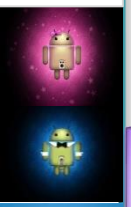
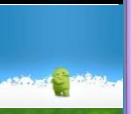
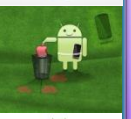
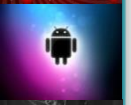
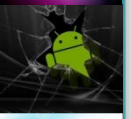
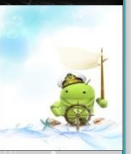




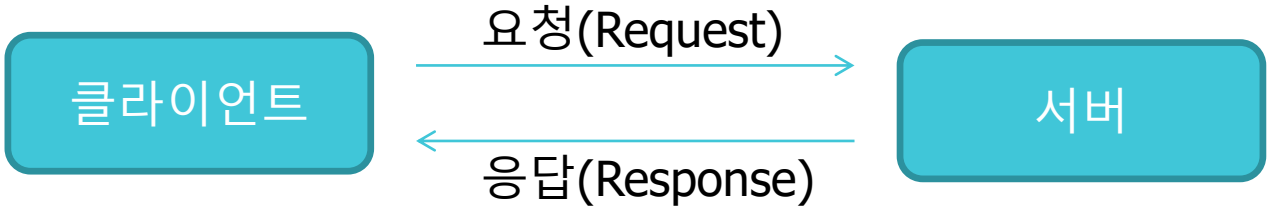
네트워킹

네트워킹이란

- 네트워킹
  - 인터넷 망에 연결되어 있는 원격지의 서버 또는 원격지의 단말과 통신을 통해 데이터를 주고 받는 일반적인 일
  - 최근 정보를 주고 받기 위해 많이 사용하는 소셜 네트워크서비스(SNS)가 네트워킹을 활용하는 대표적인 예

네트워킹이란

- 원격지의 서버를 연결하는 방식
  - 2-tier C/S 모델
    - 클라이언트와 서버가 일대일로 연결하는 방식

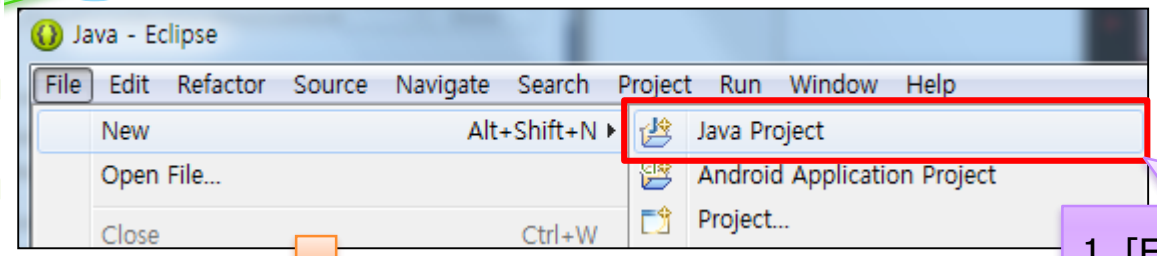


  - 3-tier 모델
    - 서버를 좀 더 유연하게 구성
    - 응용 서버와 데이터 서버로 구성하는 경우, 데이터베이스를 분리시킴

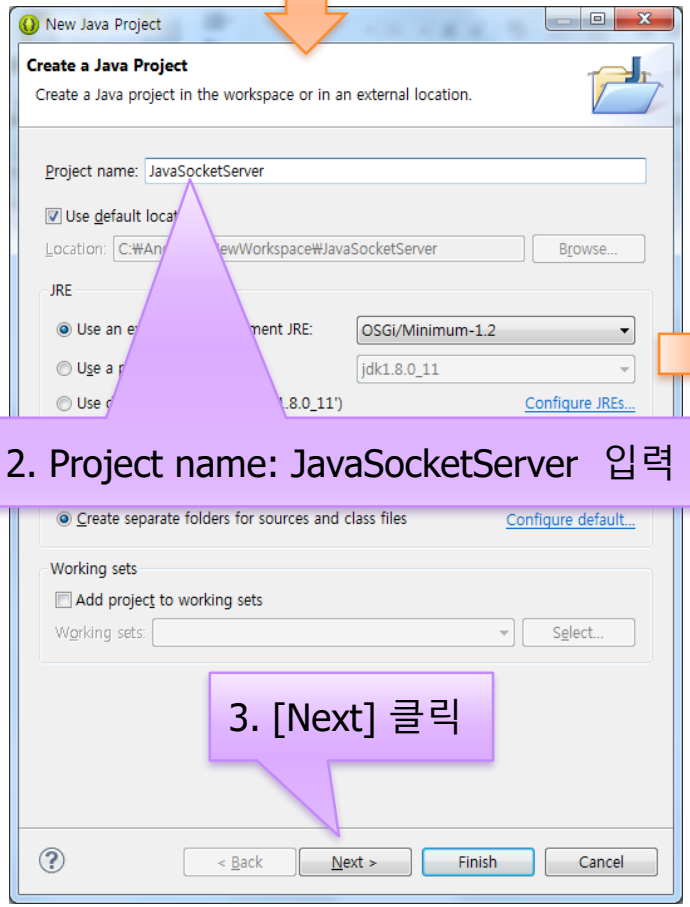
소켓사용하기

- 네트워크에 대한 이해
  - TCP/IP 수준의 통신 방식을 제공하는 소켓을 이용해 서버에 연결해 보면 이해하기 쉬움
  - 일반적인 프로그래밍에서는 대부분 TCP 연결 사용
  - 비연결성 특성으로 인해 실시간으로 데이터를 처리하는 애플리케이션의 경우, 응답 속도를 높이기 위해 HTTP 보다 소켓 연결 선호
- 소켓 연결 방식
  - 안드로이드에서는 표준 자바의 소켓을 그대로 사용할 수 있음
  - 서버 : 서버 소켓을 만들어 실행함(포트 지정)
  - 클라이언트: 소켓을 만들어 서버 소켓으로 연결함(IP와 포트 지정)
  - Stream 객체를 이용해 데이터를 보내거나 받을 수 있음

