MongoDB

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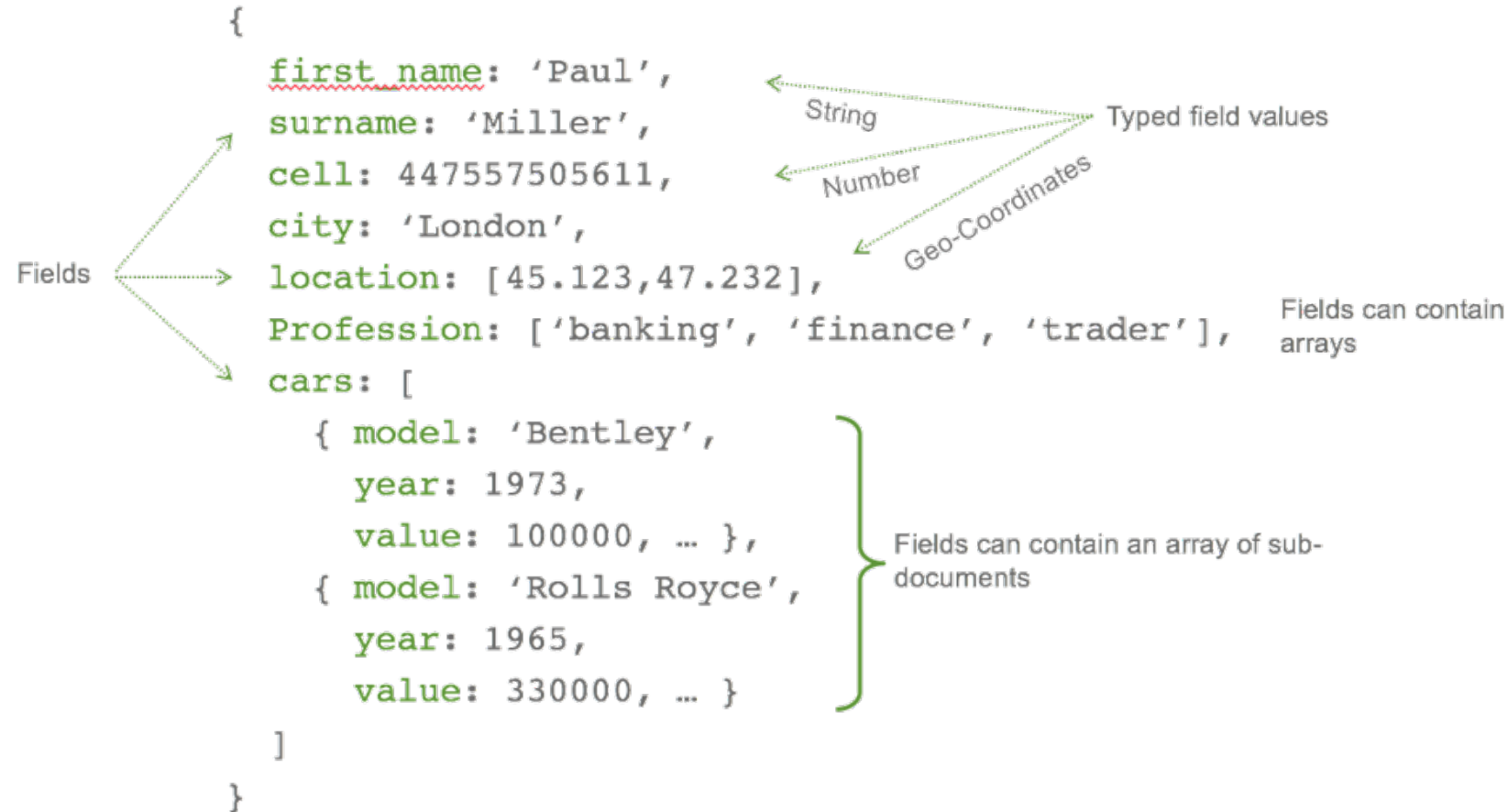# MongoDB

- **Document** based database
- Concept mapping:

SQL Terms/Concepts	MongoDB Terms/Concepts
database	database
table	collection
row	document or BSON document
column	field

- Each document is constructed as a **BSON** (Binary JSON)

MongoDB documents

A document looks like this:

```
{
    first name: 'Paul',
    surname: 'Miller',                    String ──→ Typed field values
    cell: 447557505611,          Number ──→
    city: 'London',                      Geo-Coordinates
    location: [45.123,47.232],
Fields   Profession: ['banking', 'finance', 'trader'],   Fields can contain arrays
    cars: [
        { model: 'Bentley',
          year: 1973,
          value: 100000, … },            Fields can contain an array of sub-documents
        { model: 'Rolls Royce',
          year: 1965,
          value: 330000, … }
    ]
}
```

From <u>datawow.io</u>

MongoDB: Running queries

– Search query is in **BSON**

  - e.g. `{'state': 'Michigan'}`

– For a simple selection of documents (i.e. rows in SQL), use `find()` method

– For a bit more sophisticated query, use `aggregate()` method

– MongoDB: Does "JOIN" exist?

  - There is a similar method, but it is not as powerful as SQL's **JOIN**. In the end, "if you have relational data, use a relational (SQL) database!".

MongoDB Demo

– For MongoDB, the easiest way to deploy is to use Atlas service.

- https://www.mongodb.com
- One shared cluster is always free, we will use it.