

# SEMANTIC LINK LABS: A LINK TO THE FUTURE

JASON ROMANS

INDY BI USER GROUP 2025

## SEMANTIC LINK LABS

— A LINK TO THE FUTURE —



MICROSOFT  
NOTEBOOK



REPORTS THAT  
BREAK DUE TO  
STRUCTURAL CHANGES



MODELS THAT  
PERFORM POORLY  
BECAUSE BEST  
PRACTICES WERE  
SKIPPED



GOVERNANCE  
REPORT

USABILITY  
PITFALLS THAT  
MAKE REPORTS  
“TECHNICALLY FINE”  
BUT FUNCTIONALLY  
BROKEN FOR  
END USERS

# JASON ROMANS

Cloud Data & Integration Developer

The DAX Shepherd ❤️



@sql\_jar



jason-r-sql-jar



<https://thedaxshepherd.com/>



Nashville, TN, USA



Began Career as a SQL Server DBA



Transitioned to Microsoft BI Stack



Data Engineering to Data Modeling



Infrequent Blogger



Fan of Dimensional Models & Doctor

# SHOULDERS OF GIANTS

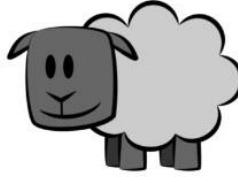


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# SLIDES

www.thedaxshepherd.com



## The DAX Shepherd

Musings on the Microsoft BI Stack

[LinkedIn](#) [GitHub](#) [Twitter](#)

[Home](#) [About Me](#) [Simple Talk](#) [Presentations](#) [A Speaker's Journey](#)

## Presentations

**Sessionize**

This is my [Sessionize Profile](#) that has the conferences I have spoken at along with future events. It has a couple of my most popular sessions.

**Presentation Slides**

This is my [GitHub Repository](#) with the presentation slides for each event.

**Recorded Sessions**

Simple Talks Podcast | Episode 4 – Coffee chat with Jason Romans

**About Jason Romans**



I love working with the Microsoft BI Stack. I am passionate about learning.

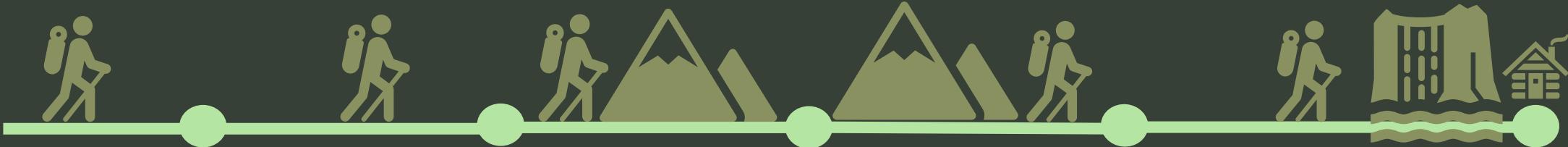
**A Speaker's Journey**

# WHY GO ON THIS JOURNEY?

- ❖ LEVERAGE EXISTING SEMANTIC MODELS
- ❖ ADMINISTRATION
- ❖ DATA VALIDATION
  - ❖ Great Expectations (Python Library)
- ❖ BEST PRACTICES
- ❖ STAY AHEAD OF ISSUES
- ❖ “HAVE YOU TRIED SEMPY?”

# OUR JOURNEY

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1. INTRO
2. NOTEBOOKS
3. SEMANTIC LINK
4. SEMANTIC LINK LABS
5. CONCLUSION

# OUR JOURNEY

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# MICROSOFT FABRIC ARCHITECTURE

- ❖ Need a Fabric Capacity
- ❖ Leverages Your Power BI Artifacts
- ❖ Data is stored in OneLake
- ❖ Choice of Compute engines

# YOUR EXISTING SKILLS APPLY

- ➊ Build on your existing Jupyter Notebook experience
- ➋ Familiar Python environment
- ➌ Native Pandas support

# OUR JOURNEY

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# TYPE OF NOTEBOOKS

## LANGUAGE

- Python
- Scala
- Spark SQL
- R
- T-SQL

## COMPUTE

- Spark
- Python (Single Node Virtual Machine)
- T-SQL Analytics

# COMPUTE & LANGUAGE

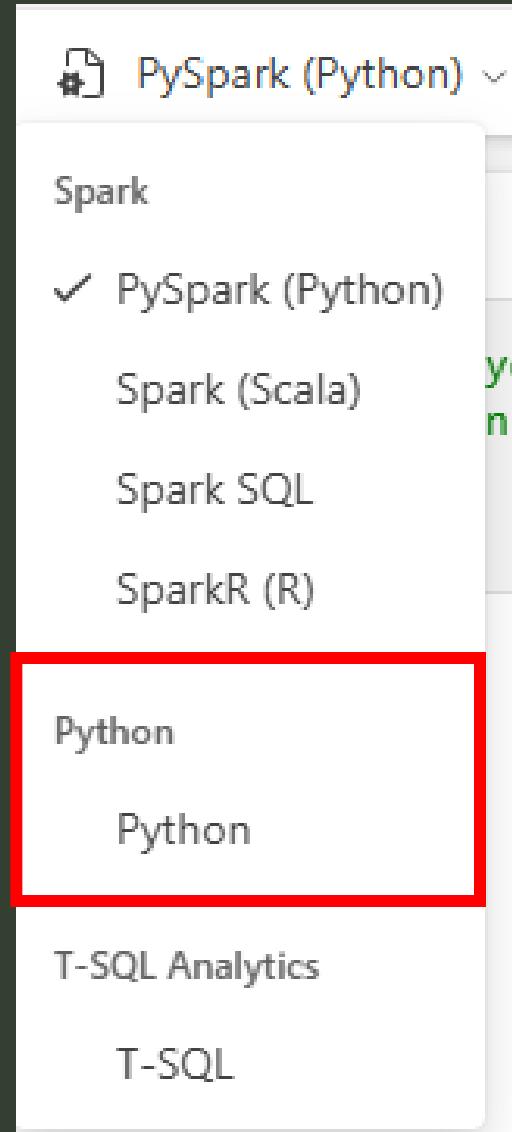


A small icon of a document with a spark symbol.	<b>PySpark (Python)</b>
	Spark
✓	PySpark (Python)
	Spark (Scala)
	Spark SQL
	SparkR (R)
	Python
	Python
	T-SQL Analytics
	T-SQL

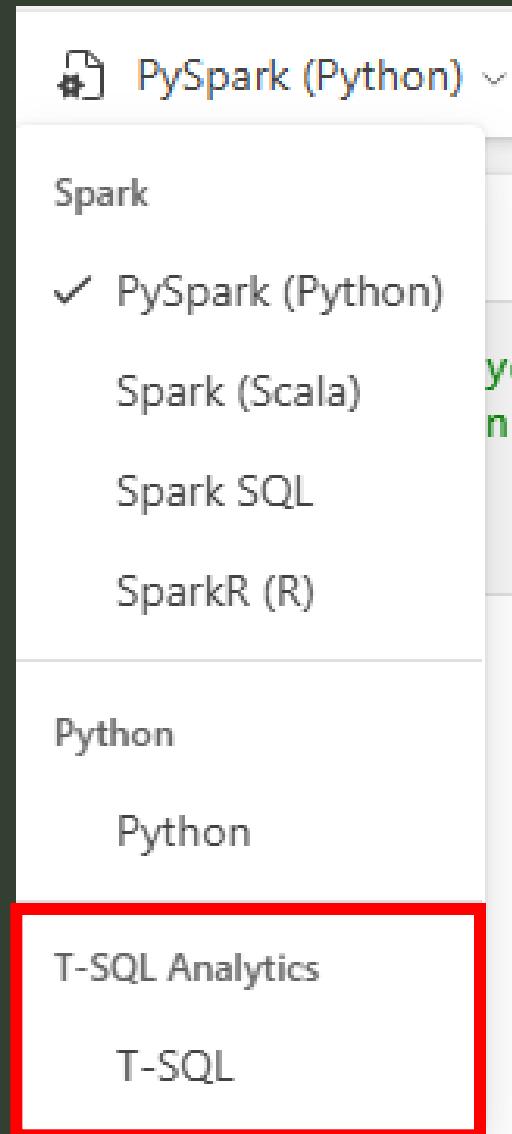
# SPARK (PYTHON, SCALA, SQL, R)



