

# INTRODUCTION TO SQL & MYSQL

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# CONTENTS

## MODULE: 1

- What is a database and why do we need SQL?
- Top 5 problems in Excel and why using SQL solves this problem
- Should we import from Excel and why? How it is done?
- Create a link to Excel spreadsheet with MySQL?

# WHAT IS SQL?

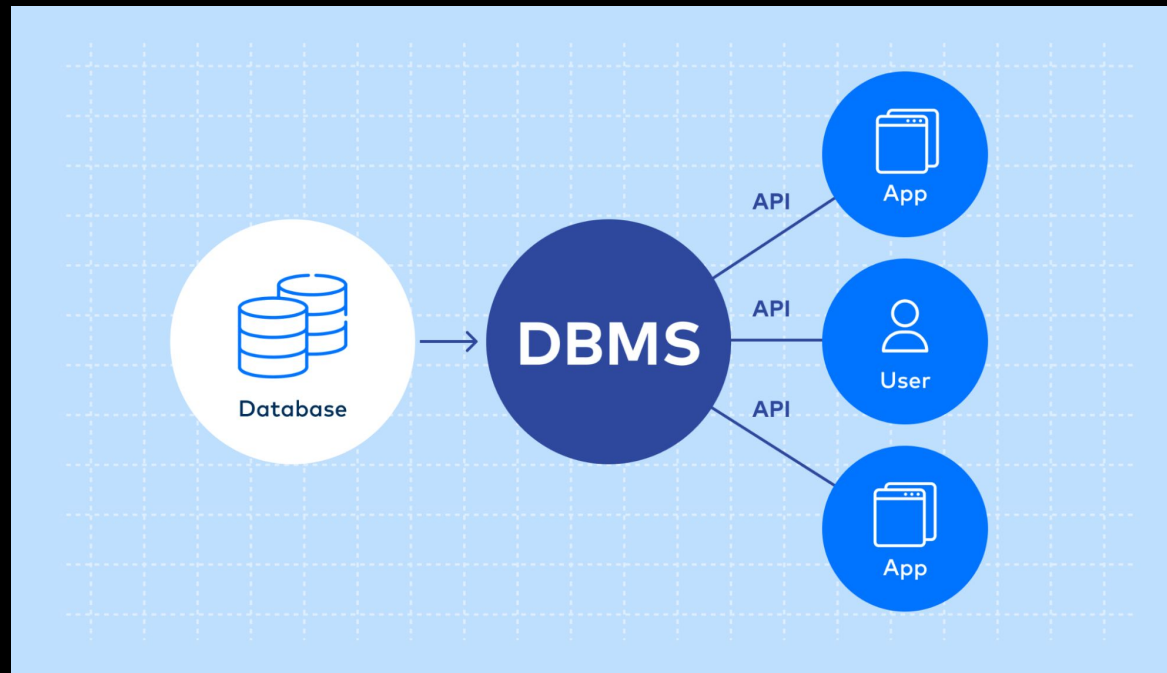
- SQL (also known as structured query language) is a dynamic language for storing, manipulating and retrieving data from **relational databases**.
- It's a worldwide programming language, SQL is a must-have for anyone working with data.

# WHAT IS A DATABASE?

- A database is an organized collection of data stored in a computer. The most common types store data in rows and columns in a series of tables. This makes storing, managing and retrieving the data you need easier.
- The type of data stored in a database depends on the application that's using it. For example, a database for an online store might store:
  - Customer data (names, addresses, etc.)
  - Product data (colors, prices, etc.)
  - Business data (sales, inventory, etc.)
  - Market data (competition, weather, etc.)

# WHAT IS DBMS?

- A database management system (DBMS) is software used to manage databases. It provides a user interface to store, access and manipulate data.

