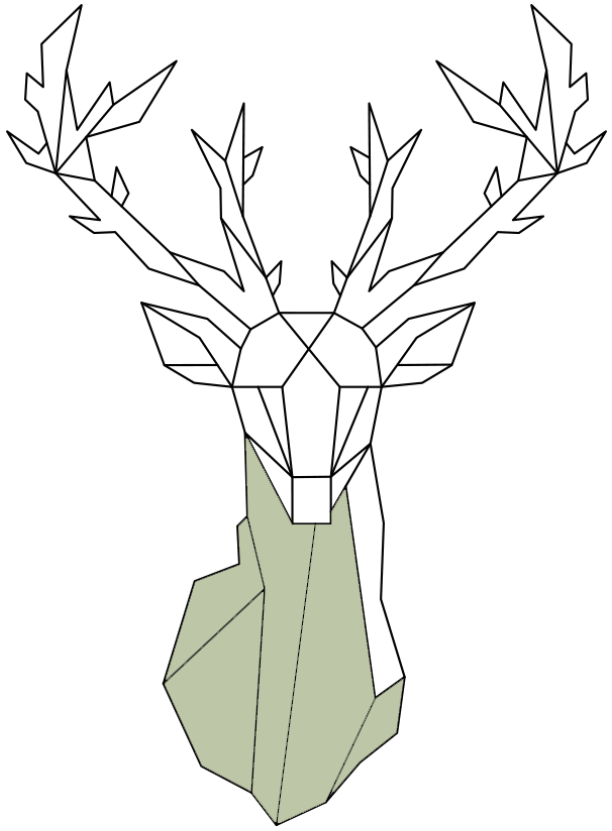
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EXPLORING THE MICROSOFT SEMANTIC LINK FOR IMPROVED DATA SCIENCE

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WE CREATE SMART AND CASUAL DATADESIGN. EVERY DAY.

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Moin



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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)

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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

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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

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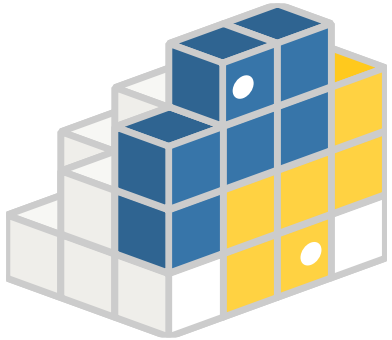
What is Semantic Link or SemPy?

semantic-link 0.6.0 Feb 28, 2024
Semantic link for Microsoft Fabric

semantic-link-sempy 0.6.0 Feb 28, 2024
Semantic link for Microsoft Fabric

semantic-link-functions-holidays 0.6.0 Feb 28, 2024
Semantic link functions for holidays package. Enables enrichment of FabricDataFrame with public holidays.

semantic-link-functions-meteostat 0.6.0 Feb 28, 2024
Semantic link functions for meteostat package. Enables enrichment of FabricDataFrame with historical weather data.



semantic-link-functions-phonenumbers 0.6.0 Feb 28, 2024
Semantic link functions for phonenumbers package. Enables validation of phone numbers in FabricDataFrames.

semantic-link-functions-validators 0.6.0 Feb 28, 2024
Semantic link functions for validators package. Enables validation of email addresses, credit card numbers, ... in FabricDataFrames.

semantic-link-functions-geopandas 0.6.0 Feb 28, 2024
Semantic link functions for Geopandas. Enables conversion of a FabricDataFrame to a GeoDataFrame.

