

MongoDB for Developers

Learn to design, query and manage MongoDB databases, from document data modelling to replication, indexing and backup.

3 Days

24 HOURS

9

MODULES

51

TOPICS

COURSE OVERVIEW

The MongoDB for Developers course is an extensive program designed to equip learners with the knowledge and skills necessary to work with MongoDB, a leading NoSQL database. It introduces developers to the world of non-relational databases, offering a deep dive into the nuances of working with document-based data structures as opposed to traditional relational databases. Starting with an Overview - SQL/NoSQL, the course addresses when to choose between relational and NoSQL databases, the types of NoSQL stores, and key design considerations. Data Formats educates learners on the importance of JSON and BSON data formats and their benefits in MongoDB. In MongoDB Concepts, the course covers fundamental components like databases, collections, and documents, and details CRUD operations and indexing. As the course progresses, participants learn advanced topics such as Querying, Aggregation, Replication, and Indexing Strategies. The curriculum also includes lessons on MongoDB CRUD operations, advanced Querying techniques, Replication mechanisms, and Effective Indexing to optimize database performance. By the end of the course, learners will be well-versed in MongoDB operations and best practices, which can aid them in earning valuable MongoDB certifications. With hands-on exercises and practical knowledge, developers can leverage this course to build scalable and efficient applications using MongoDB.

Who Should Attend

Koenig Solutions' MongoDB for Developers course offers comprehensive training on NoSQL databases, specifically designed for software professionals.

Software Developers and Engineers

Database Administrators (DBAs)

Backend Developers

Full Stack Developers

Data Architects

System Administrators

DevOps Engineers

IT Professionals looking to expand their database management skills

Data Analysts seeking to understand NoSQL databases

Application Developers working with large-scale, distributed systems

Professionals working with big data technologies

Technical Leads and Managers overseeing development teams

Graduates aiming to specialize in modern database technologies

LEARNING OBJECTIVES

- Compare relational and NoSQL database approaches
- Explain JSON and BSON data formats
- Describe core MongoDB concepts such as databases and collections
- Apply CRUD operations on MongoDB documents
- Implement queries using the MongoDB Query Language
- Apply aggregation, grouping and projections for advanced querying
- Configure replica sets for MongoDB replication
- Implement indexing strategies to optimise performance

COURSE SYLLABUS

9 Modules, 51 Topics

01

Overview - SQL vs. NoSQL

TOPICS

Relational vs. NoSQL stores · When to use Relational or NoSQL databases? · Categories of NoSQL stores · Examples of NoSQL databases · Datastore design considerations

02

Data Formats

TOPICS

- What are data formats?
- Difference between data formats and data structures
- The JSON data format
- The BSON data format
- Advantages of BSON

03

MongoDB Concepts

TOPICS

Servers · Connections · Databases · Collections · Documents · CRUD operations · Indexes

04

Querying MongoDB

TOPICS

Query expression objects · Query options · Cursors · MongoDB Query Language · Dot notation · Full-text search

05

MongoDB CRUD

TOPICS

Insert (Create - C) · Simple query examples (Read - R) · Update (Update - U) · Remove (Delete - D)

06

Advanced Querying

TOPICS

- Joins
- Server-side vs. Client-side querying
- Retrieving a subset of fields
- Conditional operators
- Aggregation
- Grouping
- Projections
- Cursor methods
- Introduction to MapReduce

07

Replication

TOPICS

Master-Slave replication · Adding and removing sources · Replica sets · Nodes in a replica set · Using slaves for data processing · Replication state and the local database

08

Indexing in MongoDB

TOPICS

Introduction to indexes · Creating and querying with indexes · Types and properties of indexes · Covered query indexes · Using the \$ operator with indexes · Indexes in replica sets and sharded clusters

09

Backup

TOPICS

Import & export · Backup & restore · Customizing import & export

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

Visit koenig-solutions.com

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