

This has been a challenging task, I have done multi-rebuilds to get this to work and while I feel this is a working example of the task, I am not satisfied with several aspects (crashed nodes seem determined to persist on older images,

Github repo

<https://github.com/RyanSpeirs/sit323-2025-prac9p/tree/main>

Docker Hub most recent image

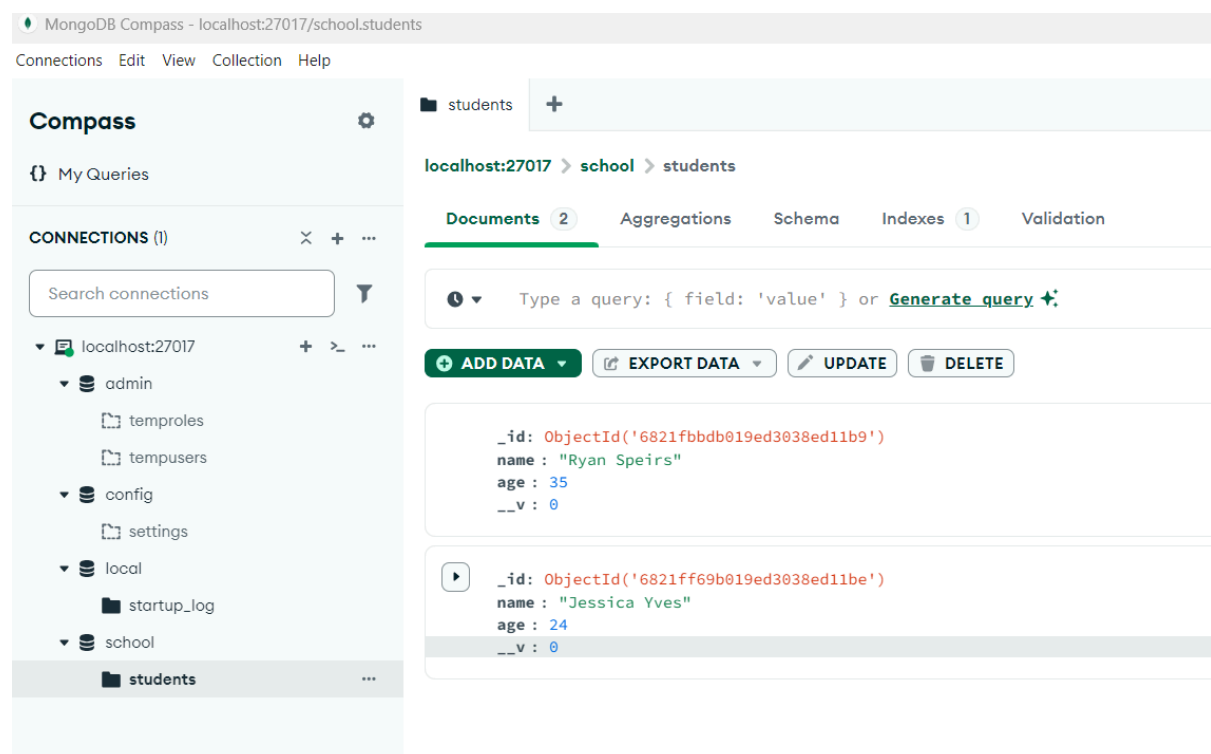
<https://hub.docker.com/repository/docker/ryanspeirs/task9.1p/general>

