**My SQL**

**MySQL is a relational database management system (RDBMS) developed by Oracle that is based on structured query language (SQL).**

MySQL is one of the most recognizable technologies in the modern big data ecosystem. Often called the most popular database and currently enjoying widespread, effective use regardless of industry, it’s clear that anyone involved with enterprise data or general IT should at least aim for a basic familiarity of MySQL.

With MySQL, even those new to relational systems can immediately build fast, powerful, and secure data storage systems. MySQL’s programmatic syntax and interfaces are also perfect gateways into the wide world of other popular query languages and structured data stores.

MySQL is integral to many of the most popular software stacks for building and maintaining everything from customer-facing web applications to powerful, [data-driven B2B services](https://www.talend.com/resources/business-intelligence-data-analytics/). Its open-source nature, stability, and rich feature set, paired with ongoing development and support from Oracle, have meant that internet-critical organizations such as Facebook, Flickr, Twitter, Wikipedia, and YouTube [all employ MySQL backends](https://www.mysql.com/customers/industry/).

**PostgreSQL**

PostgreSQL is a powerful, open source object-relational database system that uses and extends the SQL language combined with many features that safely store and scale the most complicated data workloads. The origins of PostgreSQL date back to 1986 as part of the [**POSTGRES**](https://www.postgresql.org/docs/current/history.html) project at the University of California at Berkeley and has more than 30 years of active development on the core platform.

PostgreSQL has earned a strong reputation for its proven architecture, reliability, data integrity, robust feature set, extensibility, and the dedication of the open source community behind the software to consistently deliver performant and innovative solutions. PostgreSQL runs on [**all major operating systems**](https://www.postgresql.org/download/), has been [**ACID**](https://en.wikipedia.org/wiki/ACID)-compliant since 2001, and has powerful add-ons such as the popular **[PostGIS](https://postgis.net/" \t "_blank)** geospatial database extender. It is no surprise that PostgreSQL has become the open source relational database of choice for many people and organisations.

[**Getting started**](https://www.postgresql.org/docs/current/tutorial.html) with using PostgreSQL has never been easier - pick a project you want to build, and let PostgreSQL safely and robustly store your data.

**Microsoft SQL Server**

 is a [relational database management system](https://en.wikipedia.org/wiki/Relational_database_management_system" \o "Relational database management system) developed by [Microsoft](https://en.wikipedia.org/wiki/Microsoft). As a [database server](https://en.wikipedia.org/wiki/Database_server" \o "Database server), it is a [software product](https://en.wikipedia.org/wiki/Software_product) with the primary function of storing and retrieving data as requested by other [software applications](https://en.wikipedia.org/wiki/Software_application)—which may run either on the same computer or on another computer across a network (including the Internet). Microsoft markets at least a dozen different editions of Microsoft SQL Server, aimed at different audiences and for workloads ranging from small single-machine applications to large Internet-facing applications with many [concurrent users](https://en.wikipedia.org/wiki/Concurrent_user).

