

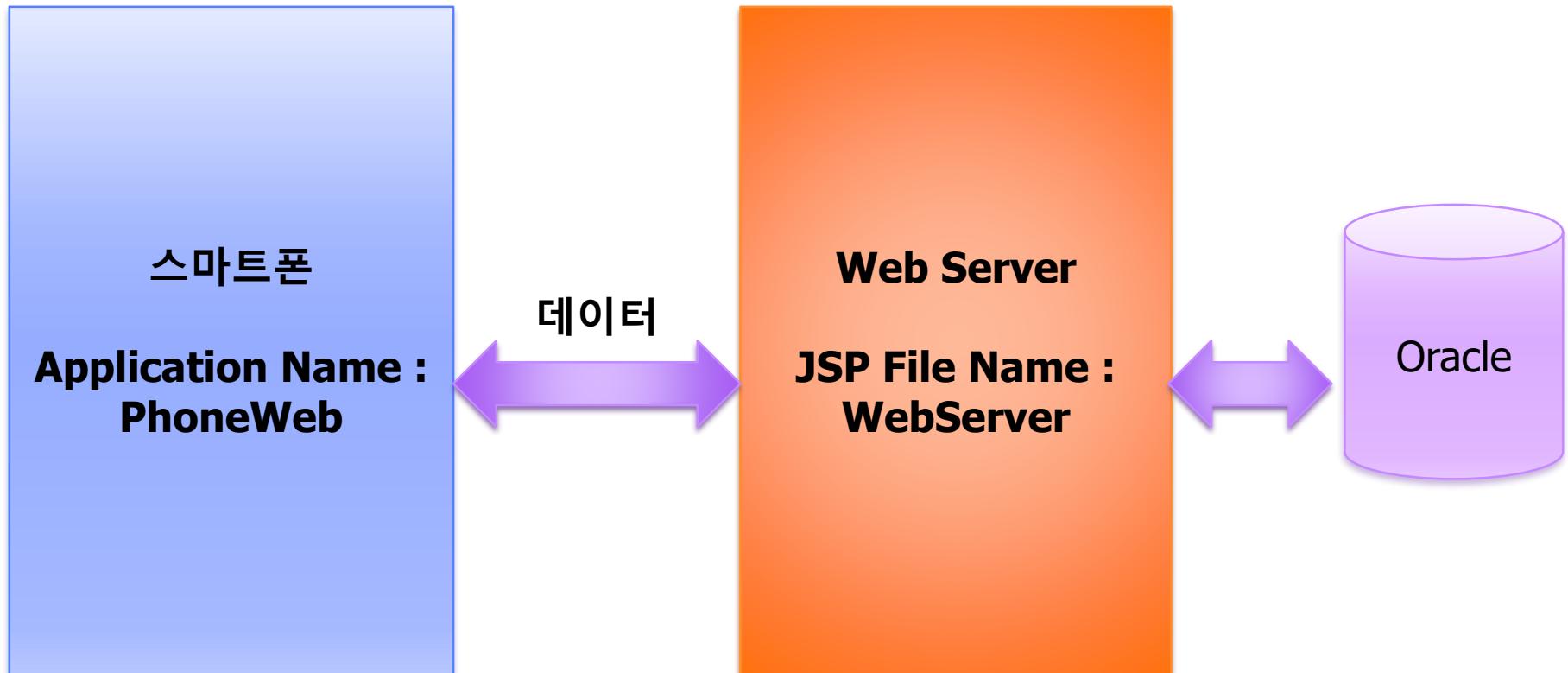


# ANDROID와 WEB SERVER & ORACLE

안드로이드에서 웹 서버에 데이터 전송, 웹서버에서  
*Oracle* 데이터베이스에 저장, 안드로이드 폰으로 다시  
보내기



# Smart Phone과 JSP & Oracle



# Web서버와 데이터베이스연결



1. Elipse에서 웹서버 프로그래밍
2. Ojdbc.jar 파일 세팅
3. JSP 파일 생성



```
1 <%@ page language="java" contentType="text/html; charset=EUC-KR"
2     pageEncoding="EUC-KR" import="java.sql.*"
3     import = "java.util.*"%>
4
5<%
6     String recvMessage = "0";
7     String[] msg;
8     String SendMessage = null;
9     String TestData = "A001";
10    try{
11        recvMessage = request.getParameter("msg");
12
13        //DB 연결 //
14        Connection conn = null;
15        Statement stmt = null;
16        ResultSet rs = null;
17        String sql = null;
18
```

```
19 try{  
20     Class.forName("oracle.jdbc.driver.OracleDriver");  
21     conn = DriverManager.getConnection(  
22             "jdbc:oracle:thin:@168.126.146.45:1521:orcl", "2015015", "454520");  
23  
24     try{  
25         sql = "SELECT NAME FROM DBTEST WHERE ID = '" + TestData + "'";  
26         stmt = conn.createStatement();  
27         rs = stmt.executeQuery(sql);  
28         while(rs.next()){  
29             SendMessage = rs.getString(1);  
