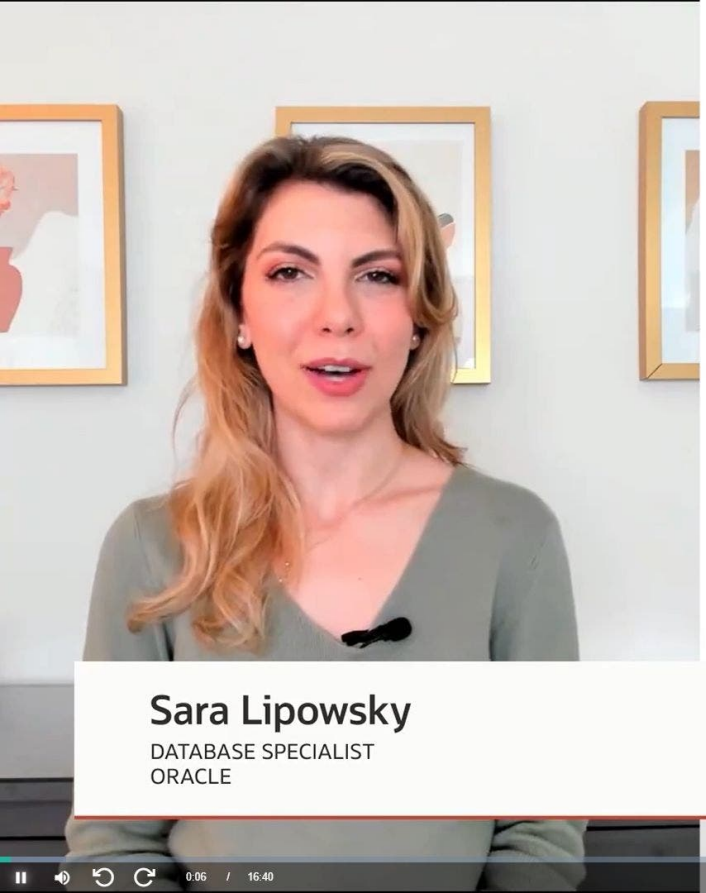

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Oracle NoSQL Database Cloud Service Overview

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Agenda

- Today's Modern Applications Challenges
- Oracle NoSQL Database Cloud Service Overview
- Use Cases, NoSQL Table, Service Availability
- Feature Overview
- Development Tools

Today's Modern Applications

Challenges

Produce and consume data at high volume and high rate

Require **highly responsive** user interface

Expect **innovations** to happen **rapidly**

Run anywhere and interoperate with **data hosted anywhere**

Require **highly available** database solution

Demand throughput and storage **elasticity**

Manage **continuously evolving** data models

Demand **rapid deployment** and **maintenance-free** database

Oracle NoSQL Database Cloud Service

Overview

Fully Managed

Database operation, maintenance, tuning are managed by Oracle

Elastic

Dynamically change throughput and storage capacities based on workloads

High Performance

Predictable low latency for all types of workloads

Data Model Flexibility

Document, columnar, key/value models supported with a single application interface

Security

Enterprise grade security with roles, privileges, encryption

Low Operating Cost

Pay only for the throughput and storage capacities provisioned

Developer Friendly

Easy-to-use APIs and integrated with different developer tools

Always Available

Built-in high availability to ensure business continuity

Hybrid Cloud

Interoperate with Oracle NoSQL on-premise solution using a single application interface

