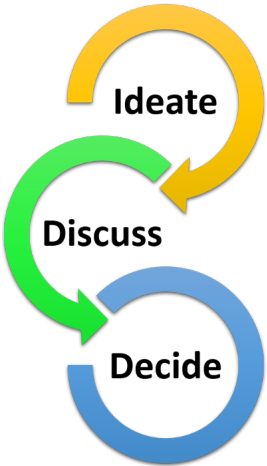


Advanced Analysis with SQL

Follow along at: <http://bit.ly/advanced-analysis-sql>

See the code at: <http://bit.ly/advanced-analysis-sql-code>

Introduction to Data Analytics Review

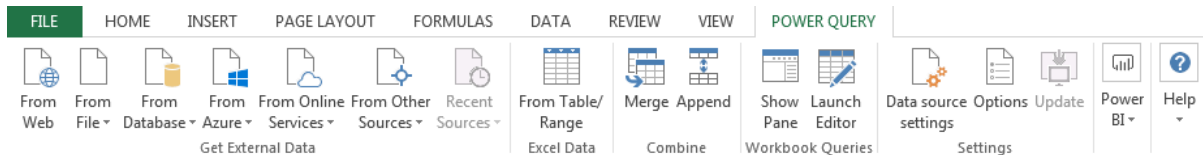
	<h3>Our Method for Generating Ideas (Brainstorming)</h3> <p>Ideate - Generate at least 3 ideas (ideally more), each on their own Post-It Notes</p> <p>Discuss - Review the ideas generated</p> <p>Decide - Come to a consensus as a group</p>
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Excel I Review

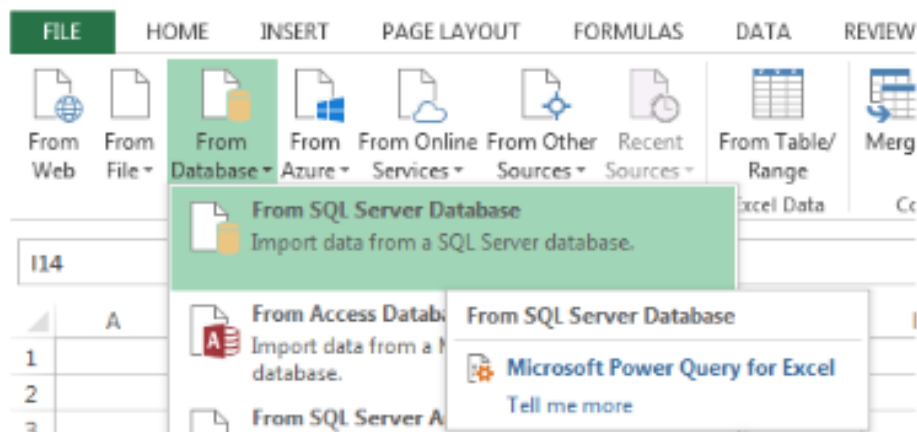
<h3>Documenting Your Work</h3> <ul style="list-style-type: none"> - Tab in workbook describing source of data, steps in the analysis, and any other important information - Color Code your tabs to categorize your worksheets - Add comments to a cell (right click, insert comment) - Insert comments in a new separate column 	<h3>5 Data Analytics Tasks</h3> <ul style="list-style-type: none"> - Sort - Filter - Aggregate - Transform - Visualize
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Importing data into Excel with SQL - Importing from a database

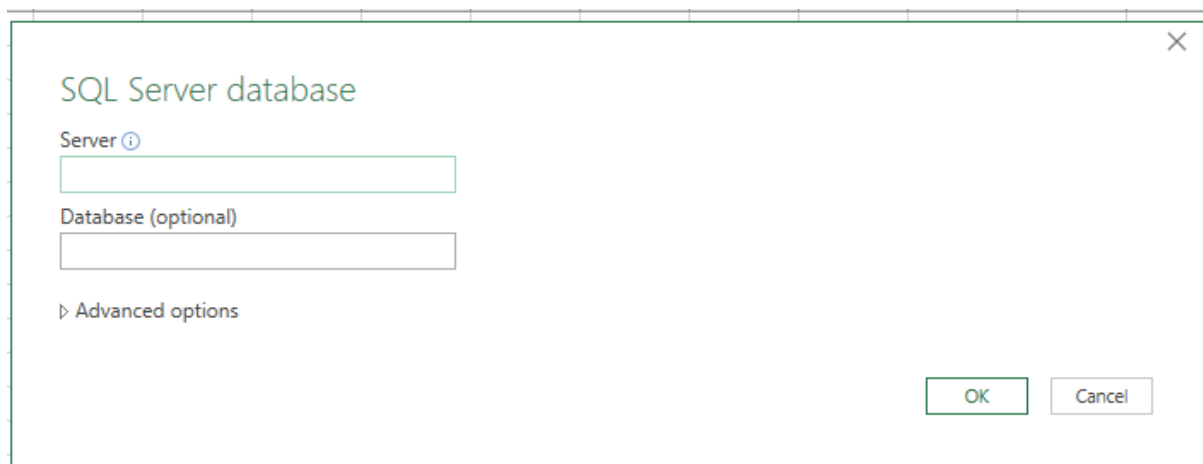
- Click on the Power Query ribbon



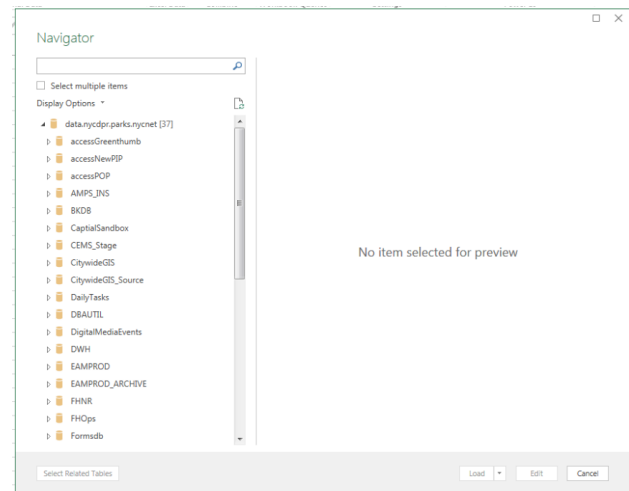
- Power Query > From Database > From SQL Server Database



- Enter `data.nycdpr.parks.nycnet` in the **Server** field



- Enter **DWH** in the **Database** field
- Preview databases, then click **Load** to load one



Key Questions

- What is a Database?

