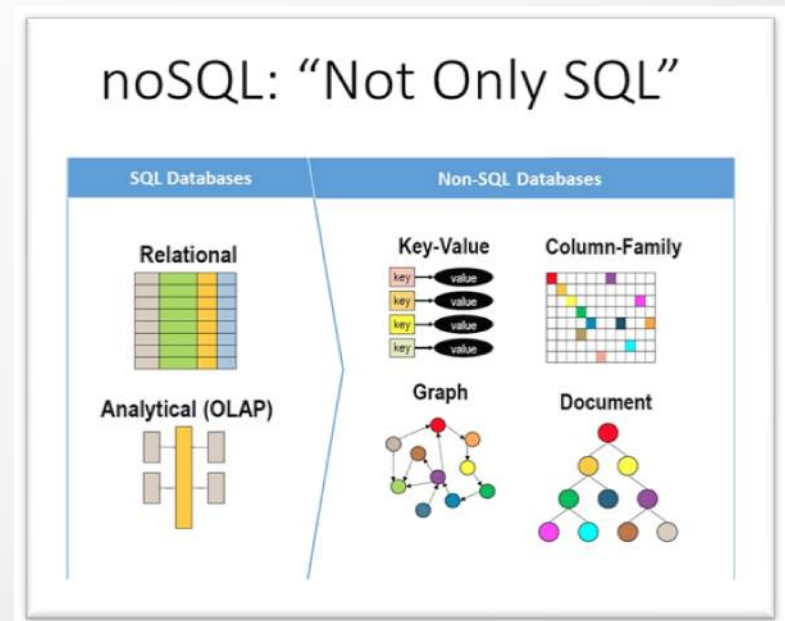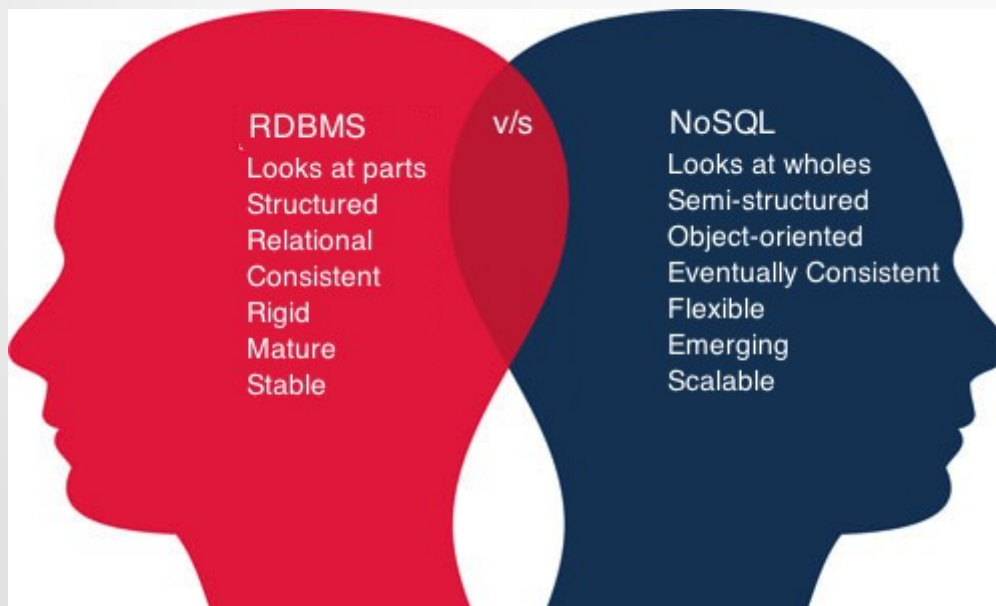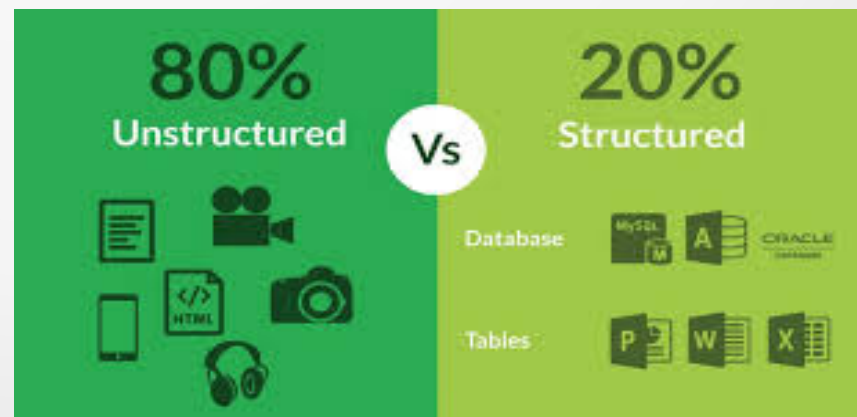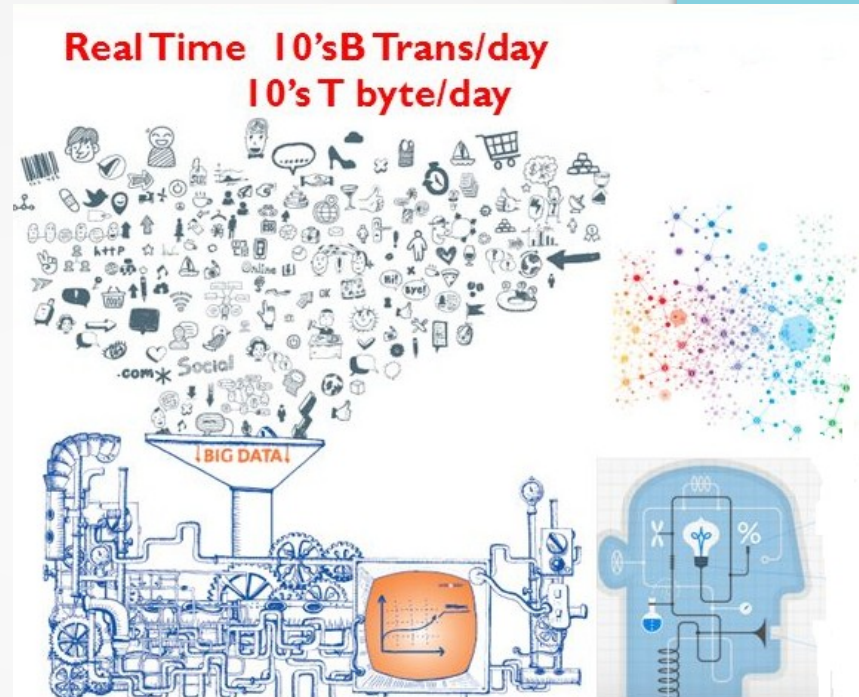# Agenda

