JWTD Lab Assignment-4

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In the program which have database operation through java interface, you should introduce an action that involves multiple data update, illustrate this issue without having automicity control and resolve the issue through transaction demarcation

1.Interface file

**package** \_211047022;

**public** **interface** Lab4 {

**public** **void** viewDetails();

**public** **void** getinfo();

**public** **void** updateAmount(**int** Receiverid,**int** Senderid,**int** Amount);

}

2.Automicity file

package \_211047022;

import java.util.\*;

import java.sql.\*;

import java.sql.Connection;

import java.sql.DatabaseMetaData;

import java.sql.DriverManager;

import java.sql.SQLException;

public class Lab4Atom implements Lab4 {

public void viewDetails(){

Connection conn = null;

try {

String dbURL = "jdbc:sqlserver://LAPTOP-R07JHSTN:1433;databaseName=dwlab;encrypt=true;trustServerCertificate=true;";

String user = "athul";

String pass = "athul";

conn = DriverManager.getConnection(dbURL, user, pass);

if (conn != null) {

Statement sta = conn.createStatement();

ResultSet rs = sta.executeQuery("select \* from bankjava");

System.out.println("ID" + "\t" + "Name" + "\t\t" +

"Amount");

while(rs.next()) {

int id = rs.getInt("id");

String name = rs.getString("name");

int amount = rs.getInt("amount");

System.out.println(id + "\t" + name + "\t" + amount);

}

}

} catch (SQLException ex) {

ex.printStackTrace();

} finally {

try {

if (conn != null && !conn.isClosed()) {

conn.close();

}

} catch (SQLException ex) {

ex.printStackTrace();

}

}

}

public void getinfo(){

int Receiverid, Senderid, Amount;

Scanner scan = new Scanner(System.in);

System.out.println("Enter the Receiverid");

Receiverid = scan.nextInt();

System.out.println("Enter the Senderid");

Senderid = scan.nextInt();

System.out.println("Enter the Amount");

Amount = scan.nextInt();

updateAmount(Receiverid,Senderid,Amount);

}

public void updateAmount(int Receiverid,int Senderid,int Amount) {

Connection conn = null;

int SenderAvailBal = 0;

int ReciverAvailBal = 0;

int Senid = 0;

int Recid = 0;

try {

String dbURL = "jdbc:sqlserver://LAPTOP-R07JHSTN:1433;databaseName=dwlab;encrypt=true;trustServerCertificate=true;";

String user = "athul";

String pass = "athul";

conn = DriverManager.getConnection(dbURL, user, pass);

if (conn != null) {

Statement sta = conn.createStatement();

conn.setAutoCommit(false);

//int SenderAvailBal = sta.executeQuery("select amount from bankjava where id ="+Senderid);

//SenderAvailBal = sta.executeQuery("select amount from bankjava where id ="+Senderid);

//ReciverAvailBal = select amount form bank where Id = Rid;

ResultSet rs1 = sta.executeQuery("select id,amount from bankjava where id="+Receiverid);

while(rs1.next()) {

Recid = rs1.getInt("id");

ReciverAvailBal = rs1.getInt("amount");

// System.out.println(Recid + "\t" + ReciverAvailBal);

}

ResultSet rs2 = sta.executeQuery("select id,amount from bankjava where id="+Senderid);

while(rs2.next()) {

Senid = rs2.getInt("id");

SenderAvailBal = rs2.getInt("amount");

//System.out.println(Senid + "\t" + SenderAvailBal);

}

if(Amount <= SenderAvailBal) {

int diffamount = SenderAvailBal - Amount;

int addedamount = ReciverAvailBal + Amount;

sta.executeUpdate("update bankjava set amount=" +

diffamount + "where iD=" + Senid);

sta.executeUpdate("update bankjava set amount=" +

addedamount + "where iD=" + Recid);

conn.commit();

viewDetails();

}else {

System.out.println("Insufficient Balance of Senderid "

+ Senid + " Amount = " + SenderAvailBal);

conn.rollback();

// viewDetails();

}

}

} catch (SQLException ex) {

ex.printStackTrace();

} finally {

try {

if (conn != null && !conn.isClosed()) {

conn.close();

}

} catch (SQLException ex) {

ex.printStackTrace();

}

}

}

public static void main(String[] args) {

Lab4Atom at = new Lab4Atom();

at.viewDetails();

at.getinfo();

}

}

OUTPUT:

Case 1:

Text

Description automatically generated

Case 2:

Text, email

Description automatically generated