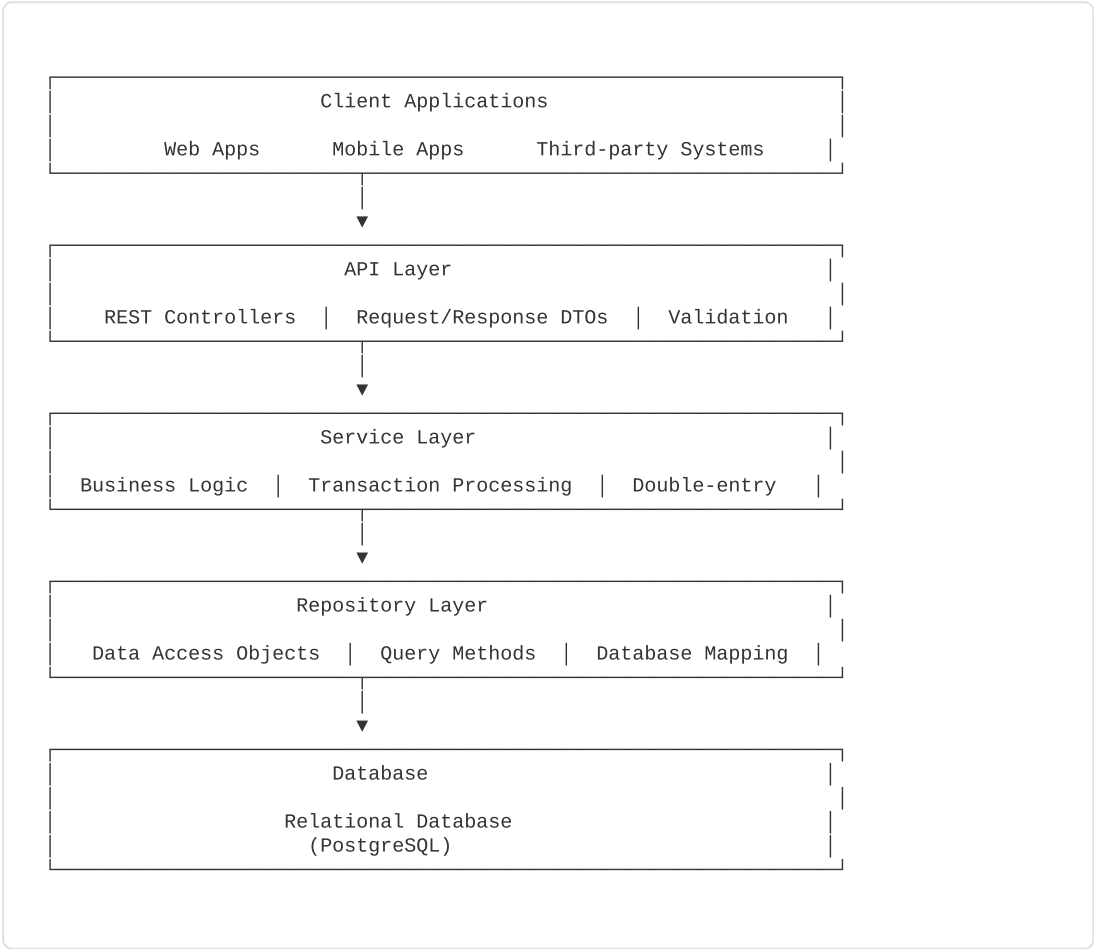


# Staking API

High Level Design Document

Designed by Soban

## System Architecture Overview



## Detailed Component Breakdown

<b>Client Applications</b> <ul style="list-style-type: none"><li>• Web Application Frontend</li><li>• Mobile Applications (iOS/Android)</li><li>• Third-party DeFi Integrations</li></ul>	<b>API Layer</b> <ul style="list-style-type: none"><li>• REST Controller Classes</li><li>• Request/Response DTOs</li><li>• Input Validation Logic</li></ul>
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- Wallet Integrations
- Administrative Dashboard

- Error Handling & HTTP Status Codes
- API Documentation (Swagger)
- Authentication & Authorization

### Service Layer

- Staking/Unstaking Logic
- Reward Calculation Engine
- APY Rate Management
- Position Management
- Validator Operations
- Penalty & Slashing Logic

### Repository Layer

- Data Access Objects (DAOs)
- Custom Query Methods
- Database Connection Management
- Entity-Relationship Mapping
- CRUD Operations
- Transaction Management

### Database

- Relational Database (PostgreSQL)
- Staking Positions & History
- Reward Distribution Records
- Validator Information
- User Account Management
- Audit & Transaction Logs