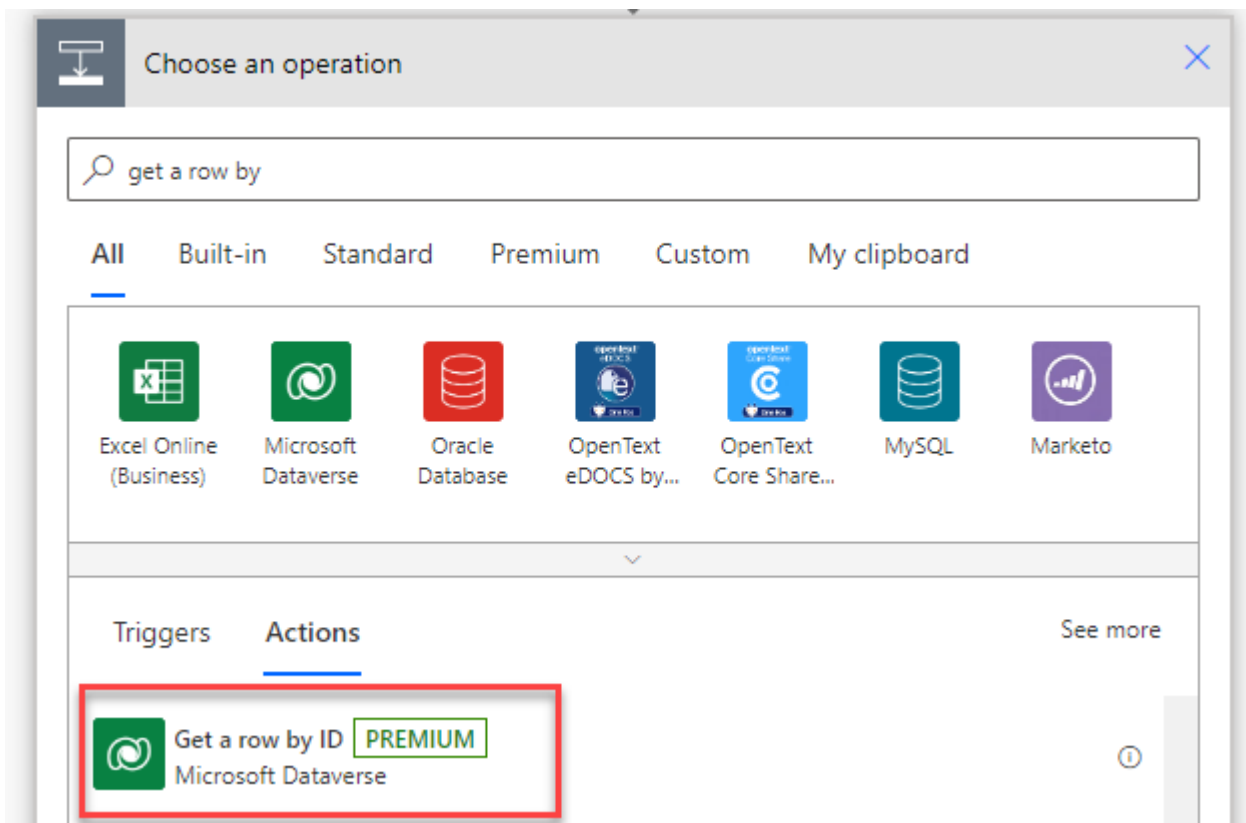
The screenshot shows the 'Cloud flows' list in the Microsoft Power Apps interface. The left sidebar shows the 'Objects' pane with 'Cloud flows (5)' selected. The main area displays a table of cloud flows. The 'Edit' button in the top toolbar is highlighted with a red box.

