

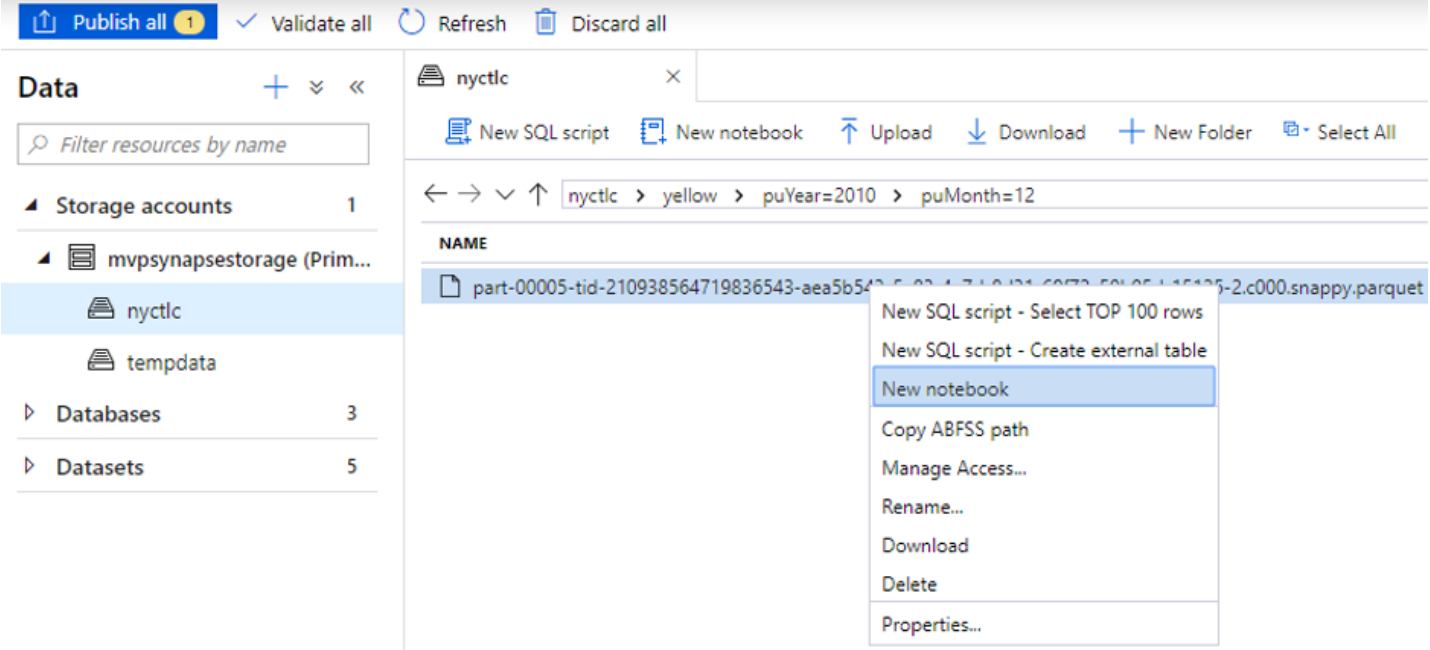
Code-first data analysis with Azure Synapse Analytics

Azure Synapse Analytics enables you to analyze data any way you want—whether you prefer to use Notebooks or SQL scripts, or if your data source is in a data lake or a database—all within a single, efficient workspace. This guide demonstrates how easy it is to use your preferred code to analyze data.

Tip: Get started with Azure Synapse Analytics in [four quick steps](#).

