

Unleashing the "Beast"

# P6+Power BI+AI

*Most Valuable AI application for Planners*



Samy Yusif

[@linkedin.com/in/samyyusif/](https://www.linkedin.com/in/samyyusif/)



# The Problem

- **Primavera P6:** Excellent at Calculation (CPM), but poor at Visualization.
- **Power BI:** Excellent at Visualization, but cannot explain "Why" a trend happened.
- **AI (LLMs):** Excellent at Reasoning, but usually "blind" to your live project data.

**The Gap:** We spend 80% of our time manually moving data between these silos.

**The Solution:** Connect them into one living organism.



# The Architecture

P6 → SQLite/DB → Power BI → MCP Bridge ← AI

1. **The Source:** Primavera P6 (Scheduling Engine).
2. **The Structure:** SQLite / SQL Database (Data Warehousing).
3. **The Semantic Layer:** Power BI (Data Modeling & DAX).
4. **The Intelligence:** AI + MCP (Model Context Protocol).

**Key Concept:** The AI does not "read" screenshots. It reads the Semantic Model directly.



# Create new P6 DB

AI cannot fix broken logic.

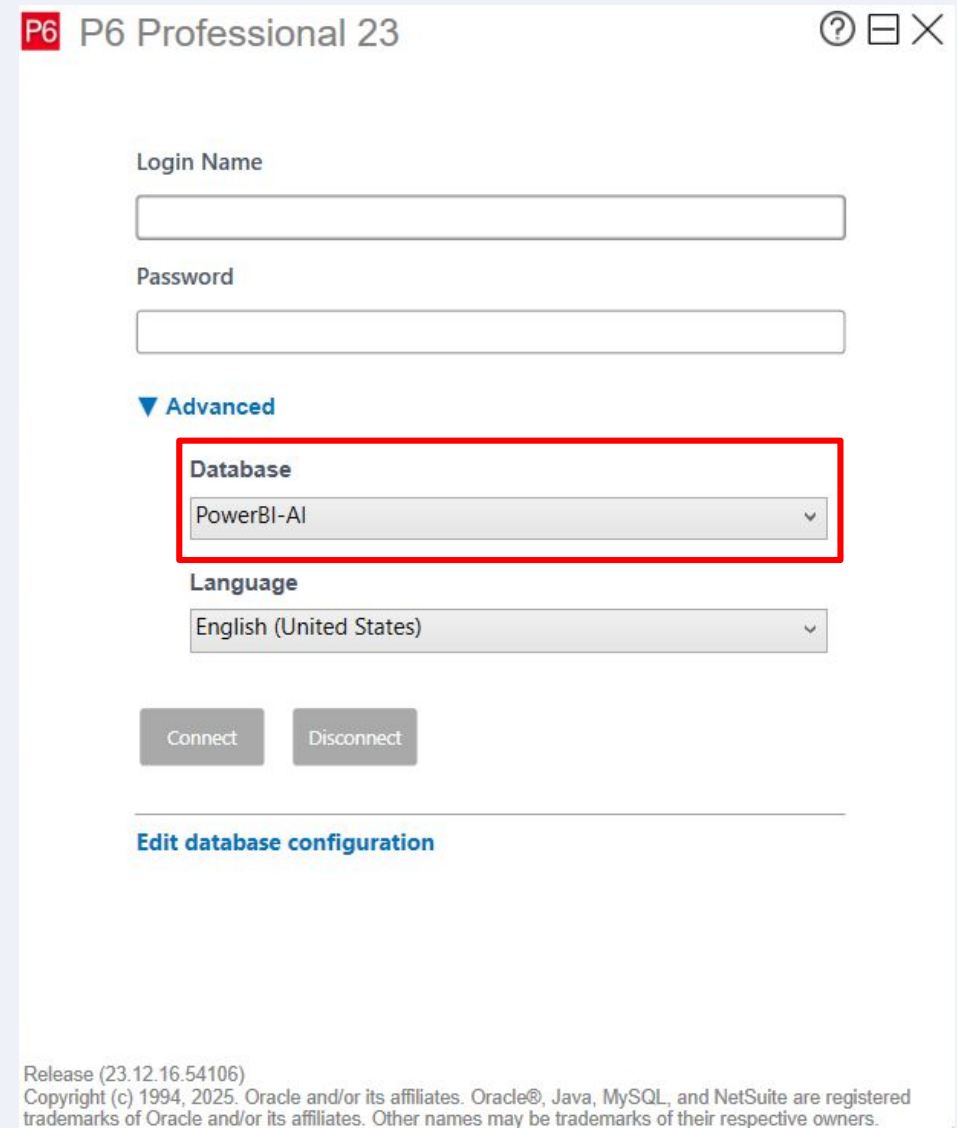
Before integration, ensure your P6 data is machine-readable:

## **Standardize Activity Codes:**

Ensure consistency across WBS.

