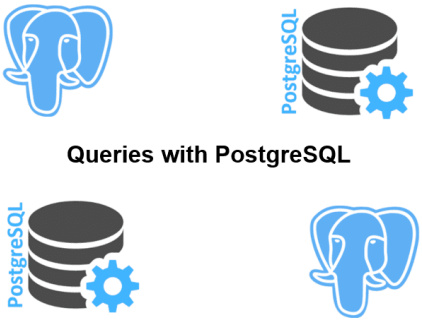
# Queries with PostgreSQL

**Duration: 3 days** **Price: € 1999**

Open Schedule




### Audience Course Queries with PostgreSQL

The course Queries with PostgreSQL is designed for developers, database administrators and other interested parties who wish to learn and use PostgreSQL SQL.

### Prerequisites Course Queries with PostgreSQL

This course has no specific requirements. General knowledge of system development and databases is beneficial to a good understanding.

### Realization Training Queries with PostgreSQL

The theory is treated on the basis of presentation slides. Demos are used to explain the theory. There is ample opportunity to practice. The course times are from 9.30 to 16.30.

### Certification Queries with PostgreSQL

Participants receive an official certificate Queries with PostgreSQL after successful completion of the course.

## Content Course Queries with PostgreSQL

In the course Queries with PostgreSQL, participants learn the syntax and use of the query language SQL in the context of a PostgreSQL database. SQL is an ANSI and ISO standard Query language that is applicable in all relational database management systems (DBMS). With SQL you can both retrieve and modify data in PostgreSQL.

### SQL Intro

After an introduction to relational databases, the SQL standard and PostgreSQL, the installation of PostgreSQL, the PostgreSQL environment and tooling are discussed. PostgreSQL, like other DBMS systems, has added extra features of its own to standard SQL and these are also covered in the course.

### SQL Data Definition

In the first place it is covered how SQL statements can be created and executed in PostgreSQL. Subsequently, the various components of SQL are discussed step-by-step, such as Data Definition Language with CREATE TABLE and Data Manipulation Language with INSERT and UPDATE.

### SQL Select Queries

Next attention is paid to writing SELECT queries. This includes clauses such as WHERE, ORDER BY, LIKE and BETWEEN .. AND. The grouping of data by means of GROUP and HAVING clauses is also on the course schedule.

### SQL Functions

The various standard SQL functions are also discussed. Among other things, the mathematical, conversion and aggregation functions for calculating sum and average are treated. Attention is also paid to PostgreSQL specific functions for pattern matching and the processing of geometric and XML data.

### Transactions

PostgreSQL is known for its robust referential and transactional integrity. In that respect the relationship between primary and foreign keys and restrictive and cascading foreign keys is treated. Also covered is how PostgreSQL handles transactions, the commit and rollback statements and how to prevent data corruption in PostgreSQL.

### Join

Next it is discussed how to combine data from different tables by means of joins. The various types of joins such as inner joins, left outer joins, right joins, right outer joins and full outer joins are discussed. Finally attention is paid to the application of SET operators such as UNION and INTERSECT and the command line interface of PostgreSQL is also treated.

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# Modules Course Queries with PostgreSQL

| Module 1 : PostgreSQL Introduction | Module 2 : SQL Introduction | Module 3 : Data Definition |
|---|---|---|
| Databases<br>DBMS Systems<br>Types of Database Models<br>Entities and relationships<br>Relational databases<br>PostgreSQL tools<br>Installing PostgreSQL<br>PostgreSQL versions | SQL Foundations<br>PostgreSQL GUI Client<br>Connection Navigator<br>Creating and Using Connections<br>SQL Worksheet<br>Statements and execution<br>SQL History<br>Storing statements | CREATE TABLE<br>Specifying Columns<br>ALTER TABLE<br>NULL and Default Values<br>DROP COLUMN<br>DROP TABLE<br>PURGE<br>Virtual columns |
| **Module 4 : Data Manipulatie** | **Module 5 : SQL Queries** | **Module 6 : Grouping** |
| Data Manipulation Language<br>Transaction control<br>Inserting rows<br>INSERT statement<br>Updating rows<br>UPDATE statement<br>DELETE statement<br>TRUNCATE TABLE<br>DML on virtual columns | Selecting rows<br>SELECT statement<br>FROM clause<br>Specifying conditions<br>WHERE clause<br>Sorting with ORDER BY<br>NULLs, FIRST, LAST<br>Removing Doubles<br>BETWEEN, IN, ANY, ALL | GROUP BY clause<br>Filtering groups<br>HAVING clause<br>Operators<br>String and Date Operators<br>Concatenate operator<br>PostgreSQL Encode<br>Operators for patterns<br>Operators for intervals |
| **Module 7 : Functions** | **Module 8 : Joins** | **Module 9 : SET Operators** |
| Function of column values<br>Using functions<br>SELECT clause functions<br>WHERE clause functions<br>GROUP BY clause functions<br>HAVING clause functions<br>ORDER BY clause functions<br>String and Arithmetic functions<br>Date and Conversion functions<br>National Language Support<br>NLS parameters<br>Cast | Joining Multiple Tables<br>Normal Joins<br>Outer Join<br>Inner joins<br>Left Outer Joins<br>Right Joins,<br>Right Outer Joins<br>Full Outer Joins<br>Multiple Join Vonditions<br>Subselections<br>Sub Queries<br>EXISTS | SET Operatoren<br>UNION<br>UNION ALL<br>INTERSECT<br>MINUS<br>Nesting of SET operators<br>Working with Command Line<br>Connect statement and /nolog<br>SQL buffer<br>Storing statements<br>Spool files<br>Transaction control |