L21 : NoSQL

1-Tut : MCQ - 1

Send Feedback

NoSQL databases are used usually for handling large volumes of _____ data.

Options

This problem has only one correct answer

Structured
Semi-structured
Unstructured
All of the above

Correct Answer : C

Solution Description

NoSQL is popularly misunderstood as No SQL but it actually means Not only SQL database. NoSQL is also claimed as the next-generation database. The Relational databases we use are not designed to manage all kinds of data efficiently, like large volumes of unstructured data whereas NoSQL databases are designed to manage these data efficiently.

2-Tut : MCQ - 2

Send Feedback

What is true for NoSQL databases ?

Options

This problem has only one correct answer

NoSQL cannot store structured data
NoSQL is a database that is built on ways and means to store data in format other than tables.
NoSQL uses tables to store data and is an enhanced form of RDBMS.
None

Correct Answer : B

Solution Description

NoSQL is a schema-free database. The data structure is used for storing is different from what we learned in relational databases. Data structures used here are more flexible than the relation used in relational databases. Also, the data is not stored in a table format. In NoSQL, data is stored in document databases, key-value stores, wide-column databases, and graph databases.

3-Tut : MCQ - 3

Send Feedback

NoSQL stands for:

Options

This problem has only one correct answer

Advance SQL
Not SQL
Not Only SQL
New Optimized SQL

Correct Answer : C

Solution Description

NoSQL, popularly misunderstood as No-SQL but it actually means Not Only SQL database.

4-Tut : MCQ - 4

Send Feedback

NoSQL databases are often referred to as:

Options

This problem has only one correct answer

Object-oriented databases
Network databases
Relational databases
Distributed databases

The solution to this problem has been viewed

Solution Description : D

NoSQL Databases are referred to as distributed databases. It's a mechanism for storing and retrieving data and is also claimed as the next-generation database. They are used in real-time web applications and big data and their usage is peaking over time. NoSQL databases go against the conventional attitude of storing information at a single location, instead, it distributes and stores information over a set of multiple servers.

5-Tut : MCQ - 5

Send Feedback

Most NoSQL databases support automatic _____ meaning that you get high availability and disaster recovery.

Options

This problem has only one correct answer

processing
scalability
replication
all of the mentioned

Correct Answer : C

Solution Description

NoSQL databases are highly available due to their auto replication feature i.e. whenever any kind of failure happens data replicates itself to the preceding consistent state. This helps in high availability and data recovery.

6-Tut : MCQ - 6

Send Feedback

What do we call a phenomenon when we add more computational power to our existing machine?

Options

This problem has only one correct answer

Sharding
Scale up
Horizontal Scaling
None of the above

Correct Answer : B

Solution Description

Explanation: Vertical scaling means that you scale by adding more power (CPU, RAM) to an existing machine. It is also known as Scaling up.

7-Tut : MCQ - 7

Send Feedback

What are the advantages of NoSQL?

Options

This problem has only one correct answer

It supports semi-structured data and volatile data.
Read/Write throughput is very high.
Flexible Schema
Can scale up to great extent
All of the above
None

Correct Answer : All of the above

Solution Description

Advantages of No SQL are

1. **Horizontal Scaling**: Scaling out means distributing the database throughout multiple computers when the load increases. Therefore, it can handle more traffic simply by adding more servers to the database. **It can scale up to great extent.**

2. **High Availability**: NoSQL databases are highly available due to their auto replication feature i.e. whenever any kind of failure happens data replicates itself to the preceding consistent state. **It is available for all types of data including semi-structured and volatile data.**

3.**Less management:** NoSQL databases require minimum to zero management, they are equipped to auto-repair data distribution and due to it having flexible data models that result in reducing administration and performance difficulties. **This results in very high throughput in read/write operations.**

4.**Flexible Schema:** Relational databases are used to have a defined schema, which is quite an issue because in case you need to make any modification or addition to the database we need to change the schema as well every time.

8-Tut : MCQ - 8

Send Feedback

What does RDBMS ensures but NoSQL doesn't ?

Options

This problem has only one correct answer

ACID properties
No Redundancy
Both
None

Correct Answer : C

Solution Description

When compared to SQL or relational databases, NoSQL database is designed for storing data of many types but it lacks functionalities like it doesn't support transaction properties like ACID, etc.

Data Redundancy means having the same copies of data in a database. It is not accomplished in NoSQL but it is done in RDBMS.

9-Tut : MCQ - 9

Send Feedback

Which of the following is usually not a feature in NoSQL?

Options

This problem has only one correct answer

Easy scaling
Creating fixed schema
High availability
None

Correct Answer : B

Solution Description

Relational databases are used to have a defined schema, which is quite an issue because in case you need to make any modification or addition to the database we need to change the schema as well every time. To overcome this NoSQL creates a flexible schema.

10-Tut : MCQ - 10

Send Feedback

What are the disadvantages of NoSQL?

