

## Tarea S9. Base de dades No Relacionals – Consultas con MongoDB

Jianji Chen

Principalmente realizo las consultas con mongosh en Visual Studio Code.

### Nivell 1

```
tarea_s9> show collections
comments
movies
sessions
theaters
users
```

#### Exercici 1

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

```
db.comments.find().limit(2)
```

```
tarea_s9> db.comments.find().limit(2)
[
  {
    _id: ObjectId('5a9427648b0beebeb69579cc'),
    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 molestias. Voluptate unde nulla temporibus ullam.',
    date: ISODate('2012-03-26T23:20:16.000Z')
  },
  {
    _id: ObjectId('5a9427648b0beebeb69579cf'),
    name: 'Greg Powell',
    email: 'greg_powell@fakegmail.com',
    movie_id: ObjectId('573a1390f29313caabcd41b1'),
    text: 'Tenetur dolorum molestiae ea. Eligendi praesentium unde quod porro. Commodo nisi sit placeat rerum vero cupiditate neque. Dolorum nihil vero animi.',
    date: ISODate('1987-02-10T00:29:36.000Z')
  }
]
```

- Quants usuaris tenim registrats?

Respuesta: Hay 185 usuarios.

```
db.users.countDocuments()
```

```
tarea_s9> db.users.countDocuments()  
185
```

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

Respuesta: Hay 169 cinemas.

```
db.theaters.countDocuments({"location.address.state": "CA"})
```

```
tarea_s9> db.theaters.countDocuments({"location.address.state": "CA"})  
169
```

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

```
db.users.find().limit(1)
```

```
tarea_s9> db.users.find().limit(1)  
[  
  {  
    _id: ObjectId('59b99db4cfa9a34cd7885b6'),  
    name: 'Ned Stark',  
    email: 'sean_bean@gomeofthron.es',  
    password: '$2b$12$UREFwsRUoyF0CRqGNK0Lz00HM/jLhgUCNNIj9RJAqMUQ74crlJ1Vu'  
  }  
]
```

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

Respuesta: Hay 7,002 películas.

```
db.movies.countDocuments({genres:{$in:["Comedy"]}, type:"movie"})
```

```
tarea_s9> db.movies.countDocuments({genres:{$in:["Comedy"]}, type:"movie"})  
7002
```

## Exercici 2

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

Aquí con Visual Studio Code solo mostrar el primer documento con "limit(1)" porque son muchos documentos largos.

```
db.movies.find({type:"movie", year: 1932, $or: [{genres: {$in:["Drama"]}}, {languages: {$in:["French"]}}]}).limit(1)
```

```
tarea_s9> db.movies.find({type:"movie", year: 1932, $or: [{genres: {$in:["Drama"]}}, {languages: {$in:["French"]}}]}).limit(1)
[
  {
    _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 starts talking. The artist tries to wipe it away with his hand, but when he looks... ',
    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/MV5BYWY3ODE5ZWEtYjlmYi00NjA4LTk4ZWYtMzBhZDE5MjY0YTYxkEyXkFqcGdeQXVyNzI4MDMyMTU@._V1_SY1000_SX677_AL_.jpg',
    title: 'The Blood of a Poet',
    lastupdated: '2015-09-16 13:13:05.537000000',
    languages: [ 'French' ],
    released: ISODate('2010-05-20T00:00:00.000Z'),
    directors: [ 'Jean Cocteau' ],
    writers: [ 'Jean Cocteau' ],
    awards: { wins: 1, nominations: 0, text: '1 win.' },
    year: 1932,
    imdb: { rating: 7.5, votes: 3903, id: 21331 },
    countries: [ 'France' ],
    type: 'movie',
```

En MongoDB Compass se muestra que hay 18 registros que cumplen las condiciones:

```
find({type:"movie", year: 1932, $or: [{genres: {$in:["Drama"]}}, {languages: {$in:["French"]}}]})
```

The screenshot shows the MongoDB Compass interface. At the top, there's a breadcrumb navigation: "tarea\_s9 > tarea\_s9 > movies". To the right is a button labeled "Open MongoDB shell". Below the navigation, there are tabs for "Documents" (23.5K), "Aggregations", "Schema", "Indexes" (1), and "Validation". The "Documents" tab is selected.

