

1 1. 들어가며
2 1)DB-Engines 순위(2014년 기준)
3 -1:Oracle
4 -2:MySQL
5 -3:Microsoft SQL Server
6 -4:PostgreSQL
7 -5:MongoDB
8 -6:DB2
9 -7:Microsoft Access
10 -8:SQLite
11 -9:Sybase ASE
12 -10:Cassandra
13
14
15 2. What is MongoDB?
16 1)MongoDB (from "humongous") is an open source documentoriented database system
developed and supported by MongoDB inc.
17 2)NoSQL-Not only SQL
18 3)Document-oriented ,JSON(BSON)
19 4)Embedding, referencing
20
21
22 3. Use Cases
23 1)WEB APPLICATIONS
24 2)AGILE DEVELOPMENT
25 3)ANALYTICS AND LOGGING
26 4)CACHING
27 5)VARIABLE SCHEMAS
28
29
30 4. Terminology
31 -MongoDB works on concept of collection and document.
32 -RDBMS vs MongoDB
33 --Database vs Database
34 --Table, View vs Collection
35 --Row/Tuple vs Document
36 --Column vs Field
37 --Index vs Index
38 --Table Join vs Embedded Document
39 --Primary Key vs Primary Key (Default key _id provided by mongodb itself)
40 --Foreign Key vs Reference
41 --Partition vs Shard
42 --mysqld/Oracle vs mongod
43 --mysql/sqlplus vs mongo
44
45 -Database
46 --Database is a physical container for collections.
47 --Each database gets its own set of files on the file system.
48 --A single MongoDB server typically has multiple databases.
49
50 -Collection
51 --Collection is a group of MongoDB documents.
52 --It is the equivalent of an RDBMS table.
53 --A collection exists within a single database.
54 --Collections do not enforce a schema.
55 --Documents within a collection can have different fields.
56 --Typically, all documents in a collection are of similar or related purpose.
57
58 -Document
59 --A document is a set of key-value pairs.

- Documents have dynamic schema.
- Do not need to have the same set of fields or structure, and common fields.

-Sample Document

```
{
  _id: ObjectId(7df78ad8902c)
  title: 'MongoDB Overview',
  description: 'MongoDB is no sql database',
  by: 'tutorials point',
  url: 'http://www.tutorialspoint.com',
  tags: ['mongodb', 'database', 'NoSQL'],
  likes: 100,
  comments: [
    {
      user: 'user1',
      message: 'My first comment',
      dateCreated: new Date(2011,1,20,2,15),
      like: 0
    },
    {
      user: 'user2',
      message: 'My second comments',
      dateCreated: new Date(2011,1,25,7,45),
      like: 5
    }
  ]
}
```

-_id

- Is a 12 bytes hexadecimal number.
- Assures the uniqueness of every document.
- Can provide _id while inserting the document.
- By default, MongoDB provides a unique id for every document.
- 12 bytes = The current timestamp(4) + Machine id(3) + Process id of MongoDB server(2) + Simple incremental VALUE(3).

5. CRUD

- SQL vs MongoDB
- Create : Insert vs Insert (Save)
- Read : Select vs Find
- Update : Update vs Update (Upsert)
- Delete : Delete vs Remove

6. MongoDB Advantage

- 1)Any relational database has a typical schema design that shows number of tables and the relationship between these tables.
- 2)While in MongoDB, there is no concept of relationship.
- 3)Advantages of MongoDB over RDBMS
 - Schema less – MongoDB is a document database in which one collection holds different documents. Number of fields, content and size of the document can differ from one document to another.
 - Structure of a single object is clear.
 - No complex joins.
 - Deep query-ability. MongoDB supports dynamic queries on documents using a document-based query language that's nearly as powerful as SQL.
 - Tuning.
 - Ease of scale-out – MongoDB is easy to scale.
 - Conversion/mapping of application objects to database objects not needed.

115 -Uses internal memory for storing the (windowed) working set, enabling faster access
of data.

116 4)Why Use MongoDB?

117 -Document Oriented Storage – Data is stored in the form of JSON style documents.

118 -Index on any attribute

119 -Replication and high availability

120 -Auto-sharding

121 -Rich queries

122 -Fast in-place updates

123 -Professional support by MongoDB

124 5)Where to Use MongoDB?

125 -Big Data

126 -Content Management and Delivery

127 -Mobile and Social Infrastructure

128 -User Data Management

129 -Data Hub

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132 7. References

133 MongoDB 공식 한국 사용자 그룹

134 <http://mongodb-korea.org/>

135 <https://sway.com/i9BRUEJykocGLNXW?ref=Link>