Web 335 Discussion 4.1 – What is MongoDB?

MongoDB is a NoSQL distributed document database[[1]](#footnote-1). The documents are in a JSON format. Up to a certain limit, it is free to use. MongoDB maps (links) the data in the document model to objects on the client side. Some of the key features of MongoDB are[[2]](#footnote-2):

1. Aggregation Framework – MongoDB uses MapReduce, which is equivalent to GROUP BY in SQL. MapReduce filters and sorts and performs a summary operation on data so that it can be used efficiently.
2. BSON – MongoDB uses Binary JSON (a binary-encoded serialization of JSON) to store documents, which means it can include data types that aren’t found in JSON, such as Date and binary. It also enables MongoDB to index and map nested documents.
3. Sharding – MongoDB distributes data across multiple machines, a process known as sharding. This enables MongoDB to scale out horizontally and to support very large data sets and high throughput operations.
4. Ad hoc queries – Whereas SQL has a specific language for querying, MongoDB queries are more flexible, as you can search by field or range and can even search using regular expression from JavaScript.

Two MongoDB data types are Date and Boolean[[3]](#footnote-3). The Date data type stores the current date and/or time and can be returned as a string or a Date object. Having a Date data type can be important for a number of things, such as providing logs of errors or counting the number of sales in a year. An example of a Date data type is:

* var date1=Date()
* var date2=new Date()
* var date3=new ISODate()
* db.david.insert({\_id:ObjectId(),Date1:date1,Date2:date2,Date3:date3})

WriteResult({ “nInserted” : 1 })

* db.david.find().pretty()

{

“\_id” : ObjectId(“1bc2gfaa8d95151c7b609ab5”),

“Date1” : “Tue May 21 2019 01:02:05 GMT -0600 (Central Standard Time)”,

“Date2” : ISODate(“2019-03-12T08:14:34.088Z”),

“Date3” : ISODate(“2019-05-20T04:05:06.284Z”)

}

The Boolean data type stores the values true and false. This can be important for limiting searches to specific documents that match a certain criteria. An example of a Boolean data type is:

* db.david.insert({\_id:ObjectId(),heads:true,tails:false})

WriteResult({ “nInserted” : 1 })

* db.david.find().pretty()

{

“\_id” : ObjectId(“1bc2gfaa8d95151c7b609ab5”),

“heads” : true,

“tails” : false

}

1. What Is MongoDB? (no author). (n.d.). Retrieved from <https://www.mongodb.com/what-is-mongodb> [↑](#footnote-ref-1)
2. Mohit Arora. (2017, Mar 19). What Are The Key Features Of MongoDB? (article). Retrieved from <https://www.tutorialsjar.com/key-features-of-mongodb/> [↑](#footnote-ref-2)
3. DataFlair Team. (2018, May 06). MongoDB Data Types – 16 Various Data Types In MongoDB (tutorial). Retrieved from <https://data-flair.training/blogs/mongodb-data-types/> [↑](#footnote-ref-3)