#### **EJEMPLOS extraídos del Libro:**

### Sams Teach Yourself NoSQL with MongoDB in 24 Hours de Brad Dayley

----- consultas simples

# > coll.findOne ({zona: "Bronx" })); // da solo el primer documento que cumple la condición > sale= coll.find ( {zona: "Bronx" }); // ejemplo sobre restaurantes { "\_id" : ObjectId("555cbf1cf3bef5d39a9d3f8b"), "direccion" : { "edificio" : "10 07", "coordenadas" : [ -73.856077, 40.848447 ], "calle" : "Morris Park Ave", "di strito": "10462"}, "zona": "Bronx", "tipococina": "Bakery", "puntuaciones": [ { "fecha" : { "date" : 1393804800000 }, "nivel" : "A", " valor" : 2 }, { "fec ha" : { "date" : 1378857600000 }, "nivel" : "A", " valor" : 6 }, { "fecha" : { " date": 1358985600000 }, "nivel": "A", " valor": 10 }, { "fecha": { "date": 1322006400000 }, "nivel" : "A", " valor" : 9 }, { "fecha" : { "date" : 129971520 0000 }, "nivel" : "B", " valor" : 14 } ], "nombreRes" : "Morris Park Bake Shop", "restaurante\_id" : "30075445" } { "\_id" : ObjectId("555cbf32f3bef5d39a9d3f8c"), "direccion" : { "edificio" : "10 07", "coordenadas" : [ -73.856077, 40.848447 ], "calle" : "Morris Park Ave", "di strito": "10462"}, "zona": "Bronx", "tipococina": "Bakery", "puntuaciones": [{ "fecha" : { "date" : 1393804800000 }, "nivel" : "A", " valor" : 2 }, { "fec ha" : { "date" : 1378857600000 }, "nivel" : "A", " valor" : 6 }, { "fecha" : { " date" : 1358985600000 }, "nivel" : "A", " valor" : 10 }, { "fecha" : { "date" : 1322006400000 }, "nivel" : "A", " valor" : 9 }, { "fecha" : { "date" : 129971520 0000 }, "nivel" : "B", " valor" : 14 } ], "nombreRes" : "Morris Park Bake Shop", "restaurante\_id": "30075445" } // comprobar si se ha ejecutado bien > print(sale); DBQuery: test.palabras -> { } > if (sale) {print("fue bien")}; fue bien > sale= coll.find ( { "tamaño" : 3, "ultima" :e },{}); // los strings deben ir entre comillas :"e" 2015-05-20T20:18:36.067+0200 ReferenceError: e is not defined > sale= coll.find ( { "tamaño" : 3, "ultima" : "e" },{}); { "\_id" : { "str" : "52d87454483398c8f2429277" }, "palabra" : "the", "primera" : "t", "ultima" : "e", "tamaño" : 3, "letras" : [ "t", "h", "e" ], "estadis" : { "vocales": 1, "consonantes": 2}, "caractsets": [{ "tipo": "consonantes", " caracts" : [ "t", "h" ] }, { "tipo" : "vocales", "caracts" : [ "e" ] } ] } > sale= coll.find ( { "tamaño" : { \$gt: 0, \$lt: 4 }, "ultima" : 'e' },{}); { "\_id" : { "str" : "52d87454483398c8f2429277" }, "palabra" : "the", "primera" : "t", "ultima" : "e", "tamaño" : 3, "letras" : [ "t", "h", "e" ], "estadis" : { "vocales": 1, "consonantes": 2}, "caractsets": [{ "tipo": "consonantes", " caracts" : [ "t", "h" ] }, { "tipo" : "vocales", "caracts" : [ "e" ] } ] }

```
----- Pretty: tabula los resultados para verlos mejor
> db.palabras.find().pretty()
{
    "_id" : {
         "str": "52d87454483398c8f2429277"
    "palabra": "the",
    "primera": "t",
    "ultima": "e",
    "tamaño": 3,
    "letras" : [
         "t",
         "h",
         "e"
    ],
    "estadis" : {
         "vocales": 1,
         "consonantes": 2
    },
    "caractsets" : [
         {
              "tipo": "consonantes",
              "caracts" : [
                  "t",
                  "h"
             ]
         },
              "tipo": "vocales",
              "caracts" : [
                  "e"
             ]
         }
    ]
}
```

