Overview

This course is for organizations looking to train developer and administrator teams together. The instructor covers best practices for the development and administration of MongoDB. Students will work through hands-on exercises to gain familiarity with the query language, indexes, and MongoDB’s scalability and high availability features. The agenda for the course is outlined below. Please contact training@mongodb.com with any questions.

Day 1

Introduction

- Warm Up
- MongoDB Overview
- MongoDB Stores Documents
- Storage Engines
- Lab: Installing and Configuring MongoDB

CRUD

- Creating and Deleting Documents
- Reading Documents
- Query Operators
- Lab: Finding Documents
- Updating Documents
- Lab: Updating Documents

Indexes

- Index Fundamentals
- Compound Indexes
- Lab: Optimizing an Index
- Multikey Indexes
- Hashed Indexes
- Geospatial Indexes
- TTL Indexes
- Text Indexes
- Lab: Finding and Addressing Slow Operations
• Lab: Using `explain()`

Drivers
• Introduction to MongoDB Drivers
• Lab: Driver Tutorial

Day 2

Aggregation
• Aggregation Tutorial
• Optimizing Aggregation
• Lab: Aggregation Framework

Schema Design
• Schema Design Core Concepts
• Schema Evolution
• Common Schema Design Patterns

Replica Sets
• Introduction to Replica Sets
• Elections in Replica Sets
• Replica Set Roles and Configuration
• The Oplog: Statement-Based Replication
• Lab: Working with the Oplog
• Write Concern
• Read Preference
• Lab: Setting Up a Replica Set

Day 3

Sharding
• Introduction to Sharding
• Balancing Shards
• Shard Tags
• Lab: Setting Up a Sharded Cluster
Application Engineering

• Introduction
• Java Driver Labs (MongoMart)
• Python DriverLabs (MongoMart)

Day 4

Reporting Tools and Diagnostics

• Performance Troubleshooting

Backup and Recovery

• Backup and Recovery

Security

• Security
• lab: Creating an Admin User
• Lab: Creating a readWrite User

MongoDB Cloud Manager & Ops Manager Fundamentals

• MongoDB Cloud & Ops Manager
• Automation
• Lab: Cluster Automation
• Monitoring
• Lab: Create an Alert
• Backups

MongoDB Cloud & Ops Manager Under the Hood

• API
• Lab: Cloud Manager API
• Architecture (Ops Manager)
• Security (Ops Manager)
• Lab: Install Ops Manager