

■ Execution Plan: FinTech Data Infrastructure Dashboard

Phase 1: Project Setup & Foundations

- Repo setup, Docker Compose, FastAPI health check, GitHub Actions CI.

Milestone: Local dev env runs via docker compose up.

Phase 2: Database Schema & ORM

- SQLAlchemy models, Alembic migrations, indexes.

Milestone: Schema migrated into PostgreSQL.

Phase 3: Data Ingestion Pipeline

- Fetch OHLCV from API, deduplicate, scheduler job, logging, tests.

Milestone: Prices table populated for at least 2 assets.

Phase 4: Analytics Layer

- Compute SMA, EMA, RSI, volatility, validate results, tests.

Milestone: Indicators table populated with valid values.

Phase 5: Backend API

- Endpoints for assets, prices, indicators, health, metrics. Tests.

Milestone: API responds <200ms.

Phase 6: Frontend Dashboard

- React + Vite setup, Material UI layout, charts with Recharts/D3.

Milestone: Search asset → see chart with indicators.

Phase 7: Stretch Features (Optional)

- Alerts, Prometheus + Grafana, JWT auth, deploy.

Milestone: Alerts & monitoring live in deployed version.

Phase 8: Testing, Docs, & Delivery

- 70%+ test coverage, CI/CD pipeline, architecture diagram, README.

Milestone: Portfolio-ready project with demo and documentation.