



PHONE와 WEB 통신



Phone와 Web 통신

2



Application name: [PhoneWeb](#)

Company Domain: [admid.example.com](#)

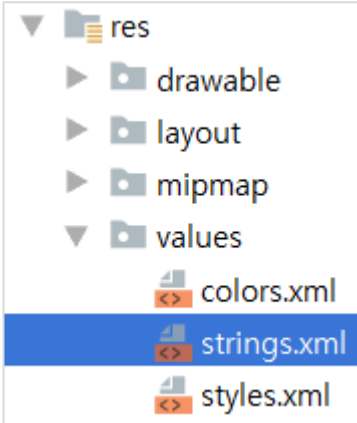
Project location: [C:\Android\StdWork\PhonewWeb](#)

Target Android Devices

- 최소 버전 : API 26 이상

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





```
strings.xml x
Edit translations for all locales in the translations editor.

1  <resources>
2      <!-- app -->
3      <string name="app_name">Phone and WebServer</string>
4      <string name="server_url">http://168.126.146.39:8080/egu/server.jsp</string>
5
6      <!-- layout default -->
7      <string name="send_message">보내는 메시지 :</string>
8      <string name="send_message_input">보내는 메시지 입력</string>
9      <string name="send">Send</string>
10     <string name="receive_message">받은 메시지 :</string>
11     <string name="receive_message_empty">받은 메시지가 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>
```

```
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>
```

보내는 메시지: 보내는 메시지 입력

SEND

받은 메시지: 받은 메시지가 없습니다.

string.xml에 정의

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

보내는 메시지 : 보내는 메시지 입력

SEND

받은 메시지 : 받은 메시지가 없습니다.

string.xml에 정의

```
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 </LinearLayout>
63
64 </LinearLayout>
```

보내는 메시지 : 보내는 메시지 입력

SEND

받은 메시지 : 받은 메시지가 없습니다.

```
MainActivity.java x
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;
17
```

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


```
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send.setOnClickListener(new Button.OnClickListener() {
    @Override
    public void onClick(View view) {
        // 전달할 메시지 없는 경우 예외 처리.
        if (sendMessage.getText().toString().length() == 0) {
            Toast.makeText(getApplicationContext(),
                getResources().getString(R.string.send_message_empty),
                Toast.LENGTH_SHORT).show();

            return;
        }
        URL url = null;
        try {
            String path = getResources().getString(R.string.server_url) + "?msg=";
            String query = URLEncoder.encode(sendMessage.getText().toString(), "UTF-8");
            url = new URL(path + query);
        } catch (MalformedURLException | UnsupportedEncodingException e) {
            e.printStackTrace();
            Toast.makeText(getApplicationContext(),
                e.getMessage(), Toast.LENGTH_SHORT).show();
        }
        new HttpConnection().execute(url);
    }
});
}
```

전송메시지 :
sendMessage.getText().toString()

```
59 private class HttpConnection extends AsyncTask<URL, Integer, String> {  
60  
61     @Override  
62     protected void onPreExecute() {  
63         super.onPreExecute();  
64         progressBar.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

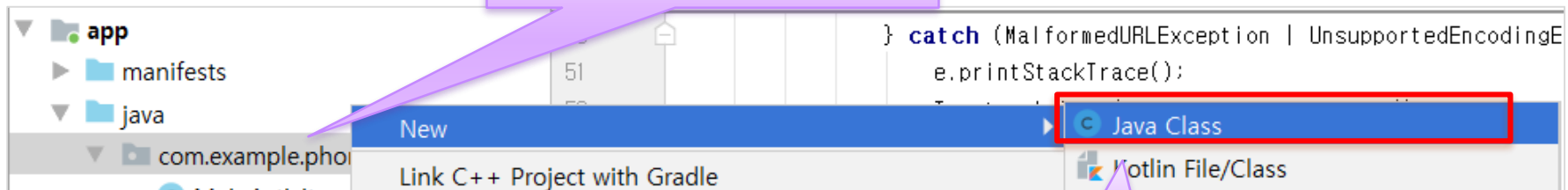
```
82  
83  
84  
85  
86  
87  
88  
89  
90  
91
```

```
    @Override  
    protected void onPostExecute(String data) {  
        super.onPostExecute(data);  
  
        progressBar.setVisibility(View.INVISIBLE);  
  
        receiveMessage.setText(data);  
    }  
}
```

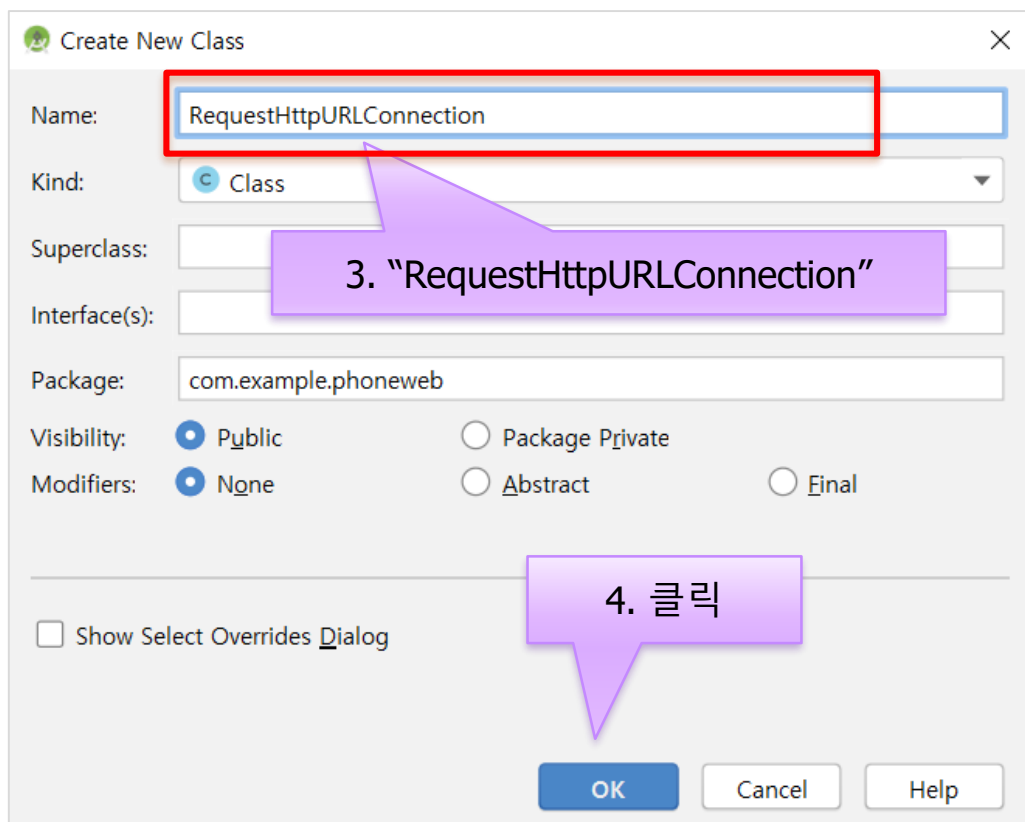
프로그레스바 숨이기

결과값 세팅

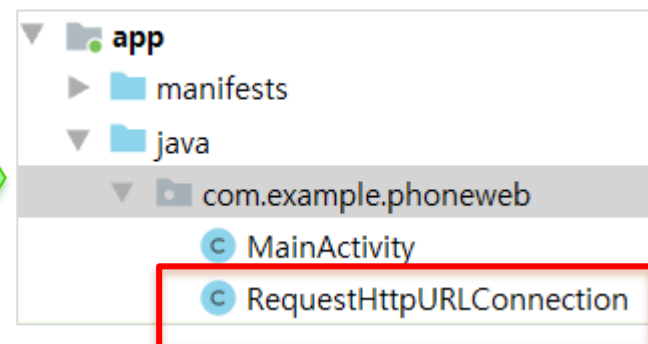
1. 오른쪽 마우스 클릭



2. "Java Class" 클릭



4. 클릭



```
RequestURLConnection.java x
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;
10
```

추후 확인

```
10
11 public class RequestURLConnection {
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         }
```

```
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
46
```



```
1 <?xml version="1.0" encoding="utf-8"?>
2 <manifest xmlns:android="http://schemas.android.com/apk/res/android"
3     package="com.example.phoneWeb">
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:supportRtl="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>
```


<http://168.126.146.39:8080/본인학번id/server.jsp>

```
<%@ page language="java" contentType="text/html; charset=EUC-KR"
    pageEncoding="EUC-KR"%>
<% String recvMessage = request.getParameter("msg");
    out.println(recvMessage);
%>
```

학과 웹서버의 본인 계정에 파일 저장

server.jsp 파일

1 <resources>

2 **res → values → strings.xml**

3 <string name="app_name">Phone and WebServer</string>

4 <string name="server_url"><http://168.126.146.39:8080/egu/server.jsp></string>

5 <!-- layout default -->

6

문제 1



입력 데이터 1 보내는 메시지 입력

입력데이터2 보내는 메시지 입력

SEND

받은 메시지 :받은 메시지가 없습니다.

입력 데이터1과 입력데이터2를
합하여 서버에 전송



문제 2

19



입력 데이터 1 보내는 메시지 입력

입력데이터2 보내는 메시지 입력

SEND

받은 메시지 :받은 메시지가 없습니다.

입력 데이터1과 입력데이터2를
합하여 서버에 전송

입력데이터2에 입력한 데이터
만 출력

