

@MongoDB - Database No Only SQL

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Developer by passion

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Contenido

MongoDB

MongoDB Medellin

Presentación

Example (yo)

```
1 {
2   "name": "Jesse Javier Cogollo Alvarez",
3   "age": 27,
4   "title": "Developer by passion",
5   "location": "Medellin, Colombia",
6   "phone": "3207906256",
7   "Marital status": "Married",
8   "member": ["@avanet", "@MongoDBMedelln"],
9   "social": {
10     "facebook": "jessecogollo",
11     "skype": "jessecogollo",
12     "twitter": ["@jessecogollo", "@newdevs"]
13   }
14 }
```

Que es @MongoDB

'MongoDB (from "humongous") is an open-source document database, and the leading NoSQL database. Written in C++.'

<https://www.mongodb.org/>

'MongoDB was not designed in a lab. We built MongoDB from our own experiences building large-scale, high availability, robust systems...' [Eliot Horowitz, CTO and Co-Founder](#)

NOSQL

En informática, NoSQL (a veces llamado 'no sólo SQL') es una amplia clase de sistemas de gestión de bases de datos que difieren del modelo clásico del sistema de gestión de bases de datos relacionales (RDBMS) en aspectos importantes, el más destacado que no usan SQL como el principal lenguaje de consultas.

<http://es.wikipedia.org/wiki/NoSQL/>

NOSQL

Las características comunes de las bases de datos NoSQL son:

- No utilizan el modelo relacional.
- Corren bien en clusters.
- Open-source.
- sin esquemas.
- El resultado mas importante del aumento de las bases de datos NoSQL es la **Persistencia Poliglota**.

<http://martinfowler.com/articles/nosqlKeyPoints.html>

Persistencia poliglota

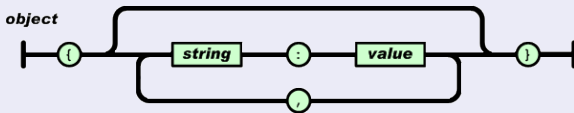


JSON

Definición

(JavaScript Object Notation) Formato de intercambio de datos.

Esquema



Ejemplo

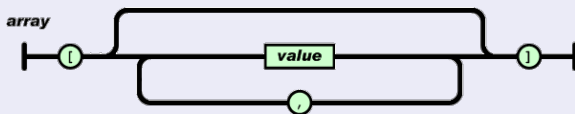
{ "llave": "valor" } ó {}

JSON

Definición array

Es el tipo de dato que puede contener un JSON.

Esquema



Ejemplo

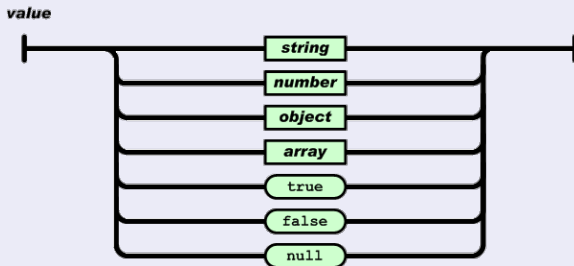
```
["valor1", "sena", 2014, true]
```

JSON

Definición valor

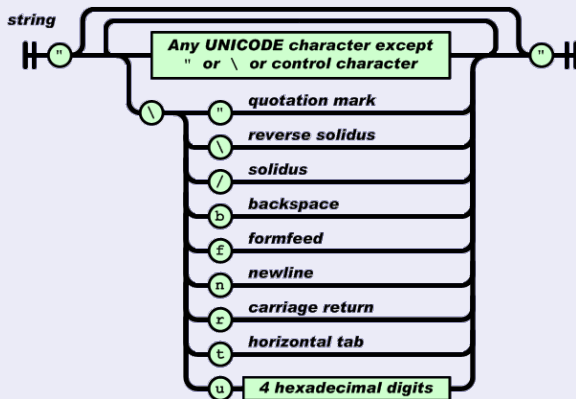
Es el tipo de dato que puede contener un JSON.

value



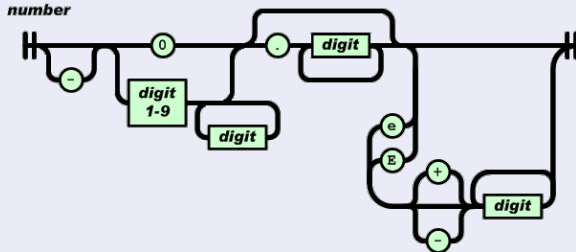
JSON

Esquema string



JSON

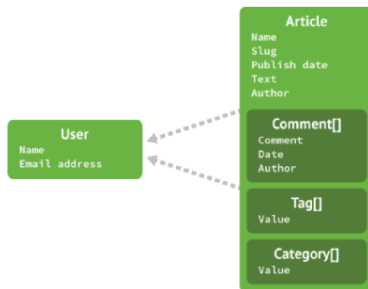
Esquema number



Características

1. Document-Oriented Storage

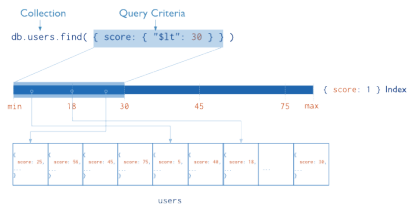
Las **colecciones** Son esquemas dinamicos, flexibles que ofrecen simplicidad y potencia.



