

MSDS 7330

File Organization and Database Management

Quiz MongoDB

This is a synchronous session quiz assignment for MSDS7330, File Organization and Database Management. This quiz is due at the end of the same class period in which it is handed out or whenever the instructor tells you to hand it in; whichever comes first. Enter your answer to each question in the MSDS 7330 Quiz Answer Sheet Word document. Be sure to place your name and today's date in the Quiz Answer Sheet, and place your last name and the unit number at the beginning of the file name. For example, the filename for the quiz answer sheet for Unit 14 for Daniel Engels should be *Engels14MSDS7330QuizAnswerSheet.docx*.

For one question, in the Quiz Answer Sheet write out the explanation why the answer is correct. Your chosen question should be a different question from all other students in the session.

Your answer Word document should be submitted on the 2DS system for the quiz number equal to the unit number. For example, the quiz for Unit 14 should be submitted for Quiz 14.

- 1) MongoDB is what type of NoSQL database?
 - a) Graph
 - b) Key-Value Pair
 - c) Family column
 - d) Document oriented
- 2) Which of the following are important features of MongoDB?
 - a) Flexible data model in the form of documents
 - b) Agile and highly scalable database
 - c) Faster than traditional relational database
 - d) Expressive query language
 - e) All of the above.
 - f) None of the above.
- 3) What is a namespace in MongoDB?
 - a) The database name.
 - b) The collection name.
 - c) The namespace defined by the namespace command.
 - d) The dot concatenation of the database name and the collection name.
- 4) Which languages are supported by MongoDB for interaction with MongoDB databases?
 - a) Python
 - b) Go
 - c) Perl
 - d) All of the above.
 - e) None of the above.
- 5) In what way does MongoDB support ACID transaction management and locking functionalities?
 - a) MongoDB does not support ACID at any level.
 - b) MongoDB supports atomicity on single document operations only.
 - c) MongoDB supports consistency across multi-document operations.
 - d) MongoDB supports atomicity across multi-document operations.
- 6) How can we achieve primary key – foreign key relationships in MongoDB?
 - a) This concept is achieved by embedding one document inside another.
 - b) MongoDB does not support the relational concept.
 - c) This concept is achieved by embedding a pointer to another document within a document.
 - d) All of the above.
 - e) None of the above.
- 7) How does MongoDB utilize RAM to operate?
 - a) MongoDB utilizes a fixed amount of RAM regardless of database size or operations.
 - b) MongoDB utilizes a variable amount of RAM, but requires large amounts of RAM to operate.
 - c) MongoDB utilizes a fixed but small amount of RAM during operation.
 - d) MongoDB utilizes a variable amount of RAM, and can operate even on small RAM sizes.

- 8) What is a potential issue in writing data to MongoDB databases?
- Multi-collection writes are not atomic.
 - Data is written to disk lazily.
 - Data is eventually consistent.
 - All of the above.
 - None of the above.
- 9) What is used as a 'key' within MongoDB?
- Nothing. MongoDB has no concept of a key or structure equivalent to a key.
 - ObjectID which consists of a 12-byte BSON type with 4 bytes representing seconds, 3 byte machine identifier, 2 byte process id and a 3 byte counter.
 - Collection name is used as the equivalent of a key.
 - All of the above.
 - None of the above.
- 10) How are indexes used in MongoDB?
- MongoDB does not support indexes.
 - Indexes in MongoDB are limited to the _id index.
 - Indexes support efficient execution of queries in MongoDB.
 - Indexes in MongoDB are limited to within a collection.
- 11) What is a 'covered query' in MongoDB?
- A query in which the fields returned in the results are all part of the same collection.
 - A query in which the fields used in the query and the fields returned in the results of the query are pulled from a single collection.
 - A query in which the fields used in the query are part of an index used in the query and the fields returned in the results are in the same index.
 - A query in which the fields used in the query are part of an index used in the query.
- 12) What facility does MongoDB provide to search inside of text strings?
- MongoDB does not support searches within a text string.
 - Create an index of the content inside the text string.
 - Evaluate the text string content one word at a time.
 - Create an index of the first word of each sentence inside the text string.
- 13) What is replication in MongoDB?
- Replication is the process of copying data from one location to a new location.
 - Replication is the process of synchronizing data across multiple locations.
 - Replication is the process of copying data from memory to disk.
 - Replication is the process of synchronizing data from disk to RAM.
- 14) When a write occurs in MongoDB, to which server is the data written?
- Both the primary and the secondary replica set.
 - The secondary replica set.
 - The primary replica set.
 - The server on which the user is issuing the write.
- 15) When should we embed one document within another in MongoDB?
- 'contains' relationships between entities
 - One-to-many relationships
 - Performance reasons
 - All of the above.
 - None of the above.