MONGODB Interview Questions and Answers

1. Compare MongoDB with Cassandra.

Criteria	MongoDB	Cassandra
Data Model	Document	Bigtable like
Database scalability	Read	Write
Querying of data	Multi-indexed	Using Key or Scan

2. What makes MongoDB the best?

MongoDB is considered to be the best NoSQL database because of its following features:

- Document-oriented (DO)
- High performance (HP)
- High availability (HA)
- Easy scalability
- Rich query language

3. How to do transactions/locking in MongoDB?

MongoDB does not use conventional locking with reduction as it is planned to be light, high-speed, and knowable in its presentation. It can be considered as parallel to the MySQL MyISAM auto entrust sculpt. With the simplest business sustain, performance is enhanced, particularly in a structure with numerous servers.

4. When and to what extent does data get extended to multi-slice?

MongoDB scrap stands on a collection. So, an album of all substances is kept in a lump or mass. Only when there is an additional time slot, there will be more than a few slice data achievement choices, but when there is more than one lump, data gets extended to a lot of slices and it can be extended to 64 MB.

5. Compare MongoDB with Couchbase and CouchbaseDB.

Although MongoDB, Couchbase and Couchbase DB are common in many ways, still they are different in the case of necessities for the execution of the model, crossing points, storage, duplications, etc.

6. When do we use a namespace in MongoDB?

During the sequencing of the names of the database and the collection, the namespace is used.

7. If you remove an object attribute, is it deleted from the database?

Yes, it is deleted. Hence, it is better to eliminate the attribute and then save the object again.

8. How can we move an old file into the moveChunk directory?

Once the functions are done, the old files are converted to backup files and moved to the **moveChunk** directory at the time of balancing the slices.

9. Explain the situation when an index does not fit into RAM.

When an index is too huge to fit into RAM, then MongoDB reads the index, which is faster than reading RAM because the indexes easily fit into RAM if the server has got RAM for indexes, along with the remaining set.

10. How does MongoDB provide consistency?

MongoDB uses the **reader–writer locks**, allowing simultaneous readers to access any supply like a database or a collection but always offering private access to single writes.

11. Why is MongoDB not chosen for a 32-bit system?

Mongo DB is not considered as a 32-bit system because for running the 32-bit MongoDB, with the server, information and indexes require 2 GB. That is why it is not used in 32-bit devices.

12. How does Journaling work in MongoDB?

Write operations are saved in memory while journaling is going on. The on-disk journal files are really dependable for the reason that the journal writes are habitual. Inside **dbPath**, a journal subdirectory is designed by MongoDB.

13. How can you isolate the cursors from intervening with the write operations?

The **snapshot()** method is used to isolate the cursors from intervening with writes. This method negotiates the index and makes sure that each query comes to any article only once.

14. Define MongoDB.

It is a document-oriented database that is used for high availability, easy scalability, and high performance. It supports the dynamic schema design.

15. Explain the replica set.

It is a group of mongo instances that maintains the same dataset. Replica sets provide redundancy and high availability and are the basis for all production deployments.

16. What are the key features of MongoDB?

There are three main features of MongoDB:

- Automatic scaling
- High performance
- High availability

17. What is CRUD?

MongoDB provides CRUD operations:

- **C**reate
- **R**ead
- **U**pdate
- **D**elete

18. What is Sharding?

In MongoDB, sharding means to store data on multiple machines.

19. What is Aggregation in MongoDB?

In MongoDB, aggregations are operations that process data records and return computed results.

20. Define Namespace in MongoDB.

It is the concatenation of the collection name and the name of the database.

Intermediate Interview Questions

21. Which syntax is used to create a Collection in MongoDB?

We can create a collection in MongoDB using the following syntax:

```
db.createCollection(name,options)
```

22. Which syntax is used to drop a Collection in MongoDB?

We can use the following syntax to drop a collection in MongoDB:

```
db.collection.drop()
```

23. Explain Replication.

Replication is the process of synchronizing data across multiple servers.

24. What is the use of an Index in MongoDB?

In MongoDB, indexes provide high-performance read operations for frequently used queries.

25. Which command is used for inserting a document in MongoDB?

The following command is used for inserting a document in MongoDB:

```
database.collection.insert (document)
```

26. What is the use of GridFS in MongoDB?

GridFS is used for storing and retrieving large files, such as audio, image, and video files.

