

Programing Technologies

Lesson 9

1. Carefully follow the presentation about Java and XML (available online at the page of the class).

Add some extra features to a pre-defined project.

2. Download the progtech_L9_start.zip project from the page of the class and import it to NetBeans.
3. Try to understand the pre-written part of the code.
4. Modify the code so that if the file does not exist the program creates it.
5. Add a simple menu to the main method in which the user should select from 5 options: (1. Print all students, 2. Search student by last name, 3. Add a new student, 4. Delete a student by last name, 5. Exit)
6. Run the project and add some students. Note that when you add the students they are empty elements. Modify the addStudent method to solve this.
7. Implement the searchStudent method so that it can print out all the students with a given last name.
8. Implement the deleteStudent method so that it can delete all the students with a given last name.

JAXB

1. Create a new project in which you define a Student and a Group class. A Student has a name and a credits field. In a Group you can store Students.
2. Use the @XmlRootElement(name = "...") annotation to give a name for a representing xml tag for the classes.
3. Use the @XmlRootElement(namespace = "...packagename...") annotation on the Group class to set the namespace.
4. Use the following lines to create an xml format output from the objects:

```
JAXBContext context = JAXBContext.newInstance(Group.class);
Marshaller m = context.createMarshaller();
m.setProperty(Marshaller.JAXB_FORMATTED_OUTPUT, Boolean.TRUE);
//Write to System.out
m.marshal(g, System.out);
```

5. Use the following lines to get data from the xml file:

```
Unmarshaller um = context.createUnmarshaller();
Group g2 = (Group) um.unmarshal(new File("____.xml"));
```

Recommended reading: <http://www.vogella.com/tutorials/JAXB/article.html>