자바 소켓 프로그램

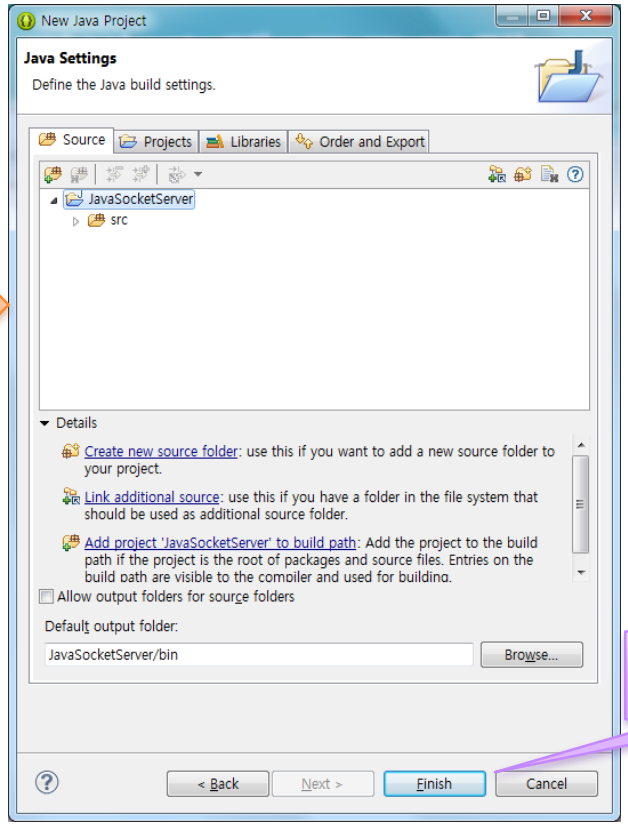


1. [File]→[New]→[Java Project] 클릭

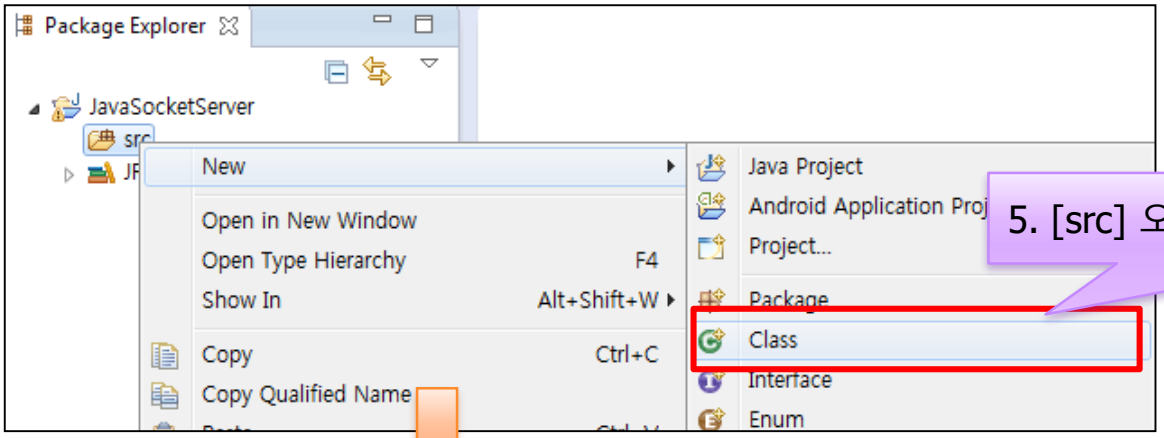


2. Project name: JavaSocketServer 입력

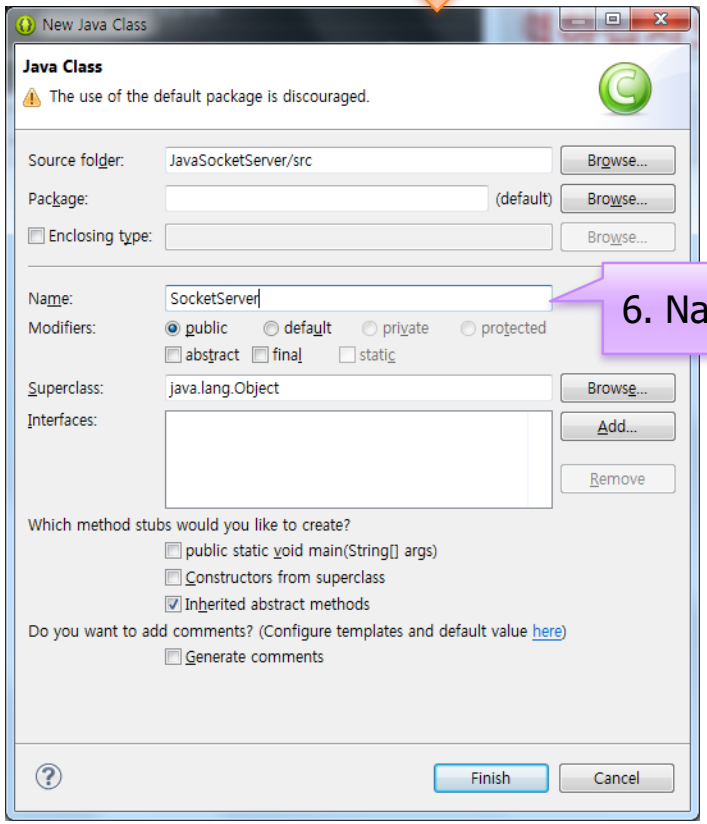
3. [Next] 클릭



4. [Finish] 클릭



5. [src] 오른쪽 마우스 클릭 후 [class] 클릭



6. Name: SocketServer 입력

SocketServer.java

SocketServer 소스

7. 코딩

```java
import java.io.ObjectInputStream;
import java.io.ObjectOutputStream;
import java.net.InetAddress;
import java.net.ServerSocket;
import java.net.Socket;


public class SocketServer {
    public static void main(String[] args){
        try{
            int portNumber = 5001;

            System.out.println("Starting Java Socket Server ...");
            ServerSocket aServerSocket = new ServerSocket(portNumber);
            System.out.println("Listening at port " + portNumber + "...");
            while(true){
                Socket sock = aServerSocket.accept();
                InetAddress ClientHost = sock.getLocalAddress();
                int clientPort = sock.getPort();
                System.out.println("A client connected. host : " +
                                   ClientHost + ", port : " + clientPort);
                ObjectInputStream instream = new ObjectInputStream(sock.getInputStream());
                Object obj = instream.readObject();
                System.out.println("Input : " + obj);

                ObjectOutputStream outstream = new ObjectOutputStream(sock.getOutputStream());
                outstream.writeObject(obj + " form Server.");
                outstream.flush();
                sock.close();
            }

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

}
```

소스 분석

```
 8  public class SocketServer {
 9      public static void main(String[] args){
10          try{
11              int portNumber = 5001;
12
13              System.out.println("Starting Java Socket Server ...");
14              ServerSocket aServerSocket = new ServerSocket(portNumber);
15              System.out.println("Listening at port " + portNumber + "...");
16              while(true){
17                  Socket sock = aServerSocket.accept();
                    InetAddress ClientHost = sock.getLocalAddress();
                    int clientPort = sock.getPort();
                    System.out.println("A client connected. host : " +
                                       ClientHost + ", port : " + clientPort);
                    ObjectInputStream instream = new ObjectInputStream(sock.getInputStream());
23                  Object obj = instream.readObject();
24                  System.out.println("Input : " + obj);
25
26                  ObjectOutputStream outstream = new ObjectOutputStream(sock.getOutputStream());
27                  outstream.writeObject(obj + " form Server.");
28                  outstream.flush();
29                  sock.close();
30              }
31
32          }catch(Exception ex){
33              ex.printStackTrace();
34          }
35      }
36
37  }
```

서버 소켓 생성

클라이언트가 접속할 때 소켓 개체 생성

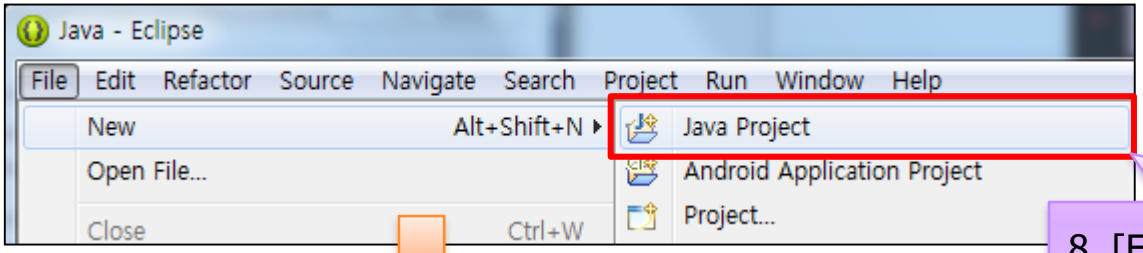
반복문으로 클라이언트 연결 대기

클라이언트가 보낸 오브젝트를 받는다.

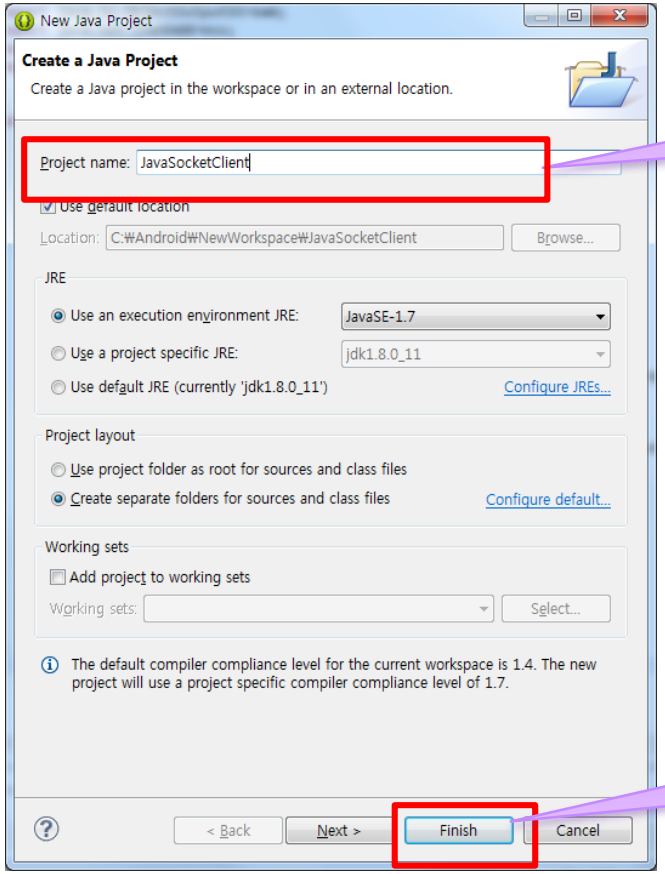
클라이언트에 오브젝트를 보낸다.

클라이언트에 오브젝트를 보낸다.

