

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.

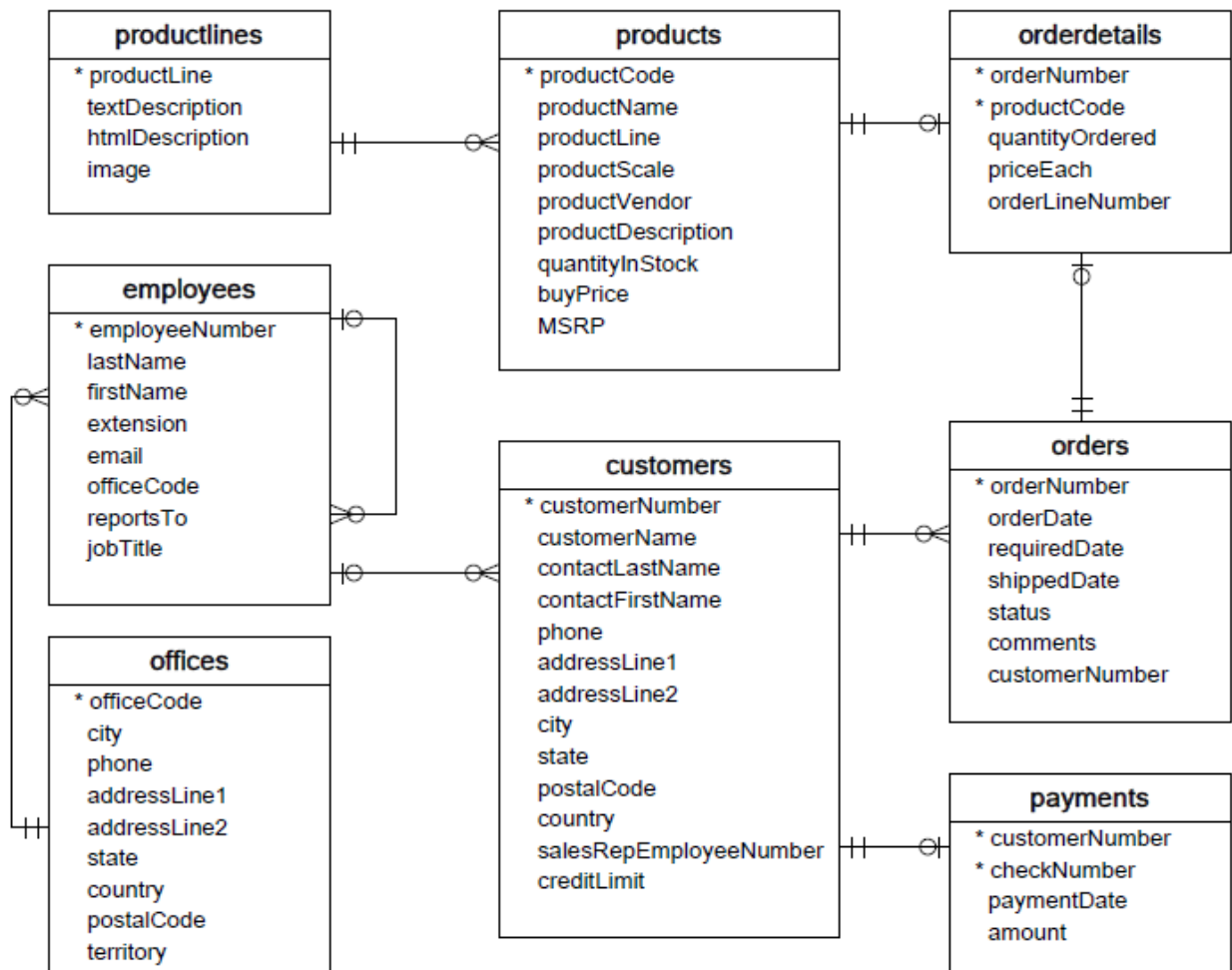
Here are the indicators that should be present in your dashboard. Visualizations would also be appreciated. And you are invited to practice **your advisory role, by proposing additional KPIs and charts.**

- **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.



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 in February.

