



Temporal @ GGX

Swift and Reliable Asset Trades

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 pratikd.in



TRUE OWNERSHIP OF GAMING ASSETS & IN-GAME TRADING



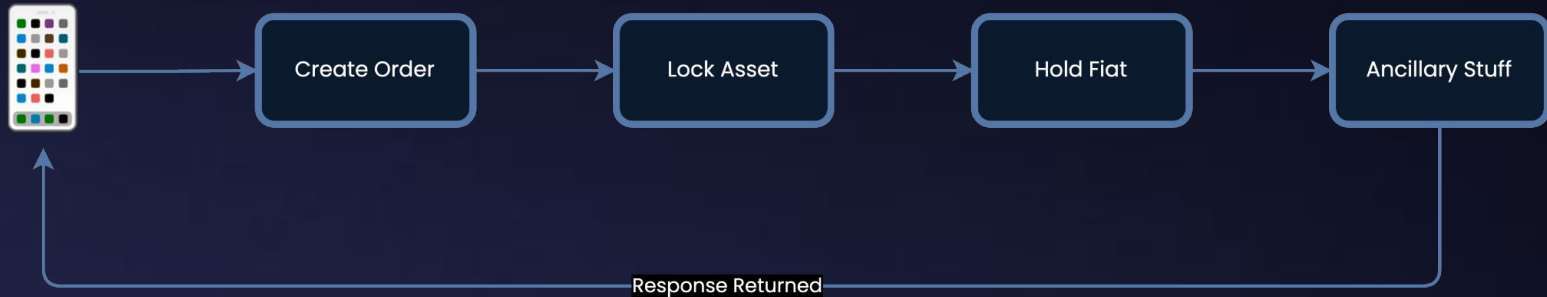
**Buy Order
+
Sell Order
=
Trade**



Trades Flow

- A trade has two phases
 - a. Order Creation
 - b. Trade Process

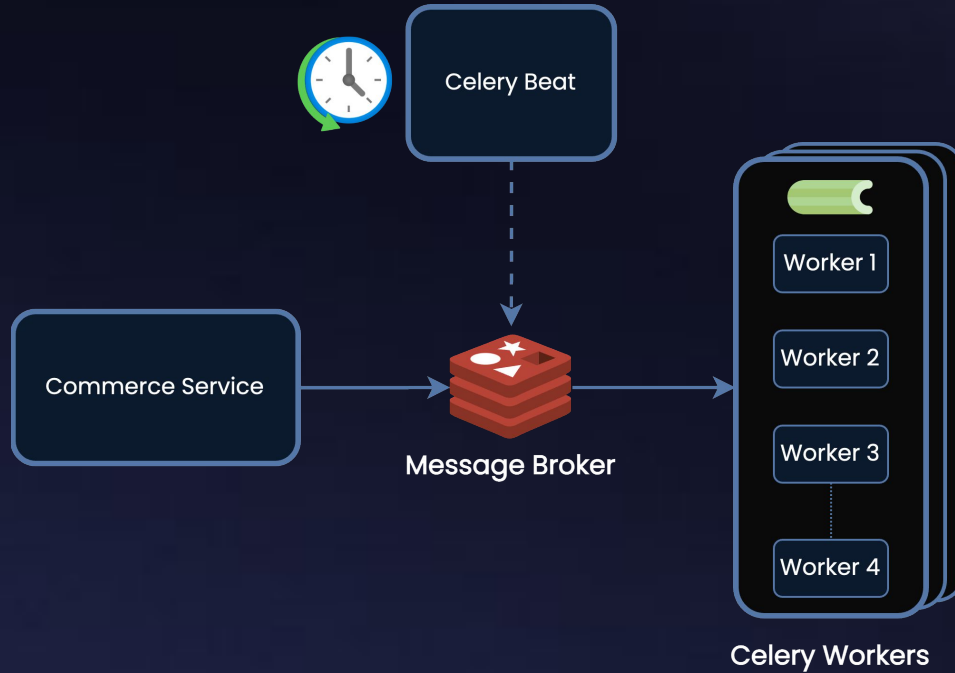
Order Creation – Synchronous



Trade Process – Asynchronous



The Initial Approach



State Machine Stored in Database

- `internal_status` represents next state
- State machine defined on application code