클라이언트 만들기



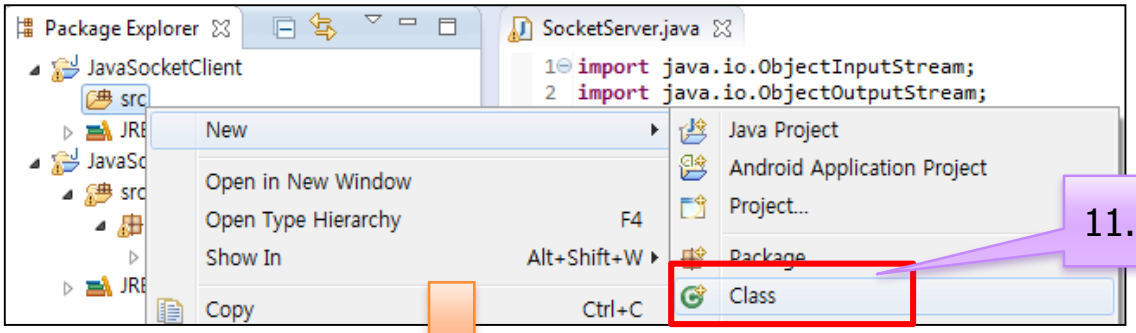
8. [File]→[New]→[Java Project] 클릭



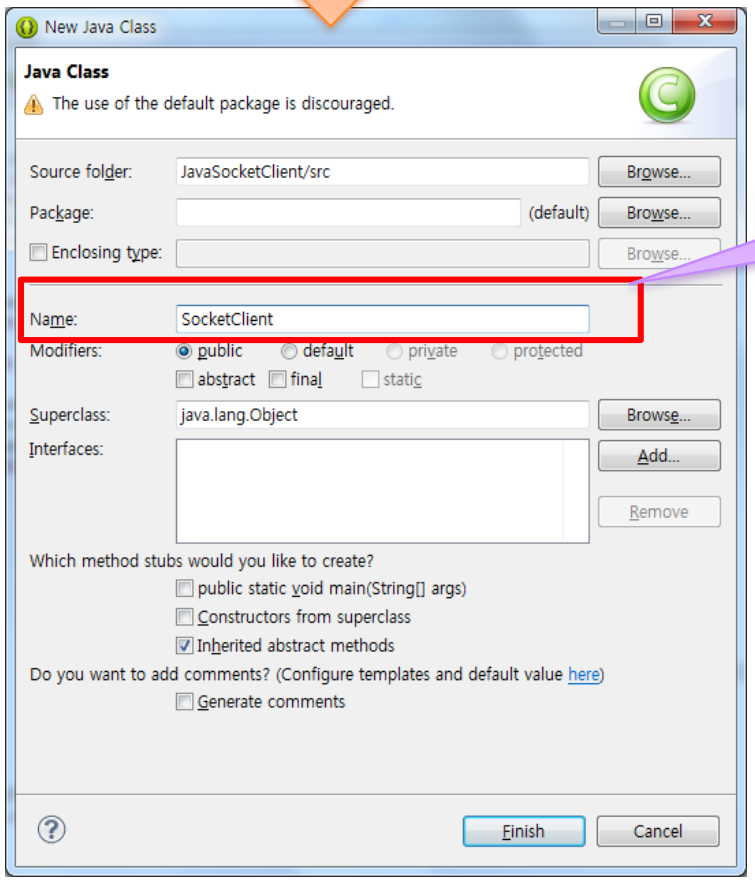
9. "Project name: JavaSocketClient "입력

10. 클릭

Socket Client



11. [src] 오른쪽 마우스 클릭 후 [Class] 클릭



12. Name : SocketClient 입력

Socket Client

SocketClient.java

```
1  import java.net.Socket;
2
3
4  public class SocketClient {
5      public static void main(String[] args){
6          int portNumber = 5001;
7          Socket sock = new Socket("localhost", portNumber);
8
9
10     }
11 }
```

13. 클릭

SocketClient.java

```
1  import java.net.Socket;
2
3
4  public class SocketClient {
5      public static void main(String[] args){
6          int portNumber = 5001;
7          Socket sock = new Socket("localhost", portNumber);
8
9
10     }
11 }
12
```

Unhandled exception typ
3 quick fixes available:
Add throws declaration
Surround with try/mult catch
Surround with try/catch

14. 클릭

Socket Client

SocketClient.java

15. 코딩

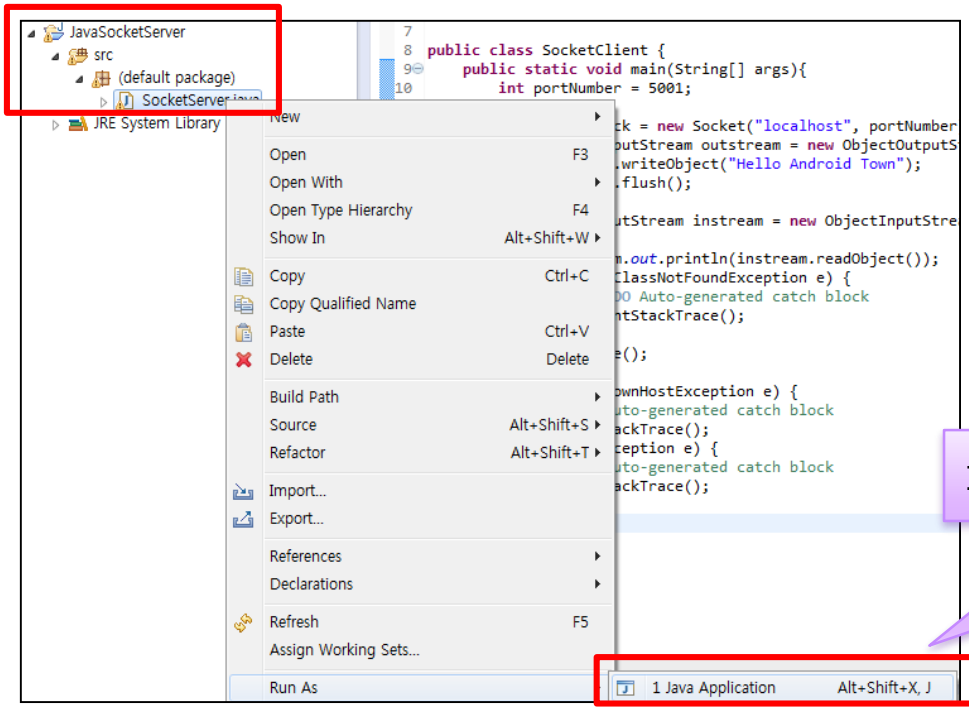
```java
import java.io.IOException;
import java.io.ObjectInputStream;
import java.io.ObjectOutputStream;
import java.net.Socket;
import java.net.UnknownHostException;


public class SocketClient {
    public static void main(String[] args){
        int portNumber = 5001;
        try {
            Socket sock = new Socket("localhost", portNumber);
            ObjectOutputStream outstream = new ObjectOutputStream(sock.getOutputStream());
            outstream.writeObject("Hello Android Town");
            outstream.flush();

            ObjectInputStream instream = new ObjectInputStream(sock.getInputStream());
            try {
                System.out.println(instream.readObject());
            } catch (ClassNotFoundException e) {
                // TODO Auto-generated catch block
                e.printStackTrace();
            }
            sock.close();

        } catch (UnknownHostException e) {
            // TODO Auto-generated catch block
            e.printStackTrace();
        } catch (IOException e) {
            // TODO Auto-generated catch block
            e.printStackTrace();
        }

    }
}
```

분석 Socket Client

```
8  public class SocketClient {
9      public static void main(String[] args){
10         int portNumber = 5001;
11         try {
12             Socket sock = new Socket("localhost", portNumber);
13             ObjectOutputStream outstream = new ObjectOutputStream(sock.getOutputStream());
14             outstream.writeObject("Hello Android Town");
15             outstream.flush();
16
17             ObjectInputStream instream = new ObjectInputStream(sock.getInputStream());
18             try {
19                 System.out.println(instream.readObject());
20             } catch (ClassNotFoundException e) {
21                 // TODO Auto-generated catch block
22                 e.printStackTrace();
23             }
24             sock.close();
25
26         } catch (UnknownHostException e) {
27             // TODO Auto-generated catch block
28             e.printStackTrace();
29         } catch (IOException e) {
30             // TODO Auto-generated catch block
31             e.printStackTrace();
32         }
33
34     }
35 }
```

서버에 오브젝트를 보낸다.

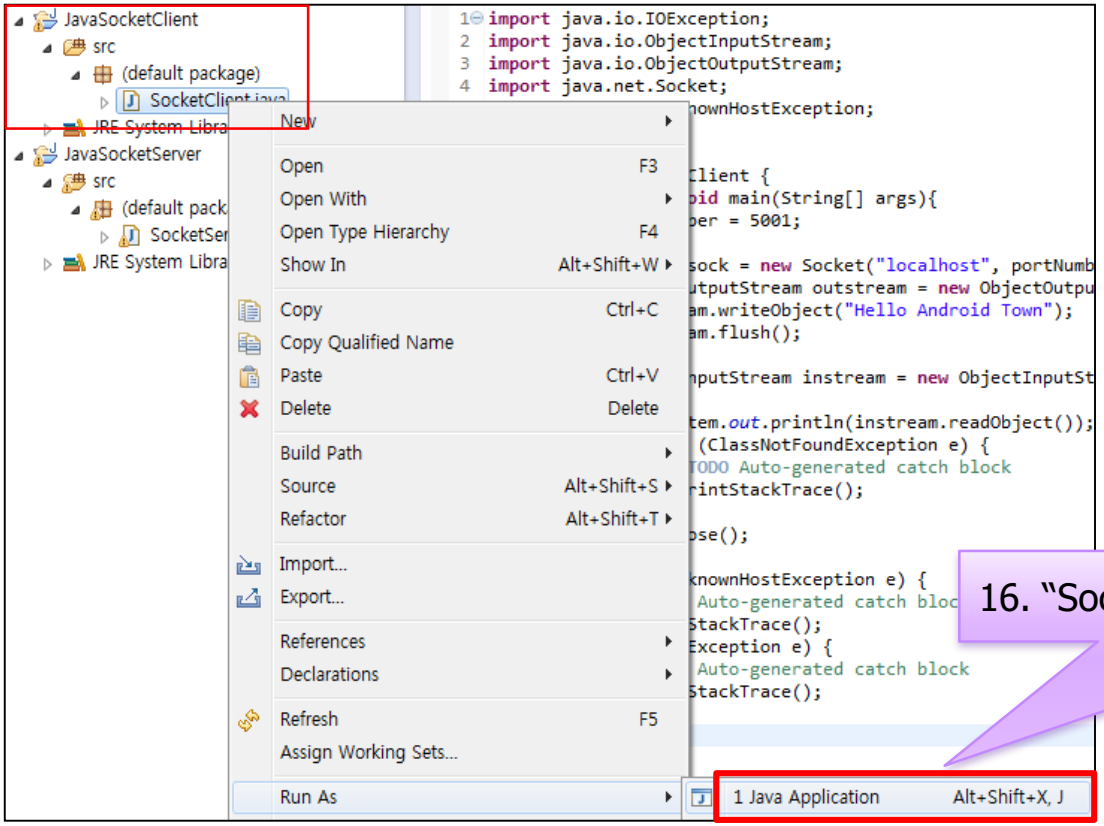
서버가 보낸 오브젝트를 받는다.



