

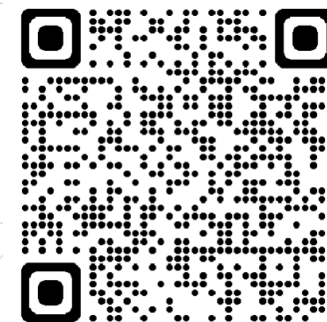
Release Hyde from Power BI API

„Make your data shine! Release them out!“

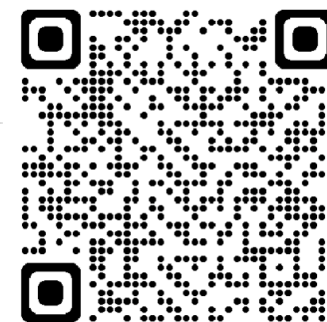
2023

SPEAKER

LINKEDIN



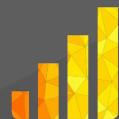
X (U+1D54F)



ŠTĚPÁN REŠL



Power BI
kafíčko



JAK NA
POWER BI



Microsoft®
Most Valuable
Professional



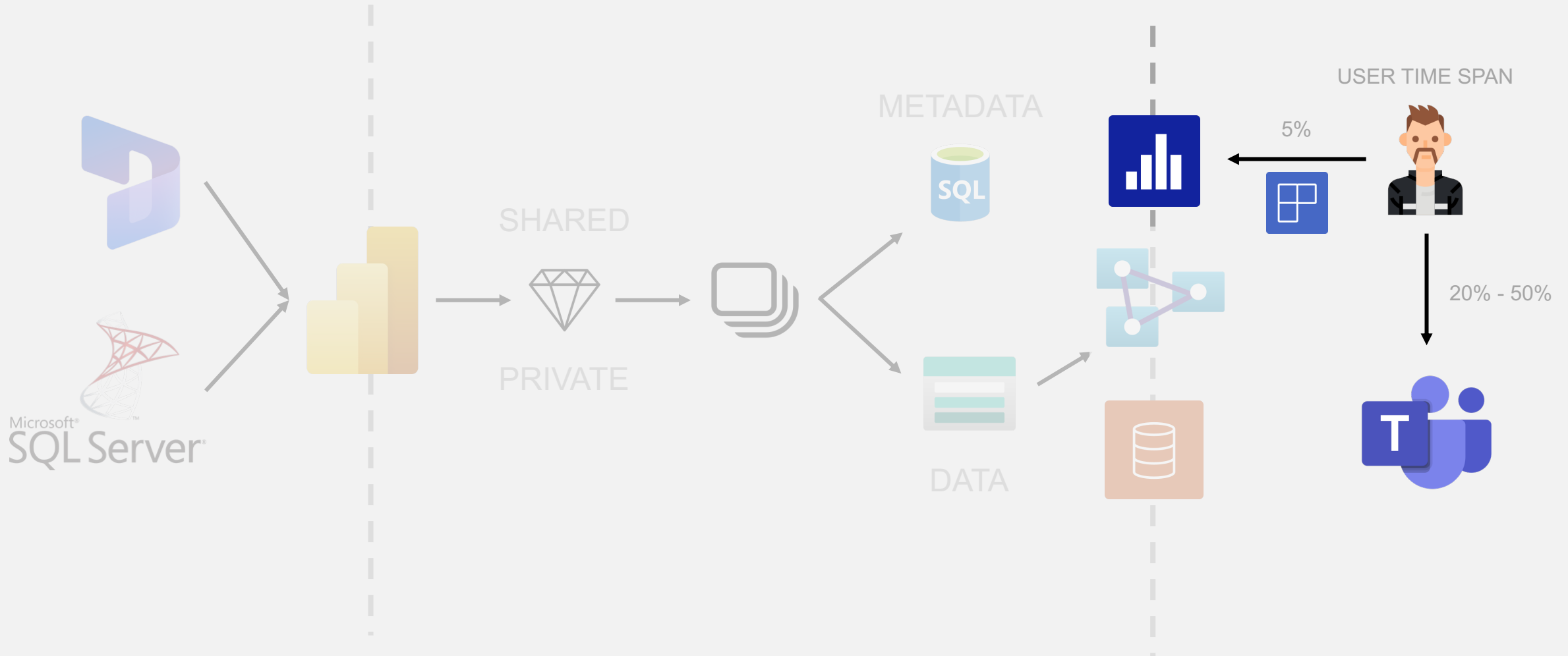
Data
Brothers



Data
Meerkat

LET'S TEAR THE SYSTEM APART

This is the only way to understand the context and how to use it



WHAT USER SEES

That's their perspective...

