**1)User Registration/Login & Product Search**

User

↓

API Gateway

↓

User Service ───► MySQL (User DB)

↓

API Gateway

↓

Response to User

**2)Order Placement & Payment Flow (Detailed)**

User

↓

API Gateway

↓

Order Service ───► PostgreSQL (Order DB)

↓

Calls Payment Service (FeignClient REST)

↓

Payment Service ───► MySQL (Payment DB)

↓

Calls Card Validation Service (REST GET /validate/{cardNumber})

↓

Card Validation Service ───► H2 In-Memory DB

↓

Returns Validation Result (true/false)

↓

Payment Service Processes Payment

├── If Valid → Confirms Payment

└── If Invalid → Cancels Payment

↓

Payment Service Responds to Order Service

↓

Order Service Updates Order Status in PostgreSQL

↓

Order Service Sends Notification (Async)

↓

Order Service Responds to API Gateway

↓

API Gateway Sends Final Response to User/Admin