

-Import inventory database

- import books.json.

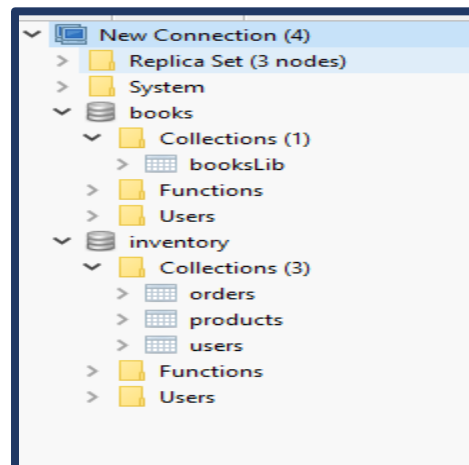
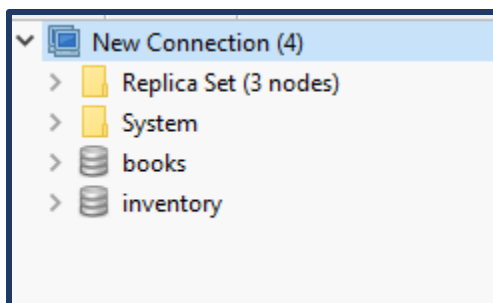
```
D:\ITI_2023_2024\mongoDb\Inventory>mongorestore --uri "mongodb+srv://nourantareqmohamed:HHvw8soG2oa2mok7@nouranscluster0.4zfzjbg.mongodb.net/inventory" -c products ./products.bson
2024-02-03T01:46:53.646+0200 checking for collection data in products.bson
2024-02-03T01:46:53.650+0200 reading metadata for inventory.products from products.metadata.json
2024-02-03T01:46:53.925+0200 restoring inventory.products from products.bson
2024-02-03T01:46:54.090+0200 finished restoring inventory.products (11 documents, 0 failures)
2024-02-03T01:46:54.090+0200 restoring indexes for collection inventory.products from metadata
2024-02-03T01:46:54.097+0200 index: &idx.IndexDocument{Options:primitive.M{"default_language":"english", "language_override":"language", "name":"name_text", "textIndexVersion":3, "v":2, "weights":primitive.M{"name":1}}, Key:primitive.D{primitive.E{Key:"_fts", Value:"text"}, primitive.E{Key:"_ftsx", Value:1}}, PartialFilterExpression:primitive.D(nil)}
2024-02-03T01:46:54.293+0200 11 document(s) restored successfully. 0 document(s) failed to restore.

D:\ITI_2023_2024\mongoDb\Inventory>mongorestore --uri "mongodb+srv://nourantareqmohamed:HHvw8soG2oa2mok7@nouranscluster0.4zfzjbg.mongodb.net/inventory" -c users ./users.bson
2024-02-03T01:48:19.607+0200 checking for collection data in users.bson
2024-02-03T01:48:19.610+0200 reading metadata for inventory.users from users.metadata.json
2024-02-03T01:48:19.881+0200 restoring inventory.users from users.bson
2024-02-03T01:48:20.007+0200 finished restoring inventory.users (2 documents, 0 failures)
2024-02-03T01:48:20.007+0200 no indexes to restore for collection inventory.users
2024-02-03T01:48:20.011+0200 2 document(s) restored successfully. 0 document(s) failed to restore.

D:\ITI_2023_2024\mongoDb\Inventory>mongorestore --uri "mongodb+srv://nourantareqmohamed:HHvw8soG2oa2mok7@nouranscluster0.4zfzjbg.mongodb.net/inventory" -c orders ./orders.bson
2024-02-03T01:48:38.085+0200 checking for collection data in orders.bson
2024-02-03T01:48:38.088+0200 reading metadata for inventory.orders from orders.metadata.json
2024-02-03T01:48:38.350+0200 restoring inventory.orders from orders.bson
2024-02-03T01:48:38.472+0200 finished restoring inventory.orders (3 documents, 0 failures)
2024-02-03T01:48:38.472+0200 no indexes to restore for collection inventory.orders
2024-02-03T01:48:38.475+0200 3 document(s) restored successfully. 0 document(s) failed to restore.

D:\ITI_2023_2024\mongoDb\Inventory>mongoimport --uri mongodb+srv://nourantareqmohamed:HHvw8soG2oa2mok7@nouranscluster0.4zfzjbg.mongodb.net/books --collection booksLib ./books.json --jsonArray
2024-02-03T01:51:33.699+0200 connected to: mongodb+srv://[**REDACTED**]@nouranscluster0.4zfzjbg.mongodb.net/books
2024-02-03T01:51:36.702+0200 [#####] books.booksLib 484KB/484KB (100.0%)
2024-02-03T01:51:39.529+0200 [#####] books.booksLib 484KB/484KB (100.0%)
2024-02-03T01:51:39.529+0200 398 document(s) imported successfully. 0 document(s) failed to import.

D:\ITI_2023_2024\mongoDb\Inventory>
```



