Overview

Get ramped quickly on MongoDB with a comprehensive entry-level training program for developers. This 3-day course covers the MongoDB query language and aggregation framework, data modeling, indexes, drivers, basic performance tuning, high availability and scaling.

In this course, students participate in hands-on exercises using a MongoDB Atlas database environment. Alternatively, and according to the preference of the class, students may use a self-managed deployment of MongoDB.

MongoDB training courses are delivered on site at your company and taught by an experienced MongoDB consulting engineer. Throughout the course, hands-on exercises reinforce the subjects being discussed.

Who Should Attend?

This course is designed for application developers with no prior experience of MongoDB.

Course Duration

This is a 3-day training course.

Course Prerequisites

- This class can be delivered in person or remotely. For in-person classes, all students must attend the class in person.
- Each class accommodates up to 12 students.
- To fully participate in the class, students should be equipped with a computer that has:
  - unobstructed web access
  - access to the strigo.io training delivery platform via a supported web browser
  - for remote classes, the ability to join a Zoom meeting using the Zoom desktop client (ideally), or using the Zoom web client in a supported web browser
Course Content

Day 1

Storage Basics
- What is a Storage Engine?
- WiredTiger Storage Engine
- In-Memory Storage Engine
- Encrypted Storage Engine

MongoDB Document Model
- JSON and BSON
- MongoDB Data Types

MongoDB Setup
- Lab: Atlas Setup / Local MongoDB Setup

CRUD Basics
- Insert Command
- Find Command
- Query Operators
- Lab: Finding Documents
- Remove Command
- Updating Documents
- Lab: Updating Documents

CRUD Advanced
- Bulk Writes
- Retryable Writes
- Find and Modify
- Transactions

Performance Basics
- Indexes
- Lab: Creating Indexes
- Lab: Using explain()

Aggregation Basics
- Aggregation Pipeline Concepts
- Aggregation Pipeline Stages
- Aggregation Pipeline Expressions
- Lab: Writing Aggregation Queries

Day 2

Aggregation Advanced
- $lookup stage
- $graphLookup stage
- Lab: Using $graphLookup
- $expr operator
- Lab: Using $expr
- Faceted Search
- Type Conversions
- Advanced Expression Operators
- Date Expression Operators
- Expression Variables
- Aggregation Pipeline Optimizations
- Aggregation in a Sharded Cluster

Replication Basics
- MongoDB Replica Sets
- Replica Set Use Cases
- Replication Mechanics

Replication Advanced
- Using Write Concern to Tune Durability Semantics
- Using Read Concern to Tune Read Isolation
- Using Read Preference
- Replica Set Tag Sets

Sharding Basics
- Sharding Concepts
- When to Shard
- What is a Shard Key?
- Zoned Sharding / MongoDB Atlas Global Clusters

Sharding Advanced
- Components of a Sharded Cluster
- Sharding Mechanics
- Choosing a Good Shard Key

Day 3

Schema Design
- Schema Design Core Concepts
- Common Patterns
- Lab: Data Model for an E-Commerce Site

Security Basics
- Authentication & Authorization
- Lab: Creating an Admin User
- Lab: Creating a readWrite User
- Network Encryption
- Encryption at Rest
- Auditing

Application Development and Drivers
- Application Development with MongoDB Drivers
- Lab: Driver Tutorial

Performance Advanced
- Designing Compound Indexes
- Indexing Arrays
- Covered Queries
- Using hint() and Index Filters