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CMPS 364: NoSQL Databases
Module 4 Assignment

Github Repository:

<https://github.com/ncasey-ppu/CMPS364>

The screenshot shows the MongoDB Compass web interface. On the left, the 'CONNECTIONS' sidebar lists the connection 'localhost:27017' with a tree view showing databases like 'Broadway', 'Musicals', 'admin', 'config', 'local', and 'Products'. The 'Products' database is selected. The main panel shows the 'Products' collection with a query filter of '{price: {\$gt: 500}}'. Below the query bar, there are buttons for 'ADD DATA', 'EXPORT DATA', 'UPDATE', and 'DELETE'. The results section displays four documents, each with fields: '_id', 'product_id', 'product_name', 'category', 'price', 'in_stock', and 'ratings'. The documents are for product IDs 101, 102, 103, and 105.

product_id	product_name	category	price	in_stock	ratings
101	Sofa	Home Decor	1282.36	true	3
102	Refrigerator	Furniture	1776.68	false	1
103	Microwave	Furniture	954.99	true	1
105	Watch	Computers	1432.22	true	3

Compass

{ } My Queries

CONNECTIONS (1)

Search connections

localhost:27017

- Broadway
 - Musicals
- admin
- config
- local
 - Products
 - startup_log

Products

localhost:27017 > local > Products

Documents 50 Aggregations Schema Indexes 1 Validation

{price: {\$lt: 200}, in_stock: true}

Generate query Explain Reset Find Options

ADD DATA EXPORT DATA UPDATE DELETE

50 1-2 of 2

```
{ "_id": ObjectId("68e2b9588084854843214b22"),
  "product_id": 112,
  "product_name": "Desk",
  "category": "Home Decor",
  "price": 79.33,
  "in_stock": true,
  "ratings": 3 }
```

```
{ "_id": ObjectId("68e2b9588084854843214b24"),
  "product_id": 114,
  "product_name": "Printer",
  "category": "Computers",
  "price": 82.23,
  "in_stock": true,
  "ratings": 3 }
```

Compass

{ } My Queries

CONNECTIONS (1)

Search connections

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Products

localhost:27017 > local > Products

Documents 50 Aggregations Schema Indexes 1 Validation

{ "\$or": [{"category": "Electronics"}, {"category": "Furniture"}]}

Generate query Explain Reset Find Options

ADD DATA EXPORT DATA UPDATE DELETE

50 1-23 of 23

```
{ "category": "Furniture",
  "price": 1955.01,
  "in_stock": true,
  "ratings": 3 }
```

```
{ "_id": ObjectId("68e2b9588084854843214b23"),
  "product_id": 113,
  "product_name": "Laptop",
  "category": "Electronics",
  "price": 233.63,
  "in_stock": true,
  "ratings": 2 }
```

```
{ "_id": ObjectId("68e2b9588084854843214b26"),
  "product_id": 116,
  "product_name": "Laptop",
  "category": "Furniture",
  "price": 642.42,
  "in_stock": false,
  "ratings": 4 }
```

```
{ "_id": ObjectId("68e2b9588084854843214b28"),
  "product_id": 118,
  "product_name": "Printer",
  "category": "Furniture",
  "price": 1816.98,
  "in_stock": true,
  "ratings": 1 }
```

```
{ "_id": ObjectId("68e2b9588084854843214b29"),
  "product_id": 119,
  "product_name": "Printer",
  "category": "Electronics",
  "price": 513.6 }
```

Compass

{ } My Queries

CONNECTIONS (1)

Search connections

localhost:27017

- Broadway
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 - startup_log

Products

localhost:27017 > local > Products

Documents 50 Aggregations Schema Indexes 1 Validation

{category: {"\$in": ["Electronics","Furniture"]}}

Generate query Explain Reset Find Options

ADD DATA EXPORT DATA UPDATE DELETE

50 1 - 23 of 23

```
product_name: "Camera"
category: "Furniture"
price: 997.72
in_stock: false
ratings: 4

_id: ObjectId('68e2b9588884854843214b20')
product_id: 110
product_name: "Chair"
category: "Furniture"
price: 1055.01
in_stock: true
ratings: 3

_id: ObjectId('68e2b9588884854843214b23')
product_id: 113
product_name: "Laptop"
category: "Electronics"
price: 233.63
in_stock: true
ratings: 2

_id: ObjectId('68e2b9588884854843214b26')
product_id: 116
product_name: "Laptop"
category: "Furniture"
price: 642.42
in_stock: false
ratings: 4

_id: ObjectId('68e2b9588884854843214b28')
product_id: 118
product_name: "Printer"
category: "Furniture"
price: 111.11
in_stock: true
ratings: 1
```

Compass

{ } My Queries

CONNECTIONS (1)

