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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).

Like all our training courses, this one will introduce you to the latest stable release 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 different 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 training 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, 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.