----- CON OTRAS DBs ------

db.students.find( { score: { \$gt: 0, \$lt: 2 } })

Matches the following documents:

```
{ "_id" : 1, "score" : [ -1, 3 ] }
{ "_id" : 2, "score" : [ 1, 5 ] }
'awards' array contains an embedded document element
that contains the 'award' field equal to "Turing Award"
and the 'year' field greater than 1980:
db.bios.find(
   awards: {
         $elemMatch: {
            award: "Turing Award",
           year: { $gt: 1980 }
         }
  }
 }
-- the embedded document name is
exactly { first: "Yukihiro", last: "Matsumoto" },
including the order:
db.bios.find(
  {
   name: {
        first: "Yukihiro",
       last: "Matsumoto"
  }
```

)

```
** ----- usando find_all.js : encuentra todos los documentos (uso de CURSOR)
----- con colección palabras
    // find devuelve un "cursor", no el contenido
db.palabras.find().forEach(function(word){
 print("una palabra: " + word.palabra);
});
  // -- da lo mismo haciéndolo por separado
       "var" es para ámvito global
var cursor = db.palabras.find();
cursor.forEach(function(word){
 print("una palabra: " + word.palabra);
});
//
// ----- el resultado es un array
todas = db.palabras.find().map(function(word){
          return word.palabra;
});
printjson(todas);
 // colocar el resultado del find en un array
var todas = db.palabras.find().toArray();
// muestra todos los documentos del array [ ...]
todas
01 mongo = new Mongo("localhost");
02 wordsDB = mongo.getDB("words");
03 wordsColl = wordsDB.getCollection("word_stats");
04 print("\nFor Each List: ");
// --- recorre usando el método forEach del objeto Cursor
05 cursor = wordsColl.find();
06 cursor.forEach(function(word){
07
     print("word: " + word.word);
08 });
09 print("\nMapped Array: ");
// ---- la función map crea una array del campo word de todos los
// documentos
10 cursor = wordsColl.find();
11 words = cursor.map(function(word){
12 return word.word;
13 });
14 printjson(words);
15 print("\nIndexed Document in Array: ");
// ---- transforma el cursor en un array e imprime elemento 55
16 cursor = wordsColl.find();
17 words = cursor.toArray();
```

18 print(JSON.stringify(words[55]));

\_

```
19 print("\nNext Document in Cursor: ");
// ---- obtiene el siguiente elemento en la lista y lo imprime
20 cursor = wordsColl.find();
21 word = cursor.next();
22 print(JSON.stringify(word));
**
       Resultado -----
----- 05,06,07 -----
For Each List:
word: the
word: be
word: and
word: apology
word: till
---- 09 -> 14 --
Mapped Array:
[
    "the",
    "be",
    "and",
    "apology",
    "till"
----- 15 --> 18 -----
Indexed Document in Array:
{"_id":{"str":"52d87454483398c8f24292ae"},"word":"there","first":"t","last":"e",
"size":5,"letters":["t","h","e","r"],"stats":{"vowels":2,"consonants":3},
"charsets":[{"type":"consonants","chars":["t","h","r"]},
       {"type":"vowels","chars":["e"]}]}
----- 19 --> 22 -----
Next Document in Cursor:
{" id":{"str":"52d87454483398c8f2429277"},"word":"the","first":"t","last":"e",
"size":3,"letters":["t","h","e"],"stats":{"vowels":1,"consonants":2},
"charsets":[{"type":"consonants","chars":["t","h"]},{"type":"vowels","chars":[
"e"]}]}
```

### Encontrar Documentos a partir del valor de un campo

find({caracRaros: {\$exists:true}});

