

Assignment-02

CA - Software

Name - Tauheed Khan

Reg : 2141011029

E-Commerce Platform using Micro-Service and Event-Driven Architecture.

Overview: An e-commerce platform called "Shop Itex" that aims to provide a seamless shopping experience. The platform is built using Microservices Architecture (MSA) and Event-Driven Architecture (EDA) to ensure scalability, flexibility and responsiveness to user actions.

Microservices Architecture: Manages user accounts authentication and profiles

Product Service: Handles product listings, inventory management and product details

Order Service: Manages order processing payment handling and Order history Notification Service: Sends notifications to users about status, promotions and updates.

Review Service: Manages product reviews and ratings

Event-Driven Architecture: Each service communicates through events, allowing for asynchronous processing

Applying Solid Principles:

- Single Responsibility Principle
 - Open/Closed principle (OCP)
 - Liskov Substitution Principle (LSP)
 - Interface Segregation Principle (ISP)
 - Dependency Injection Principle (DIP)
- DRY → Don't Repeat Yourself.
- Centralized logging service to avoid repetitive logging code in each microservice
 - Shared libraries for common

functionalities to prevent code duplication.

- use of even schemas to standardize event format across services reduction redundancy..

KISS (Keep it simple, stupid)

- Each microservice is designed to be simple and focused avoiding unnecessary complexity
- Event-driven communication simplifies interaction between service, reducing the need for complex API calls
- user interface are designed with minimal steps for the user, ensuring a straight forward shopping experience

