

# Getting Started with PostgreSQL

Hands-on course of 3 days - 21h

Ref.: POS - Price 2024: CHF1 970 (excl. taxes)

## THE PROGRAMME

last updated: 01/2018

### 1) Introduction

- Overview of PostgreSQL, versions.
- The relational model, the schema.
- Tables, constraints. User interfaces.

### 2) SQL with PostgreSQL

- The SQL standard. Positioning of PostgreSQL. Setting up a database's schema.
- PostgreSQL data type. Tables. Sequences. Views. Integrity constraints on tables.
- Adding, editing, and deleting data.
- Querying a database's schema. Selection, restriction, sorting, joining.
- Complex queries. Using operators. SQL features of PostgreSQL.
- Advanced features of PostgreSQL. Transactions. Views. Tables. Table inheritance.

*Hands-on work* : Creating a schema. SQL DDL scripts. Creating views. Transaction scenarios.

### 3) PL/pgSQL language

- Instructions, types of language. Blocks of code.
- Control structures. Errors and exceptions.
- Cursors. Declaration, movement, and closing.
- Procedures and functions.
- Adding subprograms to a database.
- Triggers. Structure.

*Hands-on work* : Stored functions.

### 4) Data maintenance

- Importing/exporting data.
- With COPY TO and COPY FROM. With Psql.
- Backing up and restoring data.
- pg\_dump tools. Request optimization
- Indexes. The optimizer. EXPLAIN and VACUUM.

*Hands-on work* : Importing/exporting data. Creating an index and analyzing a query execution plan.

### 5) Managing users and groups.

- Creation. Authentication.
- Grant privileges.

*Hands-on work* : Creating users, allocating rights. Authentication tests.

### 6) Configuring PostgreSQL

- Installing and starting a database.
- Postmaster. The Postgresql.conf file.
- System tables.

*Hands-on work* : Installing a database and configuration.

#### TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

#### ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more. Participants also complete a placement test before and after the course to measure the skills they've developed.

#### TEACHING AIDS AND TECHNICAL RESOURCES

- The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
- At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
- A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

#### TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

#### ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@ORSYS.fr to review your request and its feasibility.

## 7) Additional instruction

- Programming interfaces.
- Connecting PostgreSQL with PHP, JDBC, ODBC.

# DATES

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## REMOTE CLASS

2024 : 03 Jul, 07 Oct