# System Properties Comparison Microsoft SQL Server vs. MySQL vs. PostgreSQL

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Editorial information provided by DB-Engines** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Name | **Microsoft SQL Server**[**X**](https://db-engines.com/en/system/MySQL%3BPostgreSQL) | **MySQL**[**X**](https://db-engines.com/en/system/Microsoft+SQL+Server%3BPostgreSQL) | **PostgreSQL**[**X**](https://db-engines.com/en/system/Microsoft+SQL+Server%3BMySQL) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Description | Microsofts flagship relational DBMS | Widely used open source [RDBMS](https://db-engines.com/en/article/RDBMS) | Widely used open source [RDBMS](https://db-engines.com/en/article/RDBMS) info |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Primary database model | [Relational DBMS](https://db-engines.com/en/article/RDBMS) | [Relational DBMS](https://db-engines.com/en/article/RDBMS) info | [Relational DBMS](https://db-engines.com/en/article/RDBMS) info |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Secondary database models | [Document store](https://db-engines.com/en/article/Document+Stores) [Graph DBMS](https://db-engines.com/en/article/Graph+DBMS) [Spatial DBMS](https://db-engines.com/en/article/Spatial+DBMS) | [Document store](https://db-engines.com/en/article/Document+Stores) [Spatial DBMS](https://db-engines.com/en/article/Spatial+DBMS) | [Document store](https://db-engines.com/en/article/Document+Stores) [Spatial DBMS](https://db-engines.com/en/article/Spatial+DBMS) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| |  |  | | --- | --- | | [DB-Engines Ranking](https://db-engines.com/en/ranking) info | [ranking trend](https://db-engines.com/en/ranking_trend/system/Microsoft+SQL+Server%3BMySQL%3BPostgreSQL) | | [Trend Chart](https://db-engines.com/en/ranking_trend/system/Microsoft+SQL+Server%3BMySQL%3BPostgreSQL) | | |  |  |  | | --- | --- | --- | | Score | 970.85 | | | Rank | #3 | [Overall](https://db-engines.com/en/ranking) | |  | #3 | [Relational DBMS](https://db-engines.com/en/ranking/relational+dbms) | | |  |  |  | | --- | --- | --- | | Score | 1212.52 | | | Rank | #2 | [Overall](https://db-engines.com/en/ranking) | |  | #2 | [Relational DBMS](https://db-engines.com/en/ranking/relational+dbms) | | |  |  |  | | --- | --- | --- | | Score | 577.50 | | | Rank | #4 | [Overall](https://db-engines.com/en/ranking) | |  | #4 | [Relational DBMS](https://db-engines.com/en/ranking/relational+dbms) | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Website | [www.microsoft.com/­en-us/­sql-server](https://www.microsoft.com/en-us/sql-server/) | [www.mysql.com](https://www.mysql.com/) | [www.postgresql.org](https://www.postgresql.org/) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Technical documentation | [docs.microsoft.com/­en-US/­sql/­sql-server](https://docs.microsoft.com/en-US/sql/sql-server/) | [dev.mysql.com/­doc](https://dev.mysql.com/doc/) | [www.postgresql.org/­docs](https://www.postgresql.org/docs/) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Developer | Microsoft | Oracle info | PostgreSQL Global Development Group info |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Initial release | 1989 | 1995 | 1989 info |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Current release | SQL Server 2019, November 2019 | 8.0.26, July 2021 | 13.4, August 2021 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| License info | commercial info | Open Source info | Open Source info |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cloud-based only info | no | no | no |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| DBaaS offerings (sponsored links) info |  | [ScaleGrid for MySQL](https://t.sidekickopen79.com/s1t/c/5/f18dQhb0SdYj8bGch0W2n0x6l2B9nMJW7t69v68pTbB4W63Bc1d16gGCMf3DJp1901?te=W3R5hFj4cm2zwW4cHbrv3K4dNZW3GGZrk1LBf35F47PNcYS6TW1&si=370885007&pi=a68632e2-e84c-4cff-8541-4a0fd2702aba): Fully managed MySQL hosting on AWS, Azure and DigitalOcean with high availability and SSH access on the #1 multi-cloud DBaaS. | [ScaleGrid for PostgreSQL](https://t.sidekickopen79.com/s1t/c/5/f18dQhb0SdYj8bGch0W2n0x6l2B9nMJW7t69v68pTbB4W63Bc1d16gGCMf3DJp1901?te=W3R5hFj4cm2zwW4cHbrv3K4dNZW3GGZrk1LCtCBW4fHrkG4cP21jf3R5h1204&si=370885007&pi=a68632e2-e84c-4cff-8541-4a0fd2702aba): Fully managed PostgreSQL hosting on AWS, Azure and DigitalOcean with high availability and SSH access on the #1 multi-cloud DBaaS. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Implementation language | C++ | C and C++ | C |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Server operating systems | Linux Windows | FreeBSD Linux OS X Solaris Windows | FreeBSD HP-UX Linux NetBSD OpenBSD OS X Solaris Unix Windows |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Data scheme | yes | yes | yes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Typing info | yes | yes | yes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| XML support info | yes | yes | yes info |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Secondary indexes | yes | yes | yes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SQL info | yes | yes info | yes info |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| APIs and other access methods | ADO.NET JDBC ODBC OLE DB Tabular Data Stream (TDS) | ADO.NET JDBC ODBC Proprietary native API | ADO.NET JDBC native C library ODBC streaming API for large objects |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Supported programming languages | C# C++ Delphi Go Java JavaScript (Node.js) PHP Python R Ruby Visual Basic | Ada C C# C++ D Delphi Eiffel Erlang Haskell Java JavaScript (Node.js) Objective-C OCaml Perl PHP Python Ruby Scheme Tcl | .Net C C++ Delphi Java info JavaScript (Node.js) Perl PHP Python Tcl |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Server-side scripts info | Transact SQL, .NET languages, R, Python and (with SQL Server 2019) Java | yes info | user defined functions info |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Triggers | yes | yes | yes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Partitioning methods info | tables can be distributed across several files (horizontal partitioning); sharding through federation | horizontal partitioning, sharding with MySQL Cluster or MySQL Fabric | partitioning by range, list and (since PostgreSQL 11) by hash |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Replication methods info | yes, but depending on the SQL-Server Edition | Multi-source replication Source-replica replication | Source-replica replication info |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MapReduce info | no | no | no |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Consistency concepts info | Immediate Consistency | Immediate Consistency | Immediate Consistency |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Foreign keys info | yes | yes info | yes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Transaction concepts info | ACID | ACID info | ACID |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Concurrency info | yes | yes info | yes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Durability info | yes | yes | yes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| In-memory capabilities info | yes | yes | no |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| User concepts info | fine grained access rights according to SQL-standard | Users with fine-grained authorization concept info | fine grained access rights according to SQL-standard |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |