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Was ist Leaflet und wozu braucht man das?

Leaflet ist eine JavaScript Bibliothek, wird zum Programmieren von Webmap benutzt.

Merkmale von Leaflet

- Kompakt, Lauft schnell
- Sehr gute Dokumentation
- einfach und erweiterbar

Webentwicklung

■ JavaScript

■ HTML

■ CSS



Wie werden wir mit Leaflet Map erstellen?

■ Map einlegen

```
<div id ="map"></div>
```

■ Map stylen

```
#map{  
    width: 100%;  
    height: 80vh;}
```

■ Map erstellen

```
var map = L.map('map').setView([51.8045913, 10.3340471] , 15);
```

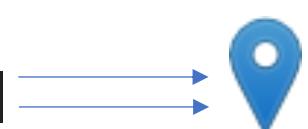
Objekte auf den Map einfügen

■ Basemap (Tile Layer)

```
L.tileLayer('https://api.maptiler.com/maps/basic/{z}/{x}/{y}.png?key=qNbBXUXpLTMxSKYDu8IA' , {  
    attribution: '<a href="https://www.maptiler.com/copyright/" target="_blank">&copy; MapTiler</a>  
}).addTo(map);
```

■ Marker

```
var marker = L.marker([51.8045913, 10.3340471]).addTo(map);
```

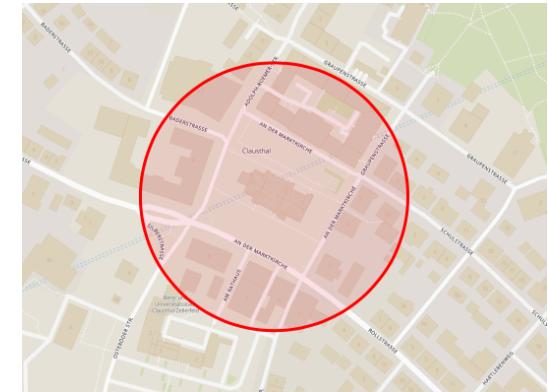




Objekte auf den Map einfügen

Circle

```
var circle = L.circle([51.80637, 10.352468], {  
    color: 'red',  
    fillColor: '#f03',  
    fillOpacity: 0.1,  
    radius: 100  
}).addTo(map);
```



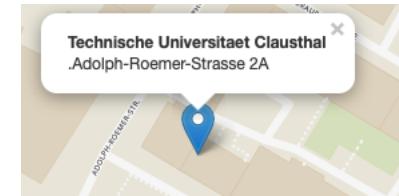
Polygon

```
var polygon1 = L.polygon([  
    [51.806786, 10.357522],  
    [51.80607, 10.355349],  
    [51.805449, 10.35521],  
    [51.805572, 10.356631]  
]).addTo(map);
```



Popup

```
marker.bindPopup("<b>Technische Universität Clausthal</b><br>.Adolph-Roemer-Strasse 2A").openPopup();
```

