

Lesson 01 Demo 02

Exploring MongoDB Atlas Database Collection and Documents

Objective: To explore the MongoDB Atlas database collection and documents by creating a database user and connecting to the database

Tools required: NA

Prerequisites: None

Steps to be followed:

1. Create a database user
2. Connect to the database
3. Load the sample dataset
4. Insert a document
5. Edit the document

Step 1: Create a database user

- 1.1 Click on **Quickstart** under the **Security** section

The screenshot shows the MongoDB Atlas web interface. At the top, there's a navigation bar with the 'Atlas' logo, a dropdown for 'Sakshi's Org ...', a gear icon for 'Access Manager', and a 'Billing' link. Below the navigation is a horizontal menu with 'Project 0', a three-dot menu, 'Data Services' (which is underlined in green), 'App Services', and 'Charts'. On the left, a sidebar titled 'SECURITY' contains links: 'Quickstart' (highlighted with a red box), 'Backup', 'Database Access', 'Network Access', and 'Advanced'. Below this is a 'New On Atlas' section with a '8' badge and a 'Goto' link. The main content area has a title 'Application Development' and a dropdown menu set to 'Java'. A callout bubble from this dropdown says 'Your connected applications will appear here along with practices and features for your dev'. At the bottom right of the callout, it says 'Don't see your apps? Get updated connection info'.

- 1.2 Create a database user by providing a **username** and **password**, then click on **Create User**

The screenshot shows a 'Create a database user' form. At the top, there's a header with 'Data Services', 'App Services', and 'Charts'. The main content area starts with a note: 'Create a database user using a username and password. Users will be given the *read and write to any database privilege* by default. You can update these permissions and/or create additional users later. Ensure these credentials are different to your MongoDB Cloud username and password.' Below this are two input fields: 'Username' containing 'sakshigupta' and 'Password' containing 'VRqmhg0WAm7NSoRt'. To the right of the password field are two buttons: 'Autogenerate Secure Password' and 'Copy'. At the bottom is a large green 'Create User' button, which is highlighted with a red box.

Create a database user using a username and password. Users will be given the *read and write to any database privilege* by default. You can update these permissions and/or create additional users later. Ensure these credentials are different to your MongoDB Cloud username and password. You can manage existing users via the [Database Access Page](#).

Username**Password**  Autogenerate Secure Password Copy

Success! Please keep your credentials to connect to your cluster.

1.3 To connect the database to a cluster, scroll down and select **My Local Environment**

✓ Where would you like to connect from?

Enable access for any network(s) that need to read and write data to your cluster.

**My Local Environment**

Use this to add network IP addresses to the IP Access List. This can be modified at any time.

 ADVANCED**Cloud Environment**

Use this to configure network access between Atlas and your cloud or on-premise environment. Specifically, set up IP Access Lists, Network Peering, and Private Endpoints.

1.4 Navigate to Network Access from the Security section on the left and click on **ADD IP ADDRESS**

The screenshot shows the Network Access page with the following interface elements:

- Left Sidebar:** Includes links for Atlas Search, Stream Processing, Migration, SECURITY (with Quickstart, Backup, Database Access, and Network Access), and Advanced.
- Header:** SAKSHI'S ORG - 2024-05-28 > PROJECT 0
- Section Header:** Network Access
- Tabs:** IP Access List (selected), Peering, Private Endpoint
- Alerts:**
 - A yellow box with an exclamation mark: "Current IP Address not added. You will not be able to connect to your cluster from this address."
 - A yellow box with text: "You will only be able to connect to your cluster from the following list of IP Addresses:"

The screenshot shows the Data Services page with the following interface elements:

- Header:** Data Services, App Services, Charts
- Alerts:**
 - A yellow box with an exclamation mark: "Current IP Address not added. You will not be able to connect to databases from this address."
 - A red button labeled "+ ADD IP ADDRESS" is highlighted with a red box.
 - A red button labeled "Do not show me again" is also visible.
- Text:** "You will only be able to connect to your cluster from the following list of IP Addresses:"

1.5 Select **ALLOW ACCESS FROM ANYWHERE**, add a comment as **public access**, and click on **Confirm**

The screenshot shows the "Add IP Access List Entry" dialog box with the following configuration:

- Buttons:** ADD CURRENT IP ADDRESS (disabled), ALLOW ACCESS FROM ANYWHERE (highlighted with a red box).
- Fields:**
 - Access List Entry: 0.0.0.0/0
 - Comment: public access
- Switch:** This entry is temporary and will be deleted in 6 hours
- Buttons:** Cancel, Confirm (highlighted with a red box)

IP Address	Comment	Status	Actions
3.80.255.167/32	Created as part of the Auto Setup process	Active	
0.0.0.0/0 (includes your current IP address)	public access	Active	

Step 2: Connect to the database

2.1 Navigate to Database under the Deployment section

The screenshot shows the left sidebar with 'DEPLOYMENT' selected. Under 'Database', 'DemoCluster0' is listed. A yellow notification bar at the top right says: 'Current IP Address not added. You will not be able to connect to databases from this address.' It includes buttons to 'Add Current IP Address' and 'Do not show me again'.