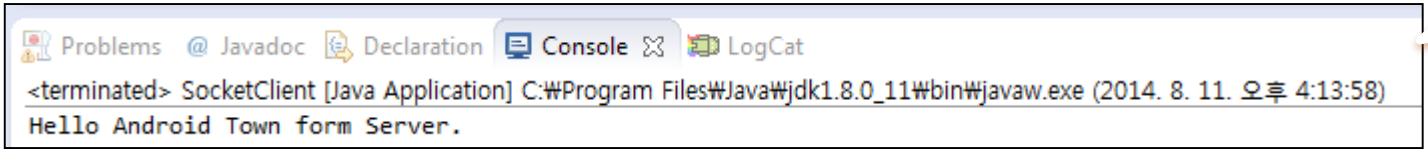
15. "SocketServer"오른쪽 마우스 클릭 후 실행

실행

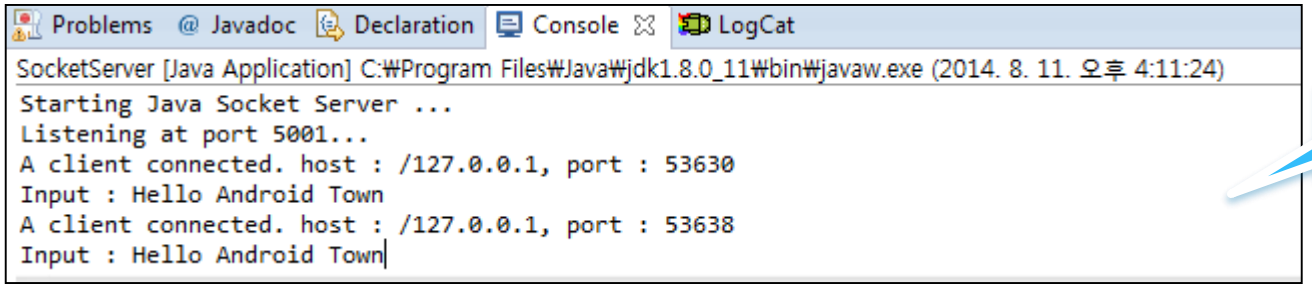
실행



16. "SocketClient"오른쪽 마우스 클릭 후 실행



Socket Client 영역



Socket Server 영역

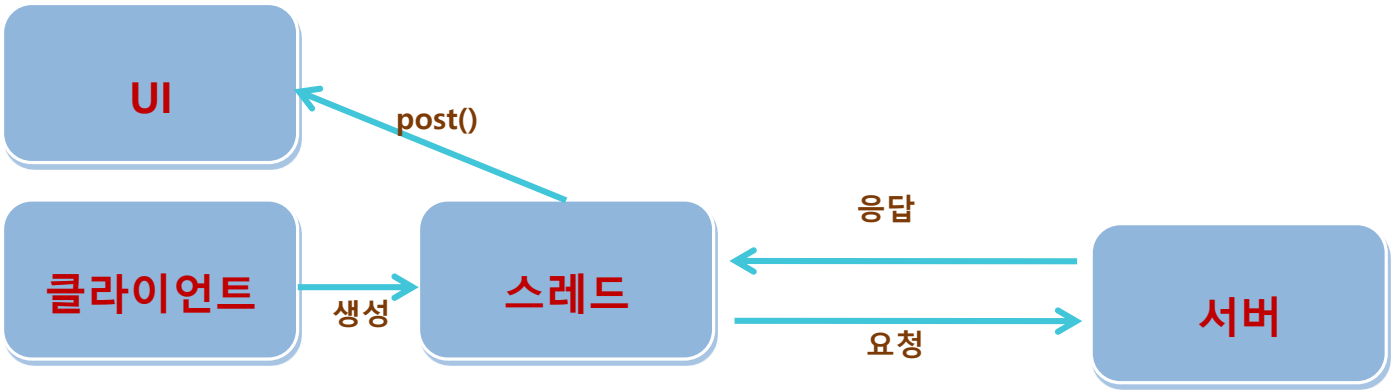
안드로이드 소켓 프로그램

■ 네트워킹을 사용할 때는 반드시 스레드 사용

- 최신 버전의 안드로이드에서는 네트워킹을 사용할 때는 반드시 스레드를 사용하도록 변경되었음 (이전에는 스레드 없이도 가능했음)

■ 스레드를 사용하므로 UI 업데이트를 위해서는 반드시 핸들러 사용

- 네트워킹을 위해 새로 만든 스레드 안에서 그 결과를 보여주기 위해 UI 업데이트를 하는 경우 스레드 부분에서 공부한 바와 같이 핸들러를 사용해야 함
- 가장 간단한 방법으로 post() 메소드 사용 권장



프로젝트 생성

Application name: AndroidSocketClient

Company Domain: admid.example.com

Project location: C:□Android□StdWork□AndroidSocketClient

Target Android Devices

- Phone and Tabet

- Minimun SDK API 15 : Android 4.0.3

Add an activity to Mobile : Empty Activity

Customize the Activity

Activity Name: MainActivity

Layout Name: activity_main

화면 설계

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="16dp"
    android:paddingLeft="16dp"
    android:paddingRight="16dp"
    android:paddingTop="16dp"
    tools:context="com.example.administrator.androidsocketclient.MainActivity">

    <TextView
        android:id="@+id/text01"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:text="버튼을 누려면 소켓이 연결됩니다.
         메시지는 로그를 확인하세요." />

    <Button
```

1. 코딩

activity_main.xml

메시지는 로그를 확인하세요." />

2. 코딩

```
    <Button
        android:id="@+id/button01"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/text01"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="20dp"
        android:text="소켓 연결하기"
        android:textSize="20dp"
        android:textStyle="bold" />

    <EditText
        android:id="@+id/input01"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/button01"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="20dp"
        android:hint="연결할 소켓 서버 IP"
        android:text="192.168.1.100"
        android:textSize="16dp"
        android:textStyle="bold" />
</RelativeLayout>
```

MainActivity.java

```
1  package com.example.administrator.androidsocketclient;
2
3  import android.os.Bundle;
4  import android.support.v7.app.AppCompatActivity;
5  import android.util.Log;
6  import android.view.View;
7  import android.widget.Button;
8  import android.widget.EditText;
9
10 import java.io.ObjectInputStream;
11 import java.io.ObjectOutputStream;
12 import java.net.Socket;
13
14 public class MainActivity extends AppCompatActivity {
15
16     EditText input01;
17     Button button01;
18
19     @Override
```

3. 추후 import 확인

4. 코딩

MainActivity.java

```
19      @Override
20      protected void onCreate(Bundle savedInstanceState) {
21          super.onCreate(savedInstanceState);
22          setContentView(R.layout.activity_main);
23
24          input01 = (EditText)findViewById(R.id.input01);
25          button01 = (Button)findViewById(R.id.button01);
26
27          button01.setOnClickListener(new View.OnClickListener() {
28              @Override
29              public void onClick(View v) {
30                  String addr = input01.getText().toString().trim();
31                  ConnectThread thread= new ConnectThread(addr);
32                  thread.start();
33              }
34          });
35      }
36      class ConnectThread extends Thread{
37       String hostname;
```

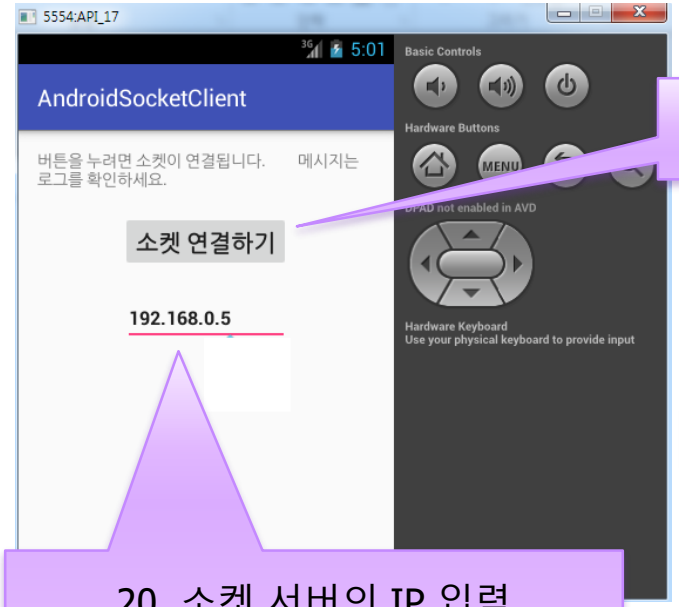
5. 코딩

MainActivity.java

6. 코딩