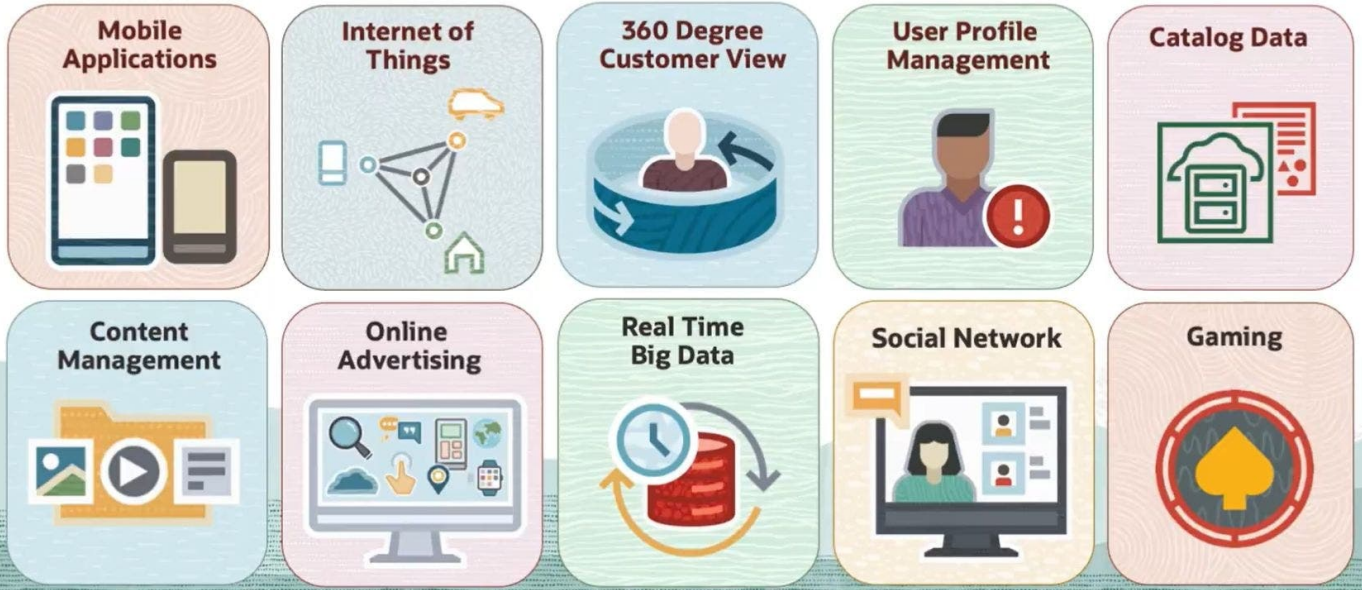
Oracle NoSQL Database Cloud Service

Fully managed service

- Oracle Fully Manages
  - Servers, storage, networking, security
  - Installation of software and updates, run security inspections
  - Monitors the health of the service
  - Replication across multiple Availability Domain for HA
- Developer / User Manages
  - Application development
  - Data model design – decides on how to model the data best for the application
  - Sets roles and privileges – determines who can do what with the service

