Android
Http Communication

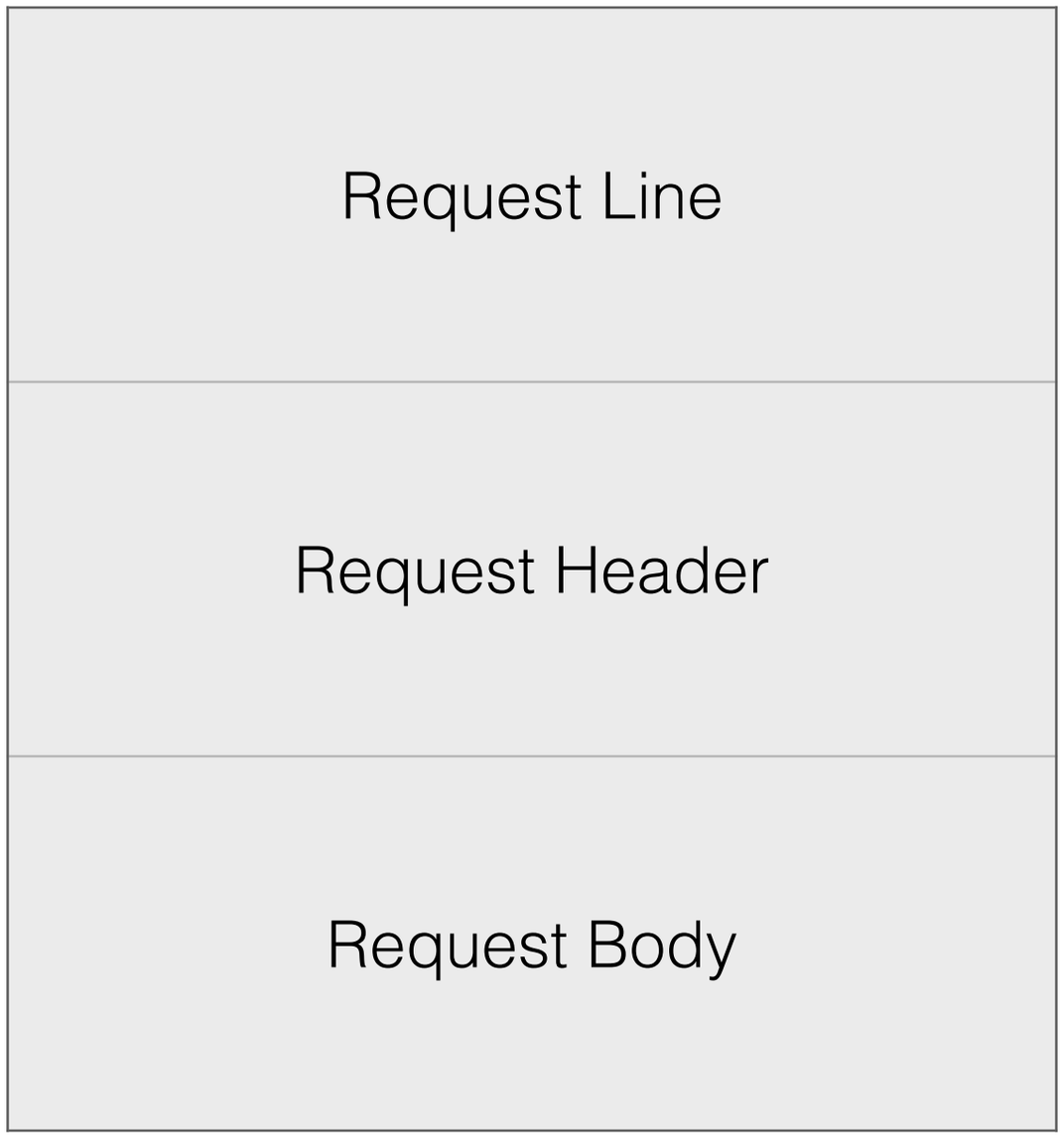
Agenda

- Http
- Http Method
    - Get
    - Post
- HttpRequest/ HttpResponse
- Web Service