27. What is the use of Journaling in MongoDB?

Journaling is used for safe backups in MongoDB.

28. Which command is used to see a connection?

We can use the following command to see the connection:
```
db_adminCommand ("connPoolStats")
```

29. Define the primary Replica set.

The primary replica set accepts all write operations from clients.

30. Define the secondary Replica sets.

The secondaries replicate the primary replica set's oplog and apply the operations to their datasets such that the secondaries' datasets reflect the primary's dataset.

31. What is the use of Profiler?

Profiler is used to show the performance characteristics of every operation against the database.

32. What type of data is stored by MongoDB?

MongoDB stores data in the form of documents, which are JSON-like field and value pairs.

33. What is the purpose of Replication?

Replication provides redundancy, and it increases data availability.

34. What are Embedded documents?

Embedded documents capture relationships between data by storing related data in a single document structure.

35. Define the application-level Encryption.

The application-level encryption provides encryption on a per-field or per-document basis within the application layer.

36. What is Storage Encryption?

Storage encryption encrypts all MongoDB data on storage or on the operating system to ensure that only authorized processes can access the protected data.

37. Which method is used to create an index?

The createIndex() method is used to create an index.

38. What is Replica set oplog?

The oplog records all operations that modify the data in the replica set.

39. What is Vertical Scaling?

Vertical scaling adds more CPU and storage resources to increase capacity.

40. Define Horizontal Scaling.

Horizontal scaling divides the dataset and distributes data over multiple servers, or shards.

Advanced Interview Questions

41. What are the components of the Sharded cluster?

The sharded cluster has the following components:

- Shards
- Query routers
- Config servers

42. Which command is used to create a database?

To create a database, we can use the **Database_Name** command.

43. Which command is used to drop a database?

The **db.dropDatabse()** command is used to drop a database.

44. What is the use of the pretty() method?

The pretty() method is used to show the results in a formatted way.

45. Which method is used to remove a document from a collection?

The remove() method is used to remove a document from a collection.

46. Define MongoDB Projection.

Projection is used to select only the necessary data. It does not select the whole data of a document.

47. What is the use of the limit() method?

The limit() method is used to limit the records in the database.

48. What is the syntax of the limit() method?

The syntax of the limit() method is as follows:

```
>db.COLLECTION_NAME.find().limit(NUMBER)
```

49. What is the syntax of the sort() method?

In MongoDB, the following syntax is used for sorting documents:

```
>db.COLLECTION_NAME.find().sort({KEY:1})
```

50. Which command is used to create a backup of the database?

The mongodump command is used to create a backup of the database.

51. What is a Collection in MongoDB?

In MongoDB, a collection is a group of MongoDB documents.

52. What is the use of the db command?

The db command gives the name of the currently selected database.

53. Which method is used to update documents into a collection?

The update() and save() methods are used to update documents into a collection.

54. What is the syntax of the skip() method?

The syntax of the skip() methopd is as follows:

```
>db.COLLECTION_NAME.find().limit(NUMBER).skip(NUMBER)
```

55. Which command is used to restore the backup?

The mongorestore command is used to restore the backup.

56. What is the use of the dot notation in MongoDB?

MongoDB uses the dot notation to access the elements of an array and the fields of an embedded document.

57. Define Auditing.

Auditing provides administrators with the ability to verify that the implemented security policies are controlling the activity in the system.

58. Define the Aggregation pipeline.

The aggregation pipeline is a framework for performing aggregation tasks. The pipeline is used to transform documents into aggregated results.

59. Define MapReduce.

MapReduce is a generic multi-phase data aggregation modality that is used for processing quantities of data.

60. What is Splitting in MongoDB?

Splitting is a background process that is used to keep chunks from growing too large.

61. Which language is used to write for MongoDB?

C++ is used for writing and implementing MongoDB.

62. In which format does MongoDB store data?

MongoDB uses collections to store data rather than tables.

63. What is the use of the save() method?

The save() method is used to replace the existing document with a new document.

64. What is MongoDB?

MongoDB (from humongous) is a cross-platform document-oriented database. Classified as a NoSQL database, MongoDB eschews the traditional table-based relational database structure in favor of JSON-like documents with dynamic schemas (MongoDB calls the format 'BSON'), making the integration of data in certain types of applications easier and faster. Released under a combination of the GNU Affero General Public License and the Apache License, MongoDB is open-source.

