

WhatABook — Assignment 8.2 Update

Author: Chris Newell • Date: October 12, 2025

Adds ORD and NoSQL Data Structure to the TDD and includes installation/query scripts.

2.3 ORD (Object■Relationship Diagram)

Entities and relationships:

Entity	Key Fields	Notes / Relationships
BOOK	bookId (PK), title, author, genre	Referenced by WISHLIST via bookId
CUSTOMER	customerId (PK), firstName, lastName, email	Referenced by WISHLIST via customerId
WISHLIST	customerId (FK), bookId (FK), dateAdded	Many■to■many between CUSTOMERS and BOOKS

CUSTOMER (1) ■■■< (N) WISHLIST (N) >■■■ (1) BOOK

2.4 NoSQL Data Structure

Collections and representative documents:

```
db.books.insertOne({ bookId: 101, title: "1984", author: "George Orwell", genre: "Dystopian" })
db.customers.insertOne({ customerId: "c1001", firstName: "Mary", lastName: "Ramos", email: "mary@" })
db.wishlists.insertOne({ customerId: "c1001", bookId: 101, dateAdded: ISODate("2025-01-01T00:00:00") })
```

Indexes:

```
db.books.createIndex({ bookId: 1 }, { unique: true })
db.customers.createIndex({ customerId: 1 }, { unique: true })
db.wishlists.createIndex({ customerId: 1 })
db.wishlists.createIndex({ bookId: 1 })
```

Installation & Showcase Queries — Quick Start

- 1) In mongosh, run:
`load("whatabook_install.js")`
- 2) Then run:
`load("whatabook_queries.js")`
- 3) Optional aggregation to show wishlists joined to books:
`use whatabookDB`
`db.wishlists.aggregate([`
 `{ $lookup: { from: "books", localField: "bookId", foreignField: "bookId", as: "book" } },`
 `{ $unwind: "$book" },`
 `{ $project: { _id: 0, customerId: 1, title: "$book.title", author: "$book.author" } }`
`])`