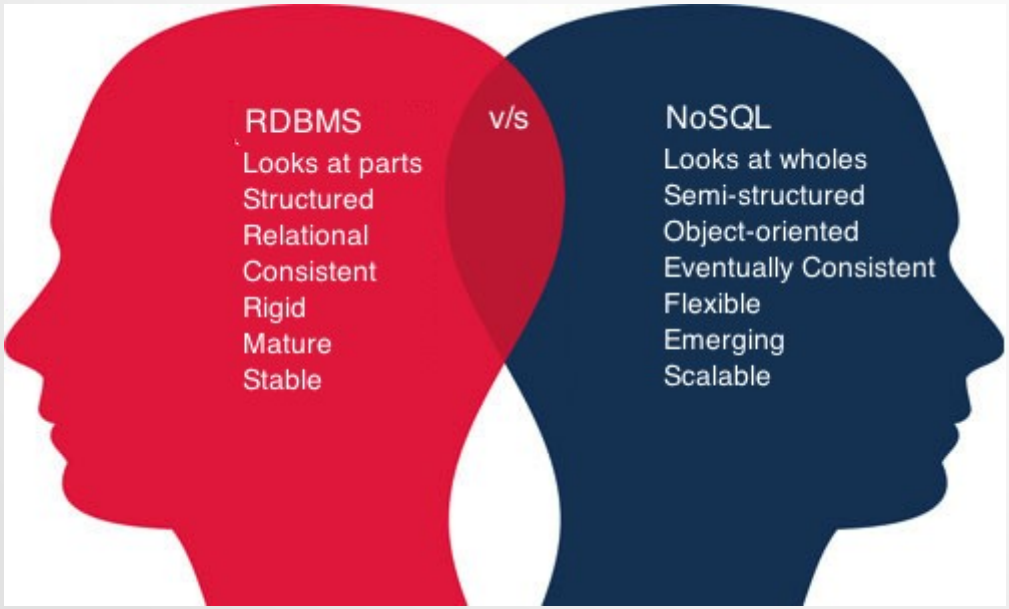
Bhakti Atul Pradhan

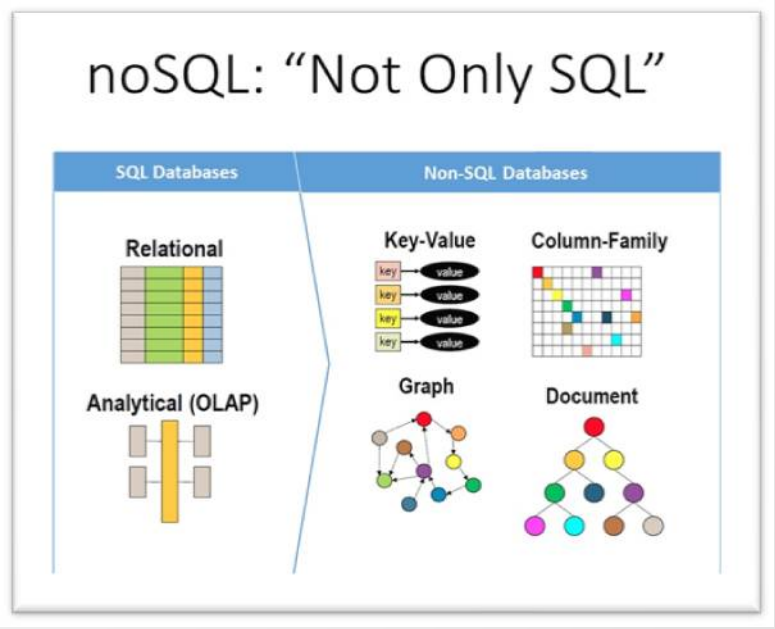
a drop of KNOWLEDGE

Agenda

NO SQL (Not Only SQL)

