

The Basics of DynamoDB



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Overview



What is DynamoDB?

- A high level introduction

Key terminology

- Tables, columns, rows
- Keys
- Data types

Capacity units



What is DynamoDB?



DynamoDB is a fully managed NoSQL database service that provides fast and predictable performance with seamless scalability.



DynamoDB Characteristics

Fully Managed

No visible servers

NoSQL Database Service

Key-Value store with
Document Db attributes

Fast

Designed for < 10ms
response time

Predictable Performance

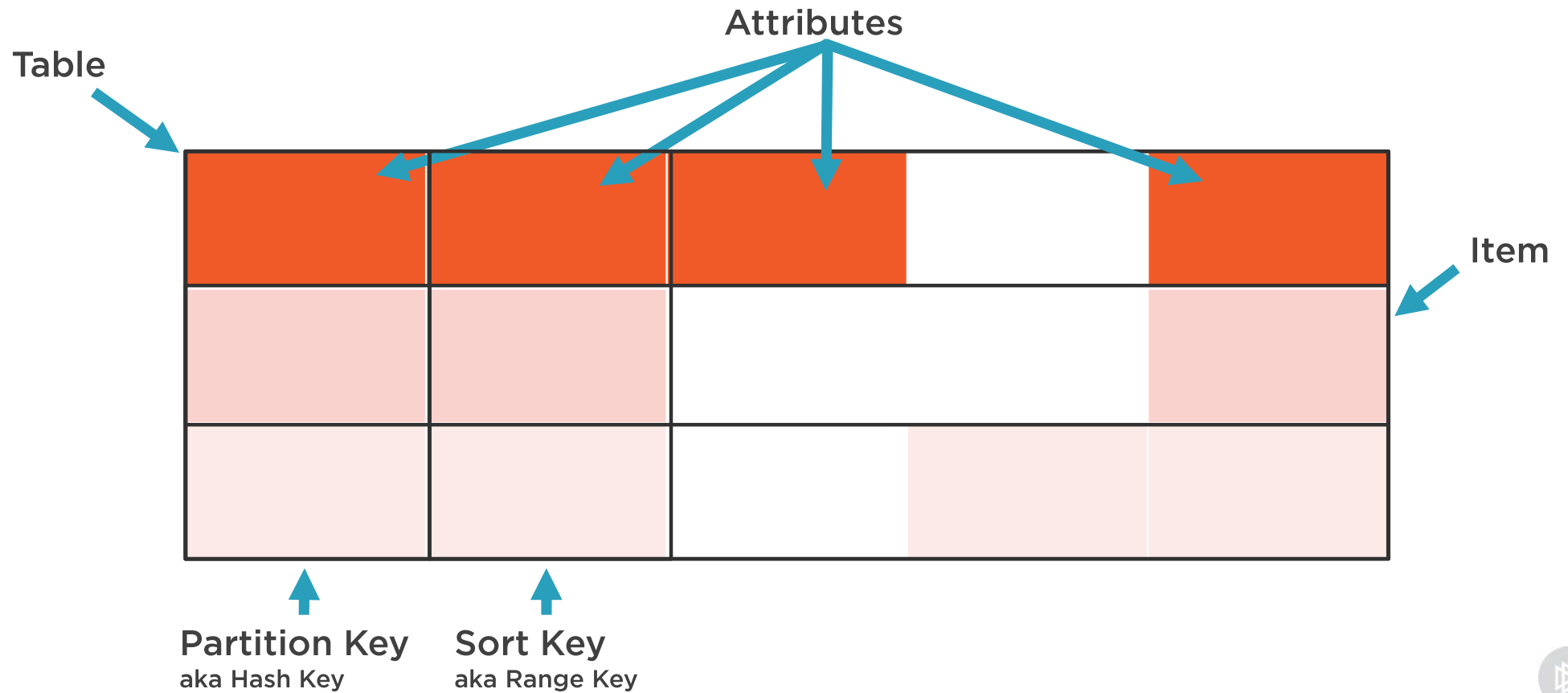
Predefine table level
performance

Seamless Scalability

Performance and
Storage



DynamoDB Terminology

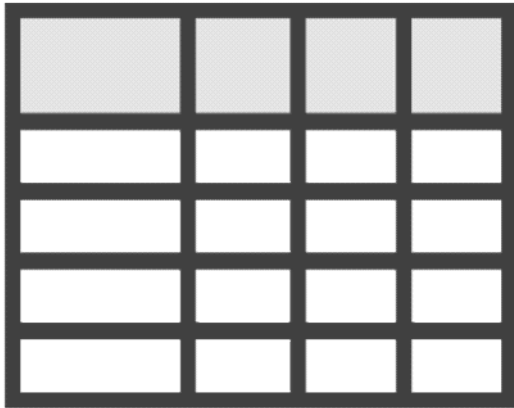


SQL vs. DynamoDB Terminology

SQL	DynamoDB
Table	Table
Row	Item
Column	Attribute
Primary Key	Partition Key (Single Primary Key) Partition and Sort Key (Composite Primary Key)



Tables



DynamoDB Service is a set of tables

Tables are the top level structure

Performance is managed at the table level

Table are schema-less

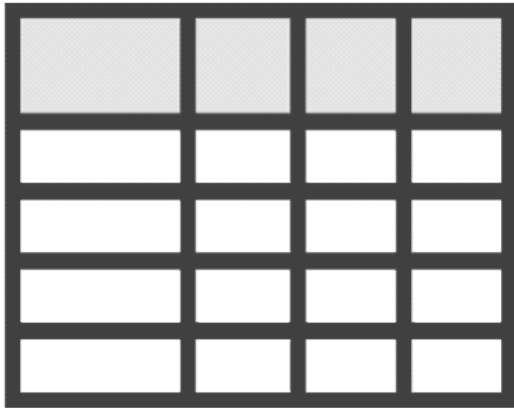
Tables are scoped within a region



Tables



Table Naming



Tables are scoped within an Account and Region

Namespace your tables to your application or service

- PS.Users
- Abhaya.Users
- PS.Dev.Users
- PS.Prod.Users



Data Types



Scalar

- Can represent only one value

Set

- Can represent multiple scalar values

Document

- Can represent a complex structure



Scalar

String

- “DynamoDB Rocks!”

Number

- 123

Binary

- “UmFpbnk=”

Boolean

- true / false

Null



Set

String Set

- ["Black", "Green", "Red"]

Number Set

- [42.2, -19, 7.5, 3.14]

Binary Set

- ["U3Vubnk=", "UmFpbmk=", "U25vd3k="]



Set

Sets can only be of one Scalar type

Empty sets are not supported

Ordering within the set is not preserved

Each value must be unique



Document

List

- ["Cookies", "Coffee", 3.14159]

Map

- { Day: "Monday", Emails: 42 }



Capacity Units



Predefine the throughput at table level

Two controls which impact throughput:

- Read Capacity Units (RCUs)
- Write Capacity Units (WCUs)

RCUs and WCUs can be updated anytime

