

PostgreSQL Administration

Course Summary

Description

This course is designed for PostgreSQL administration and configuration. It will cover specific PostgreSQL configurations and processes. It will address specific PostgreSQL utilities, commands, and security. It is designed for experienced DBA's and developers.

Topics

- Introduction
- Installation
- Configuration
- PSQL
- Roles and Security
- Managing PostgreSQL Databases
- Postgres Tablespaces
- Moving Data with PostgreSQL
- Routine Tasks
- Monitoring Statistics
- Performance Tuning
- Backup and Recovery
- PostgreSQL Upgrade
- Replication
- Triggers
- Rules
- PL/pgSQL
- Other Procedural Languages

Audience

This course is designed for experienced DBA's and developers.

Prerequisites

There are no prerequisites for this course.

Duration

Five days

PostgreSQL Administration

Course Outline

- I. Introduction**
 - A. History and Overview
 - B. PostgreSQL Major Features
 - C. PostgreSQL Limits
 - D. PostgreSQL Architecture
 - E. Write Ahead Logs
 - F. The Background Writer
 - G. PostgreSQL Data Types
- II. Installation**
 - A. Overview
 - B. Source Installation
 - C. Initializing a cluster
 - D. Starting and Stopping PostgreSQL
 - E. Automatic startup
- III. Configuration**
 - A. Access Control
 - B. Connection parameters
 - C. Memory parameters
 - D. Log Management
 - E. Autovacuum settings
 - F. Background process settings
 - G. Access control settings
- IV. PSQL**
 - A. Intro to PSQL
 - B. Meta Commands
 - C. Security
- V. Roles and Security**
 - A. Schemas
 - B. Tables and Rules
 - C. Users, Groups, and Roles
 - D. Tables and Sequences
 - E. Object Security
- VI. Managing PostgreSQL Databases**
 - A. Clusters
 - B. Databases
 - C. Tables
 - D. Indexes
- VII. Postgres Tablespaces**
 - A. Postgres Tablespace definition and configuration
 - B. Partitioning
 - C. Transaction and concurrency control
- VIII. Moving Data with PostgreSQL**
 - A. DML
 - B. Copy command
 - C. pg_dump
- IX. Routine Tasks**
 - A. Log Management
 - B. Query Analysis
 - C. Routine Vacuuming
 - D. Recovering Disk Space
- X. Monitoring Statistics**
 - A. Database Logs
 - B. OS Process Monitor
 - C. Statistics Views
- XI. Performance Tuning**
 - A. OS Tuning
 - B. Database Tuning
 - C. Transaction Logs
 - D. Query Tuning
 - E. Checkpoints
- XII. Backup and Recovery**
 - A. pg_dump
 - B. pg_dumpall
 - C. pg_restore
 - D. Point in Time recovery
- XIII. PostgreSQL Upgrade**
 - A. pg_upgrade
 - B. Source upgrades
 - C. Replication upgrades
- XIV. Replication**
 - A. Streaming replication
 - B. Asynchronous Replication
 - C. Failover
 - D. Connection Pools
 - E. HA Configuration
- XV. Triggers**
 - A. Trigger types
 - B. Event Triggers
- D. Autovacuum function**
- E. Functions and Operators**

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Course Outline (cont'd)

XVI. Rules

- A. Rules and privileges
- B. Materialized Views

XVII. PL/pgSQL

- A. Structures
- B. Declarations
- C. Expressions
- D. Statements
- E. Cursors
- F. Error and Messages

XVIII. Other Procedural Languages

- A. PL/Perl
- B. PL/Python

XIX. Conclusion

- A. Course Overview