

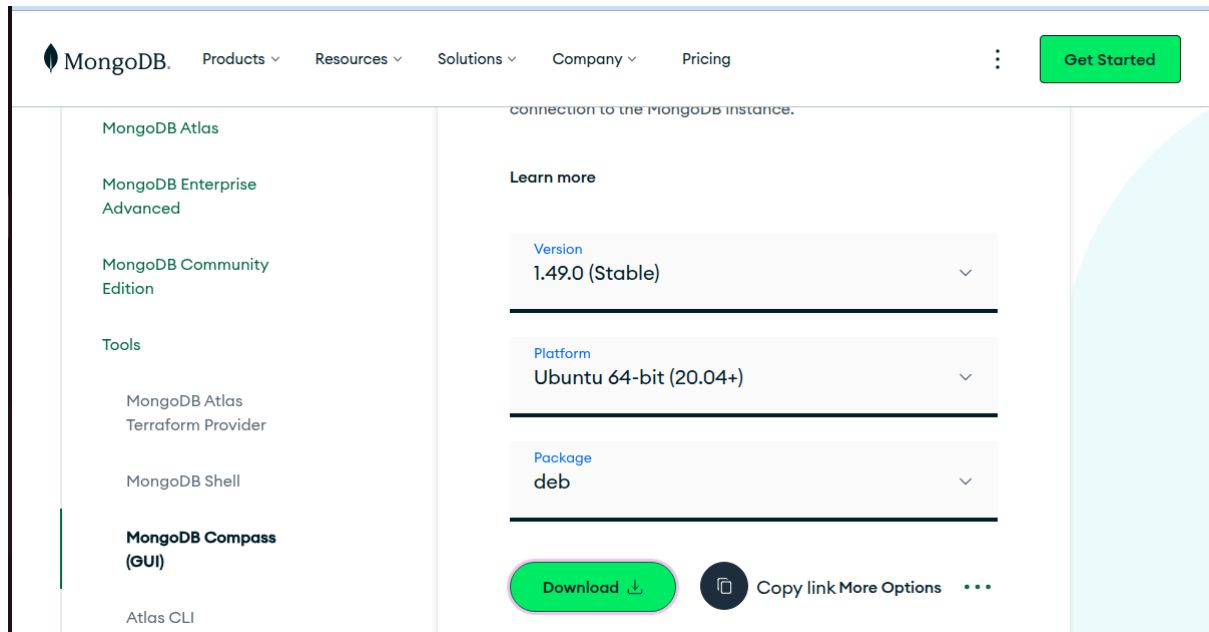
# 16. [MongoBD] Exploración Visual de Datos con MongoDB Compass

## Exploración Visual de Datos con MongoDB Compass

### FASE 1 — Preparar la Conexión desde Compass

Descargar MongoDB Compass:

<https://www.mongodb.com/try/download/compass>



Asegúrate de que MongoDB está activo en el servidor de la nave:

- `sudo systemctl status mongod`

```
ub@forense-ai:~$ sudo systemctl status mongod
[sudo] contraseña para ub:
● mongod.service - MongoDB Database Server
   Loaded: loaded (/usr/lib/systemd/system/mongod.service; enabled; preset: enabled)
   Active: active (running) since Wed 2026-01-21 12:12:13 CET; 1h 22min ago
     Docs: https://docs.mongodb.org/manual
    Main PID: 9101 (mongod)
    Memory: 16.2M / peak: 262.2M / max: 50.2M / avg: 50.2M
```

Abre MongoDB Compass y en el campo de conexión escribe:

Para conexión local:

- `mongodb://localhost:27017`

**New Connection**  
Manage your connection settings

URI Edit Connection String

mongodb://localhost:27017/

Name Color

ub Purple

☒ **Favorite this connection**  
Favoriting a connection will pin it to the top of your list of connections

