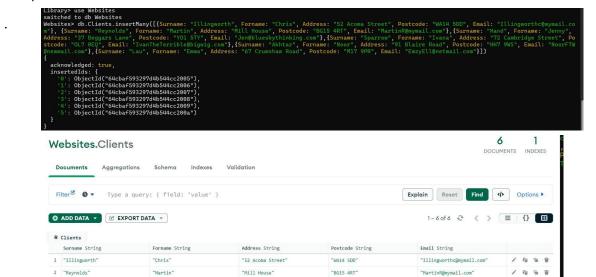| MongoDB	MDB1
MongoDB Exercises	**Due: 8th August 2023**

Develop skills in setting up mongoDB databases, collections and documents.

Perform CRUD operations on mongoDB collections.

Evidence: Annotated Screenshots

Create a Database in mongoDB

1. Create a new mongoDB Database called **Websites**
2. Create a collection called **Clients**
3. Add the following records

Surname	Forename	Address	Postcode	Email
Illingworth	Chris	52 Acoma Street	WA14 5DD	Illingworthc@mymail.com
Reynolds	Martin	Mill House	BG15 4RT	MartinR@mymail.com
Hand	Jenny	37 Beggars Lane	YO1 5TY	Jen@blueskythinking.com
Sparrow	Ivana	72 Cambridge Street	OL7 0EQ	IvanTheTerrible@bigwig.com
Akhtar	Noor	91 Blaire Road	HH7 9WS	NoorFTW@newmail.com
Lau	Emma	67 Crumshaw Road	M17 9PR	EmzyEll@netmail.com

Here is the input, entered in shell,l using the "insertMany" command, and the result is shown in Compass.

.

CRUD operations:

4. Add the following records *one at a time* (db.Clients.insertOne)

Meadows	Fiona	14 Tay Street	NM11 6DS	FiMeadow@mymail.com
Ali	Safdar	182 Valley Parade	BR7 8GH	SafdarAli@boringmail.com

5. Add the following records using *insertMany*

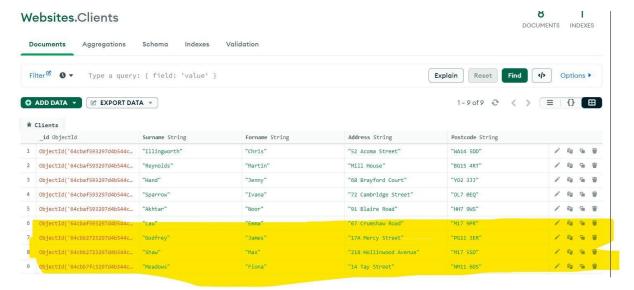| Godfrey	James	17A Mercy Street	PG11 3ER	JimmyGee@newmail.com
Shaw	Max	218 Hollinwood Avenue	M17 5SD	MaxValue@openmail.com

```
Websites> db.Clients.insertOne([{Surname: "Ali", Forname: "Safdar", Address: "182 Valley Parade", Postcode: "BR7 8GH", Email: "SafdarAli@boringmail.com"}])
{
  acknowledged: true,
  insertedId: ObjectId("64cbb1323297d4b544cc200b")
}
Websites> db.Clients.insertOne([{Surname: "Meadows", Forname: "Fiona", Address: "14 Tay Street", Postcode: "NM11 6DS", Email: "FIMeadow@mymail.com"}])
{
  acknowledged: true,
  insertedId: ObjectId("64cbb1943297d4b544cc200c")
}
Websites> db.Clients.insertMany([{Surname: "Godfrey", Forname: "James", Address: "17A Mercy Street", Postcode: "PG11 3ER", Email: "JimmyGee@newmail.com"},{S
urname: "Shaw", Forname: "Max", Address: "218 Hollinwood Avenue", Postcode: "M17 5SD", Email: "MaxValue@openmail.com"}])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId("64cbb2723297d4b544cc200d"),
    '1': ObjectId("64cbb2723297d4b544cc200e")
  }
}
```

Above you will see the "insertOne" command used to add a single record and again "insertMany" for 2 more.

Below you can see these added records are reflected in Compass after a refresh.
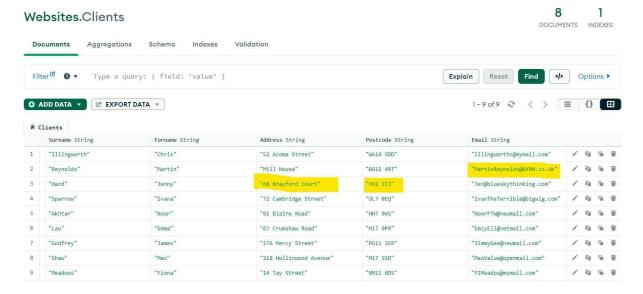
6. Amend the following records as shown below

