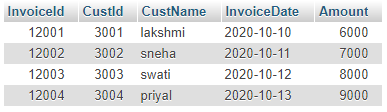
**PRACTICAL - 6**

**RMI Database**

**c) Retrieve the MTNL billing information from the MTNL database**

Database Name : mtnl

Table Name : billingtable



**Code:**

**Billing.java**

public class Billing implements java.io.Serializable

{

private int InvoiceId, CustId, Amount;

private String CustName;

private String InvoiceDate;

public int getInvoiceId()

{

return InvoiceId;

}

public int getCustId()

{

return CustId;

}

public String getCustName()

{

return CustName;

}

public String getInvoiceDate()

{

return InvoiceDate;

}

public int getAmount()

{

return Amount;

}

public void setInvoiceId(int InvoiceId)

{

this.InvoiceId = InvoiceId;

}

public void setCustId(int CustId)

{

this.CustId = CustId;

}

public void setCustName(String CustName)

{

this.CustName = CustName;

}

public void setInvoiceDate(String InvoiceDate)

{

this.InvoiceDate = InvoiceDate;

}

public void setAmount(int Amount)

{

this.Amount = Amount;

}

}

**Bill\_Intf.java**

import java.rmi.Remote;

import java.rmi.RemoteException;

import java.util.\*;

// Creating Remote interface for our application

public interface Bill\_Intf extends Remote

{

public List<Billing> billDetails(int num) throws Exception;

}

**Bill\_Impl.java**

import java.rmi.\*;

import java.rmi.server.\*;

import java.util.\*;

import java.sql.\*;

// Implementing the remote interface

public class Bill\_Impl implements Bill\_Intf

{

// Implementing the interface method

public List<Billing> billDetails(int num) throws Exception

{

List<Billing> list = new ArrayList<Billing>();

try

{

// JDBC driver name and database URL

String JDBC\_DRIVER = "com.mysql.jdbc.Driver";

String DB\_URL = "jdbc:mysql://localhost:3306/mtnl";

// Database credentials

String USER = "root";

String PASS = "";

Connection conn = null;

Statement stmt = null;

//Register JDBC driver

Class.forName("com.mysql.jdbc.Driver");

//Open a connection

System.out.println("Connecting to a selected database...");

conn = DriverManager.getConnection(DB\_URL, USER, PASS);

System.out.println("Connected database successfully...");

//Execute a query

System.out.println("Creating statement...");

stmt = conn.createStatement();

String sql = "SELECT \* FROM billingtable WHERE CustId= " + num;

ResultSet rs = stmt.executeQuery(sql);

//Extract data from result set

while(rs.next())

{

// Retrieve by column name

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

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

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

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

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

// Setting the values

Billing billing = new Billing();

billing.setInvoiceId(InvoiceId);

billing.setCustId(CustId);

billing.setCustName(CustName);

billing.setInvoiceDate(InvoiceDate);

billing.setAmount(Amount);

list.add(billing);

}

rs.close();

}

catch (Exception e)

{

System.out.println(e);

}

return list;

}

}

**Bill\_Server.java**

import java.rmi.\*;

import java.rmi.registry.\*;

import java.rmi.RemoteException;

import java.rmi.server.UnicastRemoteObject;

public class Bill\_Server extends Bill\_Impl

{

public Bill\_Server()

{

}

public static void main(String args[])

{

try

{

// Instantiating the implementation class

Bill\_Impl obj = new Bill\_Impl();

// Exporting the object of implementation class (here we are exporting the remote object to the stub)

Bill\_Intf stub = (Bill\_Intf) UnicastRemoteObject.exportObject(obj, 0);

// Binding the remote object (stub) in the registry

Registry registry = LocateRegistry.createRegistry(1099);

registry.bind("MTNL\_Billing", stub);

System.err.println("Server ready");

}

catch(Exception e)

{

System.err.println("Server exception: " + e.toString());

e.printStackTrace();

}

}

}

**Bill\_Client.java**

import java.rmi.Naming;

import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

import java.util.\*;

public class Bill\_Client

{

private Bill\_Client()

{

}

public static void main(String args[])throws Exception

{

try

{

// Getting the registry

Registry registry = LocateRegistry.getRegistry(1099);

// Looking up the registry for the remote object

Bill\_Intf stub = (Bill\_Intf) registry.lookup("MTNL\_Billing");

System.out.print("Enter cust Id: ");

Scanner scan = new Scanner(System.in); //System.in is a standard input stream

int cust\_id = scan.nextInt();

// Calling the remote method using the obtained object

List<Billing> list = (List)stub.billDetails(cust\_id);

for (Billing s:list)

{

// System.out.println("rn "+s.getrollno());

System.out.println("InvoiceId: " + s.getInvoiceId());

System.out.println("CustId: " + s.getCustId());

System.out.println("CustName: " + s.getCustName());

System.out.println("InvoiceDate: " + s.getInvoiceDate());

System.out.println("Amount: " + s.getAmount());

System.out.println("\n\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n");

}

// System.out.println(list);

}

catch(Exception e)

{

System.err.println("Client exception: " + e.toString());

e.printStackTrace();

}

}

}

**Output:**

