

Assignment 8: XML and DTD

- This assignment will be published on December 11th, 2016.
- You may work on the assignments in groups of up to three people (if possible, keep the same groups as in the previous assignments).
- The groups will present the solution of this assignment on December 20th, 2016 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 DTD) ready for the discussion as well as an online 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 and DTD

The goal of this exercise is to understand basic XML concepts and to be familiar with DTDs. You will use `bank.xml` for this assignment.

The `tracklist.*` files are examples of an XML, an external DTD and an internal DTD.

Task 1.1 – Well-formed XML

Check whether `bank.xml` contains well-formed XML. In a first step you should do this based on the rules you have learned in the lecture. Please correct `bank.xml` if the document turns out not to be well-formed.

In a second step you should use an online validator tool like <http://www.xmlvalidation.com> or <http://www.validome.org/lang/en>. You may use Eclipse as well. The following steps refer to `validome.org`:

- Select the 'XML' validator
- Refer to your file (`bank.xml`) in the upload section
- Select 'Well-Formedness only'
- Press 'Validate'

Task 1.2 – Write DTD

Write a DTD for `bank.xml` satisfying the following requirements. Due to the limitations of DTDs it may not be possible to fully satisfy them all. Try to satisfy them as much as possible.

- 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 DTD:

- Use as specific content models for the elements as possible (you should not use ANY)

You may want to use the online validator tool to validate your DTD.

- Provide your DTD in file bank.dtd
- Select the 'DTD-Schema' validator
- Refer to your file in the upload section
- Select 'DTD'
- Press 'Validate'

Task 1.3 – Validate XML

Use the online validator tool again to validate bank.xml against your DTD. You may extend bank.xml by an internal DOCTYPE declaration for this purpose.