

## Objective:

Learn creating database models with SQL operations, PostgreSQL data types and constraints.

## Theory:

- <https://www.postgresql.org/docs/current/ddl.html>
- <https://www.postgresql.org/docs/current/dml.html>
- <https://www.postgresql.org/docs/current/datatype.html>
- <https://www.postgresql.org/docs/current/indexes-intro.html>
- <https://habr.com/ru/post/247373/> (for MSSQL but concepts are very similar)
- <https://habr.com/ru/company/postgrespro/blog/326096/>

## Task:

**Deadline:** 2-3 days

### Requirements:

- We will be using PostgreSQL as a default sql provider.
- Convert your ERD diagram into a set of SQL scripts to create database structure from scratch. Specify all tables, columns, data types and constraints for each table. Also specify ON UPDATE, ON DELETE constraints.

As a result you should have a set of sql files that allows you to recreate database structure.

## Answer all of these questions to be prepared:

1. What are the methods to create/delete database in PostgreSQL?
2. How to implement *one-to-one*, *one-to-many* and *many-to-many* relationships? What is Primary Key? What is Foreign Key? What other unique constraints are available?

3. What is an index? When would you use it? What is the difference between a Clustered and Non Clustered Index?