Full Stack Development/Software Workshop 2

Formative assessment 8

Lecture Topic: Week 07, Java Multi-Threaded Server

Note: in order to do this assessment we highly encourage you to first try and run the examples discussed in week 7 lecture.

Question 1

Write a multithreaded client server application (Q1Client.java, Q1sever.jav, and Q1Clienthandler.java). The client sends a circle radius (r) as double, the server reads the value, compute the area of the circle (area = π r²). and sends the result back to client.

[Note: A similar program was provided in week 4 formative assessment using single client server model]

Question 2:

Write a multithreaded client server application (Q2Client.java, Q2sever.jav, Q2databse.java, and Q2Clienthandler.java). The client sends the budget as double, the server reads the value, and returns all album titles less than the budget entered by the client. The client program will continue to ask the client for a new budget, if the client enter 0.0 the program will close the client connection.

A sample output of the program is given below.

```
run:
Client Running ........
Enter your Budget:
5.0
You entered 5.0
Budget sent to Server. Now wait for response
MSG FROM SERVER: Titles [For Your Pleasure, The Top, Strange Days, The Velvet Underground and Nico, The Stone Roses, Led Zeppelin, Imagine]
Enter your Budget:
10.0
You entered 10.0
Budget sent to Server. Now wait for response
MSG FROM SERVER: Titles [Diamond Dogs, Station to Station, The Idiot, For Your Pleasure, Revolver, Sabbath Bloody Sabbath, Welcome to Jamrock, The Top, Strange Days, Appetite
Enter your Budget:
0.0
You entered 0.0
Budget sent to Server. Now wait for response
MSG FROM SERVER: Titles []
BUILD SUCCESSFUL (total time: 12 minutes 27 seconds)
```

Question 3:

Modify the source code for the question 2 above, now each client can save the query result in a CSV file. Here a description of a CSV file https://en.wikipedia.org/wiki/Comma-separated_values.

A sample example in Java how to write a CSV file , https://www.geeksforgeeks.org/writing-a-csv-file-in-java-using-opencsv/

Good luck