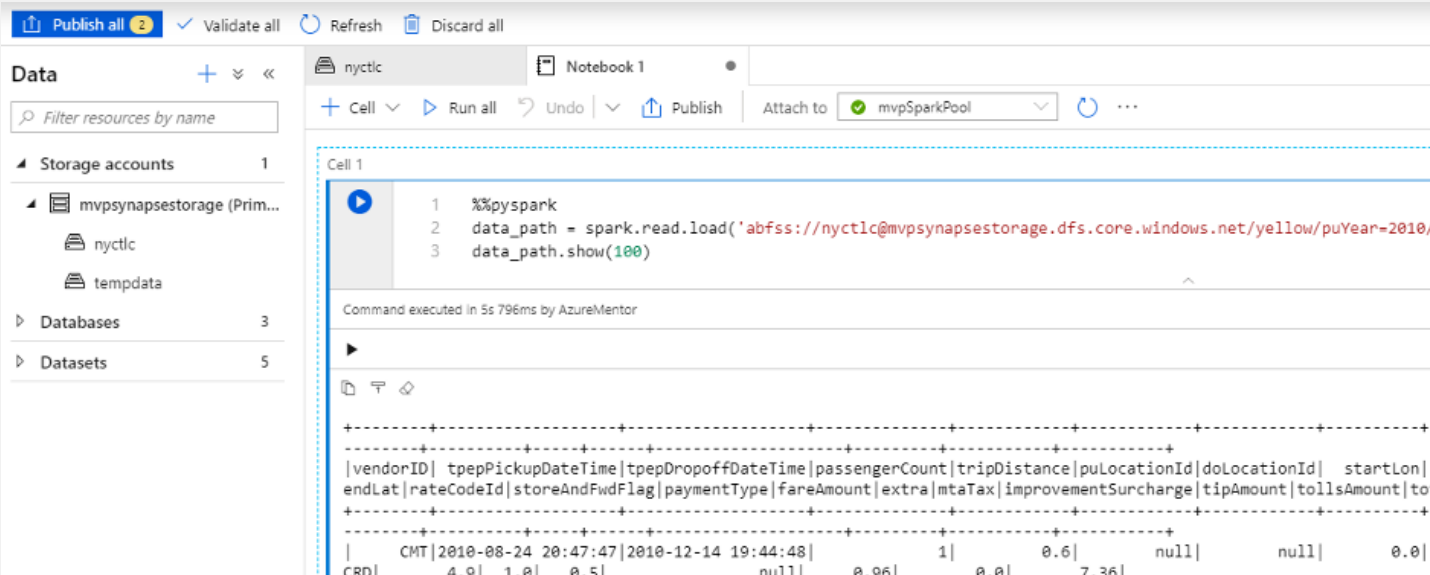
STEP 1

In the **Data** hub, right-click on the container, and select **New notebook**. In this example, we select the **New York City Taxi and Limousine Commission (nycctlc)** dataset in our Microsoft Azure Data Lake Storage account.



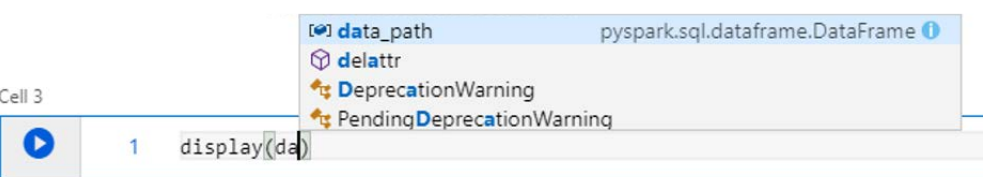
STEP 2

Azure Synapse instantly generates the necessary starter code in PySpark (Python) to connect to the dataset. You can run this code without modification.

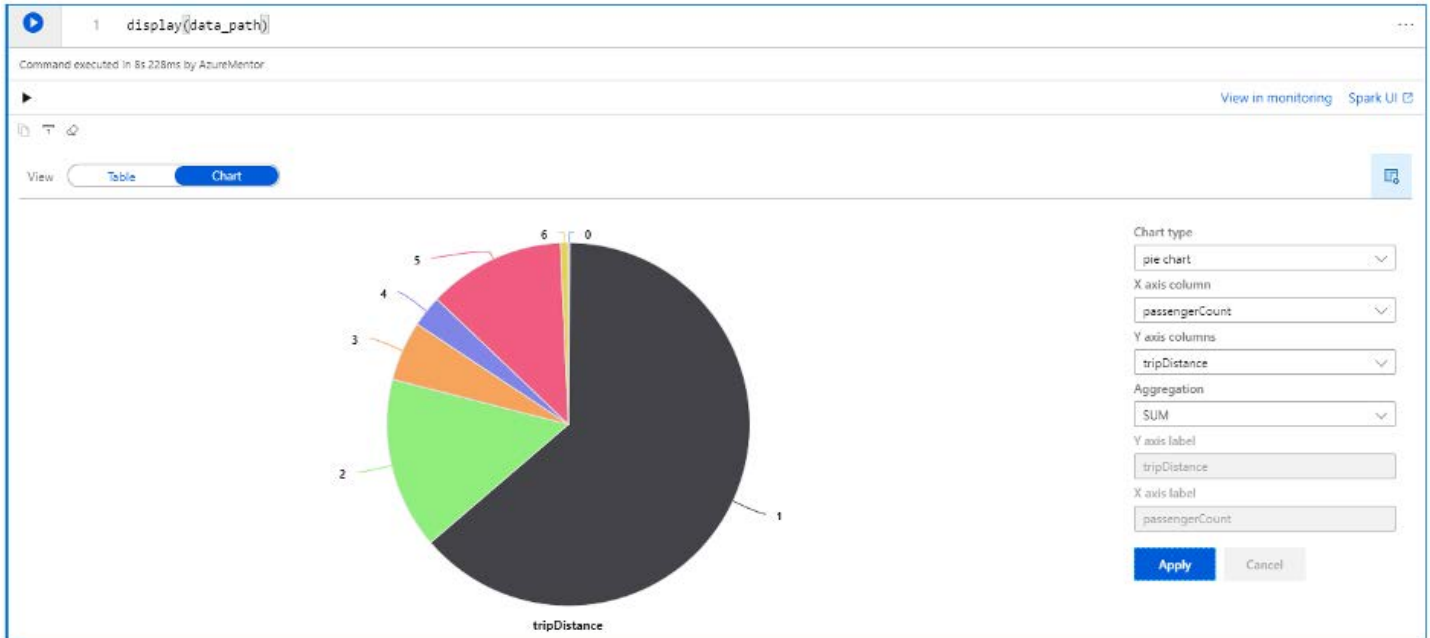


STEP 3

From there, you can add PySpark code. Use Intellisense to implement your code more quickly.



