

Coursework Instructions Milestone 4: Database Access from a Programming Language

The goal of the fourth part of your IDA project is to

- create a Web application in Java by which a user can query and update the database.

You will have an occasion to apply the material of the lectures on SQL and on JDBC.

Java Web Application

For this milestone you are asked to develop a simple Web application that allows users to

1. extract data from your database using a form;
2. insert or update tuples in the database;
3. delete tuples in the database.

For the data extraction, users should be able to specify selection conditions (like the job type of an employee or the location of a department) using a drop down menu. In addition, you may want to offer them to specify selection conditions by writing into forms.

For the data insertion or update, you should at least present a form into which users type the data they want to be inserted. You may also give users the possibility to specify the “object” that they want to update, then show them the current attribute values of the object, and give them the opportunity to change what they wish to change.

For the data deletion, offer users the possibility to specify what they want to be deleted (for instance, by presenting a form) and give them feedback whether the deletion was successful.

To realize the application, use Java Server Pages and JDBC, as introduced in the lectures and the labs.

Your application should access the PostgreSQL database server that we use in the course and ask a user for user name and password. This will allow your teaching

assistant to test the application because they have the right to access your database using their own user name and password. You can download the sample code for login mechanism can be downloaded from Teleacademy.

Install the application by deploying the corresponding .war file on the server `zuril`. Instructions for doing this will be available on Teleacademy.

Transactions

For extra credit, define a transaction that comprises at least two operations and realize it in your application. Choose an appropriate isolation level and explain in your report the rationale behind your choice.

Deliverables

The deliverables will be

1. a brief report that describes the design and the functionality of your application (which are the classes and what they are good for);
2. the URL of the application deployed on `zuril`;
3. a .war-file including binaries and source code that can be executed in the same environment as your lab exercises.

Deadline and Submission

The work is to be submitted on your group page at Teleacademy The deadline is

Thursday, 23 December, 11:30pm.