

MongoDB - 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

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

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Managing Indexes

Index strategies

Module 6: Database Administration in MongoDB

Database status

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

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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

MMS Manager

Ops Manager

Mongo utility commands

Mongo developer tools

MongoDB Atlas

MongoDB client drivers

For more details about this course, Click on this link: [MongoDB Training](#)