On the morning of the demo, the data will be refreshed (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 will 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

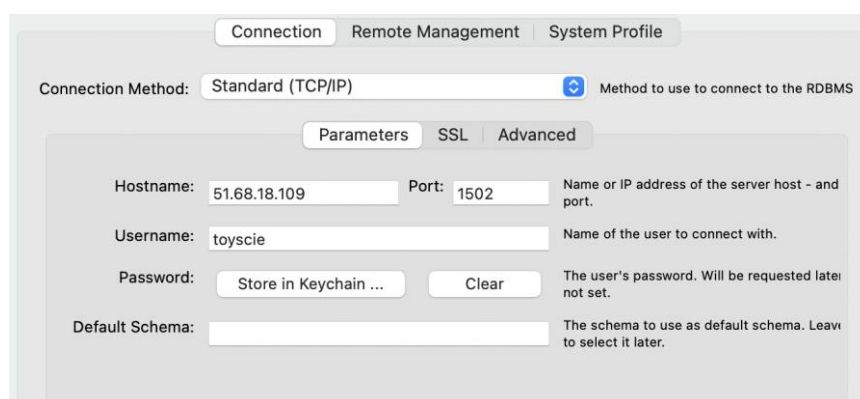
You can connect to the MySQL server of the company.

Hostname : 51.68.18.109

Port : 1502

Username : toyscie

Password : WILD4Rdata;



The screenshot shows the MySQL Workbench Connection dialog box. At the top, there are three tabs: 'Connection' (selected), 'Remote Management', and 'System Profile'. Below the tabs, the 'Connection Method' is set to 'Standard (TCP/IP)' with a dropdown arrow. To the right of this, it says 'Method to use to connect to the RDBMS'. Below this, there are three sub-tabs: 'Parameters' (selected), 'SSL', and 'Advanced'. The 'Parameters' tab contains the following fields: 'Hostname' (51.68.18.109), 'Port' (1502), 'Username' (toyscie), 'Password' (with buttons for 'Store in Keychain ...' and 'Clear'), and 'Default Schema' (empty). To the right of these fields, there are explanatory text labels: 'Name or IP address of the server host - and port.', 'Name of the user to connect with.', 'The user's password. Will be requested later not set.', and 'The schema to use as default schema. Leave to select it later.'

Reporting tool

You can use the tool of your choice. For information, the company used LibreOffice Calc spreadsheet before, so if you want to use it, you can see the PrintScreen to connect it. To be more collaborative, we have some printscreens about connecting Google Data Studio to the cloud server. But it's up to you to present the best possible dashboard on the tool of your choice.

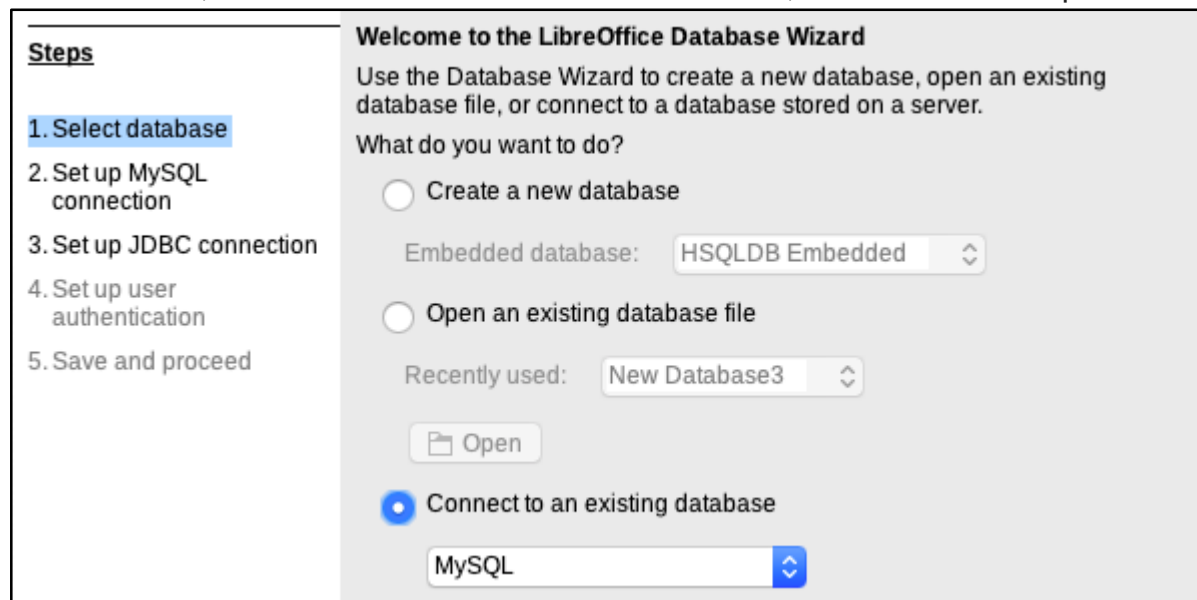
Be careful : you chose your own reporting tool. But the goal is to practice SQL. So you need to get the data in SQL queries. For example, for the “2 sellers with the highest turnover for each month” :

