

# Ejercicio de comandos con MongoDB

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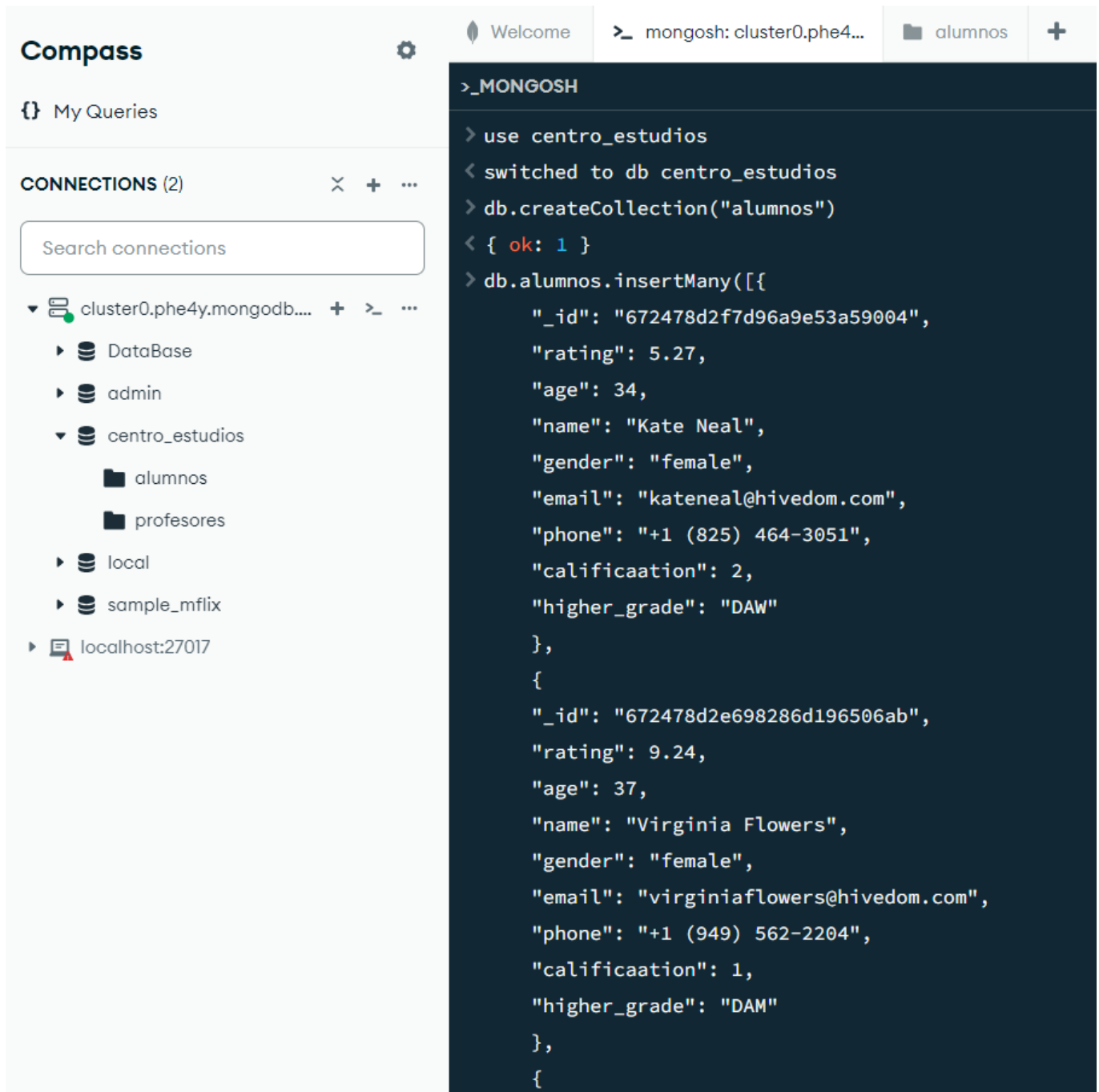
Crea una base de datos llamada centro\_estudios