30         }  
31         rs.close();  
32         stmt.close();  
33     }catch(Exception e){  
34         System.out.println("오라클 Select 오류!");  
35     }  
36     }catch(Exception e){  
37         System.out.println("오라클 연동 실패!");  
38     }  
39     }catch(Exception e){  
40         System.out.println("서버 및 오라클 오류!");  
41     }finally{  
42         out.println("write Data:" + SendMessage + "!");  
43     }  
44 %>
```

# DBTEST 데이터베이스

6

열 데이터 | 제약 조건 | 권한 부여 | 통계 | 트리거 | 플래시백 | 증속성 | 세부 정보 | 분할 영역 | 인덱스 | SQL

▶ 작업...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	ID	VARCHAR2 (20 BYTE)	Yes	(null)	1	(null)
2	NAME	VARCHAR2 (20 BYTE)	Yes	(null)	2	(null)

Oracle × DBTEST ×

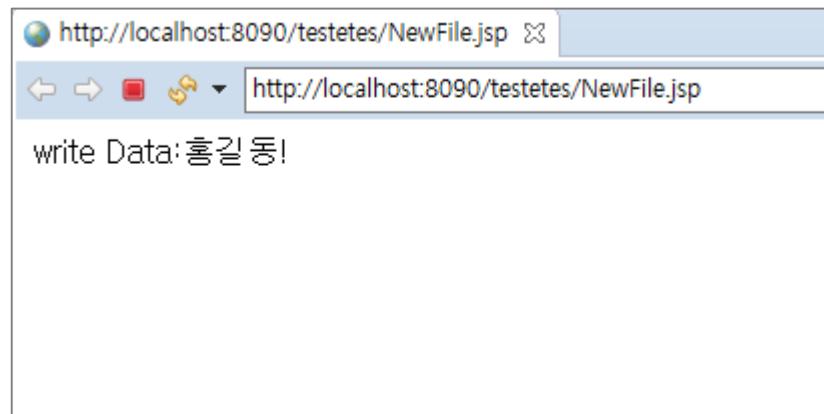
열 데이터 | 제약 조건 | 권한 부여 | 통계 | 트리거 | 플래시백 | 증속성 | 세부 정보 | 분할 영역 | 인덱스 | SQL

▶ 정렬... | 필터:

	ID	NAME
1	A001	홍길동
2	A002	성춘향
3	A003	조장혁

# 이클립스에서 직접 실행 화면

7



# (모바일 앱)프로젝트 만들기



Application name: [AndroidWebserverOracle](#)

Company Domain: admid.example.com

Project location: [C:\Android\StdWork\androidwebserver](#)

Target Android Devices

- Minimum SDK API 19이상

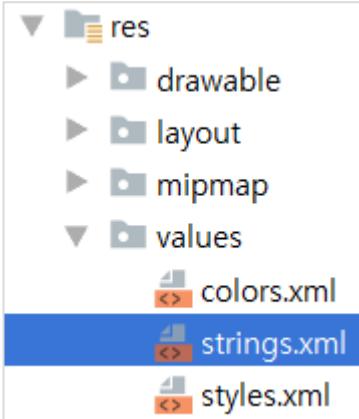
Add an activity to Mobile : [Empty Activity](#)

