

# 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 X

Display name \*

Name \*

Publisher \*

▼ ✎

+ New publisher

Version \*

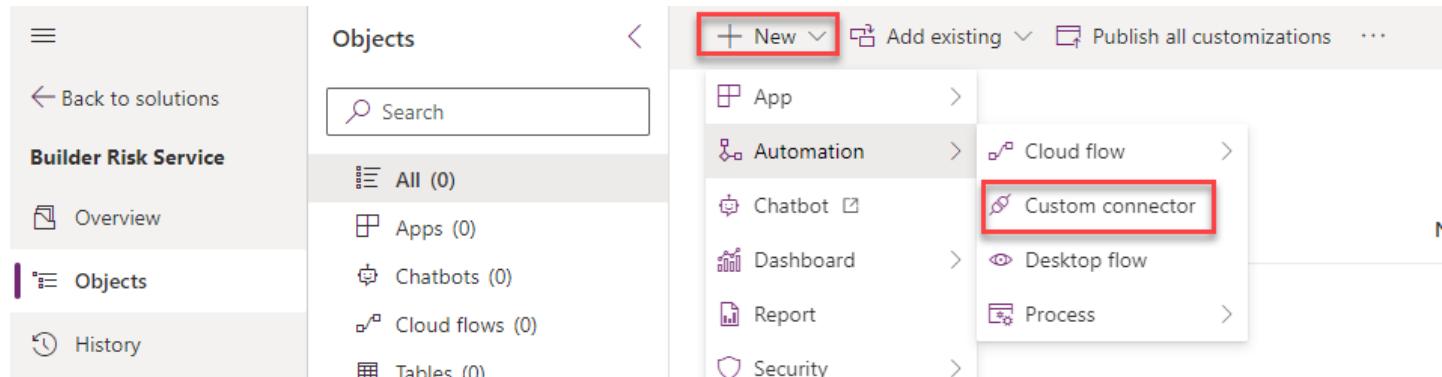
More options ▼

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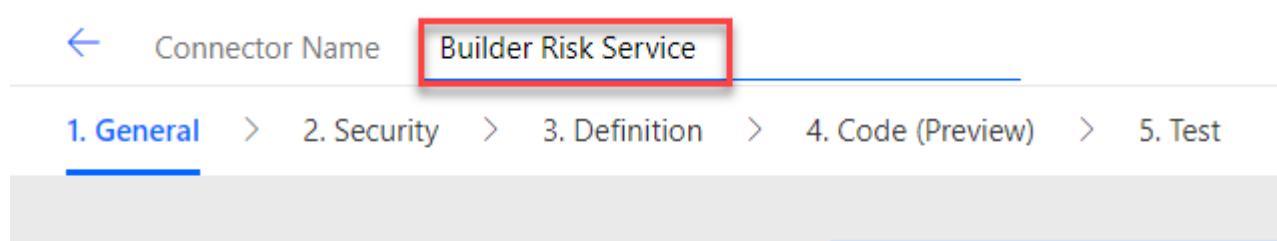
Create Cancel

## 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**.

The screenshot shows the 'General information' step of the 'Create connector' wizard. The 'General information' tab is selected. The 'Description' field contains 'Builder risk service'. The 'Host' field contains 'adatumbuilderrisktest.azurewebsites.net'. The 'Base URL' field contains '/'. The 'Scheme' section shows 'HTTPS' selected. The 'Create connector' button at the top right is highlighted with a red box. Other tabs visible include '1. General', '2. Security', '3. Definition', '4. Code (Preview)', and '5. Test'.

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.

Icon background color

A color to show behind the icon (e.g., '#007ee5')

Description

Builder risk service

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

Scheme \*

HTTPS  HTTP

Host \*

adatumbuilderrisktest.azurewebsites.net

Base URL

/

### 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.

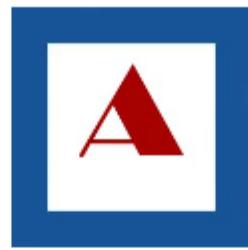
Click **Return to home**.

