

# Cloudflare D1 Serverless SQL at the Edge

Enterprise Sales Training • Brandon Crowe

## What Is D1?

- Cloudflare's serverless SQL database built on SQLite
- Runs at the edge — reads are served from the nearest Cloudflare data center to the user
- Zero infrastructure management — no provisioning, no connection strings, no database servers
- Native integration with Workers — query your database from the same code that handles HTTP requests
- SQLite compatibility — the most widely deployed database engine in the world, now at the edge

## Why D1 Matters (The Business Case)

- Traditional databases require you to pick a region. Your users in Tokyo hit a database in Virginia. D1 distributes read replicas globally — every user gets local-speed reads.
- Zero cold starts on reads. The data is already at the edge.
- No connection pooling headaches. No pgBouncer. No connection limits. Workers talk to D1 natively.
- Pricing: \$5/month for 5GB storage, 25 billion row reads, 50 million row writes. Compare that to RDS or PlanetScale.
- Built-in point-in-time recovery (Time Travel) — restore to any point in the last 30 days

## Real-World Use Cases

**E-Commerce / Retail** — Product catalogs, inventory lookups, user sessions. A retailer with global customers gets local-speed product page loads without replicating their database manually.

**SaaS Platforms** — Per-tenant databases. Each customer gets their own D1 database. Isolated, scalable, zero ops.

**Financial Services** — Transaction logs, audit trails, compliance records at the edge. Low-latency reads for dashboards and reporting.

**Healthcare** — Patient portals, appointment scheduling, medical record lookups. HIPAA-eligible with proper architecture.

**Media & Publishing** — Comment systems, user profiles, content metadata. The guestbook on saltwaterbrc.com is a simplified version of this pattern.

## How D1 Compares

Feature	D1	RDS/Aurora	PlanetScale	Supabase
Global reads	Edge-distributed	Single region	Read replicas (paid)	Single region
Setup time	1 command	15-30 min	5 min	5 min
Connection mgmt	Native (Workers)	Connection pooling required	Connection pooling required	Connection pooling required
Serverless	Yes	Aurora Serverless only	Yes	Partial
Price (starter)	\$5/mo	~\$15+/mo	\$29/mo	\$25/mo

## What I Built — The Guestbook

- Live at [saltwaterbrc.com/guestbook](https://saltwaterbrc.com/guestbook)
- Built entirely using Windsurf Cascade (AI IDE)
- D1 stores every guestbook entry with name, message, and timestamp
- Worker handles form submissions and reads
- Deployed globally — visitors from any location get fast reads
- Total build time: under 30 minutes from 'build me a guestbook' to production

## Sales Talking Points

- "Your database doesn't need to be in one place anymore. D1 puts reads at the edge."
- "SQLite is the most tested database in the world. D1 brings it to production at scale."
- "No DBA required. No connection pools. No cold starts on reads."
- "We built a live guestbook with D1 in under 30 minutes using AI tools. Imagine what your team could build."

## Technical Architecture

User → Cloudflare Edge (nearest PoP) → Worker → D1 (read replica at edge) → Response

Writes go to primary, reads served from nearest replica.