Leveraging Large Language Models with Power BI

January 25th, 2025

About Me

Experience

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

Credentials

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

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Slides:

Agenda

- The Challenge

- Scenarios
  - Azure OpenAI
  - GitHub Copilot

- Lessons Learned

The Challenge

The Challenge

Scenario

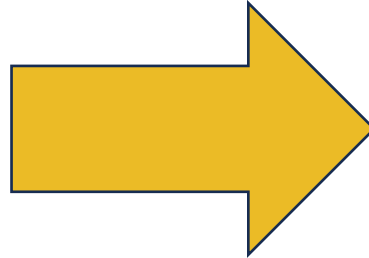**What was the table this was merged with?**

What column was removed?

What column was added?

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
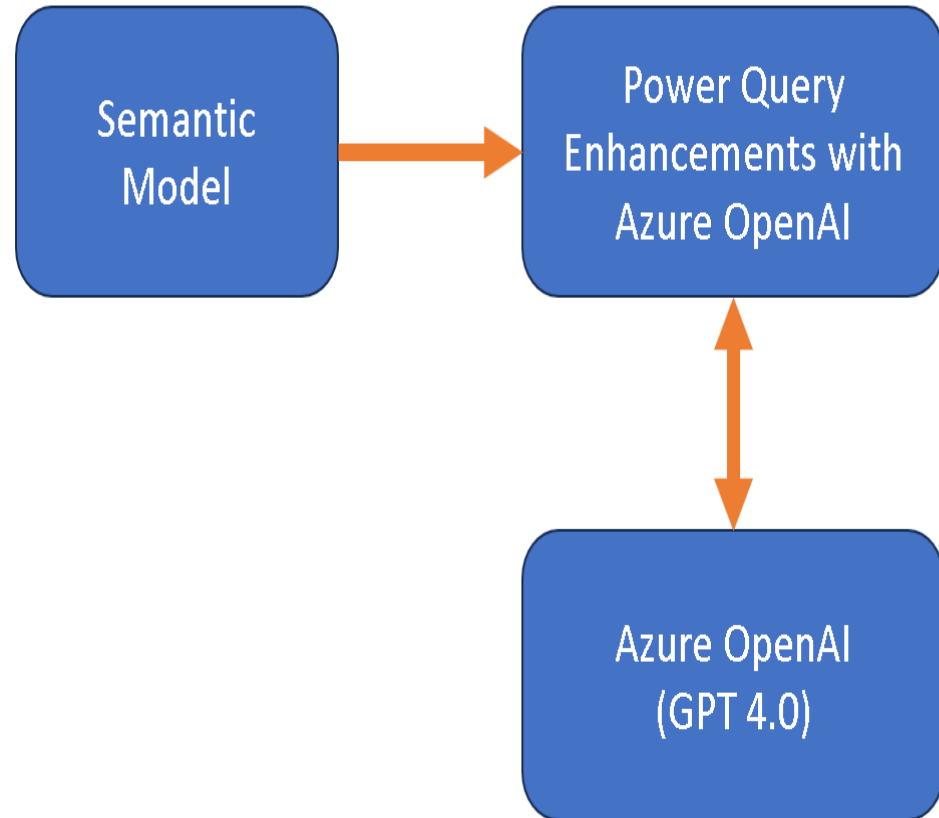
Manual Commenting Code

Scenario 1

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.
  - GCC
    - Federal-Business-Applications/whitepapers/copilot at main · microsoft/Federal-Business-Applications (github.com)

DEMO

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

Scenario 2

Prerequisites

- [GitHub Copilot](#)
- PBIP Format

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 ``` `````` 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 ~= 4 chars in English
  - By Model - [Microsoft Documentation](#)

8,000 Token Limit

Response M Code + Verbose Comments ~ 6,000 Tokens
Prompt + M Code ~ 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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Slides:

GitHub CoPilot Prompts

You are an assistant to help Power Query developers comment their code. Please update each line of code by performing the following:

1) Insert a comment above the code 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.

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

Please update each line of code by performing the following:

1) Update the variable name explaining what that piece of code is doing.

2) The variable name should always start with a verb in the past tense.

3) The variable name should have spaces between words.

4) Please keep the variable to a maximum of 50 characters.

5) The variable name should be wrapped in double quotes and preceded by the '#'

You are an assistant to help Power Query developers comment their code. Please update each line of code by performing the following:

1) Insert a comment above the code 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.

Please also update each line of code by performing the following:

1) Update the variable name explaining what that piece of code is doing.

2) The variable name should always start with a verb in the past tense.

3) The variable name should have spaces between words.

4) Please keep the variable to a maximum of 50 characters.

5) The variable name should be wrapped in double quotes and preceded by the '#'