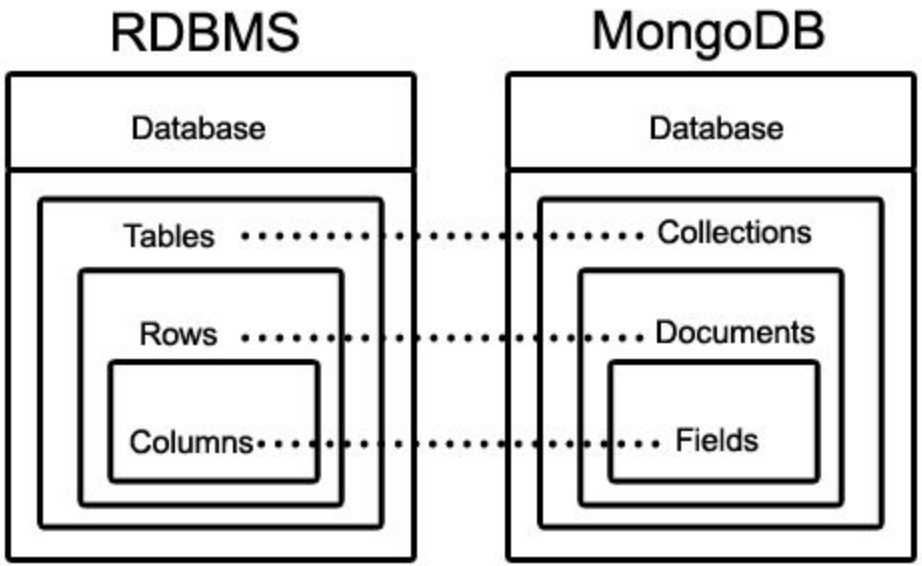
MongoDB

MongoDB

- Open-source
- Document based database


RDBMS
MongoDB
Database
Database
Tables
Collections
Rows
Documents
Columns
Fields

Database

Database is a physical container for collections. Each database gets its own set of files on the file system. A single MongoDB server typically has multiple databases.