Column	Type
<code>internal_status</code>	Enum
<code>reconciliation_next_run_time</code>	timestamp with time zone
<code>reconciliation_attempts</code>	integer

Clothes that are too dirty for the closet
but too clean for the laundry
Welcome to the Chair



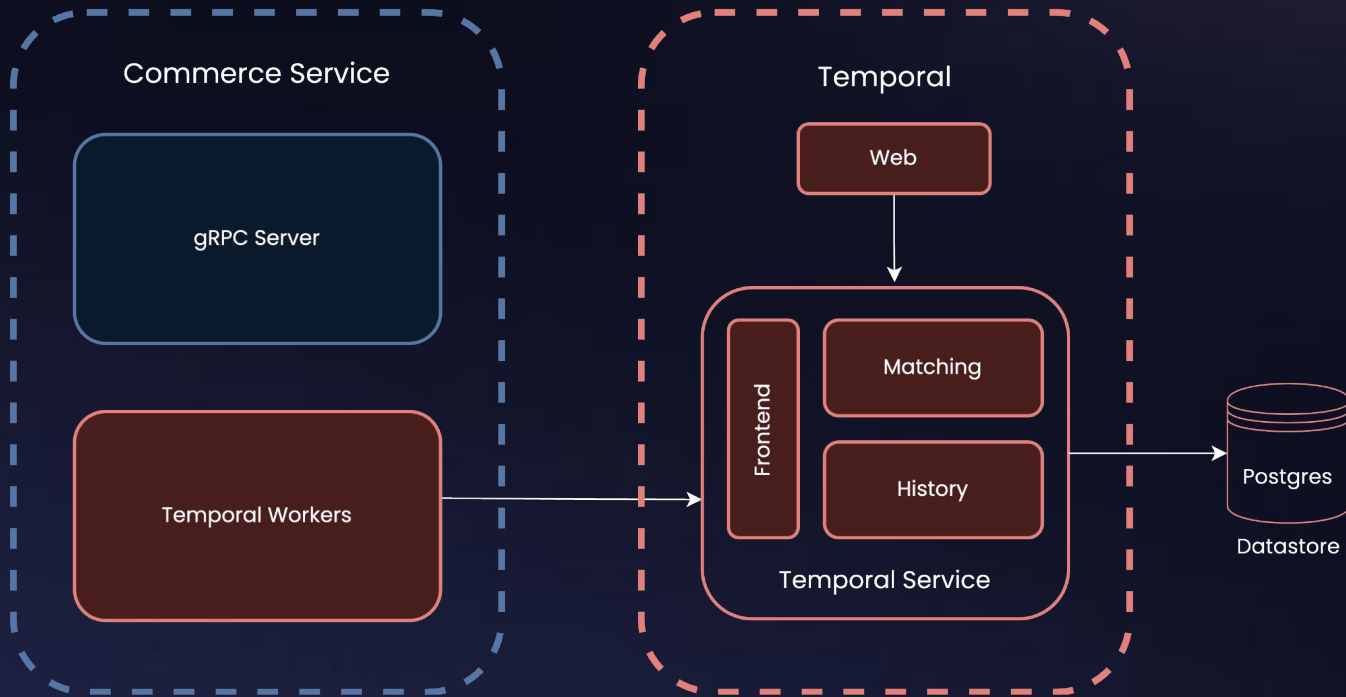
Things Started Getting Messy

Adios Celery, Hello Temporal

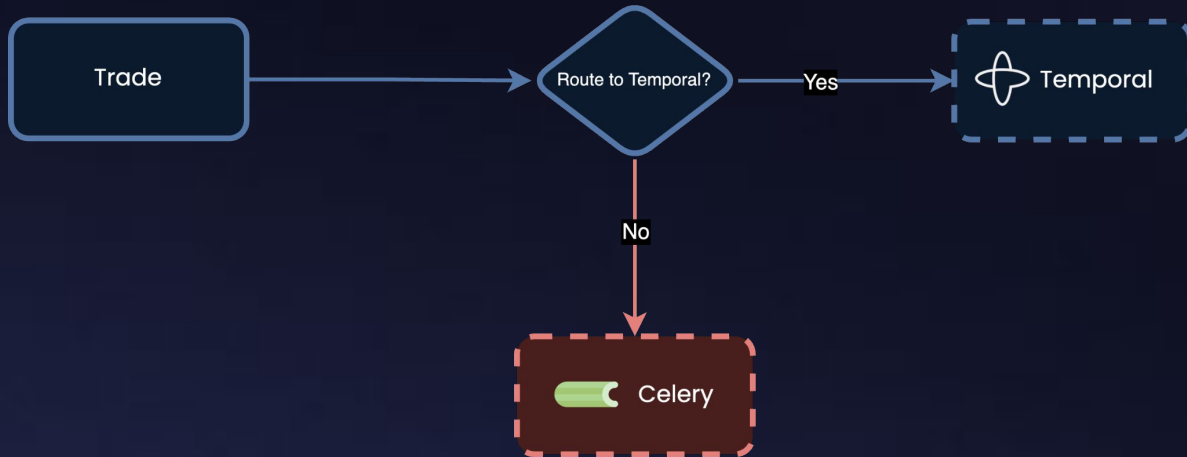
- Trade process phase as Temporal Workflow
- Every gRPC call represented as Activity
- Child Workflow to handle reversals
- getOrCreate wrapper for non-idempotent external calls



