



MongoDB Atlas

Big Data Aplicado





MongoDB Atlas

- Se trata de una herramienta que nos ofrece MongoDB para trabajar con sus bases de datos en la nube.



MongoDB Atlas

MongoDB Atlas

- ✓ **Trabaje con sus datos como código**
Los documentos en MongoDB se asignan directamente a los objetos en su lenguaje de programación. Modifique su esquema o cómo sus aplicaciones se desarrollen con el tiempo.
- ✓ **Enfóquese en construir, no en administrar**
Deje que MongoDB Atlas se encargue de las operaciones de infraestructura que necesite para un rendimiento a escala, desde la seguridad siempre activa hasta la recuperación point-in-time.
- ✓ **Simplifique sus dependencias de datos**
Aproveche los datos de la aplicación para búsquedas de texto completo, análisis en tiempo real, visualizaciones enriquecidas y más con una única API y un movimiento de datos mínimo.

Registrarse

Vea de forma gratuita lo que Atlas es capaz de hacer

Acepto las [Terms of Service](#) y la [Privacy Policy](#).

[Cree su cuenta de Atlas](#)

or

[Regístrese con Google](#)

¿Ya tiene una cuenta? [Inicie la sesión](#)



MongoDB Atlas

- Configuramos el tipo de cluster que vamos a utilizar



Deploy your database

Use a template below or set up [advanced configuration options](#). You can also edit these configuration options once the cluster is created.

Plan	Price	
M10	\$0.09/hour	
For production applications with sophisticated workload requirements.		
STORAGE	RAM	vCPU
10 GB	2 GB	2 vCPUs

Plan	Price	
SERVERLESS	\$0.11/1M reads	
For application development and testing, or workloads with variable traffic.		
STORAGE	RAM	vCPU
Up to 1 TB	Auto-scale	Auto-scale

Plan	Price	
M0	FREE	
For learning and exploring MongoDB in a cloud environment.		
STORAGE	RAM	vCPU
512 MB	Shared	Shared



MongoDB Atlas



- Configuramos el tipo de cluster que vamos a utilizar

Provider

Region

 ★ 

★ Recommended ⓘ  Low carbon emissions ⓘ

Name

You cannot change the name once the cluster is created.

MongoDB Atlas

- Después de elegir la configuración le damos a CREAR el cluster

FREE

Create

Free forever! Your M0 cluster is ideal for experimenting in a limited sandbox. You can upgrade to a production cluster anytime.

[Access Advanced Configuration](#)

[I'll deploy my database later](#)

MongoDB Atlas

- Configuramos el usuario y la contraseña para acceder desde MongoDB Compass

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.

Username

Password 

 Autogenerate Secure Password

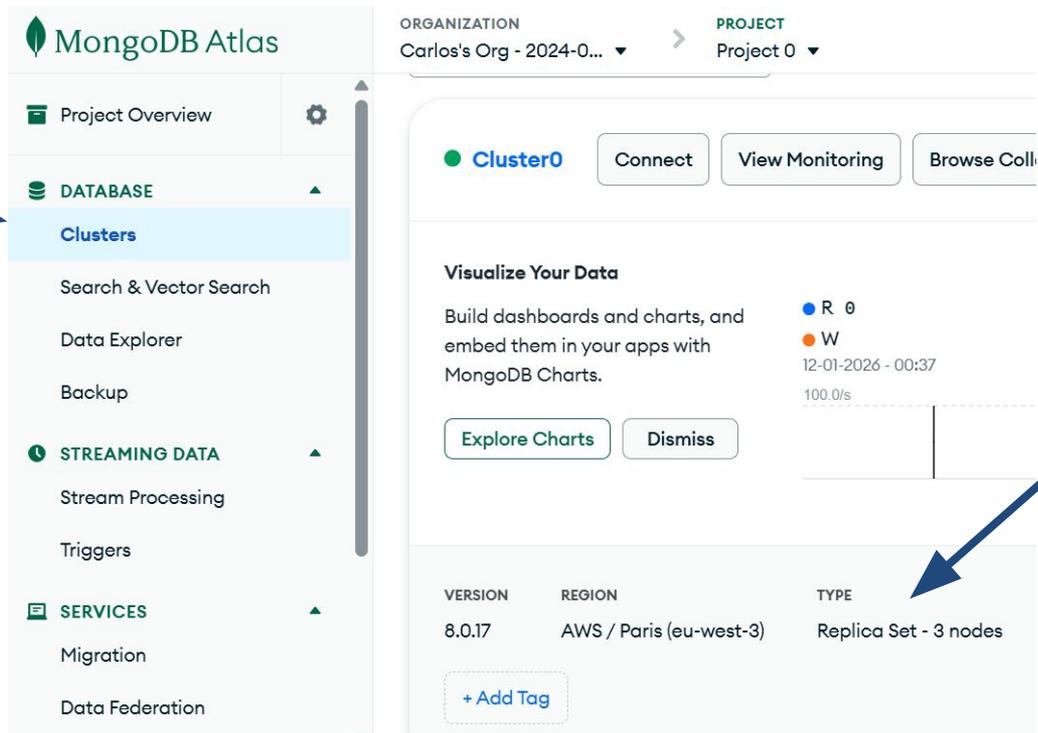
 Copy

Create User

Hemos creado un cluster con 3 máquinas

- Tendremos a nuestra disposición un cluster con tres NODOS, uno primario y dos secundarios

**ELEGIMOS
DATABASE**



MongoDB Atlas

ORGANIZATION Carlos's Org - 2024-0... PROJECT Project 0

Project Overview

DATABASE

- Clusters**
- Search & Vector Search
- Data Explorer
- Backup

STREAMING DATA

- Stream Processing
- Triggers

SERVICES

- Migration
- Data Federation

Cluster0 Connect View Monitoring Browse Coll.

