



knack\*

# Power BI API guide

**HOW TO CONNECT KNACK TO POWERBI FOR REPORTING**



# Note before starting

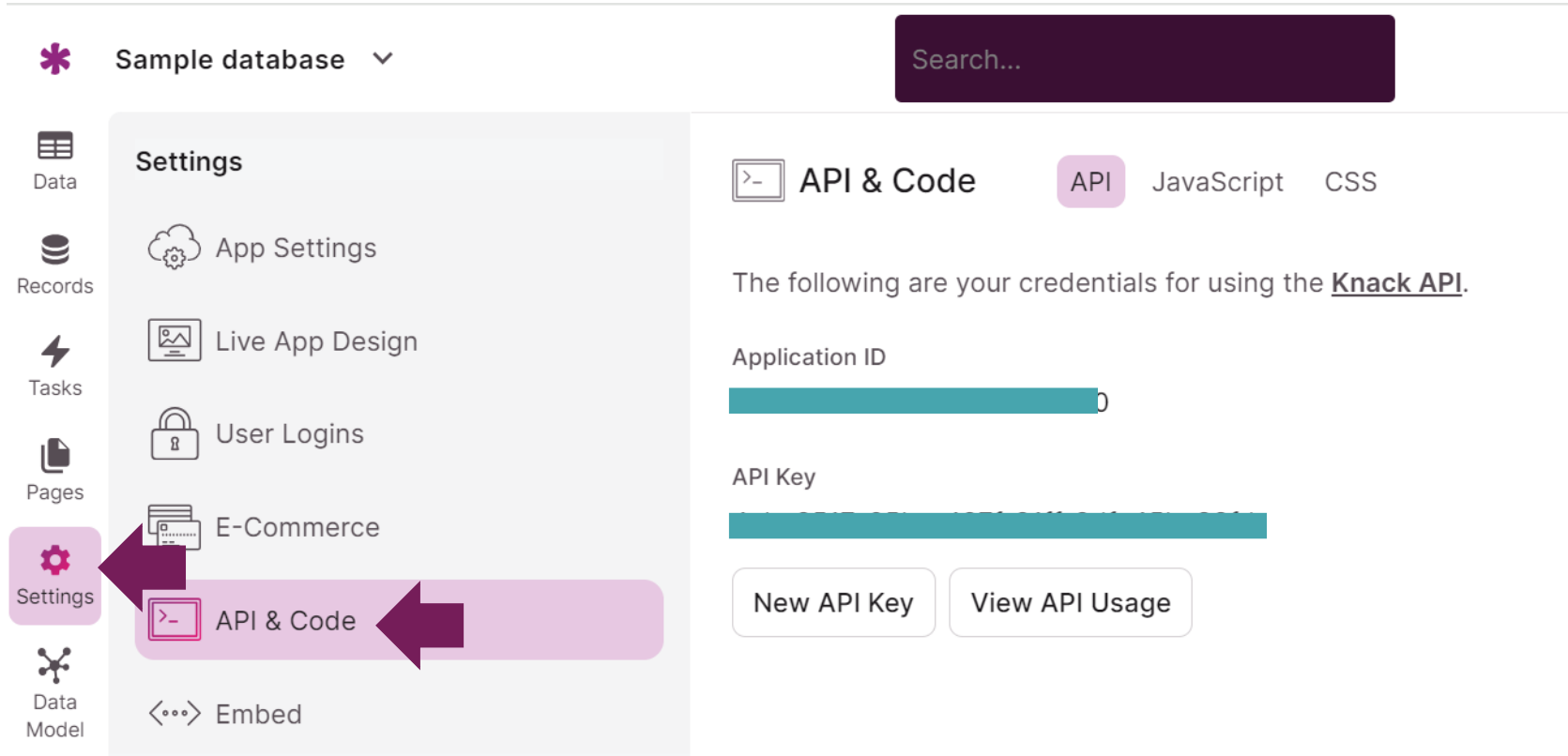
These instructions are for the Knack API only. [Knack](#) is a no-code/low-code database tool which allows you to quickly and easily build databases without extensive technical knowledge.



