



Today's Takeaways

- ▶ DynamoDB
- ▶ Redshift
- ▶ ElastiCache



DynamoDB

What is DynamoDB?



amazon
DynamoDB

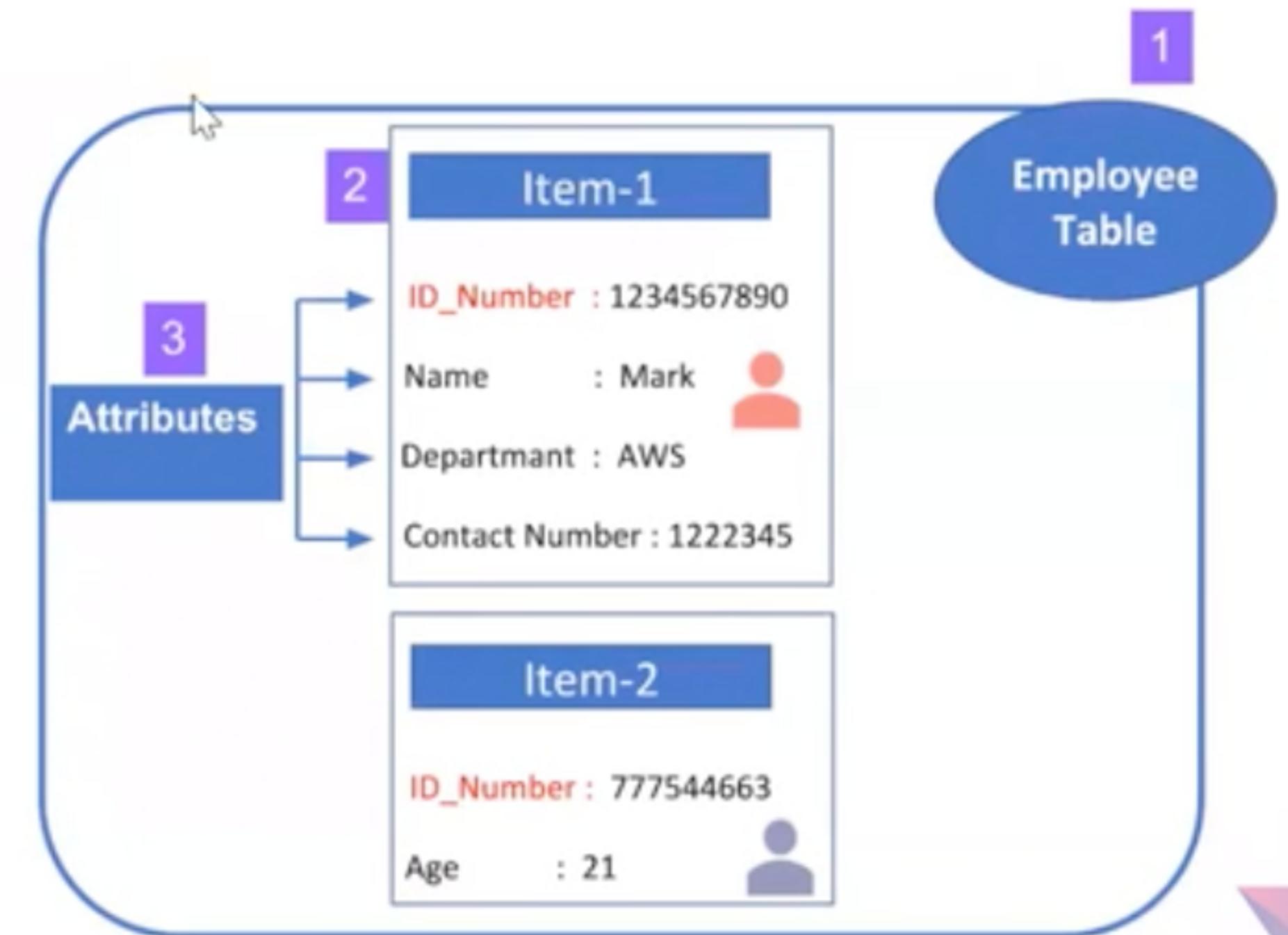
- Amazon DynamoDB is a **NoSQL database** service
- Unlike RDS, you ~~don't~~ need to stick pre-determined schema. Instead of Schema, DynamoDB uses **flexible tables**.
- Amazon DynamoDB is a **fully-managed** database.
- DynamoDB doesn't **have Join function**.