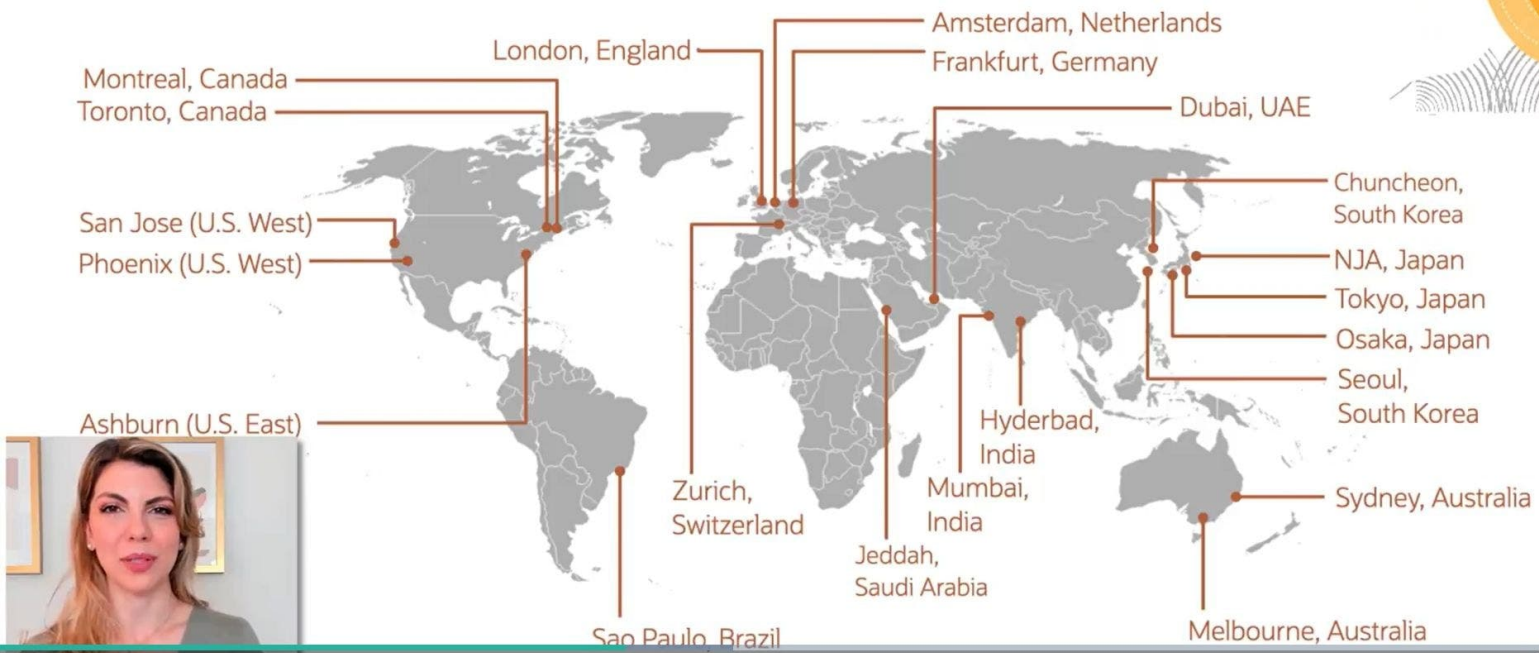
Oracle NoSQL Database Cloud Service

Use cases



Oracle NoSQL Database Cloud Service

Fully managed, server-less, live in 22 regions (March 2021)



Oracle NoSQL Database Cloud Service

Developer friendly

- Ready to deploy your application data store in minutes
- Drivers available in multiple programming languages
  - Java, Python, Node.js, Go, and more
- Standards open APIs and SQL query language
- Simple and complex data types
- Developer tools
  - Cloud Simulator for test and development
  - Eclipse and IntelliJ integration
- Service console UI for a quick overview

Oracle NoSQL Database Cloud Service

Data model flexibility and interoperability

- Columnar - schema

ID	FirstName	LastName	Zip Code	Height
123	“Robert”	“Smith”	71357	178

- Document - schemaless (JSON)

```
“ShippingDocket”: {“Method”:”Truck”,”Signed”:”Yes”,”Weight”:2000}}
```

- Key-value
  - Simple way to store data as a collection of key and value pairs
- Interoperability
  - Different data models interoperate with each other using a single application interface
  - One database and interface for managing structured, semi-structured, and unstructured data

Oracle NoSQL Database Cloud Service

Security

Encryption

- Data encryption at rest
  - Data, indexes, backups encrypted with Advanced Encryption Standard (AES)
- Data encryption in motion
  - HTTPS protects data transfer between applications and NoSQL database cloud service
- Data encryption enabled by default