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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- 

[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**.



Home

Create

Templates

Learn

My flows

Approvals

Solutions

Process mining

AI hub

Desktop flow activity

... More

Power Platform



Ask a chatbot

This is a developer environment and not meant for production use.

## More



Customize your left navigation items for easy access.

Approvals

Solutions

Process mining

AI hub

Tables

Connections

Desktop flow activity

Cloud flow activity

Work queues

Machines

Discover all

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

The screenshot shows the Microsoft Power Platform interface. On the left, there's an 'AI hub' section with a blue cloud icon and a brief description: 'Add intelligence to automate processes and gain insights. Learn more'. In the center, under the 'Data' section, there are several items: 'Tables', 'Credentials (preview)', 'Connections', and 'Custom connectors'. The 'Custom connectors' item is highlighted with a red box. Below it are 'Connectors' and 'Machines'. On the right, under 'Monitor', there are sections for 'Cloud flow activity', 'AI Builder activity (preview)', 'Desktop flow activity', 'Desktop flow runs', and 'Machines'.

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

The screenshot shows the 'Custom connectors' list. It has columns for 'Icon', 'Name', and 'Actions'. A single connector named 'Builder Risk Service' is listed. In the 'Actions' column for this connector, there are several options: 'View properties', 'Invite another user', 'Update from OpenAPI file' (which is highlighted with a red box), and 'Update from OpenAPI URL'.

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

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

Icon background color: #007ee5

Description: Builder risk service

Connect via on-premises data gateway:

Scheme \*:  HTTPS  HTTP

Host \*: adatumbuilderrisktest.azurewebsites.net

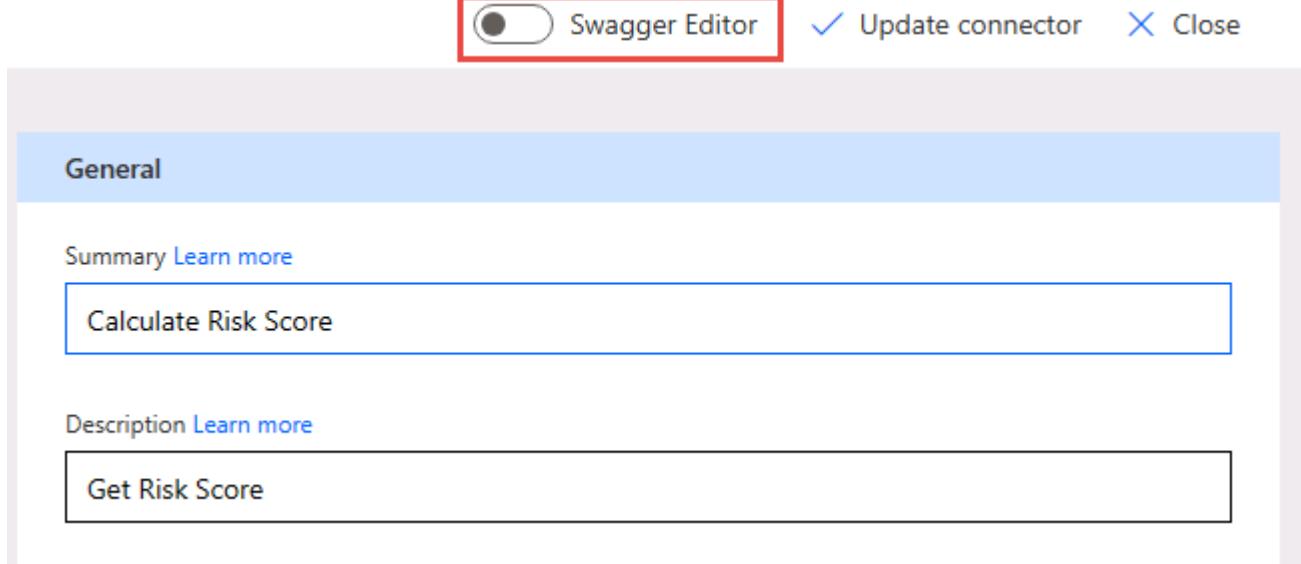
Swagger Editor:

Update connector:

Close:

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

Turn on **Swagger Editor**.