MongoDB was first developed by the software company 10gen (now, MongoDB Inc.) in October 2007 as a component of a planned platform as a service product. Then, the company shifted to an open-source development model in 2009, with 10gen offering commercial support and other services. Since then, MongoDB has been adopted as backend software by a number of major websites and services, including Craigslist, eBay, Foursquare, SourceForge, Viacom, and the New York Times, among others. Currently, MongoDB is the most popular NoSQL database system.

65. What is the use of MongoDB?

MongoDB is a relational database management system (RDBMS) replacement for web applications. So, when we have something close to RDBMS, MongoDB could be of good use.

It gives us the additional partition tolerance, which RDMBS doesn't offer, but it has problems with availability. Nonetheless, if we want more scalability, MongoDB would be the right choice for us. It's suitable for real-time analytics and high-speed logging, and it's highly scalable as well. Craigslist uses MongoDB for archived posts.

66. What do you understand by NoSQL databases? Is MongoDB a NoSQL database? Explain.

Presently, the Internet is loaded with big data, big users, and so on that are becoming more complex day by day. NoSQL is the answer to all these problems; it is not a traditional database management system, not even a relational database management system (RDBMS).

NoSQL stands for 'Not only SQL', and it is a type of database that can handle and sort all types of unstructured, messy, and complicated data. It is just a new way to think about databases.

Yes, MongoDB is a NoSQL database.

67. What type of a DBMS is MongoDB?

MongoDB is a document-oriented DBMS.

68. What is the difference between MongoDB and MySQL?

Although both MongoDB and MySQL are free and open-source databases, there is a lot of difference between them in terms of data representation, relationships, transaction, querying data, schema design and definition, performance speed, normalization, and many more. To compare MySQL with MongoDB is like a comparison between relational and non-relational databases.

69. What is the use of MongoDB?

- MongoDB is typically used as the primary data store for operational applications with real-time requirements (i.e., low latency, high availability, etc.). MongoDB is generally a good fit for 60–80 percent of the applications we build today. MongoDB is easy to operate and scale in the ways that are hard if not impossible with relational databases.
- MongoDB excels in many use cases where the relational databases aren't a good fit, like applications with unstructured, semi-structured, and polymorphic data, as well as those with large scalability requirements or multi-datacenter deployments.
- MongoDB may not be a good fit for some applications. For example, applications that require complex transactions (e.g., a double-entry bookkeeping system) and scan-oriented applications that access large subsets of the data mostly may not be a good fit for MongoDB. Also, MongoDB is not a drop-in replacement for legacy applications built around the relational data model and SQL.
- Some common use cases of MongoDB include mobile apps, product catalogs, real-time personalization, content management, and applications delivering a single view across multiple systems.

70. What kind of a database is MongoDB?

MongoDB is a document-oriented DBMS. We can think of it as MySQL but with JSON-like objects comprising the data model, rather than RDBMS tables. Significantly, MongoDB supports neither joins nor transactions. However, it features secondary indexes, an expressive query language, atomic writes on a per-document level, and fully-consistent reads. Operationally, MongoDB offers the master–slave replication with

automated failover and built-in horizontal scaling via automated range-based partitioning.

71. Which language is MongoDB written in?

MongoDB is implemented in C++. However, drivers and client libraries are typically written in their own respective languages. Although, some drivers use C extensions for better performance.

72. What are the limitations of the 32-bit versions of MongoDB?

MongoDB uses memory-mapped files. When running a 32-bit build of MongoDB, the total storage size for the server, including data and indexes, is 2 GB. For this reason, we do not deploy MongoDB to production on 32-bit machines.

If we're running a 64-bit build of MongoDB, there's virtually no limit to the storage size. For production deployments, 64-bit builds and operating systems are strongly recommended.

73. While creating a schema in MongoDB, what are the points need to be taken into consideration?

While creating a schema in MongoDB, the points need to be taken care of are as follows:

- Design our schema according to the user requirements
- Combine objects into one document if we want to use them together; otherwise, separate them
- Do joins while on write, and not when it is on read
- For most frequent use cases, optimize the schema
- Do complex aggregation in the schema