

Tasca S5.01. Consultes amb MongoDB

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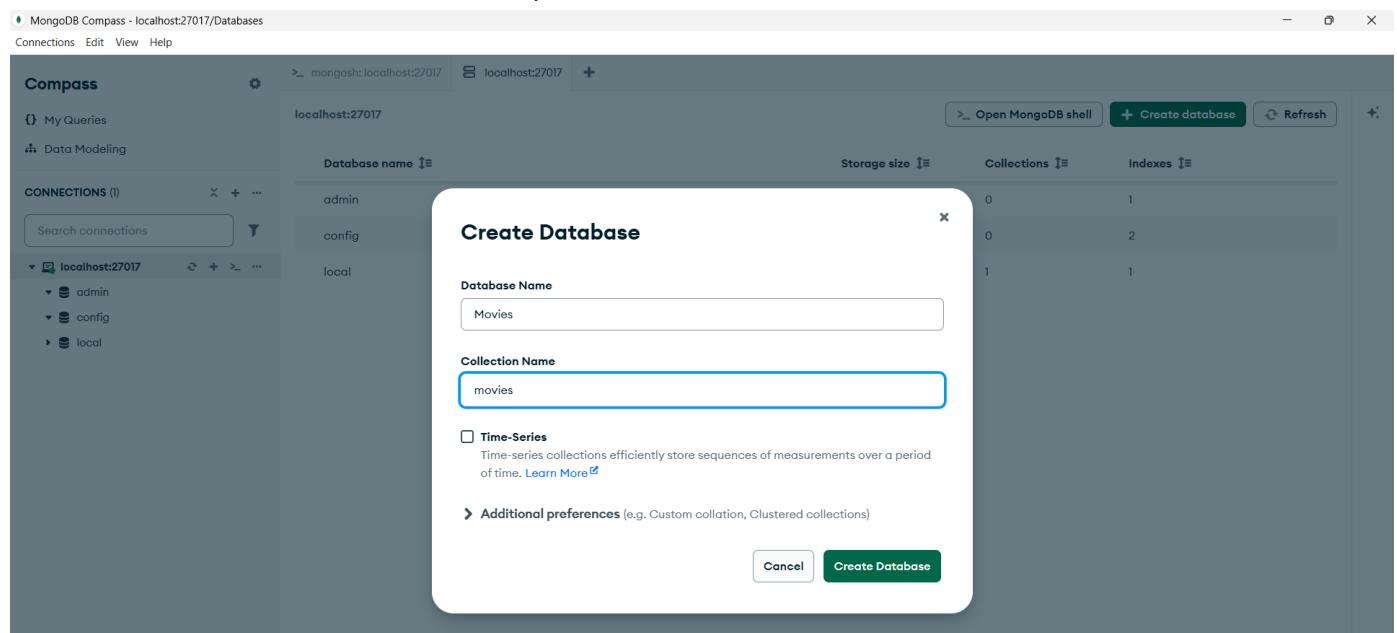
Nivel 1

Crea una base de datos amb MongoDB utilitzant com a col·leccions els arxius adjunts.

Tenemos 5 archivos en formato JSON:

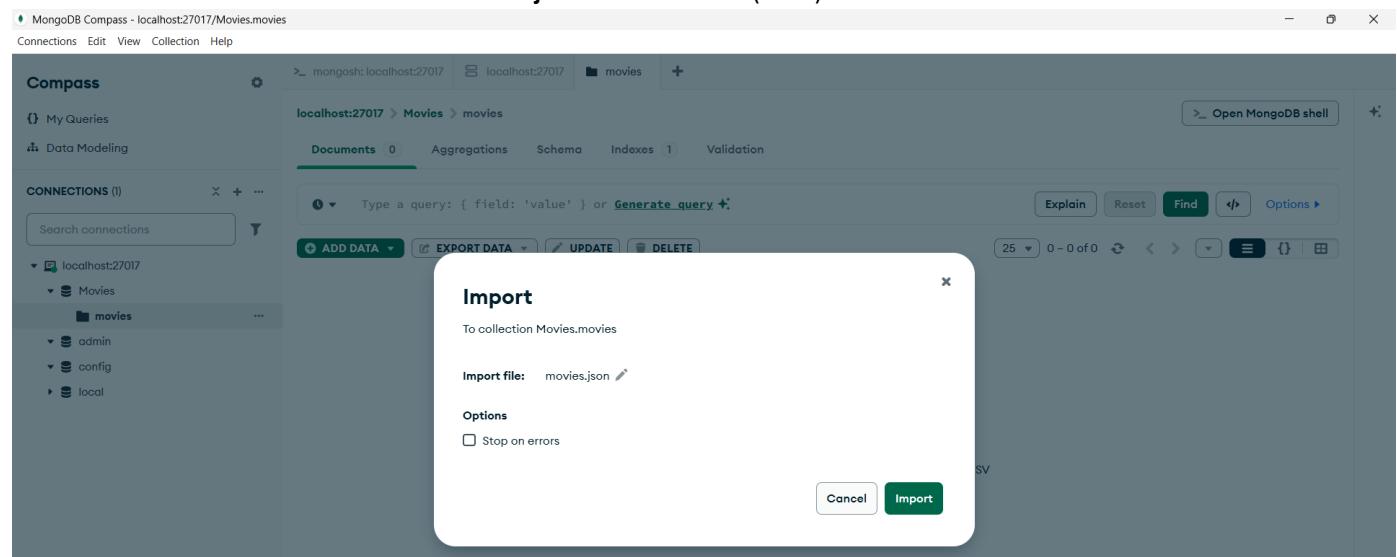
1. **users.json** - almacena información de usuarios/as, incluyendo nombres, emails y contraseñas cifradas.
2. **theatres.json** - contiene datos de cines, como ID, ubicación (dirección y coordenadas geográficas).
3. **sesiones.json** - guarda sesiones de usuario, incluyendo ID de usuario y tokens JWT para la autenticación.
4. **movies.json** - incluye detalles de películas, como trama, géneros, duración, elenco, comentarios, año de lanzamiento, directores, clasificación y premios.
5. **comments.json** - almacena comentarios de usuarios/as sobre películas, con información del autor/a del comentario, ID de la película, texto del comentario y la fecha.

Paso 1. Creamos la base de datos **Movies** con la primera colección **movies**.



The screenshot shows the MongoDB Compass interface. A modal window titled "Create Database" is open. In the "Database Name" field, "Movies" is typed. In the "Collection Name" field, "movies" is typed. There is an unchecked checkbox for "Time-Series". Below it, a tooltip explains: "Time-series collections efficiently store sequences of measurements over a period of time. Learn More". At the bottom right of the modal are "Cancel" and "Create Database" buttons, with "Create Database" being the active one.

Paso 2. Insertamos los datos del archivo **movies.json** en la colección (tabla) **movies**.



The screenshot shows the MongoDB Compass interface with the "movies" collection selected. A modal window titled "Import" is open. It says "To collection Movies.movies". In the "Import file" field, "movies.json" is selected. There is an unchecked checkbox for "Stop on errors". At the bottom right of the modal are "Cancel" and "Import" buttons, with "Import" being the active one.

Tenemos la primera colección **movies** en la base de datos **Movies**.

The screenshot shows the MongoDB Compass interface. The top bar indicates the connection is to 'localhost:27017/Movies.movies'. The left sidebar shows 'Connections' with 'localhost:27017' expanded, revealing 'Movies' and 'movies' collections. The main area is titled 'localhost:27017 > Movies > movies' and shows the 'Documents' tab with 24K documents. A query builder at the top allows typing a query or generating one. Below it are buttons for 'ADD DATA', 'EXPORT DATA', 'UPDATE', and 'DELETE'. A message bar at the bottom says 'Import completed. 23539 documents imported.'