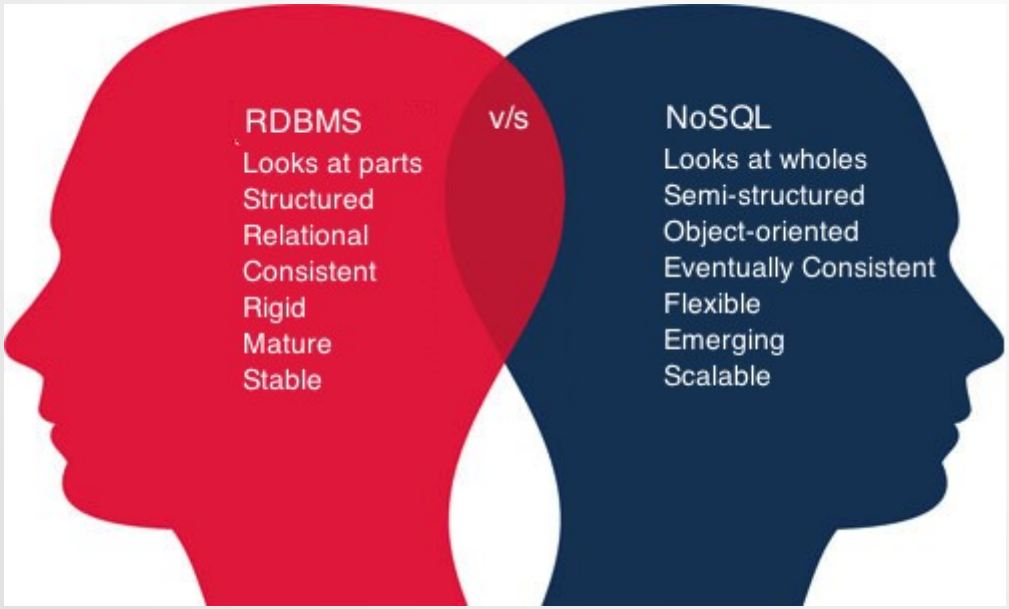
A NoSQL database provides a mechanism for storage and retrieval of data that is modeled in means other than the tabular relations used in relational databases.

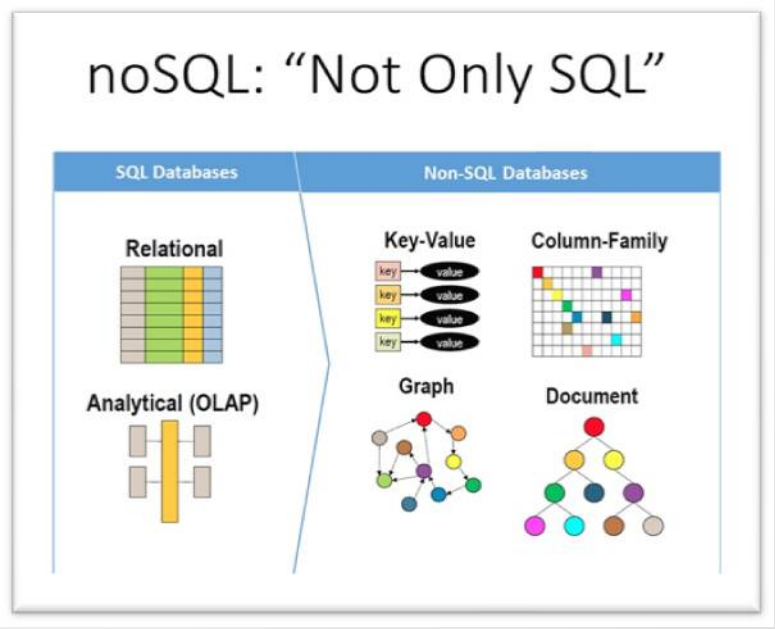




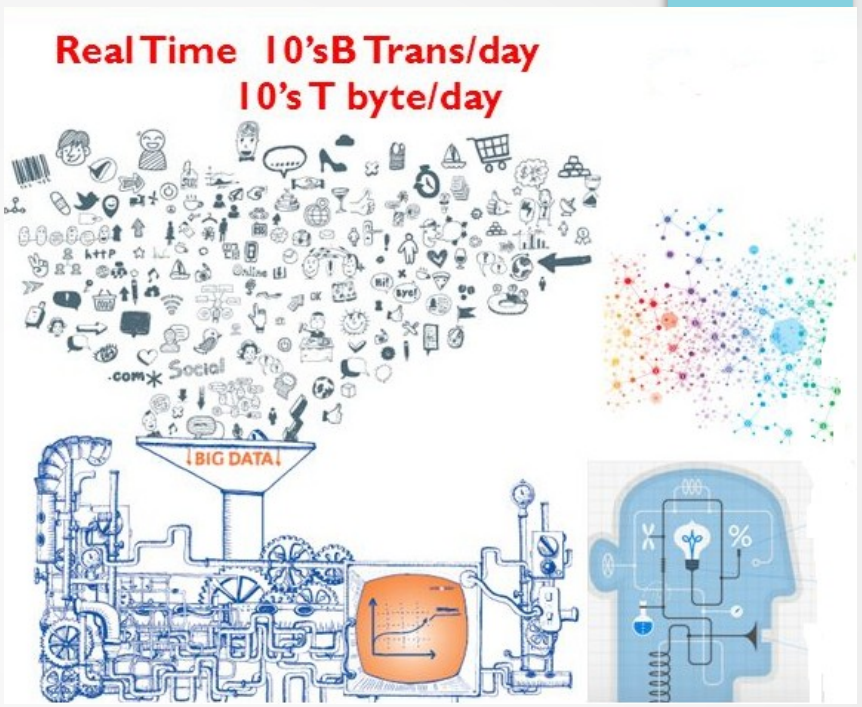
NO SQL (Not Only SQL)

