Coding challenge - Music Service

Assignment

We want you to create a REST API for providing clients with information about a specific music artist. The information is collected from 4 different sources: MusicBrainz, Wikidata, Wikipedia and Cover Art Archive.

MusicBrainz offers an API returning detailed information about music artists e.g. name, birthday, birth country etc.

WikiData acts as central storage for the structured data of its Wikimedia sister projects including Wikipedia, Wikivoyage, Wiktionary, Wikisource, and others.

Wikipedia offers an API returning more descriptive information about many different things, one of them are music artists.

Cover Art Archive is a side-project to MusicBrainz which offers an API finding cover art for albums and singles for a specific music artist.

The API you create should take an MBID (MusicBrainz Identifier) and return a result containing the following:

- A description of the artist fetched from Wikipedia resource. Wikipedia doesn't contain any MBIDs so the mapping between MBID and Wik can be found in the MusicBrainz API.
- A list of all albums the artist has released and links to its corresponding album cover art. The albums can be found in MusicBrainz, but the cover art is found in Cover Art Archive.

External APIs

MusicBrainz

Documentation	http://musicbrainz.org/doc/Development/XML_Web_Service/Version_2
API URL	http://musicbrainz.org/ws/2
Sample Query	http://musicbrainz.org/ws/2/artist/f27ec8db-af05-4f36-916e-3d57f91ecf5e?&fmt=json&inc=url-rels+release-groups
Comments	

Wikidata

Documentation	https://www.wikidata.org/wiki/Wikidata:Data_access
API URL	https://www.wikidata.org/wiki/Special:EntityData
Sample Query	https://www.wikidata.org/wiki/Special:EntityData/Q2831.json
Comments	In the response from MusicBrainz you'll find a list named `relations`. Check the relation of `type` equal to `wikidata`, it's here you can find the Wikidata link to get the Wikipedia link.

Wikipedia

Documentation	https://www.mediawiki.org/wiki/Special:MyLanguage/Wikimedia_REST_API
API URL	https://en.wikipedia.org/api/rest_v1/page/summary
Sample Query	https://en.wikipedia.org/api/rest_v1/page/summary/{title}
Comments	In the response from Wikidata you'll find a list named `sitelinks`, it's here you can find the title of the music artist under sitelink `enwiki` e.g. `Michael Jackson`

Cover Art Archive

Documentation	https://wiki.musicbrainz.org/Cover_Art_Archive/API
API URL	http://coverartarchive.org/
Sample Query	http://coverartarchive.org/release-group/c31a5e2b-0bf8-32e0-8aeb-ef4ba9973932

Comments	In the response from MusicBrainz you'll find a list named `release--groups`In there you'll find the MBID(i.e. `id`) which can be used towards the Covert Art Archive API.

Requirements

Your API service should be production-ready and be able to handle heavy loads. Assume that your service will have tens of thousands of requests per second at peak times, which might be a bit of a challenge since your API relies on 3rd party APIs (MusicBrainz, Wikidata, Wikipedia and Cover Art Archive). Think about availability, response times, resilience, exception handling, testability etc.

Please add a README.md with detailed information about your solution. How do we build and run it? What tools did you use? Why did you use them? Did you intentionally leave stuff out or made any shortcuts? In that case, what and why?

Make sure that you write at least one unit test and one system test that can be used if your service needs refactoring. Provide us with a couple of different MBIDs to test with.

Stack

- Choose either - Java/Kotlin/Typescript
- Springboot
- Create a REST API
- Use JSON message format.

Deliverable

Make your work sample available to the organizer within 2 days from receiving the assignment, ideally on Github.

Build and Run

```
From the root of the project run: mvn spring-boot:run
```

REST API

Get profile for an artist

```
GET /musify/music-artist/details/{mbid}
```

Sample Request

```
curl -X GET  "http://localhost:8081/musify/music-artist/details
/f27ec8db-af05-4f36-916e-3d57f91ecf5e"
```

Sample Response

```
{
  "mbid": "f27ec8db-af05-4f36-916e-3d57f91ecf5e",
  "name": "Michael Jackson",
  "gender": "Male",
  "country": "US",
  "disambiguation": ""“King of Pop”"",
  "description": "<p><b>Michael Joseph Jackson</b> (August 29, 1958 –
June 25, 2009) was an American singer, songwriter, record producer,
dancer, and actor. Called the King of Pop, his contributions to music,
dance, and fashion along with his publicized personal life made him a
global figure in popular culture for over four decades.</p>\n<p>The
eighth ............ with $115 million in earnings.</p>\n<p></p>",
  "albums": [
    {
      "id": "500d9b05-68c3-3535-86e3-cf685869efc0",
      "title": "Farewell My Summer Love",
      "imageUrl": "http://coverartarchive.org/release/8172928a-a6c7-
4d7c-83c8-5db2a4575094/13404444760.jpg"
    },
    {
      "id": "37906983-1005-36fb-b8e7-3a04687e6f4f",
      "title": "Anthology",
      "imageUrl": "http://coverartarchive.org/release/a7a74484-8c25-
47e3-9afc-7de701ad3dde/1619836290.jpg"
    },
    .
    .
    .
    {
      "id": "1516d16c-fad9-413f-99ba-ad1f767c608a",
      "title": "The Motown Years...His Greatest Hits",
      "imageUrl": "http://coverartarchive.org/release/1abad59d-5f52-
4b16-9b48-e8beeaf76ec8/8554032338.jpg"
    }
  ]
}
```