



Mobil Programlama

Hafta 10



JSON

- Celebrity Guess web sitesini gezerek HTML verilerinin üzerinin filitrelenmesine dayanıyordu. Ama Daha kolay ve kararlı yöntemi JSON nesnesi ile sistemi beslemek



W3schools

- JSON: **JavaScript Object Notation**.

JSON is a syntax for storing and exchanging data.

JSON is text, written with JavaScript object notation.

```
{ name: "John", age: 31, city: "New York" };
```

- https://www.w3schools.com/js/js_json_syntax.asp

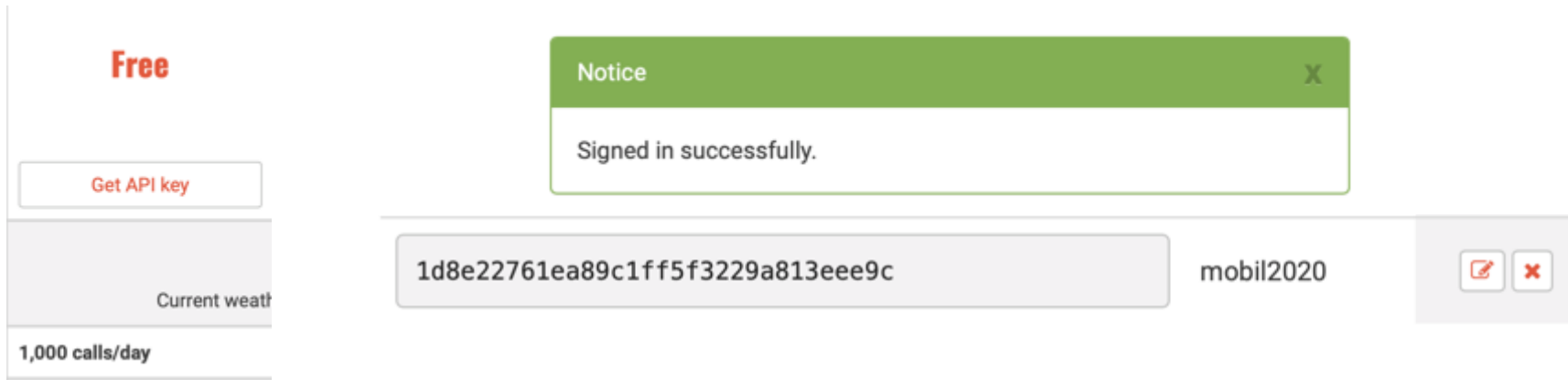
JSON Example

```
{ "employees": [
  { "firstName": "John", "lastName": "Doe" },
  { "firstName": "Anna", "lastName": "Smith" },
  { "firstName": "Peter", "lastName": "Jones" }
]}
```



Weather APP

- OpenWeatherMap free API sunar



API call:

api.openweathermap.org/data/2.5/weather?q={city name}&appid={your api key}

api.openweathermap.org/data/2.5/weather?q={city name},{state}&appid={your api key}

Examples of API calls:

api.openweathermap.org/data/2.5/weather?q=London

```
{"coord":{"lon":-0.13,"lat":51.51},"weather":[{"id":300,"main":"Drizzle","description":"light intensity drizzle","icon":"09d"}],"base":"stations","main":{"temp":280.32,"pressure":1012,"humidity":81,"temp_min":279.15,"temp_max":281.15},"visibility":10000,"wind":{"speed":4.1,"deg":80},"clouds":{"all":90},"dt":1485789600,"sys":{"type":1,"id":5091,"message":0.0103,"country":"GB","sunrise":1485762037,"sunset":1485794875},"id":2643743,"name":"London","cod":200}
```



JSON Demo

```
package org.mckasap.jsondemo;

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

<application
```

```
String str= "";
GetJson gj= new GetJson();
openweathermap.org/data/2.5/weather?q={city name}&appid={your
try {
    str= gj.execute("https://api.openweathermap.org/data/2.5
Log.d( tag: "HAVA_JSON",str);
} catch (ExecutionException e) {
    e.printStackTrace();
} catch (InterruptedException e) {
    e.printStackTrace();
}
```

