

PRACTICAL 4

AIM: Demonstrate CRUD operations with suitable database using SOAP or RESTful Web service.

INPUT:

//Server.java

```
package webservice.prac4;

import javax.jws.WebService;
import javax.jws.WebMethod;
import javax.jws.soap.SOAPBinding;
import javax.jws.soap.SOAPBinding.Style;
import java.util.*;

@WebService
@SOAPBinding(style = Style.RPC)
public interface Server {
    @WebMethod int insertFriend(String name,String addr);
    @WebMethod String[] getFriend(int id);
    @WebMethod boolean deleteFriend(int id);
}
```

//ServerImplement.java

```
package webservice.prac4;
import java.sql.*;
import java.util.*;
import javax.jws.WebService;
@WebService(endpointInterface = "webservice.prac4.Server")

public class ServerImplement implements Server {

    private static final String url = "jdbc:mysql://localhost:3306/library";

    private static final String user = "root";

    private static final String password = "";

    public String[] getFriend(int id){

        String[] data = new String[2];
        try {
            Connection con = DriverManager.getConnection(url, user, password);
            Statement stmt = null;
            stmt = con.createStatement();

            String sql = "SELECT * FROM `friends` Where `id`="+id;
            ResultSet rs = stmt.executeQuery(sql);
```

```

        while(rs.next()){

            data[0] = rs.getString("name");
            data[1] = rs.getString("addr");
        }
        rs.close();

    } catch (Exception e) {
        e.printStackTrace();
    }

    return data;
}

public int insertFriend(String name,String addr){

    int id = 0;
    try {
        Connection con = DriverManager.getConnection(url, user, password);

        String query = "Insert into friends (name,addr)" + " values (?, ?)";
        PreparedStatement preparedStmt =
con.prepareStatement(query,Statement.RETURN_GENERATED_KEYS);

        preparedStmt.setString (1, name);
        preparedStmt.setString (2, addr);

        preparedStmt.executeUpdate();
        ResultSet rs=preparedStmt.getGeneratedKeys();

        if(rs.next()){
            id=rs.getInt(1);
        }

    } catch (Exception e) {
        e.printStackTrace();
    }
    return id;
}

public boolean deleteFriend(int id){

    boolean stat = false;
    try {
        Connection con = DriverManager.getConnection(url, user, password);

        String query = "Delete from friends where id = ?";
        PreparedStatement preparedStmt = con.prepareStatement(query);

        preparedStmt.setInt (1, id);

```

```

        preparedStmt.execute();
        stat = true;
    } catch (Exception e) {
        e.printStackTrace();
    }
    return stat;
}
}

```

//ServerPublisher.java

```

package webservice.prac4;
import javax.xml.ws.Endpoint;
public class ServerPublisher {
    public static void main(String[ ] args) {
        Endpoint.publish("http://127.0.0.1:9876/prac4",new ServerImplement());
    }
}

```

//Client.java

```

package webservice.prac4;
import javax.xml.namespace.QName;
import javax.xml.ws.Service;
import java.net.URL;
import java.util.*;

class Client {
    public static void main(String args[ ]) throws Exception {
        URL url = new URL("http://127.0.0.1:9876/prac4?wsdl");

        QName qname = new QName("http://prac4.webservice/", "ServerImplementService");
        Service service = Service.create(url, qname);
        Server eif = service.getPort(Server.class);

        Scanner s = new Scanner(System.in);

        System.out.println("1 > Add Friend");
        System.out.println("2 > Get Friend By Id");
        System.out.println("3 > Delete Friend");
        System.out.print("Enter Your Option:");

        int op = s.nextInt();
        int id = 0;
        String name="",addr="";
        switch(op){

            case 1:
                System.out.print("Enter Friends Name:");

```

```

        name=s.next();
        System.out.print("\nEnter Friends Address:");
        addr=s.next();
        int a = eif.insertFriend(name,addr);
        if(a>0){
            System.out.println("Your Friend has been Added with Id:"+a);
        }
        break;
        case 2:
        System.out.print("Enter Friends ID:");
        id=s.nextInt();
        String[] data = eif.getFriend(id);
        System.out.println("Name:"+data[0]+"Address:"+data[1]);
        break;
        case 3:
        System.out.print("Enter Friends ID To Delete:");
        id=s.nextInt();
        if(eif.deleteFriend(id)){
            System.out.println("Friend has been Deleted");
        }
        break;
        default:
        System.out.print("No Such Options!!!!\n Try pressing Another Key:");
        break;
    }
}
}

```

OUTPUT:

Server Side:

```
devil@devil-Inspiron-3542 ~/Desktop
File Edit View Search Terminal Help
devil@devil-Inspiron-3542 ~/Desktop $ javac webservice/prac4/*.java
devil@devil-Inspiron-3542 ~/Desktop $ java webservice.prac4.ServerPublisher
```

Client Side:

```
devil@devil-Inspiron-3542 ~/Desktop
File Edit View Search Terminal Help
devil@devil-Inspiron-3542 ~/Desktop $ java webservice.prac4.Client
1 > Add Friend
2 > Get Friend By Id
3 > Delete Friend
Enter Your Option:1 Enter Friends Name:");
Enter Friends Name:Shubham
System.out.println("Enter Friends Address:");
Enter Friends Address:Malad
Your Friend has been Added with Id:8
devil@devil-Inspiron-3542 ~/Desktop $ java webservice.prac4.Client
1 > Add Friend
2 > Get Friend By Id
3 > Delete Friend
Enter Your Option:2
Enter Friends ID:8 Enter Friends ID:");
Name:Shubham ();
Address:Malad (); if(getFriend(id));
devil@devil-Inspiron-3542 ~/Desktop $ java webservice.prac4.Client
1 > Add Friend
2 > Get Friend By Id
3 > Delete Friend Enter Friends ID To Delete:");
Enter Your Option:3
Enter Friends ID To Delete:8
Friend has been Deleted Friend has been Deleted");
```