

# Ejercicios Sesión 5

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## Ejercicios Sesión 5.

Las consultas se realizarán sobre la base *sample\_training*.

Todas las consultas que realices deberás mantenerlas dentro del *MongoDB Compass*. Para hacer esto, da clic en el botón con los puntos y en *Toogle Query History*. Busca la última consulta y agregala a favoritos presionando el ícono con la estrella ★.

1. Obtén los datos de contacto de cada compañía.

**Respuesta:**

sample_training.companies			
Documents			
Aggregations			
Schema			
Explain Plan			
Indexes			
FILTER			
PROJECT {email_address: 1, phone_number: 1, name: 1, _id: 0}			
SORT			
MAXTIMEMS 5000			
COLLATION			
SKIP 0			
LIMIT 0			
ADD DATA			
VIEW			
Displaying documents 1 - 20 of 9500			
REFRESH			
companies			
	_id ObjectId	name String	permalink String
1	52cdef7c4bab8bd675297d8a	"wetpaint"	"abc2"
2	52cdef7c4bab8bd675297d8e	"Facebook"	"facebook"
3	52cdef7c4bab8bd675297d8f	"Omnidrive"	"omnidrive"
4	52cdef7c4bab8bd675297d94	"Twitter"	"twitter"
5	52cdef7c4bab8bd675297d95	"StumbleUpon"	"stumbleupon"
6	52cdef7c4bab8bd675297d97	"Scribd"	"scribd"
7	52cdef7c4bab8bd675297d98	"Slacker"	"slacker"
8	52cdef7c4bab8bd675297d9e	"CBS"	"cbs"

Figura 1: Datos de contacto de cada compañía

2. Obtén el identificador de la clase de cada calificación.

**Respuesta:**

The screenshot shows the MongoDB Compass interface for the 'sample\_training.grades' collection. The 'Documents' tab is selected, and the 'PROJECT' stage is configured with the query '{class\_id: 1, \_id: 0}'. The 'MAXTIMES' is set to 5000, 'SKIP' is 0, and 'LIMIT' is 0. The interface displays a list of documents with 'class\_id' values: 339, 350, 149, 39, and 391. The right sidebar shows the 'ejercicio2 sesion5' project name and the 'PROJECT' stage configuration.

class_id
339
350
149
39
391

Figura 2: Identificador de la clase de cada calificación

3. Obtén el nombre de todas las compañías fundadas en octubre.

**Respuesta:**

The screenshot shows the MongoDB Compass interface for the 'sample\_training.companies' database. The 'Documents' tab is active, displaying a table of 9 documents. The query editor on the right shows a filter stage with the condition '{founded\_month: 10}' and a project stage with the condition '{founded\_month: 1, name: 1, \_id: 0}'. The table of results is as follows:

	name String	founded_month Int32
1	"Wetpaint"	10
2	"Powerset"	10
3	"TheFind"	10
4	"TechnologyGuide"	10
5	"Techmeme"	10
6	"Tagged"	10
7	"Techstars"	10
8	"Revver"	10
9	"Splashup"	10

Right sidebar content:

- ejercicio3 sesion5**  
FILTER: {founded\_month: 10}  
PROJECT: {founded\_month: 1, name: 1, \_id: 0}
- ejercicio1 sesion5**  
PROJECT: {email\_address: 1, phone\_number: 1, name: 1, \_id: 0}
- ejercicio8 sesion5**  
FILTER: {number\_of\_employees: {

Figura 3: Nombre de todas las compañías fundadas en octubre

4. Obtén el nombre de todas las compañías fundadas en 2008.

**Respuesta:**

sample\_training.companies

Documents Aggregations Schema Explain Plan Indexes

**FILTER** {founded\_year: 2008} **OPTIONS** **FIND** **RESET** ...

**PROJECT** {founded\_year: 1, name: 1, \_id: 0}

**SORT** **MAXTIMEMS** 5000

**COLLATION** **SKIP** 0 **LIMIT** 0

VIEW { } REFRESH

Displaying documents 1 - 20 of 1224

**companies**

	name String	founded_year Int32
1	"OpenX"	2008
2	"WonderHowTo"	2008
3	"First30Days"	2008
4	"Mibura"	2008
5	"Tvosz"	2008
6	"Tryptuber"	2008
7	"Unknown Vector"	2008
8	"HealthcareMagic"	2008
9	"HEXIO"	2008

