Distributed Systems-72060-[2015-2016]

Assignment #2: Multi-threaded Client Server App (25%)

Instructions

The assignment is based on the AreaCircle and JDBC Labs.

- *Java threads covered In (**Threads and Distributed Processing in Java**).*
- *You will find the "Loan Server" app follows on from the Area-Circle client/server lab exercise covered in (1. Distributed Network Programming in Java (Client/Server)). See exercise at the end.*
- *The assignment also uses work from the Java JDBC MySQL Labs #1/#2*

1. Write a Multithreaded version of the Loan Server application. The Server accepts requests from multiple Clients sending loan information (AccountNum, annual interest rate, number of years, and loan amount) to the server (similar to Figure 7 (b)).

The server only services requests from valid account holders by confirming AccountNum exists on a Bank Database. Once a valid request is received, the server computes monthly payment and total payment and sends them back to the Client (similar to Figure7(a)), along with a welcome message. Clearly identify all communication between Server and Client by displaying HostName and IPAddress in the Client/Server windows with all messages sent

2. Create a server hosted bank database (BankDatabase) containing one table (RegisteredApplicants) to allow all user requests to be validated. Only registered applicant requests will be processed. All other client requests will receive the message from the server "Sorry, you are not a registered client ". The RegisteredApplicants table contains three fields :

- AccountNum (type int(4))
- FirstName (type varchar(20))
- LastName (type varchar(20))

Populate the database manually with the following AccountNum values (1001,1002,1003,1004,1005). Use any name values you wish.

File Names:

- Client: ClientA2.java
- Server: MultiThreadedServerA2.java

Submission Details:

Date: Sunday 1st November 2015

Format: Eclipse Project (Assign2_yourName) containing all relevant java source code.

Marking Scheme

1. Valid Submission: 20%
2. JAVA Threaded Client/Server: 40%
3. DBase/JDBC: 20%
4. Quality: 20%
5. Plagarism: -100%

1. Valid Submission

- On time
- Error free and executes correctly
- All requested files
- Correct Naming and Format conventions: (JAVA Project)
- Valid Database naming/tables/fields/contents (as specified)

2. Java Multi Threaded GUI Client/Server

- GUI
- Event Handling
- Sockets
- Threads
- Client Request Processing

3. DBase/JDBC

- Valid and error free
- Valid Setup/Connection to WAMP/MAMP
- Valid Database, Tables, Fields and Content.
- Valid Submit functionality using JDBC
- Valid RETRIEVE functionality

4. Quality

- Overall quality of assignment. inc

- Design, Understanding, Execution, Coding, Testing/Validation, Documentation, Delivery and Submission

5. Plagiarism

- Identified Plagiarism will result in zero mark.

Assign2.pdf
Solution-Pseudo.pdf

Submission status

Submission status	No attempt
Grading status	Not graded
Due date	Sunday, 1 November 2015, 11:55 PM
Time remaining	12 days 5 hours
Last modified	Saturday, 26 September 2015, 7:47 PM
Submission comments	Comments (0)

Add submission

Make changes to your submission

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Administration

Module administration