Output can be rendered in Table or Chart formats.



Multi-language support

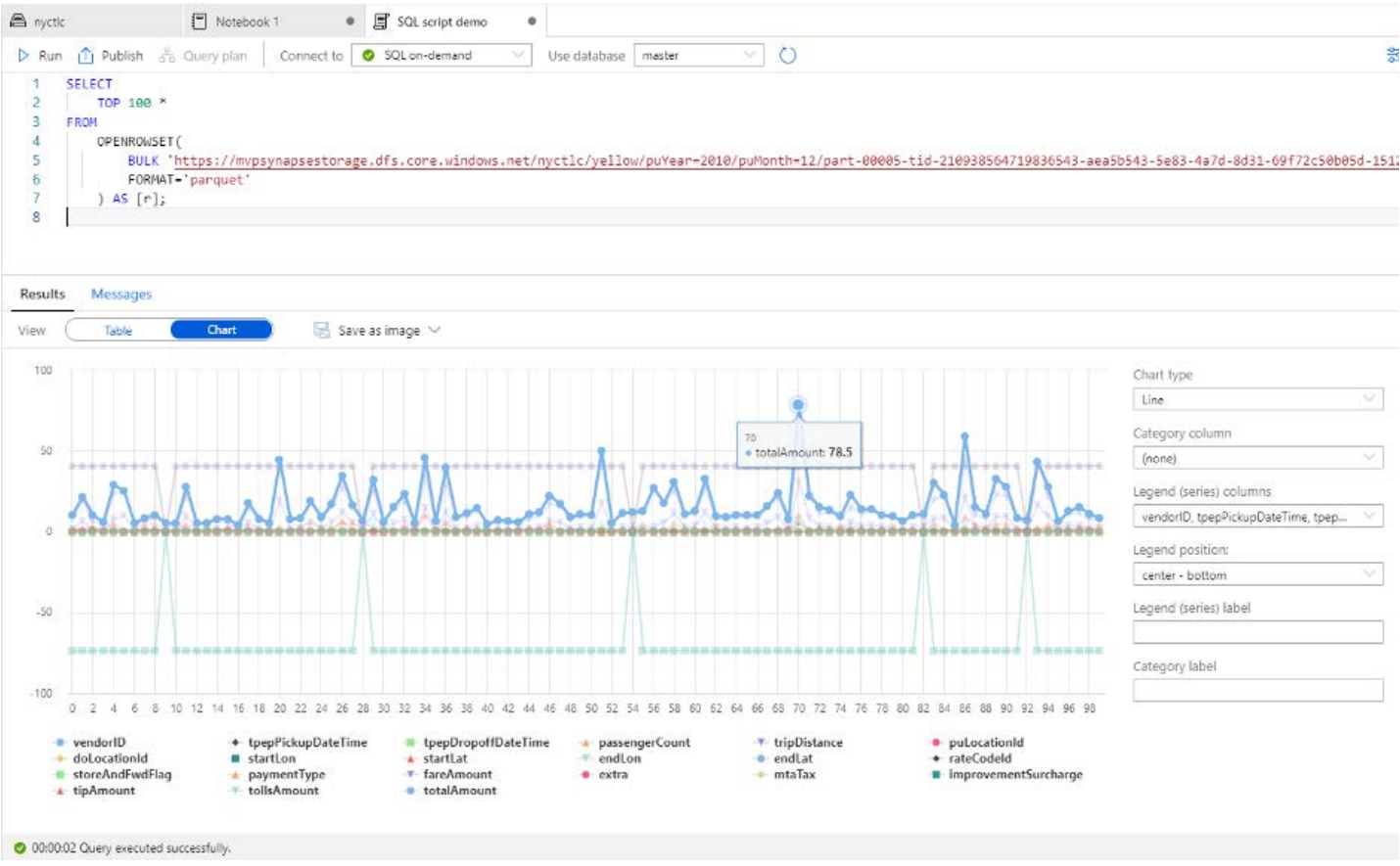
In addition to PySpark (Python), Spark (Scala), .NET Spark (C#), and Spark SQL are also supported.

The Azure Spark Notebook provides you with coding flexibility. You can mix Spark languages across code cells within the same Notebook using the following magic commands:

Magic Command	Description
%%pyspark	Execute Python query against Spark Context.
%%spark	Execute Scala query against Spark Context.
%%csharp	Execute Spark.NET C# query against Spark Context.
%%sql	Execute Spark SQL query against Spark Context.

Analyzing your data using SQL scripts

Analyzing your data using SQL scripts is just as straightforward. The web-based editor also supports Intellisense with SQL syntax. You can connect your SQL scripts to **Synapse SQL** and use both serverless or provisioned resources, and those results can be rendered in table and chart formats and exported as CSV, Excel, JSON, or XML files.



Azure Synapse provides world-class code flexibility when it comes to data analysis.



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