

Model company - Dashboarding

Introduction

You are commissioned by a company selling models and scale models. The company already has a database that lists employees, products, orders, and much more. You are invited to browse and discover this database. The director of the company wishes to have a dashboard which he could refresh each morning to have the latest information in order to manage the company.



Objective

Your dashboard should revolve around these 4 main topics: sales, finance, logistics, and human resources.

Here are the indicators that should be present in your dashboard. Visualizations would also be appreciated. And you are invited to practice **your advisory role, by proposing additional KPIs and charts.**

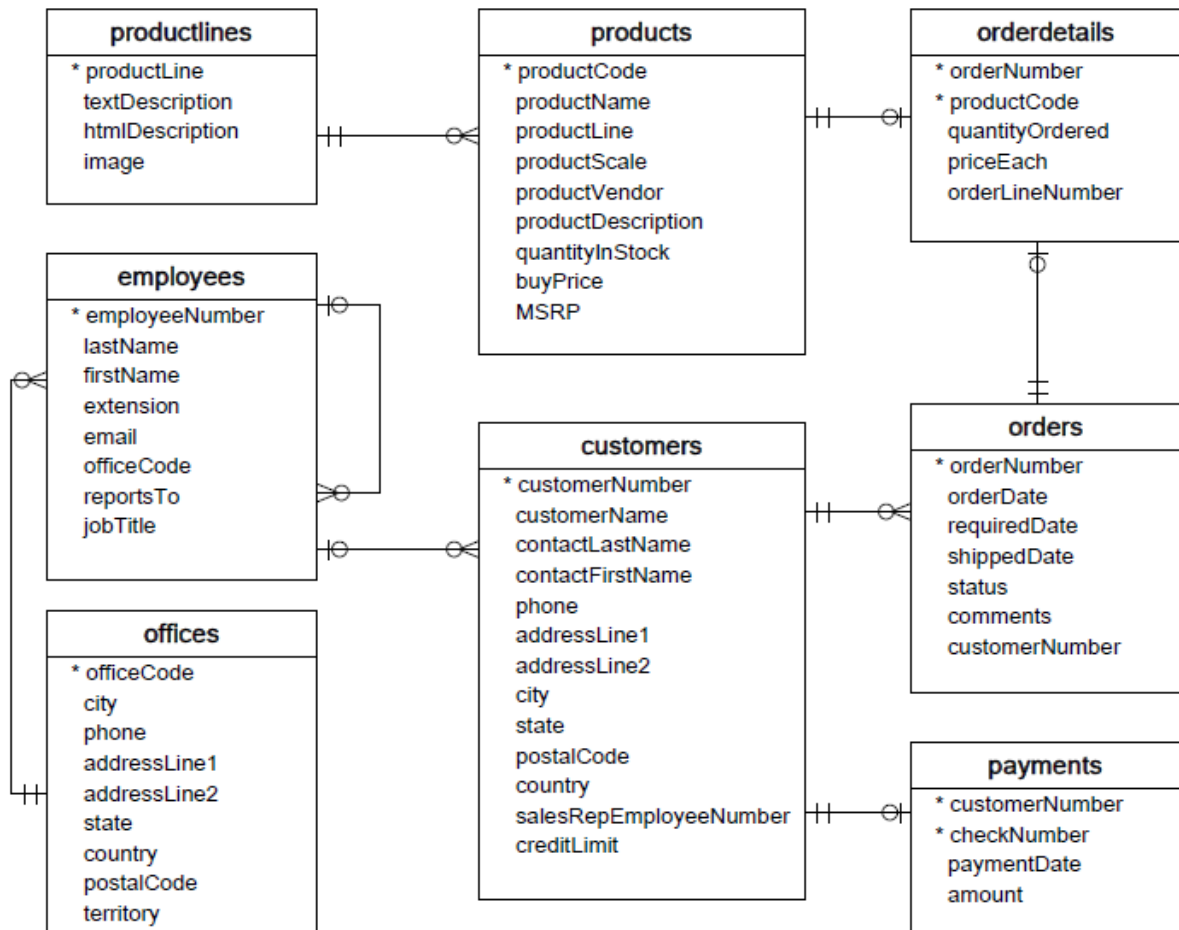
- **Sales**: The number of products sold by category and by month, with comparison and rate of change compared to the same month of the previous year.
- **Finances**:
 - The turnover of the orders of the last two months by country.
 - Orders that have not yet been paid.
- **Logistics**: The stock of the 5 most ordered products.
- **Human Resources**: Each month, the 2 sellers with the highest turnover.

