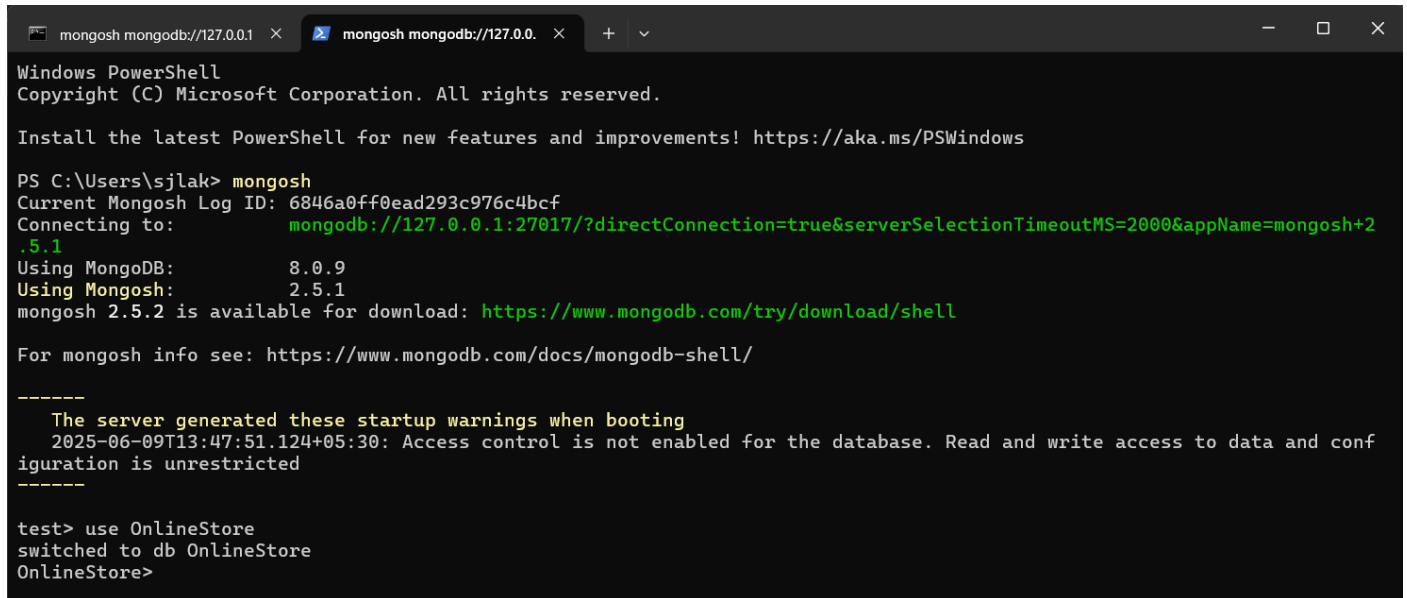


Coding Challenge – 2 (09-06-2025)

Online Store Order Management - MongoDB

Creating new database and named it as OnlineStore,



```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\sjlak> mongosh
Current Mongosh Log ID: 6846a0ff0ead293c976c4bcf
Connecting to:      mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.5.1
Using MongoDB:      8.0.9
Using Mongosh:      2.5.1
mongosh 2.5.2 is available for download: https://www.mongodb.com/try/download/shell

For mongosh info see: https://www.mongodb.com/docs/mongosh-shell/

-----
The server generated these startup warnings when booting
2025-06-09T13:47:51.124+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
-----

test> use OnlineStore
switched to db OnlineStore
OnlineStore>
```

