

1) The \_\_\_\_\_ References pattern stores each tree node in a document; in addition to the tree node, the document stores the id of the node's parent.

Select one:

- a. Child
- b. Root
- c. Parent
- d. None of the mentioned

2) Indexes can be created to improve the performance of searches within \_\_\_\_.

Select one:

- a. Both All
- b. MongoDB
- c. None of the mentioned above
- d. NoSQL

3) MongoDB supports the creation of user-defined ascending/descending indexes on a \_\_\_\_\_ field of a document.

Select one:

- a. Single
- b. Non Unique
- c. None of the mentioned
- d. Compound

4) Which of the following statements are true about MongoDB documents?

Select one:

- a. MongoDB documents within a collection must have the same fields.
- b. MongoDB documents are stored as BSON documents.
- c. MongoDB documents have a flexible schema.

5) Describe the workload for a given simplicity application, we should identify

Select one:

- a. Most frequent Operation
- b. quantily ops
- c. quatify ops

6) Given the following schema for the products collection: {id: ObjectId, product\_name : String, product\_id: String}. And the following index on the products collection:

{product\_id: 1} . Which of the following queries will use the given index to perform the sorting of the returned documents?

Select one or more:

- a. `db.products.find({ product_name: 'Soap' }).sort({ product_id: 1 })`
- b. `db.products.find({ product_id: '57d7a1' }).sort({ product_id: -1 })`
- c. `db.products.find({}).sort({ product_id: 1 })`
- d. `db.products.find({}).sort({ product_id: -1 })`
- e. `db.products.find({ product_name: 'Wax' }).sort({ product_name: 1 })`

7) Point out the correct statement.

Select one:

- a. One-to-One Relationships with document references presents a data model that uses embedded documents to describe one-to-one relationships between connected data
- b. One-to-One Relationships with embedded documents presents a data model that uses embedded documents to describe one-to-one relationships between connected data
- c. All of the mentioned
- d. One-to-Many Relationships with embedded documents presents a data model that uses embedded documents to describe one-to-one relationships between connected data

8) The \_\_\_\_\_ References pattern stores each tree node in array the id(s) of the node's children.

Select one:

- a. Root
- b. Paren
- c. Child
- d. None of the mentioned

9) Why did we introduce the one-to-zillions relationship in our modeling notation?

Select one:

- a. To address the fact that a crow's foot has 5 fingers, not 3.
- b. To address the fact that the concept of relationship linked to a huge number of entities is missing in normal crow's foot notation.
- c. To highlight the fact that huge cardinalities may impact design choices.

10) Point out the wrong statement.

Select one:

- a. None of the mentioned
- b. You can also maintain copies in different data centers to increase the locality and availability of data for distributed applications
- c. Clients have the ability to send read and write operations to different servers
- d. In all cases, you can use replication to increase read capacity

11) Which of the following statements are true about data modeling using MongoDB?

Select one or more:

- a. MongoDB is schema-less so you should not worry about designing a schema for your models.
- b. MongoDB will help you iterate on the schema designs of your models throughout your application's lifecycle.
- c. MongoDB should only be used for unstructured datasets.

12) The most frequent operations in a given application are

Select one:

- a. The read operations
- b. The write operations
- c. The read and write operations

13) Which of the following is not a usual constraint that would impact your data model for MongoDB?

Select one:

- a. RAM
- b. Disk Drives
- c. Security
- d. Operating System
- e. Network

14) Point out the correct statement.

Select one:

- a. None of the mentioned
- b. With MongoDB, you cannot embed related data in a single structure or document
- c. is generally known as "denormalized" models
- d. The key consideration for the structure of your documents is the decision to embed or to use references

15) Which of the following pattern is best for static trees that do not change?

Select one:

- a. Root
- b. Child
- c. Parent
- d. None of the mentioned

16) Which of the following is not part of the first phase of the data modeling methodology?