Search connections

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Products

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Documents 50 Aggregations Schema Indexes 1 Validation

{ratings: {"\$nin": [1,2,3]}}

Generate query Explain Reset Find Options

ADD DATA EXPORT DATA UPDATE DELETE

50 1 - 16 of 16

```
_id: ObjectId('68e2b9588884854843214b1a')
product_id: 104
product_name: "Camera"
category: "Home Decor"
price: 256.8
in_stock: false
ratings: 4

_id: ObjectId('68e2b9588884854843214b1c')
product_id: 106
product_name: "Sofa"
category: "Furniture"
price: 1526.35
in_stock: false
ratings: 5

_id: ObjectId('68e2b9588884854843214b1e')
product_id: 108
product_name: "Camera"
category: "Home Decor"
price: 1546.52
in_stock: false
ratings: 4

_id: ObjectId('68e2b9588884854843214b1f')
product_id: 109
product_name: "Camera"
category: "Furniture"
price: 997.72
in_stock: false
ratings: 4

_id: ObjectId('68e2b9588884854843214b21')
product_id: 111
product_name: "Laptop"
category: "Electronics"
price: 233.63
in_stock: true
ratings: 2
```

Compass

{ } My Queries

CONNECTIONS (1)

Search connections

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Products

localhost:27017 > local > Products

Documents 50 Aggregations Schema Indexes 1 Validation

{price: {\$gt: 100, \$lt: 300}}

Generate query Explain Reset Find Options

ADD DATA EXPORT DATA UPDATE DELETE

50 1-5 of 5

```
{ "_id": ObjectId("68e2b9588084854843214b1a"),
  "product_id": 104,
  "product_name": "Camera",
  "category": "Home Decor",
  "price": 256.8,
  "in_stock": false,
  "ratings": 4 }

{ "_id": ObjectId("68e2b9588084854843214b23"),
  "product_id": 113,
  "product_name": "Laptop",
  "category": "Electronics",
  "price": 233.63,
  "in_stock": true,
  "ratings": 2 }

{ "_id": ObjectId("68e2b9588084854843214b2d"),
  "product_id": 123,
  "product_name": "Microwave",
  "category": "Computers",
  "price": 172.42,
  "in_stock": false,
  "ratings": 4 }

{ "_id": ObjectId("68e2b9588084854843214b3b"),
  "product_id": 137,
  "product_name": "Bookshelf",
  "category": "Electronics",
  "price": 237.9,
  "in_stock": false,
  "ratings": 4 }

{ "_id": ObjectId("68e2b9588084854843214b44") }
```

Compass

{ } My Queries

CONNECTIONS (1)

Search connections

localhost:27017

- Broadway
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- local
 - Products
 - startup_log

Products

localhost:27017 > local > Products

Documents 50 Aggregations Schema Indexes 1 Validation

{price: {\$nin: [1282.36,1776.68,1432.22,1526.35,1131.33,1546.52,1055.01,1286]}

Generate query Explain Reset Find Options

ADD DATA EXPORT DATA UPDATE DELETE

50 1-25 of 25

```
{ "_id": ObjectId("68e2b9588084854843214b19"),
  "product_id": 103,
  "product_name": "Microwave",
  "category": "Furniture",
  "price": 954.99,
  "in_stock": true,
  "ratings": 1 }

{ "_id": ObjectId("68e2b9588084854843214b1a"),
  "product_id": 104,
  "product_name": "Camera",
  "category": "Home Decor",
  "price": 256.8,
  "in_stock": false,
  "ratings": 4 }

{ "_id": ObjectId("68e2b9588084854843214b1f"),
  "product_id": 109,
  "product_name": "Camera",
  "category": "Furniture",
  "price": 997.72,
  "in_stock": false,
  "ratings": 4 }

{ "_id": ObjectId("68e2b9588084854843214b21"),
  "product_id": 111,
  "product_name": "Watch",
  "category": "Home Decor",
  "price": 866.53,
  "in_stock": false,
  "ratings": 4 }

{ "_id": ObjectId("68e2b9588084854843214b22") }
```

Compass

{ } My Queries

CONNECTIONS (1)

