

Nivell 1

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

Creemos la base de datos:

Create Database

Database Name

S5_APP_Cine

Collection Name

Comments

☐ Time-Series

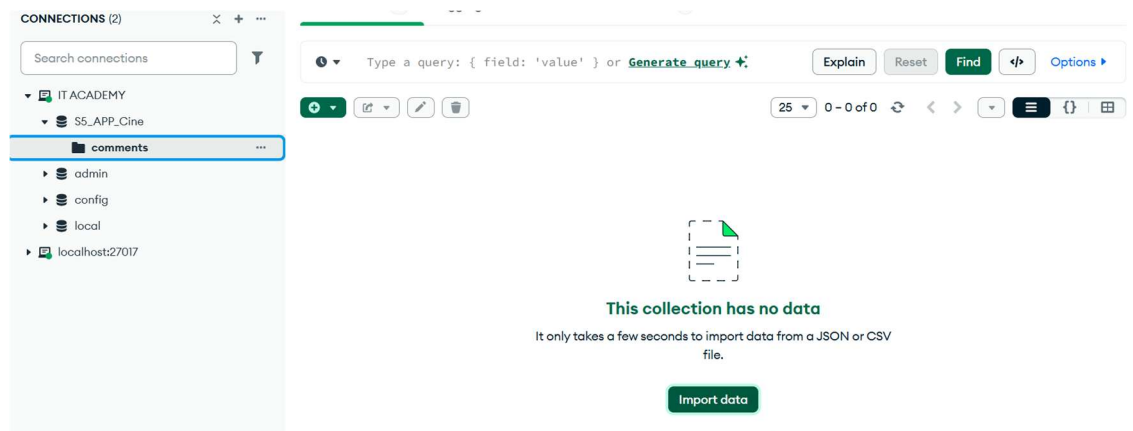
Time-series collections efficiently store sequences of measurements over a period of time. [Learn More](#)

Additional preferences (e.g. Custom collation, Clustered collections)

Cancel

Create Database

Para crear la base de datos, hay que incorporar el nombre de la primera colección. Introducimos la colección “comments”. Posteriormente realizamos la importación de datos a esta colección:



Import

To collection S5_APP_Cine.comments

Import file: comments.json

Options

☐ Stop on errors

Cancel

Import

Observamos que se ha realizado la importación:

IT ACADEMY

S5_APP_Cine

comments

admin

config

local

localhost:27017

Import completed.
50304 documents imported.

```
{ "_id": ObjectId("5a9427648b0beebe69579cc"),  
  "name": "Andrea Le",  
  "email": "andrea_le@fakegmail.com",  
  "movie_id": ObjectId("573a1390f29313caabcd418c"),  
  "text": "Rem officitis eaque repellendus amet eos doloribus. Porro dolor volupta...",  
  "date": 2012-03-26T23:20:16.000+00:00 }  
  
{ "_id": ObjectId("5a9427648b0beebe69579cf"),  
  "name": "Greg Powell",  
  "email": "greg_powell@fakegmail.com",  
  "movie_id": ObjectId("573a1390f29313caabcd41b1"),  
  "text": "Tenetur dolorum molestiae ea. Eligendi praesentium unde quod porro. Co...",  
  "date": 1987-02-10T00:29:36.000+00:00 }  
  
{ "_id": ObjectId("5a9427648b0beebe69579d0"),  
  "name": "Talisa Maegyr",  
  "email": "talisa_chaplin@gameofthron.es",  
  "movie_id": ObjectId("573a1390f29313caabcd41b1") }
```

Procedemos a crear el resto de colecciones con su correspondiente importación de datos desde los archivos .json:

Create Collection

Collection Name

movies

☐ Time-Series

Time-series collections efficiently store sequences of measurements over a period of time. [Learn More](#)

➤ Additional preferences (e.g. Custom collation, Clustered collections)

Cancel

Create Collection

Import

To collection S5_APP_Cine.movies

Import file: movies.json

Options

☐ Stop on errors

Cancel

Import

Lo mismo para sessions, theaters, users. En compass podemos ver todas las colecciones creadas y la información de cada una:

comments				
Storage size:	Documents:	Avg. document size:	Indexes:	Total index size:
4.10 kB	50 K	284.00 B	1	4.10 kB

movies				
Storage size:	Documents:	Avg. document size:	Indexes:	Total index size:
4.10 kB	24 K	1.60 kB	1	4.10 kB

sessions				
Storage size:	Documents:	Avg. document size:	Indexes:	Total index size:
4.10 kB	1	540.00 B	1	4.10 kB

theaters				
Storage size:	Documents:	Avg. document size:	Indexes:	Total index size:
4.10 kB	1.6 K	223.00 B	1	4.10 kB

users				
Storage size:	Documents:	Avg. document size:	Indexes:	Total index size:
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.