THIS IS A BLACK BOX

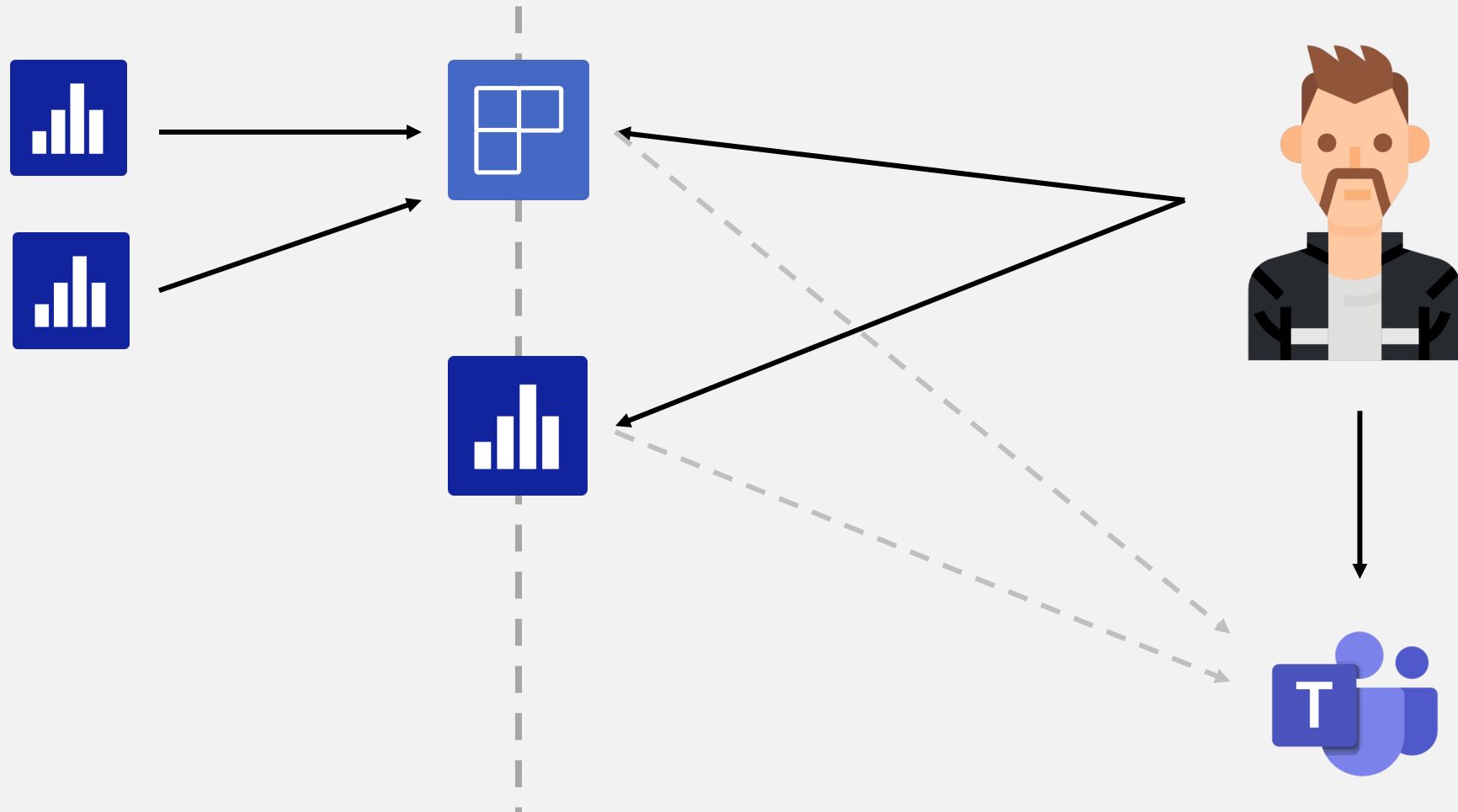


AND THIS IS REPORT

SMALLER MEANS LESS RELEVANT... FOR THEM

WHAT USER NEEDS TO SEE

Only possibilities that will give him the answers he's looking for. If possible, without context-switching