# PYTHON (PYTHON)



# T-SQL ANALYTICS (T-SQL)



# CHOOSING PYSPARK (CLUSTER) OR PYTHON COMPUTE (SINGLE NODE)

Scenario	Recommended Notebook
Includes pre-installed DuckDB and Polars libraries	Python Notebooks
Small to medium data (fits in memory)	Python Notebooks (or PySpark on single-node Spark cluster)
Rapid exploration & prototyping	Python Notebooks (or PySpark on single-node Spark cluster)
Large datasets (10GB+) exceeding memory	PySpark Notebooks
Complex data workflows or ETL pipelines	PySpark Notebooks
High-concurrency or parallel execution	PySpark Notebooks
Needs Spark-native APIs (MLlib, SQL, Streaming)	PySpark Notebooks

<https://learn.microsoft.com/en-us/fabric/data-engineering/fabric-notebook-selection-guide>

# TYPE OF COMPUTE FOR NOTEBOOKS

- Spark Based
  - Cluster
- Single Node Python
  - 2 vCores, 16G RAM (starter)
- T-SQL Analytics
  - Warehouse

# PYTHON NOTEBOOK - CHANGE VM SIZE

## NOTE: LONGER STARTUP TIMES

```
%%configure  
{  
    "vCores": 16  
}
```

- Memory is proportional to vCores
  - 2 is 2vCores with 16G
  - 4 is 4vCores with 32G
  - 8 is 8vCores with 64G
  - 16 is 16vCores with 128G
  - 32 is 32vCores with 256G
  - 64 is 64vCores with 512G
  - (32 and 64) not available in trial

# PYTHON NOTEBOOK

- Has libraries installed for dealing with “small-big” data
  - Less than 10 Gigabytes
  - Fits in memory
- Example Libraries installed
  - Polars
  - DuckDB

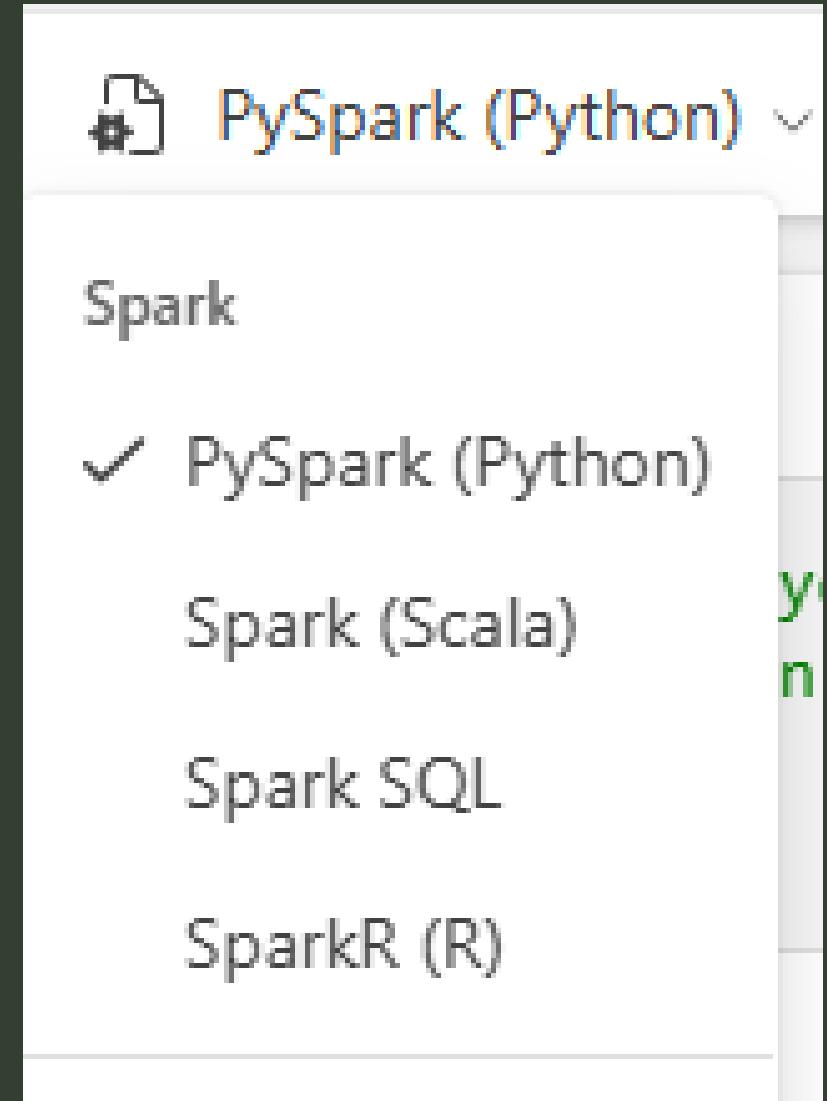
# LANGUAGES FOR SPARK

Different choices of languages

Spark was built with Scala

- PySpark (Python)
- Spark (Scala)
- Spark SQL
- SparkR (R)

\*Spark was built with Scala



# MAGIC COMMANDS – SET LANGUAGE BY CELL

Magic command	Language	Description
%%pyspark	Python	Execute a <b>Python</b> query against Apache Spark Context.
%%spark	Scala	Execute a <b>Scala</b> query against Apache Spark Context.
%%sql	SparkSQL	Execute a <b>SparkSQL</b> query against Apache Spark Context.
%%html	Html	Execute n <b>HTML</b> query against Apache Spark Context.
%%sparkr	R	Execute a <b>R</b> query against Apache Spark Context.

The screenshot shows a Jupyter Notebook interface with the following elements:

- Toolbar:** Home, Edit, AI tools, Run, View, Comments, History, Develop, Share, and a user icon.
- Code Cell:** PySpark (Python) selected (highlighted by a yellow box). Other options include Run all, Connect, and a dropdown menu.
- Code Input:** A code cell containing the command `1 %spark`.
- Code Output:** A dropdown menu showing "Spark (Scala)" (highlighted by a brown box).
- Sidebar:** Explorer and Magic Commands.
- Bottom Bar:** Standard Jupyter notebook icons for file operations.

# OUR JOURNEY

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1. INTRO
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# MISSING LINK

Semantic link is a feature that allows you to establish a connection between semantic models and Synapse Data Science in Microsoft Fabric.

-- Reference: <https://learn.microsoft.com/en-us/fabric/data-science/semantic-link-overview>

# ALL THE THINGS

Semantic link is a feature that allows you to establish a connection between semantic models and Synapse Data Science in Microsoft Fabric.

