

Tasca S9.01. Consultes amb MongoDB

Descripció

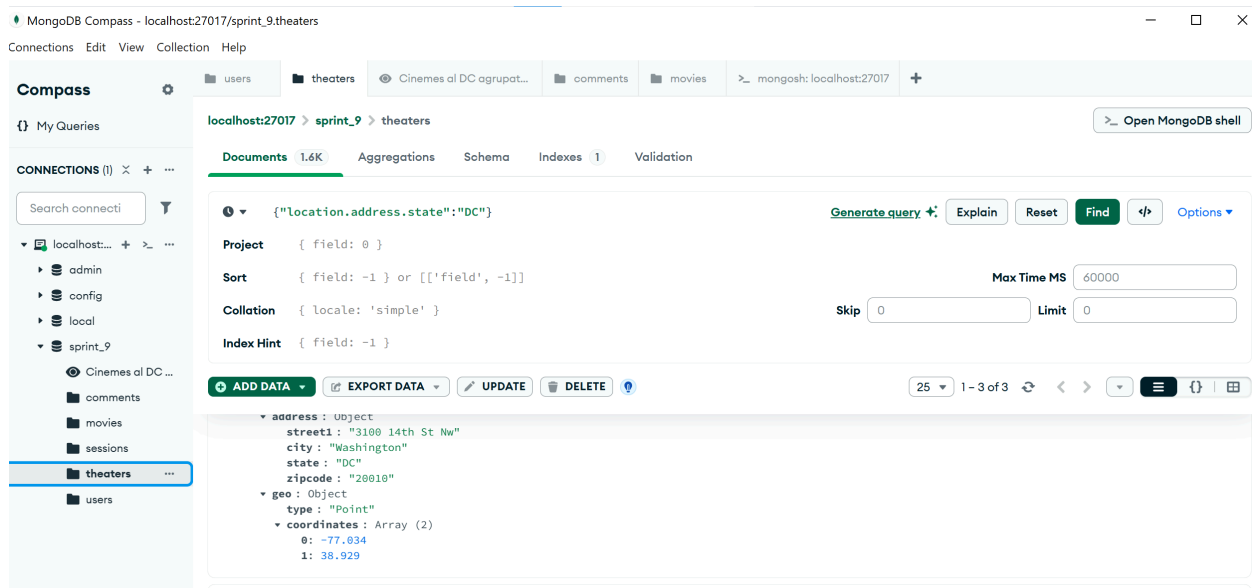
Treballarem amb una base de dades que conté col·leccions relacionades amb una aplicació d'entreteniment cinematogràfic:

- **users:** Emmagatzema informació d'usuaris/es, incloent-hi noms, emails i contrasenyes xifrades.
- **theatres:** Conté dades de cinemes, com ID, ubicació (direcció i coordenades geogràfiques).
- **sessions:** Guarda sessions d'usuari, incloent-hi ID d'usuari i tokens JWT per a l'autenticació.
- **movies:** Inclou detalls de pel·lícules, com a trama, gèneres, durada, elenc, comentaris, any de llançament, directors, classificació i premis.
- **comments:** Emmagatzema comentaris d'usuaris/es sobre pel·lícules, amb informació de l'autor/a del comentari, ID de la pel·lícula, text del comentari i la data.

Duràs a terme algunes consultes que et demana el client/a, el qual està mesurant si seràs capaç o no de fer-te càrrec de la part analítica del projecte vinculat amb la seva base de dades.

