

# Commenting Power Query with Azure OpenAI

May 18<sup>th</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

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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?

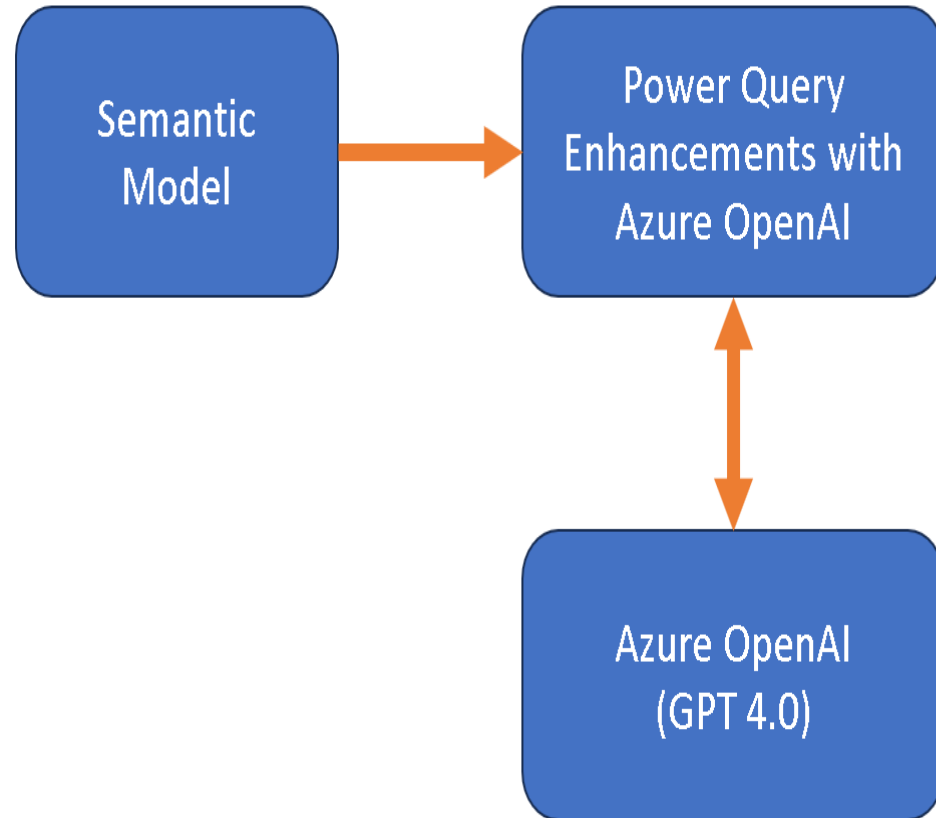


# Prerequisites

- 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 &amp; Variable Name Changes</div>
Original Power Query Code	Additional Comments
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	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

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](#)

# Thank you

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