DATA-DRIVEN ALERTS

„Make your data shine!“

2023

SPEAKER

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DATA SENSE
WHERE IT SPEAKS BUSINESS

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FOR EVERY STEP OF THE WAY, THERE'S DATA

redgate

infobip

BUG

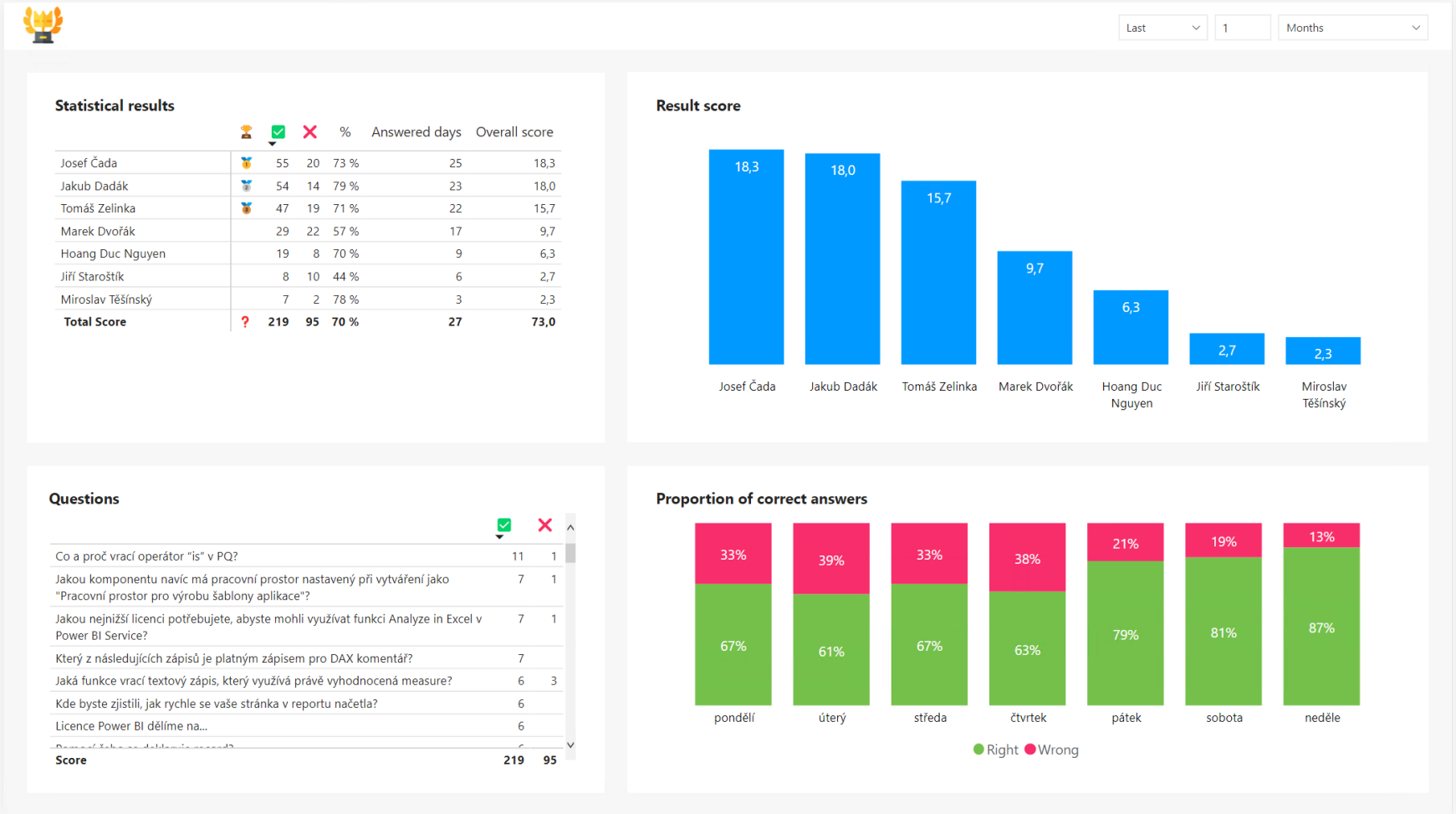
SSUGCRO

DATA SATURDAYS

Story

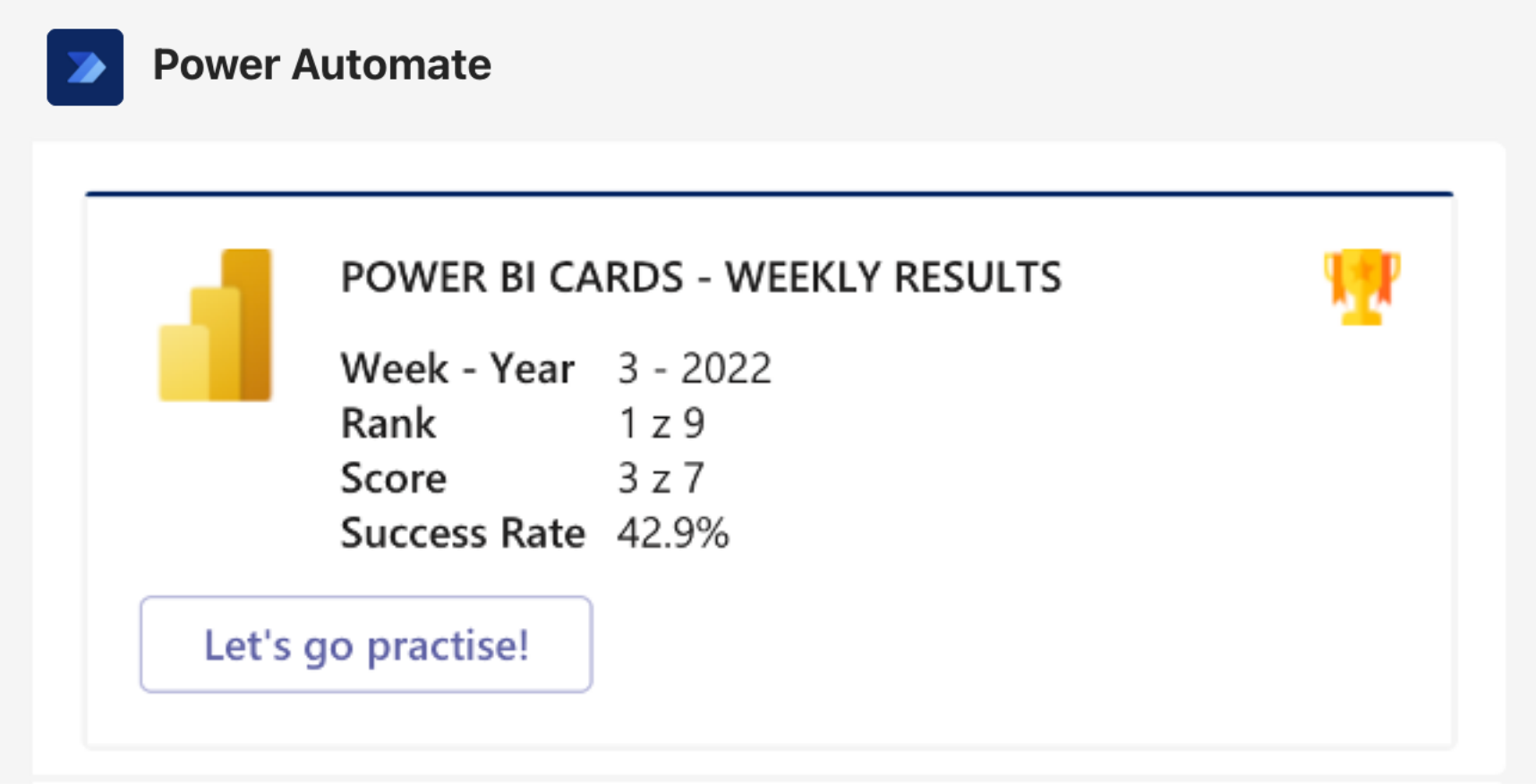
We have a report...

And it is full of a data. Data that would be better served directly in the hands of users.



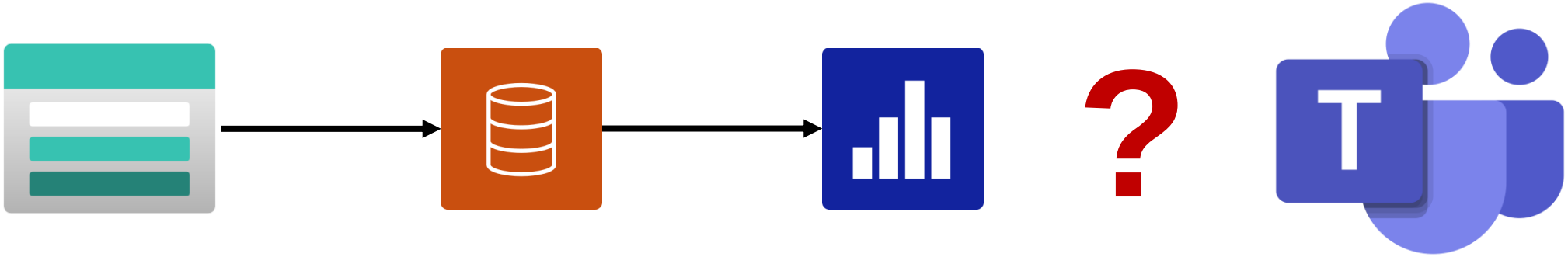
Adaptive Card

Data from the report can reach us, for example, in Teams



But how??

What possibilities do we actually have to get the selected information to the users?



Type of Alerts

Type of “Alerts”

When Power BI sends us a message, it is somehow "alerting".

