

Hudl University – MongoDB - Capstone Project

Background

For background, here is a link to the [curriculum for the Hudl U course](#). If you have any questions about the capstone project, please reach out to [Tommy](#).

In general, <https://docs.mongodb.org/manual> is a good resource going through this exercise. We will be assuming use of Mongo 2.6 or higher. If you use any 3.x features, please explicitly state so in the deliverable.

Overview

1. We want to maintain a registry of books and authors where:
 - a. Each book has one or more authors
 - b. An author can write one or more books
 - c. We want to keep track of the following information for each author:
 1. Full name
 2. Age
 3. Country of birth
 - d. We want to keep track of the following information for each book:
 1. Title
 2. Author(s)
 3. ISBN / identifier
 4. Date of release
 5. Country where first published
 6. Publisher name
 7. Short description
2. We want to be able to look up a book by its:
 - a. ISBN
 - b. Book title
 - c. Author name
 - d. Publisher name
 - e. (For the curious soul, you could also allow look into supporting partial matches:
<https://docs.mongodb.org/manual/core/index-text/>)
3. On a regular basis, we want to be able to produce the following reports:
 - a. Number of books published per calendar year
 - b. Number of books per publisher per year
 - c. Average number of authors per book per year
 - d. A list of book titles and ISBN numbers grouped by author (if multiple authors, duplicate entries for each author)

Project

- Document and implement a schema for (1) with a sensible structure and indexes to accommodate for (2).
- Provide a script for populating the database with some dummy data adhering to the above criteria. You should have enough (relevant) data to verify your implementation of (2) and (3).
- Query the dummy data according to (2), and document said queries.
- Query the dummy data according to (3), and document said queries and the output.
- Introduce a performance issue that illustrates either use of bad indexes, incompatible types or similar in (2), and demonstrate how to troubleshoot and fix the issue.