

ANALYTICS API POWER BI DATA CONNECTOR PA API User Guide – VERSION 1.3.0

February 2024

Document Version 3.0.0



Analytics Power BI Data Connector – Version 2.0.0

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1. Background

The Power BI Data Connector leverages the power of FactSet's Analytics API to integrate Analytics engine computations into Power BI. This allows users the flexibility and control to customize how they consume FactSet's Analytics using Power BI's data visualizations. Other data sources can also be integrated to further enhance the Power BI experience.

2. Prerequisites

To start using the Power BI Data Connector, the following prerequisite steps need to be completed.

2.1 Download Power BI

Download [Power BI Desktop](#).

Please use the latest version of Power BI, or at least the June 2022 version.

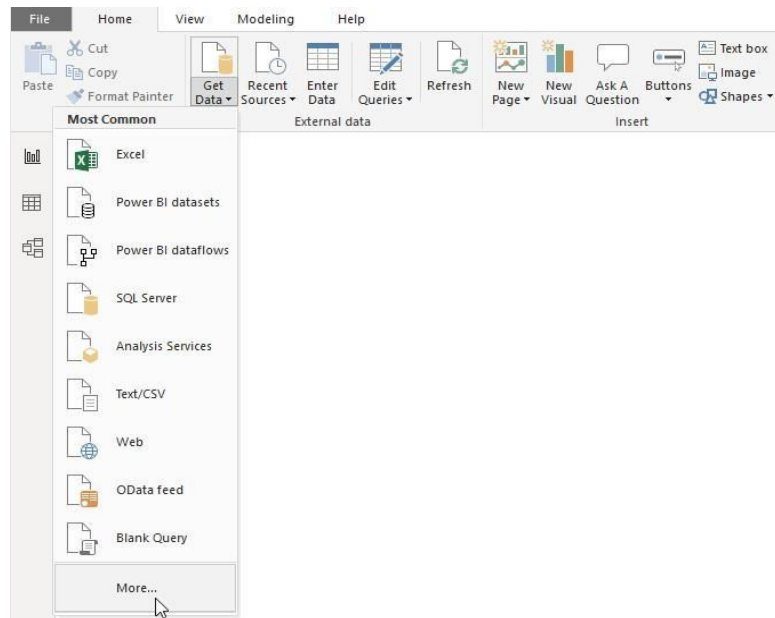
2.2 Subscribe to FactSet's products

- To access FactSet's Analytics, the appropriate subscription is required. Please refer to the [Client Assistance](#) page for more details.
- With the subscription in place, the next step is to generate the API key from the [Developer Portal](#). Please follow the steps outlined in the "FactSet API keys Authentication v1 documentation" under 'Authentication' in the 'Support' dropdown.

3. Steps

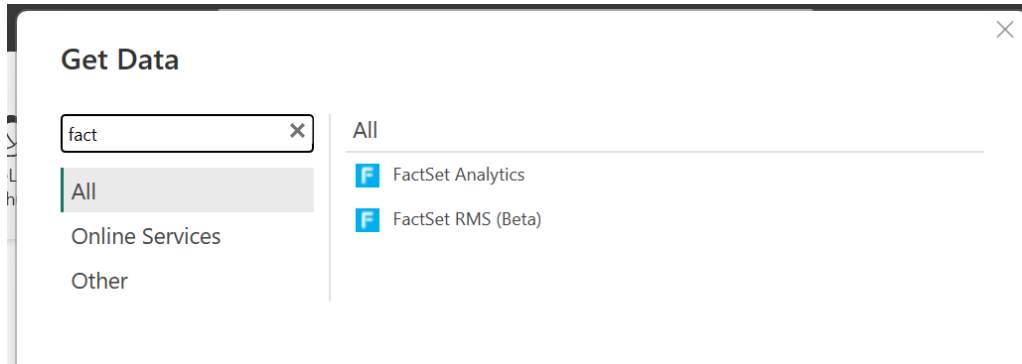
3.1 Open Power BI Desktop

On the Power BI Desktop home page, under section "Get Data" -> "More..."



