






Database Design – ShopSmart (MongoDB + Mongoose)

Technology

- **Database:** MongoDB (NoSQL)
 - **ODM (Object Document Mapper):** Mongoose (for schema modeling & validation)
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Main Collections (Schemas)

1.  **User**
 2.  **Product**
 3.  **Cart**
 4.  **Order**
 5.  **Message / Inquiry (Optional)**
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Relationships

- **User ↔ Product:** One-to-many (a seller can have many products)
 - **User ↔ Order:** One-to-many (a customer can place multiple orders)
 - **Order ↔ Product:** Many-to-many via embedded item arrays
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Best Practices

- Passwords hashed using **bcrypt**
- Use **timestamps** to track creation/update
- Normalize user roles for access control
- Use **population** in Mongoose to fetch related data (e.g., product inside order)