Visualize Your Data

Build dashboards and charts, and embed them in your apps with MongoDB Charts.

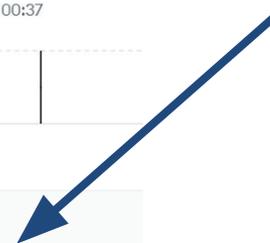
Explore Charts Dismiss

12-01-2026 - 00:37
100.0/s

VERSION	REGION	TYPE
8.0.17	AWS / Paris (eu-west-3)	Replica Set - 3 nodes

+ Add Tag

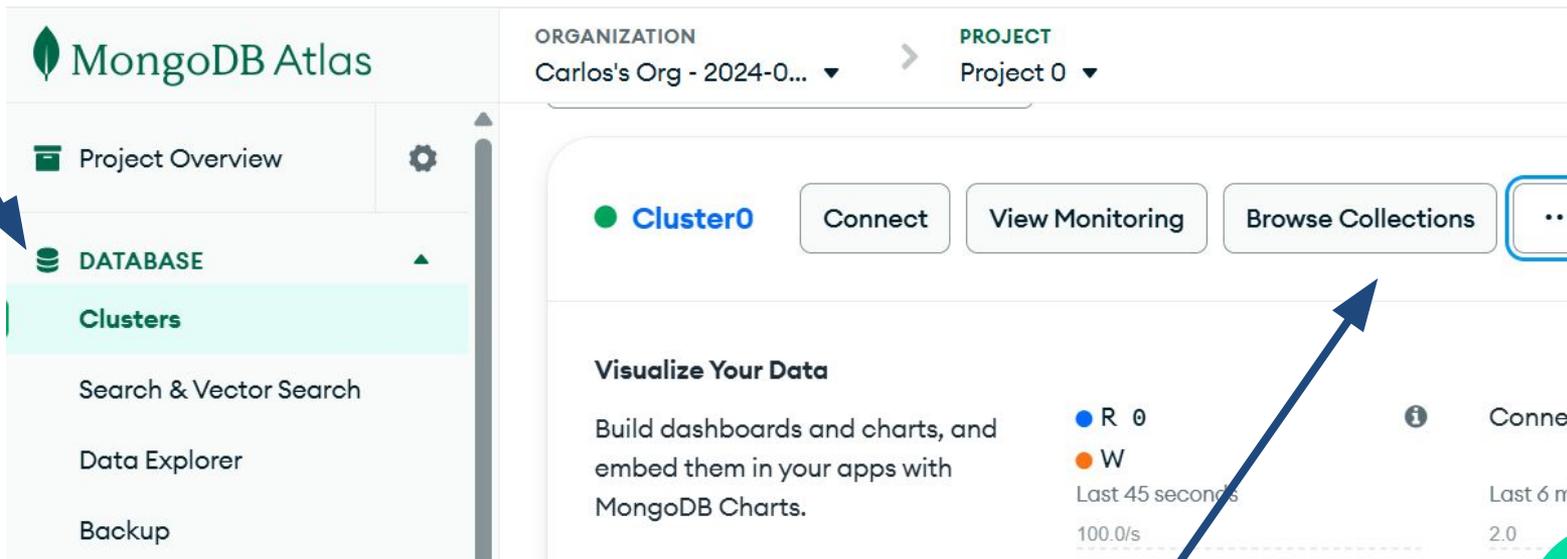
3 MÁQUINAS



Creación de una base de datos

- Para poder empezar a probar tenemos que crear las bases de datos dentro de nuestro cluster.

**ELEGIMOS
DATABASE**



MongoDB Atlas

ORGANIZATION Carlos's Org - 2024-0... PROJECT Project 0

Project Overview

DATABASE

Clusters

Search & Vector Search

Data Explorer

Backup

Cluster0

Connect View Monitoring Browse Collections

Visualize Your Data

Build dashboards and charts, and embed them in your apps with MongoDB Charts.

