

## Python Development with MongoDB

### Course Overview

MongoDB is one of the new open source databases that focus on the ideas of the NoSQL (Not Only SQL) approach. This database is employed to handle documents in a free schema design that gives to the developer great flexibility to store and use data. The videos in the course covers download, installation, configuration, schema design, an overview of the database structure, CRUD operations, aggregations and map-reduce, indexing, integration of MongoDB with PHP, Perl, Python, Java, Ruby and .NET drivers, replication, and other administrative operations of MongoDB. All the examples and scenarios discussed are presented in real world situations

MongoDB course from CODEC Networks will help you to master one of the most popular NoSQL databases. This course is designed to provide knowledge and skills to become a successful MongoDB expert. The course covers a range of NoSQL and MongoDB topics such as CRUD Operations, Schema Design and Data Modelling, Scalability etc. This comprehensive course covers the basics of MongoDB as well as the more advanced aspects of it

This MongoDB Training Course further focuses in MongoDB technology to implement new ways to store and handle data that can be modeled as a document format.

### Who Should Attend

Python developers who works on the ability to implement a MongoDB solution from a developer standpoint and understand the architecture well enough to avoid common mistakes.

### Pre - requisites

Understanding of any mainstream programming language such as Java, basic understanding of database concepts, and knowledge of a text editor such as 'VI editor' will be beneficial.

### At Course Completion

After completing this course, students should be able to:

- Gain an insight into the 'Roles' played by a mongoDB expert.
- Learn how to design Schema using Advanced Queries.
- Understand MongoDB Aggregation framework
- Learn MongoDB Backup and Recovery options and strategies
- Understand scalability and availability in MongoDB using Sharding
- How to setup a replicated cluster, Managing ReplicaSets etc.
- Store, retrieve, and analyze data using MongoDB.
- How to setup Sharding
- Health Check, Backup, Recovery, Performance tuning, etc.
- Understand Hadoop and MongoDB Integration
- Data Migration in MongoDB with Hadoop (MongoDB to Hive)

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**Course Duration:** 30 Hours

## Course Outline

- **Introduction**
  - Introduction to NoSQL Architecture with MongoDB
  - How does MongoDB compare to other NoSQL solutions and to traditional databases
  - MongoDB a gateway drug to NoSQL
  - Caveats and Problems that MongoDB is not good at solving
  - The sweet-spot for MongoDB
  - Installing and setting up MongoDB
- **Working with Database, Collections, Document, Fields**
  - Using the console
  - Introduction to MongoDB commands
  - Creating a Database, Collection and Documents
  - Simple Querying
  - Understanding and working with indexes
- **Architecture Deep Dive**
  - Working with Replica Sets
  - What is the simplest setup to get started
  - Working with Journaling
  - Understanding data safety versus throughput tradeoffs
  - Autosharding: who should use it and tradeoffs
  - Massively scaling MongoDB
  - Know your application and don't kill a flea with a sledge hammer
- **Using the MongoDB Aggregation Framework**
- **Using Map Reduce with MongoDB**
- **Python and MongoDB**
  - Setting up MongoDB and Python (pymongo)
  - Working with Databases and Collections
  - Creating documents
  - Performing queries
  - Working with aggregation API