New Architecture

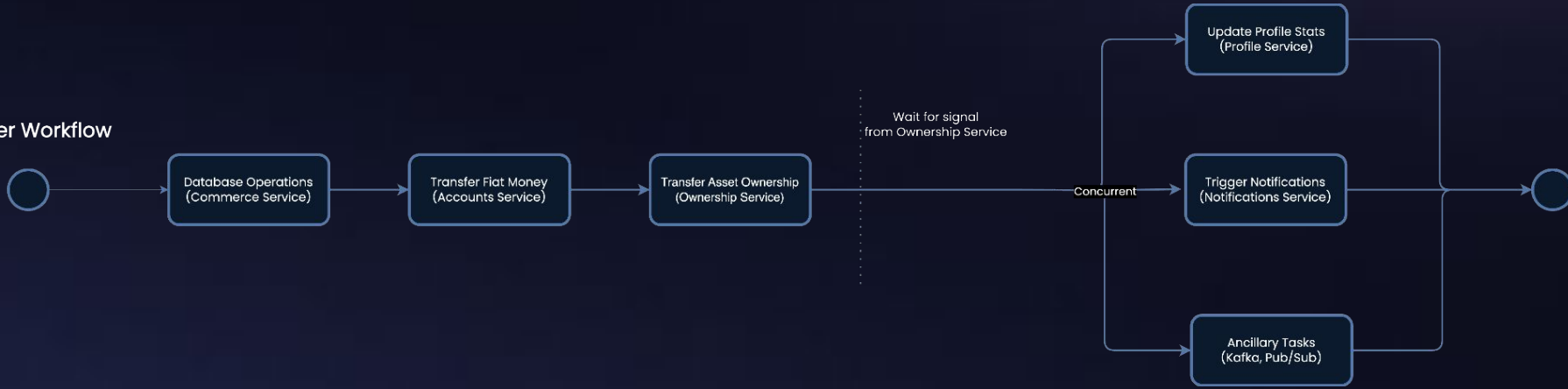


Feature Flag to gradually route trades to



Workflow Design

Transfer Workflow

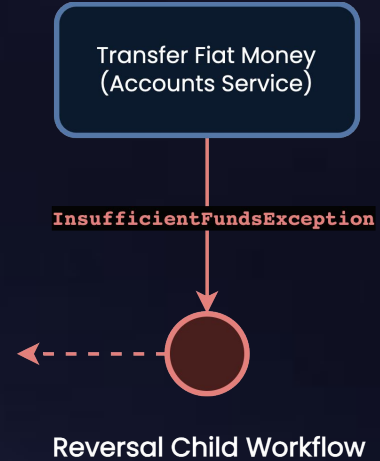


Recoveries

Forward Recovery

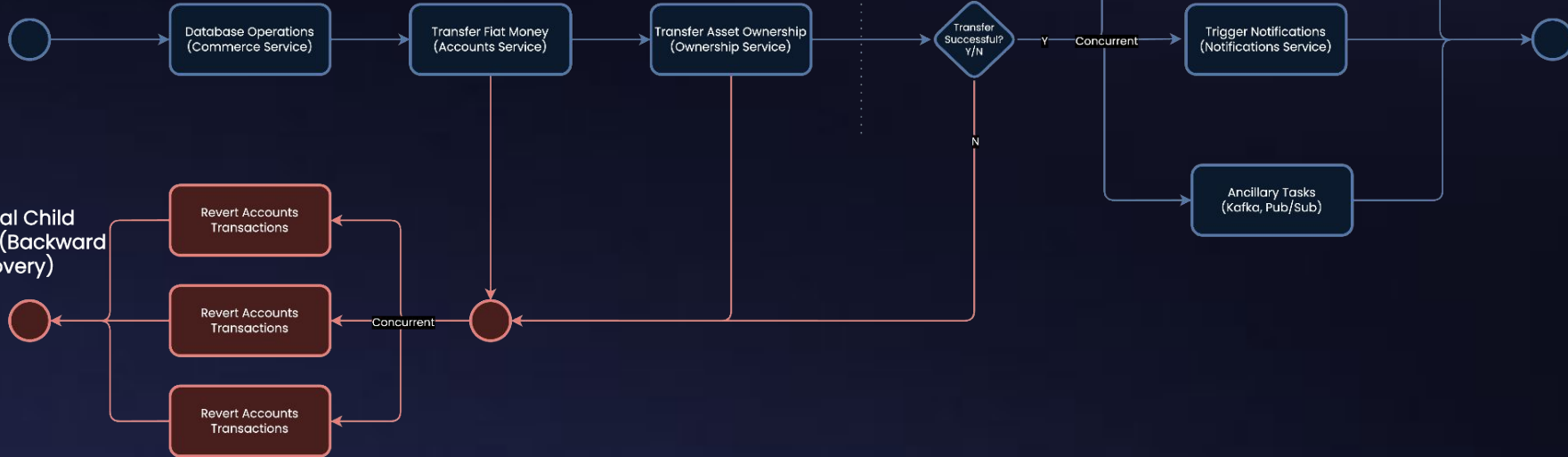


Backward Recovery

