

AWS Cloud DynamoDB

Topics : [AWS](#)

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Amazon DynamoDB is a managed NoSQL database service provided by Amazon Web Services (AWS). It is designed to provide seamless and low-latency performance for applications that require fast and predictable access to data. Here are some key aspects of DynamoDB:

1. NoSQL Database:

- DynamoDB is a NoSQL (non-relational) database, which means it does not use traditional SQL for querying data.
- It is schema-less, allowing you to add or remove fields without affecting existing data.

2. Managed Service:

- AWS DynamoDB is a fully managed service, meaning AWS takes care of the administrative tasks such as hardware provisioning, setup, configuration, replication, and backups.
- This allows developers to focus more on application development rather than managing the underlying infrastructure.

3. Scalability:

- DynamoDB is designed to scale horizontally to handle increasing workloads. You can scale your read and write capacity easily by adjusting the provisioned throughput settings.
- It automatically partitions data across multiple servers to ensure performance as data volume increases.

4. Performance:

- DynamoDB provides single-digit millisecond latency for read and write operations, making it suitable for applications that require low-latency access to data.
- The performance is consistent regardless of the volume of data stored.

5. Data Models:

- DynamoDB supports key-value and document data models. It allows for flexible data modeling and supports nested data structures.
- The primary key can be a single attribute (for the key-value model) or a composite of two attributes (for the document model).

6. Security:

- DynamoDB provides robust security features, including encryption at rest and in transit.
- Access control can be managed through AWS Identity and Access Management (IAM) roles and policies.

7. Integration:

- DynamoDB integrates seamlessly with other AWS services, such as AWS Lambda, Amazon S3, and Amazon EMR, making it easy to build end-to-end solutions.

8. On-Demand and Provisioned Throughput:

- You can choose between on-demand capacity and provisioned capacity. On-demand capacity automatically scales based on the actual workloads, while provisioned capacity allows you to specify the desired read and write throughput.

9. Global Tables:

- DynamoDB supports global tables, allowing you to replicate your data across multiple AWS regions for enhanced availability and fault tolerance.

When working with DynamoDB, you'll interact with it using the AWS Management Console, AWS CLI (Command Line Interface), or one of the AWS SDKs available for various programming languages. The SDKs provide APIs for performing operations such as reading and writing data, managing tables, and handling errors.

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