

## NOSQL QUERIES

```
>_MONGOSH
```

```
> use optical_store_nosql
```

```
< switched to db optical_store_nosql
```

```
> db.clients.find({})
```

```
< {
```

```
  _id: 'CL0001',
```

```
  name: 'Andrea Swift',
```

```
  birthday: '1989-03-15',
```

```
  phone: '071388612',
```

```
  address: 'Leshke-Tetovo-1036',
```

```
  sales_worker_id: 'SW0011'
```

```
}
```

```
{
```

```
  _id: 'CL0002',
```

```
  name: 'Reanna Jenkin',
```

```
  birthday: '2001-11-22',
```

```
  phone: '072345986',
```

```
  address: 'Arbana-Tirana-1024',
```

```
  sales_worker_id: 'SW0012'
```

```
}
```

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> db.employees.find({})

```
< {
  _id: 'MG0026',
  name: 'Ruelle Johnson',
  contact: '072524425'
}
{
  _id: 'MG0027',
  name: 'Max Martin',
  contact: '074229925'
}
{
  _id: 'MG0028',
  name: 'Claire Perez',
  contact: '070666222'
}
```

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```
> db.salesworkers.find({})
```

```
< {
  _id: 'SW0011',
  shift: 'Afternoon shift'
}
{
  _id: 'SW0012',
  shift: 'Morning shift'
}
{
  _id: 'SW0013',
  shift: 'Night shift'
}
```

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```
> db.medicalworkers.find({})
```

```
< {
  _id: 'MW0021',
  office: 'A101',
  specialization: 'Optometrist'
}
{
  _id: 'MW0022',
  office: 'A102',
  specialization: 'Optician'
}
```

```
> db.managers.find({})
< {
  _id: 'MG0026'
}
{
  _id: 'MG0027'
}
{
  _id: 'MG0028'
}
```

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```
> db.products.find({})
< {
  _id: 'PR0051',
  name: 'Sunglasses',
  price: 125,
  type: 'Eyewear',
  available: true
}
{
  _id: 'PR0052',
  name: 'Polarized Sunglasses',
  price: 200,
  type: 'Eyewear',
  available: true
}
```

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> db.eye\_examinations.find({})

```
< {
  _id: 'EX0035',
  right_eye_prescription: 1.25,
  left_eye_prescription: 1.5,
  date: '2023-05-01',
  time: '09:00:00.0000000',
  type: 'Routine Check-up',
  client_id: 'CL0001',
  medical_worker_id: 'MW0021'
}
{
  _id: 'EX0036',
  right_eye_prescription: -0.75,
  left_eye_prescription: -0.5,
  date: '2023-08-08',
  time: '10:30:15.0000000',
  type: 'Follow-up',
  client_id: 'CL0005',
  medical_worker_id: 'MW0022'
}
```

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> db.invoices.find({})

< {

```
  _id: 'IN0045',  
  date: '2023-10-29',  
  quantity: 10,  
  total: 200,  
  taxes: 5.75,  
  client_id: 'CL0002',  
  sales_worker_id: 'SW0012'
```

}

{

```
  _id: 'IN0046',  
  date: '2024-02-17',  
  quantity: 5,  
  total: 250,  
  taxes: 12.3,  
  client_id: 'CL0005',  
  sales_worker_id: 'SW0015'
```

}

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> db.suppliers.find({})

```
< {
  _id: 'SL0011',
  name: 'Dorothea',
  phone: '073455615',
  contract_start: '2023-01-01',
  contract_end: '2024-01-01',
  manager_id: 'MG0026'
}
{
  _id: 'SL0012',
  name: 'Joe',
  phone: '078351414',
  contract_start: '2021-03-15',
  contract_end: '2024-02-07',
  manager_id: 'MG0027'
}
```

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> db.purchases.find({})

< {

```
  _id: 100001,  
  date: '2023-10-29',  
  time: '14:00:00.0000000',  
  invoice_id: 'IN0045',  
  sales_worker_id: 'SW0015'
```

}

{

```
  _id: 100007,  
  date: '2023-09-01',  
  time: '09:00:00.0000000',  
  invoice_id: 'IN0045',  
  sales_worker_id: 'SW0011'
```

}



--Additional queries

Find all clients assigned to a specific salesworker (e.g., SW0012)

```
> db.clients.find({ sales_worker_id: "SW0012" })
< {
  _id: 'CL0002',
  name: 'Reanna Jenkin',
  birthday: '2001-11-22',
  phone: '072345986',
  address: 'Arbana-Tirana-1024',
  sales_worker_id: 'SW0012'
}
{
  _id: 'CL0006',
  name: 'Breanna Mainor',
  birthday: '2009-12-31',
  phone: '072712814',
  address: 'Lezhe-Tirane-2143',
  sales_worker_id: 'SW0012'
}
{
  _id: 'CL0009',
  name: 'Reagan Clarkson',
  birthday: '1975-09-11',
  phone: '078872321',
  address: 'Cegran-Gostivar-1230',
  sales_worker_id: 'SW0012'
}
```

List all invoices with total amount greater than 250