Nota bene: sometimes business indicators are not technically achievable. It is up to you to explain it, and to bring your own ideas to answer the business needs.



Resources

Here is the diagram of the database :



source : <https://www.mysqltutorial.org> for the schema, and lots of modifications for datas

Tools

The manager does not want to do SQL, he wants to be able to access the data automatically and graphically. You can therefore propose a tool of your choice, as long as the dashboard is relevant.

For information, the database is available on a company server. You can access it in read-only mode with a user provided below.

The company also provides you with the script that you can run on your local MySQL server. The data are identical, and it stops at the end of the previous month.

On the morning of the demo, the data will be refreshed with new and fresh data (and you will be able to receive the update script if you do it locally). The demo should therefore display the latest available data.

SQL Database

You have the choice between connecting to the cloud server, or deploy the script locally. Data are identical in both ways.

Local installation

You can install a [MySQL Community server](#) on your machine, as well as the [MySQL Workbench client](#).

The database is ready to be loaded into a MySQL server. Connect to your server via Workbench, and run all [of the code in this file](#).

Cloud server

You can connect to the MariaDB (a fork of MySQL) server of the company.


Hostname : 51.178.25.157

Port : 23456

Username : toyscie

Password : WILD4Rdata!

Example of connection with MySQL Workbench:

Connection Name:	<input type="text" value="toys companie"/>	Type a name for the connection
Connection Method:	<input type="text" value="Standard (TCP/IP)"/> 	Method to use to connect to the RDBMS
<div>Parameters SSL Advanced</div>		
Hostname:	<input type="text" value="51.178.25.157"/>	Port: <input type="text" value="23456"/>
Name or IP address of the server host - and TCP/IP port.		
Username:	<input type="text" value="toyscie"/>	Name of the user to connect with.
Password:	<input type="text" value="Store in Keychain ..."/> <input type="button" value="Clear"/>	The user's password. Will be requested later if it's not set.
Default Schema:	<input type="text"/>	The schema to use as default schema. Leave blank to select it later.

Reporting tool

You can use the tool of your choice. For information, the company uses Microsoft Power BI, so if you want to use it, you can see the PrintScreen to connect it. To be more collaborative, we have some print screens about connecting Looker Studio to the cloud server. And of course, you can use other reporting Business Intelligence tools like Tableau Software. It's up to you to present the best possible dashboard on the tool of your choice.

Be careful: you chose your own reporting tool. But the goal is to practice SQL. So you need to get the data in SQL queries. For example, for the “2 sellers with the highest turnover for each month” :

- **what we would like: a SQL query with only the “2 sellers with the highest turnover for each month”, and a dataviz to show this.**
- **what we don't want: a SQL query with every seller, then filters in your reporting tool.**

Expected Deliverables

You will give a short presentation of your dashboard (ask for the duration at your trainer).

The presentation will include:

- Overview of the context, presentation of the team, and used tools
- Demo of your dashboard, and business interpretation of KPIs
- Difficulties encountered, perspectives of evolution

