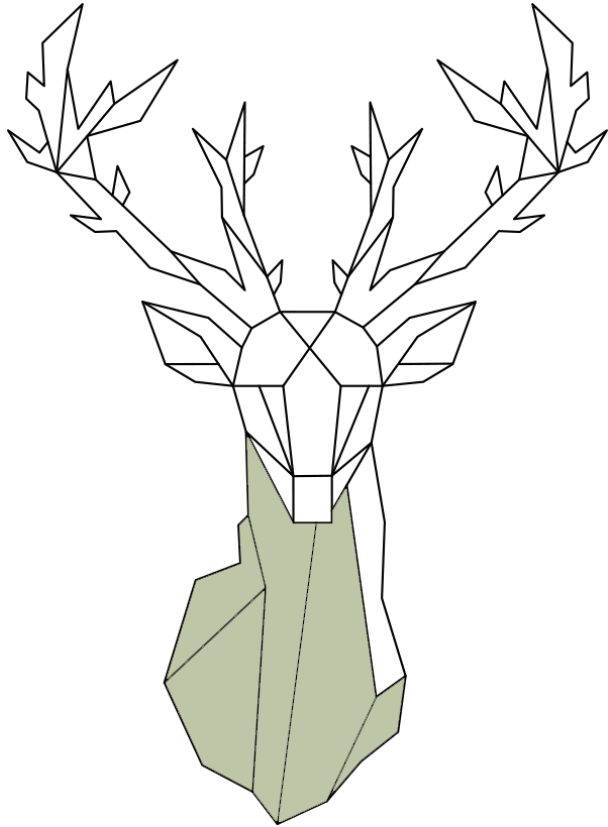


EXPLORING THE MICROSOFT SEMANTIC LINK FOR IMPROVED DATA SCIENCE



**WE CREATE
SMART AND CASUAL
DATADESIGN.
EVERY DAY.**

Moin



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Microsoft Data Platform MVP
CBO @ Elles.farm 😊 🐝

What do we do today

- + What is Semantic Link or SemPy?
- + What challenges can I solve with it?
- + Various examples with SemPy
(sorry, there may be a lot of code)

What is Semantic Link or SemPy?

- The semantic link feature connects semantic models with Synapse Data Science in Microsoft Fabric
- Enhance data connectivity
- Propagate semantic information
- Bridges the gap between Power BI and the Data Science experience
- **SemPy** is the corresponding Python package that provides all the functions within Fabric

What is Semantic Link or SemPy?

- Functionalities for semantic link split into multiple packages
- Modular installation for flexibility
- Install only desired subset by opting for individual packages
- Avoid installing the comprehensive semantic-link meta-package
- can help solve dependency issues

What is Semantic Link or SemPy?



semantic-link 0.6.0

Semantic link for Microsoft Fabric

Feb 28, 2024



semantic-link-sempy 0.6.0

Semantic link for Microsoft Fabric

Feb 28, 2024



semantic-link-functions-holidays 0.6.0

Semantic link functions for holidays package. Enables enrichment of FabricDataFrame with public holidays.

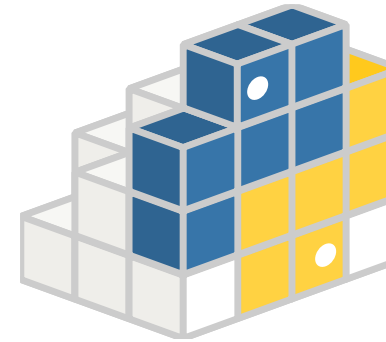
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semantic-link-functions-meteostat 0.6.0

Semantic link functions for meteostat package. Enables enrichment of FabricDataFrame with historical weather data.

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semantic-link-functions-phonenumbers 0.6.0

Semantic link functions for phonenumbers package. Enables validation of phone numbers in FabricDataFrames.

Feb 28, 2024



semantic-link-functions-validators 0.6.0

Semantic link functions for validators package. Enables validation of email addresses, credit card numbers, ... in FabricDataFrames.

Feb 28, 2024



semantic-link-functions-geopandas 0.6.0

Semantic link functions for Geopandas. Enables conversion of a FabricDataFrame to a GeoDataFrame.

