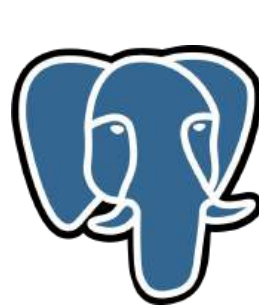


LEAD School Scaled Its E-Learning Platform to 4x Traffic Concurrency while Cutting Cloud Costs by 70%



Overview

LEAD School delivers digital education to millions of students across partner schools in India. Rapid user growth caused database outages during peak hours despite using AWS RDS's largest instance size. Mydbops deployed Managed Database Services to optimize schema design, heavy queries, and cluster load balancing. This restored platform stability while significantly cutting annual cloud hosting costs.

70%
Cloud ARR Savings
Direct reduction in annual cloud infrastructure costs.

4X
Capacity Expansion
Ability to handle quadrupled user workloads.

75%
Hardware Footprint Cut
Database optimized to run effectively.

Zero
Application Downtime
Eliminated system outages during high-concurrency peak periods.

PostgreSQL

Consulting Services

About LEAD

LEAD School (LEAD Group) is a premier EdTech organization in India that provides high-quality, affordable, and accessible education through its Integrated Learning System. The company partners with private schools across the subcontinent to integrate curriculum, pedagogy, and digital technology into daily classroom instruction. By 2026, LEAD School operates across 8,500+ partner schools, reaching nearly 4 million students and supporting 60,000+ teachers in over 400 cities and towns, generating an Annual Recurring Revenue (ARR) of ₹415 Crore.

Deployment Type	Database Stack / Services Used	Objective / Outcome
Cloud-Based Deployment	AWS Services & PostgreSQL RDS	70% Cloud ARR Savings & 4x Capacity Scale

Business Challenges

Overview

Rapid adoption and traffic surges exposed critical operational and technical hurdles:

- Disrupted Learning Operations & User Trust:** High concurrent traffic from students and teachers during peak school hours caused performance degradation and outages on AWS RDS PostgreSQL. Unexpected downtime directly disrupted digital classrooms and threatened customer retention across partner schools.
- Hard Infrastructure Scaling Limits:** LEAD School had already scaled up to the largest available instance type on AWS RDS PostgreSQL. Technical capacity limits threatened to stall user acquisition and revenue expansion during critical growth periods.
- Escalating Cloud Hosting Expenses:** Relying on maximum-tier cloud database hardware created high annual operating expenses without resolving the underlying system bottlenecks, directly straining financial margins.
- Workload Volatility:** Sudden spikes in simultaneous active users overwhelmed connection limits and stressed database design, exposing operational risks during scheduled learning hours.

Goals

- Restore continuous database stability to maintain uninterrupted platform availability during peak traffic hours.
- Expand user capacity to support rapid business expansion without escalating cloud hardware sizes.
- Optimize database resource consumption to lower overall annual cloud hosting costs and improve operating margins.
- Implement proactive monitoring and operational management to catch performance bottlenecks before they impact end users.

SYSTEM EVOLUTION IMPACT

BEFORE MYDBOPS

AWS RDS Instance Hardware

Max Instance Type

Traffic Concurrency

1x Capacity

● Frequent Peak-Hour Outages

AFTER MYDBOPS OPTIMIZATION

AWS RDS Instance Hardware

¼ Size (70% ARR Savings)

Traffic Concurrency

4x Scale Capacity

● 100% Zero Downtime Continuous Availability

Solution Provided by Mydbops

Mydbops deployed its Managed Database Services (MDS), working alongside LEAD School's engineering team to restructure database efficiency and capacity:

- **System Bottleneck & Performance Analysis:**
Observed real-time database behavior under peak traffic loads to identify specific resource-heavy SQL queries, indexing inefficiencies, and structural bottlenecks.
- **Query & Schema Optimization:**
Redesigned inefficient database queries and refined schema structures to significantly decrease CPU usage and memory overhead per transaction.
- **Traffic Balancing & Connection Management:**
Configured connection pooling and distributed incoming database traffic evenly across cluster nodes, preventing single-node saturation during unexpected traffic spikes.
- **Proactive Monitoring & Active Care:**
Established round-the-clock database monitoring with immediate hotfixes to sustain consistent operational performance around the clock.

PostgreSQL Cluster & Connection Architecture

Equal load balancing & connection pooling handling 4x traffic concurrency

4M+ Students & Teachers
Peak School Hours

Mydbops Connection Pooler
Load Balancing Layer

PostgreSQL RDS Cluster
¼ Instance Size Nodes

Results & Impact

Key Outcomes

- ✅ **70% Cloud Infrastructure ARR Savings:**
By resolving query inefficiencies and optimizing resource usage, LEAD School downsized its database hardware footprint from the largest AWS RDS instance to one-fourth of its original size. This operational shift resulted in a 70% reduction in cloud database expenses, yielding substantial savings in annual operating expenditure.

Cloud Spend & Throughput Metrics

Cloud Infrastructure Cost (Post-Optimization)

70% ARR Cloud Savings

25% of Baseline (-70%)

¼ FOOTPRINT

Concurrent Traffic Throughput

400% Capacity (4x Scale)

4X TRAFFIC

- ✅ **4x Concurrency Capacity Expansion**
System optimizations expanded database throughput, allowing the platform to absorb four times more concurrent traffic than previously possible. This extra capacity gave LEAD School the operational room required to scale its user base across thousands of additional partner schools without performance hits.

- ✅ **Complete Platform Availability (Zero Downtime)**
Eliminated system crashes during high-concurrency hours, ensuring that teachers and students experience continuous, uninterrupted access during scheduled classes.

- ✅ **Equal Load Distribution Across Clusters**
Balancing the workload across database cluster nodes established consistent 24/7 performance stability, reducing operational risk and safeguarding brand reputation.

Operational Capability Transformation		
CAPABILITY DIMENSION	PREVIOUS SETUP	MYDBOPS MANAGED SETUP
Database Hardware	Max AWS RDS Instance	● Reduced to ¼ Size
Cost Efficiency	High Cost Overhead	● 70% Cloud ARR Savings
Traffic Concurrency	Outages at Peak Hours	● 4x Traffic Scale
System Downtime	Frequent Unplanned Outages	● Zero Application Downtime
Operational Management	Reactive Management	● Proactive 24/7 Care & Monitoring

Conclusion
When rapid adoption challenged LEAD School's platform during a peak expansion phase, traditional hardware upgrades reached their physical and financial limits. Running on the largest cloud instances available created steep operating costs while leaving the service vulnerable to sudden traffic spikes during classroom hours.

Partnering with Mydbops Managed Database Services fundamentally changed that trajectory. Rather than adding costly hardware, Mydbops targeted the root cause by re-engineering database queries, optimizing connections, and balancing workloads across cluster nodes. This transformed a critical technical barrier into an efficient platform capable of supporting over 8,500 partner schools and ₹415 Crore in ARR—all while reducing cloud database expenses by 70%.

Scale Your Operations with Mydbops
Scaling an application should build revenue, not balloon your infrastructure expenses. When database bottlenecks threaten user availability or compress your margins, Mydbops delivers targeted database engineering and managed proactive operations to keep your platform fast, stable, and cost-effective.

Ready to optimize database performance and lower cloud infrastructure spend?

[Talk to Our Database Experts Today →](#)

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