

# Declaration of Solution for Part 3

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## Link to Github for Part 3

The solution is available at

[https://github.com/WeiHen01/BITP3123\\_Lab14/tree/master/lab14/src/Part3](https://github.com/WeiHen01/BITP3123_Lab14/tree/master/lab14/src/Part3)

## Exercise 2: Entity Class

**Class:** Customer

**Attributes:** customerId, name

**Methods:** getCustomerId( ), setCustomerId(int customerId), getName( ), setName(String name)

## Exercise 3: Controller Class

**Class:** CustomerDataManager

**Attributes:** List<Customer> customers

**Methods:** createCustomer( ), getCustomerByName(String name), getCustomerById(int id), getCustomerList( )

## Exercise 4: Finding a Customer at the Server-Side by Customer Name

**Class:** TCPCustomerServerApp, Customer, CustomerDataManager, DataInputStream, InputStream, ObjectOutputStream, OutputStream, ServerSocket, Socket

### Screenshot:

At TCPCustomerServerApp, the console:

```
TCPCustomerServerApp [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Jun 23, 2023, 12:34:47 AM) [pid: 1792]
```

```
Executing TCP Customer Server App
Waiting for next request
```

## Exercise 5: Finding a Customer at the Client-Side by Customer Name

**Class:** TCPCustomerClientApp, Customer, DataInputStream, InputStream, ObjectOutputStream, OutputStream, InetAddress, Socket, Scanner

### Screenshots:

At TCPCustomerClientApp, the console:

1. Finding customer by name partially,

```
<terminated> TCPCustomerClientApp [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Jun 23, 2023, 1:26:36 PM - 1:26:41 PM) [pid: 14444]
```

```
Executing TCPProductClientApp
```

```
Enter customer name: Lau Chi
```

```
Requesting customer's name: Lau Chi
```

```
Customer Information (From the server)
```

```
Customer Id: 1001
```

```
Name: Lau Chi Chien
```

## 2. Finding customer by name fully,

```
<terminated> TCPCustomerClientApp [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Jun 23, 2023, 1:27:34 PM - 1:27:41 PM) [pid: 8260]
    Executing TCPProductClientApp
Enter customer name: Lim Zhao Hong
    Requesting customer's name: Lim Zhao Hong

    Customer Information (From the server)
    Customer Id: 1002
    Name: Lim Zhao Hong
```

## 3. Finding non-existing customer,

```
<terminated> TCPCustomerClientApp [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Jun 23, 2023, 1:27:07 PM - 1:27:12 PM) [pid: 17500]
    Executing TCPProductClientApp
Enter customer name: Song Ji Hyo
    Requesting customer's name: Song Ji Hyo

    Customer Information (From the server)
    Customer Id: 0
    Name: null
```

## 4. Server response in TCPCustomerServerApp,

```
TCPCustomerServerApp [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Jun 23, 2023, 1:26:32 PM) [pid: 11128]

    Executing TCP Customer Server App
    Waiting for next request
    Sending customer: 1001 Lau Chi Chien    Sending customer: 0 null    Sending customer: 1002 Lim Zhao Hong
```

## Exercise 6: Finding a Customer at the Server Side by Customer Id

**Class:** TCPCustomersByIdServerApp, Customer, CustomerDataManager, DataInputStream, InputStream, ObjectOutputStream, OutputStream, ServerSocket, Socket

### Screenshot:

At TCPCustomersByIdServerApp, the console:

```
TCPCustomersByIdServerApp [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Jun 23, 2023, 1:41:27 PM) [pid: 14816]

    Executing TCP Customer By ID Server App
    Waiting for next request
```

## Exercise 7: Finding a Customer at the Client-Side by Customer Id

**Class:** TCPCustomersByIdClientApp, Customer, DataInputStream, InputStream, ObjectOutputStream, OutputStream, InetAddress, Socket, Scanner

### Screenshots:

At TCPCustomersByIdClientApp, the console:

#### 1. Finding customer by Id

```
<terminated> TCPCustomersByIdClientApp [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Jun 23, 2023, 1:45:53 PM - 1:45:55 PM) [pid: 11700]
    Executing TCP Customer By ID Server App
Enter customer id: 1002
    Requesting customer id 1002

    Customer Information (From the server)
    Customer Id: 1002
    Name: Lim Zhao Hong
```

## 2. Finding non-existing customer using Id

```
<terminated> TCPCustomersByldClientApp [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Jun 23, 2023, 1:46:52 PM - 1:46:57 PM) [pid: 16496]
    Executing TCP Customer By ID Server App
Enter customer id: 2001
|    Requesting customer id 2001

    Customer Information (From the server)
    Customer Id: 0
    Name: null
```

## 3. Server response at TCPCustomersByldServerApp

```
TCPCustomersByldServerApp [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Jun 23, 2023, 1:45:50 PM) [pid: 17568]
|
    Executing TCP Customer By ID Server App
    Waiting for next request
    Request for Customer Id: 1002
    Sending customer: 1002 Lim Zhao Hong    Request for Customer Id: 2001
    Sending customer: 0 null
```

## Exercise 9: Getting a List of Customers from the Server-Side

**Class:** TCPCustomersServerApp, Customer, CustomerDataManager, DataInputStream, InputStream, ObjectOutputStream, OutputStream, ServerSocket, Socket, List

### Screenshot:

At TCPCustomersServerApp, the console:

```
TCPCustomersServerApp [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Jun 23, 2023, 2:02:59 PM) [pid: 18260]
|
    Executing TCP Customers Server App
    Waiting for next request
```

## Exercise 10: Receiving a List of Customers at the Client-Side

**Class:** TCPCustomersClientApp, Customer, CustomerViewer, InputStream, ObjectOutputStream, InetAddress, Socket, List

### Screenshot:

At TCPCustomersClientApp, the console:

```
<terminated> TCPCustomersClientApp [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Jun 23, 2023, 2:03:17 PM - 2:03:18 PM) [pid: 18688]
    Number of record: 10
    Customer Information
    _____
    ID      Name
    1001    Lau Chi Chien
    1002    Lim Zhao Hong
    1003    Macaurel Noel
    1004    Hafiz suhaizal
    1005    Teoh Jia Qi
    1006    Syafiqah Rozi
    1007    Syafiqah Nasir
    1008    Irdina Izzati
    1009    Shaufy Yana
    1010    Hanis Sorhana
```

Server response at TCPCustomersServerApp, the console:

TCPCustomersServerApp [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Jun 23, 2023, 2:02:59 PM) [pid: 18260]

```
Executing TCP Customers Server App  
Waiting for next request  
Sending : 10 customers
```