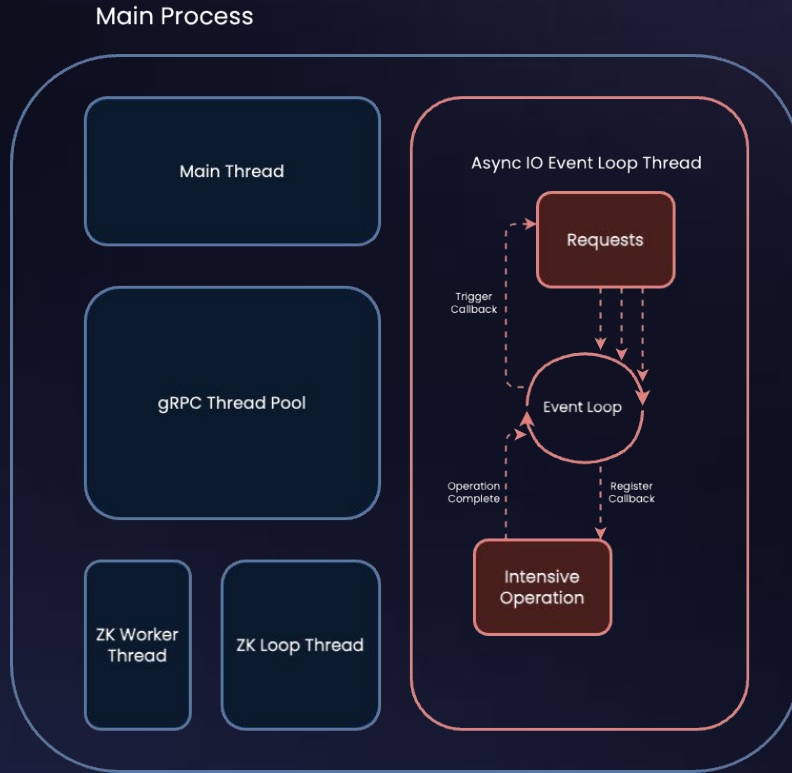


Complete Workflow

Transfer Workflow



Async IO and Multithreading in Harmony?



The Setup

deployed via



error tracking via



SENTRY

metrics collection via



OpenTelemetry

Your friendly neighbourhood developer

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