



ASSIGNMENT 2 - WEB SERVICES (20 POINTS)

Due date: Nov. 3, 2009, 10am (CET)

Rules

- Assumed programming language is *Java* in version 1.6
- Code that is handed in and does not compile will NOT be graded. So please make sure to test your implementation properly.
- Assignments have to be solved individually. It is ok and also desired to discuss problems with peers, whereas copying code is not. As a result, plagiarism will lead to 0 points for the particular assignment for both parties.
- The due date is a hard deadline. Emails that arrive after this deadline will be discarded and therefore the contained solution not graded.

All the above rules are final and no matter for further discussions!

Travel agency *AwesomeTravels* wants to simplify some of their processes. Their main problem is that their travel products and prices change frequently. Since they have 20 different offices all over the country, which all offer the same products, they decided that they should have a web service. What they especially need is a service, which allows for easy insert, delete, and update of price information for travels. In addition to that, they also want a function that computes the price sum if several travelers book a particular travel, for example a family.

Since they often encounter families with kids to travel, they decided to offer a kids discount. Therefore, some travels have a discounted price for kids.

Now your tasks:

- 1) Download the interface we provide from [here](#).
- 2) Setup your environment
 - a) Download and install [Eclipse IDE for Java EE developers](#).
 - b) Download [Axis 2 v.1.4.1](#) and unzip. Set the path of Axis 2 in Eclipse (Window->Preferences->WebServices->Axis2 Preferences).

Note: Axis2 v.1.5 has a compatibility problem with Eclipse WTP.

- c) Download and unzip [Apache Tomcat 6.0](#). Set path into Eclipse.
(Window->Preferences->Server->Runtime Environments->Add...)

3) Create and build the travel price web service project (see the Helpful reading section for links to tutorials). In the web service project, write a class to implement the seven services defined in the interface.

Remark: If you delete a standard travel price, you also have to automatically delete the kids discount. On the other hand, if you delete a kids discount, the standard travel price has to remain in the system. **(10 Points)**

Note:

If you find it easier you can also download and install [MyEclipse](#). MyEclipse is commercial, but free for a test period of 30 days. It contains a web service developing tool which you can use to build your webservice. Work through the following tutorial making use of the MyEclipse IDE to build and test web services: <http://www.myeclipseide.com/documentation/quickstarts/webservices/>.

4) Use Eclipse to build another client project. In the client project, write a class to access the four travel price web services (add travel/kids price, update travel/kids price, delete travel/kids price and calculate travel cost). **(6 Points)**

5) Create a short documentation in which you briefly describe your implementation, such that somebody who has not seen your code can understand what you did. **(4 Points)**

The whole documentation should not be longer than 1 page.

Grading:

Grading will be based on

- a) the correctness of your code, i.e. does it solve the given task?
- b) readability/structure of your code (including appropriate comments)
- c) clarity of your documentation, i.e. does it really describe what you implemented and how well can it be understood by somebody who has not written or read the code.

What to hand in and how:

- Create a zip file named <your_student_id>_<first name>_<last name>_assignment02.zip (e.g. 1234567_John_Doe_assignment01.zip). This zip file should contain the two Eclipse (or MyEclipse) projects (web service and client web service). Please specify in the documentation which environment you used (Eclipse or MyEclipse). It should also contain your documentation as *.pdf file.

In case your code requires any special treatment to compile, you have to enclose a README describing the necessary steps.

- Send this zip archive on time via email to [Floarea Serban](mailto:serban@ifi.uzh.ch) (serban@ifi.uzh.ch) . The email subject should start with **[DS 2009]** .

Helpful reading

Web Services

http://wiki.eclipse.org/Creating_a_top-down_Axis2_Web_service

<http://www.softwareagility.gr/index.php?q=node/21>

http://en.wikipedia.org/wiki/Web_service