```
34          });
35      }
36      class ConnectThread extends Thread{
37       String hostname;
38          public ConnectThread(String addr){
39              hostname = addr;
40          }
41          public void run(){
42              try{
43                  int port = 5001;
44                  Socket sock = new Socket(hostname, port);
45                  ObjectOutputStream outputStream = new ObjectOutputStream(sock.getOutputStream());
46                  outputStream.writeObject("Hello AndroidTown on Android");
47                  outputStream.flush();
48
49                  ObjectInputStream instream = new ObjectInputStream(sock.getInputStream());
50                  String obj = (String)instream.readObject();
51
52                  Log.d("MainActivity", "서버에서 받은 메시지: " +obj);
53                  sock.close();
54              }catch (Exception ex){
55                  ex.printStackTrace();
56              }
57          }
58      }
59  }
```

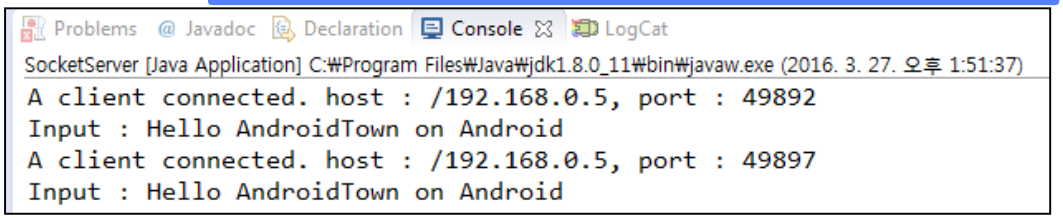
실행



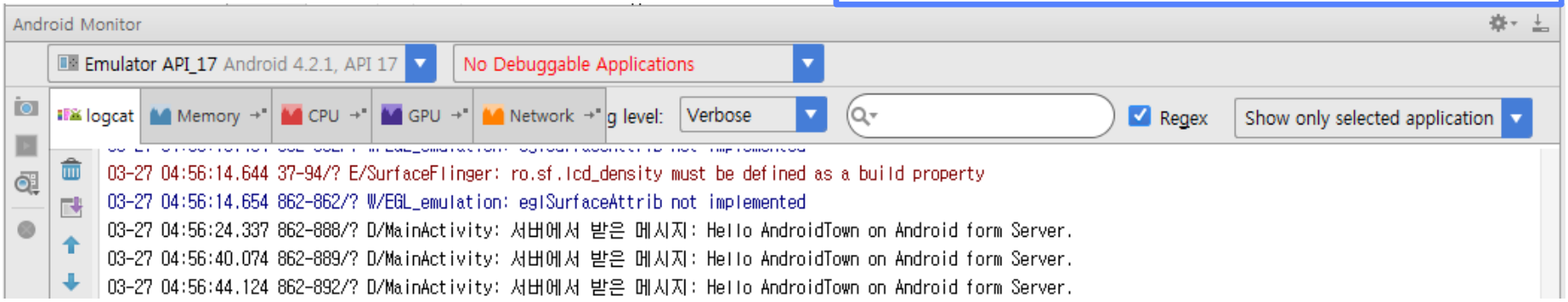
21. 클릭

20. 소켓 서버의 IP 입력

(이클립스) 서버 로그



(안드로이드 스튜디오) 클라이언트 로그



웹으로 요청

■ HTTP 연결 방식

- 예전 휴대 단말은 데이터 통신의 송수신 속도가 느려서 소켓으로 연결하거나 웹 페이지를 보기 위해서는 많이 기다려야 함
- 비연결성(stateless)인 HTTP 프로토콜은 새로 연결을 만드는 데 따른 지연 시간이 길게 발생
- 최근 스마트폰 및 무선 네트워크 환경이 좋아져서 HTTP 프로토콜을 이용한 웹의 사용이 자연스러울 뿐만 아니라 일반 웹 사이트를 보는 풀 브라우징(full browsing)도 가능함
- 자바에서 사용하던 HTTP 관련 클래스를 그대로 사용할 수 있음

프로젝트 생성

Application name: HTTP01

Company Domain: admid.example.com

Project location: C:□Android□StdWork□HTTP01

Target Android Devices

- Phone and Tabet

- Minimun SDK API 15 : Android 4.0.3

Add an activity to Mobile : Empty Activity

Customize the Activity

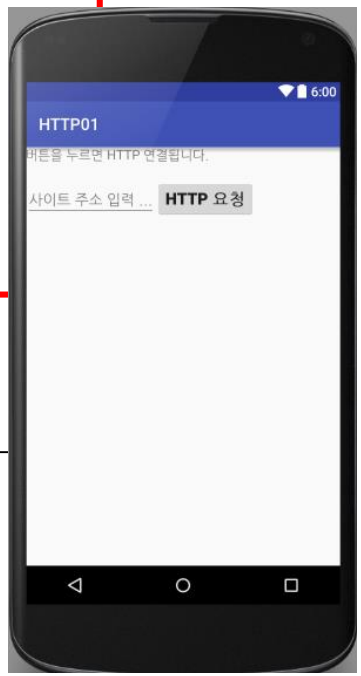
Activity Name: MainActivity

Layout Name: activity_main

1. 코딩

activity_main.xml

```
1  <?xml version="1.0" encoding="utf-8"?>
2  <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
3      xmlns:tools="http://schemas.android.com/tools"
4      android:layout_width="match_parent"
5      android:layout_height="match_parent"
6      android:orientation="vertical">
7
8      <TextView
9          android:id="@+id/text01"
10         android:layout_width="wrap_content"
11         android:layout_height="wrap_content"
12         android:text="버튼을 누르면 HTTP 연결됩니다. "
13         android:textSize="16dp" />
14
15     <LinearLayout
16         android:layout_width="wrap_content"
```



activity_main.xml

```
13        android:textSize="16dp" />
14
15    <LinearLayout
16        android:layout_width="wrap_content"
17        android:layout_height="wrap_content"
18        android:layout_marginTop="20dp"
19        android:orientation="horizontal">
20
21        <EditText
22            android:id="@+id/inout01"
23            android:layout_width="wrap_content"
24            android:layout_height="wrap_content"
25            android:hint="사이트 주소 입력 ..."
26            android:textSize="18dp" />
27
28        <Button
29            android:id="@+id/requestBtn"
30            android:layout_width="wrap_content"
31            android:layout_height="wrap_content"
32            android:text="HTTP 요청"
33            android:textSize="20dp"
34            android:textStyle="bold" />
35    </LinearLayout>
36
```

2. 코딩

activity_main.xml

```
31          android:layout_height="wrap_content"
32          android:text="HTTP 요청"
33          android:textSize="20dp"
34          android:textStyle="bold" />
35      </LinearLayout>
36
37      <ScrollView
38          android:layout_width="wrap_content"
39          android:layout_height="wrap_content"
40          android:layout_marginTop="20dp">
41
42          <TextView
43              android:id="@+id/txtMsg"
44              android:layout_width="match_parent"
45              android:layout_height="match_parent"
46              android:background="#ff99ccee"
47              android:textColor="#ff0000ff"
48              android:textSize="12dp" />
49      </ScrollView>
50
51  </LinearLayout>
```

3. 코딩

MainActivity.java

```
1  package com.example.administrator.http01;
2
3  import android.os.Bundle;
4  import android.os.Handler;
5  import android.support.v7.app.AppCompatActivity;
6  import android.util.Log;
7  import android.view.View;
8  import android.widget.Button;
9  import android.widget.EditText;
10 import android.widget.TextView;
11
12 import java.io.BufferedReader;
13 import java.io.InputStreamReader;
14 import java.net.HttpURLConnection;
15 import java.net.URL;
16
17 public class MainActivity extends AppCompatActivity {
```

4. 추후 확인

5. 코딩

MainActivity.java

```
16
17  public class MainActivity extends AppCompatActivity {
18
19      EditText input01;
20      TextView txtMsg;
21      Button requestBtn;
22
23      public static String defaultUrl = "http://m.naver.com";
24
25      Handler handler = new Handler();
26
27      @Override
28      protected void onCreate(Bundle savedInstanceState) {
29          super.onCreate(savedInstanceState);
30          setContentView(R.layout.activity_main);
31
32          input01 = (EditText)findViewById(R.id.inout01);
33          input01.setText(defaultUrl);
34
35          txtMsg = (TextView)findViewById(R.id.txtMsg);
36          requestBtn = (Button)findViewById(R.id.requestBtn);
37
38          requestBtn.setOnClickListener(new View.OnClickListener() {
```

MainActivity.java