- Display number of products per category.

```
db.products.aggregate([
  {
    $group: {
      _id: "$category",
      productCount: { $sum: 1 }
    }
  }
]);
```

products 0.141 sec.

	_id	productCount
1	Laptop	3.0
2	TV	2.0
3	null	2.0
4	Phone	4.0

- Display max category products price.

```
// - Display max category products price.
db.products.aggregate([
  {
    $group: {
      _id: "$category",
      maxPrice: { $max: "$price" }
    }
  }
]);
```

products 0.142 sec.

	_id	maxPrice
1	Phone	16072.4764...
2	Laptop	44122.4764...
3	null	244.2
4	TV	11122.1

- Display user ahmed orders populated with product.

```
db.users.aggregate([
  {
    $match: {
      name: "ahmed"
    },
  },
  {
    $lookup: {
      from: "orders",
      localField: "_id",
      foreignField: "userId",
      as: "ahmedOrders"
    }
  },
  {
    $lookup: {
      from: "products",
      localField: "ahmedOrders.productsIds",
      foreignField: "_id",
      as: "ahmedProducts"
    }
  },
  {
    $project: {
      _id: 0,
      name: 1,
      ahmedOrders: 1,
      ahmedProducts: 1,
    }
  }
]);
```

robo3t

users 0.141 sec.

	name	ahmedOrders	ahmedProducts
1	ahmed	[ 2 elements ]	[ 2 elements ]

- Get user ahemd highest order price

New Connection ac-fj02nsv-shard-00-02.4zfzjbg.mongodb.net:27017 inventory

```
db.users.aggregate([
  {
    $match: {
      name: {
        $eq: "ahmed"
      }
    },
  },
  {
    $lookup: {
      from: "orders",
      localField: "_id",
      foreignField: "userId",
      as: "ahmedOrders"
    }
  },
  {
    $unwind: "$ahmedOrders"
  },
  {
    $lookup: {
      from: "products",
      localField: "ahmedOrders.productsIds",
      foreignField: "_id",
      as: "ahmedProducts"
    }
  },
  {
    $unwind: "$ahmedProducts"
  },
  {
    $project: {
      _id: 0,
      name: 1,
      maxProductPrice: {
        $max: "$ahmedProducts.price"
      }
    }
  }
]);
```

robo3t

users 0.139 sec.

	_id	name	maxProductPrice
1	ObjectId("6040adb69ad8e02d58cc3e0d")	ahmed	16072.47645795

```
{
  $group: {
    _id: "$_id",
    name: { $first: "$name" },
    maxProductPrice: { $max: "$ahmedProducts.price" }
  }
}
]);
```

```
db.booksLib.aggregate([
  {
    $unwind: "$categories"
  },
  {
    $group: {
      _id: "$categories",
      bookNum: { $sum: 1 }
    }
  },
  {
    $sort: { bookCount: 1 }
  }
]);
```

robo3t

booksLib 0.14 sec.

_id	bookNum
4 Theory	7.0
5 Software Engineering	16.0
6 Networking	7.0
7 java	1.0
8 SOA	1.0
9 Python	6.0
10 C++	1.0

```
db.booksLib.aggregate([
  {
    $unwind: "$authors"
  },
  {
    $project: {
      title: 1,
      authors: 1,
      pageCount: 1,
    }
  }
]);
//
```

db.booksLib.aggregate([

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booksLib 0.341 sec.

