

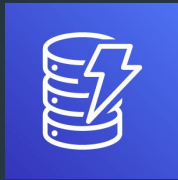


# aws

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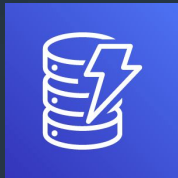


DynamoDB



# Amazon DynamoDB

Fast, flexible NoSQL database service for single-digit millisecond performance at any scale



Table



### People

```
{"PersonID": 101, "LastName": "Smith", "FirstName": "Fred", "Phone": "555-4321"}
```

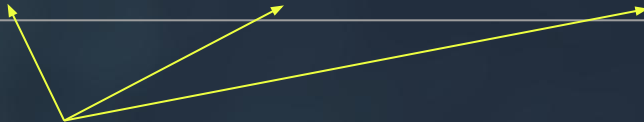
```
{"PersonID": 102, "LastName": "Jones", "FirstName": "Mary",  
  "Address": {"Street": "123 Main", "City": "Anytown", "State": "OH", "ZIPCode":  
  12345}}
```

```
{"PersonID": 103, "LastName": "Yolo", "FirstName": "Nalo", }
```

Items

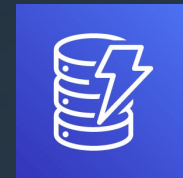


Attributes



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## People



```
{
  "PersonID": 101,
  "LastName": "Smith",
  "FirstName": "Fred",
  "Phone": "555-4321"
}

{
  "PersonID": 102,
  "LastName": "Jones",
  "FirstName": "Mary",
  "Address": {
    "Street": "123 Main",
    "City": "Anytown",
    "State": "OH",
    "ZIPCode": 12345
  }
}
```





People

```
{
  "PersonID": 101,
  "LastName": "Smith",
  "FirstName": "Fred",
  "Phone": "555-4321"
}

{
  "PersonID": 102,
  "LastName": "Jones",
  "FirstName": "Mary",
  "Address": {
    "Street": "123 Main",
    "City": "Anytown",
    "State": "OH",
    "ZIPCode": 12345
  }
}
```

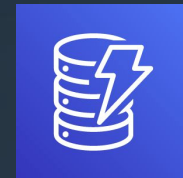
Partition Key

## Music

```
{
  "Artist": "No One You Know",
  "SongTitle": "My Dog Spot",
  "AlbumTitle": "Hey Now",
  "Price": 1.98,
  "Genre": "Country",
  "CriticRating": 8.4
}

{
  "Artist": "No One You Know",
  "SongTitle": "Somewhere Down The Road",
  "AlbumTitle": "Somewhat Famous",
  "Genre": "Country",
  "CriticRating": 8.4,
  "Year": 1984
}

{
  "Artist": "The Acme Band",
  "SongTitle": "Still in Love",
  "AlbumTitle": "The Buck Starts Here",
  "Price": 2.47,
  "Genre": "Rock",
  "PromotionInfo": {
    "RadioStationsPlaying": {
      "KHCR",
      "KQBX",
      "WTNR",
      "WJJH"
    },
    "TourDates": {
      "Seattle": "20150622",
      "Cleveland": "20150630"
    },
    "Rotation": "Heavy"
  }
}
```



```
{
  "Artist": "The Acme Band",
  "SongTitle": "Look Out, World",
  "AlbumTitle": "The Buck Starts Here",
  "Price": 0.99,
  "Genre": "Rock"
}
```

