PostgreSQL for Business Intelligence Training Course

Professional Development Training Course Outline

Category	Business Intelligence	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

PostgreSQL for Business Intelligence Training is designed to empower professionals with advanced skills in database management, analytics, and business intelligence using PostgreSQL, one of the most robust open-source relational database systems. Participants will gain hands-on experience in data modeling, ETL processes, performance tuning, and real-time reporting, enabling organizations to leverage data for strategic decision-making. This course integrates practical exercises and case studies to ensure immediate applicability in professional environments.

This course is ideal for professionals seeking to bridge the gap between data engineering and business intelligence. Emphasis is placed on SQL optimization, data warehousing, data visualization, and integration with popular BI tools, making learners proficient in transforming raw data into actionable insights. By completing this training, participants will enhance their technical capabilities, analytical thinking, and problem-solving skills within a PostgreSQL environment.

Programme Curriculum

PostgreSQL for Business Intelligence Training Course

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Course Objectives

1. Master advanced SQL queries and data manipulation techniques
2. Understand PostgreSQL architecture and database optimization strategies
3. Implement data modeling and schema design for BI solutions
4. Perform ETL processes for structured and unstructured data
5. Develop dashboards and reports using PostgreSQL with BI tools
6. Optimize database performance and indexing for large datasets
7. Apply real-time analytics and data streaming techniques
8. Integrate PostgreSQL with popular BI platforms for reporting
9. Implement security, backup, and recovery best practices
10. Leverage analytical functions for trend analysis and forecasting
11. Monitor database health and performance metrics efficiently
12. Execute case studies simulating real-world business scenarios
13. Enhance decision-making through actionable insights from BI data

Organizational Benefits

- Improved business decision-making with accurate insights
- Streamlined ETL and data transformation processes
- Enhanced performance and scalability of databases
- Reduced operational risks with secure and reliable databases
- Faster report generation and data accessibility
- Efficient handling of large and complex datasets
- Cost-effective open-source database solutions
- Integration with multiple BI tools for holistic analytics
- Empowered workforce with up-to-date technical skills
- Data-driven strategy formulation across departments

Target Audiences

1. Data Analysts
2. Business Intelligence Professionals
3. Database Administrators
4. Data Engineers
5. IT Managers
6. Analytics Consultants
7. Software Developers
8. Decision-makers in data-driven organizations

Course Duration: 5 days

Course Modules

Module 1: Introduction to PostgreSQL for BI

- Overview of PostgreSQL architecture
- Installation and configuration
- Understanding relational databases
- Key features for BI applications
- SQL basics for analytics
- Case Study: Setting up PostgreSQL for a BI project

Module 2: Advanced SQL for BI

- Complex queries and joins
- Window functions and aggregations
- Subqueries and CTEs
- Data manipulation techniques
- Optimizing SQL for BI performance
- Case Study: Building a sales analysis report

Module 3: Data Modeling and Schema Design

- Conceptual, logical, and physical modeling
- Normalization and denormalization
- Star and snowflake schemas
- Designing tables for analytics
- Managing relationships and constraints
- Case Study: Designing a retail sales data warehouse

Module 4: ETL Processes for PostgreSQL

- Extracting data from multiple sources
- Transforming and cleaning data
- Loading data efficiently
- Scheduling ETL jobs
- Error handling and validation
- Case Study: ETL pipeline for e-commerce analytics

Module 5: Performance Tuning and Indexing

- Query performance analysis
- Index types and usage
- Optimizing joins and queries
- Partitioning strategies
- Analyzing query plans
- Case Study: Improving report generation speed

Module 6: BI Tools Integration

- Connecting PostgreSQL with BI tools
- Dashboard creation and visualization
- Custom reporting techniques
- Scheduling automated reports
- Best practices for data presentation
- Case Study: Visualizing KPIs in a BI dashboard

Module 7: Real-time Analytics

- Streaming data into PostgreSQL
- Real-time query processing
- Event-driven analytics
- Using materialized views
- Monitoring real-time data changes
- Case Study: Real-time monitoring of user behavior

Module 8: Security, Backup, and Recovery

- User roles and permissions
- Data encryption strategies
- Backup techniques and scheduling
- Recovery methods and disaster planning
- Audit logging and compliance
- Case Study: Securing financial data in PostgreSQL

Training Methodology

- Instructor-led interactive sessions
- Hands-on labs with practical exercises
- Real-world case studies to simulate business scenarios
- Group discussions and collaborative problem-solving
- Quizzes and knowledge checks after each module
- Personalized feedback and performance assessments

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

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