Exploring Data Storage with DynamoDB

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Overview

DynamoDB overview

When to use DynamoDB

SQL vs. NoSQL

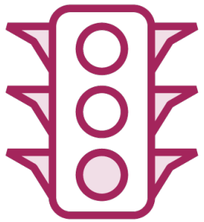
Creating tables in the console

Using the DynamoDB API

DynamoDB Overview

Managed NoSQL database

Unlimited capacity



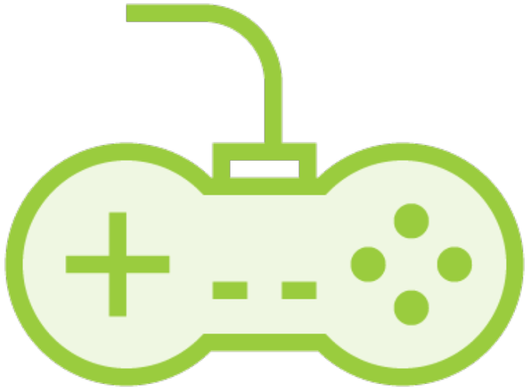
Unlimited traffic

No storage or servers to manage

When to Use DynamoDB?

Mobile

Web



Gaming

IoT

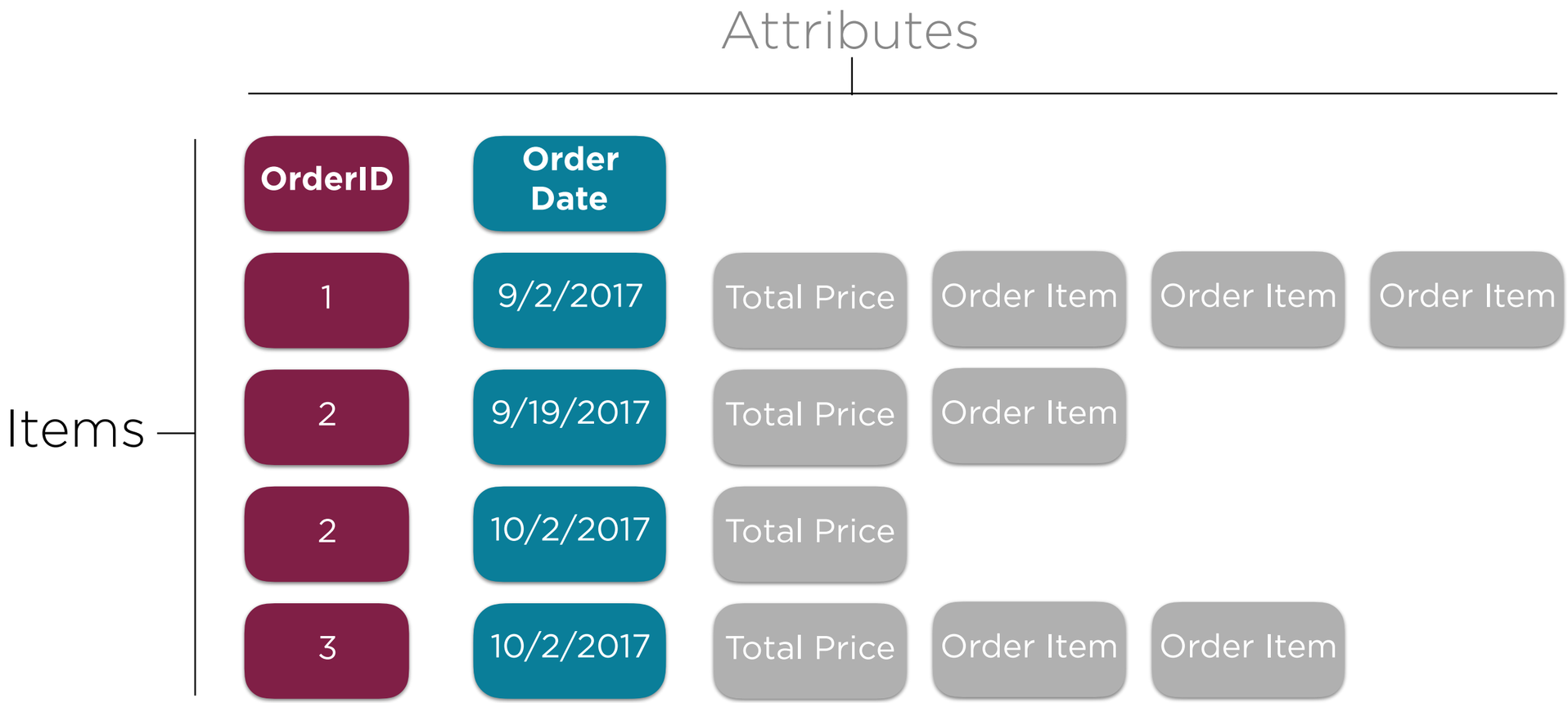
Ad Tech

Performance

<5ms Reads

<10ms Writes

Data Model


Attributes
Items
OrderID
Order Date
1
9/2/2017
Total Price
Order Item
Order Item
Order Item
2
9/19/2017
Total Price
Order Item
2
10/2/2017
Total Price
3
10/2/2017
Total Price
Order Item
Order Item