All instructions are for the Power BI desktop application which you will need installed. You do not require a Pro licence to set up your connection and create your report but you will probably need it when it comes to sharing and publishing your reports.



# Find your Knack database's application ID and API key



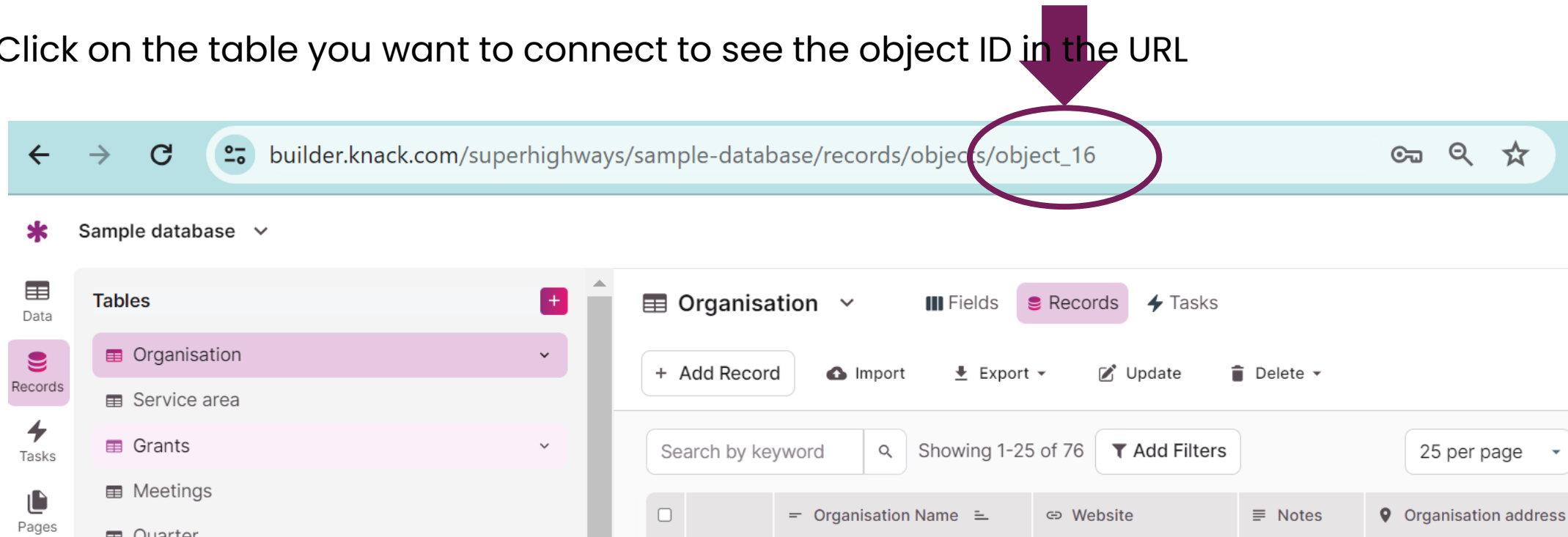
The screenshot shows the Knack dashboard interface. On the left is a sidebar with navigation icons and labels: Data, Records, Tasks, Pages, Settings (highlighted with a red gear icon and a red arrow), and Data Model. The main content area has a top bar with a search box and a 'Sample database' dropdown. Below this is a 'Settings' panel on the left with options: App Settings, Live App Design, User Logins, E-Commerce, API & Code (highlighted with a red arrow), and Embed. To the right of the Settings panel are tabs for 'API & Code', 'API' (selected), 'JavaScript', and 'CSS'. The 'API' tab displays the text: 'The following are your credentials for using the Knack API.' Below this text are two fields: 'Application ID' and 'API Key', both containing redacted information. At the bottom of the API section are two buttons: 'New API Key' and 'View API Usage'.