ALERTS / OUTAGES

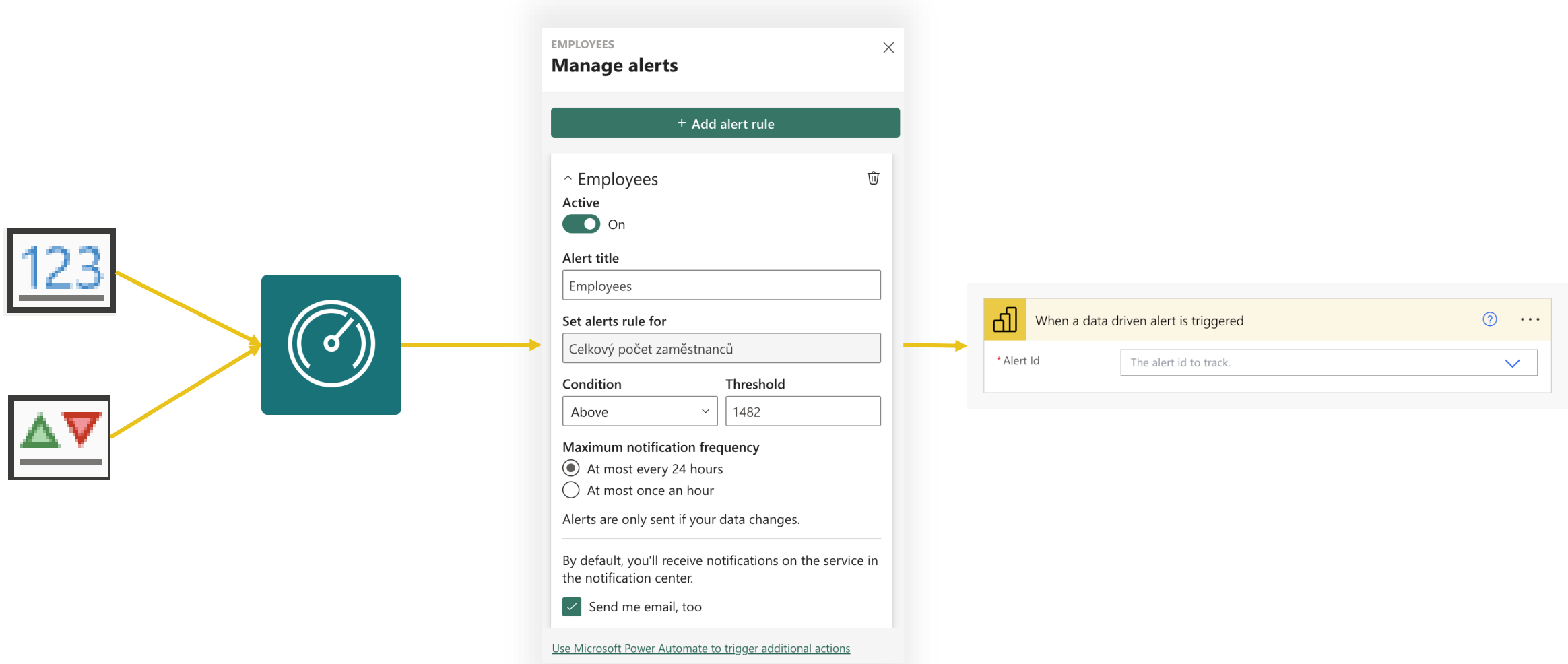
SUBSCRIPTION / FAIL MESSAGES

REST API

FULLY NATIVE AND INTEGRATED

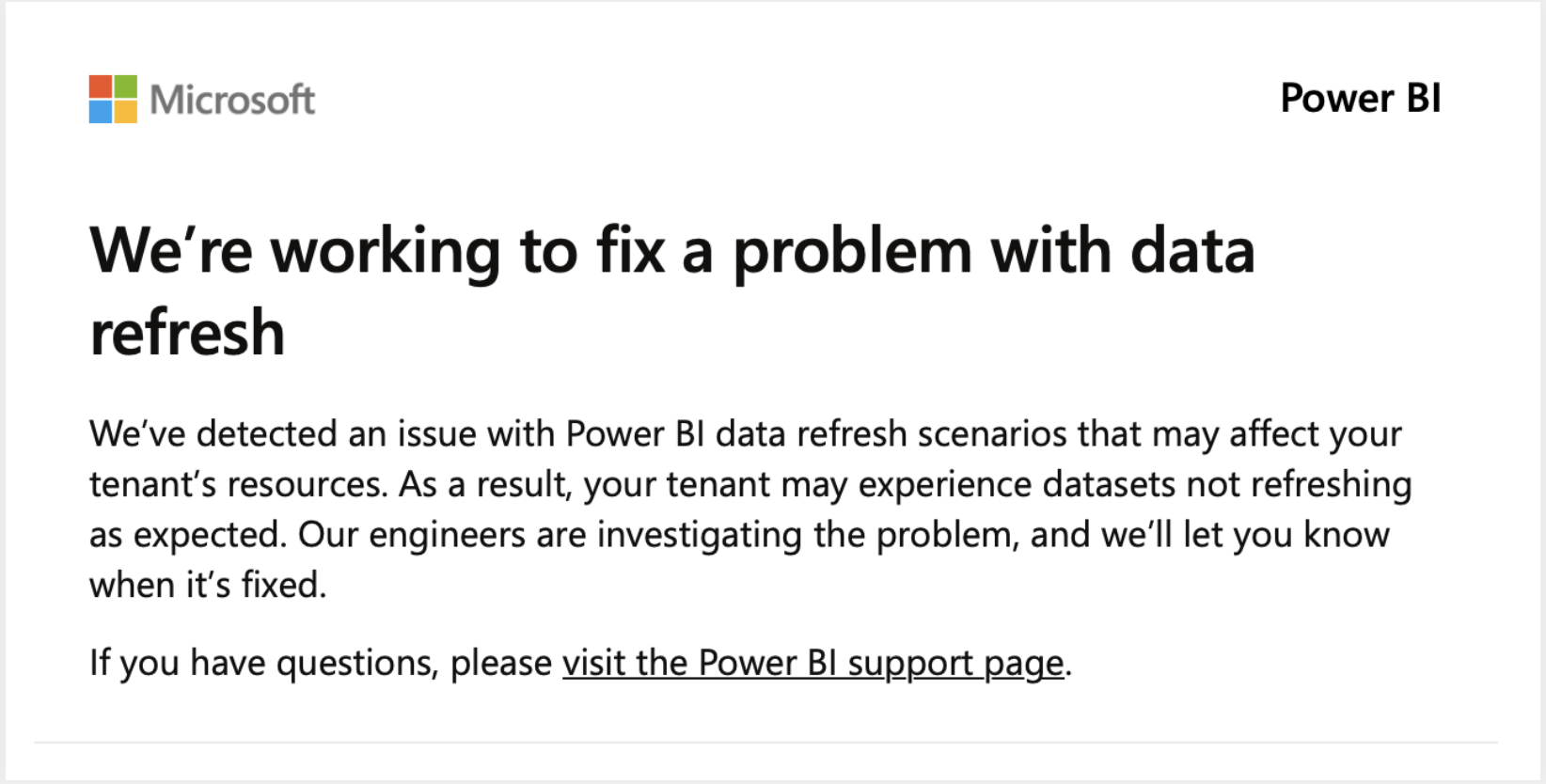
Alers from Dashboard

Although these alerts can be used, they are very limited



Outages...

This notification looks like this...



Microsoft

Power BI

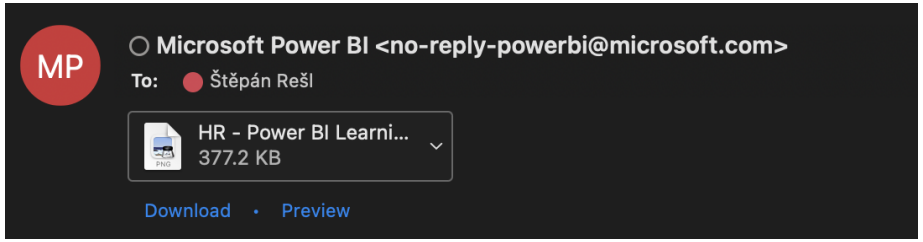
We're working to fix a problem with data refresh

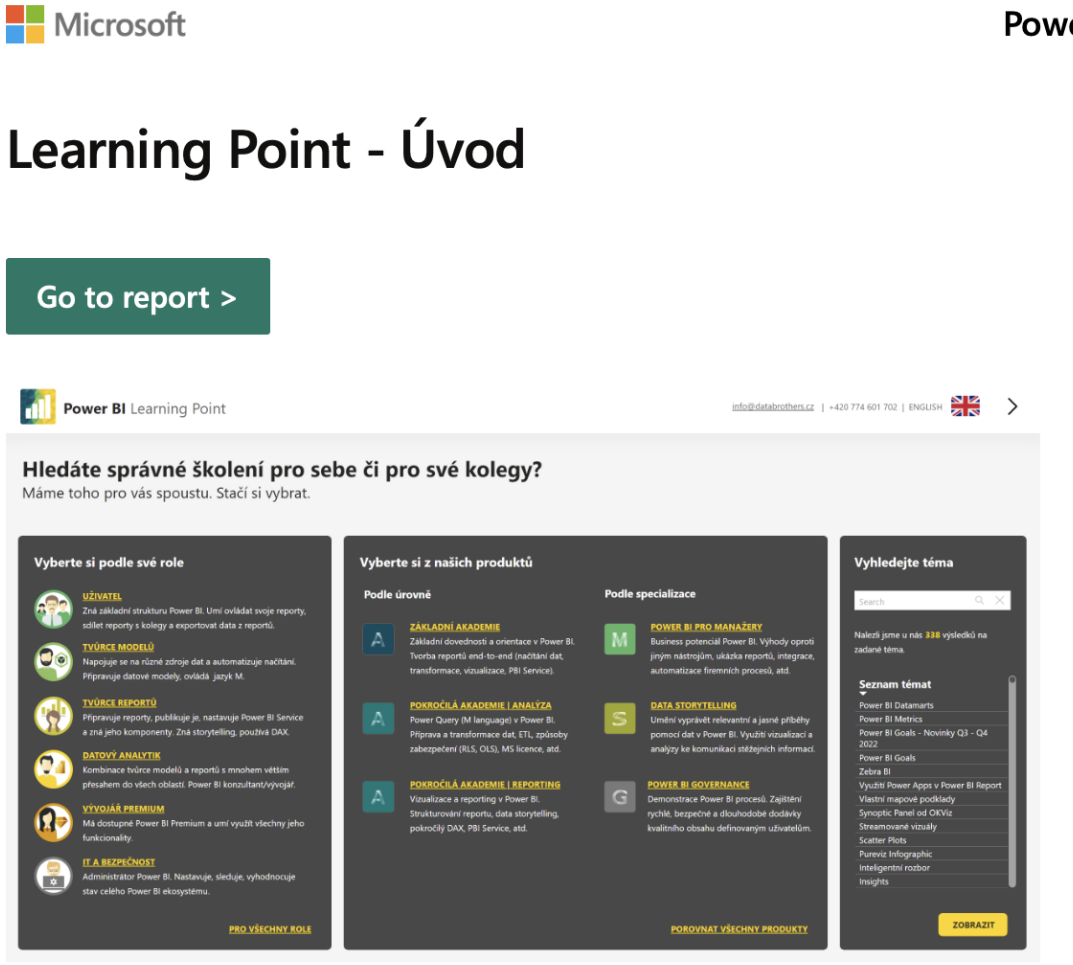
We've detected an issue with Power BI data refresh scenarios that may affect your tenant's resources. As a result, your tenant may experience datasets not refreshing as expected. Our engineers are investigating the problem, and we'll let you know when it's fixed.