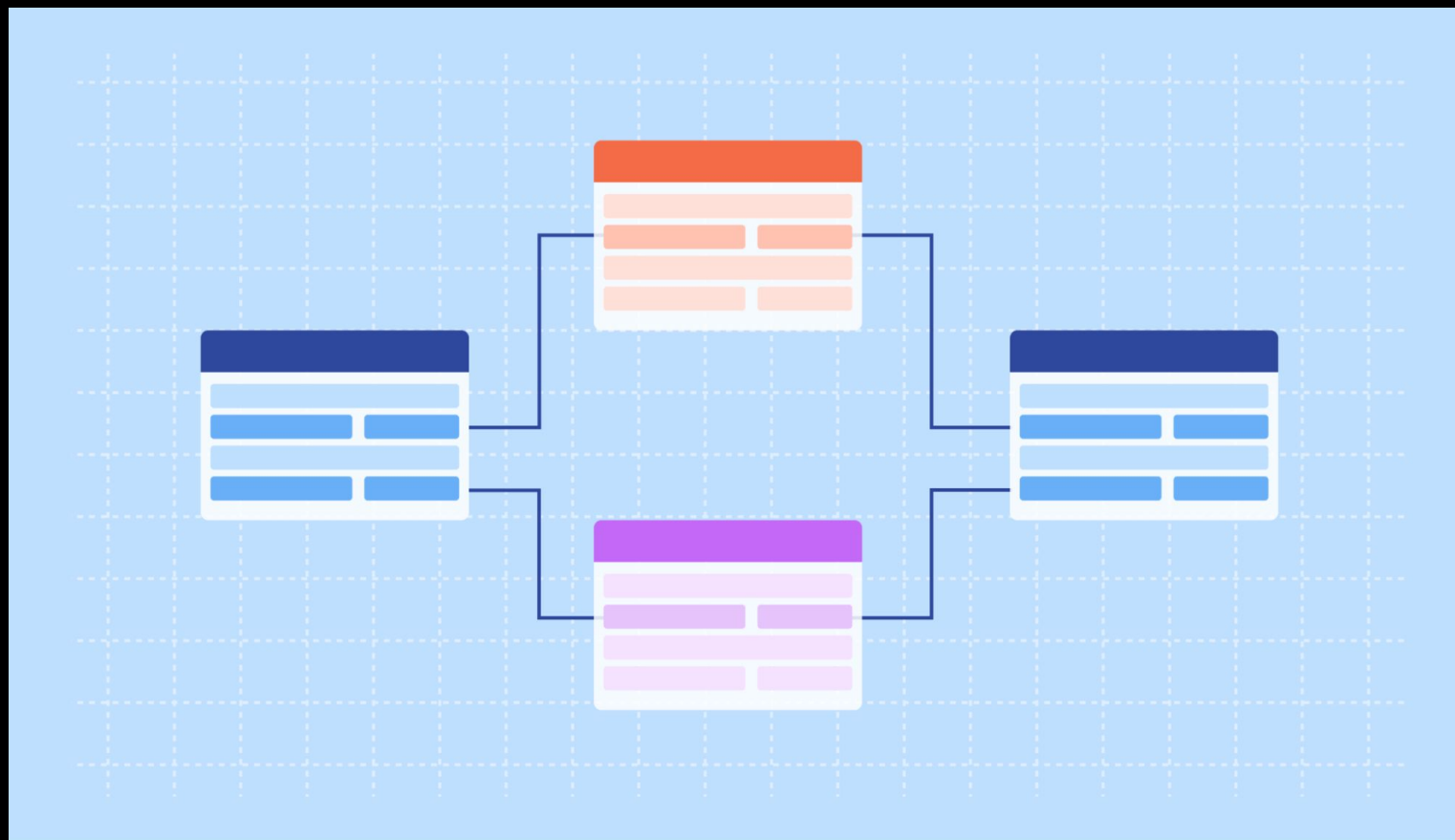


# RELATIONAL DATABASES

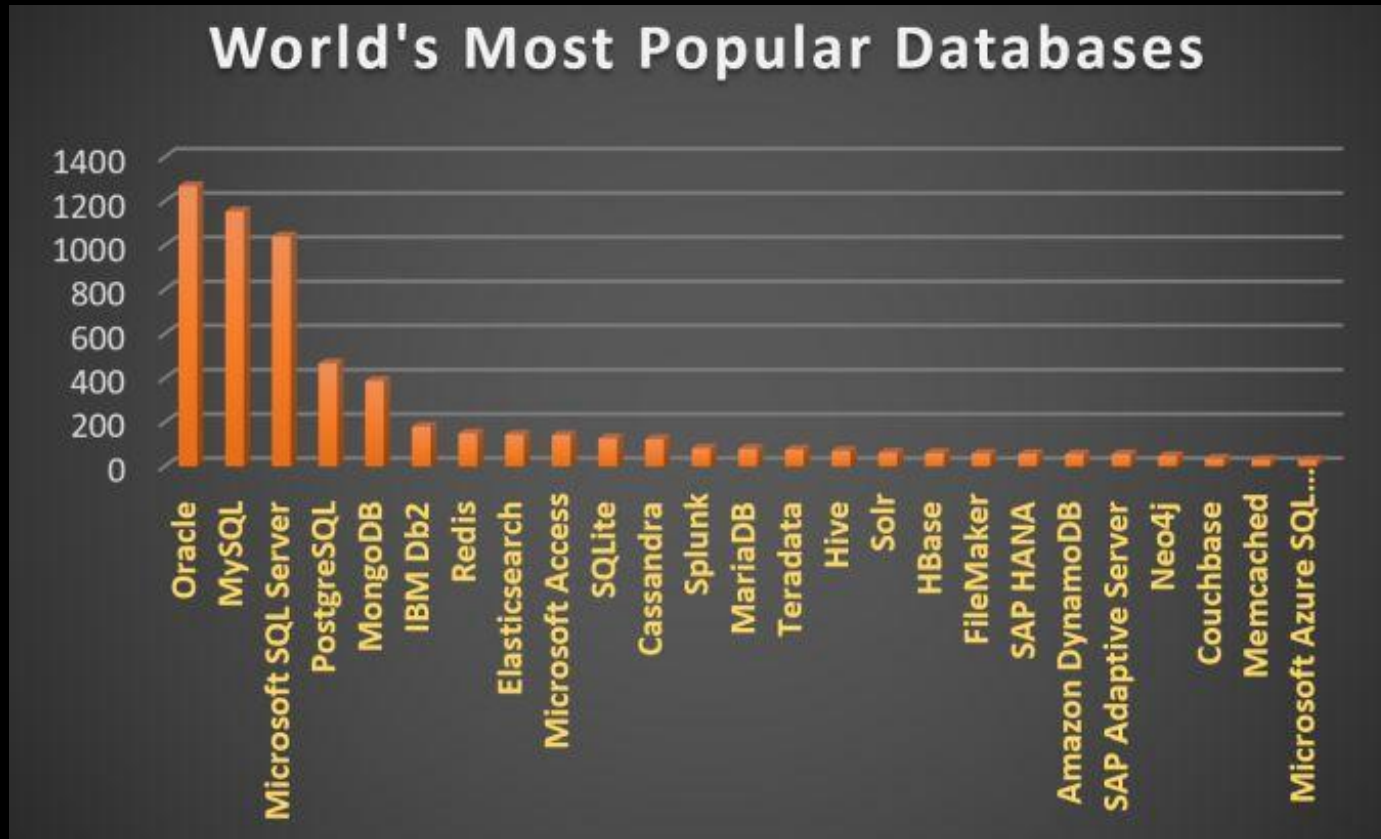
- A relational database management system (RDBMS) is a program used to create, update, and manage relational databases.
- A relational database is also known as a SQL database
- The data in a relational database is organized according to a **schema**
- **schema** — a “blueprint” that describes how it will store data.
- Relational databases are organized in rows and columns in a series of tables. The data within these tables relate to each other, hence why it's called relational!