1. Open the Knack database you want to connect
2. Click on Settings
3. Select API and Code



# Find the Knack object ID for the table you want to connect

Click on the table you want to connect to see the object ID in the URL



The screenshot shows the Knack Builder interface. The browser's address bar displays the URL: `builder.knack.com/superhighways/sample-database/records/object_16`. A purple arrow points to the `object_16` part of the URL, which is also circled in purple. Below the address bar, the interface shows a sidebar with a 'Tables' section containing a list of tables: 'Organisation', 'Service area', 'Grants', 'Meetings', and 'Quarter'. The 'Organisation' table is selected. The main content area shows the 'Records' tab for the 'Organisation' table, with options to 'Add Record', 'Import', 'Export', 'Update', and 'Delete'. Below these options is a search bar and a table of records with columns: 'Organisation Name', 'Website', 'Notes', and 'Organisation address'.



# Alternative method – Using Views:

## Find the Knack scene and view ID for the table you want to connect

Click on the table you want to connect to see the scene and view ID in the URL

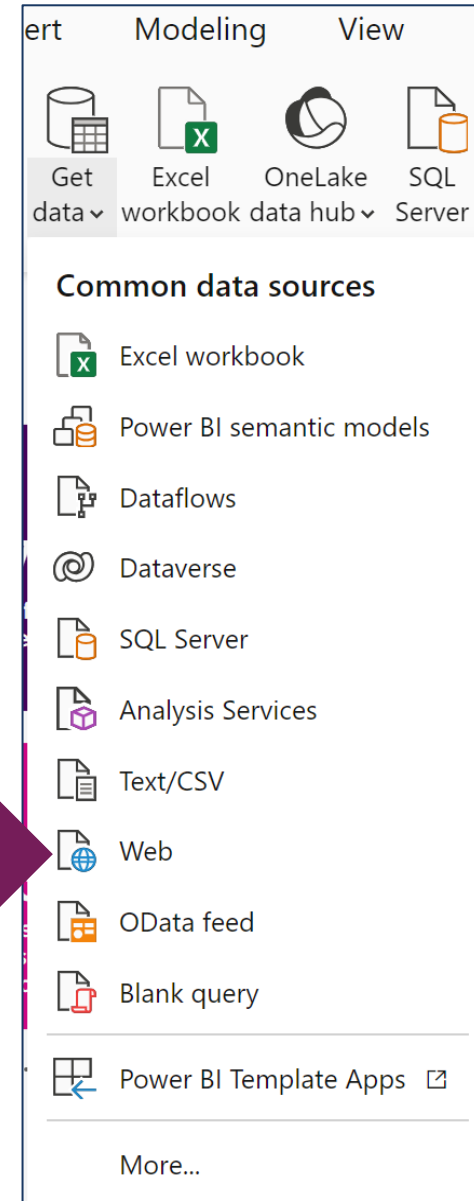


The screenshot shows the Knack Builder web interface. The browser's address bar at the top displays the URL `builder.knack.com/superhighways/chww/pages/scene_70/views/view_146/table`, which is highlighted with a red rectangular box. A large purple arrow points from the text above to this box. The interface has a left sidebar with a home icon and the text 'Community Health And Wellbeing'. Below this are icons for 'Data', 'Tasks', 'Pages', and 'Settings'. The main content area is titled 'Edit Grid' and includes sections for 'Source' (which records to display), 'Settings' (filters, column summaries, and more), and 'Actions & Column Fields' (for fields and links). The right side of the interface shows 'Interaction PowerBI' with a dropdown menu, 'Views 1', 'Rules', 'Settings', and a lock icon. Below these are buttons for '+ Add View', 'Using live data', and a 'Grid' button. The 'Interactions' section is visible at the bottom right, with an 'Add/Remove Fields' button.



