



# PHONE와 WEB 통신

# Phone와 Web 통신



Application name: [PhoneWeb](#)

Company Domain: admid.example.com

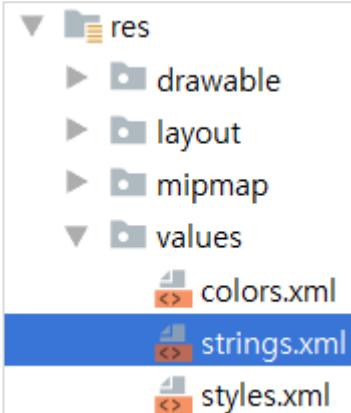
Project location: [C:\Android\StdWork\PhoneWeb](#)

Target Android Devices

- 최소 버전 : API 26 이상

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





strings.xml

Edit translations for all locales in the translations editor.

```
<resources>
    <!-- app -->
    <string name="app_name">Phone and WebServer</string>
    <string name="server_url">http://168.126.146.39:8080/egu/server.jsp</string>

    <!-- layout default -->
    <string name="send_message">보내는 메시지:</string>
    <string name="send_message_input">보내는 메시지 입력</string>
    <string name="send">Send</string>
    <string name="receive_message">받은 메시지:</string>
    <string name="receive_message_empty">받은 메시지가 없습니다.</string>
    <string name="file_save">File Save</string>

    <!-- toast message -->
    <string name="send_message_empty">메시지를 입력하세요.</string>
    <string name="file_empty">저장할 메시지가 없습니다.</string>

    <!-- log filename -->
    <string name="file_log_name">temp.log</string>
</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>
```



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

```
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>
```



## MainActivity.java

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

개체 변수

위젯 연결

```
34
35     send.setOnClickListener(new Button.OnClickListener() {
36
37     @Override
38     public void onClick(View view) {
39         // 전달할 메시지 없는 경우 예외 처리.
40         if (sendMessage.getText().toString().length() == 0) {
41             Toast.makeText(getApplicationContext(),
42                 getResources().getString(R.string.send_message_empty),
43                 Toast.LENGTH_SHORT).show();
44             return;
45         }
46         URL url = null;
47         try {
48             String path = getResources().getString(R.string.server_url) + "?msg=";
49             String query = URLEncoder.encode(sendMessage.getText().toString(), "enc: UTF-8");
50             url = new URL(spec: path + query);
51         } catch (MalformedURLException | UnsupportedEncodingException e) {
52             e.printStackTrace();
53             Toast.makeText(getApplicationContext(),
54                 e.getMessage(), Toast.LENGTH_SHORT).show();
55         }
56         new HttpConnection().execute(url);
57     });
58 }
```

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

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

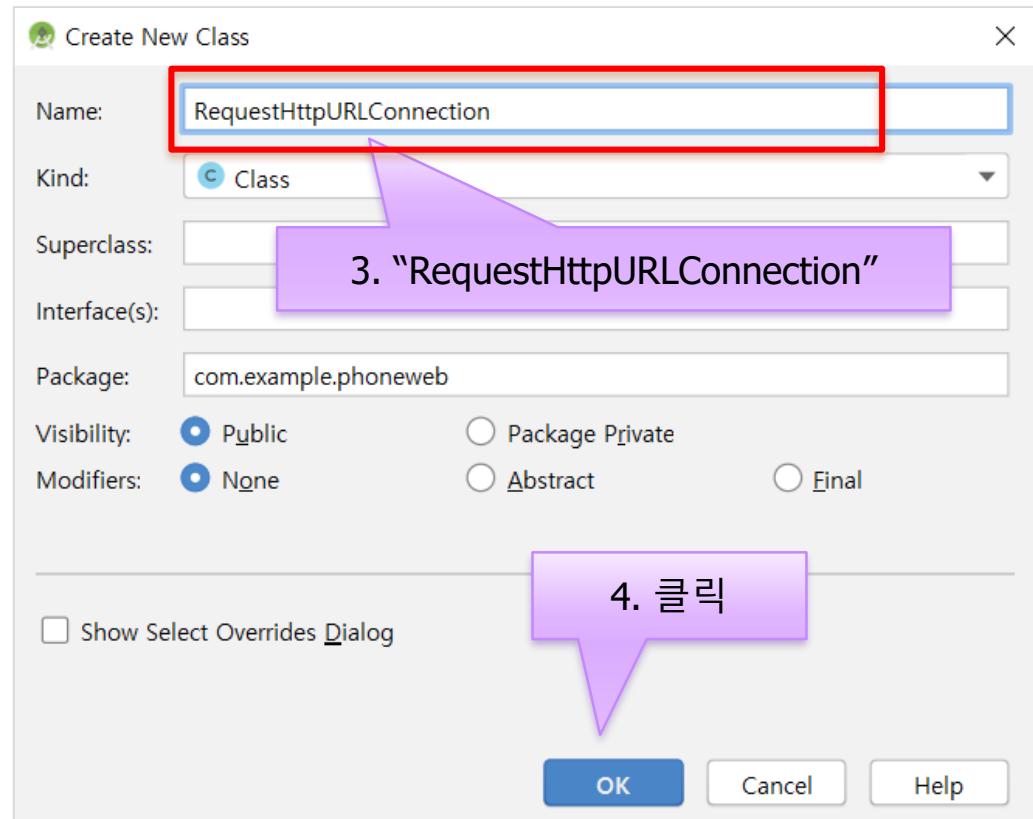
프로그래스바 숨이기

결과값 세팅

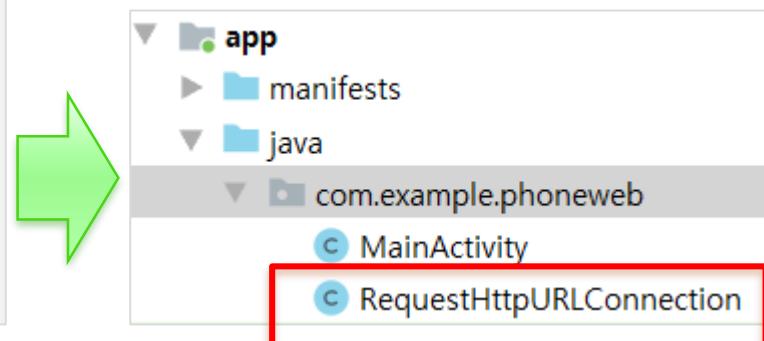
1. 오른쪽 마우스 클릭



2. "Java Class" 클릭



4. 클릭



# RequestHttpURLConnection.Java

13

```
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

14

```
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

```
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

```
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>
```

<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       app
4         <string name="app_name">Phone and WebServer</string>
5         <string name="server_url">http://168.126.146.39:8080/egu/server.jsp</string>
6
7         <!-- layout default -->
```

# 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



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

