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Cloud Computing Hw1 Documentation

Used Cloud Service: Cloud mongo dB Atlas Cluster

Cluster Tier: AWS /MO Sandbox Germany Frankfurt eu-central-1

Unique Record Id's provided by mongoDb everytime we post a record.

MongoDb Schema:

```
{_id:int, username:String, password:String,date:Date,name:String,surname,String}
```

Test Environment:

Versions of libraries data can be seen in package.json

Bakcend app written in JavaScript

Following libraries are used: Express: to manage call such as post,delete,get,patch,post

Mongoose: to interact with cloud mongoDb,

body-parser:to parse request bodies,

dotenv: to hide database connection string {password etc} as a global variable

nodemon:to restart script everytime the code has changed while coding in visual studio

Scripts:

MongoModels/Post.js:To design MongoDB schema

App.js: Main script that can access routes and imports other scripts when neccasariy

Starts local server : Example: require('./routes/posts');

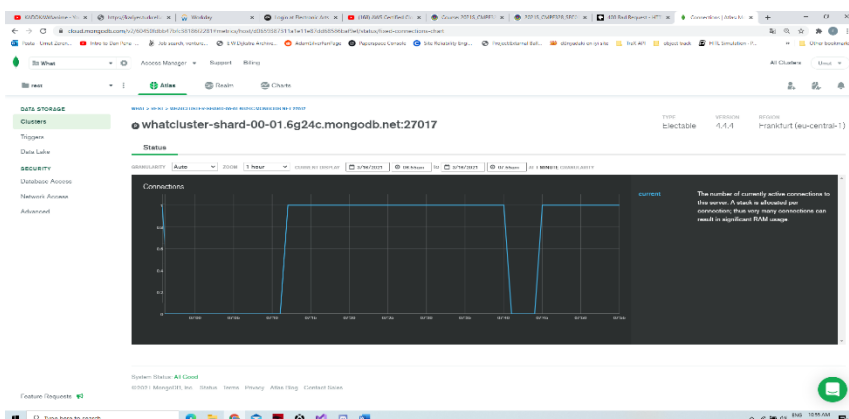
Makes db connection using mongoose.connect(process.env.DB_Connection, at line ,32-33

Roots/posts.js: makes routes like post,get,patch,put

.env: file for database connection string to hide in code in commercial use

Package.json: contains used libraries and their versions

Connection made ss:



Testing:

Postman is an option but my tests shows that command line curl like testing is more healthy. Therefore I suggest using **httpi** : <https://httpie.io/> best use of this app is by downloading as command line tool.

If you have python package manager; “pip install httpie” would do the work.

Or if you on a linux machine can use apt-get install httpie

On macos: brew install httpie

Note: I made db ip authorization to all ips so if you can connect to db in some way from its gui you can also see changing data.

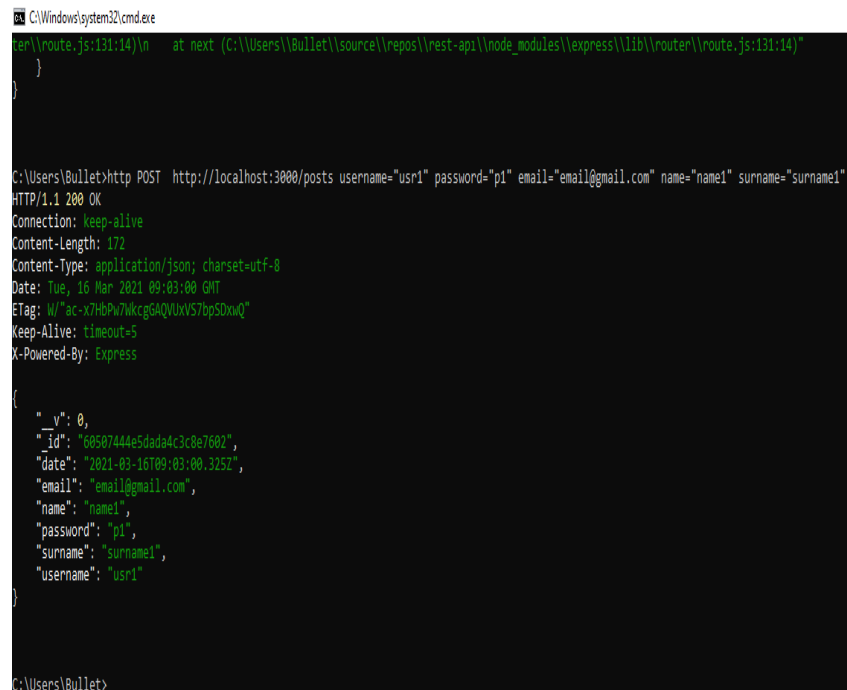
To test Functionality:

Copy paste this example requests after starting the server via double click app.js or if you use visual studio code write “npm start” to terminal while in the project directory

POST: post a user

Example test command: http POST http://localhost:3000/posts username="usr1" password="p1" email="email@gmail.com" name="name1" surname="surname1"

Zoom to see more precisely.



```
C:\Windows\system32\cmd.exe
ter\route.js:131:14)\n at next (C:\Users\Bullet\source\repos\nest-api\node_modules\express\lib\router\route.js:131:14)"
}
}

C:\Users\Bullet>http POST http://localhost:3000/posts username="usr1" password="p1" email="email@gmail.com" name="name1" surname="surname1"
HTTP/1.1 200 OK
Connection: keep-alive
Content-Length: 172
Content-Type: application/json; charset=utf-8
Date: Tue, 16 Mar 2021 03:03:00 GMT
ETag: W/"ac-x7HbPw7WkcgAQVuxVS7bpSDxwQ"
Keep-Alive: timeout=5
X-Powered-By: Express

{
  "_v": 0,
  "id": "60507444e5dada4c3c8e7602",
  "date": "2021-03-16T03:03:00.325Z",
  "email": "email@gmail.com",
  "name": "name1",
  "password": "p1",
  "surname": "surname1",
  "username": "usr1"
}

C:\Users\Bullet>
```

GET: get all posts

```
C:\Windows\system32\cmd.exe
C:\Users\Bullet>http GET http://localhost:3000/posts
HTTP/1.1 200 OK
Connection: keep-alive
Content-Length: 348
Content-Type: application/json; charset=utf-8
Date: Tue, 16 Mar 2021 09:06:44 GMT
ETag: W/"15c-awnfrg294fPbc7KRJ250v5xZm20"
Keep-Alive: timeout=5
X-Powered-By: Express

[
  {
    "_v": 0,
    "id": "60507444e5dada4c3c8e7602",
    "date": "2021-03-16T09:03:00.325Z",
    "email": "email@gmail.com",
    "name": "name1",
    "password": "p1",
    "surname": "surname1",
    "username": "usr1"
  },
  {
    "_v": 0,
    "id": "605074b3e5dada4c3c8e7603",
    "date": "2021-03-16T09:04:51.271Z",
    "email": "email2@gmail.com",
    "name": "name2",
    "password": "p2",
    "surname": "surname2",
    "username": "usr2"
  }
]
```

Get specific post with the user name:

http GET http://localhost:3000/posts/usr1

```
C:\Windows\system32\cmd.exe
C:\Users\Bullet>http GET http://localhost:3000/posts/usr1
HTTP/1.1 200 OK
Connection: keep-alive
Content-Length: 174
Content-Type: application/json; charset=utf-8
Date: Tue, 16 Mar 2021 09:13:49 GMT
ETag: W/"ae-ZNPEkwiZaoY0+40msP7tpqIwQ"
Keep-Alive: timeout=5
X-Powered-By: Express

[
  {
    "_v": 0,
    "id": "60507444e5dada4c3c8e7602",
    "date": "2021-03-16T09:03:00.325Z",
    "email": "email@gmail.com",
    "name": "name1",
    "password": "p1",
    "surname": "surname1",
    "username": "usr1"
  }
]
```