## 1. Crea una base de datos llamada centro\_estudios

2. Crea dos colecciones, una llamada alumnos y otra llamada profesores

```
use centro_estudios
db.createCollection("alumnos")
db.createCollection("profesores")
```

3. En la colección llamada alumnos, inserta los siguientes datos:



The screenshot shows the MongoDB Compass application. On the left, the 'CONNECTIONS (2)' panel lists several connections, including 'cluster0.phe4y.mongodb....' and 'localhost:27017'. The 'cluster0.phe4y.mongodb....' connection is expanded, showing a database named 'centro\_estudios' with two collections: 'alumnos' and 'profesores'. The 'alumnos' collection is selected. On the right, a terminal window titled '>\_MONGOSH' displays the following commands and their output:

```
> use centro_estudios
< switched to db centro_estudios
> db.createCollection("alumnos")
< { ok: 1 }
> db.alumnos.insertMany([
  {
    "_id": "672478d2f7d96a9e53a59004",
    "rating": 5.27,
    "age": 34,
    "name": "Kate Neal",
    "gender": "female",
    "email": "kateneal@hivedom.com",
    "phone": "+1 (825) 464-3051",
    "calificaacion": 2,
    "higher_grade": "DAW"
  },
  {
    "_id": "672478d2e698286d196506ab",
    "rating": 9.24,
    "age": 37,
    "name": "Virginia Flowers",
    "gender": "female",
    "email": "virginiaflowers@hivedom.com",
    "phone": "+1 (949) 562-2204",
    "calificaacion": 1,
    "higher_grade": "DAM"
  }
])
```

```
db.alumnos.insertMany([
  {
    "_id": "672478d2f7d96a9e53a59004",
    "rating": 5.27,
    "age": 34,
    "name": "Kate Neal",
    "gender": "female",
    "email": "kateneal@hivedom.com",
    "phone": "+1 (825) 464-3051",
    "calificaacion": 2,
    "higher_grade": "DAW"
  },
  {
    "_id": "672478d2e698286d196506ab",
    "rating": 9.24,
    "age": 37,
```

```
    "name": "Virginia Flowers",
    "gender": "female",
    "email": "virginiaflowers@hivedom.com",
    "phone": "+1 (949) 562-2204",
    "calificaation": 1,
    "higher_grade": "DAM"
  },
  {
    "_id": "672478d21e269b4a57c5e051",
    "rating": 7.12,
    "age": 33,
    "name": "Vanessa Gibbs",
    "gender": "female",
    "email": "vanessagibbs@hivedom.com",
    "phone": "+1 (942) 591-3521",
    "calificaation": 5,
    "higher_grade": "DAM"
  },
  {
    "_id": "672478d29c4cea1c323ee84d",
    "rating": 6.02,
    "age": 26,
    "name": "Wood Sloan",
    "gender": "male",
    "email": "woodsloan@hivedom.com",
    "phone": "+1 (990) 563-3488",
    "calificaation": 3,
    "higher_grade": "DAM"
  },
  {
    "_id": "672478d20bb94d3414d5105a",
    "rating": 5.17,
    "age": 26,
    "name": "Josefina Berger",
    "gender": "female",
    "email": "josefinaberger@hivedom.com",
    "phone": "+1 (896) 489-2692",
    "calificaation": 0,
    "higher_grade": "DAM"
  },
  {
    "_id": "672478d25ada5a95d4bfb81e",
    "rating": 8.81,
    "age": 34,
    "name": "Jaime Howard",
    "gender": "female",
    "email": "jaimehoward@hivedom.com",
    "phone": "+1 (894) 510-2219",
    "calificaation": 7,
    "higher_grade": "ASIR"
  },
  {
    "_id": "672478d2b66e5b36013188b5",
    "rating": 5.56,
```

```

    "age": 38,
    "name": "Chase Conley",
    "gender": "male",
    "email": "chaseconley@hivedom.com",
    "phone": "+1 (937) 488-2414",
    "calificaation": 10,
    "higher_grade": "DAM"
  },
  {
    "_id": "672478d21456f136d4e116f",
    "rating": 6.12,
    "age": 23,
    "name": "Dixie Woods",
    "gender": "female",
    "email": "dixiewoods@hivedom.com",
    "phone": "+1 (976) 408-3974",
    "calificaation": 4,
    "higher_grade": "DAM"
  },
  {
    "_id": "672478d2b7dd115e7193f58f",
    "rating": 8.81,
    "age": 39,
    "name": "Moody Arnold",
    "gender": "male",
    "email": "moodyarnold@hivedom.com",
    "phone": "+1 (830) 420-2446",
    "calificaation": 6,
    "higher_grade": "DAM"
  },
  {
    "_id": "672478d242d0b4abb287d0fa",
    "rating": 7.17,
    "age": 23,
    "name": "Mcmillan Singleton",
    "gender": "male",
    "email": "mcmillansingleton@hivedom.com",
    "phone": "+1 (904) 563-3920",
    "calificaation": 10,
    "higher_grade": "DAW"
  },
  {
    "_id": "672478d202650f5e0185632a",
    "rating": 7.55,
    "age": 34,
    "name": "Wall Best",
    "gender": "male",
    "email": "wallbest@hivedom.com",
    "phone": "+1 (893) 461-3843",
    "calificaation": 0,
    "higher_grade": "ASIR"
  }
])

