

Purple Style Labs Optimized Its Database Layer to Scale Luxury E-Commerce and Save \$30,000 ARR

Overview

To support their expanding retail footprint and transaction volumes, PSL required a database back-end capable of handling intense peak workloads, such as sales events and seasonal cart additions. Mydbops partnered with PSL to analyze their bottlenecks, upgrade their outdated database systems, and implement a scalable database routing architecture that lowered infrastructure costs while maintaining high platform performance.



\$30,000

ARR Saved

Ongoing database infrastructure and maintenance spend reduced.

75%

Footprint Reduction

Hardware instance requirements were reduced.

5X

Speedup

Average SQL response times improved five-fold.

Zero

User Impact

DB systems migrated to a modern setup with zero service disruption.

MariaDB

Consulting Services

About PSL

Purple Style Labs (PSL) is one of India's premier luxury fashion houses, operating the highly successful multi-designer platforms Pernia's Pop-Up Shop and The Stylist. The company has scaled to an annual operating revenue of approximately ₹490–₹500 crore (around \$60 million USD). PSL bridges online and offline retail with a robust digital platform and more than 15 luxury experience centers across major Indian metros and international fashion hubs like London. Catering to high-end consumers, the brand processes transactions with an average order value (AOV) exceeding ₹56,000.

Deployment Type	Database Stack / Services Used	Objective / Outcome
Cloud-Based Deployment	MariaDB 10.6, ProxySQL, Mariabackup	\$30,000 ARR Saved via Infrastructure Optimization

Business Challenges

Overview

Purple Style Labs relied on a database infrastructure that struggled to support high-value retail transactions during peak traffic. Slow response times and replication lag during checkout threatened to disrupt the customer experience, while oversized hardware drove up annual operational expenses.

- Severe Database Lag during Checkout:** High transaction volumes caused database slowness, particularly during cart additions and checkouts, which threatened to disrupt high-value sales.
- Stale Data and Inventory Discrepancies:** Sluggish database replication meant the front-end application occasionally served outdated data to buyers, leading to inventory inconsistencies.
- Outdated Legacy Systems:** The platform was running on an obsolete version of MariaDB (10.1), which lacked the performance optimization features needed for modern workloads.
- Escalated Operating Costs:** Heavy database resource consumption and oversized servers drove high ongoing maintenance costs.
- Scalability and Backup Risks:** The infrastructure struggled with read-scalability during peak traffic and lacked a rapid, reliable database backup and recovery process.

Goals

- Resolve database latency to protect the buyer shopping experience.
- Upgrade the outdated database engine to a modern, supported version without taking the e-commerce store offline.
- Introduce dynamic load distribution to resolve read bottleneck issues.
- Lower infrastructure costs by right-sizing server instances.
- Establish a rapid, secure database backup and recovery pipeline.

Solution Provided by Mydbops

Mydbops evaluated the legacy system to resolve performance and disk bottlenecks. By upgrading the database version, optimizing query structures, distributing the workload, and right-sizing the hardware, Mydbops established a faster and more cost-efficient database layer with zero disruption to the retail platform.

Infrastructure State Transition

✗ Legacy Architecture (MariaDB 10.1)

IO-Bound Disk Bottlenecks:

Heavy query loads constantly hit physical hardware performance ceilings.

Replication Slowness:

Front-end application served outdated stock and checkout data to users.

Oversized Infrastructure:

Inefficient database operations required large, costly instance configurations.

✓ Optimized Architecture (MariaDB 10.6)

ProxySQL Middleware:

Intelligently distributes read/write traffic, resolving database latency.

Modern Execution Engine:

Utilizes query histograms and virtual columns to resolve IO-bound issues.

Right-Sized Sizing:

Compressed database server resource footprints by 75%, saving \$30,000 ARR.