3.2 Connect to Power BI Data Connector

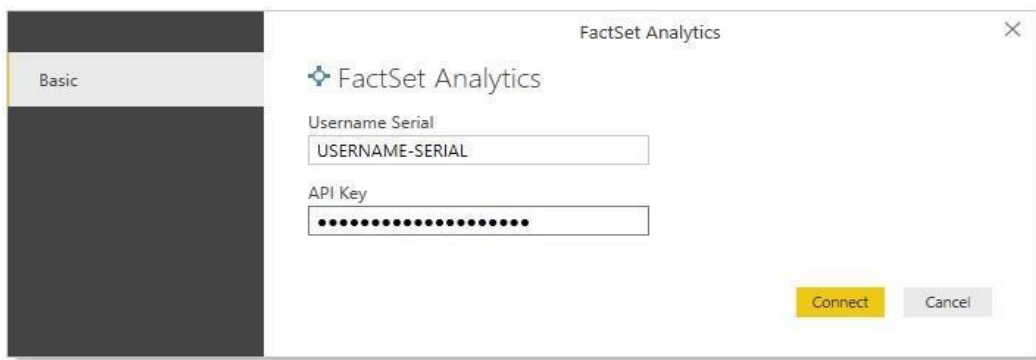
Search for 'FactSet' in the 'Get Data' pop-up and select the FactSet Analytics Connector from the right-hand list.



Authentication page:

- Using API key

You will be prompted to enter the Username, Serial, and the API key. Learn page of [FactSet Developer Portal](#)



- Using FactSet Login (OAuth) - You will be required to sign in to FactSet login for OAuth



- Click on "Sign in". You will be navigated to FactSet's sign in page where you need to click "Allow".

FactSet Analytics Power BI Connector is requesting:

▶ Analytics

Limit what **FactSet Analytics Power BI Connector** can do by unchecking any of the permissions above.

By clicking Allow, you allow **FactSet Analytics Power BI Connector** to use your information, including your FactSet.net username and serial, in accordance to their terms of service and privacy policies. You can remove this or any other app with access to your data from the [Grants Revocation](#) page.

Using API key

Using FactSet Login

FactSet Analytics ✕

FactSet Analytics

You are currently signed in.

Connector Navigator:

The Connector will open a Navigator window with a list of all functions provided for both v2 and v3 of the API. While we will continue to support v2 functions soon, support will be phased out once the next major version is released (v4). We encourage all users to start using v3 endpoints, as we have included major updates to enhance performance and functionality.

Please note that all functions may not be available depending on your available subscriptions, your account team can assist with requirements for access to additional products.

Navigator

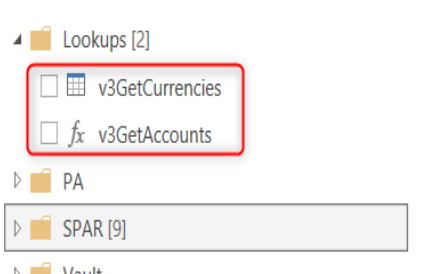
Display Options ▾ 🔍

- ▶ Engines v3 [4]
- ▶ Lookups
- ▶ PA [14]
 - v3PAFrequencies
 - v3PAGroups
 - v3ConvertPADatesToAbsoluteFormat
 - v3GetAllPACalculations
 - v3GetPAColumnById
 - v3GetPAColumns
 - v3GetPAColumnStatistics
 - v3GetPAComponentById
 - v3GetPAComponents
 - v3GetPADocuments
 - v3GetPAGroupingFrequencies
 - v3GetPAPricingSources
 - v3RunPACalculation
 - v3RunPAMultiPortCalculation
- ▶ SPAR
- ▶ Vault

No items selected for preview

3.3 Lookups

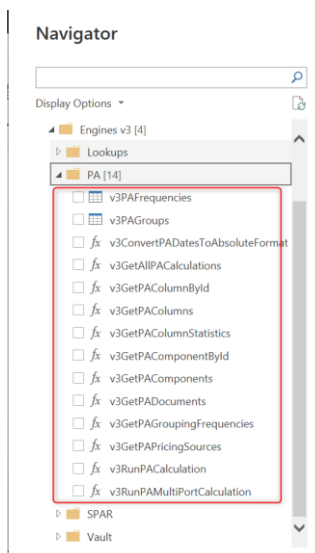
Use the v3Get* queries to look up parameters for your calculation by creating new queries. Note that the Lookups folder contains v3Get* queries for accounts and currencies that are common to PA, SPAR, and Vault APIs. A form will populate in the query window with required fields. Alternatively, FactSet Connector queries can be used in the Advanced Editor or by specifying arguments directly in the function bar.



