



Getting started with
**Android App
Development**
with **Zakaria Chowdhury**



About Me

- Software Engineer
- 10+ years experience
- Web development
- Game development
- Mobile App development
- Smart Home App

www.ZakariaChowdhury.com

What we will learn today

- Create a hello world app
- Create a weather forecast app
- Different Components of Android app
 - Create User Interface
 - Get data from a server
 - Update interface from data



What we will need

- Java - Programming Language
- Android Studio
- Android Virtual Device / Emulator
- An account at www.openweathermap.org/api
- Postman App (Optional)

Android Studio

The screenshot displays the Android Studio interface. The top toolbar contains various icons for file operations and development actions. The main editor window shows the `MainActivity.java` file with the following code:

```
1 package com.zakariachowdhury.weatherforecast;
2
3 import android.os.Bundle;
4 import android.support.v7.app.AppCompatActivity;
5 import android.widget.ImageView;
6 import android.widget.TextView;
7
8 import com.android.volley.Request;
9 import com.android.volley.RequestQueue;
10 import com.android.volley.Response;
11 import com.android.volley.VolleyError;
12 import com.android.volley.toolbox.JsonObjectRequest;
13 import com.android.volley.toolbox.Volley;
14
15 import org.json.JSONArray;
16 import org.json.JSONException;
17 import org.json.JSONObject;
18
19 import java.text.SimpleDateFormat;
20 import java.util.Calendar;
21
22 public class MainActivity extends AppCompatActivity {
23
24     TextView tempTextView;
25     TextView dateTextView;
26     TextView weatherDescTextView;
```

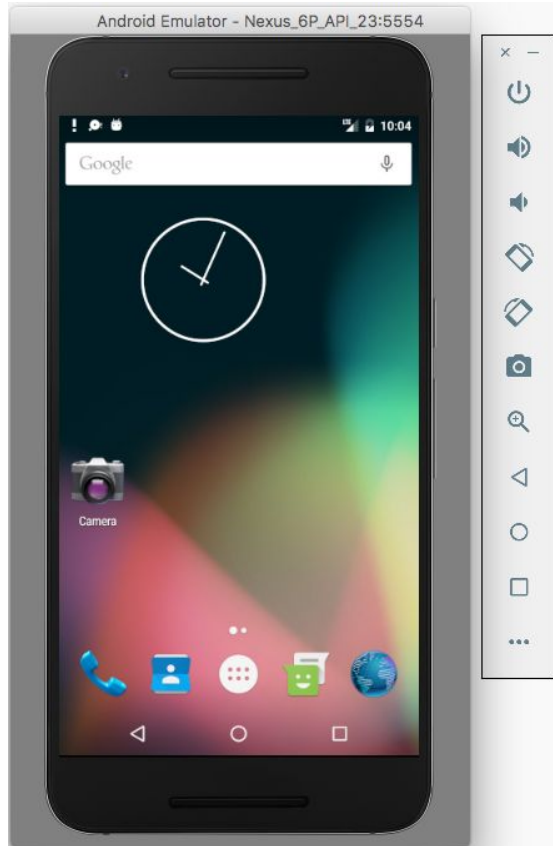
The left sidebar shows the Project structure with folders for `manifests`, `java`, `res`, and `Gradle Scripts`. The `Run` tab at the bottom shows the following output:

```
AVD: Nexus_6P_API_23
01/15 10:03:34: Launching app
$ adb push /Users/zakaria/dev/webinar/WeatherForecast/app/build/outputs/apk/app-debug.apk /data/local/tmp/com.zakariachowdhury.weatherforecast
$ adb shell pm install -r "/data/local/tmp/com.zakariachowdhury.weatherforecast"
pkg: /data/local/tmp/com.zakariachowdhury.weatherforecast
Success

$ adb shell am start -n "com.zakariachowdhury.weatherforecast/com.zakariachowdhury.weatherforecast.MainActivity" -a android.intent.action.MAIN -c android.i
Client not ready yet..Waiting for process to come online
Connected to process 2582 on device Nexus_6P_API_23 [emulator-5554]
I/art: Not late-enabling -Xcheck:jni (already on)
I/art: Debugger is no longer active
W/System: ClassLoader referenced unknown path: /data/app/com.zakariachowdhury.weatherforecast-1/lib/x86_64
I/InstantRun: Instant Run Runtime started. Android package is com.zakariachowdhury.weatherforecast, real application class is null.
```

The bottom status bar indicates "Gradle build finished in 35s 860ms (moments ago)" and "16:1 L F: UTF-8 Context: <no context>".