Image name

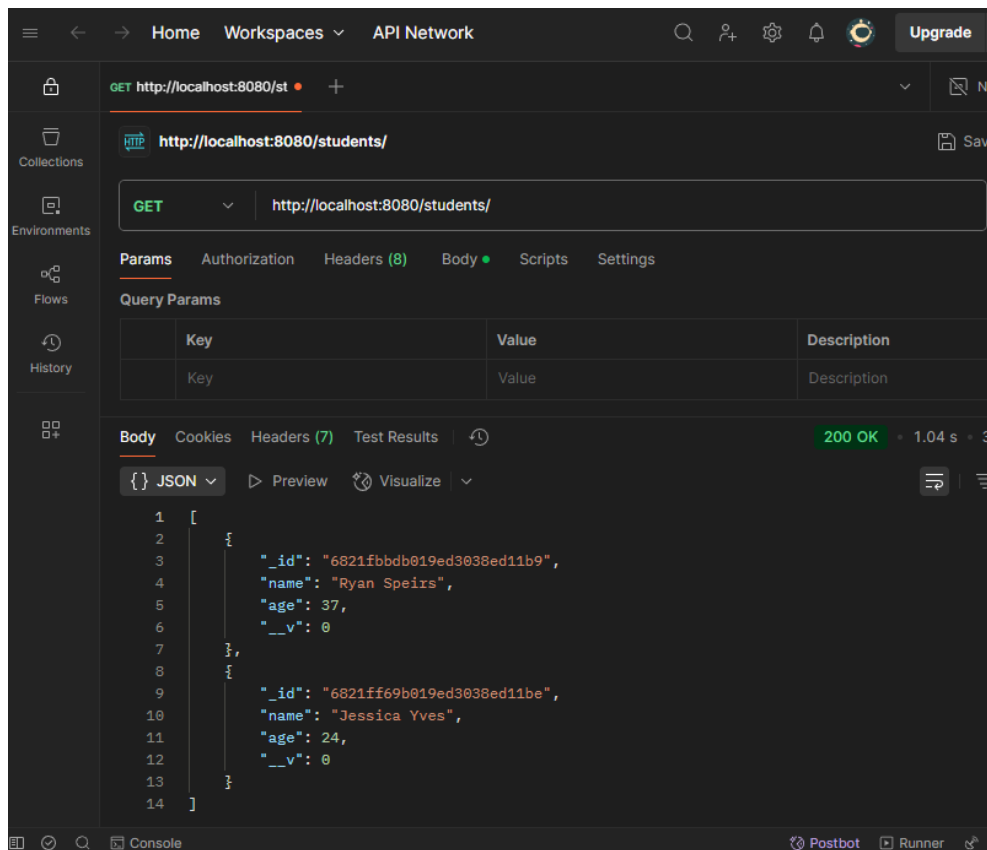
“ryanspeirs/task9.1p”

Note: ignore “ryanspeirs/task91p-students-api”, that is an abandoned iteration of this task.

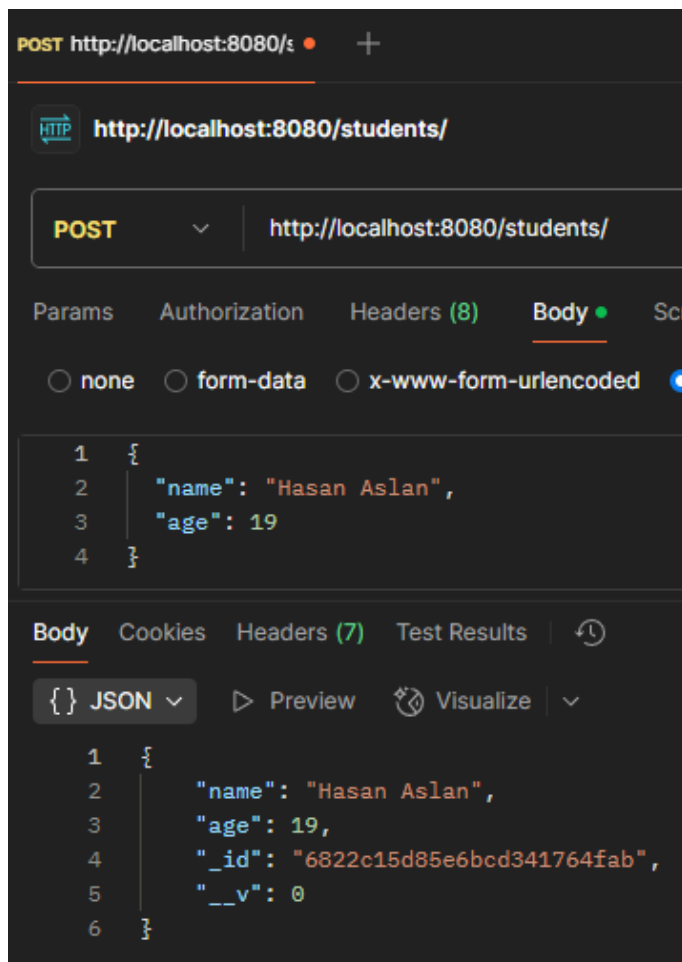
Connecting to the database directly in MongoDB compass



