



A JAVA
Project Report
on
Quiz Manager Application
(QM)

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1.SUBJECT DESCRIPTION

[1.1] Introduction

[1.1.1] Overview:

This report contains all the detail of the Quiz Manager (QM)

[1.1.2] Background:

The main objective behind the project is to make a Reliable Quiz Manager from a tool which we have learned Recently JAVA

[1.1.3] Objective

The main goal of this project is to develop an application using Java which can automatically connect to a database and store information in the database and to retrieve, modify and delete the information in the database.

The following are the objectives that the application needs to satisfy:

- Display Questions
- Store the Response
- Resume for a Point if needed
- Update the questions
- Calculate the response from the user and Show results

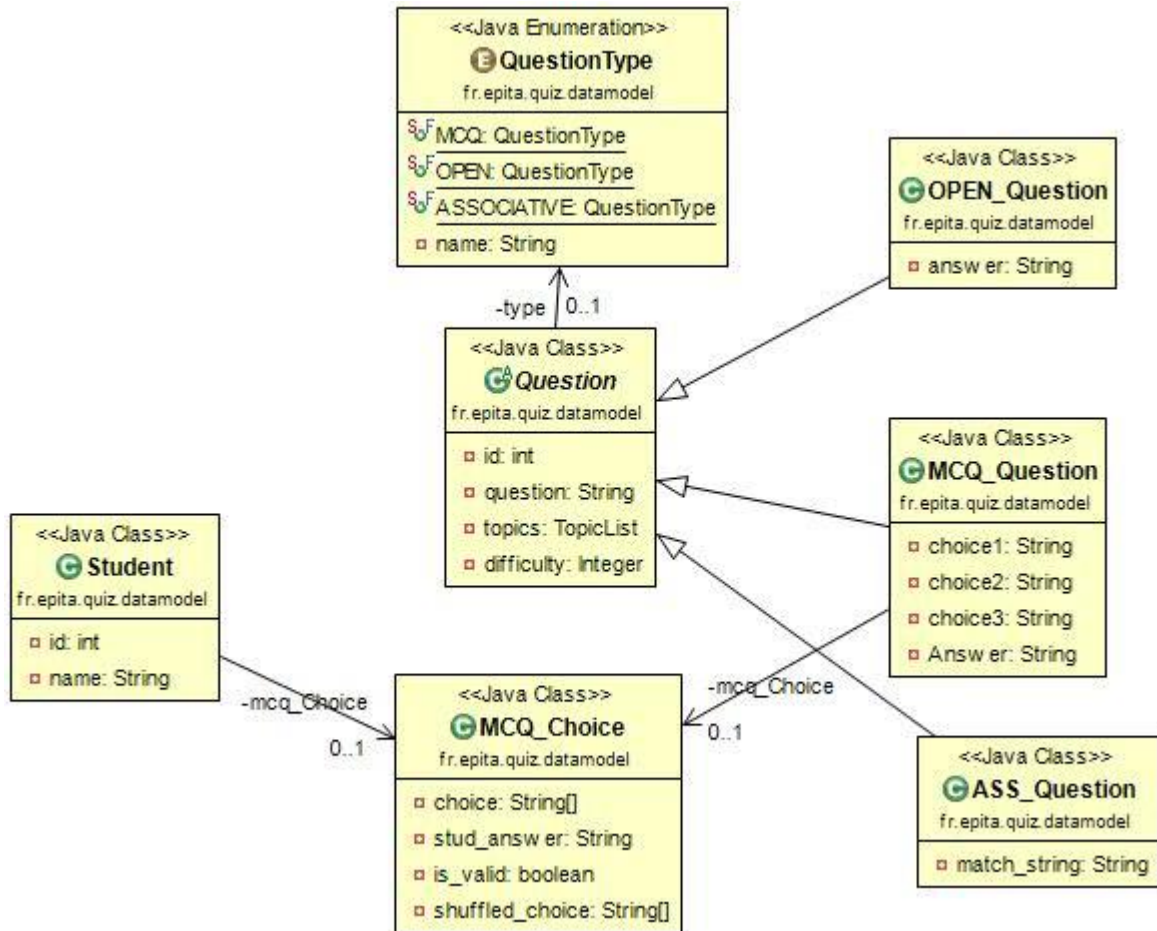
[1.1.4] Development Environment

PLATFORM USED : **Ubuntu**
LANGUAGE USED : **Java SE 8**
IDE : **Eclipse**
DATABASE : **H2 SQL**

