TechyEdz Solutions

Training | Consulting | Developement | Outsourcing

MongoDB Developer

MongoDB Developer Training

➕ Course Overview:

Get ramped quickly on MongoDB with a comprehensive entry-level training program for developers. This 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.

Mongo DB is a high-performance open source, Schema free document / Object-Oriented database optimized for web application environments. MongoDB stores data as JSON formats, sometimes the documents can be varied in structure. Relevant information is stored together in a document for better and fast query access via the MongoDB query language.

➕ Course Outline:

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

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

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

➕ Prerequisites:

- There is no need for any specific knowledge. A basic idea of databases can be helpful.
- Understanding of any mainstream programming language such as Java, basic understanding of database concepts, and knowledge of a text editor such as 'VI editor' would be beneficial.

➕ Who Can attend:

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

- Professionals from Analysts background.
- Software Developers
- Web Developers
- Those who want to become master in MongoDB/NoSQL
- Project Managers and Trainers
- System administrators

- Research professionals
- Those looking for a career in Big Data

➕ **Number of Hours: 30hrs**

➕ **Certification: MongoDB Certified Developer**

➕ **Key Features:**

➢ One to One Training
➢ Online Training
➢ Fastrack & Normal Track
➢ Resume Modification
➢ Mock Interviews
➢ Video Tutorials
➢ Materials
➢ Real Time Projects
➢ Virtual Live Experience
➢ Preparing for Certification