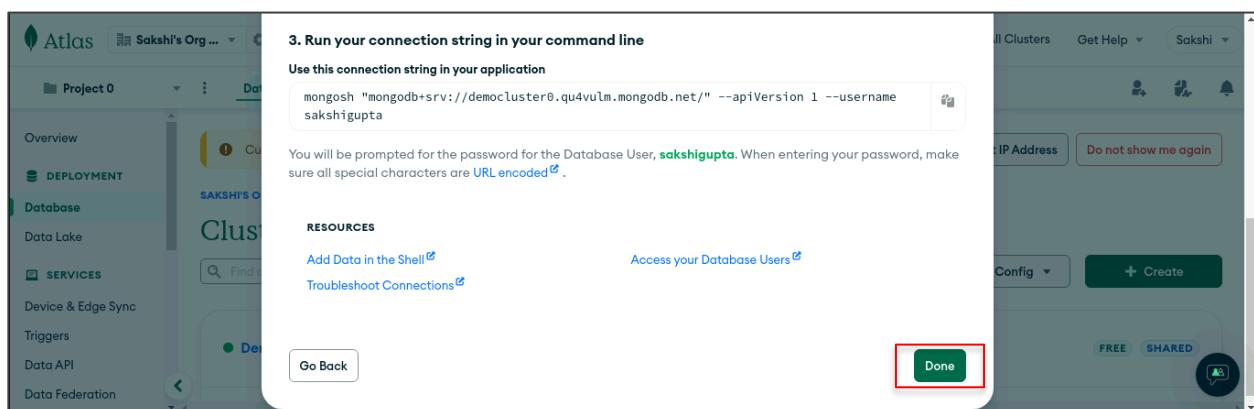
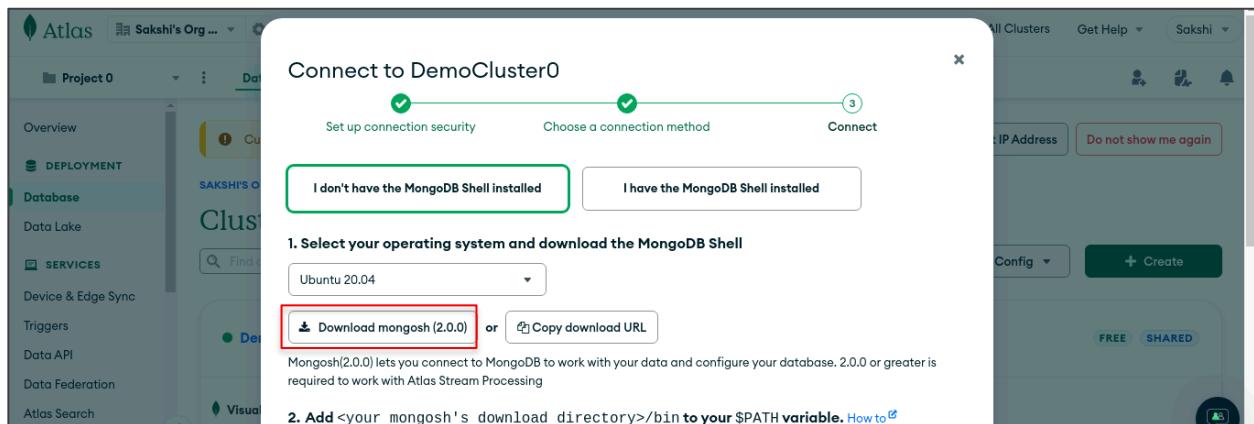
2.2 Click on Connect

The screenshot shows the 'Clusters' page with 'DemoCluster0' selected. The 'Connect' button for this cluster is highlighted with a red box. Other buttons include 'View Monitoring', 'Browse Collections', and '...'. A green 'FREE' badge and a blue 'SHARED' badge are visible on the right.

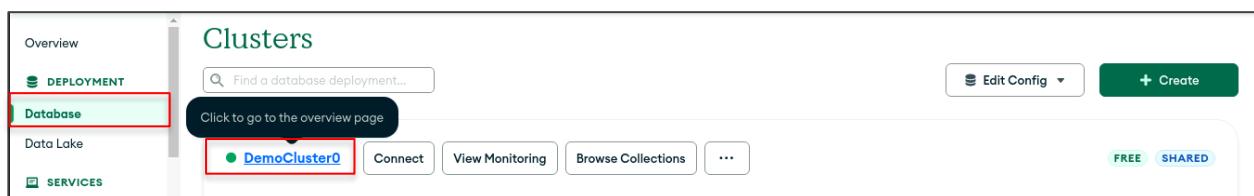
2.3 Choose the Shell option to connect with MongoDB Shell

The screenshot shows the 'Access your data through tools' section. It lists three options: 'Compass' (Explore, modify, and visualize your data with MongoDB's GUI), 'Shell' (Quickly add & update data using MongoDB's Javascript command-line interface), and 'MongoDB for VS Code' (Work with your data in MongoDB directly from your VS Code environment). The 'Shell' option is highlighted with a red box.

2.4 Select **Download mongosh** to download the MongoDB shell, and then click on **Done**



2.5 Go to **Database** within **Deployment** section, and click on **DemoCluster0**



The cluster interface will appear as shown above. The documents are saved in the **Collections** tab.

