


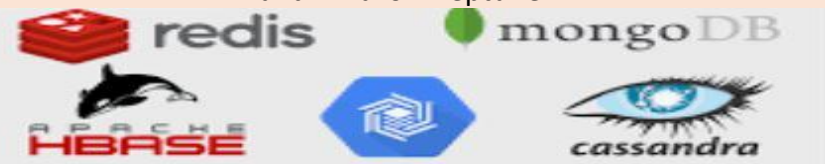


	<u>SQL Databases</u>	<u>NoSQL Databases</u>
Definitions	SQL stands for Structural Query Language which is basically a language used by databases	NoSQL, also referred to as “not only SQL”, “non-SQL”, is an approach to database design that enables the storage and querying of data outside the traditional structures found in relational databases.
Data Storage Model	Tables with fixed rows and columns 	Document: JSON documents, Key-value: key-value pairs, Wide-column: tables with rows and dynamic columns, Graph: nodes and edges 
Development History	Developed in the 1970s with a focus on reducing data duplication	Developed in the late 2000s with a focus on scaling and allowing for rapid application change driven by agile and DevOps practices.
Examples	Oracle, MySQL, Microsoft SQL Server, and PostgreSQL 	Document: MongoDB and Couch DB, Key-value: Redis and Dynamo DB, Wide-column: Cassandra and HBase, Graph: Neo4j and Amazon Neptune 
Schemas	Rigid	Flexible
Scaling	Vertical (scale-up with a larger server)	Horizontal (scale-out across commodity servers)
Multi-Record ACID Transactions	Supported	Most do not support multi-record ACID transactions. However, some—like MongoDB—do.
Hierarchical data storage	Not Suitable	Best for hierarchical data storage
Data to Object Mapping	Requires ORM (object-relational mapping)	Many do not require ORMs. MongoDB documents map directly to data structures in most popular programming languages.

SQL Databases vs NoSQL Databases