

# Tasca S9.01. Consultes amb MongoDB

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

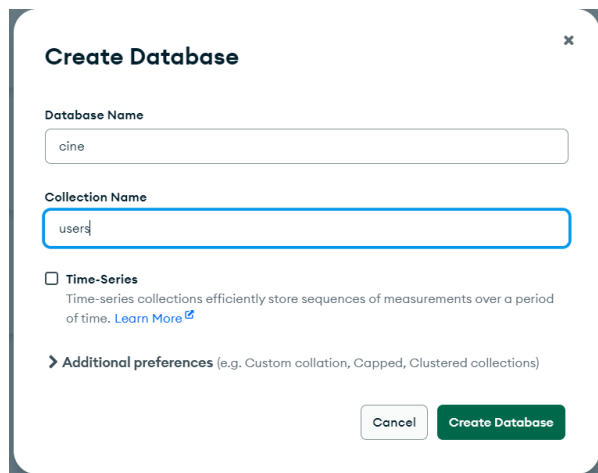
Permet l'ús del text de manera anònima per a millorar el servei de traducció.

- **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.

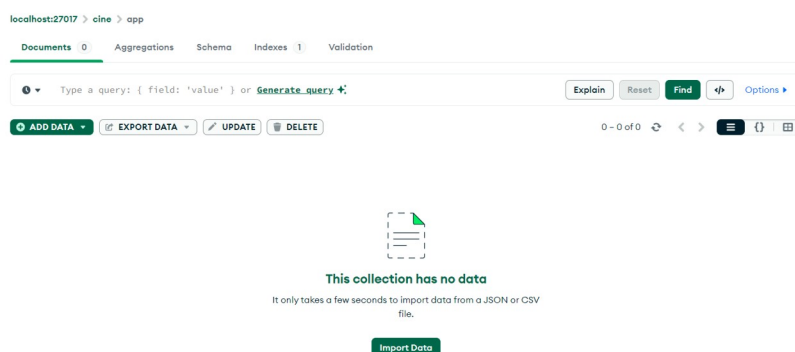
## Nivell 1

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

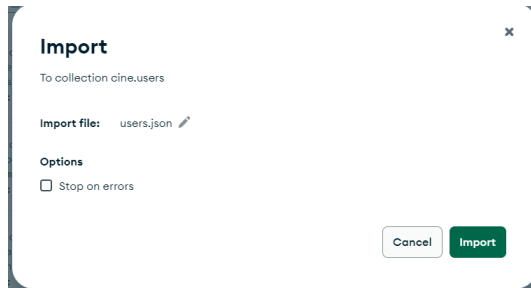
1) Creem una nova base de dades cine amb una col·lecció users.



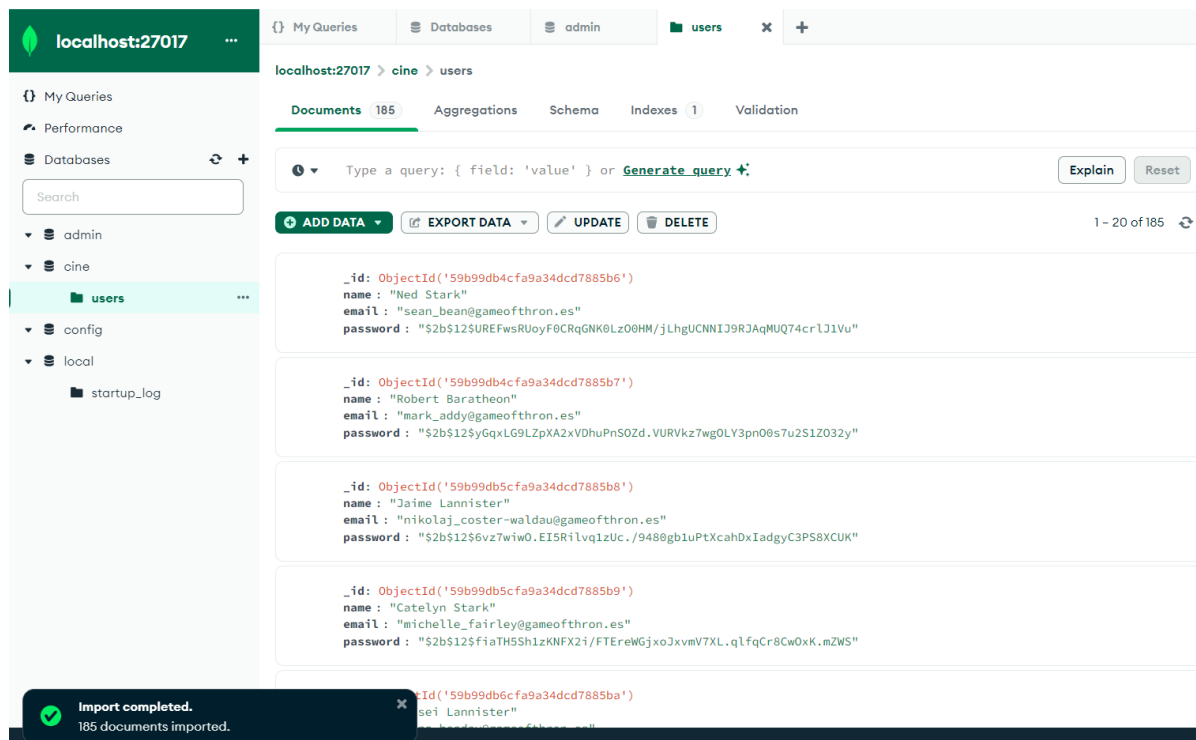
2) S'ha clicat en Import Data per importar el fitxer JSON



