

FORVIS



Solver Power BI Series Episode 1: Getting Data

January 17, 2023

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Presenter



Charles Allen
Senior Managing Consultant

713.499.4629
charles.allen@forvis.com

Objectives

- Explain what a star schema is
- Describe how to perform data transformation in Power Query
- Describe how to import data from multiple types of data sources

AGENDA

9:00 am ● Enabling Solver for Power BI

9:10 am ● Importing Solver Data

9:25 am ● Importing Other Data

9:40 am ● Modeling the Data

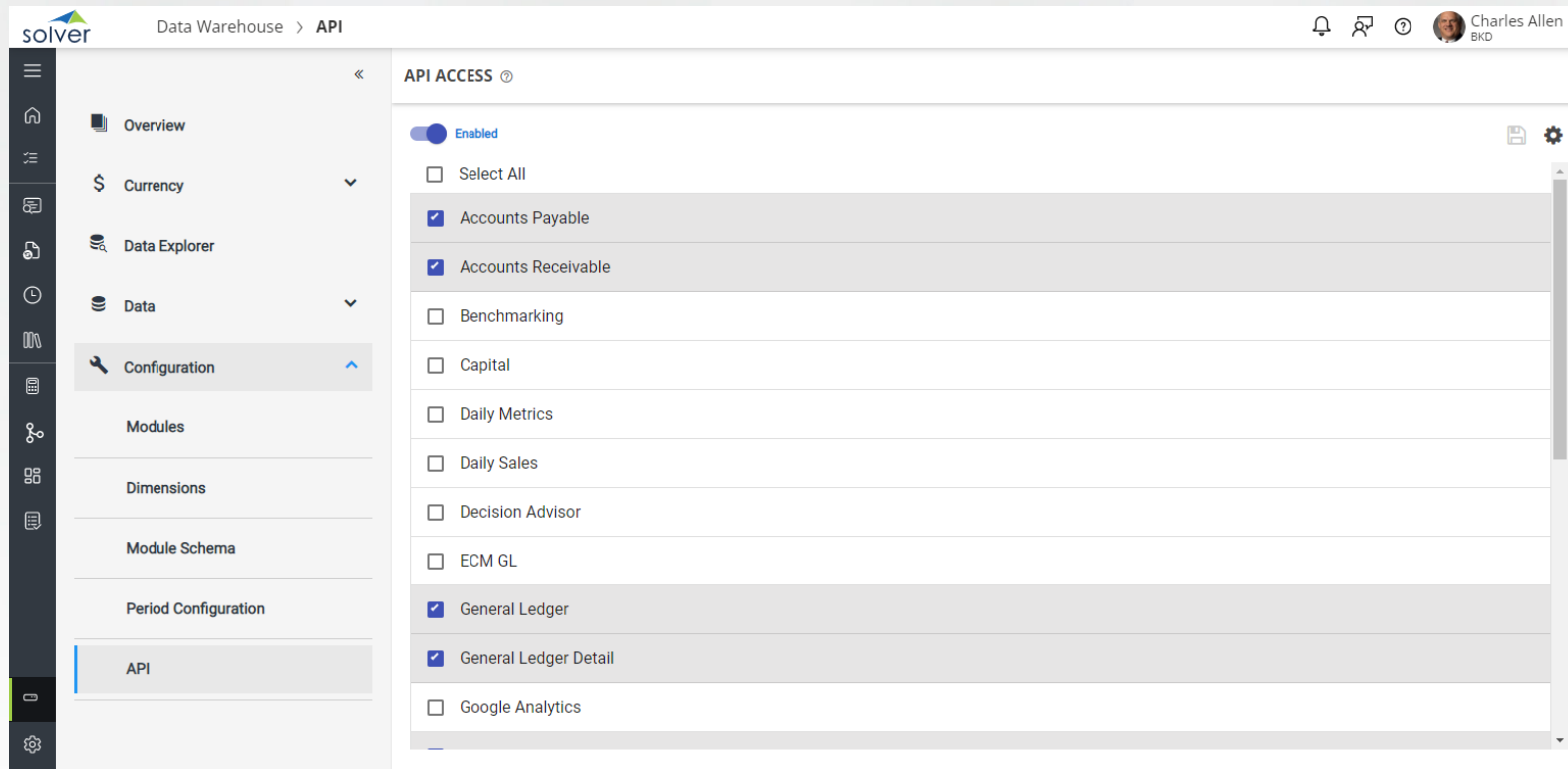
Enabling Solver for Power BI

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Enabling Solver for Power BI