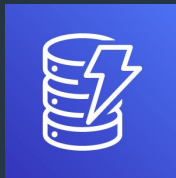
## Music

```
{  
  "Artist": "No One You Know",  
  "SongTitle": "My Dog Spot",  
  "AlbumTitle": "Hey Now",  
  "Price": 1.98,  
  "Genre": "Country",  
  "CriticRating": 8.4  
}  
  
{  
  "Artist": "No One You Know",  
  "SongTitle": "Somewhere Down The Road",  
  "AlbumTitle": "Somewhat Famous",  
  "Genre": "Country",  
  "CriticRating": 8.4,  
  "Year": 1984  
}
```

```
{  
  "Artist": "The Acme Band",  
  "SongTitle": "Still in Love",  
  "AlbumTitle": "The Buck Starts Here",  
  "Price": 2.47,  
  "Genre": "Rock",  
  "PromotionInfo": {  
    "RadioStationsPlaying": {  
      "KHCR",  
      "KQBX",  
      "WTNR",  
      "WJJH"  
    },  
    "TourDates": {  
      "Seattle": "20150622",  
      "Cleveland": "20150630"  
    },  
    "Rotation": "Heavy"  
  }  
}
```

Partition Key

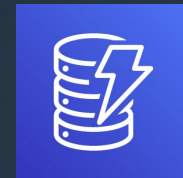
Sort Key



```
{  
  "Artist": "The Acme Band",  
  "SongTitle": "Look Out, World",  
  "AlbumTitle": "The Buck Starts Here",  
  "Price": 0.99,  
  "Genre": "Rock"  
}
```



## Music



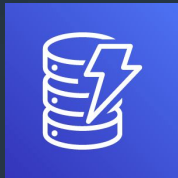
```
{
  "Artist": "No One You Know",
  "SongTitle": "My Dog Spot",
  "AlbumTitle": "Hey Now",
  "Price": 1.98,
  "Genre": "Country",
  "CriticRating": 8.4
}

{
  "Artist": "No One You Know",
  "SongTitle": "Somewhere Down The Road",
  "AlbumTitle": "Somewhat Famous",
  "Genre": "Country",
  "CriticRating": 8.4,
  "Year": 1984
}
```

```
{
  "Artist": "The Acme Band",
  "SongTitle": "Still in Love",
  "AlbumTitle": "The Buck Starts Here",
  "Price": 2.47,
  "Genre": "Rock",
  "PromotionInfo": {
    "RadioStationsPlaying": {
      "KHCR",
      "KQBX",
      "WTNR",
      "WJJH"
    },
    "TourDates": {
      "Seattle": "20150622",
      "Cleveland": "20150630"
    },
    "Rotation": "Heavy"
  }
}
```

Partition Key

Sort Key



## People

```
{
  "PersonID": 101,
  "Phone": "555-4321",
  "LastName": "Smith",
  "FirstName": "Fred"
}

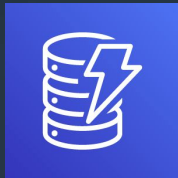
{
  "PersonID": 102,
  "Phone": "555-6789",
  "LastName": "Jones",
  "FirstName": "Mary",
  "Address": {
    "Street": "123 Main",
    "City": "Anytown",
    "State": "OH",
    "ZIPCode": 12345
  }
}
```

## People local index

```
{
  "PersonID": 101,
  "Phone": "555-4321",
  "LastName": "Smith",
  "FirstName": "Fred"
}

{
  "PersonID": 102,
  "Phone": "555-6789",
  "LastName": "Jones",
  "FirstName": "Mary",
  "Address": {
    "Street": "123 Main",
    "City": "Anytown",
    "State": "OH",
    "ZIPCode": 12345
  }
}
```





