What Is MySQL?

To understand MySQL, you first need to understand the database and SQL.

## **Introduction to database**

You deal with data every day…

When you want to listen to your favorite songs, you open your playlist from your smartphone. In this case, the playlist is a database.

When you take a photo and upload it to your account on a social network like Facebook, your photo gallery is a database.

When you browse an e-commerce website to buy shoes, clothes, etc., you use the shopping cart database.

Databases are everywhere. So what is a database?  By definition, a database is merely a structured collection of data.

The data relating to each other by nature, e.g., a product belonged to a product category and associated with multiple tags. Therefore, we use the term **relational database**.

In the relational database, we model data like products, categories, tags, etc., using tables. A table contains columns and rows. It is like a spreadsheet.

A table may relate to another table using a relationship, e.g., one-to-one and one-to-many relationships.

Because we deal with a significant amount of data, we need a way to define the databases, tables, etc., and process data more efficiently. Besides, we want to turn the data into information.

And this is where SQL comes to play.

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MySQL is a Relational DataBase Management System (RDBMS).

RDBMS means R--DB--MS.

- DB stands for Database, a repository for the information store.

1. The data in a database is organized into tables, and each table is organized into rows and columns.
2. Each row in a table is called a record. A record may contains several pieces (called fields) of information, and each column in a table is known as a field.

-MS stands for Management System, the software that allows you to insert, retrieve, modify, or delete records.

-R stands for Relational, indicates a particular kind of DBMS that is good at relating information stored in one table to information stored in another table by looking for elements common to each of them. Relational DBMS has the advantage of efficient storage, and retrieval mechanisms for data, and uses normalization process during design of RDBMS. Database normalization process is beyond the scope of this article, and several references are available.

MySQL operates using client/server architecture in which the server runs on the machine containing the databases and clients connect to the server over a network. The server operating systems is usually a Linux (like Redhat 9.0 etc.) or Windows 2000 operating system. Typically mySQL is supported on Windows XP, Windows Server 2003, Red Hat Fedora Linux, and Debian Linux, and others. As with any other client/server application, MySQL is a multi-user database system, meaning several users can access the database simultaneously. Here:

-The server (MySQL server) listens for client requests coming in over the network and accesses database contents according to those requests and provides that to the clients.

- Clients are programs that connect to the database server and issue queries in a pre-specified format. MySQL is compatible with the standards based SQL (SQL stands for Structured Query Language) language. The client program may contact the server programmatically (meaning a program call the server during execution) or manually. For example, when you are issuing commands over a telnet session to a MySQL server, you are issuing the requests to the server by typing commands at your command prompt manually. On the other hand, if you have input some data (say your credit card information on the Internet towards purchase of some goods) in a form, and the form is processed by using a server side program, then the MySQL server is contacted programmatically. This is often the case in credit card approvals, member subscriptions etc.

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## **SQL – the language of the relational database**

SQL stands for the structured query language.

SQL is the standardized language used to access the database.

ANSI/SQL defines the SQL standard. The current version of SQL is SQL:2016. Whenever we refer to the SQL standard, we mean the current SQL version.

SQL contains three parts:

1. **Data definition language** includes statements that help you define the database and its objects, e.g., tables, views, triggers, stored procedures, etc.
2. **Data manipulation language** contains statements that allow you to update and query data.
3. **Data control language** allows you to grant the permissions to a user to access specific data in the database.

Now, you understand database and SQL, and it’s time to answer the next question…

## **What is MySQL**

MySQL? What?

My is the daughter’s name of the [MySQL’s co-founder, Monty Widenius](https://en.wikipedia.org/wiki/Michael_Widenius).

The name of MySQL is the combination of My and SQL, MySQL.

MySQL is a database management system that allows you to manage relational databases.

It is open source software backed by Oracle.

It means you can use MySQL without paying a dime.

Also, if you want, you can change its source code to suit your needs.

Even though MySQL is open source software, you can buy a commercial license version from Oracle to get premium support services.

MySQL is pretty easy to master in comparison with other database software like Oracle Database, or Microsoft SQL Server.

MySQL can run on various platforms UNIX, Linux, Windows, etc.

You can install it on a server or even in a desktop.

Besides, MySQL is reliable, scalable, and fast.

The official way to pronounce MySQL is My Ess Que Ell, not My Sequel. However, you can pronounce it whatever you like, who cares?

If you develop websites or web applications, MySQL is a good choice. MySQL is an essential component of the LAMP stack, which includes Linux, Apache, MySQL, and PHP.