## semantic models

Models, Reports, Lakehouse, Workspaces and more

## Synapse Data Science

Fabric Notebook – Apache Spark with Python and more

# A TALE OF TWO LINKS

Both are Available Only in Microsoft Fabric

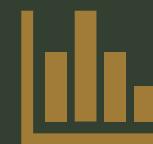
- ❖ Semantic Link
  - ❖ Base
  - ❖ Driver or API
  - ❖ Included in the default runtime for the current version

# A LINK BETWEEN WORLDS

- ❖ Semantic Link Labs
  - ❖ Michael Kovalsky
    - ❖ “Kovalsky’s Laboratory”
  - ❖ “Expansion Pack” -- Kurt Buhler
  - ❖ Uses Semantic Link
    - ❖ `import sempy.fabric as fabric`
    - ❖ Open source – GitHub Repository
    - ❖ Active Development

# SEMANTIC LINK LABS

Microsoft Fabric



Semantic Link

List Tables

List Workspaces

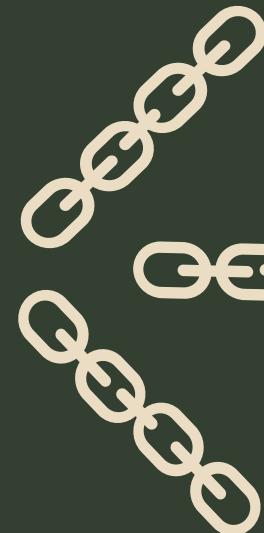


List Models

List Reports

Semantic Link Labs

Migrate to Direct Lake



Best Practice Analyzer

Manage Reports

View Broken Reports

Rebind Reports

# INSTALLING

- ⦿ Semantic Link
- ⦿ Spark 3.4 in default runtime
  - ⦿ Update to newest version
    - ⦿ %pip install -U semantic-link
- ⦿ Spark 3.3 or below – need to install
  - ⦿ %pip install -U semantic-link

# WHAT VERSION OF SPARK

**Workspace settings**

- General
- License info
- Azure connections
- System storage
- Git integration
- OneLake
- Workspace identity
- Network security
- Power BI
- Delegated Settings
- </> OneLake settings

**Spark settings**  
Configure and manage settings for Spark workloads and the default environment for the workspace.

Pool    **Environment**    High concurrency    Automatic log

**Set default environment**  Off  
The default environment will provide Spark properties, libraries, and developer settings for notebooks and Spark job definitions in this workspace when users don't select a different environment. [Learn more about Set default environment](#)

Runtime

**Runtime Version**  
Runtime version defines which version of Spark your Spark pool will use. [Learn more about Runtime Version](#)

1.2 (Spark 3.4, Delta 2.4)

**Data** ^  
Engineering/Science  
Spark settings

Data Factory ▼

# SPARK VERSION COMMAND

spark.version

```
1 spark.version
```

✓ <1 sec - Command executed in 260 ms by Jason Romans on 2:00:03 PM, 10/08/24

```
'3.4.3.5.3.20240904.5'
```

# WHAT VERSION OF SEMANTIC LINK

⌚ %pip show semantic-link

⌚ or %pip list | grep semantic-link

```
1  %pip show semantic-link
[23]  ✓ 4 sec - Command executed in 3 sec 588 ms by Jason Romans on 11:49:10 PM, 10/19/24 PySpark (Python) ▾
...
Name: semantic-link
Version: 0.8.1
Summary: Semantic link for Microsoft Fabric
Home-page: https://learn.microsoft.com/en-us/fabric/data-science/semantic-link-overview
Author: Microsoft
Author-email: semanticdatascience@service.microsoft.com
License: proprietary and confidential
Location: /nfs4/pyenv-dd0ba783-2069-4fdc-8c80-bc03c74db705/lib/python3.11/site-packages
Requires: semantic-link-functions-geopandas, semantic-link-functions-holidays, semantic-link-functions-meteostat, semantic-link-functions-phonenumbers, semantic-link-functions-validators, semantic-link-sempy
Required-by:
Note: you may need to restart the kernel to use updated packages.
```

# IMPORT THE MODULE

```
# Give it a friendly name – think Alias
```

```
import sempy.fabric as fabric
```

# DONE IN A NOTEBOOK

Code - Python

Install the latest .whl package

Check [here](#) to see the latest version.

```
1 %pip install semantic-link-labs  
- Session ready in 8 sec 603 ms. Command executed in 26 sec 202 ms by Jason Romans on 10:29:04 AM, 10/23/24
```

Install Wheel from File

```
1 %pip install /lakehouse/default/Files/semantic_link_labs-0.8.3-py3-none-any.whl  
- Command executed in 22 sec 745 ms by Jason Romans on 10:07:06 AM, 10/23/24
```

Show Semantic Link and Labs installed

```
1 %pip show semantic-link-sempy  
2 print('\n')  
3 %pip show semantic-link-labs  
✓ - Command executed in 6 sec 382 ms by Jason Romans on 10:30:20 AM, 10/23/24
```

Name: semantic-link-sempy  
Version: 0.8.1  
Summary: Semantic link for Microsoft Fabric  
Home-page: <https://learn.microsoft.com/en-us/fabric/data-science/semantic-link-overview>  
Author: Microsoft

Text Descriptions - Markdown

# USES PANDAS ECOSYSTEM (DATAFRAME)

Knowledge of working with  
Pandas DataFrame helpful

DataFrame – data table



# LIST SEMANTIC MODELS

```
import sempy.fabric as fabric  
fabric.list_datasets()
```

Dataset = Semantic Model

	Dataset Name	Dataset ID	Created Timestamp	Last Update
0	Contoso10K	47c34560-ef4d-46c6-825e-20cb9f11ba9d	2023-05-04 14:36:12	NaT
1	FabSLL_Lakehouse	e6d18d3a-b407-4fb3-813a-418b76388b11	2021-02-12 23:00:58	NaT
2	DataflowsStagingLakehouse	7c76f16d-2364-4c33-89bb-6960ac29cb5d	2021-02-12 23:00:58	NaT
3	DataflowsStagingWarehouse	625cb1b9-de7e-425f-90b3-727ac87268db	2021-02-12 23:00:58	NaT
4	Contoso10K_DL	261101fb-fc2d-4511-be34-1def1b4530fe	2019-09-17 05:50:29	NaT
5	Contoso10K_DLL1	40b52877-7e62-43cd-9a38-7c09b62f9048	2019-09-17 05:50:29	NaT
6	Contoso10K_ABC	cc93c0f1-e112-4adc-a009-3fb3a7a12f3b	2019-09-17 05:50:29	NaT
7	Contoso10K_SLL	e45a6ce5-5ea5-4b87-ad88-136dc4cab27	2019-09-17 05:50:29	NaT
8	Contoso10K_SL1	421040eb-ba74-4304-bb92-708c1667eb61	2019-09-17 05:50:29	NaT
9	Contoso10K_SL2	b84b790d-04a2-406d-ba17-2191186ebafa	2019-09-17 05:50:29	NaT
10	Contoso10K_SL9	5ca86b73-bef1-43d6-af09-5c12e358d391	2019-09-17 05:50:29	NaT

# LIST TABLES

```
tables = fabric.list_tables(workspace="ws", dataset = "model")  
display(tables)
```

	Name	Description	Hidden	Data Category	Type
0	Customer		False		Table
1	Sales		False		Table
2	Date		False		Table
3	Store		False		Table
4	Product		False		Table

