

Requests for MongoDB - Advanced Topics for NoSQL

Amine MILIANI Louis GAILLET Dimitrije DJOKIC
Nathan IMMACOLATO

Contents

Datamodel and Import	1
Requests	1
Easy requests	1
Medium request	2
Hard request	3

Datamodel and Import

No unusual difficulty, MongoDB was very easy to work with and import the dataset, and the JSON format of the dataset made all the process a breeze.

Requests

Easy requests

- Counting all restaurants

```
db.restaurants.count();
```

- Names of the restaurants in the Bronx

```
db.restaurants.find({"borough":"Bronx"}, {"name":1, "_id":0});
```

- Names of restaurants where the grade is A

```
db.restaurants.find({"grades.grade":"A"}, {"name":1, "_id":0});
```

- Address of a restaurant when we know its name

```
db.restaurants.find({"name":"Wendy'S"}, {"address":1, "_id":0});
```

- Restaurants name for a specific cuisine in a certain borough

```
db.restaurants.find({"borough":"Bronx", "cuisine":"Bakery"}, {"name":1, "_id":0});
```

- Insert a new restaurant

```
db.restaurants.insert({"address": {"building": "9999", "coord":{"type":"Point",
"coordinates" : [-12.345678, 12.345678]}}, "street": "My Street",
"zipcode": "77777"}, {"borough": "Bronx", "cuisine": "Bakery",
"grades": [{"date": {"$date": "1292804800000"}, "grade": "A", "score": 2},
{"date": {"$date": "1378857600000"}, "grade": "B", "score": 4},
{"date": {"$date": "1358985600000"}, "grade": "A", "score": 10},
{"date": {"$date": "1322006400000"}, "grade": "A", "score": 9},
{"date": {"$date": "1299715200000"}, "grade": "B", "score": 14}],
"name": "My New Restaurant", "restaurant_id": "12345678"});
```

- Update a restaurant name by name

```
db.restaurants.update({"name":"Shun Lee Palace Restaurant"},
{$set:{"name" : "The Dragon Restaurant"}});
```

- Update a restaurant location by name

```
db.restaurants.update({"name" : "The Dragon Restaurant"},
{$set:{"coord.coordinates" : [-73.5290789, 41.1594184]}});
```

- Update the grade of all the restaurants in Manhattan

```
db.restaurants.update({"borough":"Manhattan"}, {$set:{"grades.grade":"B"}});
```

Medium request

- Displays the restaurants near the given position, which provide a French cuisine, and all its grades are A

```
db.restaurants.aggregate([
{
  $geoNear: {
    near: { type: "Point", coordinates: [ -73.935242 , 40.730610 ] },
    distanceField: "dist.calculated",
    maxDistance: 10000,
    query: {"cuisine": "French","grades.grade": "A" },
    includeLocs: "dist.location",
    num: 5,
    spherical: true
  }
}
]);
```

Hard request

- Grades are unwinded and regrouped by restaurant_id in order to count the number of inspections and obtain an average of the grade scores, and finally the grades regrouped by restaurants are sorted by number of inspections

```
group = {$group:{"_id" : "$restaurant_id", "Number of inspection" : { "$sum" : 1},
"Score Average": {$avg:"$grades.score"}, "Name" : {"$first": "$name"}}}
  sort = {$sort : { "Number of inspection" : -1}}
  unwind = {$unwind:"$grades"}
  db.restaurants.aggregate([unwind,group,sort]);
```