> **Advanced Connection Options**

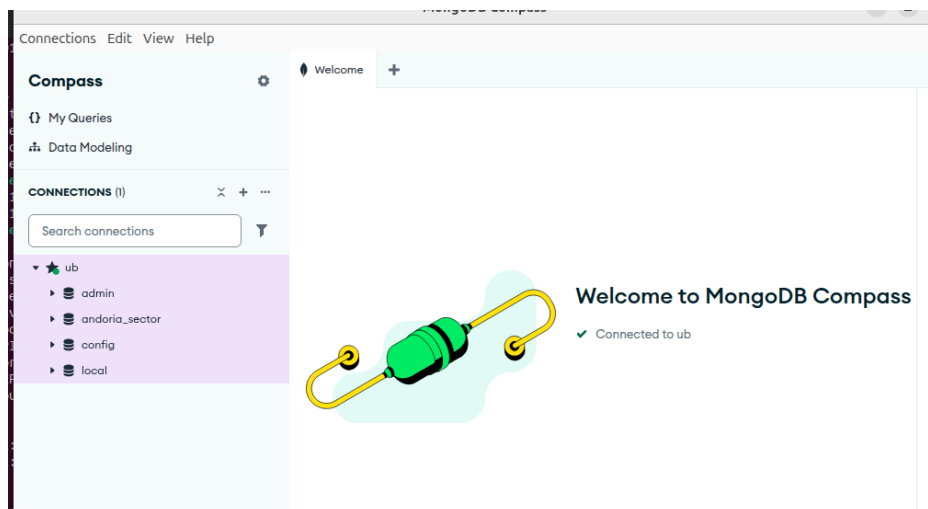
Cancel Save Connect Save & Connect

**How do I find my connection string in Atlas?**

If you have an Atlas cluster, go to the Cluster view. Click the 'Connect' button for the cluster to which you wish to connect.  
[See example](#)

**How do I format my connection string?**

[See example](#)



Para conexión remota en la red de aula:

- `mongodb://IP_DEL_SERVIDOR:27017`

**New Connection**  
Manage your connection settings

URI Edit Connection String

mongodb://192.168.118.142:27017/

Name Color

forense-ai mongoDB Green

☐ **Favorite this connection**  
Favoriting a connection will pin it to the top of your list of connections

> **Advanced Connection Options**

Cancel Save Connect Save & Connect

**How do I find my connection string in Atlas?**

If you have an Atlas cluster, go to the Cluster view. Click the 'Connect' button for the cluster to which you wish to connect.  
[See example](#)

**How do I format my connection string?**

[See example](#)

**TLS/SSL is disabled. If possible, enable TLS/SSL to avoid security vulnerabilities.**

Edita el archivo de configuración de MongoDB

- `sudo nano /etc/mongod.conf`

```
ub@forense-ai:~$ sudo nano /etc/mongod.conf
```

Busque bindIp

```
# network interfaces
net:
  port: 27017
  bindIp: 127.0.0.1
```

Cambie 127.0.0.1 por 0.0.0.0

```
# network interfaces
net:
  port: 27017
  bindIp: 0.0.0.0
```

Reinicie el servicio MongoDB

- sudo systemctl restart mongod

```
ub@forense-ai:~$ sudo systemctl restart mongod
```

Confirma que MongoDB está escuchando en el puerto 27017

- ss -tulnp | grep 27017

```
ub@forense-ai:~$ ss -tulnp | grep 27017
tcp    LISTEN 0      4096      0.0.0.0:27017      0.0.0.0:*
```

Permitir los puertos de MongoDB:

- sudo ufw allow 27017/tcp
- sudo ufw reload

```
ub@forense-ai:~$ sudo ufw allow 27017/tcp
Regla añadida
Regla añadida (v6)
ub@forense-ai:~$ sudo ufw reload
El cortafuegos se ha recargado
```

Acceda a MongoDB Compass para establecer una nueva conexión, sustituyendo localhost por la dirección IP del equipo que aloja MongoDB

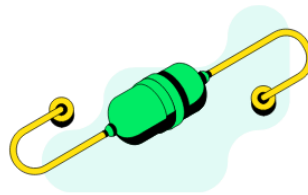
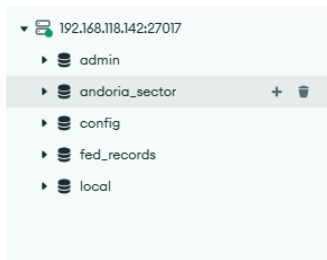
## New Connection