R 0

W

Last 45 seconds

100.0/s

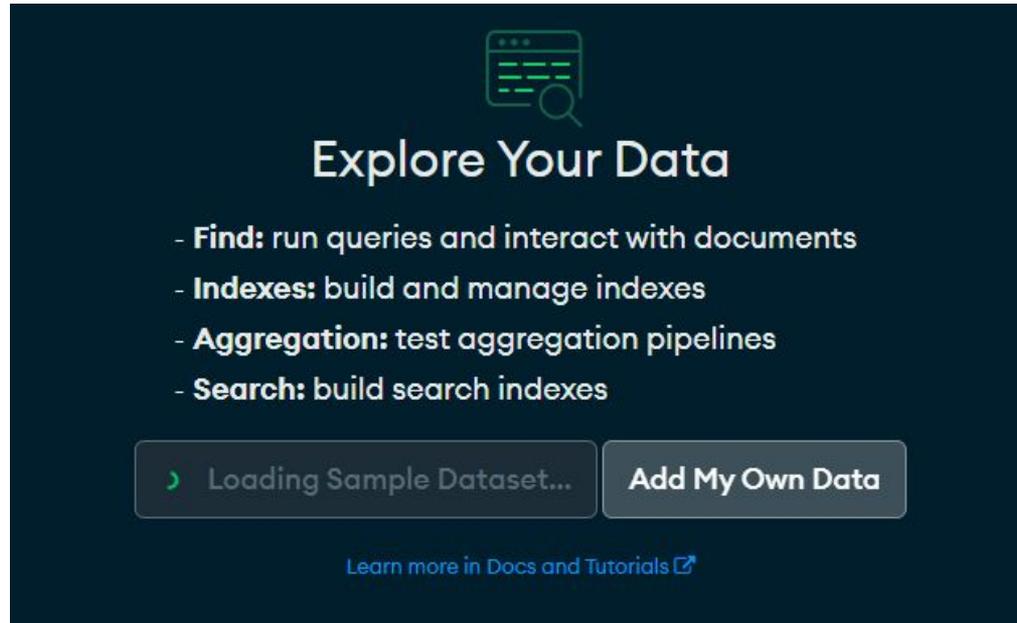
Conne

Last 6 m

2.0

ELEGIMOS BROWSE COLLECTIONS

- La primera vez nos pregunta si queremos incorporar datos de ejemplo o queremos meter nuestros propios datos. Elegimos LOAD SAMPLE DATABASE.





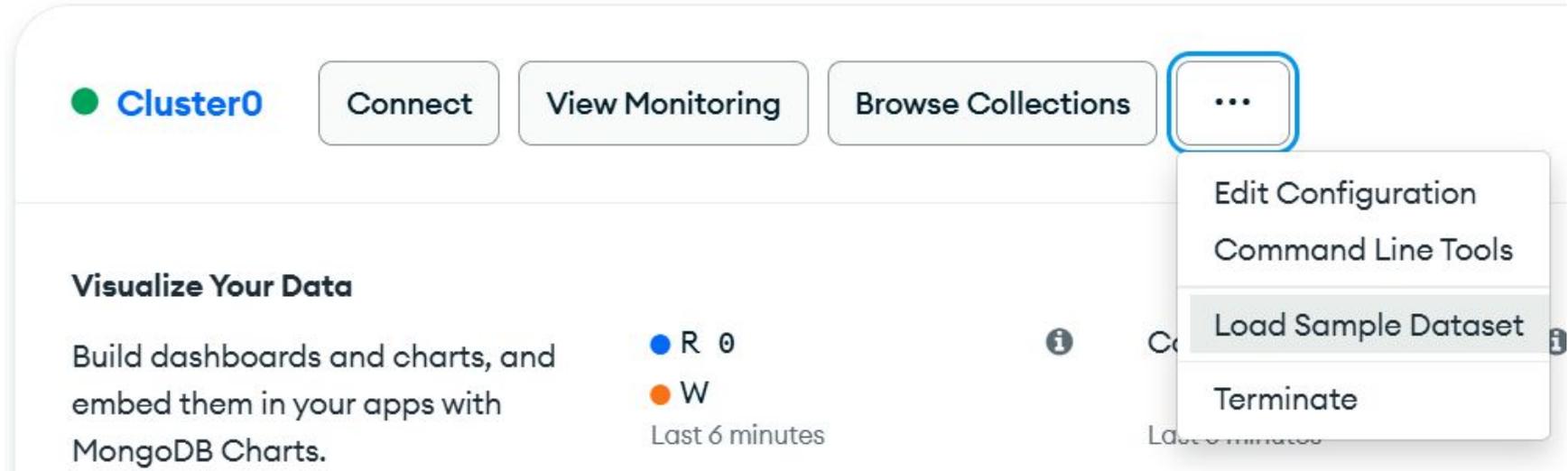
Explore Your Data

- **Find:** run queries and interact with documents
- **Indexes:** build and manage indexes
- **Aggregation:** test aggregation pipelines
- **Search:** build search indexes

 Loading Sample Dataset... **Add My Own Data**

[Learn more in Docs and Tutorials](#) 

- Para cargar los datos de ejemplo, pulsamos sobre el botón con los tres puntitos y elegimos LOAD SAMPLE DATABASE.



The screenshot shows the MongoDB Atlas interface for a cluster named 'Cluster0'. At the top, there are four buttons: 'Connect', 'View Monitoring', 'Browse Collections', and a button with three dots (⋮) which is highlighted with a blue border. A dropdown menu is open from the three-dot button, showing four options: 'Edit Configuration', 'Command Line Tools', 'Load Sample Dataset' (which is highlighted with a grey background), and 'Terminate'. Below the buttons, there is a section titled 'Visualize Your Data' with the text 'Build dashboards and charts, and embed them in your apps with MongoDB Charts.' To the right of this text, there are two status indicators: a blue dot followed by 'R 0' and an orange dot followed by 'W', with the text 'Last 6 minutes' below them. There are also information icons (i) next to some of the text.

- En la actualidad se puede trabajar con MongoDB con el mismo interfaz que tenemos en Compass.

