FANDS INFONET PVT. LTD.

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A *Fast AND Steady Approach*

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MongoDB

Total Duration

2 days

Audience

This workshop is intended for developers who need to start working with MongoDB, a open-source NoSQL document database.

Course Objectives

At the end of this training course, the participants will:
- Understand Mongo as a data store
- Be comfortable with Mongo's query and update languages
- Use Mongo's built-in JavaScript interpreter
- Query Mongo using Mongo's JSON-based query language
- Index Mongo collections

Pre-requisites
- Understanding of JavaScript Basics
- Working knowledge of JSON

Course Contents
- Introduction
- What is MongoDB?
  - The current SQL/NoSQL landscape
  - Document-oriented vs. other types of storage
  - Mongo's feature set
  - Common use-cases
  - Introduction to JSON
- Documents and Collections
  - Creating documents
  - Managing documents in collections
  - Iterating over documents
- Simple Queries
  - Field equality tests
  - Operators available
  - Projections
  - Limiting results and paging
- Simple Updates and Deletes
  - Field updates
  - Field insertions and removal
  - Document deletion

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- More Complex Types of Queries
    - Existential field values
    - Aggregations and groups
    - Aggregations and groups in hierarchical data
- Updates and Arrays
    - Altering array field elements
    - Insertion to array fields
    - Removing from array fields
- Indexing 1
    - The primary index and the _id field
    - Problems requiring an index
    - Defining secondary indexes
    - Compound indexes
- Indexing 2
    - Index selection
    - Index hints
    - Covering indexes
    - Index storage size
    - Indexes effect insertion and update speeds
- Mongo RESTful API
    - CRUD operations through REST
- MapReduce
    - Explanation of MapReduce
    - Types of logic that can be expressed as MapReduce declarations
    - Mapping documents
    - Reducing values
- Mongo Security
    - Authorization and securing collections, documents
    - The limits of Mongo's authorization scheme
    - Authentication
    - Mongo in the enterprise
- Introduction Mongo Replication and Sharding
    - Configuring replication
    - Configuring sharding
    - Accessing clustered data from client APIs
    - Latency and consistency in replicated and sharded Mongo

Hardware & Software Requirements

Trainer Machine
- NA

Participants Machine
- Eclipse (Kepler)

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- Internet Explorer (10 or 11)
- Mozilla and Firefox (latest)
- Mongo Db
- Internet Connectivity

Resources Required for the Training Program
- White Board
- White Board Markers & Duster
- LCD Projector

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