<https://github.com/mckasap/JsonDemo.git>

```
public class GetJson extends AsyncTask<String,Void,String>{

    @Override
    protected String doInBackground(String... strings) {
        try {
            URL url= new URL(strings[0]);

            HttpURLConnection con= (HttpURLConnection) url.openConnection();
            InputStream is= con.getInputStream();
            InputStreamReader reader= new InputStreamReader(is);
            StringBuilder sb= new StringBuilder("");

            int a=reader.read();
            while(a!=-1){
                sb.append((char) a);
                a=reader.read();
            }

            return sb.toString();

        } catch (MalformedURLException e) {
            e.printStackTrace();
        } catch (IOException e) {
            e.printStackTrace();
        }

        return null;
    }
}
```



Result



```
{"coord":{"lon":39.83,"lat":40.92},"weather":[{"id":802,"main":"Clouds","description":"scattered clouds","icon":"03n"}],"base":"stations","main":{"temp":287.15,"feels_like":285.21,"temp_min":287.15,"temp_max":287.15,"pressure":1013,"humidity":87},"visibility":10000,"wind":{"speed":3.6,"deg":100},"clouds":{"all":40},"dt":1588186754,"sys":{"type":1,"id":6995,"country":"TR","sunrise":1588126867,"sunset":1588176879},"timezone":10800,"id":738647,"name":"Trabzon Province","cod":200}
```

```
JSONObject all= new JSONObject(str);  
String w= all.getString( name: "weather");  
Log.d( tag: "HAVA_JSON",w);
```

```
D/HAVA_JSON: [{"id":802,"main":"Clouds","description":"scattered clouds","icon":"03n"}]
```



```
str= gj.execute("https://api.openweathermap.org/data/2.5/weather?q=is
JSONObject all= new JSONObject(str);
String w= all.getString( name: "weather");
String main=all.getString( name: "main");
JSONObject mw=new JSONObject(main);
JSONArray jarr= new JSONArray(w);
for(int i=0;i<jarr.length();i++){
    JSONObject joPart=jarr.getJSONObject(i);
    Log.d( tag: "main",joPart.getString( name: "main"));
    Log.d( tag: "description",joPart.getString( name: "description"));
}

Log.d( tag: "temp",mw.getString( name: "temp"));
Log.d( tag: "pressure",mw.getString( name: "pressure"));
Log.d( tag: "humidity",mw.getString( name: "humidity"));
```

D/main: Clouds
D/description: overcast clouds
D/temp: 292.06
D/pressure: 1010
D/humidity: 55

D/main: Clouds
D/description: overcast clouds
D/temp: 18.620000000000005 C
D/pressure: 1010hPa
D/humidity: 55%

C=K-273.15



<https://unsplash.com>

- Free images high quality

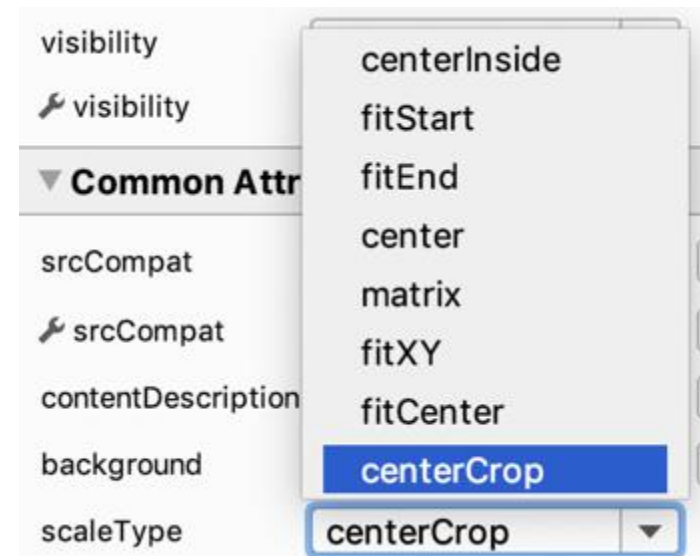


What is the Weather like there?

- Download an image (copyright free important)
 - Put it in res>>drawable folder (small case, xml won't accept capital letters)

—

<https://github.com/mckasap/HowIsTheWeatherLikeThere.git>



Result

•

Lütfen bir şehir adı
giriniz ...