Select one:

- a. Identifying the durability of each write operation.
- b. Listing the read operations.
- c. Quantifying each of the operations in terms of latency and frequency.
- d. Listing the write operations.
- e. Identifying the relationships between the units of data.

17) A \_\_\_\_\_ set is a group of mongod instances that host the same data set.

Select one:

- a. sorted
- b. replica
- c. radii
- d. copy

18) Point out the wrong statement.

Select one:

- a. MongoDB can return sorted results by using the ordering in the index
- b. None of the mentioned
- c. Fundamentally, indexes in MongoDB is different to indexes in other database systems
- d. MongoDB defines indexes at the collection level and supports indexes on any field or sub-field of the documents in a MongoDB collection

19) \_\_\_\_\_ operations that use an index often have better performance than those that do not use an index.

Select one:

- a. Update
- b. Delete

c. Select

d. Sort

20) The key consideration for the structure of your documents is the decision to embed or to use references

Select one:

a. TRUE

b. FALSE

c. Can be true or false

d. Can not say

21) MongoDB indexes use a \_\_\_\_\_ data structure.

Select one:

a. Hash

b. B-tree

c. All of the mentioned

d. Map

22) The embedded data model has the following disadvantages:

Select one or more:

a. It can lead to data duplication.

b. We can read and update data in a single database operation.

c. The maximum size of a MongoDB document is 16MB, which is why care must be taken before embedding documents in other documents.

23) \_\_\_\_\_ data models allow applications to store related pieces of information in the same database record.

Select one:

a. Reference

b. None of the mentioned

c. Embedded

d. External

24) The data in MongoDB has a flexible schema?

Select one:

a. True

b. False

25) Which of the following pattern may provide a suitable solution for storing graphs?

Select one:

- a. Parent
- b. None of the mentioned
- c. Root
- d. Child

26) When should you ever read from secondaries?

Select one or more:

- a. When doing ad-hoc queries and analytic jobs.
- b. To increase performance in a write-heavy system.
- c. To provide reads with lower latency.

27) The \_\_\_\_\_ index is unique and prevents clients from inserting two documents with the same value for the `_id` field.

Select one:

- a. `_def`
- b. `$default`
- c. None of the mentioned
- d. `_id`

28) MongoDB supports searching by \_\_\_\_.

Select one:

- a. Field
- b. Range queries
- c. All of the mentioned above
- d. Regular expression searches

29) Point out the correct statement.

Select one:

- a. The key challenge in data modeling is balancing the needs of the application, the performance characteristics of the database engine, and the data retrieval patterns
- b. In practice, the documents in a collection share a different structure
- c. Data in MongoDB has a flexible schema
- d. None of the mentioned

30) Which one of the following scenarios is the best candidate to use the Extended Reference Pattern to avoid doing additional reads through joins/lookups?

Select one:

- a. An app needs to retrieve a product and its ten most recent reviews.
- b. An order model needs to store the product ID, the price sold, and the quantity ordered for each product in an order.
- c. A product model needs to store a counter representing the number of times it was purchased.
- d. A product model needs to store references to images of the product that are kept in an external location outside the database.
- e. An app needs to retrieve a product and information about its supplier.

31) The create operations in database:

Select one:

- a. All of them
- b. is an operation which change data that already exists in a database
- c. is an operation which involve writing data to the database

32) A document is a set of \_\_\_\_.

Select one:

- a. None of the mentioned above
- b. Activity pair set
- c. Key-value pairs
- d. Application pairs

33) The data model available within MongoDB allows us to represent \_\_\_\_.

Select one:

- a. Hierarchical relationships
- b. None of the mentioned above
- c. Able to handle complex structures
- d. Both All

34) Point out the correct statement.

Select one:

- a. None of the mentioned
- b. The index stores the location of a specific field or set of fields, ordered by the value of the field

c. Indexes support the efficient execution of queries in MongoDB

d. If an appropriate index exists for a query, MongoDB cannot use the index to limit the number of documents it must inspect

35) Which of the following pattern is more straightforward to use?

Select one:

a. Array of Ancestor

b. None of the mentioned

c. Nested Sets

d. Materialized Paths

36) Amongst which of the following is / are true about MongoDB?

Select one:

a. High performance database

b. MongoDB is a cross-platform database

c. Document oriented database

d. All of the mentioned above

37) MongoDB stores documents in \_\_\_\_.

Select one:

a. Collections

b. None of the mentioned above

c. Indexes

d. Store

38) Which of the following are valid concerns regarding duplication, staleness and referential integrity management in a MongoDB database and appropriate resolution techniques?

Select one or more:

a. Data staleness issues can be minimized with frequent batch updates.

b. Data duplication should not exist and can be avoided with multi-document transactions.

c. Data integrity issues can be minimized by using multi-document transactions.

39) Point out the wrong statement.

Select one:

a. Data in MongoDB has a flexible schema



- b. None of the mentioned
- c. Decisions that affect how you model data can affect application performance and database capacity
- d. Collections do enforce document structure

40) Point out the wrong statement.

Select one:

- a. None of the mentioned
- b. Replication allows you to recover from hardware failure and service interruptions
- c. With multiple copies of data on different database servers, replication protects a database from the loss of a single server
- d. Replication provides redundancy and increases data availability

41) Which one of the following scenarios is the best candidate for use of the Subset Pattern?

Select one:

- a. The working set does not fit in memory and it is difficult to scale the hardware.
- b. The documents are too big.
- c. The developers of the system have left and no one understands the application.
- d. The system is accessing the disk too frequently
- e. The system is running out of RAM.

42) MongoDB can provide high availability with replica sets?

Select one:

- a. False
- b. True

43) MongoDB uses \_\_\_\_\_ indexes to index the content stored in arrays.

Select one:

- a. none of the mentioned
- b. singlekey
- c. multikey
- d. compkey

44) A record in MongoDB is a \_\_\_\_.

Select one:

- a. None of the mentioned above

- b. Table
- c. Application
- d. Document

45) The maximum size of a MongoDB document is

Select one:

- a. 12 MB
- b. 16 MB
- c. 2 MB
- d. There is no maximum size. It depends on RAM

46) Which of the following are use cases in which you should model your data for performance rather than simplicity?

Select one:

- a. There is not an applicable design pattern to the solution.
- b. The application is being developed by 100 engineers.
- c. It is expected that the solution will be designed with only 10 shards.

47) From a performance standpoint, when working with a distributed database it's important to consider...

Select one or more:

- a. Latency
- b. Routed Queries
- c. Reading from secondaries only

48) \_\_\_\_\_ documents capture relationships between data by storing related data in a single document structure.

Select one:

- a. External
- b. Internal
- c. Capped
- d. Embedded

49) What does the term “atomic” mean in the context of relational databases?

Select one:

- a. A tuple that cannot be reduced.
- b. One unit of information that cannot be decomposed.

- c. A column or row of data. Depends on the context.
- d. Fixed schema of a particular database.

50) Indexes supported by MongoDB:

Select one:

- a. Multikey Indexes
- b. All of the above
- c. Compound Indexe
- d. Geospatial Indexes

51) MongoDB provides a \_\_\_\_\_ index type that supports searching for string content in a collection.

Select one:

- a. char
- b. string
- c. none of the mentione
- d. text

52) Replica sets provide high availability using automatic \_\_\_\_\_

Select one:

- a. failover
- b. failure
- c. replication
- d. all of the mentioned

53) MongoDB also supports user-defined indexes on multiple fields called

Select one:

- a. compound
- b. composite
- c. none of the mentioned
- d. candidate

54) Which of the following relationship uses references to describe documents between connected data?

