

# Exercise 4

*Creating a JAX-WS Client using WSDL2Java*

## **Prior Knowledge**

*Basic understanding of SOAP and WSDL*

## **Objectives**

*Understand how to create Web Service Clients in Java*

## **Software Requirements**

- Java Development Kit 7
- Tomcat 7.0.33 or later
- Eclipse JEE workbench
- Apache CXF 2.7.0 or later
- Service running from Exercise 3



1. To make a change we are going to use a command-line tool to create a Web Service Client. Later you can also try the wizard in Eclipse.
2. Start up a command-line shell / Terminal
3. Set your environment:  
export CXF\_HOME=~ /servers/apache-cxf-2.7.7  
export PATH=\$PATH:~/servers/apache-cxf-2.7.7/bin
4. Create a directory to store your generated code, e.g. ~/oxsoa/jaxwsclient
5. Start up your service implementation in Tomcat (if it isn't already running)

From the directory you want the code in, execute the following command:

```
wsd12java -ant -verbose -client -d . -fe jaxws21 \  
http://localhost:8080/JAXWSSample/services/OrderService  
ImplPort?wsdl
```

Put all on one line if you like (but note that the \ character indicates a line split, so remove those if you do!)

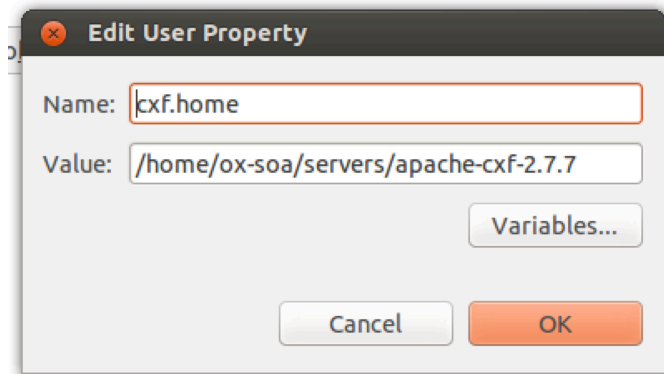
6. Check it builds. In the directory where the code is generated, there should be an Ant build.xml. Type **ant** in the command line. You should see something like:

```
>ant  
Buildfile: /Users/paul/oxsoa/client/build.xml  
  
compile:  
  [mkdir] Created dir: /Users/paul/oxsoa/client/build/classes  
  [javac] /Users/paul/oxsoa/client/build.xml:110: warning:  
'includeantruntime' was not set, defaulting to  
build.sysclasspath=last; set to false for repeatable builds  
  [javac] Compiling 14 source files to  
/Users/paul/oxsoa/client/build/classes  
  
build:  
  
BUILD SUCCESSFUL  
Total time: 3 seconds
```

7. Now let's import into Eclipse.
8. Start up Eclipse.



9. Go to Preferences, Ant, Runtime, Properties Tab, Add Property with the values:  
Name: cxf.home  
Value: /home/ox-soa/servers/apache-cxf-2.7.7



10. Now create a new project using New->Other->Java Project from Existing Ant Build File.

Browse to the build file in your generated code directory.

Give the project a decent name (e.g. JAXWSClient)

11. Take a look at the generated code.

12. Find the class named **OrderService\_OrderServiceImplPort\_Client** and run it.

Is the behaviour you are getting expected?

13. Edit the client to create at least one Order and correctly list all the orders.

14. Congratulations, you have succeeded (if you got this far!)

15. Extension: Do the same using the Eclipse wizards (hint: start with a Dynamic Web Project)