Below the tabs, a search bar contains the query: "{type: "movie", year: 1932, \$or: [ ]} Explain Reset Find Options ▾". There are also icons for creating a new document, deleting, and editing.

On the right side of the search bar, there are buttons for "25" (page size), "1 - 18 of 18", and navigation arrows. Below these are buttons for "List" and "Grid" view, and a "Copy" icon.

The main area displays a single movie document:

```

_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
directors: Array (1)
writers: Array (1)
awards: Object
  year: 1932
imdb: Object
countries: Array (1)
  type: "movie"
tomatoes: Object

```

### 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.

Aquí con Visual Studio Code solo mostrar el primer documento con "limit(1)" porque son muchos documentos largos.

```
db.movies.find({type: "movie", countries: {$in:["USA"]}, "awards.wins": {$gte:5, $lte:9}, year: {$gte:2012, $lte:2014}}).limit(1)
```

```
tarea_s9> db.movies.find({type: "movie", countries: {$in:["USA"]}, "awards.wins": {$gte:5, $lte:9}, year: {$gte:2012, $lte:2014}}).limit(1)
[
  {
    _id: ObjectId('573a13acf29313caabd29366'),
    fullplot: "The manager of the negative assets sector of Life magazine, Walter Mitty, has been working for sixteen years for the magazine and has a tedious life, not going anywhere but from his home to his job and vice-versa. He is an escapist, daydreaming into a world of fantasy many times a day. Walter has a crush on the recently hired Cheryl Melhoff but he is too shy to invite her on a date and he is trying to contact her via online dating. The magazine is preparing to release its last printed edition and the loathsome manager of transition Ted Hendricks is preparing an inevitable downsizing over the next few days. Walter has been the liaison between the magazine and the mysterious independent photographer Sean O'Connell who has sent to him a package of negatives and a wallet as a gift for his work. Sean also suggests to the senior management the use of negative 25 for the cover of the last edition. However, Walter cannot find the negative that is missing. Walter has no means to contact Sean and finds a clue that he might be in Greenland. He decides to travel to Greenland to track Sean down in the beginning of an unbelievable adventure.",
    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 on a global journey that turns into an adventure more extraordinary than anything he could have ever imagined.',
    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' ],
    writers: [
      'Steve Conrad (screenplay)',
      'Steve Conrad (screen story by)',
      'James Thurber (based on the short story by)'
    ],
    type: 'movie',
  }
]
```

En MongoDB Compass se muestra que hay 162 registros que cumplen las condiciones:

```
find({type: "movie", countries: {$in:["USA"]}, "awards.wins": {$gte:5, $lte:9}, year: {$gte:2012, $lte:2014}})
```

Documents 23.5K

Aggregations

Schema

Indexes 1

Validation



{type: "movie", countries: {\$in: [

Explain

Reset

Find



Options ▾



25 ▾

1 - 25 of 162



```
_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
  ▶ awards: Object
  ▶ countries: Array (2)
  ▶ cast: Array (4)
  ▶ directors: Array (1)
    runtime: 114
```



## Nivell 2

### Exercici 1

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

Hay 22,841 comentarios.

```
db.comments.aggregate([
{
  $match: {
    email: { $regex: '@gameofthron\.es$' }
  }
}]
```

```
tarea_s9> db.comments.aggregate([
...   {
...     $match: {
...       email: { $regex: '/@gameofthron\.es$/' }
...     }
...   },
...   {
...     $count: "num_comentarios"
...   }
... ])
[ { num_comentarios: 22841 } ]
```

Recuentos para cada usuario:

```
db.comments.aggregate([
{
  $match: {
    email: { $regex: '/@gameofthron\.es$/' }
  }
},
{
  $group: {
    _id: "$email",           // agrupar por email
    totalComments: { $sum: 1 } // recuento de comentarios
  }
},
{
  $sort: { totalComments: -1 } // optional: ordenar por recuento desc
}
])
```

```
tarea_s9> db.comments.aggregate([
...   {
...     $match: {
...       email: { $regex: /@gameofthron\.es$/ }
...     }
...   },
...   {
...     $group: {
...       _id: "$email",                                // agrupar por email
...       totalComments: { $sum: 1 } // recuento de comentarios
...     }
...   },
...   {
...     $sort: { totalComments: -1 } // optional: ordenar por recuento desc
...   }
... ])
...
[
  { _id: 'roger_ashton-griffiths@gameofthron.es', totalComments: 331 },
  { _id: 'nathalie_emmanuel@gameofthron.es', totalComments: 327 },
  { _id: 'jonathan_pryce@gameofthron.es', totalComments: 315 },
```

