[Template:Redirect](/wiki/Template:Redirect" \o "Template:Redirect) A **NoSQL** (originally referring to "non SQL" or "non relational")[[1]](#cite_note-1) database provides a mechanism for [storage](/wiki/Computer_data_storage) and [retrieval](/wiki/Data_retrieval) of data which is modeled in means other than the tabular relations used in [relational databases](/wiki/Relational_database). Such databases have existed since the late 1960s, but did not obtain the "NoSQL" moniker until a surge of popularity in the early twenty-first century,[Template:R](/wiki/Template:R) triggered by the needs of [Web 2.0](/wiki/Web_2.0) companies such as [Facebook](/wiki/Facebook), [Google](/wiki/Google) and [Amazon.com](/wiki/Amazon.com).[[2]](#cite_note-2)[[3]](#cite_note-3)[[4]](#cite_note-4) NoSQL databases are increasingly used in [big data](/wiki/Big_data) and [real-time web](/wiki/Real-time_web) applications.[[5]](#cite_note-5) NoSQL systems are also sometimes called "Not only SQL" to emphasize that they may support [SQL](/wiki/SQL)-like query languages.[[6]](#cite_note-6)[[7]](#cite_note-7) Motivations for this approach include: simplicity of design, simpler ["horizontal" scaling](/wiki/Horizontal_scaling#Horizontal_and_vertical_scaling) to [clusters](/wiki/Cluster_computing) of machines (which is a problem for relational databases),[[8]](#cite_note-8) and finer control over availability. The data structures used by NoSQL databases (e.g. key-value, wide column, graph, or document) are different from those used by default in relational databases, making some operations faster in NoSQL. The particular suitability of a given NoSQL database depends on the problem it must solve. Sometimes the data structures used by NoSQL databases are also viewed as "more flexible" than relational database tables.[[9]](#cite_note-9) Many NoSQL stores compromise consistency (in the sense of the [CAP theorem](/wiki/CAP_theorem)) in favor of availability, partition tolerance, and speed. Barriers to the greater adoption of NoSQL stores include the use of low-level query languages (instead of SQL, for instance the lack of ability to perform ad-hoc JOINs across tables), lack of standardized interfaces, and huge previous investments in existing relational databases.[[10]](#cite_note-10)Most NoSQL stores lack true [ACID](/wiki/ACID) transactions, although a few databases, such as [MarkLogic](/wiki/MarkLogic), [Aerospike](/wiki/Aerospike_database), FairCom [c-treeACE](/wiki/C-treeACE), Google [Spanner](/wiki/Spanner_(database)) (though technically a [NewSQL](/wiki/NewSQL) database), Symas [LMDB](/wiki/Lightning_Memory-Mapped_Database) and [OrientDB](/wiki/OrientDB) have made them central to their designs. (See [ACID and JOIN Support](/wiki/#ACID_and_JOIN_Support).)

Instead, most NoSQL databases offer a concept of "eventual consistency" in which database changes are propagated to all nodes "eventually" (typically within milliseconds) so queries for data might not return updated data immediately or might result in reading data that is not accurate, a problem known as stale reads.[[11]](#cite_note-11)