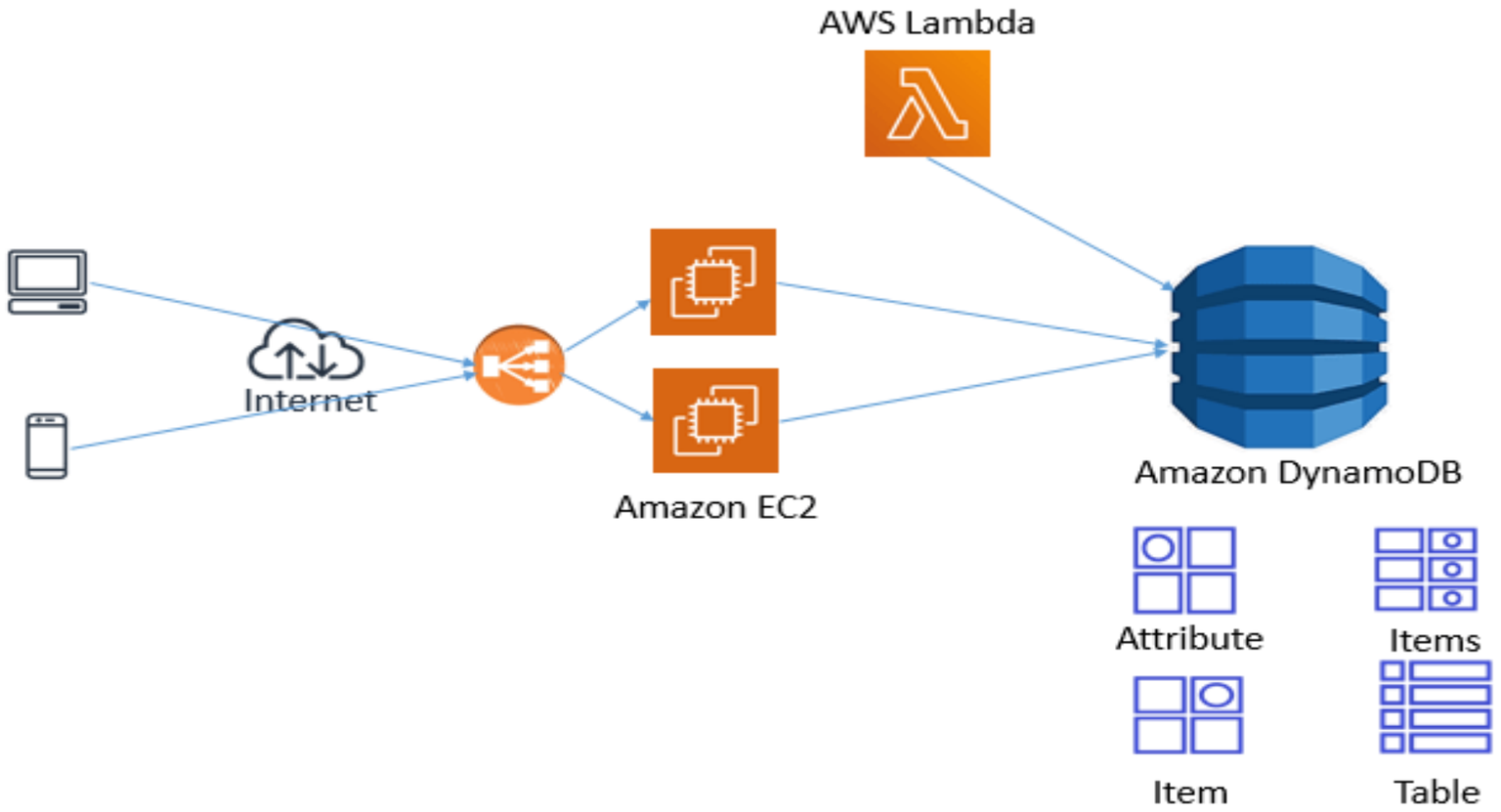
iamneo

Amazon DynamoDB

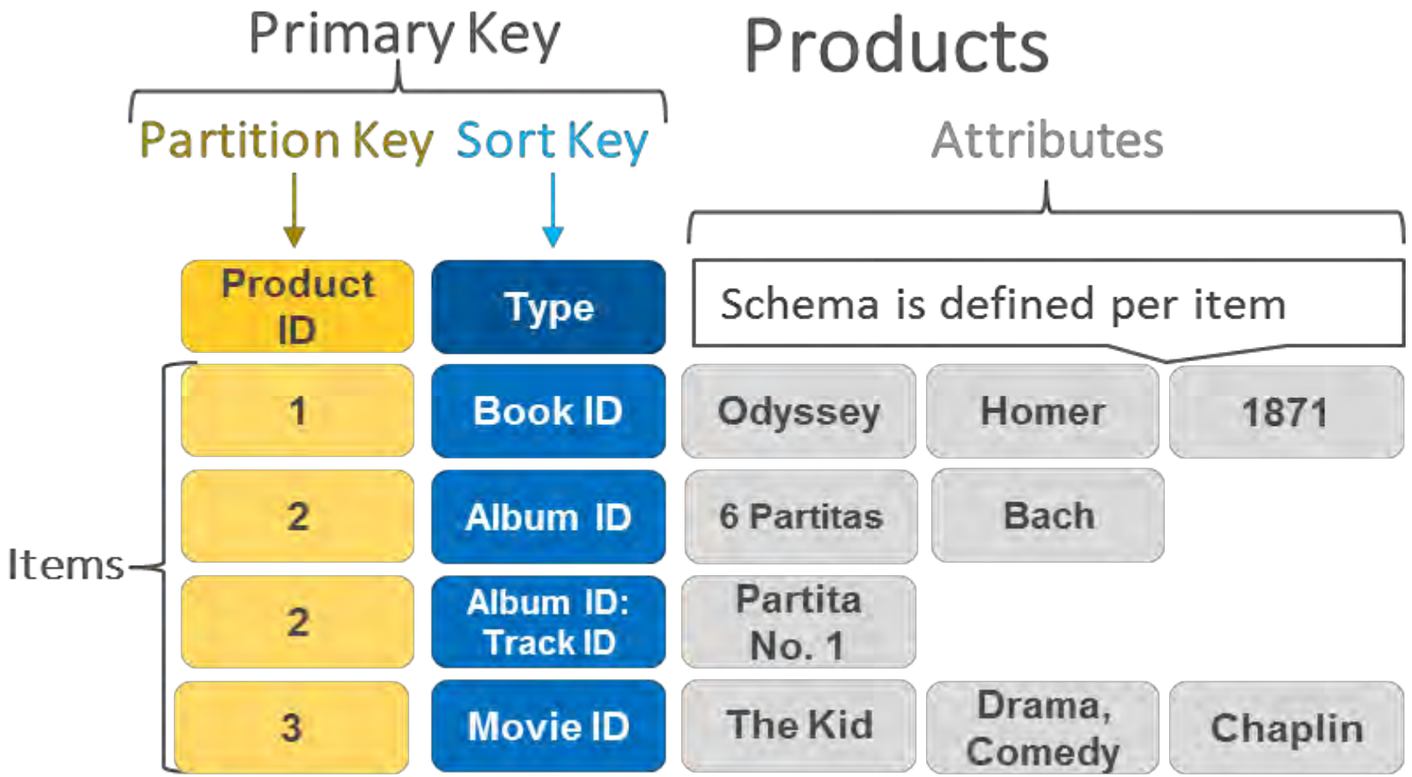
Introduction to Amazon DynamoDB



Introduction to Amazon DynamoDB

- AWS Dynamo DB is a No SQL Database which is built to support No SQL compatible database in cloud environment.
- AWS Dynamo DB is fully managed server less No SQL database service it means you do not need to take care of any server/infrastructure, AWS does take care it for you. Dynamo DB is highly salable,available and durable database service. it is a key value pair database store.
- Dynamo DB can also store document.

Key-Value Data Model and Benefits

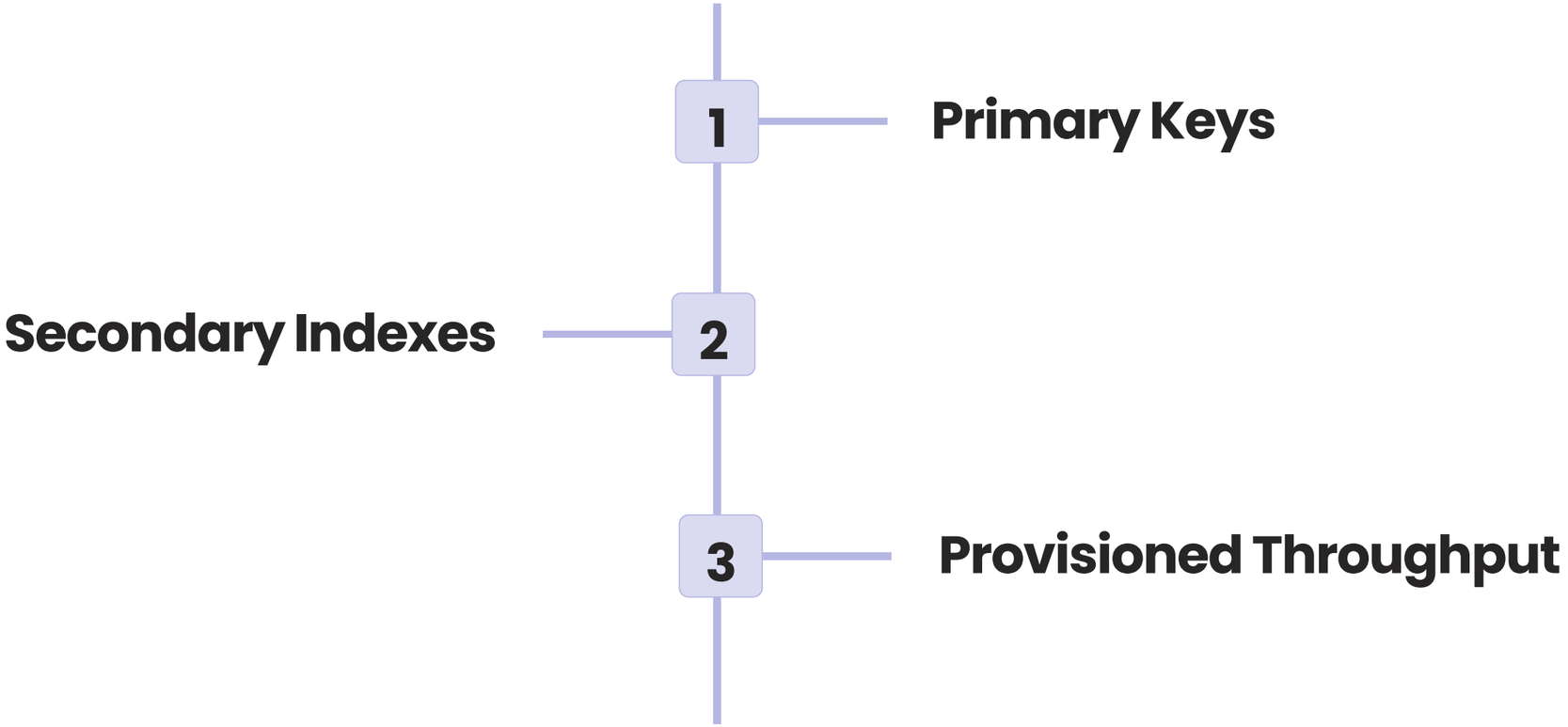


The primary key uniquely identifies each item in the table, and secondary indexes can be created.

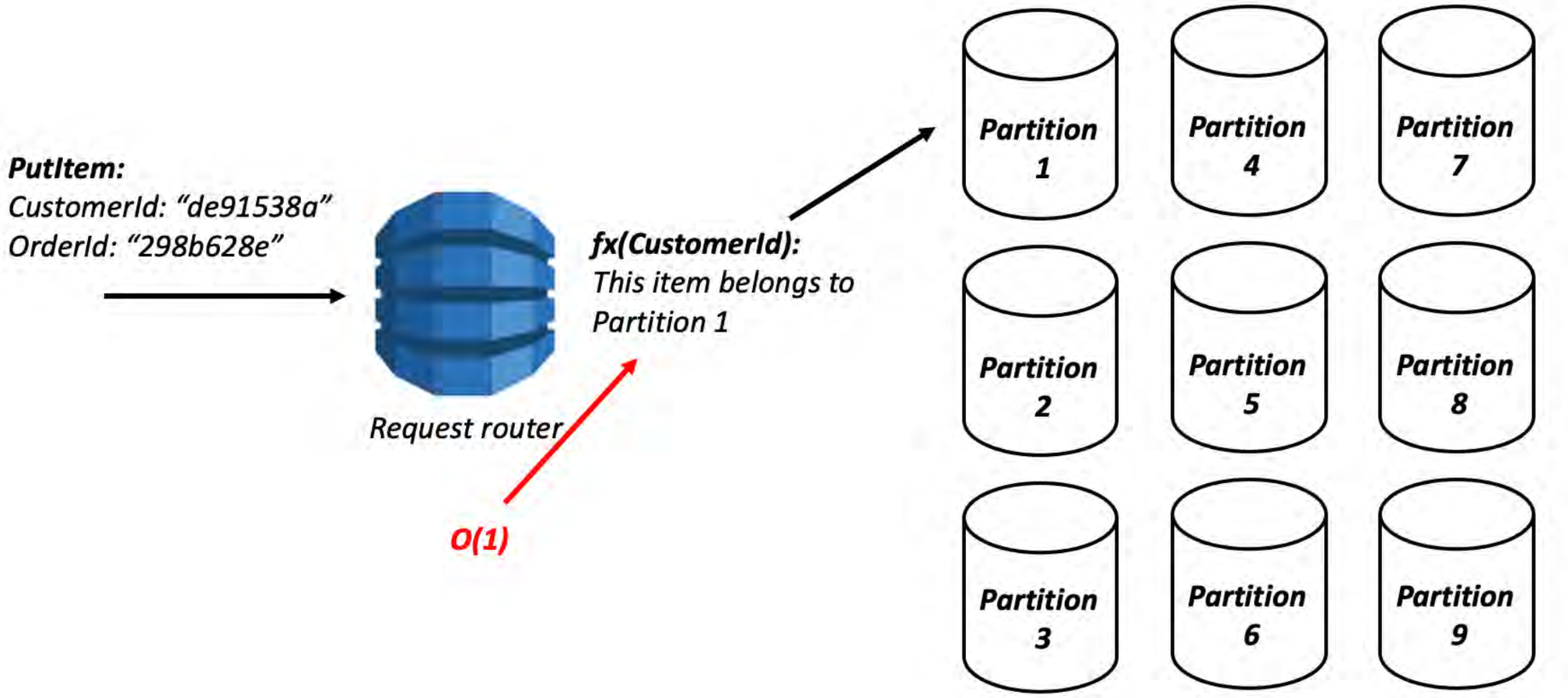
Benefits of DynamoDB

- High performance
- Fully managed
- On-demand pricing and automatic scaling
- Cost-effective
- Durable
- Highly available.

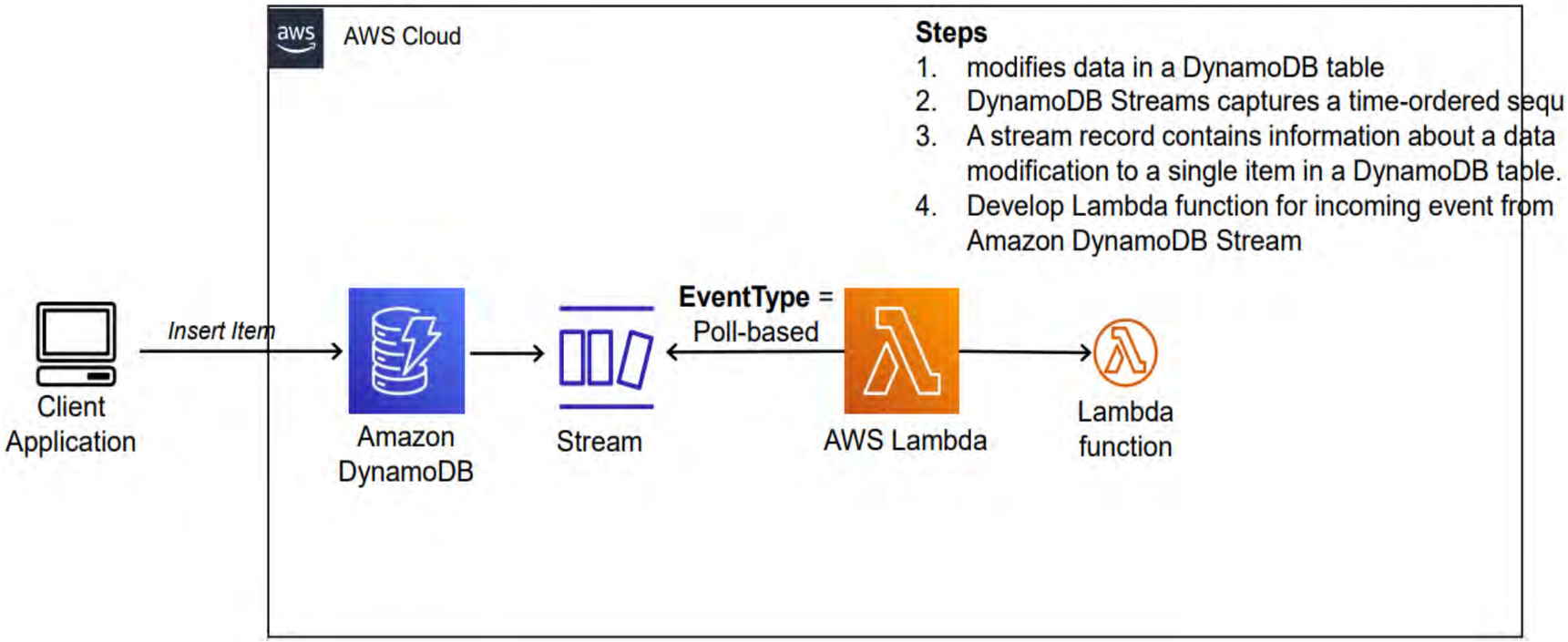
Designing DynamoDB Tables



Designing DynamoDB tables with proper primary keys



Using DynamoDB Streams for capturing real-time data changes



DynamoDB Streams — Using AWS Lambda to Process DynamoDB Streams for Change Data Capture of DynamoDB Tables.

Best Practices for Modeling Data in DynamoDB

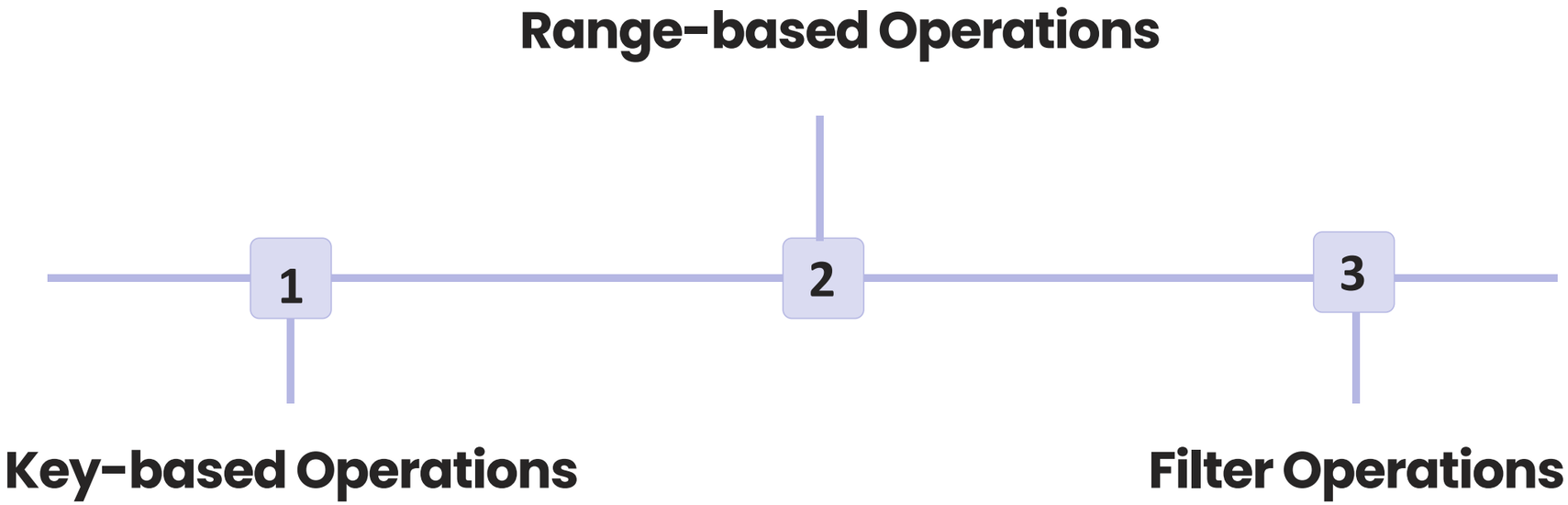
Start with a clear understanding of your application

Use maximum capacity units efficiently

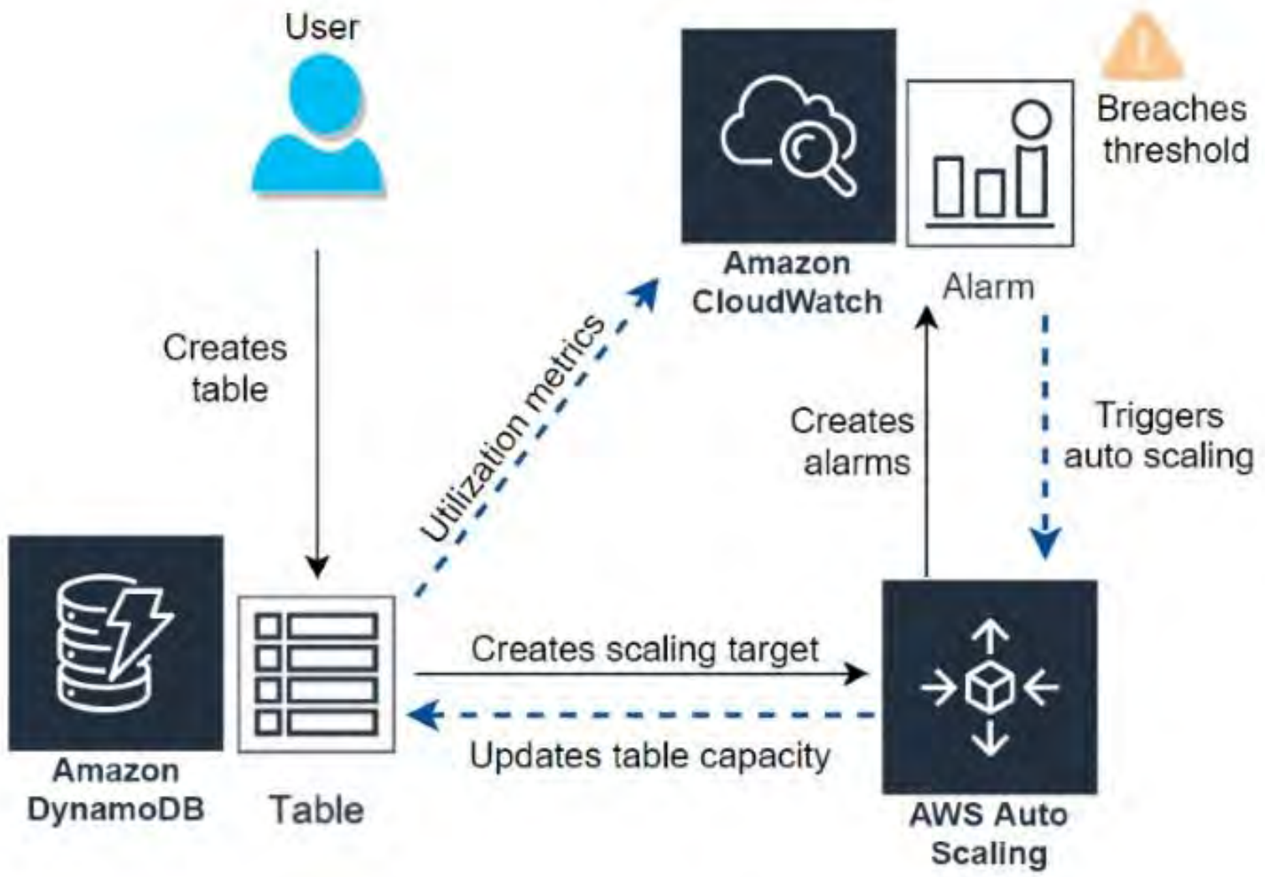
Optimize your table structure

Keep an eye on your costs

Querying DynamoDB



Scaling DynamoDB



- **Partitioning**
- **Global Secondary Indexes**
- **Auto Scaling**

Performing CRUD Operations in DynamoDB

1 Create

Use PutItem to add a new item to your table, specifying its partition key and any additional attributes.

2 Read

Use GetItem and BatchGetItem to retrieve specific items by their primary keys.

3 Update

Use UpdateItem to modify an existing item or create a new one if it doesn't exist, specifying the attributes to update or delete.

4 Delete

Use DeleteItem and BatchWriteItem to remove items from your table, specifying their primary keys.

Querying Data in DynamoDB

1

Query Operations

Use Query to retrieve specific items by their partition and sort key values, and filter by any additional attributes.

2

Scan Operations

Use Scan to retrieve all items in a table or a specific set of items, and filter by any additional attributes.

Configuring auto scaling for DynamoDB tables based on capacity needs

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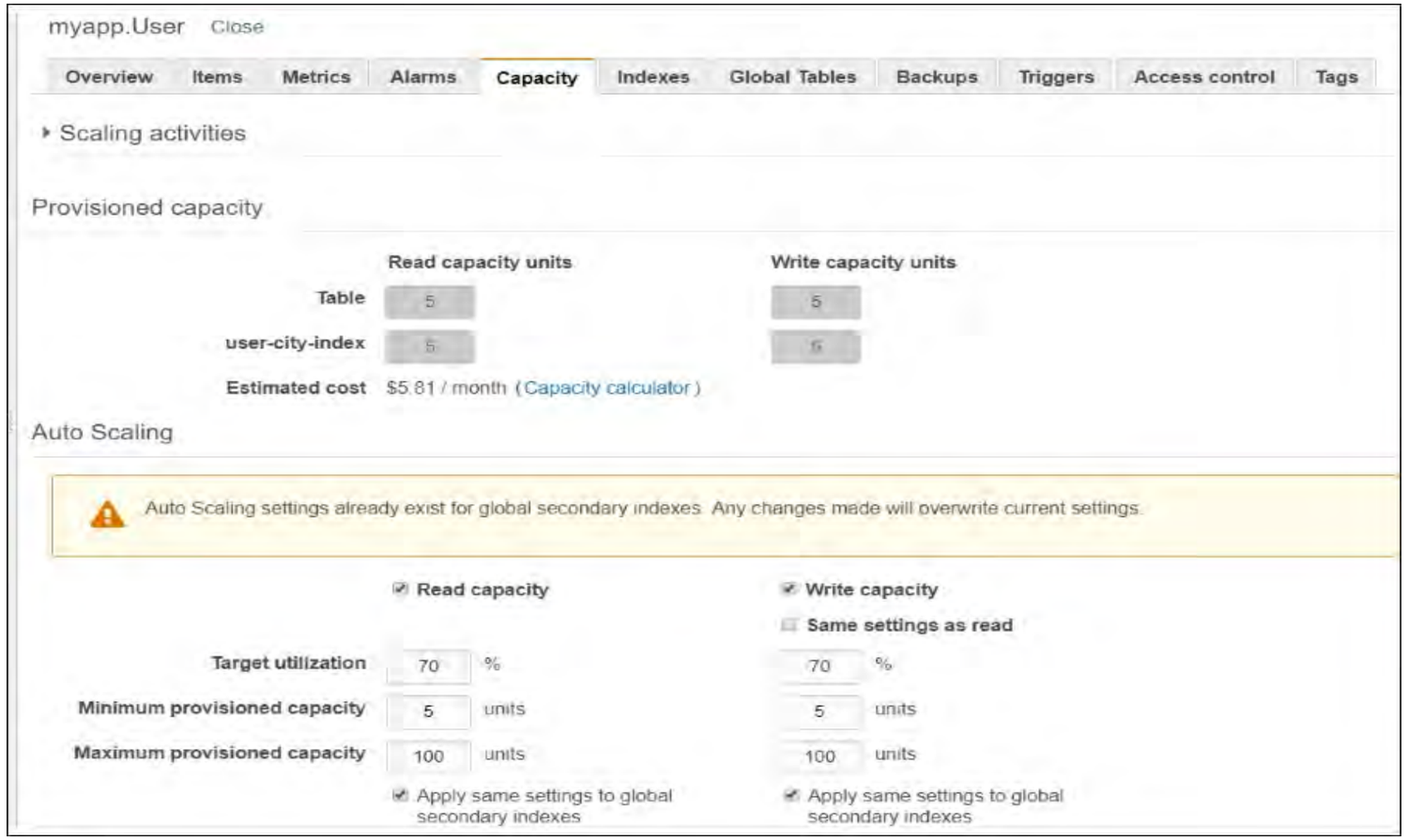
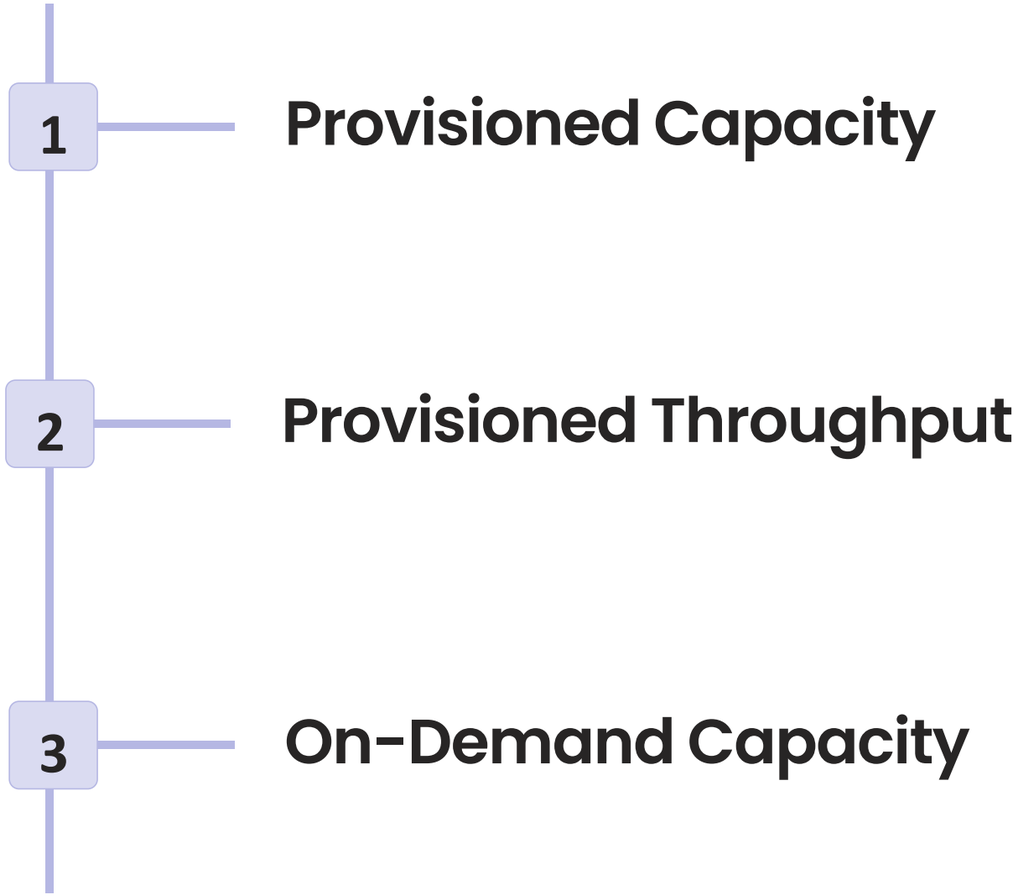


Capacity Needs and Scaling Strategies



Utilizing Global Tables for Multi-Region Replication

What are Global Tables?

Global Tables enable automatic replication of DynamoDB tables across multiple AWS Regions.

Benefits of Multi-Region Replication

It helps prevent data loss from disasters, provides low-latency data access, and enables global reads and writes.

Global Scalability with Global Tables

Leverage Global Tables for scalable, multi-region access to your DynamoDB tables.

How to Configure Global Tables