

## CS644/IT632/CS397K: Internet Computing with Distributed Components

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Since some students don't have the textbook yet, we are going to learn Web services first. My tutorial on Web services will also give you a good introduction to the Web architecture and HTTP protocol, which are important in this course. Instead of reading the textbook, you are going to read my Web services tutorial "Essential Concepts of Web Services" posted at <http://csis.pace.edu/~lixin/pcl/ws/webServiceConcepts.pdf>.

The due day for all the tasks specified here is September 24, 2005.

Tasks to be completed in Weeks 2 and 3 (9/11 – 9/24):

1. Read tutorial "Essential Concepts of Web Services" posted at <http://csis.pace.edu/~lixin/pcl/ws/webServiceConcepts.pdf>. You can find all download links for the Web service course material at <http://csis.pace.edu/~lixin/pcl/ws/>, but you only need to read those I specified here.
2. Prepare for the following *Web service lab* session by conducting the following 3 steps:
  - a. Download file "endorsed.zip" at <http://csis.pace.edu/~lixin/pcl/ws/endorsed.zip>, and unzip its contents (a set of jar files) into both "C:\Sun\AppServer\jdk\lib\endorsed" and "C:\Sun\AppServer\jdk\jre\lib\endorsed". Here I assume that you followed my instructions and used Java SDK at "C:\Sun\AppServer\jdk". If you have chosen to use a Java SDK installation at a different location, you need to use your actual Java SDK installation directory to replace the above "C:\Sun\AppServer\jdk". Make sure that there is no subdirectory in either of the two "endorsed" directories.
  - b. Download file "axis.zip" at <http://csis.pace.edu/~lixin/pcl/ws/axis.zip>, and unzip its contents in a new directory "axis" at "C:\Tomcat5.5\webapps\axis".
  - c. Download file "webServiceLab.zip" at <http://csis.pace.edu/~lixin/pcl/ws/webServiceLab.zip>, and unzip its contents at "C:".
3. Read the first 8 pages of the Web services lab manual at <http://csis.pace.edu/~lixin/pcl/ws/webServiceWorkshopLab.pdf>, and follow the instructions to complete the implementation of a Java Web service as well as a Java client application for the Web service.
4. **Assignment 1 (due on 9/24):** Implement in Java and the AXIS toolkit a Web service that receives an integer and returns an integer that is 1 plus the received integer; write a Java client to consume this Web service. The assignment submission will be the two Java source code files, one for the Web service

implementation, and one for its consumption. Zip these two files together and attach it to your reply to my assignment 1 thread in the forum for Weeks2and3.

5. In course *Discussion Board* forum *Weeks2and3*, reply to each of the following questions:
  - a. What is the main objective of Web services?
  - b. What is the minimal information that a client needs to consume a Web service?