Exercise 16.2 – Open Session in View

The Setup:

The main goal of this exercise is to have you use the **Open Session in View** pattern in a web application to avoid **LazyInitializationException** problems.

Start the exercise by opening the project from **C:\CS544\exercises\exercise16_2\.** Add the hibernate dependencies (as described in week 1), and add the following JSTL dependency:

```xml
<dependency>
    <groupId>javax.servlet</groupId>
    <artifactId>jstl</artifactId>
    <version>1.2</version>
</dependency>
```
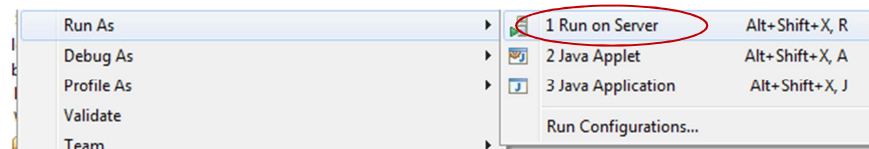
This project requires that a web server is setup, see exercise 00.1 for instructions on how to setup Apache Tomcat in Eclipse.
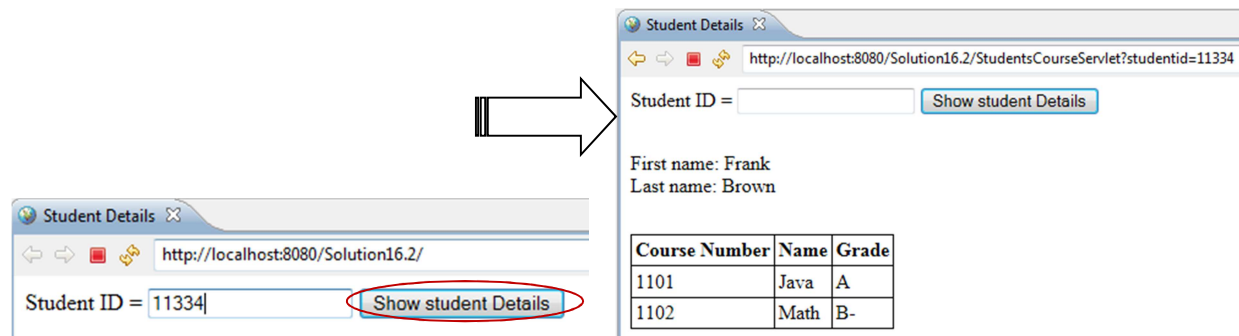
The Application:

The application is a small student - course application that lets you to lookup students by studentId, after which it will display all courses taken by that student, and the grades received.

You can run this application by right clicking on your project and selecting **Run As -> Run On Server**

Entering the Student Id 11334 should bring up the following screen:

The Exercise:

The code currently does not use a database, instead the Students and their courses are stored in stub DAO objects.

a) Update the code to use Hibernate to store the Student and Course objects in MySQL. Use eager fetching or Hibernate.Initialize() to avoid LazyInitializationException errors.

Note: the hibernate.cfg.xml file should go into this project's WEB-INF directory

b) Once this works, change the code to use the Open Session in View Filter and remove the eager fetching or Hibernate.Initialize() code