

Exercise 5:

Storing and visualizing media collections as presentations

1. To do

A publicity company needs to create an application that integrates media from the **Deezer** music service.¹ For this purpose the application has to:

1. Coordinate calls to the **Deezer API**.²
2. Use a NoSQL store for managing media in a persistent way (i.e., you have to create a database in CouchDB and access it for retrieving the data you will present on the Web page).
3. Present, combine and synchronize different media in the same Web page as the result of retrieving media from the database (according to given criteria).

2. Building and Querying a NoSQL Oriented Database

In this exercise you will populate and query a NoSQL database using data coming from Deezer. In particular, you will use data related with the rock band Muse. In Deezer, Muse has the ID 705. Thus, the following links retrieve Muse's albums and information about similar rock bands.

- <http://api-v3.deezer.com/2.0/artist/705/albums>
- <http://api-v3.deezer.com/2.0/artist/705/related>

For simplifying the experiment, we have included the data obtained by these requests in the files of the folder **Deezer/Muse** of this practice.

3.1 Creating and populating a database

- Using curl on a Terminal: create the database Deezer
- Open a browser and see the result
- Populate the Deezer database with the provided documents by issuing the following commands:

```
curl -T "MuseAlbums.json" http://127.0.0.1:5984/deezer/muse\_albums  
curl -T "MuseRelatedArtists.json" http://127.0.0.1:5984/deezer/muse\_related\_artists
```

¹ <http://www.deezer.com>

² <http://developers.deezer.com/api/>

- Access the database and observe the new created documents.

3.2 Querying a database

Execute the following queries:

- **Query 1**
Retrieve the name and the web page of the groups that are similar to the rock band Muse.

Map

```
function(doc) {
  var artists = doc.data;
  if(doc._id == "muse_related_artists") {
    for(var i in artists)
      emit(artists[i].name, artists[i].link);
  }
}
```

- **Query 2**
Compute the total number of the albums produced by the rock band Muse (requires to check the reduce check button in the CouchDB interface).

Map

```
function(doc) {
  var artists = doc.data;
  if(doc._id == "muse_related_artists") {
    for(var i in artists)
      emit('muse_albums', 1);
  }
}
```

Reduce

```
function(keys, values, rereduce) {
  return sum(values);
}
```

For more information about CouchDB you read this [book](#).