

Assignment 9: XML Schema

- This assignment will be published on December 16th, 2016.
- The groups will present the solution of this assignment on January 10th, 2017 at 11:30. We will meet in seminar room 0.124.
- All members of a group have to show up together for the grading of the assignment. For the grading, each group will need to have the source code (XML and XML Schema) ready for the discussion as well as a validator tool available to validate the XML. Moreover, each group member might be asked questions about the solution.
- If you have questions, send an email to holger.schwarz@ipvs.uni-stuttgart.de.

Task 1 – XML Schema

The goal of this exercise is to understand basic concepts of XML Schema and how it extends the capabilities of DTDs. You will use the bank.xml that you provided in task 1.1 of assignment 8, i.e., the (well-formed) XML document without a DTD. The files bank-correct1.xml and bank-correct2.xml should be valid according to your schema whereas bank-incorrect.xml should not validate as account ids are used for various accounts.

Task 1.1 – XML Schema for bank.xml

Write an XML schema definition for bank.xml satisfying the following requirements:

- There are two account types: checking and savings
- The account id is unique in 'accounts'.
- The customer id is unique in 'customers'.
- 'c_id' refers to customers and 'ac_id' refers to accounts.
- The account balance must be greater than -5000.

When writing the XML schema:

- A quite helpful reference: <http://www.w3.org/TR/xmlschema-0/>
- The following XML Schema elements are useful to solve this exercise: schema, sequence, element, attribute, complexType, simpleType, restriction, key, selector, field, keyref, enumeration, minInclusive. You may need to use the wildcard '*' for specifying unique constraints or keys.

Task 1.2 – Validate XML

Use a validator tool to validate bank.xml using your XML schema. The tool must accept separate files for the XML document and the XML schema. A suitable online tool is <http://www.xmlvalidation.com/>. On the first page, provide the XML document and select 'Validate against external XML schema'. Click 'Validate' and provide the XML schema on the second page.