```

## 4. En la colección profesores inserta los siguientes datos

```

db.insertMany([
  {
    "_id": "6724775549c221e4ea993a3e",
    "rating": 9.02,
    "age": 20,
    "name": "Victoria Foster",
    "gender": "female",
    "email": "victoriafoster@hivedom.com",
    "phone": "+1 (814) 589-2100",
    "subjects": [
      "Lenguaje de marcas",
      "Sistemas informáticos",
      "Base datos"
    ],
    "title": "Ingeniero indistriales"
  },
  {
    "_id": "672477553713dad19d93638f",
    "rating": 6.39,
    "age": 25,
    "name": "Hudson Gates",
    "gender": "male",
    "email": "hudsongates@hivedom.com",
    "phone": "+1 (997) 459-3540",
    "subjects": [
      "Base datos",
      "Sistema de gestion empresarial",
      "Sistema de gestion empresarial",
      "Base datos"
    ],
    "title": "Ingeniero informatico"
  },
  {
    "_id": "6724775559a0f8f473a32640",
    "rating": 9.93,
    "age": 27,
    "name": "Elisa McGowan",
    "gender": "female",
    "email": "elisamcgowan@hivedom.com",
    "phone": "+1 (932) 507-2855",
    "subjects": [
      "Lenguaje de marcas",
      "Lenguaje de marcas",
      "Programacion multimedia",
      "Sistema de gestion empresarial",
      "Acceso datos",
      "Base datos"
    ],
    "title": "Ingeniero indistriales"
  },
  {

```

```

    "_id": "6724775595741c4ccac71f7b",
    "rating": 7.24,
    "age": 37,
    "name": "Rena Castro",
    "gender": "female",
    "email": "renacastro@hivedom.com",
    "phone": "+1 (851) 423-3547",
    "subjects": [
      "Sistemas informáticos",
      "Sistemas informáticos",
      "Acceso datos",
      "Programacion multimedia"
    ],
    "title": "Ingeniero indistriales"
  },
  {
    "_id": "67247755ce71f04e8c1c3e1d",
    "rating": 8.08,
    "age": 32,
    "name": "Haney Price",
    "gender": "male",
    "email": "haneyprice@hivedom.com",
    "phone": "+1 (982) 579-3098",
    "subjects": [
      "Sistema de gestion empresarial",
      "Lenguaje de marcas",
      "Desarrollo interfaces"
    ],
    "title": "Ingeniero informatico"
  },
  {
    "_id": "672477552b252c8a32223894",
    "rating": 8.48,
    "age": 24,
    "name": "Bernice Hall",
    "gender": "female",
    "email": "bernicehall@hivedom.com",
    "phone": "+1 (937) 419-2861",
    "subjects": [
      "Acceso datos",
      "Acceso datos",
      "Base datos",
      "Desarrollo interfaces",
      "Acceso datos",
      "Programacion multimedia"
    ],
    "title": "Ingeniero caminos"
  }
])