If you have questions, please visit the Power BI support page.

Subscription

Email again. Fortunately, RLS also supports this





Type of “Alerts”

When Power BI sends us a message, it is somehow "alerting".

ALERTS / OUTAGES

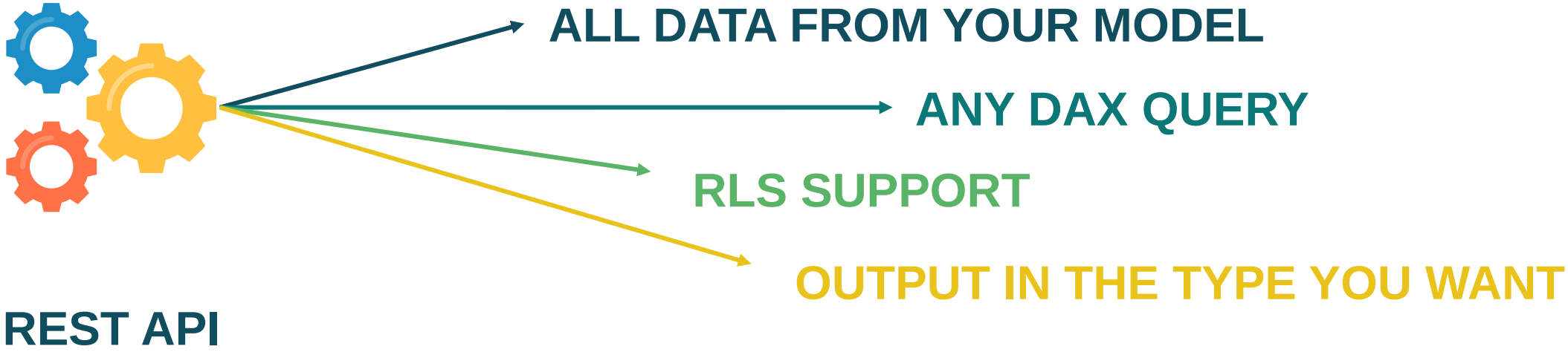
SUBSCRIPTION / FAIL MESSAGES

REST API

BUT IMMUTABLE…

Let's keep everything under control

When Power BI sends us a message, it is somehow "alerting".

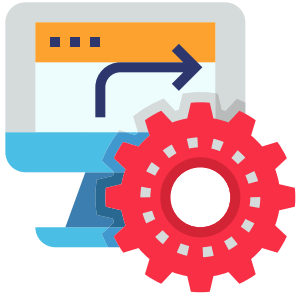


Don't stop with just Alerts!

REST API can help us with much more!

Export Data

Testing Datasets



Automize Agenda By Data

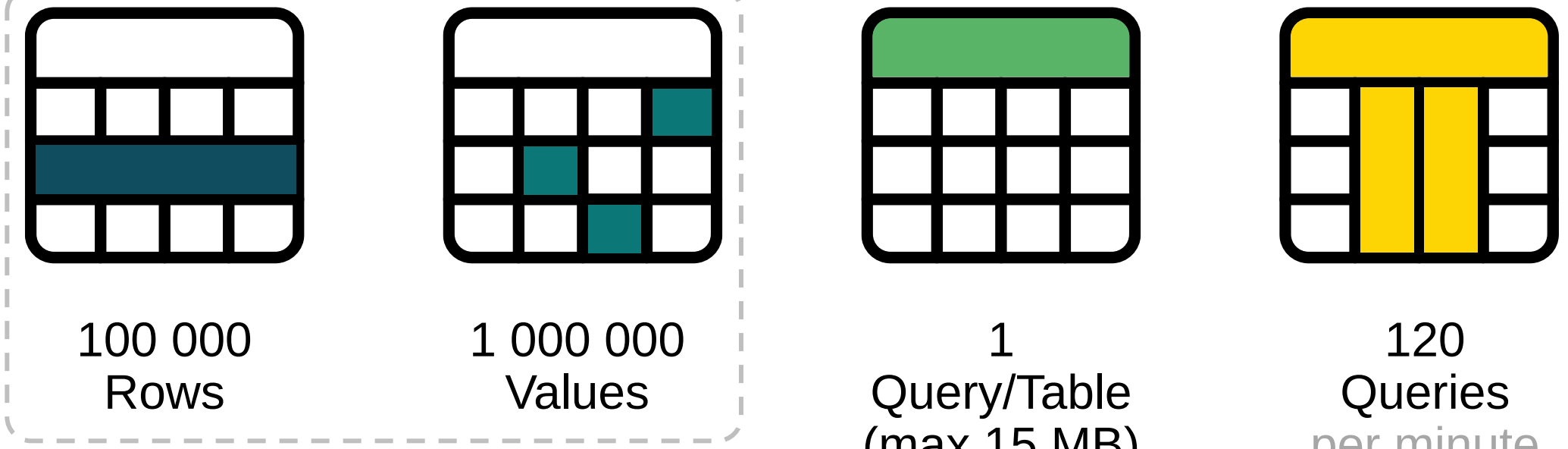
Bring Data Closer to Users

LIMITATIONS

Endpoint Limitation

Choosing a chart may seem like a chore... but it's not!

per call



100 000
Rows

1 000 000
Values

1
Query/Table
(max 15 MB)

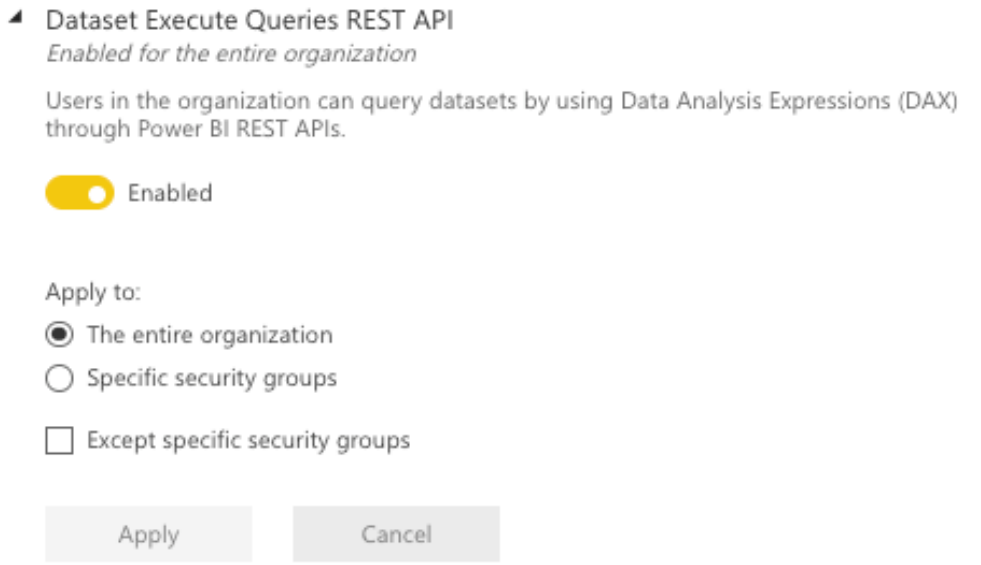
120
Queries
per minute

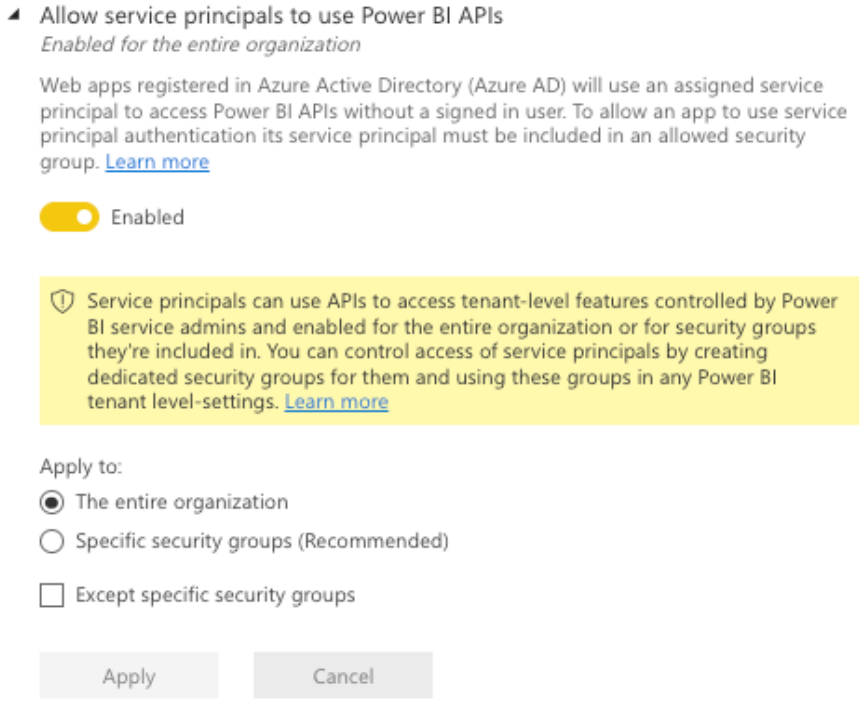
THEY CAN BE BYPASSED

ENVIROMENT PREPARING

Tenant Settings

What needs to be set up to use this API.





Access Type

Not everything is always the same! So you need to think carefully.

USER

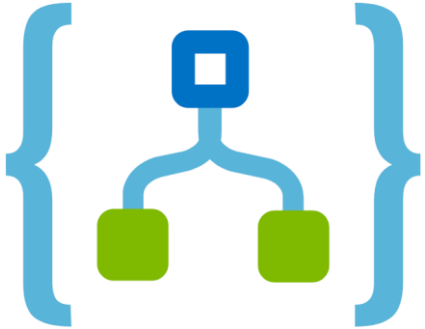
SERVICE PRINCIPAL

* DOESN’T SUPPORT DATASETS WITH RLS

Native callers

Let's look for something that can work directly with this endpoint.

