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Project4Task2Writeup

1

Code pieces of logs

When receive a request from the user and respond

Will contain timestamps, request address, request content, and response content.

```
1 //create request log and upload to mongo
2 String logInfo = String.format("[Time: %s] GET request from %s, querying \"%s\""
3                                ,dateFormat.format(new Date()), request.getRemoteAddr(),
4                                query);
5 mongoHandler.log(logInfo);
6 System.out.println(logInfo);
7
8 //create response log and upload to mongo
9 logInfo = String.format("[Time: %s] Response to client %s with content: %s",
10                          dateFormat.format(new Date()), request.getRemoteAddr(),
11                          gson.toJson(resBody));
12 mongoHandler.log(logInfo);
13 System.out.println(logInfo);
```

When request the third party API and get the response from it.

Will contains timestamps, request content, response status.

```
1 //upload request logInfo (API)
2 String logInfo = String.format("[Time: %s] request to API, querying %s", dateFormat.format(new
3 Date()), ip);
4 mongoHandler.log(logInfo);
5 System.out.println(logInfo);
6
7 //upload response logInfo (API)
8 logInfo = String.format("[Time: %s] response from API with status %s", dateFormat.format(new
9 Date()), status);
10 mongoHandler.log(logInfo);
11 System.out.println(logInfo);
```

```
[Time: 2022/04/13 01:44:17] GET request from 10.1.20.52, querying "ip=173.174.6.78"
[Time: 2022/04/13 01:44:17] request to API, querying 173.174.6.78
[Time: 2022/04/13 01:44:17] response from API with status success
[Time: 2022/04/13 01:44:17] Response to client 10.1.20.52 with content: {"code":200,"location":{"country":"United States","regionName":"Texas","city":"Kerrville"}}
[Time: 2022/04/13 01:44:47] GET request from 10.1.20.52, querying "ip=125.214.52.15"
[Time: 2022/04/13 01:44:47] request to API, querying 125.214.52.15
[Time: 2022/04/13 01:44:47] response from API with status success
[Time: 2022/04/13 01:44:47] Response to client 10.1.20.52 with content: {"code":200,"location":{"country":"Vietnam","regionName":"Ho Chi Minh","city":"Ho Chi Minh"}
[Time: 2022/04/13 01:45:18] GET request from 10.1.20.52, querying "ip=125.214.52."
[Time: 2022/04/13 01:45:18] request to API, querying 125.214.52.
[Time: 2022/04/13 01:45:18] response from API with status fail
[Time: 2022/04/13 01:45:19] Response to client 10.1.20.52 with content: {"code":400,"message":"invalid query"}
[Time: 2022/04/13 01:45:48] GET request from 10.1.20.52, querying "ip=124.21.53.6"
[Time: 2022/04/13 01:45:48] request to API, querying 124.21.53.6
[Time: 2022/04/13 01:45:48] response from API with status success
[Time: 2022/04/13 01:45:48] Response to client 10.1.20.52 with content: {"code":200,"location":{"country":"China","regionName":"Beijing","city":"Beijing"}}
```

2

The MongoHandler is a layer that upload the information to mongoDB

A piece of it shows as follow

```
1 public class MD {
2     protected MongoDBDatabase md;
3
4     public MD(MongoDatabase md) {
5         this.md = md;
6     }
7
8     public void log(String info) {
9         MongoCollection<Document> collection = md.getCollection("log");
10        collection.insertOne(new Document().append("message", info));
11    }
12 }
```

The MongoDBDatabase is created when the IPServlet.class is loaded.

init function of IPServlet

```
1 public void init() {
2     gson = new Gson();
3     dateFormat = new SimpleDateFormat("yyyy/MM/dd HH:mm:ss");
4     logger = LoggerFactory.getLogger(SimpleLoggerFactory.class);
5
6     //connect to mongodb
7     String url = "mongodb://muyut:cmumuyut@cluster0-shard-00-00.kbe6k.mongodb.net:27017," +
8         "cluster0-shard-00-01.kbe6k.mongodb.net:27017,cluster0-shard-00-02.kbe6k.mongodb.net:27017/" +
9         "test?w=majority&retryWrites=true&tls=true&authMechanism=SCRAM-SHA-1";
10
11     mc = MongoClient.create(url);
12     CodecProvider.pojoCodecProvider = PojoCodecProvider.builder().automatic(true).build();
13    .pojoCodecRegistry = fromRegistries(getDefaultCodecRegistry(),
14         fromProviders(pojoCodecProvider));
15     md = mc.getDatabase("test").withCodecRegistry(pojoCodecRegistry);
16     mongoHandler = new MD(md);
17 }
```

3

Dashboard link <https://pacific-everglades-38530.herokuapp.com/dashboard.jsp>

4

All request can be made to heroku

IP request: <https://pacific-everglades-38530.herokuapp.com/ip-servlet/getIP?ip=1.1.1.1>

get top 3 countries: <https://pacific-everglades-38530.herokuapp.com/ip-servlet/stats?content=count>

get request number: <https://pacific-everglades-38530.herokuapp.com/ip-servlet/stats?content=whoask>

get request average latency: <https://pacific-everglades-38530.herokuapp.com/ip-servlet/stats?content=latency>