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Sign up

# MongoDB Advanced training

2 days (14 hours)

## Presentation

Would you like to take your MongoDB development a step further? This training course will enable you to become a MongoDB expert. You'll learn  search, aggregation and MapReduce functions, as well as how to use them properly.

MongoDB is a free, open-source database management system developed since October 2007 by MongoDB, Inc. It is a NoSQL document-oriented, schema-free database. 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 binary format (BSON).

Like all our training courses, this one will introduce you to the latest stable release and its new features: MongoDB 8.0.

## Objectives

- Set up a text search
- Store geographic information in your documents
- Develop searches based on aggregation and MapReduce functions
- Know when to use one of these methods for best performance.

## Target audience

- Architect
- Project managers
- Developers
- Database manager

## Prerequisites

Fundamental knowledge of MongoDB

# Technical requirements

- 10 GB free space
- 4 GB RAM

# MongoDB Advanced training program

## Text search

- Presentation
- Text indexes: support for text search
- The "$text" operator: search for keywords, phrases and word exclusions
- The language component
- Relevance retrieval and sorting
- Text search in Java

## Geospatial research

- Presentation
- Storing geographic data in legacy or GeoJSON format
- 2d" and "2dsphere" indexes: choices and repercussions
- Search operators
- Geospatial search in Java

## The Aggregation Framework

- The aggregation pipeline and the MapReduce function
- The simple "count" and "distinct" functions

## The aggregation pipeline

- Presentation
- The different stages of the pipeline
- Accumulation expressions
- Other operators
- Optimization
- The limits
- The aggregation pipeline and sharding
- Implementing the aggregation pipeline in Java

## MapReduce

- Introducing MapReduce and its benefits
- map, reduce and finalize functions
- Initial and incremental use.
- Impact on performance
- The limits of MapReduce
- Implementing the MapReduce function in Java

### Presentation of other frameworks

- Morphia
- Hibernate OGM
- Spring Data MongoDB
- Jongo

## 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.

## Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

## 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, 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.