

ABC's of the Power BI REST API

Jens Vestergaard

Power BI web pages for machines

Jens Vestergaard

A big thank you to our *amazing partners*

sogeti
Part of Capgemini

webdashboard

plainwater
de kracht van heldere data

iq̄bs

**KASPAROV
FINANCE & BI**

Kimura

S Sifters

creates.

valcon

Tabular Editor

**GET
RESPONSIVE**

**9Δ nine
altitudes**

**ONE
PORTAL**

ilionx
experts in eenvoud

DATAKINGDOM

**POWERBI WHITE LABEL
.COM**

**DE DATA
GENERATIE**

**THE
DATA
COOKS**

mountdata
guide to impact

sopra steria

Boom Insights
DATA-DRIVEN DECISION MAKING

dexs

dashData
power to your people

raedt-BI

easydash

MINOVA
Management Information Consulting

SIGNON
ICT TRAININGEN +

**ANOTHER
DIMENSION**
YOUR PORTAL TO DATA CLARITY

Fabri Code </>

**Azurro
Finance**

**Power BI
Connector** by DAVISTA

Quanto
collective analytics

Thanks

Jens Vestergaard

CatMan Solution A/S



MS BI since 2003

Retail

Logistic

Healthcare

Government

Azure Data

Power BI

C#

IoT

PowerShell

Fabric

 /in/vestergaardj

 @vestergaardj.bsky.app



midsona



VITAMIN WELL



FISKARS®

fröbsh
fruit: bottled

Orkla
Care

Orkla
Confectionery
& Snacks Sverige

Orkla
Foods Sverige

Nestlé
Good Food, Good Life

Lindt
MASTER SWISS CHOCOLATIER
SINCE 1845

Semper

Johnson & Johnson
Consumer Nordic



Carlsberg



TULIP
HARIBO

RETAIL PARTNER



L'ORÉAL

Stryhms

MetsäTissue

BKI
foods



DIAGEO

Carletti

HJ
HANS JUST

SCANDINAVIAN TOBACCO GROUP
DENMARK

Kellogg's

COLGATE-PALMOLIVE

FELDSCHLÖSCHEN
Part of the Carlsberg Group



JDE



Toms



Unilever

CONAXESS
TRADE



Pågen

Mondelez
International

CULT



GENERO
SOLUTIONS

Tjek





Agenda

- Disclaimer
- What is a REST API
- What is the Power BI REST API
- Demo
- Applications of the Power BI REST API
- Resources

Beyond the scope of this presentation (but you need to be on top of this)

- Management
 - Users (Microsoft Entra ID)
 - Groups (Microsoft Entra ID)
 - Applications (Microsoft Entra ID)
 - Modeling and Reports (Power BI)
- Code Repository
- Git / Azure DevOps
- Lakehouse(s)
- Fabric

What is a REST API? (in general)

What is a REST API?

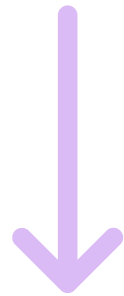
- Representational State Transfer Application Programming Interface
 - Client/Server Architecture
 - Statelessness
 - Cacheability
 - Layered System
 - Code on Demand
 - Uniform Interface



The Anatomy of a Request

- The Endpoint
 - <https://api.powerbi.com/v1.0/myorg/>
- The Method
 - GET, POST, PUT, PATCH, DELETE
- The Headers
 - Authentication, Content Type...
- The Data (or body)
 - Json

HTTP Methods - I



GET

Retrieve a representation of the member resource in the response body.

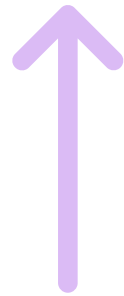


POST

Create a member resource in the member resource using the instructions in the request body.



HTTP Methods - II



PUT

Replace all the representations of the member resource, or *create* the member resource if it does not exist, with the representation in the request body.

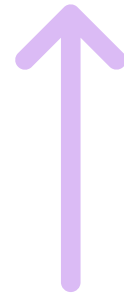


PATCH

Update all the representations of the member resource, or *may create* the member resource if it does not exist, using the instructions in the request body.



HTTP Methods - III



DELETE

Delete all the representations of the member resource.



