**WHAT ARE DOCUMENT DATABASES?**

NoSQL document databases are databases that do not require SQL and a table-based model. NoSQL DBs unlike relational DBs that use tables, rows, schemas, etc. NoSQL databases are implemented using documents that encapsulate and encode data in a standard format. Among the formats used by NoSQL databases to encode data, we find: XML, JSON, BSON, PDF, etc.

When comparing NoSQL databases to RDBMS, the collections could be comparable to tables and documents comparable to records. Documents in the DB can be referenced via a unique key that represent them, In addition to using a simple key-value query to retrieve a document, NoSQL DBs also uses a query language or API to query documents bases on their contents.

**WHAT ARE COLLECTIONS?**

NoSQL collections are groups of documents or data with data type descriptions and values. They serve the same purpose as tables in relational databases. Collections do not enforce a schema. All documents that make part of a collection can have different fields and have a similar or related purpose.

**WHAT ARE THE KEY DIFFERENCES BETWEEN RELATIONAL AND NON-RELATIONAL DATABASE STRUCTURES?**

**Type**

SQL DBs are relational Databases. They store data in a structure data that uses tables, rows and columns. They are called relational because each table contains a value that is related to another table.

NoSQL DBs are non-relational or distributed DBs. NoSQL DBS have a dynamic schema that is more appropriate for semi-structure or unstructured data. Data can be stored in many different types: key-value store, column oriented DB, and graph based. Documents can be created without a re-defined structure and can have their own unique structure. The syntax from DB to DB can vary and you can add fields as you go.

**Language**

RDBMS use a **S**tructured **Q**uery **L**anguage (SQL) to access and manipulate databases. This structured language requires the use of predefined schemas to determine que structure of the data before we can work with it. All data must follow the same structure which can require a lot of planning – this in turn means that a change in the data structure can be difficult and hard to implement.

NoSQL DBs use mapping and reduction techniques to query collections and retrieve data.

References:

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