# LIST WORKSPACES

```
1 fabric.list_workspaces()
```

✓ - Command executed in 806 ms by Jason Romans on 5:25:32 PM, 10/08/24

PySpark (Python) ▾

	<b>Id</b>	<b>Is Read Only</b>	<b>Is On Dedicated Capacity</b>	<b>Capacity Id</b>	<b>Default Dataset Storage Format</b>	<b>Type</b>	<b>Name</b>
0	bfbab8dff-bdfc-4943-9996-7dc97a4e4d38	False	False	NaN	NaN	Workspace	JAXSQL2023
1	41e69008-f6c3-42c0-8c0a-739f1a7a9a0a	False	True	3b9ac229-bcbb-4aa4-8543-72b6db25e330	Small	Workspace	ONSQSL2023
2	10c0ad3f-7a0b-4c0e-8b7d-f4a6170c5dde	False	True	3b9ac229-bcbb-4aa4-8543-72b6db25e330	Small	Workspace	SOFLSQL2023
3	ee7a8d30-f109-4848-9db3-be711a0f24d4	False	False	NaN	NaN	AdminInsights	Admin monitoring
4	10c2bd0a-5d3d-4e77-883cf16af027fcf5	False	True	3b9ac229-bcbb-4aa4-8543-72b6db25e330	Small	Workspace	COLSQLSAT2023
5	365a3880-83f7-4014-bad3-a006c34e2bb1	False	True	3b9ac229-bcbb-4aa4-8543-72b6db25e330	Small	Workspace	BRSQLSAT2023
6	e6e71dc2-2a8e-482a-8bc9-ff5c16ed0311	False	True	3b9ac229-bcbb-4aa4-8543-72b6db25e330	Small	Workspace	DENSQLSAT2023

# LIST WORKSPACES ON DEDICATED CAPACITY

```
1 ws = fabric.list_workspaces()
2 dedicated = ws[ws["Is On Dedicated Capacity"] == True]
3 display(dedicated)
```

✓ - Command executed in 790 ms by Jason Romans on 5:37:07 PM, 10/08/24

PySpark (Python) ▾

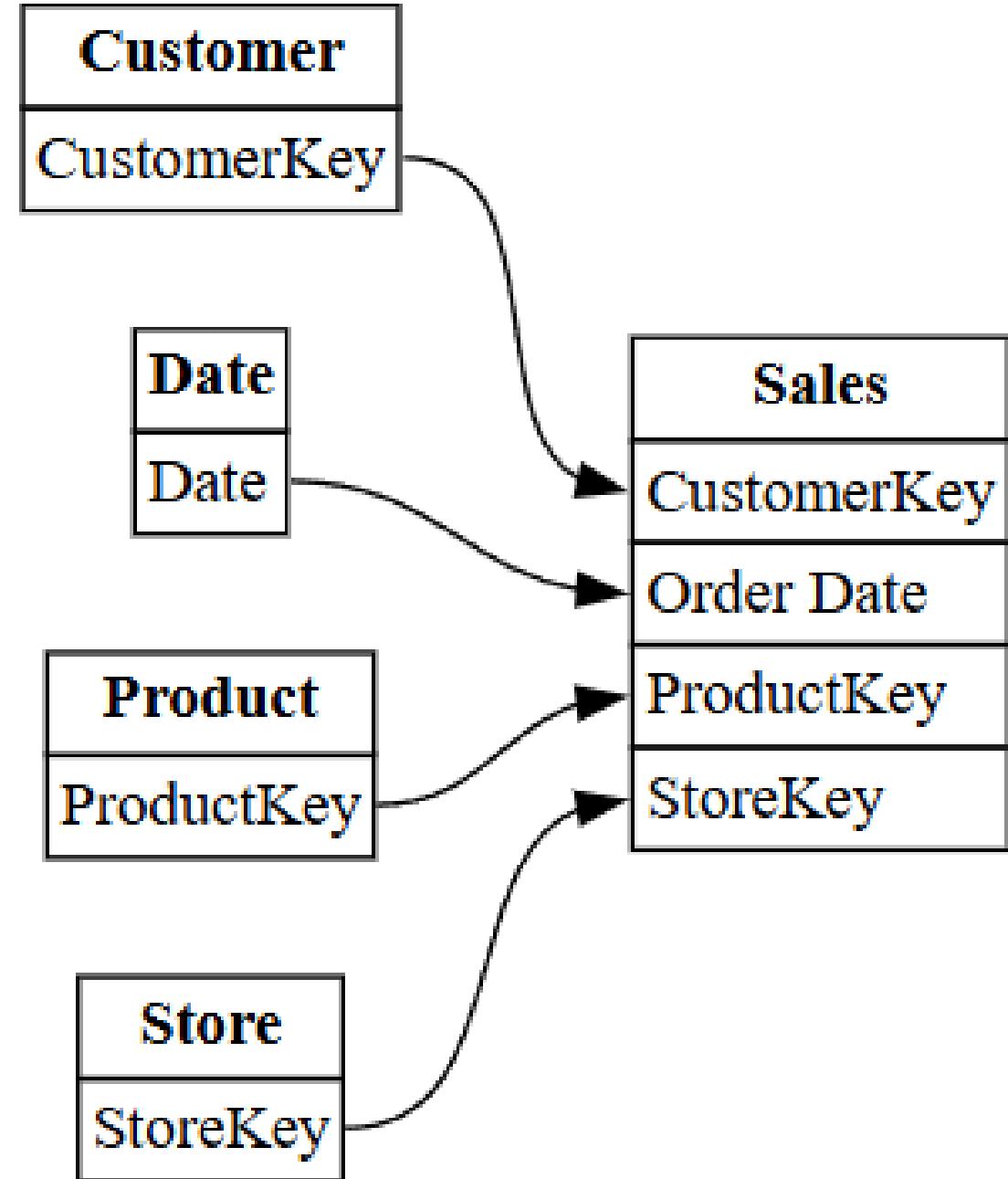
	ABC Id	0/1 Is Read Only	0/1 Is On Dedicated Capacity	ABC Capacity Id	ABC Default Dataset Storage Format	ABC Type	ABC Name
1	41e69008-f...	false	true	3b9ac229-bcbb...	Small	Workspace	ONSQL2023
2	10c0ad3f-7...	false	true	3b9ac229-bcbb...	Small	Workspace	SOFLSQL2023
3	10c2bd0a-...	false	true	3b9ac229-bcbb...	Small	Workspace	COLSQLSAT2023
4	365a3880-...	false	true	3b9ac229-bcbb...	Small	Workspace	BRSQLSAT2023
5	e6e71dc2-...	false	true	3b9ac229-bcbb...	Small	Workspace	DENSQLSAT2023
6	782b40a8-...	false	true	3b9ac229-bcbb...	Small	Workspace	SQLMAB
7	62e33fa7-f...	false	true	3b9ac229-bcbb...	Small	Workspace	SQLSAT_Denver2023
8	9a5d4f1a-b...	false	true	3b9ac229-bcbb...	Small	Workspace	MNSQLSAT2023
9	ba1e683d-...	false	true	3b9ac229-bcbb...	Small	Workspace	ORLANDOSQLSAT2023
10	be75ac57-...	false	true	3b9ac229-bcbb...	Small	Workspace	SV-SQLSat2023
11	4d139fc8-0...	false	true	3b9ac229-bcbb...	Small	Workspace	ORWA23_SQLSAT
12	23c86de6-...	false	true	3b9ac229-bcbb...	Large	Workspace	TE Training
13	ad0afb41-...	false	true	3b9ac229-bcbb...	Small	Workspace	PremTest
14	2e6ae09d-...	false	true	3b9ac229-bcbb...	Large	Workspace	SQLBits2024
15	5f6564c6-1...	false	true	27046857-fc30-...	Small	Workspace	MetaDriven-2

