

BLOCK NAME	ADVANCED DATABASES
BLOCK CODE	CS-L4B3
COURSE	2
LEVEL	4
CREDITS	5
CLASS HOURS	50
HOMEWORK	75
TOTAL HOURS	125

DESCRIPTION

This block introduces relational advanced NoSQL databases. We face the challenge of developing a system that makes use of an schemaless database to store, manage and show heterogeneous information coming from a number of distinct sources, each one using its own data format. Optionally students can opt going for a distributed solution if they want to.

PRE-REQUISITES

Basic programming and database skills are needed.
CS-L1B1, CS-L2B4

OBJECTIVES

The goal is for students to be familiar with different kinds of databases not following the relational paradigm.

SKILLS TO BE DEVELOPED

- 1 - NoSQL databases.**
 - 1.1 - Differentiate the most common kinds of NoSQL databases, knowing their advantages and disadvantages.
 - 1.2 - Write programs that connect to and make use of NoSQL databases.
- 2 - Distributed solutions.**
 - 2.1 - Understand the computing limitations that make necessary the use of distributed databases.
 - 2.2 - Understand how a distributed database differs from common ones.
- 3 - Interactive data visualization.**
 - 3.1 - Write code that shows data to users in an interactive way.

SYLLABUS

- 1 - NoSQL databases.
- 2 - Distributed solutions.
- 3 - Interactive data visualization.

METHODOLOGY

Resolution of practical activities supervised by the mentor. Compulsory attendance.

DEDICATION AND EVALUATION

The student must pass the mandatory activities (challenges/projects) that are covered in the block. Each challenge/project produces its own score and has been designed to cover certain block percentages. Such score is 80% objective (the program that solves the challenge/project works without errors and producing the expected results) and 20% subjective (solution elegance, how clean the code is, documentation). Block scores are finally calculated by prorating individual activities with respect to their block coverage percentages.