```
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```

```
> db.invoices.find({ total: { $gt: 250 } })
```

```
< {
```

```
  _id: 'IN0047',
  date: '2023-11-01',
  quantity: 8,
  total: 350,
  taxes: 8.99,
  client_id: 'CL0009',
  sales_worker_id: 'SW0019'
```

```
}
```

```
{
```

```
  _id: 'IN0049',
  date: '2024-02-17',
  quantity: 4,
  total: 300,
  taxes: 11.45,
  client_id: 'CL0003',
  sales_worker_id: 'SW0013'
```

```
}
```

```
{
```

```
  _id: 'IN0052',
  date: '2024-03-15',
  quantity: 7,
  total: 275,
  taxes: 7.25,
  client_id: 'CL0004',
  sales_worker_id: 'SW0014'
```

```
}
```

Get available eyewear products with price less than 150

```
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```

```
> db.products.find({ available: true, price: { $lt: 150 }, type: "Eyewear" })
```

```
< {
```

```
  _id: 'PR0051',
  name: 'Sunglasses',
  price: 125,
  type: 'Eyewear',
  available: true
```

```
}
```

```
{
```

```
  _id: 'PR0053',
  name: 'Contact Lenses',
  price: 30,
  type: 'Eyewear',
  available: true
```

```
}
```

```
{
```

```
  _id: 'PR0055',
  name: 'Photochromic Lenses',
  price: 50,
  type: 'Eyewear',
  available: true
```

```
}
```

Join purchases with invoices to view client and total

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```
> db.purchases.aggregate([
  {
    $lookup: {
      from: "invoices",
      localField: "invoice_id",
      foreignField: "_id",
      as: "invoice_info"
    }
  },
  { $unwind: "$invoice_info" },
  {
    $project: {
      _id: 0,
      purchase_number: "$_id",
      client_id: "$invoice_info.client_id",
      total: "$invoice_info.total"
    }
  }
])
< {
  purchase_number: 100001,
  client_id: 'CL0002',
  total: 200
}
{
  purchase_number: 100007,
  client_id: 'CL0002',
  total: 200
}
```

Get eye examinations done by a specific medical worker (e.g., MW0021)

```
>_MONGOSH
> db.eye_examinations.find({ medical_worker_id: "MW0021" })
< {
  _id: 'EX0035',
  right_eye_prescription: 1.25,
  left_eye_prescription: 1.5,
  date: '2023-05-01',
  time: '09:00:00.0000000',
  type: 'Routine Check-up',
  client_id: 'CL0001',
  medical_worker_id: 'MW0021'
}
{
  _id: 'EX0040',
  right_eye_prescription: 2.25,
  left_eye_prescription: 2.5,
  date: '2023-05-09',
  time: '12:45:00.0000000',
  type: 'Initial Consultation',
  client_id: 'CL0002',
  medical_worker_id: 'MW0021'
}
```

Join `supplies` with `products` to list product names each supplier supplies

```
> _MONGOSH
> db.supplies.aggregate([
  {
    $lookup: {
      from: "products",
      localField: "product_id",
      foreignField: "_id",
      as: "product_info"
    }
  },
  { $unwind: "$product_info" },
  {
    $project: {
      _id: 0,
      supplier_id: 1,
      product_name: "$product_info.name"
    }
  }
])
< {
  supplier_id: 'SL0011',
  product_name: 'Sunglasses'
}
{
  supplier_id: 'SL0012',
  product_name: 'Polarized Sunglasses'
}
{
  supplier_id: 'SL0012',
  product_name: 'Prescription Glasses'
}
```

List all suppliers whose contract ends before 2024

```
> db.suppliers.find({ contract_end: { $lt: "2024-01-01" } })
< {
  _id: 'SL0015',
  name: 'Demi',
  phone: '075219888',
  contract_start: '2019-06-22',
  contract_end: '2023-12-12',
  manager_id: 'MG0028'
}
{
  _id: 'SL0016',
  name: 'Dylan',
  phone: '070212419',
  contract_start: '2020-10-15',
  contract_end: '2021-10-27',
  manager_id: 'MG0027'
}
```

Get all purchases made by a client (via `makes`) with `client_id = "CL0002"`

```
> db.makes.find({ client_id: "CL0002" })
< {
  _id: ObjectId('6836f066694bf0feed914d31'),
  client_id: 'CL0002',
  invoice_id: 'IN0045',
  purchase_number: 100001
}
```