## People

```
{
  "PersonID": 101,
  "Phone": "555-4321",
  "LastName": "Smith",
  "FirstName": "Fred"
}

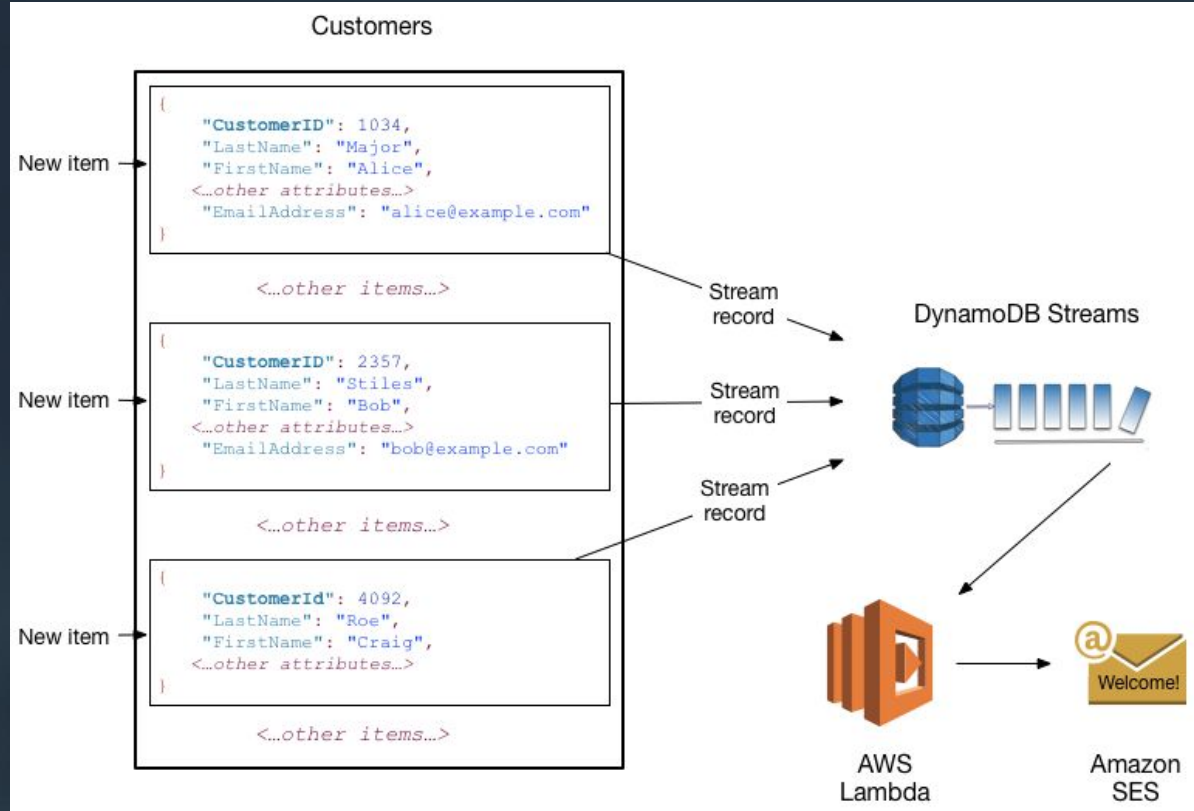
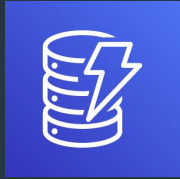
{
  "PersonID": 102,
  "Phone": "555-6789",
  "LastName": "Jones",
  "FirstName": "Mary",
  "Address": {
    "Street": "123 Main",
    "City": "Anytown",
    "State": "OH",
    "ZIPCode": 12345
  }
}
```

## People global index

```
{
  "PersonID": 101,
  "Phone": "555-4321",
  "LastName": "Smith",
  "FirstName": "Fred"
}

{
  "PersonID": 102,
  "Phone": "555-6789",
  "LastName": "Jones",
  "FirstName": "Mary"
}
```