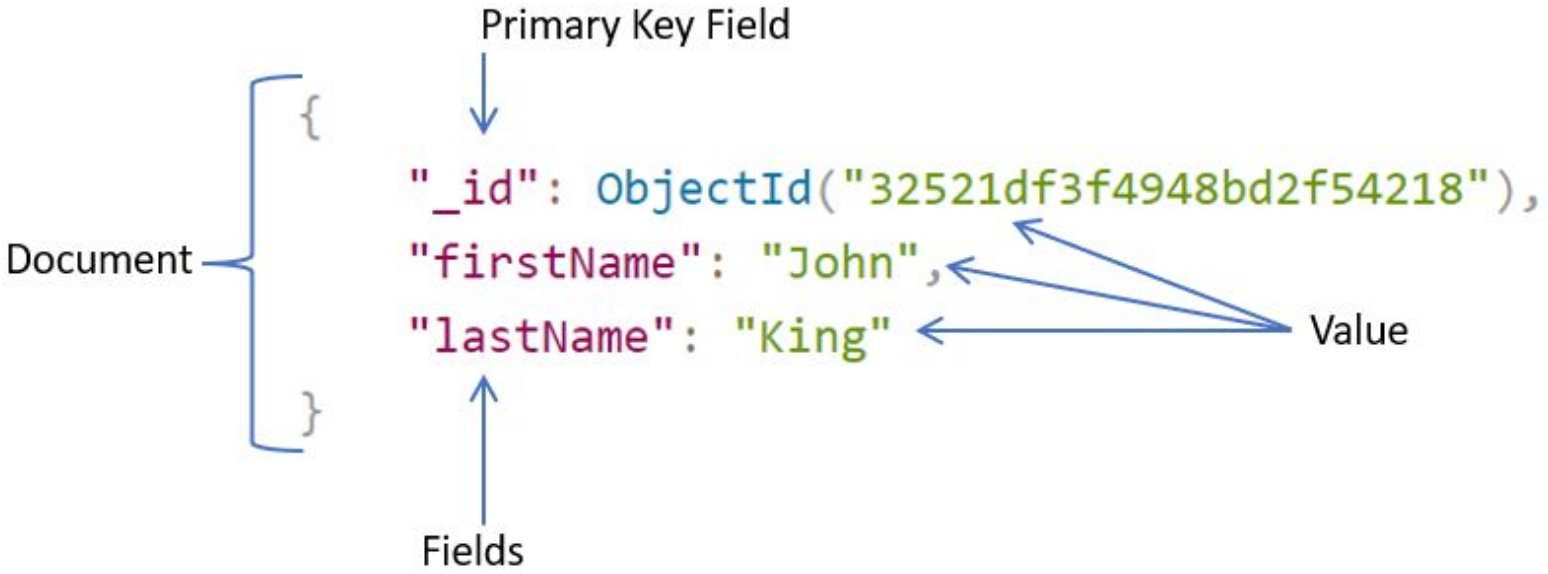
Collection

Collection is a group of MongoDB documents. It is the equivalent of an RDBMS table. A collection exists within a single database. Collections do not enforce a schema.

Document

A document is a set of key-value pairs. Documents have dynamic schema. Dynamic schema means that documents in the same collection do not need to have the same set of fields or structure, and common fields in a collection's documents may hold different types of data.

Sample document



Data Modelling

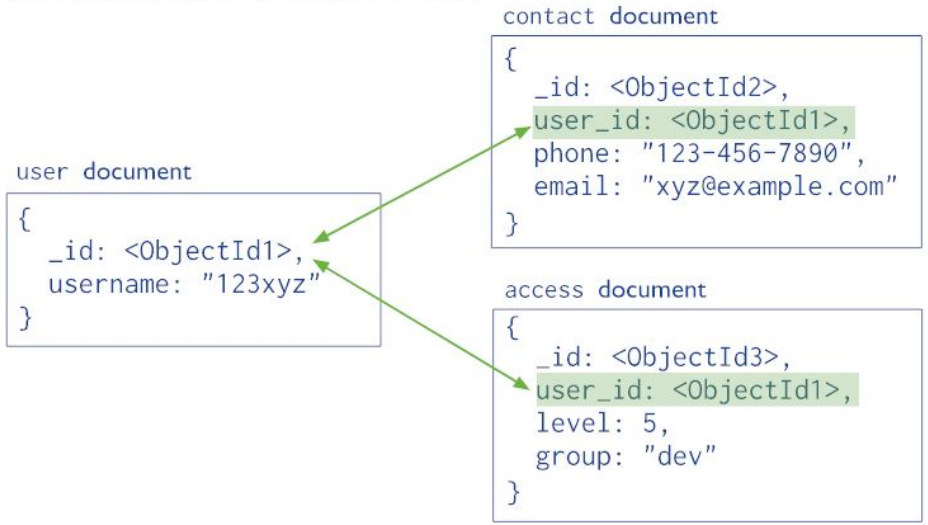
(a) Embedded Data Model

```
{
  _id: <ObjectId1>,
  username: "123xyz",
  contact: {
             phone: "123-456-7890",
             email: "xyz@example.com"
           },
  access: {
             level: 5,
             group: "dev"
           }
}
```

Embedded sub-document

Embedded sub-document

(b) Normalized Data Model



Advantages of MongoDB over RDBMS

- Schema less
- Ease of scaling

- MongoDB Atlas

  https://www.mongodb.com/atlas/database
- MongoDB Compass

  https://www.mongodb.com/download-center

1. Create an account and login
2. Create Organization

   Organizations allow you to group and define users and teams, and grant them access to the different projects.

3. Create Project

   Projects allow you to define and organize resources such as database clusters, triggers, and data lakes.

4. Create Cluster