

← Takaisin välilehdelle

✓ Tehty: Käy oppitunti läpi loppuun asti

## Direct Query

### DirectQuery

When you connect to any data source with **Power BI Desktop**, you can import a copy of the data. For some data sources, you can also connect directly to the data source without importing data by using **DirectQuery**. For a full listing of data sources that support DirectQuery, see [Data sources supported by DirectQuery](#).

Here are the differences between using **import** and **DirectQuery** connectivity modes:

- **Import:** A copy of the data from the selected tables and columns imports into Power BI Desktop. As you create or interact with visualizations, Power BI Desktop uses the imported data. To see underlying data changes after the initial import or the most recent refresh, you must import the full dataset again to refresh the data.
- **DirectQuery:** No data imports into Power BI Desktop. For relational sources, you can select tables and columns to appear in the Power BI Desktop **Fields** list. For multidimensional sources like SAP Business Warehouse (SAP BW), the dimensions and measures of the selected cube appear in the **Fields** list. As you create or interact with visualizations, Power BI Desktop queries the underlying data source, so you're always viewing current data.

With DirectQuery, when you create or interact with a visualization, you must query the underlying source. The time that's needed to refresh the visualization depends on the performance of the underlying data source. If the data needed to service the request was recently requested, Power BI Desktop uses the recent data to reduce the time required to show the visualization. Selecting **Refresh** from the **Home** ribbon refreshes all visualizations with current data.

Many data modeling and data transformations are available when using DirectQuery, although with some performance-based limitations.

### DirectQuery benefits

Some benefits of using DirectQuery include:

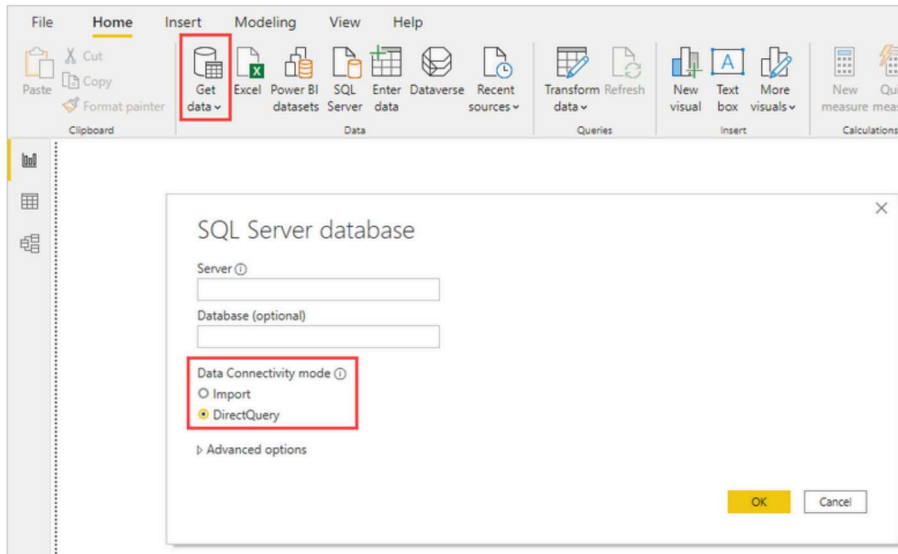
- DirectQuery lets you build visualizations over very large datasets, where it would be unfeasible to import all the data with pre-aggregation.
- DirectQuery reports always use current data. Seeing underlying data changes requires you to refresh the data, and reimporting large datasets to refresh data could be unfeasible.
- The 1-GB dataset limitation doesn't apply with DirectQuery.

### Connect using DirectQuery

To connect to a data source with DirectQuery:

1. In the **Home** group of the Power BI Desktop ribbon, select **Get data**, and then select a data source that DirectQuery supports, such as **SQL Server**.

2. In the dialog box for the connection, under **Data connectivity mode**, select **DirectQuery**.



## Publish to the Power BI service

You can publish DirectQuery reports to the Power BI service, but you need to take extra steps for the Power BI service to open the reports.

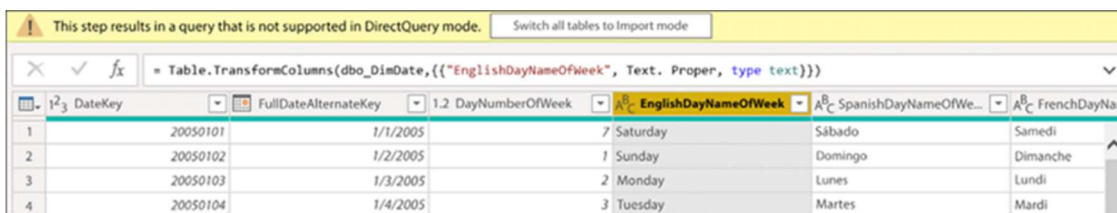
- To connect the Power BI service to DirectQuery data sources other than Azure SQL Database, Azure Synapse Analytics (formerly SQL Data Warehouse), Amazon Redshift, and Snowflake Data Warehouse, install an on-premises data gateway and register the data source.
- If you used DirectQuery with cloud sources like Azure SQL Database, Azure Synapse, Amazon Redshift, or Snowflake Data Warehouse, you don't need an on-premises data gateway. You still must provide credentials for the Power BI service to open the published report. Without credentials, an error occurs when you try to open a published report or explore a dataset created with a DirectQuery connection.

## Considerations and limitations

Some Power BI Desktop features aren't supported in DirectQuery mode, or they have limitations. Some capabilities in the Power BI service, such as quick insights, also aren't available for datasets that use DirectQuery. When you decide whether to use DirectQuery, consider these feature limitations.

Depending on the data source you choose, there is a chance of slower query performance when using DirectQuery compared to the default data import option. Keep in mind that when the Import option is selected, it leverages a highly sophisticated in-memory storage engine. When selecting DirectQuery, performance will depend on the source type you have chosen from the preceding list.

Another limitation worth noting is that not all Power BI features are supported when you choose DirectQuery. For example, depending on the selected source, some of the Power Query Editor features are disabled and could result in the following message: "This step results in a query that is not supported in DirectQuery mode". The following screenshot shows this response:



The reason for this limitation is that DirectQuery automatically attempts to convert any Power Query steps into a query in the data source's native language. So, if the source of this solution was SQL Server, then Power BI would attempt to convert this data transformation into a comparable T-SQL statement. Once Power BI realizes the Power Query Editor used a function that is not compatible with the source, the error is generated. There are other less notable limitations found when working with DirectQuery that you can find by reviewing Microsoft's documentation on DirectQuery.

## Composite models

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◀ Lesson 1 Quiz

Siirry...

Exercise 2 - Importing data ▶

Olet kirjautunut nimellä Janne Bragge. (Kirjaudu ulos)  
PowerBI

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