

Integrating Azure Open AI with Power BI

March 9th, 2024

Agenda

- The Challenge
- Commenting Power Query
- Azure OpenAI
 - Demo
- Lessons Learned

About Me

Experience

- 11+ years with Microsoft BI stack
- 8+ years with PowerPivot/Power BI
- 5+ years with Azure DevOps

Contact Me

X @JKerski

in John Kerski

 Blog

Credentials

- MCSE: Productivity
- MS: PBI Data Analyst
- PMP



John Kerski

Slides:



The Challenge

What was the table this was merged with?

What column was removed?

What column was added?

APPLIED STEPS

Source	
Changed Type	
Split Column by Delimiter	✳
Changed Type1	
Added Custom	✳
Replaced Value	✳
Removed Columns	
Merged Queries	✳
Expanded DateDim	✳
Removed Columns1	
Renamed Columns	
Sorted Rows	
Removed Columns2	
Merged Queries1	✳
Expanded EyeColorDim	✳
Removed Columns3	
Merged Queries2	✳
Added Custom1	✳
Changed Type2	
Added Custom2	✳
Added Custom3	✳
Expanded AlignmentDim	✳
Renamed Columns2	
Removed Columns4	
Renamed Columns1	
Changed Type3	
✕ Sorted Rows1	

Comment Your Code



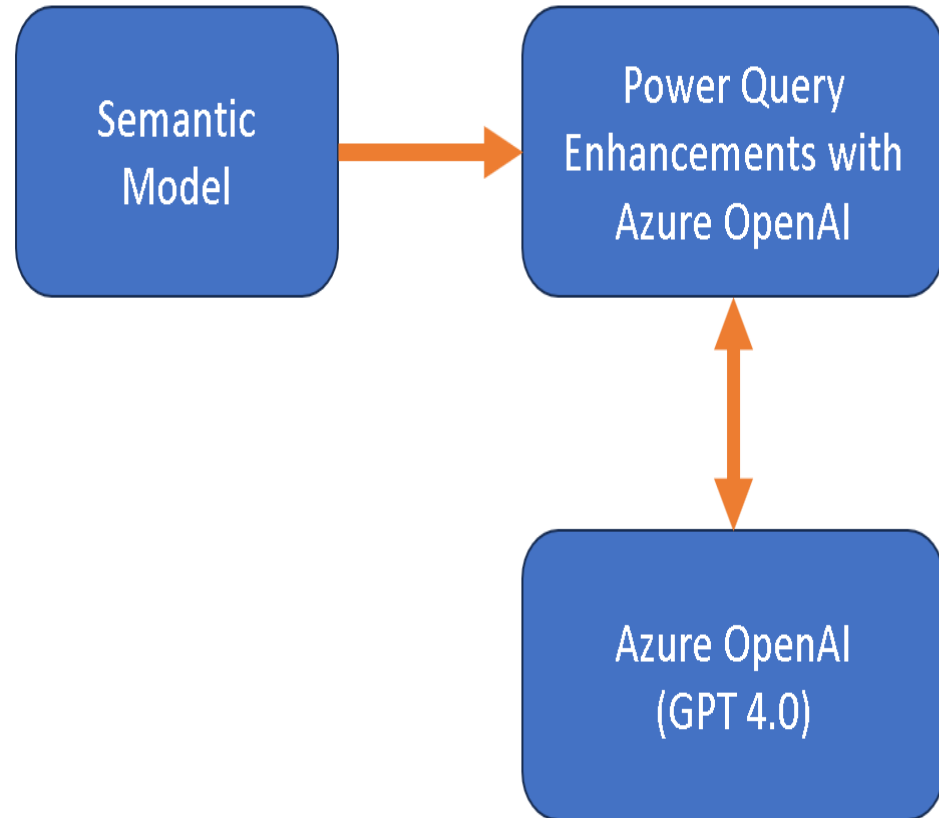
Can Artificial Intelligence Help?



Prerequisites

- Premium, Premium Per User or Fabric Workspace
 - Requires XMLA connection
- Azure OpenAI
 - A ChatGPT 4.0 model deployed. Instructions can be followed [at this link](#).

DEMO



Power Query Code Enhancements with a Large Language Model	
Please select the dataset name, then table name to see the commented code. Right click on the commented code and choose "Copy Value" to copy over to your dataset.	
Select Table	Select Enhancement Options
MarvelSource	<div>Additional Comments</div> <div>Additional Comments & Variable Name Changes</div>
Original Power Query Code	Additional Comments
<pre>let #Source = Csv.Document(Web.Contents(WebURL),[Delimiter=";", Columns=13, Encoding=65001, QuoteStyle=QuoteStyle.None]), #Promoted Headers = Table.PromoteHeaders(#Source, [PromoteAllScalars=true]), #Changed Type = Table.TransformColumnTypes(#Promoted Headers,{{"page_id", Int64.Type}, {"name", type text}, {"urlslug", type text}, {"ID", type text}, {"ALIGN", type text}, {"EYE", type text}, {"HAIR", type text}, {"SEX", type text}, {"GSM", type text}, {"ALIVE", type text}, {"APPEARANCES", Int64.Type}, {"FIRST APPEARANCE", type text}, {"Year", Int64.Type}}) in #Changed Type</pre>	<pre>let // This code is utilizing Power Query to import a CSV file from a specified web URL and parse it into a table structure. It also sets the n // qualifying characters are used in the data. #Source = Csv.Document(Web.Contents(WebURL),[Delimiter=";", Columns=13, Encoding=65001, QuoteStyle=QuoteStyle.None]), // This code is promoting the first row of the table referenced as #Source to headers. The option 'PromoteAllScalars' set to true indic #Promoted Headers = Table.PromoteHeaders(#Source, [PromoteAllScalars=true]), // This code is transforming the data types of various columns within the table 'Promoted Headers'. Some columns are being converte #Changed Type = Table.TransformColumnTypes(#Promoted Headers,{{"page_id", Int64.Type}, {"name", type text}, {"urlslug", type t {"GSM", type text}, {"ALIVE", type text}, {"APPEARANCES", Int64.Type}, {"FIRST APPEARANCE", type text}, {"Year", Int64.Type}}) in #Changed Type</pre>

Report

<https://github.com/kerski/pbi-pq-commenter-with-azure-openai/tree/main>

Lessons Learned

ChatGPT Prompt Engineering for Developers

You are an assistant to help Power Query developers comment their code.

Please take the code between the `` ` and `` ` in the following:

- 1) Return a comment explaining what that piece of code is doing.,*
- 2) Do not start the comment with the word Step or a number,*
- 3) Do not copy code into the comment.*
- 4) Keep the comments to a maximum of 225 characters.*

`` `[Code] `` `



Set the premise



Indicate markers



Set boundaries

Lessons Learned (cont.)

Token Limits

- 1 token \sim 4 chars in English
 - By Model - [Microsoft Documentation](#)

8,000 Token Limit

Response M Code + Verbose Comments \sim 6,000 Tokens

Prompt + M Code \sim 3,000 Tokens

Strategies - [Greg Kamradt](#)


Security Considerations

- [Data, privacy, and security for Azure OpenAI Service](#)
- Protect the Key
 - [Vote Microsoft make this easier](#)
- Make this Easier
 - [Power Query Commenting with Co-Pilot/Large Language Models](#)
 - Co-Pilot

Thank you

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