Manage your connection settings

URI ⓘ

Edit Connection String ☒

mongodb://192.168.118.142:27017/

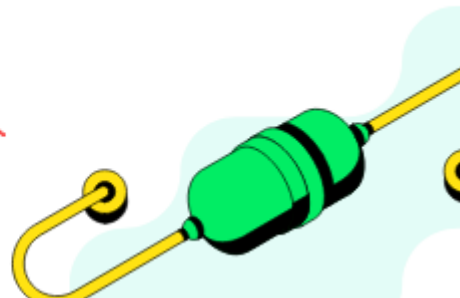
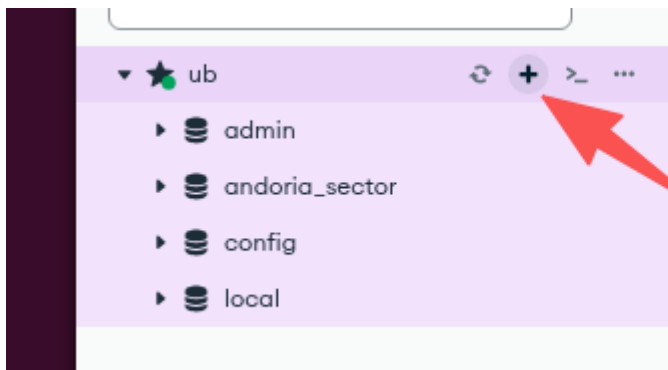