Select one:

- a. One-to-One Relationships with Embedded Documents

b. One-to-Many Relationships with Embedded Documents

- c. One-to-Many Relationships with Document References
- d. None of the mentioned

55) To provide high availability and data consistency, in a production sharded cluster, each shard is a \_\_\_\_\_

Select one:

- a. partitio
- b. all of the mentioned
- c. replica set
- d. cluster

56) Which of the following is used to avoid repetition of data in MongoDB schema?

Select one:

- a. Collectors
- b. Cursor
- c. References
- d. DeReferences

57) Which of the following statements regarding indexes are true?

Select one or more:

- a. Indexes can decrease write, update, and delete performance.
- b. The \_id field is automatically indexed on all collections.
- c. Indexes reduce the number of documents MongoDB needs to examine to satisfy a query.
- d. Indexes are used to increase the speed of our queries.

58) Point out the wrong statement.

Select one:

- a. There is a practical maximum capability for vertical scaling
- b. cloud-based providers may only allow users to provision smaller instances
- c. All of the mentioned
- d. Scaling by adding capacity do not have limitations.

59) What is MongoDB Data Modeling?

Select one or more:

- a. Also, common fields in a collection can contain different types of data. This helps in easy mapping.
- b. It is a schema-less database or we can say, it has a flexible schema.
- c. We know that MongoDB is a document-oriented database or NoSQL database.
- d. Unlike the structured database, where we need to determine table's schema in advance, MongoDB is very flexible in this area.
- e. We can have documents containing different sets of fields or structures in the same collection.
- f. MongoDB deals in collections, documents, and fields.

60) Which one of the following scenarios is best suited for the application of the Attribute Pattern?

Select one:

- a. The documents are large.
- b. The system is accessing the disk too frequently.
- c. Some fields share a number of characteristics, and we want to search across those fields.
- d. The working set does not fit in memory.
- e. The documents need strict validation.

61) Which of the following are valid ways to represent a one-to-one relationship with the document model in MongoDB?

Select one or more:

- a. Embed the fields in the document.
- b. Link to a single document in another collection.
- c. Embed the fields as a sub-document in the document.

62) \_\_\_\_\_ documents capture relationships between data by storing related data in a single document structure.

Select one:

- a. Embedded
- b. External
- c. Capped
- d. Internal

63) Consider a one-to-many relationship observed between a county and the cities in that county. Which of the following are valid ways to represent this one-to-many relationship with the document model in MongoDB?

Select one or more:

- a. Embed the entities for the cities as an array of sub-documents in the corresponding county document.
- b. Have a collection for the counties and a collection for the cities with each city document having a field to reference the document of its county.
- c. Embed all the fields for a city as a subdocument in the corresponding county document.

64) Field is a name-value pair in a \_\_\_\_.

Select one:

- a. Document
- b. Table
- c. None of the mentioned above
- d. Attribute

65) \_\_\_\_\_ define what records to select for read, update, and delete operations.

Select one:

- a. All of the mentioned
- b. Update definitions
- c. Query optimizer
- d. Query selector

66) A \_\_\_\_\_ data model with embedded data combines all related data for a represented entity in a single document.

Select one:

- a. relational
- b. normalized
- c. denormalized
- d. non relational

67) Which of the following are valid ways to represent a one-to-one relationship with the document model in MongoDB?

Select one or more:

- a. Embed the fields as a sub-document in the document.
- b. Embed the fields in the document.

68) Failover allows a \_\_\_\_\_ member to become primary if primary is unavailable.

Select one:

- a. Secondary
- b. Primary
- c. ViewState
- d. Hidden

69 MongoDB supports sharding through the configuration of a sharded \_\_\_\_\_

Select one:

- a. shapes
- b. clusters
- c. sets
- d. all of the mentioned

70) Point out the wrong statement.

Select one:

- a. When designing data models, always consider the application usage of the data (i.e. queries, updates, and processing of the data) as well as the inherent structure of the data itself
- b. The key decision in designing data models for MongoDB applications revolves around the structure of documents and how the application represents relationships between data
- c. All of the mentioned
- d. There are two tools that allow applications to represent these relationships: references and embedded documents

71) Which of the following is not part of the first phase of the data modeling methodology?