No items selected for preview

3.4 PA functions

The Engines v3 > PA folder has support for 14 functions (February 2024 version)



No items selected for preview

Lookup queries

Function name	Syntax
v3ConvertPADatesToAbsoluteFormat	= v3ConvertPADatesToAbsoluteFormat("<startdate>", "<enddate>", "<component id>", "<account ID>")
v3GetAllPACalculations	= v3GetAllPACalculations(<pageNumber>)
v3GetPAColumnbyID	= v3GetPAColumnById ("<column id>")
v3GetPAColumns	= v3GetPAColumns(<name>, <category>, <directory>)
v3GetPAColumnStatistics	= v3GetPAColumnStatistics(null)
v3GetPAComponentById	= v3GetPAComponentById ("<Component ID">)

v3GetPAComponents	= v3GetPAComponents ("<Document Name>")
v3PADocuments	= v3GetPADocuments ("<Document Path>")
v3PAGroupingFrequencies	= v3GetPAGroupingFrequencies(null)
v3PAPricingSources	= v3GetPAPricingSources(<name>, <category>, <directory>)

3.5 Construct Calculation Request

The **v3RunPACalculation** and **v3RunPAMultiPortCalculation** functions can be used to run FactSet calculations. Each has required fields that can be hardcoded or populated from the lookup queries.

<p>v3RunPACalculation</p>	<pre>= v3RunPAPortCalculation (<Component Identifier>, <Account Identifier>, <Account Holdings Mode>, <Benchmark Identifier>, < Benchmark Holdings Mode>, <Start Date>, <End Date>, <Frequency>, <Currency ISO Code>, <Component Detail> <Cached Output Age in minutes>)</pre>
<p>v3RunPAMultiPortCalculation Require a list of objects containing portfolios to be run. These can be entered as arguments to the function in the Advanced Editor using the formats described.</p>	<pre>= v3RunPAMultiPortCalculation (<Component Identifier>, { [id = <Account Identifier >, holdingsmode = <Account Holdings Mode>] }, { [id = <Benchmark Identifier >, holdingsmode = < Benchmark Holdings Mode >]</pre>

```

    },
    <Start Date>,
    <End Date>,
    <Frequency>,
    <Currency ISO Code>,
    <Component Detail>
    <Cached Output Age in minutes>
)
    
```

3.5 Results Format

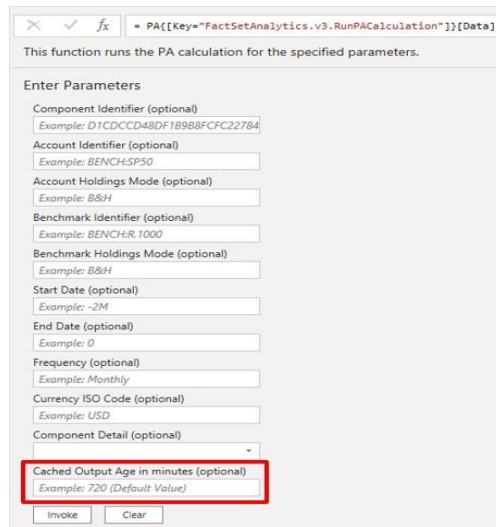
Results will be returned as a table with groupings and portfolio-level data flattened as seen below.