Customize the Activity

Activity Name: [MainActivity](#)

Layout Name: [activity\\_main](#)





웹서버 JSP경로로 변경

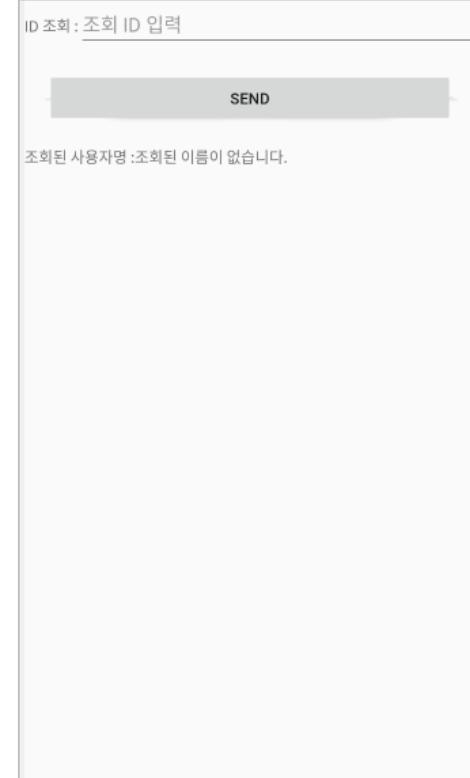
strings.xml

```
1 <resources>
2     <!-- app -->
3     <string name="app_name">Phone and WebServer</string>
4     <string name="server_url">http://192.168.21.220:8090/testetes/Newfile.jsp</string>
5
6     <!-- Layout default -->
7     <string name="send_message">ID 조회 : </string>
8     <string name="send_message_input"> 조회 ID 입력</string>
9     <string name="send">요 청</string>
10    <string name="receive_message">조회된 사용자명 : </string>
11    <string name="receive_message_empty"> 조회된 이름이 없습니다.</string>
12    <string name="file_save">File Save</string>
13
14    <!-- toast message -->
15    <string name="send_message_empty">메시지를 입력하세요.</string>
16    <string name="file_empty">저장할 메시지가 없습니다.</string>
17
18    <!-- log filename -->
19    <string name="file_log_name">temp.log</string>
20
21 </resources>
```

# activity\_main.xml

10

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
3     xmlns:app="http://schemas.android.com/apk/res-auto"
4     xmlns:tools="http://schemas.android.com/tools"
5     android:layout_width="match_parent"
6     android:layout_height="match_parent"
7     android:orientation="vertical"
8     tools:context=".MainActivity">
9
10    <LinearLayout
11        android:layout_width="match_parent"
12        android:layout_height="wrap_content"
13        android:orientation="horizontal">
14
15        <TextView
16            android:layout_width="wrap_content"
17            android:layout_height="wrap_content"
18            android:text="@string/send_message" />
19
20        <EditText
21            android:id="@+id/et_message"
22            android:layout_width="match_parent"
23            android:layout_height="wrap_content"
24            android:hint="@string/send_message_input" />
25    </LinearLayout>
```



string.xml에 정의

```
26  
27     <Button  
28         android:id="@+id	btn_sendData"  
29         android:layout_width="match_parent"  
30         android:layout_height="wrap_content"  
31         android:layout_margin="20dp"  
32         android:text="Send" />  
33  
34     <LinearLayout  
35         android:layout_width="match_parent"  
36         android:layout_height="wrap_content"  
37         android:orientation="horizontal">  
38  
39         <TextView  
40             android:layout_width="wrap_content"  
41             android:layout_height="wrap_content"  
42             android:text="@string/receive_message" />  
43  
44         <TextView  
45             android:id="@+id/tv_receive"  
46             android:layout_width="match_parent"  
47             android:layout_height="wrap_content"  
48             android:text="@string/receive_message_empty" />  
49     </LinearLayout>
```



string.xml에 정의

# activity\_main.xml

12

