TNGS Learning Solutions
AWS Solutions Architect
Online Course
Dynamo DB

Dynamo DB

- Amazon DynamoDB is a managed NoSQL database service provided by Amazon Web Services (AWS).
- It is designed to deliver fast and predictable performance for applications that require single-digit millisecond response times, even at scale.
- DynamoDB is known for its flexibility, scalability, and seamless integration with other AWS services.

Dynamo DB

- **NoSQL Database**: DynamoDB is a NoSQL database, which means it is designed for handling structured or semi-structured data in a flexible schema-less manner. It is well-suited for a wide range of applications, including web and mobile applications, gaming, IoT (Internet of Things), and more.
- **Fully Managed Service**: DynamoDB is a fully managed service, which means AWS takes care of the operational aspects such as server provisioning, setup, configuration, patching, and backups. This allows developers to focus on building applications rather than managing database infrastructure.

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- **Scalability**: DynamoDB provides both automatic and manual scalability options. You can start with small capacities and scale up as your application grows. It can handle extremely high traffic and large datasets with ease.
- **High Availability and Durability**: Data in DynamoDB is automatically replicated across multiple Availability Zones (AZs) within an AWS region to ensure high availability and durability. It offers 99.999% availability.

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- **Single-Digit Millisecond Latency**: DynamoDB is designed for low-latency performance. It consistently provides single-digit millisecond response times, making it suitable for applications that require real-time data access.
- **Data Model**: DynamoDB supports both key-value and document data models. It allows you to store and retrieve data using a primary key (which can be a simple key or a composite key) and secondary indexes for flexible querying.

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- **Schema Flexibility**: DynamoDB's schema is flexible, meaning you can add or remove attributes from items (records) without affecting other items in the table. This allows for agile development and schema evolution.
- **Consistency Models**: DynamoDB offers two consistency models: eventually consistent reads and strongly consistent reads. You can choose the consistency model that best suits your application's requirements.

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- **Global Tables**: DynamoDB Global Tables allow you to replicate data across multiple AWS regions, enabling you to build globally distributed and highly available applications.
- **Streams**: DynamoDB Streams provide a changelog of all changes made to the data in a table. They can be used for building real-time applications, change tracking, and event-driven architectures.

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- **Integration with AWS Services**: DynamoDB integrates seamlessly with other AWS services like AWS Lambda, Amazon S3, AWS Identity and Access Management (IAM), AWS CloudTrail, and more.
- **On-Demand and Provisioned Throughput**: You can choose between on-demand capacity and provisioned capacity based on your application's workload and cost considerations.

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- **Security**: DynamoDB offers encryption at rest and in transit, fine-grained access control with IAM policies, and integrates with AWS Identity and Access Management (IAM) for authentication and authorization.
- **Backup and Restore**: You can create on-demand backups and schedule automated backups of your tables. These backups are retained for the specified duration and can be used for data recovery.
- **Point-in-Time Recovery**: DynamoDB supports point-in-time recovery, allowing you to restore a table to any point in time within a specified retention period.

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- Amazon DynamoDB is a versatile and scalable database service that is suitable for a wide range of use cases, from simple key-value storage to complex, highly available, and globally distributed applications.
- It is a popular choice for developers building serverless applications on AWS.