SHARMA G

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PROFESSIONAL SUMMARY

PostgreSQL Database Administrator with 2.2 years of intensive production-level experience in database internals, **performance optimization**, **disaster recovery**, and **cloud deployments**. Expert in large-scale **database migrations**, **replication** strategies, and security compliance. Proven track record of leading complex Sybase-to-PostgreSQL migration involving 630+ database objects. Advanced capabilities in PostgreSQL **extension customization** at source code level and real-world **disaster recovery operations**. Specializes in **query tuning**, high availability setup, and **automation**.

EDUCATION

B.E in Electronics and Communication Engineering
Akshaya college of Engineering and Technology

July 2018 – June 2022

PROFESSIONAL EXPERIENCE

PostgreSQL Database Administrator

September 2023 – Present

TBS Technologies Private Ltd, Tiruppur, Tamil Nadu, India

Database Migration and Transformation

Led end-to-end Sybase to PostgreSQL migration project involving 630 tables and views, 533 functions, and 300 stored procedures in production environment.Partnered with application and development teams to design efficient schemas SQL performance during migration. Successfully migrated complex stored procedures and functions with zero data loss Reduced database licensing costs while improving overall system performance.

Performance Optimization and Query Tuning

Performed SQL performance tuning and query optimization for complex functions and procedures handling lakhs of records. Reduced execution time from minutes to seconds through indexing strategies and query rewrites. Analyzed slow queries using EXPLAIN and EXPLAIN ANALYZE for performance improvements Implemented indexing strategies to optimize database performance

Database Internals and Extension Development

Customized pgaudit extension at DLL level migrating from Linux to Windows by replacing platform-specific keywords Developed custom audit logging solution using pgaudit extension to monitor and track all database actions. Demonstrated advanced knowledge of PostgreSQL internals including source code modification. Compiled custom PostgreSQL extensions for security and compliance requirements.

Disaster Recovery and High Availability

Successfully performed database recovery from production disaster using PostgreSQL transaction logs to identify and reverse previous actions. Implemented logical replication using PostgreSQL Publication and Subscription methods to maintain live data synchronization across environments. Configured physical replication using JavaScript to Supabase ensuring data consistency and availability. Implemented data replication solutions on Google Cloud Platform for cloud-based PostgreSQL deployments. Designed and implemented backup strategies and disaster recovery procedures.

Database Administration and Maintenance

Installed configured and maintained PostgreSQL databases across production and non-production environments. Managed and monitored cloud-based PostgreSQL deployments on Google Cloud Platform. Configured and maintained pgAgent for automated scheduled backups and routine database maintenance tasks. Ensured database security scalability performance through proactive monitoring.

Automation and Scripting

Developed Python-based automation tools to create executable packages for emergency database patch deployment to clients. Automated routine database maintenance tasks using Python and pgAgent. Created custom monitoring solutions and alert systems for proactive database management. Implemented automated backup and recovery procedures.

Security and Compliance

Developed custom audit logging solution using pgaudit extension for security and compliance.
Created customized logs to monitor database actions for regulatory compliance. Implemented database security best practices including role management and access control. Ensured compliance with security audit requirements.

KEY ACHIEVEMENTS

Led large-scale database migration: Successfully migrated 630 tables/views, 533 functions,and 300 stored procedures from Sybase to PostgreSQL with zero downtime.
Performance optimization: Reduced query execution time from minutes to seconds on datasets with lakhs of records through advanced tuning techniques.
Advanced database internals: Modified pgaudit extension source code at DLL level for cross-platform compatibility demonstrating senior-level expertise.

Cloud implementation: Successfully implemented PostgreSQL replication on Google Cloud Platform for high availability.
Automation impact: Reduced emergency patch deployment time by 70% through Python automation tools.
Security compliance: Implemented comprehensive audit logging system meeting all security and compliance requirements

TECHNICAL SKILLS

Database Systems: PostgreSQL, Sybase, Database Administration, Production DBA

Cloud Platforms: Google Cloud Platform, GCP, Cloud SQL, Cloud PostgreSQL, Supabase

Programming Languages: Python, JavaScript, SQL, PL/pgSQL, Shell Scripting

Database Operations: Installation, Configuration, Maintenance, Patching, Upgrades

Performance Tuning: Query Optimization, Indexing, EXPLAIN Analysis, Execution Plans

Replication: Logical Replication, Physical Replication, Publication, Subscription, Streaming Replication

Backup and Recovery: pg_dump, pg_basebackup, Point-in-Time Recovery, PITR, WAL Archiving

High Availability: HA Setup, Failover, Disaster Recovery Planning, DR

Security: pgaudit, Audit Logging, Database Security, Compliance Monitoring

Database Internals: MVCC, Write-Ahead Logging, WAL, Transaction Logs, VACUUM

Automation Tools: pgAgent, Automated Backups, Python Scripts, Scheduled Tasks

Database Migration: Schema Design, Data Migration, Cross-Platform Migration

Monitoring: Database Monitoring, Performance Monitoring, Custom Logging, pg_stat_statements

Operating Systems: Linux, Windows

Version Control: Git

Development: Database Schema Design, SQL Development, Stored Procedures, Functions

PROJECTS

Sybase to PostgreSQL Migration Project
Scope: Enterprise database migration with 630+ database objects
Role: Database Administrator
Responsibilities: Migration planning, schema conversion, stored procedure migration, performance optimization, post-migration support.
Technologies: PostgreSQL, Sybase, Python, SQL

Outcome: Successful zero-downtime migration with improved performance

Custom Audit Logging Solution
Scope: Security compliance requirement implementation
Role: Database Administrator
Responsibilities: pgaudit extension modification, DLL compilation, custom logging implementation
Technologies: PostgreSQL, pgaudit, C/C++, Windows, Linux
Outcome: Full compliance with security audit requirements

PostgreSQL Disaster Recovery Implementation
Scope: Critical production database recovery
Role: Database Administrator
Responsibilities: Log analysis, transaction reversal, database restoration, documentation
Technologies: PostgreSQL, WAL, Transaction Logs
Outcome: Zero data loss, full database recovery within SLA

ADDITIONAL INFORMATION

Strong expertise in SQL performance tuning and database internals.
Experience with mission-critical production environments requiring high availability
Proven ability to work collaboratively with cross-functional development teams.
Excellent problem-solving skills with focus on root cause analysis.
Strong understanding of MVCC, WAL, VACUUM, and PostgreSQL architecture.
Experience with both Linux/Unix and Windows environments.
Continuous learner staying current with PostgreSQL community best practices.

"Ready to bring your ideas to life? Let's collaborate! Whether you're a start up or established company,or individual with a vision,i'm here to help from concept to execution,let's create something amazing together"