```
50
51 <LinearLayout
52     android:layout_width="wrap_content"
53     android:layout_height="wrap_content"
54     android:orientation="vertical"
55     android:layout_gravity="center">
56
57     <ProgressBar
58         android:id="@+id/progressBar"
59         android:layout_width="wrap_content"
60         android:layout_height="wrap_content"
61         android:visibility="invisible" />
62
63     </LinearLayout>
64 </LinearLayout>
```



```
1 package com.example.phoneweb;  
2  
3 import android.os.AsyncTask;  
4 import android.support.v7.app.AppCompatActivity;  
5 import android.os.Bundle;  
6 import android.view.View;  
7 import android.widget.Button;  
8 import android.widget.EditText;  
9 import android.widget.ProgressBar;  
10 import android.widget.TextView;  
11 import android.widget.Toast;  
12  
13 import java.io.UnsupportedEncodingException;  
14 import java.net.MalformedURLException;  
15 import java.net.URL;  
16 import java.net.URLEncoder;
```

추후 확인

```
17  
18 public class MainActivity extends AppCompatActivity {  
19     private EditText sendMessage;  
20     private TextView receiveMessage;  
21     private ProgressBar loadingBar;  
22  
23     @Override  
24     protected void onCreate(Bundle savedInstanceState) {  
25         super.onCreate(savedInstanceState);  
26         setContentView(R.layout.activity_main);  
27         sendMessage = findViewById(R.id.et_message);  
28         receiveMessage = findViewById(R.id.tv_receive);  
29         loadingBar = findViewById(R.id.progressBar);  
30  
31         HttpURLConnection connection;  
32  
33         Button send = findViewById(R.id.btn_sendData);
```

개체 변수

위젯 연결

```
34  
35     send.setOnClickListener(new Button.OnClickListener() {  
36         @Override  
37         public void onClick(View view) {  
38             // 전달할 메시지 없는 경우 예외 처리.  
39             if (sendMessage.getText().toString().length() == 0) {  
40                 Toast.makeText(getApplicationContext(),  
41                     getResources().getString(R.string.send_message_empty),  
42                     Toast.LENGTH_SHORT).show();  
43             return;  
44         }  
45         URL url = null;  
46         try {  
47             String path = getResources().getString(R.string.server_url) + "?msg=";  
48             String query = URLEncoder.encode(sendMessage.getText().toString(), "enc: UTF-8");  
49             url = new URL(spec: path + query);  
50         } catch (MalformedURLException | UnsupportedEncodingException e) {  
51             e.printStackTrace();  
52             Toast.makeText(getApplicationContext(),  
53                 e.getMessage(), Toast.LENGTH_SHORT).show();  
54         }  
55         new HttpConnection().execute(url);  
56     });  
57 };
```

전송메시지 :  
sendMessage.getText().toString()

```
59 private class HttpConnection extends AsyncTask<URL, Integer, String> {
60
61     @Override
62     protected void onPreExecute() {
63         super.onPreExecute();
64         loadingBar.setVisibility(View.VISIBLE);
65     }
66
67     @Override
68     protected String doInBackground(URL... urls) {
69         String data = "";
70         if (urls.length == 0) {
71             return "URL is empty.";
72         }
73         try {
74             RequestHttpURLConnection connection = new RequestHttpURLConnection();
75             data = connection.request(urls[0]);
76         } catch (Exception e){
77             data = e.getMessage();
78         }
79         return data;
80     }
81 }
```

프로그래스바 보이기

서버로 부터 전송된 데이터

# MainActivity.java

17