Reynolds	Martin	Mill House	BG15 4RT	MartinReynolds@WYNN.co.uk
Hand	Jenny	68 Brayford Court	YO2 3JJ	Jen@blueskythinking.com

```
Websites> db.Clients.updateOne({Surname: "Reynolds"}, {$set: { Email: "MartinReynolds@WYNN.co.uk"}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
Websites> db.Clients.updateOne({Surname: "Hand"}, {$set: { Address: "68 Brayford Court", Postcode: "YO2 3JJ"}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

Above you will see how the records have been updated, using the "Surname" to select it and the "$set" instruction to make the amendment to "Email" for Mr Reynolds and "Address" and "Postcode" for Ms Hand.

Websites.Clients

8 DOCUMENTS 1 INDEXES

	Surname String	Forname String	Address String	Postcode String	Email String
1	"Illingworth"	"Chris"	"52 Acoma Street"	"WA14 5DD"	"Illingworthc@mymail.com"
2	"Reynolds"	"Martin"	"Mill House"	"BG15 4RT"	"MartinReynolds@WYNN.co.uk"
3	"Hand"	"Jenny"	"68 Brayford Court"	"YO2 3JJ"	"Jen@blueskythinking.com"
4	"Sparrow"	"Ivana"	"72 Cambridge Street"	"OL7 0EQ"	"IvanTheTerrible@bigwig.com"
5	"Akhtar"	"Noor"	"91 Blaire Road"	"HH7 9WS"	"NoorFTW@newmail.com"
6	"Lau"	"Emma"	"67 Crumshaw Road"	"M17 9PR"	"EmzyEll@netmail.com"
7	"Godfrey"	"James"	"17A Mercy Street"	"PG11 3ER"	"JimmyGee@newmail.com"
8	"Shaw"	"Max"	"218 Hollinwood Avenue"	"M17 5SD"	"MaxValue@openmail.com"
9	"Meadows"	"Fiona"	"14 Tay Street"	"NM11 6DS"	"FIMeadow@mymail.com"

7. Delete the record for:

Sparrow	Ivana	72 Cambridge Street	OL7 0EQ	IvanTheTerrible@bigwig.com

```
Websites> db.Clients.deleteOne ({Surname: "Sparrow"})
{ acknowledged: true, deletedCount: 1 }
Websites>
```

8. Using mongoDB Shell, the final state of the data in the collection (most of it as it scrolled off screen) is shown below, followed by with the Compass version

```
Websites> db.Clients.find()
[
  {
    _id: ObjectId("64cbaf593297d4b544cc2005"),
    Surname: 'Illingworth',
    Forname: 'Chris',
    Address: '52 Acoma Street',
    Postcode: 'WA14 5DD',
    Email: 'Illingworthc@mymail.com'
  },
  {
    _id: ObjectId("64cbaf593297d4b544cc2006"),
    Surname: 'Reynolds',
    Forname: 'Martin',
```

Websites.Clients

Documents   Aggregations   Schema   Indexes   Validation

Filter ⧉   🕐 ▾   Type a query: { field: 'value' }   [Explain] [Reset] [Find] [</>]   Options ▸

[⊕ ADD DATA ▾] [⧉ EXPORT DATA ▾]   1 - 8 of 8   ↻   ‹   ›   ☰ | {} | ▦

🏠 Clients

	Surname String	Forname String	Address String	Postcode String	Email String	
1	"Illingworth"	"Chris"	"52 Acoma Street"	"WA14 5DD"	"Illingworthc@mymail.com"	✎ ⎙ ⧉ 🗑
2	"Reynolds"	"Martin"	"Mill House"	"BG15 4RT"	"MartinReynolds@WYNN.co.uk"	✎ ⎙ ⧉ 🗑
3	"Hand"	"Jenny"	"68 Brayford Court"	"YO2 3JJ"	"Jen@blueskythinking.com"	✎ ⎙ ⧉ 🗑
4	"Akhtar"	"Noor"	"91 Blaire Road"	"HH7 9WS"	"NoorFTW@newmail.com"	✎ ⎙ ⧉ 🗑
5	"Lau"	"Emma"	"67 Crumshaw Road"	"M17 9PR"	"EmzyEll@netmail.com"	✎ ⎙ ⧉ 🗑
6	"Godfrey"	"James"	"17A Mercy Street"	"PG11 3ER"	"JimmyGee@newmail.com"	✎ ⎙ ⧉ 🗑
7	"Shaw"	"Max"	"218 Hollinwood Avenue"	"M17 5SD"	"MaxValue@openmail.com"	✎ ⎙ ⧉ 🗑
8	"Meadows"	"Fiona"	"14 Tay Street"	"NM11 6DS"	"FIMeadow@mymail.com"	✎ ⎙ ⧉ 🗑

Consolidation task:

Create the following collection called *Sites*

JobNumber	Website	Domain	NumPages	CSS	Cart
ILL0001	illingwortharts	.co.uk	10	Yes	Yes
WHA0003	whatyouneednow	.uk	15	Yes	No
LEN0002	lendahand	.org.uk	9	No	No
SPA0006	sparrowcrafts	.co.uk	12	Yes	Yes
ROO0003	roofmendersUK	.co.uk	6	Yes	No

The Website collection was added (with a typo later corrected in Compass).

A good reference for queries:

https://www.w3schools.com/mongodb/mongodb_query_operators.php

For example a query that will search for .co.uk websites that will have a shopping cart.