Base de datos "palabras". Cada palabra es un documento con estos campos

```
{"_id":{"str":"52d87454483398c8f2429277"},"palabra":"the","primera":"t","ultima":"e",
"tama o":3,"letras":["t","h","e"],"estadis":{"vocales":1,"consonantes":2},
"caractsets":[{"tipo":"consonants","caracts":["t","h"]},{"tipo":"vowels","caracts":[
"e"]}]}
- encontrar palabras de tamaño = 5
db.palabras.find({tamaño: 5});
- encontrar el documento (palabra) "there"
find({palabra: "there"});
- encontrar documentos (palabras) cuyo campo "primera" sea una de estas tres
 letras: a, b c.
find({primera:{$in: ['a', 'b', 'c']}});
- encontrar documentos con campo "tamaño" mayor de 12
find({tamano:{$gt: 12}});
- encontrar documentos con campo "tamaño" menor de 12
find({tamaño:{$lt: 12}});
- Encontrar docs con el campo "letras" que es un array tenga más de 10
 elementos
find({letras:{$size: {$gt: 10}}});
- Encontrar docs con el campo "letras", que es un array tenga 14 elementos
find({letras:{$size: 14}});
- Encontrar docs. en un subdocumento usando ".": que tengan más de 6
 vocales en sus estadísticas:
find({"estadis.vocales":{$gt:6}});
- Encontrar docs. según los contenidos de un campo array: que tengan
 en su campo "letras" todas los elementos de la consulta
find({letras:{$all: ['a','e','i','o','u']}});
- Encontrar docs. que tenga algún campo concreto (los campos son todos
 opcionales): que tengan campo "caracRaros"
```

- Encontrar docs. que contengan un campo ("caractsets"), que es un array de subdocumentos. Se desea un valor o propiedad de un campo de los subdocumentos.
 Cada subdocumento tiene dos campos, "tipo" y "caracts", con esta estructura: [{"tipo":"xxxx", "caracts":["1","2"]}
 En este caso el array tiene dos elementos que son sets de caracteres: "caractsets":[{"tipo":"consonants","caracts":["t","h"]}, {"tipo":"vowels", "caracts":["e"]}]
 Queremos un set de caracteres que tenga el "tipo" = "otros" y el tamaño del campo "caracts", que es un array sea igual a 2

```
** ----- usando find_specific.js : encontrar docs específicos
----- con colección "palabras"
       -- Hace un array con todos los valores de atrib. "palabra"
        -- Si el total de la longitud del array > 65 caracteres, saca los primeros 50 y "..."
function displayWords(msg, cursor){
 print("\n"+msg);
 words = cursor.map(function(word){
  return word.palabra;
  });
 wordStr = JSON.stringify(words);
 if (wordStr.length > 65){
  wordStr = wordStr.slice(0, 50) + "...";
 print(wordStr);
}
var cur1 = db.palabras.find();
displayWords("alla va 1: ", cur1);
01 function displayWords(msg, cursor, pretty){
02 print("\n"+msg);
03 words = cursor.map(function(word){
04 return word.word;
05 });
06 wordStr = JSON.stringify(words);
07 if (wordStr.length > 65){
08 wordStr = wordStr.slice(0, 50) + "...";
09 }
10 print(wordStr);
11 }
12 mongo = new Mongo("localhost");
13 wordsDB = mongo.getDB("words");
14 wordsColl = wordsDB.getCollection("word_stats");
15 cursor = wordsColl.find({first: {$in: ['a', 'b', 'c']}});
16 displayWords("Words starting with a, b or c: ", cursor);
17 cursor = wordsColl.find({size:{$gt: 12}});
18 displayWords("Words longer than 12 characters: ", cursor);
19 cursor = wordsColl.find({size:{$mod: [2,0]}});
20 displayWords("Words with even Lengths: ", cursor);
21 cursor = wordsColl.find({letters:{$size: 12}});
22 displayWords("Words with 12 Distinct characters: ", cursor);
23 cursor = wordsColl.find({$and:
24
                  [{first:{
25
                    $in: ['a', 'e', 'i', 'o', 'o']}},
```

27 \$in: ['a', 'e', 'i', 'o', 'o']}}]});
28 displayWords("Words that start and end with a vowel: ", cursor);

29 cursor = wordsColl.find({"stats.vowels":{\$gt: 6}});