Autoscaling

Unlimited table size and storage

No downtime

Durable

Consistent writes

Replication across multiple DCs and AZs

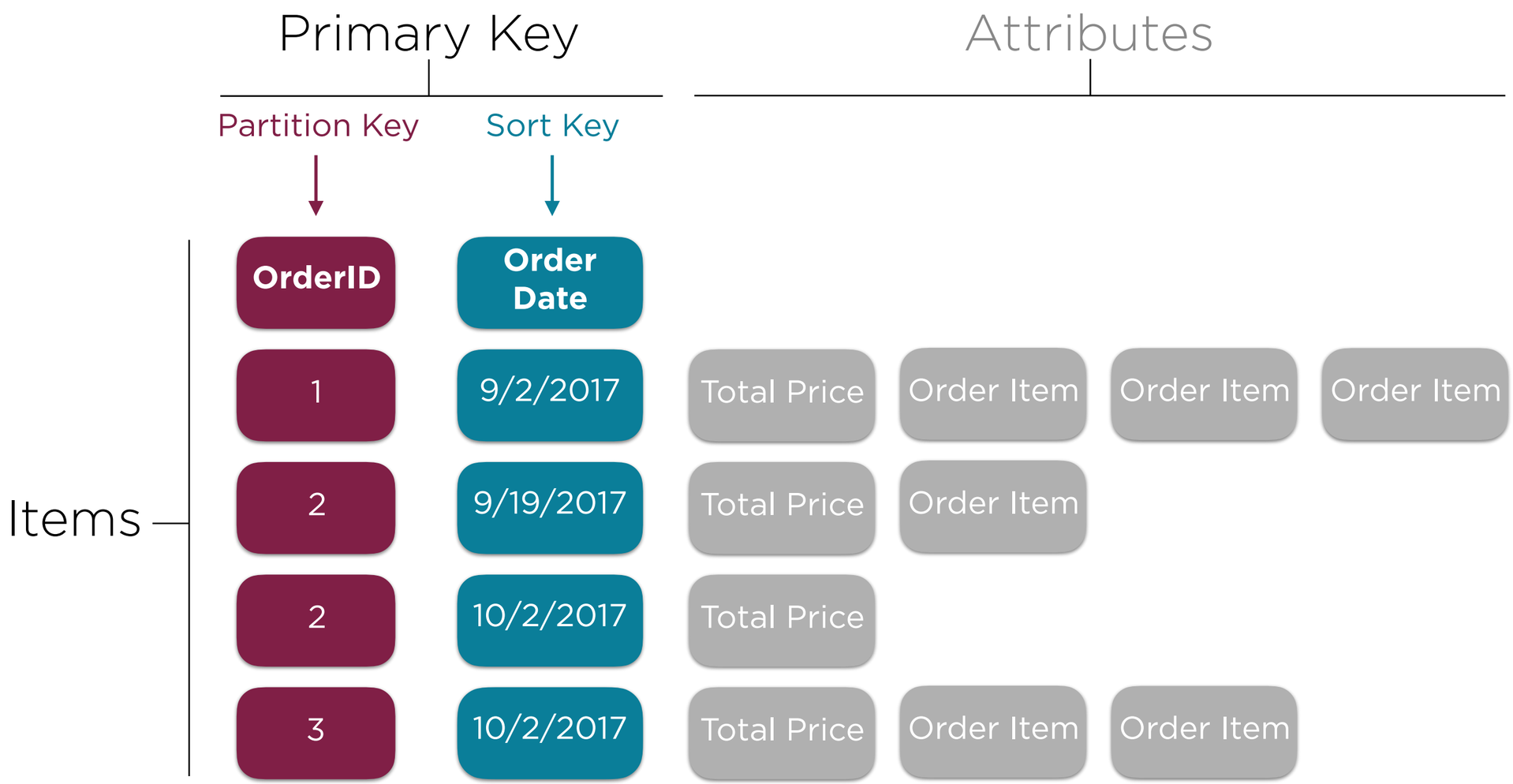
SQL vs. NoSQL

SQL vs. NoSQL

SQL	NoSQL
Optimized for storage	Optimized for compute
Relational and normalized	Hierarchical and denormalized
Ad hoc queries	Materialized views
Scale up	Scale out
Ideal for OLAP	Ideal for OLTP at scale

