

Glossary: Getting Started with MongoDB

Welcome! This alphabetized glossary contains many of the terms you'll find within this course. This comprehensive glossary also includes additional industry-recognized terms not used in course videos. These terms are important for you to recognize when working in the industry, participating in user groups, and participating in other certificate programs.

| Term | Definition |
|----------------------|---|
| Aggregation pipeline | The aggregation pipeline in MongoDB allows for data transformation and processing using a series of stages, including filtering, grouping, sorting, and projecting. The aggregation pipeline is a powerful tool for expressive data manipulation. |
| B+ Tree | The B+ Tree is a data structure commonly used in database indexing to efficiently store and retrieve data based on ordered keys. |
| CRUD | CRUD is an acronym for create, read, update, and delete, which are the basic operations for the basic operations for interacting with and manipulating data in a database. |
| Election | In a MongoDB replica set, an election is the process of selecting a new primary node when the current primary becomes unavailable. |
| Horizontal scaling | The process of adding more machines or nodes to a NoSQL database to improve its performance and capacity. This is typically achieved through techniques like sharding. |
| Idempotent changes | Idempotent operations are those that can be safely repeated multiple times without changing the result. MongoDB encourages idempotent operations to ensure data consistency. |
| Indexing | The creation of data structures that improve query performance by allowing the database to quickly locate specific records based on certain fields or columns. |
| Mongo shell | The MongoDB shell, known as mongo shell, is an interactive command-line interface that allows users to interact with a MongoDB server using JavaScript-like commands. The mongo shell is a versatile tool for administration and data manipulation. |
| MongoClient | MongoClient is the official MongoDB driver that provides a connection to a MongoDB server and allows developers to interact with the database in various programming languages. |
| Oplog | The Oplog is a special collection that records all write operations in a primary node. It is used to replicate data to secondary nodes and recover from failures. |
| Primary node | In a MongoDB replica set, the primary node is the active, writable node that processes all write operations. |
| Replication | Replication involves creating and maintaining copies of data on multiple nodes to ensure data availability, reduce data loss, fault tolerance (improve system resilience), and provide read scalability. |
| Replication lag | Replication lag refers to the delay in data replication from a primary node to its secondary nodes in a replica set. Replication lag can impact the consistency of secondary data. |
| Secondary | Secondary nodes replicate data from the primary and can be used for read-operations. |
| Sharding | Refers to the practice of partitioning a database into smaller, more manageable pieces called shards to distribute data across multiple servers. Sharding helps with horizontal scaling. |
| Vertical scaling | Vertical scaling involves upgrading the resources (For example, CPU and RAM) of existing machines to improve performance. |



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