# ANALYTICS POWER BI DATA CONNECTOR -VERSION 0.2 User Guide December 2019

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## Analytics Power BI Data Connector - Version 0.2

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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.

#### 2.2 Subscribe to FactSet's products

- To access FactSet's Analytics, the appropriate subscription is required. Please refer to the <u>Client Assistance</u> page for more details.
- With the subscription in place, the next step is to generate the API key from the <u>Developer Portal</u>. 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 (Beta) Connector from the right-hand list.

Get Data		×
FactSet X	All	
All	F FactSet Analytics (Beta)	
Online Services		
Cartified Connectors	Connect	
Certified Connectors	Connect Cancel	

**Authentication page**: You will be prompted to enter the Username, Serial and the API key. Please see the <u>FactSet</u> <u>Developer Portal</u> for additional instructions on setting up an API Key.

	FactSet Analytics	×
Basic	FactSet Analytics	
	Username Serial USERNAME-SERIAL API Key	
	Connect C	ancel

**Connector Navigator**: The Connector will open Navigator with a list of all functions provided. 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 🔹	
FactSet Analytics [1]	
▲ 🗾 v2 [4]	
🔺 🛑 PA [12]	
PACurrencies	
PAFrequencies	
PAGroups	
$\Box f_x$ ConvertPADatesToAbsoluteFormat	
$\Box f_x$ GetPAColumnByld	
$\Box f_X$ GetPAColumns	
$\Box f_X$ GetPAColumnStatistics	No items selected for preview
$\Box f_X$ GetPAComponentById	
$\Box f_X$ GetPAComponents	
$\Box f_X$ GetPADocuments	
$\Box f_X$ RunPACalculation	
$\Box f_x$ RunPAMultiPortCalculation	
D 📕 SPAR	
⊳ 📕 Vault	
$\Box f_X$ GetAccounts	
	Load Edit Cancel

#### 3.3 Use Lookups

Use the Get\* Queries to look up parameters for your calculation by creating new queries. 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.

Queries [1]	<pre></pre>
$f_{\mathbf{x}}$ GetAccounts	Get accounts and sub-directories in a directory
	This function returns list of ACCT and ACTM files and sub-directories in a given directory.
	Enter Parameter
	path (optional) Example: Client:Foo/Bar
	Invoke Clear
	function ( <i>optional</i> path as nullable text) as text

#### 3.4 Construct Calculation Request

The *RunPACalculation*, *RunVaultCalculation*, and *RunSPARCalculation* functions can be used to run FactSet calculations. Each has required fields that can be hardcoded or populated from the aforementioned lookup queries.

*RunPAMultiPortCalculation* and *RunSPARMultiPortCalculation* 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 below:

	<frequency>,</frequency>
	<currencyiso>)</currencyiso>
SPAR	<pre>= FactSetAnalytics.v2. RunSPARMultiPortCalculation (</pre>
	<componentid>,</componentid>
	{
	[id = <portfolioid>, returntype = <returntype>, prefix = <prefix>]</prefix></returntype></portfolioid>
	},
	<pre>[id = <benchid>, returntype = <returntype>, prefix = <prefix>],</prefix></returntype></benchid></pre>
	<startdate>,</startdate>
	<enddate>,</enddate>
	<frequency>)</frequency>

#### 3.5 Results Format

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

$\times$	X √ f <sub>x</sub> = RunPACalculation("125872E5D836683A3EB09EF8C73D3E1BE854BE4EF6173BAB4BFBB5752788F4E9", "BENCH:SP50", null, "BENCH:R.1000", null, null, null, null, null)					
	ABC 123 total0	ABC 123 group1	ABC 123 group2	ABC Port.+Weight	ABC Bench.+Weight	ABC 123 Difference
1	Total	null	null	100	100	null
2	Commercial Services	null	null	1.220336586	1.47243696	-0.252100373
3	Commercial Services	Advertising/Marketing Services	null	0.126032365	0.145132381	-0.019100016
4	Commercial Services	Advertising/Marketing Services	Interpublic Group of Companies, Inc.	0.033117556	0.029614938	0.003502618
5	Commercial Services	Advertising/Marketing Services	Nielsen Holdings Plc	0.026775037	0.02403486	0.002740177
6	Commercial Services	Advertising/Marketing Services	Omnicom Group Inc	0.066139772	0.058899845	0.007239927
7	Commercial Services	Advertising/Marketing Services	Trade Desk, Inc. Class A	null	0.032582737	-0.032582737
8	Commercial Services	Financial Publishing/Services	null	0.595603321	0.577801782	0.017801539
9	Commercial Services	Financial Publishing/Services	FactSet Research Systems Inc.	null	0.034314128	-0.034314128
10	Commercial Services	Financial Publishing/Services	IHS Markit Ltd.	0.112435299	0.099733654	0.012701644
11	Commercial Services	Financial Publishing/Services	Moody's Corporation	0.142683792	0.129563945	0.013119847
12	Commercial Services	Financial Publishing/Services	Morningstar, Inc.	null	0.010470509	-0.010470509
13	Commercial Services	Financial Publishing/Services	MSCI Inc. Class A	0.084828221	0.074033089	0.010795132
14	Commercial Services	Financial Publishing/Services	S&P Global, Inc.	0.25565601	0.229686457	0.025969553
15	Commercial Services	Miscellaneous Commercial Services	null	0.472501023	0.707174957	-0.234673934
16	Commercial Services	Miscellaneous Commercial Services	Adaptive Biotechnologies Corp.	null	0.001550644	-0.001550644
17	Commercial Services	Miscellaneous Commercial Services	ADT, Inc.	null	0.003474039	-0.003474039
18	Commercial Services	Miscellaneous Commercial Services	Booz Allen Hamilton Holding Corporation Class A	null	0.034246359	-0.034246359
19	Commercial Services	Miscellaneous Commercial Services	Bright Horizons Family Solutions, Inc.	null	0.03025512	-0.03025512
20	Commercial Services	Miscellaneous Commercial Services	Broadridge Financial Solutions, Inc.	0.053801983	0.048098208	0.005703775
21	Commercial Services	Miscellaneous Commercial Services	CDK Global Inc	null	0.022701522	-0.022701522
22	Commercial Services	Miscellaneous Commercial Services	Ceridian HCM Holding, Inc.	null	0.019495747	-0.019495747