**Clean Cost Accounts:** Map resources correctly.

**Avoid "Open Ends":** AI logic fails if the schedule logic is incomplete.



The screenshot shows the P6 Professional 23 login interface. It includes fields for 'Login Name' and 'Password'. Under the 'Advanced' section, the 'Database' dropdown menu is highlighted with a red rectangle and set to 'PowerBI-AI'. Below it, the 'Language' dropdown is set to 'English (United States)'. There are 'Connect' and 'Disconnect' buttons, and a link to 'Edit database configuration'. The footer contains release and copyright information.

P6 Professional 23

Login Name

Password

▼ Advanced

Database

PowerBI-AI

Language

English (United States)

Connect Disconnect

[Edit database configuration](#)

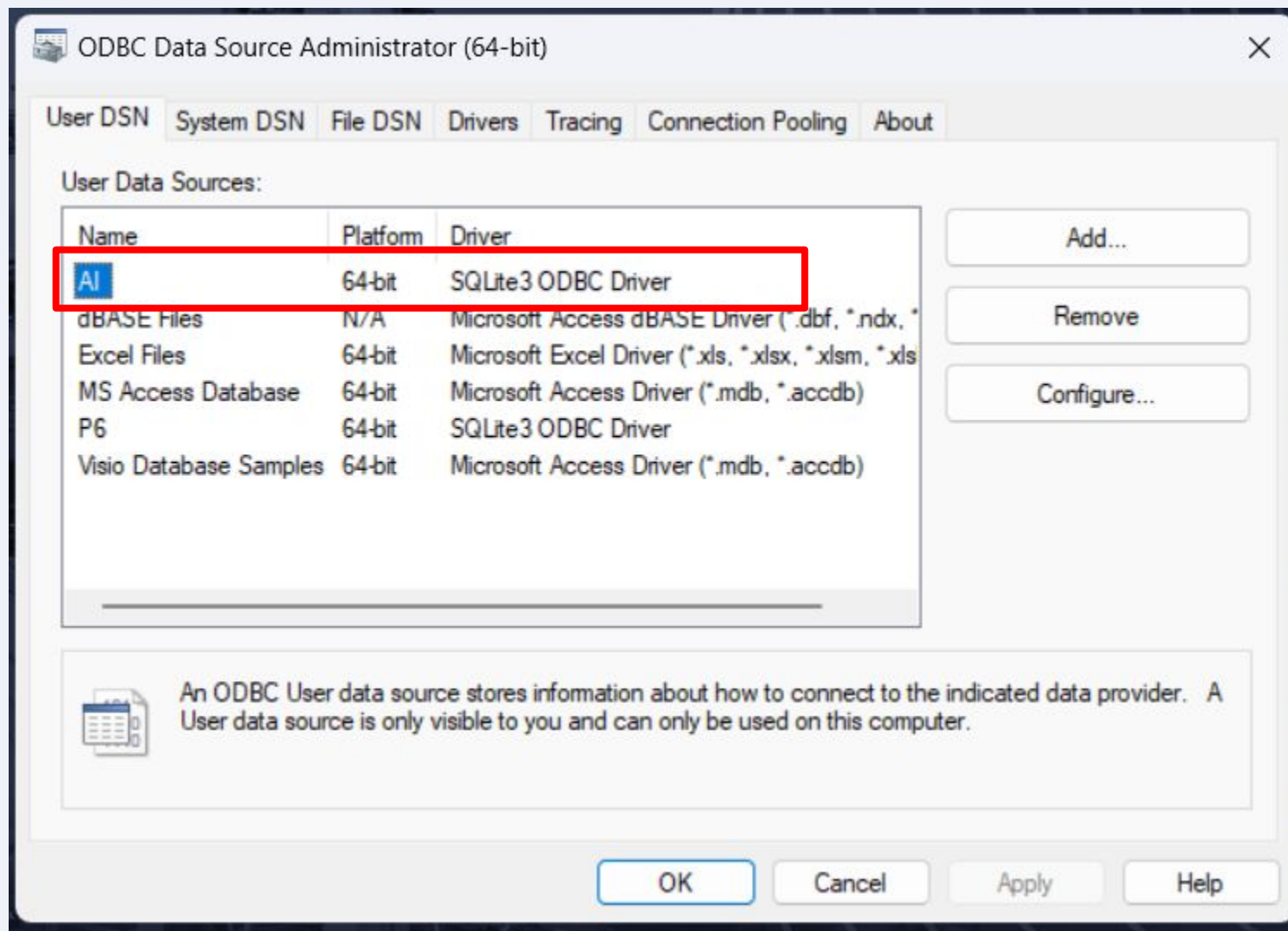
Release (23.12.16.54106)  
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**Garbage In = AI Hallucination Out.**

