Course : MongoDB, getting started and development

Practical course - 3d - 21h00 - Ref. MNO
Price : 1810 € E.T.

★★★★⯪   4,4 / 5

This highly practical training course will enable developers to design applications using MongoDB. This NoSQL database is ideal for processing huge quantities of unstructured documents. This course covers all the techniques needed to optimize database performance.

Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Installing the MongoDB DBMS
- ✓ Configuring MongoDB DBMS
- ✓ Handling objects and data in MongoDB
- ✓ Implementing an application under MongoDB
- ✓ Improving performance

Intended audience
This course is aimed at all IT professionals who need to develop with MongoDB.

Prerequisites
Good programming skills.

Course schedule

1) Introduction to MongoDB

- Introduction to SDBG NoSQL MongoDB.
- The characteristics of NoSQL.
- Modeling with MongoDB.
- The different formats used by MongoDB: JSON, BSON.
- Preparing to install MongoDB.
- Connect and test MongoDB.

Hands-on work
Installation of MongoDB on a development workstation and integration of a sample database.

2 Connecting to and using MongoDB

- Using the Mongo Shell.
- Object and data handling: CRUD operations (Create, Read, Update, Delete).
- Use of objects: collections, documents...
- Use of APIs (PHP, Java, etc.).

Hands-on work
Use the Mongo Shell to manipulate objects and data.

3 Modeling and indexing

- The design schema: thinking about the model to be used.
- Indexing with MongoDB.
- Profiling and query optimization.
- How MongoDB works: transaction, isolation, locking...
- MongoDB performance management.

Hands-on work
Case study modeling and data indexing.

4 Driver management

- Available drivers for MongoDB. API model.
- Use of PHP or Java API.

Hands-on work
Data manipulation through APIs (PHP or Java).

5 Introduction to replication and sharding

- MongoDB replication principles.
- ReplicaSet concepts and operating principles.
- Sharding: concept, operation, limits...
- ReplicaSet and sharding pair.
- Replica coupled with sharding.
- Sharding performance monitoring.

Hands-on work
Automatic or manual data sharding.

6 Performance management and diagnostics

- Analysis of execution plans.
- MongoDB logs.
- Monitoring indicators and performance.
- Performance monitoring tools: explain, mongostat, mongotop.
- Pipeline aggregation: presentation and concept.

Hands-on work
Execution plan analysis and query optimization.

7 MongoDB extension

- Index geospatial queries.
- GridFS needed to store "large objects".
- Aggregate.

Dates and locations

REMOTE CLASS
2026 : 9 Mar., 27 May, 28 Sep., 7 Dec.

PARIS LA DÉFENSE
2026 : 9 Mar., 27 May, 28 Sep., 7 Dec.