System Architecture — High-Level Overview

1. IBKR Connector Service
- Market data ingestion
- Account and position ingestion
- Execution & order sync
- Reconnect logic
- Rate limiting and reliability layer

2. Django Backend
- Accounts App (Client, Membership, BrokerAccount, AccountSnapshot)
- Portfolio App (Instrument, IbkrContract, Position, Order, Execution, OptionEvent)
- Strategies App (StrategyDefinition, Version, Instance, Run, Signal, Opportunity, Recommendation)
- Opportunity scanner framework
- Recommendation engine
- Risk engine (PM + TFSA mode)

3. Strategy Engine
- Wheel Strategy
- Theta Short-Premium Strategy
- Covered Call Engine
- LEAPS Synthetic Stock Engine (TFSA-safe)

4. Order Manager
- Converts recommendations into executable IBKR orders
- Validates with Risk Engine
- Handles rolls, GTC orders, partial fills, OCA groups

5. Scheduler
- Daily strategy execution
- Expiry-driven roll tasks
- Risk monitoring cycles

6. PostgreSQL Database
- Full normalized schema
- Auditable snapshots and transactional logs

7. React Typescript UI
- Dashboard (accounts, PM usage, risk)
- Positions & portfolios
- Strategy configuration
- Recommendations center
- TFSA dashboard

8. Logging & Observability
- Strategy logs
- Error tracker
- Audit trail