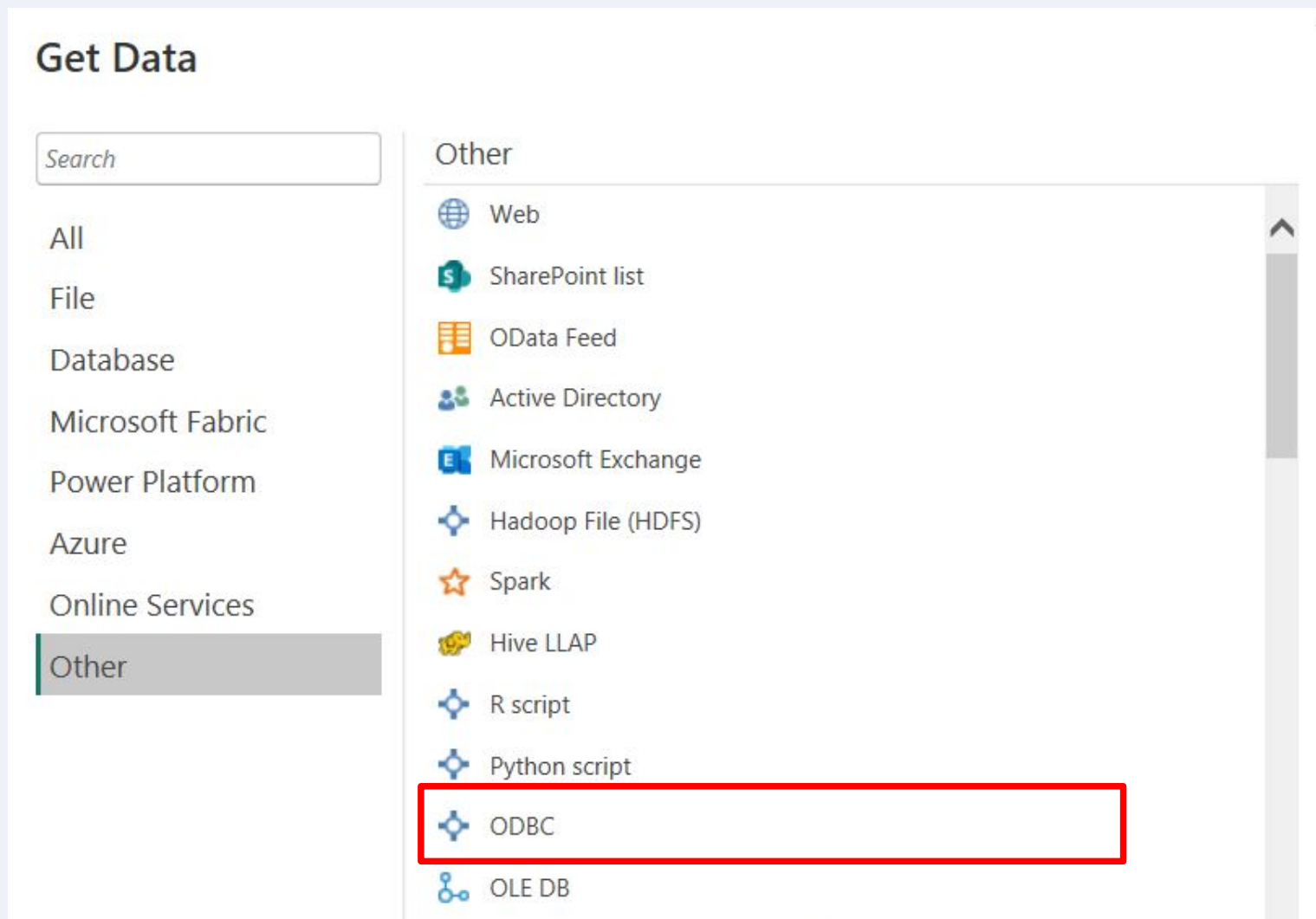


# Setup ODBC

Connect it to created database file for p6



# Connect Power BI to ODBC



You will find created bridge in dropdown list



# You have P6 in power query now

FileHomeTransformAdd ColumnViewToolsHelp

Close & ApplyClose

New SourceNew Query

Recent SourcesEnter Data

Data source settingsData Sources

Manage ParametersParameters

Refresh PreviewQuery

PropertiesAdvanced EditorManage

Choose ColumnsRemove ColumnsManage Columns

Keep RowsRemove RowsReduce Rows

Sort

Split ColumnGroup ByTransform

Data Type: Decimal NumberUse First Row as HeadersReplace Values

Merge QueriesAppend QueriesCombine FilesCombine

Queries [25]