If get request for non existing user or username server returns status 404

```
C:\Windows\system32\cmd.exe
C:\Users\Bullet>http GET http://localhost:3000/posts/13elweqdasd
HTTP/1.1 404 Not Found
Connection: keep-alive
Content-Length: 9
Content-Type: text/html; charset=utf-8
Date: Tue, 16 Mar 2021 09:49:13 GMT
ETag: W/"9-8gXlmgMgISx651xz3F4vlyg"
Keep-Alive: timeout=5
X-Powered-By: Express

Not Found

C:\Users\Bullet>
```

PUT: http PUT http://localhost:3000/posts/605082c6ee2b714b2c329020 username="CHANGED3" password="putted3" email="put3@gmail.com" name="put3" surname="putname3"

Before:

```
C:\Users\Bullet>http GET http://localhost:3000/posts
HTTP/1.1 200 OK
Connection: keep-alive
Content-Length: 484
Content-Type: application/json; charset=utf-8
Date: Tue, 16 Mar 2021 10:05:03 GMT
ETag: W/"1e4-8ZNDIgoxKlV8901D73dF82U5I"
Keep-Alive: timeout=5
X-Powered-By: Express

[
  {
    "_id": 0,
    "id": "60507444e5dada4c3c8e7602",
    "date": null,
    "email": "put3@gmail.com",
    "name": "put3",
    "password": "putted",
    "surname": "putname",
    "username": "abaaa"
  },
  {
    "_id": 0,
    "id": "605074b3e5dada4c3c8e7603",
    "date": null,
    "email": "put3@gmail.com",
    "name": "put3",
    "password": "putted3",
    "surname": "putname3",
    "username": "PUTTED3"
  },
  {
    "_id": 0,
    "id": "605082c6ee2b714b2c329020",
    "date": "2021-03-16T10:04:54.495Z",
    "email": "email@gmail.com",
    "name": "name3",
    "password": "33",
    "surname": "surname3",
    "username": "usr3"
  }
]
```

After put:

```
C:\Windows\system32\cmd.exe
C:\Users\Bullet>http PUT http://localhost:3000/posts/605082c6ee2b714b2c329020 username="CHANGED3" password="putted3" email="put3@gmail.com" name="put3" surname="putname3"
HTTP/1.1 200 OK
Connection: keep-alive
Content-Length: 159
Content-Type: application/json; charset=utf-8
Date: Tue, 16 Mar 2021 10:07:17 GMT
ETag: W/"9f-y61V7X3qQ5S8E4AqH4w1d1ku"
Keep-Alive: timeout=5
X-Powered-By: Express

[
  {
    "_id": 0,
    "id": "605082c6ee2b714b2c329020",
    "date": null,
    "email": "put3@gmail.com",
    "name": "put3",
    "password": "putted3",
    "surname": "putname3",
    "username": "CHANGED3"
  }
]
```

```
C:\Windows\system32\cmd.exe
{"date": null,
 "email": "put2@gmail.com",
 "name": "put1",
 "password": "putted2",
 "surname": "putname2",
 "username": "CHANGED2"
}

C:\Users\Bullet>http GET http://localhost:3000/posts
HTTP/1.1 200 OK
Connection: keep-alive
Content-Length: 468
Content-Type: application/json; charset=utf-8
Date: Tue, 16 Mar 2021 10:06:58 GMT
Etag: W/"60507444e5dada4c3c8e7602"
Keep-Alive: timeout=5
X-Powered-By: Express

[
  {
    "_id": "60507444e5dada4c3c8e7602",
    "date": null,
    "email": "put2@gmail.com",
    "name": "put1",
    "password": "putted2",
    "surname": "putname2",
    "username": "dead"
  },
  {
    "_id": "605074b3e5dada4c3c8e7603",
    "date": null,
    "email": "put2@gmail.com",
    "name": "put2",
    "password": "putted2",
    "surname": "putname2",
    "username": "PUTTED2"
  },
  {
    "_id": "605082c6ee2b714b2c329028",
    "date": null,
    "email": "put2@gmail.com",
    "name": "put3",
    "password": "putted2",
    "surname": "putname2",
    "username": "CHANGED2"
  }
]
```