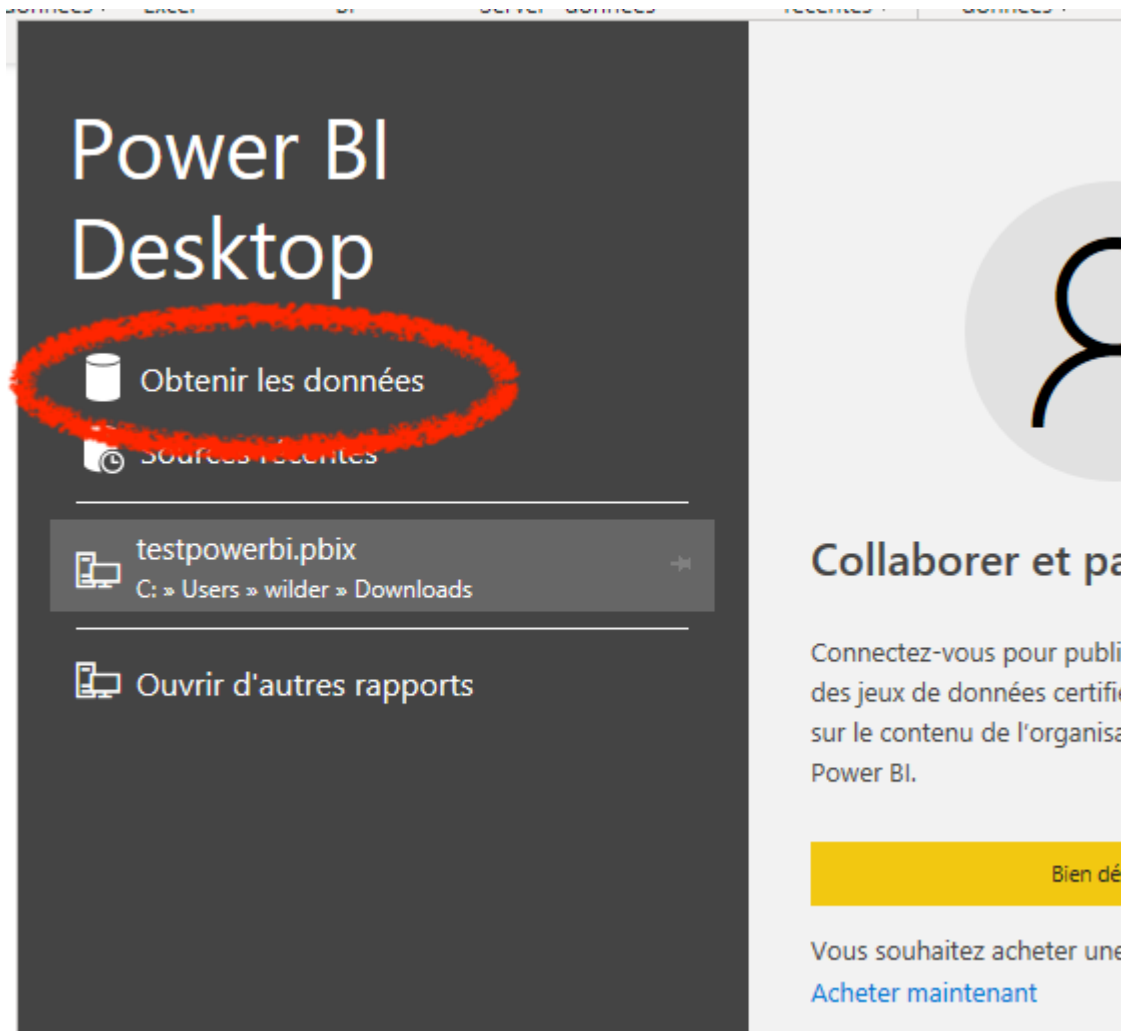


Below: installation guide if needed

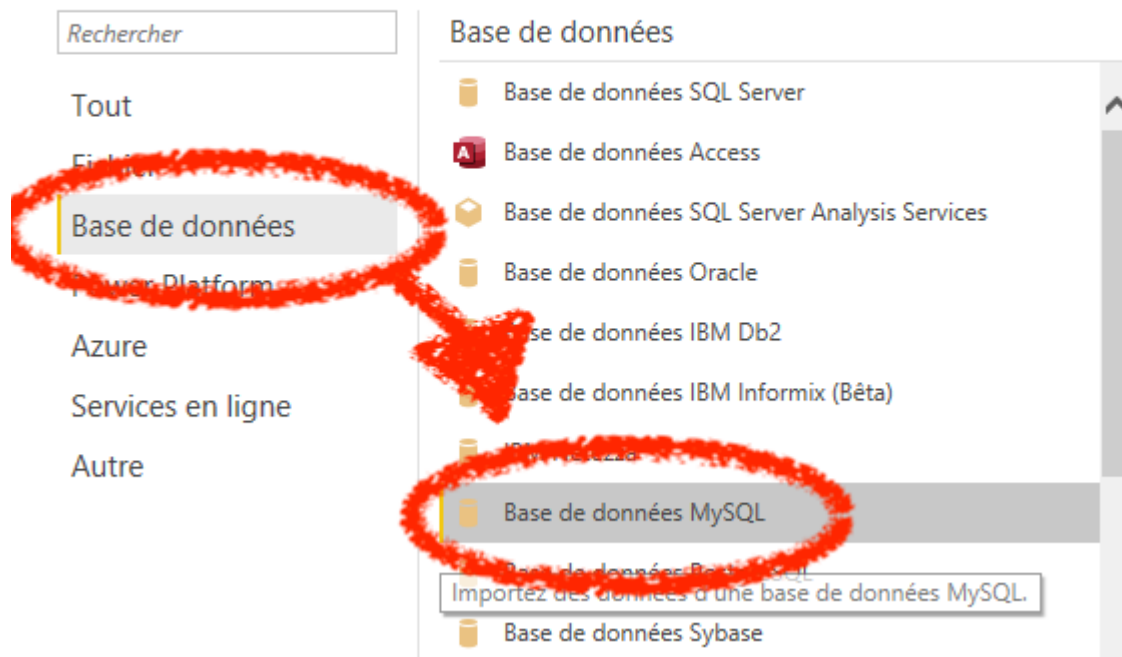
Microsoft Power BI: installation example

