

MongoDB DBA

Duration: 40 Hours (5 Days)

Overview

The MongoDB DBA course is a comprehensive program designed to equip learners with the skills needed for effective database administration within MongoDB, a popular NoSQL database. It covers a wide range of topics from the basics of MongoDB and CRUD operations to advanced concepts such as Sharding, Replication, and security. Module 1 introduces the course structure, while Module 2 dives into MongoDB fundamentals. Modules 3 through 5 focus on Document manipulation and Indexing, which are crucial for performance optimization. Modules 6 and 7 explore Special index types and the Aggregation Framework for complex queries. Modules 8 through 10 cover Transactions and Replica set configuration—a key aspect of MongoDB's high availability. Modules 11 to 13 delve into the components and administration of a replica set and application connectivity. Modules 14 to 16 provide insights into Sharding, Shard key selection, and Sharding administration for scaling. Modules 17 to 23 round out the course with Performance analysis, security, Durability, Production deployment, Monitoring, Backups, and best practices for deploying MongoDB. This MongoDB administration training is considered one of the best MongoDB online courses for those looking to master database administration in MongoDB.

Audience Profile

Learn the ins and outs of MongoDB DBA, ideal for IT professionals aiming to excel in database administration and management.

- Database Administrators
- System Administrators
- Data Architects
- Backend Developers interested in database management
- IT Professionals looking to specialize in NoSQL databases
- Database Analysts seeking to upgrade their skills
- DevOps Engineers responsible for database setup and maintenance
- Technical Leads managing database teams
- Software Engineers aspiring to understand MongoDB architecture
- Data Scientists requiring knowledge in managing large datasets with MongoDB
- IT Managers overseeing database infrastructure
- Cloud Database Engineers working with MongoDB on cloud platforms
- Technology Consultants advising on database solutions
- Full-stack Developers who want to deepen their understanding of the database layer

Course Syllabus

1. Introduction to MongoDB

- Architecture
- MongoDB Tools
- Types of Data
- Database, Collection, Documents
- Create, Insert, Update, Delete, find
- Data Types

- Mongo Shell

2. Create Update and Delete Documents

- Inserting & Saving Documents
- Batch Insert
- Insert Validation
- Removing Documents
- Remove Speed
- Updating Documents
- Document Replacement
- Using Modifiers
- Upsert
- Updating Multiple Documents
- Setting Write Concern

3. Querying Documents

- Introduction to find method
- Query Criteria
- Type Specific Queries
- Cursors
- Database Commands
- Getting Help

4. Indexing

- Introduction to Indexing
- Query Execution Plan
- When not to index
- Types of indexes
- Index Administration
- GeoSpatial support in MongoDB

5. Replication

- Introduction to replication
- Setting up a Replica Set Part 1
- Configuration Options
- Network Consideration
- Security Consideration
- Setting up a Replica Set Part 2
- Observing Replication
- Testing automatic failover
- Changing Replica Set configuration

6. Sharding

- Introduction to sharding
- Components of a cluster
- Sharding on a single machine cluster
- Configuring sharding
- Shard chunks

- Querying from the shard
- Choosing a shard key
- Sharding across multiple servers
- Databases in the config server
- The mongos Processes

7. MongoDB Security

- Enable authorization and enforce authentication
- Built-in roles
- Creating users
- Creating user-defined roles
- Granting roles to users
- Revoking roles from users
- Dropping Roles
- Dropping users
- Displaying the privileges of a Role

8. Backup & Recovery

- Introduction to backup
- Data File Backup
- Mongodump
- Mongorestore
- Mongoimport
- Mongoexport