Presentation Layer

ProductController
+ get_product(State<DbPool>, Path<i32>): Result<Response, StatusCode>
+ get_all_products(State<DbPool>): Result<Response, StatusCode>
+ create_product(State<DbPool>, Json<Product>): Result<Response, StatusCode>
+ update_product(State<DbPool>, Path<i32>, Json<Product>): Result<Response, StatusCode>
+ partial_update_product(State<DbPool>, Path<i32>, Json<Value>): Result<Response, StatusCode>

OrderController
+ get_order(State<DbPool>, Path<i32>): Result<Response, StatusCode>
+ get_all_orders(State<DbPool>): Result<Response, StatusCode>
+ create_order(State<DbPool>, Json<OrderWithProducts>): Result<Response, StatusCode>
+ update_order(State<DbPool>, Path<i32>, Json<OrderWithProducts>): Result<Response, StatusCode>
+ partial_update_order(State<DbPool>, Path<i32>, Json<Value>): Result<Response, StatusCode>

CustomerController
+ get_customer(State<DbPool>, Path<i32>): Result<Response, StatusCode>
+ get_all_customers(State<DbPool>): Result<Response, StatusCode>
+ create_customer(State<DbPool>, Json<Customer>): Result<Response, StatusCode>
+ update_customer(State<DbPool>, Path<i32>, Json<Customer>): Result<Response, StatusCode>
+ partial_update_customer(State<DbPool>, Path<i32>, Json<Value>): Result<Response, StatusCode>

Business Layer

ProductService
+ create_product(&PgPool, Product): i32
+ update_product(&PgPool, Product): Result<()>
+ create_products(&PgPool, Product[]): Result<()>
+ get_product(&PgPool, i32): Result<Product>
+ get_all_products(&PgPool): Result<Product[]>

OrderService
+ create_orders(&PgPool, &HashMap<Order, HashMap<&Product, i32>>): Result<()>
+ get_order(&PgPool, i32): Result<Order>
+ get_order_with_products(&PgPool, i32): Result<OrderWithProducts>
+ get_all_orders(&PgPool): Result<Order[]>
+ create_order(&PgPool, OrderWithProducts): Result<i32>
+ update_order(&PgPool, OrderWithProducts): Result<()>

CustomerService
+ create_customer(&PgPool, Customer): Result<i32>
+ create_customers(&PgPool, Customer[]): Result<()>
+ get_customer(&PgPool, i32): Result<Customer>
+ get_all_customers(&PgPool): Result<Customer[]>
+ update_customer(&PgPool, Customer): Result<()>

Persistance Layer

Product
+ id: i32
+ name: String
+ price: i32
+ available: bool

Order
+ id: i32
+ customer_id: i32
+ status: String
+ created_at: NaiveDateTime

Customer
+ id: i32
+ name: String
+ address: String

n — n Product—Order   n — 1 Order—Customer