**ejercicio4 sesion5**

**FILTER**

```
{
  founded_year: 2008
}
```

**PROJECT**

```
{
  founded_year: 1,
  name: 1,
  _id: 0
}
```

**ejercicio3 sesion5**

**FILTER**

```
{
  founded_month: 10
}
```

**PROJECT**

```
{
  founded_month: 1,
  name: 1,
  _id: 0
}
```

**ejercicio1 sesion5**

Figura 4: Nombre de todas las compañías fundadas en 2008.

5. Obtén todos los post del autor *machine*.

Respuesta:

sample\_training.posts

Documents Aggregations Schema Explain Plan Indexes

FILTER {author: "machine"} OPTIONS FIND RESET ...

PROJECT

SORT MAXTIMES 5000

COLLATION SKIP 0 LIMIT 0

ADD DATA VIEW {} Refresh

Displaying documents 1 - 20 of 500

posts

	_id ObjectId	body String	permalink String	
1	50ab0f8bbcf1bfe2536dc3f9	"Amendment I <p>Congress sha	"aRjNnLZkJKtYspAIoRGe"	
2	50ab0f8bbcf1bfe2536dc3fa	"We the People of the United	"jNsgObowWyKEoXNydtis"	
3	50ab0f8bbcf1bfe2536dc3fb	"Four score and seven years	"ekc0GzzbyQzUPThSxRFU"	
4	50ab0f8bbcf1bfe2536dc401	"We the People of the United	"TqqqKUqDbczgNTKX0jeH"	
5	50ab0f8bbcf1bfe2536dc402	"Amendment I <p>Congress sha	"jqacZZtTzuMFxTLZNkrH"	
6	50ab0f8bbcf1bfe2536dc403	"We the People of the United	"mzRnhUaDUqVmFZZaPPUy"	
7	50ab0f8bbcf1bfe2536dc406	"We the People of the United	"GTSSwcmSztqTinkXDADP"	
8	50ab0f8bbcf1bfe2536dc40b	"Amendment I <p>Congress sha	"HKMCDonfjpXsVwErqiCL"	

ejercicio5 sesion5

FILTER

```
{
  author: 'machine'
}
```

Figura 5: Todos los post del autor *machine*

6. Obtén todas las calificaciones provenientes de los grupos 357, 57 y 465.

Respuesta:

The screenshot shows the MongoDB Compass interface for a database named 'sample\_training.grades'. The 'Documents' tab is active. A filter is applied: `{ $or: [ { class_id: 357 }, { class_id: 57 }, { class_id: 465 } ] }`. The results show a list of documents. The first document is expanded, showing the following structure:

```
{
  "_id": ObjectId("56d5f7eb604eb389b0d8d8d4"),
  "student_id": 0,
  "scores": Array
    0: Object
      type: "exam"
      score: 20.2317531451231
    1: Object
      type: "quiz"
      score: 97.5705578455598
    2: Object
      type: "homework"
      score: 15.645222266486435
    3: Object
      type: "homework"
      score: 21.03830820968486
  "class_id": 57
}
```

On the right side, there are two panels showing JSON snippets:

**ejercicio6 sesion5**

```
{
  $or: [
    {
      class_id: 357
    },
    {
      class_id: 57
    },
    {
      class_id: 465
    }
  ]
}
```

**ejercicio2 sesion5**

```
{
  class_id: 1,
  _id: 0
}
```

Figura 6: Todas las calificaciones provenientes de los grupos 357, 57 y 465.

7. Obtén todas las compañías fundadas en octubre del 2008.

Respuesta:

sample\_training.companies

Documents Aggregations Schema Explain Plan Indexes

FILTER {founded\_year: 2008, founded\_month: 10} OPTIONS FIND RESET ...