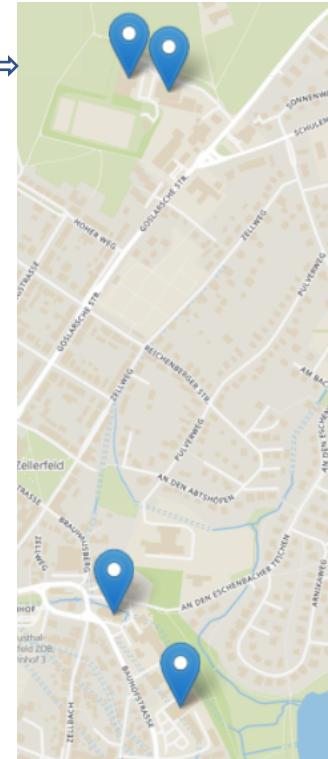




GeoJSON und Funktion mit Leaflet

■ GeoJSON ohne Style

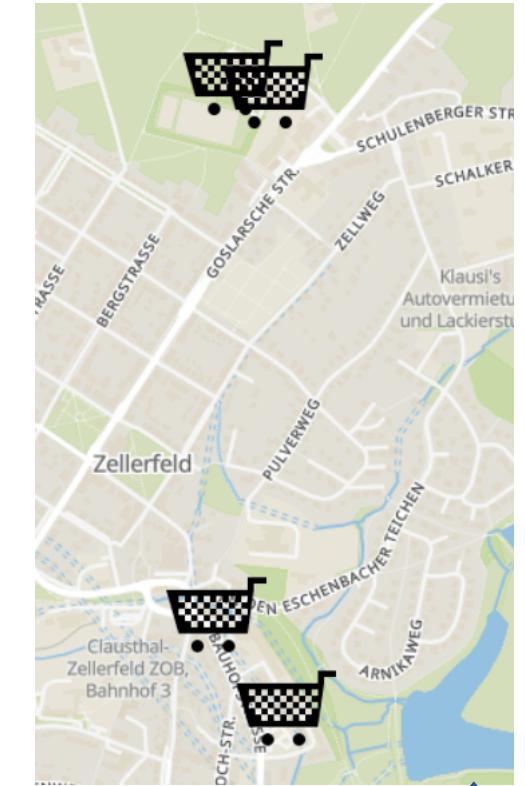
```
L.geoJSON( supermarket).addTo(map);
```



■ GeoJSON mit Style

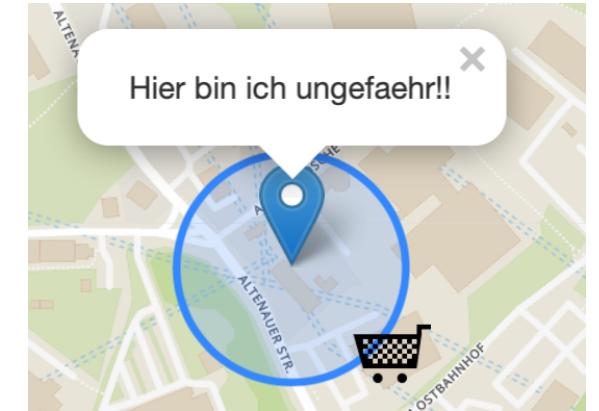
```
var myIcon = L.icon({
  iconUrl: 'smicon.png',
  iconSize: [30, 30],})

L.geoJSON( supermarket , {
  onEachFeature: function(Feature, layer){
    if(Feature.geometry.type == 'Point'){
      layer.bindPopup("<b>" + Feature.properties.name + "</b>"+"<br>" + Feature.properties.address );
      layer.setIcon(myIcon);
    }
  }
}).addTo(map);
```



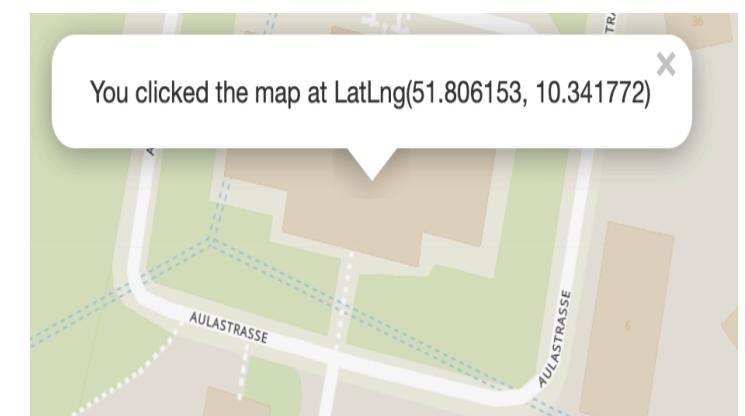
■ Beispiel Funktion um sein Position auf den Map anzuzeigen

```
function onLocationFound(e) {  
    var radius = e.accuracy ;  
    L.marker(e.latlng).addTo(map)  
        .bindPopup("Hier bin ich ungefaehr!!").openPopup();  
    L.circle(e.latlng, radius).addTo(map);  
}  
  
function onLocationError(e) {  
    alert(e.message);  
}  
map.on('locationfound', onLocationFound);  
map.on('locationerror', onLocationError);  
map.locate({setView: true, maxZoom: 16});
```



■ Koordinaten auf den Map zunehmen

```
var popup = L.popup();  
function onMapClick(e) {  
    popup  
        .setLatLng(e.latlng)  
        .setContent("You clicked the map at " + e.latlng.toString())  
        .openOn(map);  
}  
map.on('click', onMapClick);
```





Links zu Websites

<https://leafletjs.com>

<https://www.gps-coordinates.net>

<https://cloud.maptiler.com/tiles/>

<https://leaflet-extras.github.io/leaflet-providers/preview/>

<https://www.mapbox.com>

<http://geojson.io/#map=2/20.0/0.0>