**Analyze & Design Shopee-like Ecommerce**

**Functional Requirements**

* User Management (Authentication and Profile Management)
* Product Catalog (Search, Filter, Sort, Recommendation Product)
* Cart Management (Add to Card, Remove from Cart, View Cart)
* Order Management (Checkout, Payment Integration, Order Tracking)
* Notification System (Push Notification, Email)
* Review and Rating
* Seller Management (Add/Update/Remove their products)
* Admin Panel (Manage users, sellers, orders, product approval)
* Promotions and Vouchers (Coupons, Flash Sales, Campaigns)
* Search System (Product, Market)

**Non-Functional Requirements**

* High Availability (SLA 99.99%)
* Scalability (handling high season, ex Shopee 11.11)
* Performance (

**Capacity Estimation**

**Daily Active User**

**Monthly Active User**

**Throughput**

**Storage**

**Memory**

**Network Bandwidth**

**Database Selection**

Relational (PostgerSQL, SQL Server): products, users, orders

NoSQL (MongoDB, Redis)

MongoDB: Chat

Redis: Cache Cart Items

Object Storage with CDN: Image Product, Image/Video/Voice Chat

**Design Search System**

**Design Rate Limiter**

**Design Order and Payment System**

**Design Notification System**

**Final Structure**

Backend Microservices architecture: AuthService, ProductService, OrderService, CartService, NotificationService, ReviewService, AdminService

Each Service have its own database

API Gateway

Messaging like RabbitMQ or Kafka (for async events like order placed 🡺 notify)

**Explanation**

**Implement Structure using .NET**

**Explaination**