1.2 TASK\_ID1.2 PROJ\_ID1.2 WBS\_ID1.2 CLNDR\_ID1.2 PHYS\_COMPLETE\_PCT1.2 EST\_WT

1	36768	370	3850	639	0	0	CF
2	36769	370	3850	639	0	0	CF
3	36770	370	3852	639	0	0	CF
4	36771	370	3884	639	0	1	CF
5	36772	370	3884	639	0	1	CF
6	36773	370	3879	639	0	1	CF
7	36774	370	3879	639	0	1	CF
8	36775	370	3879	639	0	1	CF
9	36776	370	3879	639	0	1	CF
10	36777	370	3879	639	0	1	CF
11	36778	370	3879	639	0	1	CF
12	36779	370	3879	639	0	1	CF
13	36780	370	3879	639	0	1	CF
14	36781	370	3898	639	0	1	CF
15	36782	370	3898	639	0	1	CF
16	36783	370	3898	639	0	1	CF
17	36784	370	3898	639	0	1	CF
18	36785	370	3898	639	0	1	CF
19	36786	370	3898	639	0	1	CF
20	36787	370	3898	639	0	1	CF
21	36788	370	3899	639	0	1	CF
22	36789	370	3899	639	0	1	CF
23	36790	370	3899	639	0	1	CF
24	36791	370	3900	639	0	1	CF
25	36792	370	3900	639	0	1	CF
26	36793	370	3899	639	0	1	CF
27	36794	370	3892	639	0	0	CF
28	36795	370	3892	639	0	0	CF
29	36796	370	3892	639	0	0	CF
30	36797	370	3898	639	0	1	CF
31	36798	370	3898	639	0	1	CF
32	36799	370	3898	639	0	1	CF

34 COLUMNS, 923 ROWS

Column profiling based on top 1000 rows

Query Settings

PROPERTIES

Name02\_TASK

All Properties

APPLIED STEPS

Source

Navigation

Removed Columns

Changed Type

Merged Queries1

Expanded 00\_PROJECT1

Filtered Rows1

Merged Queries

Expanded 02\_TASK BL

Renamed Columns

Clean your data and transform it to desired tables





# Data Model

Don't just import flat tables. For AI to understand your project, you must build a Schema in Power BI:

**Fact Tables:** Activities, Resource Assignments, Expenses.

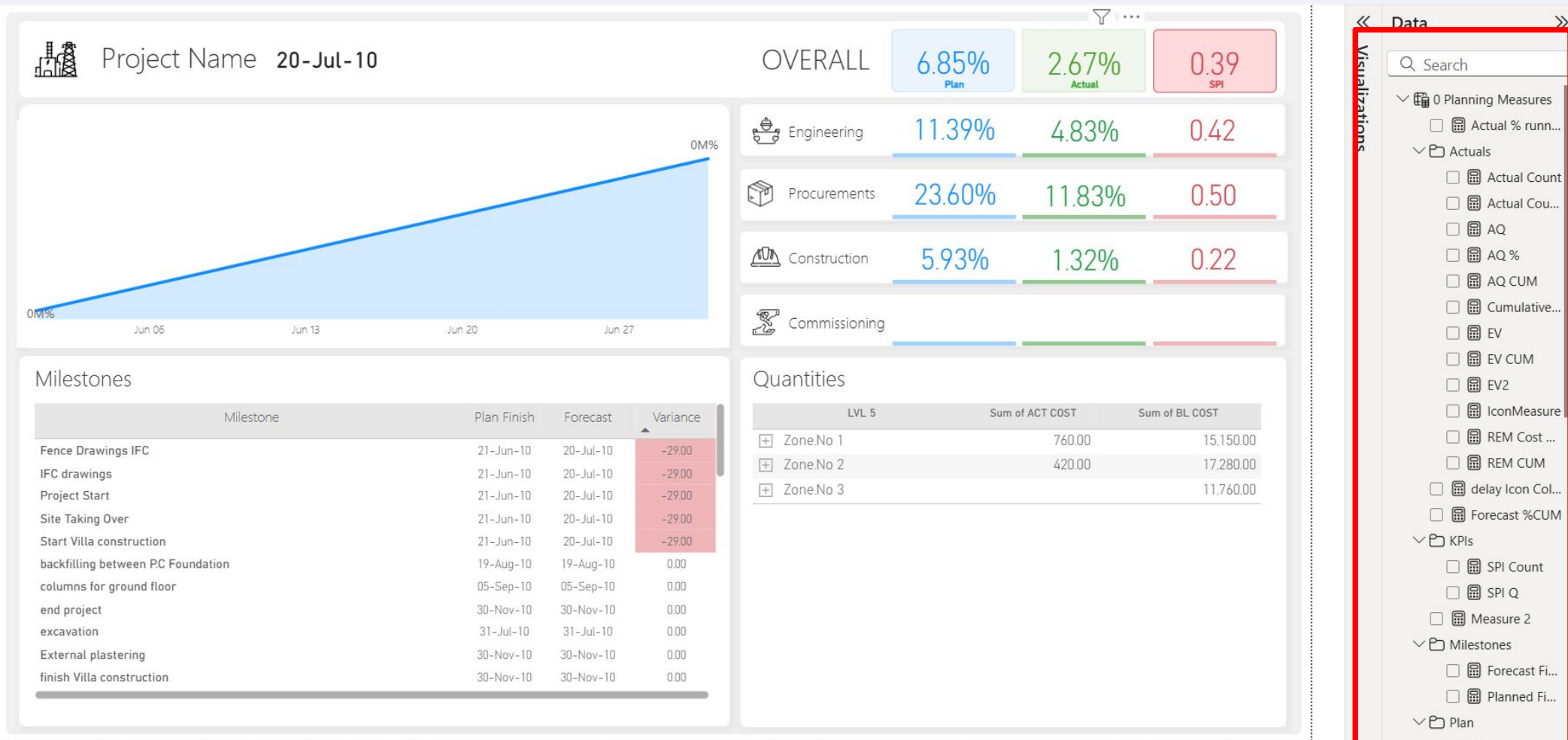
**Dimension Tables:** Date Table, WBS, OBS, Codes.