Options

This problem has only one correct answer

a. In order to support ACID developers will have to implement their own code, making their systems more complex
b. If the data requirements are not clear, we can use a flexible schema.
c. NoSQL databases don't have the reliability functions which Relational Databases have.
d. a,b
e. a,c
f. All of the above
g. None

Correct Answer : e

Solution Description

The disadvantages of NoSQL:
1. When compared to SQL or relational databases, a NoSQL database is designed for storing data of many types but it lacks functionality like it doesn't support transaction properties like ACID.
2. The process of managing big data on NoSQL is quite complex as compared to RDBMS.
3. It doesn't support data entry with constraints like RDBMS
4. Other concerns for NoSQL are standardization, Interfaces and Interoperability and also less community support.

5. It is also not compatible with SQL, although few NoSQL databases do use SQL but many don't.

11-Tut : MCQ - 11

Send Feedback

Redis is a database type based on:

Options

This problem has only one correct answer

SQL
Key-value NoSQL
Relational data model
JSON Database

Correct Answer : B

Solution Description

A key-value pair consists of a value that is basically any piece of data or information is saved with a key to identify its location at the time of operation. Database which stores data in the form of key-value pair is known as key-value No-SQL database. Redis is a popular key-value NoSQL database. The other examples of key-value databases are Amazon AWS, DynamoDB, Oracle NoSQL, Aerospike.

12-Tut : MCQ - 12

Send Feedback

Key-value NoSQL, is designed for managing:

Options

This problem has only one correct answer

Associative arrays
Unstructured data
Json data files

All of them

Correct Answer : D

Solution Description

Explanation: In Key-Value database, we can store any type of data in the value.

13-Tut : MCQ - 13

Send Feedback

Key Value database should not be used, if there are:

Options

This problem has only one correct answer

Heavy updates on the data
Small data chunks of different format to be stored
Heavy reads on the data
None

Correct Answer : A

Solution Description

When there are heavy write operations (insert, update, delete, etc) on the database key-value pair database should not be used because of the reason that query is performed on one key at a time. It takes a lot of time to do heavy write operations on the database. It's difficult to find the key: value pair we want to update because we cannot search using the value.

14-Tut : MCQ - 14

Send Feedback

In what database, while recording the data, the timestamp of entering that data is also recorded.

Options

This problem has only one correct answer

Relational Database with a counter
Key-value database
Column based NoSQL database
All of them

Correct Answer : C

Solution Description

Column based No-SQL database records the timestamp of data, while recording the database.

15-Tut : MCQ - 15

Send Feedback

What is a unique identifier of the data in a columnar database?

Options

This problem has only one correct answer

Row id
Key

Timestamp
Can be any column

Correct Answer : A

Solution Description

Columnar NoSQL Database stores data in columns instead of rows. It speeds up the read and write process from the memory to return a query faster. It stores data in a way that greatly improves disk I/O performance. So, the unique identifier in the data become the row_id of the database

16-Tut : MCQ - 16

Send Feedback

Which property of the columnar database makes it apt for a content management system.

Options

This problem has only one correct answer

Aggregation
Scalability
Flexible
Compression

Correct Answer : D

Solution Description

Explanation: Compression: Column stores are very efficient at data compression and this is why it is used for content management systems.

17-Tut : MCQ - 17

Send Feedback

In document based nosql database, data models contains

Options

This problem has only one correct answer

Tables
Documents
Key value pair
None

Correct Answer : B

Solution Description

Document Based NoSQL database are very similar to key-value databases. Here information is stored in a document along with a key pair. It uses the internal structure of the document for identification and storage. The data is saved as an instance in the database in comparison to how we do it in relational databases i.e. in tabular form. This method of storing data makes it easier for users to map the data in the database

18-Tut : MCQ - 18

Send Feedback

Which of the following implements ACID transactions

Options

This problem has only one correct answer

a. Key-value Nosql database
b. Relational database
c. Document based nosql database
d. b and c

Correct Answer : D

Solution Description

ACID property is implemented by: Relational as well as Document-based NoSQL database. Key-value pair doesn't implement ACID properties.

19-Tut : MCQ - 19

Send Feedback

Ebay has many of it's projects running on MongoDB, which kind of database is being used?

Options

This problem has only one correct answer

Columnar Nosql database
Key-value Nosql database
Document based nosql database
none

Correct Answer : C

Solution Description

MongoDB is a type of Document type database. It stores data in the form of JSON format. MongoDB is developed by MongoDB Inc. and licensed under the Server Side Public License. Some real-life applications of document-based databases:
1. Blogging sites like Twitter
2. Analytical platforms
3. E-commerce platforms like Amazon, eBay.

4. Content management systems.

20-Tut : MCQ - 20

Send Feedback

Which of the following databases contains edges and nodes.

Options

This problem has only one correct answer

Columnar Nosql database
Key-value Nosql database
Document based nosql database
Graph based nosql database

Correct Answer : D

Solution Description

Graph Based NoSQL is a collection of related objects. Each node in the graph represents an entity, where all of them are interconnected, the edge through which nodes are connected defines relationships among them.