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.

Why NoSQL / MongoDB

What / Who MongoDB

- MongoDB is a free and open-source cross-platform document-oriented database that provides high performance, high availability, and automatic scaling.

- MongoDB uses JSON like documents with flexible 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 Based

- Distributed

- High Performance

- Rich Query Language

- High Availability — Replication

- High Scalability – Sharding

- Support for Multiple Storage Engines

- Dynamic — No rigid schema.

- Flexible – field addition/deletion have less or no impact on the application

- Heterogeneous Data

- No Joins

- Data Representation in JSON or BSON

- Geospatial support

- Document-based query language that's nearly as powerful as SQL

- Easy Integration with BigData Hadoop

- Cloud distributions such as AWS, Microsoft, RedHat,dotCloud and SoftLayer etc

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

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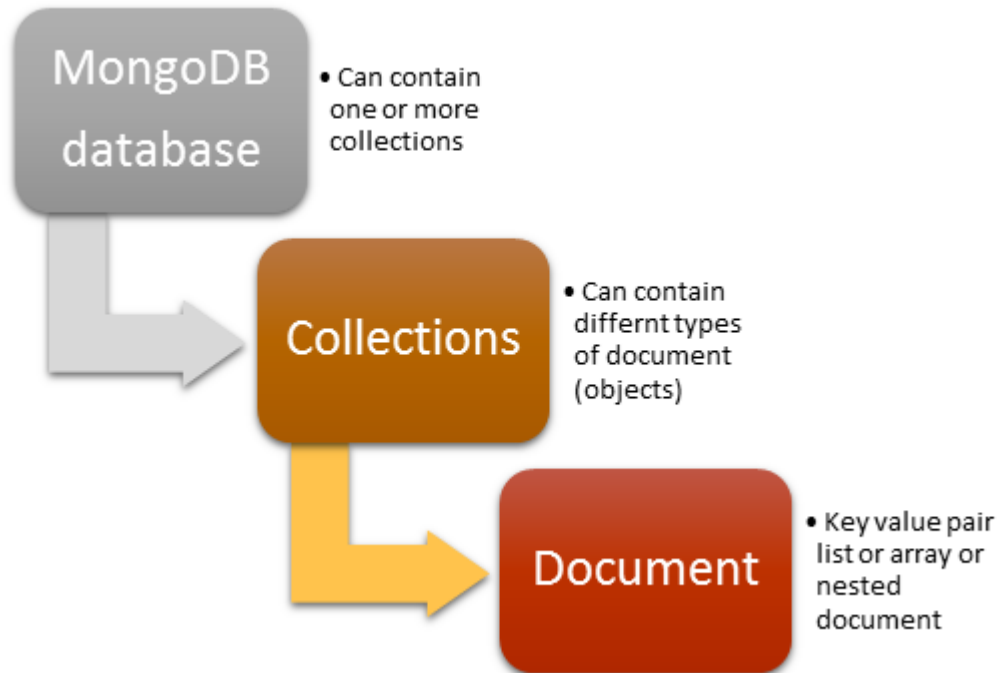
How MongoDB

- Getting Started
- Basics with Mongo Shell
- Mongo Compass
- MongoDB CRUD
- Aggregation Framework
- Data Modeling
- Indexes
- Sharding
- Replication

Getting Started

- Server
  - MongoDB Atlas is a cloud-hosted service for provisioning, running, monitoring, and maintaining MongoDB deployments.
  - Local – Community/Enterprise

- Client
  - Mongo Shell - an interactive JavaScript interface to MongoDB
  - Mongo Compass - GUI for MongoDB

Basics

MongoDB database
• Can contain one or more collections

Collections
• Can contain differnt types of document (objects)

Document
• Key value pair list or array or nested document

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

Questions

Thank You