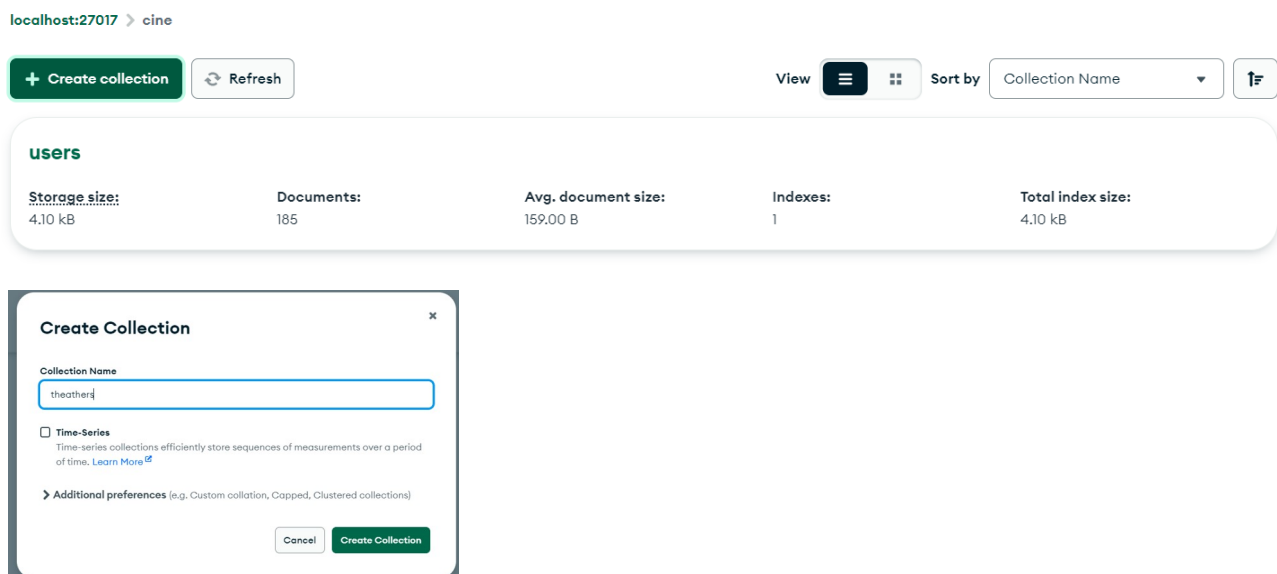
### 3) Primer s' ha importat el fitxer users.json



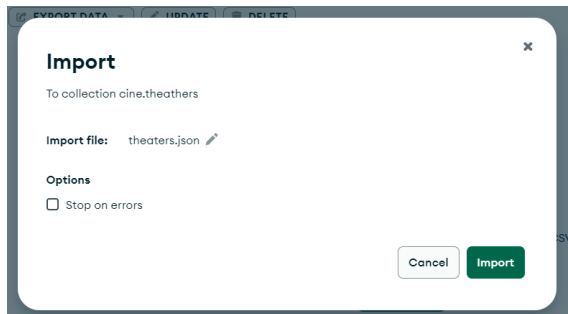
### 4) Es pot veure que s' han importat correctament 185 documents (usuaris).