The screenshot displays the MongoDB Atlas Data Explorer interface. At the top, the organization is 'Carlos's Org - 2024-0...' and the project is 'Project 0'. The left sidebar shows the 'Data Explorer' view with a tree of clusters. The 'sample_mflix' cluster is expanded, showing sub-clusters like 'comments', 'embedded_movies', 'movies', 'sessions', 'theaters', and 'users'. The 'movies' cluster is selected. The main area shows the 'Cluster0 > sample_mflix > movies' view. The 'Documents' tab is active, showing 21K documents. A search bar contains the query '{ field: 'value' }' or 'Generate query'. Below the search bar, there are icons for adding, editing, deleting, and refreshing. The document content is displayed in a code editor, showing a JSON document with fields like '_id', 'plot', 'genres', 'runtime', 'cast', 'poster', 'title', 'fullplot', 'languages', 'released', 'directors', 'rated', 'awards', 'lastupdated', 'year', 'imdb', and 'countries'.

ORGANIZATION Carlos's Org - 2024-0... > PROJECT Project 0

Data Explorer

Cluster0 > sample_mflix > movies

Documents 21K Aggregations Schema Indexes 2 Validation

Type a query: { field: 'value' } or [Generate query](#)

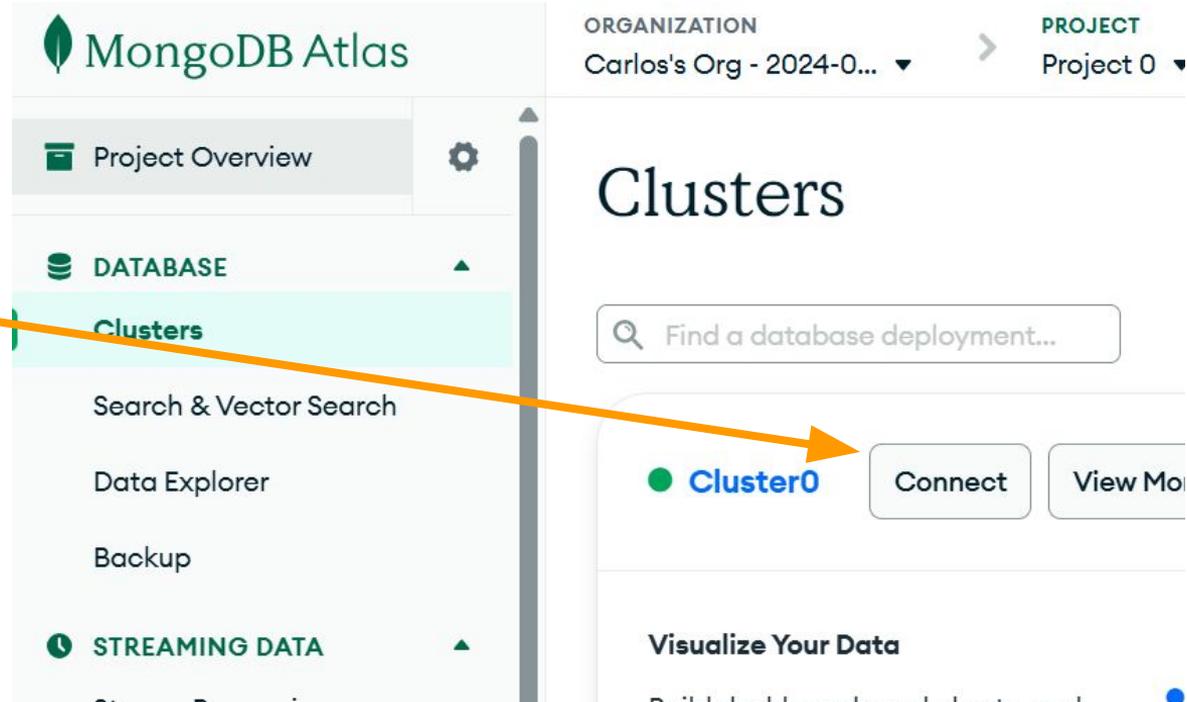
25 1 - 25 of 21349

```
_id: ObjectId('573a1390f29313caabcd42e8')
plot: "A group of bandits stage a brazen train hold-up, only to find a determ..."
genres: Array (2)
runtime: 11
cast: Array (4)
poster: "https://m.media-amazon.com/images/M/MV5BMTU3NjE5NzYtYTYyNS00MDVmLWIwYj..."
title: "The Great Train Robbery"
fullplot: "Among the earliest existing films in American cinema - notable as the ..."
languages: Array (1)
released: 1903-12-01T00:00:00.000+00:00
directors: Array (1)
rated: "TV-G"
awards: Object
lastupdated: "2015-08-13 00:27:59.177000000"
year: 1903
imdb: Object
countries: Array (1)
```

Conectar Compass con Atlas

- Necesitamos la cadena de conexión. Pulsamos en Connect.

Pulsar



The screenshot shows the MongoDB Atlas web interface. At the top, the 'MongoDB Atlas' logo is on the left, and 'ORGANIZATION Carlos's Org - 2024-0...' and 'PROJECT Project 0' are on the right. A sidebar on the left contains navigation items: 'Project Overview', 'DATABASE', 'Clusters' (highlighted in light green), 'Search & Vector Search', 'Data Explorer', 'Backup', and 'STREAMING DATA'. An orange arrow points from the word 'Pulsar' to the 'Connect' button in the 'Cluster0' section of the main content area. The main content area is titled 'Clusters' and includes a search bar 'Find a database deployment...' and a section for 'Cluster0' with 'Connect' and 'View Mo' buttons. Below this is a 'Visualize Your Data' section.

