Databases for programmers (code: DB-101)

Overview

The course provides students with an overview of database theory and practical application. Students get to know SQL language and learn to create complex queries. They control database programmatically. The course provides students with skills and knowledge to use indexes and other optimisation techniques.

Standard course is run on PostreSQL system. For exclusive group the course can be run on any dedicated relational database system, for example Oracle, MS SQL Server, IBM DB2. Contact us for more info.

Notice:
— For clients who want to learn just SQL language (for report and analytic goals) we recommend Course 'Access: Databases and SQL Laguage for Analysts', which not include administrative, programming and performance issues.
  — For clients working on specific database platform and wanting to know exactly the SQL dialect used by that specific database, we recommend dedicated courses. Dedicated courses' outline are practically the same, but we can show more specific details and tools, which every platform has.

Ask for details

Phone +44 203 608 6289
info@alx.training

Duration

3 days

Agenda

1. Introduction to relational databases
   — Understanding relations
   — Table, row, column
   — Key, primary key
   — Foreign key, references between tables
2. Getting familiar with SQL language syntax
   — Writing simple query - SELECT closure
   — Using functions and operators
   — Narrowing results - WHERE closure
   — Sorting results - ORDER BY closure
   — Hitting extremes - LIMIT and OFFSET statements
   — Using multiple tables - JOIN statement
   — Working with set of data - GROUP BY closure
   — Adding aggregates
   — Choosing sets - HAVING closure
   — Using sub-queries
   — Combining multiple-query results - UNION, EXCEPT, and INTERSECT closures
3. Relational database theory
   — Dealing with anomalies
   — Understanding normal forms
4. Designing database structure
   — How-to: designing techniques
   — Using database design notation
   — Best practices: design patterns for typical issues
5. Creating database schema (DDL)
   — Understanding data types
   — Creating tables - CREATE TABLE query

— Understanding constraints
— Using sequences
6. Inserting, modifying and deleting data (DML)
— Adding data - INSERT query
— Editing data - UPDATE query
— Removing data - DELETE query
7. Understanding views
— Creating views - CREATE VIEW query
— Using views
8. Using procedural languages
— PL/pgSQL as an example of procedural languages
— Introduction to programming databases
— Using triggers and stored procedures

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Target audience and prerequisites

The course is intended for novice and experienced users, who want to learn SQL language and touch some programming and performance issues. Especially we invite programmers and analysts having programming concerns.

Before attending this course, students must have:

— Basic computer knowledge, such as keyboard and mouse skills.
— Basic file-management skills. The student should know how to navigate to folders and files on a computer running Windows Vista / Windows 7.

No prior database experience is required.

Certificates

Course participants receive completion certificates signed by ALX.

Locations

— Warsaw (English) – Jasna 14/16A
— Online (English) – your home, office or wherever you want
— any other location (London, UK, EU) on request

Price

990 EUR

The price includes:

— course materials,
— snacks, coffee, tea and soft drinks,
— course completion certificate,
— one-time consultation with the instructor after course completion.