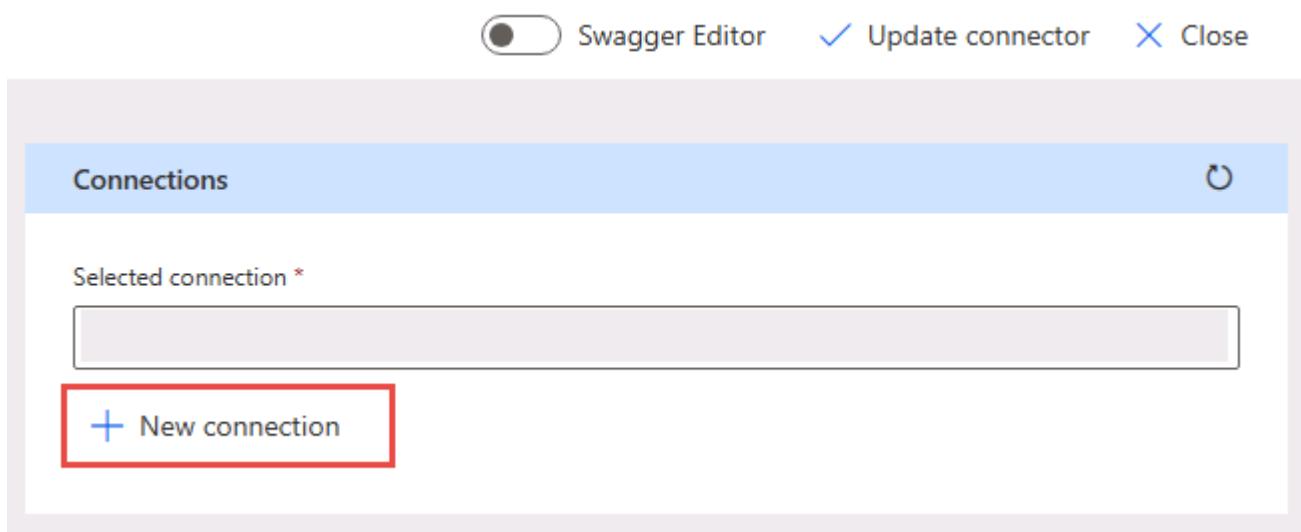
Have a look at the Swagger Editor and then turn off the **Swagger Editor**.

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**.



