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ASSI Bike Data

mongo DB

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non-technical explanation

This explanation is focused on the presentation of our project based on people with little knowledge of databases.

Introduction:

In this project we have decided to create a database in MongoDb(MongoDB is a document-oriented NoSQL database, It is used to store massive volumes of data.), in this case the database stores information about a bike rental, In this database we have 2 sections, also known as collections, a collection of bicycles and another of reservations.

Bicycle Collection:

The bicycle collection has 10 bicycles stored as an example to show the operation, said collection stores an identifier stored as an integer, the color of the bicycle, the type of bicycle, the size of the bicycle, the material, the brand that are stored as Strings and a “Reserved” option that is declared with a boolean. In the event that they are electric bicycles, a "Autonomy" field must also be filled in.

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Collection of reservations:

The reservation collection has 3 reservations stored as an example to show how it works, said collection stores an identifier of the reservation, the identifier of the reserved bicycle, which are stored as integers, name, surname, ID, telephone number, the destination to which It is directed that they are stored as Strings, an array with extras for the bicycle, although insurance is a mandatory extra for all bicycles, €25 is charged for each extra, Amount per day, which is a String, an integer of reserved days and finally a String with the total amount with the extras included. The extras that the bicycle has are insurance, anti-puncture equipment, extra battery if it is electric and cell phone holder. The information about the bicycles has been inserted in this way so that the client has all the details when renting them, the identifiers help us when it comes to controlling the reservations since thanks to that identifier we can know who has reserved each bicycle. Since in the event that a bicycle is lost or the client has an accident, we would know and we did not have that information, we would not know who rented it and we could not claim damages or loss. The destination must also be filled in, since in case of loss we want to know where the bicycle was lost. Since in the event that a bicycle is lost or the client has an accident, we would know and we did not have that information, we would not know who rented it and we could not claim damages or loss. The destination must also be filled in, since in case of loss we want to know where the bicycle was lost. Since in the event that a bicycle is lost or the client has an accident, we would know and we did not have that information, we would not know who rented it and we could not claim damages or loss. The destination must also be filled in, since in case of loss we want to know where the bicycle was lost.

At the time the client rents the bicycle, an insurance is made that can cover the damage to the bicycle in the event of an accident or in the event of loss, the full cost of the bicycle is paid.

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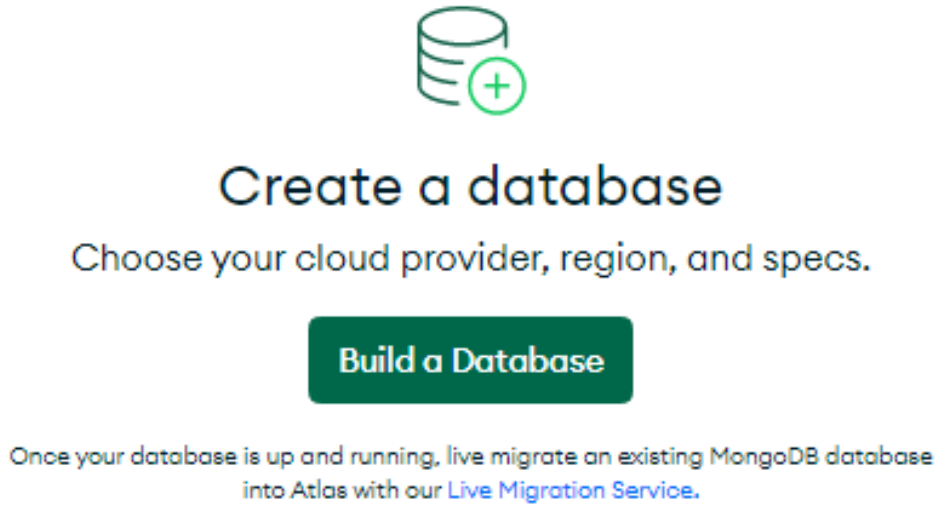
technical explanation

The previous thing is to create the database that we are going to use, we start MongoDB and create a new project and create the database, we choose the necessary parameters for our database



At the end we will start it in this way we will go to the CMD and enter the following commands

docker run --name some-mongo -d mongo

docker exec -it some-mongo bash

mongosh "mongodb+srv://b6.ka6ycgz.mongodb.net/myFirstDatabase" - - apiVersion 1 --username m001-student

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P
d

```
Current Mongosh Log ID: 6369265fdd741052a6b5d66b
Connecting to:          mongodb+srv://<credentials>@b6.ka6ycgz.mongodb.net/myFirstDatabase?appName=mongosh+1.6.0
Using MongoDB:          5.0.13 (API Version 1)
Using Mongosh:          1.6.0

For mongosh info see: https://docs.mongodb.com/mongodb-shell/
```

AND

only two Bicycles and Reserves.