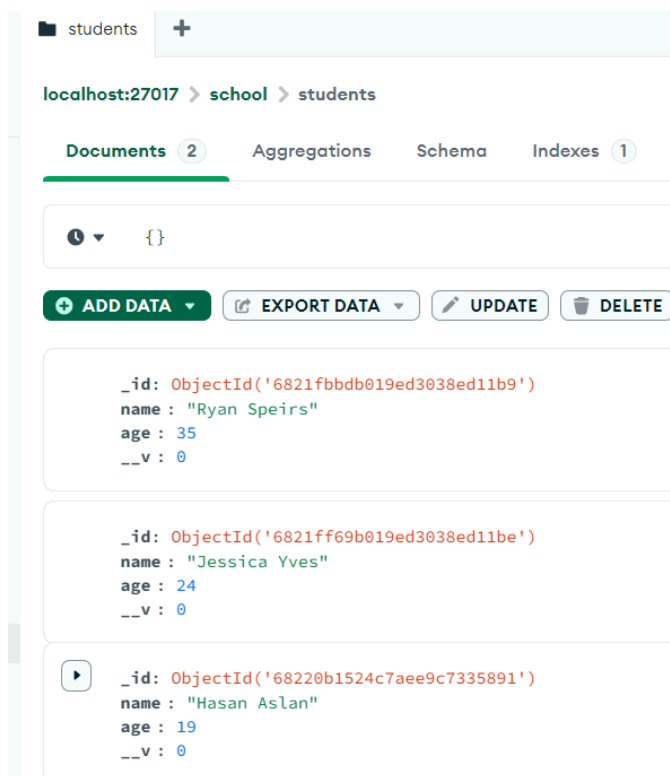
Accessing the node-js server



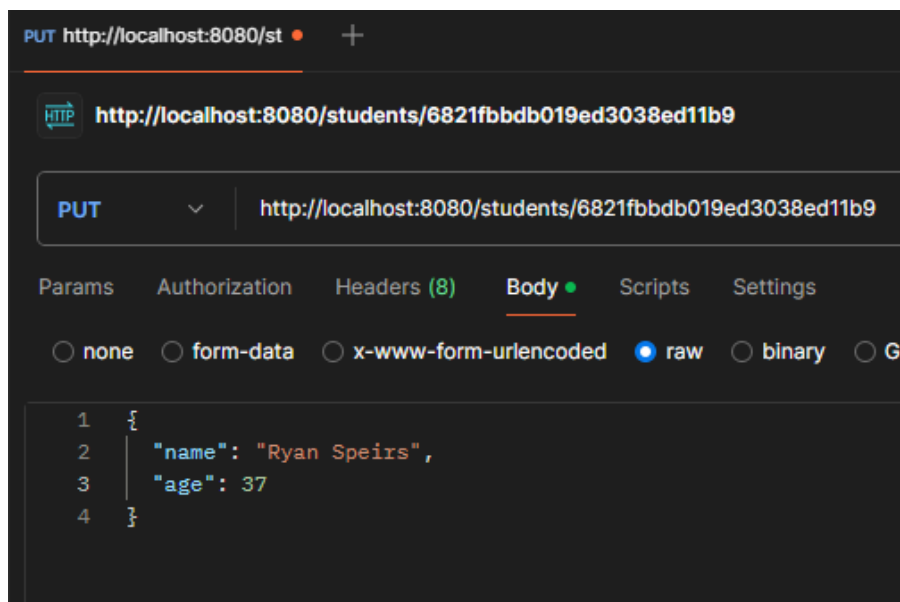
Adding a new student to the database



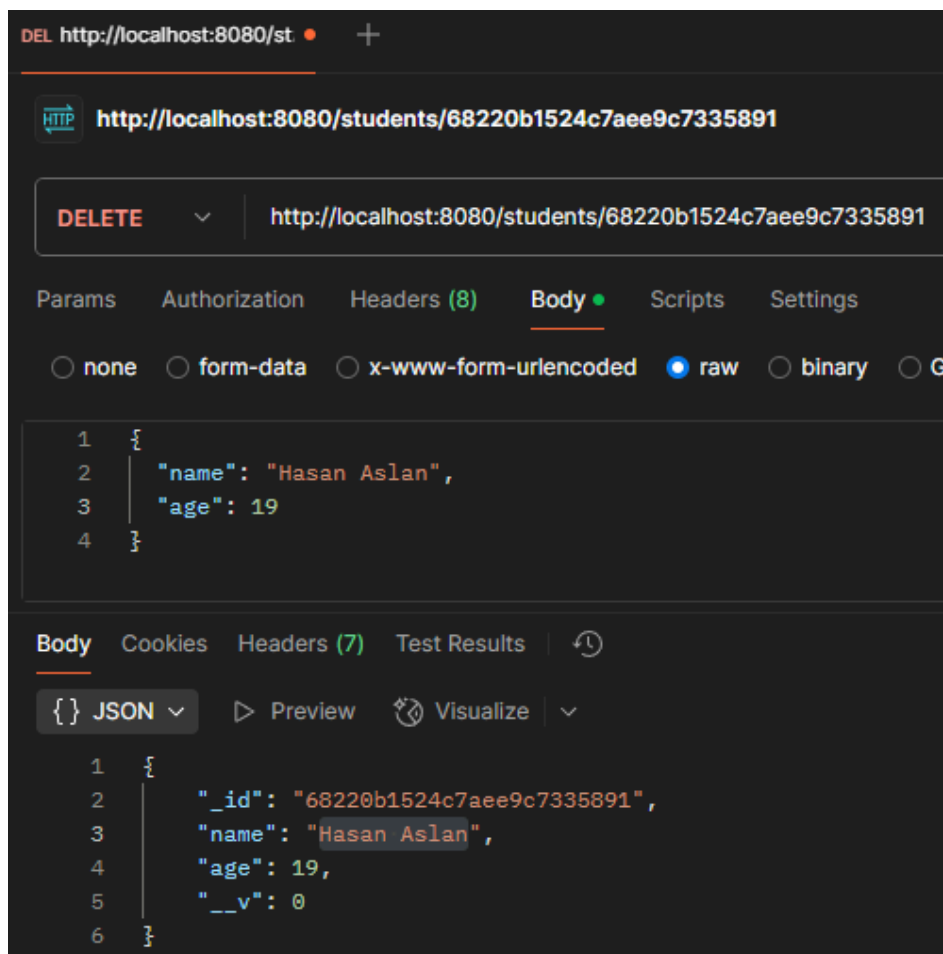
New student successfully added



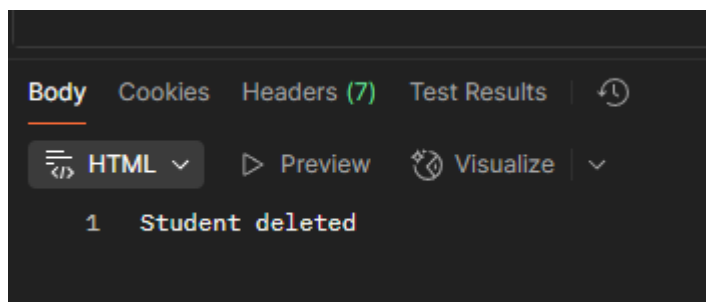
Using PUT to edit the age value of a student's record



Delete a student from the database



Delete response received



Student removed from the database, and top student's age is updated to 37

students +

localhost:27017 > school > students

Documents 2 Aggregations Schema Indexes 1

🕒 {}

+ ADD DATA EXPORT DATA UPDATE DELETE

```

_id: ObjectId('6821fbbdb019ed3038ed11b9')
name: "Ryan Speirs"
age: 37
__v: 0

```

```

_id: ObjectId('6821ff69b019ed3038ed11be')
name: "Jessica Yves"
age: 24
__v: 0

```

Monitoring the activity on the database

```

root@mongo-784cbccc56-bg597:/# mongostat -u admin1 -p password123 --authenticationDatabase admin
