RESTful Services

Funshine

Teil 1: Einfacher REST-Service

Create New Project

Create Android Project

Android Studio

Configure your new project

Application name: Funshine

Company domain: htl.at

Package name: at.htl.funshine Edit

Include C++ support

Project location: /Users/stuetz/Dropbox/htl/skripten/themen/android/udemyAndroidN/08Funshine/Funshine ...

Cancel Previous Next Finish

Create New Project

Target Android Devices

Android Studio

Select the form factors your app will run on

Different platforms may require separate SDKs

- [x] Phone and Tablet
  - Minimum SDK: API 16: Android 4.1 (Jelly Bean)
  - Lower API levels target more devices, but have fewer features available.
  - By targeting API 16 and later, your app will run on approximately **95.2%** of the devices that are active on the Google Play Store.
  - Help me choose
- [ ] Wear
  - Minimum SDK: API 21: Android 5.0 (Lollipop)
- [ ] TV
  - Minimum SDK: API 21: Android 5.0 (Lollipop)
- [ ] Android Auto

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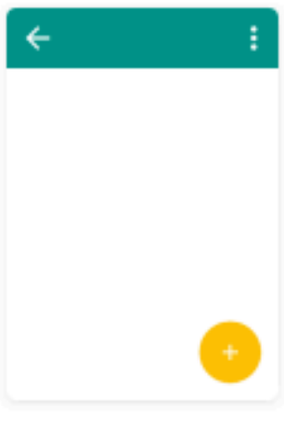
Create New Project

Add an Activity to Phone and Tablet

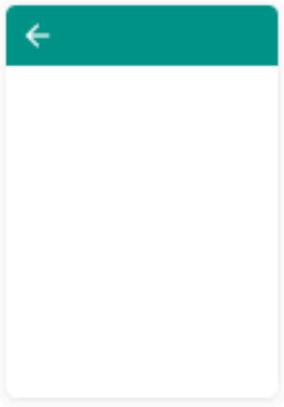
Android Studio

Add No Activity



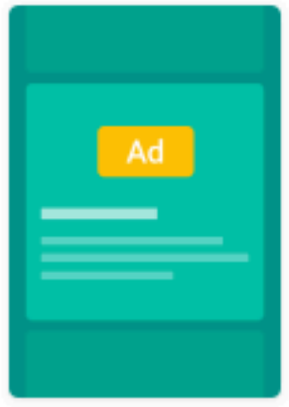
Basic Activity

Bottom Navigation Activity



Empty Activity

Fullscreen Activity



Google AdMob Ads Activity

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Create New Project

Configure Activity

Android Studio

Creates a new empty activity

Activity Name: WeatherActivity

Generate Layout File

Layout Name: activity_weather

Backwards Compatibility (AppCompat)

If true, a layout file will be generated

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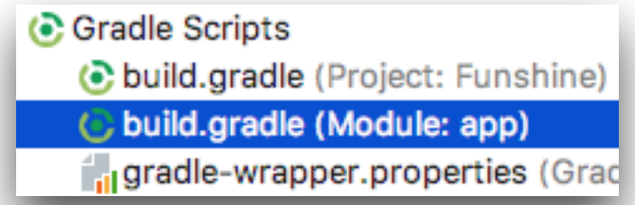
Hinzufügen von Volley

```
apply plugin: 'com.android.application'

android {
    compileSdkVersion 25
    buildToolsVersion "25.0.2"
    defaultConfig {
        applicationId "at.htl.funshine"
        minSdkVersion 16
        targetSdkVersion 25
        versionCode 1
        versionName "1.0"
        testInstrumentationRunner "android.support.test.runner.AndroidJUnitRunner"
    }
    buildTypes {
        release {
            minifyEnabled false
            proguardFiles getDefaultProguardFile('proguard-android.txt'), 'proguard-rules.pro'
        }
    }
}

dependencies {
    compile fileTree(dir: 'libs', include: ['*.jar'])
    androidTestCompile('com.android.support.test.espresso:espresso-core:2.2.2', {
        exclude group: 'com.android.support', module: 'support-annotations'
    })
    compile 'com.android.support:appcompat-v7:25.3.1'
    testCompile 'junit:junit:4.12'
    compile 'com.android.support.constraint:constraint-layout:1.0.2'
    compile 'com.android.volley:volley:1.0.0'
}
```



Bei sämtlichen http-Anfragen ist Volley zu verwenden, außer bei großen Files und Videostreaming