WHAT THE USER NEEDS

The one that will give him the answers he's looking for. If possible, without context-switching



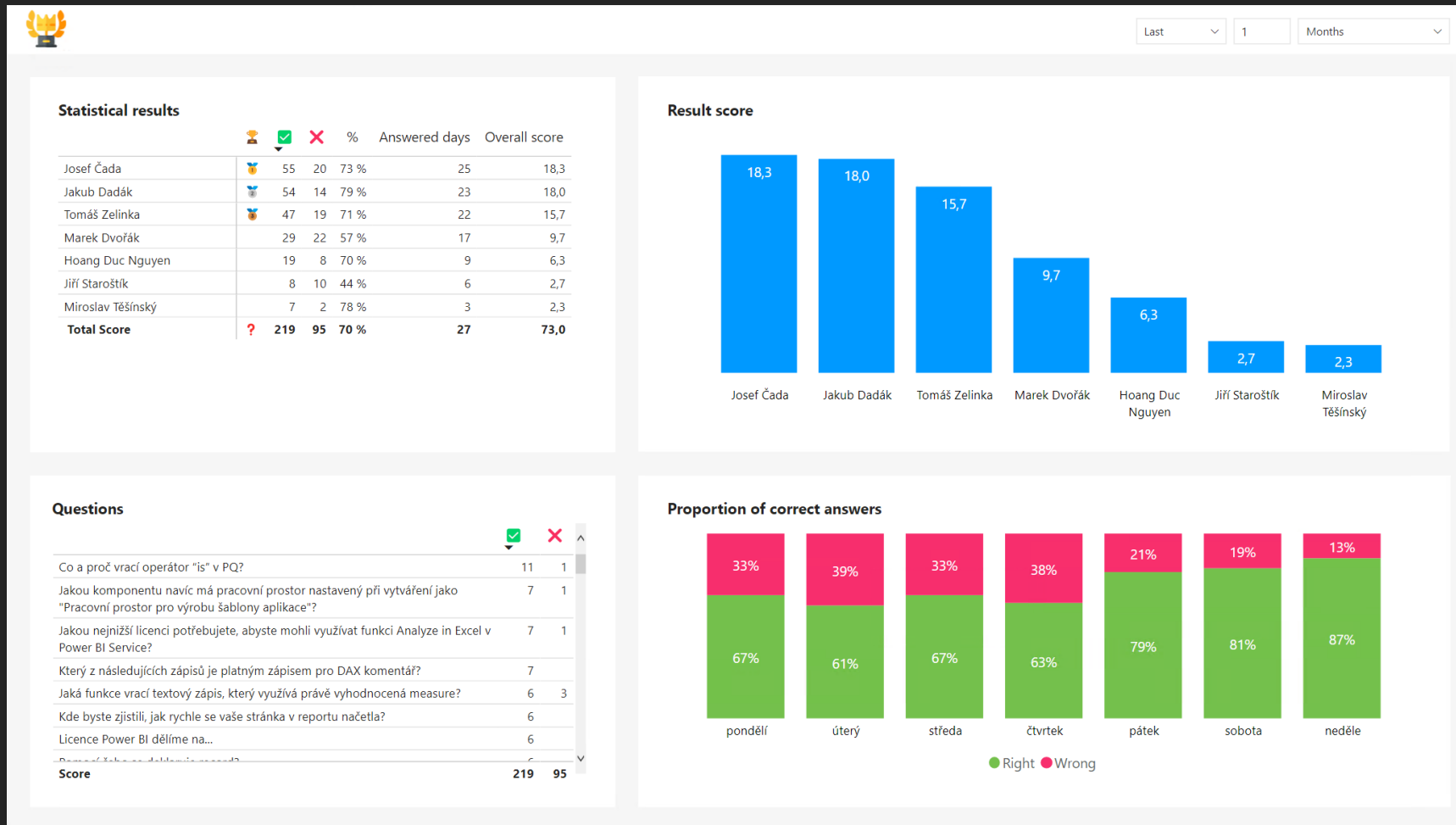
Information presented in a form that is quickly indigestible for the user becomes unpleasant for the user, and even if it has high benefits, it is very difficult to convince the user to use the means that communicate it.