PROJECT

SORT MAXTIMES 5000

COLLATION SKIP 0 LIMIT 0

ADD DATA VIEW { } Refresh

Displaying documents 1 - 20 of 63

companies

	name String	founded_year Int32	founded_month Int32	
1	"tunesBag"	2008	10	
2	"Muecs"	2008	10	
3	"Rush Hour"	2008	10	
4	"OUTSHOUTS"	2008	10	
5	"RealScoop"	2008	10	
6	"BrushVideo"	2008	10	
7	"StellarSurvey"	2008	10	
8	"CampusBuddy"	2008	10	

ejercicio7 sesion5

FILTER

```
{
  founded_year: 2008,
  founded_month: 10
}
```

ejercicio4 sesion5

FILTER

```
{
  founded_year: 2008
}
```

PROJECT

```
{
  founded_year: 1,
  name: 1,
  _id: 0
}
```

ejercicio3 sesion5

FILTER

```
{
  founded_month: 10
}
```

Figura 7: Todas las compañías fundadas en octubre del 2008.

8. Obtén todas las compañías con más de 50 empleados.

Respuesta:

The screenshot displays the MongoDB Compass interface for a database named 'sample\_training'. The 'companies' collection is selected, and a filter query is applied: `{number_of_employees: {$gt: 50}}`. The results are shown in a table with columns: `_id` (ObjectId), `number_of_employees` (Int32), and `name` (String). The table lists 8 companies, all of which have more than 50 employees. The interface also includes a sidebar with exercises and a top navigation bar with tabs for Documents, Aggregations, Schema, Explain Plan, and Indexes.

	<code>_id</code> ObjectId	<code>number_of_employees</code> Int32	<code>name</code> String
1	52cdef7c4bab8bd675297d8e	5299	"Facebook"
2	52cdef7c4bab8bd675297d94	1300	"Twitter"
3	52cdef7c4bab8bd675297da2	63000	"Cisco"
4	52cdef7c4bab8bd675297da3	13600	"Yahoo!"
5	52cdef7c4bab8bd675297da4	60	"Powerset"
6	52cdef7c4bab8bd675297da7	120	"AddThis"
7	52cdef7c4bab8bd675297da8	305	"OpenX"
8	52cdef7c4bab8bd675297db2	75	"Meetup"

