



Querying in Non-Relational Databases

Course Overview

This course takes a deep dive into querying in MongoDB using the MongoDB Query Language (MQL). The course covers common commands used for CRUD operations, querying complex data with operators and compound conditions, and an overview of querying in non-relational vs. relational databases. The course includes hands-on activities through the MongoDB Shell.

Length: 3-4 hours

Level: Intermediate

Course Content

All course content can be accessed in the [Google Drive folder](#).

The course is formatted into four lessons:

1. Querying in Relational and Non-Relational Databases
2. The MongoDB Query Language (MQL)
3. Querying Complex Data in MongoDB with MQL
4. Querying Data with Operators and Compound Conditions

It is recommended to go through the lessons in sequential order as the content and complexity builds as you go. The lessons are formatted on slide decks with detailed instructor notes. There are also corresponding PDF versions available to [download](#). Quiz questions with explained answers on key concepts are embedded throughout the lessons to enhance knowledge retention.

The materials are freely available for non-commercial use and are licensed under Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported [License](#).

Learning Objectives

At the end of this course, learners will be able to:

- Compare querying in relational vs. non-relational databases
- Use common MQL commands to perform basic CRUD operations
- Identify the functionality of common comparison and logical query operators
- Create complex queries using operators in conjunction with compound conditions
- Describe the functionality of aggregation expressions
- Create queries for complex data with embedded / nested documents and arrays

Prerequisite Knowledge

This course is geared towards learners who have some familiarity with querying in a relational database and an understanding of the document model. Lecture materials on the document model can be found in the [Introduction to Modern Databases with MongoDB](#) course.

Suggested Uses

The course materials can be incorporated into your curriculum in a variety of ways:

- Slide decks can be easily used during lecture classes. Code snippets in the PDF handouts allow students to follow along with hands-on activities.
- The handouts can be used for asynchronous learning or as supplemental material to be completed outside of class.
- Instructional slides can be used during a lecture class, and the hand-on activities completed outside of class.
- Lessons can be combined with self-paced online learning and labs. Each lesson includes suggestions for complementary learning content.
- The slides and handouts can be used for self-paced learning for students and educators alike.

Hands-On Exercises

The hands-on exercises in this course use the [MongoDB Shell](#). Users who prefer to use a GUI to interact with their data can do so using [MongoDB Compass](#) or the [MongoDB Atlas UI](#).

Share Your Feedback

We hope these curriculum materials will be a valuable resource for you and your learners. Let us know how the materials work for you, what we can improve on, and how MongoDB for Academia can support you via our brief [feedback form](#).

MongoDB for Academia

MongoDB for Academia offers resources for educators and students to support teaching and learning MongoDB. Check out our [educator resources](#) and join the Educator Community. Students can receive \$50 in Atlas credits and free certification through the [Github Student Developer Pack](#).

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