

Relational Management Database System

A relational database management system (RDBMS) is a collection of programs and capabilities that enable IT teams and others to create, update, administer and otherwise interact with a relational database

1-MySQL

MySQL , the abbreviation for Structured Query Language. A relational database organizes data into one or more data tables in which data types may be related to each other; these relations help structure the data. SQL is a language programmers use to create, modify and extract data from the relational database, as well as control user access to the database

2-PostgreSQL

PostgreSQL (*/ˈpoustɡrɛs kjuː ˈɛl/*, *POHST-gres kyoo e/*),^{[12][13]} also known as **Postgres**, is a free and open-source relational database management system (RDBMS) emphasizing extensibility and SQL compliance.

PostgreSQL features transactions with Atomicity, Consistency, Isolation, Durability (ACID) properties, automatically updatable views, materialized views, triggers, foreign keys, and stored procedures.^[17] It is designed to handle a range of workloads, from single machines to data warehouses or Web services with many concurrent users. It is the default database for macOS Server and is also available for Windows, Linux, FreeBSD,

3-SQL SERVER

The **SQL server** commonly refers to a database server. The definition of **SQL server** is closely linked to that of SQL (Structured Query Language), a computer language used to exploit databases.

Concretely, a **SQL server** is a tool which has all the characteristics to be able to support the user in the manipulation, the control, the sorting, the update, and many other actions

A comparison between the three RDBMS

- PostgreSQL is more feature-rich and extensible and maybe a better choice for extreme cases.
- MySQL is much more popular, suits web applications and e-commerce projects, there are much more blogposts/support/documentation then for PostgreSQL.
- For environments with high number of connections - PostgreSQL might need a lot of memory, because each connection has its own memory. However, there are solutions to overcome this issue, like PgBouncers, external connection pools.
- Manual partition management in PostgreSQL requires too much overhead and updates that move rows from one partition to another will fail.
- There is 1 CPU per query limitation in MySQL and only the nested-loop join algorithm which make MySQL a less optimal choice for data warehouse systems.

If check constraint functionality is important - there are none in MySQL.