

# Configure and migrate to Azure Database for PostgreSQL (DP-3021)

## Description

### Learn to configure and migrate databases with Azure Database for PostgreSQL

Managing cloud databases is essential to ensure the performance of information systems. The DP-3021 training course teaches you how to leverage Azure Database for PostgreSQL to manage your data efficiently and securely. This PaaS service combines the flexibility of the cloud with the robustness of PostgreSQL, offering advanced features to optimize data storage, processing, and security.

### A professional training course for database administrators

This hands-on course guides you through configuring a PostgreSQL server, managing client-server connections, and processing SQL queries. You will learn how to improve query performance using analysis and logging tools while ensuring data security through encryption and permissions management. The program also includes creating stored procedures and functions to automate recurring operations.

## Course Content

### Module 1: Explore PostgreSQL architecture

- Describe Azure Database for PostgreSQL
- Understand PostgreSQL architecture
- Understand PostgreSQL shared memory
- Explore Azure Database for PostgreSQL

### Module 2: Understand client-server communication in PostgreSQL

- Understand connection handling
- Use PostgreSQL client tools
- Explore PostgreSQL with client tools

### Module 3: Understand PostgreSQL query processing

- Identify query processing components
- Use the EXPLAIN statement
- Execute the EXPLAIN statement

### Module 4: Secure Azure Database for PostgreSQL

- Describe Azure Database for PostgreSQL security
- Describe built-in server roles
- Grant permissions to database users
- Understand data encryption
- Configure permissions in Azure Database for PostgreSQL

### Module 5: Procedures and functions in PostgreSQL

- Create a stored procedure
- Call a stored procedure
- Create and use a function
- Create a stored procedure in Azure Database for PostgreSQL

## **Module 6: Understand write-ahead logging**

- Describe write-ahead logging
- Understand replication
- Understand logical decoding
- List table changes with logical decoding

## **Module 7: Configure and manage Azure Database for PostgreSQL**

- Understand system catalogs and views
- Investigate metadata using system catalogs and views
- Explain the purpose of vacuum and autovacuum
- Configure autovacuum server parameters
- Configure system parameters and explore metadata

## **Module 8: Understand concurrency in PostgreSQL**

- Understand multi-version concurrency control (MVCC)
- Describe snapshots
- Describe isolation levels
- Understand locking
- Explore locking in PostgreSQL

## **Module 9: Tune queries in Azure Database for PostgreSQL**

- Understand statistics
- Assess query performance using Query Store

## **Module 10: Migrate to Azure Database for PostgreSQL flexible server**

- Compare online and offline migrations
- Identify migration tool options
- Analyze decision criteria for tool selection
- Select the appropriate migration model
- Perform offline PostgreSQL database migration
- Perform online PostgreSQL database migration

## **Lab / Exercises**

- This course provides you with exclusive access to the official Microsoft lab, enabling you to practice your skills in a professional environment.

## **Documentation**

- Access to Microsoft Learn, Microsoft's online learning platform, offering interactive resources and educational content to deepen your knowledge and develop your technical skills.

## **Participant profiles**

- Database administrators
- Cloud engineers
- Back-end developers
- Cloud solutions architects

### **Prerequisites**

- Master relational databases
- Have basic SQL knowledge
- Understand cloud computing principles

### **Objectives**

- Configure Azure Database for PostgreSQL
- Manage client-server communication
- Optimize SQL query processing
- Ensure database security
- Create and use stored procedures
- Understand WAL logging
- Manage concurrent access
- Migrate to the Azure flexible server

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### **Niveau**

Intermédiaire

### **Classroom Registration Price (CHF)**

900

### **Virtual Classroom Registration Price (CHF)**

850

### **Duration (in Days)**

1

### **Reference**

DP-3021