Abrimos la Shell y comprobamos los dos primeros comentarios que hay en la base de datos:

```
> use S5_APP_Cine
< switched to db S5_APP_Cine
> db["comments"].find().limit(2)
< {
  _id: ObjectId('5a9427648b0beeb69579cc'),
  name: 'Andrea Le',
  email: 'andrea_le@fakegmail.com',
  movie_id: ObjectId('573a1390f29313caabcd418c'),
  text: 'Rem officiis eaque repellendus amet eos doloribus. Porro dolor voluptatum voluptates neque culpa molest',
  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',
  date: 1987-02-10T00:29:36.000Z
}
```

- Quants usuaris tenim registrats?

Hay registrados un total de 185 usuarios:

```
> db["users"].countDocuments()  
< 185
```

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

Hay un total de 169 cines en California:

The screenshot shows the MongoDB Compass interface. At the top, a query filter is set to `{"location.address.state": "CA"}`. Below the filter bar, there are icons for various actions like save, copy, edit, delete, and help. On the right, there are buttons for 'Generate query', 'Explain', 'Reset', 'Find' (highlighted), and 'Options'. Below the filter bar, a status bar shows '25' documents, '1 - 25 of 169' total documents, and navigation arrows. The main area displays four JSON documents, each representing a theater. Each document has fields for `_id`, `theaterId`, and `location`.

```
{  
  "_id": ObjectId('59a47286cfa9a3a73e51e72e'),  
  "theaterId": 1008,  
  "location": Object  
}
```

```
{  
  "_id": ObjectId('59a47286cfa9a3a73e51e734'),  
  "theaterId": 1009,  
  "location": Object  
}
```

```
{  
  "_id": ObjectId('59a47286cfa9a3a73e51e737'),  
  "theaterId": 1018,  
  "location": Object  
}
```

```
{  
  "_id": ObjectId('59a47286cfa9a3a73e51e739'),  
  "theaterId": 1011,  
  "location": Object  
}
```

En Shell:

```
> db["theaters"].countDocuments({"location.address.state": "CA"})  
< 169
```

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

El primer usuario fue Ned Stark. Si hacemos la consulta en Shell:

```
> db["users"].findOne()  
< {  
  "_id": ObjectId('59b99db4cfa9a34dcd7885b6'),  
  "name": 'Ned Stark',  
  "email": 'sean_bean@gameofthron.es',  
  "password": '$2b$12$UREFwsRUoyF0CRqGNK0Lz00HM/jLhgUCNNIJ9RJAqMUQ74cr1J1Vu'  
}
```

Si visualizamos en Compass, vemos que el primer documento es el mismo:

IT ACADEMY > S5_APP_Cine > users Open MongoDB shell

Documents 185 Aggregations Schema Indexes 1 Validation

Type a query: { field: 'value' } or [Generate query](#) Explain Reset Find </> Options

25 1 - 25 of 185

```
{
  "_id": ObjectId('59b99db4cfa9a34dcd7885b6'),
  "name": "Ned Stark",
  "email": "sean_bean@gameofthron.es",
  "password": "$2b$12$UREFwsRUoyF0CRqGNK0Lz00HM/jLhgUCNNIJ9RJAqMUQ74crLJ1Vu"
}
```

```
{
  "_id": ObjectId('59b99db4cfa9a34dcd7885b7'),
  "name": "Robert Baratheon",
  "email": "mark_addy@gameofthron.es",
  "password": "$2b$12$yGqXLG9LZpXA2xVDhuPnS0Zd.VURVkvz7wgOLY3pn00s7u2S1Z032y"
}
```

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

Hay un total de 7.024 películas de comedia en la Base de Datos:

{genres:"Comedy"} [Generate query](#) Explain Reset Find

25 1 - 25 of 7024

```
{
  "_id": ObjectId('573a1390f29313caabcd4803'),
  "plot": "Cartoon figures announce, via comic strip balloons, that they will mov..."
}
```

En Shell:

```
> db["movies"].countDocuments({"genres":"Comedy"})
< 7024
```

Exercici 2

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

Para este ejercicio, la fecha 1932 es una tipología numérica y por tanto en las consulta se debe poner sin las “ ”.

Si ponemos “, el resultado será 0:

```
> db["movies"].countDocuments({year:"1932"})
< 0

> db["movies"].countDocuments({year:1932})
< 25
```

El resultado final que obtenemos es que hay un total de 18 películas que cumplen con estas características.

