

NO SQL databases

NoSQL is an approach to database design that can accommodate a wide variety of data models, including key-value, document, columnar and graph formats. NoSQL, which stand for "not only SQL," is an alternative to traditional relational databases in which data is placed in tables and data schema is carefully designed before the database is built. NoSQL databases are especially useful for working with large sets of distributed data.

Example-MongoDb,CouchDB

Types Of NO SQL Databases

NoSQL is four things: document-oriented databases, in-memory databases, graph databases, and column store databases. For each database type, Johnson provides the following examples:

Document-Oriented Databases

Couchbase

CouchDB

MongoDB

Riak

In-Memory Databases

Memcached

Redis

Riak

VoltDB

Graph Databases

InifiniteGraph

Neo4J

OrientDB

Column Store Databases

Apache HBase

Cassandra

Google's BigTable

CAP Theoram

- **Consistency** - This means that the data in the database remains consistent after the execution of an operation. For example after an update operation, all clients see the same data.
- **Availability** - This means that the system is always on (service guarantee availability), no downtime.
- **Partition Tolerance** - This means that the system continues to function even if the communication among the servers is unreliable, i.e. the servers may be partitioned into

multiple groups that cannot communicate with one another.

- Duplicate Copy of same data is maintained on Multiple Machines.
- This increases availability, but decreases consistency.
- If data on one machine changes, the update propagates to the other
- Machine, system is inconsistent, but will become eventually consistent.
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