Display name	Name	Type
CF Lookup Loan	CF Lookup Loan	Cloud Flow
CF Manage Inspection Process	CF Manage Inspection Process	Cloud Flow
CF Manage Woodgrove Funding Process	CF Manage Woodgrove Funding Process	Cloud Flow
Create Test Data	Create Test Data	Cloud Flow
Process Construction Funding Request	Process Construction Funding Request	Cloud Flow

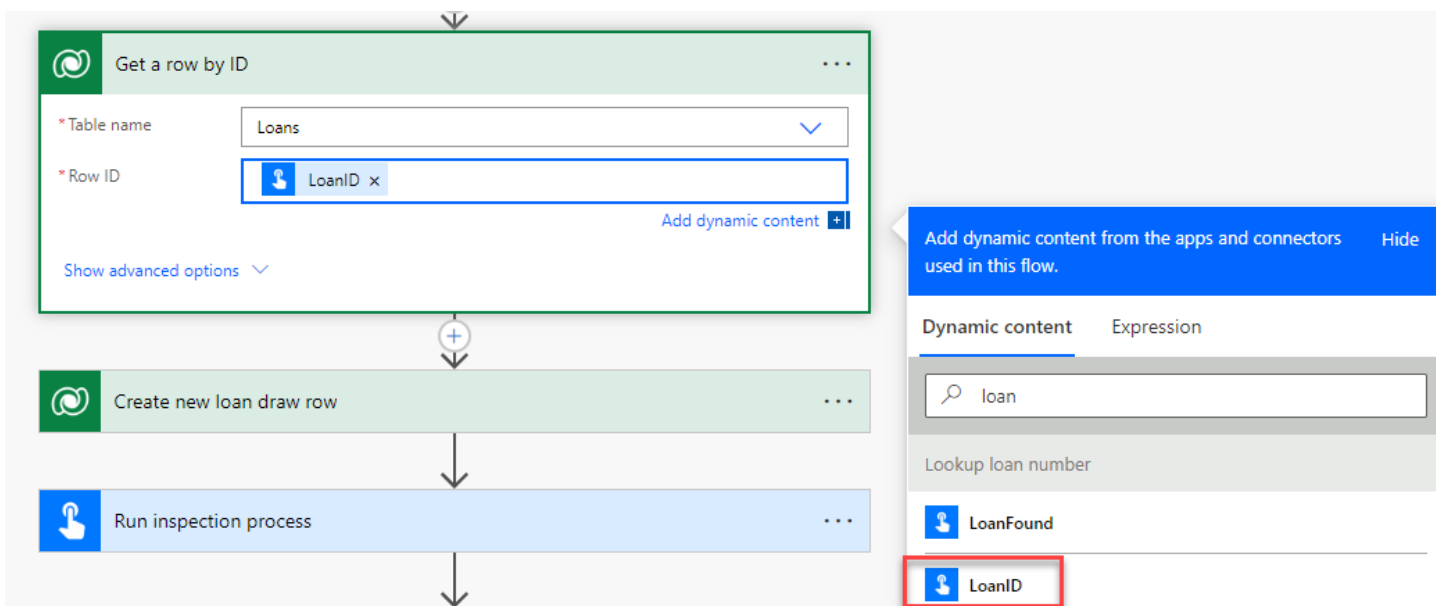
Click **+** insert new step after the **Check if loan number found** condition and select **Add an action**.



Select **Get a row by ID** Microsoft Dataverse.

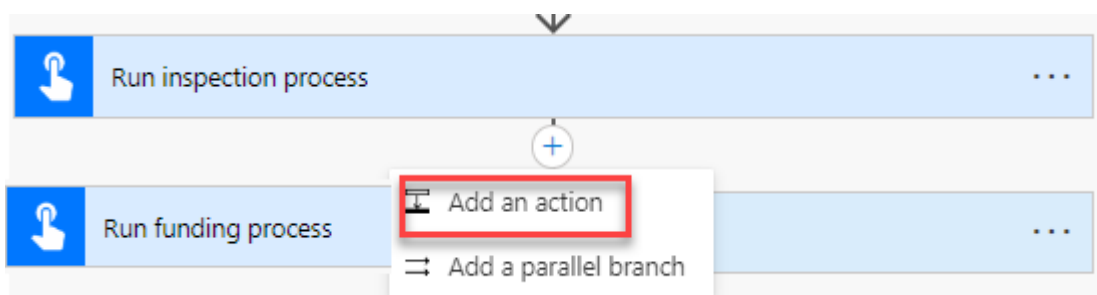


Select **Loans** for Table name, click on the **Row ID** field and select **LoanID** from the dynamic content pane.