Paso 3. Al repetir los pasos iguales con **users.json**, **theatres.json**, **sesiones.json** y **comments.json**, obtenemos la base de datos con las siguientes colecciones:

This screenshot shows the MongoDB Compass interface again, but this time the 'movies' collection is selected in the 'Connections' sidebar under 'localhost:27017'. The main area shows a table of collection statistics. The table has columns: Collection name, Properties, Storage size, Documents, Avg. document size, Indexes, and Total index size. The data shows five collections: comments, movies, sessions, theaters, and users. All collections have a storage size of 4.10 kB, except for sessions which is 4.10 kB. The 'movies' collection has 24K documents. A message bar at the bottom says 'Import completed. 50304 documents imported.'

Collection name	Properties	Storage size	Documents	Avg. document size	Indexes	Total index size
comments	-	4.10 kB	50K	284.00 B	1	4.10 kB
movies	-	4.10 kB	24K	1.60 kB	1	4.10 kB
sessions	-	4.10 kB	1	540.00 B	1	4.10 kB
theaters	-	4.10 kB	1.6K	223.00 B	1	4.10 kB
users	-	4.10 kB	185	159.00 B	1	4.10 kB

Exercici 1

- Mostra els 2 primers comentaris que hi ha en la base de dades.

The screenshot shows the MongoDB Compass interface. On the left, there's a sidebar with 'Compass' at the top, followed by 'My Queries' and 'Data Modeling'. Below that is a 'CONNECTIONS' section with a dropdown menu set to 'localhost:27017'. Under 'localhost:27017', there are sections for 'Movies', 'admin', 'config', and 'local'. The main area is titled '_MONGOSH' and contains the following command and its results:

```
> db.comments.find().limit(2)
< [
  {
    _id: ObjectId('5a9427648b0beeb69579cc'),
    name: 'Andrea Le',
    email: 'andrea_le@fakegmail.com',
    movie_id: ObjectId('573a1390f29313caabcd41bc'),
    text: 'Rem officiis eaque repellendus amet eos doloribus. Perro dolor voluptatum voluptates neque culpa molestias. Voluptate unde nulla temporibus',
    date: 2012-03-26T23:20:16.000Z
  },
  {
    _id: ObjectId('5a9427648b0beeb69579cf'),
    name: 'Greg Powell',
    email: 'greg_powell@fakegmail.com',
    movie_id: ObjectId('573a1390f29313caabcd41b1'),
    text: 'Tenetur dolorum molestiae ea. Eligendi praesentium unde quod porro. Commodi nisi sit placeat rerum vero cupiditate neque. Dolorum nihil ve',
    date: 1987-02-10T00:29:36.000Z
  }
]
Movies>
```

- Quants usuaris tenim registrats?

The screenshot shows the MongoDB Compass interface. The sidebar is identical to the previous one. The main area is titled '_MONGOSH' and contains the following command and its results:

```
> db.users.find().count()
< 185
Movies >
```

- Quants cinemes hi ha en l'estat de Califòrnia?

The screenshot shows the MongoDB Compass interface. The sidebar is identical. The main area is titled '_MONGOSH' and contains the following command and its results:

```
> db.theaters.find( { 'location.address.state': "CA" } ).count()
< 169
Movies >
```

- Quin va ser el primer usuari/ària en registrar-se?

The screenshot shows the MongoDB Compass interface. The sidebar is identical. The main area is titled '_MONGOSH' and contains the following command and its results:

```
> db.users.findOne( { }, { name: 1, _id: 0} )
< {
  name: 'Ned Stark'
}
Movies >
```

- Quantes pel·lícules de comèdia hi ha en la nostra base de dades?