- Obtain a Power BI Connector license from your Solver partner
- Use the API window to select modules for Power BI



The screenshot displays the Solver API configuration interface. The top navigation bar shows "Data Warehouse > API" and the user profile "Charles Allen BKD". The left sidebar contains a menu with "Configuration" selected, and sub-items for "Modules", "Dimensions", "Module Schema", and "Period Configuration". The main content area is titled "API ACCESS" and features a toggle switch set to "Enabled". Below this, a list of modules is shown with checkboxes for selection:

Module	Selected
Select All	<input type="checkbox"/>
Accounts Payable	<input checked="" type="checkbox"/>
Accounts Receivable	<input checked="" type="checkbox"/>
Benchmarking	<input type="checkbox"/>
Capital	<input type="checkbox"/>
Daily Metrics	<input type="checkbox"/>
Daily Sales	<input type="checkbox"/>
Decision Advisor	<input type="checkbox"/>
ECM GL	<input type="checkbox"/>
General Ledger	<input checked="" type="checkbox"/>
General Ledger Detail	<input checked="" type="checkbox"/>
Google Analytics	<input type="checkbox"/>

Enabling Solver for Power BI

- Some terms
 - Fact Table (Equivalent to module in Solver)
 - + Used to store the activity that is the basis for reporting
 - + Examples: General Ledger, Sales Documents, Payroll Checks
 - Dimensions
 - + Store information about the objects by which you want to report
 - + Examples
 - > Accounts – Account Number, Description, Type, Category
 - > Customer – Cust Number, Name, Type, Territory, Address

Enabling Solver for Power BI

- Selecting a module enables the dimensions
- Module – General Ledger
- Dimensions
 - Account
 - Period
 - Department
 - Entity
 - Currency
 - Scenario

Module & Dimension

- General Ledger
 - Account
 - Category
 - Corresponding Entity
 - Currency
 - Department
 - Entity
 - Interco Parent
 - Line Details
 - Minority Parent
 - Period
 - Scenario
 - Source System