DELETE: Now I delete the first record with the id "60507444e5dada4c3c8e7602" from the ss above we continue.

http DELETE http://localhost:3000/posts/60507444e5dada4c3c8e7602

```
C:\Windows\system32\cmd.exe
C:\Users\Bullet>http DELETE http://localhost:3000/posts/60507444e5dada4c3c8e7602
HTTP/1.1 200 OK
Connection: keep-alive
Content-Length: 288
Content-Type: application/json; charset=utf-8
Date: Tue, 16 Mar 2021 10:12:24 GMT
Etag: W/"60507444e5dada4c3c8e7602"
Keep-Alive: timeout=5
X-Powered-By: Express

{"clusterTime": {"clusterTime": "6048192741133385732",
 "signature": {
   "hash": "14X088e40f+2V0NC9TgX0+E3AT1-",
   "keyid": "0936266298021317122"
 }
 },
 "deletedCount": 1,
 "electionId": "7f7ffff00000000000000004",
 "n": 1,
 "ok": 1,
 "opTime": {
   "t": 4,
   "ts": "6048192741133385732"
 },
 "operationTime": "6048192741133385732"
}

C:\Users\Bullet>http GET http://localhost:3000/posts
HTTP/1.1 200 OK
Connection: keep-alive
Content-Length: 316
Content-Type: application/json; charset=utf-8
Date: Tue, 16 Mar 2021 10:12:31 GMT
Etag: W/"13c-f1c8trrgkx8wfrBr1IS1/10s"
Keep-Alive: timeout=5
X-Powered-By: Express

[
  {
    "_id": "605074b3e5dada4c3c8e7603",
    "date": null,
    "email": "put2@gmail.com",
    "name": "put2",
    "password": "putted2",
    "surname": "putname2",
    "username": "PUTTED2"
  },
  {
    "_id": "605082c6ee2b714b2c329028",
    "date": null,
    "email": "put2@gmail.com",
    "name": "put3",
    "password": "putted2",
    "surname": "putname2",
    "username": "CHANGED2"
  }
]
```

As you can see first records name was put1 and now its put2 because first record is deleted.

PATCH:

Now I will update just the name attribute of the record with id "605074b3e5dada4c3c8e7603" which its name is put2 wright now.

After patch its name is "CloudCompute"

http PATCH <http://localhost:3000/posts/605074b3e5dada4c3c8e7603> name="CloudCompute"

```
C:\Windows\system32\cmd.exe
Content-Type: application/json; charset=utf-8
Date: Tue, 16 Jun 2021 16:16:22 GMT
Etag: w/"1d3670731606e9a0e11g5odKac"
Keep-Alive: timeout=5
X-Powered-By: Express

{
  "clusterTime": {
    "clusterTime": "6048193767638569477",
    "signature": {
      "hash": "803d0a957gkua70a011nTpCkOh",
      "keyid": "6036266298621117122"
    }
  },
  "electionId": "777777770a00000000000000",
  "term": 1,
  "modified": 0,
  "ok": 1,
  "operationTime": {
    "ts": 4,
    "ts": "6048193767638569477"
  },
  "operationTime": "6048193767638569477"
}

C:\Users\Bullet>http GET http://localhost:3000/posts
HTTP/1.1 200 OK
Connection: keep-alive
Content-Length: 321
Content-Type: application/json; charset=utf-8
Date: Tue, 16 Jun 2021 16:16:22 GMT
Etag: w/"1d3670731606e9a0e11g5odKac"
Keep-Alive: timeout=5
X-Powered-By: Express

[
  {
    "_id": "605074b3e5dada4c3c8e7603",
    "data": null,
    "email": "put2@gmail.com",
    "name": "Cloud Compute",
    "password": "put2ed",
    "surname": "putname",
    "username": "PUTIDID"
  },
  {
    "_id": "605074b3e5dada4c3c8e7604",
    "data": null,
    "email": "put2@gmail.com",
    "name": "put1",
    "password": "put2ed",
    "surname": "putname",
    "username": "PUTIDID"
  }
]
```