



MongoDB



POSITIVE QUADRANT
TECHNOLOGIES

Programming & development

Course Curriculum

Basic – 60 Hours



MongoDB

Module 1 : Introduction to MongoDB

Introduction to Mongo DB

Why use MongoDB?

Installation of MongoDB

Module 2 : Aggregation

Introduction to Aggregation

Syntax

Parameters

Count, Sum, Average, Match and Operations with arrays



POSITIVE QUADRANT
TECHNOLOGIES
SERVING INFORMATION WORLDWIDE

Module 3 : Backing up and Restoring Data

Mongoimport with JSON

Mongoimport with CSV

Basic mongodump of local default mongod instance

Basic mongorestore of local default mongod dump

Module 4 : Bulk Operations

Converting a field to another type

updating the entire collection in Bulk.

Module 5 : Collections



Create a Collection

Drop Collection

Module 6 : Configuration

Starting mongo with a specific config file

Module 7 : CRUD Database Operations

Syntax

Create, Read, Update and Delete Databases

More Update operators

List all databases

List all collections in database



Module 8 : Indexes

Syntax

Single field

Compound

List

Index Creation Basics

Module 9 : Hashed Indexes

Dropping / Deleting an Index

Get Indices of a Collection

Unique Index

Sparse Indexes and Partial Indexes



Difference between Sparse Indexes and Partial Indexes

Module 10 : MongoDB Java

Create a tailable cursor

Create a database user

Fetch Collection data with condition

Module 11 : Managing MongoDB

Managing MongoDB

Mongo as a Replica Set

Check MongoDB Replica Set states

Module 12 : Mongo as Shards

Sharding Environment Setup

Config Server

Replica Sets

Mongos

Module 13 : MongoDB - Configure

Introduction

Create the Root Certificate

Generate the Certificate Requests and the Private Keys

Sign your Certificate Requests

Concat each Node Certificate with its key

Deploy your ReplicaSet



Deploy your ReplicaSet for Mutual SSL / Mutual Trust

No Mutual SSL

With Mutual SSL

Module 14 : MongoDB Aggregation (Advanced)

Aggregate query

Match , Project, Group , Sum, Average, Minimum and Maximum

Minimum with Maximum

Push and addToSet

Unwind, Sorting, Skip, and

Comparison operator in projection

Comparison operator in match



Module 15 : MongoDB Aggregation (Advanced)

Boolean Aggregation operator in projection

Boolean Aggregation operator in match

Left Outer Join with Aggregation (\$Lookup)

Module 16 : MongoDB Authorization Model

Introduction

Build-in Roles

Database User Roles

Module 17 : Pluggable Storage Engines

MMAP



WiredTiger

In-memory

Mongo-rocks

Fusion-io

TokuMX

Module 18 : MongoDB Python

Syntax

Parameters

Module 19 : Python Driver

Connect to MongoDB using pymongo

PyMongo queries

Update all documents in a collection using PyMongo



Module 20 : Querying for Data

Find()

FindOne()

Query Document – Using AND, OR AND IN Conditions

Module 21 : Projection

Find() method

Limit, skip, sort and count the results of the find() method

Module 22 : Replication



Basic configuration with three nodes

Creating data folders

Starting mongod instances

Configuring replica set

Module 23 : Update Operators

Syntax

Parameters

Examples

