

TASD Project

A Job Portal

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<https://github.com/AndreJackBia/progetto-tasd>



Introduction

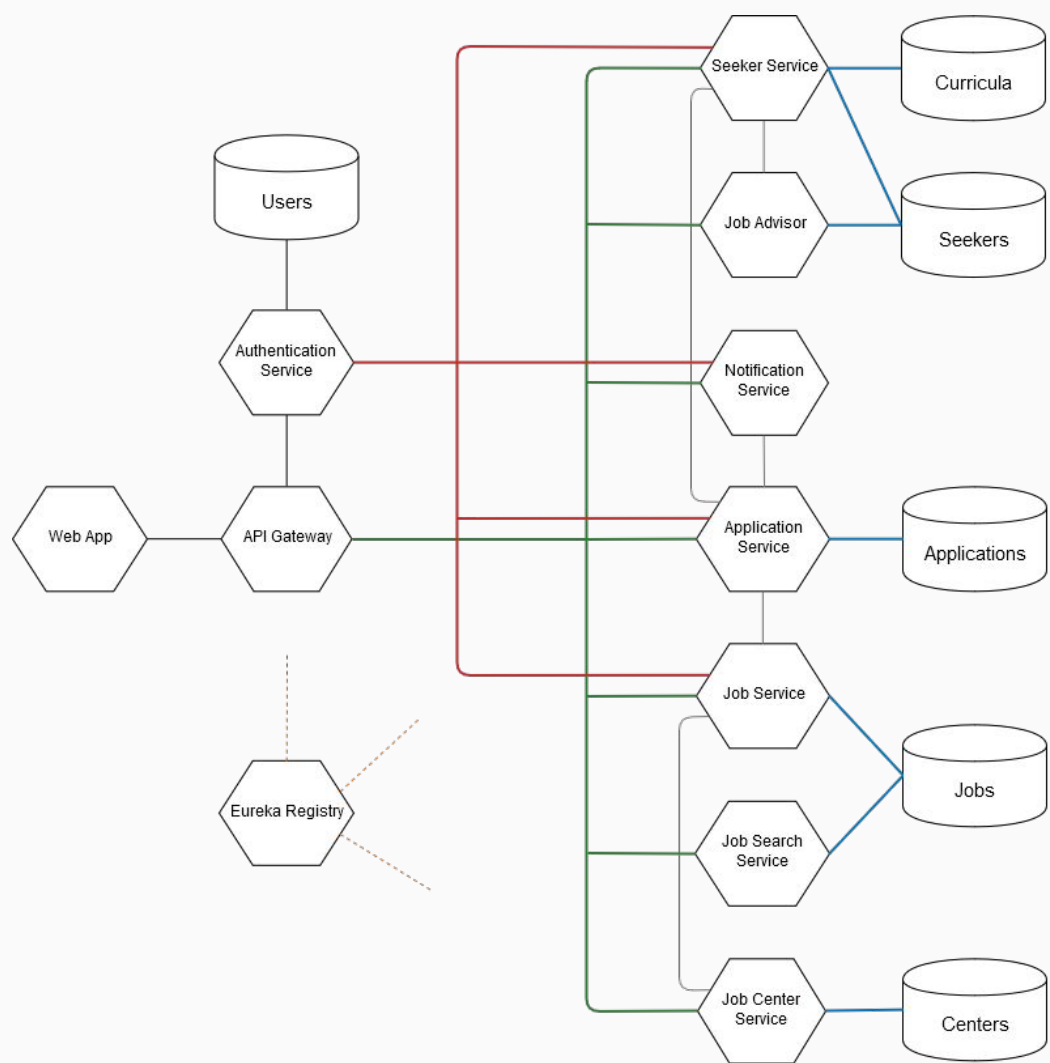
The project consists of a webapp for searching and offering jobs.

The principal actors of the system are individuals who want to look for a job as well as job centers which will publish job offers on behalf of companies.

Architecture

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Our solution is based on a microservices architecture. The front-end is developed in Python using Flask and the back-end consists of several Spring Boot applications using their own databases with a Gateway in-between.



Front-End

- Developed in Python with Flask
- Exposes system functionalities
- Calls API gateway



Gateway

The front-end communicates with a gateway that forwards the requested call to a specific microservice.

Gateway with the Authentication microservice acts as the point of credentials validation of the user.

It is implemented using Zuul, a component of Netflix library that is able to filter and forward incoming requests to the proper service.



Eureka Registry

One particular problem in microservices architecture is the ability of one microservices to discover the others in order to communicate with these.

In this project we use Eureka Registry, part of Netflix library. Every service is registered inside Eureka and, when there's the need to communicate with others, it queries the Eureka Registry to resolve the location of the microservices.



Authentication

It is responsible of:

- Users' authentication
- Generating JWTs to grant access to users
- Dispatching user creation and deletion to the proper service (Job Center service or Seeker service)



Back-End (1/2)

Technologies used:

- Spring Framework suite
 - Spring Boot
 - Spring Security (with JWT)
 - Spring Cloud (for common cloud patterns)
- Databases:
 - PostgreSQL
 - CouchDB



Back-End (2/2)

The back-end is a set of microservices with different tasks:

- Job Seeker is responsible of handling users searching for jobs
- Job Center is responsible of handling users that post job offers
- Job Service is responsible of handling job insertions
- Job Search is responsible of offering a search tool in order to browse job offers
- Application is responsible of creating an application for a job offer
- Job Advisor is responsible of suggesting job insertions based on user profile
- Notification service is responsible of sending emails to user that apply to a job offer and confirm the registration to the portal

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