SHRIDHAR KHANAL

PostgreSQL Consultant & DBA · Production Support

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SUMMARY

PostgreSQL consultant with 4+ years of production database work, first as a DBA at one of Nepal's leading payments platforms and now with enterprise clients at Stormatics. I'm currently the lead engineer on client accounts and the first person their teams call when something breaks in production. I've upgraded multi-terabyte databases from legacy releases and fixed XID wraparound and corruption on live tables. I like getting to the real cause of a problem and explaining it in a way the team can act on. Strong in SQL, query tuning, replication, backups and Linux. EDB certified, with nine published articles, six on Planet PostgreSQL and three featured in Postgres Weekly.

EXPERIENCE

PostgreSQL Consultant, Stormatics — Mar 2026 – Present

Remote · Singapore

- Lead production-issue calls with client teams and CTOs across banking software, public sector and energy.
- Handle day-to-day production issues for PostgreSQL running in containers on Azure Kubernetes Service (AKS).
- Found and fixed the root cause of signal 1 (SIGHUP) and signal 3 (SIGQUIT) events across production environments.
- Tune slow queries with EXPLAIN ANALYZE and fix them with the right index type: B-tree, GIN, partial or composite.
- Run production health checks with pg_gather, and with AI-automated checks built as agent skills.
- Set up and maintain Patroni HA clusters, and run minor and major upgrades on RHEL and Ubuntu production hosts.
- Set up pgBackRest backup and restore over SSH and TLS in production, after testing TLS end to end in a lab.
- Designed least-privilege access for a banking-software client's third-party DBAs, without giving them SUPERUSER.
- Built TimescaleDB continuous aggregates for a solar-energy client and used ltree to cut query time by 45%.
- Set up PMM log monitoring with alerts and custom Prometheus metrics in Grafana.
- Shared client fixes on Planet PostgreSQL, such as third-party DBA access and pgBackRest over TLS.

Database Administrator, Khalti Pvt. Ltd. — Apr 2024 – Mar 2026

Kathmandu, Nepal · Digital wallet and payments platform

- Upgraded multi-terabyte production databases from legacy PostgreSQL 9.x to modern releases (pg_upgrade --link).
- Fixed XID wraparound on transactions tables with corrupted primary keys. Rather than a 3-hour rebuild (timed on a drill copy), I built a trigger-synced copy, deduplicated it, added the key and swapped it in with minimal downtime.
- Rebuilt a transactions table to stop an autovacuum crash-restart loop, cutting its size by 78%.
- Removed duplicate rows using ctid, and rebuilt a corrupted index concurrently on the live database.
- Dropped unused indexes, added missing ones and tuned parameters, cutting average query time by ~30%.
- Caught WAL piling up on disk and cleared the cause before it turned into an outage.
- Set up repmgr streaming replication with near-zero replication lag, supporting 99.9% uptime.
- Set up WAL archiving with PITR, and wrote a script that builds new standbys automatically.
- Set up Grafana with Prometheus, postgres_exporter and node_exporter, plus SQL health-check functions.
- Analyzed PostgreSQL logs with pgBadger and with Loki in Grafana.
- Supported the Dagster ETL pipelines and a Metabase dashboard project.
- Handled requests from engineering and business teams: SQL functions and procedures (including government reporting), slow ORM queries rewritten as plain SQL, and least-privilege user access.

Database Administrator, Premium Technologies — Jan 2022 – Apr 2024

Kathmandu, Nepal

- Provided technical support to clients and led the discussions on their production database issues.
- Ran cross-database migrations of client data to PostgreSQL, and supported each one through go-live.
- Installed and configured PostgreSQL in client environments.
- Set up replication, monitoring and failover for production clusters, and sped up queries with better indexing.
- Built PostgreSQL-to-MSSQL ETL pipelines with Python and SSIS.
- Wrote PL/pgSQL functions and procedures for reports.

