

# MongoDB for Developers

## Course Content:

### 1. Overview - SQL/NoSQL

- Relational v/s NoSQL stores
- When to use Relational/NoSQL?
- Categories of NoSQL stores
- Examples of NoSQL stores
- Datastore design considerations

### 2. Data Formats

- What are Data Formats?
- Difference between Data Formats and Data Structures
- The JSON Data Format
- BSON Data Format
- Advantages of BSON

### 3. MongoDB Concepts

- Servers
- Connections
- Databases
- Collections
- Documents
- CRUD
- Indexes

### 4. Querying MongoDB

- Query Expression Objects
- Query Options

- Cursors
- Mongo Query Language
- Dot Notation
- Full Text Search

## 5. MongoDB CRUD

- Insert (C)
- Simple Query Examples (R)
- Update (U)
- Remove (D)

## 6. Advanced querying

- Joins
- Server-side v/s Client-side querying
- Retrieving a subset of fields
- Conditional operators
- Aggregation
- Grouping
- Projections
- Cursor Methods
- MapReduce introduction

## 7. Replication

- Master-Slave Replication
- Adding and Removing Sources
- Replica Sets
- Nodes in a Replica Set
- Using Slaves for Data Processing
- Replication State and the Local Database

## 8. Indexing in MongoDB

- Introduction to Indexes
- Creating and querying with indexes
- Types and properties of indexes
- Covered query indexes
- \$ operator with indexes
- Indexes in replica set and sharded cluster

## 9. Backup

- Import & Export
- Backup & Restore
- Customize Import & Export