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



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": "anId=cid-v1:48c9c9fa-c489-4263-af7c-f53adhc045a3"
```

Body

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

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

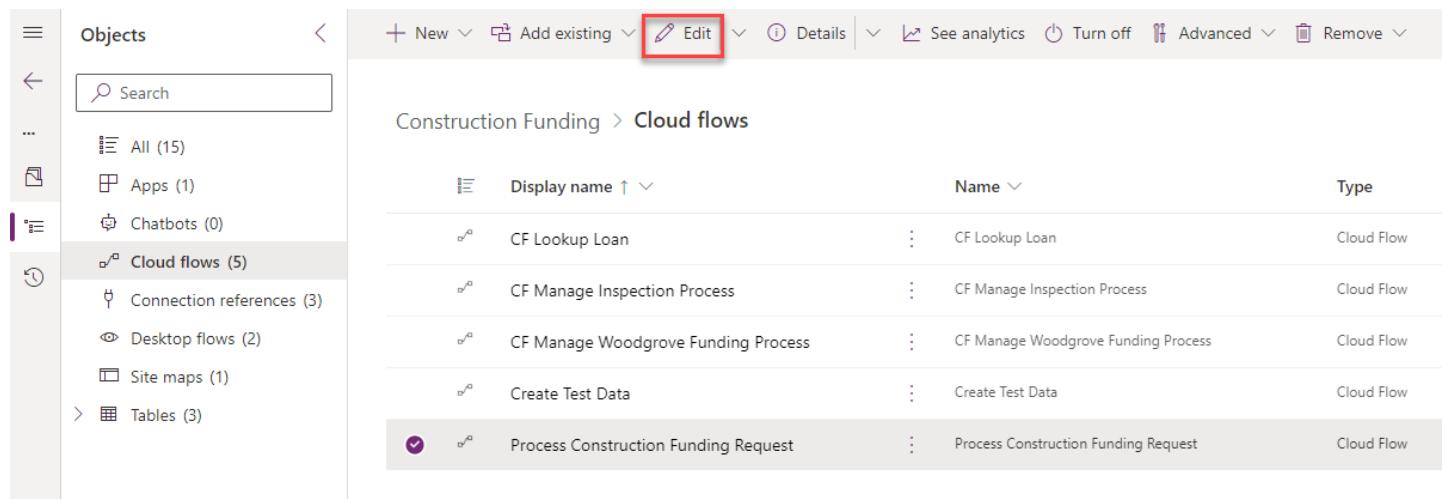
## Exercise 2: Modify cloud flow to use connector

### Task 1: Use custom connector in flow

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

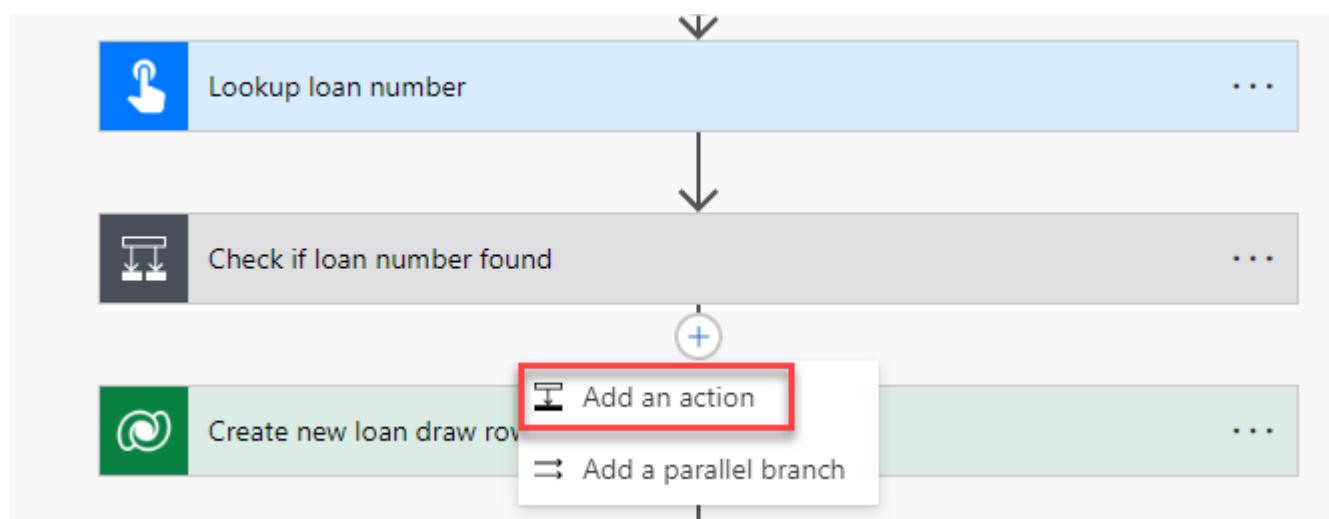
Select **Solutions** and open the **Construction Funding** solution.

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

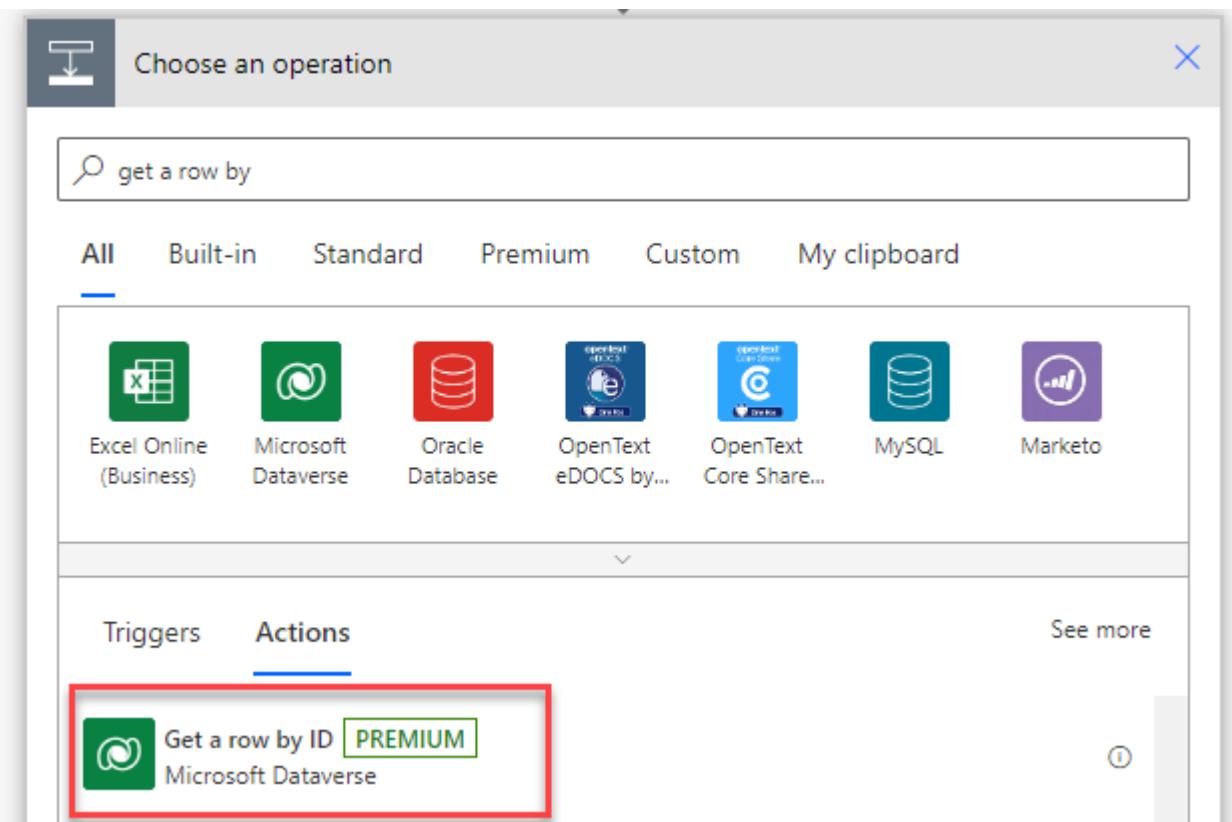


