MongoDB

A NoSQL Database

Overview

- **Database:** a container for **collections** implemented as a set of files.

- **Collection**: a group of MongoDB documents. Equivalent to a RDBMS table. Collections have no schema and documents in a collection can have different fields.

- **Document**: is a set of key-value pairs. Documents in the same collection do not need to have the same set of fields. Equivalent to a table row.

Simple Example

```
{
    _id: ObjectID(7df78ad8902c)
    Name: 'Derek',
    HouseNo: '38',
    PostCode: 'WD5 0EL',
    DateofBirth: new Date(1965, 1, 14),
    Age: 21
}
```

Advantages

- No Schema, documents can vary in terms of fields
- Clear structure
- Dynamic queries as powerful as SQL
- Easy to scale
- No complex joins
- Faster access to data

JSON Syntax

- Var john = {"name":"John", "age":21, "city":"St Albans"};
- Var johnJSON = JSON.stringify(john);
- localStorage.setItem("Filename", johnJSON);

- Data is name/value pairs
- Data is separated by commas
- Curly braces hold objects
- Square brackets hold arrays

JSON Values

- **A string** "Sue"
- **A number** 42
- **An array** ["one", "two", "three"]
- **A Boolean** true
- **Null**
- **A JavaScript expression** new Date(2017, 2, 20)

More Complex Example

```
{
    Title: "Assessment 1",
    Units: [10, 14],
    Tasks: [
    {
        TaskNo:1, Criteria:[1.1, 1.2],
        Description : "This is Task 1"
    },
    {

        TaskNo : 2, Criteria:[2.1, 2.2, 2.3],
        Description : "This is task 2"
    }]
}
```