

Information Systems

Data Management for the Web

IDENTIFICATION

CODE : IFA-3-S2-EC-DW
ECTS : 2.0

HOURS

Lectures : 10.0 h
Seminars : 4.0 h
Laboratory : 8.0 h
Project : 0.0 h
Teacher-student
contact : 22.0 h
Personal work : 20.0 h
Total : 42.0 h

ASSESSMENT METHOD

Lab evaluation
Individual written exam

TEACHING AIDS

Lecture notes, Lab and exercise

TEACHING LANGUAGE

French

CONTACT

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AIMS

This course aims to address the problems related to hyper documents, XML (DTD, Schema, XPath, XSL, XQuery, DOM, Javascript) and the NoSQL dbms

Skills :

- design and model XML documents
- create a DTD and an XML Schema
- write XPath expressions
- write complex XSL stylesheets
- write javascript functions to manipulate html DOM
- call REST webservices and manipulate XML and json results in javascript
- install and use XML DBMS (BaseX)
- write XQuery queries
- install MongoDB
- write MongoDB queries

CONTENT

1. Context and issues: survey of major concepts and domains of application.
2. Documents and multimedia hyper documents: Modeling of specific documents, class of documents, hyper documents, and multimedia contents.
3. Introduction to XML: major concepts (element, attribute, entity), document type definition (DTD) and instance.
4. Advanced XML Concepts: name-space domains, schema, XLINK links, style sheet processing (XSL).
5. The XML galaxy: RDF, DOM, SVG.
6. Semi-structured databases: Representation of semi-structured data, XML and semi-structured data, XML databases.
7. XML manipulation: DOM, SAX, Javascript
8. Conclusion, assessment and perspectives.
9. NoSQL DBMS

PRE-REQUISITE

IFA-3-BDR, IFA-3-MD
Basic Relational Database Management notions

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