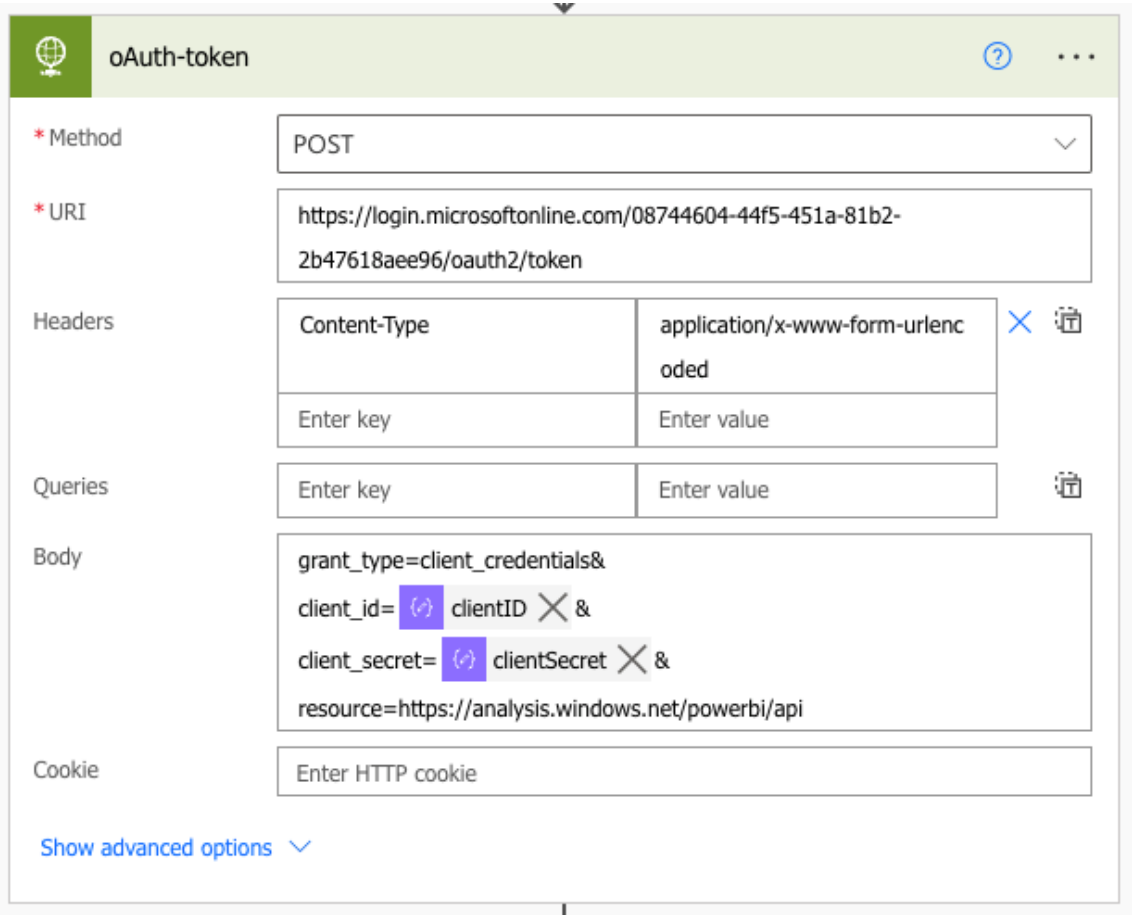
Power Automate

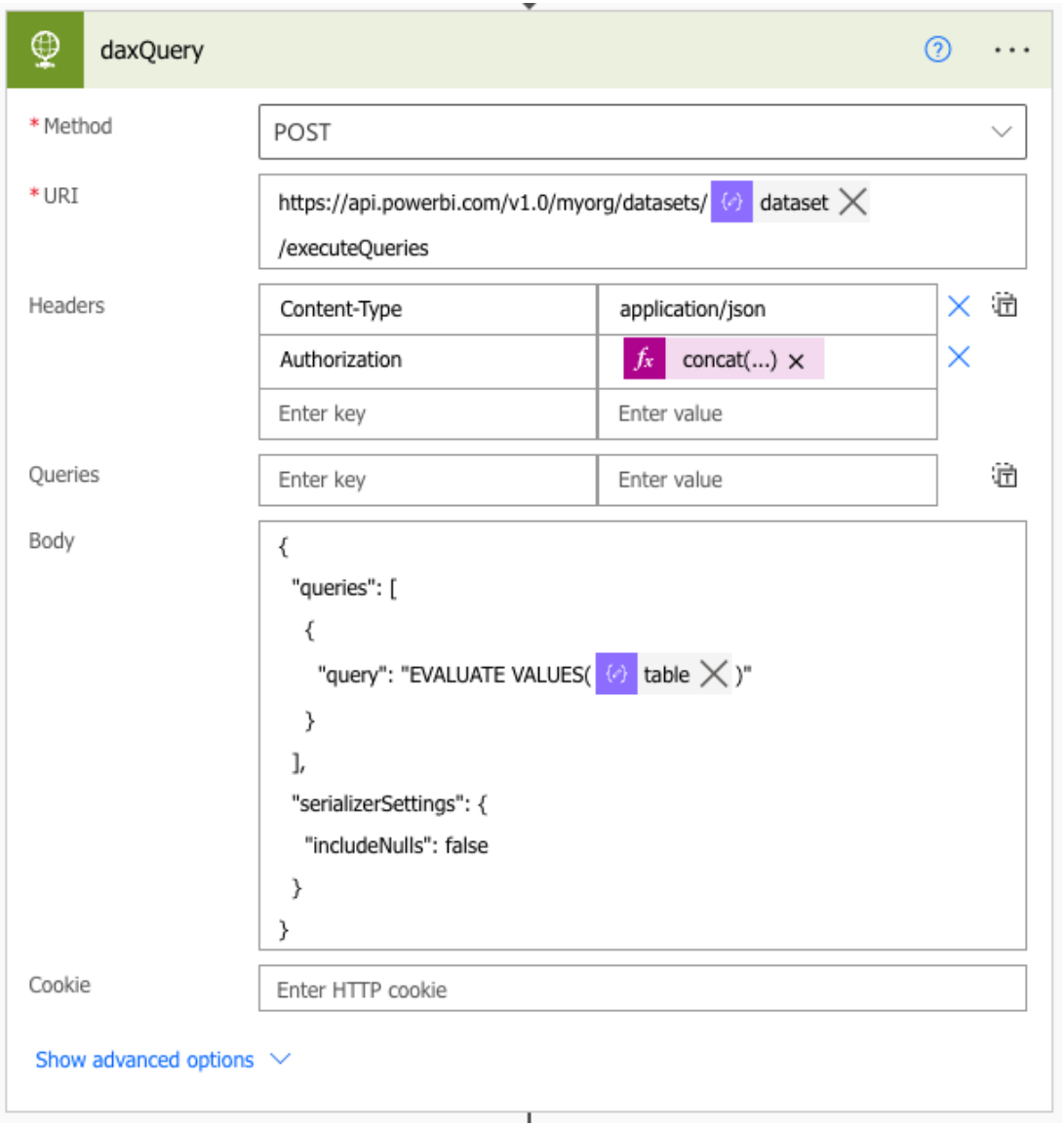


Logic Apps

HTTP request

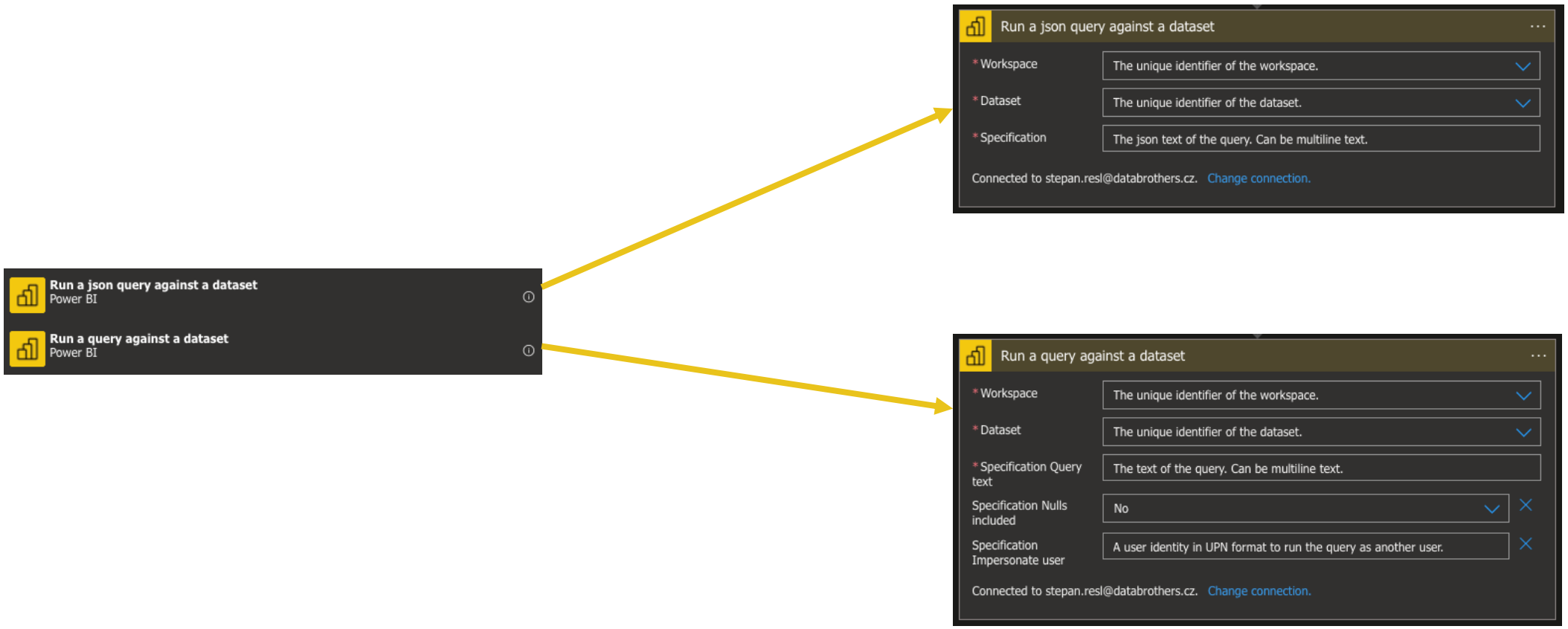
Native but paid...