Q1. Insert 5 different orders

```
db.orders.insertMany([
{
  order_id: "ORD1001",
  order_date: "2024-06-01",
  customer: { name: "Deepa Roy", email: "deepa@example.com", phone: "9876543210" },
  shipping_address: { street: "123 Green Park", city: "Mumbai", state: "MH", pincode: "400001" },
  items: [
    { product: "Wireless Mouse", price: 599, quantity: 2 },
    { product: "Keyboard", price: 899, quantity: 1 }
  ],
  total_amount: 2097,
  payment_status: "Paid",
  delivery_status: "Delivered"
},
{
  order_id: "ORD1002",
```

```
order_date: "2024-06-03",
customer: { name: "Arjun Mehta", email: "arjun@example.com", phone: "9998887777" },
shipping_address: { street: "45 Sector 9", city: "Delhi", state: "DL", pincode: "110001" },
items: [
  { product: "Laptop Bag", price: 1299, quantity: 1 }
],
total_amount: 1299,
payment_status: "Paid",
delivery_status: "Shipped"
},
{
order_id: "ORD1003",
order_date: "2024-06-04",
customer: { name: "Neha Sharma", email: "neha@example.com", phone: "8887776666" },
shipping_address: { street: "78 Hill View", city: "Chennai", state: "TN", pincode: "600001" },
items: [
  { product: "Monitor", price: 10999, quantity: 1 }
],
total_amount: 10999,
payment_status: "Pending",
delivery_status: "Not Shipped"
},
{
order_id: "ORD1004",
order_date: "2024-06-05",
customer: { name: "Suresh Babu", email: "suresh@example.com", phone: "7776665555" },
shipping_address: { street: "Plot 22", city: "Hyderabad", state: "TS", pincode: "500001" },
items: [
  { product: "Pen Drive", price: 399, quantity: 3 },
  { product: "Notebook", price: 99, quantity: 5 }
],
total_amount: 1392,
payment_status: "Paid",
delivery_status: "Processing"
}
```

```
},  
{  
  order_id: "ORD1005",  
  order_date: "2024-06-06",  
  customer: { name: "Meena Das", email: "meena@example.com", phone: "6665554444" },  
  shipping_address: { street: "Lake Road", city: "Delhi", state: "DL", pincode: "110002" },  
  items: [  
    { product: "Desk Lamp", price: 799, quantity: 1 },  
    { product: "Chair", price: 2499, quantity: 1 },  
    { product: "Table", price: 3499, quantity: 1 }  
  ],  
  total_amount: 6797,  
  payment_status: "Paid",  
  delivery_status: "Delivered"  
}  
])
```

```

test> use OnlineStore
switched to db OnlineStore
OnlineStore> db.Orders.insertOne(
...   "order_id": "ORD1001",
...   "order_date": "2024-06-01",
OnlineStore> db.orders.insertMany([
...   {
...     order_id: "ORD1001",
...     order_date: "2024-06-01",
...     customer: { name: "Deepa Roy", email: "deepa@example.com", phone: "9876543210" },
...     shipping_address: { street: "123 Green Park", city: "Mumbai", state: "MH", pincode: "400001" },
...     items: [
...       { product: "Wireless Mouse", price: 599, quantity: 2 },
...       { product: "Keyboard", price: 899, quantity: 1 }
...     ],
...     total_amount: 2097,
...     payment_status: "Paid",
...     delivery_status: "Delivered"
...   },
...   {
...     order_id: "ORD1002",
...     order_date: "2024-06-03",
...     customer: { name: "Arjun Mehta", email: "arjun@example.com", phone: "9998887777" },
...     shipping_address: { street: "45 Sector 9", city: "Delhi", state: "DL", pincode: "110001" },
...     items: [
...       { product: "Laptop Bag", price: 1299, quantity: 1 }
...     ],
...     total_amount: 1299,
...     payment_status: "Paid",
...     delivery_status: "Shipped"
...   },
...   {
...     order_id: "ORD1003",
...     order_date: "2024-06-04",
...     customer: { name: "Neha Sharma", email: "neha@example.com", phone: "8887776666" },
...     shipping_address: { street: "78 Hill View", city: "Chennai", state: "TN", pincode: "600001" },
...     items: [
...       { product: "Monitor", price: 10999, quantity: 1 }
...     ],
...     total_amount: 10999,
...     payment_status: "Pending",
...     delivery_status: "Not Shipped"
...   },
...   {
...     order_id: "ORD1004",
...     order_date: "2024-06-05",
...     customer: { name: "Suresh Babu", email: "suresh@example.com", phone: "7776665555" },
...     shipping_address: { street: "Plot 22", city: "Hyderabad", state: "TS", pincode: "500001" },
...     items: [
...       { product: "Pen Drive", price: 399, quantity: 3 },
...       { product: "Notebook", price: 99, quantity: 5 }
...     ],
...     total_amount: 1392,
...     payment_status: "Paid",
...     delivery_status: "Processing"
...   },
...   {
...     order_id: "ORD1005",
...     order_date: "2024-06-06",
...     customer: { name: "Meena Das", email: "meena@example.com", phone: "6665554444" },
...     shipping_address: { street: "Lake Road", city: "Delhi", state: "DL", pincode: "110002" },
...     items: [
...       { product: "Desk Lamp", price: 799, quantity: 1 },
...       { product: "Chair", price: 2999, quantity: 1 },
...       { product: "Table", price: 3499, quantity: 1 }
...     ],
...     total_amount: 6797,
...     payment_status: "Paid",
...     delivery_status: "Delivered"
...   }
... ])
... }
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('6846a0717bed2b6f16c4bd0'),
    '1': ObjectId('6846a0717bed2b6f16c4bd1'),
    '2': ObjectId('6846a0717bed2b6f16c4bd2'),
    '3': ObjectId('6846a0717bed2b6f16c4bd3'),
    '4': ObjectId('6846a0717bed2b6f16c4bd4')
  }
}