insert query update delete getmore command dirty used flushes vsize res qrw arw net_in net_out conn
*0 *0 *0 *0 0 12|0 0.0% 0.0% 0 1.07G 98.0M 0|0 1|0 1.42k 66.5k 11 May 12 15:07:18.256
*0 *0 *0 *0 0 11|0 0.0% 0.0% 0 1.07G 98.0M 0|0 1|0 1.40k 65.5k 11 May 12 15:07:19.256
*0 *0 *0 *0 0 13|0 0.0% 0.0% 0 1.07G 98.0M 0|0 1|0 1.46k 65.9k 11 May 12 15:07:20.254
*0 *0 *0 *0 0 11|0 0.0% 0.0% 0 1.07G 98.0M 0|0 1|0 1.40k 65.5k 11 May 12 15:07:21.254
*0 *0 *0 *0 0 11|0 0.0% 0.0% 0 1.07G 98.0M 0|0 1|0 1.40k 65.5k 11 May 12 15:07:22.255
*0 *0 *0 *0 0 12|0 0.0% 0.0% 0 1.07G 98.0M 0|0 1|0 1.45k 65.7k 11 May 12 15:07:23.255
*0 *0 *0 *0 0 11|0 0.0% 0.0% 0 1.07G 98.0M 0|0 1|0 1.40k 65.5k 11 May 12 15:07:24.256
*0 *0 *0 *0 0 11|0 0.0% 0.0% 0 1.07G 98.0M 0|0 1|0 1.39k 65.2k 11 May 12 15:07:25.261
^C2025-05-12T15:07:25.986+0000 signal 'interrupt' received; forcefully terminating
root@mongo-784cbccc56-bg597:/#