You can [download and install Power BI](#) (**only for Windows users**). The dashboard will therefore be a PowerBI dashboard, connected to the MySQL server, and distributed on several tabs by theme. The manager can then refresh the data when he wants.

The first time you launch PowerBI, you have to select a data source. Here we select in “databases”: MySQL



Obtenir les données



Maybe you'll have this alert: you need a “connector” to connect MySQL and PowerBI



[Let's go here to download the connector](#), then install it:

General Availability (GA) Releases Archives

Connector/NET 8.0.28

Select Operating System:
Microsoft Windows

Recommended Download:

MySQL Installer for Windows

All MySQL Products. For All Windows Platforms. In One Package.

Starting with MySQL 5.6 the MySQL Installer package replaces the standalone MSI packages.

Windows (x86, 32 & 64-bit), MySQL Installer MSI

[Go to Download Page >](#)

Other Downloads:

Windows (x86, 32-bit), MSI Installer	8.0.28	12.0M	Download
(mysql-connector-net-8.0.28.msi)		MD5: dd68536f1b81018020bfc0773f09a8c0 Signature	

It's not mandatory to create an account for MySQL:

MySQL Community Downloads

Login Now or Sign Up for a free account.

An Oracle Web Account provides you with the following advantages:

- Fast access to MySQL software downloads
- Download technical White Papers and Presentations
- Post messages in the MySQL Discussion Forums
- Report and track bugs in the MySQL bug system

Login »

using my Oracle Web account

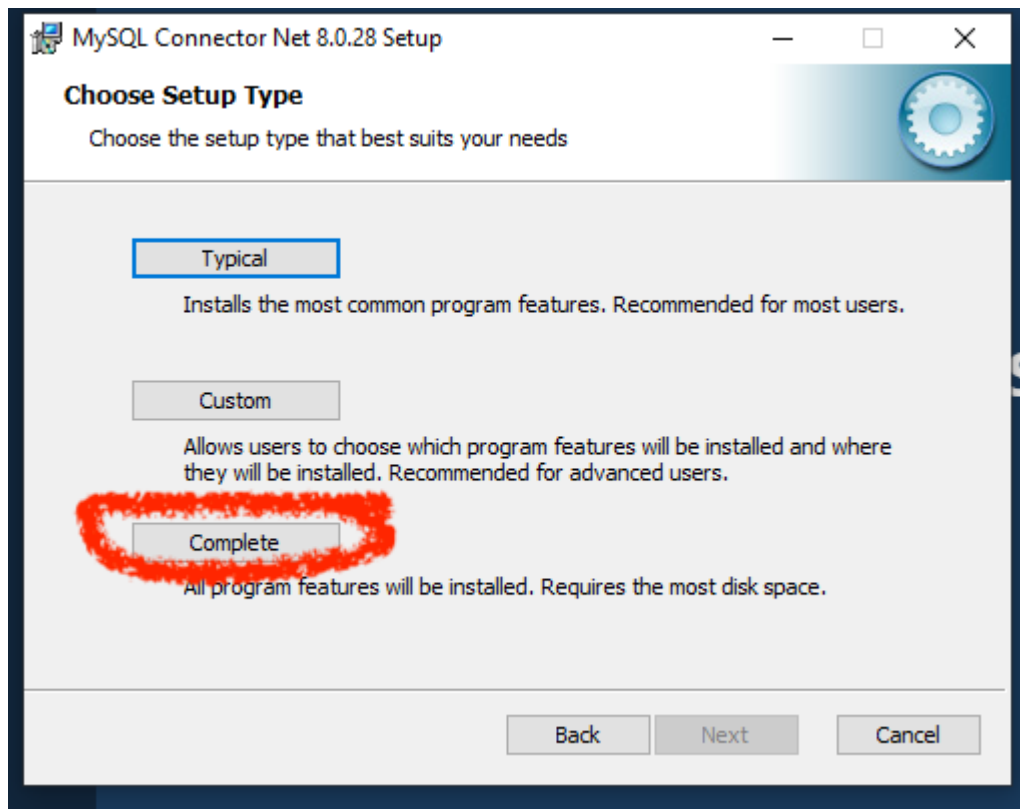
Sign Up »