Anlegen der Konstanten

```
package at.htl.funshine;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;

public class WeatherActivity extends AppCompatActivity {

    final String LOG_TAG = AppCompatActivity.class.getSimpleName();
    final String URL_BASE = "http://api.openweathermap.org/data/2.5/forecast";
    final String URL_COORD = "?lat=48.2686066&lon=14.2493933";
    final String URL_UNITS = "&units=metrics";
    final String URL_API_KEY = "&APPID=VerwendeDeinenAPI-Key";


    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_weather);


    }
}
```

WeatherActivity.java

```
public class WeatherActivity extends AppCompatActivity {

    final String LOG_TAG = AppCompatActivity.class.getSimpleName();
    final String URL_BASE = "http://api.openweathermap.org/data/2.5/forecast";
    final String URL_COORD = "?lat=48.2686066&lon=14.2493933";
    final String URL_UNITS = "&units=metrics";
    final String URL_API_KEY = "&APPID=VerwendeDeinenAPI-Key";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_weather);

        final String url = URL_BASE + URL_COORD + URL_UNITS + URL_API_KEY;

        final JsonObjectRequest jsonRequest = new JsonObjectRequest(
                Request.Method.GET,
                url,
                null,  // hier könnte man JSON-Daten im body mitschicken
                new Response.Listener<JSONObject>() {
                    @Override
                    public void onResponse(JSONObject response) {
                        Log.v(LOG_TAG, "RES: " + response.toString());
                    }
                }, new Response.ErrorListener() {
            @Override
            public void onErrorResponse(VolleyError error) {
                Log.v(LOG_TAG, "Err: " + error.getLocalizedMessage());
            }
        });

        Volley.newRequestQueue(this).add(jsonRequest);
    }
}
```

Hier wird das jsonRequest-Object erzeugt

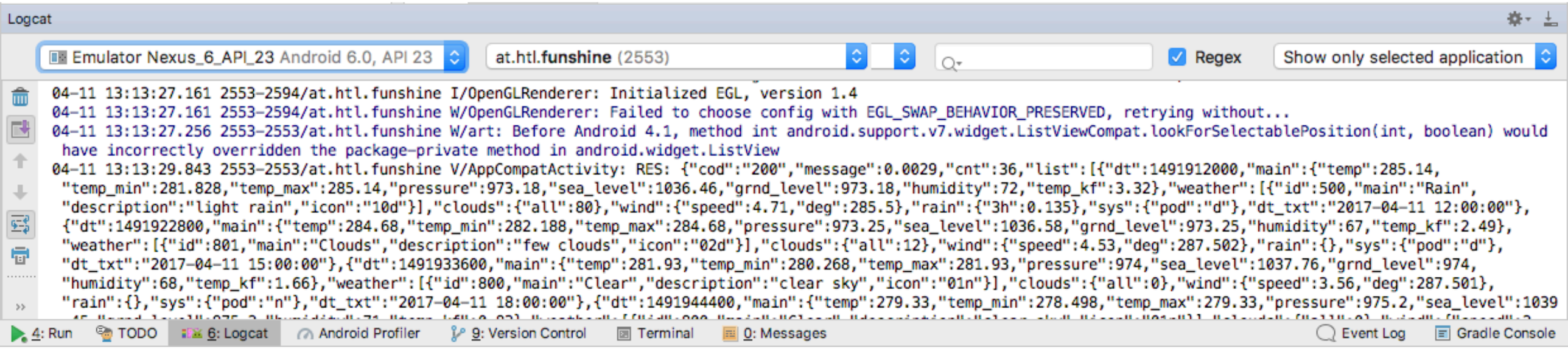
… und hier wird der Request abgesetzt

manifest.xml

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

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

    <application android:allowBackup="true" android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name" android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true" android:theme="@style/AppTheme">
        <activity android:name=".WeatherActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

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

</manifest>
```

Probelauf

- Nach dem Start der Application wird im LogCat das json-Objekt mit den Wetterdaten angezeigt



File Authentication Headers View Favorite Requests Setting **RESTClient**

[-] Request

Method GET URL http://api.openweathermap.org/data/2.5/forecast?lat=48.2686066&lon=14.2493933&APPID=5 SEND

Body

Request Body

[-] Response

Response Headers | Response Body (Raw) | Response Body (Highlight) | Response Body (Preview)


```
{
    "cod": "200",
    "message": 0.0462,
    "cnt": 40,
    "list":
    [
        {
            "dt": 1491858000,
            "main":
            {
                "temp": 285.14,
                "temp_min": 284.311,
                "temp_max": 285.14,
                "pressure": 967.58,
                "sea_level": 1030.32,
                "grnd_level": 967.58,
                "humidity": 82,
                "temp_kf": 0.83
            },
            "weather":
```

Noch Fragen?