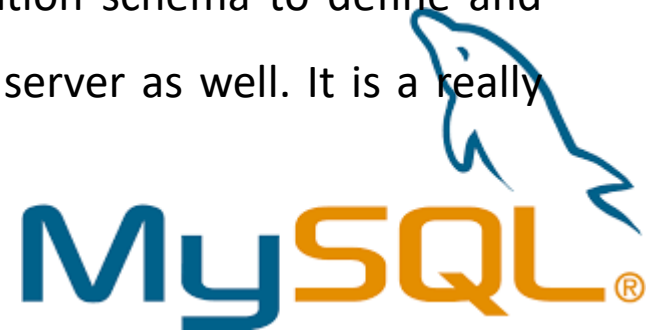
Introduction to Databases

Maroua BOUBAKER

What is MySQL ?

- It is one of the most popular database management systems originally launched way back in 1995.
- SQL is the core of MySQL. And ‘My’ with ‘SQL’ is there because it’s the name of its co-founder Michael Widenius’ daughter. It is an open-source relational database management system.
- MySQL is a freely available database system. However, there are several paid editions also available with which you can use advanced functionality.
- MySQL is easy to use as compared to other database software such as Microsoft SQL Server and Oracle database etc.
- It can be used with any programming language, but is largely used with PHP.
- MySQL can run on multiple platforms such as Linux, Windows, Unix, and an information schema to define and manage your metadata. You can either install it on your local system or even on the server as well. It is a really flexible, scalable, fast, and reliable solution.



What is PostgreSQL ?

- PostgreSQL is an open source SQL database that is not controlled by any corporation.
- It is typically used for web application development.
- PostgreSQL shares many of the same advantages of MySQL.
- It is easy to use, inexpensive, reliable and has a large community of developers.
- It also provides some additional features such as foreign key support without requiring complex configuration.
- The main disadvantage of PostgreSQL is that it can be slower in performance than other databases such as MySQL. It is also slightly less popular than MySQL.

What is SQL SERVER ?

- Microsoft owns SQL Server. Like Oracle DB, the code is close sourced.
- Large enterprise applications mostly use SQL Server.
- Microsoft offers a free entry-level version called Express but can become very expensive as you scale your application.

A comparison between the three RDBMS

MySQL	PostgreSQL	SQL Server
Open-Source	Open-Source	Licensed
Owned by Oracle	Owned by PostgreSQL Global Development Groupe	Owned by Microsoft
Scalable buffer pool to pull cache	Scalable buffer pool to pull cache	Isolate processes as separate OS processes
Limited functionality regarding tables to deal with complex processes	More functionality regarding temporary tables (divide tables into local and global), Better with complex processes	More functionality regarding temporary tables (divide tables into local and global), Better with complex processes
Organizes index into clusters and tables (not very flexible search)	Rich automated functionality for index management	Flexible search