for an Oracle Web account

MySQL.com is using Oracle SSO for authentication. If you already have an Oracle Web Account, click the Login link. Otherwise, you can sign up for a free account by clicking the Sign Up link and following the instructions.

No thanks, just start my download.

Then we can install it:



Now, please close and re-open PowerBI. You can now add a MySQL data source, where you can copy/paste your SQL query:

The screenshot shows the 'Base de données MySQL' dialog box. It has a title bar with a close button. The main title is 'Base de données MySQL'. There are two input fields: 'Serveur' with the value '51.68.18.102:23456' and 'Base de données' with the value 'toys_and_models'. Below these is an expanded section 'Options avancées' containing a 'Délai de commande en minutes (facultatif)' field and an 'Instruction SQL (facultatif, nécessite une base de données)' text area with the query 'select orderdate from orders'. At the bottom are two checkboxes: 'Inclure des colonnes de relation' (checked) and 'Naviguer avec la hiérarchie complète' (unchecked). The 'OK' button is highlighted in yellow.

The first time you'll connect to this source, PowerBI will ask you the login and password:

Base de données MySQL

Windows

Base de données

51.68.18.102:23456;toys_and_models

Nom d'utilisateur
toyscie

Mot de passe
●●●●●●●●

Sélectionner le niveau auquel appliquer ces paramètres
51.68.18.102:23456

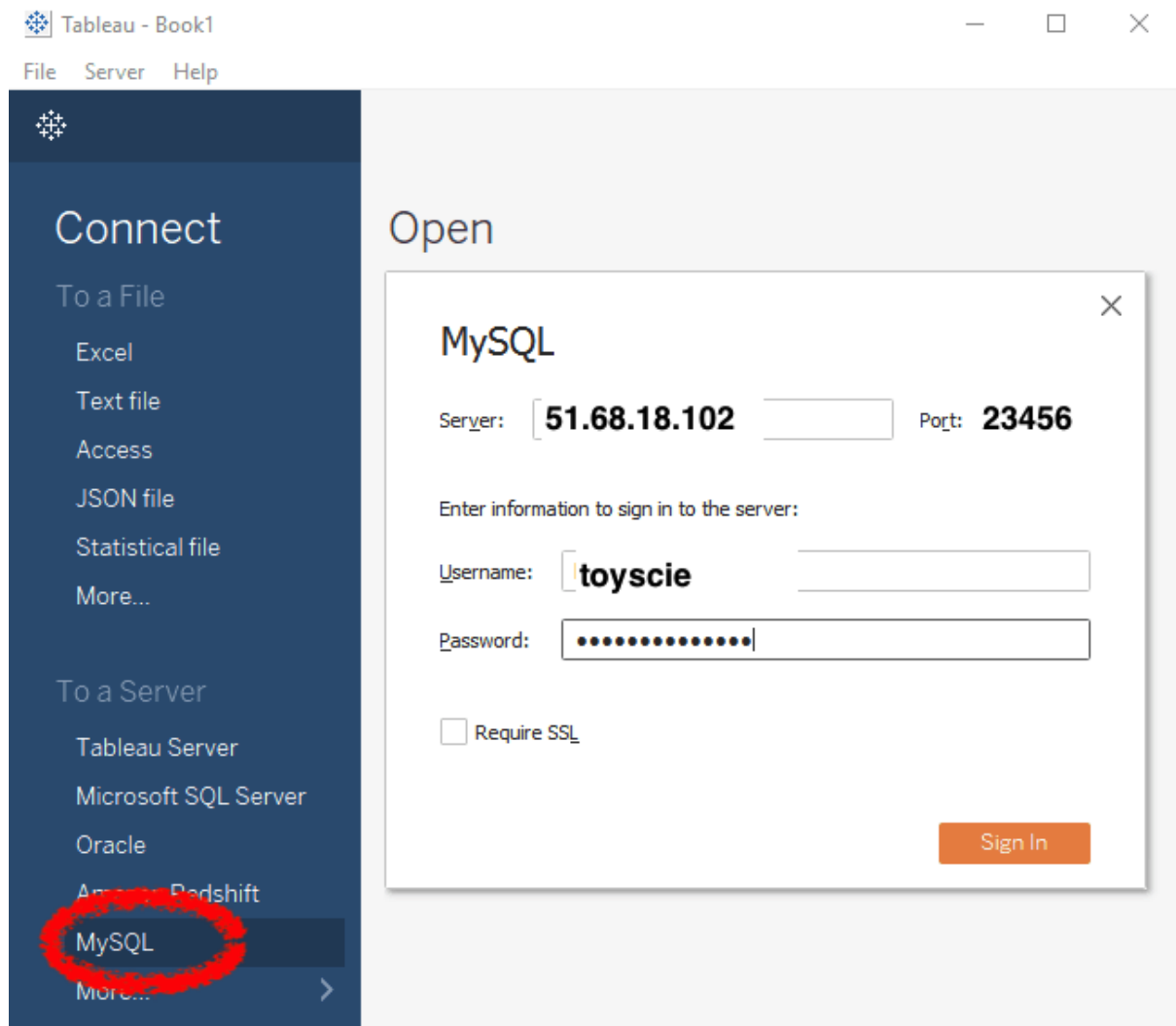
Retour Se connecter Annuler

Tableau Software: example of connection

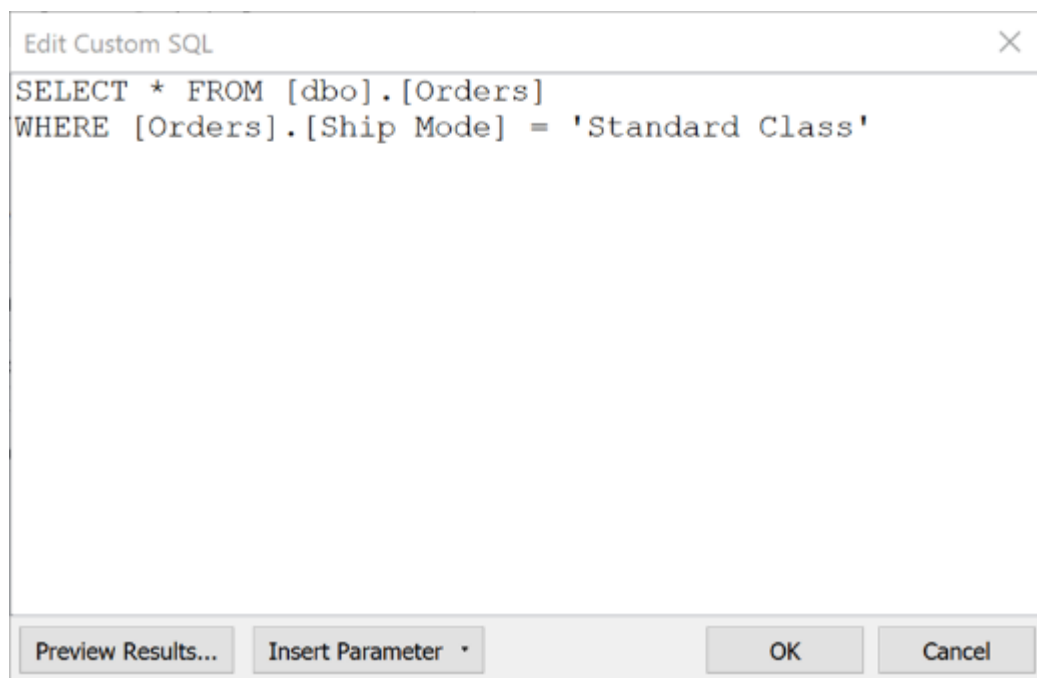
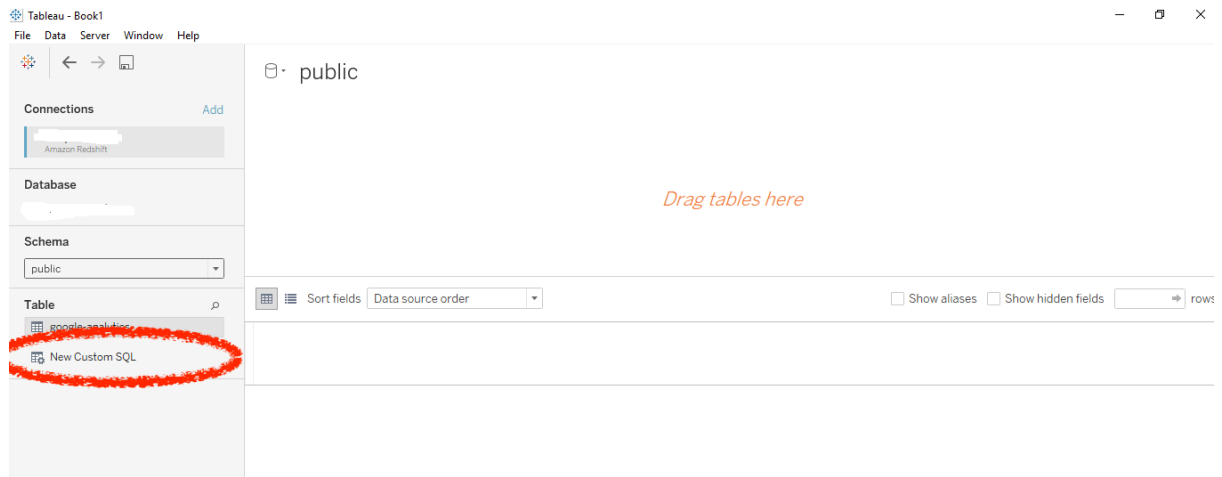
Tableau is available for macOS and for Windows.