21-Tut : MCQ - 21

Send Feedback

When we need to store a database of social websites like facebook, what database should be used.

Options

This problem has only one correct answer

Columnar Nosql database
Graph based nosql database
Key-value Nosql database
Document based nosql database

Correct Answer : B

Solution Description

Real-Life applications where Graph-based database is used:
1. It can work really well when working on social networks.
2. It can be used to support transportation systems as well.
3. It can be used to detect fraud in transactions.

4. It can be used to store criminal network data.

22-Tut : MCQ - 22

Send Feedback

More than One Correct.

Which of the following can be stored using graph based nosql database

Options

This problem may have one or more correct answers

Medical history of a person
Fraud Detection
Recommendation engine
Network and IT operations

Correct Answer : A, B, C, D

Solution Description

The graph-based representation will help understand all these situations better because it will help define the relationship (if any). Like for network and IT operations, how are employees connected. Professionals these days actively use Linkedin to connect.

For the Recommendation Engine, it will depend upon the searches/purchases we have made, a relationship will be established between them and hence recommendations will be made.

For the medical history of a person, there could be cases where certain diseases make a person prone to other diseases as well. So that relationship could be established. It could also be used to explain a condition if anything is being inherited in the genes.

For Fraud detection, it works if any odd amount of money is being withdrawn from the account. Now to get that judgement of odd, the database contains previous all the transactions made, along with the time they were made.

These form a relationship in-between them and if something is observed out of trend/rules of relationship, fraud is detected.

Any other database will make this process of forming relationships very tedious, hence graph-based databases are used which are quite simple to comprehend when talking about relationships among entities.

23-Tut : MCQ - 23

Send Feedback

Out of the following, which is an apt reason to use an SQL database?

Options

This problem has only one correct answer

It can easily store unstructured data.
It can enable development in the cloud
It's ACID-compliant
None

Correct Answer : C

Solution Description

Some of the reasons why we should use SQL databases.

1. SQL databases are long-established with a fixed schema design and a set structure.

2. SQL databases are ideal for applications that require multi-row transactions such as an accounting system or for legacy systems that were built for a relational structure.

3. SQL databases are in accordance with ACID properties.

24-Tut : MCQ - 24

Send Feedback

Which of the following databases is idle for being used for User’s session data retrieval?

Options

This problem has only one correct answer

Columnar Nosql database
Graph based nosql database
Key-value Nosql database
Document based nosql database

Correct Answer : C

Solution Description

Explanation: Key-value stores are ideal for storing and retrieving session data at high speeds. The unique Id generated by cookies act as a key while the other information such as user profiles act as a value.

25-Tut : **MCQ - 25**

Send Feedback

Which situation from the following will be apt to use key-value stores?

Options

This problem has only one correct answer

Blogging
Managing Web Advertisements
Google maps
Manage data warehouse

Correct Answer : B

Solution Description

Explanation: Key-Value databases are mainly used by web advertisement companies. On the basis of users' online activity, web advertisement companies decide which advertisement to show to the user. It is also important to note that serving advertisements should be fast enough. It is important to target the right advertisement to the right customer in order to receive more clicks and hence to maximize the profits.

Combination of factors such as user's tracked activity online, language and location determine what a user is interested in forms the key while as all other factors that are needed to serve the advertisement better are kept as the value in key-value databases.

26-Tut : **MCQ - 26**

Send Feedback

Which database is a smart choice for data warehousing and big data processing.

Options

This problem has only one correct answer

Columnar Nosql database
Graph based nosql database
Key-value Nosql database
Document based nosql database

Correct Answer : A

Solution Description

Explanation: A columnar database stores data by columns rather than by rows, which makes it suitable for analytical query processing, faster retrieval and thus for data warehouses

27-Tut : **MCQ - 27**

Send Feedback

Which of the following databases will be the best choice to maintain the Images data if required for any sort of project.

Options

This problem has only one correct answer

Columnar Nosql database
Graph based nosql database

Key-value Nosql database
Document based nosql database

Correct Answer : D

Solution Description

Explanation: CouchDB, will contain a bucket for the JSON documents containing the metadata about each image.

Another bucket can also be used to store the thumbnail of the image which might work as key for the data data structure.

28-Tut : MCQ - 28

Send Feedback

Out of the following, for which situation a graph based database will be apt.

Options

This problem has only one correct answer

Semantic Search
Leaderboard for online games
Content management
Shopping cart at any online e-commerce website.

Correct Answer : A

Solution Description

Explanation: Semantic search is search with meaning, as opposed to “normal” search where the search engine looks for literal matches of the queried words without understanding the overall meaning of the query.
It takes into account the context of search, location and the intent of queries. It understands the searcher’s intent and the contextual meaning of terms in the Web, or on an enterprise data storage, and provides more relevant results.

Hence, graph based database will be able to workout these relationships and

come up with better results.