

IT2234: Web Service and Server Technologies - Practical

Assignment 02

Department of Physical Science

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2021ICT96

1. Create a Database Library.

Answer:- use Library

```
> use Library
< switched to db Library
```

2. Create a collection named books.

Answer:- db.createCollection("books")

```
> db.createCollection("books")
< { ok: 1 }
```

3. Insert some sample documents into the 'books' collection.

Answer:- db.books.insertMany([

```
{
  "title": "Pride and Prejudice",
  "author": "Jane Austen",
  "year_published": 1813,
  "genres": ["Fiction", "Romance"],
  "available": true
},
{
  "title": "The Catcher in the Rye",
  "author": "J.D. Salinger",
  "year_published": 1951,
  "genres": ["Fiction", "Classic"],
  "available": true
},
{
  "title": "The Hobbit",
```

```
    "author": "J.R.R. Tolkien",
    "year_published": 1937,
    "genres": ["Fantasy", "Adventure"],
    "available": true
  },
  {
    "title": "Moby-Dick",
    "author": "Herman Melville",
    "year_published": 1851,
    "genres": ["Fiction", "Adventure"],
    "available": true
  },
  {
    "title": "War and Peace",
    "author": "Leo Tolstoy",
    "year_published": 1869,
    "genres": ["Historical Fiction", "Classic"],
    "available": true
  },
  {
    "title": "The Odyssey",
    "author": "Homer",
    "year_published": -800,
    "genres": ["Epic", "Adventure"],
    "available": true
  },
  {
    "title": "The Brothers Karamazov",
    "author": "Fyodor Dostoevsky",
    "year_published": 1880,
    "genres": ["Fiction", "Philosophical"],
```

```
        "available": true
    },
    {
        "title": "Brave New World",
        "author": "Aldous Huxley",
        "year_published": 1932,
        "genres": ["Dystopian", "Science Fiction"],
        "available": true
    },
    {
        "title": "The Divine Comedy",
        "author": "Dante Alighieri",
        "year_published": 1320,
        "genres": ["Epic", "Poetry"],
        "available": true
    },
    {
        "title": "Crime and Punishment",
        "author": "Fyodor Dostoevsky",
        "year_published": 1866,
        "genres": ["Fiction", "Philosophical"],
        "available": true
    }
])
```

```
> db.books.find().pretty()
< {
  _id: ObjectId('681b84d850de4c23766c578f'),
  title: 'Pride and Prejudice',
  author: 'Jane Austen',
  year_published: 1813,
  genres: [
    'Fiction',
    'Romance'
  ],
  available: true
}
{
  _id: ObjectId('681b84d850de4c23766c5790'),
  title: 'The Catcher in the Rye',
  author: 'J.D. Salinger',
  year_published: 1951,
  genres: [
    'Fiction',
    'Classic'
  ],
  available: true
}
{
  _id: ObjectId('681b84d850de4c23766c5791'),
  title: 'The Hobbit',
  author: 'J.R.R. Tolkien',
  year_published: 1937,
  genres: [
```

4. Find all documents in the 'books' collection.

Answer:- `db.books.find().pretty()`

```
> db.books.find().pretty()
< {
  _id: ObjectId('681b84d850de4c23766c578f'),
  title: 'Pride and Prejudice',
  author: 'Jane Austen',
  year_published: 1813,
  genres: [
    'Fiction',
    'Romance'
  ],
  available: true
}
{
  _id: ObjectId('681b84d850de4c23766c5790'),
  title: 'The Catcher in the Rye',
  author: 'J.D. Salinger',
  year_published: 1951,
  genres: [
    'Fiction',
    'Classic'
  ],
  available: true
}
{
  _id: ObjectId('681b84d850de4c23766c5791'),
  title: 'The Hobbit',
  author: 'J.R.R. Tolkien',
```

5. Find books published after 1950.

Answer:- `db.books.find({ year_published: { $gt: 1950 } }).pretty()`

```
> db.books.find({ year_published: { $gt: 1950 } }).pretty()
< {
  _id: ObjectId('681b84d850de4c23766c5790'),
  title: 'The Catcher in the Rye',
  author: 'J.D. Salinger',
  year_published: 1951,
  genres: [
    'Fiction',
    'Classic'
  ],
  available: true
}
```

6. Find a book by title.

Answer:- `db.books.find({ title: "The Hobbit" }).pretty()`

```
> db.books.find({ title: "The Hobbit" }).pretty()
< {
  _id: ObjectId('681b84d850de4c23766c5791'),
  title: 'The Hobbit',
  author: 'J.R.R. Tolkien',
  year_published: 1937,
  genres: [
    'Fantasy',
    'Adventure'
  ],
  available: true
}
```

7. Update the year published for "The Great Gatsby".

```
Answer:- db.books.insertOne({  
  title: "The Great Gatsby",  
  author: "F. Scott Fitzgerald",  
  year_published: 1925,  
  genres: ["Fiction", "Classic"],  
  available: true  
})
```

```
db.books.updateOne(  
  { title: "The Great Gatsby" },  
  { $set: { year_published: 1926 } }  
)
```

```
> db.books.insertOne({  
  title: "The Great Gatsby",  
  author: "F. Scott Fitzgerald",  
  year_published: 1925,  
  genres: ["Fiction", "Classic"],  
  available: true  
})  
  
db.books.updateOne(  
  { title: "The Great Gatsby" },  
  { $set: { year_published: 1926 } }  
)  
< {  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 0,  
  upsertedCount: 0  
}
```


8. Update the available status of "Moby-Dick" to false.

Answer:- db.books.updateOne(
 { title: "Moby-Dick" },
 { \$set: { available: false } }
)

```
> db.books.updateOne(  
  { title: "Moby-Dick" },  
  { $set: { available: false } }  
)  
< {  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 0,  
  upsertedCount: 0  
}  
Library>
```

9. Set a new field `checked_out` to false for all available books.

Answer:- `db.books.updateMany(`
 `{ available: true },`
 `{ $set: { checked_out: false } }`
`)`

```
> db.books.updateMany(
  { available: true },
  { $set: { checked_out: false } }
)
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 11,
  modifiedCount: 11,
  upsertedCount: 0
}
```

10. Change the checked_out status to true for books in the "Adventure" genre.

Answer:- db.books.updateMany(
 { genres: "Adventure" },
 { \$set: { checked_out: true } }
)

```
> db.books.updateMany(  
  { genres: "Adventure" },  
  { $set: { checked_out: true } }  
)  
< {  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 3,  
  modifiedCount: 3,  
  upsertedCount: 0  
}  
Library>
```

11. Delete a book by title.

Answer:- db.books.deleteOne({ title: "Brave New World" })

```
> db.books.deleteOne({ title: "Brave New World" })  
< {  
  acknowledged: true,  
  deletedCount: 1  
}
```

12. Delete all books published before 1930.

Answer:- db.books.deleteMany({ year_published: { \$lt: 1930 } })

```
> db.books.deleteMany({ year_published: { $lt: 1930 } })
< {
  acknowledged: true,
  deletedCount: 9
}
Library>
```