

PostgreSQL for Database Developers (TTDB7024)

Category: Software Development & Programming | **Vendor:** Trivera Tech

Duration: 24.00 hours (3 days) **19.5 CPD Hours** **Rating:** ★ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

PostgreSQL for Database Developers® is a three-day hands-on course that explores the fundamentals of database management, covering everything from installation and management to advanced SQL functions. Designed for beginners and enthusiasts alike, this course will equip you with the knowledge and skills required to effectively harness the power of PostgreSQL in today's data-driven landscape.

About This Course

PostgreSQL is a powerful, open-source object-relational database management system that emphasizes extensibility, data integrity, and high performance. Its versatility and robust feature set make it an ideal choice for developers working on projects of all sizes, from small-scale applications to enterprise-level systems. By learning PostgreSQL, developers can tap into its advanced capabilities, such as full-text search, spatial data support, and customizable data types, allowing them to create efficient and scalable solutions tailored to their unique needs.

PostgreSQL for Database Developers is a three-day hands-on course that explores the fundamentals of database management, covering everything from installation and management to advanced SQL functions. Designed for beginners and enthusiasts alike, this course will equip you with the knowledge and skills required to effectively harness the power of PostgreSQL in today's data-driven landscape.

Throughout the course you'll be immersed in a variety of essential topics, such as understanding data types, creating and managing indexes, working with array values, and optimizing queries for improved performance. You'll gain valuable hands-on experience with real-world exercises, including the use of the `psql` client, writing triggers and stored procedures with PL/pgSQL, and exploring advanced SQL functions like Common Table Expressions (CTE), Window Functions, and Recursive Queries. You'll exit this course with a solid foundation in PostgreSQL, enabling you to confidently navigate and manage your databases with ease and efficiency.

Who Should Attend

The ideal audience for this course includes database enthusiasts, IT professionals, and developers who are eager to expand their knowledge and skill set in database management and optimization.

Roles that would greatly benefit from attending this course include:

- Database Developers: Those who design, implement, and maintain databases as part of their primary responsibilities and want to improve their expertise in schema design, query optimization, and advanced database features.
- Backend Developers: Professionals who work on server-side application logic and require a strong understanding of database management to integrate data storage and retrieval processes into their applications.
- Data Analysts: Individuals who work with large data sets and need to extract meaningful insights from databases, utilizing advanced SQL querying techniques and data manipulation tools.
- IT Professionals: System administrators and other IT staff who are responsible for managing and maintaining databases, ensuring data security, and optimizing performance.
- Software Engineers: Developers seeking to expand their knowledge in database technologies to build scalable and efficient applications that rely on robust data management solutions.

Prerequisites & Entry Requirements

General Prerequisites:

To ensure a smooth learning experience and maximize the benefits of attending this course, you should have the following prerequisite skills:

- Basic SQL Knowledge: Familiarity with SQL syntax and concepts, such as SELECT, INSERT, UPDATE, and DELETE statements, as well as an understanding of relational databases and how they store and organize data.
- General Programming Experience: Competence in at least one programming language (e.g., Python, Java, C#, or JavaScript) to facilitate the understanding of database integration and automation through stored procedures, functions, and triggers.

Learning Outcomes

Upon successful completion of this course, participants will be able to:

This course combines engaging instructor-led presentations and useful demonstrations with valuable hands-on labs and engaging group activities.

Upon completing this course, database developers will be able to:

- Design and implement efficient database schemas by employing normalization techniques, appropriate indexing strategies, and partitioning methods to optimize data storage and retrieval processes.
 - Develop advanced SQL queries, including joining multiple tables, utilizing subqueries, and aggregating data, to extract valuable insights and facilitate decision-making processes. Implement stored procedures, functions, and triggers to automate common database tasks, enforce data integrity, and improve overall application performance.
 - Apply database performance tuning techniques, such as query optimization, index management, and transaction control, to ensure optimal resource usage and enhanced system responsiveness.
- Integrate databases with various programming languages and platforms, enabling seamless data access and manipulation for web, mobile, and desktop applications.

Detailed Course Outline

Installing & Managing PostgreSQL

PostgreSQL installation process

Optimal configuration settings

User and role management

Database backup and restoration

2. Overview of PostgreSQL Database

PostgreSQL architecture overview

Understanding database objects

Efficient data storage

Transaction management basics

3. Using the psql client

Introduction to psql

Essential psql commands

Executing queries effectively

Managing databases with psql

4. Understanding PostgreSQL data types

Numeric data types explored

Character and binary types

Date, time, and boolean values

Array and other types

5. Understanding sequences

Sequence creation and usage

Customizing sequence behavior

Implementing auto-increment columns

Sequence manipulation and control

6. Creating & managing indexes

PostgreSQL index fundamentals

Designing partial indexes

Utilizing expression-based indexes

Index management techniques

7. Using COPY to load data

COPY command overview

Importing and exporting data

Handling CSV and binary formats

Performance considerations

8. Working with Array Values

Array value basics

Array manipulation functions

Querying arrays efficiently

Multidimensional array handling

9. Advanced SQL Functions

Mastering Common Table Expressions

Utilizing Window Functions

Regular Expressions in SQL

Crafting Recursive Queries

10. Writing triggers & stored procedures with PL/pgSQL

PL/pgSQL variables usage

Implementing loop operations

PERFORM and EXECUTE statements

Developing PostgreSQL triggers

11. Using the PostgreSQL query optimizer

Query analysis and optimization

EXPLAIN command insights

PostgreSQL query operators

Identifying performance bottlenecks

12. Improving query performance

Query performance tuning

Index optimization strategies

Efficient database partitioning

Connection and resource management

13. Wrap Up & Additional Resources

Further learning opportunities

Staying up-to-date with PostgreSQL

Additional Course Details

Nexus Humans PostgreSQL for Database Developers (TTDB7024) training program is a workshop that presents an invigorating mix of sessions, lessons, and masterclasses meticulously crafted to propel your learning expedition forward.

This immersive bootcamp-style experience boasts interactive lectures, hands-on labs, and collaborative hackathons, all strategically designed to fortify fundamental concepts.

Guided by seasoned coaches, each session offers priceless insights and practical skills crucial for honing your expertise. Whether you're stepping into the realm of professional skills or a seasoned professional, this comprehensive course ensures you're equipped with the knowledge and prowess necessary for success.

While we feel this is the best course for the PostgreSQL for Database Developers (TTDB7024) course and one of our Top 10 we encourage you to read the course outline to make sure it is the right content for you.

Additionally, private sessions, closed classes or dedicated events are available both live online and at our training centres in Dublin and London, as well as at your offices anywhere in the UK, Ireland or across EMEA.

Frequently Asked Questions

Q: What delivery options are available for PostgreSQL for Database Developers (TTDB7024)?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
 - Traditional Instructor-Led Classroom Training (ILT)
 - On-site delivery at your offices anywhere in United Kingdom
 - Private dedicated courses customized for your team
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Q: How many CPD hours does this course provide?

The 3-day PostgreSQL for Database Developers (TTDB7024) course provides up to 19.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the PostgreSQL for Database Developers (TTDB7024) training?

The training takes place over 3 day(s), with each day lasting approximately 24.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for PostgreSQL for Database Developers (TTDB7024)?

Yes, we provide corporate training, dedicated training, and closed classes for PostgreSQL for Database Developers (TTDB7024). Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: PostgreSQL; Databases

Q: Why choose Nexus Human for PostgreSQL for Database Developers (TTDB7024)?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your PostgreSQL for Database Developers (TTDB7024) training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

Nexus Human

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