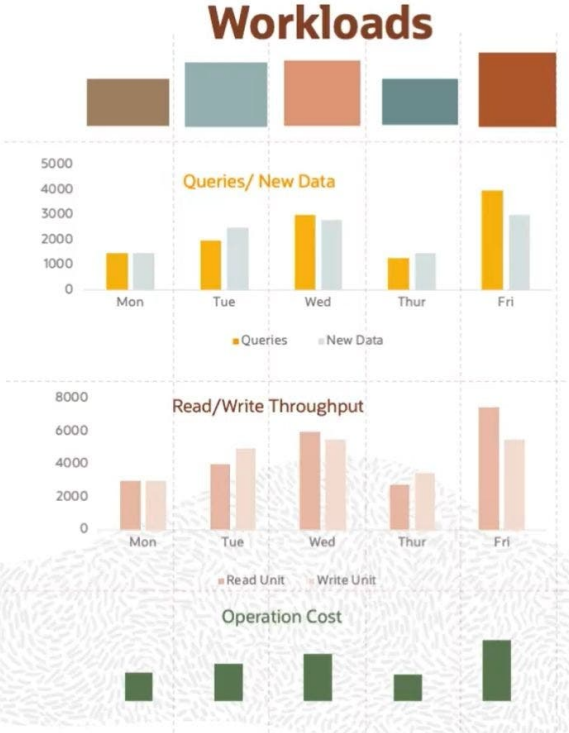
Authentication & Access Control

- User authorization
  - Manage groups, users, credentials
- Table resource access control
  - Manage tables, rows, indexes access and API operation policies
- Compartment management
  - Organize table resources within different compartments for separate group of users

Oracle NoSQL Database Cloud Service

Instant elasticity at table level

- Scale up or down the throughput capacity from a few write or read requests per second to millions of requests per second
- Change throughput and storage capacities at any time
- Customers increase the capacity when throttling occurs and decrease it when the workload eases
- Capacities provisioned in seconds
- Pay only for the throughput and storage capacities provisioned
- Simple API to change the throughput and storage



Oracle NoSQL Database Cloud Service

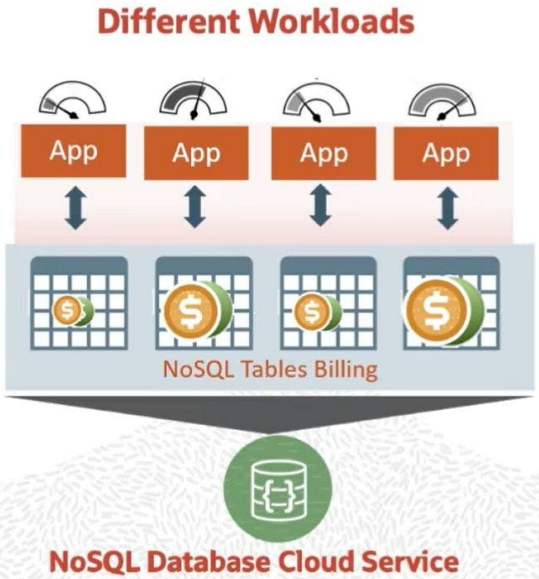
Fast and predictable low latency

- Predictable Low latency
  - Single digit millisecond latency for database operations
- Powered by Oracle next-generation cloud infrastructure
- Fast data access and storage in new generation solid-state drives
- Deliver high performance and reliability through innovative machine learning and automation capabilities

