

Hashim Aziz Muhammad

HA24010012783

L3T04 - Database Interaction with MongoDB  
and Mongoose

hashimazizm@gmail.com

+27832521214

```
mongosh mongodb+srv://<cl> X + v
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\hashi> mongosh "mongodb+srv://practicecluster.bweei76.mongodb.net/" --apiVersion 1 --username hashim
Enter password: *****
Current Mongosh Log ID: 6645e5d407ceefb2d4a4ed23
Connecting to:      mongodb+srv://<credentials>@practicecluster.bweei76.mongodb.net/?appName=mongosh+2.0.0
Using MongoDB:      7.0.8 (API Version 1)
Using Mongosh:      2.0.0
mongosh 2.2.5 is available for download: https://www.mongodb.com/try/download/shell

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

Atlas atlas-23fssf-shard-0 [primary] test>
```

Comment: This screenshot shows the successful connection to the MongoDB instance using mongosh.

```
mongosh mongodb+srv://<cl> x + v
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\hashi> mongosh "mongodb+srv://practicecluster.bweei76.mongodb.net/" --apiVersion 1 --username hashim
Enter password: *****
Current Mongosh Log ID: 6645e5d407ceefb2d4a4ed23
Connecting to:      mongodb+srv://<credentials>@practicecluster.bweei76.mongodb.net/?appName=mongosh+2.0.0
Using MongoDB:      7.0.8 (API Version 1)
Using Mongosh:      2.0.0
mongosh 2.2.5 is available for download: https://www.mongodb.com/try/download/shell

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

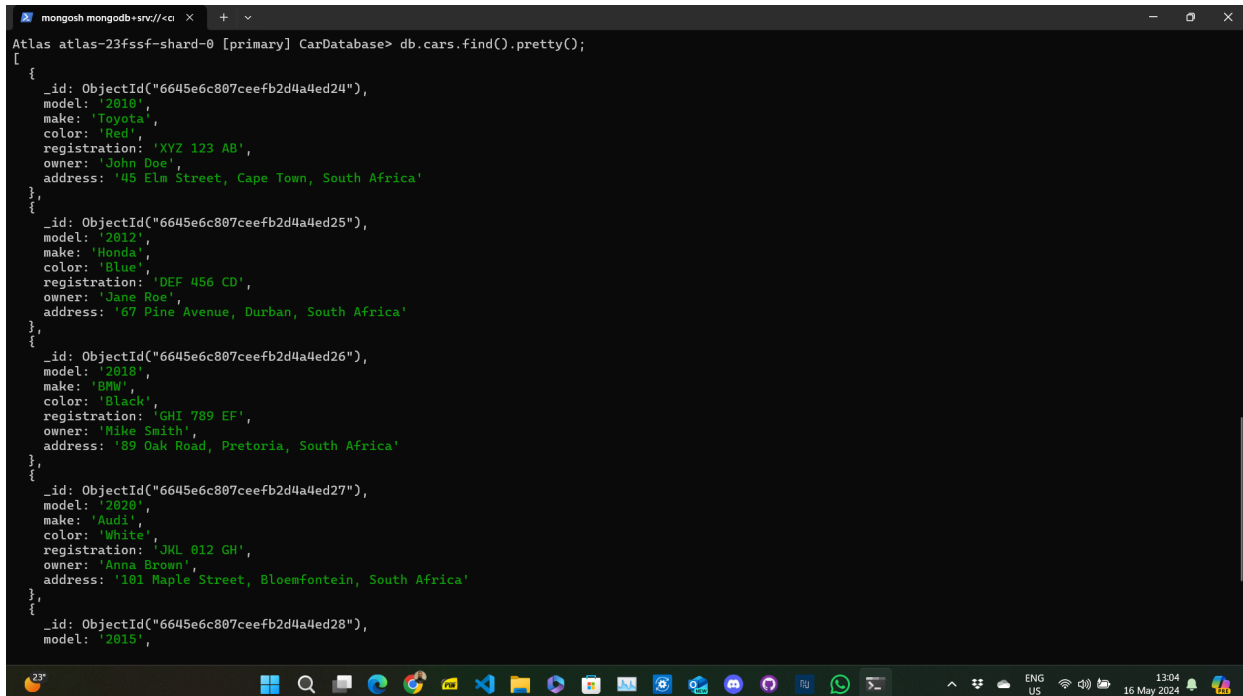
Atlas atlas-23fssf-shard-0 [primary] test> use CarDatabase;
switched to db CarDatabase
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> |
```