General Ledger = Fact Table

Account = Dimension

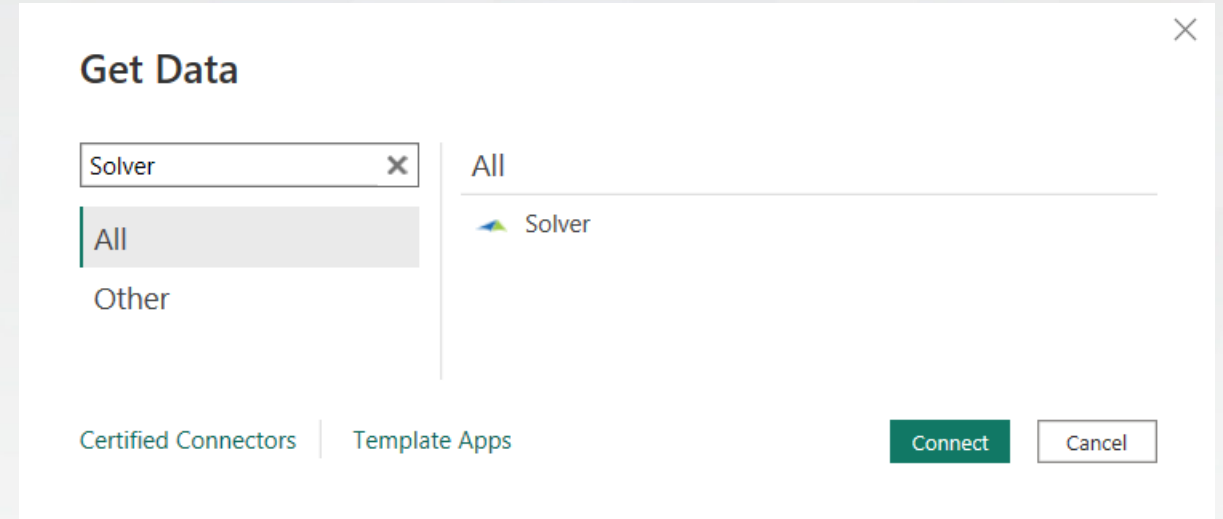
Importing Solver Data

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Importing Solver Data

- Launch Power BI
- Select Get Data
- Select More
- Enter Solver in the search field
- Select Solver on the right
- Select Connect



Importing Solver Data

- In Power BI, you will be prompted for the API URL from the Solver Portal
- Go to the API page in Solver & select the gear icon
- Select the URL (Just click on it)

API ACCESS ⓘ

Enabled

Select All

Accounts Payable

Accounts Receivable

URL <https://demo.app.solverglobal.com/api/dw/externalApi/>

Access Token U0i5L2tWa0RvbVBMbIBabC9mYXlpVWVrS0i0QVRws1RUU1V0YzlrQXIVU0VUV2Nze...

Importing Solver Data

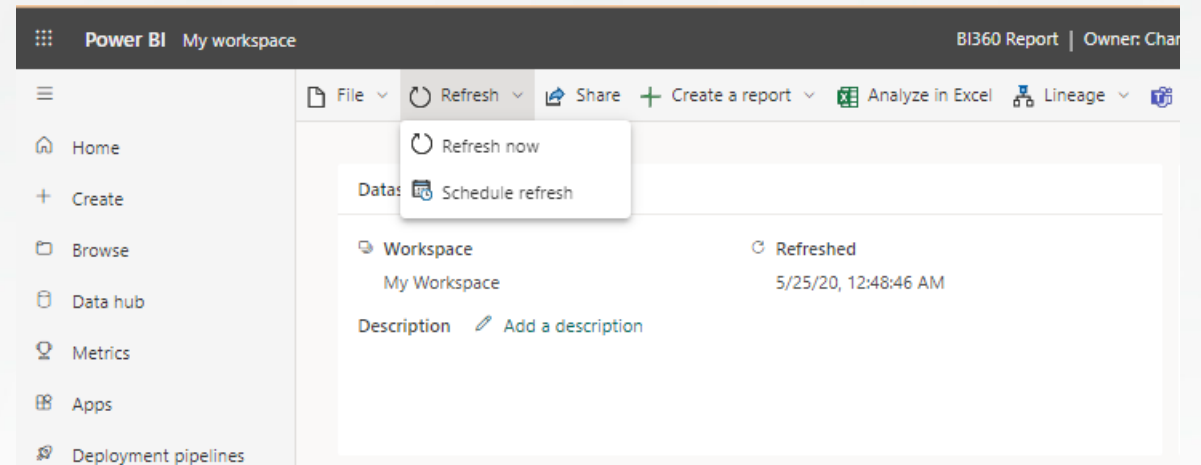
- Go back to Power BI & press <Ctrl>+<V> to paste the URL
- If you have never connected, you will be prompted for the security string
- Select the Access Token on the Solver API Configuration page
- Go back to Power BI & press <Ctrl>+<V> to paste the token

Importing Solver Data

- Select the dimensions & module for the report
- Select Transform if necessary to ensure field types are valid. For example, a field like Entry No, while numeric, won't be summed

Importing Solver Data

- How often is data refreshed?
 - Power BI Pro – Up to eight times
 - Power BI Premium – Up to 48 times
- How is the data refreshed?
 - Manually or Scheduled in powerbi.com