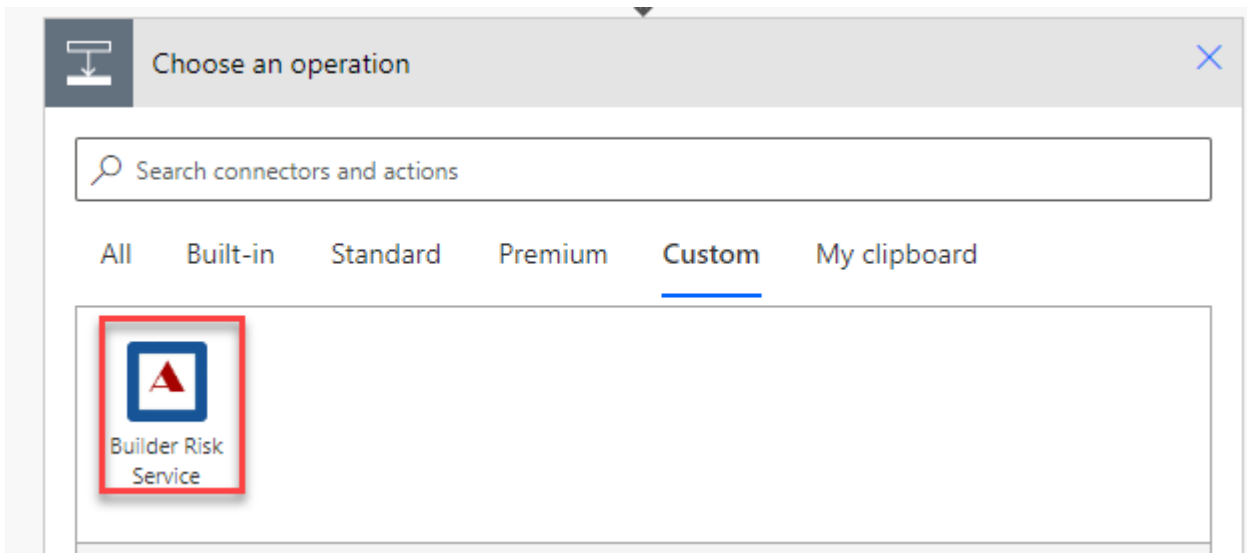


Rename the step **Get loan**.

Go to the + Insert a new step button after the **Run inspection process** and select **Add an action**.

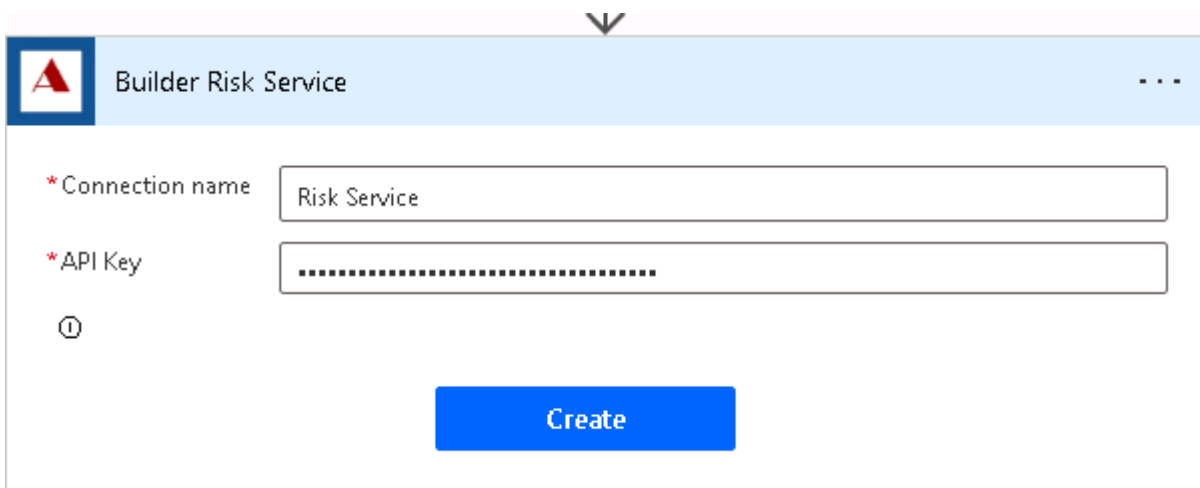


Go to the **Custom** tab and select **Builder Risk Service**.