```
82  
83     @Override  
84     protected void onPostExecute(String data) {  
85         super.onPostExecute(data);  
86  
87         LoadingBar.setVisibility(View.INVISIBLE);  
88         receiveMessage.setText(data);  
89     }  
90 }  
91 }
```

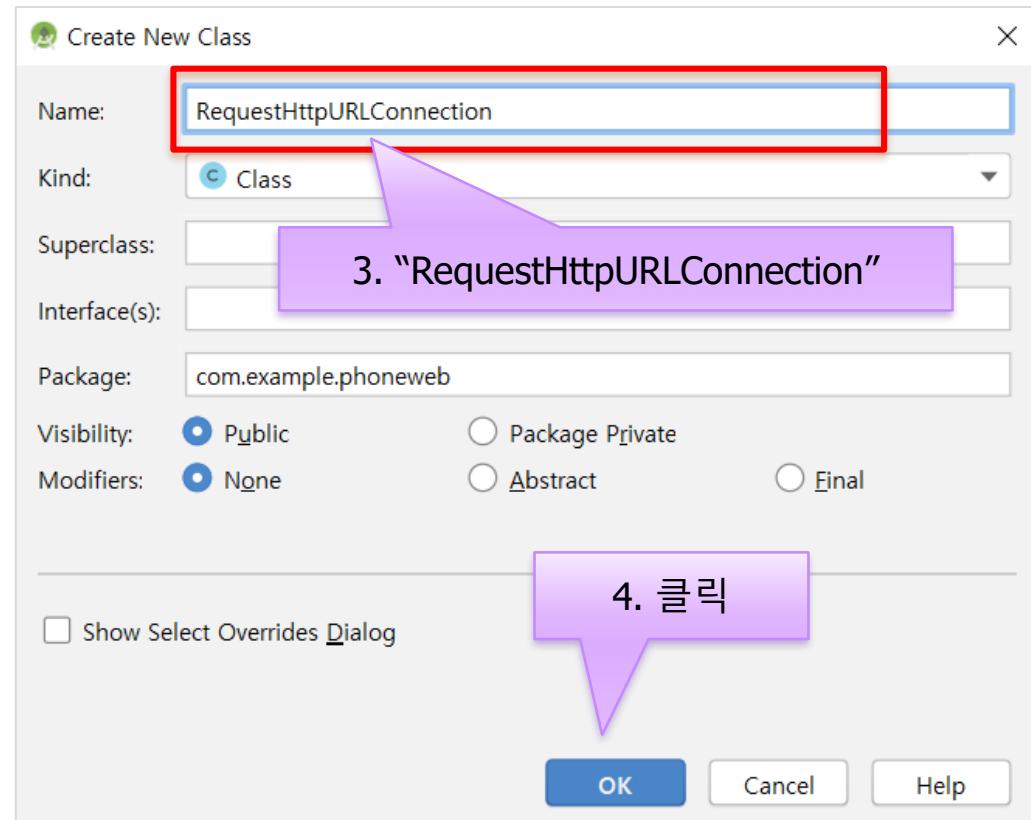
프로그래스바 숨이기

결과값 세팅

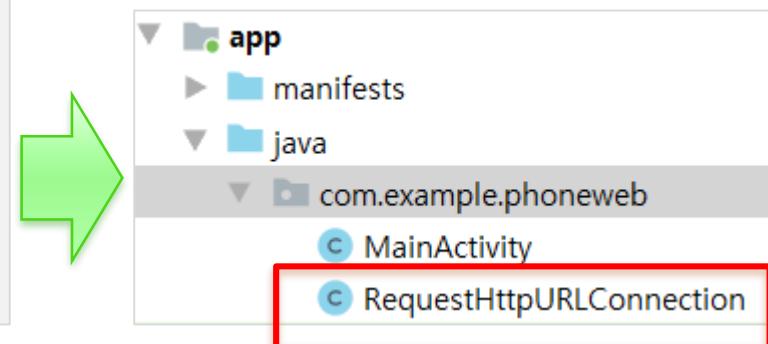
1. 오른쪽 마우스 클릭



2. "Java Class" 클릭



4. 클릭



# RequestHttpURLConnection.Java

```
c RequestHttpURLConnection.java ×  
1 package com.example.phoneweb;  
2  
3 import java.io.BufferedReader;  
4 import java.io.IOException;  
5 import java.io.InputStreamReader;  
6 import java.net.ConnectException;  
7 import java.net.HttpURLConnection;  
8 import java.net.MalformedURLException;  
9 import java.net.URL;
```

추후 확인

# RequestHttpURLConnection.Java

20

