

Comparison of Relational Database Management Systems

| | MySQL | PostgreSQL | SQL Server |
|------------------|--|---|---|
| Written In | C++ | C | ?? |
| Why | <p>Most Popular SQL DB.</p> <p>Used by Microsoft, Google, Twitter, Amazon, Netflix.</p> | <p>Supports a lot of datatypes including schemaless data.</p> <p>Tried & tested.</p> | <p>A commercial Solution.</p> <p>Used by companies that have to handle very heavy traffic loads.</p> <p>Very compatible with Windows.</p> <p>Has reporting services, integration systems & analytics.</p> |
| Row Updates | Row updates can be reversed. | <p>All updated rows have unique IDs.</p> <p>Results in a larger DB.</p> | <p>Has 3 engines for handling row updates.</p> <p>Most flexibility and efficiency in handling updated rows and columns.</p> |
| Defragmentation | Allows defragmenting tables during backup, index creation and with OPTIMIZE TABLE command. | <p>It allows all tables of a particular data layer to be scanned.</p> <p>It finds empty rows and deletes unnecessary elements.</p> <p>This process is very CPU intensive.</p> | <p>Allows a Garbage Collector to remove unnecessary rows and columns.</p> <p>More efficient than PostgreSQL.</p> |
| Temporary Tables | <p>Limited Functionality.</p> <p>Can't set variables in temp tables or create global templates.</p> <p>A temporary table can be referred to only once.</p> | <p>Temporary tables can be divided into local and global ones.</p> <p>They can all be configured with flexible variables.</p> | <p>Offers rich functionality for temporary table management.</p> <p>Local and global temporary variable tables can be created.</p> <p>We can create and oversee variables.</p> |

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| Indexes | <p>Search using indexes isn't flexible.</p> <p>Multiple indexes can't be searched in a single query.</p> | <p>Multiple indexes can be looked up in a single search.</p> <p>More multi-column indexes (32 columns).</p> | Rich Automated functionality for index management. |
| Memory Optimized Tables | <p>Supports it, but can't participate in transactions in it.</p> <p>Has poor security.</p> <p>Such tables are only used for READS.</p> | No support | Memory Optimized Tables can participate in transactions just like ordinary tables. |
| JSON Support | <p>JSON files are supported but not indexed.</p> <p>JSON File functionality is limited.</p> <p>Geospatial data is supported but not</p> | <p>Supports indexing & partial updates of JSON files.</p> <p>Supports many more data types like multi-dimensional arrays and geospatial data.</p> | <p>Full support for JSON files, handling, updates and maintenance.</p> <p>Rich support for geospatial data.</p> |
| Replication | Allows partitioning DBs with several hashing nodes. | Allows LIST and RANGE partitions where the partition INDEX is created manually. | Supports RANGE partitioning. |

REFERENCES

[SQL Server vs MySQL vs Postgresql: Which One Is the Best](#)