Pricing Model

Cost effective

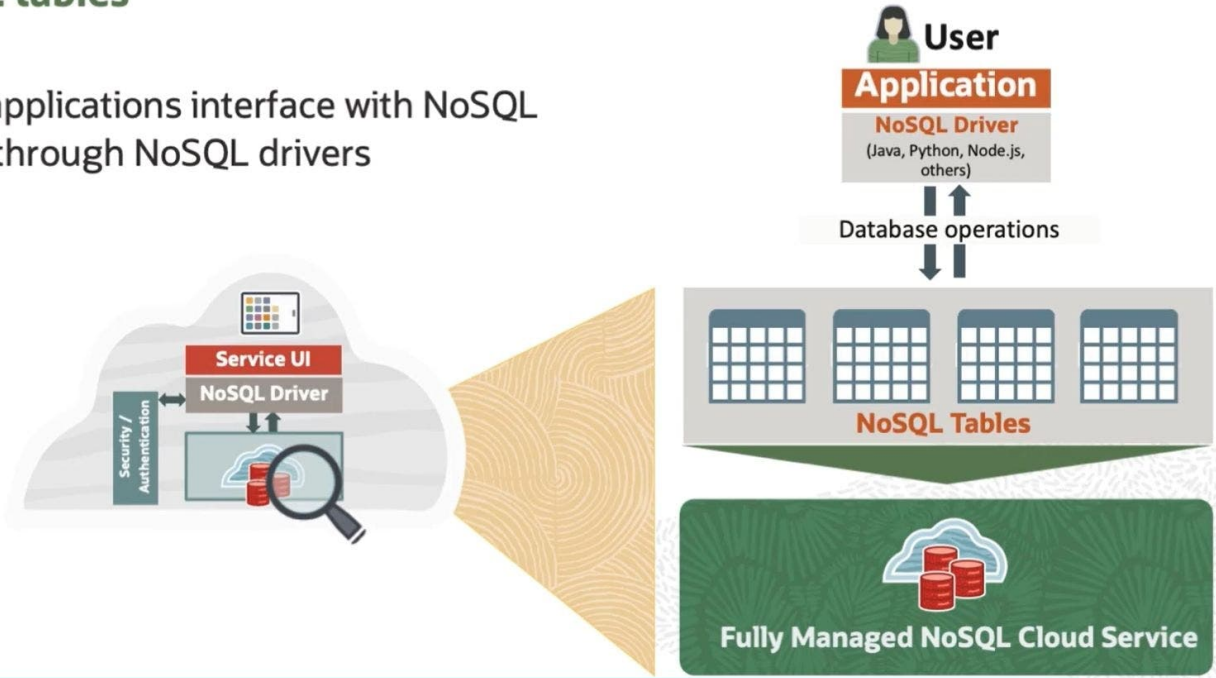
- Pay per table capacity provisioned
  - Different tables with different capacities to serve different workloads
- Pay per throughput and storage capacity provisioned
  - Table level read unit, write units, storage in GB
- Simple pricing model
  - No cloud infrastructure cost calculation involved



Oracle NoSQL Database Cloud Service (NDCS)

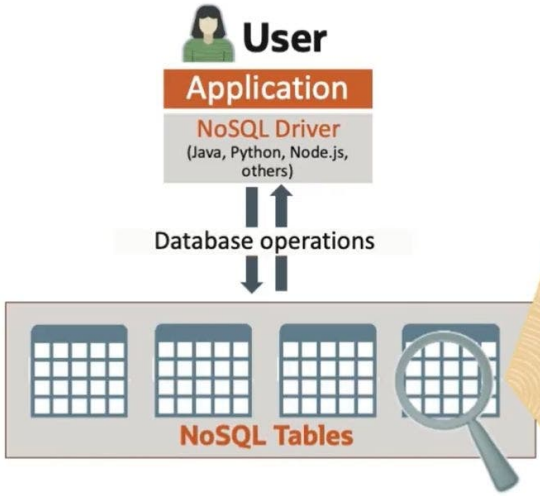
NoSQL tables

User's applications interface with NoSQL Tables through NoSQL drivers



Oracle NoSQL Database Cloud Service

NoSQL table anatomy



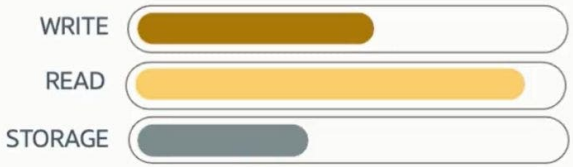
A NoSQLHandle needs to be created before running any database operations. The handle allows access to NoSQL tables, run CRUD operations, provision capacities, and retrieve details on tables.

NoSQL Table

DATA

Integer (key)	String (data)	String (data)	Json (data)
num1	string1	string1	json1
num2	string2	string2	json2
num3	string3	string3	json3
num4	string4	string4	json4

CAPACITY PROVISIONED



Oracle NoSQL Database Cloud Service

Throughput provisioning

Write Unit

- The throughput of up to 1 kilobyte (KB) of data per second for a write operation over a one month period
- Approximately 2.67 million writes per month

Read Unit

- The throughput of up to 1 kilobyte (KB) of data per second for an eventually consistent read operation
- Approximately 2.67 million eventually consistent reads per month
- 2 Read units are needed for an absolutely consistent read