Reservas
Id_reserva
id_bicicleta
Nombre
Apellido
DNI
Teléfono
Desino
Extras de la bicicleta
Importe
Días reservados
Total + Extras

Bicicletas
Id
Tipo
Talla
Colores
Materiales
Marca
Reservada

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Data	Datatype	Data	Type of data
ID	integer	Destiny	aray
Name	string	Extra of the bike	aray
Surname	string	Amount	string
ID	string	reserved days	integer
Telephone	string	Total + Extra	string
Guy	aray	Materials	aray
Size	aray	Brand	aray
Colors	aray	Bookings	string

Once they are created, we manually enter all the parameters of the bicycles and the reservations.

Example of the command in the Reservations section:

db.Reservas.insert({"Id reservation" : 3,
“Id bike” : 5, “Name” :
“Andrea”,
“Surnames”: “Noguera Bonilla”,
“DNI”: “36570646W”,
“Telephone” : “7(19)999-46-39”, “Destination” :
“Coll d'en rabassa”, “Bike extras” : [Insurance,
Puncture-resistant equipment],

“Amount” : “70€/day”, “Days reserved”: 2, “Total +
extras”: “190—})

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Example Query

Query 1:

We use a simple count to be able to count the number of road bikes we have in store.

```
Atlas atlas-1538tv-shard-0 [primary] Bicicletas> db.Bicicletas.count({"Tipo" : "Carretera"})
DeprecationWarning: Collection.count() is deprecated. Use countDocuments or estimatedDocumentCount.
3
```

Query 2:

We use the following query to find the information of the bicycle with id 5.

```
Atlas atlas-1538tv-shard-0 [primary] Bicicletas> db.Bicicletas.find({"Id" : 5})
[
  {
    _id: ObjectId("6367f4fb3020ce2b1778711a"),
    Id: 5,
    Tipo: 'City',
    Talla: 'S',
    Color: 'Amarilla',
    Material: 'Metal',
    Marca: 'Conor',
    Reservada: true
  }
]
```

Query 3:

In the following query we use it to find all the reservations that have been spent more than €130.

```
Atlas atlas-1538tv-shard-0 [primary] Bicicletas> db.Reservas.find({"Total + extras" : {"$gt" : "130€"}})
[
  {
    _id: ObjectId("636801393020ce2b17787120"),
    'Id reserva': 1,
    'Id bicicleta': 2,
    Nombre: 'Roberto',
    Apellidos: 'García Martínez',
    DNI: '53165853L',
    'Teléfono': '391(2057)841-05-33',
    Destino: 'Palma',
    'Extras de la bicicleta': [ 'Seguro', 'Luz delantera' ],
    Importe: '130€ / dia',
    'Dias reservados': 2,
    'Total + extras': '310€'
  },
  {
    _id: ObjectId("6368031b3020ce2b17787122"),
    'Id reserva': 3,
    'Id bicicleta': 5,
    Nombre: 'Andrea',
    Apellidos: 'Noguera Bonilla',
    DNI: '36570646W',
    'Teléfono': '7(19)999-46-39',
    Destino: "Coll d'en rabassa",
    'Extras de la bicicleta': [ 'Seguro', 'Equipo antipinchazos' ],
    Importe: '70€/dia',
    'Dias reservados': 2,
    'Total + extras': '190€'
  }
]
```

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Query 4:

In this query we have eliminated a reserve since reserves are not eternal and must be eliminated as they run out.

```
Atlas atlas-1538tv-shard-0 [primary] Bicicletas> db.Reservas.drop({"Id reserva" : 1})
true
```

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