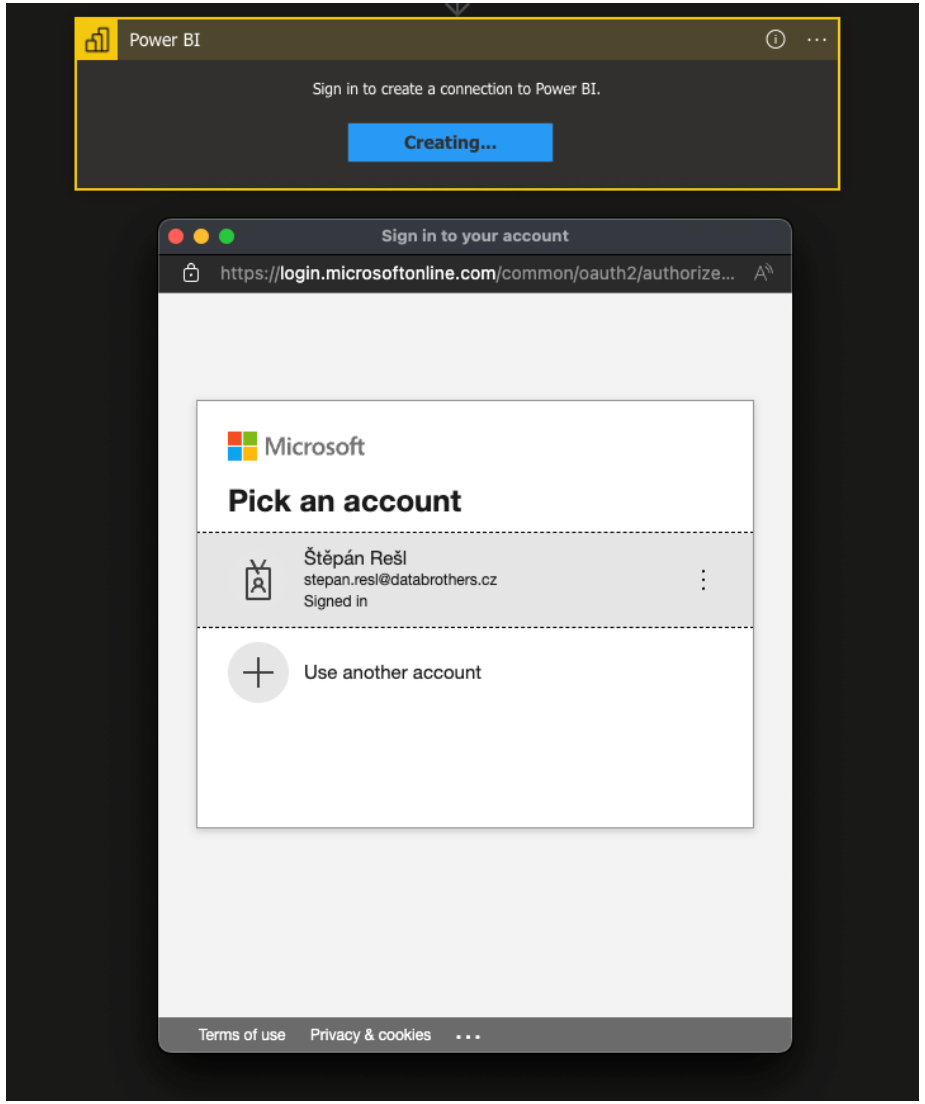
A better way to query this endpoint!

It is part of the licenses for tools of the O365 family. (So free)



Simple login

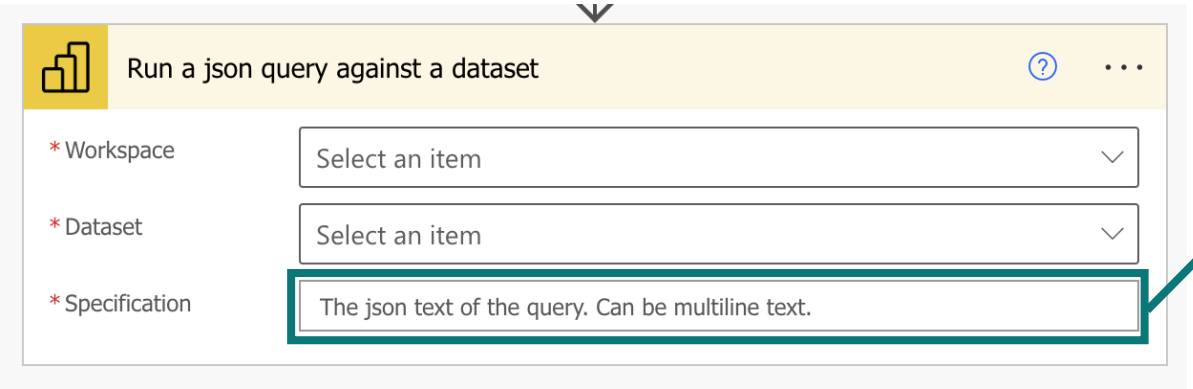
A very straight forward way to log in.




```
{
  "inputs": {
    "host": {
      "connection": {
        "name": "@parameters('$connections')['powerbi']['connectionId']"
      }
    },
    "method": "post",
    "body": {
      "query": "EVALUTATE 'Employees'",
      "serializerSettings": {
        "includeNulls": false
      },
      "impersonatedUserName": "josef.cada@databrothers.cz"
    },
    "path": "/v1.0/myorg/groups/@{encodeURIComponent('c88c00e0-a353-45c3-83b8-db68685e0046')}/datasets/@{encodeURIComponent('71850a1e-ae97-41b0-85e1-02b1e9fead29')}/executeQueries",
    "queries": {
      "pbi_source": "powerAutomate"
    }
  }
}
```

The first, more complicated option

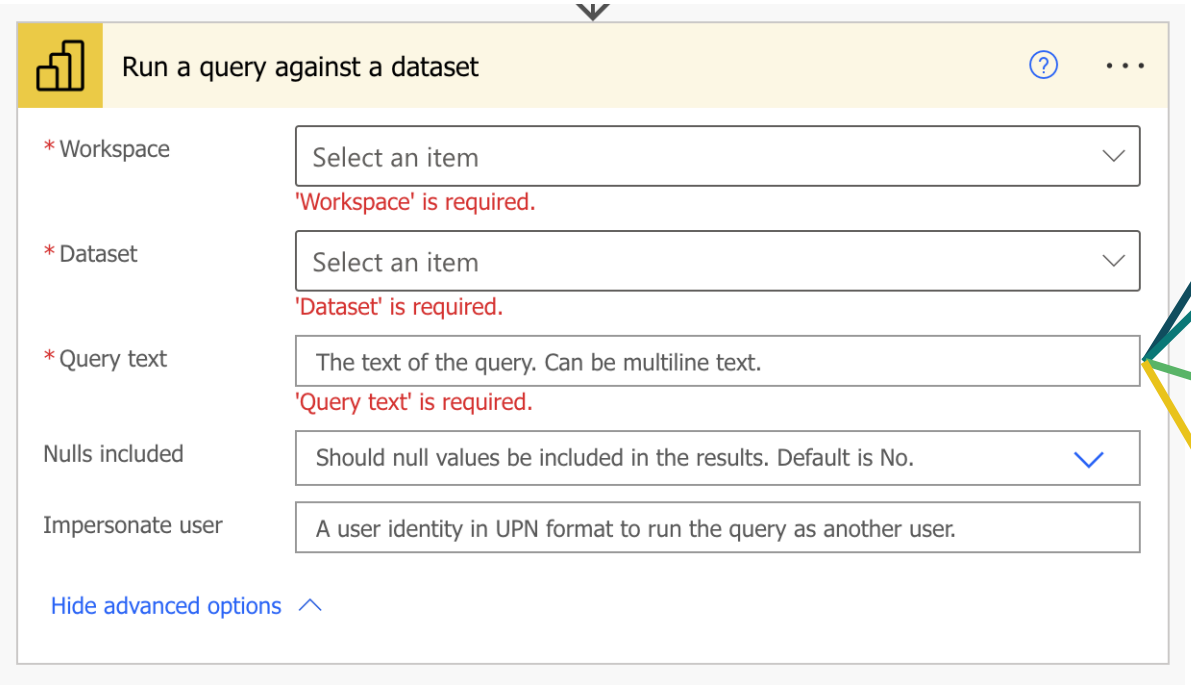
It requires all internal requirements to be set directly in the transmitted body




```
{
  "queries": [
    {
      "query": "EVALUATE VALUES('Employees')"
    }
  ],
  "serializerSettings": {
    "includeNulls": false
  }
}
```

A simpler option

Just click on the options and complete the DAX query




```
EVALUATE
lastWeek
```

```
EVALUATE
ADDCOLUMNS (
                lastWeek,
                "@forename", RELATED ( 'Employees'[Forname] )
)
```

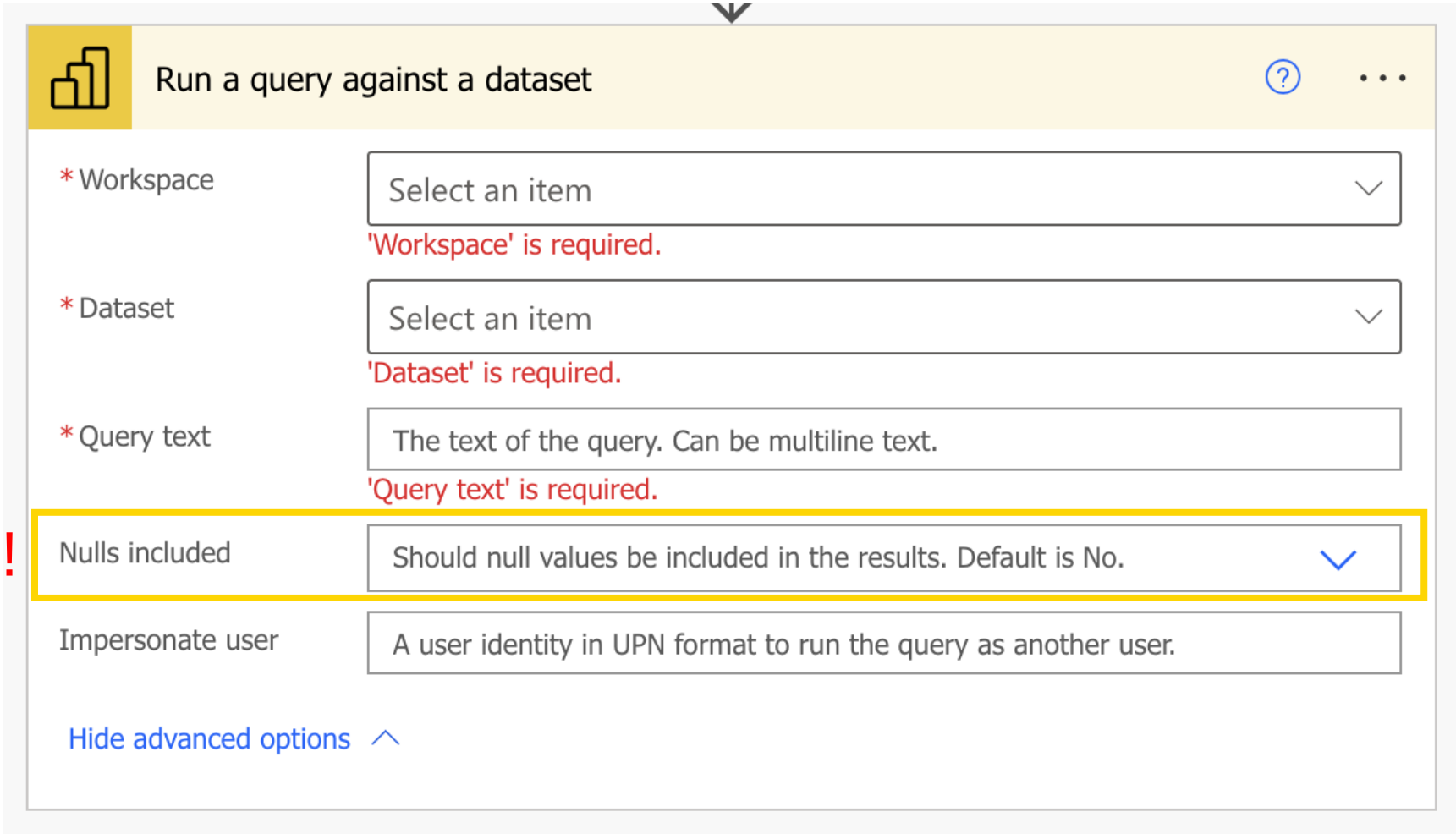
```
DEFINE
    VAR _t =
        ADDCOLUMNS (
            SUMMARIZE ( 'Employees', [Forname] ),
            "@counter", CALCULATE ( COUNTROWS ( pbiCardResults )
)
        )
    VAR _sum =
        SUMX ( _t, [@counter] )

EVALUATE
{ _sum }
```

```
EVALUATE
TOPNSKIP ( 2, 3, lastWeek, lastWeek[Index], ASC )
```