Nivell 1

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

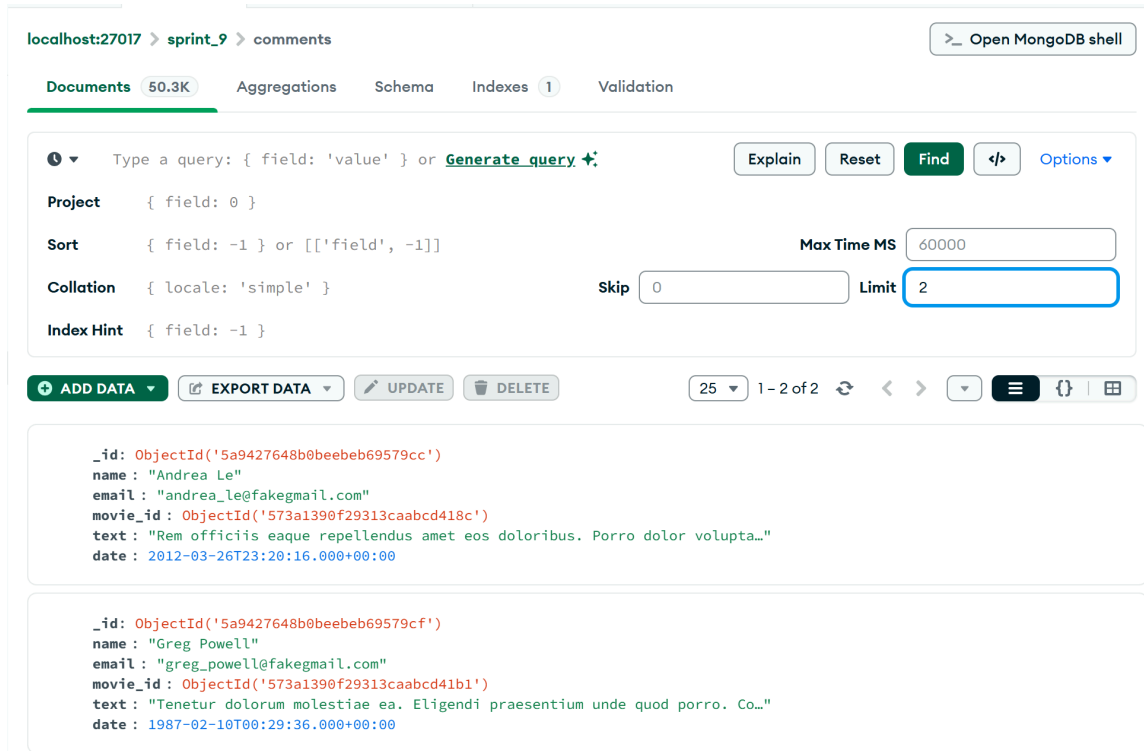


1.1

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

```
> use sprint_9
< switched to db sprint_9
> db.comments.find().limit(2)
< {
  _id: ObjectId('5a9427648b0beeb6b69579cc'),
  name: 'Andrea Le',
  email: 'andrea_le@fakegmail.com',
  movie_id: ObjectId('573a1390f29313caabcd418c'),
  text: 'Rem officii eaque repellendus amet eos doloribus. Porro dolor voluptatum voluptates neque culpa molestias. Vc',
  date: 2012-03-26T23:20:16.000Z
}
{
  _id: ObjectId('5a9427648b0beeb6b69579cf'),
  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 cupidi',
  date: 1987-02-10T00:29:36.000Z
}
sprint_9>
```

- Compass:



- Quants usuaris tenim registrats?

- Mongosh:



- Compass:

localhost:27017 > sprint_9 > users Open MongoDB shell

Documents 185 Aggregations Schema Indexes 1 Validation

🕒 {} Generate query Explain Reset Find </> Options

Project { field: 0 }

Sort { field: -1 } or [['field', -1]] Max Time MS 60000

Collation { locale: 'simple' } Skip 0 Limit 10

Index Hint { field: -1 }

ADD DATA EXPORT DATA UPDATE DELETE 25 1 - 25 of 185 ↺ ↻ ⌵ ⌶ ⌷

```

_id: ObjectId('59b99db4cfa9a34dcd7885b6')
name: "Ned Stark"
email: "sean_bean@gameofthron.es"
password: "$2b$12$UREFwsRUoyF0CRqGNK0Lz00HM/jLhgUCNNIj9RJAgMUQ74crLj1Vu"

_id: ObjectId('59b99db4cfa9a34dcd7885b7')
name: "Robert Baratheon"
email: "mark_addy@gameofthron.es"
password: "$2b$12$yGqxLG9LZpXA2xVDhuPnS0Zd.VURVxz7wg0LY3pn00s7u2S1Z032y"

_id: ObjectId('59b99db5cfa9a34dcd7885b8')
name: "Jaime Lannister"
email: "nikolaj_coster-waldau@gameofthron.es"
password: "$2b$12$6vz7wiw0.EI5R1lvq1zUc./9480gb1uPtXcahDxIadgyC3PS8XCUK"

```

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

- **Mongosh:**

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

- **Compass:**

localhost:27017 > sprint_9 > theaters Open MongoDB shell

Documents 1.6K Aggregations Schema Indexes 1 Validation

🕒 { "location.address.state": "CA" } Generate query ⚡ Explain Reset Find </> Options ▾