YOU DON'T BELIEVE ME?



WHAT ABOUT SMALL TEST?

Would you come frequently to trashy reports like this to find out your position?





**OF COURSE NOT! SO I WOULD BE STILL
WITHOUT AN AUDIENCE**

ONE CARD CAN SOLVES IT!

Only if a detail is needed will the user go to the report.



Power Automate



POWER BI CARDS - WEEKLY RESULTS



Week - Year 3 - 2022

Rank 1 z 9

Score 3 z 7

Success Rate 42.9%

Let's go practise!

CARDS CAN HAVE MANY FORMS

And they are able to work with more complex objects as well

Štěpán Rešl via Power Automate 13:01

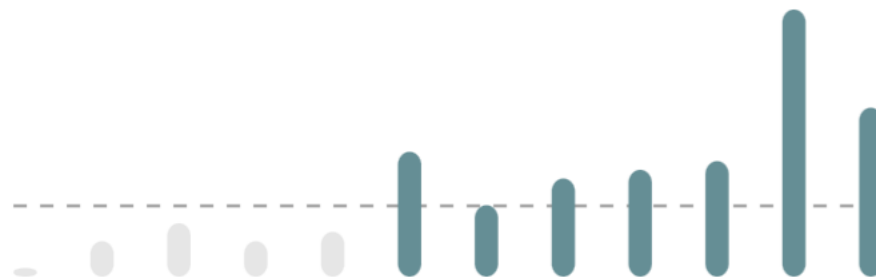


SVG icon

Total target is on 133% ~ missing -31.75

Period target is on **133%** ~ sold 127

7 of **12** months were successful



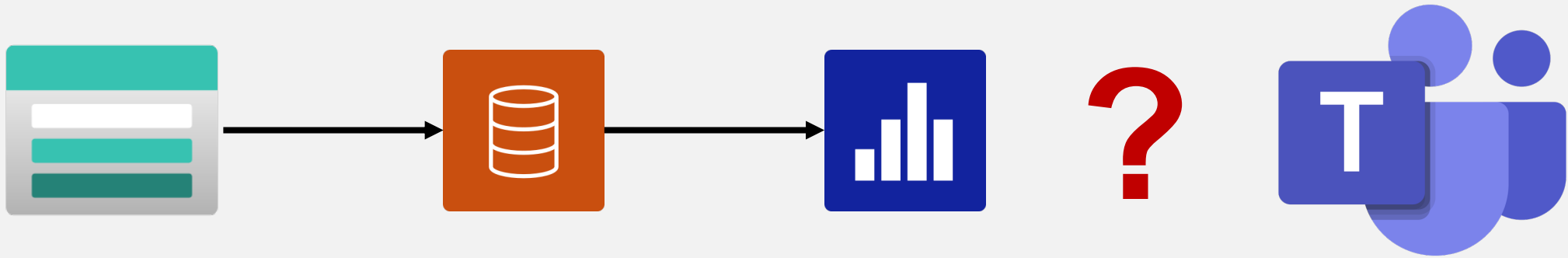
DO YOU GET IT?

Users need to be given what they need on a silver platter and not overburdened unless necessary.



STOP!!! CAN WE DO THAT???

Data are stored in dataset and that's it... or?





OF COURSE WE CAN!

**You just need to use REST API.
I will give you a hint...**

...EXECUTE QUERY ENDPOINT



EXECUTE QUERY ENDPOINT

BASIC CAPABILITIES

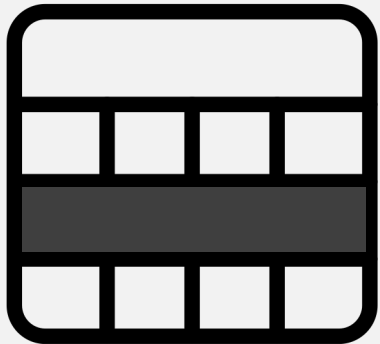
What can this endpoint actually do?