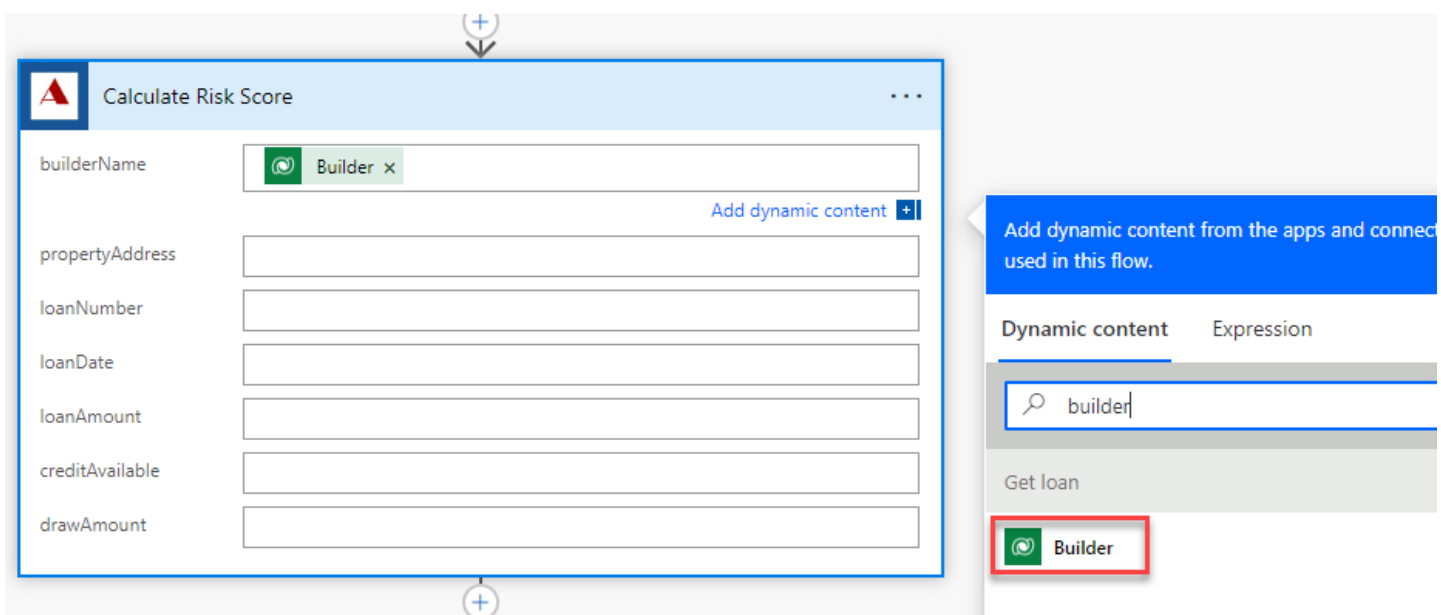


Select the **Calculate Risk Score** action.

Enter `Risk Service` for Connection name, paste the API Key you copied earlier, and click **Create**.



Click on the **builderName** field and select **Builder** from the dynamic content pane.



Click on the **propertyAddress** field and select **Address** from the dynamic content pane.

Click on the **loanNumber** field and select **Loan Number** from the dynamic content pane.

