# Build a Database for the Vocational School YrkesCo

## Purpose

The purpose of this lab is to apply your knowledge of data modeling by designing a database for a vocational school. The result will be presented as a video pitch, focusing on identifying key information and communicating it clearly to a business audience.

## Background

YrkesCo is a vocational school where administrative work is often managed using multiple Excel files. These files are used to track students, instructors, program managers, employees, courses, programs, consultants, and more. It is common for the organization to operate across multiple locations in Sweden, with several employees working in parallel on shared or separate Excel files. Some information is also stored in learning management platforms.

## Requirements Specification

- Students with first name, last name, personal identity number, and email
- Instructors, who may be consultants
- Planned employment of permanent instructors (BONUS)
- Program managers and their personal information
- Each program manager is responsible for three classes
- Courses with name, course code, number of credits, and a short description
- Programs consisting of multiple courses
- Each program is approved in three rounds, resulting in three classes
- Standalone courses (BONUS)
- Consultants with company details such as organization number, F-tax status, address, and hourly rate
- Two campuses: Gothenburg and Stockholm, with possible future expansion (BONUS)
- Sensitive personal data must be stored in separate entities to control access
- Additional or clarified requirements may be added if clearly documented

## Assignment 0 – Data Modeling

a) Create a folder named yh_labb in your repository.
b) Create a conceptual data model based on the requirements.
c) Write relationship statements for each entity.
d) Build a logical model based on the conceptual model.
e) Create a physical model based on the logical model.
f) Argue that your model satisfies Third Normal Form (3NF).

## Assignment 1 – Implementation

Implement your physical model in PostgreSQL. All SQL scripts must be stored in the lab folder.

a) Create the database tables.
b) Populate the tables with fake data (a few records per table is sufficient).
c) Write SQL queries that join tables to retrieve information, such as which program manager, courses, and instructors belong to a specific class.

## Assignment 2 – Presentation

Create a presentation describing each modeling step, starting with a high-level overview and gradually moving into technical details. Save the presentation as a PDF and upload it to your repository.

## Assignment 3 – Video Pitch

Create a 10–15 minute video pitch where you present your solution and demonstrate the database implementation. Focus on storytelling for business stakeholders while also explaining technical details for developers. Use correct data modeling terminology.

## Submission

Submit a link to the video presentation and a GitHub repository containing the presentation PDF and SQL implementation scripts.

## Grading Criteria

**Pass:** Tasks completed correctly, a basic data model reflecting business requirements, and a working implementation.

**Pass with Distinction:** A high-quality data model that strongly reflects business requirements, full implementation including BONUS requirements, and correct use of data modeling terminology.