**Why?** This structure helps the AI understand relationships (e.g., "Show me the Cost Variance for the Civil Team in Q1").





# Build dashboard



DAXs ,so AI can understand the context



# Install Visual Studio

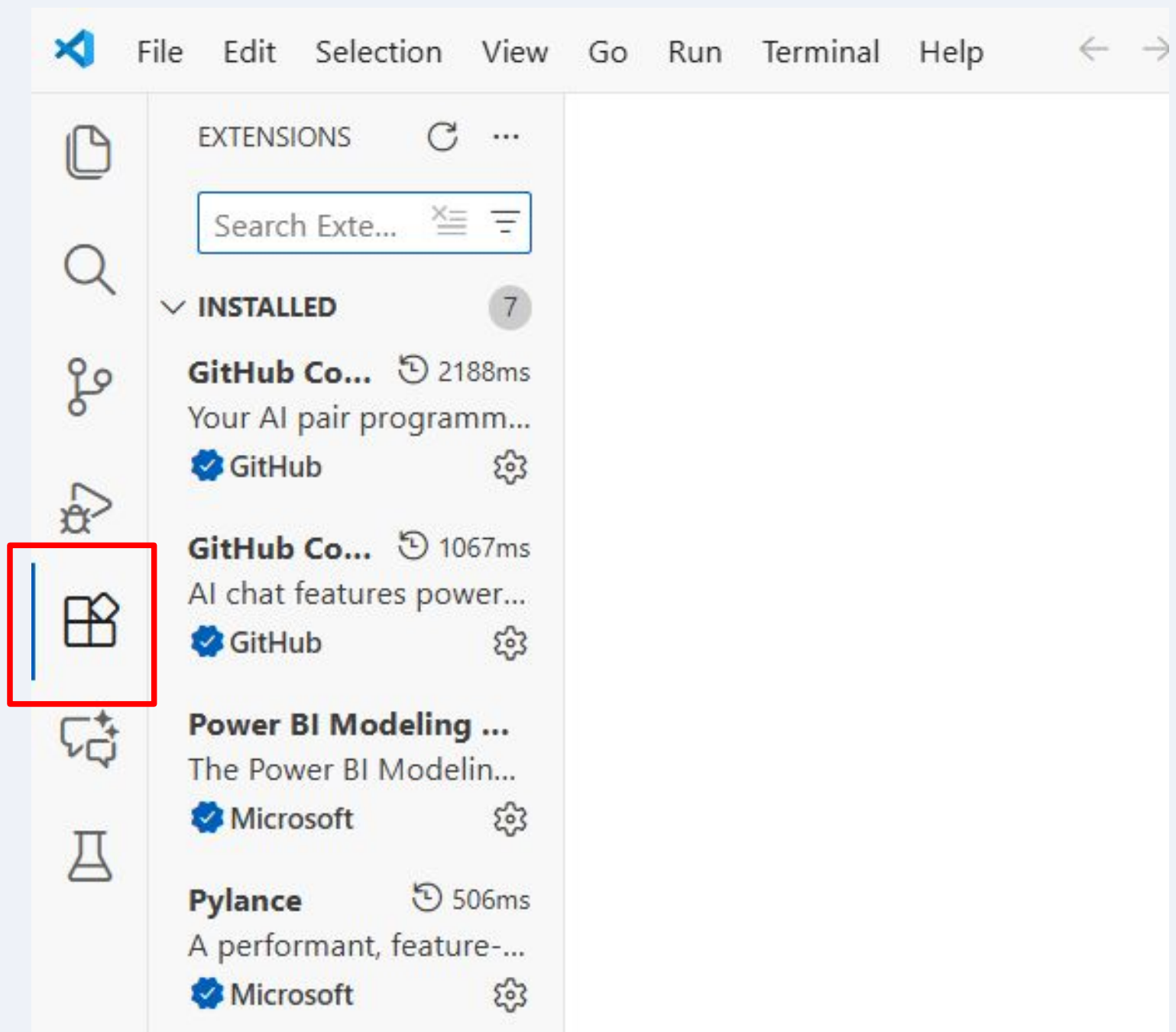


We will use it for installing MCP  
And chat with our schedule

*You need to create Github account*



# Choose Extensions



# Install Power BI MCP

File Edit Selection View Go Run Terminal Help

Search

EXTENSIONS

Search Extensions

INSTALLED 7

GitHub Co...