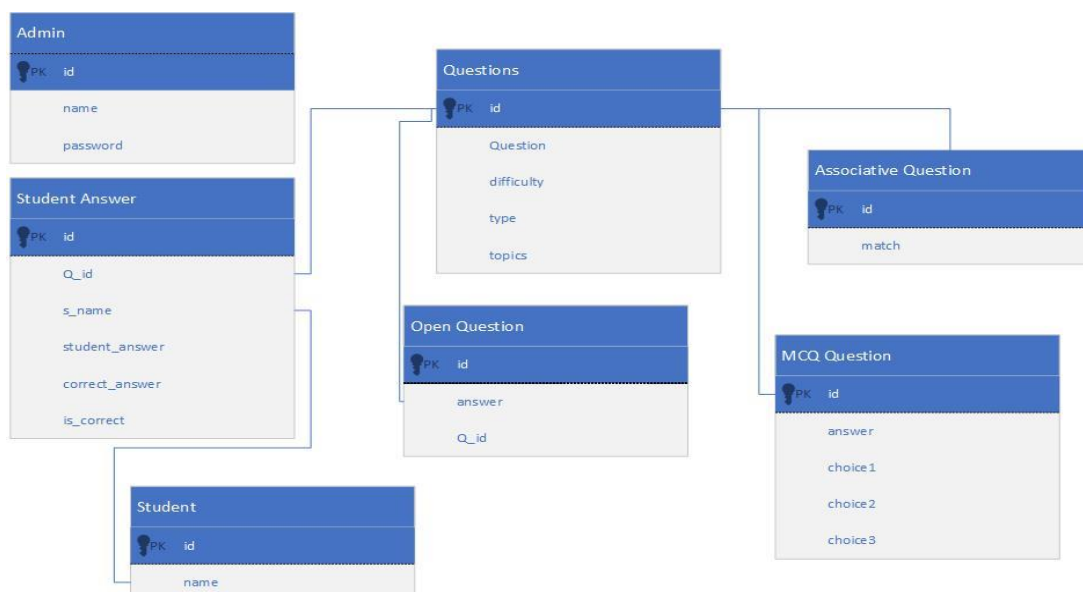
2. Architecture of Project

The program has is fully configurable but requires that an instance of the h2 server is currently running.

There are many classes involved in this application. Below is the class diagram showing the relationship between the students, the questions and the mcq choices.



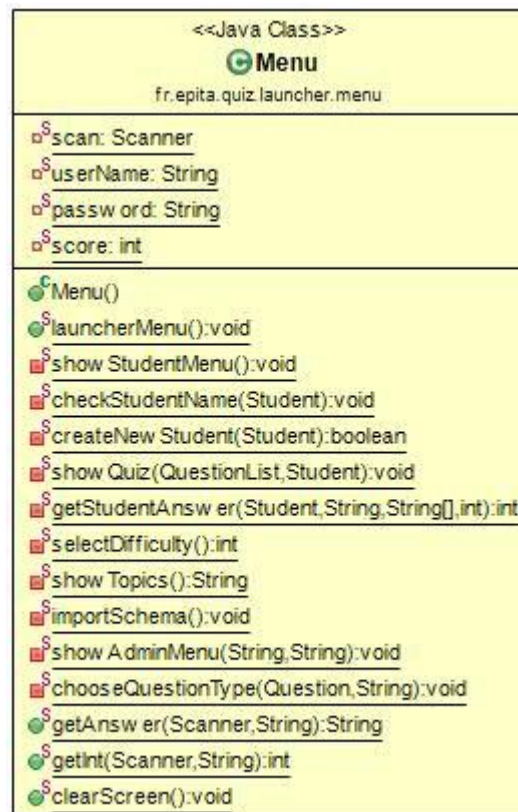
The entity class diagram can be found below.



The class relationship chan

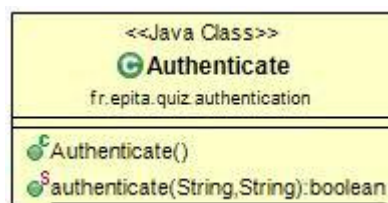
ged compared to the original specification where the student was to have his own Answer class for the open class and the mcq choices. However, we did not implement the open answers and left out that link. The answer a student gives to an mcq question is stored in the mcq_choices tables.

