TechnoMaster

MongoDB

Duration: 90 Hrs (Changeable) | Fees: Individual / Batch

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Since 2007, Nestsoft TechnoMaster has been providing training and internships in IT technologies, both online and offline. We have given internships, training, and seminars to more than 25,000 students and achieved more success stories. **We offer 100% placement support through JobsNEAR.in**

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- React JS
- CCNA, MCSA
- AWS, GCP, Azure
- ODOO, Fortinet
- Ethical Hacking

Syllabus Contd..

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Syllabus

Module 1: Introduction to NoSQL

* What Is NoSQL?
* Why NoSQL databases are required
* Types of NoSQL Database
* NoSQL vs SQL Comparison
* ACID & BASE Property
* CAP Theorem
* Benefits of NoSQL databases
* Installation
* Start and Stop the MongoDB process

Module 2: MongoDB Architecture

* Document, Collection, Databases
* JSON and BSON
* Storage Engines
* Read Path
* Journaling
* Write Path
* Working Set
* Capped Collection
* Oplog collection
* TTL Index
* GridFS

Module 3: CRUD Operations

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Syllabus

* MongoDB Data Types

* Inserting, Update, Deleting the documents

* Querying the documents

* Bulk insert operation

* Updating multiple document

* Limiting documents

* Filtering documents

Module 4: Schema Design and Data modeling

* Dynamic Schema

* What is Data modeling?

* RDBMS and MongoDB Data modeling difference

* Embedding Document

* Reference Document

Module 5: Indexes

* Index concepts in MongoDB

* Types of indexes

* Indexes and its use cases
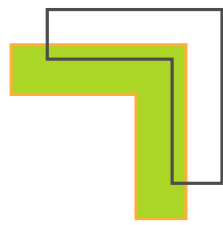
* Creating Indexes

* Managing Indexes

* Index strategies

Module 6: Database Administration in MongoDB

* Database status

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<u>Syllabus</u>

* Troubleshooting issues

* Current Operations

* Rotating log files

* Users and Roles

* Copy and Clone database

* DB and Collection Stats

* Explain plan

* Profiling

* Changing configuration files

* Upgrading the database

Module 7: MongoDB: Backup and Security

* Concept of backups

* mongoexport/mongoimport

* mongodump/mongorestore

* Oplog backups

* LVM Backups

* Backups using MMS/Ops Manager

* Purpose of security

* Authentication and authorization

* Role based access control

Module 8: Replication in MongoDB

* Concept of replication

* ReplicaSet member roles

* Voting and Electing primary

* Role of Oplog in replication

* Read and Write Concern

* Arbiter,Hidden and Delayed replica node

* Priority settings

* Replicaset nodes health check

* Concept of resyncing the nodes

* Rollbacks during failover
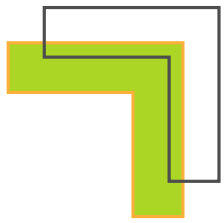
* Keyfile authentication

Module 9: MongoDB Scalability

* Concept of Scalability

* Sharding concept

* Shardkey and Chunks

* Choosing shardkey

* Sharding components

* Types of Sharding

* Balanced data distribution

* Sharded and Non-sharded collection

* Sharded Replicaset

* Tag aware sharding

Module 10: MongoDB Monitoring and Other Tools

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Syllabus

✳ MMS Manager

✳ Ops Manager

✳ Mongo utility commands

✳ Mongo developer tools

✳ MongoDB Atlas

✳ MongoDB client drivers