```
10
11 public class RequestHttpURLConnection {
12
13     public String request(final URL url) {
14         HttpURLConnection urlConnection = null;
15         try {
16             urlConnection = (HttpURLConnection) url.openConnection();
17             urlConnection.setReadTimeout(3000);
18             urlConnection.setConnectTimeout(3000);
19             urlConnection.setRequestMethod("GET"); // URL 요청에 대한 메소드 설정 : GET/POST.
20             if (urlConnection.getResponseCode() != HttpURLConnection.HTTP_OK) {
21                 throw new ConnectException();
22             }
23             String page = "";
24             try (BufferedReader reader = new BufferedReader(
25                     new InputStreamReader(urlConnection.getInputStream(), charsetName: "UTF-8"))) {
26                 String line;
27                 while ((line = reader.readLine()) != null) {
28                     page += line;
29                 }
30             }
31         }
```

# RequestHttpURLConnection.Java

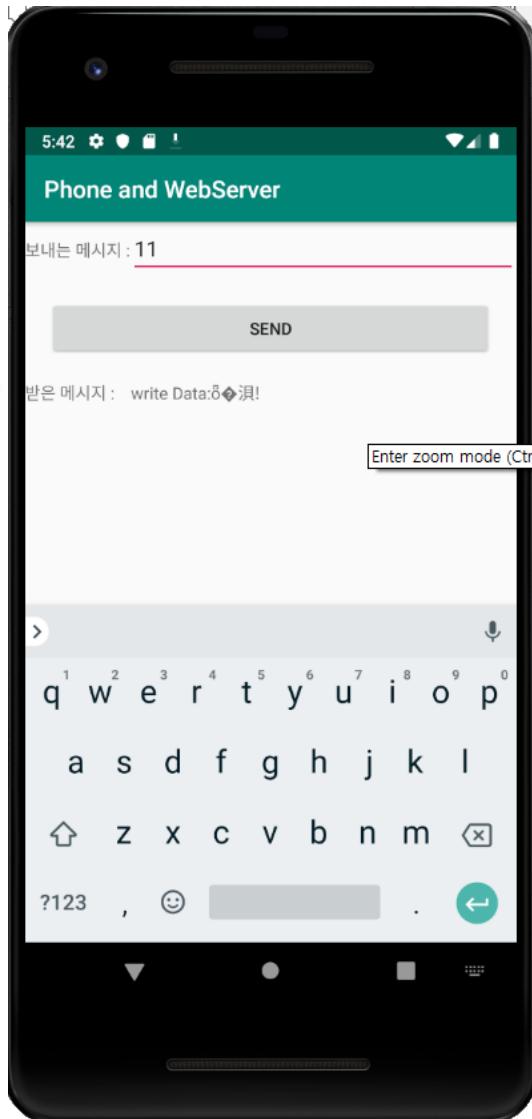
21

```
31
32         return page;
33     } catch (MalformedURLException e) {
34         e.printStackTrace();
35     } catch (IOException e) {
36         e.printStackTrace();
37     } finally {
38         if (urlConnection != null) {
39             urlConnection.disconnect();
40         }
41     }
42
43     return null;
44 }
45 }
```

