E-Commerce Product Catalog System

1 Overview

This project is a microservices-based e-commerce application designed to manage product catalogs, inventories, and user interactions such as browsing, searching, rating, and purchasing products.

2 Features

2.1 1. Product Management

- **Add New Products**:

  - Attributes: Category (predefined, e.g., 'book'), Name, Description, Price, and optional Sale Price.
  - **Event Published**: `ProductCreated`

2.2 2. Inventory Management

- **Add Inventory**:

  - Attributes: Product (select from existing products), Warehouse (predefined), Quantity to add.
  - Total available inventory is the sum of quantities across all warehouses.
  - **Event Published**: `InventoryUpdated`

2.3 3. Product Catalog

- **Homepage Displays**:

  - Products with Name, Description, Price, and Average Rating.
  - Only products with available inventory are displayed.

2.4 4. Search Functionality

- **Search Products By**:

  - Name, Description, or Category.

- **Sort Results By**:

  - Name or Price.

2.5 5. Product Details

- **Displays for Each Product**:

  - Name, Description, Price, Available Inventory, Average Rating, and Individual User Ratings.

2.6 6. Product Rating

- **Users Can Rate Products**:

  - A rating (1–5) and an optional comment.
  - **Event Published**: `ProductRated`

2.7 7. Purchase Functionality

- **Users Can Purchase Products** (no payment integration):

  - Behavior: Creates an order and decreases inventory after purchase.
  - **Events Published**:
    * `OrderCreated`
    * `InventoryUpdated` (triggered by the Inventory service).

3 Microservices

3.1 1. Companies Service

Manages company-related data and events.

3.2 2. Scheduler

Handles scheduled tasks such as fetching data from third-party APIs.

3.3 3. Companies-Provider

Provides an API for company-related operations.

3.4 4. Inventory Service

Listens for `OrderCreated` events to update inventory.

4 Tech Stack

- **Backend**: Laravel (PHP)
- **Frontend**: Not specified (future integration possible).
- **Database**: MySQL
- **Cache**: Redis
- **Containerization**: Docker (Docker Compose)

5 License

This project is licensed under the MIT License - see the `LICENSE` file for details.