Requests for Elastic Search / Kibana - Advanced Topics in NoSQL

Amine MILIANI Louis GAILLET Dimitrije DJOKIC
Nathan IMMACOLATO

Contents

Datamodel and Import

- As for the work done on Cassandra, we decided to edit every line of the JSON data to make each its own individual insert.

```
{"index":{"_index": "restaurants","_type":"restaurant","_id":1}}
{"fields" :
  {"address": {"building": "1007",
    "coord":{"type":"Point", "coordinates" : [-73.856077, 40.848447]},
    "street": "Morris Park Ave", "zipcode": "10462"},
    "borough": "Bronx", "cuisine": "Bakery",
    "grades": [{"date": {"$date": 1393804800000},
      "grade": "A", "score": 2}, {"date": {"$date": 1378857600000},
      "grade": "A", "score": 6}, {"date": {"$date": 1358985600000},
      "grade": "A", "score": 10}, {"date": {"$date": 1322006400000},
      "grade": "A", "score": 9}, {"date": {"$date": 1299715200000},
      "grade": "B", "score": 14}], "name": "Morris Park Bake Shop",
    "restaurant_id": "30075445"}}
```

for example here a first line

- Once have our fixed JSON file containing all the data in a way that can be given to Elastic Search, we do so with

```
curl -XPUT localhost:9200/_bulk -H"Content-Type: application/json" \
  --data-binary @fixed-restaurants.json
```

Requests

Easy requests

All restaurants in Brooklyn

```
GET restaurants/_search {
  "query": {
    "match_phrase": {
      "fields.borough":"Brooklyn"}}}
```

All Italian restaurants in Brooklyn without Pizza cuisine (because there is a cuisine type named "Pizza/Italian", this query could be useful for the people who don't want to eat in Italian restaurant specialized in pizzas)

```
GET restaurants/_search {
  "query": {
    "bool": {
      "must": [{
          "match_phrase": {
            "fields.borough": "Brooklyn"}}, {
          "match": {
            "fields.cuisine": "Italian"}}],
      "must_not" : {
        "match" : {
          "fields.cuisine":"Pizza"}}}}}
```

Medium requests

Count of all restaurants of each cuisines

```
GET restaurants/_search {
  "aggs" : {
    "nb_per_category" : {
      "terms" : {
        "field" : "fields.cuisine.keyword"}}},
  "size": 0}
```

Hard requests

Get all restaurants from a group of cuisines that we define

- We first close the database, to be able to change settings.
- We then add in the settings some synonyms. We use the synonyms to group different cuisines together. So by giving "Asian" as a synonym of "Japanese" or "Korean", we can just search for "Asian" without having to specify "Japanese and Korean".
- We reopen the database.
- Then we have 2 examples of the actual request, which just searches for the group of cuisines we defined.

```
POST restaurants/_close

PUT /restaurants/_settings
{
  "settings": {
    "analysis": {
      "filter": {
        "my_synonym_filter": {
          "type": "synonym",
          "synonyms": [
            "ave,avenue,av","street,st","road,rd","boulevard,blvd,bvd",
            "Asian,Korean","Asian,Japanese","Asian,Chinese","Asian,Thai",
            "Asian,Indian" ,"European,Mediterranean","European,Italian",
            "European,Irish","European,French","European,English",
            "European,Pizza","European,Spanish","European,Russian",
            "European,Greek"]}},
      "analyzer": {
        "my_synonyms": {
          "tokenizer": "standard",
          "filter": [
            "my_synonym_filter"]}}}}}

POST restaurants/_open

POST restaurants/_search
{
  "query": {
    "match" : {
      "fields.cuisine.keyword": {
        "query" : "Asian",
        "analyzer": "my_synonyms"}}}}
```

```
POST restaurants/_search
{
  "query": {
    "match": {
      "fields.cuisine.keyword": {
        "query": "European",
        "analyzer": "my_synonyms"}}}}
```