Search connections

localhost:27017

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 - startup_log

Products

localhost:27017 > local > Products

Documents 50 Aggregations Schema Indexes 1 Validation

{ \$or: [{ ratings: 5 }, { in_stock: false }] }

Generate query Explain Reset Find Options

ADD DATA EXPORT DATA UPDATE DELETE

50 1 - 27 of 27

```
{ "_id": ObjectId("68e2b9588084854843214b3c"),  
  "product_id": 138,  
  "product_name": "Keyboard",  
  "category": "Appliances",  
  "price": 471.31,  
  "in_stock": true,  
  "ratings": 5  
}
```

```
{ "_id": ObjectId("68e2b9588084854843214b3d"),  
  "product_id": 139,  
  "product_name": "Laptop",  
  "category": "Computers",  
  "price": 855.67,  
  "in_stock": false,  
  "ratings": 5  
}
```

```
{ "_id": ObjectId("68e2b9588084854843214b40"),  
  "product_id": 142,  
  "product_name": "Sofa",  
  "category": "Electronics",  
  "price": 33.77,  
  "in_stock": false,  
  "ratings": 1  
}
```

```
{ "_id": ObjectId("68e2b9588084854843214b44"),  
  "product_id": 146,  
  "product_name": "Desk",  
  "category": "Furniture",  
  "price": 257.33,  
  "in_stock": false,  
  "ratings": 4  
}
```

```
{ "_id": ObjectId("68e2b9588084854843214b45"),  
  "product_id": 147,  
  "product_name": "Chair",  
  "category": "Furniture",  
  "price": 120.5,  
  "in_stock": true,  
  "ratings": 2  
}
```

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{ } My Queries

CONNECTIONS (1)

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Products

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Documents 50 Aggregations Schema Indexes 1 Validation

{ category: { \$in: ["Electronics", "Computers"] }, in_stock: true }

Generate query Explain Reset Find Options

ADD DATA EXPORT DATA UPDATE DELETE

50 1 - 13 of 13

```
{ "_id": ObjectId("68e2b9588084854843214b1b"),  
  "product_id": 105,  
  "product_name": "Watch",  
  "category": "Computers",  
  "price": 1432.22,  
  "in_stock": true,  
  "ratings": 3  
}
```

```
{ "_id": ObjectId("68e2b9588084854843214b23"),  
  "product_id": 113,  
  "product_name": "Laptop",  
  "category": "Electronics",  
  "price": 233.63,  
  "in_stock": true,  
  "ratings": 2  
}
```

```
{ "_id": ObjectId("68e2b9588084854843214b24"),  
  "product_id": 114,  
  "product_name": "Printer",  
  "category": "Computers",  
  "price": 82.23,  
  "in_stock": true,  
  "ratings": 3  
}
```

```
{ "_id": ObjectId("68e2b9588084854843214b25"),  
  "product_id": 115,  
  "product_name": "Tablet",  
  "category": "Computers",  
  "price": 1280.09,  
  "in_stock": true,  
  "ratings": 3  
}
```

```
{ "_id": ObjectId("68e2b9588084854843214b27"),  
  "product_id": 117,  
  "product_name": "Smartphone",  
  "category": "Computers",  
  "price": 599.99,  
  "in_stock": true,  
  "ratings": 4  
}
```

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{ } My Queries

CONNECTIONS (1)

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Documents 50 Aggregations Schema Indexes 1 Validation

{ratings: {\$gt: 2}, price: {\$lt: 500}}

Generate query Explain Reset Find Options

ADD DATA EXPORT DATA UPDATE DELETE

50 1-9 of 9

```
{
  "_id": ObjectId("68e2b9588884854843214b1a"),
  "product_id": 104,
  "product_name": "Camera",
  "category": "Home Decor",
  "price": 256.8,
  "in_stock": false,
  "ratings": 4
}
```

```
{
  "_id": ObjectId("68e2b9588884854843214b22"),
  "product_id": 112,
  "product_name": "Desk",
  "category": "Home Decor",
  "price": 70.33,
  "in_stock": true,
  "ratings": 3
}
```

```
{
  "_id": ObjectId("68e2b9588884854843214b24"),
  "product_id": 114,
  "product_name": "Printer",
  "category": "Computers",
  "price": 82.23,
  "in_stock": true,
  "ratings": 3
}
```

```
{
  "_id": ObjectId("68e2b9588884854843214b2c"),
  "product_id": 122,
  "product_name": "Blender",
  "category": "Home Decor",
  "price": 473.02,
  "in_stock": false,
  "ratings": 3
}
```

```
{
  "_id": ObjectId("68e2b9588884854843214b2d")
}
```

Compass

{ } My Queries

CONNECTIONS (1)

Search connections

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 - startup_log

Products

localhost:27017 > local > Products

Documents 50 Aggregations Schema Indexes 1 Validation

{product_name: {\$in: ["Laptop", "Tablet"]}, price: {\$gt: 500}, in_stock: true}

Generate query Explain Reset Find Options

ADD DATA EXPORT DATA UPDATE DELETE

50 1-1 of 1

```
{
  "_id": ObjectId("68e2b9588884854843214b25"),
  "product_id": 115,
  "product_name": "Tablet",
  "category": "Computers",
  "price": 1280.09,
  "in_stock": true,
  "ratings": 3
}
```