```
36          requestBtn = (Button)findViewById(R.id.requestBtn);
37
38          requestBtn.setOnClickListener(new View.OnClickListener() {
39              @Override
40              public void onClick(View v) {
41                  String urlStr = input01.getText().toString();
42
43                  ConnectThread thread = new ConnectThread(urlStr);
44                  thread.start();
45              }
46          });
47      }
48
49      class ConnectThread extends Thread{
```

6. 코딩

MainActivity.java

7. 코딩

```
47      }
48
49      class ConnectThread extends Thread{
50          String urlStr;
51
52          public ConnectThread(String inStr){
53              urlStr = inStr;
54          }
55          public void run(){
56              try{
57                  final String output = request(urlStr);
58                  handler.post(new Runnable() {
59                      @Override
60                      public void run() {
61                          txtMsg.setText(output);
62                      }
63                  });
64              }catch (Exception ex){
65                  ex.printStackTrace();
66              }
67          }
68          private String request(String urlStr){
```

MainActivity.java

8. 코딩

```
    }
}
private String request(String urlStr){
    StringBuilder output = new StringBuilder();
    try{
        URL url = new URL(urlStr);
        HttpURLConnection conn = (HttpURLConnection)url.openConnection();
        if(conn != null){
            conn.setConnectTimeout(10000);
            conn.setRequestMethod("GET");
            conn.setDoInput(true);
            conn.setDoOutput(true);
            int resCode = conn.getResponseCode();
            if(resCode == HttpURLConnection.HTTP_OK){
                BufferedReader reader
                        = new BufferedReader(new InputStreamReader(conn.getInputStream()))
                String line = null;
                while (true){
                    line = reader.readLine();
                    if(line == null){
                        break;
                    }
                    output.append(line + "\n");
                }
```

MainActivity.java

```
82                          String line = null;
83                          while (true){
84                              line = reader.readLine();
85                              if(line == null){
86                                  break;
87                              }
88                              output.append(line + "\n");
89                          }
90                          reader.close();
91                          conn.disconnect();
92                      }
93                  }
94              }catch (Exception ex){
95                  Log.e("SampleHTTP", "Execption in processing response.", ex);
96              }
97              return output.toString();
98          }
99      }
100 }
```

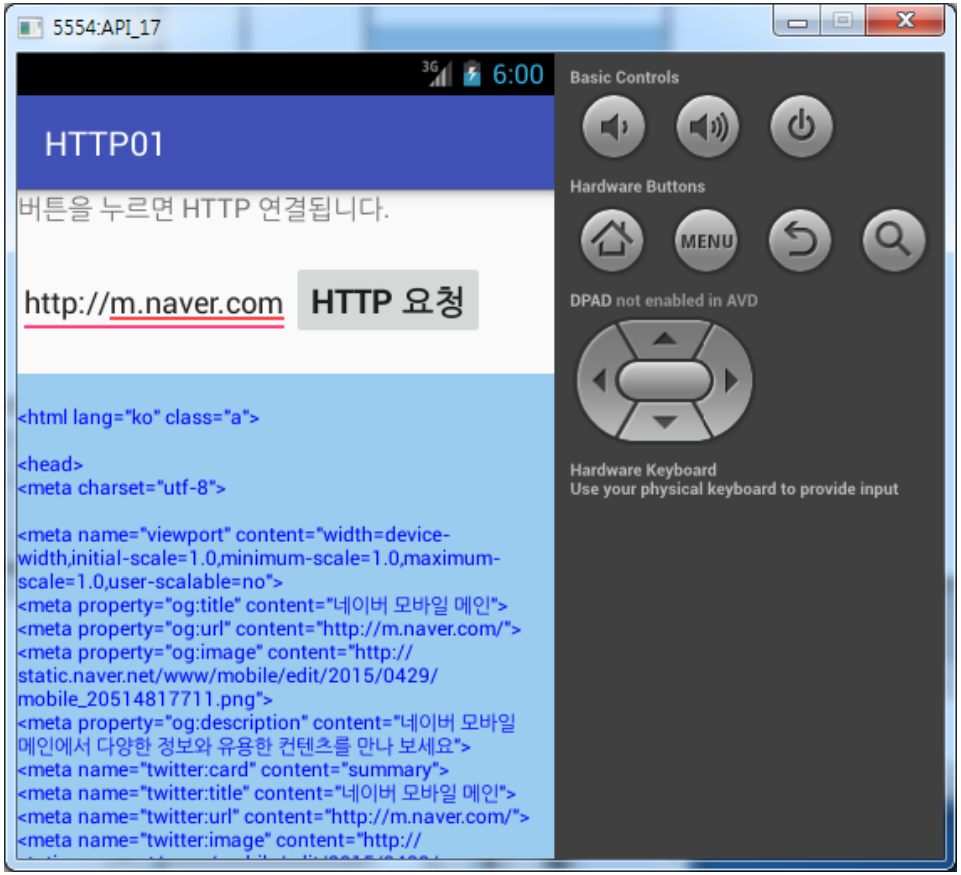
9. 코딩

Manifest 설정

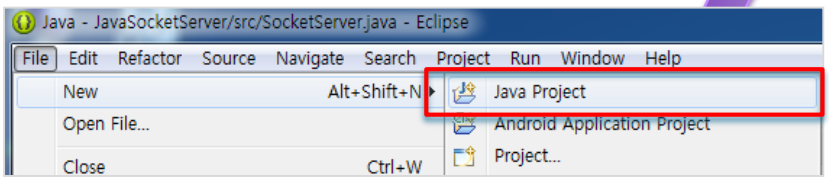
AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.administrator.http01">

    <uses-permission android:name="android.permission.INTERNET" />

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="HTTP01"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

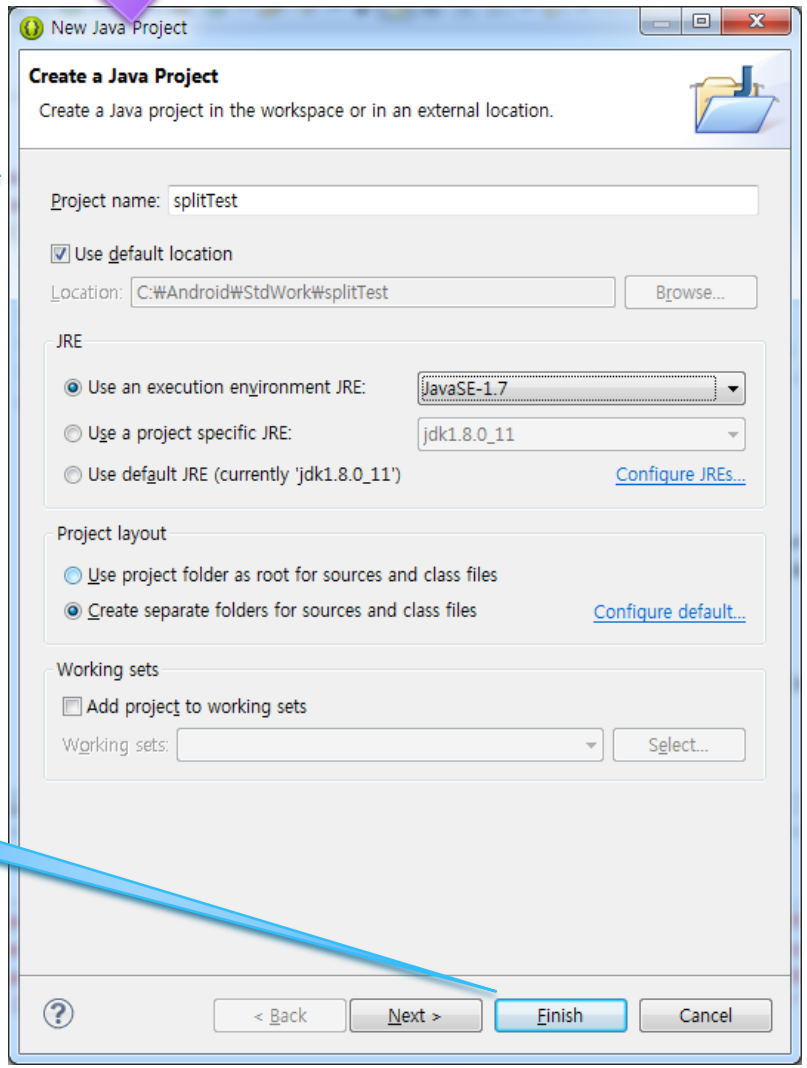
10. 코딩


5554:API_17
6:00
HTTP01
버튼을 누르면 HTTP 연결됩니다.
http://m.naver.com
HTTP 요청
<html lang="ko" class="a">
<head>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width,initial-scale=1.0,minimum-scale=1.0,maximum-scale=1.0,user-scalable=no">
<meta property="og:title" content="네이버 모바일 메인">
<meta property="og:url" content="http://m.naver.com/">
<meta property="og:image" content="http://static.naver.net/www/mobile/edit/2015/0429/mobile_20514817711.png">
<meta property="og:description" content="네이버 모바일 메인에서 다양한 정보와 유용한 컨텐츠를 만나 보세요">
<meta name="twitter:card" content="summary">
<meta name="twitter:title" content="네이버 모바일 메인">
<meta name="twitter:url" content="http://m.naver.com/">
<meta name="twitter:image" content="http://
Basic Controls
Hardware Buttons
MENU
DPAD not enabled in AVD
Hardware Keyboard
Use your physical keyboard to provide input

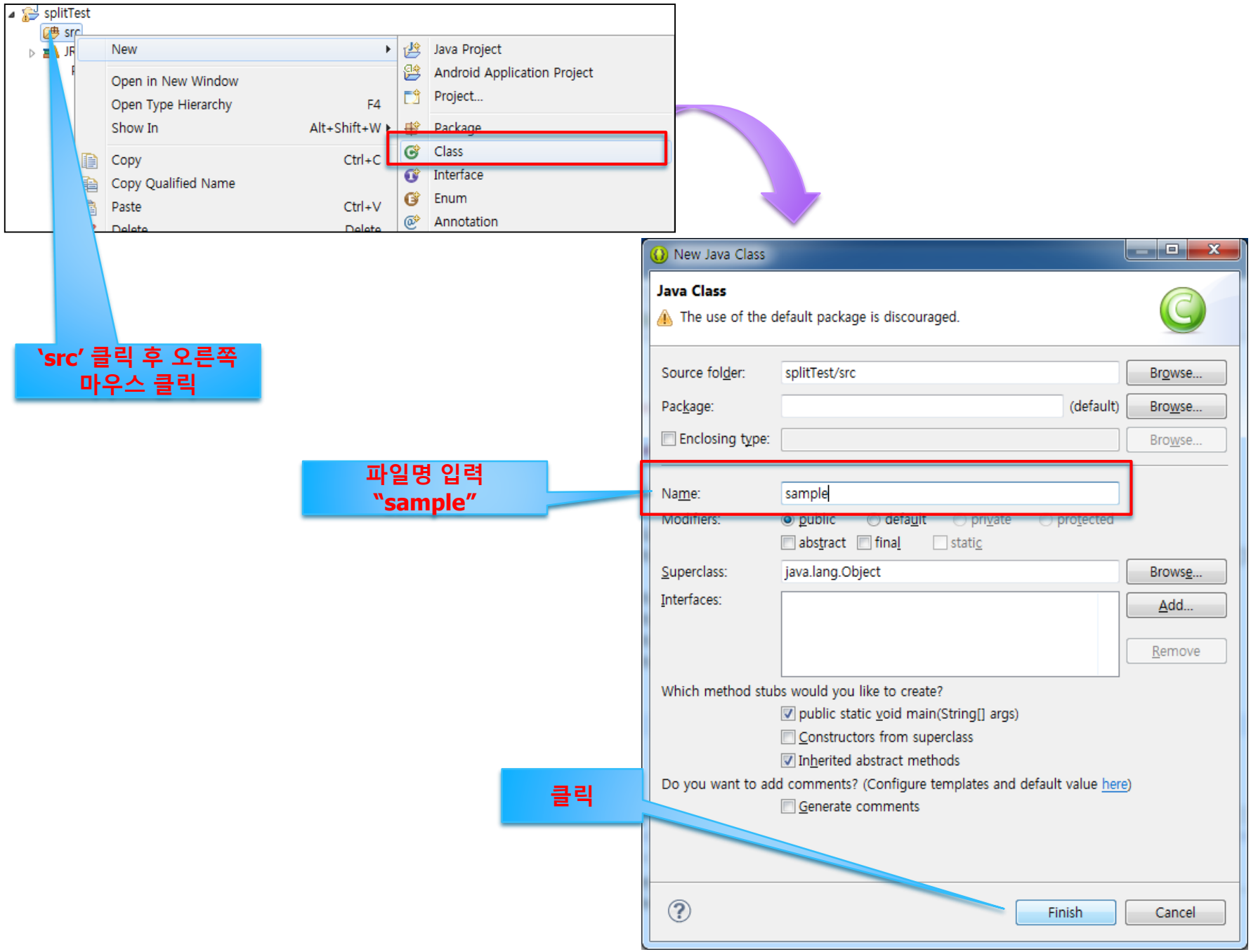
이클립스 자바 프로젝트 생성



자바 프로젝트 생성
"splitTest"



클릭


splitTest
src
New
Open in New Window
Open Type Hierarchy F4
Show In Alt+Shift+W
Copy Ctrl+C
Copy Qualified Name
Paste Ctrl+V
Java Project
Android Application Project
Project...
Package
Class
Interface
Enum
Annotation
'src' 클릭 후 오른쪽 마우스 클릭
파일명 입력 "sample"
클릭
New Java Class
Java Class
The use of the default package is discouraged.
Source folder: splitTest/src
Package: (default)
Enclosing type:
Name: sample
Modifiers: public default private protected
abstract final static
Superclass: java.lang.Object
Interfaces:
Which method stubs would you like to create?
public static void main(String[] args)
Constructors from superclass
Inherited abstract methods
Do you want to add comments? (Configure templates and default value here)
Generate comments
Browse...
Add...
Remove
Finish
Cancel

sample.java