Connect to Cluster0 ✕



Connect to your application



Drivers
Access your Atlas data using MongoDB's native drivers (e.g. Node.js, Go, etc.) >

Pulsamos



Access your data through tools



Compass
Explore, modify, and visualize your data with MongoDB's GUI >

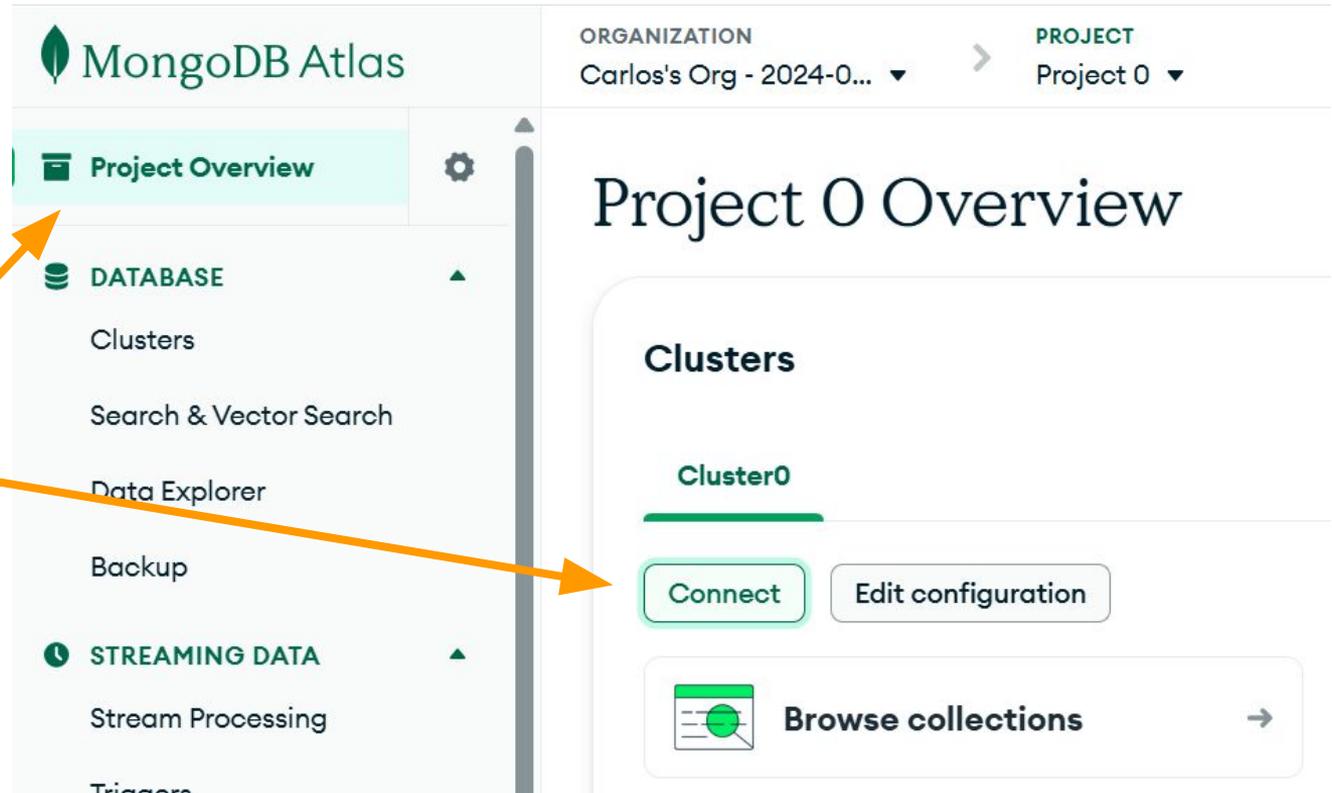


Shell
Quickly add & update data using MongoDB's Javascript command-line interface >



- También desde Overview

En Overview
pulsamos en
Compass



The screenshot shows the MongoDB Atlas interface. At the top left is the 'MongoDB Atlas' logo. To the right, there are dropdown menus for 'ORGANIZATION' (Carlos's Org - 2024-0...) and 'PROJECT' (Project 0). Below the logo is a sidebar menu with 'Project Overview' highlighted in light green. Underneath 'Project Overview' are sections for 'DATABASE' (Clusters, Search & Vector Search, Data Explorer, Backup) and 'STREAMING DATA' (Stream Processing, Triggers). The main content area is titled 'Project 0 Overview' and features a 'Clusters' section with 'Cluster0' selected. Below 'Cluster0' are two buttons: 'Connect' and 'Edit configuration'. At the bottom of the cluster section is a 'Browse collections' button with a magnifying glass icon and a right-pointing arrow.

