

PostgreSQL Advanced Administration

Duration: 2 Days Course Code: PSQLADVADM Delivery Method: Company Event

Overview:

PostgreSQL Advanced Administration Course Overview

This PostgreSQL Advanced Administration course covers database upgrades, database security, table partitioning, and both streaming replication and logical replication of PostgreSQL 10, 11, 12, 13, 14, 15 and 16 databases. Exercises and examples are used throughout the course to give practical hands-on experience with the techniques covered.

Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

Target Audience:

Who will the Course Benefit?

This PostgreSQL Advanced Administration course is designed for professional database administrators of PostgreSQL 10, 11, 12, 13, 14, 15 and 16 databases who need to be able to successfully plan and implement the upgrade of a PostgreSQL database. The course covers Streaming Replication in PostgreSQL, how it can be used to achieve automatic failovers and setup a highly available PostgreSQL Database Cluster and the replication of individual objects using Logical Replication. The course also covers how security can be managed in a PostgreSQL database, including encrypted TCP/IP connections and encrypted data, and how to split large tables into smaller physical pieces using Table Partitioning. This course is suitable for users of PostgreSQL 9 databases.

Objectives:

- Course Objectives
 - The delegate will also learn how to upgrade a PostgreSQL database successfully.
 - This training is designed for experienced Database Administrators and Architects who want to learn advanced administration techniques for implementing High Availability and Database Security in PostgreSQL.
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Prerequisites:

■ This course assumes a good working knowledge of SQL and specifically of PostgreSQL Administration. This can be obtained by attendance on the pre-requisite PostgreSQL Administration course.

This course is run on a Linux operating system, therefore a good working knowledge of UNIX/Linux is required. This knowledge can be gained by attendance on the pre-requisite Linux Introduction course

Follow-on-Courses:

Further Learning

- PostgreSQL for Developers
- Python Programming 1
- PHP Developer

Content:

PostgreSQL Advanced Administration Training Course Course Contents - DAY 1

Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

Session 1: DATABASE UPGRADES

- PostgreSQL Versioning
- Plan an Upgrade
- Upgrade using pg_dump
- Upgrade using pg_upgrade
- Post Upgrade Tasks
- Overview of upgrading using Logical Replication

Session 2: DATABASE SECURITY

- Client Authentication Control
- Password handling
- User and Role management
- Row Level Security
- Encryption Options
- Encrypt Specific Columns with the pgcrypto Module
- The Performance Implications of Encryption

Session 3: CONTROL ACCESS TO THE SERVER

- Secure TCP/IP Connections with SSL
- Secure TCP/IP Connections with SSH Tunnels PostgreSQL Advanced Administration Training Course Course Contents - DAY 2

Session 4: TABLE PARTITIONING

- Overview of Table Partitioning
- Declarative Table Partitioning
- Create a Partitioned Table
- Query Performance
- Detach and Attach Partitions
- Table Partitioning New Features
- Table Partitioning using Inheritance

Session 5: STREAMING REPLICATION

- Configure Streaming Replication
- Standby Setup
- Create a Replication User
- Stop and Start Replication
- Monitor Replication
- Replication Failover and Failback
- Timelines
- Manage Conflicts
- Synchronous Replication
- Replication Slots
- Physical Replication Slot Handling

Session 6: LOGICAL REPLICATION

- Logical Replication Architecture
- Features of Logical Replication
- Advantages of Logical Replication
- Limitations of Logical Replication
- The CREATE PUBLICATION Command
- The CREATE SUBSCRIPTION Command
- Logical Replication Slot Handling
- Monitoring Logical Replication

Further Information:

For More information, or to book your course, please call us on 0800/84.009

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www.globalknowledge.com/en-be/