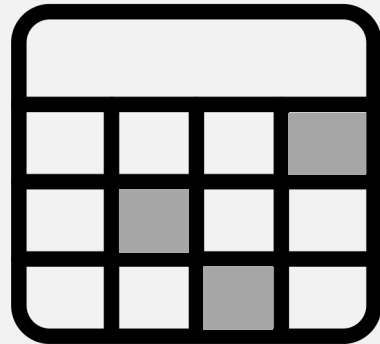
LIMITATIONS

Some rules must be followed; otherwise, it cannot be used.

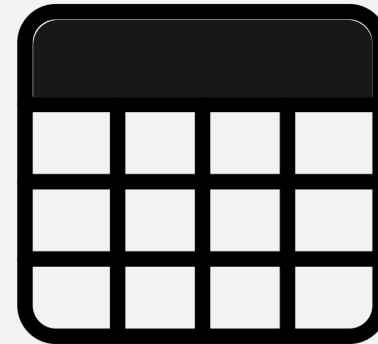
per call



100 000
Rows



1 000 000
Values



1
Query/Table
(max 15 MB)



120
Queries
per minute

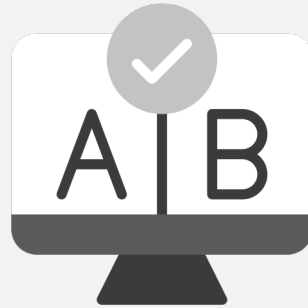
THEY CAN BE BYPASSED

IS IT JUST FOR DATA EXPORT?

NO! It's just one of the possible uses.



Export
Data



Testing
Datasets



Automate
Agenda By
Data

YOU ARE GETTING CLOSER!

BUT! FEW MORE STEPS...



DO YOU REMEMBER THIS???

I showed you a detail that will come in handy now!



Power Automate



POWER BI CARDS - WEEKLY RESULTS



Week - Year 3 - 2022

Rank 1 z 9

Score 3 z 7

Success Rate 42.9%

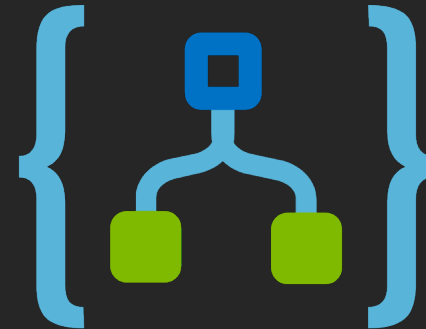
Let's go practise!

IT IS ALL WHAT YOU NEED!

Or anything else if you want to develop something more complex.