26 27

```
30 displayWords("Words containing 7 or more vowels: ", cursor);
31 cursor = wordsColl.find({letters:{$all: ['a','e','i','o','u']}});
32 displayWords("Words with all 5 vowels: ", cursor);
33 cursor = wordsColl.find({otherChars: {$exists: true}});
34 displayWords("Words with non-alphabet characters: ", cursor);
35 cursor = wordsColl.find({charsets:{
                 $elemMatch:{
36
37
                  $and:[{type: 'other'},
38
                      {chars: {$size: 2}}]}});
39 displayWords("Words with 2 non-alphabet characters: ", cursor);
                  resultado (traducido al español)
Palabras que empiezan por a, b ó c
["be","and","a","can't","at","but","by","as","can"...
Palabras más largas que 12 car.:
["international","administration","environmental",...
Palabras con longitudes pares:
["be","of","in","to","have","to","it","that","he",...
Palabras con 12 car. distintos:
["uncomfortable", "accomplishment", "considerably"]
Palabras que empiezan y terminan por vocal:
["a","i","one","into","also","one","area","eye","i...
Palabras que contienen 7 o más vocales:
["identification","questionnaire","organizational"...
Palabras con todas las 5 vocales:
["education","educational","regulation","evaluatio...
Palabras con caracteres que no son letras:
["don't","won't","can't","shouldn't","e-mail","lon...
Palabras con dos
caracteres que no son letras:
["two-third's", "middle-class'"]
El comando getLastError o el método getLastError() del objeto Database
devuelve el código de error de la última instrucción ejecutada.
Ejemplo con la BD wordsDB:
// el método da mucha más información : el estado, la operación que lo
produjo, n mero de docs. modificados, el mensaje de error y otras
propiedades que est n en la tabla
```

mongo = new Mongo('localhost');

```
wordsDB = mongo.getDB('words');
wordsDB.runCommand( { getLastError: 1, w: 1, j: true, wtimeout: 1000 } );
wordsColl = wordsDB.getCollection('word_stats');
wordsColl.insert({word:"the"});
lastError = wordsDB.getLastError(); // <--- uso del m todo de la DB
if(lastError){
    print("ERROR: " + lastError);
}</pre>
```

## ejemplo ejecutando: mongo doc\_add.js

```
01 selfie = {
02 word: 'selfie', first: 's', last: 'e',
03 size: 4, letters: ['s','e','l','f','i'],
04 stats: {vowels: 3, consonants: 3},
05 charsets: [ {type: 'consonants', chars: ['s','l','f']},
06
           {type: 'vowels', chars: ['e','i']} ],
07 category: 'New' };
08 tweet = {
09 word: 'tweet', first: 't', last: 't',
10 size: 4, letters: ['t','w','e'],
11 stats: {vowels: 2, consonants: 3},
12 charsets: [ {type: 'consonants', chars: ['t','w']},
13
            {type: 'vowels', chars: ['e']} ],
14 category: 'New' };
15 google = {
16 word: 'google', first: 'g', last: 'e',
17 size: 4, letters: ['g','o','l','e'],
18 stats: {vowels: 3, consonants: 3},
19 charsets: [ {type: 'consonants', chars: ['g','l']},
20
             {type: 'vowels', chars: ['o','e']} ],
21
   category: 'New' };
22
23 mongo = new Mongo('localhost');
24 wordsDB = mongo.getDB('words');
25 wordsDB.runCommand( { getLastError: 1, w: 1, j: true, wtimeout: 1000 } );
26 wordsColl = wordsDB.getCollection('word stats');
27 print('Before Inserting selfie: ');
28 cursor = wordsColl.find({word: {$in: ['tweet','google', 'selfie']}},
29
                 {word:1});
30 printjson(cursor.toArray());
31 wordsColl.insert(selfie);
32 print('After Inserting selfie: ');
33 cursor = wordsColl.find({word: {$in: ['tweet','google', 'selfie']}},
34
                 {word:1});
35 printjson(cursor.toArray());
36 print('After Inserring tweet and google');
37 wordsColl.insert([tweet, google]);
38 cursor = wordsColl.find({word: {$in: ['tweet','google', 'selfie']}},
39
                 {word:1});
```