- **Query and Workflow Analysis:**
Analyzed transaction-heavy database operations, identifying specific IO-bound loads where the workload hit physical disk limitations.
- **Parallel Migration Path:**
Designed and configured a parallel MariaDB 10.6 staging environment, enabling a low-risk database upgrade with zero downtime.

High-Availability Database Architecture

Dynamic traffic routing and replica load balancing implemented by Mydbops

Client Application Layer
Pernia's Pop-Up Shop / The Stylist

▼

ProxySQL Load Balancer
Dynamic Read/Write Routing

✓ (Writes) ↘ (Reads)

Primary MariaDB 10.6
Optimized Transaction Engine & Mariabackup

Replica MariaDB 10.6
Scalable Read Cluster / State-free Querying

- **Performance Optimization:**
Configured advanced database features within MariaDB 10.6, such as Histograms and Virtual Columns, to optimize search and checkout queries.
- **Database Load Balancing:**
Implemented ProxySQL as an intelligent middleware layer to route and distribute read traffic evenly across database servers, resolving read capacity bottlenecks.
- **Open-Source Backup Architecture:**
Deployed Mariabackup to automate and speed up backup and recovery operations, protecting business data without commercial licensing overhead.
- **Hardware Right-Sizing:**
Audited performance metrics to scale down over-provisioned infrastructure safely.

Results & Impact

Key Outcomes

- ✓ **Faster Checkout Conversions:**
Improving the average SQL query response time by 5X helped buyers complete transactions quickly and reduced cart abandonment.

Average Database Response Time

Relative query execution speed during cart and checkout transactions

Database Configuration	Performance
Legacy Database (MariaDB 10.1)	Baseline Speed (100% Latency)
Optimized Database (MariaDB 10.6)	5X Faster (20% Latency)

→ Database latency decreased five-fold, accelerating customer checkout flows.

- ✓ **Reliable Real-Time Data:**
Eliminating replication slowness ensured that customers saw real-time, accurate product availability and pricing information.

- ✓ **Significant Infrastructure Savings:**
Right-sizing reduced the server instance size to 1/4th of its original capacity, decreasing database resource consumption and yielding \$30,000 ARR in savings.

Database Hardware Footprint

Physical instance configuration requirements before and after optimization

BEFORE: OVERSIZED CONFIGURATION (100% CAPACITY)

Node 1

Node 2

Node 3

Node 4

AFTER: OPTIMIZED & RIGHT-SIZED (25% CAPACITY)

Node 1

Unused

Unused

Unused

Infrastructure Efficiency: Consolidation to 1/4th of the original instance footprint generated \$30,000 ARR in ongoing infrastructure savings.

- ✓ **Efficient Business Operations:**
Internal teams generated inventory and sales reports much faster using the optimized SQL capabilities in MariaDB 10.6.

- ✓ **Continuous Business Continuity:**
The platform transitioned to the new architecture without operational downtime and remains supported under Mydbops' 24/7 proactive monitoring.

The Journey of Scaling Luxury Retail

Behind every high-value purchase on a luxury fashion platform lies a complex sequence of database transactions. When a customer adds an exclusive designer piece to their cart, multiple queries must execute in milliseconds—verifying stock, calculating logistics, and updating pricing across multiple physical and digital locations. For Purple Style Labs, database lag was more than a technical issue; it was a barrier to delivering the high-end, premium experience their clientele expects.

By addressing the underlying disk limitations and database routing inefficiencies, the infrastructure was transformed into a lean, fast, and highly responsive system. The physical hardware footprint was reduced by 75% while achieving five times faster query performance. This transition demonstrates that database scalability does not require over-spending on massive hardware setups; instead, targeted optimization and clean architecture can deliver both high performance and notable cost savings.

Connect with Mydbops

Scaling a retail brand requires a digital foundation that is as refined and reliable as the products you sell. If database lag or rising infrastructure costs are slowing down your business growth, contact our database experts to discuss how we can optimize your systems. Let's build a database strategy designed to scale with your business.

[Talk to a Mydbops Expert today→](#)



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