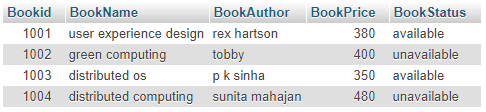
**PRACTICAL - 6**

**RMI Database**

**b) Retrieve the list of books available in the library**

Database Name : library

Table Name : bookdetails



**Code:**

**Book.java**

import java.rmi.Naming;

import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

import java.util.\*;

public class Book\_Client

{

private Book\_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

Book\_Intf stub = (Book\_Intf) registry.lookup("Library\_Book");

// Calling the remote method using the obtained object

List<Book> list = (List)stub.bookDetails();

for (Book s:list)

{

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

System.out.println("Bookid: " + s.getBookid());

System.out.println("BookName: " + s.getBookName());

System.out.println("BookAuthor: " + s.getBookAuthor());

System.out.println("BookPrice: " + s.getBookPrice());

System.out.println("BookStatus " + s.getBookStatus());

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

}

// System.out.println(list);

}

catch(Exception e)

{

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

e.printStackTrace();

}

}

}

**Book\_Intf.java**

import java.rmi.Remote;

import java.rmi.RemoteException;

import java.util.\*;

// Creating Remote interface for our application

public interface Book\_Intf extends Remote

{

public List<Book> bookDetails() throws Exception;

}

**Book\_Impl.java**

import java.rmi.\*;

import java.rmi.server.\*;

import java.util.\*;

import java.sql.\*;

// Implementing the remote interface

public class Book\_Impl implements Book\_Intf

{

// Implementing the interface method

public List<Book> bookDetails() throws Exception

{

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

try

{

// JDBC driver name and database URL

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

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

// 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 bookdetails";

ResultSet rs = stmt.executeQuery(sql);

//Extract data from result set

while(rs.next())

{

// Retrieve by column name

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

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

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

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

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

// Setting the values

Book book = new Book();

book.setBookid(Bookid);

book.setBookName(BookName);

book.setBookAuthor(BookAuthor);

book.setBookPrice(BookPrice);

book.setBookStatus(BookStatus);

list.add(book);

}

rs.close();

}

catch (Exception e)

{

System.out.println(e);

}

return list;

}

}

**Book\_Server.java**

import java.rmi.\*;

import java.rmi.registry.\*;

import java.rmi.RemoteException;

import java.rmi.server.UnicastRemoteObject;

public class Book\_Server extends Book\_Impl

{

public Book\_Server()

{

}

public static void main(String args[])

{

try

{

// Instantiating the implementation class

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

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

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

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

Registry registry = LocateRegistry.createRegistry(1099);

registry.bind("Library\_Book", stub);

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

}

catch(Exception e)

{

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

e.printStackTrace();

}

}

}

**Book\_Client.java**

import java.rmi.Naming;

import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

import java.util.\*;

public class Book\_Client

{

private Book\_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

Book\_Intf stub = (Book\_Intf) registry.lookup("Library\_Book");

// Calling the remote method using the obtained object

List<Book> list = (List)stub.bookDetails();

for (Book s:list)

{

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

System.out.println("Bookid: " + s.getBookid());

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System.out.println("BookPrice: " + s.getBookPrice());

System.out.println("BookStatus " + s.getBookStatus());

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

}

// System.out.println(list);

}

catch(Exception e)

{

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

e.printStackTrace();

}

}

}

**Output:**