Selected Cell 14 of 21 cells

# RELATIONSHIPS

```
from sempy.relationships import  
plot_relationship_metadata as prm
```

```
prm(  
    fabric.list_relationships(  
        workspace="Summit2025_SLL",  
        dataset="Hyrule10K"  
    )  
)
```



# MODEL HEALTH IN MICROSOFT FABRIC

- 1. Best Practice Analyzer
- 2. Memory Analyzer
- 3. Community Notebooks

The screenshot shows the Microsoft Fabric Model Health interface. At the top, there's a navigation bar with 'Search' and other options like 'Explore', 'Analyze in Excel', 'Lineage', 'Open semantic model', 'Write DAX queries', 'Prep data for AI', and 'Power BI trial: 38 days left'. On the right, there's a user profile icon.

In the center, there are three main sections:

- Best practice analyzer:** Shows a green icon of three overlapping circles and the text 'Get insights fast or create an analysis report you can share. [Learn more](#)'.
- Memory analyzer:** Shows a blue icon of a person with a gear and the text 'Share this data'.
- Community notebooks:** Shows a red icon of a document and the text 'Give people access to the semantic model and set their permissions to work with it. [Learn more](#)'.

Below these sections is a table with columns: Type, Relation, Location, Refreshed, Endorsement, and Sensitivity. One row is visible: Report, Downstream, AtlantaBI\_SLL, 11/1/25, 9:07:33 ..., —, —.

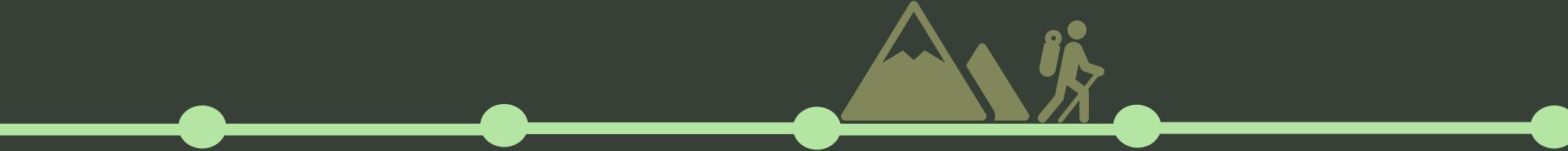
At the bottom right, there's a sidebar titled 'Table' with a dropdown menu showing 'Model health' selected. Other options in the menu include 'Best practice analyzer', 'Memory analyzer', and 'Community notebooks'. A tooltip explains: 'Select a semantic model to view and export the underlying data. [Learn more](#)'. Below the sidebar, there's a note: 'To select more than one table, and view summarized data, create a paginated report.' and a 'Create paginated report (preview)' button. A list of tables is shown: Customer, Date, Product, Sales, and Store, each with a checkbox and a table icon.

# SEMANTIC LINK DEMO



# OUR JOURNEY

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- 
1. INTRO
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  4. SEMANTIC LINK LABS
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# LEVEL 2: SEMANTIC LINK LABS

- Standard Python library
- Completely free and open-source
- Backed by Microsoft (GitHub repository)
- Continuous development and improvements

# ORIGIN STORY

Migrate Semantic Models  
from Import to Direct Lake

# ACTIVE DEVELOPMENT

June 18, 2024 at 0.4.2

Now up to 0.12.5

0.12.6

0.12.7

# INSTALL THE PACKAGE

```
# Install Semantic Link Labs
```

```
%pip install semantic-link-labs
```

```
# Import module with a shorter name
```

```
# Easier to Type
```

```
import sempy_labs as labs
```

# NOTEBOOKS TO GET YOU STARTED

- ❖ MIGRATION TO DIRECT LAKE
- ❖ BEST PRACTICE ANALYZER REPORT
- ❖ CAPACITY MIGRATION
- ❖ DELTA ANALYZER
- ❖ MODEL OPTIMIZATION
- ❖ QUERY SCALE OUT

# EVEN MORE HELPER NOTEBOOKS

- ❖ REPORT ANALYSIS
- ❖ SQL
- ❖ SEMANTIC MODEL MANAGEMENT
- ❖ SEMANTIC MODEL REFRESH
- ❖ SERVICE PRINCIPAL
- ❖ TABULAR OBJECT MODEL

# OBSTACLES

- ❖ May Require Spark
  - ❖ This function may be executed in either a PySpark or pure Python notebook. If executing in a pure Python notebook, the DataFrame must be a pandas DataFrame.
- ❖ May not fully work with Lakehouse Schemas

# UPDATE DEPENDENCIES

Installing Semantic Link Labs  
will update Semantic Link

# EXPANDS SEMANTIC LINK

- ⬢ Does not replace or overwrite
- ⬢ Have both available
- ⬢ You will use both
- ⬢ Just like installing DuckDB or other packages

# ENVIRONMENT

- ❖ Install shared libraries
- ❖ Spark settings
- ❖ Not available for  
Pure Python Notebook

# CREATE ENVIRONMENT

New item

Favorites  All items

Analyze and train data

Propose hypotheses, train models, and explore your data to make decisions and predictions.

**Environment** 

Set up shared libraries, Spark compute settings, and resources for notebooks and Spark job definitions.