DynamoDB

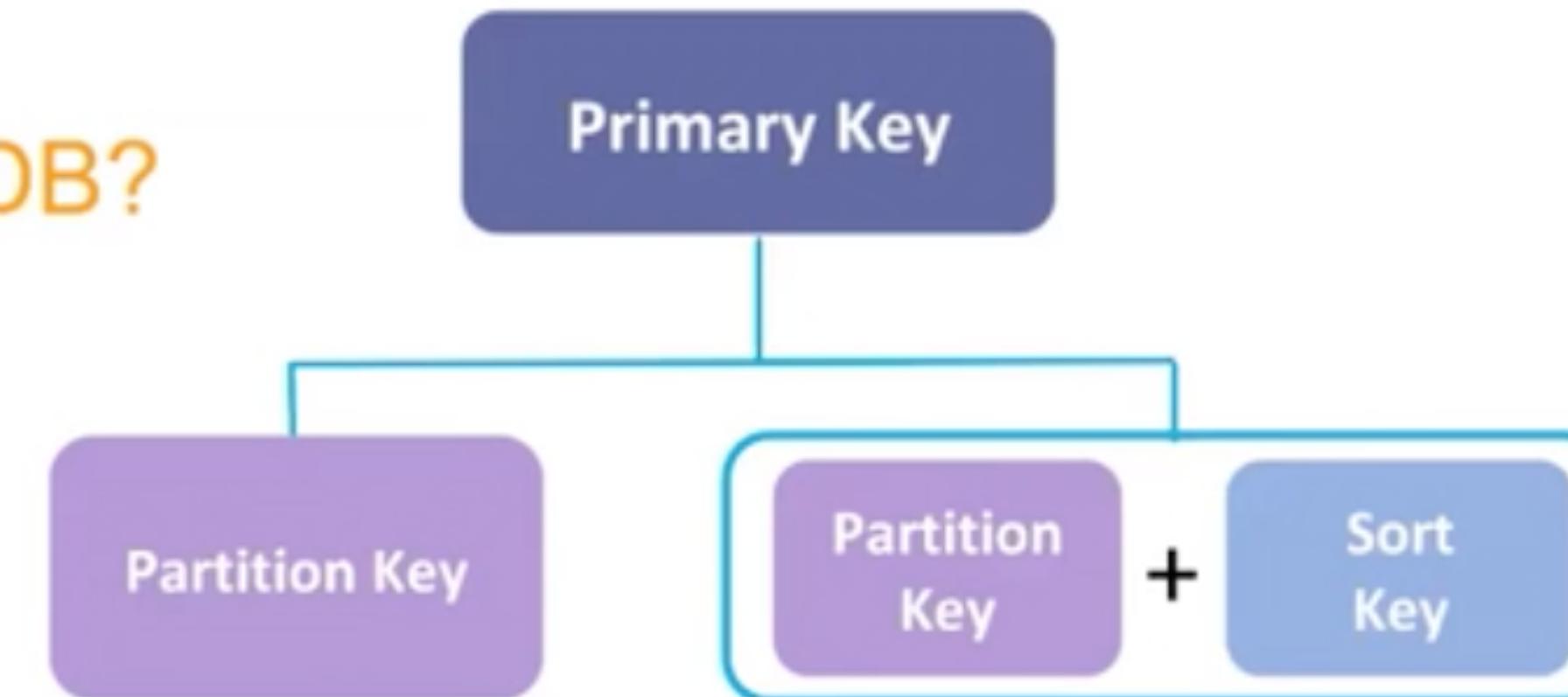
Structure of DynamoDB?

- 1- Table is a collection of data.
- 2- Each table consist of items. In the Picture, item represents a person.
- 3- Attributes are specific feature of the items.



DynamoDB

Structure of DynamoDB?



DynamoDB uses **Primary Keys** to uniquely identify each item in a table. When you create a table, in addition to the table name, you must specify the primary key of the table.