Android Virtual Device



www.openweathermap.org/api

API Key:

- A code to authorize and get data from the server

API Request:

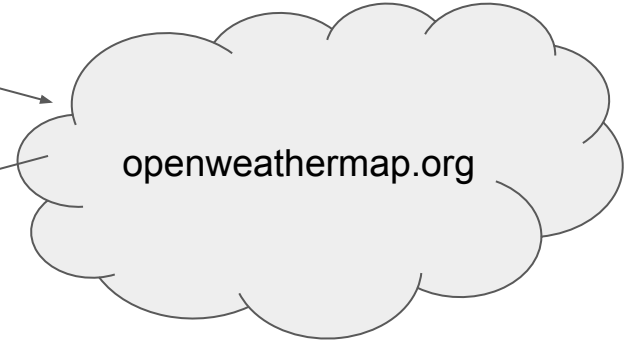
- [http://api.openweathermap.org/data/2.5/weather?q=Detroit,MI&appid=\(your API key\)](http://api.openweathermap.org/data/2.5/weather?q=Detroit,MI&appid=(your API key))

Server Response in JSON format:

```
{"coord":{"lon":139,"lat":35}, "sys":{"country":"JP", "sunrise":1369769524,"sunset":1369821049},  
"weather":[{"id":804,"main":"clouds","description":"overcast clouds","icon":"04n"}],  
"main":{"temp":289.5,"humidity":89,"pressure":1013, "temp_min":287.04,"temp_max":292.04},  
"wind":{"speed":7.31,"deg":187.002}, "rain":{"3h":0},"clouds":{"all":92}, "dt":1369824698,  
"id":1851632, "name":"Detroit","cod":200}
```

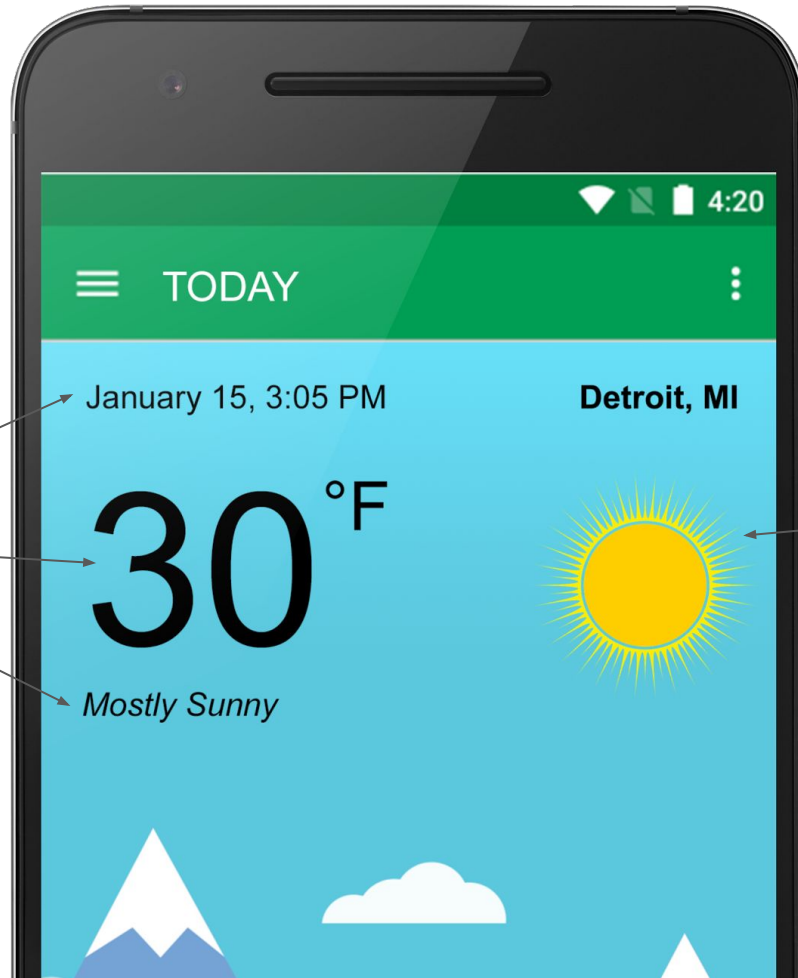


API Request
`http://api.openweathermap.org/data/2.5/weather?q=Detroit,MI`

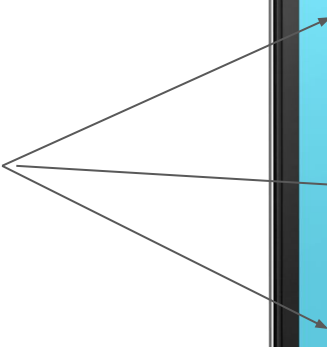


Response

```
{"coord":{"lon":139,"lat":35},  
"sys":{"country":"JP",  
"sunrise":1369769524,"sunset":1369821049},  
"weather":[{"id":804,"main":"clouds","description":"overcast clouds","icon":"04n"}],  
"main":{"temp":289.5,"humidity":89,.....
```

TextView



ImageView



Let's create the app

Android Official Training:

- <https://developer.android.com/training/index.html>

Current Weather Data:

- <http://openweathermap.org/current>

Request JSON:

- <https://developer.android.com/training/volley/request.html>

Thank You

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