The screenshot shows the MongoDB Compass interface. The sidebar is identical. The main area is titled '_MONGOSH' and contains the following command and its results:

```
> db.movies.find( {genres : "Comedy"} ).count()
< 7024
Movies >
```

Exercici 2

Mostra'm tots els documents de les pel·lícules produïdes en 1932, però que el gènere sigui drama o estiguin en francès.

```
>_MONGOSH
{
  > db.movies.find( { $and: [
      { $or: [ {genres: 'Drama'}, {languages: 'French'} ] },
      { year: 1932 } ]
    }, {year: 1, genres: 1, languages: 1, _id: 0} )
< {
  languages: [
    'French'
  ],
  year: 1932
}
{
  genres: [
    'Drama',
    'Fantasy',
    'Mystery'
  ],
  languages: [
    'German',
    'Italian'
  ],
  year: 1932
}
{
  genres: [
    'Drama'
  ],
  languages: [
    'English'
```

```
> db.movies.find( { $and: [
      { $or: [ {genres: 'Drama'}, {languages: 'French'} ] },
      { year: 1932 } ]
    }, {year: 1, genres: 1, languages: 1, _id: 0} ).count()
< 18
Movies>|
```

Exercici 3

Mostra'm tots els documents de pel·lícules estatunidenques que tinguin entre 5 i 9 premis que van ser produïdes entre 2012 i 2014.

```
>_MONGOSH
{
  > db.movies.find( { countries: 'USA',
      'awards.wins': { $gte: 5, $lte: 9},
      year: { $gte: 2012, $lte: 2014 } }, { countries: 1, 'awards.wins': 1, year: 1})
< {
  _id: ObjectId('573a13acf29313caabd29366'),
  year: 2013,
  awards: {
    wins: 6
  },
  countries: [
    'USA',
    'Canada'
  ]
}
{
  _id: ObjectId('573a13b5f29313caabd45772'),
  awards: {
    wins: 8
  },
  year: 2013,
  countries: [
    'USA'
  ]
}
{
  _id: ObjectId('573a13b9f29313caabd4dd15'),
  year: 2013,
  awards: {
    wins: 6
```

Nivel 2

Exercici 1

Compte quants comentaris escriu un usuari/ària que utilitza "GAMEOFTHRON.ES" com a domini de correu electrònic.

```
>_MONGOSH
> db.users.countDocuments( {email: {$regex: /@gameofthron.es/} })
< 83
Movies>|
```

Exercici 2

Quants cinemes hi ha en cada codi postal situats dins de l'estat Washington D. C. (DC)? **Nivel 2**

```
>_MONGOSH
> db.theaters.aggregate( [
    { $match: { "location.address.state": "DC" } },
    { $group: { _id: "$location.address.zipcode", num_cinemas:{$sum: 1} } } ] )
< [
    {
        _id: '20002',
        num_cinemas: 1
    },
    {
        _id: '20010',
        num_cinemas: 1
    },
    {
        _id: '20016',
        num_cinemas: 1
    }
]
Movies>|
```

Nivel 3

Exercici 1

Troba totes les pel·lícules dirigides per John Landis amb una puntuació IMDb (Internet Movie Database) d'entre 7,5 i 8.

```
>_MONGOSH
> db.movies.find( { directors: {$regex: /John Landis/},
                     "imdb.rating": { $gte: 7.5, $lte: 8 } }, { directors: 1, "imdb.rating": 1, _id: 0 } )
< [
    {
        imdb: {
            rating: 7.6
        },
        directors: [
            'John Landis'
        ]
    },
    {
        directors: [
            'John Landis'
        ],
        imdb: {
            rating: 7.9
        }
    },
    {
        imdb: {
            rating: 7.6
        },
        directors: [
            'John Landis'
        ]
    },
    {
        directors: [
            'John Landis'
        ]
    }
]
Movies>|
```

```
>_MONGOSH
> db.movies.find( { directors: {$regex: /John Landis/},
                     "imdb.rating": { $gte: 7.5, $lte: 8 } }, { directors: 1, "imdb.rating": 1, _id: 0 } ).count()
< 4
Movies>|
```

Exercici 2

Mostra en un mapa la ubicació de tots els teatres de la base de dades.

