

Order Service

This Go microservice is responsible for managing and continuously updating orders based on price changes. Key features include:

- **Order Management:** Provides functions to create, update, and delete orders.
- **Continuous Updates:** Continuously updates orders based on real-time price changes.
- **Distributed Tracing:** Integrated with OpenTelemetry to capture and send trace data to Grafana Tempo (host: Tempo, port: 4317), a scalable, open-source distributed tracing backend.
- **Prometheus Metrics:** Exposes Prometheus-compatible metrics on port 8111 for real-time monitoring and performance tracking.
- **gRPC Server:** Operates a gRPC server on port 50051 for fast and reliable client-server communication.

Requirements

- Go 1.23+
- Docker (optional)
- Docker Compose (optional)

Installation

1. Clone the repository:

```
git clone https://github.com/THD-C/Order_Service.git
cd order_service
```

2. Install Go dependencies:

```
go mod tidy
```

Configuration

Set environment variables in the `.env` file or directly in your system environment:

- `APPLICATION_ADDR` - Application address (default: `0.0.0.0`)
- `APPLICATION_PORT` - Application port (default: `50051`)
- `PROMETHEUS_PORT` - Prometheus port (default: `8111`)
- `DB_MANAGER_ADDRESS` - Database manager address
- `COINGECKO_SERVICE_ADDRESS` - Coingecko service address
- `DB_MANAGER_TIMEOUT` - Database manager timeout (in seconds, default: `30`)
- `COINGECKO_SERVICE_TIMEOUT` - Coingecko service timeout (in seconds, default: `30`)
- `COINGECKO_POLLING_FREQUENCY` - Coingecko polling frequency (in seconds, default: `60`)
- `PENDING_ORDER_CHECK_FREQUENCY` - Pending orders check frequency (in seconds, default: `60`)

Running

1. Start the Go service:

```
go build cmd/order_service/main.go
```

2. (Optional) Start the services using Docker Compose:

```
docker-compose up
```

gRPC Services

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.

Orders

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