# Power BI Get Data

1. Open the Power BI desktop application and create a new report
2. In the report, select the option **Web** (you might need to search for it if it doesn't appear at the top of the list)



# Enter URL and HTTP request header parameters

1. Select Advanced
2. Add URL Parts

[https://api.knack.com/v1/objects/object\\_1/records?rows\\_per\\_page=1000](https://api.knack.com/v1/objects/object_1/records?rows_per_page=1000)

Where the it says object\_1 you will need to add the number of the object you wish to connect to

3. Add HTTP request header parameters

X-Knack-Application-ID  
X-Knack-REST-API-Key

## From Web

☐ Basic ☒ Advanced

URL parts ⓘ

[https://api.knack.com/v1/objects/object\\_24/records?rows\\_per\\_page=1000](https://api.knack.com/v1/objects/object_24/records?rows_per_page=1000)

Add part

URL preview

[https://api.knack.com/v1/objects/object\\_24/records?rows\\_per\\_page=1000](https://api.knack.com/v1/objects/object_24/records?rows_per_page=1000)

Command timeout (or, for web pages, wait time) in minutes (optional)

HTTP request header parameters (optional) ⓘ

X-Knack-Application-ID

6

X-Knack-REST-API-Key

5

Add header

OK

Cancel



# Alternative method – Using Views:

## Enter URL and HTTP request header parameters

1. Select Advanced

2. Add URL Parts

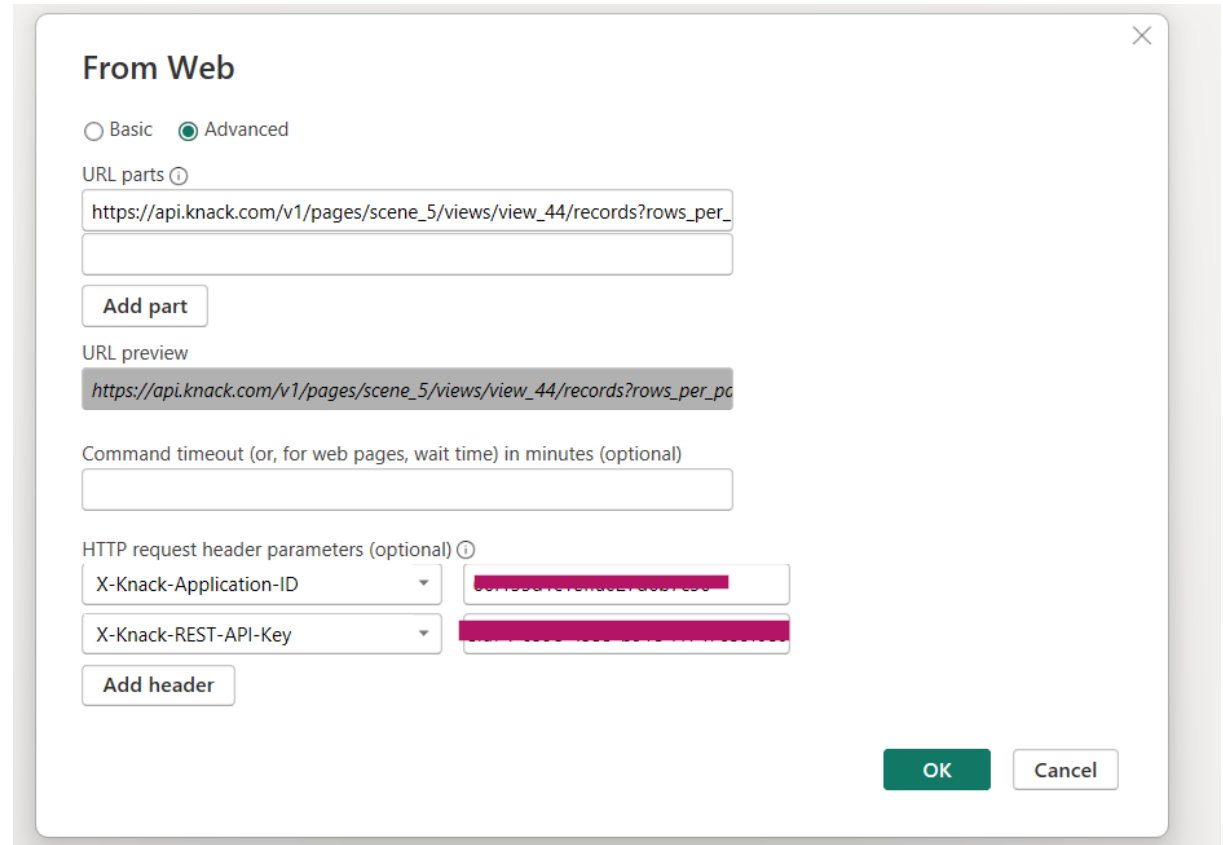
[https://api.knack.com/v1/pages/scene\\_5/views/view\\_44/records?rows\\_per\\_page=1000](https://api.knack.com/v1/pages/scene_5/views/view_44/records?rows_per_page=1000)