**Power
Automate**



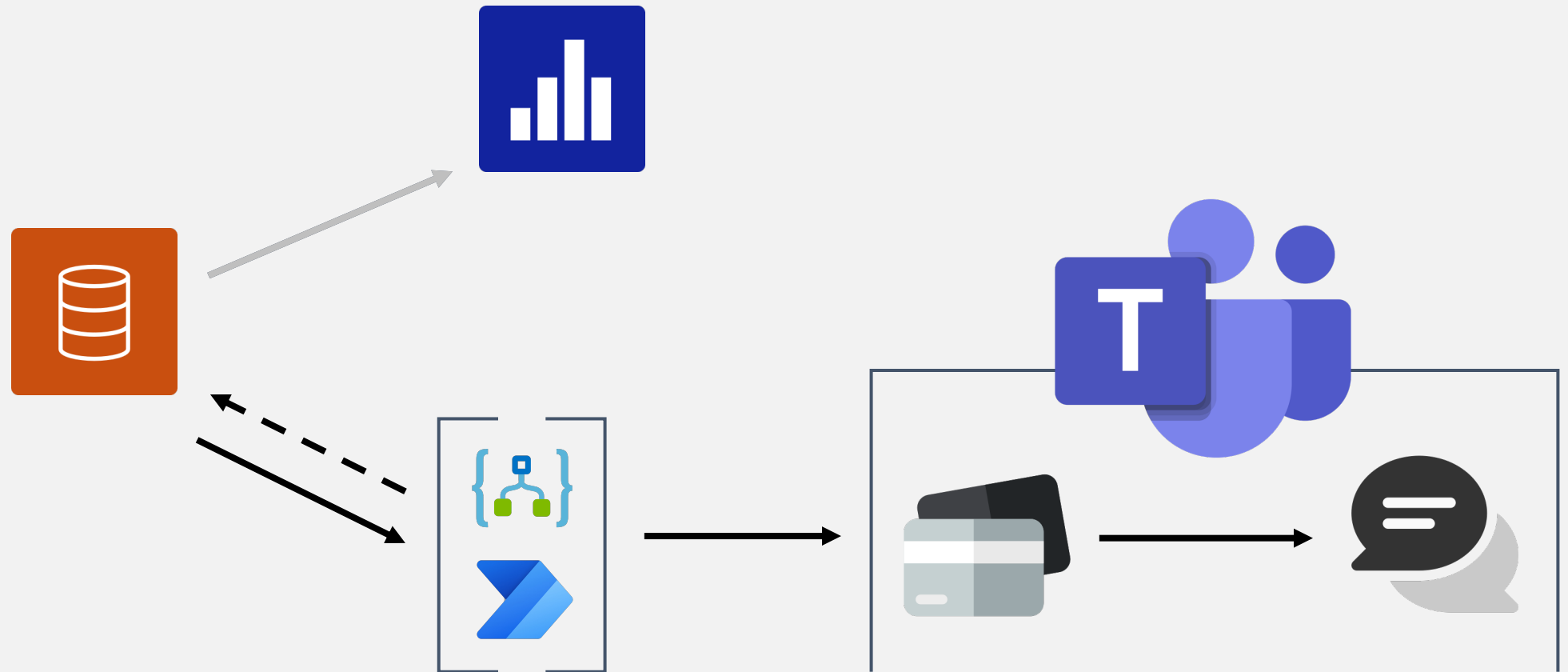
**Logic
Apps**



**SEND QUERY AGAINST
DATASETS**

THEY CAN REALLY HELP ME?

Yes! One more component that solves various problems. Even this.



Tenant Settings

What needs to be set up to use this API.

Dataset Execute Queries REST API

Enabled for the entire organization

Users in the organization can query datasets by using Data Analysis Expressions (DAX) through Power BI REST APIs.

☒ Enabled

Apply to:

☒ The entire organization

☐ Specific security groups

☐ Except specific security groups

Apply

Cancel

Allow service principals to use Power BI APIs

Enabled for the entire organization

Web apps registered in Azure Active Directory (Azure AD) will use an assigned service principal to access Power BI APIs without a signed in user. To allow an app to use service principal authentication its service principal must be included in an allowed security group. [Learn more](#)

☒ Enabled

Service principals can use APIs to access tenant-level features controlled by Power BI service admins and enabled for the entire organization or for security groups they're included in. You can control access of service principals by creating dedicated security groups for them and using these groups in any Power BI tenant level-settings. [Learn more](#)

Apply to:

☒ The entire organization

☐ Specific security groups (Recommended)

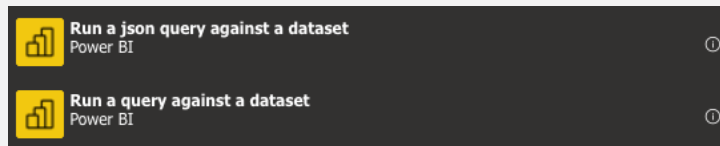
☐ Except specific security groups

Apply

Cancel

A better way to query this endpoint!