#### ejemplo ejecutando: mongo doc\_update.js

```
01 function displayWords(cursor){
02 words = cursor.map(function(word){
03 return word.word + "(" + word.size + ")";
04 });
05 wordStr = JSON.stringify(words);
06 if (wordStr.length > 65){
07 wordStr = wordStr.slice(0, 50) + "...";
08 }
09 print(wordStr);
10 }
11 mongo = new Mongo('localhost');
12 wordsDB = mongo.getDB('words');
13 wordsDB.runCommand( { getLastError: 1, w: 1, j: true, wtimeout: 1000 } );
14 wordsColl = wordsDB.getCollection('word_stats');
15 cursor = wordsColl.find({category:"QYwords"});
16 print("Before QYwords Update: ");
17 displayWords(cursor);
18 wordsColl.update( { $and:[{ first: "q"},{last:'y'}]},
19
             { $set: {category:'QYwords'}},
20
             false, true);
21 cursor = wordsColl.find({category:"QYwords"});
22 print("After QYwords Update: ");
23 displayWords(cursor);
24 print("Before Left Update: ");
25 word = wordsColl.findOne({word: 'left'},
                 {word:1, size:1, stats:1, letters:1});
26
27 printjson(word);
28 wordsColl.update({ word: 'left'},
29
            { $set: {word:'lefty'},
30
             $inc: {size: 1, 'stats.consonants': 1},
31
              $push: {letters: "y"}},
32
            false, false);
33 word = wordsColl.findOne({word: 'lefty'},
34
                 {word:1, size:1, stats:1, letters:1});
35 print("After Left Update: ");
36 printjson(word);
37 wordsColl.update({category:"QYwords"},
            {$set: {category:"none"}}, false, true);
39 wordsColl.update( { word: 'lefty'},
40
             { $set: {word:'left'},
41
              $inc: {size: -1, 'stats.consonants': -1},
42
              $pop: {letters: 1}});
43 word = wordsColl.findOne({word: 'left'},
44 {word:1, size:1, stats:1, letters:1});
45 print("After Lefty Update: ");
46 printjson(word);
```

```
----- salida de la ejecución
Before QYwords Update:
[]
After QYwords Update:
["quickly(7)","quality(7)","quietly(7)"]
Before Left Update:
    "_id" : ObjectId("52e2992e138a073440e4663c"),
    "word": "left",
    "size": 4,
    "letters" : [
        "l",
       "e",
       "f",
       "t"
   ],
    "stats" : {
       "vowels": 1,
        "consonants": 3
   }
}
After Left Update:
    "_id": ObjectId("52e2992e138a073440e4663c"),
    "letters" : [
        "l",
       "e",
        "f",
        "t",
        "y"
   ],
    "size":5,
    "stats" : {
       "consonants": 4,
       "vowels" : 1
    },
    "word": "lefty"
}
After Lefty Update:
    "_id": ObjectId("52e2992e138a073440e4663c"),
    "letters" : [
        "l",
       "e",
        "f",
       "t"
   ],
    "size" : 4,
    "stats" : {
        "consonants": 3,
        "vowels": 1
   },
    "word": "left"
```

```
}
```