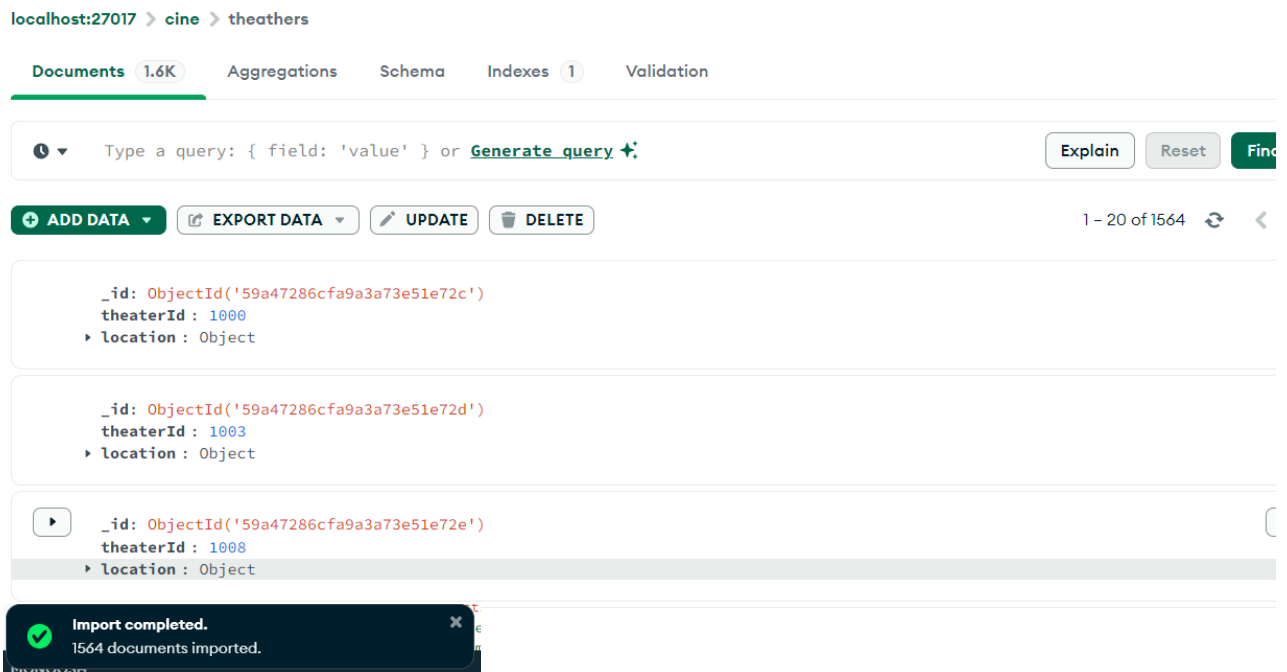
### 5) S' ha clicat en la base de dades per crear una altre col·lecció theathers



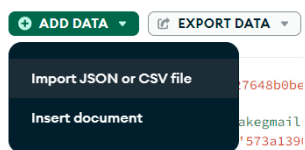
## 5.2 Importem el fitxer theaters.json



## 5.3 Comproven que s' han importat 1564 documents / theaters



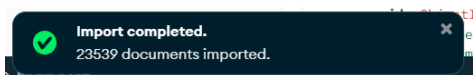
## Fem el mateix amb les altres col·leccions



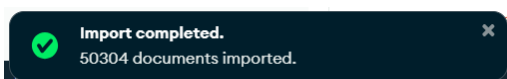
### 5.1) Sessions



### 5.2) Movies



### 5.3) Comments



# Exercici 1

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

localhost:27017 > cine > comments

Documents 50.3K Aggregations Schema Indexes 1 Validation

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

Project { field: 0 }

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

Collation { locale: 'simple' } Skip 0 Limit 2

Index Hint { field: -1 }

[ADD DATA](#) [EXPORT DATA](#) [UPDATE](#) [DELETE](#) 1 - 2 of 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 volupta...",
  "date": 2012-03-26T23:20:16.000+00:00
}
```

