case scenario

E-Shop is an online shopping platform that offers a wide range of products to customers worldwide. The management team at E-Shop is looking to create a robust database schema to support their online shopping application and ensure efficient management of their product inventory and customer orders.

The following entities and relationships are essential for the E-Shop database schema:

1. **Customers: E-Shop serves a diverse customer base who create accounts to make purchases. Each customer has a unique customer ID, name, email address, and contact information.**
2. **Products: E-Shop offers a variety of products from different categories such as electronics, clothing, home decor, and more. Each product has a unique product ID, name, description, price, and other relevant attributes.**
3. **Orders: Customers can place orders for one or multiple products. Each order has a unique order ID, customer ID (relating to the customer who placed the order), order date, and total price.**
4. **Order Items: Each order can contain multiple items. The order items table maintains the relationship between orders and products, with attributes such as order item ID, order ID, product ID, quantity, and individual item price.**
5. **Shipping Address: Customers provide shipping addresses for delivery. The shipping address entity includes attributes such as address ID, customer ID (relating to the customer associated with the address), street address, city, state, country, and postal code.**

6. **Payment Information**: Customers need to provide payment details for successful order processing. The payment information entity includes attributes such as **payment ID**, **customer ID** (relating to the customer associated with the payment), **payment method**, **card number**, **expiration date**, and **CVV**.
7. **Categories**: Products are organized into different categories for easy navigation. Categories have attributes such as **category ID** and **category name**.
8. **Reviews**: Customers can provide feedback on products they have purchased. The reviews entity captures attributes such as **review ID**, **product ID**, **customer ID** (relating to the customer who wrote the review), **rating**, and **comments**.

By implementing this database schema , E-Shop aims to efficiently manage their product inventory, process customer orders, store shipping and payment information securely, organize products into categories, and facilitate customer reviews. This schema will provide a solid foundation for the online shopping application, ensuring a seamless and satisfying shopping experience for E-Shop customers.