Project { field: 0 }

Sort { field: -1 } or [['field', -1]] Max Time MS 60000

Collation { locale: 'simple' } Skip 0 Limit 0

Index Hint { field: -1 }

ADD DATA ▾ EXPORT DATA ▾ UPDATE DELETE 💡 25 ▾ 1 - 25 of 169 ↺ ↻ ⌵ ☰ { } ⌂

```

_id: ObjectId('59a47286cfa9a3a73e51e72e')
theaterId: 1008
location: Object
  address: Object
    street1: "1621 E Monte Vista Ave"
    city: "Vacaville"
    state: "CA"
    zipcode: "95688"
  geo: Object
    type: "Point"
    coordinates: Array (2)
      0: -121.96328
      1: 38.367649

```

```

_id: ObjectId('59a47286cfa9a3a73e51e734')

```

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

- Mongosh:

```

> db.users.find().sort({ _id: 1 }).limit(1)
< {
  _id: ObjectId('59b99db4cfa9a34dcd7885b6'),
  name: 'Ned Stark',
  email: 'sean_bean@gameofthron.es',
  password: '$2b$12$UREFwsRUoyF0CRqGNK0Lz00HM/jLhgUCNNIJ9RJAqMUQ74crLj1Vu'
}

```

- Compass:

localhost:27017 > sprint_9 > users Open MongoDB shell

Documents 185 Aggregations Schema Indexes 1 Validation

🕒 {} Generate query Explain Reset Find </> Options

Project { field: 0 }
Sort {_id:1} Max Time MS 60000
Collation { locale: 'simple' } Skip 0 Limit 1
Index Hint { field: -1 }

ADD DATA EXPORT DATA UPDATE DELETE 25 1 - 1 of 1 ↺ ↻ ⌵ ☰ {} | ⌂

```

_id: ObjectId('59b99db4cfa9a34dcd7885b6')
name: "Ned Stark"
email: "sean_bean@gameofthron.es"
password: "$2b$12$UREFwsRUoyF0CRqGNK0Lz00HM/jLhgUCNNI39RJAqMUQ74crLJ1Vu"
  
```

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

- Mongosh:

```

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

- Compass:

localhost:27017 > sprint_9 > movies Open MongoDB shell

Documents 23.5K Aggregations Schema Indexes 1 Validation

Query: {genres:"Comedy"}

Project: { field: 0 }

Sort: { field: -1 } or [['field', -1]] **Max Time MS:** 60000

Collation: { locale: 'simple' }

Index Hint: { field: -1 }

Buttons: Generate query, Explain, Reset, Find, Options

Controls: Skip 0 Limit 0

Actions: ADD DATA, EXPORT DATA, UPDATE, DELETE

Results: 1 - 25 of 7024

```

_id: ObjectId('573a1390f29313caabcd4803')
plot: "Cartoon figures announce, via comic strip balloons, that they will mov..."
genres: Array (3)
  0: "Animation"
  1: "Short"
  2: "Comedy"
runtime: 7
cast: Array (1)
num_mflix_comments: 1
poster: "https://m.media-amazon.com/images/M/MV5BYzg2NjNhNTctMjUxMjU0ZWU4LWI3Zj..."
title: "Winsor McCay, the Famous Cartoonist of the N.Y. Herald and His Moving ..."
fullplot: "Cartoonist Winsor McCay agrees to create a large set of drawings that ..."
languages: Array (1)
released: 1911-04-08T00:00:00.000+00:00
directors: Array (2)
writers: Array (2)
awards: Object

```

1.2.

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({year:1932, $or:[{genre:"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 and st
  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/MV5BYWY3ODE5ZWetYjlmYi00NjA4LTk4ZWYtMzBhZDE5MjY0YTtyXkEyXkFqcGdeQXVyNzI4
  title: 'The Blood of a Poet',
  lastupdated: '2015-09-16 13:13:05.537000000',
  languages: [
    'French'
  ],
  released: 2010-05-20T00:00:00.000Z,
  directors: [
```

- Compass:

localhost:27017 > sprint_9 > movies Open MongoDB shell

Documents 23.5K Aggregations Schema Indexes 1 Validation

{
 year: 1932,
 \$or: [
 { genre: "Drama" },
 { languages: "French" }
]
}

Generate query ⚡ Explain Reset Find </> Options ▾

Project {}
Sort { field: -1 } or [['field', -1]] Max Time MS 60000
Collation { locale: 'simple' } Skip 0 Limit 0
Index Hint { field: -1 }

ADD DATA EXPORT DATA UPDATE DELETE ⓘ
25 1 - 6 of 6 ↺ < > ⌵ ☰ {} | ⌂

```

_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)
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)
released: 2010-05-20T00:00:00.000+00:00