Where the it says **scene\_5** and **view\_44** you will need to replace the scene and view you wish to connect to

3. Add HTTP request header parameters

X-Knack-Application-ID

X-Knack-REST-API-Key



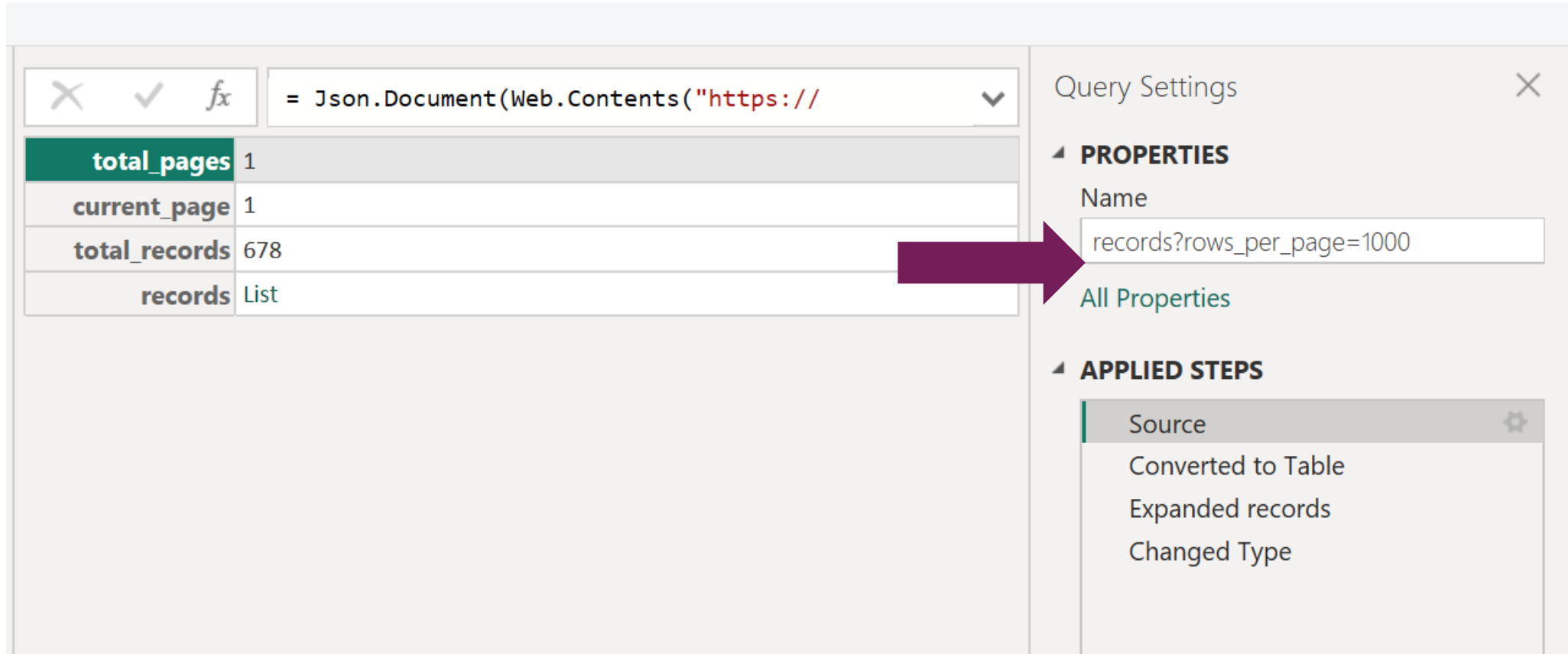
The screenshot shows a 'From Web' dialog box with the following fields and controls:

- From Web** (Title)
- ☐ Basic ☒ Advanced (Selection)
- URL parts** (Label)
- (Text input)
- (Button)
- URL preview** (Label)
- (Text input)
- Command timeout (or, for web pages, wait time) in minutes (optional)** (Label)
- (Text input)
- HTTP request header parameters (optional)** (Label)
- (Text input)
- (Text input)
- (Text input)
- (Text input)
- (Button)
- (Button)
- (Button)





# Rename your query



The screenshot shows a query editor interface. On the left, a table displays the results of a query. The table has four rows: 'total\_pages' with value 1, 'current\_page' with value 1, 'total\_records' with value 678, and 'records' with value List. A purple arrow points from the 'records' column to the 'Name' input field in the 'Query Settings' panel on the right. The 'Query Settings' panel has a close button (X) and two sections: 'PROPERTIES' and 'APPLIED STEPS'. The 'PROPERTIES' section has a 'Name' input field containing 'records?rows\_per\_page=1000' and a link 'All Properties'. The 'APPLIED STEPS' section has a list of steps: 'Source', 'Converted to Table', 'Expanded records', and 'Changed Type'. The 'Source' step is highlighted with a gear icon.

total_pages	1
current_page	1
total_records	678
records	List

Query Settings

**PROPERTIES**

Name

records?rows\_per\_page=1000

[All Properties](#)

**APPLIED STEPS**

- Source
- Converted to Table
- Expanded records
- Changed Type

For example: If you are querying an organisation table you might want to call your query API\_Organisations



# Expand records

The screenshot shows the Power Query Editor interface. The main table has columns: `current_page`, `total_records`, and `records`. The `records` column contains a list of records. The 'Query Settings' pane on the right shows the 'APPLIED STEPS' list with 'Changed Type' selected. The 'Select Columns' dialog box is open, showing a list of columns with checkboxes. The 'OK' button is highlighted with a red arrow labeled '3'.

1. Click on the final step of the query **Changed Type**

2. In the column **Records** click on the double arrow

3. In the dialogue box, leave all fields ticked and click on **OK**

# Managing the data after connection

- ✓ Fields will come across with their field IDs rather than their field (column) names so will need to be renamed in Power BI
- ✓ Number fields might lose their data type so might need to be manually change to a number format
- ✓ Comma separators will need to be manually added to number fields
- ✓ Relationships will need to be set up between tables to recreate your data model in Knack



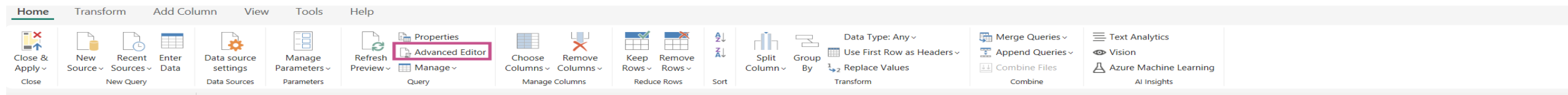
# Security considerations

If you want to share your PowerBI file externally you will need to investigate your security settings in more detail to ensure your data and your database are properly protected. You will need to:

- ✓ Ensure your API details are not visible
- ✓ Ensure underlying sensitive data is not visible



# Querying over 1000 records



To handle more than 1000 records from the Knack API in Power BI, you need to convert your query into a function that supports pagination.

Begin by wrapping your query in a function definition. At the very top of your query in the Advanced Editor, insert the line:

**let loadJSON = (Page as text, AmountOfRecords as number) =>.**

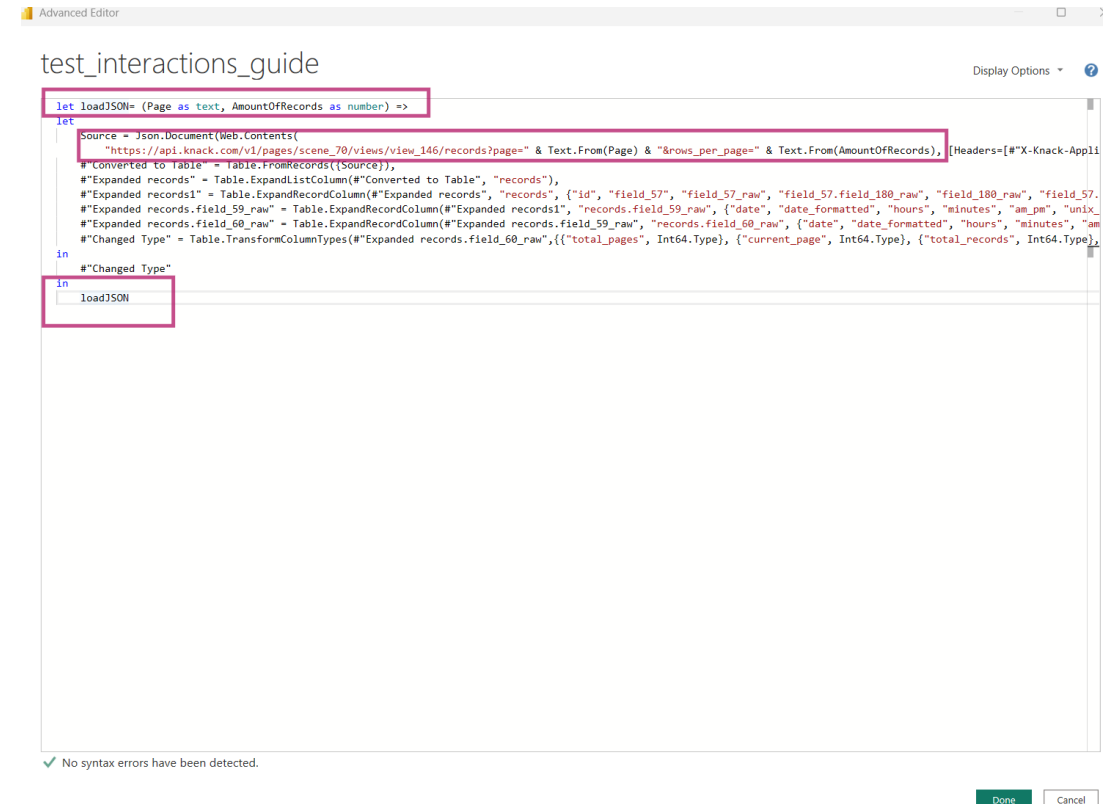
Next, modify the Web.Contents call to dynamically accept page numbers and record limits.

Replace your existing static URL with the following dynamic version:

**Web.Contents( "https://api.knack.com/v1/pages/scene\_70/views/view\_146/records?page=" and Text.From(Page) and "&rows\_per\_page=" and Text.From(AmountOfRecords),**

This change allows the function to fetch different pages of data based on the parameters passed. Finally, close the function by adding in loadJSON at the end of your query. This setup enables you to call the function repeatedly with different page numbers to retrieve all records in batches of up to 1000, effectively paginating through the entire dataset.

in loadJSON



# Looping Through Pages to Retrieve All Knack Records

## ✓ Create a New Blank Query

This query will generate a list of page numbers to loop through.

## ✓ Generate Page Numbers

In the formula bar, enter: `= {1..10}`

✓ This creates a list of 10 pages (for up to 10,000 records if each page returns 1,000).

## ✓ Convert to Table

Click **“To Table”** to transform the list into a table format.

## ✓ Add a Custom Column to Call the Function

Go to **Add Column > Custom Column**.

Replace **“Page”** with your **column name** and **test\_interactions\_guide** with your **function name**, use this formula: `test_interactions_guide(Text.From([Page]), 4000)`

The image displays three sequential screenshots from the Microsoft Power Query Editor, illustrating the steps to create a custom query for looping through pages.

**Screenshot 1: Creating a New Blank Query**  
The 'Home' tab is active. In the 'New Source' dropdown menu, 'Blank Query' is selected. A tooltip indicates 'Write a query from scratch.'