Tableau public is totally free, but you can't connect a SQL database.

Tableau for Student is a free one-year subscription. You [can reach it here](#) with your alias **@wilder.school** and with your attendance certificate, that you'll find on your Odyssey profile.

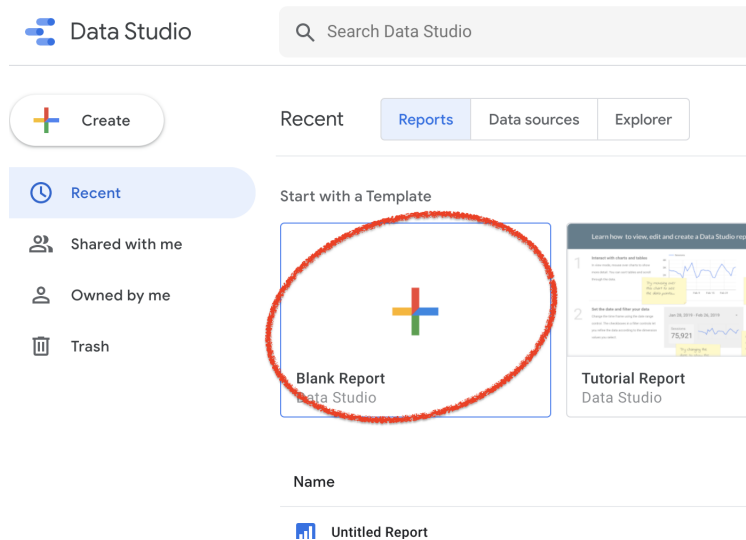


Then you can add a SQL query:



Looker Studio : connecting example

Connect on the [Looker Studio here](#), and create a new “blank report”



Search “mysql” and click on the good connector :

Add data to report

[Connect to data](#)


My data sources

Search

Google Connectors (2 of 18)

Connectors built and supported by Data Studio [Learn more](#)

**Cloud SQL for MySQL**
By Google
Connect to Google Cloud SQL for MySQL databases.

**MySQL**
By Google
Connect to MySQL databases.

Partner Connectors (3 of 345)

Connectors built and supported by Data Studio partners. [Learn more](#)

 Ad Data : All Other Sources

 Analytics Connect

 Slack Connect

You can now authenticate, and write your own queries :

← Add data to report

[LEARN MORE](#)

[REPORT AN ISSUE](#)

BASIC	Database Authentication	TABLES	Enter Custom Query
JDBC URL	<div>Host Name or IP <input type="text" value="51.68.18.109"/></div> <div>Port (Optional) <input type="text" value="1502"/></div> <div>Database <input type="text" value="toys_and_models"/></div> <div>Username <input type="text" value="toyscie"/></div> <div>Password <input type="password" value="....."/></div> <div><input type="checkbox"/> Enable SSL ?</div> <div>AUTHENTICATE</div>	<div>CUSTOM QUERY</div> <div><input type="text" value="1 select * from orders"/></div> <div><input type="button" value="Enter Custom Query"/></div>	