Develop data

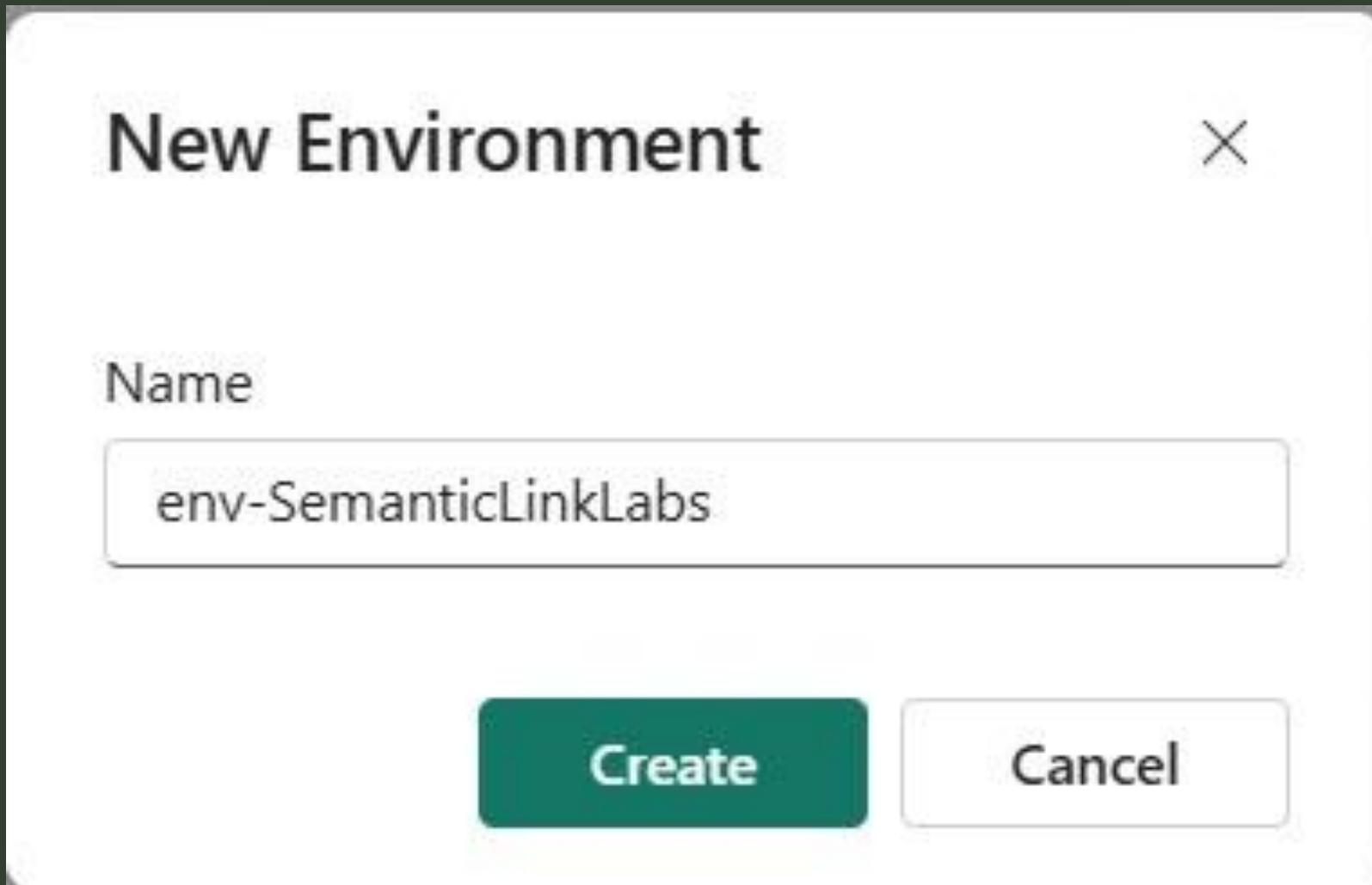
Create and build your software, applications, and data solutions.

**Environment** 

Set up shared libraries, Spark compute settings, and resources for notebooks and Spark job definitions.



# NAME ENVIRONMENT



# ADD LIBRARY

-  External repositories
-  Custom

Spark compute

-  Acceleration
-  Compute
-  Spark properties

Storage

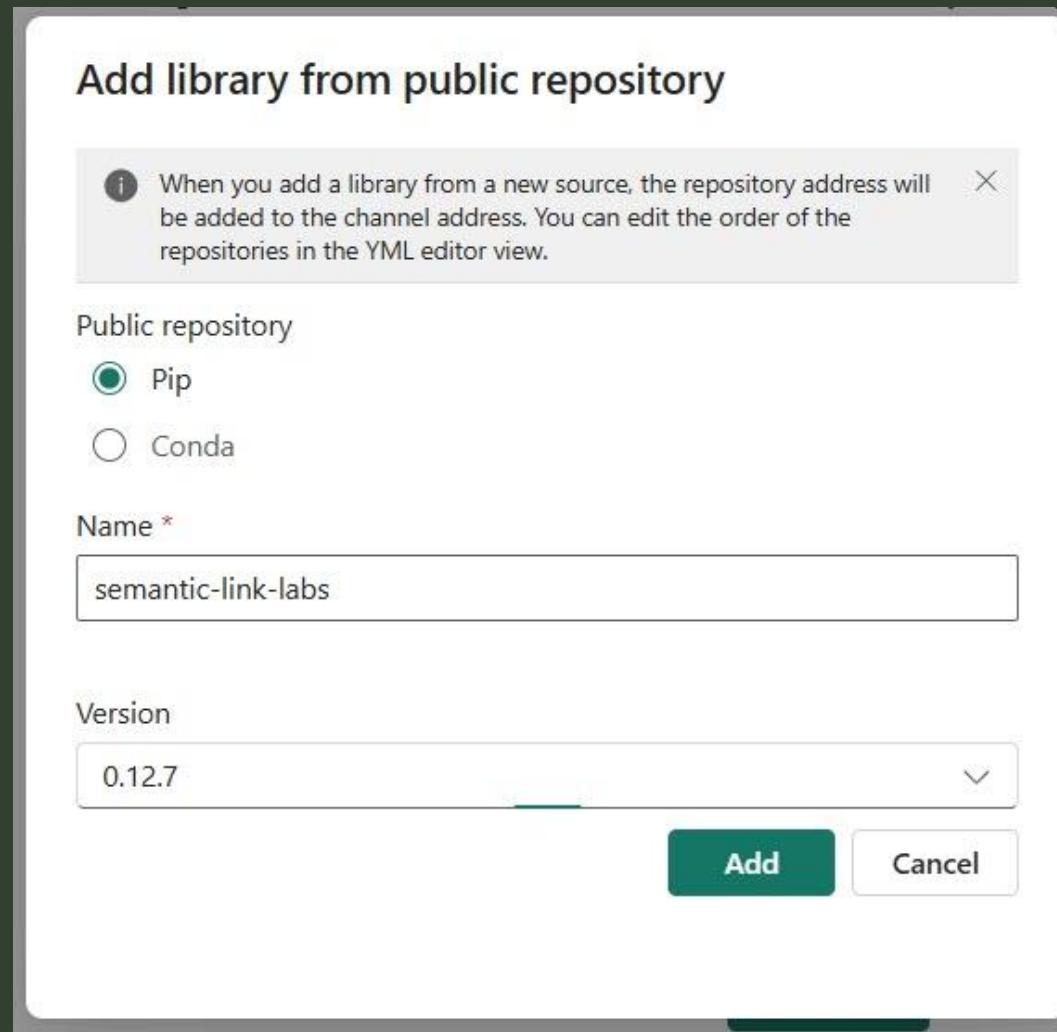
-  Resources



**There's nothing here yet**

Add libraries from external repositories or via a YML.

# ADD LIBRARY FROM REPO (CHOICE)



# SPECIFIC VERSIONS

- ⬢ Choose your development version
- ⬢ Control your upgrade path

# LIST OF LIBRARIES

1 You have unpublished changes. To apply these changes to notebooks and Spark job definition run in this environment, select Publish. To save your changes without updating the environment, select Save.

Libraries

- Built-in
- External repositories 1
- Custom

Spark compute

- Acceleration
- Compute
- Spark properties

## Libraries from external repositories

Add libraries from public or private repositories using the list view or via YML. Added libraries will be available if you run your notebook or Spark job.

<input type="checkbox"/>	Library ↑	Version	Status	Last updated
<input type="checkbox"/>	semantic-link-labs	0.12.7	New	New

# PUBLISH (IMPORTANT)

i You have unpublished changes. To apply these changes to notebooks and Spark job definition runs, click Save or Publish.