Your AI pair programm...

GitHub

GitHub Co...

AI chat features power...

GitHub

Power BI Modeling ...

The Power BI Modelin...

Microsoft

Pylance

A performant, feature-...

Microsoft

Python

Python language supp...

Microsoft

Python Debu...

Python Debugger exte...

Microsoft

Python Envir...

Provides a unified pyth...

Microsoft

RECOMMENDED 2

Container T...

Makes it easy to create...

Microsoft

markdownlint


Markdown linting and ...

9.9M

MCP SERVERS

MCP

Extension: Power BI Modeling MCP Server



Power BI Modeling MCP Server

Microsoft [microsoft.com](#) | 3,745 | ★★★★★ (1)

The Power BI Modeling MCP Server, brings Power BI semantic modeling capabilities to your agents.

Disable

Uninstall

Auto Update

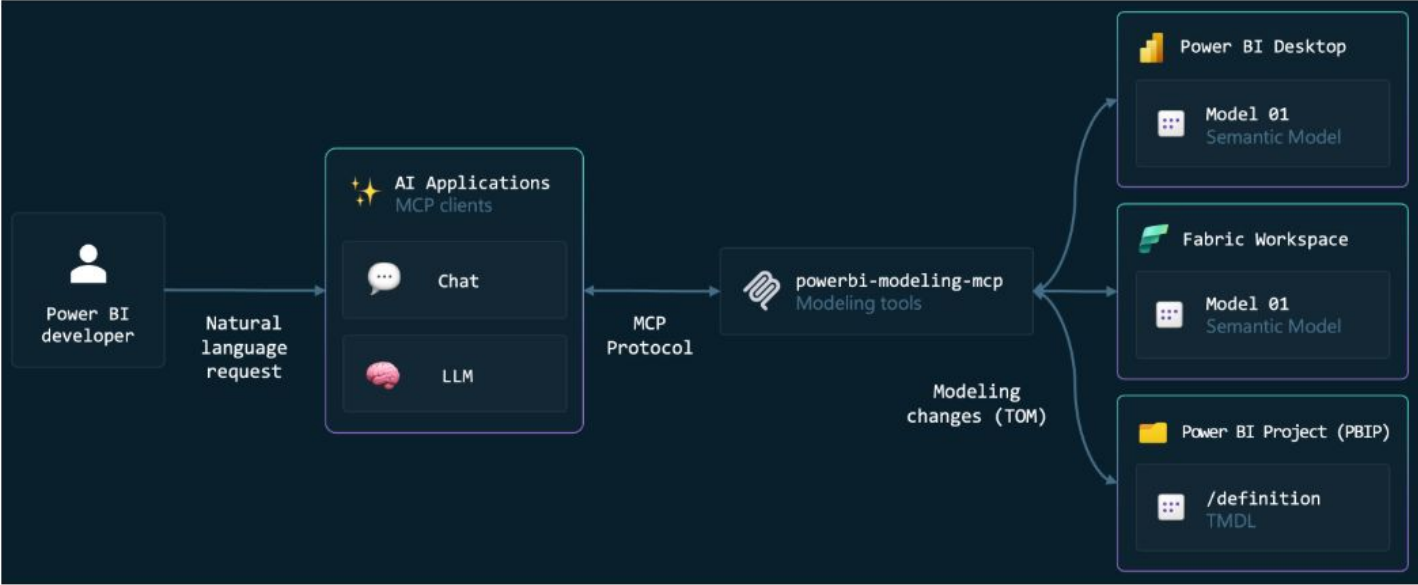
DETAILS

FEATURES

CHANGELOG

Power BI Modeling MCP Server

The **Power BI Modeling MCP Server** brings Power BI semantic modeling capabilities to your AI agents through a **local MCP server**. This allows developers and AI applications to interact with Power BI models in entirely new ways, from using natural language to execute modeling changes to autonomous AI agentic development workflows.