Comment: This screenshot verifies the creation and selection of the CarDatabase database.


```
mongosh mongodb+srv://<ci>
Atlas atlas-23fssf-shard-0 [primary] test> use CarDatabase;
switched to db CarDatabase
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> db.cars.insertMany([
...
...   {
...     model: "2010",
...     make: "Toyota",
...     color: "Red",
...     registration: "XYZ 123 AB",
...     owner: "John Doe",
...     address: "45 Elm Street, Cape Town, South Africa"
...   },
...   {
...     model: "2012",
...     make: "Honda",
...     color: "Blue",
...     registration: "DEF 456 CD",
...     owner: "Jane Roe",
...     address: "67 Pine Avenue, Durban, South Africa"
...   },
...   {
...     model: "2018",
...     make: "BMW",
...     color: "Black",
...     registration: "GHI 789 EF",
...     owner: "Mike Smith",
...     address: "89 Oak Road, Pretoria, South Africa"
...   },
...   {
...     model: "2020",
...     make: "Audi",
...     color: "White",
...     registration: "JKL 012 GH",
...     owner: "Anna Brown",
...     address: "101 Maple Street, Bloemfontein, South Africa"
...   },
...   {
...     model: "2015",
...     make: "Mercedes",
...     color: "Silver",
...     registration: "MNO 345 IJ",
...     owner: "Tom Clark",
...   }
... ])
23°
ENG US
12:59
16 May 2024
```

```
mongosh mongodb+srv://<ci>
...   {
...     color: "Black",
...     registration: "GHI 789 EF",
...     owner: "Mike Smith",
...     address: "89 Oak Road, Pretoria, South Africa"
...   },
...   {
...     model: "2020",
...     make: "Audi",
...     color: "White",
...     registration: "JKL 012 GH",
...     owner: "Anna Brown",
...     address: "101 Maple Street, Bloemfontein, South Africa"
...   },
...   {
...     model: "2015",
...     make: "Mercedes",
...     color: "Silver",
...     registration: "MNO 345 IJ",
...     owner: "Tom Clark",
...     address: "123 Birch Lane, Johannesburg, South Africa"
...   },
...   {
...     model: "2005",
...     make: "Ford Fiesta",
...     owner: "Sue Bailey",
...     registration: "ABC 123 GP",
...     address: "13 Main Road, Johannesburg, South Africa"
...   }
... ]]);
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId("6645a6c807ceefb2d4a4ed24"),
    '1': ObjectId("6645a6c807ceefb2d4a4ed25"),
    '2': ObjectId("6645a6c807ceefb2d4a4ed26"),
    '3': ObjectId("6645a6c807ceefb2d4a4ed27"),
    '4': ObjectId("6645a6c807ceefb2d4a4ed28"),
    '5': ObjectId("6645a6c807ceefb2d4a4ed29")
  }
}
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> |
23°
ENG US
12:59
16 May 2024
```

Comment: The screenshots demonstrates the insertion of multiple car documents into the cars collection.



```
mongosh mongodb+srv://<ci>
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> db.cars.find().pretty();
[
  {
    _id: ObjectId("6645e6c807ceefb2d4a4ed24"),
    model: '2010',
    make: 'Toyota',
    color: 'Red',
    registration: 'XYZ 123 AB',
    owner: 'John Doe',
    address: '45 Elm Street, Cape Town, South Africa'
  },
  {
    _id: ObjectId("6645e6c807ceefb2d4a4ed25"),
    model: '2012',
    make: 'Honda',
    color: 'Blue',
    registration: 'DEF 456 CD',
    owner: 'Jane Roe',
    address: '67 Pine Avenue, Durban, South Africa'
  },
  {
    _id: ObjectId("6645e6c807ceefb2d4a4ed26"),
    model: '2018',
    make: 'BMW',
    color: 'Black',
    registration: 'GHI 789 EF',
    owner: 'Mike Smith',
    address: '89 Oak Road, Pretoria, South Africa'
  },
  {
    _id: ObjectId("6645e6c807ceefb2d4a4ed27"),
    model: '2020',
    make: 'Audi',
    color: 'White',
    registration: 'JKL 012 GH',
    owner: 'Anna Brown',
    address: '101 Maple Street, Bloemfontein, South Africa'
  },
  {
    _id: ObjectId("6645e6c807ceefb2d4a4ed28"),
    model: '2015',
    address: '123 Main Street, Johannesburg, South Africa'
  }
]
```



```
Atlas atlas-23fssf-shard-0 [primary] CarDatabase>
[
  {
    _id: ObjectId("6645e6c807ceefb2d4a4ed29"),
    model: '2005',
    make: 'Ford Fiesta',
    owner: 'Sue Bailey',
    registration: 'ABC 123 GP',
    address: '13 Main Road, Johannesburg, South Africa'
  }
]
```

Snipping Tool

Screenshot copied to clipboard and saved  
Select here to mark up and share.