The screenshot shows the Microsoft Power Apps Solutions blade. On the left, there's a navigation pane with icons for Objects, Search, and various categories like All, Apps, Chatbots, Cloud flows, Connection references, Desktop flows, Site maps, and Tables. The 'Cloud flows' category is selected. In the center, under 'Construction Funding > Cloud flows', there is a list of five flows: CF Lookup Loan, CF Manage Inspection Process, CF Manage Woodgrove Funding Process, Create Test Data, and Process Construction Funding Request. The 'Process Construction Funding Request' flow is currently selected, indicated by a checkmark icon next to its name. The top navigation bar includes buttons for New, Add existing, Edit (which is highlighted with a red box), Details, See analytics, Turn off, Advanced, and Remove.

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**.

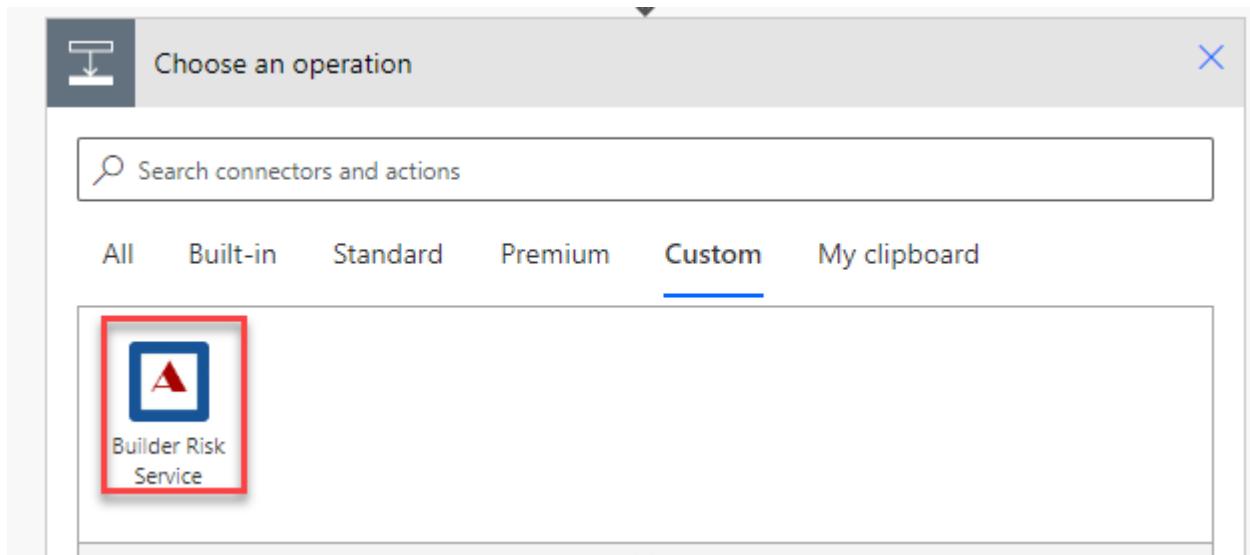


Select **Loans** for Table name, click on the **Row ID** field and select **LoanID** from the dynamic content pane.

Rename the step **Get loan**.

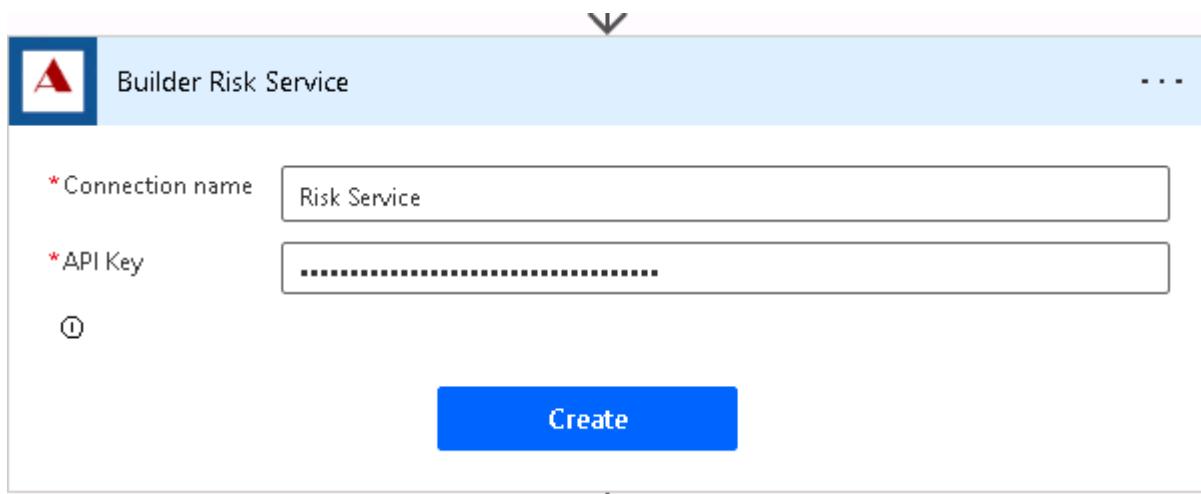
Go to the **+** Insert a new step button after the **Run inspection process** and select **Add an action**.

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.

The screenshot shows the 'Calculate Risk Score' action configuration. The 'builderName' field has 'Builder' selected from a dropdown. To