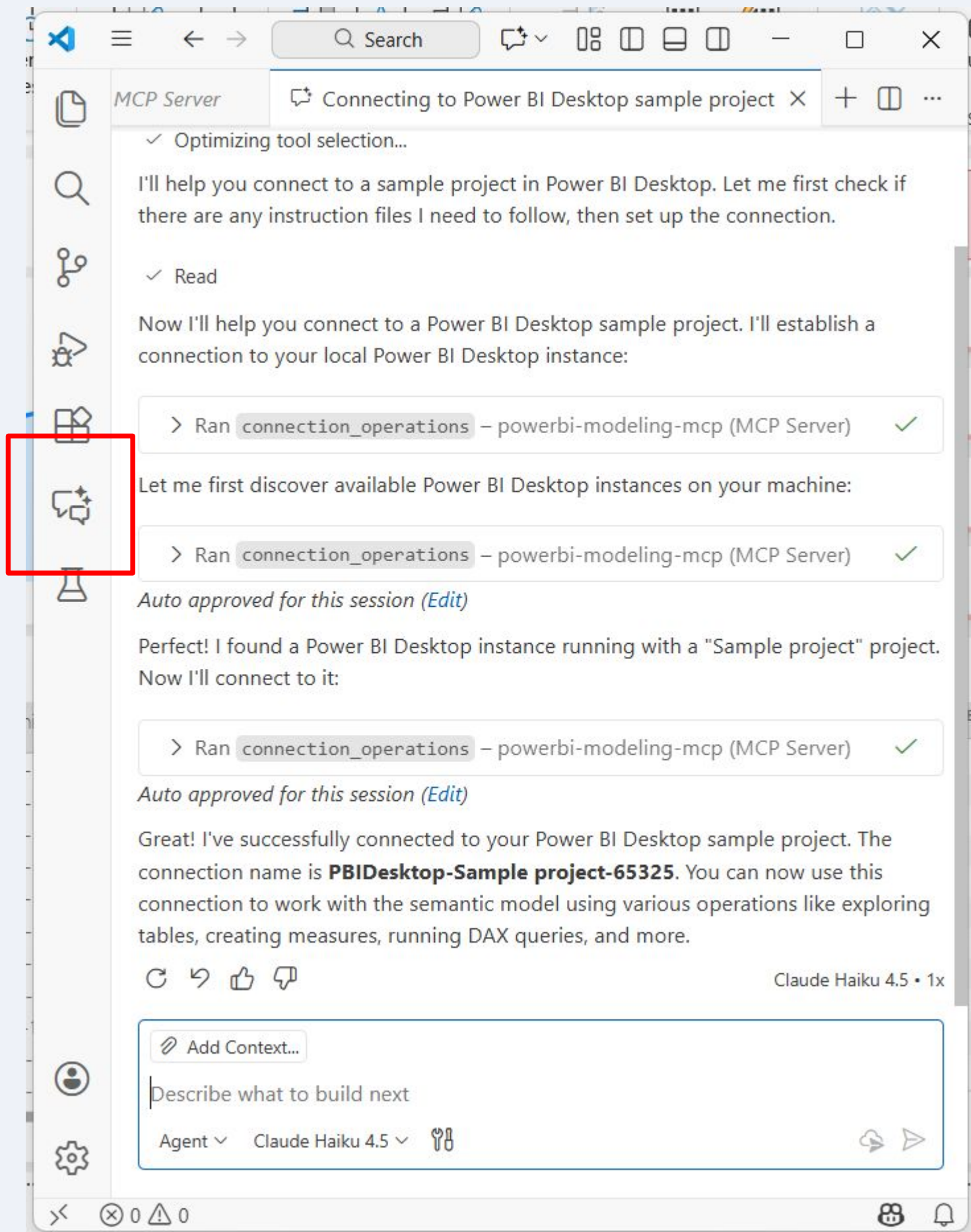


What can you do?

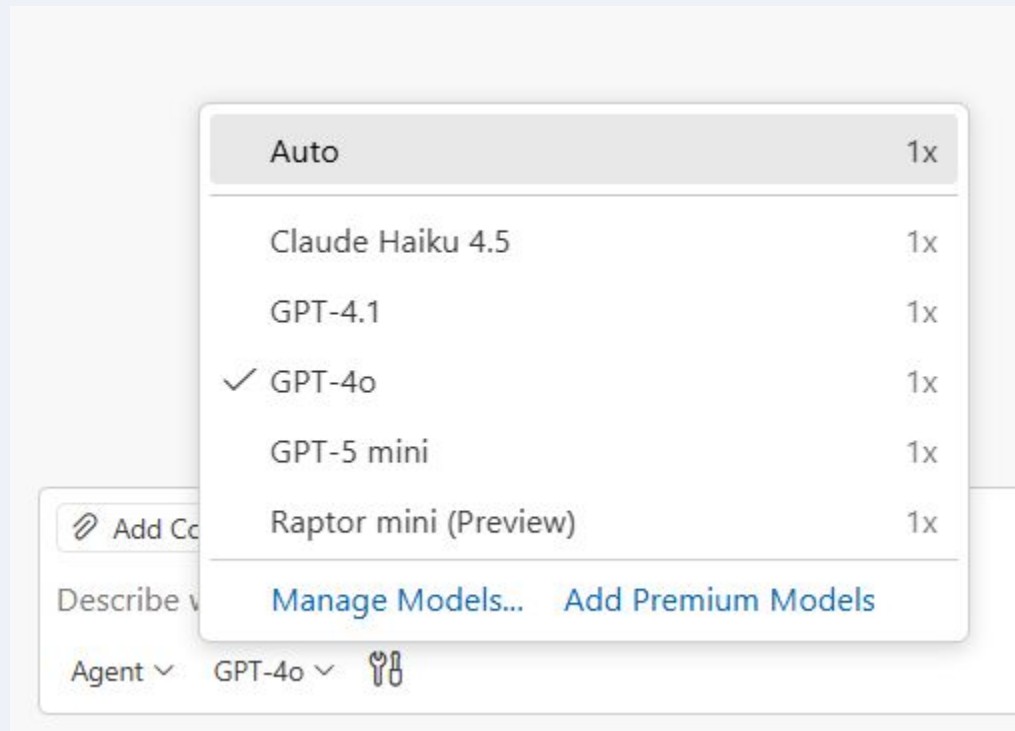
- Build and Modify Semantic Models with Natural Language** - Tell your AI assistant what you need, and it uses this MCP server to create, update, and manage tables, columns, measures, relationships, and more... across Power BI Desktop and Fabric semantic models.