```
public class sample {

    public static void main(String[] args) {
        String test = "One and Two and Three and Four";

        String[] array = test.split("and");
        System.out.println(" =>" + array[0] + array[1]+ array[2]+array[3]);

        System.out.println(array[0].length());
        System.out.println(array[1].length());
        System.out.println(array[2].length());
        System.out.println(array[3].length());

    }
}
```

코딩

```
 =>One  Two  Three  Four
4
5
7
5
```

```
3
3
5
4
```

글자만 추출하기 위해서는 어떻게 할 것인가?

sample.java

```
public class sample {

    public static void main(String[] args) {
        String test = "One and Two and Three and Four";

        String[] array = test.split(" and ");
        System.out.println(" =>" + array[0] + array[1]+ array[2]+array[3]);

        System.out.println(array[0].length());
        System.out.println(array[1].length());
        System.out.println(array[2].length());
        System.out.println(array[3].length());

    }
}
```

공백" "까지 포함하여 추출

```
 =>OneTwoThreeFour
3
3
5
4
```

문자열 검색

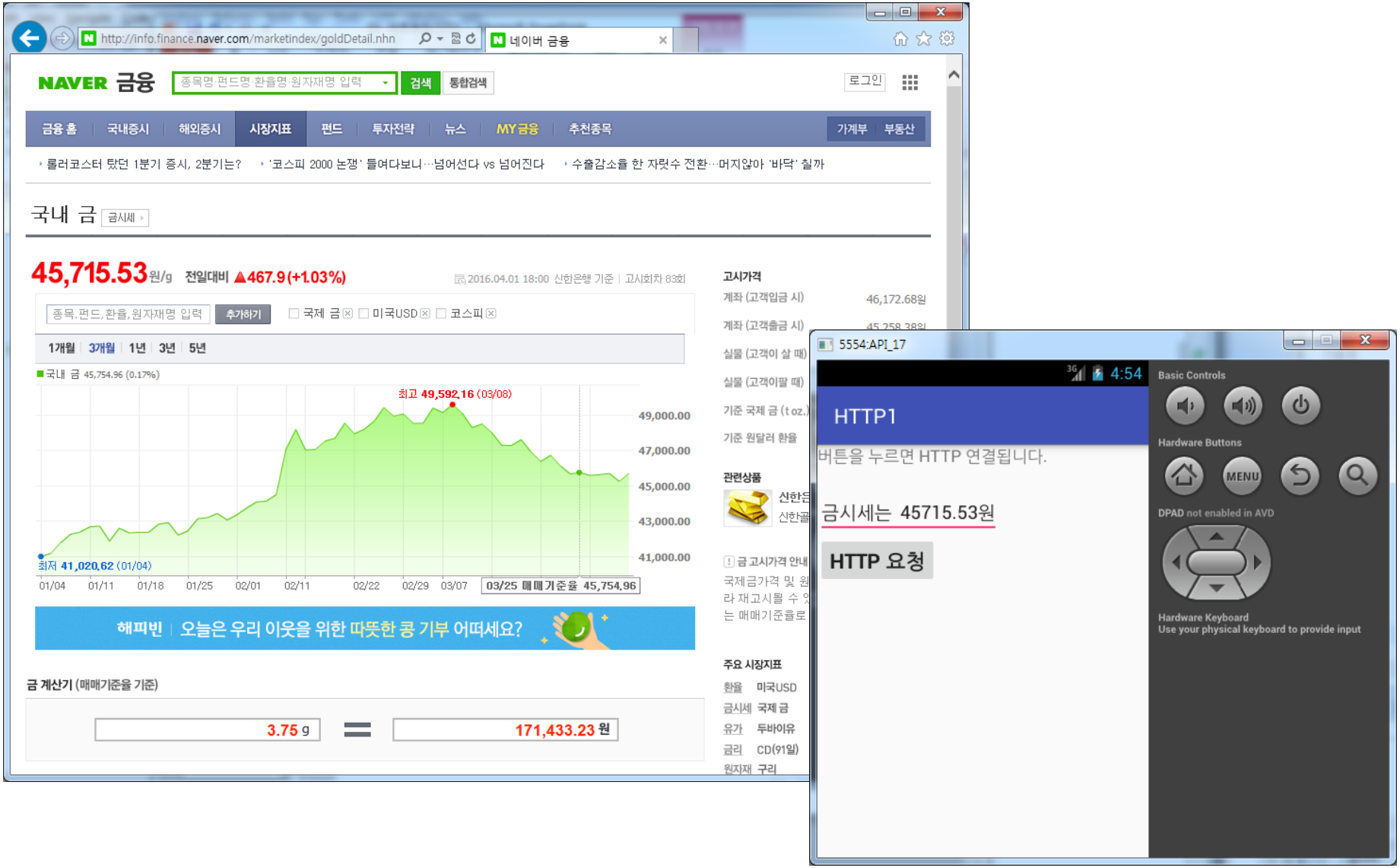
sample.java

