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Project 2 Report

The scope of Project 2 was to modify the currency converter web application created in line of Project 1 (<http://phenomeno.dyndns-home.com:8080/project1>). Our job was to add two more buttons in our web page, one (?) that redirects the user to some info about the project (this report) and the other (!) one that gets the entire project's directory (including the source code) back to the user.

Our application consists of the html frontend, the servlets, the context listener, the attribute class and the *web.xml* file. The html frontend of the application is the web page where the user can see two forms (dropdown lists) named respectively "Currency From" and "Currency To" so that he can select the currencies to be converted. Just below we have a text box where one can put the amount of money to be converted and right next to it there is the "Submit" button. Our html file, called "*index.html*" is located in the "*~\webapps\p2*" directory.

The servlets, called "*CurrencyConverter*", "*CurrencyReport*" and "*CurrencyCode*" are the derived classes after the successful compilation of the respective .java files. The "*CurrencyConverter.java*" includes all the appropriate methods to parse the user's selections in the web page, to parse the respective currency rates from Yahoo's Finance, to do all the necessary calculations for the correct currency conversion and to show the results back to the user. The "*CurrencyReport.java*" gets the appropriate attribute (link) and passes it to the *sendRedirect()* method to bring this report to the user. The "*CurrencyCode.java*" includes the call of the *sendRedirect()* method so that one gets the archive. The "*CurrencyReportContextListener*" class gets the parameters from the *web.xml* and creates a new object to pass these parameters and the "*Link.java*" is the attribute class we created. Our java files and our classes are located in the following directories respectively: "*~\webapps\p2\src*", "*~\webapps\p2\WEB-INF\classes*".

The *web.xml* file is the file that does the proper mapping for our servlets, instantiates the listener, sets the url-pattern in order to be able to call our web application from any web browser and sets the context parameters. This file is located in the "*~\webapps\project2\WEB-INF*" directory.

Our web application can convert rates between any pair of 153 world currencies, accepting both integer and decimal values for the amount and also checking for correct numerical input. For example if one puts a letter in the textbox

and hits submit he will get a message of “Bad Number Format”. The rates between the various currencies are calculated on the fly by Yahoo’s Finance that is updating its database every workaday.

The main challenges encountered during the implementation of Project 2 were:

- the proper servlet mapping, as we had three servlets and one listener to map
- the proper coding of Context Listener Class
- the understanding of how parameters and attributes work and how we can use them in our implementation

The main sources used for this project lie below:

- <http://www.servletworld.com/examples/response-sendredirect-servlet.html>
- <http://www.java2s.com/Code/Java/Servlets/ServletURLredirect.htm>
- <http://www.java2s.com/Code/Java/Servlets/Setthecontextparameterinwebxml.htm>
- <http://www.roseindia.net/servlets/MyServletContextListener.txt>
- <http://www.devmanuals.com/tutorials/java/servlet/ContextListenerExample.html>
- and of course our course’s book: “Head First Servlets and JSP”, Chapters 4 and 5.

After all the files have been put in the proper directories we must start (or restart if it was already running) the Tomcat Service. Now, our web application is ready for access. The appropriate URLs for that are:

For localhost: <http://localhost:8080/p2>

For remote access:

<http://phenomeno.dyndns-home.com:8080/p2> (as long as my pc is powered on of course)

<http://texwww.inf.uth.gr:8080/~gkelis/> (always on)

I have also uploaded my entire project into GitHub :

<https://github.com/gkelis/CurrencyConverter>