# DynamoDB Streams



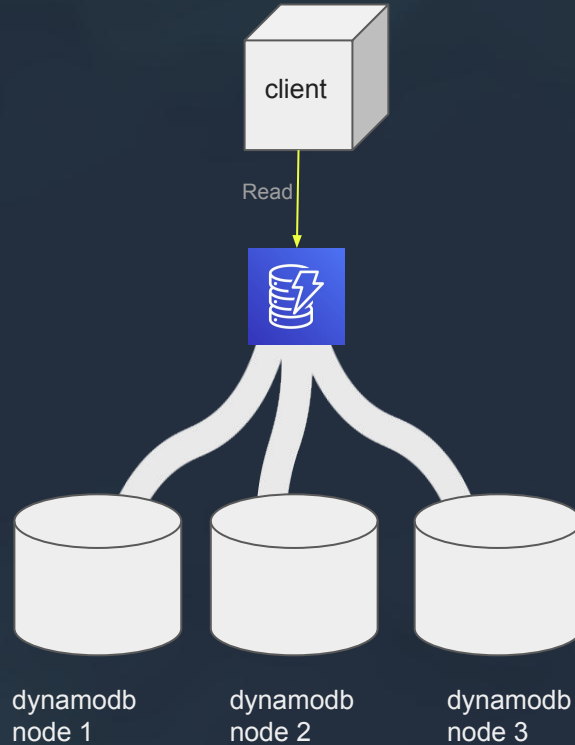
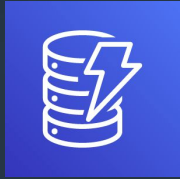
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METWALLY  
<LABS/>



