UE Data base foundations

Level
Baccalaureate +4

ECTS
3 credits

Component
UFR IM2AG (informatique, mathématiques et mathématiques appliquées)

Semester
Printemps

> **Teaching language(s):** English

> **Teaching method:** In person

> **Teaching type:** Practical work

> **Open to exchange students:** Yes

> **Code d'export Apogée:** GBX8MO03

Presentation

Description

Databases today are essential to every business, corporation and many scientific investigations. They are behind major popular systems as Google or Amazon, they store important data of many kind of companies and they are even key components in research on physics, biology, health and several other fields. Database Management Systems (DBMS) are powerful, but complex, systems for creating and managing large amounts of data efficiently and allowing it to persist over the time. In this course, we shall learn the foundations of DBMS and most important aspects to design and to use relational databases.

Program summary :

The theoretic part covers the following topics: DBMS functionalities, overview of the most common data models, the relational approach (algebra, SQL, normalization, etc.) , transactional support and database design. We study database schema design using the entity-relation model and introduce an algorithm to translate such an abstraction to a normalized relational schema. The pragmatic part of the course is intended to familiarize students with the use of the Standard Query Language, SQL. We also introduce JDBC, the Java API to access relational databases.

Course parts

CM/TD   Lectures (CM) & Teaching Unit (UE)   33h

Period : Semester 8

Useful info

Contacts

Program director

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Place

> Grenoble

Campus

> Grenoble - University campus