Creating Tables in DynamoDB

Partition Keys & Sort Keys



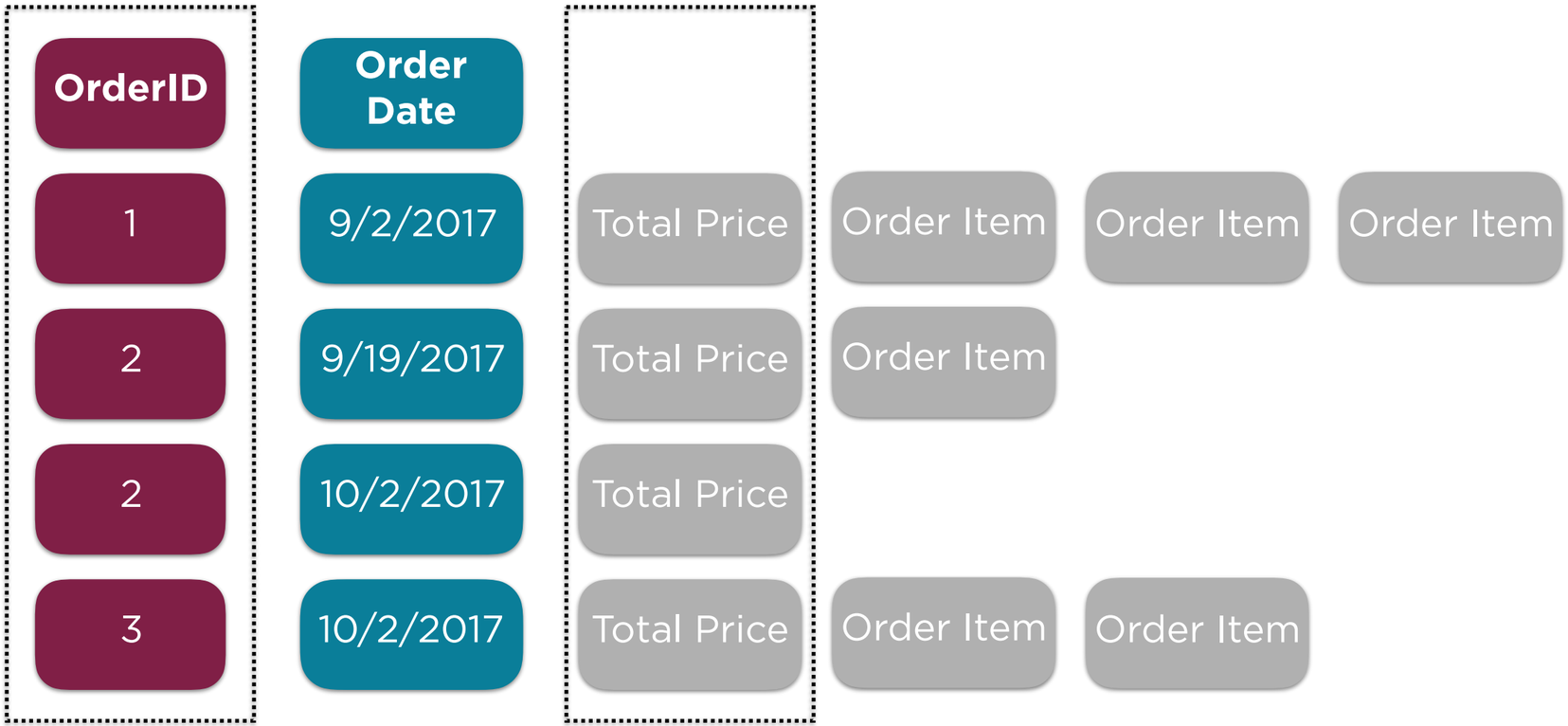
Secondary Indexes

Global Secondary Index (GSI)

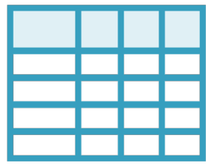
Local Secondary Index (LSI)

Local Secondary Index (LSI)

Global Secondary Index (GSI)



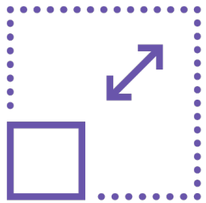
Throughput



Defined in advance at the table level

Read and write throughputs are independent, subject to throttling

Use autoscaling to prevent throttling



“Right-size” your tables

Demo

Creating a DynamoDB table in the AWS console

Demo

Using DynamoDB with the AWS SDK for Go

Summary

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