the right, a dynamic content pane shows a search bar with 'builder' typed in, and a result 'Builder' is highlighted with a red box.

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

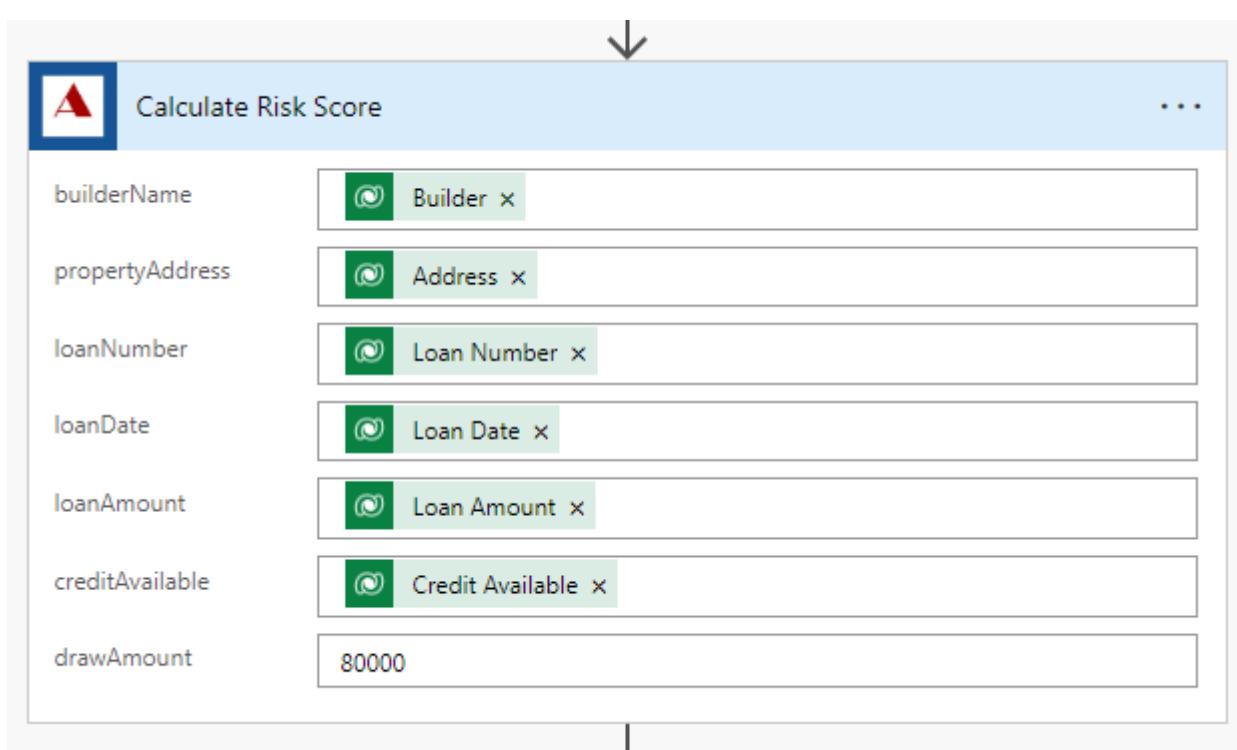
Click on the **loanNumber** field and select **Loan Number** from the dynamic content pane.

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

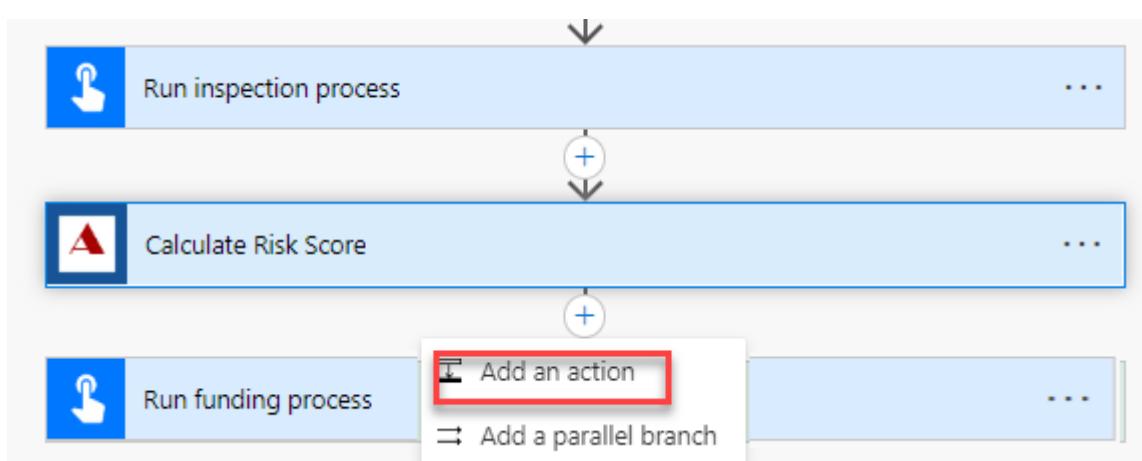
Click on the **loanAmount** field and select **Loan Amount** from the dynamic content pane.

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 the configuration interface for the 'Update loan draw' step. The step is titled 'Update loan draw'. The configuration table includes the following fields:

