



MongoDB

NoSQL Database

www.mongodb.com

What is MongoDB?

- A Document-Oriented Database
- A Document is a **JSON content**

In **SQL Databases** ->

we save text content in **Structured Tables**

In **MongoDB** ->

we save **Structured JSON**

NoSQL vs SQL: The Major Differences

SQL

- Individual records are stored as rows and tables
- Structured and data types are fixed in advance.
- To store information about a new data item, the entire database must be altered

NoSQL

- Document databases do away with the table-and-row model altogether, storing all relevant data together in a single “document”
- Records can add new information on the fly, and unlike SQL table rows, dissimilar can be stored together as necessary

Relational

Person:

| Pers_ID | Surname | First_Name | City |
|---------|-----------|------------|----------|
| 0 | Miller | Paul | London |
| 1 | Ortega | Alvaro | Valencia |
| 2 | Huber | Urs | Zurich |
| 3 | Blanc | Gaston | Paris |
| 4 | Bertolini | Fabrizio | Rom |

Car:

| Car_ID | Model | Year | Value | Pers_ID |
|--------|-------------|------|--------|---------|
| 101 | Bentley | 1973 | 100000 | 0 |
| 102 | Rolls Royce | 1965 | 330000 | 0 |
| 103 | Peugeot | 1993 | 500 | 3 |
| 104 | Ferrari | 2005 | 150000 | 4 |
| 105 | Renault | 1998 | 2000 | 3 |
| 106 | Renault | 2001 | 7000 | 3 |
| 107 | Smart | 1999 | 2000 | 2 |

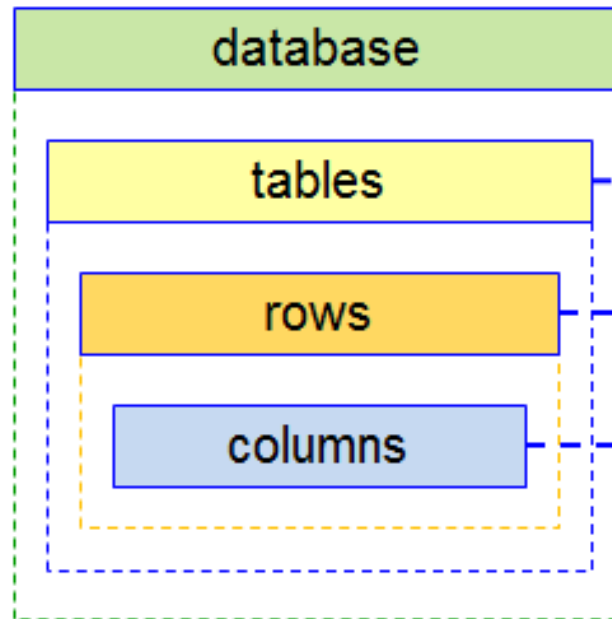
no relation

MongoDB Document

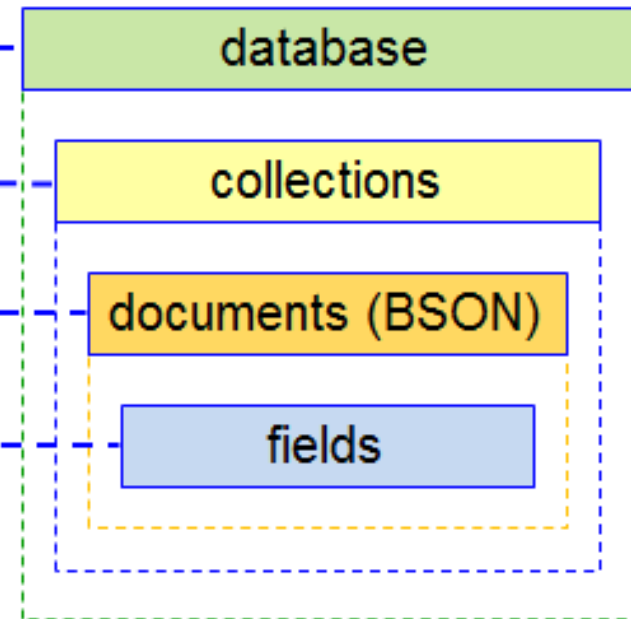
```
{
  first_name: 'Paul',
  surname: 'Miller'
  city: 'London',
  location: [45.123,47.232],
  cars: [
    { model: 'Bentley',
      year: 1973,
      value: 100000, ... },
    { model: 'Rolls Royce',
      year: 1965,
      value: 330000, ... }
  ]
}
```

Data Models: Relational to Document

SQL Terms/Concepts



MongoDB Terms/Concepts



Who Uses MongoDB

- Google
- Facebook
- Adobe
- NBCUniversal
- Verizon
- Forbes
- Department of Veteran Affairs
- And Much More. See: <https://www.mongodb.com/who-uses-mongodb>



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