Step 3: Load the sample dataset

3.1 Scroll down to see a sample dataset generated by MongoDB

3.2 Click on Create Database:

DATABASES: 1 COLLECTIONS: 6

+ Create Database

sample_mflix.comments

STORAGE SIZE: 6.12MB LOGICAL DATA SIZE: 11.14MB TOTAL DOCUMENTS: 41079 INDEXES TOTAL SIZE: 1.12MB

Find Indexes Schema Anti-Patterns Aggregation Search Indexes

Filter Type a query: { field: 'value' } Reset Apply Options ▾

QUERY RESULTS: 1-20 OF MANY

PREVIOUS 1-20 of many results NEXT

3.3 Add a Database name and Collection name

Atlas Sakshi's Org ... Access Manager Billing All Clusters Get Help Sakshi

Project 0 Data Services

OVERVIEW DEPLOYMENT DATABASE SERVICES

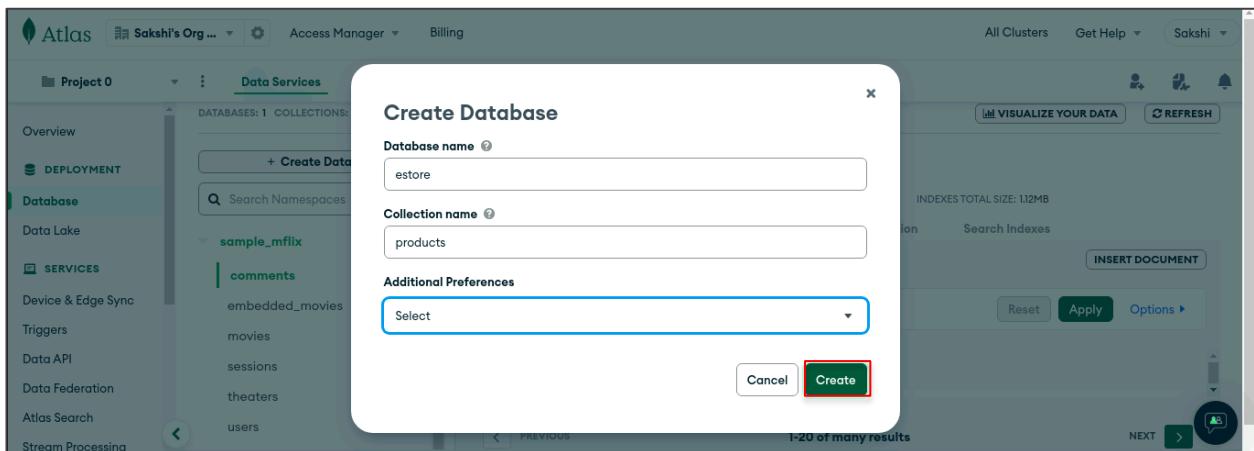
Database name: estore

Collection name: products

Additional Preferences: Select

Cancel Create

3.4 Click on Create

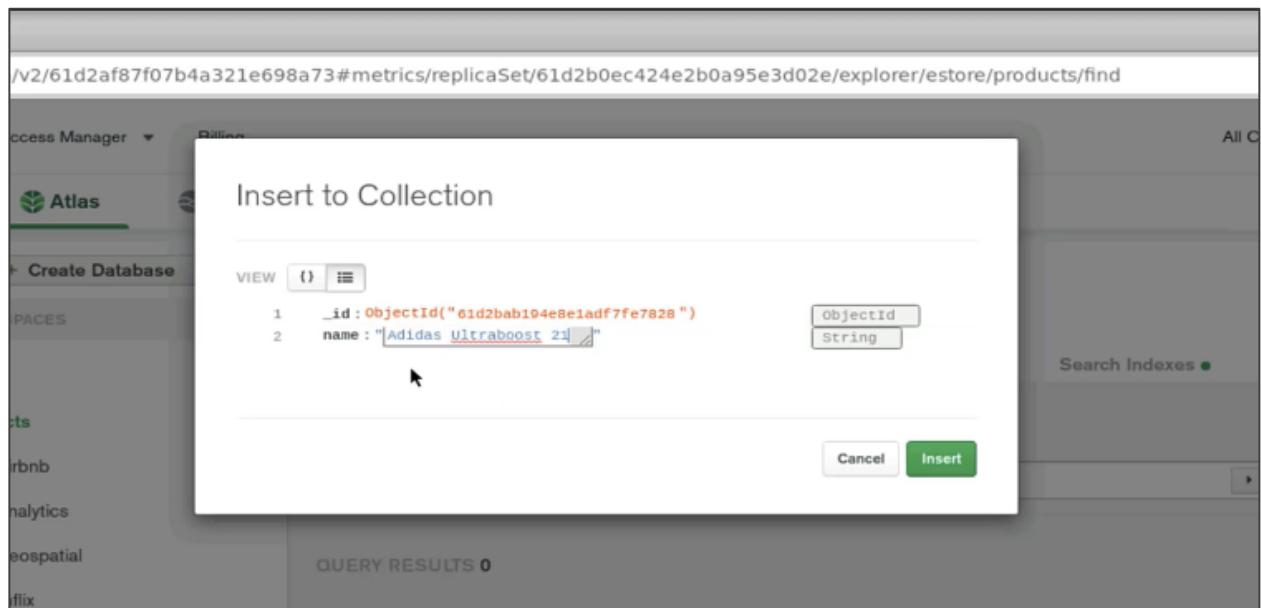


Sample data is now loaded.

