# HoGent BEDRIJF EN ORGANISATIE

## **Introduction Databases 3**

## **Overview**

- Relational databases
  - 1 TIN: MySQL
  - 2 TIN: Microsoft SQL Server
  - 3 TIN: Oracle
    - CEO + one of the 3 founders: Larry Ellison
       (in top 10 of richest people in the world)
    - NYSE
    - Oracle databases claim to be very fast + to be able to process large amounts of data
- NoSQL databases: schemaless, no transactions, ...
- Big data
  - Enormous amounts of data
  - Brings the software to the data (not the other way around)







## **Overview**

#### Oracle

- Oracle instance: How does the Oracle database work?
- Oracle schema management: Tables, Indexes in Oracle
- Oracle multiuser concurrency
- Oracle PL SQL
  - PL SQL is a combination of SQL along with the procedural features
    of programming languages. It was developed by Oracle
    Corporation in the early 90's to enhance the capabilities of SQL.

#### NoSQL

- Overview of NoSQL
- MongoDB: how to query, insert, update, ... documents in MongoDB?
- Schema design in MongoDB

#### Big data

- Overview
- Apache Spark

# Schedule Ghent (with reservation)

- Because the app developers may want to use MongoDB (or any other NoSQL database) in their project, the NoSQL lessons will come first
- Time + duration of the test will be anounced on Chamilo

	Tuesday (1h / 3h)	Thursday (2h/3h)	
Week 1	Overview + PL SQL: Introduction	NoSQL: Overview	
Week 2	PL SQL: If Then + Case	NoSQL: MongoDB	
Week 3	PL SQL: Loops	NoSQL: Schema design in MongoDB	
Week 4	PL SQL: Cursors	Oracle instance	
Week 5	PL SQL: Records	Test NoSQL (4 / 20)	
Week 6		Oracle schema management	
Week 7	PL SQL: Tables	Oracle multiuser concurrency	
Week 8		Big data: Overview	
Week 9	PL SQL: Exceptions	Apache Spark	
Week 10	PL SQL: Procedures + Functions	Apache Spark	
Week 11	PL SQL: Packages	Apache Spark	
Week 12	PL SQL: Dynamic SQL	PL SQL: Summarizing final exercises	

4

# Schedule Aalst (with reservation)

- Because the app developers may want to use MongoDB (or any other NoSQL database) in their project, the NoSQL lessons will come first
- Time + duration of the test will be anounced on Chamilo

	Monday (8h15 - 10h15)	Monday (10h30 - 11h30)	Wednesday (13h30 - 15h30)	Wednesday (15h45 - 16h45)
Week 1	Overview + NoSQL: Overview	PL SQL: Introduction		
Week 2	NoSQL: MongoDB	PL SQL: If Then + Case		
Week 3	NoSQL: Schema design in MongoDE	PL SQL: Loops		
Week 4	Oracle instance	PL SQL: Cursors		
Week 5	Oracle schema management	PL SQL: Records	Test NoSQL (4 / 20)	
Week 6				
Week 7	Oracle multiuser concurrency	PL SQL: Tables		
Week 8			Big data: Overview	PL SQL: Exceptions
Week 9	Apache Spark	PL SQL: Procedures + Functions		
Week 10	Apache Spark	PL SQL: Packages		
Week 11	Apache Spark	PL SQL: Dynamic SQL		
Week 12	PL SQL: Summarizin	g final exercises		