Current version 0.8.0

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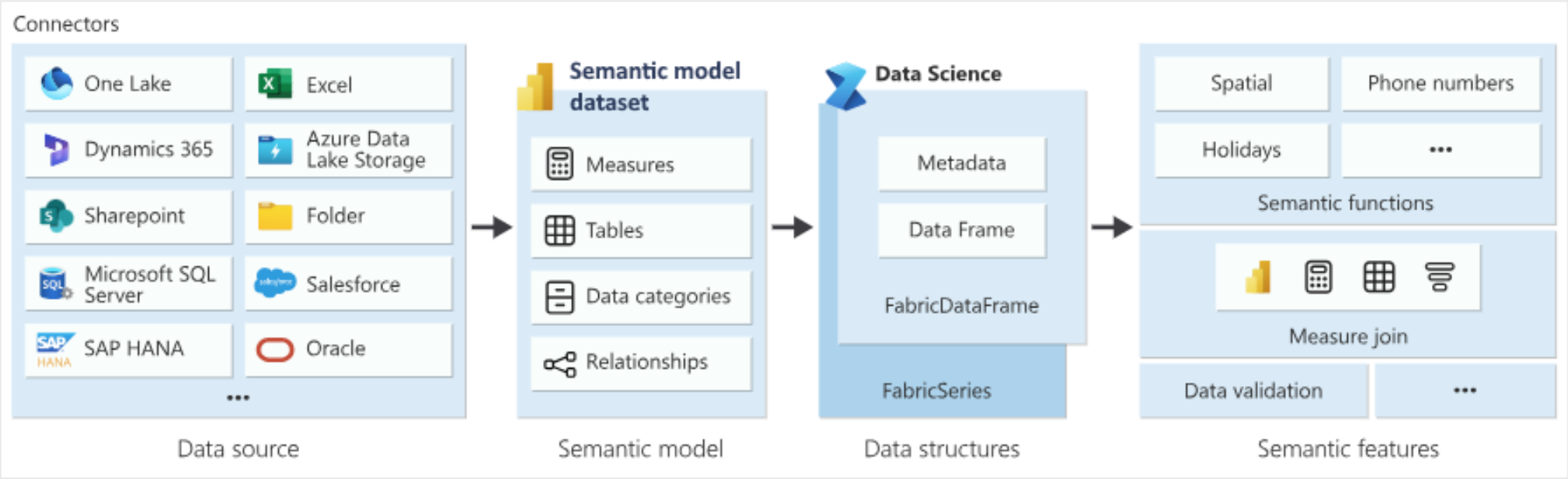
What is Semantic Link or SemPy?

- 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

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What is Semantic Link or SemPy?



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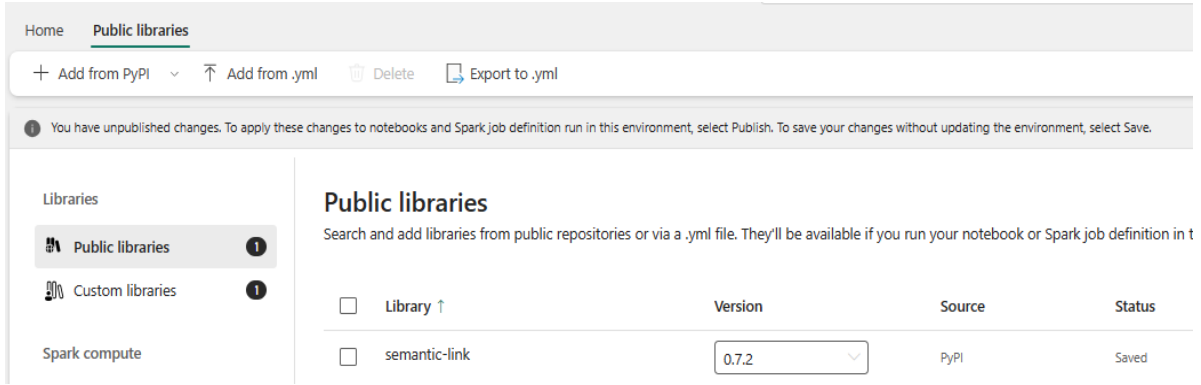
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How can we set it up?

For Spark 3.4 and above, semantic link is available in the default runtime

1. Easy one: `%pip install semanti` notebook

2. More efficient:
   - Create an environment in your workspace
   - Add from PyPI (or via YAML)



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DEMO

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

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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

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DEMO

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

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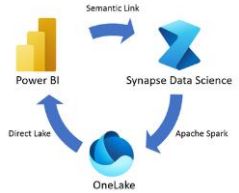
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What challenges can I solve with it?