- **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.**

LibreOffice : installation example

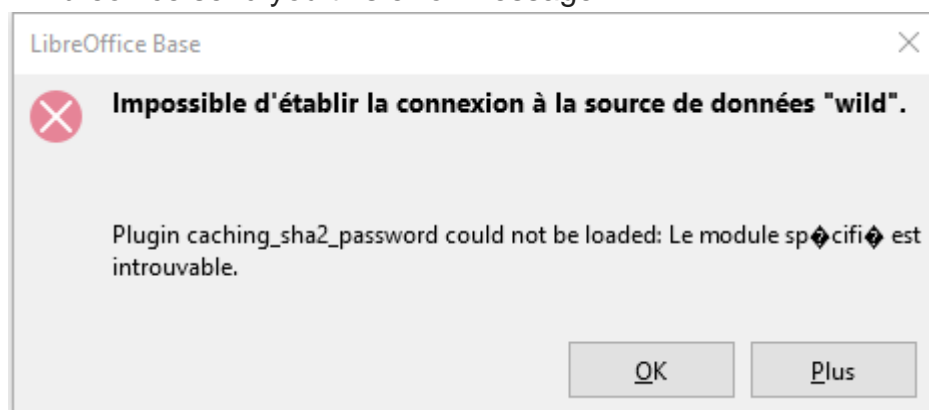
You can download and install [LibreOffice Calc spreadsheet](#). The dashboard will therefore be a LibreOffice Calc workbook, connected to the MySQL server, and distributed on several tabs by theme. The manager can then refresh the data when he wants.

In LibreOffice, launch "Base" and connect to the server, then follow the steps.



Steps 1. Select database 2. Set up MySQL connection 3. Set up JDBC connection 4. Set up user authentication 5. Save and proceed	Set Up a Connection to a MySQL Database You can connect to a MySQL database using either ODBC or JDBC. Please contact your system administrator if you are unsure about the follo... How do you want to connect to your MySQL database? <input type="radio"/> Connect using ODBC (Open Database Connectivity) <input type="radio"/> Connect using JDBC (Java Database Connectivity) <input checked="" type="radio"/> Connect directly
Steps 1. Select database 2. Set up MySQL connection 3. Set up MySQL server data 4. Set up user authentication 5. Save and proceed	Set Up a Connection to a MySQL Database Please enter the required information to connect to a MySQL database. Database name: <input type="text" value="groupproject"/> <input checked="" type="radio"/> Server/port Server: <input type="text" value="127.0.0.1"/> Port: <input type="text" value="3306"/> <input type="button" value="↑"/> <input type="button" value="↓"/> Default: 3306 <input type="radio"/> Socket: <input type="text"/>
Steps 1. Select database 2. Set up MySQL connection 3. Set up MySQL server data 4. Set up user authentication 5. Save and proceed	Set up the user authentication Some databases require you to enter a user name. User name <input type="text" value="root"/> <input checked="" type="checkbox"/> Password required <input type="button" value="Test Connection"/>

If Libreoffice send you this error message :



→ You have to execute this code in MySQL Workbench, then restart libreoffice :

ALTER USER 'user'@'address_IP_server' IDENTIFIED WITH mysql_native_password BY 'password';

Steps 1. Select database 2. Set up MySQL connection 3. Set up MySQL server data 4. Set up user authentication 5. Save and proceed	Decide How to Proceed After Saving the Database Do you want the wizard to register the database in LibreOffice? <input checked="" type="radio"/> Yes, register the database for me <input type="radio"/> No, do not register the database After the database file has been saved, what do you want to do? <input checked="" type="checkbox"/> Open the database for editing <input type="checkbox"/> Create tables using the table wizard Click 'Finish' to save the database.
--	--