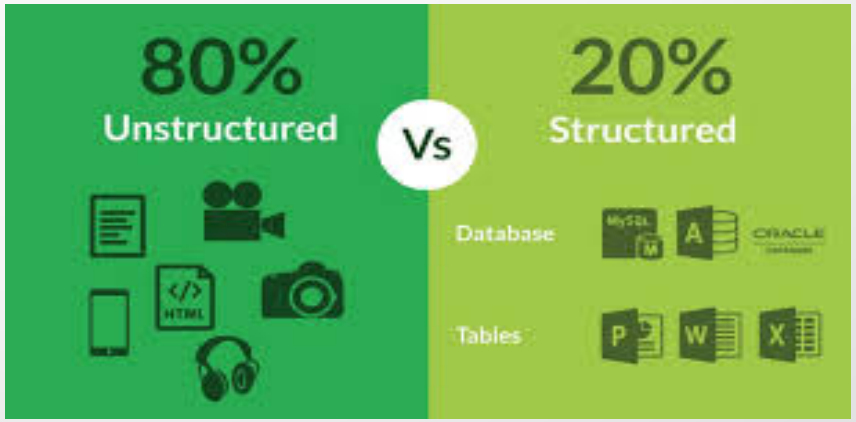
A NoSQL database provides a mechanism for storage and retrieval of data that is modeled in means other than the tabular relations used in relational databases.





Why NoSQL / MongoDB





What / Who MongoDB

- MongoDB is a free and open-source cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON like documents with schema.

- Developed by 10 gen in 2007, later renamed to MongoDB Inc in 2013.

- It is published under a combination of the GNU (General Public License) and the Apache License.

MongoDB Features

- Document oriented
- High performance
- High availability — Replication
- High scalability – Sharding
- Dynamic — No rigid schema.
- Flexible – field addition/deletion have less or no impact on the application
- Heterogeneous Data
- No Joins
- Distributed
- Data Representation in JSON or BSON
- Geospatial support
- Easy Integration with BigData Hadoop
- Document-based query language that's nearly as powerful as SQL
- Cloud distributions such as AWS, Microsoft, RedHat,dotCloud and SoftLayer etc:-. In fact, MongoDB is built for the cloud. Its native scale-out architecture, enabled by 'sharding,' aligns well with the horizontal scaling and agility afforded by cloud computing.

When MongoDB?

- High performance (1000's – millions queries/sec)
- Need flexible schema
- Rich querying with any number of secondary indexes
- Need for replication across multiple data centers globally
- Need to deploy rapidly and scale.
- 99.99999% availability
- Real Time Analysis
- Geospatical Querying
- Processing in real time vs batch
- Agile Project
- Need Strong Data consistency
- Advance Security
- Building Next Gen Solution
-

When/Where MongoDB?

- You Expect a High Write Load
- You need High Availability in an Unreliable Environment (Cloud and Real Life)
- You need to Grow Big (and Shard Your Data)
- Your Data is Location Based
- Your Data Set is Going to be Big (starting from 1GB) and Schema is Not Stable

How MongoDB

- Installation
- Mongo Shell
- MongoDB CRUD
- Schema Design
- Indexes
- Aggregation Framework
- Sharding
- Replication

Getting Started

SQL vs NoSQL

SQL	MongoDB
Table	Collection
Row	Document
Column	Field
Primary key	ObjectId
Index	Index
View	View
Nested table or object	Embedded document

Mongo Shell