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Importing Other Data

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Importing Other Data

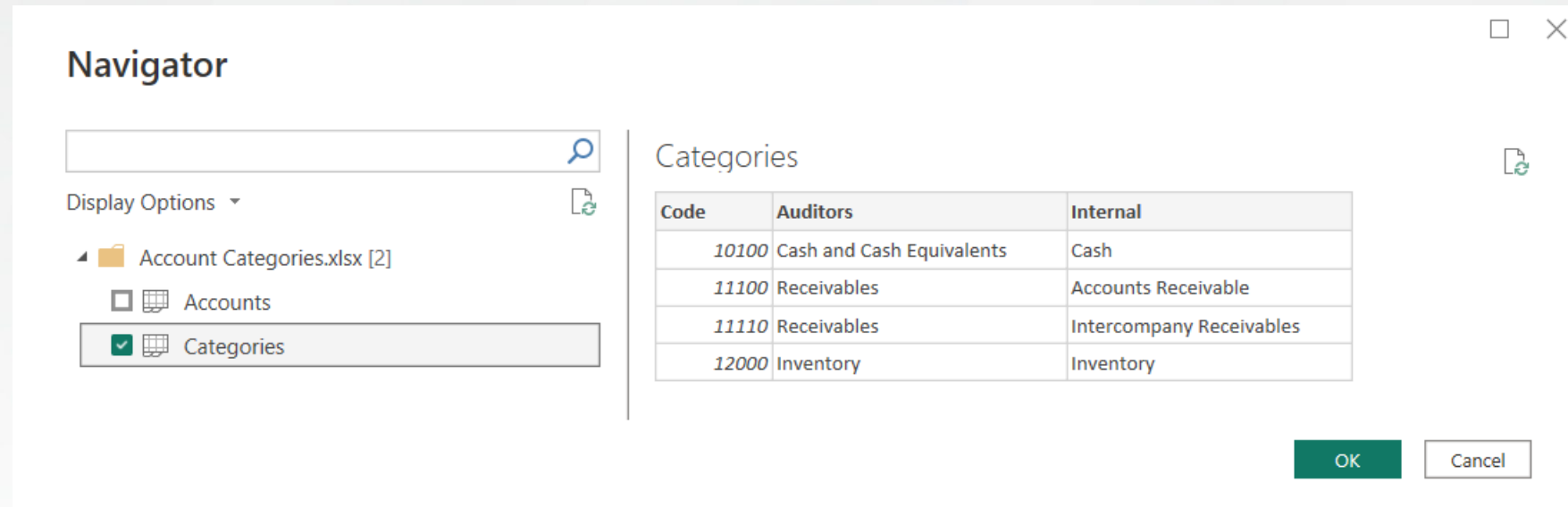
- Data kept in other data sources can be mixed with Solver data
- The data should have a key field to enable it to be joined
- Examples
 - Excel file with additional report categories
 - SQL database table with additional customer data

Importing Other Data

- Select Get Data
- Select the type of data
- Depending on the data source, you may need to provide login information
- You'll be presented with a list of data sources

Importing Other Data

- Select the data to import
- Select Transform Data
- Verify the data types



The screenshot shows a software window titled "Navigator" with a search bar and a "Display Options" dropdown. Under "Display Options", there is a folder icon for "Account Categories.xlsx [2]" which is expanded to show two sub-items: "Accounts" and "Categories". The "Categories" item is selected, indicated by a green checkmark. To the right of the Navigator is a "Categories" table with three columns: "Code", "Auditors", and "Internal". The table contains four rows of data. At the bottom right of the window are "OK" and "Cancel" buttons.

Code	Auditors	Internal
10100	Cash and Cash Equivalents	Cash
11100	Receivables	Accounts Receivable
11110	Receivables	Intercompany Receivables
12000	Inventory	Inventory