Select one:

- a. Listing the write operations.
- b. Quantifying each of the operations in terms of latency and frequency.
- c. Listing the read operations.
- d. Identifying the relationships between the units of data.
- e. Identifying the durability of each write operation.

72) NoSQL is not a \_\_\_\_.

Select one:

- a. Communication set

- b. None of the mentioned above
- c. Relational database
- d. Network database

73) Point out the correct statement.

Select one:

- a. The query to retrieve the parent of a node is fast and straightforward
- b. All of the mentioned
- c. The query to retrieve the parent of a node is slow and complex
- d. The query to retrieve the parent of a node is slow and straightforward

74) A replica set can have only \_\_\_\_\_ primary.

Select one:

- a. Two
- b. All of the mentioned
- c. Three
- d. One

75) Which other type of index is mostly closely related to text indexes?

Select one:

- a. Compound indexes
- b. Multi-key indexes
- c. Single-key indexes
- d. Partial indexes

76) Which of the following statements are true about one-to-zillions relationships?

Select one or more:

- a. The relationship representations that embed documents are not recommended.
- b. It is a special case of the one-to-many relationship.
- c. We must take extra care when writing queries that retrieve data on the zillions side.

77) MongoDB is one of the leading NoSQL databases?

Select one:

- a. False
- b. True

78) Point out the wrong statement.



Select one:

- a. An index supports a query when the index contains all the fields scanned by the query
- b. Creating indexes that support queries results in greatly increased query performance
- c. The query scans the index and the collection
- d. None of the mentioned

79) The \_\_\_\_\_ Links pattern provides a simple solution to tree storage but requires multiple queries to retrieve subtrees.

Select one:

- a. All of the mentioned
- b. Parent
- c. Child
- d. Root

80) Which of the following is/are true?

Select one:

- a. Vertical scaling is generally cheaper than horizontal scaling.
- b. Ordered bulk operations are faster than unordered.
- c. Picking a good shard key is one of the most important parts of sharding.

81) Normalized data models describe relationships using \_\_\_\_\_ between documents.

Select one:

- a. None of the mentioned
- b. relativeness
- c. evaluation
- d. references

82) \_\_\_\_\_ scaling adds more CPU and storage resources to increase capacity.

Select one:

- a. Horizontal
- b. Partition
- c. All of the mentioned
- d. Vertical

83) \_\_\_\_\_ store the relationships between data by including links or references from one document to another.

Select one:

- a. Capped
- b. External
- c. References
- d. Embedded

84) Which of the following is used to avoid the repetition of data in MongoDB schema?

Select one:

- a. Cursor
- b. Collectors
- c. References
- d. DeReferences

85) The embedded data model has the following advantages:

Select one:

- a. We can read and update data in a single database operation
- b. No data duplication

86) All other instances, secondaries, apply operations from the \_\_\_\_\_ so that they have the same data set.

Select one:

- a. center
- b. primary
- c. none of the mentioned
- d. secondary

87) Which of the following is true regarding partial indexes?

Select one or more:

- a. Partial indexes can be used to reduce the number of keys in an index.
- b. Partial indexes represent a superset of the functionality of sparse indexes.
- c. Partial indexes don't support a uniqueness constraint.
- d. Partial indexes support compound indexes.

88) In MongoDB, write operations are atomic at the \_\_\_\_\_ level.

Select one:

- a. all of the mentioned
- b. row
- c. document
- d. collection

89) Normalized data models describe relationships using \_\_\_\_\_ between documents.

Select one:

- a. evaluation
- b. relativeness
- c. none of the mentioned
- d. references

90) Which of the following phases are included in our data modeling methodology for MongoDB?

Select one or more:

- a. Identify the relationships between models.
- b. Identifying the workload of the system.
- c. Applying schema design patterns.