```
{
  "_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. Co...",
  "date": 1987-02-10T00:29:36.000+00:00
}
```

1.2) Quants usuaris tenim registrats?

Tenim 185 usuaris registrats

1.2.1) es por veure a la informació de la col·lecció.

localhost:27017 > cine > users

Documents 185 Aggregations

1.2.2) També es pot comprovar fent una consulta en Agregacions

localhost:27017 > cine > users

Documents 185 Aggregations Schema Indexes 1 Validation

\$count

Untitled - modified [SAVE](#) [+ CREATE NEW](#) [EXPORT TO LANGUAGE](#)

Stage 1 \$count

1 'name'|

Output after \$count stage (Sample of 1 document)

```
{
  "name": 185
}
```

### 1.3) Quants cinemes hi ha en l'estat de Califòrnia?

Hi ha 169 cinemes

#### 1.3.1) En pantalla documents

localhost:27017 > cine > theaters

Documents 1.6K Aggregations Schema Indexes 1 Validation

{ "location.address.state": 'CA' }

Generate query Explain Reset Find Options

ADD DATA EXPORT DATA UPDATE DELETE 1 - 20 of 169

```
{
  "_id": ObjectId('59a47286cfa9a3a73e51e72e'),
  "theaterId": 1008,
  "location": {
    "address": {
      "street1": "1621 E Monte Vista Ave",
      "city": "Vacaville",
      "state": "CA",
      "zipcode": "95688"
    },
    "geo": {}
  }
}
```

```
{
  "_id": ObjectId('59a47286cfa9a3a73e51e734'),
  "theaterId": 1009,
  "location": {
    "address": {
      "street1": "6310 E Pacific Coast Hwy",
      "city": "Long Beach",
      "state": "CA",
      "zipcode": "90803"
    },
    "geo": {}
  }
}
```

#### 1.3.2) En pantalla Agregacions

localhost:27017 > cine > theaters

Documents 1.6K Aggregations Schema Indexes 1 Validation

\$match \$count Generate

Untitled - modified SAVE CREATE NEW EXPORT TO LANGUAGE

```
1 [
2   {
3     $match:
4       /**
5        * query: The query in MQL.
6        */
7     {
8       "location.address.state": "CA"
9     }
10  },
11  {
12    $count:
13      /**
14       * Provide the field name for the count.
15       */
16    "theaterid"
17  }
18 ]
```

PIPELINE OUTPUT  
Sample of 1 document

theaterid: 169

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

El primer usuari va ser Ned Stark

Documents 185 Aggregations Schema Indexes 1 Validation

Type a query: { field: 'value' } or [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** 1

**Index Hint** { field: -1 }

[+ ADD DATA](#) [EXPORT DATA](#) [UPDATE](#) [DELETE](#) 1 - 1 of 1 [Menu](#) [JSON](#) [Grid](#)

```
{
  "_id": ObjectId('59b99db4cfa9a34dcd7885b6'),
  "name": "Ned Stark",
  "email": "sean_bean@gameofthron.es",
  "password": "$2b$12$UREFwsRUoyF0CRqGNK0Lz00HM/jLhgUCNNIj9RJAqMUQ74crLj1Vu"
}
```

localhost:27017 > cine > users

Documents 185 Aggregations Schema Indexes 1 Validation

[Limit](#) [Generate aggregation](#) [Explain](#) [Export](#) [Run](#) [Options](#)

Untitled - modified [SAVE](#) [+ CREATE NEW](#) [EXPORT TO LANGUAGE](#) [PREVIEW](#) [STAGES](#) [TEXT](#) [WIZARD](#)

1 {  
2 \$limit:  
3 1  
4 }  
5  
6 }

**PIPELINE OUTPUT**  
Sample of 1 document

```
{
  "_id": ObjectId('59b99db4cfa9a34dcd7885b6'),
  "name": "Ned Stark",
  "email": "sean_bean@gameofthron.es",
  "password": "$2b$12$UREFwsRUoyF0CRqGNK0Lz00HM/jLhgUCNNIj9RJAqMUQ74crLj1Vu"
}
```

## 1.5) Quantes pel·lícules de comèdia hi ha en la nostra base de dades?

Hi ha 7024 pel·lícules de comèdia

### 1.5.1) En pantalla documents

localhost:27017 > cine > movies

Documents 23.5K Aggregations Schema Indexes 1 Validation

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

[+ ADD DATA](#) [EXPORT DATA](#) [UPDATE](#) [DELETE](#) 1 - 20 of 7024 [Menu](#) [JSON](#) [Grid](#)

