

# Amazon DynamoDB

A fast and flexible NoSQL  
database service for any  
scale

DynamoDB is a fully managed, key-value, and document database that delivers single-digit-millisecond performance at any scale.

# What is NoSQL?



**NoSQL is a type of database designed to store and manage data in flexible, **non-tabular formats**, making it ideal for handling large volumes of unstructured data.**

```
{  
  "_id": 1,  
  "name": "Raju",  
  "email": "raju@example.com",  
  "age": 35,  
  "address": {  
    "street": "123 Bollywood Blvd",  
    "city": "Mumbai",  
    "zip": "400001"  
  },  
  "hobbies": ["acting", "reading"]  
}
```

**DynamoDB stores data as items in  
tables, with each item represented  
as a JSON-like document consisting  
of key-value pairs.**



**table: users**



**name: Raju**  
**age: 25**



**name: Sham**  
**age: 28**



**name: Baburao**  
**age: 45**

**arguments**

**documents**



**Snap Inc.**

**zoom**

**DynamoDB also offers a free tier that provides 25 GB of storage.**

**The free tier also includes 25 provisioned Write /Read Capacity Units (WCU, RCU) which is enough to handle 200 M requests per month.**

#### **FREE TIER OFFER DETAILS**

##### **ALWAYS FREE**

25 GB of Storage per month

25 provisioned write capacity units per month

25 provisioned read capacity units per month

# **Practical Time**

**Docker based Node App with Dynamodb**





**EC2**



**DynamoDB**

**Docker**  
**Node-App**

## **DynamoDB**

- **Create a table 'Contacts' with primary key as 'id' (Type String)**

## **EC2 Instance**

- **sudo yum install -y docker**
- **sudo service docker start**
- **sudo usermod -aG docker ec2-user**
- **sudo docker pull philippaul/node-dynamodb-demo**

## **IAM Access Keys**

- **Create Access and Security Keys for your app to connect with Dynamodb**

- **docker run --rm -d -p 80:3000 --name node-dynamo-app -e **AWS\_REGION**=your-region -e **AWS\_ACCESS\_KEY\_ID**=your-access-key -e **AWS\_SECRET\_ACCESS\_KEY**=your-secret-key philippaul/node-dynamodb-demo**

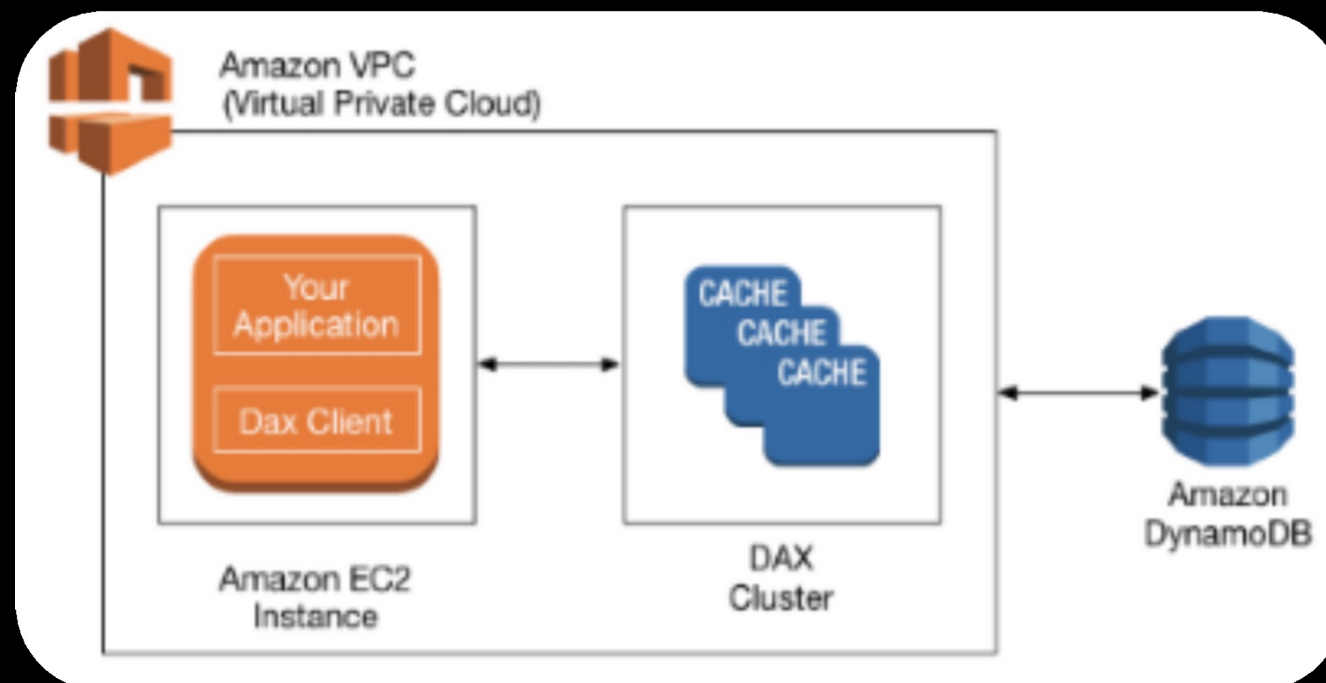
- **Serverless:** No need for server provisioning, software installation, maintenance, or patching.
- **Automatic Scaling:** Instantly scales up or down based on demand, with no manual adjustments needed.
- **Zero Downtime:** Provides continuous availability without maintenance windows.
- **On-Demand Pricing:** Pay only for the read/write requests used, ideal for fluctuating workloads.
- **Idle Cost Savings:** Scales down to zero during inactivity, so there's no cost when tables have no traffic.

**Its flexible data model and reliable performance make DynamoDB a great fit for mobile, web, gaming, advertising technology, Internet of Things, and other applications.**



# **DynamoDB Accelerator - DAX**

- **Fully Managed in-memory cache for DynamoDB**
- **DAX offers microsecond latency achieving up to a 10x performance over standard DynamoDB queries.**
- **High Availability and Scalability: can be deployed in multiple AZs**
- **DAX is only used for and is integrated with DynamoDB, while ElastiCache can be used for other databases**



# DynamoDB Global Table