```

## 5. Obtener todos los alumnos que están matriculados en DAM

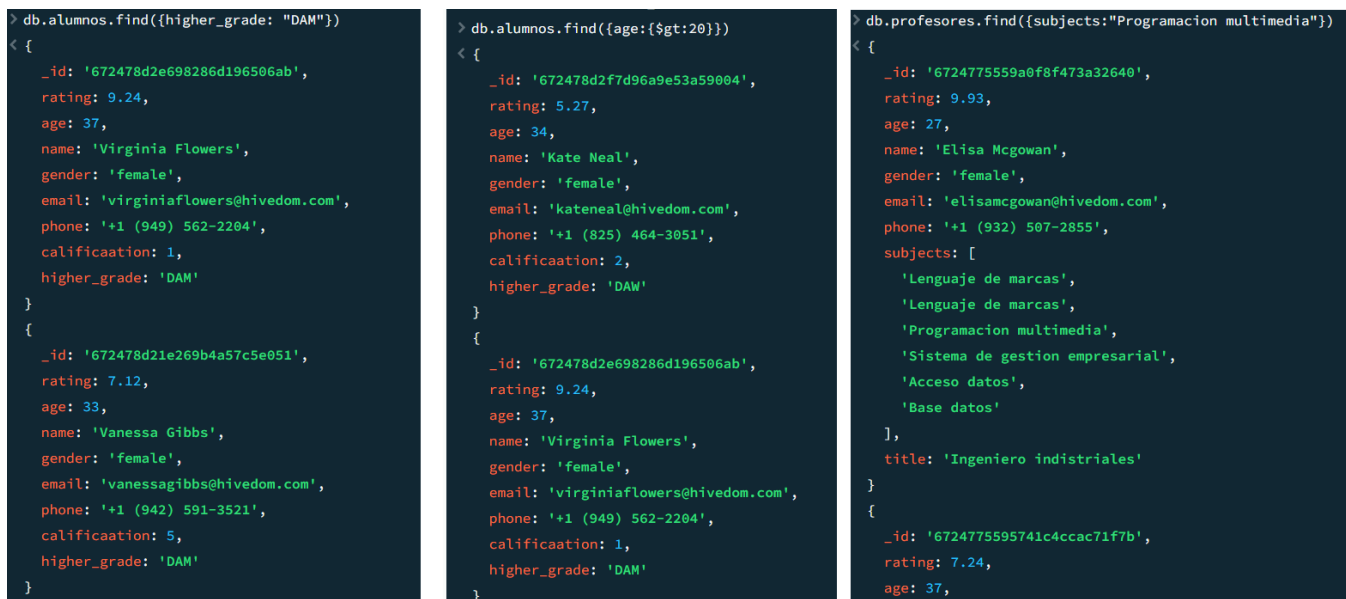
```
db.alumnos.find({higher_grade: "DAM"})
```