```
{
  "_id": ObjectId('573a1390f29313caabdc4893'),
  "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/MV5BYzg2NjNhNTctMjUxMi00ZWU4LWI3Zj...",
  "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
  ...
}
```

### 1.3.2) En pantalla Agregacions

Documents23.5K

Agregacions

Schema

Indexes1

Validation

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Untitled – modified

SAVE

+ CREATE NEW

EXPORT TO LANGUAGE

1

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14

```
[
  {
    $match:
      /**
       * query: The query in MQL.
       */
      {
        genres: "Comedy"
      }
  },
  {
    $count: "id"
  }
]
```

PIPELINE OUTPUT

Sample of 1 document

id : 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.

localhost:27017 > cine > movies

Documents23.5K

Agregacions

Schema

Indexes1

Validation

▼

{ \$and: [{ 'year': 1932 }, { \$or: [{ 'genres': 'Drama', 'languages': 'French' }] } ] }

Generate query

Explain

Reset

Find

⌵

ADD DATA

EXPORT DATA

UPDATE

DELETE

1 – 4 of 4

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```
_id: ObjectId('573a1392f29313caabcd9a76')
plot: "In this romance a librarian takes a cruise and falls for an unobtainab..."
  genres: Array (2)
  runtime: 85
  rated: "APPROVED"
  cast: Array (4)
  num_mflix_comments: 3
  poster: "https://m.media-amazon.com/images/M/MV5BMjEzNTU5NTk2N15BMl5BanBnXkFtZT..."
  title: "Forbidden"
  fullplot: "On a cruise to Cuba, Lulu Smith falls in love with Bob Grover. Back ho..."
  languages: Array (2)
    0: "English"
    1: "French"
  released: 1932-01-15T00:00:00.000+00:00
  directors: Array (1)
  writers: Array (2)
  awards: Object
  lastupdated: "2015-09-05 00:24:21.237000000"
  year: 1932
  imdb: Object
  countries: Array (1)
```

✎

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localhost:27017 > cine > movies

Documents23.5K

Agregacions

Schema

Indexes1

Validation

▼

{ \$and: [{ 'year': 1932 }, { \$or: [{ 'genres': 'Drama', 'languages': 'French' }] } ] }

Generate query

Explain

Reset

Find

⌵

Options

ADD DATA

EXPORT DATA

UPDATE

DELETE

1 – 4 of 4

◀

▶

☰

{ }

🗑️

🏠 movies

	_id ObjectId	plot String	genres Array	runtime Int32	rated String	
1	ObjectId('573a1392f29313c...	"In this romance a librar...	[ ] 2 elements	85	"APPROVED"	✎📄🗑️
2	ObjectId('573a1392f29313c...	"A circus' beautiful trap...	[ ] 2 elements	64	"UNRATED"	✎📄🗑️
3	ObjectId('573a1392f29313c...	No field	[ ] 1 elements	91	No field	✎📄🗑️
4	ObjectId('573a1392f29313c...	"Many passengers on the S...	[ ] 3 elements	82	"PASSED"	✎📄🗑️

### 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.

Hi ha 166 pel·lícules

localhost:27017 > cine > movies

Documents 23.5K Aggregations Schema Indexes 1 Validation

🔍

{ \$and: [{ 'countries': 'USA' }, { 'awards.wins': { \$gte: 5 } }, { 'awards.wins': { \$lte: 9 } }, { 'year': { \$gte: 2012 } }, { 'year': { \$lte: 2014 } } ] }