CLOUD NATIVE  
BASE CAMP

## Read Consistency

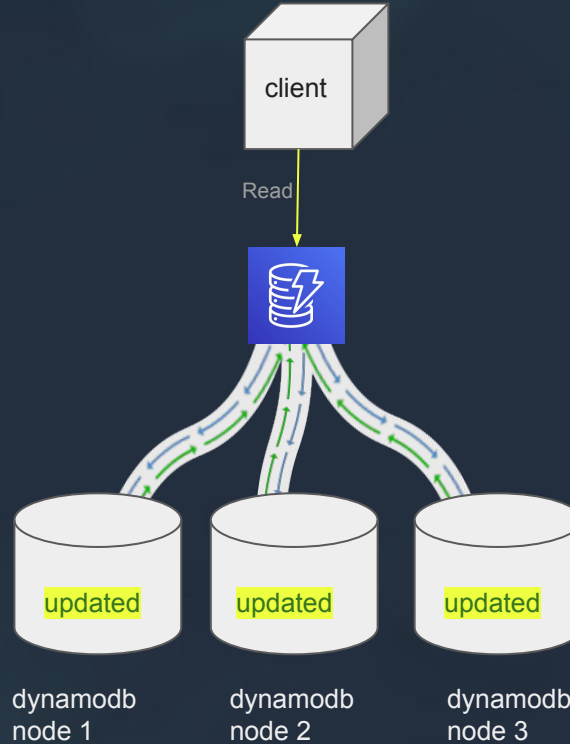


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## Strongly Consistent

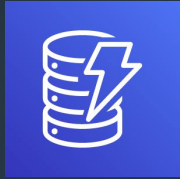


Read the data from any replica  
after the data is **updated** in all  
replicas

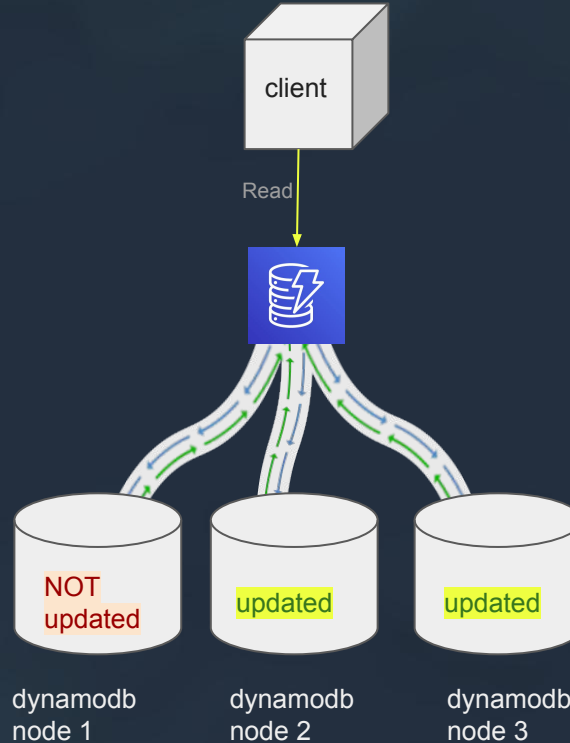


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## Eventually Consistent

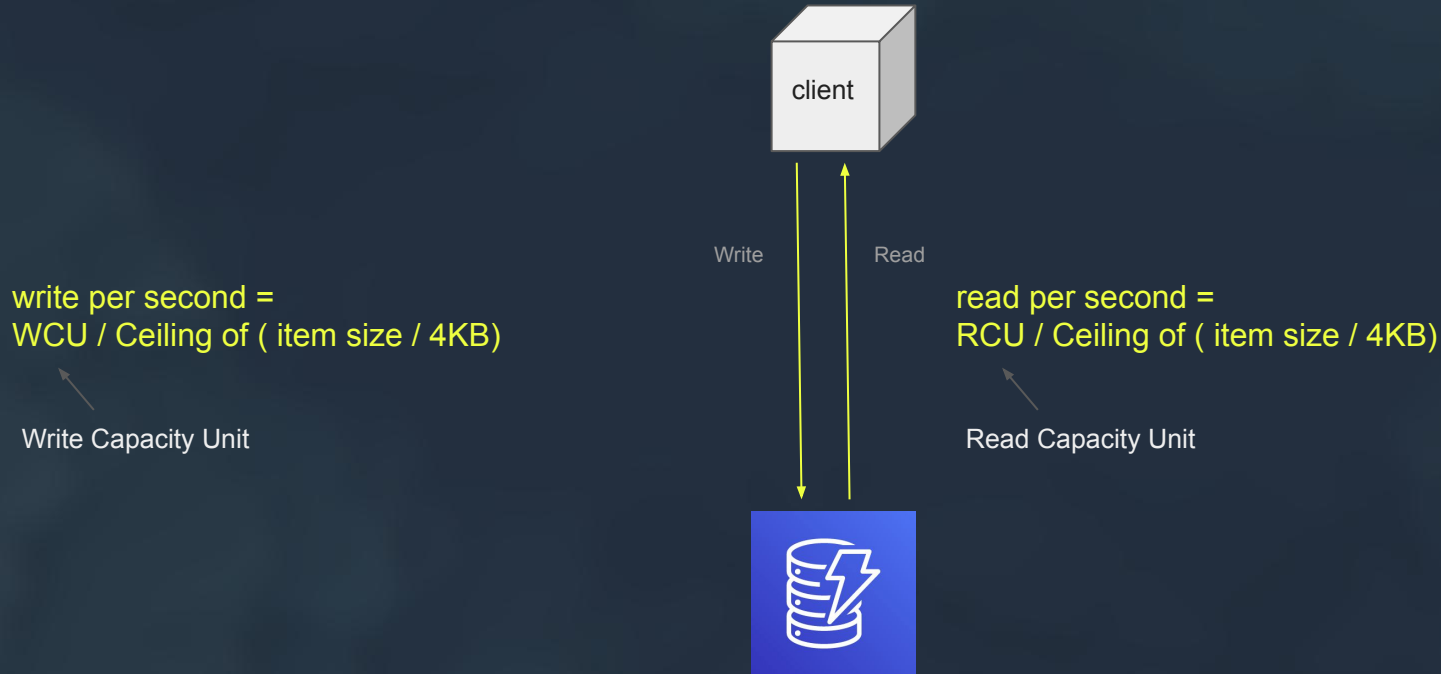
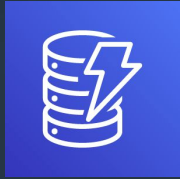


Read the data from any replica  
**even if the data is not** updated  
in all replicas



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## Read And Write Capacity Unit



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