## 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", // agrupar por zipcode
    totalTheaters: { $sum: 1 }      // recuento de teatros
  }
},
{
  $sort: { totalTheaters: -1 }     // optional: ordenar descending
}
])
```

```
tarea_s9> db.theaters.aggregate([
...   {
...     $match: {
...       "location.address.state": "DC"
...     }
...   },
...   {
...     $group: {
...       _id: "$location.address.zipcode", // agrupar por zipcode
...       totalTheaters: { $sum: 1 } // recuento de teatros
...     }
...   },
...   {
...     $sort: { totalTheaters: -1 } // optional: ordenar descendente
...   }
... ])
[
  { _id: '20016', totalTheaters: 1 },
  { _id: '20010', totalTheaters: 1 },
  { _id: '20002', totalTheaters: 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.

```
db.movies.find({
  directors: "John Landis",
  "imdb.rating": { $gte: 7.5, $lte: 8 },
  type: "movie"
})
```

```
tarea_s9> db.movies.find({
...   directors: "John Landis",
...   "imdb.rating": { $gte: 7.5, $lte: 8 },
...   type: "movie"
... })
[
  {
    _id: ObjectId('573a1397f29313caabce6d94'),
    fullplot: "Faber College has one frat house so disreputable it will take anyone. It has a second one full of white, anglo-saxon, rich young men who are so sanctimonious no one can stand them except Dean Wormer. The dean enlists the help of the second frat to get the boys of Delta House off campus. The dean's plan comes into play just before the homecoming parade to end all parades for all time.",
    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 those trouble-makers have other plans for him.',
    genres: [ 'Comedy' ],
    rated: 'R',
    metacritic: 82,
    title: 'Animal House',
    lastupdated: '2015-09-13 00:02:47.803000000',
    languages: [ 'English', 'Italian' ],
    writers: [ 'Harold Ramis', 'Douglas Kenney', 'Chris Miller' ],
    type: 'movie',
```

En MongoDB Compass se muestra que hay 4 registros que cumplen las condiciones:

```
find({
  directors: "John Landis",
  "imdb.rating": { $gte: 7.5, $lte: 8 },
  type: "movie"
})
```

Documents 23.5K

Aggregations

Schema

Indexes 1

Validation



```
{
  "directors": "John Landis",
  "imdb.rating": { $gte: 7.5, $lt: 8.5 },
  "type": "movie"
}
```



Explain

Reset

Find



Options ▾



25

1 - 4 of 4



```

_id: ObjectId('573a1397f29313caabce6d94')
fullplot: "Faber College has one frat house so disreputable it will take anyone. ..."
  ▶ imdb: Object
    year: 1978
    plot: "At a 1962 college, Dean Vernon Wormer is determined to expel the entir..."
  ▶ 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: Object
    poster: "https://m.media-amazon.com/images/M/MV5BM2M2ZDA4MTYtOGRjMi000Tg5LWI1ZT...)"
    num_mflix_comments: 1
    released: 1978-07-28T00:00:00.000+00:00
  ▶ awards: Object
  ▶ countries: Array (1)
  ▶ cast: Array (4)
  ▶ directors: Array (1)
    runtime: 109
  
```

## Exercici 2

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

Aquí se realiza la consulta con la aplicación MongoDB Compass:

1. Elegir la colección “theaters”.
2. Elegir el panel “Schema”.
3. Elegir el documento “location”.

4. Abrir el campo “geo” y aparece el mapa mostrando todos los cines.

tarea\_s9 > tarea\_s9 > theaters

> Open MongoDB shell

Documents 1.6K Aggregations Schema Indexes 1 Validation

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

[EXPORT SCHEMA](#) This report is based on a sample of 1000 documents. [Learn more](#)

▼ location Document with 2 nested fields.

document

▶ address Document with 5 nested fields.

document

▶ geo coordinates

