

# Hands-on SQL lab

Introduction to Database Systems

CS-322



# Today: Hands-on SQL

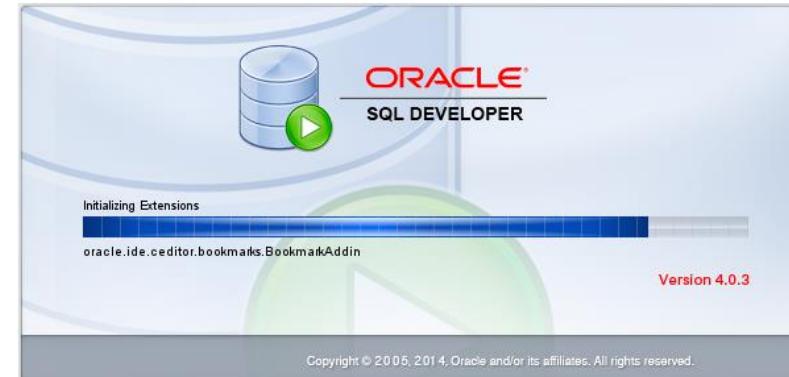
- Using SQL developer (any frontend with JDBC connection works)
- Connecting to the database
- Running a selection query
- Running a join query
- Inserting data
- Deleting data

# SQL Developer – SQL IDE

- Java client for the Oracle RDBMS
- Available at:
  - Download the appropriate version, ideally via the download link:  
<https://www.oracle.com/tools/downloads/sqldev-downloads.html>
- Most SQL IDEs work (that has JDBC connection – this should be standard):
  - DBeaver (open source): <https://dbeaver.io/>
  - JetBrains DataGrip (free for students): <https://www.jetbrains.com/datagrip/>
  - You may use other software if you prefer so

# SQL Developer + Oracle DBMS

- Create a new connection with parameters:
  - **username:** C##DB2024
  - **password:** DB2024
  - **hostname:** cs322-db.epfl.ch
  - **port:** 1521
  - **SID:** ORCLCDB
  - **Make sure you are connected to the EPFL network, or that you are using a VPN!**



# The Toy University DB

## Example Instances

*STUDENT*

<u>SNUM</u>	SNAME	MAJOR	SYEAR	AGE
1476	Felipa Castromil	CHE	FR	21
1597	Bree Maksutov	ME	FR	23

*FACULTY*

<u>FID</u>	FNAME	DEPTID
1087	Alica Caminho	2
1015	Aleksandrov Nemeth	0

*ENROLLED*

<u>SNUM</u>	<u>CNAME</u>
1476	Organic Chemistry
1597	Strength of materials and solid mechanics

*COURSE*

<u>CNAME</u>	MEETS_AT	ROOM	FID
Organic Chemistry	01.02.19 12:00:00	R302	1087
Database Systems	01.02.19 13:00:00	R202	1015

# Tasks

- List all students
- List all courses
- List all courses in which some of the students were below 18 years of age
- Insert your info into the Students table, use your sciper as SNUM
- Insert yourself into Enrolled table for any class
- Delete your entry from the Enrolled table

# Solutions

- `SELECT * FROM STUDENT;`
- `SELECT * FROM COURSE;`
- `SELECT DISTINCT cname  
FROM ENROLLED e, STUDENT s  
WHERE e.snum = s.snum and s.age < 18;`

## Solutions

- INSERT INTO STUDENT VALUES (<your-sciper>,'<your-name>', '<your-major>', 'your-year',<your-age>);
- INSERT INTO ENROLLED VALUES (<your-sciper>,'<cname>');
- DELETE FROM ENROLLED WHERE SNUM = <your-sciper>;