Enregistrer sous :

Tags :

Où :

File type:

☒ Automatic file name extension

Click on “Create Query in SQL View” :

Database Tables Queries	Tasks Create Query in Design View... Use Wizard to Create Query... Create Query in SQL View...
Queries	

Select the last icon “**Run SQL command directly**”, so now you can write your own query, run the query (F5) and save it.

	id	first_name	last_name	email	immatriculation
▶	20	Abbe	Gabbot	agabbotj@goodrea	WBAWR33589P20
	22	Ag	Pargent	apargentl@hhs.gov	SCBBB7ZH1BC655
	30	Alyss	Dobbison	adobbisont@desde	3C3CFFER1FT133
	63	Aidan	Lenham	alendam1q@si.edu	5FRYD3H21FB016
	67	Atlante	Crackel	acrackel1u@whiteh	
	77	Adan	Saywell	asaywell24@goo.gl	1GD12ZCG3CF868
	86	Adda	Poundford	apoundford2d@squ	
	88	Ailsun	Proughten	aproughten2f@ca.g	WBAWC73568E58
	98	Artemus	Lampel	alampel2p@yellow	1N4AL2AP7BC940

Record 1 of 41 *

```
select * from voitures.user
where first_name like 'A%';
```

Save As

Query name

Help Cancel OK

Remember to save the query AND the LibreOffice-Database

Once your database is registered, you can use the data:

- NOT RECOMMENDED directly (but not dynamically) via the "View" menu, then "Data sources"
- RECOMMENDED dynamically by inserting a pivot table on an existing source :

Menu insert → Pivot table :

Select Source

Selection

☐ Current selection

☐ Named range:

☒ Data source registered in LibreOffice

Help Cancel OK

Selection

Database:

Type:

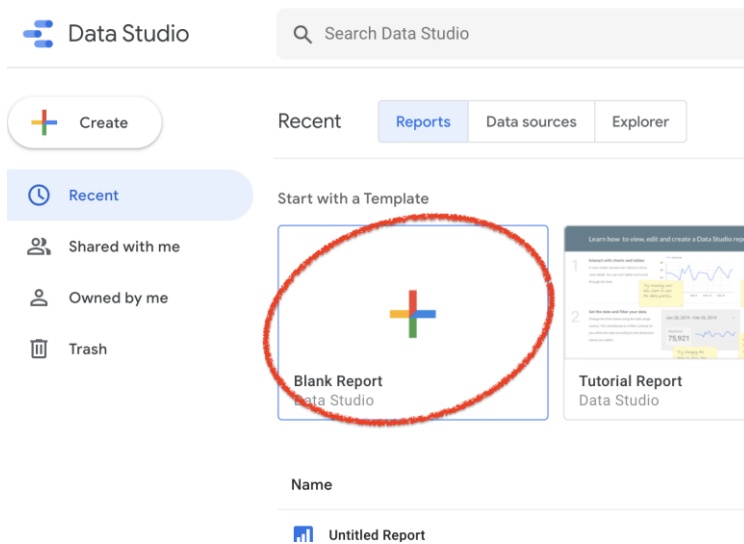
Data source:

Query in SQL View...

	A	B	C	D
1	idLL	marque	prix	Sum - essorage
2	1	Samsung	0	800
3	2	Samsung	0	1200
4	3	Samsung	0	1600
5	4	LG	300	800
6	5	LG	400	1200
7	6	LG	800	1600
8	7	Miele	0	1200
9	8	Miele	100	1600
10	Total Result			10000
11				
12				
13				

Google Data Studio : connecting example

Connect on the [Google Data 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

Sales 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	<p>Host Name or IP</p> <p>51.68.18.109</p> <p>Port (Optional)</p> <p>1502</p> <p>Database</p> <p>toys_and_models</p> <p>Username</p> <p>toyscie</p> <p>Password</p> <p>.....</p> <p><input type="checkbox"/> Enable SSL ?</p> <p>AUTHENTICATE</p>	<p>CUSTOM QUERY</p> <p>Enter Custom Query</p>	<p>1 select * from orders</p>

Expected Deliverables

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