**ejercicio8 sesion5**

FILTER

```
{
  number_of_employees: {
    $gt: 50
  }
}
```

**ejercicio7 sesion5**

FILTER

```
{
  founded_year: 2008,
  founded_month: 10
}
```

**ejercicio4 sesion5**

FILTER

```
{
  founded_year: 2008
}
```

PROJECT

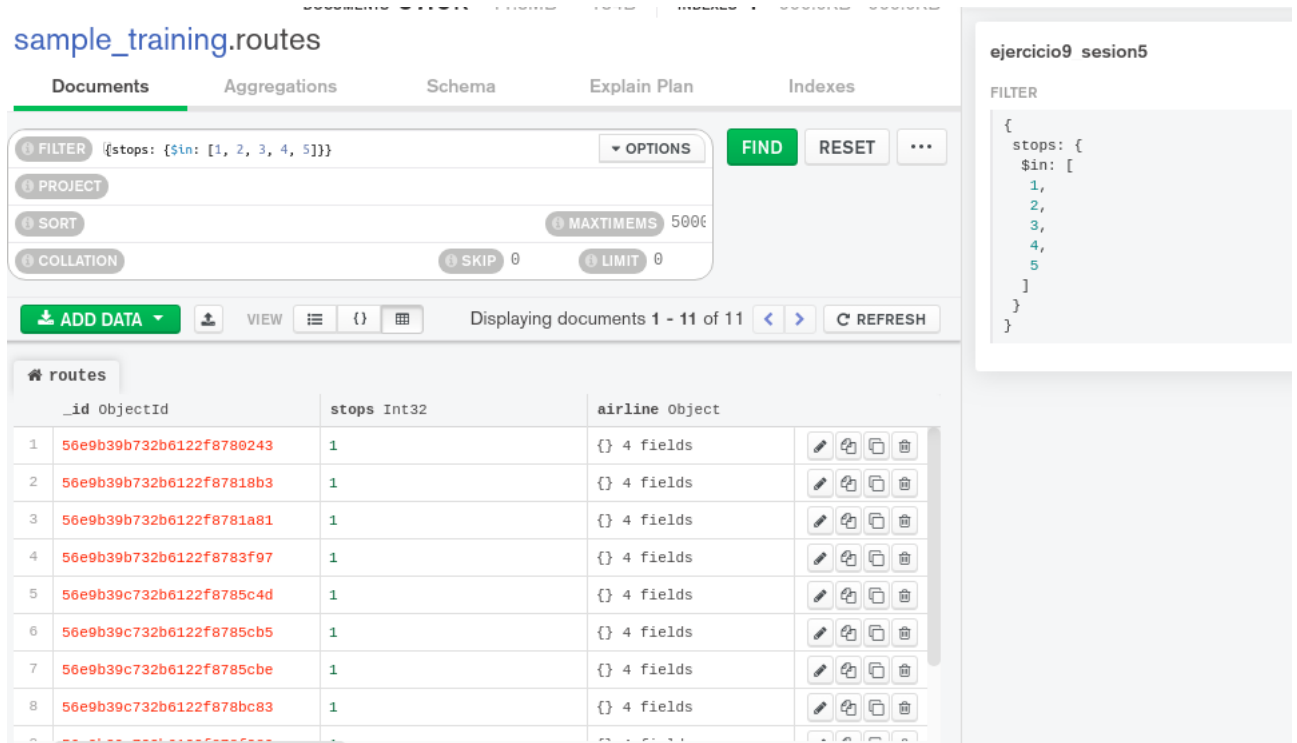
```
{
  founded_year: 1,
  name: 1,
}
```

Figura 8: Obtén todas las compañías con más de 50 empleados.



9. Obtén las rutas con un número de paradas entre 1 y 5.

Respuesta:



The screenshot displays the MongoDB Compass interface for a collection named `sample_training.routes`. The `Documents` tab is active. A filter query is entered: `{stops: {$in: [1, 2, 3, 4, 5]}}`. The results table shows 8 documents, all with 1 stop. A sidebar on the right shows the query in JSON format.

	_id ObjectId	stops Int32	airline Object
1	56e9b39b732b6122f8780243	1	{ 4 fields
2	56e9b39b732b6122f87818b3	1	{ 4 fields
3	56e9b39b732b6122f8781a81	1	{ 4 fields
4	56e9b39b732b6122f8783f97	1	{ 4 fields
5	56e9b39c732b6122f8785c4d	1	{ 4 fields
6	56e9b39c732b6122f8785cb5	1	{ 4 fields
7	56e9b39c732b6122f8785cbe	1	{ 4 fields
8	56e9b39c732b6122f878bc83	1	{ 4 fields

```
{
  stops: {
    $in: [
      1,
      2,
      3,
      4,
      5
    ]
  }
}
```

Figura 9: Las rutas con un número de paradas entre 1 y 5.

10. Obtén la empresa con el menor número de empleados.

**Respuesta:**

The screenshot shows the MongoDB Compass interface for a database named `sample_training.companies`. The `Documents` tab is active. The query bar contains the following filter: `{ $and: [{ number_of_employees: { $ne: null } }, { number_of_employees: { $lte: 1 } } ] }`. The `PROJECT` field is set to `{ number_of_employees: 1, _id: 0 }`. The `SORT` field is set to `{ number_of_employees: 1 }`. The `MAXTIMES` field is set to `5000`. The `SKIP` field is set to `0` and the `LIMIT` field is set to `1`. The `FIND` button is highlighted. The results pane shows one document: `{ number_of_employees: 1 }`. The right sidebar shows the `Past Queries` tab with a query named `sesion5 ejercicio10` and its corresponding filter: `{ $and: [ { number_of_employees: { $ne: null } }, { number_of_employees: { $lte: 1 } } ] }`.

