

# Commenting Power Query with Azure OpenAI

July 1<sup>st</sup>, 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***



Commenting  
my  
Power Query



Doing  
something  
else

# Can Artificial Intelligence Help?

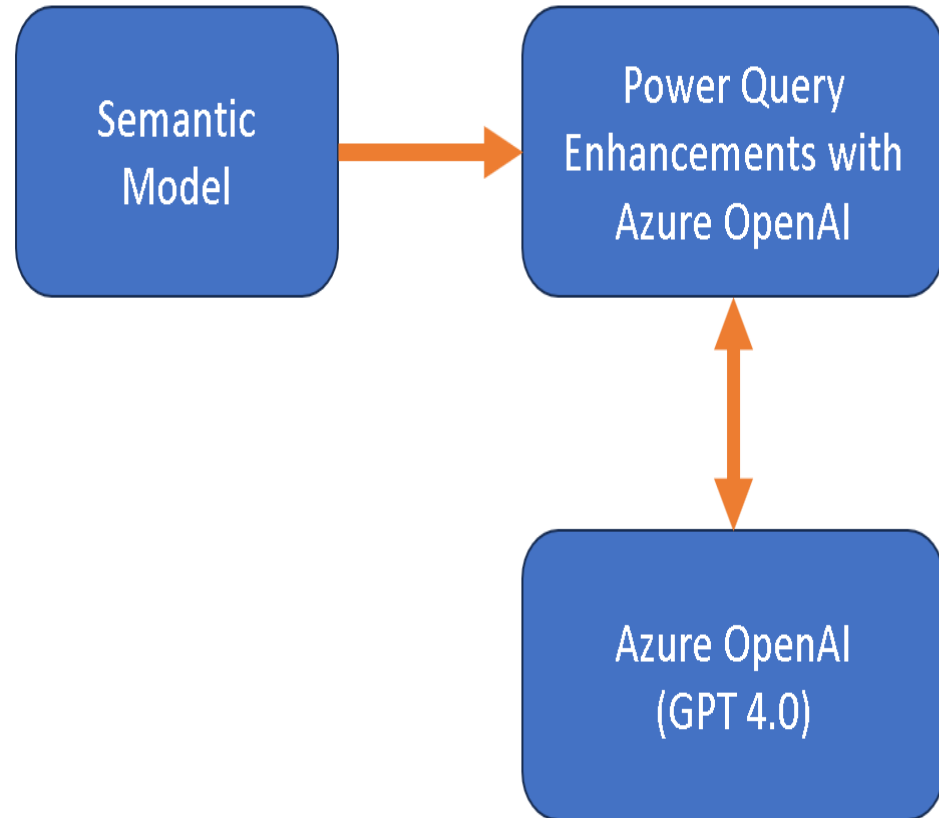


# Prerequisites

- 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 &amp; Variable Name Changes</div>   |
| Original Power Query Code  | Additional Comments   |
| let<br>#Source = Csv.Document(Web.Contents(WebURL),[Delimiter=";", Columns=13, Encoding=65001, QuoteStyle=QuoteStyle.None]),<br>#Promoted Headers = Table.PromoteHeaders(#Source, [PromoteAllScalars=true]),<br>#Changed Type = Table.TransformColumnTypes(#Promoted Headers,{{"page_id", Int64.Type},<br>{"name", type text}, {"urlslug", type text}, {"ID", type text}, {"ALIGN", type text}, {"EYE", type text},<br>{"HAIR", type text}, {"SEX", type text}, {"GSM", type text}, {"ALIVE", type text}, {"APPEARANCES",<br>Int64.Type}, {"FIRST APPEARANCE", type text}, {"Year", Int64.Type}})<br>in<br>#Changed Type | let<br>// 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<br>qualifying characters are used in the data.<br>#Source = Csv.Document(Web.Contents(WebURL),[Delimiter=";", Columns=13, Encoding=65001, QuoteStyle=QuoteStyle.None]),<br>// This code is promoting the first row of the table referenced as #Source to headers. The option 'PromoteAllScalars' set to true indic<br>#Promoted Headers = Table.PromoteHeaders(#Source, [PromoteAllScalars=true]),<br>// This code is transforming the data types of various columns within the table 'Promoted Headers'. Some columns are being converte<br>#Changed Type = Table.TransformColumnTypes(#Promoted Headers,{{"page_id", Int64.Type}, {"name", type text}, {"urlslug", type t<br>{"GSM", type text}, {"ALIVE", type text}, {"APPEARANCES", Int64.Type}, {"FIRST APPEARANCE", type text}, {"Year", Int64.Type}})<br>in<br>#Changed Type |

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 ``` 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](#)

# Thank you

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