🔗 Generate query ⚡

Explain

Reset

➕ ADD DATA ▾

📄 EXPORT DATA ▾

✎ UPDATE

🗑 DELETE

1 - 20 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)
type: "movie"
tomatoes: Object
poster: "https://m.media-amazon.com/images/M/MV5BODYwNDYxNDk1N15BMl5BanBnXkFtZT..."
num_mflix_comments: 1
released: 2013-12-25T00:00:00.000+00:00
awards: Object
  wins: 6
  nominations: 13
  text: "6 wins & 13 nominations."
countries: Array (2)
cast: Array (4)
directors: Array (1)
runtime: 114
```

localhost:27017 > cine > movies

Documents 23.5K Aggregations Schema Indexes 1 Validation

🔍

{ \$and: [{ 'countries': 'USA' }, { 'awards.wins': { \$gte: 5 } }, { 'awards.wins': { \$lte: 9 } }, { 'year': { \$gte: 2012 } }, { 'year': { \$lte: 2014 } } ] }

🔗 Generate query ⚡

Explain

Reset

Find

➕ ADD DATA ▾

📄 EXPORT DATA ▾

✎ UPDATE

🗑 DELETE

1 - 20 of 166 ↻ ⏪

🏠 movies

	_id	ObjectId	fullplot	String	imdb	Object	year	Int32	plot	String	genres	A
1	ObjectId('573a13acf29313c...		"The manager of the negat...		{}	3 fields	2013		"When his job along with ...		[ ]	3 ele
2	ObjectId('573a13b5f29313c...		"The Croods is a prehisto...		{}	3 fields	2013		"After their cave is dest...		[ ]	3 ele
3	ObjectId('573a13b9f29313c...		"In 1938, the young girl ...		{}	3 fields	2013		"While subjected to the h...		[ ]	2 ele
4	ObjectId('573a13b9f29313c...		"Life for former United N...		{}	3 fields	2013		"United Nations employee ...		[ ]	3 ele
5	ObjectId('573a13b9f29313c...		"In 1999, the Janjira nuc...		{}	3 fields	2014		"The world is beset by th...		[ ]	3 ele
6	ObjectId('573a13bbf29313c...		"The story of the 1973 ho...		{}	3 fields	2013		"The story of the 1973 ho...		[ ]	3 ele
7	ObjectId('573a13bcf29313c...		"In 1959, Alfred Hitchcoc...		{}	3 fields	2012		"A love story between inf...		[ ]	2 ele
8	ObjectId('573a13bef29313c...		"Marcus Luttrell, a Navy ...		{}	3 fields	2013		"Marcus Luttrell and his ...		[ ]	3 ele
9	ObjectId('573a13c1f29313c...		"The true story of Paul P...		{}	3 fields	2013		"The true story of Paul P...		[ ]	3 ele
10	ObjectId('573a13c1f29313c...		"In the 1930s, an elderly...		{}	3 fields	2013		"Native American warrior ...		[ ]	3 ele
11	ObjectId('573a13c1f29313c...		"20 years after attemptin...		{}	3 fields	2013		"Five friends who reunite...		[ ]	3 ele
12	ObjectId('573a13c1f29313c...		"While still in his teens...		{}	3 fields	2012		"While in his teens, Donn...		[ ]	1 ele
13	ObjectId('573a13c1f29313c...		"In high school, Schmidt ...		{}	3 fields	2012		"A pair of underachieving...		[ ]	3 ele
14	ObjectId('573a13c2f29313c...		"A stifled, small-town ma...		{}	3 fields	2012		"A stifled, small-town ma...		[ ]	2 ele
15	ObjectId('573a13c2f29313c...		"In the early 1940s, Al...		{}	3 fields	2012		"A murder in 1944 drew t...		[ ]	3 ele



## Nivell 2

### Exercici 1

#### - Exercici 1

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

Hi ha 83 usuaris

##### 1.1.1) En pantalla Documents

localhost:27017 > cine > users

Documents 185 Aggregations Schema Indexes 1 Validation

{ "email": /.gameofthron.es./ }

Generate query Explain Reset Find

ADD DATA EXPORT DATA UPDATE DELETE

1 - 20 of 83

```
{
  "_id": ObjectId('59b99db4cfa9a34dcd7885b6'),
  "name": "Ned Stark",
  "email": "sean_bean@gameofthron.es",
  "password": "$2b$12$UREFwsRUoyF0CRqGNK0Lz00HM/jLhgUCNNIj9RJaqMUQ74cr1J1Vu"
}
```

```
{
  "_id": ObjectId('59b99db4cfa9a34dcd7885b7'),
  "name": "Robert Baratheon",
  "email": "mark_addy@gameofthron.es",
  "password": "$2b$12$yGqxLG9LZpXA2xVDhuPnSOZd.VURVxz7wgOLY3pn00s7u2S1Z032y"
}
```

```
{
  "_id": ObjectId('59b99db5cfa9a34dcd7885b8'),
  "name": "Jaime Lannister",
  "email": "nikolaj_coster-waldau@gameofthron.es",
  "password": "$2b$12$6vz7wiw0.EI5Rilvq1zUc./9480gb1uPtXcahDxIadgyC3PS8XCUK"
}
```