- A la cadena de conexión le ponemos la contraseña que le dimos en pasos anteriores

Connecting with MongoDB Compass

I don't have MongoDB Compass installed

I have MongoDB Compass installed

1. Choose your version of Compass

1.38 or later

See your Compass version in "About Compass"

2. Copy the connection string, then open MongoDB Compass

Use this connection string in your application

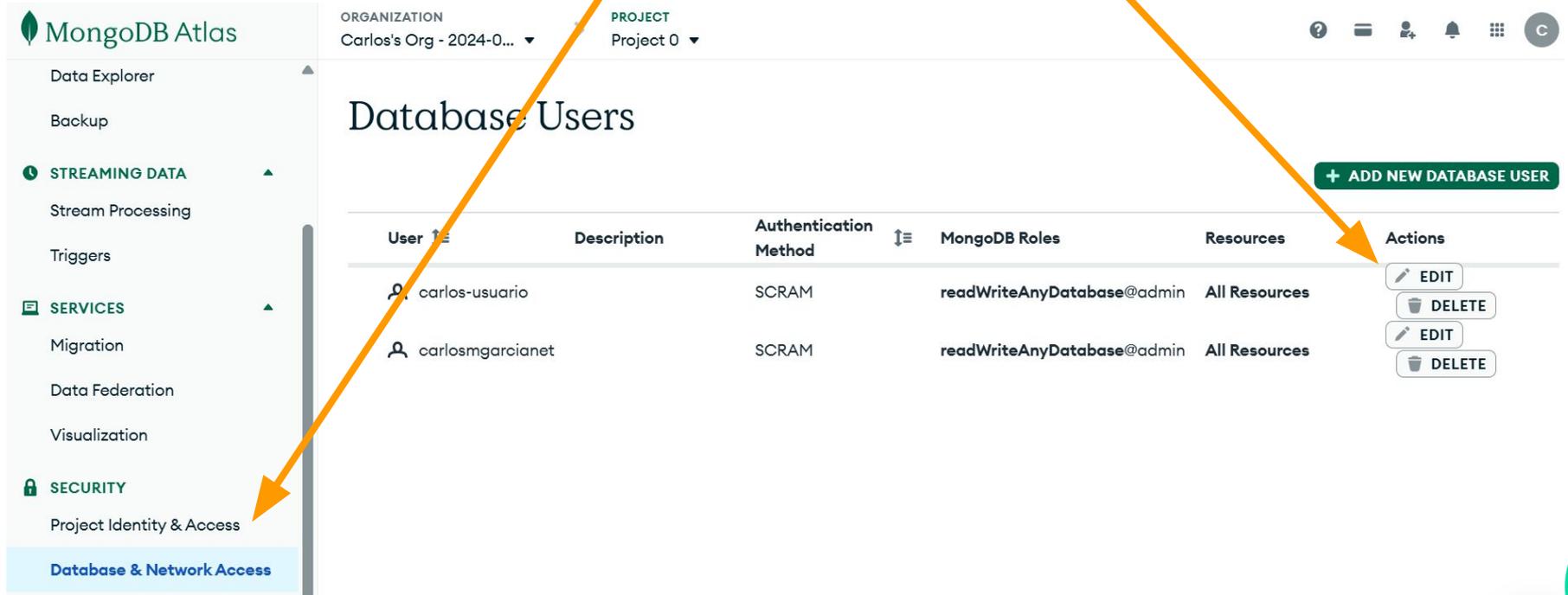
```
mongodb+srv://<db_username>:<db_password>@cluster0.hu59knt.mongodb.net/
```

Replace **<db_password>** with the password for the **<db_username>** user. Ensure any options are [URL encoded](#).
You can edit your database user password in [Database Access](#).