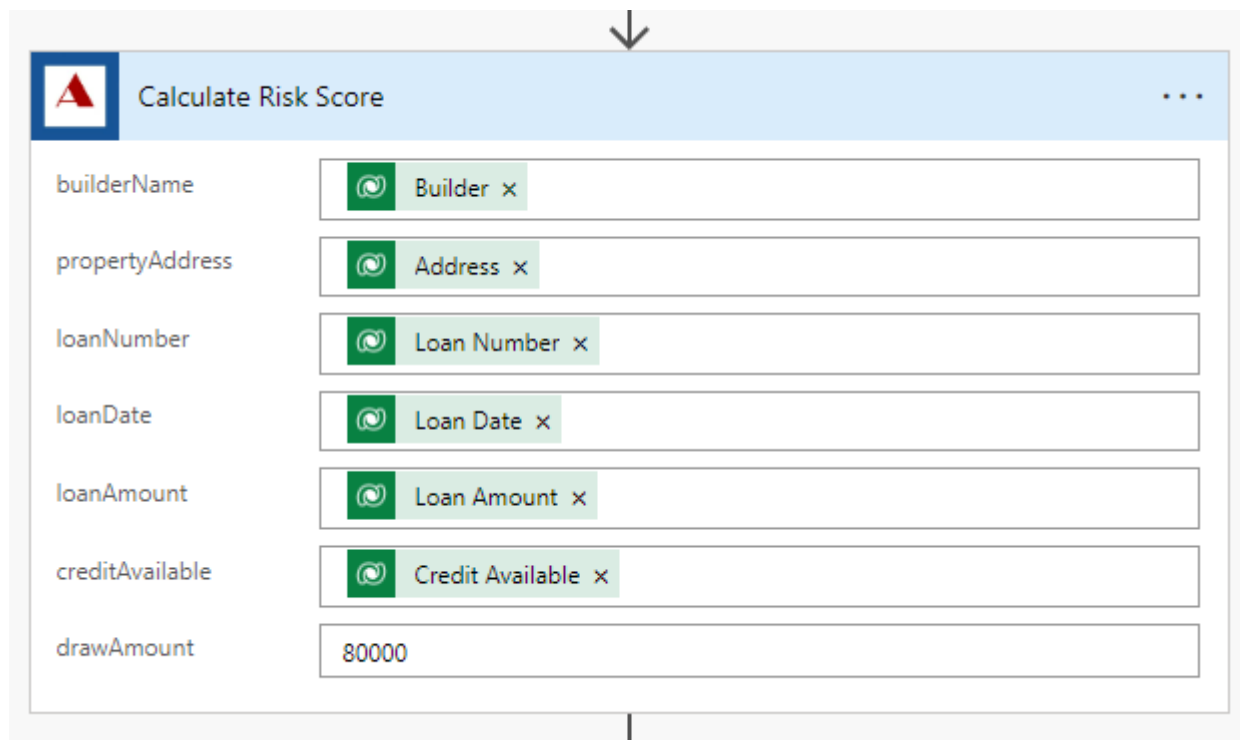
Click on the **loanDate** field and select **Loan Date** from the dynamic content pane.

Click on the **loanAmount** field and select **Loan Amount** from the dynamic content pane.

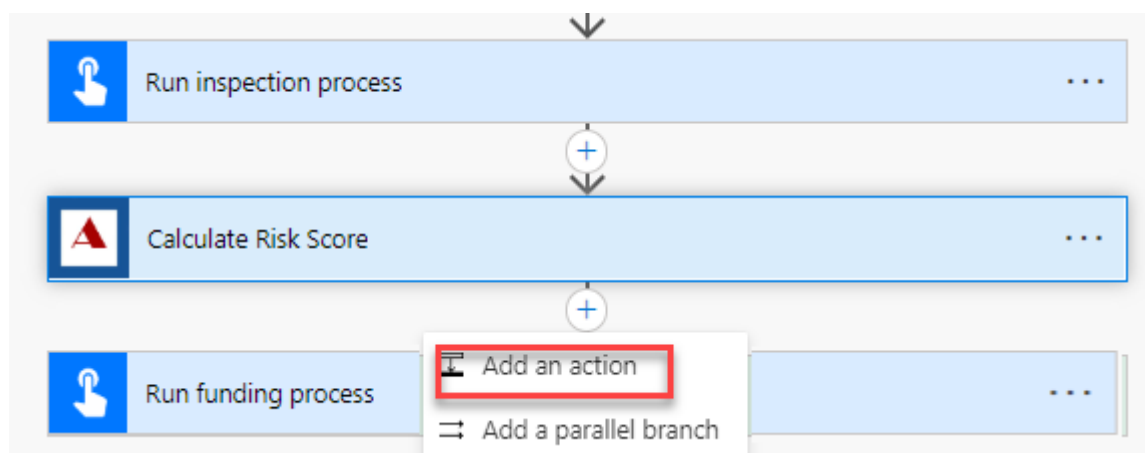
Click on the **creditAvailable** field and select **Credit Available** from the dynamic content pane.

Enter 80000 for drawAmount.

The calculate risk score step should now look like the image below.



Click on the + Insert a new step after the **Calculate Risk Score** step and select **Add an action**.



Select **Update a row** Microsoft Dataverse.

