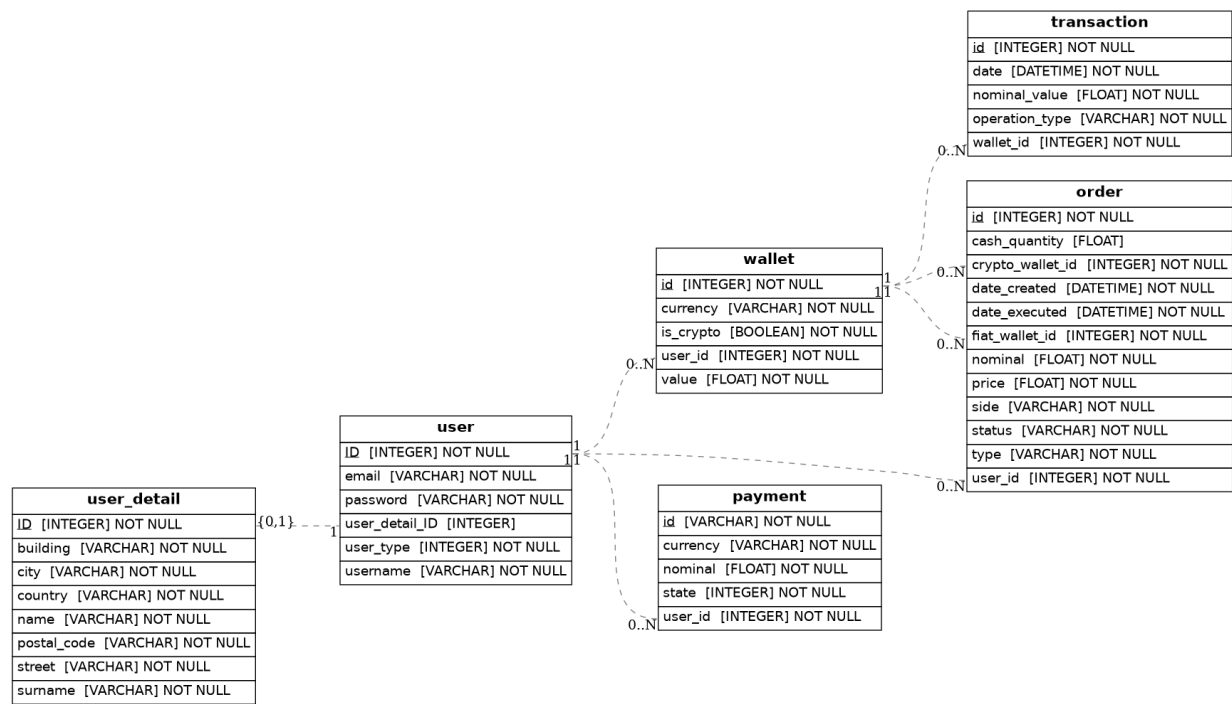# DB_Manager

This Python-based microservice facilitates communication with a PostgreSQL database, offering a comprehensive set of CRUD operations. Key features include:

- ORM with `SQLModel` : Leverages the SQLModel library for object-relational mapping to interact seamlessly with the database.

- `OpenTelemetry` Integration: Implements distributed tracing using OpenTelemetry, sending trace data to Grafana Tempo (host: `Tempo` , port: `4317`), an open-source, high-performance tracing backend.

- `Prometheus Metrics` : Exposes Prometheus-compatible metrics on port `8111` for monitoring and observability.

- `RPC Server` : Operates a gRPC server on port `50051` for efficient and reliable communication.

Microservice is optimized for scalability and observability, making it ideal for modern, distributed applications.

gRPC Services

User

Method Name	Request Type	Response Type	Description
Authenticate	AuthUser	AuthResponse	Authenticate user
Register	RegUser	RegResponse	Register new user
GetUserDetails	ReqGetUserDetails	UserDetails	Get user details
Update	ReqUpdateUser	ResultResponse	Update user data
Delete	ReqDeleteUser	ResultResponse	Delete user
ChangePassword	ChangePass	ResultResponse	Change user password
GetAllUsers	AllUsersRequest	UsersList	Returns all registered users (used only by admins)

Wallets

Method Name	Request Type	Response Type	Description
CreateWallet	Wallet	Wallet	Create a new wallet for a user.
UpdateWallet	Wallet	Wallet	Update an existing wallet.
DeleteWallet	WalletID	Wallet	Delete a wallet.
GetWallet	WalletID	Wallet	Get a wallet by its ID.
GetUsersWallets	UserID	WalletList	Get all wallets associated with a user.
GetAllWallets	Empty	WalletList	Get all wallets.

Order

Method Name	Request Type	Response Type	Description
CreateOrder	OrderDetails	OrderDetails	Create a new order.
DeleteOrder	OrderID	OrderDetails	Delete an existing order.

Method Name	Request Type	Response Type	Description
GetOrder	OrderID	OrderDetails	Get single order based on Order ID
GetOrders	OrderFilter	OrderList	Get all orders based on filter
GetOrderList	UserID	OrderList	Get all orders based on user ID
UpdateOrder	OrderDetails	OrderDetails	Update an existing order based on order ID.

Payment

Method Name	Request Type	Response Type	Description
CreatePayment	PaymentDetails	PaymentDetails	Create a new payment.
UpdatePayment	PaymentDetails	PaymentDetails	Update an existing payment.
GetPayments	UserID	PaymentList	Get all payments associated with provided User ID
GetPayment	PaymentID	PaymentDetails	Get single payment based on Payment ID
GetUnpaidPayments	UnpaidSessions	PaymentList	Get all unpaid

Transaction

Method Name	Request Type	Response Type	Description
CreateTransaction	TransactionDetails	TransactionDetails	Create a new transaction.
DeleteTransaction	TransactionID	TransactionDetails	Delete an existing transaction
UpdateTransaction	TransactionDetails	TransactionDetails	Update an existing

Method Name	Request Type	Response Type	Description
			transaction
GetTransaction	TransactionID	TransactionDetails	Get transaction based on transaction ID
GetTransactionList	WalletID	TransactionList	Get transactions list associated with provided wallet ID