Kirana11 Scaled its Data Layer to Handle 20K QPS and Slashed Database Costs by 50%

amazon RDS

Overview

Kirana11, an Indian online grocery platform, faced severe database crashes and checkout disruptions during sudden promotional traffic surges. Partnering with Mydbops, they implemented targeted query tuning and optimized resource sizing. This intervention successfully stabilized their cloud database, eliminating service interruptions during peak events, restoring rapid application response times, and significantly lowering recurring hosting expenses to protect their overall operating margins.

50%
Annual Cost Savings
By shrinking the AWS RDS instance size by half.

20K
QPS Handled
Scaled query capacity from under 7,000 to 20,000 QPS.

5X
CPU Load Drop
Reduced database resource utilization fivefold.

Zero
Database Crashes
Eliminated high-latency bottlenecks during promotional launches.

RDS MySQL | Consulting Services

About kirana11

Kirana11 is an online retail platform designed to help local kirana stores reconnect with their customers, expand sales opportunities, and build long-term relationships. Operating via both a mobile app and web portal, Kirana11 serves as a digital bridge in India's grocery e-commerce landscape.

★★★★★

"Mydbops helped us smoothen our DB within short span of time, highly appreciate their support"

Krishna
Tech lead, Kirana11

Deployment Type	Database Stack / Services Used	Objective / Outcome
Cloud-Based Deployment	RDS MySQL	50% Instance Cost Reduction & 5X CPU Load Decrease

Business Challenges

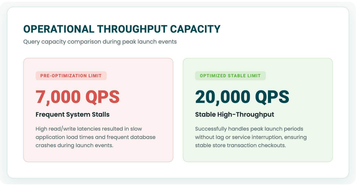
Overview

Following the launch of attractive consumer offers, Kirana11 experienced a sudden surge in traffic. While these promotional campaigns succeeded in driving consumer interest, they created severe issues for the platform's backend:

- **Slow Customer Transactions:** Database writes and updates were slow, resulting in delayed checkouts and sluggish order processing.
- **Increased Slowness & Latency:** High query volume caused massive latency spikes on the mobile application and website, causing friction in the buyer journey.
- **Platform Downtime:** The database was unable to handle workloads exceeding 7,000 queries, leading to regular database crashes during high-traffic promotional hours.
- **Operational Risk:** The team required proactive database support during marketing launches to prevent revenue loss and protect customer relationships.

Goals

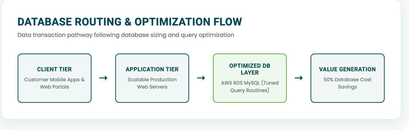
- Eliminate database crashes and stabilize the platform during peak promotional windows.
- Scale the query capacity of RDS MySQL to comfortably handle traffic spikes.
- Reduce database read/write latency to improve the front-end user experience.
- Optimize database resource usage to control escalating cloud infrastructure costs.



Solution Provided by Mydbops

To address the live production issues immediately, Mydbops deployed consulting specialists directly to Kirana11's Bengaluru headquarters under Emergency Consulting services:

- **Database Bottleneck Audit:** Conducted a detailed analysis of the active RDS MySQL environment to identify exact performance blockages under load.
- **Resource Sizing Optimization:** Re-evaluated resource consumption patterns to align database size with actual transactional needs.
- **Targeted Query Optimization:** Restructured and tuned slow-running queries to reduce response times and lower the overall processing burden on the system.



Results & Impact

Key Outcomes

✅ Substantial Cost Savings

By optimizing queries and resource consumption, Kirana11 was able to reduce its active database instance size by 50%. This change immediately halved their monthly AWS database hosting spend.

✅ Uninterrupted Promotional Campaigns

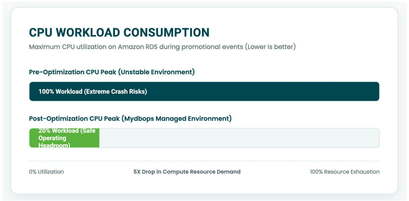
The database successfully handled traffic spikes of up to 20,000 QPS nearly three times the previous limit—allowing marketing teams to run high-volume sales campaigns without system interruption.

✅ Improved User Experience

Resolving high write latency and slow response times restored smooth app and website performance, preventing cart abandonment and securing buyer trust.

✅ Efficient Resource Use

CPU utilization on Amazon RDS dropped by 5x. This reduction freed up significant computing headroom, ensuring stable database operations during peak shopping hours.



Conclusion

When Kirana11 launched new sales promotions to help local grocery stores reach digital buyers, customer demand quickly tested the limits of their infrastructure. At 7,000 queries, database bottlenecks triggered system slowness and unexpected crashes. This operational friction threatened to impact both the customer experience and merchant relations.

By deploying database experts directly to Kirana11's headquarters, the team isolated the underlying query and configuration issues. The resulting performance improvements did more than just stabilize the platform; they allowed Kirana11 to handle nearly three times its previous traffic peak while cutting database hosting costs in half. What began as an urgent system bottleneck became an opportunity to establish a highly efficient, cost-optimized data layer ready for future business growth.

Need to optimize your database and reduce your AWS infrastructure costs?

Consult with a Certified Database Expert →