**📄 Database Design Document – MyOwn Store (MongoDB)**

**🧩 Collections Overview**

|  |  |
| --- | --- |
| **Collection** | **Purpose** |
| users | Stores customer login & profile info |
| products | All product listings |
| categories | Product categories |
| carts | Temporary cart per user |
| orders | Purchase history & tracking |
| coupons | Discounts & promo codes |
| orderStatuses | Static stages for order tracking |
| reviews | Product feedback by users |

**1. 🧑‍💼 users**

{

\_id: ObjectId,

name: String,

email: String, // unique

password: String, // hashed

phone: String,

address: [

{

street: String,

city: String,

state: String,

postalCode: String,

country: String

}

],

role: { type: String, enum: ['user', 'admin'], default: 'user' },

createdAt: Date,

updatedAt: Date

}

**2. 🛍️ products**

{

\_id: ObjectId,

title: String,

description: String,

images: [String], // image URLs

brand: String,

categoryId: ObjectId, // Reference to categories

price: Number,

discount: {

percentage: Number,

validTill: Date

},

sizes: [String], // ['S', 'M', 'L']

stock: Number,

tags: [String], // ['cotton', 'summer', 'men']

rating: Number,

reviewsCount: Number,

createdAt: Date,

updatedAt: Date

}

**3. 📁 categories**

{

\_id: ObjectId,

name: String, // e.g., 'Electronics'

slug: String, // 'electronics'

image: String, // category banner

createdAt: Date

}

**4. 🛒 carts**

{

\_id: ObjectId,

userId: ObjectId, // Reference to users

items: [

{

productId: ObjectId,

size: String,

quantity: Number

}

],

couponCode: String,

createdAt: Date,

updatedAt: Date

}

**5. 📦 orders**

{

\_id: ObjectId,

userId: ObjectId,

items: [

{

productId: ObjectId,

size: String,

quantity: Number,

priceAtPurchase: Number

}

],

totalAmount: Number,

discountApplied: Number,

paymentMethod: String, // ['COD', 'Card', 'UPI']

address: {

street: String,

city: String,

postalCode: String,

country: String

},

status: {

currentStage: String, // e.g., "Shipped"

history: [

{ stage: String, timestamp: Date }

]

},

isCancelled: Boolean,

orderedAt: Date

}

**6. 🎟️ coupons**

{

\_id: ObjectId,

code: String, // e.g., "SAVE20"

discountPercent: Number,

expiry: Date,

minimumOrderAmount: Number,

usageLimit: Number,

usersUsed: [ObjectId] // user IDs who used the coupon

}

**7. 🚚 orderStatuses (Static, can be seeded)**

{

\_id: ObjectId,

stage: String, // Ordered, Packed, Shipped, Delivered

displayName: String,

order: Number

}

**8. ⭐ reviews**

{

\_id: ObjectId,

userId: ObjectId,

productId: ObjectId,

rating: Number, // 1-5

comment: String,

createdAt: Date

}

**🔄 Relationships Summary**

|  |  |  |
| --- | --- | --- |
| **Collection A** | **➡ Refers to** | **Collection B** |
| products | categoryId → | categories |
| carts | userId, productId → | users, products |
| orders | userId, productId → | users, products |
| reviews | userId, productId → | users, products |
| coupons | usersUsed → | users |

**🗃️ Collection Indexing Recommendations**

|  |  |
| --- | --- |
| **Collection** | **Index Field(s)** |
| users | email (unique) |
| products | title, tags, categoryId |
| carts | userId |
| orders | userId, status.currentStage |
| coupons | code, expiry |