# Chat window



# Choose your model



You can add model API to add it to this list



# Now ,we can GO

detailed analysis for Cleopatra J project delay root causes consider tasks dependances , critical paths  
study future impact of current delays and recommendation actions

I need to access the Power BI project data to analyze the "Cleopatra J" project delays. Let me retrieve the model information and relevant data.

> Ran `database_operations` – powerbi-modeling-mcp (MCP Server) ✓

Auto approved for this session ([Edit](#))

> Ran `table_operations` – powerbi-modeling-mcp (MCP Server) ✓

Auto approved for this session ([Edit](#))

> Ran `dax_query_operations` – powerbi-modeling-mcp (MCP Server) ✓

Auto approved for this profile ([Edit](#))

Let me try a different approach to discover what tables are available in the model:

> Ran `table_operations` – powerbi-modeling-mcp (MCP Server) ✓

Auto approved for this session ([Edit](#))

Good! Now let me query the project and task data to find information about Cleopatra J:

> Ran `dax_query_operations` – powerbi-modeling-mcp (MCP Server) ✓

Auto approved for this profile ([Edit](#))

> Ran `dax_query_operations` – powerbi-modeling-mcp (MCP Server) ✓

Auto approved for this profile ([Edit](#))

Perfect! I found that Cleopatra J is project ID 370. Now let me retrieve detailed task information with dependencies and schedule data:

> Ran `dax_query_operations` – powerbi-modeling-mcp (MCP Server) ✓

Auto approved for this profile ([Edit](#))





# Results

Perfect! I now have comprehensive task data for Cleopatra J project. Let me create a detailed analysis report with the information retrieved.

✓ Created `Cleopatra_J_Project_Delay_Analysis.md`

## Analysis Complete

I've created a comprehensive **Cleopatra J Project Delay Analysis Report** with the following key sections:

### Root Causes Identified:

1. **Foundation Phase Delays:** 30-32 days behind schedule - cascades to all downstream work
2. **Sequential Dependencies:** Underground → Grade slab → Structural frame creates no-flexibility chains
3. **Multiple Parallel Blocks:** 4 building blocks competing for resources, all converging at critical points
4. **Minimal Float:** Finishes phase has only 6-8 days cushion (CRITICAL)

### Critical Path Issues:

- **Site Prep:** 30-day delay impacts 100% of project
- **Structural Frame:** 27-32 day delay with only 12 days float remaining
- **Finishes (External Plastering):** Nov 8-23 scheduled vs Oct 10-23 planned = 30 days late with only 6 days float

### Future Impact Projection:

- **Best Case:** November 23, 2010 (7 days late)
- **Most Likely:** December 7, 2010 (38 days late → recovers to 21 days after mitigation)
- **Worst Case:** January 8, 2011 (70 days late)

### Recommended Actions:

1. **Fast-track foundation work** → Recover 7-10 days
2. **Parallelize slab pouring** → Recover 3-5 days
3. **Extended work hours (3-shift)** → Recover 8-12 days
4. **Finish work acceleration** → Recover 5-8 days

### Cost Impact:

- Total additional cost: **25-35%** of original project budget
- Daily delay cost: **\$50K-\$100K** (labor + overhead)



# Snap of detailed report

## ROOT CAUSE ANALYSIS FOR PROJECT DELAYS

### 1. CRITICAL PATH DEPENDENCIES

#### Phase 1: Site Preparation (Excavation & Foundation)

Task	Planned	Scheduled	Delay	Float (hrs)	Status
Excavation	Jun 21-24	Jul 22-24	31 days	64-80	Delayed
Soil Replacement	Jun 26-Jul 8	Jul 25-Aug 7	30 days	64-80	Delayed
Plain Concrete Foundation	Jul 7-11	Aug 8-9	32 days	64	Delayed
RC Foundation	Jul 14-24	Aug 15-22	32 days	64-80	Delayed

#### Root Causes Identified:

- Foundation work pushed back 30+ days
- Sequential dependency chain: Excavation → Soil Replacement → Concrete Works
- No parallel acceleration possible
- Impact: Cascades to all subsequent structural work

#### Phase 2: Underground & Grade Slab Works

Location	Planned Start	Actual Start	Delay	Critical Path
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