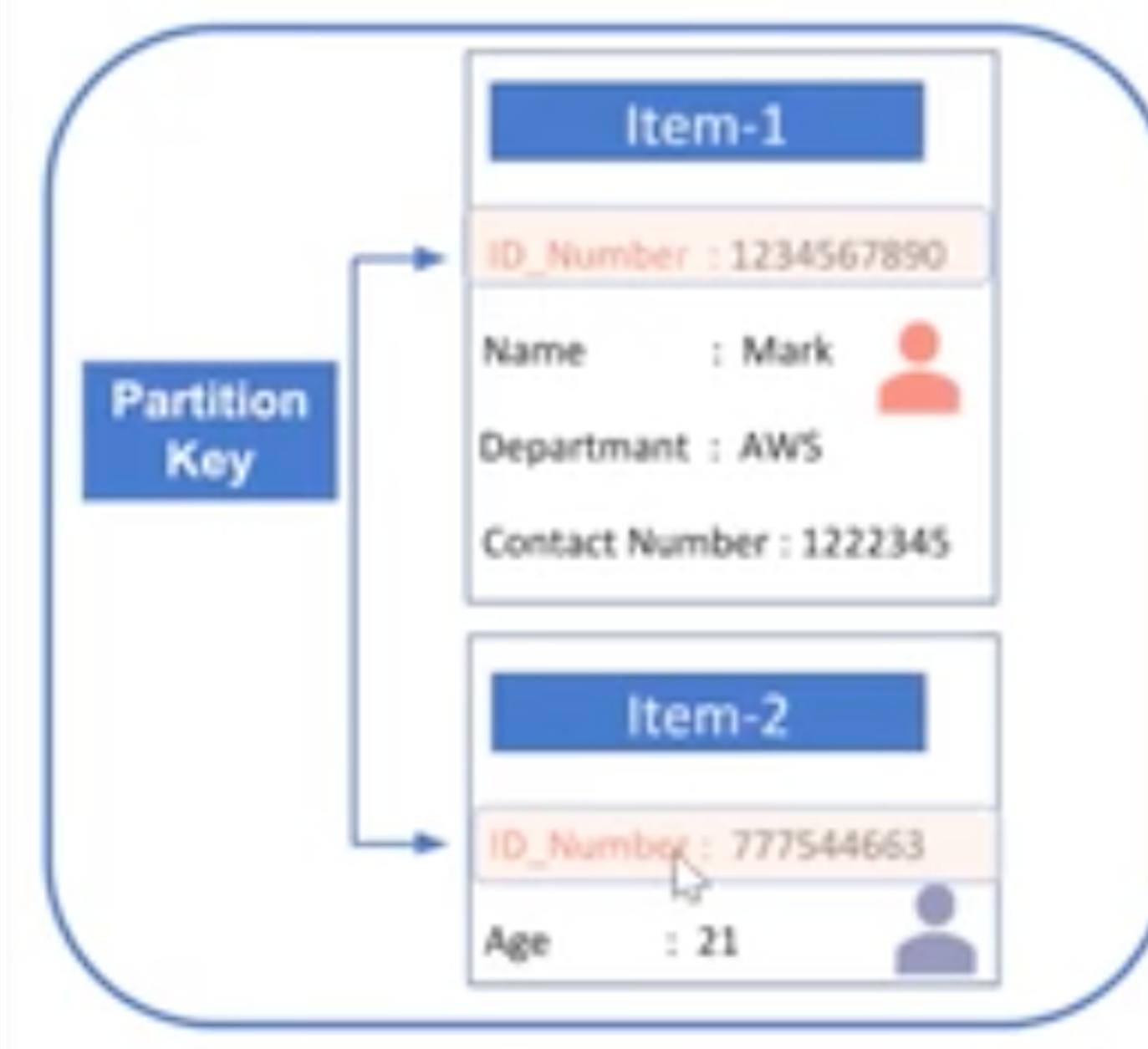


There are two different kinds of Primary Key model : **Partition Key** and **Partition Key&Sort Key**.