Welcome to MongoDB Compass

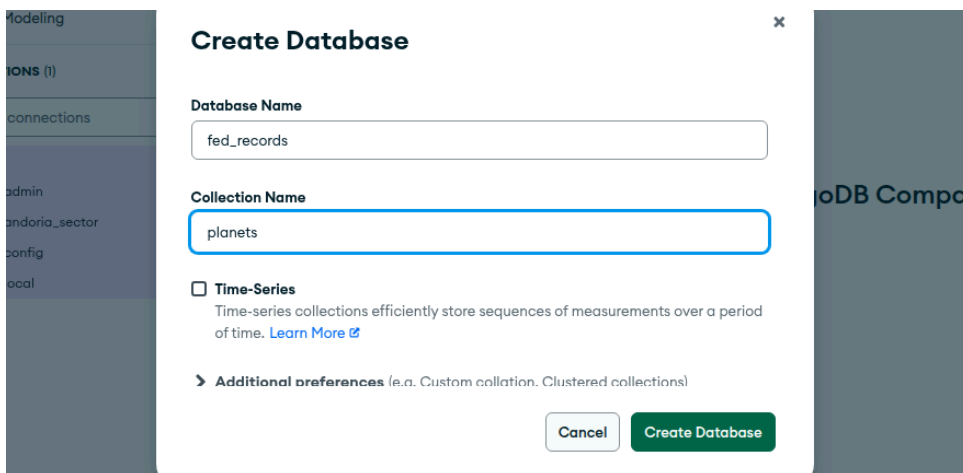
✓ Connected to 192.168.118.142:27017

## FASE 2 — Exploración de la Biblioteca de Datos

1. Dirígete al botón de Create database

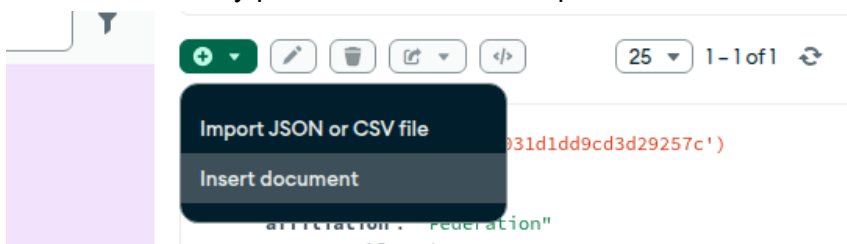


2. Nombre de la base de datos: fed\_records
3. Nombre de la colección inicial: planets
4. Clic en Create



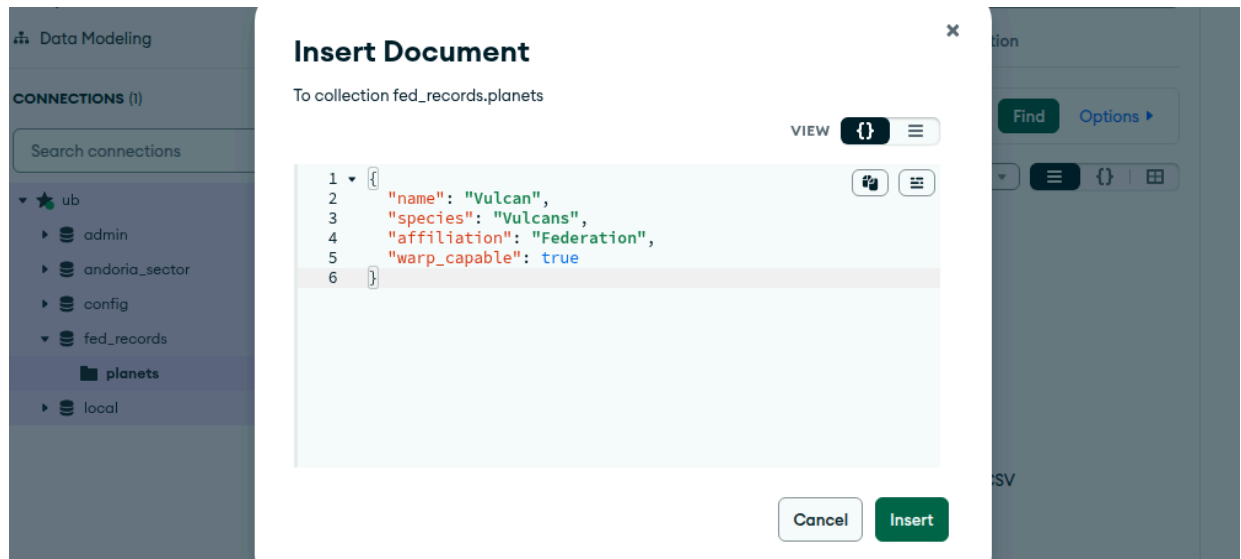
## FASE 3 — Inserción de Datos Científicos

Abre la colección y pulsa Insert Document.planets



Inserta Documento

```
{
  "name": "Vulcan",
  "species": "Vulcans",
  "affiliation": "Federation",
  "warp_capable": true
}
```



Agrega un segundo

```
{
  "name": "Qo'noS",
  "species": "Klingons",
  "affiliation": "Klingon Empire",
  "warp_capable": true
}
```

## Insert Document

To collection fed\_records.planets



Inserta un tercero:

```
{
  "name": "Ferenginar",
  "species": "Ferengi",
  "affiliation": "Ferengi Alliance",
}
```

```
"warp_capable": true
}
```

X

## Insert Document

To collection fed\_records.planets










VIEW  


```
1 {
2   "name": "Ferenginar",
3   "species": "Ferengi",
4   "affiliation": "Ferengi Alliance",
5   "warp_capable": true
6 }
7 |
```

### FASE 4 — Visualización y Edición de Documentos





#### 1. Editar documento

- Haga clic en Edit Document a la derecha de un registro

Toolbar:      25 1 - 3 of 3   Edit document  





```
_id: ObjectId('6971de031d1dd9cd3d29257c')
name: "Vulcan"
species: "Vulcans"
affiliation: "Federation"
warp_capable: true
```

- Cambiar un planeta: `warp\_capable`: `true` a: `warp\_capable`: `false`

```
1 _id: ObjectId('6971de031d1dd9cd3d29257c')
2 name: "Vulcan"
3 species: "Vulcans"
4 affiliation: "Federation"
5 warp_capable: false
```

Document modified.  