```java
public class sample {

    public static void main(String[] args) {
        String test = "문자열 검색을 위한 예제 입니다.";

        if(test.contains("예제")){
            System.out.println("문자 있어요.");
        }else{
            System.out.println("문자 없어요.");
        }

        if(test.indexOf("예제")>-1){
            System.out.println("문자 있어요.");
        }else{
            System.out.println("문자 없어요.");
        }

        if(test.matches(".*예제.*")){
            System.out.println("문자 있어요.");
        }else{
            System.out.println("문자 없어요.");
        }
    }
}
```

```
문자 있어요.
문자 있어요.
문자 있어요.
```

사이트의 금 시세 정보를 추출

http://info.finance.naver.com/marketindex/goldDetail.nhn

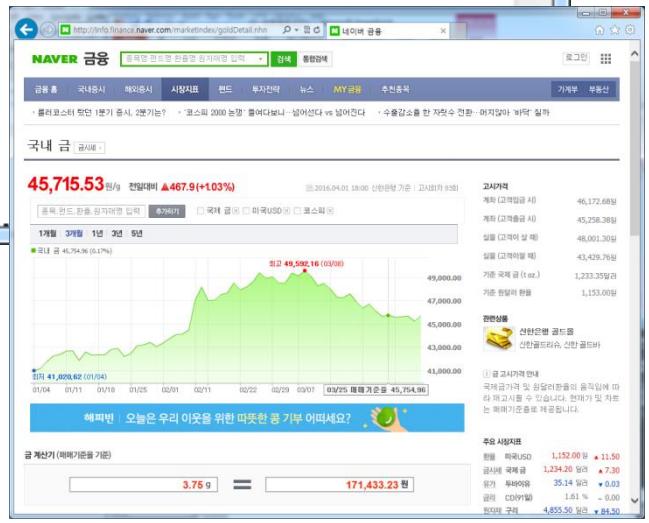


웹 페이지 소스

http://info.finance.naver.com/marketindex/goldDetail.nhn - 원본

파일(F) 편집(E) 형식(O)

```
191 <script type="text/javascript" language="javascript" charset="euckr"
    src="/js/jindoComponent/jindo.WatchInput.1.0.1.js?20160218161951"></script>
192 <script type="text/javascript" language="javascript" charset="euckr"
    src="/js/jindoComponent/jindo.Timer.1.0.1.js?20160218161951"></script>
193 <script type="text/javascript" language="javascript" charset="euckr"
    src="/js/jindoComponent/jindo.Formatter.1.0.1.js?20160218161951"></script>
194 <script type="text/javascript" language="javascript" charset="euckr"
    src="/js/jindoComponent/jindo.NumberFormatter.1.0.1.js?20160218161951"></script>
195 <script type="text/javascript" language="javascript" src="/js/ichart.js?20160218161951"></script>
196 <script type="text/javascript" language="javascript">
197
198 var calcInput, calcOutput;
199 var DEAL_VAL = 45715.53;
200
201 function calcGoldSise(event) {
202         if (event.keyCode != 13 && event.keyCode != 27 && event.keyCode != 37 && event.keyCode != 38 &&
    event.keyCode != 110 && event.keyCode != 229) {
203             var regExp = new RegExp("[^0-9₩.₩,]");
204             var sInputValue = jindo.$("calcInput").value;
205
206             if(regExp.test(sInputValue)){
207                     alert("숫자, 소수점(.)만 입력하실 수 있습니다.");
```



접속 사이트 URL 변경

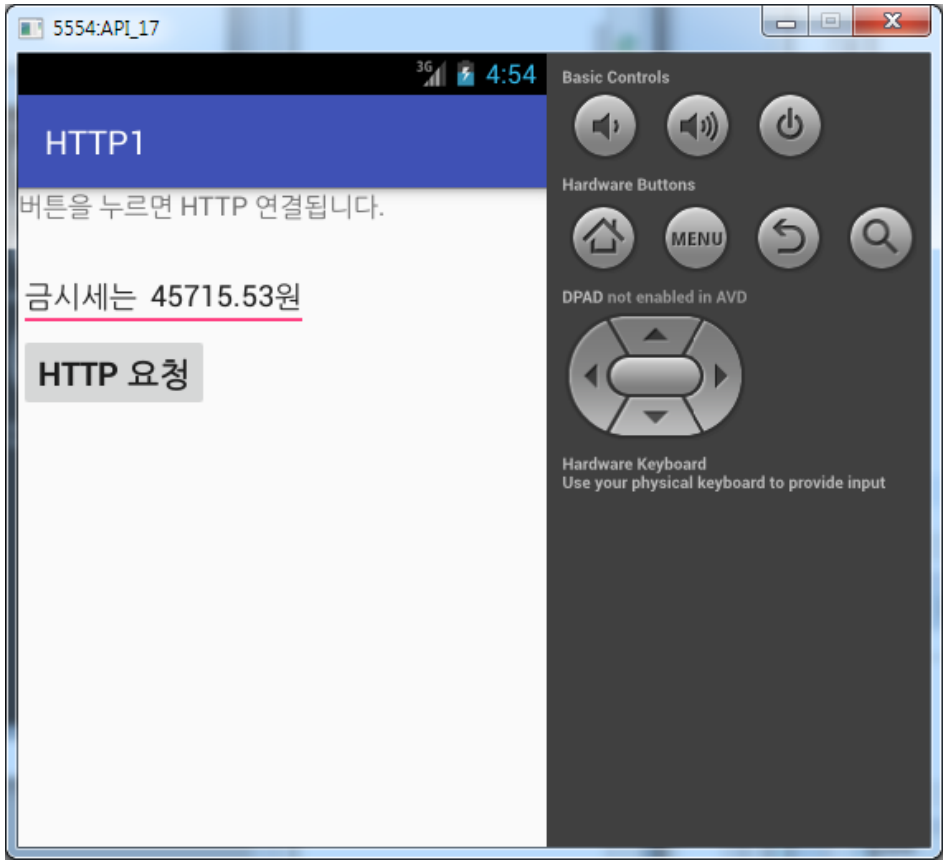

```
17  public class MainActivity extends AppCompatActivity {
18
19      EditText input01;
20      TextView txtMsg;
21      Button requestBtn;
22
23      // public static String defaultUrl = "http://m.naver.com";
24      public static String defaultUrl = "http://info.finance.naver.com/marketindex/goldDetail.nhn"
25
26      Handler handler = new Handler();
```

수정

MainActivity.java

```
67  @  private String request(String urlStr){
68         StringBuilder output = new StringBuilder();
69         try{
70             URL url = new URL(urlStr);
71             HttpURLConnection conn = (HttpURLConnection)url.openConnection();
72             if(conn != null){
73                 conn.setConnectTimeout(10000);
74                 conn.setRequestMethod("GET");
75                 conn.setDoInput(true);
76                 conn.setDoOutput(true);
77                 int resCode = conn.getResponseCode();
78                 if(resCode == HttpURLConnection.HTTP_OK){
79                     BufferedReader reader = new BufferedReader
80                             (new InputStreamReader(conn.getInputStream()));
81                     String line = null;
82                     while (true){
83                         line = reader.readLine();
84                         if(line == null){
85                             break;
86                         }
87                         if(line.contains("DEAL_VAL =")){
88                             String[] outData = line.split("DEAL_VAL =");
89                             String[] outWon = outData[1].split(";");
90                             output.append("금시세는 " + outWon[0] + "원");
91                             break;
92                         }
93                     }
94                     reader.close();
```

수정 및 추가


5554:API_17
4:54
HTTP1
버튼을 누르면 HTTP 연결됩니다.
금시세는 45715.53원
HTTP 요청
Basic Controls
Hardware Buttons
MENU
DPAD not enabled in AVD
Hardware Keyboard
Use your physical keyboard to provide input