6. Obtener todos los alumnos que tienen más de 20 años

```
db.alumnos.find({age:{$gt:20}})
```

7. Obtener todos los profesores que imparten la asignatura de Programación

```
db.profesores.find({subjects:"Programacion multimedia"})
```



```
> db.alumnos.find({higher_grade: "DAM"})
< {
  _id: '672478d2e698286d196506ab',
  rating: 9.24,
  age: 37,
  name: 'Virginia Flowers',
  gender: 'female',
  email: 'virginiaflowers@hivedom.com',
  phone: '+1 (949) 562-2204',
  calificaacion: 1,
  higher_grade: 'DAM'
}
{
  _id: '672478d21e269b4a57c5e051',
  rating: 7.12,
  age: 33,
  name: 'Vanessa Gibbs',
  gender: 'female',
  email: 'vanessagibbs@hivedom.com',
  phone: '+1 (942) 591-3521',
  calificaacion: 5,
  higher_grade: 'DAM'
}
```

```
> db.alumnos.find({age:{$gt:20}})
< {
  _id: '672478d2f7d96a9e53a59004',
  rating: 5.27,
  age: 34,
  name: 'Kate Neal',
  gender: 'female',
  email: 'kateneal@hivedom.com',
  phone: '+1 (825) 464-3051',
  calificaacion: 2,
  higher_grade: 'DAW'
}
{
  _id: '672478d2e698286d196506ab',
  rating: 9.24,
  age: 37,
  name: 'Virginia Flowers',
  gender: 'female',
  email: 'virginiaflowers@hivedom.com',
  phone: '+1 (949) 562-2204',
  calificaacion: 1,
  higher_grade: 'DAM'
}
```

```
> db.profesores.find({subjects:"Programacion multimedia"})
< {
  _id: '672477559a0f8f473a32640',
  rating: 9.93,
  age: 27,
  name: 'Elisa McGowan',
  gender: 'female',
  email: 'elisamcgowan@hivedom.com',
  phone: '+1 (932) 507-2855',
  subjects: [
    'Lenguaje de marcas',
    'Lenguaje de marcas',
    'Programacion multimedia',
    'Sistema de gestion empresarial',
    'Acceso datos',
    'Base datos'
  ],
  title: 'Ingeniero industriales'
}
{
  _id: '6724775595741c4ccac71f7b',
  rating: 7.24,
  age: 37,
}
```

8. Obtener todos los profesores que son ingenieros informáticos

```
db.profesores.find({title: "Ingeniero informatico"})
```

9. Obtener todos los profesores que tienen menos de 40 años y más de 30

```
db.profesores.find({age:{$lt:40,$gt:30}})
```

10. Obtener el profesor mejor valorado

```
db.profesores.find().sort({ rating: -1 }).limit(1)
```

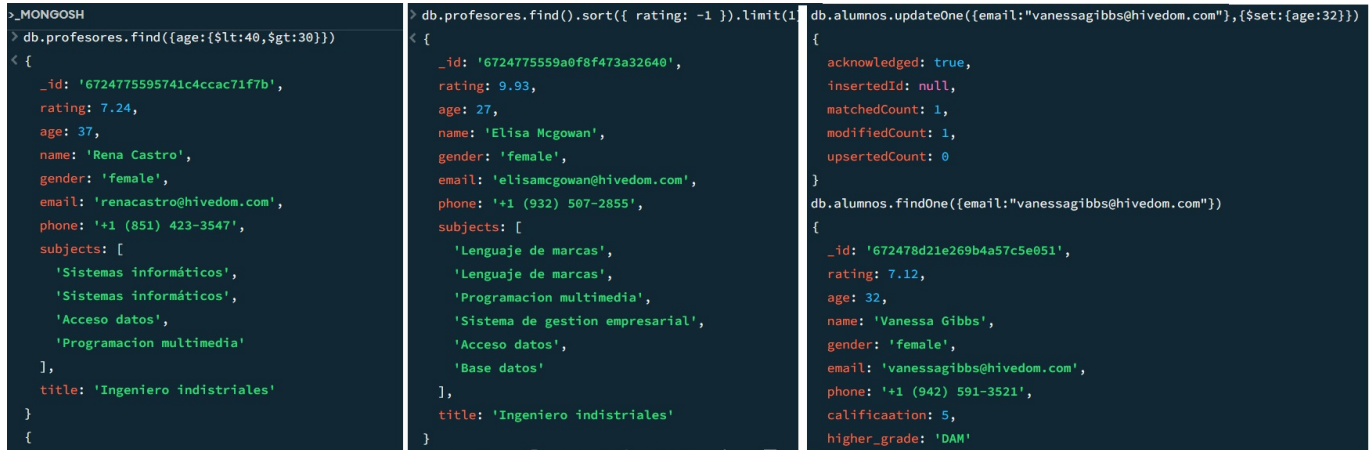
11. Obtener el profesor que más asignaturas imparte

```
db.profesores.find().sort({ subjects: 1 }).limit(1)
```