Save Publish

Libraries

External repositories 1

Built-in

Custom

Spark compute

Acceleration

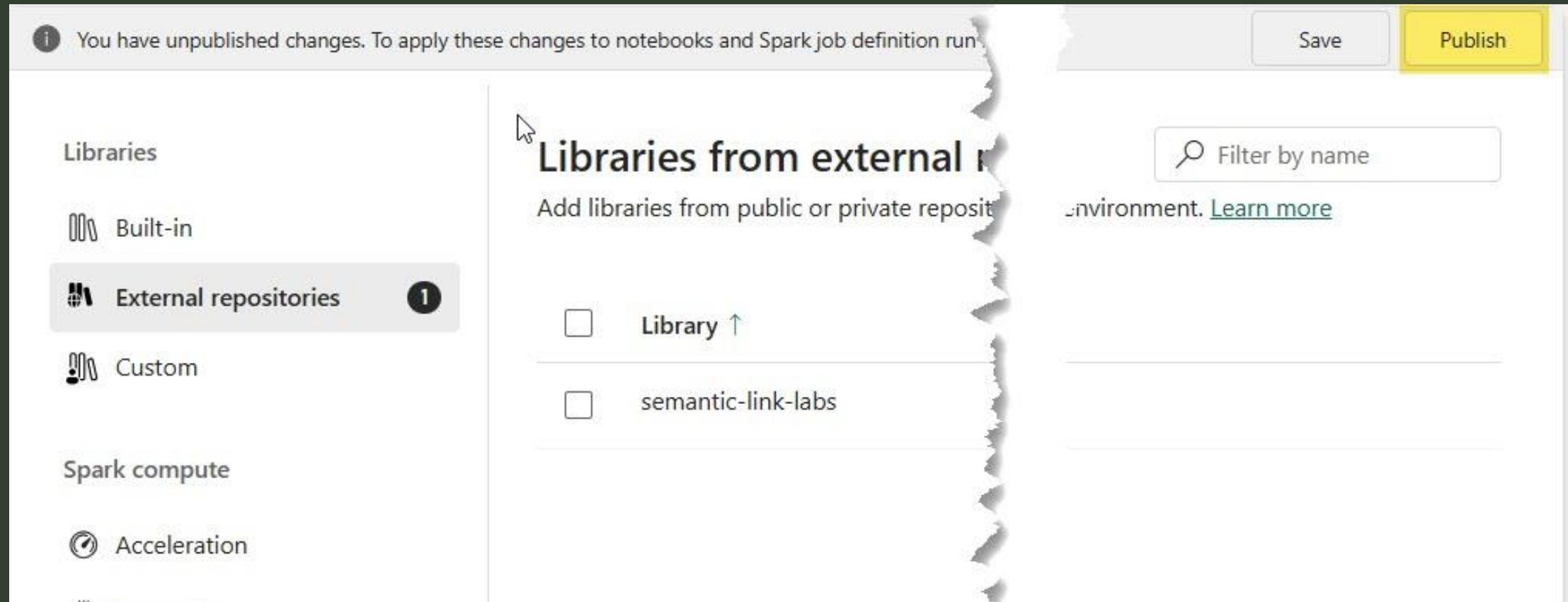
Libraries from external repositories

Add libraries from public or private repositories to your environment. [Learn more](#)

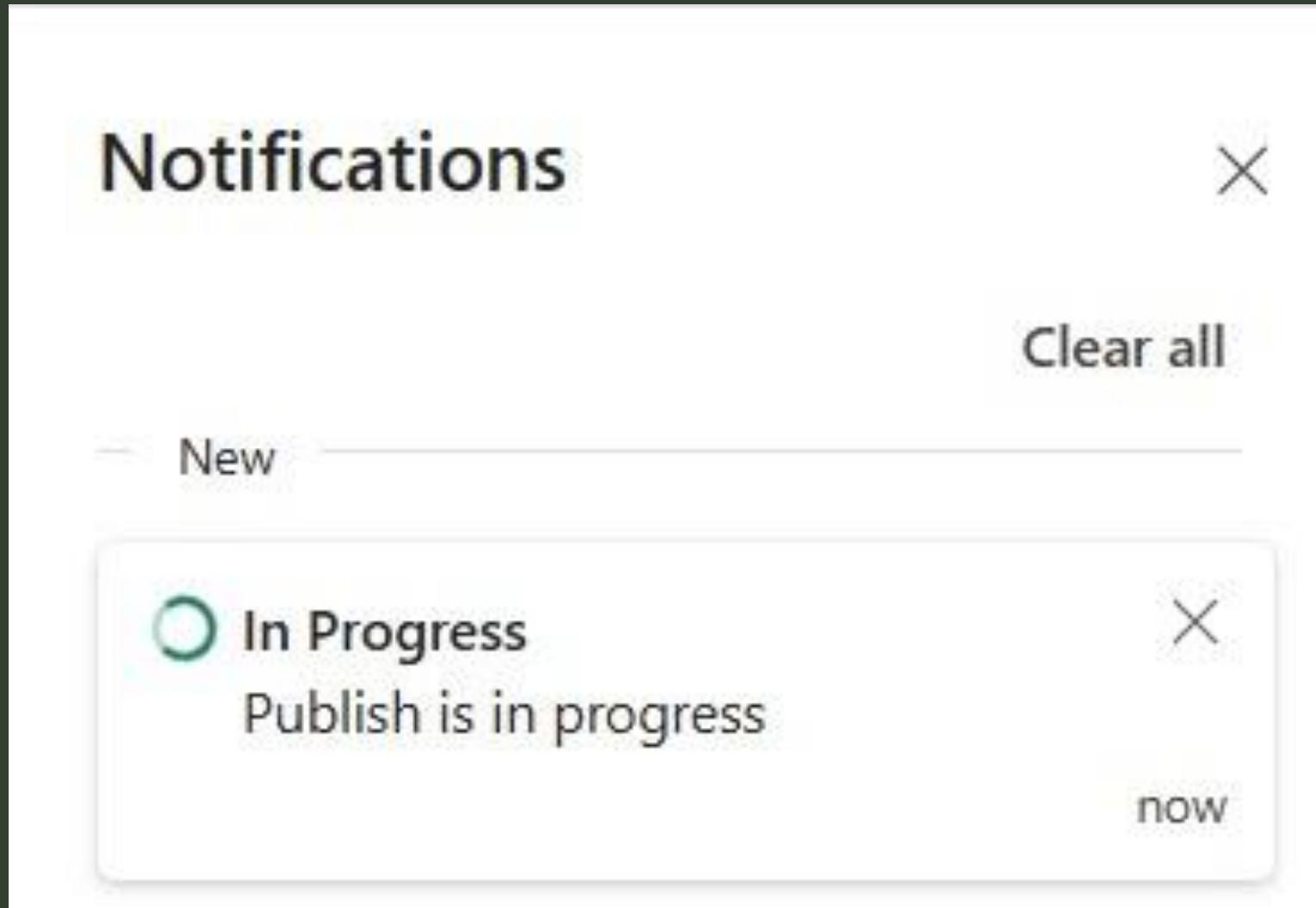
Library ↑

semantic-link-labs

Filter by name



# ENVIRONMENT TAKES TIME TO PUBLISH



# WORKSPACE SETTINGS - ENVIRONMENT

## Workspace settings

- General
- License info
- Azure connections
- System storage
- Git integration
- OneLake
- Workspace identity
- Network security

### Power BI

### Delegated Settings

### Data Engineering/Science

### Spark settings

### Data Factory

 This section contains unsaved changes.

## Spark settings

Configure and manage settings for Spark workloads and the default environment for the workspace.