NB

- Safe (GET)
 - applying it to a resource does not result in a state change of the resource (read-only semantics)
- Idempotent (GET, PUT & DELETE)
 - applying them multiple times to a resource result in the same state change of the resource as applying them once, though the response might differ.
- Cacheable (GET & POST)
 - responses to them are allowed to be stored for future reuse

REST API – Example - I

- **GET** <http://api.example.com/device-management/managed-devices>
 - //Get all devices
- **POST** <http://api.example.com/device-management/managed-devices>
 - //Create new Device
 - //Body contains details

REST API – Example - II

- **GET** <http://api.example.com/device-management/managed-devices/{id}>
 - //Get device for given Id
- **PUT** <http://api.example.com/device-management/managed-devices/{id}>
 - //Update device for given Id
 - //Body contains details to update
- **DELETE** <http://api.example.com/device-management/managed-devices/{id}>
 - //Delete device for given Id

REST API - Versioning

- `http://host/v1/users`
- `http://host/v1/privileges`
- `http://host/v2/users`
- `http://host/v2/privileges`

Authentication & Authorization

Credentials

- REST APIs often require specific credentials
- Power BI REST API does
 - Authorization: [https://docs.microsoft.com/en-us/previous-versions/azure/dn645542\(v=azure.100\)](https://docs.microsoft.com/en-us/previous-versions/azure/dn645542(v=azure.100))
 - Get Token (C#/Powershell/Python...): <https://docs.microsoft.com/en-us/power-bi/developer/get-azuread-access-token>
 - Register Application: <https://dev.powerbi.com/apps>

API Access

API access

Select the APIs and the level of access your app needs. You can change these settings later in the Azure portal.
[Learn more](#)

Select all

Read only APIs ⓘ	Read and write APIs ⓘ	Create APIs ⓘ
<input checked="" type="checkbox"/> Read all datasets	<input checked="" type="checkbox"/> Read and write all datasets	<input checked="" type="checkbox"/> Create content
<input checked="" type="checkbox"/> Read all dashboards	<input checked="" type="checkbox"/> Read and write all dashboards	
<input checked="" type="checkbox"/> Read all reports	<input checked="" type="checkbox"/> Read and write all reports	
<input checked="" type="checkbox"/> Read all groups	<input checked="" type="checkbox"/> Read and write all workspaces	
<input checked="" type="checkbox"/> Read all workspaces	<input checked="" type="checkbox"/> Read and write all capacities	
<input checked="" type="checkbox"/> Read all capacities		

By clicking Register, you agree to the [terms of use](#)



Register Application

- PowerBI
- <https://dev.powerbi.com/apps>

- GuyInACube
- <https://www.youtube.com/watch?v=DgiAUsdnVrM>

What is the **Power BI** REST API?

What is the **Power BI REST API**?

See also [Power BI Embedded Azure Resource Manager REST API](#)

Operation group	Description
<u>Admin</u>	Operations for working with administrative tasks.
<u>Available Features</u>	Operations that return available features.
<u>Capacities</u>	Operations for working with capacities.
<u>Dashboards</u>	Operations for working with dashboards
<u>Datasets</u>	Operations for working with datasets
<u>Embed Token</u>	Operations for working with embed tokens.
<u>Gateways</u>	Operations for working with gateways.
<u>Groups</u>	Operations for working with groups.
<u>Imports</u>	Operations for working with imports.
<u>Push Datasets</u>	Operations for working with push datasets.
<u>Reports</u>	Operations for working with reports.

Python FTW!

Demo- in a second 🕒

Available Features

- GET <https://api.powerbi.com/v1.0/myorg/availableFeatures>
- GET [https://api.powerbi.com/v1.0/myorg/availableFeatures\(featureName='{featureName}'\)](https://api.powerbi.com/v1.0/myorg/availableFeatures(featureName='{featureName}'))

Groups (workspaces)

- GET
 - <https://api.powerbi.com/v1.0/myorg/groups>

Reports

- GET
 - <https://api.powerbi.com/v1.0/myorg/reports>
- POST
 - <https://api.powerbi.com/v1.0/myorg/reports/{reportId}/UpdateReportContent>