Trabzon

HAVA DURUMUNU GETİR

MAIN :CLOUDS
DESC.:BROKEN CLOUDS
TEMP :14.0 C
PRES.:1013HPA
HUMM.:82%

Photo by Todd Trapani on Unsplash



Google Map Activity



Select a Project Template

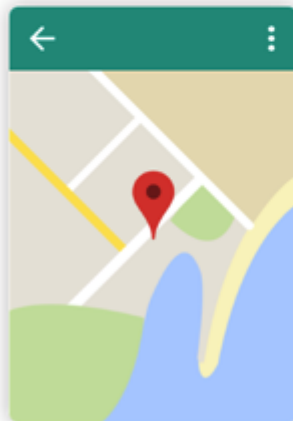
Phone and Tablet

Wear OS

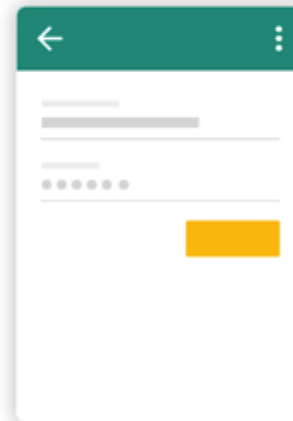
TV

Automotive

Android



Google Maps Activity



Login Activity



TODO: Before you run your application, you need a Google Maps API key.

To get one, follow this link, follow the directions and press "Create" at the end:

https://console.developers.google.com/flows/enableapi?apiid=maps_android_backend&keyType=CLIENT_SIDE_ANDROID&

You can also add your credentials to an existing key, using these values:

Package name:

[org.kasapbasi.mygooglemapacitivty](#)

SHA-1 certificate fingerprint:

B5:61:ED:3B:79:63:3B:7F:AB:07:09:67:CC:AD:12:54:61:83:2D:98

Alternatively, follow the directions here:

<https://developers.google.com/maps/documentation/android/start#get-key>

Once you have your key (it starts with "AIza"), replace the "google_maps_key" string in this file.

—>

`<string name="google_maps_key" templateMergeStrategy="preserve" translatable="false">YOUR_KEY_HERE</string>`



You can use one project to manage all of your applications, or you can create a different project for each application.

Create a project

Terms of Service

☒ I have read and agree to the [Safe Browsing API Terms of Service](#).

Country of residence

Turkey

I would like to receive periodic emails on news, product updates and special offers from Google Cloud and Google Cloud Partners.

☐ Yes ☒ No

Agree and continue

API Keys

<input type="checkbox"/>	Name	Creation date ↓	Restrictions	Key		Usage with all services (last 30 days) ?	
<input type="checkbox"/>	✓ API key 1	Apr 30, 2020	Android apps	AIzaSyD47E...n6o73M0e5I		0	

API ANAHTARINI CONFIG dosyasında belirtilen yere yapıştırınız.



```
public class MapsActivity extends FragmentActivity implements OnMapReadyCallback {

    private GoogleMap mMap;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_maps);
        // Obtain the SupportMapFragment and get notified when the map is ready to be used.
        SupportMapFragment mapFragment = (SupportMapFragment) getSupportFragmentManager()
            .findFragmentById(R.id.map);
        mapFragment.getMapAsync(new OnMapReadyCallback() {
            this;
        });
    }

    /**
     * Manipulates the map once available.
     * This callback is triggered when the map is ready to be used.
     * This is where we can add markers or lines, add listeners or move the camera. In this case,
     * we just add a marker near Sydney, Australia.
     * If Google Play services is not installed on the device, the user will be prompted to install
     * it inside the SupportMapFragment. This method will only be triggered once the user has
     * installed Google Play services and returned to the app.
     */
    @Override
    public void onMapReady(GoogleMap googleMap) {
        mMap = googleMap;

        // Add a marker in Sydney and move the camera
        LatLng sydney = new LatLng(-34, 151);
        mMap.addMarker(new MarkerOptions().position(sydney).title("Marker in Sydney"));
        mMap.moveCamera(CameraUpdateFactory.newLatLng(sydney));
    }
}
```