It is part of the licenses for tools of the O365 family

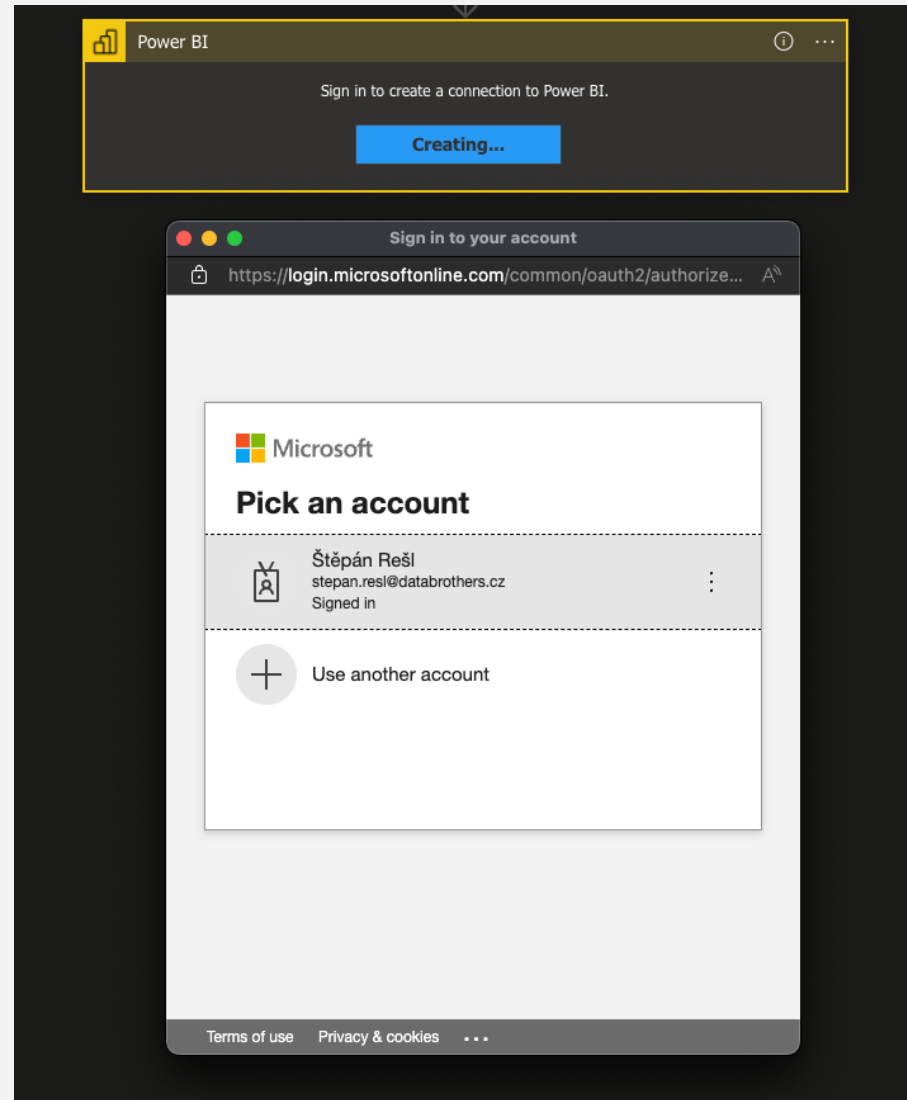


A dialog box titled 'Run a json query against a dataset' with a yellow icon. It contains three required fields: 'Workspace' (The unique identifier of the workspace.), 'Dataset' (The unique identifier of the dataset.), and 'Specification' (The json text of the query. Can be multiline text.). At the bottom, it shows 'Connected to stepan.resl@dataprothers.cz.' with a 'Change connection.' link.

A dialog box titled 'Run a query against a dataset' with a yellow icon. It contains five fields: 'Workspace' (The unique identifier of the workspace.), 'Dataset' (The unique identifier of the dataset.), 'Specification Query text' (The text of the query. Can be multiline text.), 'Specification Nulls included' (No), and 'Specification Impersonate user' (A user identity in UPN format to run the query as another user.). Each of the last three fields has a blue 'X' icon on the right. At the bottom, it shows 'Connected to stepan.resl@dataprothers.cz.' with a 'Change connection.' link.

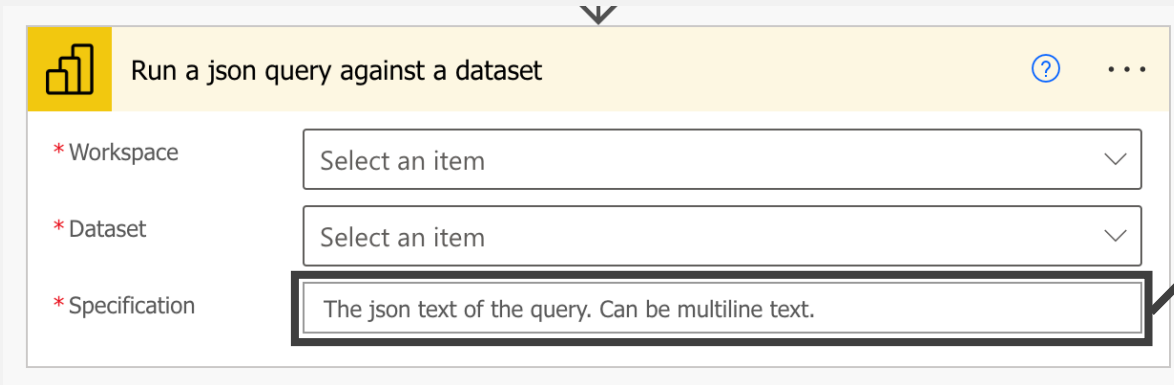
Simple login

A very straight forward way to log in as a user.