```

Headless activity monitoring, note this is mongo-1 as its part of a replica set

```

root@mongo-1:/# mongostat
insert query update delete getmore command dirty used flushes vsize res qrw arw net_in net_out conn set repl
*0 *0 *0 *0 0 2|0 0.0% 0.0% 0 1.36G 100M 0|0 1|0 159b 65.8k 5 rs0 SEC May 9 08:18:19.951
*0 *0 *0 *0 0 4|0 0.0% 0.0% 0 1.36G 100M 0|0 1|0 740b 66.7k 5 rs0 SEC May 9 08:18:20.948
*0 *0 *0 *0 0 2|0 0.0% 0.0% 0 1.36G 100M 0|0 1|0 158b 65.3k 5 rs0 SEC May 9 08:18:21.948
*0 *0 *0 *0 0 3|0 0.0% 0.0% 0 1.36G 101M 0|0 1|0 736b 66.4k 5 rs0 SEC May 9 08:18:22.949
*0 *0 *0 *0 0 7|0 0.0% 0.0% 0 1.36G 101M 0|0 1|0 826b 68.2k 5 rs0 SEC May 9 08:18:23.946
*0 *0 *0 *0 0 8|0 0.0% 0.0% 0 1.36G 101M 0|0 1|0 1.40k 69.2k 5 rs0 SEC May 9 08:18:24.946
*0 *0 *0 *0 0 2|0 0.0% 0.0% 0 1.36G 101M 0|0 1|0 158b 65.3k 5 rs0 SEC May 9 08:18:25.946
^C2025-05-09T08:18:26.341+0000 signal 'interrupt' received; forcefully terminating
root@mongo-1:/#

```

Running rs.initiate() on a statefulset iteration of the app

```
> rs.initiate( { _id:
... "rs0", members: [ { _id: 0, host : "mongo-0.mongo.default.svc.cluster.local:27017" }, { _id:
1, host : "mongo-1.mongo.default.svc.cluster.local:27017"}, { _id: 2, host : "mongo-2.mongo.defau
lt.svc.cluster.local:27017"} ]})
{
  "ok" : 1,
  "operationTime" : Timestamp(1746777827, 1),
  "$clusterTime" : {
    "clusterTime" : Timestamp(1746777827, 1),
    "signature" : {
      "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAAAAAAA="),
      "keyId" : NumberLong(0)
    }
  }
}
```

Slaving a secondary and checking its got the database on a headless instance

```
rs0:SECONDARY> db.students.find()
Error: error: {
  "operationTime" : Timestamp(1746778210, 1),
  "ok" : 0,
  "errmsg" : "not master and slaveOk=false",
  "code" : 13435,
  "codeName" : "NotMasterNoSlaveOk",
  "$clusterTime" : {
    "clusterTime" : Timestamp(1746778210, 1),
    "signature" : {
      "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAAAAAAA="),
      "keyId" : NumberLong(0)
    }
  }
}
rs0:SECONDARY> rs.slaveOk()
2025-05-09T08:11:27.234+0000 E QUERY [js] TypeError: rs.slaveOk is not a function :
@(shell):1:1
rs0:SECONDARY> rs.slaveOk()
rs0:SECONDARY> db.student.find()
rs0:SECONDARY> db.students.find()
{ "_id" : ObjectId("681db7a03412cdeb5db8cc04"), "name" : "student2", "age" : 22 }
{ "_id" : ObjectId("681db7a03412cdeb5db8cc03"), "name" : "student1", "age" : 21 }
{ "_id" : ObjectId("681db7a03412cdeb5db8cc05"), "name" : "student3", "age" : 19 }
rs0:SECONDARY> exit
bye
root@mongo-1:/# exit
exit
```