```
{
  "_id": ObjectId('59b99db5cfa9a34dcd7885b9'),
  "name": "Catelyn Stark",
  "email": "michelle_fairley@gameofthron.es",
  "password": "$2b$12$fiTH5Sh1zKNFX2i/FTerEWGjxoJxvmV7XL.q1fqCr8CwOxK.mZWS"
}
```

##### 1.1.2) En pantalla Agregacions

localhost:27017 > cine > users

Documents 185 Aggregations Schema Indexes 1 Validation

Smatch Scount Generate query

Untitled - modified SAVE CREATE NEW EXPORT TO LANGUAGE

```
1 [
2   {
3     $match:
4       /**
5        * query: The query in MQL.
6        */
7     {
8       email: /.gameofthron.es./
9     }
10  },
11  {
12    $count:
13      /**
14       * Provide the field name for the count.
15       */
16      "id"
17  }
18 ]
```

PIPELINE OUTPUT

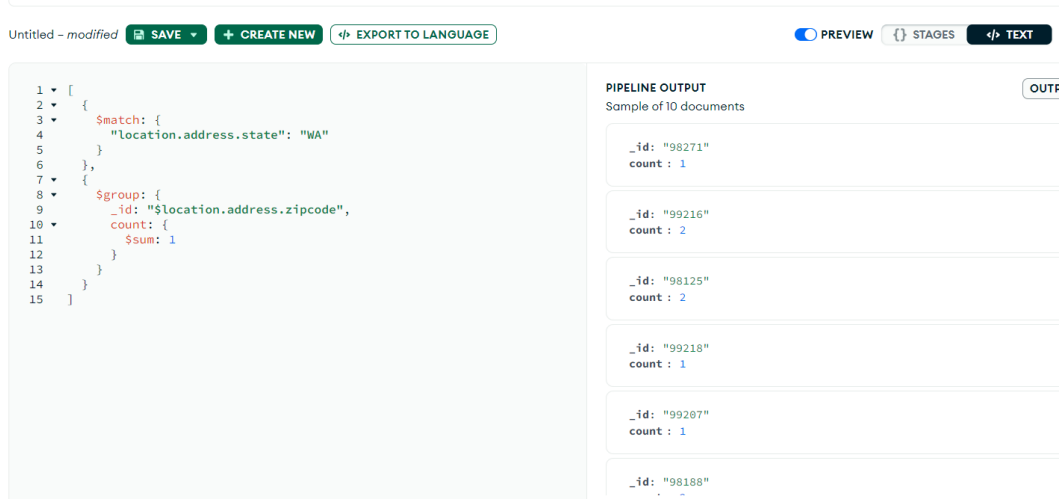
Sample of 1 document

id : 83

## Exercici 2

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

2.1) S'ha utilitzat la pestanya Agregacions per generar la consulta



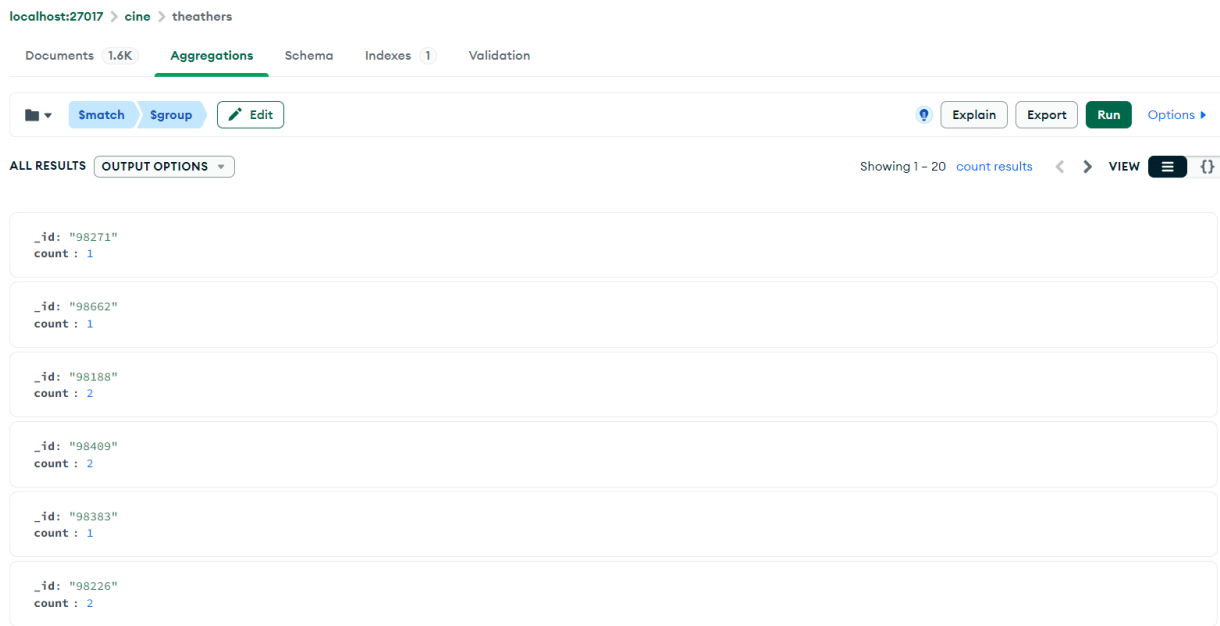
The screenshot shows a MongoDB query editor interface. On the left, a JSON aggregation pipeline is defined:

```
1 [
2   {
3     $match: {
4       "location.address.state": "WA"
5     }
6   },
7   {
8     $group: {
9       _id: "$location.address.zipcode",
10      count: {
11        $sum: 1
12      }
13    }
14  }
15 ]
```

On the right, the 'PIPELINE OUTPUT' section shows a sample of 10 documents:

_id	count
"98271"	1
"99216"	2
"98125"	2
"99218"	1
"99267"	1
"98188"	1

2.2) Numero de cinemes per codi postal



The screenshot shows the 'Aggregations' tab in a MongoDB interface. The breadcrumb path is 'localhost:27017 > cine > theaters'. The 'Aggregations' tab is selected, showing a list of documents with the following structure:

_id	count
"98271"	1
"98662"	1
"98188"	2
"98489"	2
"98383"	1
"98226"	2

# 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.

Hi ha 4 pel·lícules

localhost:27017 > cine > movies

Documents 23.5K

Aggregations

Schema

Indexes 1

Validation

🔍

```
{ $and: [{ directors: "John Landis"}, {"imdb.rating": { $gte: 7.5 }}, {"imdb.rating": { $lte: 8 }}]}
```

🔔

Generate query

⚡

Explain

Res

➕ ADD DATA

📄 EXPORT DATA

✎ UPDATE

🗑 DELETE

1 - 4 of 4

```
_id: ObjectId('573a1397f29313caabce6d94')
fullplot: "Faber College has one frat house so disreputable it will take anyone. ..."
imdb: Object
  rating: 7.6
  votes: 84834
  id: 77975
year: 1978
plot: "At a 1962 college, Dean Vernon Wormer is determined to expel the entire..."
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/MV5BM2M2ZDA4MTYtOGRjMi00OTg5LWI1ZT..."
  num_mflix_comments: 1
  released: 1978-07-28T00:00:00.000+00:00
awards: Object
countries: Array (1)
cast: Array (4)
directors: Array (1)
  0: "John Landis"
runtime: 109
```

localhost:27017 > cine > movies

Documents 23.5K

Aggregations

Schema

Indexes 1

Validation

🔍

```
{ $and: [{ directors: "John Landis"}, {"imdb.rating": { $gte: 7.5 }}, {"imdb.rating": { $lte: 8 }}]}
```

🔔

Generate query

⚡

Explain

Reset

Find

⏪

➕ ADD DATA

📄 EXPORT DATA

✎ UPDATE

🗑 DELETE

1 - 4 of 4

🏠 movies

	_id ObjectId	fullplot String	imdb Object	year Int32	plot String	genres Array
1	ObjectId('573a1397f29313c...	"Faber College has one fr...	{ } 3 fields	1978	"At a 1962 college, Dean ...	[ ] 1 elements
2	ObjectId('573a1397f29313c...	"After the release of Jak...	{ } 3 fields	1980	"Jake Blues, just out fro...	[ ] 3 elements
3	ObjectId('573a1397f29313c...	"Two American college stu...	{ } 3 fields	1981	"Two American college stu...	[ ] 2 elements
4	ObjectId('573a1398f29313c...	"Louis Winthorpe is a bus...	{ } 3 fields	1983	"A snobbish investor and ...	[ ] 1 elements

## Exercici 2

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

Per veure la ubicació anem a la pestanya schema, apartat geo

