Annotation: Marker

This guide will show you how to add Markers in the map.

`Annotation` is an overlay on top of a Map. In package `org.maplibre.android.annotations`, it has the following subclasses:

1. Marker
2. Polyline
3. Polygon

A Marker shows an icon image at a geographical location. By default, marker uses a provided image as its icon.

Or, the icon can be customized using IconFactory to generate an Icon using a provided image.

For more customization, please read the documentation about MarkerOptions.

In this showcase, we continue the code from the Quickstart,
rename Activity into `JsonApiActivity`,
and pull the GeoJSON data from a free and public API.
Then add markers to the map with GeoJSON:

1. In your module Gradle file (usually `<project>/<app-module>/build.gradle`), add `okhttp` to simplify code for making HTTP requests.

```
dependencies {
    ...
    implementation 'com.squareup.okhttp3:okhttp:4.10.0'
    ...
}
```

2. Sync your Android project the with Gradle files.

3. In `JsonApiActivity` we add a new variable for `MapboxMap`.
   It is used to add annotations to the map instance.

```
{{#include
../../../../platform/android/MapLibreAndroidTestApp/src/main/java/org/ma
plibre/android/testapp/activity/annotation/JsonApiActivity.kt:top}}
```

4. Call `mapview.getMapSync()` in order to get a `MapboxMap` object.
   After `maplibreMap` is assigned, call the `getEarthQuakeDataFromUSGS()` method to make a HTTP request and transform data into the map annotations.

```
{{#include
../../../../platform/android/MapLibreAndroidTestApp/src/main/java/org/ma
plibre/android/testapp/activity/annotation/JsonApiActivity.kt:mapAsync}}
```

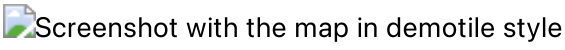
5. Define a function `getEarthQuakeDataFromUSGS()` to fetch GeoJSON data from a public API.
   If we successfully get the response, call `addMarkersToMap()` on the UI thread.

```
{{#include
../../../../platform/android/MapLibreAndroidTestApp/src/main/java/org/ma
plibre/android/testapp/activity/annotation/JsonApiActivity.kt:getEarthqu
akes}}
```

6. Now it is time to add markers into the map.
   - In the `addMarkersToMap()` method, we define two types of bitmap for the marker icon.
   - For each feature in the GeoJSON, add a marker with a snippet about earthquake details.
   - If the magnitude of an earthquake is bigger than 6.0, we use the red icon. Otherwise, we use the blue one.
   - Finally, move the camera to the bounds of the newly added markers

```
{{#include
../../../../platform/android/MapLibreAndroidTestApp/src/main/java/org/ma
plibre/android/testapp/activity/annotation/JsonApiActivity.kt:addMarkers
}}
```

7. Here is the final result. For the full contents of `JsonApiActivity`, please visit source code of Test APP


Screenshot with the map in demotile style