En Compass:

The screenshot shows the MongoDB Compass interface. At the top, a query is entered: `{year:1932, $or:[{genres:"Drama"},{languages:"French"}]}`. Below the query bar, there are buttons for 'Explain', 'Reset', 'Find', and 'Options'. The 'Find' button is highlighted. Below the buttons, there is a toolbar with icons for adding filters, saving, deleting, and help. The main area displays the results of the query, showing 18 documents. The first document is expanded, showing its fields: `_id`, `plot`, `runtime`, `rated`, `cast`, `num_mflix_comments`, `poster`, `title`, `lastupdated`, `languages`, `released`, `directors`, `writers`, `awards`, `year`, `imdb`, `countries`, and `type`.

```
{
  "_id": ObjectId('573a1391f29313caabcd9458'),
  "plot": "A young artist draws a face at a canvas on his easel. Suddenly the mou...",
  "runtime": 55,
  "rated": "UNRATED",
  "cast": Array (4)
    0: Enrique Rivero
    1: Elizabeth Lee Miller
    2: Pauline Carton
    3: Odette Talazac
  "num_mflix_comments": 1,
  "poster": "https://m.media-amazon.com/images/M/MV5BYWY3ODE5ZWEtYjlmYi00NjA4LTk4ZW...",
  "title": "The Blood of a Poet",
  "lastupdated": "2015-09-16 13:13:05.537000000",
  "languages": Array (1)
    0: French
  "released": 2010-05-20T00:00:00.000+00:00,
  "directors": Array (1)
    0: Jean Cocteau
  "writers": Array (1)
    0: Jean Cocteau
  "awards": Object
    year: 1932
  "imdb": Object
  "countries": Array (1)
    0: France
  "type": "movie"
}
```

En Shell:

```
> db["movies"].find({year:1932, $or:[{genres:"Drama"},{languages:"French"}]})
< {
  "_id": ObjectId('573a1391f29313caabcd9458'),
  "plot": 'A young artist draws a face at a canvas on his easel. Suddenly the mouth on the drawing comes into life',
  "runtime": 55,
  "rated": 'UNRATED',
  "cast": [
    'Enrique Rivero',
    'Elizabeth Lee Miller',
    'Pauline Carton',
    'Odette Talazac'
  ],
  "num_mflix_comments": 1,
  "poster": 'https://m.media-amazon.com/images/M/MV5BYWY3ODE5ZWEtYjlmYi00NjA4LTk4ZWYtMzBhZDE5MjY0VTYxXkEyXkFqcGdeQ',
  "title": 'The Blood of a Poet',
  "lastupdated": '2015-09-16 13:13:05.537000000',
  "languages": [
```

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.

En la base de datos hay un total de 166 películas con estas características:

En Compass:

The screenshot shows the MongoDB Compass interface. At the top, a query is entered: `{"$gte": 5, "$lte": 9}, "year": {"$gte": 2012, "$lte": 2014}}`. Buttons for 'Explain', 'Reset', and 'Find' are visible. Below the query bar, there are icons for adding, saving, editing, deleting, and refreshing. On the right, a dropdown shows '25' items, and a pagination bar indicates '1 - 25 of 166' results. The main area displays a document for the movie 'The Secret Life of Walter Mitty'.

```
{
  "_id": ObjectId('573a13acf29313caabd29366'),
  "fullplot": "The manager of the negative assets sector of Life magazine, Walter Mit...",
  "imdb": Object,
  "year": 2013,
  "plot": "When his job along with that of his co-worker are threatened, Walter t...",
  "genres": Array (3),
  "rated": "PG",
  "metacritic": 54,
  "title": "The Secret Life of Walter Mitty",
  "lastupdated": "2015-08-31 00:10:51.747000000",
  "languages": Array (3),
  "writers": Array (3),
  "type": "movie",
  "tomatoes": Object,
  "poster": "https://m.media-amazon.com/images/M/MV5BODYwNDYxNDk1Nl5BMl5BanBnXkFtZT...",
  "num_mflix_comments": 1,
  "released": 2013-12-25T00:00:00.000+00:00,
  "country": Object
}
```

En Shell:

```
> db["movies"].find({"countries":"USA","awards.wins":{"$gte": 5, "$lte": 9},"year":{"$gte": 2012, "$lte": 2014}})
< {
  "_id": ObjectId('573a13acf29313caabd29366'),
  "fullplot": "The manager of the negative assets sector of Life magazine, Walter Mitty, has been working for sixt...",
  "imdb": {
    "rating": 7.4,
    "votes": 211230,
    "id": 359950
  },
  "year": 2013,
  "plot": "When his job along with that of his co-worker are threatened, Walter takes action in the real world emb...",
  "genres": [
    'Adventure',
    'Comedy',
    'Drama'
  ],
  "rated": 'PG',
  "metacritic": 54,
  "country": Object
}
```

Nivell 2

Exercici 1

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

Un total de 22.841 usuarios utiliza el dominio de correo electrónico "gameofthron.es"

