

Updated on 11/10/2023

Sign up

MongoDB training

3 days (21 hours)

Presentation

[MongoDB](#) is a free, open-source database management system developed since October 2007 by MongoDB, Inc. It is a NoSQL database, document-oriented and schema-free. It is flexible and can work efficiently with large amounts of data. It manages collections (equivalent to tables for MySQL) of JSON-like documents stored in a binary format (BSON). As with all our training courses, this one will introduce you to the latest stable version and its new features ([MongoDB 5.0](#)).

Objectives

- MongoDB presentation and installation
- Indexing, Replication and Sharding
- Securing the database
- Administering your MongoDB database

Target audience

- Architect
- Project managers
- Developers
- Database manager

Prerequisites

Knowledge of databases and Java.

MongoDB training program

Introduction

- Introduction to SDBG NoSQL MongoDB.
- The characteristics of NoSQL.
- Modeling with MongoDB.
- The different formats used by MongoDB: JSON, BSON.
- MongoDB features
- Available interfaces
- MongoDB usage examples

Installation

- Supported platforms
- Installation under various Linux distributions, launch
- Windows installation, configuration, service creation, startup
- MongoDB tools overview

Getting started with MongoDB

- Setting up your Document-oriented database
- Command prompt (shell) and administration
- Object and data manipulation: CRUD operations.
- Use of objects: collections, documents...
- The different development APIs
- Create your database

Writing scripts and programs for MongoDB

- External JavaScript scripts: how they differ from the shell and how to launch them
- Store JavaScript functions on the server and call them up
- Use drivers to manipulate data from external programs

Data indexing

- Principles. Index types and properties
- Query coverage and index intersection
- Indexing strategies and query explanation

Data replication

- Presentation and benefits
- Master and secondary nodes. Data replication and automatic failover in the event of an incident

- Secondary nodes: priority, hidden and deferred nodes
- Replication setup procedure

Data partitioning (sharding)

- Presentation and benefits
- Sharding with MongoDB
- Automatic or manual data distribution
- Procedure for setting up sharding
- The GridFS case: storing large files

Security

- Implementing authentication in MongoDB
- auth and keyFile configuration parameters
- Role management
- Study of the system.users collection

Administering your MongoDB database

- Backing up your data
- Base access security
- Graphical interfaces for database administration
- Logging management

MongoDB extension

- Indexing geospatial queries
- GridFS for large object storage
- Aggregate

Further information

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.