Comment: The screenshots displays all documents currently stored in the cars collection.

```
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> db.cars.updateOne(
...   { owner: "Sue Bailey" },
...   { $set: { address: "21 Maureen Street, Bluewater Bay, Port Elizabeth, South Africa" } }
... );
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> |
```

Comment: This screenshot shows the update of Sue Bailey's address in the database.

```
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> db.cars.updateOne(
...   { owner: "Sue Bailey" },
...   { $set: { owner: "Sue Smith" } }
... );
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> |
```

Comment: This screenshot demonstrates the update of Sue Bailey's surname to Smith.

```
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> db.cars.find({ model: { $lt: "2019" } }).pretty();
[
  {
    _id: ObjectId("6645e6c807ceefb2d4a4ed24"),
    model: '2010',
    make: 'Toyota',
    color: 'Red',
    registration: 'XYZ 123 AB',
    owner: 'John Doe',
    address: '45 Elm Street, Cape Town, South Africa'
  },
  {
    _id: ObjectId("6645e6c807ceefb2d4a4ed25"),
    model: '2012',
    make: 'Honda',
    color: 'Blue',
    registration: 'DEF 456 CD',
    owner: 'Jane Roe',
    address: '67 Pine Avenue, Durban, South Africa'
  },
  {
    _id: ObjectId("6645e6c807ceefb2d4a4ed26"),
    model: '2018',
    make: 'BMW',
    color: 'Black',
    registration: 'GHI 789 EF',
    owner: 'Mike Smith',
    address: '89 Oak Road, Pretoria, South Africa'
  },
  {
    _id: ObjectId("6645e6c807ceefb2d4a4ed28"),
    model: '2015',
    make: 'Mercedes',
    color: 'Silver',
    registration: 'MNO 345 IJ',
    owner: 'Tom Clark',
    address: '123 Birch Lane, Johannesburg, South Africa'
  },
]
```

```
mongosh mongodb+srv://<ci>
registration: 'XYZ 123 AB',
owner: 'John Doe',
address: '45 Elm Street, Cape Town, South Africa'
},
{
  _id: ObjectId("6645e6c807ceefb2d4a4ed25"),
  model: '2012',
  make: 'Honda',
  color: 'Blue',
  registration: 'DEF 456 CD',
  owner: 'Jane Roe',
  address: '67 Pine Avenue, Durban, South Africa'
},
{
  _id: ObjectId("6645e6c807ceefb2d4a4ed26"),
  model: '2018',
  make: 'BMW',
  color: 'Black',
  registration: 'GHI 789 EF',
  owner: 'Mike Smith',
  address: '89 Oak Road, Pretoria, South Africa'
},
{
  _id: ObjectId("6645e6c807ceefb2d4a4ed28"),
  model: '2015',
  make: 'Mercedes',
  color: 'Silver',
  registration: 'MNO 345 IJ',
  owner: 'Tom Clark',
  address: '123 Birch Lane, Johannesburg, South Africa'
},
{
  _id: ObjectId("6645e6c807ceefb2d4a4ed29"),
  model: '2005',
  make: 'Ford Fiesta',
  owner: 'Sue Smith',
  registration: 'ABC 123 GP',
  address: '21 Maureen Street, Bluewater Bay, Port Elizabeth, South Africa'
}
]
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> |
```

Comment: The screenshots lists all cars older than 5 years from the cars collection.

```
}
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> db.cars.insertOne({
...   model: "2015",
...   make: "Ford Fiesta",
...   owner: "Sue Smith",
...   registration: "XYZ 456 LM",
...   address: "78 Palm Street, Cape Town, South Africa"
... });
{
  acknowledged: true,
  insertedId: ObjectId("6645e8f58ebd0e850b027e7")
}
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> |
```

Comment: This screenshot shows the insertion of another Ford Fiesta owned by Sue Smith.

```
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> db.cars.deleteOne({
...   owner: "Sue Smith",
...   registration: "ABC 123 GP"
... });
{ acknowledged: true, deletedCount: 1 }
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> |
```

Comment: This screenshot demonstrates the removal of the original Sue Smith's (formerly Sue Bailey) car.

```
{ acknowledged: true, deletedCount: 1 }
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> db.cars.insertOne({
...   model: "2017",
...   make: "Volkswagen",
...   color: "Green",
...   registration: "UVW 678 NO",
...   owner: "Liam Wilson",
...   address: "34 Spruce Street, Durban, South Africa",
...   previousOwners: [
...     "Oliver Johnson",
...     "Emma Thompson",
...     "Charlotte Martinez"
...   ]
... });
{
  acknowledged: true,
  insertedId: ObjectId("6645e9478ebd0e850b027e8")
}
Atlas atlas-23fssf-shard-0 [primary] CarDatabase> |
```

Comment: This screenshot displays the insertion of a car document with a list of previous owners.



