Faysal Aziz

MongoDB for Administration

Deploy, Secure, Monitor, and Optimize Modern MongoDB Environments - 1 day

FA-0327 · 1 day

Data & Analytics

Introduction

MongoDB has evolved from being a niche NoSQL database into one of the world's most widely deployed document databases, powering modern web applications, cloud-native platforms, IoT solutions, AI workloads, and enterprise systems. As organizations increasingly rely on MongoDB for mission-critical applications, skilled database administrators are expected to manage availability, performance, security, scalability, and operational resilience across both self-managed and cloud-hosted environments. Recent platform enhancements continue to strengthen operational capabilities, including improvements in MongoDB 8.x, Atlas, and Ops Manager, making it essential for administrators to stay current with modern deployment and management practices.

This intensive one-day course provides a practical, administration-focused overview of MongoDB. Participants will learn how to install, configure, secure, monitor, maintain, back up, recover, and troubleshoot MongoDB deployments while understanding the operational best practices used in production environments. The course is delivered by an instructor with over **30 years of industry experience**, emphasizing **real-world, industry-demanded practices rather than purely academic concepts**.

Learning outcomes

By the end of this course, participants will be able to:

- Understand MongoDB architecture and administrative components
- Install and configure MongoDB server environments
- Manage databases, collections, and storage efficiently
- Configure authentication and authorization
- Implement role-based access control (RBAC)

- Secure MongoDB communications using TLS/SSL
- Configure replication for high availability
- Understand sharding architecture and administration
- Monitor database health and performance
- Analyze logs and diagnose operational issues
- Perform backup and recovery operations
- Manage upgrades, maintenance, and operational lifecycle activities
- Apply MongoDB administration best practices for production environments

Prerequisites

- Good understanding of databases and database concepts
- Working experience with Linux or Windows server administration
- Working command-line experience
- Good networking fundamentals

Training outline

1. MongoDB Installation and Initial Configuration

    Installation methods
        1. Linux deployment
        2. Windows deployment
2. Directory structure
3. MongoDB service management
4. Configuration file fundamentals
5. Starting and stopping MongoDB services
6. Initial connectivity verification
7. MongoDB Shell (mongosh) administration

2. Database and Storage Administration

1. Database management
2. Collection administration
3. Document storage concepts
4. WiredTiger storage engine overview

5. Storage allocation and management
6. Data compression concepts
7. File system considerations

3. User Administration and Security

1. Authentication mechanisms
2. Authorization concepts
3. Role-Based Access Control (RBAC)
4. Built-in administrative roles
5. Custom roles
6. User lifecycle management
7. Password policies
8. TLS/SSL configuration concepts
9. Auditing overview
10. Security best practices

4. Replication Administration

1. Replica set architecture
2. Primary and secondary nodes
3. Election process
4. Replica set initialization
5. Adding and removing members
6. Failover operations
7. Replica set maintenance
8. Replication monitoring

5. Sharding Fundamentals

1. Sharding architecture
2. Config servers
3. Query routers (mongos)
4. Shard keys
5. Chunk distribution
6. Balancing operations
7. Administrative considerations

6. Backup and Recovery

1. Backup strategies
2. MongoDB Database Tools overview
3. Logical backup concepts
4. Physical backup concepts
5. Point-in-time recovery concepts
6. Restore procedures
7. Backup validation
8. Disaster recovery planning

7. Monitoring and Performance Administration

1. MongoDB monitoring architecture
2. Server status metrics
3. Database statistics
4. Collection statistics
5. Index statistics
6. Slow query analysis
7. Log management
8. Performance bottleneck identification
9. Capacity planning fundamentals

8. Maintenance and Operational Administration

1. Index administration
2. Configuration management
3. Software upgrades
4. Feature Compatibility Version (FCV)
5. Routine maintenance activities
6. Operational health checks
7. Troubleshooting common administrative issues

Disclaimer

This training outline is intended as a general guideline for the proposed course duration and objectives. The instructor may amend, reorder, expand, condense, or omit topics as deemed appropriate to accommodate participant experience levels, organizational requirements, available training time, product updates, and evolving industry best practices. The final course content and delivery remain at the professional discretion of the trainer without prior notice.

© 2026 Faysal Aziz · Kuala Lumpur