_id	title	pageCount	authors
1 3	Specification by Example	0	Gojko Adzic
2 6	Collective Intelligence in Action	425	Satnam Alag
3 1	Unlocking Android	416	W. Frank Ableson
4 1	Unlocking Android	416	Charlie Collins
5 1	Unlocking Android	416	Robi Sen
6 4	Flex 3 in Action	576	Tariq Ahmed with Jon Hirschi
7 4	Flex 3 in Action	576	Faisal Abid

```

db.booksLib.aggregate([
  {
    $addFields: {
      isNewBook: {
        $gte: ["$publishedDate", 2023]
      }
    }
  },
  {
    $limit: 5
  },
  {
    $sort: { _id: 1 }
  }
]);
//

```

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booksLib 0.145 sec.

	_id	title	isbn	pageCount	publishedDate	thumbnailUrl	shortDescription	longDescription	status	authors
1	1	Unlocking ...	1933988673	416	2009-04-01 ...	https://...	Unlocking ...	Android is ...	PUBLISH	[ 3 element
2	2	Android in ...	1935182722	592	2011-01-14 ...	https://...	Android in ...	When it ...	PUBLISH	[ 2 element
3	3	Specificatio...	1617290084	0	2011-06-03 ...	https://...			PUBLISH	[ 1 element
4	4	Flex 3 in ...	1933988746	576	2009-02-02 ...	https://...		New web ...	PUBLISH	[ 2 element
5	6	Collective ...	1933988312	425	2008-10-01 ...	https://...		There's a ...	PUBLISH	[ 1 element

```

//
db.booksLib.aggregate([
  {
    $unwind: "$authors"
  },
  {
    $project: {
      bookDetails: {
        $concat: [
          "$title",
          " by ",
          "$authors"
        ]
      }
    }
  }
]);
//
db.booksLib.aggregate([
  {
    $sort: { _id: 1 }
  }
]);
//

```

robo3t

booksLib 0.149 sec.

	_id	bookDetails
1	3	Specification by Example by Gojko Adzic
2	6	Collective Intelligence in Action by Satnam Alag
3	1	Unlocking Android by W. Frank Ableson
4	1	Unlocking Android by Charlie Collins
5	1	Unlocking Android by Robi Sen

```
//
db.booksLib.aggregate([
  {
    $sort: { _id: 1 }
  },
  {
    $skip: 5
  }
]);
//
```

robo3t

booksLib 0.57 sec.

	_id	title	isbn	pageCount	publishedDate	thumbnailUrl	longDescription	status	authors
1	6	Collective ...	1933988312	425	2008-10-01 ...	https://...	There's a ...	PUBLISH	[ 1 element ]
2	7	Zend ...	1933988320	432	2008-12-01 ...	https://...	From rathe...	PUBLISH	[ 3 elements ]
3	8	Flex on Java	1933988797	265	2010-10-15 ...	https://...	In the dem...	PUBLISH	[ 2 elements ]
4	9	Griffon in ...	1935182234	375	2012-06-04 ...	https://...	Although ...	PUBLISH	[ 4 elements ]
5	10	OSGi in ...	193518217X	325	2011-12-12 ...	https://...	A good ...	PUBLISH	[ 1 element ]
6	11	Flexible Rails	1933988509	592	2008-01-01 ...	https://...	Rails is a ...	PUBLISH	[ 1 element ]

```
db.booksLib.aggregate([
  {
    $project: {
      title: 1,
      publishedDate: {
        $dateToString: {
          format: "%Y-%m-%d",
          date: "$publishedDate"
        }
      }
    }
  }
]);
```

obo3t

booksLib 1.09 sec.

_id	title	publishedDate
3	Specification by Example	2011-06-03
6	Collective Intelligence in Action	2008-10-01
1	Unlocking Android	2009-04-01
4	Flex 3 in Action	2009-02-02
2	Android in Action, Second Edition	2011-01-14