Importing Other Data

- Transform the data
- Select Close & Apply

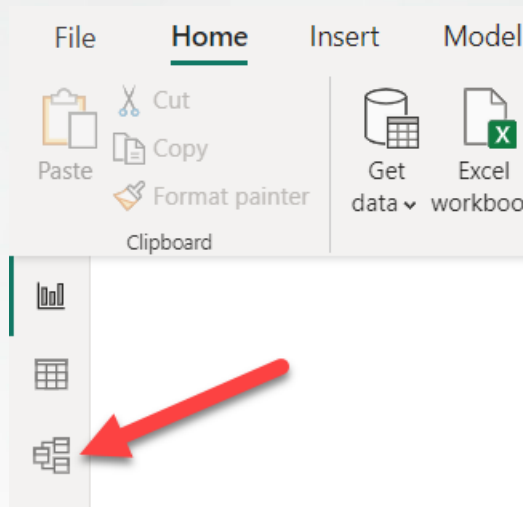
Modeling the Data

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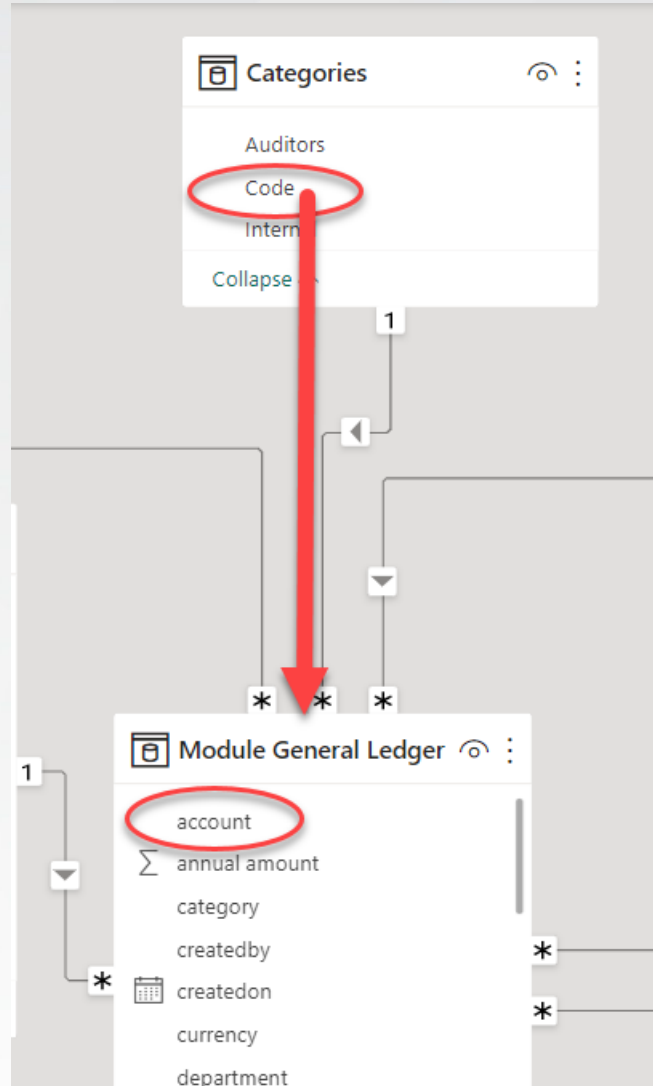
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Modeling the Data

- Select the Model icon in Power BI
- Create a relationship between the new table & the existing fact table



Modeling the Data



Drag Code to the Account field to create the relationship between the tables

Edit relationship

Select tables and columns that are related.

Module General Ledger

transactionid	scenario	entity	account	haslid	monthly amount	annual amount	other amount
299892	ACT	SUS	1100	False	5000	null	null
299894	ACT	SUS	1100	False	5000	null	null
299896	ACT	SUS	1100	False	5000	null	null

Categories

Code	Auditors	Internal
10100	Cash and Cash Equivalents	Cash
11100	Receivables	Accounts Receivable
11110	Receivables	Intercompany Receivables