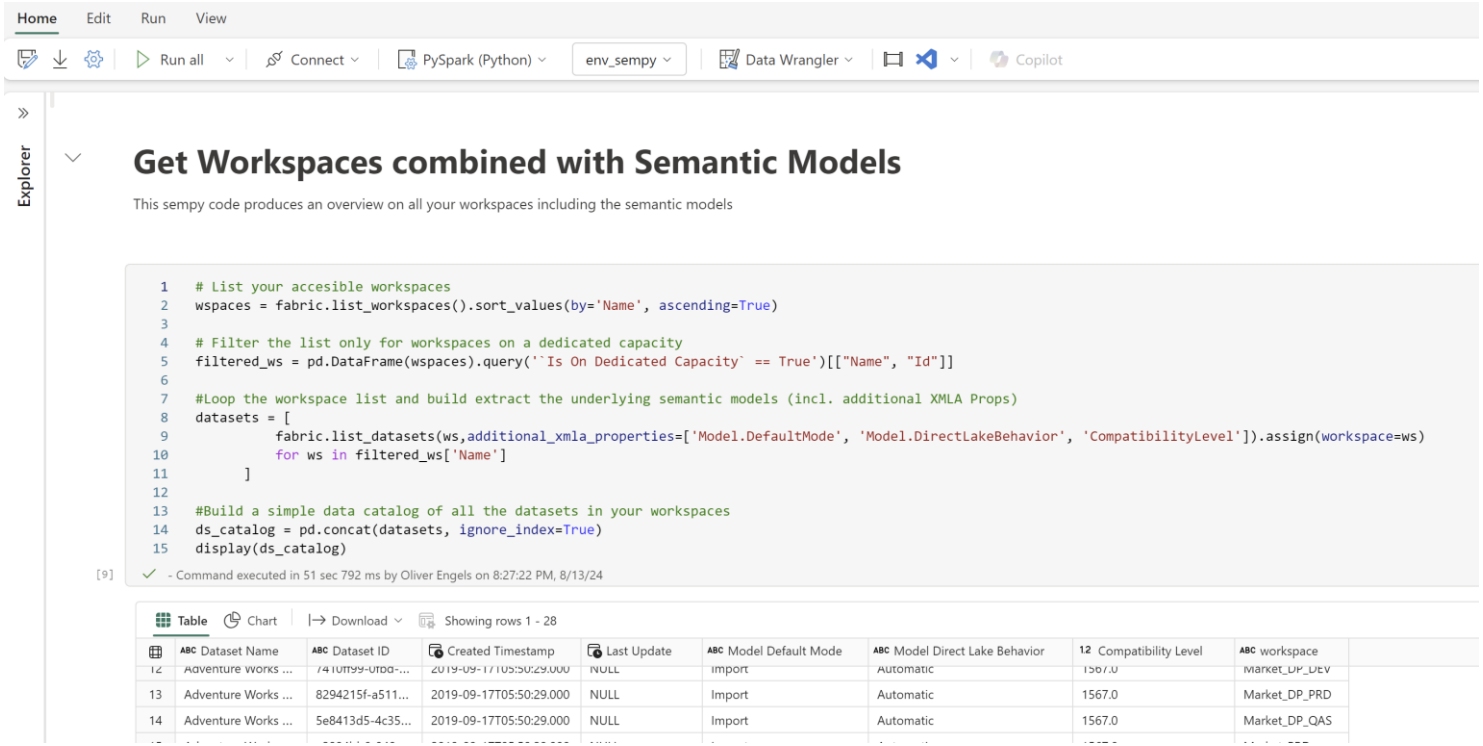
- Recognizing relations and functional dependencies
- Gaining knowledge about datasets and data tables
- Creating notebooks
- Querying tables, measures and DAX
- Integrate DQ into the process

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SEMANTIC LINK [-LABS]



From your Fabric Notebook you can:



- Functional Dependencies in your data
- Insides in your Fabric landscape
- Gover/Administer Fabric landscape
- Manage Semantic Models at Scale
- Monitoring your Fabric landscape
- Quality Gates at scale

- microsoft/semantic-link-labs: Early access to new features for Microsoft Fabric's Semantic Link. (github.com)

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What challenges can I solve with it?



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PLEASE GIVE FEEDBACK

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THANK YOU

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