Figura 10: Empresa con el menor número de empleados.

11. Obtén la empresa con el mayor número de empleados.

**Respuesta:**

The screenshot shows the MongoDB Compass interface for a database named 'sample\_training'. The collection 'companies' is selected. The query builder on the left shows a sort operation on 'number\_of\_employees' in descending order (-1) with a limit of 1. The query is executed, and the results are displayed in a table. The first result is a document with '\_id' '52cdef7c4bab8bd67529856a', 'number\_of\_employees' 388000, and 'name' 'IBM'. On the right, the query plan for 'ejercicio11 sesion5' is shown, indicating a sort operation and a limit of 1.

DOCUMENTS 9.5k 34.8MB 3.7KB | INDEXES 1 112.0KB 112.0KB

sample\_training.companies

Documents Aggregations Schema Explain Plan Indexes

FILTER PROJECT SORT {number\_of\_employees: -1} MAXTIMEMS 5000 COLLATION SKIP 0 LIMIT 1

ADD DATA VIEW { } Refresh

companies

	_id ObjectId	number_of_employees Int32	name String
1	52cdef7c4bab8bd67529856a	388000	"IBM"

ejercicio11 sesion5

SORT

```
{
  number_of_employees: -1
}
```

LIMIT

```
1
```

ejercicio10 sesion5

FILTER

```
{
  number_of_employees: {
    $ne: null
  }
}
```

Figura 11: Empresa con el mayor número de empleados.

12. Obtén el viaje con mayor duración.

Respuesta:

The screenshot shows the MongoDB Compass interface for the `sample_training.trips` collection. The `Documents` tab is active. The query builder shows a `SORT` operation with the field `tripduration` and the sort order `-1` (descending). The `MAXTIMEMS` is set to 5000 and the `LIMIT` is 1. The `FIND` button is highlighted. The results pane shows a single document with the following fields:

```
{
  "_id": ObjectId("572bb8222b288919b68ac07c"),
  "tripduration": 326222,
  "start station id": 391,
  "start station name": "Clark St & Henry St",
  "end station id": 310,
  "end station name": "State St & Smith St",
  "bikeid": 18591,
  "usertype": "Subscriber",
  "birth year": 1979,
  "gender": 1,
  "start station location": Object,
  "end station location": Object,
  "start time": "2016-01-01T00:58:20.000+00:00",
  "stop time": "2016-01-04T19:35:23.000+00:00"
}
```

On the right side, the `ejercicio12 sesion5` panel shows the query and limit settings:

```
SORT
{
  tripduration: -1
}

LIMIT
1
```

Figura 12: El viaje con mayor duración.

13. Obtén el viaje con menor duración.

Respuesta:

The screenshot shows the MongoDB Compass interface for the `sample_training.trips` collection. The `Documents` tab is active. The query bar shows a `SORT` operation with the field `tripduration` and an ascending order (indicated by `1`). The `MAXTIMEMS` is set to `5000`. The `SKIP` is `0` and the `LIMIT` is `1`. The `FIND` button is highlighted in green. Below the query bar, the first document is displayed in a JSON format:

```
{
  "_id": ObjectId("572bb822b288919b68ac2d4"),
  "tripduration": 61,
  "start station id": 3150,
  "start station name": "E 85 St & York Ave",
  "end station id": 3150,
  "end station name": "E 85 St & York Ave",
  "bikeid": 22299,
  "usertype": "Subscriber",
  "birth year": 1989,
  "gender": 1,
  "start station location": Object,
  "end station location": Object,
  "start time": "2016-01-01T02:43:19.000+00:00",
  "stop time": "2016-01-01T02:44:21.000+00:00"
}
```

On the right side, there are two panels for query configuration:

- ejercicio13 sesion5**: Shows the `SORT` operation as `{ tripduration: 1 }` and the `LIMIT` as `1`.
- ejercicio12 sesion5**: Shows the `SORT` operation as `{ tripduration: -1 }` and the `LIMIT` as `1`.

Figura 13: El viaje con menor duración.