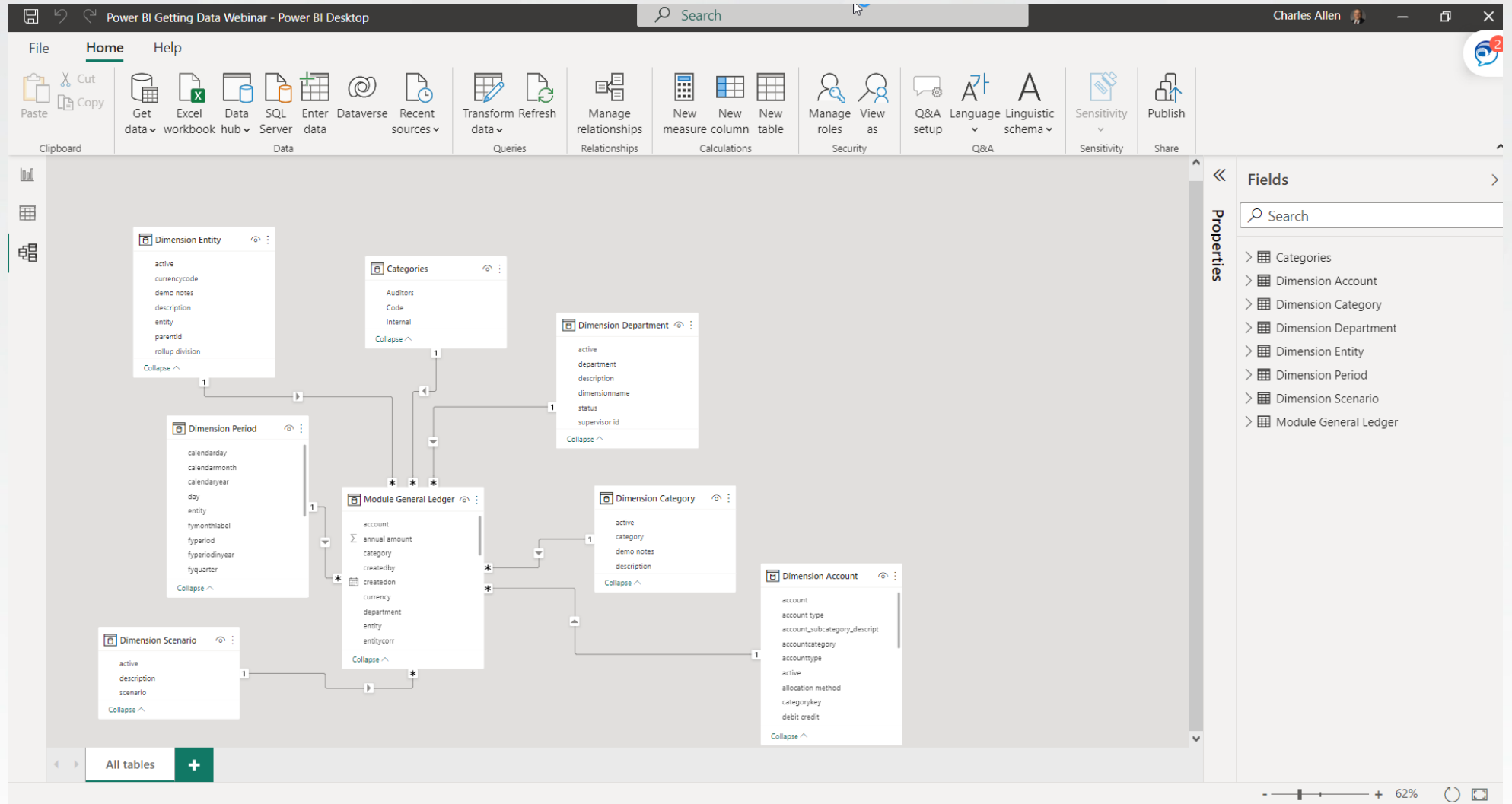
Cardinality: Many to one (*:1)
Cross filter direction: Single

Make this relationship active
 Assume referential integrity
 Apply security filter in both directions

