

Requests for MongoDB - Advanced Topics for NoSQL

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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.ensureIndex({"address.coord":"2dsphere"});
```

```
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" : {  
    "Number of inspection" : -1  
  },  
  "$unwind": "$grades"  
},  
db.restaurants.aggregate([unwind,group,sort]);
```