```
AndroidManifest.xml x

1  <?xml version="1.0" encoding="utf-8"?>
2  <manifest xmlns:android="http://schemas.android.com/apk/res/android"
3      package="com.example.phonenewb">
4          <uses-permission android:name="android.permission.INTERNET"/>
5          <application
6              android:allowBackup="true"
7              android:icon="@mipmap/ic_launcher"
8              android:label="Phone and WebServer"
9              android:roundIcon="@mipmap/ic_launcher_round"
10             android:supportsRtl="true"
11             android:theme="@style/AppTheme"
12             android:usesCleartextTraffic="true">
13                 <activity android:name=".MainActivity">
14                     <intent-filter>
15                         <action android:name="android.intent.action.MAIN" />
16
17                         <category android:name="android.intent.category.LAUNCHER" />
18                     </intent-filter>
19                 </activity>
20             </application>
21
22         </manifest>
```

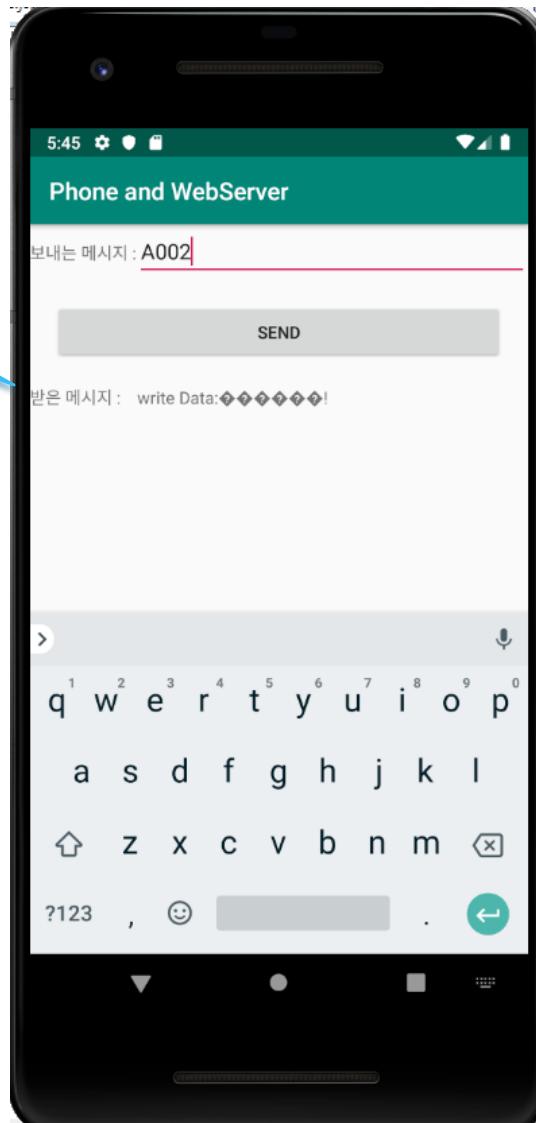
어떠한 입력을 하더라도 같은 결과 출력됨