```

Q2. Find "Paid" but not "Delivered" orders

```

db.orders.find({
  payment_status: "Paid",
  delivery_status: { $ne: "Delivered" }
})

```

```

OnlineStore> db.orders.find({
...   payment_status: "Paid",
...   delivery_status: { $ne: "Delivered" }
... })
...
[
  {
    _id: ObjectId('6846a0717bed2b6f116c4bd1'),
    order_id: 'ORD1002',
    order_date: '2024-06-03',
    customer: {
      name: 'Arjun Mehta',
      email: 'arjun@example.com',
      phone: '9998887777'
    },
    shipping_address: {
      street: '45 Sector 9',
      city: 'Delhi',
      state: 'DL',
      pincode: '110001'
    },
    items: [ { product: 'Laptop Bag', price: 1299, quantity: 1 } ],
    total_amount: 1299,
    payment_status: 'Paid',
    delivery_status: 'Shipped'
  },
  {
    _id: ObjectId('6846a0717bed2b6f116c4bd3'),
    order_id: 'ORD1004',
    order_date: '2024-06-05',
    customer: {
      name: 'Suresh Babu',
      email: 'suresh@example.com',
      phone: '7776665555'
    },
    shipping_address: {
      street: 'Plot 22',
      city: 'Hyderabad',
      state: 'TS',
      pincode: '500001'
    },
    items: [
      { product: 'Pen Drive', price: 399, quantity: 3 },
      { product: 'Notebook', price: 99, quantity: 5 }
    ],
    total_amount: 1392,
    payment_status: 'Paid',
    delivery_status: 'Processing'
  }
]

```

Q3. Orders with at least one product priced > 1000

```

db.orders.find({
  "items.price": { $gt: 1000 }
})