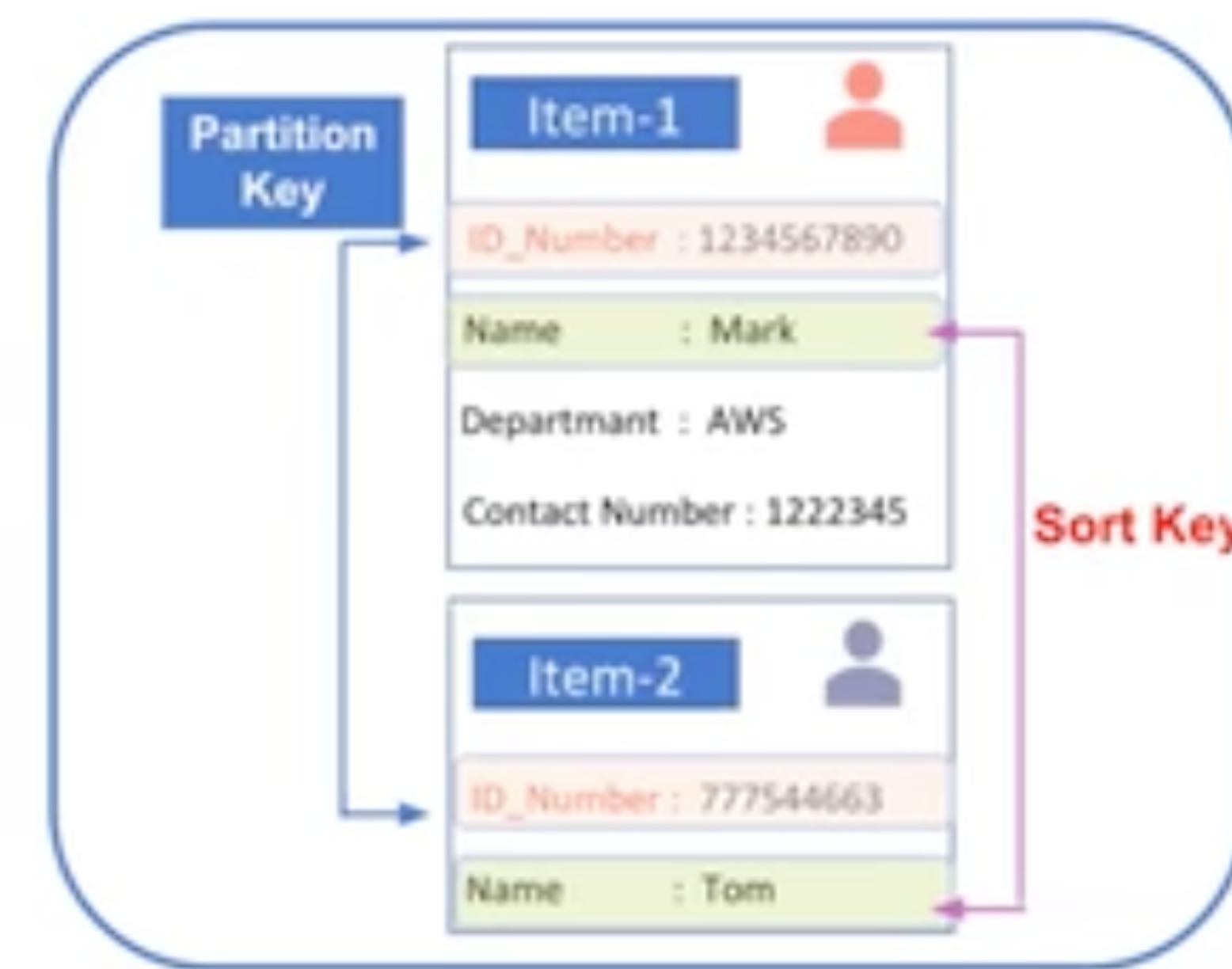


DynamoDB

Structure of DynamoDB?