Step 4: Insert a document

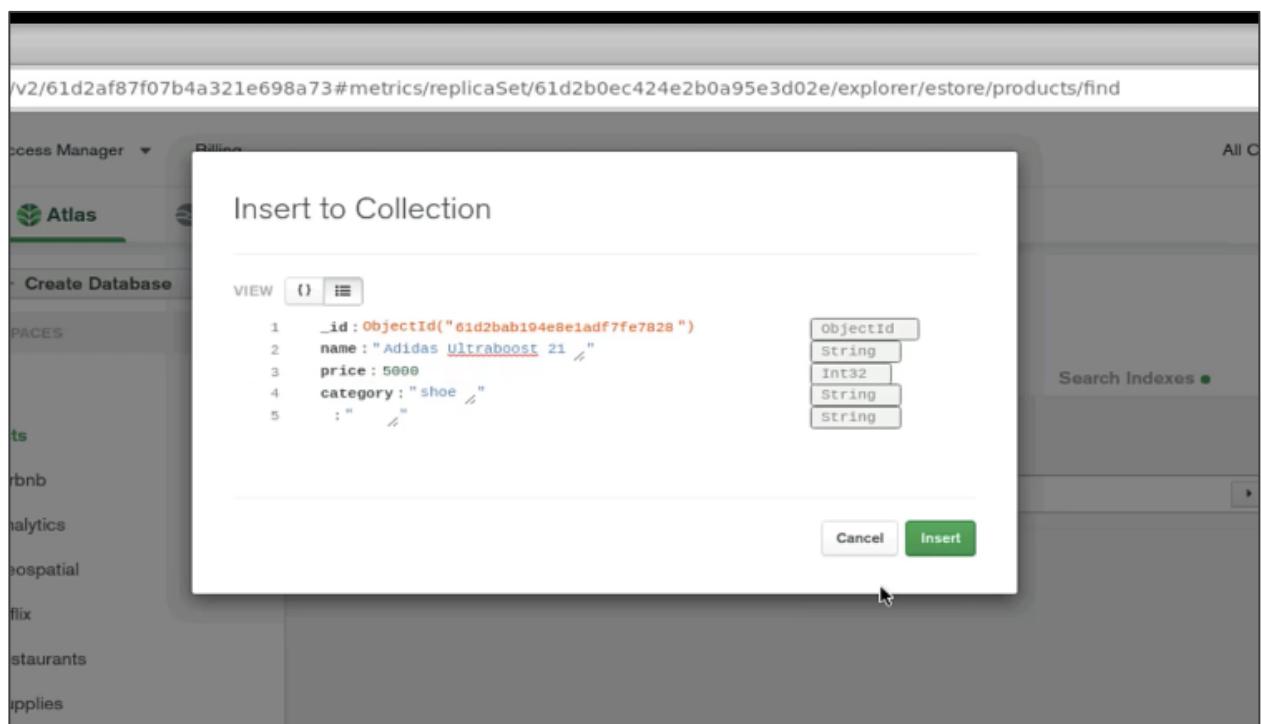
4.1 Click on INSERT DOCUMENT

4.2 Enter the **name** and **key** for a product document



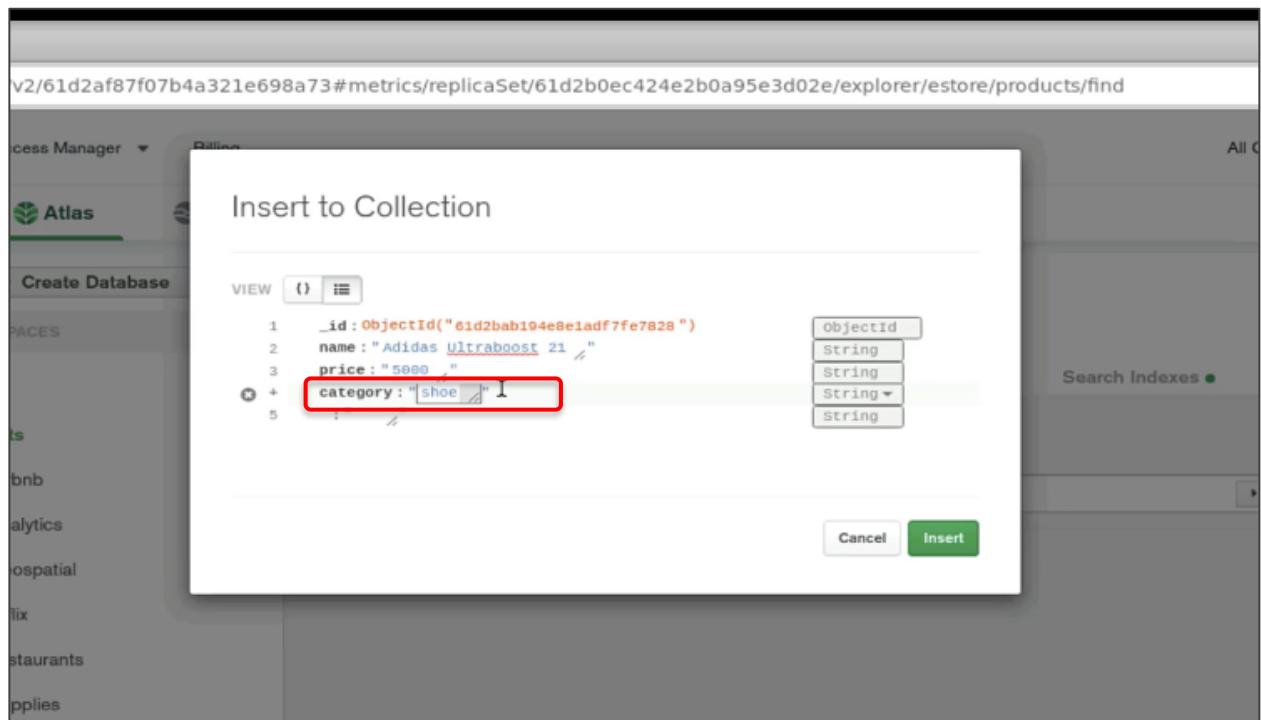
```
_id: ObjectId("61d2bab194e8e1adf7fe7828")
name: "Adidas Ultraboost 21"
```