The first, more complicated option

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



The screenshot shows a web interface with a yellow header bar containing a bar chart icon, the text "Run a json query against a dataset", a help icon, and a menu icon. Below the header, there are three form fields:


- * Workspace**: A dropdown menu with the text "Select an item".
- * Dataset**: A dropdown menu with the text "Select an item".
- * Specification**: A text input field with the placeholder text "The json text of the query. Can be multiline text." This field is highlighted with a red border.

An arrow points from the "Specification" field to the JSON code block on the right.

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

Much simpler option

Just click on the options and complete the DAX query

 Run a query against a dataset ? ...

* Workspace

Select an item ▼

'Workspace' is required.

* Dataset

Select an item ▼

'Dataset' is required.

* Query text

The text of the query. Can be multiline text.

'Query text' is required.

Nulls included

Should null values be included in the results. Default is No. ✓

Impersonate user

A user identity in UPN format to run the query as another user.

[Hide advanced options](#) ^

```
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


 Run a query against a dataset  

* Workspace

Select an item 

'Workspace' is required.

* Dataset

Select an item 


'Dataset' is required.

* Query text

The text of the query. Can be multiline text.


'Query text' is required.

Nulls included

Should null values be included in the results. Default is No. 

Impersonate user

A user identity in UPN format to run the query as another user.

[Hide advanced options](#) 

USER IMPERSONATION?

HA HA HA HA HA!!!

Let me tell you a little secret...

It works only for users. Not for Service Principals!



THAT'S NOT ALL!!!

There are differences in the received results:



```
{  
  "Table[Person]": "HYDE IS HERE",  
  "Table[AlterEgo]": "JEKYLL SLEEPS",  
  "[EVENT]": "DATA-MOSHPIIT",  
  "[@PeopleAttending]": 10000  
}
```

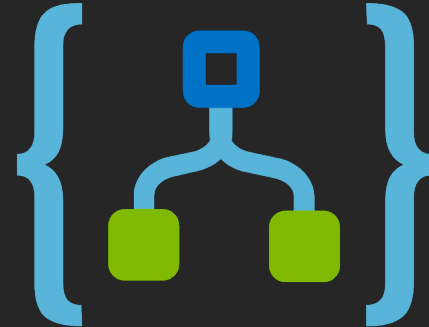
AND THERE IS ALSO DIFFERENCE

The primary difference is licensing and reliability...



Power
Automate

=/=



Logic
Apps

A typical issue with these tools

Every array needs to go to FOR-EACH loop

↺

Apply to each

⋮

* Select an output from previous steps

📊

First table rows

✕

{ }

Parse JSON

⚙️

fx

* Content

📊

Row

✕

* Schema

```
{
  "type": "object",
  "properties": {
    "[Value]": {
      "type": "integer"
    }
  }
}
```

Generate from sample

⏬

Add an action

Prevention of these unnecessary loops

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

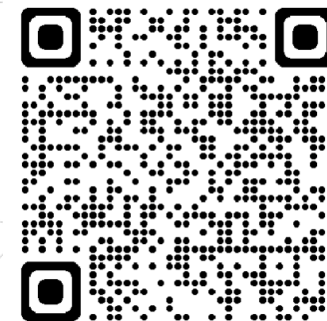
`outputs(...)?['body/firstTableRows']?[0]?['Value']` ← Returns exact value from first row from extracted table

IT'S DEMO TIME!

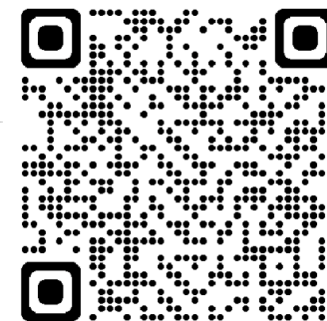


SPEAKER

LINKEDIN



X (U+1D54F)



ŠTĚPÁN REŠL



Power BI
kafíčko



JAK NA
POWER BI



Data
Brothers



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Meerkat

