

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

COLLATION

OPTIONS

MAXTIMEMS 5000

SKIP 0

LIMIT 0

FIND

RESET

...

ADD DATA

VIEW

Displaying documents 1 - 20 of 9500

REFRESH

companies

	_id ObjectId	name String	permalink String	
1	52cdef7c4bab8bd675297d8a	"Wetpaint"	"abc2"	<div><div></div><div></div><div></div><div></div></div>
2	52cdef7c4bab8bd675297d8e	"Facebook"	"facebook"	<div><div></div><div></div><div></div><div></div></div>
3	52cdef7c4bab8bd675297d8f	"Omnidrive"	"omnidrive"	<div><div></div><div></div><div></div><div></div></div>
4	52cdef7c4bab8bd675297d94	"Twitter"	"twitter"	<div><div></div><div></div><div></div><div></div></div>
5	52cdef7c4bab8bd675297d95	"StumbleUpon"	"stumbleupon"	<div><div></div><div></div><div></div><div></div></div>
6	52cdef7c4bab8bd675297d97	"Scribd"	"scribd"	<div><div></div><div></div><div></div><div></div></div>
7	52cdef7c4bab8bd675297d98	"Slacker"	"slacker"	<div><div></div><div></div><div></div><div></div></div>
8	52cdef7c4bab8bd675297d9e	"CBS"	"cbs"	<div><div></div><div></div><div></div><div></div></div>

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, and the 'LIMIT' is 0. The 'SKIP' 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 documents from the 'companies' collection. The table has two columns: 'name String' and 'founded_month Int32'. The documents are filtered by 'founded_month: 10' (October). The right sidebar shows the query editor with a filter stage and a project stage.

	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

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 bar contains the query: `{ $or: [{ class_id: 357 }, { class_id: 57 }, { class_id: 465 }] }`. Below the filter bar, there are buttons for 'PROJECT', 'SORT', 'COLLATION', 'MAXTIMES', 'SKIP', and 'LIMIT'. The main area displays a list of documents, with the first document expanded to show its structure: `{ _id: ObjectId("56d5f7eb604eb389b0d8d8d4"), student_id: 0, scores: [{ type: "exam", score: 20.2317531451231 }, { type: "quiz", score: 97.5705578455598 }, { type: "homework", score: 15.645222266486435 }, { type: "homework", score: 21.03830820968486 }], class_id: 57 }`. The sidebar on the right contains two query snippets: 'ejercicio6 sesion5' and 'ejercicio2 sesion5'.

sample_training.grades

Documents Aggregations Schema Explain Plan Indexes

FILTER `{ $or: [{ class_id: 357 }, { class_id: 57 }, { class_id: 465 }] }` OPTIONS FIND RESET ...

PROJECT SORT COLLATION MAXTIMES 5000 SKIP 0 LIMIT 0

ADD DATA VIEW { } Displaying documents 1 - 20 of 584 REFRESH

`{`
 `_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`

ejercicio6 sesion5

FILTER

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

ejercicio2 sesion5

PROJECT

`{`
 `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.companies'. The 'Documents' tab is active, showing a query filter: `{number_of_employees: {$gt: 50}}`. The results are displayed as a table with columns: `_id` (ObjectId), `number_of_employees` (Int32), and `name` (String). The table shows 8 documents, all of which have more than 50 employees. The sidebar on the right contains exercises: 'ejercicio8 sesion5' with a filter `{number_of_employees: {$gt: 50}}`, 'ejercicio7 sesion5' with a filter `{founded_year: 2008, founded_month: 10}`, and 'ejercicio4 sesion5' with a filter `{founded_year: 2008}` and a project `{founded_year: 1, name: 1}`.

	<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"

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 interface shows 11 documents in total, with the first 8 displayed. All displayed documents have `stops` equal to 1. The `airline` field is an object with 4 fields. A sidebar on the right, titled `ejercicio9 sesion5`, shows the filter query in JSON format.

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

	_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

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 the `sample_training.companies` database. The **Documents** tab is active. The query bar contains the filter `{number_of_employees: {$ne:null}}` and the sort `{number_of_employees: 1}`. The **MAXTIMES** is set to 5000, **SKIP** is 0, and **LIMIT** is 1. The results table shows one document with `_id` `52cdef7c4bab8bd675297dbd`, `number_of_employees` `0`, and `name` `"YouTube"`. On the right, the query plan for **ejercicio10 sesion5** is displayed, showing the **FILTER** stage with `{ number_of_employees: { $ne: null }}`, the **SORT** stage with `{ number_of_employees: 1 }`, and the **LIMIT** stage with `1`.

	<code>_id</code> ObjectId	<code>number_of_employees</code> Int32	<code>name</code> String
1	<code>52cdef7c4bab8bd675297dbd</code>	<code>0</code>	<code>"YouTube"</code>

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. The database is `sample_training` and the collection is `trips`. The query is set to sort by `tripduration` in descending order, with a limit of 1 document. The results show a single document representing the longest trip.

Query:

```
{
  tripduration: -1
}
```

Limit: 1

Document:

```
{
  _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
}
```

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 contains the following configuration:

- FILTER:** (empty)
- PROJECT:** (empty)
- SORT:** `{tripduration: 1}`
- MAXTIMEMS:** 5000
- COLLATION:** (empty)
- SKIP:** 0
- LIMIT:** 1

The **FIND** button is highlighted in green. Below the query bar, the document viewer shows a single document:

```
{
  "_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, the sidebar shows the query configuration for `ejercicio13 sesion5`:

- SORT:** `{tripduration: 1}`
- LIMIT:** 1

Below it, the configuration for `ejercicio12 sesion5` is shown:

- SORT:** `{tripduration: -1}`
- LIMIT:** 1

Figura 13: El viaje con menor duración.