```


1.3

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}}).pretty()
< {
  _id: ObjectId('573a13acf29313caabd29366'),
  fullplot: "The manager of the negative assets sector of Life magazine, Walter Mitty, has been working for sixteen yea
  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 embarking
  genres: [
    'Adventure',
    'Comedy',
    'Drama'
  ],
  rated: 'PG',
  metacritic: 54,
  title: 'The Secret Life of Walter Mitty',
  lastupdated: '2015-08-31 00:10:51.747000000',
  languages: [
    'English',
    'Spanish',
    'Icelandic'
```

- Compass:

localhost:27017 > sprint_9 > movies Open MongoDB shell

Documents 23.5K Aggregations Schema Indexes 1 Validation

```
{countries:"USA",
  "awards.wins":{"$gte:5, $lte:9},
  year:{"$gte:2012, $lte:2014"}
}
```

[Generate query](#)
[Explain](#)
[Reset](#)
[Find](#)
[Options](#)

Project

Sort { field: -1 } or [['field', -1]] Max Time MS

Collation { locale: 'simple' } Skip Limit

Index Hint { field: -1 }

[ADD DATA](#)
[EXPORT DATA](#)
[UPDATE](#)
[DELETE](#)
25 1 - 25 of 166

```
_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)
```

Nivell 2

2.1

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

- Mongosh:

```
> db.comments.countDocuments({email:{$regex:"@gameofthron.es", $options:"i"}})
< 22841
```

- Compass:

{email: {\$regex: "gameofthron.es", \$options: "i"}} [Generate query](#) Explain Reset Find </> [Options](#)

Project

{ field: 0 }

Sort

{ field: -1 } or [['field', -1]]

Max Time MS

60000

Collation

{ locale: 'simple' }

Skip

0

Limit

0

Index Hint

{ field: -1 }

+ ADD DATA

EXPORT DATA

UPDATE

DELETE

25

1 – 25 of 22841

```
_id: ObjectId('5a9427648b0beeb69579d0')  
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('5a9427648b0beeb69579d5')  
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
```

2.2

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

- Mongosh:

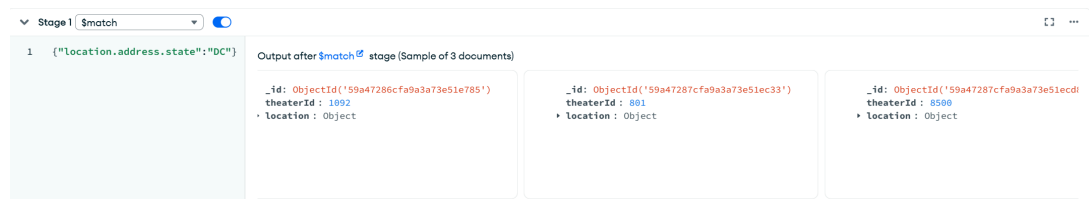
```

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

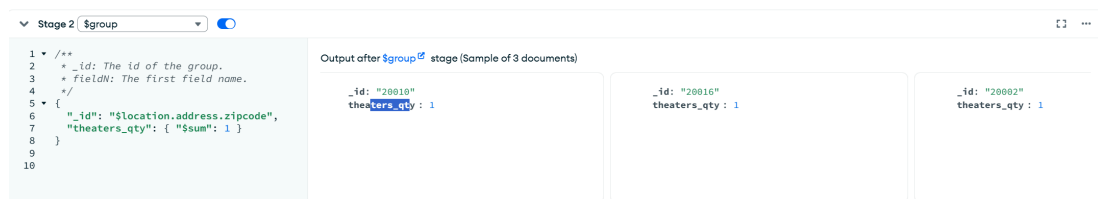
```

- Compass:

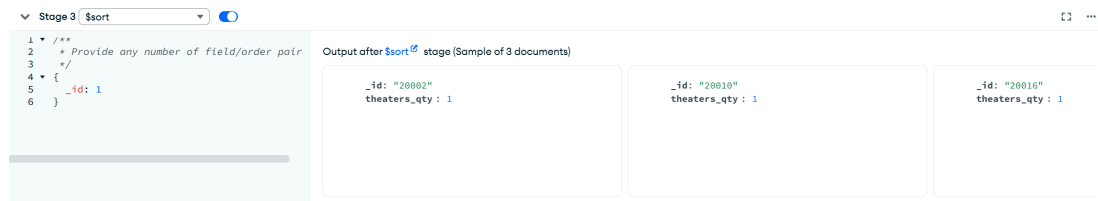
- **Stage 1:** Filtramos para obtener únicamente los cines que se encuentren en el estado "DC". Obtenemos 3 resultados.



- **Stage 2:** Agrupamos por código postal y pedimos que en un campo llamado "theaters_qty", nos sume los registros que encuentra una vez realizada la agrupación.



- **Stage 3:** Ordenamos los resultados por `_id` en orden ascendente



Output

ALL RESULTS