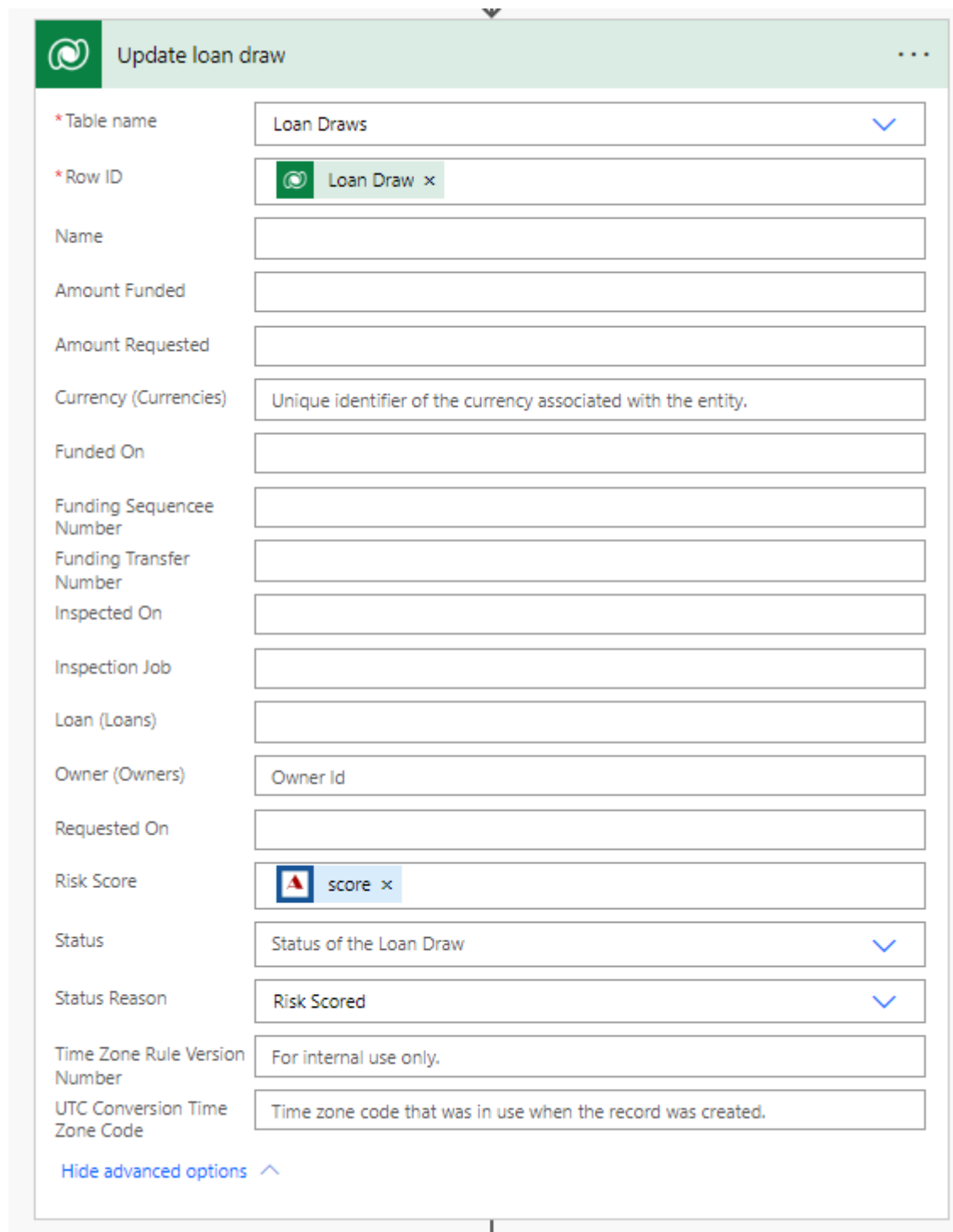
Select **Loan Draws** for Table name, click on the **Row ID** field and select **Loan Draw** from the dynamic content pane.

Expand Show advanced options and Click on the **Risk Score** field and select **score** from the dynamic content pane.

Select **Risk Scored** for Status reason.

Rename the step **Update loan draw risk score**.

The update loan draw step should look like the image below.



