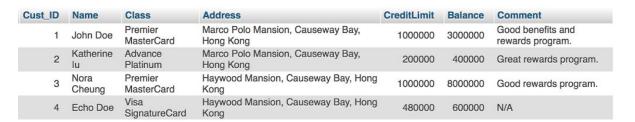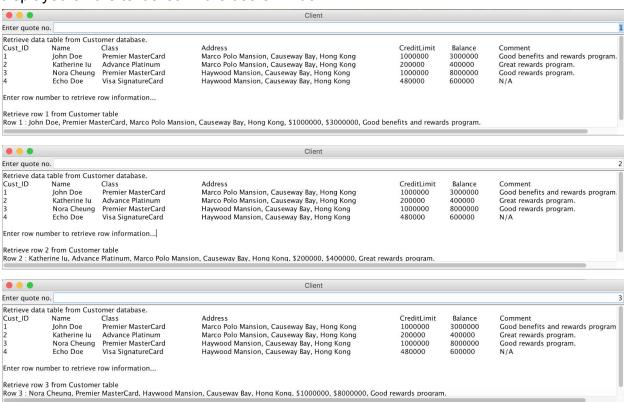# Project Description

A multi-threaded Socket server program is created that provide connection to a Customer Database stored on MYSQL database server through the use of JDBC (Java Database Connectivity) to allow multiple client sockets (users) to access and retrieve information. The Customer Database contain a Customer Table with Customer Data.

| Cust_ID | Name | Class | Address | CreditLimit | Balance | Comment |
|---|---|---|---|---|---|---|
| 1 | John Doe | Premier MasterCard | Marco Polo Mansion, Causeway Bay, Hong Kong | 1000000 | 3000000 | Good benefits and rewards program. |
| 2 | Katherine lu | Advance Platinum | Marco Polo Mansion, Causeway Bay, Hong Kong | 200000 | 400000 | Great rewards program. |
| 3 | Nora Cheung | Premier MasterCard | Haywood Mansion, Causeway Bay, Hong Kong | 1000000 | 8000000 | Good rewards program. |
| 4 | Echo Doe | Visa SignatureCard | Haywood Mansion, Causeway Bay, Hong Kong | 480000 | 600000 | N/A |

A Client Socket program is created to allow the creation of multiple users to establish connection to the server socket. Then users can retrieve the entire Customer data table and the desire row information base on customer id from the socket. The Customer data table will be provided to each user after successful connection to the server socket, then users can input the row number to retrieve the desire customer information from the table in a GUI designed window. The result will be retrieved through the server socket across the network which connects to the Customer Database. The content retrieved will be displayed on the text area in the users window.

The Server window will also display the process which multiple users connects to it to accessed the Customer database and retrieved the necessary customer's information.

```
●●●                                                    MultiThreadServer
MultiThreadServer started at Sun Jan 07 01:02:55 HKT 2018

Starting thread for client 1 at Sun Jan 07 01:02:56 HKT 2018
Client 1's host name is localhost
Client 1's IP Address is 127.0.0.1

Retrieve data table from Customer database for client 1
Cust_ID     Name          Class                Address                                              CreditLimit    Balance     Comment
1           John Doe      Premier MasterCard   Marco Polo Mansion, Causeway Bay, Hong Kong          1000000        3000000     Good benefits and rewards program.
2           Katherine Iu  Advance Platinum     Marco Polo Mansion, Causeway Bay, Hong Kong          200000         400000      Great rewards program.
3           Nora Cheung   Premier MasterCard   Haywood Mansion, Causeway Bay, Hong Kong             1000000        8000000     Good rewards program.
4           Echo Doe      Visa SignatureCard   Haywood Mansion, Causeway Bay, Hong Kong             480000         600000      N/A

Row data requested from client 1 is Row 1
Row 1 : John Doe, Premier MasterCard, Marco Polo Mansion, Causeway Bay, Hong Kong, $1000000, $3000000, Good benefits and rewards program.

Starting thread for client 2 at Sun Jan 07 01:03:05 HKT 2018
Client 2's host name is localhost
Client 2's IP Address is 127.0.0.1

Retrieve data table from Customer database for client 2
Cust_ID     Name          Class                Address                                              CreditLimit    Balance     Comment
1           John Doe      Premier MasterCard   Marco Polo Mansion, Causeway Bay, Hong Kong          1000000        3000000     Good benefits and rewards program.
2           Katherine Iu  Advance Platinum     Marco Polo Mansion, Causeway Bay, Hong Kong          200000         400000      Great rewards program.
3           Nora Cheung   Premier MasterCard   Haywood Mansion, Causeway Bay, Hong Kong             1000000        8000000     Good rewards program.
4           Echo Doe      Visa SignatureCard   Haywood Mansion, Causeway Bay, Hong Kong             480000         600000      N/A

Row data requested from client 2 is Row 2
Row 2 : Katherine Iu, Advance Platinum, Marco Polo Mansion, Causeway Bay, Hong Kong, $200000, $400000, Great rewards program.

Starting thread for client 3 at Sun Jan 07 01:03:13 HKT 2018
Client 3's host name is localhost
Client 3's IP Address is 127.0.0.1

Retrieve data table from Customer database for client 3
Cust_ID     Name          Class                Address                                              CreditLimit    Balance     Comment
1           John Doe      Premier MasterCard   Marco Polo Mansion, Causeway Bay, Hong Kong          1000000        3000000     Good benefits and rewards program.
2           Katherine Iu  Advance Platinum     Marco Polo Mansion, Causeway Bay, Hong Kong          200000         400000      Great rewards program.
3           Nora Cheung   Premier MasterCard   Haywood Mansion, Causeway Bay, Hong Kong             1000000        8000000     Good rewards program.
4           Echo Doe      Visa SignatureCard   Haywood Mansion, Causeway Bay, Hong Kong             480000         600000      N/A

Row data requested from client 3 is Row 3
Row 3 : Nora Cheung, Premier MasterCard, Haywood Mansion, Causeway Bay, Hong Kong, $1000000, $8000000, Good rewards program.
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