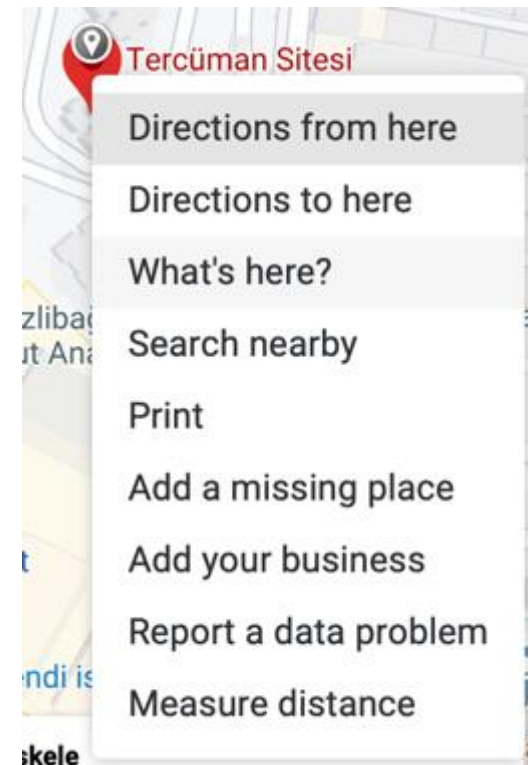


Customizing Google Map

- İstenilen lokasyonda başlama
 - Google maps ten taranıp enlem ve boylamın alınması
 - URL de @41.0123842,28.9067031
 - Marker ı tıkla What is here



```
// Add a marker in Sydney and move the camera,  
// 41.0123842,28.9067031  
LatLng myHome = new LatLng( v: 41.0123842, v1: 28.9067031);  
mMap.addMarker(new MarkerOptions().position(myHome).title("My Home"));  
mMap.moveCamera(CameraUpdateFactory.newLatLng(myHome));
```



Marker Rengini deęiřtirme –Zoo

Harita Tipi Deęiřtirme

```
// 41.0123842,28.9067031
```

1.

```
LatLng myHome = new LatLng( v: 41.0123842, v1: 28.9067031);|  
mMap.addMarker(new MarkerOptions().position(myHome).title("My Home").icon(E  
ie").icon(BitmapDescriptorFactory.defaultMarker(BitmapDescriptorFactory.HUF GREEN))):
```

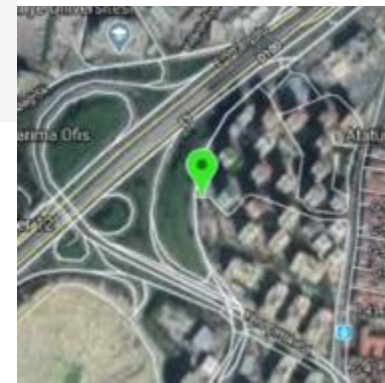
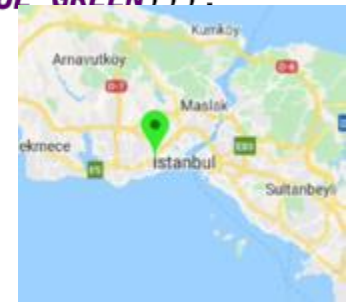
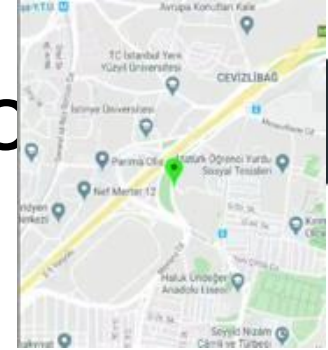
1

```
mMap.moveCamera(CameraUpdateFactory.newLatLngZoom(myHome, v: 15));  
//1 ile 20 arası deęer 1 zoom yok 20 en yakın zoom
```

3.

```
mMap = googleMap;  
mMap.setMapType(GoogleMap.M);
```

- f MAP_TYPE_HYBRID (= 4)
- f MAP_TYPE_NONE (= 0)
- f MAP_TYPE_NORMAL (= 1)
- f MAP_TYPE_SATELLITE (= 2)
- f MAP_TYPE_TERRAIN (= 3)