	totalID	group1	group2	29-JAN-2021 Port.+Weight	29-JAN-2021 Bench.+Weight	29-JAN-2021 Difference
1	Total			100	100	null
2	Commercial Services			0.884794926	null	0.884794926
3	Commercial Services	Advertising/Marketing Services		0.098165918	null	0.098165918
4	Commercial Services	Advertising/Marketing Services	Interpublic Group of Companies, Inc.	0.029951162	null	0.029951162
5	Commercial Services	Advertising/Marketing Services	Nielsen Holdings Plc	0.025432539	null	0.025432539
6	Commercial Services	Advertising/Marketing Services	Omnicom Group Inc	0.042782217	null	0.042782217
7	Commercial Services	Financial Publishing/Services		0.380518831	null	0.380518831
8	Commercial Services	Financial Publishing/Services	Moody's Corporation	0.137193636	null	0.137193636
9	Commercial Services	Financial Publishing/Services	S&P Global, Inc.	0.243325195	null	0.243325195
10	Commercial Services	Miscellaneous Commercial Services		0.381564986	null	0.381564986
11	Commercial Services	Miscellaneous Commercial Services	Broadridge Financial Solutions, Inc.	0.052123804	null	0.052123804
12	Commercial Services	Miscellaneous Commercial Services	Copart, Inc.	0.07275752	null	0.07275752
13	Commercial Services	Miscellaneous Commercial Services	Equifax Inc.	0.068732827	null	0.068732827
14	Commercial Services	Miscellaneous Commercial Services	Etsy, Inc.	0.080088016	null	0.080088016
15	Commercial Services	Miscellaneous Commercial Services	FLEETCOR Technologies, Inc.	0.064590657	null	0.064590657
16	Commercial Services	Miscellaneous Commercial Services	Gartner, Inc.	0.043272162	null	0.043272162
17	Commercial Services	Personnel Services		0.024545192	null	0.024545192

Multi-Index headers, or headers that contain multiple column names separated by line breaks, are delimited by this character '|' (ex; the "29-JAN-2021 | Port.+Weight" column)

3.6 Caching Functionality

The top benefit of the v3 connector is caching. This enhancement allows query-level configurable caching via the Cached Output Age parameter:



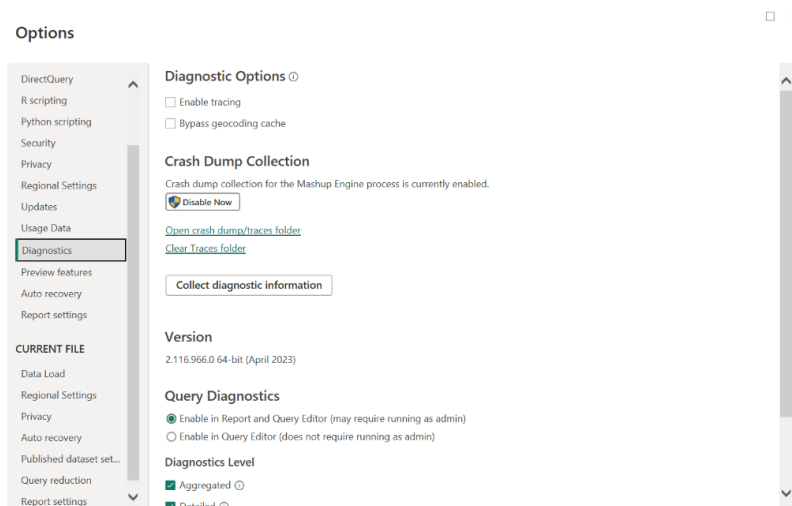
This way, clients can specify the caching time (in minutes) at the query-level. By default, this parameter will be set to 720 minutes (12 hours), like the default caching period in v3 of the Engines APIs. However, users can specify “0” to trigger fresh calculations. Please note that this feature is only available with the June 2022 (or latest) version of Power BI.

3.7 Best Practices

- Enable Tracing on Power BI Desktop. These trace logs will be helpful for the support team to look more at any potential issue.

Please follow the steps to enable tracing in Power BI, for more details take a look [here](#):

1. Click on file on the homepage in Power BI Desktop
2. Next navigate to “Options and settings” -> “Options”
3. Under “Diagnostics” select “Enable tracing”



- Provide the failing power queries or the equivalent API request bodies for investigation, while filing the issue tracker using the Analytics APIs - Support category and sub-category as **BI Tools (Tableau, Power BI, Qlik)**
- Always install/update to the latest version of the Power BI