

PB138 — Overview of the course

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Motivation for semistructured data

- business data exchange (XML business formats)
- cloud app data management
- security applications: log and event processing
- web and mobile dynamic applications
- document data, document XML-based formats
- hand-made fast content creation (asciidoc, markdown...)
- industrial applications (in energy management: OMS/MBus data, DLMS/COSEM)
- security applications: XML and/in cryptography

Lifecycle of semistructured data

- create semistructured data
- share semistructured data
- use semistructured data
- store semistructured data

Application domains

- security and system operation
- enterprise/business data
- industry
- text/document
- computer/software systems

Intro to semistructured data

- definitions of semistructured data

Intro XML markup

- slides [Introduction to markup](#)
- briefly slides [Motivation for XML and fundamental concepts](#)
- briefly slides [XML document structure](#)
- slides [Characters in XML documents](#)
- demo [well-formedness checking with xmllint](#), download as [ZIP](#)

Fundamental XML Standards

- slides [Concepts, XML Specification](#)
- slides [XML Base](#)
- slides [XML Namespaces](#)
- slides [DOM and other APIs](#)
- demo showing [DOM tree listing](#) in Java
- demo showing simple [DOM manipulation](#) in Java

Navigation in XML, XPath

- slides [XPath](#)
- demo [XPath from Java](#)

Modeling, XML Schema

- slides [Modeling, XML Schema](#)
- demo [XML Schema validation with 'xmllint'](#)
- slides [Relax NG](#) as other XML modeling language

Transformations, XSLT

- slides [Transformations, XSLT](#)
- demo [XSLT from Java](#)

XQuery, XML Databases

- slides [XQuery](#)
- slides [XML Databases](#)

Web and Assistive Technologies

- slides [Voice XML](#)
- slides [SVG](#)

Docbook and DITA

- slides [Docbook](#)
- slides [DITA](#)

- demo [Docbook Demo](#)

Metadata, Microformats, Advanced XML Processing

- slides [Metadata, RDF](#)
- slides [Microformats](#)
- slides [XML Pipeline](#)
- slides [Shells etc.](#)