# RDBMS SCHEMA




# POPULAR DATABASES





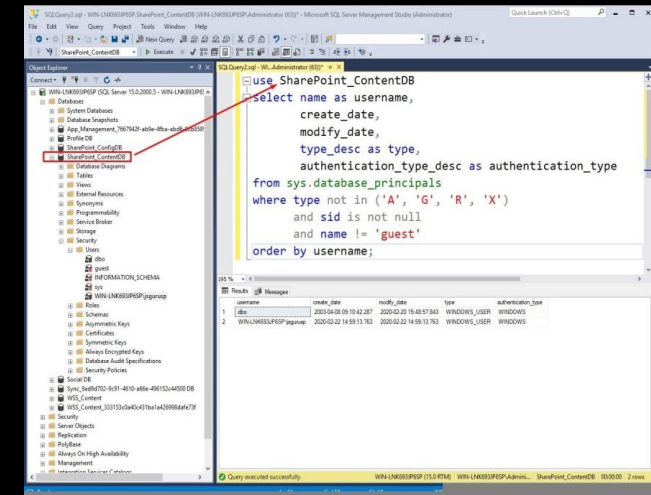
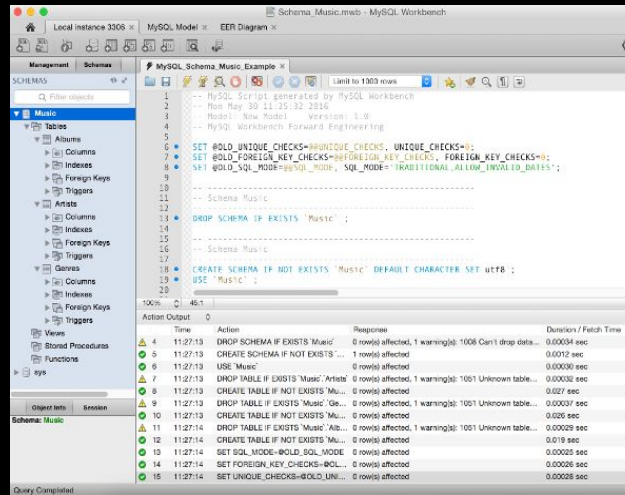
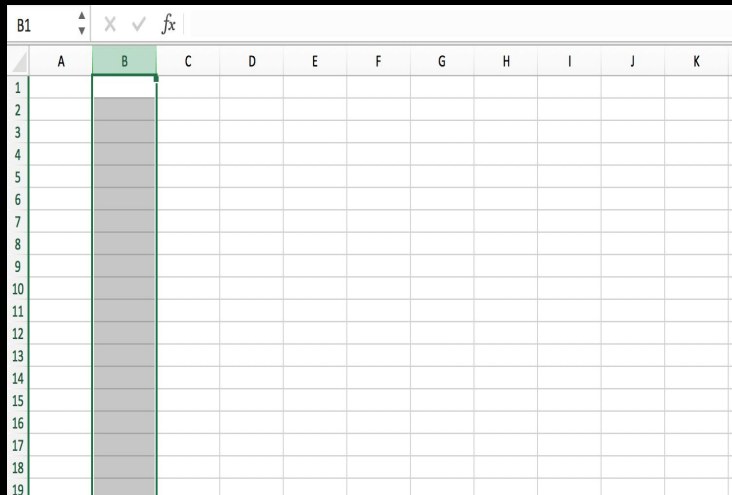
# TOP 5 PROBLEMS IN EXCEL AND WHY USING SQL SOLVES THIS PROBLEM

1. Data Integrity
2. Faster Manipulation of Data
3. Unlimited Volume of Data
4. Better Multi-User Experience
5. Data Consistency
6. Eliminating Duplicate Information

- 
- The database features mentioned so far improve data integrity – you can't store different types of data in the same field.
  - Relations between the tables, will boost the performance of operations.
  - Excel is incapable of handling over 1 million rows of data.
  - where databases having 2, 5, or 10 million records or more than it.

# WHAT IS THE DIFFERENCE BETWEEN DATABASES AND SPREADSHEETS?

- Spreadsheets are electronic ledgers, i.e. electronic versions of accounting workbooks. While databases are collections of information organized and managed using structured query language (SQL).



