

Cloud Cost Analysis

Drop — Cloud Deployment Cost Analysis

Date: 2026-02-11 **Author:** John (AI Director) **Status:** Historical — superseded by ADR-014 (PostgreSQL-only) and ADR-012 (AWS App Runner)

“ **NOTE (2026-03-03):** This analysis was written before ADR-014 mandated PostgreSQL 16 in all environments. SQLite references below reflect the old architecture and are no longer valid. Current deployment: AWS App Runner + AWS RDS PostgreSQL 16. See ADR-012 and ADR-014.

Current Tech Stack

Layer	Tech	Production Note
App	Next.js 16 (App Router)	Monolith, ~7 pages + API
Frontend	React 19 + Tailwind v4	SSR/SSG
DB	SQLite (better-sqlite3)	Must migrate to PostgreSQL for production
Auth	JWT (jose) httpOnly cookie	OK for production
Dependencies	bcryptjs, radix-ui, lucide, sonner	Lightweight
Dev server	Port 3001 (configured in project.json)	Currently running locally

Key constraint: SQLite cannot handle concurrent writes (ADR-001). Must switch to PostgreSQL before launch.

Phase 1: MVP / Demo (now ? 200 users)

Provider	Plan	Price/mo	Notes
Vercel Pro	Next.js native	\$20 (~215 NOK)	No persistent FS — SQLite won't work without Turso/Neon
Railway Starter	Next.js + persistent disk	\$5 + usage (~160 NOK)	SQLite works here
Fly.io Hobby	LiteFS support	\$5 + usage (~160 NOK)	Great for SQLite
Hetzner VPS (shared)	On same CPX41	+~0 NOK	If already provisioned from system migration

Recommended Phase 1 Stack

Item	Provider	Cost/mo
App hosting	Hetzner VPS (shared) or Railway	0-160 NOK
DB	SQLite (local)	0
Domain	getdrop.no (one.com)	~100 NOK/yr
SSL	Let's Encrypt / Cloudflare	0
Total Phase 1		~10-170 NOK/mo

Phase 2: Launch (200-3,000 users)

SQLite → PostgreSQL migration required. Need transactional email and SMS for auth.

Item	Provider	Cost/mo
App hosting	Railway or Fly.io	\$10-20 (~110-215 NOK)
PostgreSQL managed	Neon free→Pro \$19 or Supabase free→\$25	0-270 NOK
Transactional email	Resend (3,000 free/mo) → \$20	0-215 NOK
SMS (OTP auth)	Twilio ~\$0.05/SMS × 500/mo	~270 NOK
CDN	Cloudflare Free	0
Monitoring	Sentry free tier	0
BaaS (Wise API)	Per-transaction fee	Covered by tx fees

Item	Provider	Cost/mo
Total Phase 2		~400-1,000 NOK/mo

Phase 3: Scale (3,000-15,000 users)

Fintech = reliability, backups, WAF, logging required.

Item	Provider	Cost/mo
App hosting (2 instances)	Railway Pro or Fly.io	\$30-50 (~325-540 NOK)
PostgreSQL managed (HA)	Neon Pro \$69 or Supabase Pro \$25+usage	270-750 NOK
Redis (caching/sessions)	Upstash free→\$10	0-110 NOK
Transactional email	Resend Pro \$20	215 NOK
SMS (OTP)	Twilio × 3,000/mo	~1,600 NOK
CDN + WAF	Cloudflare Pro \$20	215 NOK
Monitoring	Sentry Team \$26	280 NOK
Logging	Betterstack free→\$25	0-270 NOK
Backup storage	Backblaze B2	55 NOK
BaaS APIs (Wise/Thunes/Swan)	Per-tx, variable	Covered by tx fees
Total Phase 3		~3,000-4,000 NOK/mo

Summary

Phase	Users	Infra cost/mo	MRR (from business case)	Margin
MVP	0-200	10-170 NOK	0-12,000 NOK	— (pre-revenue)
Launch	200-3,000	400-1,000 NOK	12,000-130,000 NOK	90%+
Scale	3,000-15,000	3,000-4,000 NOK	130,000-650,000 NOK	97%+

Infrastructure cost is negligible vs revenue. Fintech margins on infra are excellent — biggest costs are marketing (30-50K/mo) and compliance, not hosting.

Shared Hetzner VPS Option

Drop can run on the same Hetzner CPX41 (from system migration analysis) for +0 NOK incrementally:

- Next.js production build → Docker container
- PostgreSQL → share existing Docker Postgres or add new container
- Cloudflare tunnel: add new hostname for Drop

Only at 3,000+ users should Drop move to dedicated infrastructure.

Related

- System cloud migration analysis: ~/ALAI/finance/cloud-migration-analysis.md (MC #524)
 - Drop business case: ~/ALAI/products/Drop/project/docs/zica-business-case-v2.md
 - Drop architecture: ~/ALAI/products/Drop/project/architecture/architecture-document.md
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