Including RSL

But watch out! It's not like you can impersonate someone else with READ rights. Only if you have WRITE rights

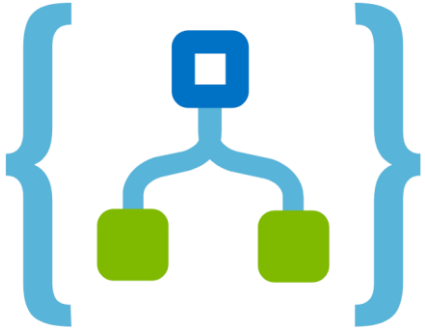


Do you think they are the same?

YES but also NO! The primary difference is licensing and reliability

Power Automate

=/=

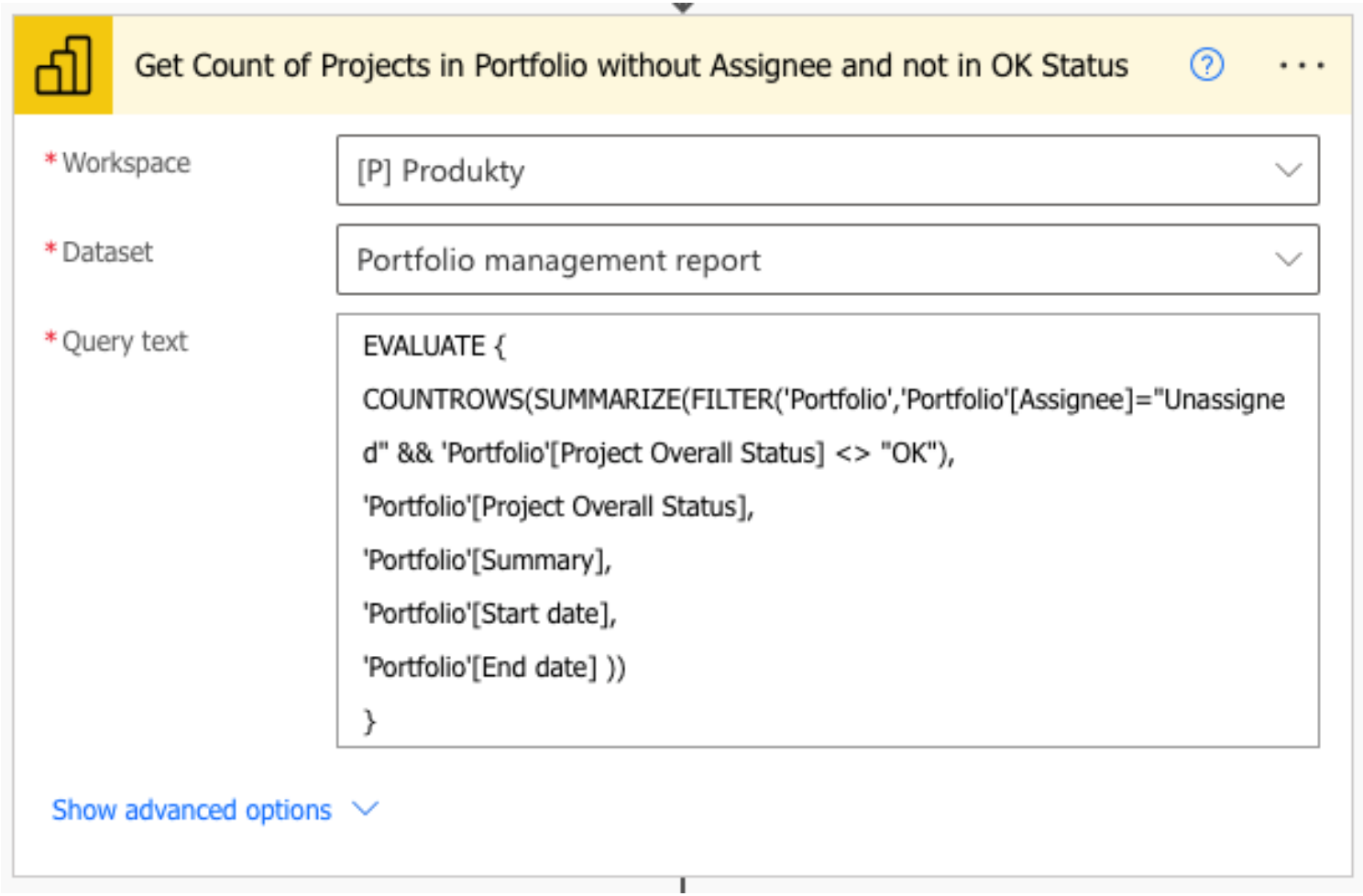


Logic Apps

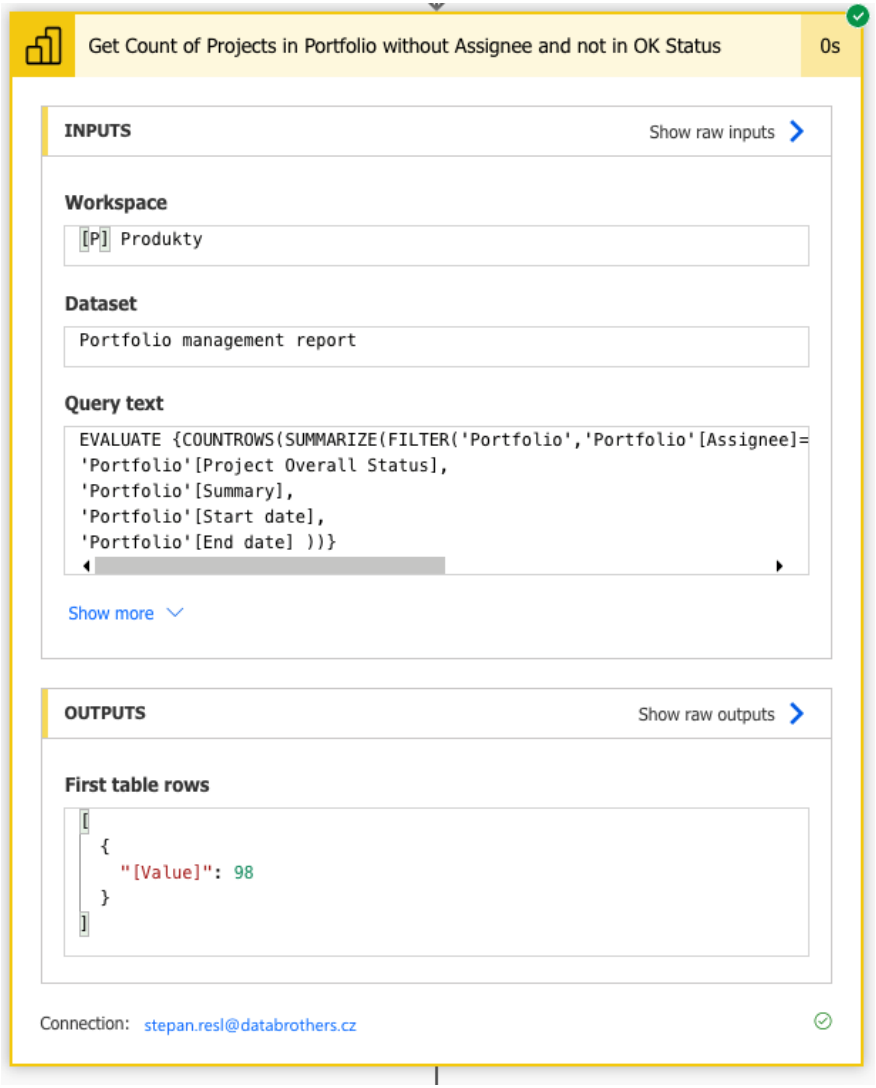
WORKING WITH OUTPUTS

The query can be for just one number

But only if we follow the DAX query rules! {}

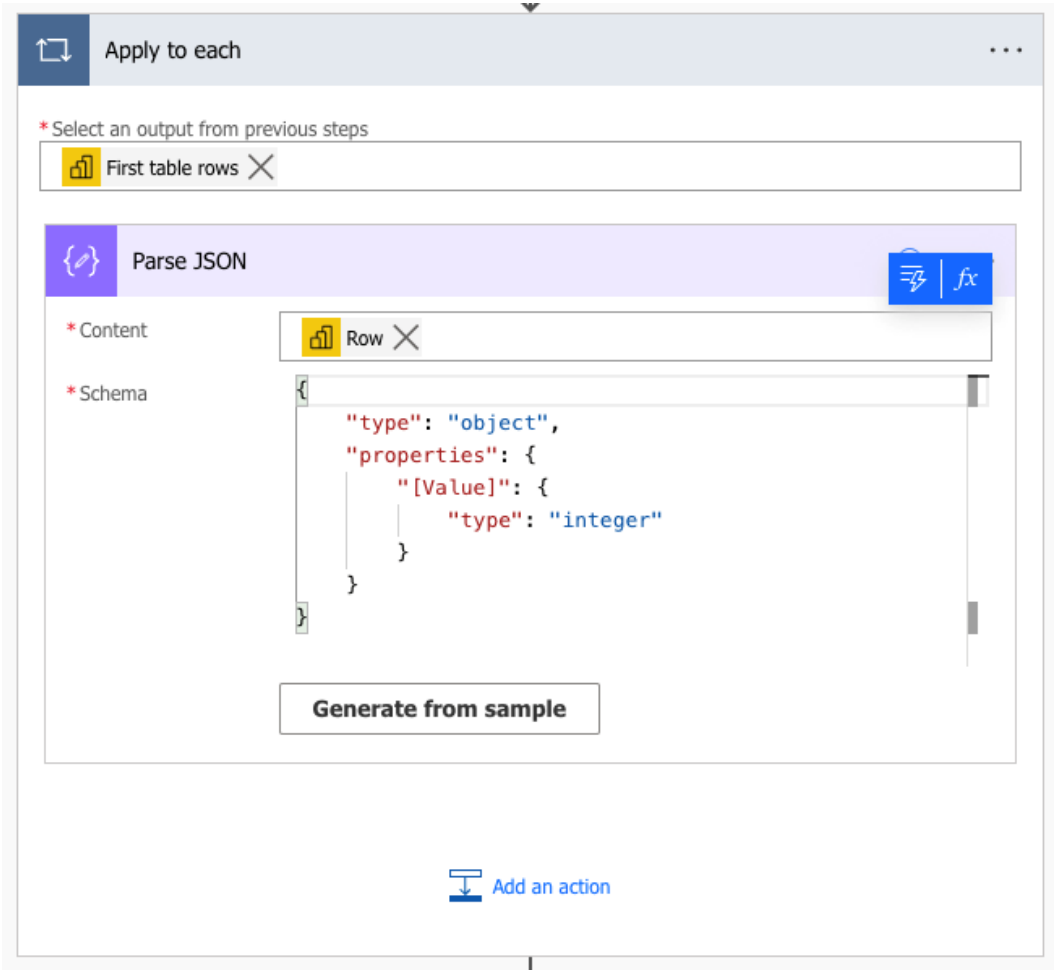


Response


Get Count of Projects in Portfolio without Assignee and not in OK Status
0s
INPUTS
Show raw inputs
Workspace
[P] Produkty
Dataset
Portfolio management report
Query text
EVALUATE {COUNTROWS(SUMMARIZE(FILTER('Portfolio','Portfolio'[Assignee]=
