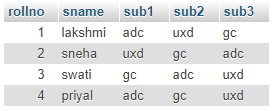
**PRACTICAL - 6**

**RMI Database**

**a) Retrieve the students information from the college database**

Database Name : college

Table Name : student



**Code:**

**Student.java**

public class Student implements java.io.Serializable

{

private int rollno;

private String sname, sub1, sub2, sub3;

public int getrollno()

{

return rollno;

}

public String getsname()

{

return sname;

}

public String getsub1()

{

return sub1;

}

public String getsub2()

{

return sub2;

}

public String getsub3()

{

return sub3;

}

public void setrollno(int rollno)

{

this.rollno = rollno;

}

public void setsname(String sname)

{

this.sname = sname;

}

public void setsub1(String sub1)

{

this.sub1 = sub1;

}

public void setsub2(String sub2)

{

this.sub2 = sub2;

}

public void setsub3(String sub3)

{

this.sub3 = sub3;

}

}

**Stud\_Intf.java**

import java.rmi.Remote;

import java.rmi.RemoteException;

import java.util.\*;

// Creating Remote interface for our application

public interface Stud\_Intf extends Remote

{

public List<Student> studentDetails() throws Exception;

}

**Stud\_Impl.java**

import java.rmi.\*;

import java.rmi.server.\*;

import java.util.\*;

import java.sql.\*;

// Implementing the remote interface

public class Stud\_Impl implements Stud\_Intf

{

// Implementing the interface method

public List<Student> studentDetails() throws Exception

{

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

try

{

// JDBC driver name and database URL

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

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

// 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 student";

ResultSet rs = stmt.executeQuery(sql);

//Extract data from result set

while(rs.next())

{

// Retrieve by column name

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

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

String sub1 = rs.getString("sub1");

String sub2 = rs.getString("sub2");

String sub3 = rs.getString("sub3");

// Setting the values

Student student = new Student();

student.setrollno(rollno);

student.setsname(sname);

student.setsub1(sub1);

student.setsub2(sub2);

student.setsub3(sub3);

list.add(student);

}

rs.close();

}

catch (Exception e)

{

System.out.println(e);

}

return list;

}

}

**Stud\_Server.java**

import java.rmi.\*;

import java.rmi.registry.\*;

import java.rmi.RemoteException;

import java.rmi.server.UnicastRemoteObject;

public class Stud\_Server extends Stud\_Impl

{

public Stud\_Server()

{

}

public static void main(String args[])

{

try

{

// Instantiating the implementation class

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

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

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

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

Registry registry = LocateRegistry.createRegistry(1099);

registry.bind("Student\_Intf", stub);

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

}

catch(Exception e)

{

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

e.printStackTrace();

}

}

}

**Stud\_Client.java**

import java.rmi.Naming;

import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

import java.util.\*;

public class Stud\_Client

{

private Stud\_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

Stud\_Intf stub = (Stud\_Intf) registry.lookup("Student\_Intf");

// Calling the remote method using the obtained object

List<Student> list = (List)stub.studentDetails();

for (Student s:list)

{

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

System.out.println("rollno: " + s.getrollno());

System.out.println("sname: " + s.getsname());

System.out.println("sub1: " + s.getsub1());

System.out.println("sub2: " + s.getsub2());

System.out.println("sub3: " + s.getsub3());

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

}

// System.out.println(list);

}

catch(Exception e)

{

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

e.printStackTrace();

}

}

}

**Output:**