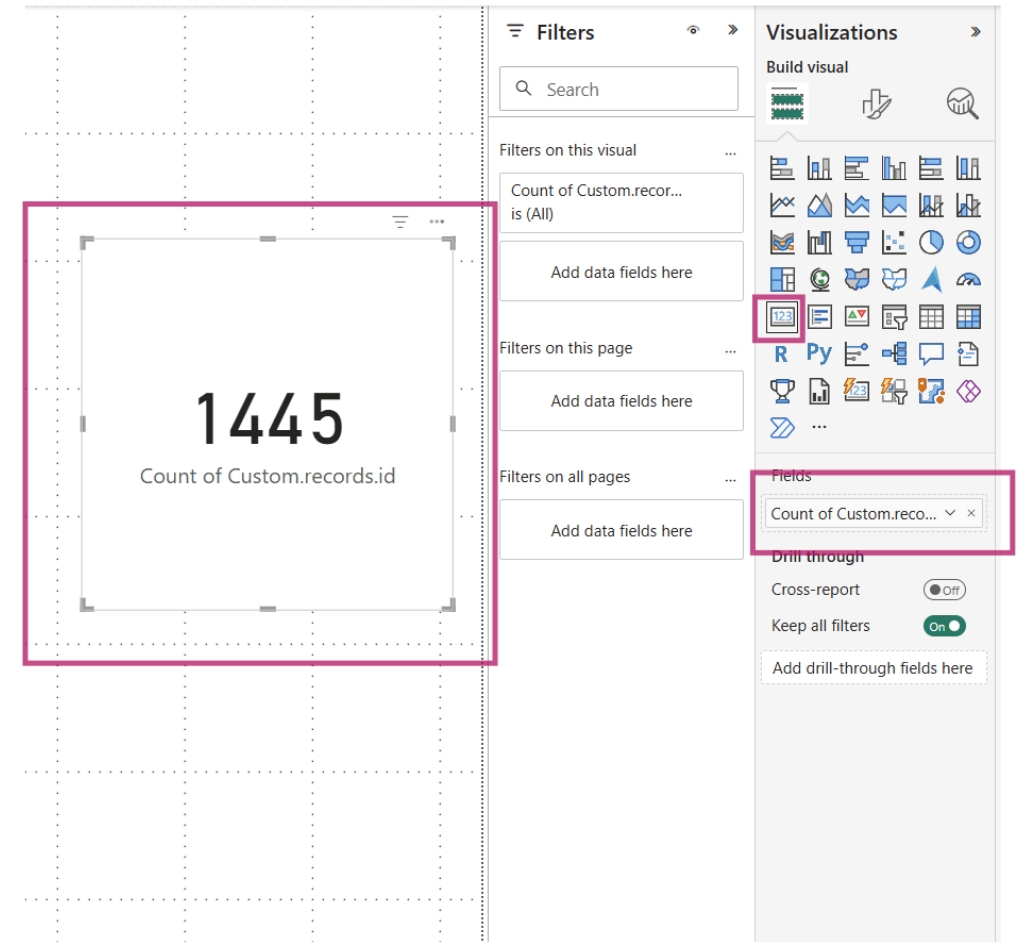
**Screenshot 2: Converting the List to a Table**  
The 'Transform' tab is active. The 'To Table' button is highlighted. The formula bar shows the formula `= {1..10}`. The 'Queries' list on the left shows 'Query1' selected, and the preview pane displays a list of numbers from 1 to 10.

**Screenshot 3: Adding a Custom Column**  
The 'Add Column' tab is active. The 'Custom Column' button is highlighted. The 'Custom Column' dialog box is open, showing the formula `test_interactions_guide(Text.From([Page]), 4000)` in the 'Custom column formula' field. The 'Available columns' list on the right shows 'Page' selected.



# Verify Record numbers

- ✓ Now verify that you have retrieved all records but putting a simple card visualisation



# Other resources

<https://mgr.medium.com/querying-a-knack-object-from-excel-8f2b7163d81b>

<https://superhighways.org.uk/training-advice-and-technical/training/>

<https://datawise.london/resources/power-bi-resources/>

<https://docs.knack.com/docs/using-the-api>