Kullanıcının Kendi Lokasyonunun Gözüktüğü Uygulama

- Location Manager
- Location Listener

```
LocationManager lm;  
LocationListener lclistener;  
private GoogleMap mMap;
```

```
@Override  
public void onMapReady(GoogleMap googleMap) {  
    mMap = googleMap;  
    lm = (LocationManager) this.getSystemService(Context.LOCATION_SERVICE);  
    lclistener = new LocationListener() {  
        @Override  
        public void onLocationChanged(Location location) {  
            Toast.makeText( context: MapsActivity.this, location.toString(), Toast.LENGTH_LONG).show();  
            LatLng myloc = new LatLng( location.getLatitude(), location.getLongitude());  
            mMap.clear();  
            mMap.addMarker(new MarkerOptions().position(myloc).title("My Location"));  
            mMap.moveCamera(CameraUpdateFactory.newLatLng(myloc));  
        }  
    }  
  
    @Override  
    public void onStatusChanged(String provider, int status, Bundle extras) {  
    }  
  
    @Override  
    public void onProviderEnabled(String provider) {  
    }  
  
    @Override  
    public void onProviderDisabled(String provider) {
```

```

if (ActivityCompat.checkSelfPermission( context: this,
    Manifest.permission.ACCESS_FINE_LOCATION) != PackageManager.PERMISSION_GRANTED
    && ActivityCompat.checkSelfPermission( context: this,
    Manifest.permission.ACCESS_COARSE_LOCATION) != PackageManager.PERMISSION_GRANTED)
{

    ActivityCompat.requestPermissions( activity: this, new String[] {Manifest.permission.ACCESS_FINE_LOCATION,
        Manifest.permission.ACCESS_COARSE_LOCATION}, requestCode: 1461);
    return;
}else {
    lm.requestLocationUpdates(LocationManager.GPS_PROVIDER, minTime: 0, minDistance: 0, lcllistener);

    Location lknownLocation=lm.getLastKnownLocation(LocationManager.GPS_PROVIDER);

    LatLng myloc = new LatLng( lknownLocation.getLatitude(), lknownLocation.getLongitude());
    mMap.clear();
    mMap.addMarker(new MarkerOptions().position(myloc).title("My Location"));
    mMap.moveCamera(CameraUpdateFactory.newLatLng(myloc));
}

@Override
public void onRequestPermissionsResult(int requestCode, @NonNull String[] permissions, @NonNull int[] grantResults) {
    super.onRequestPermissionsResult(requestCode, permissions, grantResults);
    if(requestCode==1461){
        if(grantResults.length>0&&grantResults[0]==PackageManager.PERMISSION_GRANTED
            &&grantResults[1]==PackageManager.PERMISSION_GRANTED) {
            if (ActivityCompat.checkSelfPermission( context: this,
                Manifest.permission.ACCESS_FINE_LOCATION) == PackageManager.PERMISSION_GRANTED
                && ActivityCompat.checkSelfPermission( context: this,
                Manifest.permission.ACCESS_COARSE_LOCATION) == PackageManager.PERMISSION_GRANTED)
                lm.requestLocationUpdates(LocationManager.GPS_PROVIDER, minTime: 0, minDistance: 0,lcllistener);
        }
    }
}
}

```

Reverse Geo Coding

- Bulunduğu locasyondan adres alma... location değiştiğinde

```
Geocoder decoder= new Geocoder(getApplicationContext(), Locale.getDefault());
```

```
try {
    List<Address> listAddress= decoder.getFromLocation(location.getLatitude(),location.getLongitude(), maxResults: 1);
    if(listAddress!=null&&listAddress.size()>0){
        Log.i( tag: "Address info",listAddress.get(0).)
```

```
android.location.Address
public String toString()
```

Overrides: `toString` in class `Object`

< Android API 28 Platform >

```
m toString() String
m getAddressLine(int index) String
m getAdminArea() String
m getCountryCode() String
m getCountryName() String
m getFeatureName() String
m getLocality() String
m getPhone() String
m getPostalCode() String
m getPremises() String
m getSubAdminArea() String
m getSubLocality() String
```

Press ↵ to insert, → to replace

```
override
public void onStatusChanged(String provider, int stat
```

HomeWork

•