```
_id: "20002"
theaters_qty : 1
```

```
_id: "20010"
theaters_qty : 1
```

```
_id: "20016"
theaters_qty : 1
```

Nivell 3

3.1.

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"].countDocuments({directors:"John Landis", "imdb.rating": {$gte:7.5, $lte:8}})
< 4
```

○ Compass:

localhost:27017 > sprint_9 > movies Open MongoDB shell

Documents 23.5K Aggregations Schema Indexes 1 Validation

Query: `{directors:"John Landis", "imdb.rating": {$gte: 7.5, $lte:8}}` Generate query + Explain Reset Find Options

Project: `{}`

Sort: `{ field: -1 } or [['field', -1]]` Max Time MS: 60000

Collation: `{ locale: 'simple' }` Skip: 0 Limit: 0

Index Hint: `{ field: -1 }`

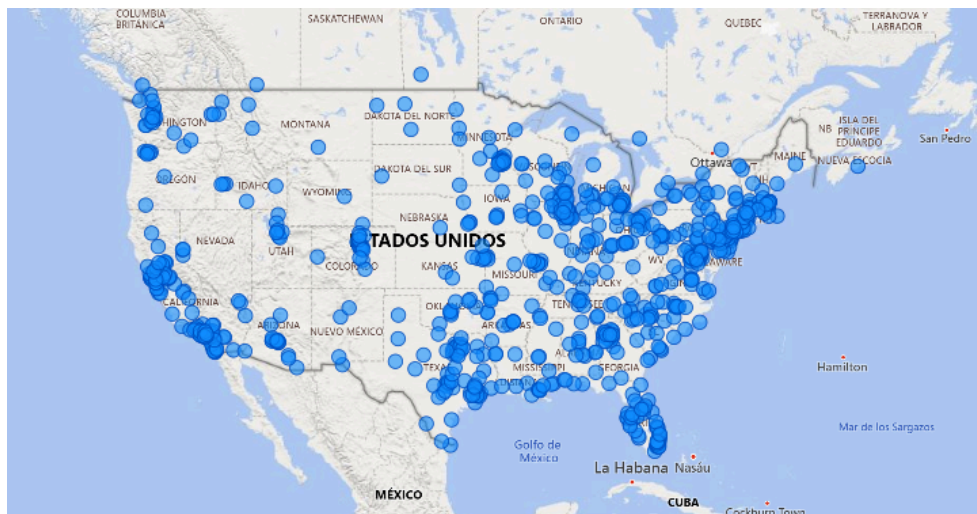
ADD DATA EXPORT DATA UPDATE DELETE 25 1 - 4 of 4 ⌂ ⌕ ⌕

```
{
  "_id": ObjectId("573a1397f29313caabce6d94"),
  "fullplot": "Faber College has one frat house so disreputable it will take anyone. ...",
  "imdb": {
    "year": 1978
  },
  "plot": "At a 1962 college, Dean Vernon Wormer is determined to expel the entire...",
  "genres": [
    "R"
  ],
  "rated": "R",
  "metacritic": 82,
  "title": "Animal House",
  "lastupdated": "2015-09-13 00:02:47.803000000",
  "languages": [
    "English"
  ],
  "writers": [
    "Mike Myers",
    "Harold Ramis"
  ],
  "type": "movie",
  "tomatoes": {
    "poster": "https://m.media-amazon.com/images/M/MV5BM2M2ZDA4MTYtOGRjM100OTg5LWI1ZT...",
    "num_mflix_comments": 1
  },
  "released": "1978-07-28T00:00:00.000+00:00",
  "awards": {
    "nominations": 1,
    "wins": 0
  },
  "countries": [
    "USA"
  ],
  "cast": [
    "John Belushi",
    "John Candy",
    "Charles Hallahan",
    "Charles Hallahan"
  ]
}
```

3.2.

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

Una vez realizada la conexión a MongoDB mediante MySQL, hemos seleccionado una visualización tipo mapa y hemos usado los datos geográficos de la colecciones "theaters" mediante una jerarquía creada en Power BI



Location

location.address.state...	✓	✕
location.address.city		✕
location.address.street1		✕
location.address.zipcode		✕