4.3 Add one more attribute named **price** and set the data type to **Integer**

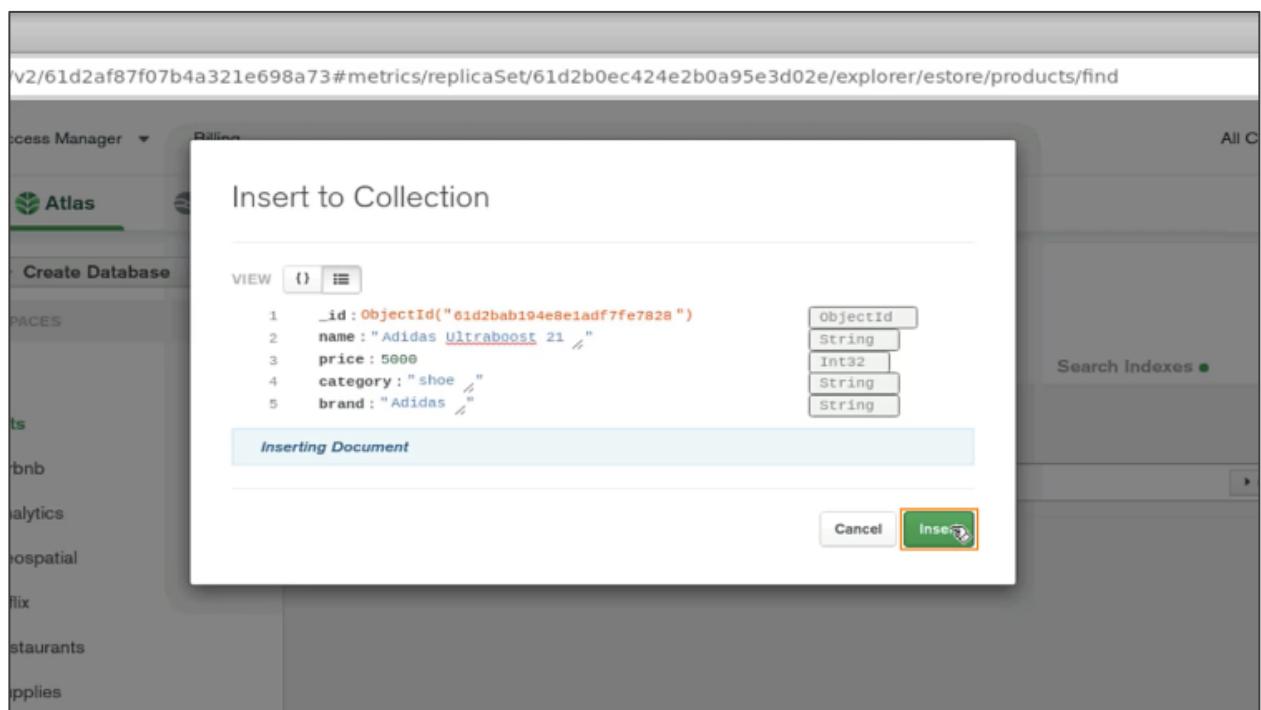


```
_id: ObjectId("61d2bab194e8e1adf7fe7828")
name: "Adidas Ultraboost 21"
price: 5000
category: "shoe"
```

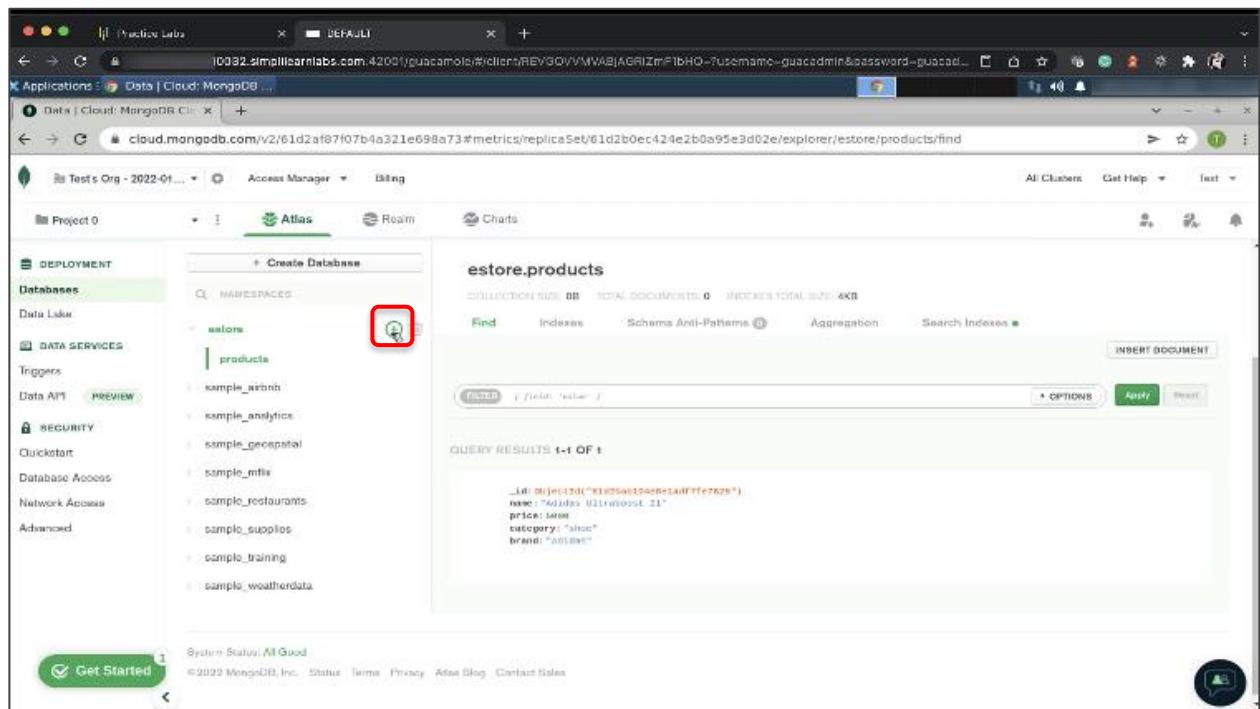
4.4 Add an attribute called category



4.5 Add a brand with a key and click on the Insert button



4.6 Click the + button to create another collection in the database

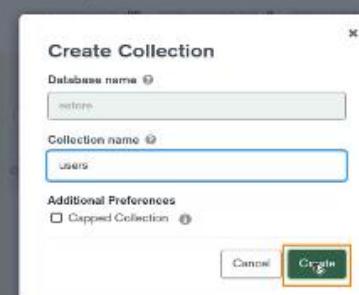


The screenshot shows the MongoDB Atlas interface. On the left, there's a sidebar with 'Project 0' selected. Under 'DEPLOYMENT', 'Databases' is highlighted, showing 'Data Lake' and 'estore'. Under 'DATA SERVICES', 'Triggers' is listed. Under 'SECURITY', 'Quickstart', 'Database Access', 'Network Access', and 'Advanced' are listed. At the bottom left is a green 'Get Started' button. The main area shows the 'estore.products' collection. A search bar at the top says 'estore.products'. Below it are tabs for 'Find', 'Indexes', 'Schema & Patterns', 'Aggregation', and 'Search Indexes'. A query result table shows one document:

```
_id: ObjectId("61d2af07f07b4a321e698a73")
name: "Golida Ultralight II"
price: 999
category: "Shoe"
brand: "ASICS"
```

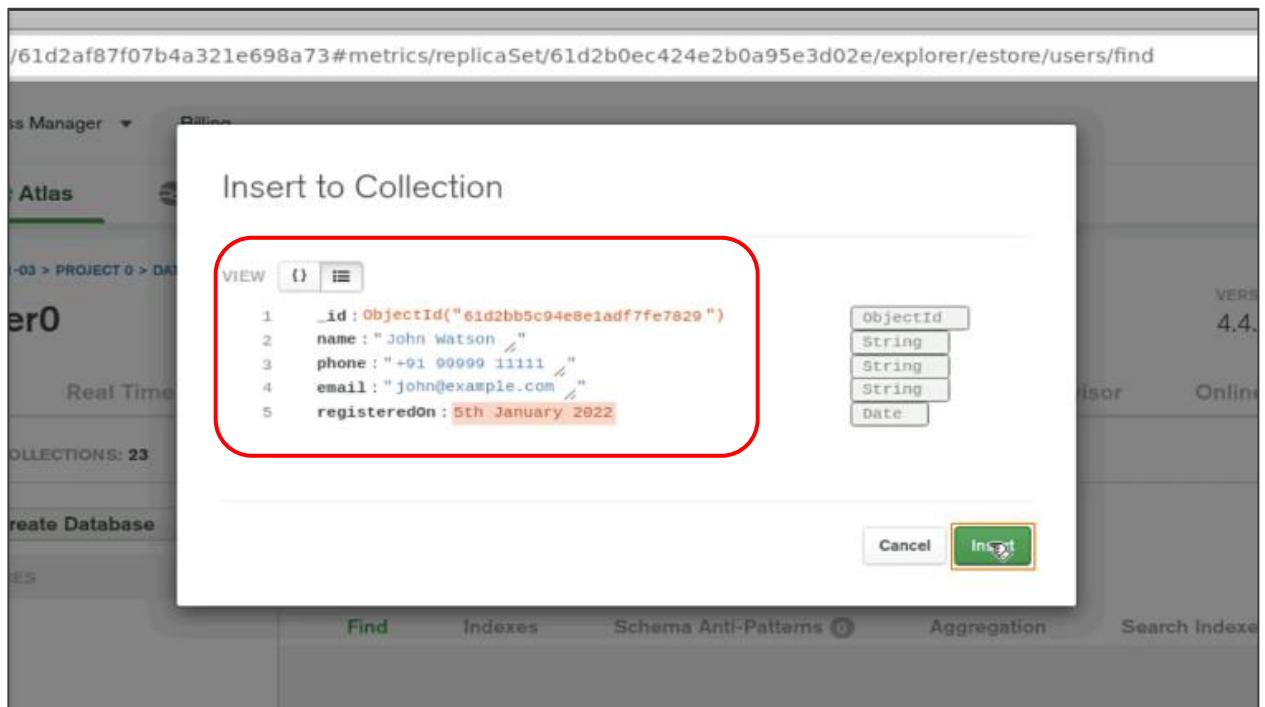
At the bottom right of the main area, there are 'OPTIONS', 'Apply', and 'Read' buttons.

4.7 Add the collection name and select the **Create** button



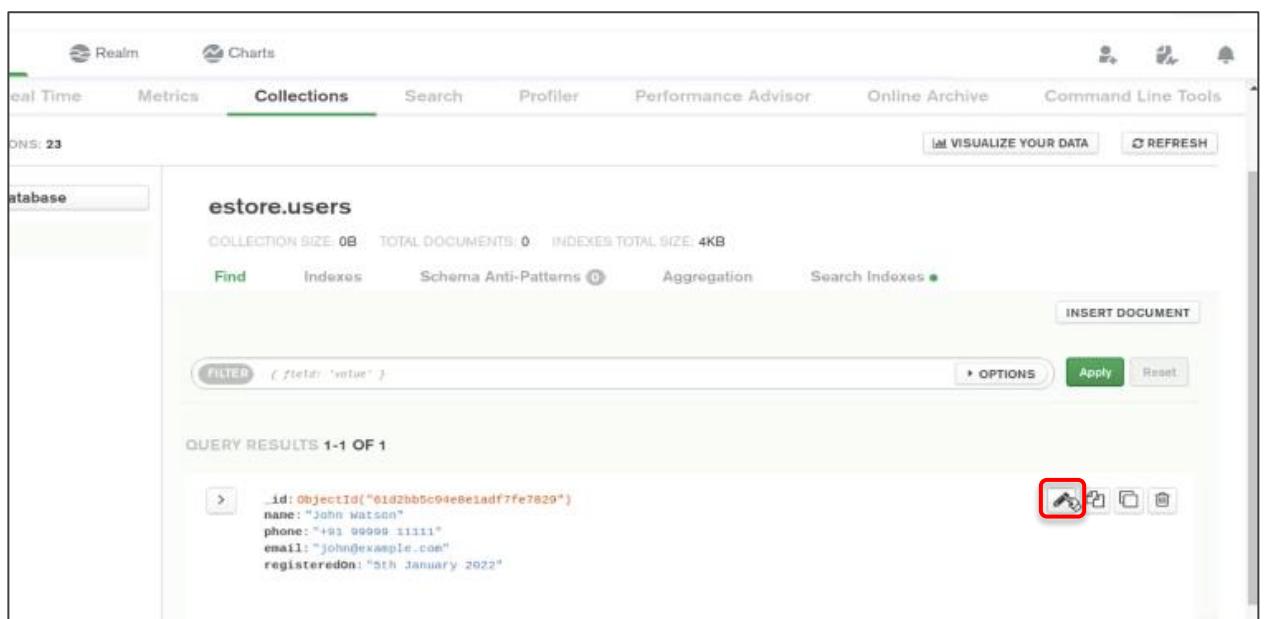
The screenshot shows the 'Create Collection' dialog box in the foreground. It has fields for 'Database name' (set to 'estore') and 'Collection name' (set to 'users'). There's also an 'Additional Preferences' section with a 'Capped Collection' checkbox. At the bottom are 'Cancel' and 'Create' buttons, with 'Create' being highlighted by a red box. In the background, the 'estore.products' collection is visible in the MongoDB interface.

4.8 Insert the attributes under the user's collection and click **Insert**



Step 5: Edit the document

5.1 Click on the edit icon to edit the document



5.2 Create address object for the users

estore.users

COLLECTION SIZE: 0B TOTAL DOCUMENTS: 0 INDEXES TOTAL SIZE: 4KB

Find Indexes Schema Anti-Patterns Aggregation Search Indexes

INSERT DOCUMENT

FILTER { field: 'value' } OPTIONS Apply Reset

QUERY RESULTS 1-1 OF 1

```

1  _id: ObjectId("61d2bb5c94ebe1adf7fe7829")
2  name : "John Watson"
3  phone : "+91 99999 11111"
4  email : "john@example.com"
5  registeredOn : "5th January 2022"
6  address : Object
    adrLine : "2144 B20"
  
```

Document Modified.

ObjectID
String
String
String
String
Object
String

CANCEL UPDATE

5.3 Add a field in the address as a city

estore.users

COLLECTION SIZE: 0B TOTAL DOCUMENTS: 0 INDEXES TOTAL SIZE: 4KB

Find Indexes Schema Anti-Patterns Aggregation Search Indexes

INSERT DOCUMENT

FILTER { field: 'value' } OPTIONS Apply Reset

QUERY RESULTS 1-1 OF 1

```

1  _id: ObjectId("61d2bb5c94ebe1adf7fe7829")
2  name : "John Watson"
3  phone : "+91 99999 11111"
4  email : "john@example.com"
5  registeredOn : "5th January 2022"
6  address : Object
    adrLine : "2144 B20"
    city : "Bangalore"
  
```

Document Modified.