- Guardar cambios

```
_id: ObjectId('6971de031d1dd9cd3d29257c')
name: "Vulcan"
species: "Vulcans"
affiliation: "Federation"
warp_capable: false
```

#### 2. Eliminar documento

Haga clic en Delete y, a continuación, confirme la eliminación

The screenshot shows the MongoDB Compass interface. At the top, there's a toolbar with icons for adding, editing, deleting, and other document actions. A dropdown menu is open, showing 'Remove document'. Below this, a document is displayed with the following fields:

```
_id: ObjectId('6971de031d1dd9cd3d29257c')
name: "Vulcan"
species: "Vulcans"
affiliation: "Federation"
warp_capable: false
```

Below the document, a red banner indicates 'Document flagged for deletion.' with 'CANCEL' and 'DELETE' buttons.

## FASE 5 — Consultas Visuales con Filtros

Pulsa el filtro visual y escribe:

- { "affiliation": "Federation" }

Pulsa Apply.

The screenshot shows the MongoDB Compass interface after applying a visual filter. The filter bar at the top contains the query: { "affiliation": "Federation" }. Below the filter bar, there are buttons for 'Explain', 'Reset', 'Find', and 'Options'. The document displayed is:

```
_id: ObjectId('6971e2341d1dd9cd3d292585')
name: "Vulcan"
species: "Vulcans"
affiliation: "Federation"
warp_capable: true
```

## FASE 6 — Agregaciones en la Sala de Análisis

1. Acceda a la pestaña Aggregations

2. Añadir una etapa \$group:

```
{
  "_id": "$affiliation",
  "total": { "$sum": 1 }
}
```

3. Haga clic en Run

The screenshot shows the MongoDB Compass interface. At the top, there's a toolbar with buttons for 'Explain' and 'Run'. A red arrow points to the 'Run' button. Below the toolbar, the document editor shows a JSON document with a '\$group' stage. A red arrow points to the '\$group' stage name. To the right, the 'Output preview after \$group stage (Sample of 3 documents)' shows a document with '\_id: "Klingon Empire"' and 'total: 1'. Below the document editor, the 'ALL RESULTS' section shows a list of documents with the same structure: '\_id: "Klingon Empire"', '\_id: "Federation"', and '\_id: "Ferengi Alliance"', each with 'total: 1'.

## FASE 7 — Inferir Esquemas

Entra en la pestaña Schema dentro de la colección

The screenshot shows the 'Schema' tab in the MongoDB Compass interface. The top navigation bar includes 'Documents 3', 'Aggregations', 'Schema' (selected), 'Indexes 1', and 'Validation'. Below the navigation bar, there's a search bar with the text 'Type a query: { field: 'value' } or [Generate query](#)'. To the right of the search bar are buttons for 'Reset', 'Analyze', and 'Options'. Below the search bar, there's a button for 'EXPORT SCHEMA' and a note: 'This report is based on a sample of 3 documents. [Learn more](#)'. The main content area shows three schema elements: '\_id' (objectid), 'affiliation' (string), and 'name' (string). Each element has a visual representation of its distribution: a bar chart for '\_id' showing the distribution of values, and a list of values for 'affiliation' and 'name'. The values for 'affiliation' are 'Federation', 'Klingon Empire', and 'Ferengi Alliance'. The values for 'name' are 'Qo'noS', 'Vulcan', and 'Ferenginar'.



## FASE 8 — Crear Índices

### 1. Entra Indexes

Documents	3	Aggregations	Schema	Indexes	1	Validation
Create Index	Refresh					
VIEWING		INDEXES		SEARCH INDEXES		
Name & Definition	Type	Size	Usage	Properties	Status	
> _id_	REGULAR	36.9 kB	1 (since Thu Jan 22 2026)	UNIQUE	READY	

### 2. Haga clic en Create Index

### 3. Configure:

Field : name

Sort: Ascending

## Create Index

fed\_records.planets

Index fields

name

1 (asc)

+

> Options

Cancel

Create Index

### 4. Haga clic en Create

name_1	REGULAR	20.5 kB	0 (since Thu Jan 22 2026)	READY
name ↑				

## FASE 9 — Desconexión y Cierre de Misión

Cierra Compass.

Detén el servicio MongoDB solo si el servidor necesita entrar en modo sigilo:

- sudo systemctl stop mongod

```
ub@forense-ai:~$ sudo systemctl stop mongod
```