```

```

OnlineStore> db.orders.find({
...   "items.price": { $gt: 1000 }
... })
...
[
  {
    _id: ObjectId('6846a0717bed2b6f116c4bd1'),
    order_id: 'ORD1002',
    order_date: '2024-06-03',
    customer: {
      name: 'Arjun Mehta',
      email: 'arjun@example.com',
      phone: '9998887777'
    },
    shipping_address: {
      street: '45 Sector 9',
      city: 'Delhi',
      state: 'DL',
      pincode: '110001'
    },
    items: [ { product: 'Laptop Bag', price: 1299, quantity: 1 } ],
    total_amount: 1299,
    payment_status: 'Paid',
    delivery_status: 'Shipped'
  },
  {
    _id: ObjectId('6846a0717bed2b6f116c4bd2'),
    order_id: 'ORD1003',
    order_date: '2024-06-04',
    customer: {
      name: 'Neha Sharma',
      email: 'neha@example.com',
      phone: '8887776666'
    },
    shipping_address: {
      street: '78 Hill View',
      city: 'Chennai',
      state: 'TN',
      pincode: '600001'
    },
    items: [ { product: 'Monitor', price: 10999, quantity: 1 } ],
    total_amount: 10999,
    payment_status: 'Pending',
    delivery_status: 'Not Shipped'
  },
  {
    _id: ObjectId('6846a0717bed2b6f116c4bd4'),
    order_id: 'ORD1005',
    order_date: '2024-06-06',
    customer: {
      name: 'Meena Das',
      email: 'meena@example.com',
      phone: '6665554444'
    },
    shipping_address: {
      street: 'Lake Road',
      city: 'Delhi',
      state: 'DL',
      pincode: '110002'
    },
    items: [
      { product: 'Desk Lamp', price: 799, quantity: 1 },
      { product: 'Chair', price: 2499, quantity: 1 },
      { product: 'Table', price: 3499, quantity: 1 }
    ],
    total_amount: 6797,
    payment_status: 'Paid',
    delivery_status: 'Delivered'
  }
]

```

Q4. Orders shipped to Mumbai or Delhi, sorted by date

```
db.orders.find(
  { "shipping_address.city": { $in: ["Mumbai", "Delhi"] } },
  { _id: 0, order_id: 1, "shipping_address.city": 1, order_date: 1 }
).sort({ order_date: -1 })
```

```
OnlineStore> db.orders.find(
...   { "shipping_address.city": { $in: ["Mumbai", "Delhi"] } },
...   { _id: 0, order_id: 1, "shipping_address.city": 1, order_date: 1 }
... ).sort({ order_date: -1 })
...
[
  {
    order_id: 'ORD1005',
    order_date: '2024-06-06',
    shipping_address: { city: 'Delhi' }
  },
  {
    order_id: 'ORD1002',
    order_date: '2024-06-03',
    shipping_address: { city: 'Delhi' }
  },
  {
    order_id: 'ORD1001',
    order_date: '2024-06-01',
    shipping_address: { city: 'Mumbai' }
  }
]
```

Q5. Group by payment_status

```
db.orders.aggregate([
  { $group: { _id: "$payment_status", count: { $sum: 1 } } }
])
```

```
OnlineStore> db.orders.aggregate([
...   { $group: { _id: "$payment_status", count: { $sum: 1 } } }
... ])
...
[ { _id: 'Paid', count: 4 }, { _id: 'Pending', count: 1 } ]
OnlineStore> db.orders.aggregate([
...   { $match: { delivery_status: "Delivered" } },
...   { $group: { _id: null, total_revenue: { $sum: "$total_amount" } } }
... ])
...
[ { _id: null, total_revenue: 8894 } ]
OnlineStore> db.orders.updateMany(
...   { $expr: { $gt: [{ $size: "$items" }, 3] } },
...   { $set: { priority: "High" } }
... )
...
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 0
}
```

Q6. Total revenue from delivered orders

```
db.orders.aggregate([
  { $match: { delivery_status: "Delivered" } },
  { $group: { _id: null, total_revenue: { $sum: "$total_amount" } } }
])
```

```
OnlineStore> db.orders.aggregate([
...   { $match: { delivery_status: "Delivered" } },
...   { $group: { _id: null, total_revenue: { $sum: "$total_amount" } } }
... ])
...
[ { _id: null, total_revenue: 8894 } ]
OnlineStore> |
```

