MongoDB Interview Questions and Answers

Q: What is MongoDB?

A: MongoDB is a NoSQL database that stores data in flexible, JSON-like documents. It is schema-less and allows hierarchical relationships.

Q: What are the key features of MongoDB?

A: Document-oriented, schema-less, indexing, replication, high availability, horizontal scaling with sharding, and aggregation framework.

Q: Difference between MongoDB and SQL databases?

A: MongoDB is document-based, uses collections instead of tables, has no fixed schema, and stores data in BSON format. SQL databases use tables and rows with fixed schema.

Q: What is a document in MongoDB?

A: A document is a set of key-value pairs stored in BSON format. It's analogous to a row in SQL databases.

Q: What is a collection?

A: A collection is a group of MongoDB documents, similar to a table in relational databases.

Q: What is BSON?

A: BSON (Binary JSON) is a binary representation of JSON documents, which supports more data types and is faster to parse.

Q: How to create a database in MongoDB?

A: Use the `use` command: `use myDatabase`.

Q: How to insert data in MongoDB?

A: Use `db.collection.insertOne(document)` or `insertMany(documents)`.

Q: How to retrieve data?

A: Use `db.collection.find(query)` to fetch documents. For example: `db.users.find({name: 'John'})`.

Q: What is indexing in MongoDB?

A: Indexes support efficient query execution. MongoDB supports single-field, compound, multikey, text, geospatial indexes.

Q: What is the aggregation framework?

A: It processes data records and returns computed results using stages like `$match`, `$group`, `$sort`, `$project`.

Q: What is a replica set?

A: A replica set is a group of MongoDB servers that maintain the same data set, providing redundancy and high availability.

Q: What is sharding?

A: Sharding splits large data sets across multiple servers to support horizontal scaling.

Q: How to update a document?

A: Use `db.collection.updateOne(filter, update)` or `updateMany`.

Q: How to delete documents?

A: Use `db.collection.deleteOne(filter)` or `deleteMany`.

Q: What is the use of `$set`, `$unset`, `$inc` operators?

A: `$set` updates fields, `$unset` removes fields, `$inc` increments numeric fields.

Q: How to perform text search?

A: Create a text index and use `$text: {$search: 'string'}` to query.

Q: What is the difference between `find()` and `findOne()`?

A: `find()` returns a cursor to all matching documents, while `findOne()` returns the first match.

Q: How does MongoDB ensure high availability?

A: Using replica sets, automatic failover, and data redundancy.

Q: What is Compass?

A: MongoDB Compass is a GUI for interacting with your MongoDB data using visual query building

and data exploration.