Cadena de conexión



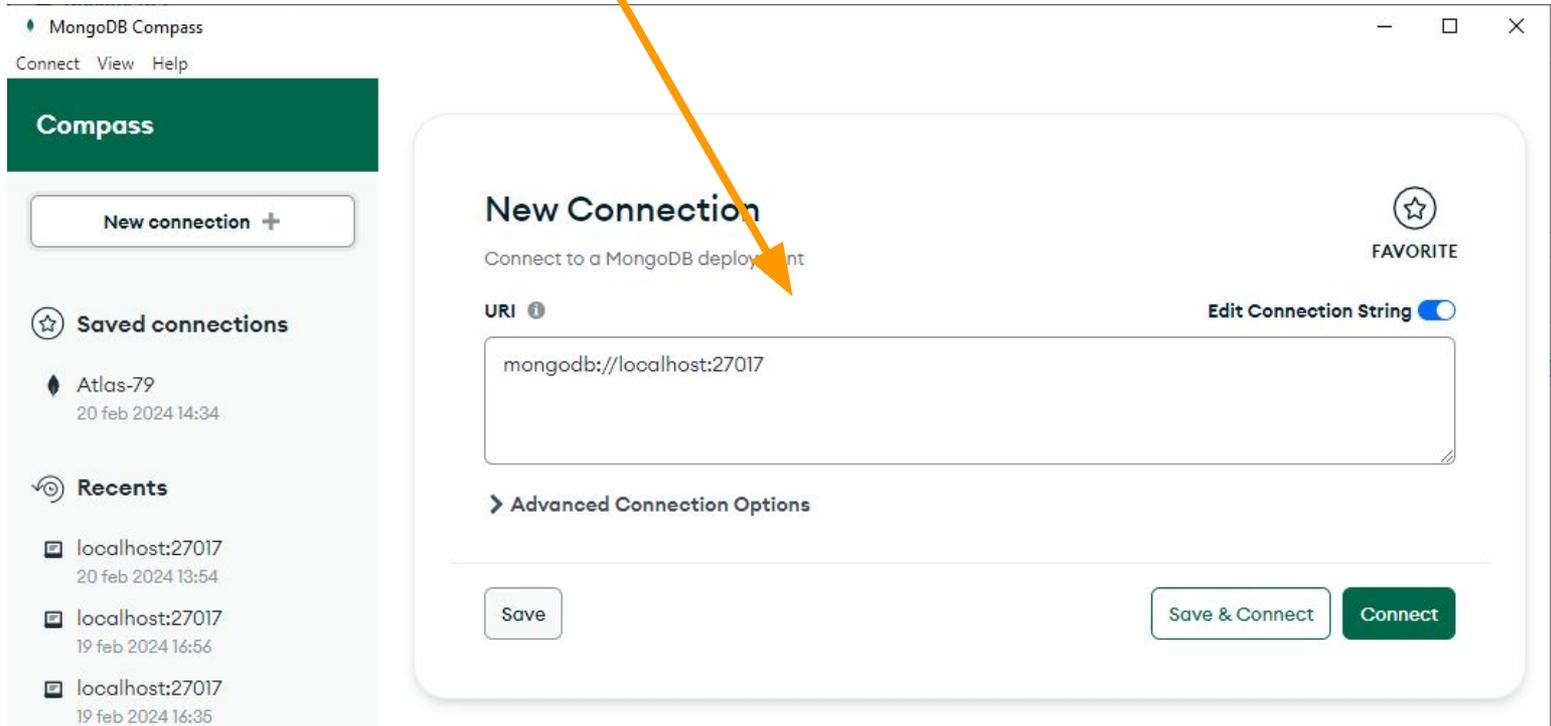
- Sino tenemos la contraseña podemos cambiarla en Database Access, y luego editando el usuario.



The screenshot shows the MongoDB Atlas interface. The left sidebar contains navigation options: Data Explorer, Backup, STREAMING DATA, SERVICES, and SECURITY. The 'Database & Network Access' option under SECURITY is highlighted. The main content area is titled 'Database Users' and features a '+ ADD NEW DATABASE USER' button. Below this is a table with columns: User, Description, Authentication Method, MongoDB Roles, Resources, and Actions. Two users are listed: 'carlos-usuario' and 'carlosmgarcianet', both using SCRAM authentication and having 'readWriteAnyDatabase@admin' roles. The Actions column for each user contains 'EDIT' and 'DELETE' buttons. Two orange arrows point from the text above to the 'Database & Network Access' menu item and the 'EDIT' button for the first user.

User	Description	Authentication Method	MongoDB Roles	Resources	Actions
carlos-usuario		SCRAM	readWriteAnyDatabase@admin	All Resources	EDIT DELETE
carlosmgarcianet		SCRAM	readWriteAnyDatabase@admin	All Resources	EDIT DELETE

- En MongoDB Compass ponemos la cadena de conexión con la contraseña del usuario y podemos acceder a Atlas



The screenshot shows the MongoDB Compass interface. On the left, there is a sidebar with a 'Compass' header, a 'New connection +' button, and sections for 'Saved connections' (listing 'Atlas-79') and 'Recents' (listing three 'localhost:27017' entries). The main area is titled 'New Connection' and contains a text input field for the 'URI' with the value 'mongodb://localhost:27017'. An orange arrow points from the text in the list item above to this input field. Below the input field is an 'Advanced Connection Options' section. At the bottom, there are three buttons: 'Save', 'Save & Connect', and 'Connect'.

Permitir acceso desde el exterior

- Para evitar problemas en clase al estar todos desde la misma ip pública, vamos a indicar la IP desde la que nos vamos a conectar.

ORGANIZATION Carlos's Org - 2024-0... PROJECT Project 0

IP Access List

+ ADD IP ADDRESS

! You will only be able to connect to your cluster from the following list of IP Addresses:

IP Address	Comment	Status	Actions
0.0.0.0/0 (includes your current IP address)		● Active	EDIT DELETE
80.26.230.170/32		● Active	EDIT DELETE
195.235.194.153/32	My IP Address	● Active	EDIT DELETE

Pulsar

Permitir acceso desde el exterior



Add IP Access List Entry

Atlas only allows client connections to a cluster from entries in the project's IP Access List. Each entry should either be a single IP address or a CIDR-notated range of addresses. [Learn more](#)

ADD CURRENT IP ADDRESS

Access List Entry:

80.26.209.31

Comment:

Optional comment describing this entry



This entry is temporary and will be deleted in

6 hours



Cancel

Confirm

Pulsar

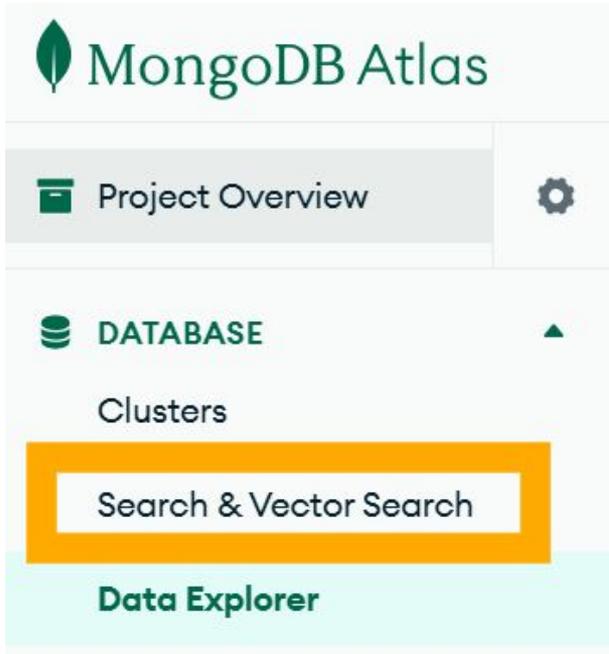


Búsqueda avanzada en ATLAS

- MongoDB ha creado dos herramientas en MongoDB Atlas para buscar texto de una forma un poco más avanzada de lo que nos permite el buscador habitual.
- Tenemos dos herramientas:
 - **Text Search** → nos permite buscar texto al estilo de lo que hace Google. Para ello MongoDB utiliza Apache Lucene.
 - **Vector Search** → nos permite realizar búsquedas semánticas utilizando la potencia de la Inteligencia Artificial

TEXT SEARCH

- Vamos a utilizar el buscador de textos.



Search & Vector Search

For AI- and relevance-based search applications

Performant and scalable full-text and semantic search as a native database capability.

[+ Create Search Index](#)

TEXT SEARCH

- Elegimos Create Search Index

Atlas Search Playground

The playground is a user-friendly sandbox environment where you can quickly try different full-text search index and query definitions with your own data or sample data. [Learn more](#)

[Experiment in Playground](#)

Get Started

- Create Cluster**

Make a cluster to host your data and power your application. [Learn more about cluster creation](#)
- Add Data**

Add data to use in your application. If using Vector Search, your data should include a field containing vector embeddings. The [sample_mflix.embedded_movies collection](#) includes a field with vector embeddings.
- Create an Index**

Define a search or vector search index to start querying your data. You can define multiple indexes and these indexes can be modified later on. [Learn more about Search Indexes](#) and [Vector Indexes](#).

[+ Create Vector Search Index](#)
[+ Create Search Index](#)
- Run a Search Query**

See search results by running a query on your index. You can run queries using Data Explorer in Atlas, a driver, mongosh, or Compass. [Learn more about Search](#) and [Vector Search](#) querying.

Podemos probar en el Playground

TEXT SEARCH

- Elegimos Atlas Search
- La colección que vamos a usar
- Como método de configuración elegimos el Editor Visual

Configuration Method

Select how you would like to configure your supported [Drivers](#).

Visual Editor

Define index definitions in a more guided experience.

Search Type

Which Search type should I use?

Atlas Search

Full-text search for relevance-based app features.

Vector Search

For semantic search and AI applications.

Index Name

default

Database and Collection

Search for database or collection ...

sample_mflix

comments

embedded_movies

movies

TEXT SEARCH

- Dejamos la configuración por defecto y le damos a Create Search Index:

sample_mflix.movies VIEW JSON REFINE YOUR INDEX

You can edit these settings at any time to fine tune relevance and improve search performance. [Learn how to refine your index](#)

Index Configurations

Index Analyzer	<i>Specifies how text is processed and tokenized when building the search index.</i>	lucene.standard
Search Analyzer	<i>Defines how search queries are processed and tokenized.</i>	lucene.standard
Dynamic Mapping	<i>Automatically maps supported data to field mapping types, including new fields and fields with polymorphic data.</i>	On
Field Mappings	<i>Configures specific fields with data types, analyzers, and input parameters. Field-level definitions override index-level definitions.</i>	None
Stored Source Fields	<i>Selects which fields from the collection are stored in the index for retrieval alongside search results. See Use Cases and Performance Considerations for details.</i>	None
Synonyms Mappings	<i>Respects defined word equivalents by accounting for similar terms (like "car" and "automobile") to improve search results.</i>	None

Back
Cancel
Create Search Index



TEXT SEARCH

- Una vez está creado podremos probarlo en la propia herramienta del Text Search o en una agregación de la colección.
- En el siguiente ejemplo buscaremos en el campo plot la palabra baseball

```
[
  {
    $search:
      {
        text: {
          query: "baseball",
          path: "plot"
        }
      }
  }
]
```

TEXT SEARCH

- Podremos buscar por palabras que deben aparecer (must) y otras que no (mustNot).
- Puede ser por otro campo (path)
- Podremos buscar por varias palabras incluyendo un array.

```
[
  {
    "$search": {
      "compound": {
        "must": [
          {
            "text": {
              "query": "baseball",
              "path": "plot"
            }
          }
        ],
        "mustNot": [
          {
            "text": {
              "query": ["Detroit",
"California"],
              "path": "plot"
            }
          }
        ]
      },
      "sort": {
        "released": -1
      }
    }
  }
]
```

TEXT SEARCH

- Crea un SEARCH INDEX para la colección listings_and_reviews de de sample_airbnb .
- Crea una búsqueda para encontrar alojamientos relacionados con romantic, roof, sea, y que no tengan que ver con noisy, noise, shared.



Big Data Aplicado