Q7. Add "priority: High" where items > 3

```
db.orders.updateMany(
  { $expr: { $gt: [{ $size: "$items" }, 3] } },
  { $set: { priority: "High" } }
)
```

```
OnlineStore> db.orders.updateMany(
...   { $expr: { $gt: [{ $size: "$items" }, 3] } },
...   { $set: { priority: "High" } }
... )
...
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 0
}
OnlineStore> |
```


Q8. Count how many times each product was ordered

```
db.orders.aggregate([
  { $unwind: "$items" },
  { $group: {
    _id: "$items.product",
    total_quantity: { $sum: "$items.quantity" }
  }}
])
```

```
OnlineStore> db.orders.aggregate([
...   { $unwind: "$items" },
...   { $group: {
...     _id: "$items.product",
...     total_quantity: { $sum: "$items.quantity" }
...   }}
... ])
...
[
  { _id: 'Keyboard', total_quantity: 1 },
  { _id: 'Monitor', total_quantity: 1 },
  { _id: 'Table', total_quantity: 1 },
  { _id: 'Laptop Bag', total_quantity: 1 },
  { _id: 'USB Cable', total_quantity: 1 },
  { _id: 'Notebook', total_quantity: 5 },
  { _id: 'Desk Lamp', total_quantity: 1 },
  { _id: 'Pen Drive', total_quantity: 3 },
  { _id: 'Wireless Mouse', total_quantity: 2 },
  { _id: 'Chair', total_quantity: 1 }
]
OnlineStore> |
```

Q9. Add "USB Cable" to order_id "ORD1001"

```
db.orders.updateOne(  
  { order_id: "ORD1001" },  
  {  
    $push: {  
      items: { product: "USB Cable", price: 199, quantity: 1 }  
    }  
  }  
)
```

```
OnlineStore> db.orders.updateOne(  
...   { order_id: "ORD1001" },  
...   {  
...     $push: {  
...       items: { product: "USB Cable", price: 199, quantity: 1 }  
...     }  
...   }  
... )  
...  
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 1,  
  upsertedCount: 0  
}  
OnlineStore> |
```

Q10. Rename "phone" to "mobile_number" in customer

```
db.orders.updateMany(  
  {},  
  { $rename: { "customer.phone": "customer.mobile_number" } }  
)
```

```

OnlineStore> db.orders.updateMany(
...   {},
...   { $rename: { "customer.phone": "customer.mobile_number" } }
... )
...
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 5,
  modifiedCount: 0,
  upsertedCount: 0
}
OnlineStore> |

```

Q11. Create index on customer email

```
db.orders.createIndex({ "customer.email": 1 })
```

```

OnlineStore> db.orders.createIndex({ "customer.email": 1 })
customer.email_1
OnlineStore> |

```

Q12. Export the data using `mongoexport` for reporting purposes.

```
mongoexport --db=OnlineStore --collection=orders --out=orders.json
```

--(for specific path)

```
mongoexport --db=OnlineStore --collection=orders --out=C:\Users\sjlak\Downloads\orders.json
```

```

Microsoft Windows [Version 10.0.26100.4202]
(c) Microsoft Corporation. All rights reserved.

C:\Users\sjlak>mongoexport --version
mongoexport version: 100.12.2
git version: f76a3ae4029780f61c49cbd39b7336f8d9c30ed0
Go version: go1.23.8
  os: windows
  arch: amd64
  compiler: gc

C:\Users\sjlak>mongoexport --db=OnlineStore --collection=orders --out=orders.json
2025-06-09T14:53:01.543+0530   connected to: mongod://localhost/
2025-06-09T14:53:01.546+0530   exported 5 records

C:\Users\sjlak>mongoexport --db=OnlineStore --collection=orders --out=C:\Users\sjlak\Downloads\orders.json
2025-06-09T14:56:03.880+0530   connected to: mongod://localhost/
2025-06-09T14:56:03.888+0530   exported 5 records

C:\Users\sjlak>|

```