# POPULAR DATABASES

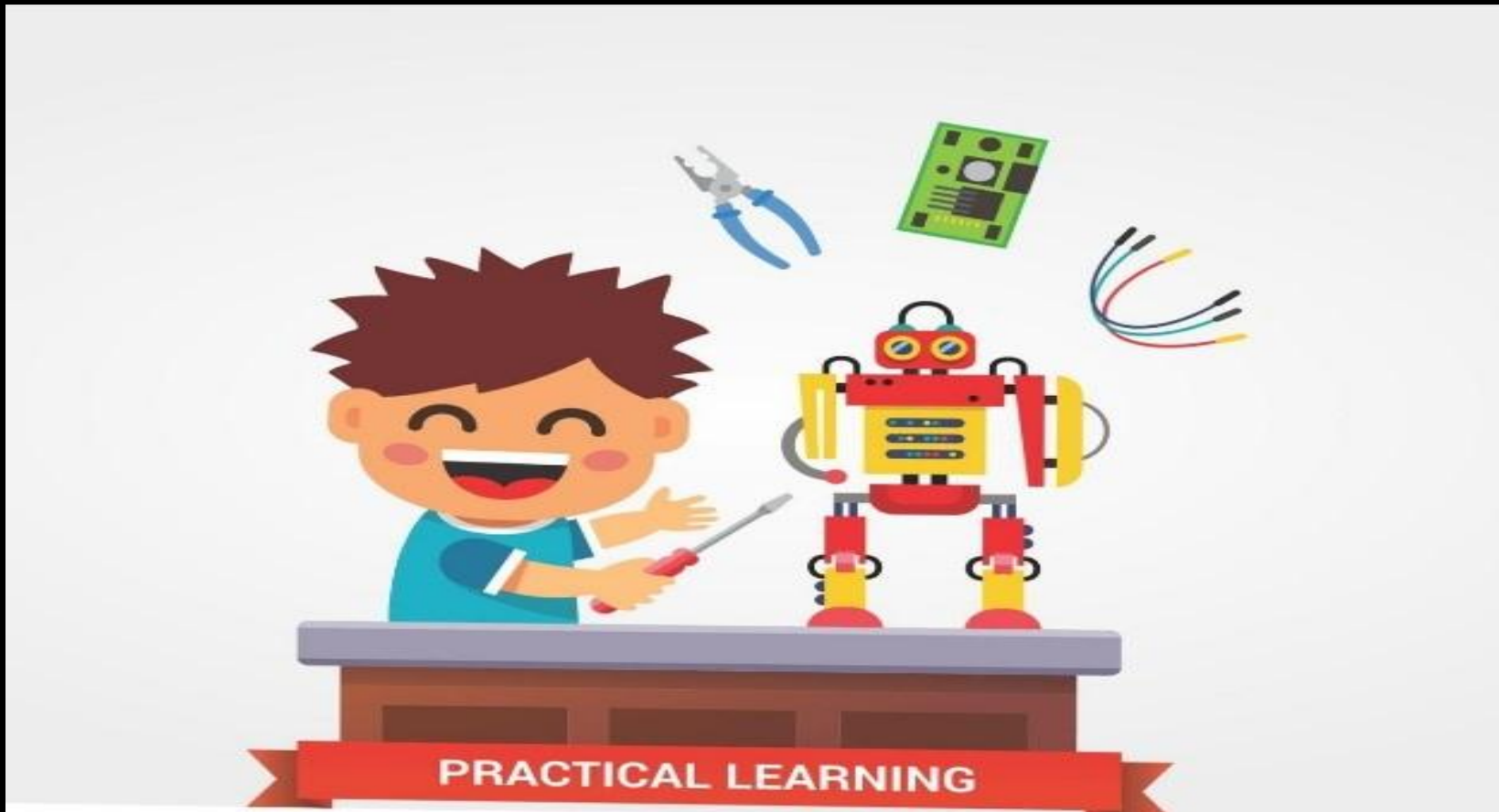
## POPULAR DATABASES FOR WEB APPLICATIONS



# WHY SHOULD YOU IMPORT EXCEL INTO MYSQL?

- As you collect data and store it in your separate Excel files, it becomes a huge task to track each sheet with millions of records in it. To simplify this we import Excel file in RDBMS.

# IMPORT EXCEL INTO SQL





# BASIC STATEMENT

1. CREATE DATABASE DATABASE\_NAME;
2. CREATE TABLE TABLE\_NAME;
3. INSERT INTO TABLE\_NAME VALUES();
4. SELECT \* FROM TABLE\_NAME;