

MONGODB

Descripción General

Curso orientado a usuarios y desarrolladores de aplicaciones que requieren acceder a información almacenada en un modelo de documentos NoSQL

Objetivo

Que el estudiante aprenda y aplique las técnicas y metodologías de procesamiento de información almacenada en un modelo de documentos NoSQL

Duración

20 horas

Requisitos

Conocimientos básicos de Linux.

1. Introduction

- 1.1. A Rich Data Model
- 1.2. Easy Scaling Tons of Features...
- 1.3. ...Without Sacrificing Speed
- 1.4. Simple Administration
- 1.5. But Wait, That's Not All...

1. Getting Started

- 1.1. Documents
- 1.2. Collections
- 1.3. Schema-Free
- 1.4. Naming
- 1.5. Databases
- 1.6. Getting and Starting MongoDB
- 1.7. MongoDB Shell
- 1.8. Running the Shell
- 1.9. A MongoDB
- 1.10. Client Basic Operations with the Shell

1.11. Tips for Using the Shell

1.12. Data Types

1.13. Basic Data Types

1.14. Numbers

1.15. Dates

1.16. Arrays

1.17. Embedded Documents

1.18. `_id` and ObjectIds

1. Creating, Updating, and Deleting Documents

1.1. Inserting and Saving Documents

1.2. Batch Insert

1.3. Inserts: Internals and Implications

1.4. Removing Documents

1.5. Remove S

1.6. `update` Updating

1.7. Documents Document

1.8. Replacement Using

1.9. Modifiers

1.10. Upserts Updating Multiple Documents

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- 1.11. Returning Updated Documents
- 1.12. The Fastest Write This Side of Mississippi
- 1.13. Safe Operations
- 1.14. Catching “Normal” Errors
- 1.15. Requests and Connections

1. Querying

- 1.1. Introduction to find
- 1.2. Specifying Which Keys to Return
- 1.3. Limitations
- 1.4. Query Criteria
- 1.5. Query Conditionals
- 1.6. OR Queries
- 1.7. \$not
- 1.8. Rules for Conditionals
- 1.9. Type-Specific Queries
- 1.10. null
- 1.11. Regular Expressions
- 1.12. Querying Arrays
- 1.13. Querying on Embedded Documents
- 1.14. \$where Queries

- 1.15. Cursors Limits, Skips, and Sorts
- 1.16. Avoiding Large Skips
- 1.17. Advanced Query Options
- 1.18. Getting Consistent Results
- 1.19. Cursor Internals

1. Indexing

- 1.1. Introduction to Indexing
- 1.2. Scaling Indexes
- 1.3. Indexing Keys in Embedded Documents
- 1.4. Indexing for Sorts
- 1.5. Uniquely Identifying Indexes
- 1.6. Unique Indexes
- 1.7. Dropping Duplicates
- 1.8. Compound Unique Indexes
- 1.9. Using explain and hint
- 1.10. Index Administration
- 1.11. Changing Indexes
- 1.12. Geospatial Indexing
- 1.13. Compound Geospatial Indexes
- 1.14. The Earth Is Not a 2D Plane

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1. Aggregation

- 1.1. count
- 1.2. distinct
- 1.3. group
- 1.4. Using a Finalizer
- 1.5. Using a Function as a Key
- 1.6. MapReduce
- 1.7. Example 1: Finding All Keys in a Collection
- 1.8. Example 2: Categorizing Web Pages
- 1.9. MongoDB and MapReduce

1. Advanced Topics

- 1.1. Database Commands
- 1.2. How Commands Work
- 1.3. Command Reference
- 1.4. Capped Collections
- 1.5. Properties and Use Cases
- 1.6. Creating Capped Collections
- 1.7. Sorting Au Naturel
- 1.8. Tailable Cursors
- 1.9. GridFS: Storing Files

1.10. Getting Started with GridFS: mongofiles Working with GridFS from the MongoDB Drivers

- 1.11. Under the Hood
- 1.12. Server-Side Scripting
- 1.13. db.eval
- 1.14. Stored JavaScript
- 1.15. Security
- 1.16. Database References
- 1.17. What Is a DBRef?
- 1.18. Example Schema
- 1.19. Driver Support for DBRefs
- 1.20. When Should DBRefs Be Used?

1. Administration

- 1.1. Starting and Stopping MongoDB
- 1.2. Starting from the Command Line
- 1.3. File-Based Configuration
- 1.4. Stopping MongoDB
- 1.5. Monitoring
- 1.6. Using the Admin Interface
- 1.7. serverStatus

1.8. mongostat

1.9. Third-Party Plug-Ins

1.10. Security and Authentication

1.11. Authentication Basics

1.12. How Authentication Works

1.13. Other Security Considerations

1.14. Backup and Repair

1.15. Data File Backup

1.16. mongodump and mongorestore

1.17. fsync and Lock

1.18. Slave Backups

1.19. Repair

1. Replication

1.1. Master-Slave Replication

1.2. Options

1.3. Adding and Removing Sources

1.4. Replica Sets

1.5. Initializing a Set

1.6. Nodes in a Replica Set

1.7. Failover and Primary Election

1.8. Performing Operations on a Slave

1.9. Read Scaling

1.10. Using Slaves for Data Processing

1.11. How It Works

1.12. The Oplog

1.13. Syncing

1.14. Replication State and the Local Database

1.15. Blocking for Replication

1.16. Administration

1.17. Diagnostics

1.18. Changing the Oplog Size

1.19. Replication with Authentication

1. Sharding

1.1. Introduction to Sharding

1.2. Autosharding in MongoDB

1.3. When to Shard

1.4. The Key to Sharding: Shard Keys

1.5. Sharding an Existing Collection

1.6. Incrementing Shard Keys Versus Random Shard Keys

1.7. How Shard Keys Affect Operations

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- 1.8. Setting Up Sharding
- 1.9. Starting the Servers
- 1.10. Sharding Data
- 1.11. Production Configuration
- 1.12. A Robust Config
- 1.13. Many mongos
- 1.14. A Sturdy Shard
- 1.15. Physical Servers
- 1.16. Sharding Administration
- 1.17. config Collections
- 1.18. Sharding Commands
- 1. Example Applications
 - 1.1. Chemical Search Engine: Java
 - 1.2. Installing the Java Driver
 - 1.3. Using the Java Driver
 - 1.4. Schema Design
 - 1.5. Writing This in Java
 - 1.6. Issues
 - 1.7. News Aggregator: PHP
 - 1.8. Installing the PHP Driver
 - 1.9. Using the PHP Driver
 - 1.10. Designing the News Aggregator
 - 1.11. Trees of Comments
 - 1.12. Voting
 - 1.13. Custom Submission Forms: Ruby
 - 1.14. Installing the Ruby Driver
 - 1.15. Using the Ruby Driver
 - 1.16. Custom Form Submission
 - 1.17. Ruby Object Mappers and Using MongoDB with Rails
 - 1.18. Real-Time Analytics: Python
 - 1.19. Installing PyMongo
 - 1.20. Using PyMongo
 - 1.21. MongoDB for Real-Time Analytics
 - 1.22. Schema
 - 1.23. Handling a Request
 - 1.24. Using Analytics Data
 - 1.25. Other Considerations