\*\* salvando ----- Saving docs in a collection (no usar) - Salvar doc que has creado nuevo → No es tan eficiente como insert() o update() existingObject = myCollection.findOne({name:"existingObj"}); existingObject.name = "updatedObj"; myCollection.save(existingObj); myCollection.save({name:"newObj"}); \*\* salvando ----- ejecutando: doc\_save.js  $01 blog = {$ 02 word: 'blog', first: 'b', last: 'g', 03 size: 4, letters: ['b','l','o','g'], 04 stats: {vowels: 1, consonants: 3}, 05 charsets: [ {type: 'consonants', chars: ['b','l','g']}, 06 {type: 'vowels', chars: ['o']} ], 07 category: 'New' }; 08 mongo = new Mongo('localhost'); 09 wordsDB = mongo.getDB('words'); 10 wordsDB.runCommand( { getLastError: 1, w: 1, j: true, wtimeout: 1000 } ); 11 wordsColl = wordsDB.getCollection('word stats'); 12 cursor = wordsColl.find({category:"blue"}, {word: 1, category:1}); 13 print("Before Existing Save: "); 14 printjson(cursor.toArray()); 15 word = wordsColl.findOne({word:"ocean"}); 16 word.category="blue"; 17 wordsColl.save(word); 18 word = wordsColl.findOne({word:"sky"}); 19 word.category="blue"; 20 wordsColl.save(word); 21 cursor = wordsColl.find({category:"blue"}, {word: 1, category:1}); 22 print("After Existing Save: "); 23 printjson(cursor.toArray()); 24 word = wordsColl.findOne({word:"blog"}); 25 print("Before New Document Save: "); 26 printison(word); 27 wordsColl.save(blog); 28 word = wordsColl.findOne({word:"blog"}, {word: 1, category:1}); 29 print("After New Document Save: "); 30 printjson(word); resultado Before Existing Save: [] After Existing Save:

```
{
    "_id" : ObjectId("52e2992e138a073440e46784"),
    "word" : "sky",
    "category" : "blue"
},
    {
        "_id" : ObjectId("52e2992e138a073440e469f2"),
        "word" : "ocean",
        "category" : "blue"
}
]
Before New Document Save:
null
After New Document Save:
{
        "_id" : ObjectId("52e29c62073b7a59dcf89ee1"),
        "word" : "blog",
        "category" : "New"
}
```

```
** Upserting Documents in Collection (nexts)
update({color:"azure"}, {$set:{red:0, green:127, blue:255}}, true, false);
- es el true penúltimo parámetro
** upserting ejecutando: doc_upsert.js
01 mongo = new Mongo('localhost');
02 wordsDB = mongo.getDB('words');
03 wordsDB.runCommand( { getLastError: 1, w: 1, j: true, wtimeout: 1000 } );
04 wordsColl = wordsDB.getCollection('word_stats');
05 cursor = wordsColl.find({word: 'righty'},
                {word:1, size:1, stats:1, letters:1});
07 print("Before Upsert: ");
08 printjson(cursor.toArray());
09 wordsColl.update({ word: 'righty'},
            { $set: {word:'righty', size: 4,
10
             letters: ['r','i','g','h'],
11
12
             'stats.consonants': 3, 'stats.vowels': 1}},
13
            true, true);
14 cursor = wordsColl.find({word: 'righty'},
15
                {word:1, size:1, stats:1, letters:1});
16 print("After Upsert: ");
17 printjson(cursor.toArray());
18 wordsColl.update({ word: 'righty'},
19 { $set: {word: 'righty', size: 6,
20
      letters: ['r','i','g','h','t','y'],
21
      'stats.consonants': 5, 'stats.vowels': 1}}, true, true);
22 cursor = wordsColl.find({word: 'righty'},
                {word:1, size:1, stats:1, letters:1});
24 print("After Second Upsert: ");
25 printjson(cursor.toArray());
** Deleting Documents from a Collection -----
- Borra docs que coinciden con la query
- justone: si quieres borrar solo el primero que encuentre
remove([query], [justOne])
collection = myDB.getCollection('word_stats');
collection.remove();
The following code deletes all words that start with a from the words_stats collection:
collection = myDB.getCollection('word_stats');
collection.remove({first:'a'}, false);
The following deletes only the first word that starts with a from the words_stats collection:
collection = myDB.getCollection('word stats');
collection.remove({first:'a'}, true);
** delecting ejecutando: doc_delete.js
mongo = new Mongo('localhost');
02 wordsDB = mongo.getDB('words');
```

```
03 wordsDB.runCommand( { getLastError: 1, w: 1, j: true, wtimeout: 1000 } );
04 wordsColl = wordsDB.getCollection('word_stats');
05 print("Before Delete One: ");
06 cursor = wordsColl.find({category: 'New'}, {word:1});
07 printjson(cursor.toArray());
08 wordsColl.remove({category: 'New'}, true);
09 cursor = wordsColl.find({category: 'New'}, {word:1});
10 print("After Delete One: ");
11 printjson(cursor.toArray());
12 wordsColl.remove({category: 'New'});
13 cursor = wordsColl.find({category: 'New'}, {word:1});
14 print("After Delete All: ");
15 printjson(cursor.toArray());
```