TECHNICAL SKILLS

Support	Issue triage · Reproducing issues in test environments · Root-cause analysis · Runbooks & technical writing · Client communication
SQL & Performance	Complex SQL · Query tuning (EXPLAIN ANALYZE) · Indexing (B-tree, GIN, partial, composite)
PostgreSQL Internals	MVCC & autovacuum · XID wraparound · WAL · Partitioning · PL/pgSQL
High Availability	Patroni · repmgr · Streaming & logical replication
Backup & Upgrades	pgBackRest (SSH & TLS) · PITR · pg_upgrade · pg_repack
Security	Roles & grants · Least privilege · pg_monitor / pg_signal_backend / pg_maintain · SSL/TLS
Monitoring	PMM · Prometheus · Grafana · Loki · pgBadger · postgres_exporter · node_exporter · pg_gather
Platforms	Linux (RHEL, Ubuntu, Debian) · Azure Kubernetes Service · Docker · AWS EC2 · TimescaleDB
Languages & Tools	SQL · Bash · Python · Git · MSSQL · SSIS · Dagster · Metabase

CERTIFICATIONS

EDB Postgres AI High Availability Essentials v6, EDB — Aug 2026
EDB Postgres AI Database Advanced v18, EDB — Jul 2026
AWS Academy Graduate – Cloud Architecting, Amazon Web Services — Sep 2024

OPEN SOURCE COMMUNITY & WRITING

Six articles syndicated to **Planet PostgreSQL**, the PostgreSQL project's official blog aggregator.

Planet PostgreSQL · Stormatics Blog — stormatics.tech/author/shridhar-khanal

The Right Way to Give a Third-Party DBA Access to Your PostgreSQL Database — Jul 2026
https://stormatics.tech/blogs/the-right-way-to-give-a-third-party-dba-access-to-your-postgresql-database

Upgrading PostgreSQL 9.6 to 17 with pg_upgrade — Jul 2026
https://stormatics.tech/blogs/upgrading-postgresql-9-6-to-17-with-pg_upgrade

PostgreSQL Disaster Recovery with pgBackRest TLS Transport — Jul 2026
https://stormatics.tech/blogs/postgresql-disaster-recovery-with-pgbackrest-tls-transport

Critical PMM Alerts Every PostgreSQL DBA Must Track — May 2026
https://stormatics.tech/blogs/critical-pmm-alerts-every-postgresql-dba-must-track

SSL in PostgreSQL — May 2026
https://stormatics.tech/blogs/ssl-in-postgresql

PostgreSQL is Not Slow. Your Queries Are. — Apr 2026
https://stormatics.tech/blogs/postgresql-is-not-slow-your-queries-are

Forthcoming

The Database Restarted Without Restarting: Basics of PostgreSQL Signals (Part 1) — Oct 2026
PostgreSQL Minor Version Upgrade on RHEL 9: A Step-by-Step Guide with Rollback — Oct 2026

Medium — shridharkhanal.medium.com

Understanding WAL and WAL Archiving in PostgreSQL — Nov 2025
https://shridharkhanal.medium.com/understanding-wal-and-wal-archiving-in-postgresql-practical-guide-for-large-databases-f075bb64de0a

Managing PostgreSQL Failover with repmgr — Apr 2025
https://shridharkhanal.medium.com/managing-postgresql-failover-with-repmgr-a-step-by-step-guide-58680e904132

Step-by-Step Guide to PostgreSQL Streaming Replication using repmgr — Feb 2025
https://shridharkhanal.medium.com/step-by-step-guide-to-postgresql-streaming-replication-using-repmgr-5f620727dbc4

Talks

"Quickstart Your Career as a Database Administrator", online webinar with Achivee — Mar 2025

More case write-ups and articles: **shridharkhanal.com.np**

REFERENCES

Warda Bibi, Supabase · Former colleague at Stormatics — linkedin.com/in/warda-bibi-0785bb271