The Menu class



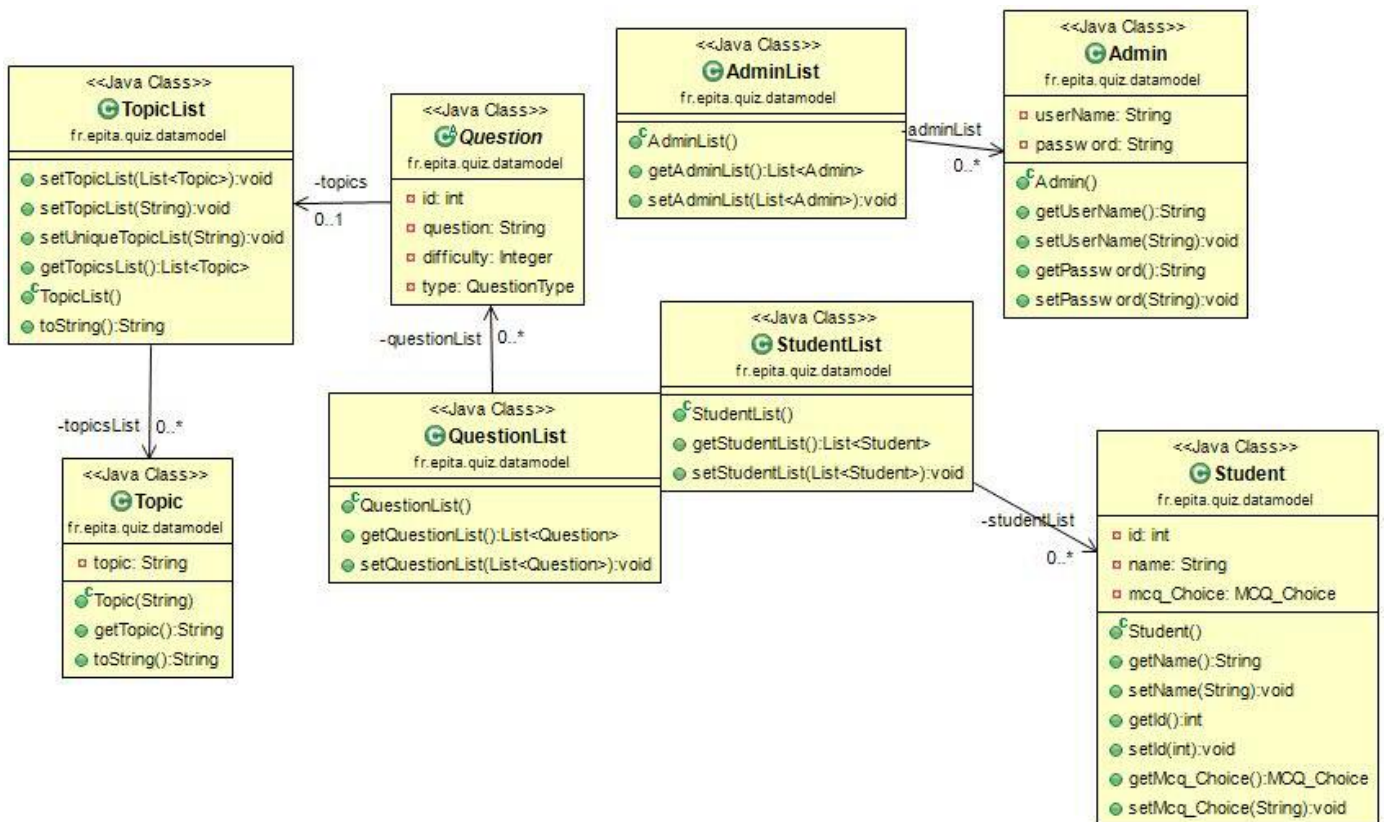
This class is responsible for displaying the menu and sending the responses from the user to the other objects.

Authentication class



The sole purpose of this class is to authenticate the administrator who has the write to create, read, update and delete questions from the database.

LISTS



Various list holding objects have been created to manipulate in group the POJO such as Question, Student, Topics, and Admin.