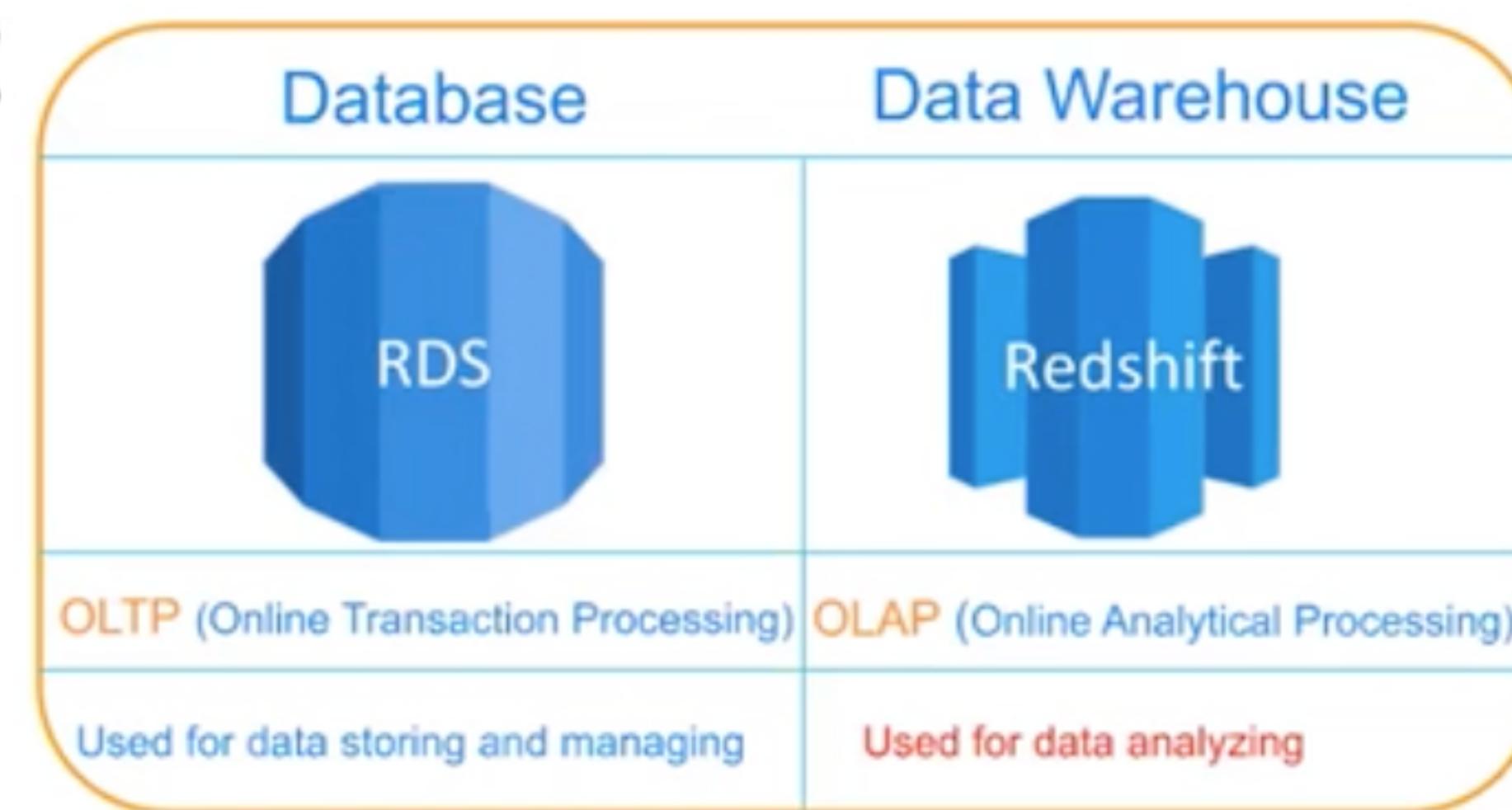


Partition Key



Partition Key&Sort Key

► Amazon Redshift



- Since the **analyzing** process causes an extra workload on database we prefer to use data warehouse
- Amazon Redshift is a fully managed, cloud-based, petabyte-scale **data warehouse** service by Amazon Web Services (AWS).
- Amazon Redshift is an efficient solution to **collect** and **store** all your data to **analyze**.