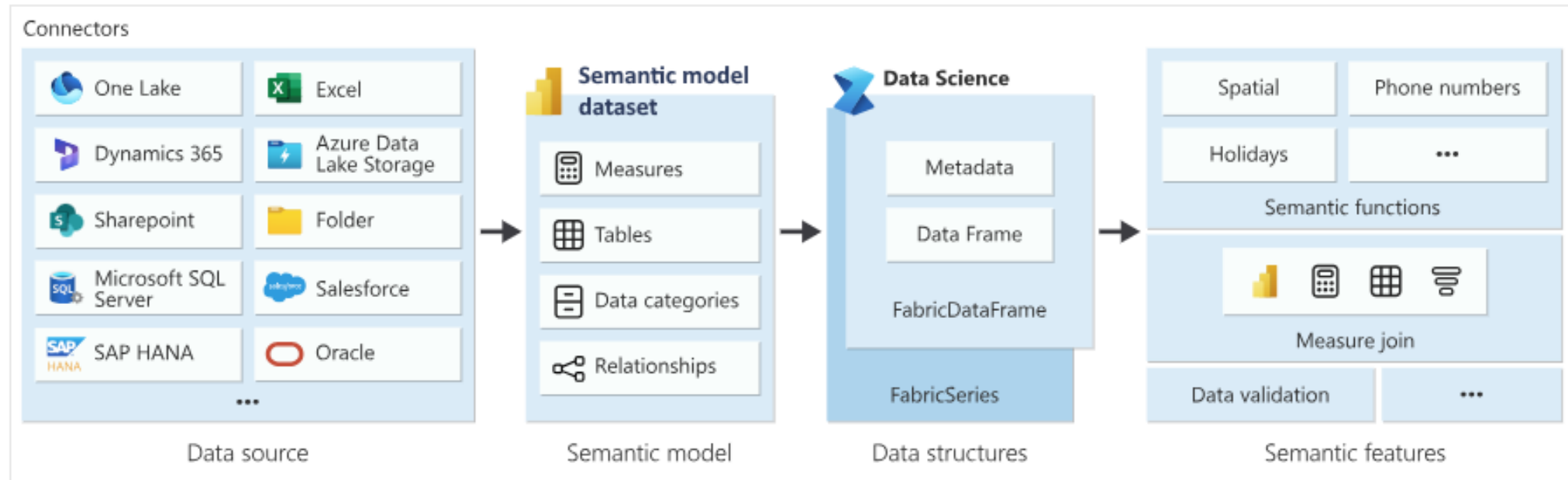
Feb 28, 2024

Current version 0.7.2

What is Semantic Link or SemPy?

- FabricDataFrame is the core data structure of semantic link
- Subclasses the pandas DataFrame
- Adds metadata to the DataFrame
- Supports all pandas operations
- Exposes semantic functions
- Enable the utilization of Power BI measures in notebooks

What is Semantic Link or SemPy?

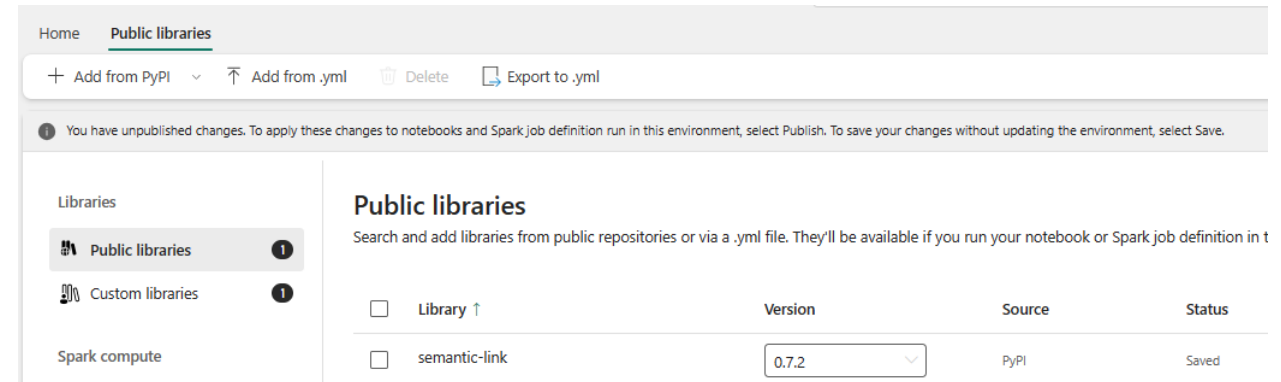


How can we set it up?

1 **Easy one:** `%pip install semantic-link` in your fabric notebook

2 **More efficient:**

- Create an environment in your workspace
- Add from PyPI (or via YAML)



DEMO

It would be cool to see and work with data that my self-service BI colleagues build and use

What challenges can I solve with it?



What challenges can I solve with it?

- Access and catalog Fabric assets:
Capacities, Workspaces, Semantic Models (Datasets)
- Browse Semantic Models:
Tables, Columns, Measures and the entire data in it
- Run Data Refreshes
- Use SQL Commands on Semantic Models in your Notebooks
- Use DAX Commands on Semantic Models in your Notebooks

DEMO

How can I deep dive into Semantic Models on
Data and Data Quality

What challenges can I solve with it?

- Recognizing relations and functional dependencies
- Gaining knowledge about datasets and data tables
- Creating notebooks
- Querying tables, measures and DAX
- Integrate DQ into the process

THANK YOU