ObjectID
String
String
String
String
Object
String
String

CANCEL UPDATE

5.4 Add a pincode field and click on Update

estore.users

COLLECTION SIZE: 0B TOTAL DOCUMENTS: 0 INDEXES TOTAL SIZE: 4KB

Find Indexes Schema Anti-Patterns Aggregation Search Indexes

INSERT DOCUMENT

FILTER { field: 'value' } **OPTIONS** Apply Reset

QUERY RESULTS 1-1 OF 1

```

1. _id: ObjectId("61d2bb5c04e8e1adf7fe7829")
2. name: "John Watson"
3. phone: "+91 99999 1111"
4. email: "john@example.com"
5. registeredon: "5th January 2022"
6. address: Object
7.   adrLine: "2144 B20"
8.   city: "Bangalore"
9.   pinCode: "520001"

```

Document Modified.

CANCEL UPDATE

5.5 Add an orders attribute

estore.users

COLLECTION SIZE: 0B TOTAL DOCUMENTS: 0 INDEXES TOTAL SIZE: 4KB

Find Indexes Schema Anti-Patterns Aggregation Search Indexes

INSERT DOCUMENT

FILTER { field: 'value' } **OPTIONS** Apply Reset

QUERY RESULTS 1-1 OF 1

```

1. _id: ObjectId("61d2bb5c04e8e1adf7fe7829")
2. name: "John Watson"
3. phone: "+91 99999 1111"
4. email: "john@example.com"
5. registeredon: "5th January 2022"
6. address: Object
7.   adrLine: "2144 B20"
8.   city: "Bangalore"
9.   pinCode: "520001"
10.  orders: Array
11.    - 0: Object

```

Document Modified.

CANCEL UPDATE

5.6 Add an object with an order id

The screenshot shows the MongoDB Compass interface. At the top, there are tabs for Find, Indexes, Schema Anti-Patterns (0), Aggregation, and Search Indexes. Below the tabs is a toolbar with FILTER, OPTIONS, Apply, and Reset buttons. A large 'INSERT DOCUMENT' button is on the right.

QUERY RESULTS 1-1 OF 1

```

1  _id: ObjectId("61d2bb5c94e8e1adf7fe7829")
2  name : "John Watson"
3  phone : "+91 99999 11111"
4  email : "john@example.com"
5  registeredon : "5th January 2022"
6  address : Object
7    adrLine : "2144 B20"
8    city : "Bangalore"
9    pincode : "520001"
10  orders : Array
11    0 : Object
12      oid : 1

```

A red box highlights the 'oid : 1' field under the 'orders' array. To the right, a schema browser shows the structure of the document:

- _id: ObjectId
- String
- String
- String
- String
- Object
- String
- String
- String
- Array
- Object
- Int32
- String

Below the schema browser, there are CANCEL and UPDATE buttons. A message 'Document Modified.' is displayed at the bottom.

5.7 Add a field named amount

The screenshot shows the MongoDB Compass interface. On the left, a sidebar displays Project 0, DEPLOYMENT (Databases: Data Lake), DATA SERVICES (Triggers, Data API PREVIEW), and SECURITY (Quickstart, Database Access, Network Access, Advanced). The main area shows the Atlas tab selected, displaying databases like products, users, sample_airbnb, etc. A 'FILTER' bar is present at the top.

QUERY RESULTS 1-1 OF 1

```

1  _id: ObjectId("61d2bb5c94e8e1adf7fe7829")
2  name : "John Watson"
3  phone : "+91 99999 11111"
4  email : "john@example.com"
5  registeredon : "5th January 2022"
6  address : Object
7    adrLine : "2144 B20"
8    city : "Bangalore"
9    pincode : "520001"
10  orders : Array
11    0 : Object
12      oid : 1
13      amount : 3000
14      orderdate : "5th January 2022"

```

A red box highlights the 'amount : 3000' field under the 'orders' array. The interface is identical to the one in the previous screenshot, with a schema browser and CANCEL/UPDATE buttons.

5.8 Add another field named **orderDate** and click on **UPDATE**

The screenshot shows the MongoDB Atlas interface for the 'estore' database. On the left sidebar, under 'Databases', 'estore' is selected. In the main panel, the 'Find' tab is active, showing a query result for a user document. The document details are as follows:

```

_id: ObjectId("61d2bb5c94e8e1ad7fe7829")
name: "John Watson"
phone: "+91 99999 11111"
email: "john@example.com"
registeredOn: "5th January 2022"
address: Object
  addressLine: "2144 B20"
  city: "Bangalore"
  pincode: "560001"
orders: Array
  0: Object

```

5.9 Use **FILTER** to sort the data according to your needs

The screenshot shows the MongoDB Atlas interface for the 'estore' database. The 'Find' tab is active, and a filter has been applied: `{name: 'John Watson'}`. The resulting document is identical to the one shown in the previous screenshot.

```

_id: ObjectId("61d2bb5c94e8e1ad7fe7829")
name: "John Watson"
phone: "+91 99999 11111"
email: "john@example.com"
registeredOn: "5th January 2022"
address: Object
  addressLine: "2144 B20"
  city: "Bangalore"
  pincode: "560001"
orders: Array
  0: Object

```

We can explore the MongoDB Atlas database collection and documents by creating a database user and connecting it to the database. We can also create multiple filters to filter out data based on the requirement.

By following these steps, you have successfully explored the MongoDB Atlas database collection and documents by creating a database user and connecting to the database.