OK Cancel

Modeling the Data

The final model



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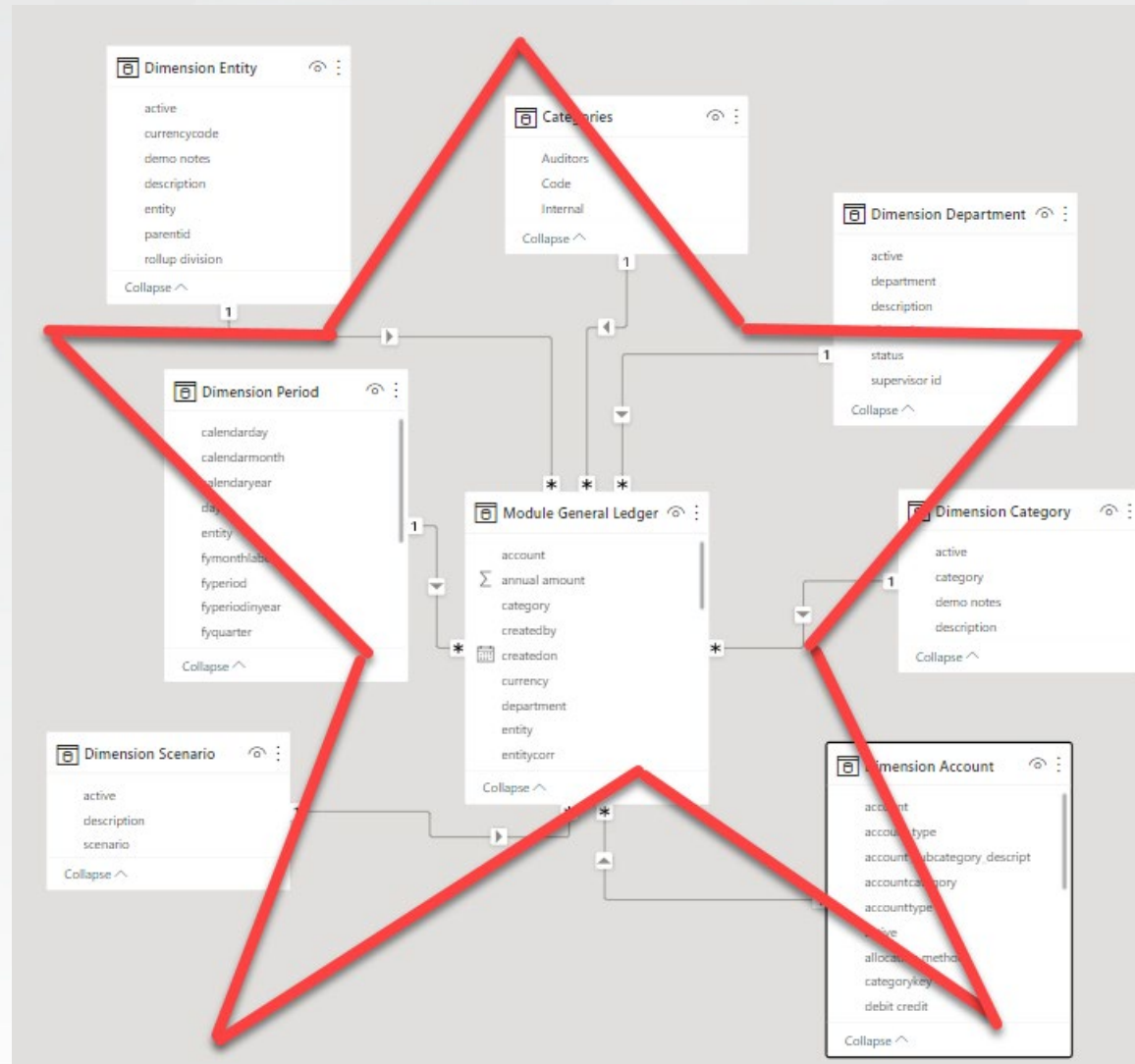
Modeling the Data

It looks like a star – It's a Star Schema!

A Star Schema has the Module (Fact Table) surrounded by dimensions

This schema facilitates report performance & is easy to understand

Read more at [Understand star schema and the importance for Power BI - Power BI | Microsoft Learn](#)



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Resources

- Solver Academy (Three Power BI Courses)
- Microsoft Learn for Power BI
- Guy in a Cube series on YouTube
- SQLBI on YouTube
- Leila Gharani on YouTube

What's Next?

Solver Power BI Series Episode 2: Visualizing Your Data

February 16

9–10 a.m. CT



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