12. Actualizar la edad del alumno cuyo correo es aprilmannning@proflex.com a 32

April no está en la base de datos, así que se ha actualizado a Vanessa para el ejercicio.

```
db.alumnos.updateOne({email:"aprilmannning@proflex.com"},{$set:{age:32}})
```



```

> db.profesores.find({age:{$lt:40,$gt:30}})
< {
  _id: '6724775595741c4ccac71f7b',
  rating: 7.24,
  age: 37,
  name: 'Rena Castro',
  gender: 'female',
  email: 'renacastro@hivedom.com',
  phone: '+1 (851) 423-3547',
  subjects: [
    'Sistemas informáticos',
    'Sistemas informáticos',
    'Acceso datos',
    'Programacion multimedia'
  ],
  title: 'Ingeniero indistriales'
}

> db.profesores.find().sort({ rating: -1 }).limit(1)
< {
  _id: '6724775559a0f8f473a32640',
  rating: 9.93,
  age: 27,
  name: 'Elisa McGowan',
  gender: 'female',
  email: 'elisamcgowan@hivedom.com',
  phone: '+1 (932) 507-2855',
  subjects: [
    'Lenguaje de marcas',
    'Lenguaje de marcas',
    'Programacion multimedia',
    'Sistema de gestion empresarial',
    'Acceso datos',
    'Base datos'
  ],
  title: 'Ingeniero indistriales'
}

db.alumnos.updateOne({email:"vanessagibbs@hivedom.com"},{$set:{age:32}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}

db.alumnos.findOne({email:"vanessagibbs@hivedom.com"})
{
  _id: '672478d21e269b4a57c5e051',
  rating: 7.12,
  age: 32,
  name: 'Vanessa Gibbs',
  gender: 'female',
  email: 'vanessagibbs@hivedom.com',
  phone: '+1 (942) 591-3521',
  calificaation: 5,
  higher_grade: 'DAM'
}

```

13. Actualizar la edad de todos los alumnos del ciclo de DAM en un año

```
db.alumnos.updateMany({higher_grade: "DAM"}, {$inc:{age:1}})
```

14. Actualizar todos los alumnos y añade el campo FCTs puesto como true

```
db.alumnos.updateMany({},{$set:{FCTs: true}})
```

15. Actualiza todos los alumnos documentos que tengan una nota inferior a 5 y pon las FCTs como false

```
db.alumnos.updateMany({calificaation:{$lt:5}},{$set:{FCTs:false}})
```

16. Elimina todos aquellos registros de los alumnos que tenga las FCTs como false

```
db.alumnos.deleteMany({FCTs:false})
```

17. Elimina todos aquellos profesores que tienen una calificación entre 1 y 4

```
db.profesores.deleteMany({rating: {$gte:1, $lte:4}})
```



```
{
  _id: '672478d2e698286d196506ab',
  rating: 9.24,
  age: 38,
  name: 'Virginia Flowers',
  gender: 'female',
  email: 'virginiaflowers@hivedom.com',
  phone: '+1 (949) 562-2204',
  calificaation: 1,
  higher_grade: 'DAM',
  FCTs: false
}
{
  _id: '672478d21e269b4a57c5e051',
  rating: 7.12,
  age: 33,
  name: 'Vanessa Gibbs',
  gender: 'female',
  email: 'vanessagibbs@hivedom.com',
  phone: '+1 (942) 591-3521',
  calificaation: 5,
  higher_grade: 'DAM',
  FCTs: true
}
```

```
> db.profesores.deleteMany({rating: {$gte:1, $lte:4}})
{
  acknowledged: true,
  deletedCount: 0
}
> db.alumnos.deleteMany({FCTs:false})
{
  acknowledged: true,
  deletedCount: 6
}
```