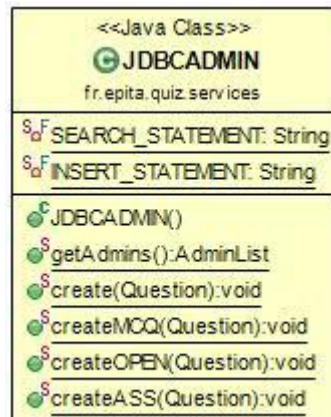
Database connection



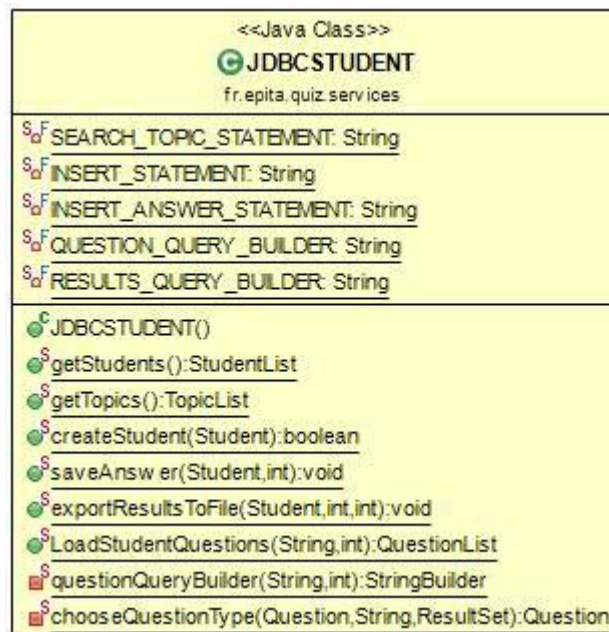
The JDBC class is a static class that returns the connection object defined in the singleton class Configuration.

Configurations reads the properties from a file to make sure that everything is configurable. There's also a function that automatically installs the database tables if it is the first time that the application runs. That function is called **firstLoad**.

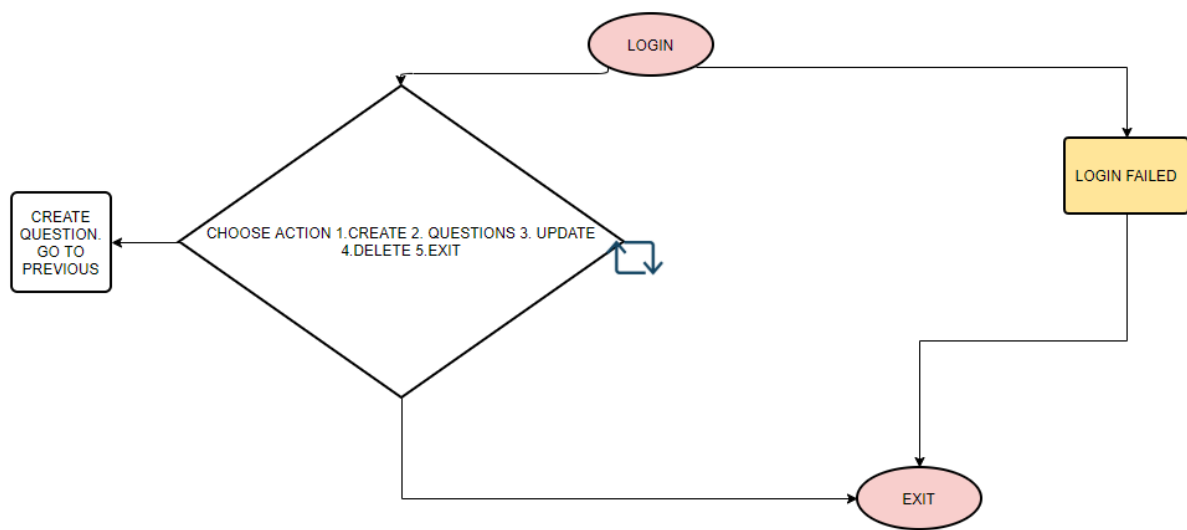
JDBC ADMIN



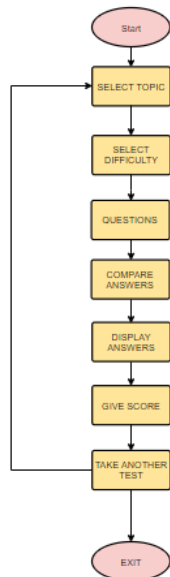
The JDBC admin class handles every operation that concerns the database and the admin user. The JDBC Student class is similarly responsible for all the operations between the student and the database.



4. CHARTS



Flowchart of the quiz format



References

- <http://thomas-broussard.fr/>
- http://www.tutorialspoint.com/java/java_data_structures.htm
- <http://www.tutorialspoint.com/>
- <https://www.javacodeexamples.com/>