Características

1. Document-Oriented Storage
2. **Full Index Support**

Index provee alto desempeño en operaciones de lecturas.

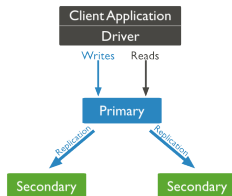


MongoDB indexa utilizando estructura de datos B-tree.

Características

1. Document-Oriented Storage
2. Full Index Support
3. **Replication**

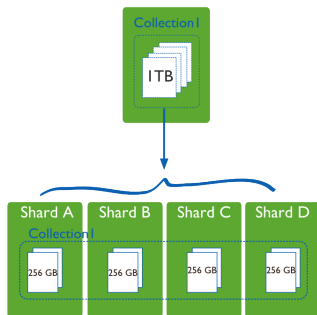
replica set en MongoDB es un grupo de procesos mongod que mantienen el mismo conjunto de datos. provee redundancia y alta disponibilidad.



Características

1. Document-Oriented Storage
2. Full Index Support
3. Replication
4. **Auto Sharding**

Escalar horizontalmente sin comprometer la funcionalidad.



Características

1. Document-Oriented Storage
2. Full Index Support
3. Replication
4. Auto Sharding
5. **Querying**

Gran cantidad de consultas basadas en los documentos.

Example (querys)

```
db.collection.find({})
```

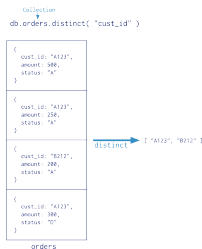
```
db.collection.find({'field':'jesse'})
```

```
db.inventory.find().sort({field:1})
```

Características

1. Document-Oriented Storage
2. Full Index Support
3. Replication
4. Auto Sharding
5. Querying
6. **Map Reduce**

Map Reduce es un paradigma de procesamiento de datos para condensar grandes volúmenes de datos.



Características

1. Document-Oriented Storage
2. Full Index Support
3. Replication
4. Auto Sharding
5. Querying
6. Map Reduce
7. **GridFS**

GridFS es una especificación para almacenar y recuperar archivos que exceden el límite del tamaño de 16MB en los documentos BSON.

util utilizarlo para almacenar imágenes, audio, video, archivos de texto, etc...

Caracteristicas

1. Document-Oriented Storage
2. Full Index Support
3. Replication
 - MMS.
4. Auto Sharding
 - Partner with MongoDB.
5. Querying
 - Multiples drivers.
6. Map Reduce
7. GridFS
8. **Other more...**

Instalación

Desde Terminal

```
1 sudo apt-key adv --keyserver hkp://keyserver
  .ubuntu.com:80 --recv 7F0CEB10
2 echo "deb http://downloads-distro.mongodb.
  org/repo/ubuntu-upstart dist 10gen" |
  sudo tee /etc/apt/sources.list.d/mongodb.
  list
3 sudo apt-get update
4 sudo apt-get install -y mongodb-org=2.6.1
  mongodb-org-server=2.6.1 mongodb-org-
  shell=2.6.1 mongodb-org-mongos=2.6.1
  mongodb-org-tools=2.6.1
5 sudo service mongod start
6 mongo
```

SHELL

```
hannover@hannoverPortatil:~/Cogollodevs/Developments/latex/presentacionesLatex$ mongo
MongoDB shell version: 2.6.5
connecting to: test
> help
  db.help()                help on db methods
  db.mycoll.help()         help on collection methods
  sh.help()                sharding helpers
  rs.help()                replica set helpers
  help admin               administrative help
  help connect             connecting to a db help
  help keys                key shortcuts
  help misc                misc things to know
  help mr                  mapreduce

  show dbs                 show database names
  show collections          show collections in current database
  show users                show users in current database
  show profile              show most recent system.profile entries with time >= 1ms
  show logs                 show the accessible logger names
  show log [name]           prints out the last segment of log in memory, 'global' is default
  use <db_name>             set current database
  db.foo.find()             list objects in collection foo
  db.foo.find( { a : 1 } )  list objects in foo where a == 1
  it                        result of the last line evaluated; use to further iterate
  DBQuery.shellBatchSize = x set default number of items to display on shell
  exit                     quit the mongo shell
> 
```

Administradores graficos

Heading

1. Statement
2. Explanation
3. Example

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer lectus nisl, ultricies in feugiat rutrum, porttitor sit amet augue. Aliquam ut tortor mauris. Sed volutpat ante purus, quis accumsan dolor.

Insert Find Update Remove (CRUD)

IFUR

```
db.collection.insert({"name":"sena","decription":"CEGE"})
```

IFUR

```
db.collection.find({"name":"sena"})
```

IFUR

```
db.collection.update({$set:{"name":"sena"},  
{"decription":"CESGE"}})
```

IFUR

```
db.collection.remove({"name":"sena"})
```


DEMO =>

=>

Comunidad

Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table : Table caption

Theorem

Theorem (Mass–energy equivalence)

$$E = mc^2$$

Figure

Uncomment the code on this slide to include your own image from the same directory as the template .TeX file.



Citation

An example of the `\cite` command to cite within the presentation:

This statement requires citation [Smith, 2012].

References



John Smith (2012)

Title of the publication

Journal Name 12(3), 45 – 678.

Gracias !!! =)