'Portfolio'[Project Overall Status],
'Portfolio'[Summary],
'Portfolio'[Start date],
'Portfolio'[End date]))}
Show more
OUTPUTS
Show raw outputs
First table rows
[
{
"[Value]": 98
}
]
Connection:
stepan.resl@databrothers.cz

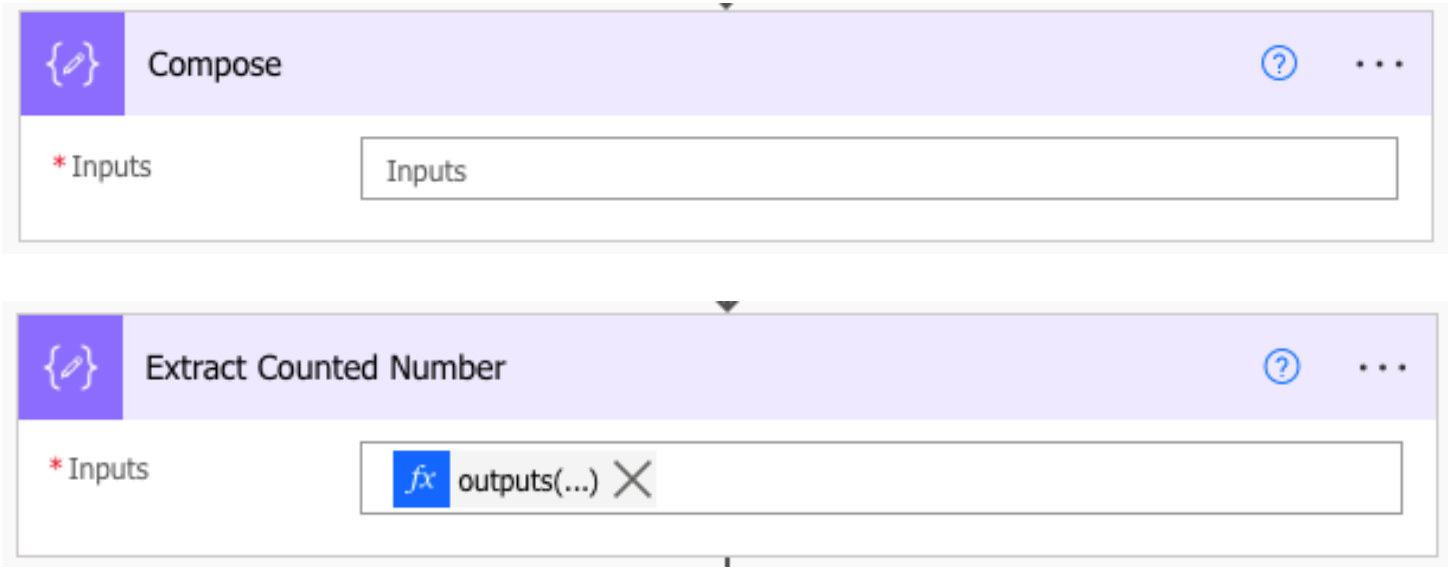
Browsing records in response

Power Automate passes each ARRAY through the "Apply to each" method.
Even if it contains only one record.



How to eliminate an unnecessary cycle?

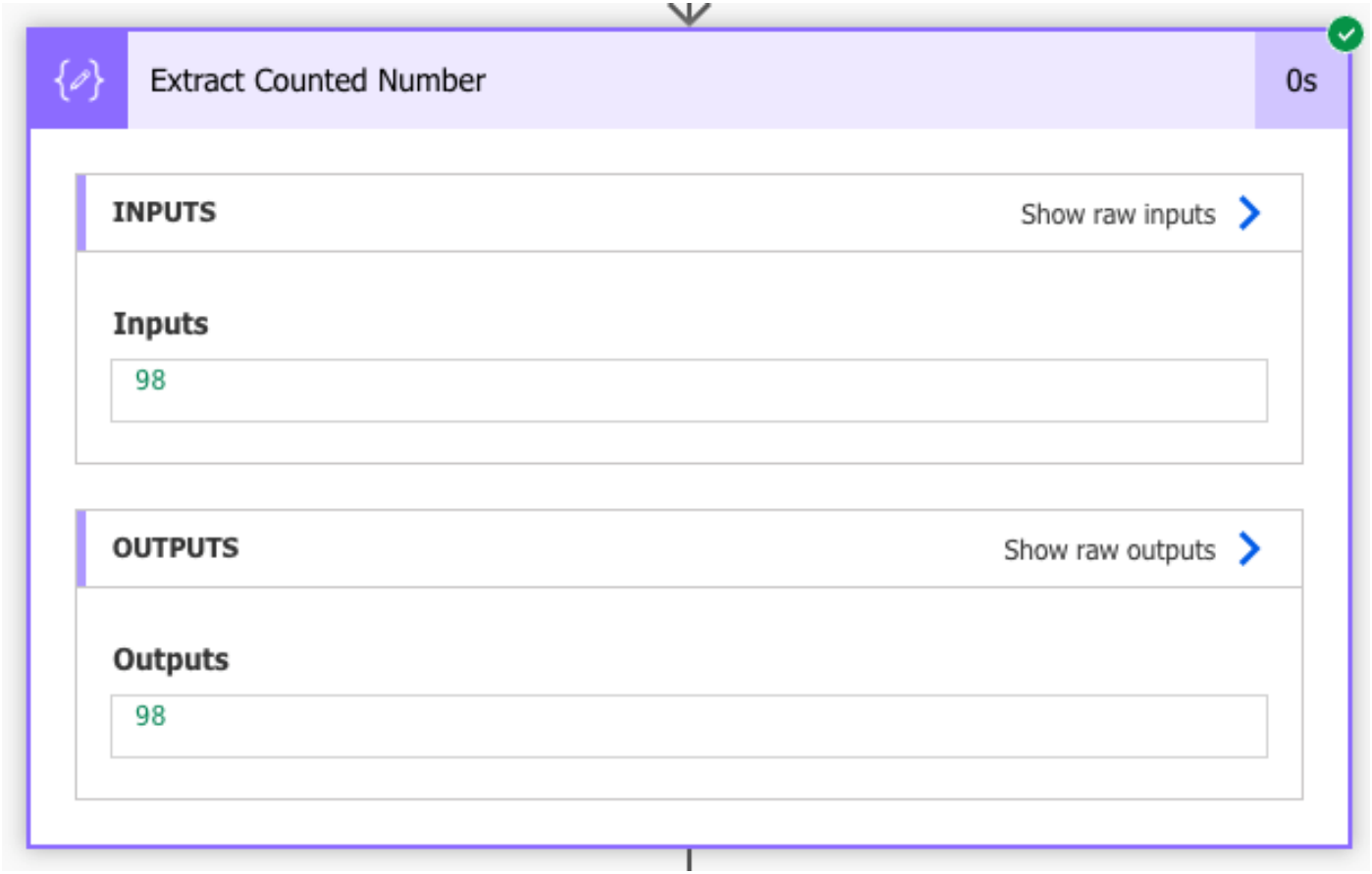
You can query directly to the first entry inside the answer.



outputs('Get_Count_of_Projects_in_Portfolio_without_Assignee_and_not_in_OK_Status')?['body/firstTableRows']?[0]?['[Value]']

Response

You can verify that this repair procedure works by running a test.