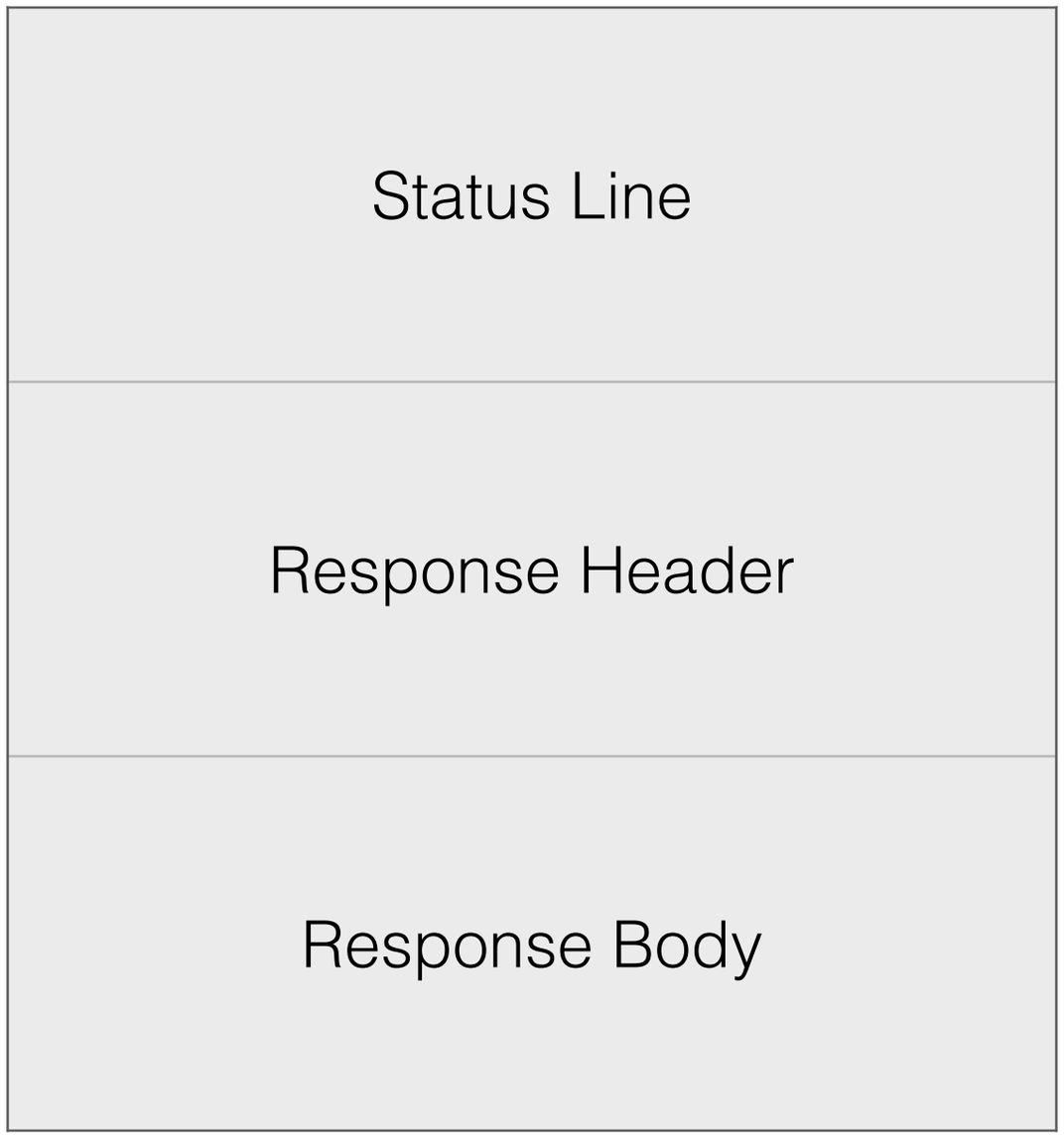
Http Communication

- Remote I/O
- Http Method
- Http Request/ Http Response
- Web Service = SOAP + HTTP

Http Request



Http Response



Use Http to get data

- Create a thread to do this.
- Use UI Thread to update UI.
  - runOnUiThread(…)

Get

```
String str = "";

HttpClient httpclient = new DefaultHttpClient();

String url = ("http://ikenapp.appspot.com/json/getCategory.jsp");

try {
        HttpResponse response = httpclient.execute(new HttpGet(url));

        str = EntityUtils.toString(response.getEntity(),"utf-8");
} catch (Exception e) {
        Log.e("GET", e.getMessage());
}

return str;
```

Post

```
String str = "";

HttpClient httpclient = new DefaultHttpClient();

HttpPost httppost = new HttpPost("http://ikenapp.appspot.com/json/postProductsByCategory.jsp");

try {

        List<NameValuePair> nameValuePairs = new ArrayList<NameValuePair>(2);

        nameValuePairs.add(new BasicNameValuePair("cateId", "3"));

        httppost.setEntity(new UrlEncodedFormEntity(nameValuePairs));

        // Execute HTTP Post Request

        HttpResponse response = httpclient.execute(httppost);

        str = EntityUtils.toString(response.getEntity(),"utf-8");

} catch (Exception e) {

        …

}

return str;
```

Web Service - 1

```
URL url;

HttpURLConnection connection = null;

try {

        // Create connection

        url = new URL("http://www.webservicex.net/CurrencyConvertor.asmx");

        connection = (HttpURLConnection) url.openConnection();

        connection.setRequestMethod("POST");

        String soapBody = "...";

        connection.setRequestProperty("Host", "www.webservicex.net");

        ....

        connection.setUseCaches(false);

        connection.setDoInput(true);

        connection.setDoOutput(true);
```

Web Service - 2

```
// Send request
DataOutputStream wr = new DataOutputStream(
                connection.getOutputStream());
wr.writeBytes(soapBody);
wr.flush();
wr.close();
// Get Response
InputStream is;
if (connection.getResponseCode() <= 400) {
        is = connection.getInputStream();
} else {
        is = connection.getErrorStream();
}
```

Web Service - 2

```
is= connection.getInputStream();

BufferedReader rd = new BufferedReader(new InputStreamReader(is));

String line;

StringBuffer response = new StringBuffer();

while ((line = rd.readLine()) != null) {
                response.append(line);
                response.append('\r');
        }
        rd.close();
        return response.toString();
} catch (Exception e) {        return null;
} finally {
        if (connection != null) {        connection.disconnect();}
}
```

Web Service with AsyncTask

- 撰寫一個類別繼承AsyncTask
  - http://developer.android.com/reference/android/os/AsyncTask.html
- 建立物件並呼叫execute()
- Ch10-5-4

撰寫一個類別繼承 AsyncTask

```
public class HttpTask extends AsyncTask<Void,Void,String>{
        @Override
        protected String doInBackground(Void... arg0) {
                return parseXMLWithDOM(getSoapMsg());
        }
        @Override
        protected void onProgressUpdate(Void... progress) { … }
        @Override
        protected void onPostExecute(String result) {
                super.onPostExecute(result);
                textView.setText(result);
                textView.setMovementMethod(ScrollingMovementMethod.getInstance());
        }
}
```

建立物件並呼叫execute()

```
new HttpTask().execute();
```