The screenshot shows a web form titled "Update loan draw" with a green header bar. The form contains various input fields for loan details. The "Status Reason" field is set to "Risk Scored". The "Risk Score" field has a value of "score". The "Status" field is set to "Status of the Loan Draw". The "Table name" is "Loan Draws" and the "Row ID" is "Loan Draw". The "Name" field is empty. The "Amount Funded" and "Amount Requested" fields are empty. The "Currency (Currencies)" field has a placeholder text "Unique identifier of the currency associated with the entity.". The "Funded On" field is empty. The "Funding Sequence Number" and "Funding Transfer Number" fields are empty. The "Inspected On" field is empty. The "Inspection Job" field is empty. The "Loan (Loans)" field is empty. The "Owner (Owners)" field has a value of "Owner Id". The "Requested On" field is empty. The "Time Zone Rule Version Number" field has a placeholder text "For internal use only.". The "UTC Conversion Time Zone Code" field has a placeholder text "Time zone code that was in use when the record was created.". At the bottom, there is a link "Hide advanced options" with an upward arrow.

Update loan draw	
*Table name	Loan Draws
*Row ID	Loan Draw
Name	
Amount Funded	
Amount Requested	
Currency (Currencies)	Unique identifier of the currency associated with the entity.
Funded On	
Funding Sequence Number	
Funding Transfer Number	
Inspected On	
Inspection Job	
Loan (Loans)	
Owner (Owners)	Owner Id
Requested On	
Risk Score	score
Status	Status of the Loan Draw
Status Reason	Risk Scored
Time Zone Rule Version Number	For internal use only.
UTC Conversion Time Zone Code	Time zone code that was in use when the record was created.

[Hide advanced options](#)

Click to expand the **Run inspection process** step.

Remove the **PropertyAddress** value and select **Address** from the dynamic content pane.

**Run inspection process**

- \* Child Flow: CF Manage Inspection Process
- \* PropertyAddress: Address x
- \* LoanDrawID: Loan Draw x
- \* Work: Test work item

Add dynamic content +

Calculate Risk Score

Expand the **Run funding process** step.

Remove the **RiskScore** value and select **Score** from the dynamic content pane.

**Run funding process**

- \* Child Flow: CF Manage Woodgrove Funding Process
- \* LoanNumber: Subject x
- \* LoanDrawID: Loan Draw x
- \* RequestedAmount: 80000
- \* InspectionJobID: jobnumber x
- \* RiskScore: score x

Add dynamic content +

Check approval status

+ New step Save

Add dynamic content from the apps and connectors used in this flow. Hide

Dynamic content	Expression
score	
Create new loan draw row	
Risk Score	
Calculate Risk Score	
score	

Click **Save** and wait for the flow to be saved.

## Task 2: Test the flow

Click **Test**.

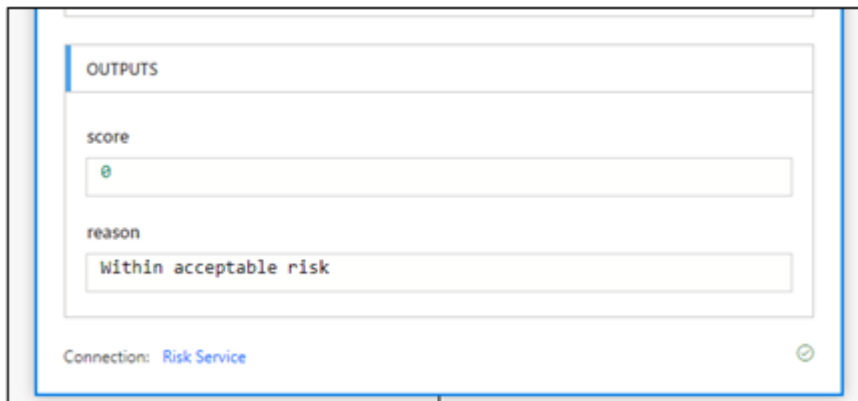
Select **Manually** and click **Test**.

Send an email to [Funding@yourdomain.onmicrosoft.com](mailto:Funding@yourdomain.onmicrosoft.com) with the Subject line as **PS7765**.

The flow test should run and succeed.

On the **Run History** for the flow test, all steps should show a green tick. Expand the **Calculate Risk Score** step.

The output should look like the image below:



You should receive an email with the subject **Draw Approved**.