En Shell:

```
> db["comments"].countDocuments({"email": {"$regex": "gameofthron.es"}})
< 22841
```

En Compass:

The screenshot shows the MongoDB Compass interface. At the top, a query bar contains the query: `{"email": {"$regex": "gameofthron.es"}}`. To the right of the query bar are buttons for "Generate query", "Explain", and "Reset". Below the query bar is a toolbar with icons for adding filters, saving, editing, deleting, and a help icon. On the right side of the toolbar, there is a dropdown menu showing "25" and a text "1 - 25 of 22841". The main area displays three document results, each with its own set of fields: `_id`, `name`, `email`, `movie_id`, `text`, and `date`. The first document is for Talisa Maegyr, the second for Petyr Baelish, and the third for Olly.

```
_id: ObjectId('5a9427648b0beebe69579d0')
name: "Talisa Maegyr"
email: "oona_chaplin@gameofthron.es"
movie_id: ObjectId('573a1390f29313caabcd41b1')
text: "Rem itaque ad sit rem voluptatibus. Ad fugiat maxime illum optio iure ..."
date: 1998-08-22T11:45:03.000+00:00

_id: ObjectId('5a9427648b0beebe69579d5')
name: "Petyr Baelish"
email: "aidan_gillen@gameofthron.es"
movie_id: ObjectId('573a1390f29313caabcd4218')
text: "Quo deserunt ipsam ipsum. Tenetur eos nemo nam sint praesentium minus ..."
date: 2001-07-13T19:25:09.000+00:00

_id: ObjectId('5a9427648b0beebe69579db')
name: "Olly"
email: "brenock_o'connor@gameofthron.es"
```

Exercici 2

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


```

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

```

Nivell 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.

Hay un total de 4 películas con estas características:

En Shell:

```
> db["movies"].find( {
  "directors": "John Landis",
  "imdb.rating": { $gte: 7.5, $lte: 8 }
})
< {
  _id: ObjectId('573a1397f29313caabce6d94'),
  fullplot: "Faber College has one frat house so disreputable it will take anyone. It has a second one full of w",
  imdb: {
    rating: 7.6,
    votes: 84834,
    id: 77975
  },
  year: 1978,
  plot: 'At a 1962 college, Dean Vernon Wormer is determined to expel the entire Delta Tau Chi Fraternity, but ti',
  genres: [
    'Comedy'
  ],
  rated: 'R',
  metacritic: 82,
  title: 'Animal House',
```

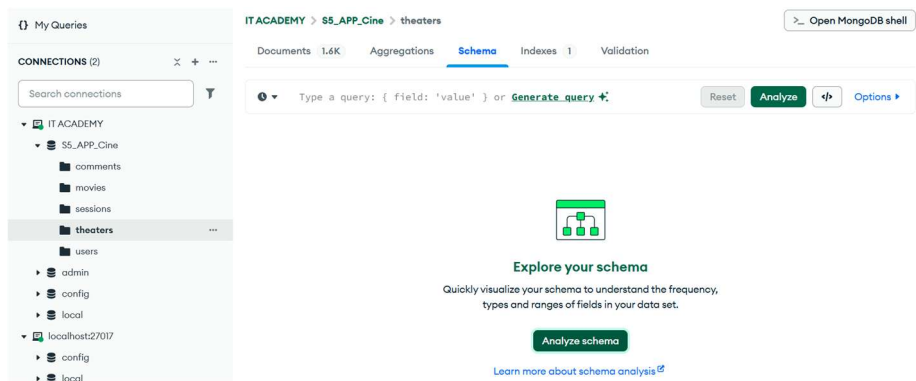
En Compass:

```
{
  "directors": "John Landis",
  "imdb.rating": {"$gte": 7.5, "$lt": 8.0},
  "year": 1978,
  "plot": "At a 1962 college, Dean Vernon Wormer is determined to expel the entire student body for being too liberal.",
  "genres": "Array (1)",
  "rated": "R",
  "metacritic": 82,
  "title": "Animal House",
  "lastupdated": "2015-09-13 00:02:47.803000000",
  "languages": "Array (2)",
  "writers": "Array (3)",
  "type": "movie",
  "tomatoes": {
    "poster": "https://m.media-amazon.com/images/M/MV5BM2M2ZDA4MTYtOGRjMi00OTg5LWI1ZT... ",
    "num_mflix_comments": 1,
    "released": "1978-07-28T00:00:00.000+00:00"
  }
}
```

Exercici 2

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

Entramos en la colección theaters y hacemos clic en la opción Schema:



Pulsamos el botón de Analyze schema y Compass analizará todos los documento. Nos dirigimos a buscar location:



Como disponemos de datos correctamente estructurados de longitud y latitud, en la zona geo podemos visualizar el mapa de ubicaciones:

