Dynamo DB is a fast, flexible, and highly scalable NoSQL database. It handles heavy and intense applications and is considered one of the best databases for mobile, web, gaming, finance, and advertising technology. Many of the world’s fastest-growing companies like Samsung, Toyota, Netflix, Disney use Dynamo DB to handle their critical workloads and any amount of traffic. So it is high time for aspirants to be aware of how this database work and its internal features. Here is a list of Dynamo DB interview questions that will help you crack the interview.

#### Q1. How does Dynamo DB work?

**Answer:**

Dynamo DB uses B-trees and Hashing techniques to manage data. When you enter data, it is first distributed into different partitions using hashing then the data is stored in a particular partition by initializing it with a key. Each partition can store up to 10GB of data by default and handles 3000 read and 1000 write capacity units. Dynamo DB stores and retrieves information based on partition key values.

To write an item to the table, Dynamo DB uses partition key value and inputs this value to the hash function then the output of this function determines the partition of where to store the item.

#### Q2. How does Dynamo DB prevent data loss?

**Answer:**

To prevent data loss, Dynamo DB uses a two-tier backup system and long-term storage. Each of the partitions contains three nodes, each of which holds a copy of that particular partition’s data. Each node includes two data structures: a B tree used to locate items and a replication log that notes all the changes made to that node. Dynamo DB takes snapshots of these and stores them for a month in another AWS database to efficiently restore the databases.

#### Q3. How do NoSQL databases like Dynamo different from SQL databases?

**Answer:**

The relational model databases stores data into tables further dividing them into rows and columns. It defines rows and columns, indexes, the relationship between tables, and other database elements. On the other hand, NoSQL databases like Dynamo use various data models like key-value documents and graphs for retrieving and managing data.

#### Q4. List some advantages of using Dynamo DB?

**Answer:**

* It is a self-managed service that does not require experts for setup, installation, etc.
* It is flexible and allows dynamic tables which include many attributes.
* It is cost-effective and highly available.
* It can be used for a long-term basis and can store huge information.
* It is a highly recommended database.

#### Q6. List the data types supported by Dynamo DB?

**Answer:**

Dynamo supports scalar data types such as:

* Boolean
* String
* Binary
* Number

Dynamo supports a collection of data types such as:

* Number set
* String set
* Binary set

#### Q7. List the APIs provided by Dynamo DB?

**Answer:**

List of APIs provided by Dynamo DB:

* CreateTable
* UpdateTable
* DeleteTable
* DescribeTable
* ListTables
* UpdateItem
* DeleteItem
* Query
* Scan

#### Q8. What are the two types of primary keys supported by Dynamo DB?

**Answer:**

* Partition key: Used for hash value to detect storage.
* Sort key: Used to detect storage location

#### Q9. What are data pipelines?

**Answer:**

Data pipeline imports and exports data from other databases, file, etc, and also help in backups and testing.

There are two types of data pipeline:

DataPipelineDefaultRole:

It holds all the actions you permit the pipeline to perform.

DataPipelineDefaultResourceRole:

It holds all the resources that you permit the pipeline to perform.

#### Q10. Explain what is Dynamo DB Mapper class?

**Answer:**

It is the main access point to the Dynamo database. The DynamoDB mapper gives access to the DynamoDB endpoint and allows the user to execute queries and enter records in diverse tables.

#### Q11. How is DynamoDB different from other databases?

**Answer:**

DynamoDB is known as the “Amazon’s footprint in the NoSQL world”. Dynamo database is regarded as one of the best and scalable databases because it has a flexible data model in which the attributes of a row will not match the one in the next row. This database can store key-value pairs and JSON files. The major advantage of having DynamoDB as your database is you don’t have to maintain any servers or handle the traffic. All that you need to do is create tables and start using them.

#### Q12. How do you generate Dynamo DB Access key and Secret key?

**Answer:**

* Log in to AWS and then go to the security credentials page.
* Navigate to Access Keys section then create a new access key by clicking on Create New Access Key.
* Click on the Show access key link to see the access key which was created.

#### Q13. List some important methods of Dynamo DB Mapper Class?

**Answer:**

* Save: Saves a particular object to the table.
* Load: Retrieves an item from the table
* Delete: It deletes an item from the table
* Query: Queries a table or an index
* Scan page: Scans a table or index and returns a matched result page.
* Parallel scan: Performs a scan of the entire table or index.
* Batch save: Saves object to one or more tables.

#### Q14. What is the partition key in Dynamo DB?

**Answer:**

A partition key is simply a primary key with only one attribute. Dynamo DB uses partition key as input to the hash function whose output determines the partition to store the item in the database

#### Q15. What is an index in DynamoDB?

**Answer:**

DynamoDB allows faster access to items in the database table by providing primary key values. Indexing takes place when you want to fetch the attributes data other than the primary key. An index is a data structure that increases the speed of retrieving the data from the database.

### Conclusion

* Dynamo DB is a fast, flexible, and highly scalable NoSQL database
* Dynamo DB uses B-trees and Hashing techniques to manage data.
* NoSQL databases like Dynamo use various data models like key-value documents and graphs for retrieving and managing data.
* DynamoDB allows faster access to items in the database table by providing primary key values
* DynamoDB maintains servers and handles traffic.