

## CS6650 Assignment 2

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### 1. GitHub Repo

<https://github.com/ZetaL0519/CS6650Assignment2/tree/main>

### 2. Database Design

I choose to use AWS RDS MySQL database. The process of creating database and table is like the following:

```
CREATE DATABASE album_store;
USE album_store;

CREATE TABLE albums (
    album_id INT AUTO_INCREMENT PRIMARY KEY,
    artist VARCHAR(255),
    title VARCHAR(255),
    year VARCHAR(4),
    image LONGBLOB,
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

In summary, the schema of my database table only contains one table. Album id is auto incremented by one each time we post item.

For image, I used the image given by the professor, which is 3KB. I stored the image in the form of LONGBLOB. Blob storage is a type of cloud storage for unstructured data. A "blob," which is short for Binary Large Object, is a mass of data in binary form that does not necessarily conform to any file format.

### 3. Output windows for the 3 client configuration tests run against a single server/DB

/Users/zoelee/Library/Java/JavaVirtualMachines/corretto-1.

## Client Part 2 Result:

-----

Number of successful requests sent: 200000

Number of unsuccessful requests: 0

The total run time(wall time): 480043 milliseconds

The total throughput per Sec: 416

### POST Metrics:

Mean Response Time: 285 millisecs

Median Response Time: 132 millisecs

P99 Response Time: 1452 millisecs

Min Response Time: 37 millisecs

Max Response Time: 6714 millisecs

### GET Metrics:

Mean Response Time: 169 millisecs

Median Response Time: 104 millisecs

P99 Response Time: 912 millisecs

Min Response Time: 31 millisecs

Max Response Time: 7306 millisecs

Process finished with exit code 0

Client Part 2 Result:

-----

Number of successful requests sent: 400000

Number of unsuccessful requests: 0

The total run time(wall time): 960085 milliseconds

The total throughput per Sec: 417

POST Metrics:

Mean Response Time: 322 millisecs

Median Response Time: 158 millisecs

P99 Response Time: 1686 millisecs

Min Response Time: 78 millisecs

Max Response Time: 8908 millisecs

GET Metrics:

Mean Response Time: 157 millisecs

Median Response Time: 164 millisecs

P99 Response Time: 987 millisecs

Min Response Time: 32 millisecs

Max Response Time: 5086 millisecs

Process finished with exit code 0

Client Part 2 Result:

-----

Number of successful requests sent: 600000

Number of unsuccessful requests: 0

The total run time(wall time): 2247095 milliseconds

The total throughput per Sec: 267

POST Metrics:

Mean Response Time: 347 millisecs

Median Response Time: 389 millisecs

P99 Response Time: 2380 millisecs

Min Response Time: 248 millisecs

Max Response Time: 6797 millisecs

GET Metrics:

Mean Response Time: 89 millisecs

Median Response Time: 259 millisecs

P99 Response Time: 750 millisecs

Min Response Time: 56 millisecs

Max Response Time: 7984 millisecs

Process finished with exit code 0

4. Output windows for the 3 client configuration tests run against a two load balanced servers/DB

## Client Part 2 Result:

-----  
Number of successful requests sent: 200000

Number of unsuccessful requests: 0

The total run time(wall time): 271263 milliseconds

The total throughput per Sec: 737

### POST Metrics:

Mean Response Time: 179 millisecs

Median Response Time: 95 millisecs

P99 Response Time: 1384 millisecs

Min Response Time: 24 millisecs

Max Response Time: 4632 millisecs

### GET Metrics:

Mean Response Time: 89 millisecs

Median Response Time: 78 millisecs

P99 Response Time: 680 millisecs

Min Response Time: 24 millisecs

Max Response Time: 2796 millisecs

Process finished with exit code 0



## Client Part 2 Result:

-----  
Number of successful requests sent: 400000

Number of unsuccessful requests: 0

The total run time(wall time): 595238 milliseconds

The total throughput per Sec: 672

### POST Metrics:

Mean Response Time: 378 millisecs

Median Response Time: 358 millisecs

P99 Response Time: 3567 millisecs

Min Response Time: 57 millisecs

Max Response Time: 4307 millisecs

### GET Metrics:

Mean Response Time: 98 millisecs

Median Response Time: 98 millisecs

P99 Response Time: 570 millisecs

Min Response Time: 34 millisecs

Max Response Time: 680 millisecs

Process finished with exit code 0

## Client Part 2 Result:

-----  
Number of successful requests sent: 600000

Number of unsuccessful requests: 0

The total run time(wall time): 924559 milliseconds

The total throughput per Sec: 649

### POST Metrics:

Mean Response Time: 589 millisecs

Median Response Time: 529 millisecs

P99 Response Time: 2890 millisecs

Min Response Time: 24 millisecs

Max Response Time: 5692 millisecs

### GET Metrics:

Mean Response Time: 279 millisecs

Median Response Time: 257 millisecs

P99 Response Time: 499 millisecs

Min Response Time: 26 millisecs

Max Response Time: 705 millisecs

Process finished with exit code 0