1. **What is and Why NoSQL**

**NoSQL** database technology is a database type that stores information in JSON documents instead of columns and rows used by relational databases. Consequently, **NoSQL** databases are built to be flexible, scalable, and capable of rapidly responding to the data management demands of modern businesses.

1. **NoSQL characteristics**

* Multi-Model. Where relational databases require data to be put into tables and columns to be accessed and analyzed, the various data model capabilities of **NoSQL** databases make them extremely flexible when it comes to handling data. ...
* Easily Scalable. ...
* Flexible. ...
* Distributed. ...
* Zero Downtime.

1. **NoSQL databases types**

There are four big NoSQL types: **key-value store**, **document store**, column-oriented database, and graph database. Each type solves a problem that can't be solved with relational databases. Actual implementations are often combinations of these.

1. What is ACID theorem

In computer science, **ACID** (atomicity, consistency, isolation, durability) is a set of properties of database transactions intended to guarantee data validity despite errors, power failures, and other mishaps.

**5.What is CAP theorem**

Le théorème CAP ou CDP, aussi connu sous le nom de théorème de Brewer, dit qu'il est ... with CAP, and Yahoo's little known NoSQL system [archive] par Daniel Abadi. (en) **CAP theorem**, almost 2 decades later [archive] par Eric Brewer.

6. **NoSQL advantages**

NoSQL databases were created in response to the limitations of traditional relational database technology. When [compared to relational databases](https://www.mongodb.com/scale/nosql-vs-relational-databases), NoSQL databases are often more scalable and provide superior performance. In addition, the flexibility and ease of use of their data models can speed development in comparison to the relational model, especially in the cloud computing environment.

Each specific [type of NoSQL database](https://www.mongodb.com/scale/types-of-nosql-databases) has different strengths, but all share fundamental characteristics that allow them to:

* [Handle large volumes of data at high speed with a scale-out architecture](https://www.mongodb.com/nosql-explained/advantages#handle-large-volumes-of-data)
* [Store unstuctured, semi-structured, or structured data](https://www.mongodb.com/nosql-explained/advantages#store-unstructured-semi-structured-data)
* [Enable easy updates to schemas and fields](https://www.mongodb.com/nosql-explained/advantages#enable-easy-updates-to-schemas-and-fields)
* [Be developer-friendly](https://www.mongodb.com/nosql-explained/advantages#developer-friendly)
* [Take full advantage of the cloud to deliver zero downtime](https://www.mongodb.com/nosql-explained/advantages#full-advantage-of-cloud)