MongoDB Database Administration

Duration:
5 Days

What is the course about?
Learn everything you need to know to administer a MongoDB installation in production. This course begins by assuming you have no experience with MongoDB, taking you through the basics of installation. Then you will learn about JSON and Mongo's extensive query capabilities through the Mongo shell. We will cover importing, and exporting data into Mongo. After that, we cover replication and fault tolerance. Then it is on to scaling out with MongoDB, including indexing, performance tuning, monitoring, and sharding. Finally, we cover backups and recovery. No prior experience with MongoDB is assumed for this course but knowledge of administration of another database will be helpful.

Duration
The course is run 5 days full time.

Technical Skill
Basic system is administration skills. A working knowledge of relational database concepts is helpful but not required. Javascript is the shell language for MongoDB and rudimentary knowledge of that is also helpful, but not required.

Private Training
This course is only offered privately. The course can be scheduled to run onsite or on our premises. A minimum of 4 delegates is required to schedule the course. The course price is R9 500 onsite and R12 599 on premises. There is no fixed date to run the course, we will work with you to find a suitable date for your team.

Course Topics

MongoDB Basics
Basic concepts of databases What is NoSQL?
Where is it used?
Types of NoSQL
Advantages of NoSQL over RDBMS
Its benefits
Overview of MongoDB
Introduction to JSON/BSON
JSON data types
MongoDB installation

CRUD Operations
MongoDB Development Architecture
MongoDB Production Architecture
MongoDB CRUD Introduction
MongoDB CRUD Concepts
Read and Write Operations
Write Operation Concern Levels

**Data Modeling**
Data Modeling in MongoDB
RDBMS vs. Data models
Data Modeling tools
Data modeling example & patterns
Model TREE structure
Operational strategies

**Administration**
Backup strategies
Monitoring
Monitoring Commands
Monitoring of performance issues
Run time configuration
Export & import of data
Relationship between Document
Model Specific Application Contexts
Data Model Reference
Hands on with MongoDB Data Modeling
Data Management

**Scaling and High Availability**
Introduction to replica
Election of new primary
Replica set
Type of Replica
Hidden Replica
Arbiter Replica
Sharding
Concepts around Replication
Setting up Replicated Cluster
Setting up Sharded Cluster
Sharding Database, Collections

**Indexing and Aggregation Framework**
Index Introduction
Index Concepts
Index Types
Index Properties
Index Creation
Index Tutorial
Indexing Reference
Aggregation to Introduction
Approach to Aggregation
Type of Aggregation (Pipeline, MapReduce & Single Purpose)
Performance Tuning
MongoDB Security
Basic concepts of databases
Security Risks to Databases
MongoDB Security Approach
MongoDB Security Concept
Access Control
Integration with MongoDB with Robomongo
Integration with MongoDB with Java