Pool Environment Jobs High concurrency Automatic log

### Set default environment

The default environment will provide Spark properties, libraries, and developer settings for notebooks and Spark job definitions in this workspace when users don't select a different environment. [Learn more about Set default environment](#)

Semantic\_Link\_Labs

Filter by keyword

#### Available environments

##### Semantic\_Link\_Labs

Runtime: 1.3 (Spark 3.5, Delta 3.2), Compute: Medium, 1-10 nodes

On

New environment

#### Spark driver memory

56g

#### Spark executor core

8

#### Spark executor memory

56g

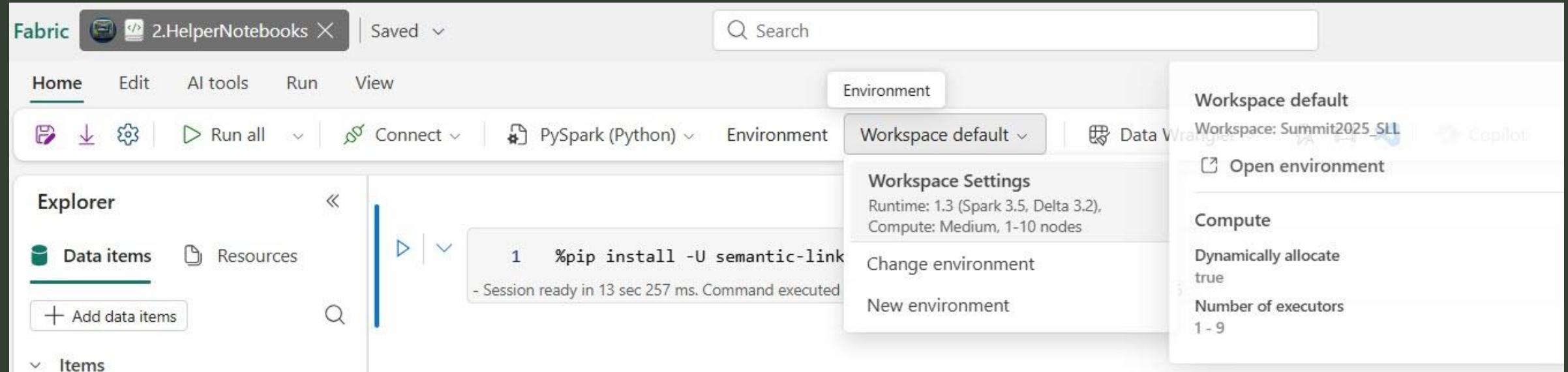
#### Dynamically allocate executors

Enabled

#### Spark executor instances

1-9

# SET ENVIRONMENT - NOTEBOOK SETTING



# EXECUTING NOTEBOOK USING A PIPELINE

- ❖ Either
  - ❖ Use Environment with Semantic Link Labs
    - ❖ Microsoft recommended way
    - ❖ Only for Spark
  - ❖ Python inline installation
    - ❖ Enable %pip install for pipeline, add "\_inlineInstallationEnabled" as bool parameter equals True in the notebook activity parameters.
  - ❖ Reference:
    - ❖ <https://learn.microsoft.com/en-us/fabric/data-engineering/library-management>

# SEMANTIC LINK LABS

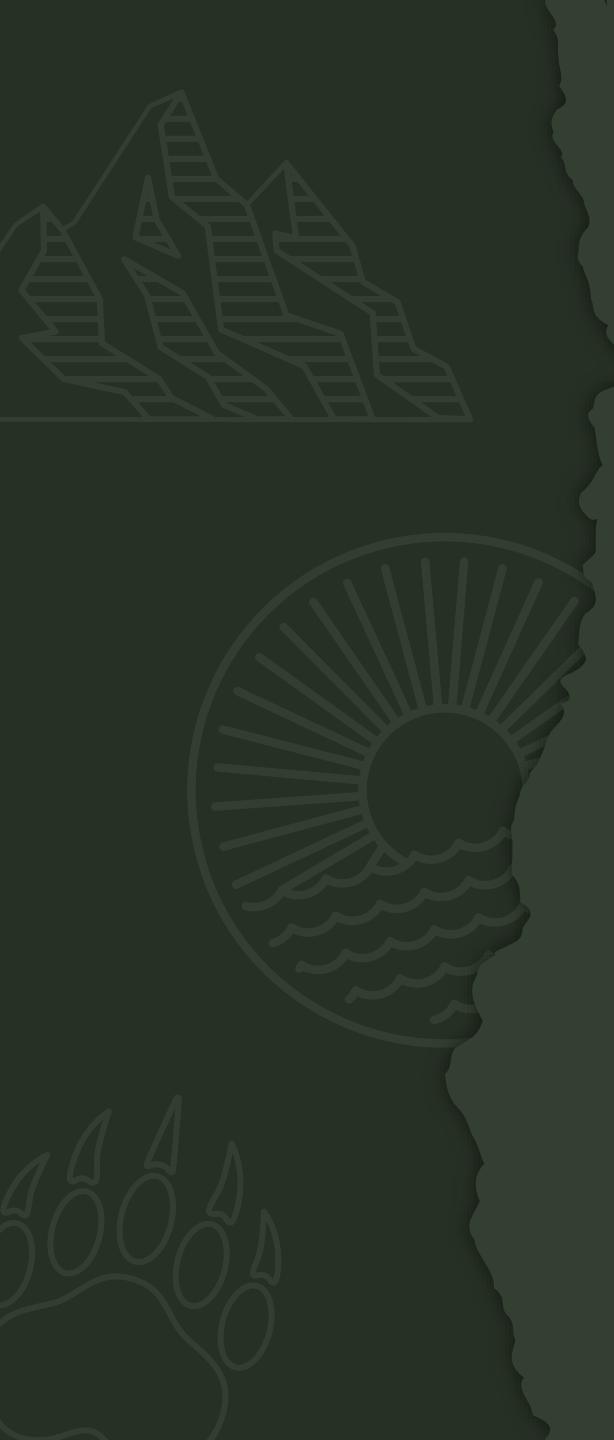
## DEMO



# OUR JOURNEY

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- 
1. INTRO
  2. NOTEBOOKS
  3. SEMANTIC LINK
  4. SEMANTIC LINK LABS
  5. CONCLUSION



# NOT IF BUT WHEN

- ⬢ Your go-to solution (sooner or later)
- ⬢ Ever-expanding world of capabilities
- ⬢ Evolving to adapt to Fabric changes
- ⬢ For Example: Lakehouse Schemas

# RESOURCES

## Semantic Link

- ❖ <https://learn.microsoft.com/en-us/fabric/data-science/semantic-link-overview>

## Semantic Link labs

- ❖ <https://github.com/microsoft/semantic-link-labs>
- ❖ Semantic Link Labs – Read the Docs
  - ❖ [https://semantic-link-labs.readthedocs.io/en/stable/sempy\\_labs.html](https://semantic-link-labs.readthedocs.io/en/stable/sempy_labs.html)

# RESOURCES

Tabular Editor Training (Notebooks, Semantic Link, and semantic-link-labs)

- ⦿ <https://tabulareditor.com/learn>

Sandeep Pawar

- ⦿ <https://fabric.guru/fabric-semantic-link-and-use-cases>

Zelda Dataset (Zelda: Breath of the Wild Hyrule Compendium)

- ⦿ <https://www.kaggle.com/datasets/elisamork/zelda-breath-of-the-wild-hyrule-compendium>

# THANK YOU

JASON ROMANS

THEDAXSHEPHERD@GMAIL.COM

WWW.THEDAXSHEPHERD.COM



## THE DAX SHEPHERD