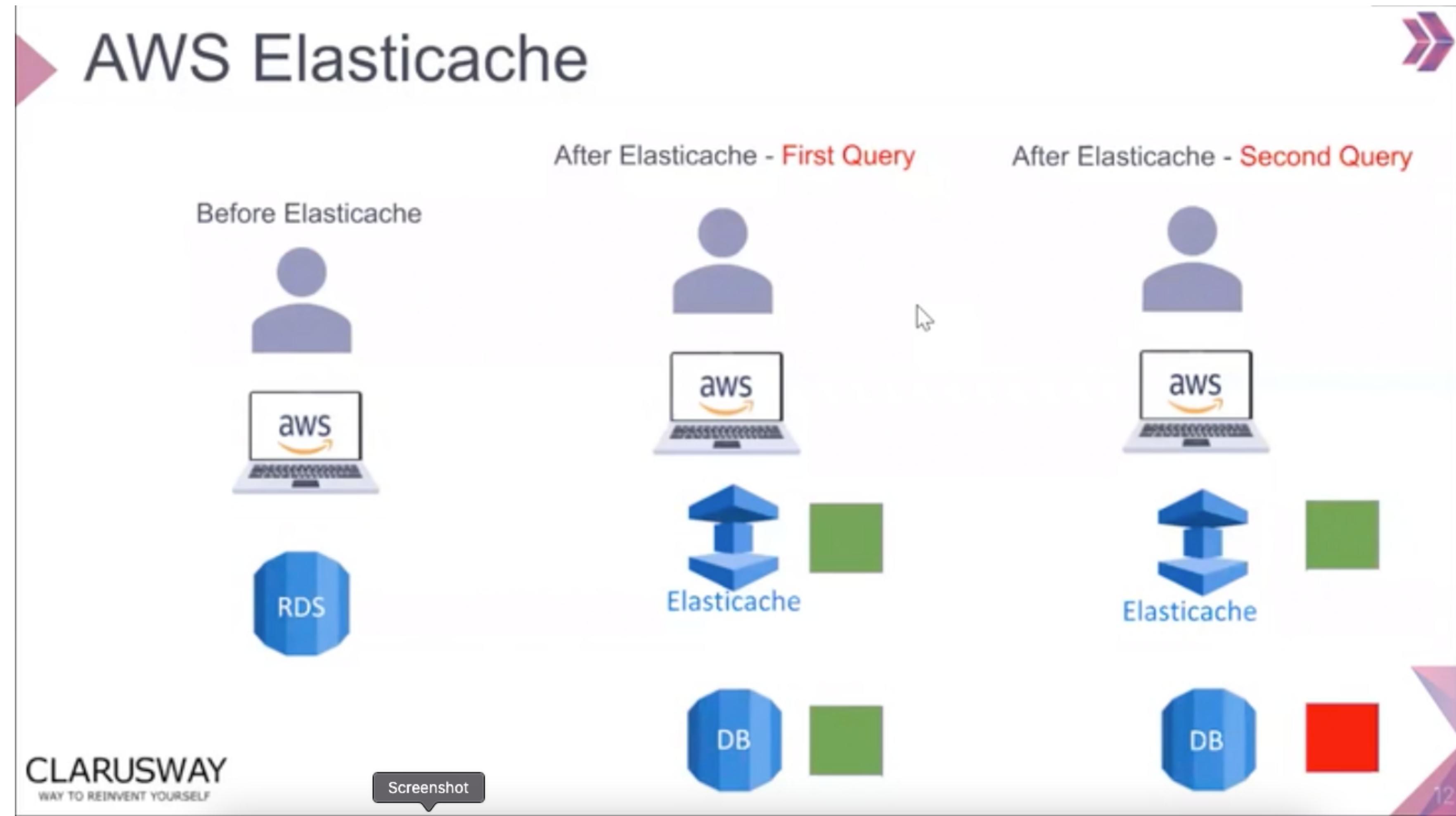
Screenshot

AWS ElastiCache



- ElastiCache is an **In-Memory Cache** service of AWS.
- In-Memory Cache is a **temporary and fast** storage component. These components are used to reduce the workload of the main data storage device such as a database.
- AWS offers Redis and Memcached in-memory cache option which are popular in market.

AWS ElastiCache



Redis



Memcached



Sub-millisecond latency	+ +	Sub-millisecond latency
User friendly syntax	+ +	User friendly syntax
It supports many different programming languages C, C++, java, python, etc.	+ +	It supports many different programming languages C, C++, java, python, etc.
Redis supports strings ,lists, sets, sorted sets, hashes, bit arrays, and hyperloglogs.	+ -	Memcached supports only strings
It doesn't support multithreaded architecture	- +	It supports multithreaded architecture. It means that it has multiple processing cores. This allows you to handle multiple operation.
It supports Snapshot	+ -	It doesn't supports Snapshot
It supports Replica	+ -	It doesn't supports Replica