Datasets

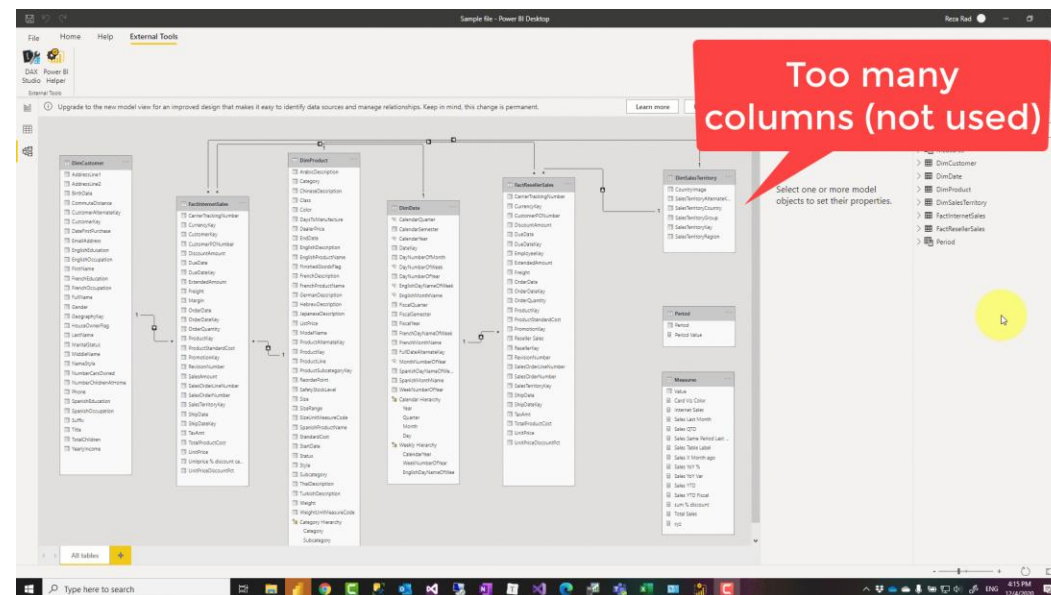
- GET
 - <https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}>
- POST
 - <https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/refreshes>

Applications of the Power BI REST API

PowerBI Helper, by Reza Rad

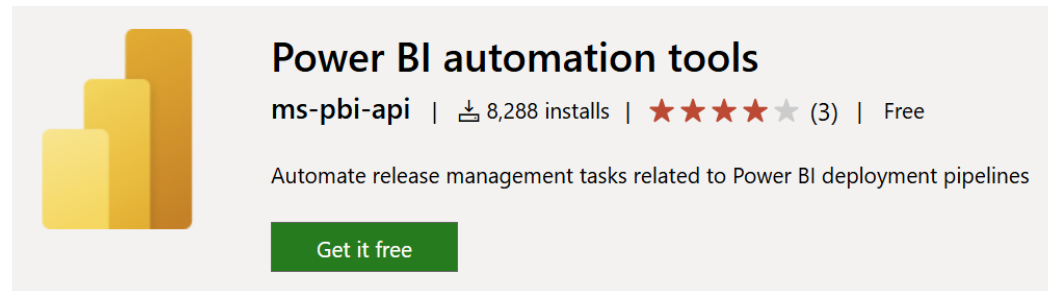
- **What is Power BI Helper?**


- This is a tool for Power BI developers and analysts and administrators, architects, and managers to create documentation of their work and have a better Power BI development experience.



Azure DevOps – Automatic Deployment

- Manage Power BI pipelines from start to finish, including creating a pipeline, assigning a workspace to any stage, deploying and deleting the pipeline.
- Assign users to a pipeline.
- Assign users to a workspace.
- Deploy all/selected items in a Power BI pipeline to the next stage.



 **Power BI automation tools**
ms-pbi-api | 📄 8,288 installs | ★★★★★ (3) | Free

Automate release management tasks related to Power BI deployment pipelines

[Get it free](#)

Interesting resources

- Reza Rad – PowerBI Helper
 - <http://radacad.com/power-bi-helper>
 - <http://radacad.com/copy-workspace-publish-to-multiple-workspaces-download-all-pbix-files-and-much-more-in-power-bi-helper-april-edition>
- Rui Romano – PowerBIPS
 - <https://github.com/DevScope/powerbi-powershell-modules/tree/master/Modules/PowerBIPS>

Thank you!

Session Feedback



Event Feedback



Q&A