Power Automate ways to extract a response

Simple instructions on how to get a specific type of answer

outputs(...) ← Returns entire response of API

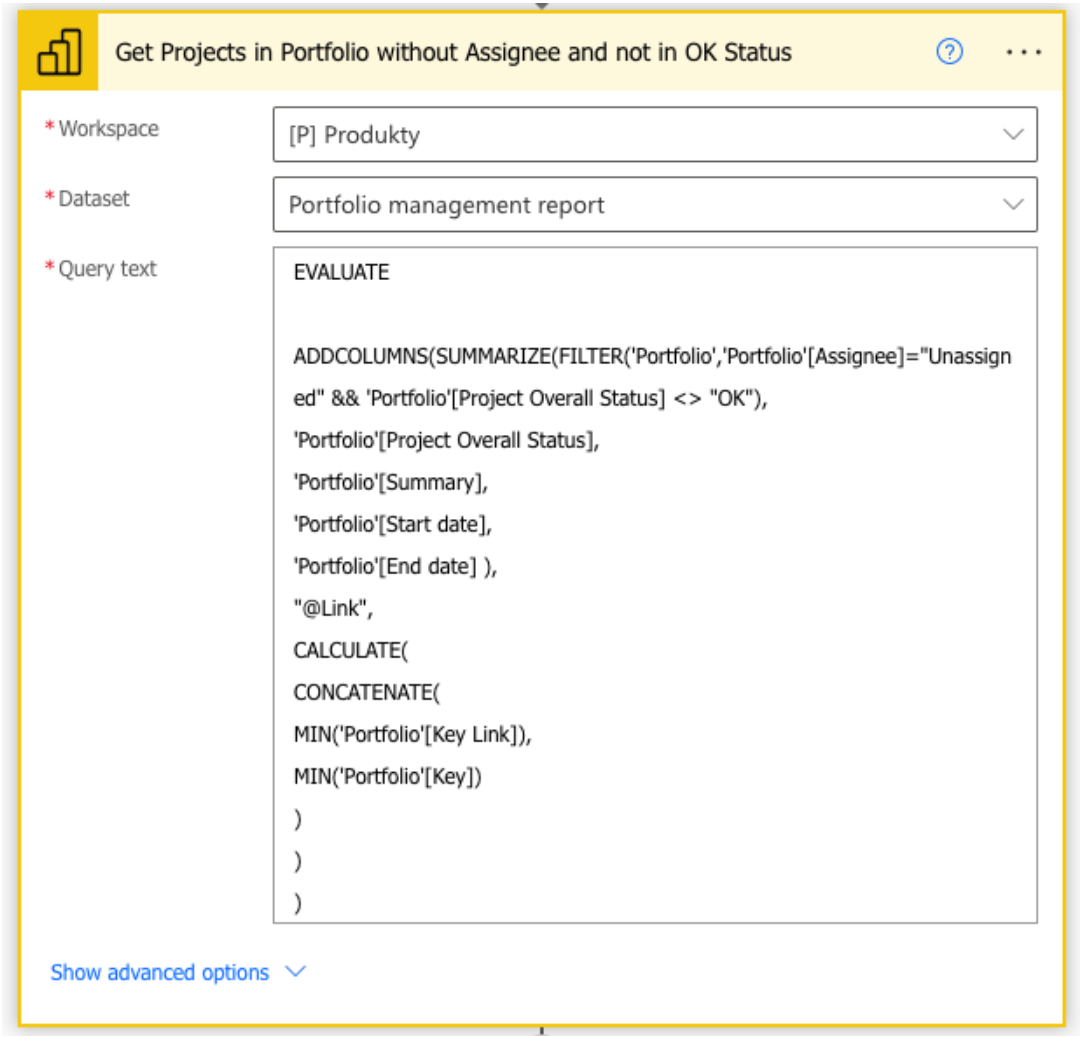
outputs(...)?['body/firstTableRows'] ← Returns all rows from extracted table

outputs(...)?['body/firstTableRows']?[0] ← Returns first row from extracted table

outputs(...)?['body/firstTableRows']?[0]?['[Value]'] ← Returns exact value from first row from extracted table

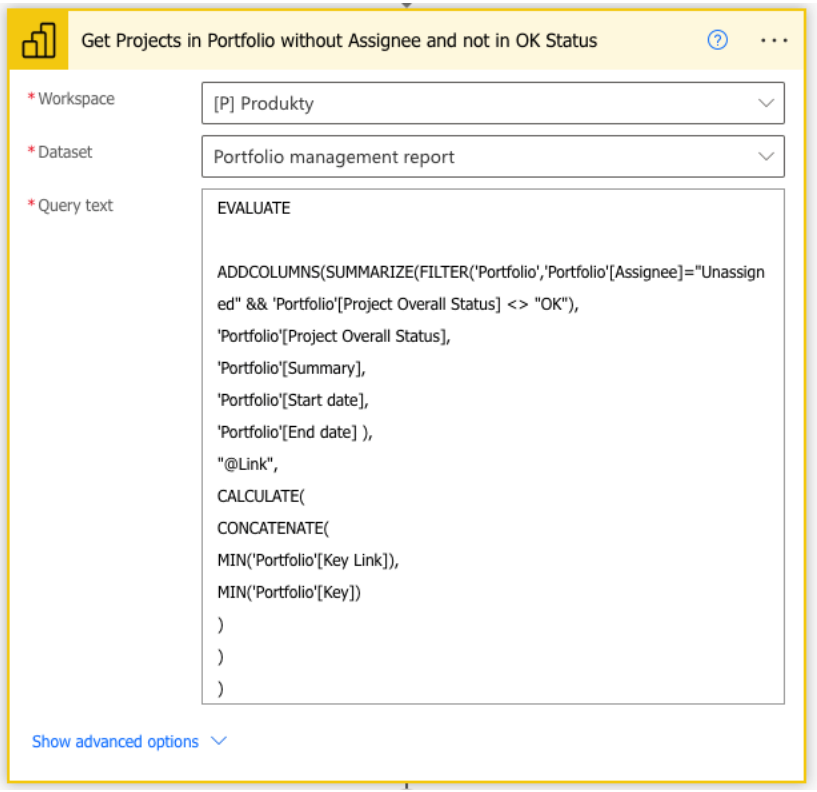
More complicated query sent to the model

This endpoint can also deal with a more complex query



Returned Resutls

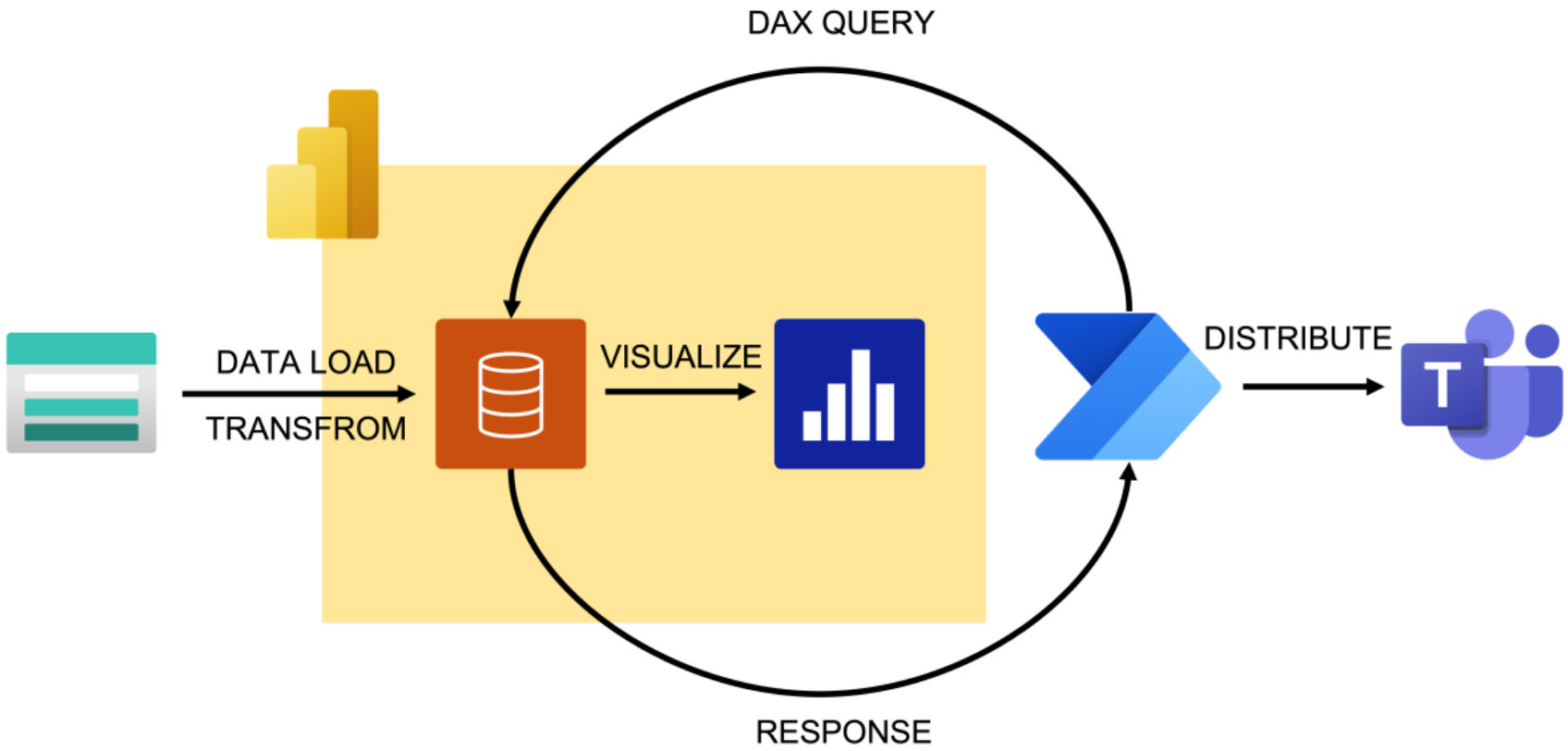
The query returned from the model is subject to certain rules




```
[
        {
        "Portfolio[Project Overall Status]": "N/A",
        "Portfolio[Summary]": "Application Of Machine Learning Prediction Algorithm",
        "Portfolio[Start date]": "2019-07-17T00:00:00",
        "[@Link]": "https://reportee.cz/cs/HHH-9"
        },
        {
        "Portfolio[Project Overall Status]": "ISSUE",
        "Portfolio[Summary]": "Application Of Azure Synapse",
        "Portfolio[Start date]": "2019-07-17T00:00:00",
        "[@Link]": "https://reportee.cz/cs/HHH-9"
        },
        {
        "Portfolio[Project Overall Status]": "RISK",
        "Portfolio[Summary]": "Mining Worker Safety Helmet",
        "Portfolio[Start date]": "2021-01-01T00:00:00",
        "Portfolio[End date]": "2022-02-28T00:00:00",
        "[@Link]": "https://reportee.cz/cs/HHH-134"
        }
]
```

Full story

If I expand the original story with what we just learned, then we're done!



DATASET AS A CALCULATOR

Have you seen a dragon?

Help him!

THANK YOU FOR THE ATTENTION

LINKEDIN

TWITTER

ŠTĚPÁN REŠL

Data Brothers

Microsoft Most Valuable Professional

JAK NA POWER BI

Power BI kafíčko

Data Meerkat