Field	Value
*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.

At the bottom left, there is a link 'Hide advanced options' with a downward arrow icon.

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

\*LoanDrawID: Loan Draw

\*Work: Test work item

Add dynamic content +

A 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

\*LoanDrawID: Loan Draw

\*RequestedAmount: 80000

\*InspectionJobID: jobnumber

\*RiskScore: score

Add dynamic content +

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**.

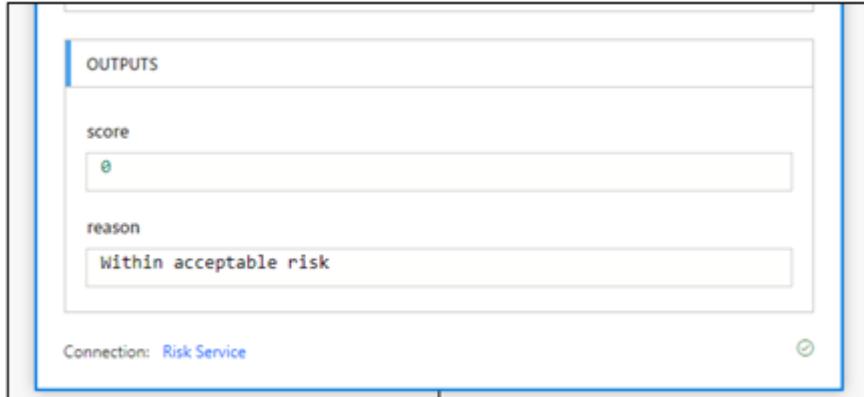
Select **Manually** and click **Test**.

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**.