```
5<%  
6     String recvMessage = "0";  
7     String[] msg;  
8     String SendMessage = null;  
9     //String TestData = "A001";  
10    try{  
11        recvMessage = request.getParameter("msg");  
12  
13        //DB 연결 //  
14        Connection conn = null;  
15        Statement stmt = null;  
16        ResultSet rs = null;  
17        String sql = null;  
18  
19        try{  
20            Class.forName("oracle.jdbc.driver.OracleDriver");  
21            conn = DriverManager.getConnection(  
22                            "jdbc:oracle:thin:@168.126.146.45:1521:orcl", "261175", "261175");  
23  
24        try{  
25            //sql = "SELECT NAME FROM DBTEST WHERE ID = '" + TestData + "'";  
26            sql = "SELECT NAME FROM DBTEST WHERE ID = '" + recvMessage + "'";  
27  
28            stmt = conn.createStatement();  
29            rs = stmt.executeQuery(sql);  
30            while(rs.next()){  
31                out.println(rs.getString("NAME"));  
32            }  
33        } catch (SQLException e) {  
34            e.printStackTrace();  
35        }  
36    } catch (ClassNotFoundException e) {  
37        e.printStackTrace();  
38    }  
39}
```

코드 수정

입력 데이터에 따라 대응되는 결과 출력



ID	NAME
1	A001 홍길동
2	A002 성춘향
3	A003 조장혁

# OJDBC 파일 추가



오른쪽 마우스 클릭 후  
“Properties”

Properties

Properties for testetes

Java Build Path

JAR Selection

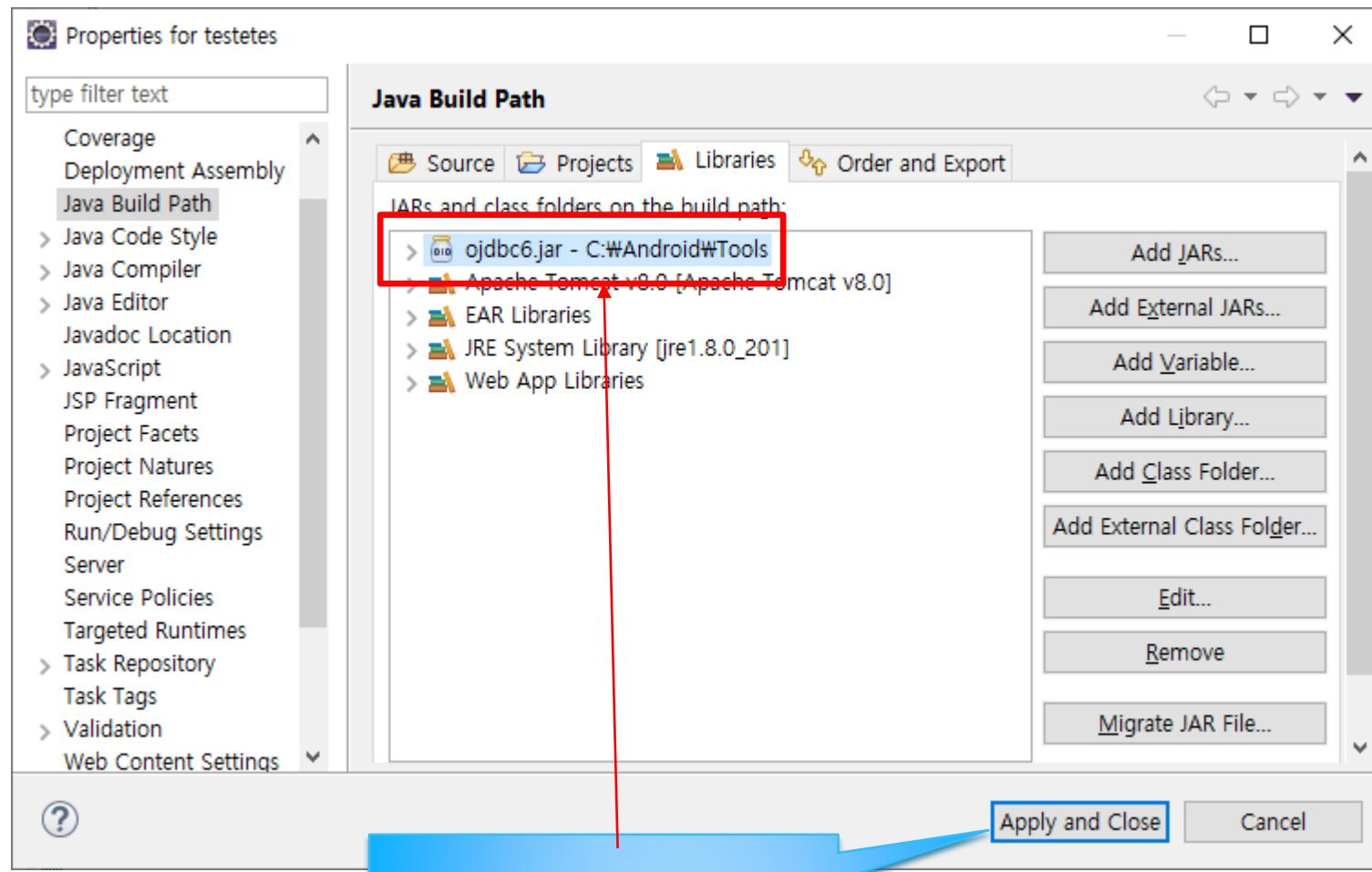
File list:

- json\_simple-1.1
- ojdbc6
- OracleXE112\_Win32
- OracleXE184\_Win64
- sqldeveloper-4.0.3.16.84-no-jre

Buttons: Apply and Close, Cancel

Red arrows point from the 'Properties' menu item to the 'Properties' dialog, and from the 'Add External JARs...' button to the 'JAR Selection' dialog.

클릭



추가 확인 후 클릭