- What is a Table?

Key SQL Keywords

SELECT		
FROM		
WHERE		
WHERE operators	= - equal to > - greater than >= - greater than or equal to	< - less than <= - less than or equal to != and <> - not equal to

Queries Used Today

Query	Output
SELECT * FROM tbl_ref_calendar	
SELECT ref_date, fiscal_year FROM tbl_ref_calendar	
SELECT TOP 5 * FROM tbl_dailytasks	
SELECT TOP 10 * FROM tbl_dailytasks WHERE graffiti = 1	

SELECT TOP 10 * FROM tbl_dailytasks WHERE nhours > 1	
SELECT * FROM tbl_dailytasks WHERE graffiti = 1 AND nhours > 1	
SELECT * FROM tbl_dailytasks WHERE omppropid = 'X045-01' OR omppropid = 'X045-02'	
SELECT * FROM tbl_dailytasks WHERE NOT (omppropid = 'X045-01' OR omppropid = 'X045-02')	
SELECT * FROM INFORMATION_SCHEMA.COLUMNS WHERE TABLE_NAME='tbl_dailytasks'	
SELECT nhours * 60 FROM tbl_dailytasks	
SELECT LEFT(omppropid, 1) FROM tbl_dailytasks	
SELECT CASE WHEN LEFT(omppropid, 1) = 'B' THEN 'Brooklyn' WHEN LEFT(omppropid, 1) = 'M' THEN 'Manhattan' WHEN LEFT(omppropid, 1) = 'X' THEN 'Bronx' WHEN LEFT(omppropid, 1) = 'R' THEN 'Staten Island' WHEN LEFT(omppropid, 1) = 'Q' THEN 'Queens' END AS boro, COUNT(*) AS dt_count FROM tbl_dailytasks WHERE LEFT(omppropid, 1) IS NOT NULL GROUP BY LEFT(omppropid, 1) ORDER BY LEFT(omppropid, 1)	

SELECT * FROM tbl_dailytasks ORDER BY date_worked	
SELECT * FROM tbl_dailytasks ORDER BY date_worked DESC	
SELECT * FROM tbl_dailytasks ORDER BY sector, date_worked DESC	
SELECT sector, SUM(nhours) FROM tbl_dailytasks GROUP BY sector	
SELECT pip.*, sites.[Prop Name], sites.[Site Name] FROM tbl_PIP_InspectionMain AS pip LEFT JOIN tbl_PIP_AllSites AS sites ON pip.[Prop ID] = sites.[Prop ID]	

Data Types in a Database

- Function of Data Types
- Importance of Data Types

Numeric

<code>int</code>	a number with no digits after the decimal point, like 5 or 100349
<code>numeric</code>	a number with digits after the decimal point, like 5.01 or 100.349

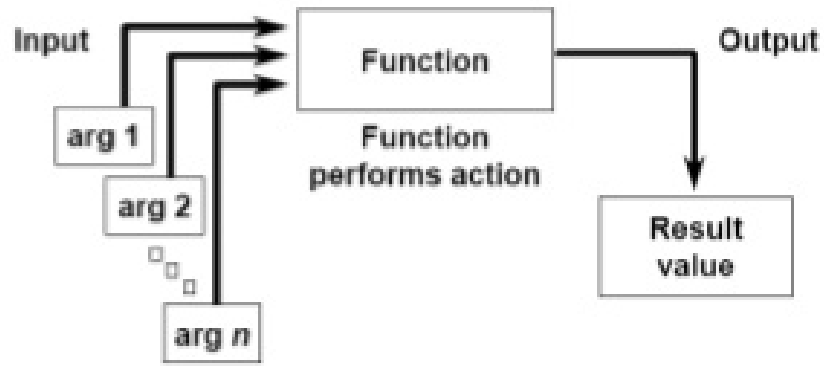
Text

<code>varchar</code>	text with a maximum length, like Queens
<code>text</code>	text with no maximum length, like an open comment field

Other common data types

<code>date</code>	a specific date, like 2002-10-17
<code>datetime</code>	a specific date and time, like 2002-10-17 06:13:00

SQL Functions



Documentation

- Importance
- Best Practices

5 Analytic Tasks in SQL

Sort	
Filter	
Aggregate	
Transform	
Visualize	

Joins in SQL

Key Concepts to Know

Resources

- SQL: One of the Most Valuable Skills - <http://www.craigkerstiens.com/2019/02/12/sql-most-valuable-skill>
- Microsoft SQL Documentation - <https://docs.microsoft.com/en-us/sql/?view=sql-server-2017>
- SQL Zoo - https://sqlzoo.net/wiki/SQL_Tutorial

Contact Us



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<http://www.datapolitan.com>

Your Notes

Implementation Guide

Concept/Technique	Why It's Important	How I Can Use It
What is a Database?		
What is a Table?		
SQL Keywords		
Data Types		
SQL Functions		
Joins in SQL		